ADDENDUM NO. 1

May 31, 2023

Noblesville Ambulatory Surgery Center
14065 Borg Warner Drive
Noblesville, IN 46060

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications and the Drawings dated May 23, 2023, by Boulder Architects. Acknowledge receipt of the Addendum in your Bid. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 1-1 through ADD 1-2, Project Manual Volume 3 Cover, Bidder RFI Log, and attached Boulder Associates Addendum No. 1 dated May 23, 2023, consisting of 72 Pages, Specification Sections: 000030 – Table of Contents, 084229.23 – Sliding Automatic Entrances, 220513 – Common Motor Requirements for Plumbing Equipment, 232300 – Refrigerant Piping, Addendum Drawings: G0.01, A2.11A, A8.10, B-G0.01, A-G0.01, C001, C002, C101, C201, C301, C401, C501, C502, C701, L2.00, E1.01, E2.01A, E4.01, E5.01, E5.02, A-E1.01, A-E2.01A, A-E2.01B, A-E2.03, A-E2.11A, A-E2.11B, A-E4.01, A-E5.01, A-E5.02, A-E5.03, A-E5.04, B-E2.02A, B-E2.02B, A-E2.12A, A-E2.12B, B-E4.01, B-E5.01, B-E5.02, B-E5.03, A-M1.01, A-M2.01, A-M2.01B, B-M1.01, B-M2.02A, L1.00, and L2.00

A. **PROJECT MANUAL VOLUME 3**

1. Replace Division 12 Cover with Project Manual Volume 3 in its entirety attached herein.

B. **SPECIFICATION SECTION 01 12 00 MULTIPLE CONTRACT SUMMARY**

1. Paragraph 1.10 Labor and Materials
    c. E-Verify Compliance: Pursuant to I.C. 22-5-1.7, Subcontractor shall enroll in and verify the work eligibility status of all newly hired employees of Subcontractor through the E-Verify Program (Program). Subcontractor is not required to verify the work eligibility status of all newly hired employees through the Program if the Program no longer exists. Also pursuant to I.C. 22-5-1.7, Subcontractor must execute an affidavit affirming that the Subcontractor does not knowingly employ an unauthorized alien and confirming

Subcontractor's enrollment in the Program, unless the Program no longer exists, shall be filed with the Owner prior to the execution of this contract. This contract shall not be deemed fully executed until such affidavit is delivered to the Construction Manager.

2. Paragraph 1.16 Time of Commencement and Completion

   1. It is anticipated that construction will start within 108 calendar days after receipt of bids

3. Paragraph 3.02 General Requirements

   B. Provided by all Subcontractors as Applicable

   Add the Following Sections

Section	01 53 20	Tree and Plant Protection

A. Bid Category No. 1 – Earthwork, Site Demolition & Site Utilities

Revise the following Clarifications:

8. Bid Category No.3 to provide drainage course under slab on grade, aggregate sub-base courses under concrete walks and concrete pavement.

B. Bid Category No. 7 – Aluminum Entrances and Storefronts

Add the Following Sections

Section	08 42 29.23	Sliding Automatic Entrances

C. Bid Category No. 8 – Metal Framing, Insulation & Drywall

Revise the following Clarifications:

3. Provide all sheathing, cavity wall insulation, in-wall insulation, glass-mat sheathing, and fluid applied air barrier. Bid Category No. 5 to provide plywood sheathing within roofing system.

D. Bid Category No. 13 – Plumbing & HVAC

Revise the Following Sections

Section	22 05 13	Common Motor Req. for Plumbing Equipment
Section	23 22 13	Steam and Condensate Heating Piping
Section	23 23 00	Refrigerant Piping

E. Bid Category No. 14 – Electrical & Technology

Add the Following Sections

Section	23 22 13	Switchboards

No.	Question	Response
1	Section 10 21 13.23 Has the title listed twice in the header	**Updated. See Revised Specification Book**
2	Section 21 13 16 is not listed in TOC and is in the manual as the first section in the plumbing division 22. The header also says Common Work Results for Plumbing.	**Updated. See Revised Specification Book**
3	Page 1 of Section 22 05 00 is in the manual twice.	**Updated. See Revised Specification Book**
4	Page 1 of Section 22 05 13, Common Motor Requirements for Plumbing Equipment is missing.	**Updated. See Revised Specification Book**
5	Section 22 05 48 is in the manual twice.	**Updated. See Revised Specification Book**
6	Section 22 67 00 has Common Work Results for Plumbing as the header but it is Processed Water Systems.	**Updated. See Revised Specification Book**
7	Section 23 05 53 is in the manual twice.	**Updated. See Revised Specification Book**
8	Section 23 23 00, Refrigerant Piping, has only one page. (I found the rest of it later in the middle of section 23 22 13)	**Updated. See Revised Specification Book**
9	23 22 13, Steam and Condensate Heating Piping is not on TOC but is in manual, but headers again say Common Work Results for Plumbing.	**Updated. See Revised Specification Book**
10	Section 23 62 00 is in the manual twice.	**Updated. See Revised Specification Book**
11	Section 26 05 23 Control-Voltage Electrical Power Cable is missing for manual.	**Section was removed.**
12	Section 26 24 13, Switchboards is not on the TOC.	**TOC Updated, See Revised Specification Book**
13	Section 26 36 01 is called Stand-By Engine Generator in the TOC. In the manual is Section 26 32 13, Engine Generators. Are these the same? If so which is correct?	**Use section 26 32 13, updated TOC.**
14	Section 26 36 00, Transfer Switches is numbered 26 36 01 in manual but 26 36 00 in TOC.	**TOC Updated, See Revised Specification Book**
15	Section 32 93 00, Plants is not in TOC.	**TOC Updated, See Revised Specification Book**
16	Noblesville sheet 25 is not listed on the TOC	**G0.01 Updated, See Addendum #1**
17	TA1.01B Sheet is missing from 1st floor set	**Sheet Not Used , Removed from Sheet Index**
18	TA6.02 sheet is missing from 1st floor set	**Sheet Not Used , Removed from Sheet Index**
19	P8.02 is included in the 2nd floor set but not listed on the TOC	**TOC Updated, See Addendum #1**
20	P8.03 is missing from the second floor set	**Sheet Removed from Set**
21	Page 1 of Spec Section 23 09 00 is missing	**Sheet provided on 5/18** **Updated, See Revised Specification Book**
22	The Pattons medical model number they have provided for the Medical vacuum system does not exist. They are requesting a 6HP Tank mounted space saver configuration with a flow of 52 @ 19Hg . The max that this configuration can be made at Pattons medical or Amico is 5HP with a flow of 38 @ 19Hg. The Pattons medical model number they provided for the instrument air also does not exist with Pattons medical. They are requesting a tank mounted space saver configuration for a simplex system but we cannot make it and Pattons medical does not make it.	**Info provided on 5/18** **Cut Sheets are attached in response for Record**
23	Automatic Sliding Door Specification Section is Missing	**Updated. See Revised Specification Book**
24	Steel Window Fins shown on Jambs of "D" Window - Missing specification	**This is a custom fabricated Steel Window Fin, Refer to Detail 6 /A8.20. Please advise if additional in**
25	A8.31 shows an L1 frame but there is no door shown in the drawings	**A2.11A,A8.10 Have been updated, See Addendum #1**
26	Core and Shell drawing E5.02 indicates that Switchboards have been pre-purchased as they are "for reference only" in the drawings - Please update.	**Edited.**
27	Is it acceptable to use K-hooks for overhead pathway instead of conduit for wiring of low voltage systems listed in specification divisions 27 and 28?	**J-hook pathways are acceptable for LV cabling**
28	Can low voltage lighting control wiring and cable be run in the same raceway as power wiring?	**Depending on location of the runs and whether or not MC cable is deemed acceptable. S**
29	Is a lightning protection system required for this project? Specification section 264113-1.2 states that the specification section is applicable only if the existing building currently contains a roof lightning protection system.	**Lightning protection system is required.**
30	Please confirm a ground ring is required if a lightning protection system is not required.	**Lightning protection system is required.**
31	Please specify the conductor size for the ground ring around the perimeter of the building.	**Lightning protection system is required.**
32	Specification section 283111-2.1 requires the fire alarm system to match the existing system. It is our understanding that this is a new construction for the ground up. Please provide a list of acceptable fire alarm manufacturers.	**Project is ground up. Acceptable manufacturers are Notifier NFS2 series, Siemens/Cerberus Pro Modu**
33	Specification section 283111-1.5 C – confirm that this project is delegated design and as stated in the previous question, what the appropriate manufacturers are	**Yes, it is. See answer to 32.**
34	Is the fire alarm system to be voice evacuation type or standard horn/strobes?	**Designed as standard horn/strobe. Confirm requirements with AHJ and preference wit**
35	Can the fire alarm cable be installed free-air?	**Confirm with AHJ.**
36	For the lighting fixtures in elevator shaft, please clarify whether type “FE” on E5.01 or type “EL” on E6.04 is to be used.	**Type FE.**
37	The weatherproof, GFCI receptacle show non E6.04 is not shown on the power floor plan, please specify the associated circuit	**Updated in Addendum 1.**
38	We are having difficulty identifying/differentiating normal and normal transient lighting fixtures, critical and life safety lighting fixtures on drawings A-E3.01A, A-E3.01B, B-E3.02A, B-E3.02B	**Refer to fixture designations, symbol legend, and circuiting notes for clarificatio**
39	Please confirm if the electrical primary service is required to be encased in concrete per Detail #14 on E6.01 and Detail #1 on E6.02.	**Yes it is.**
40	Are duct bank PVC card/spacers acceptable in lieu of conduit chairs?	**Provide as specified.**
41	Please confirm if the following items are required to be installed on/at EACH OF THE (18) pole lights on this project per detail #8 on E6.02. a. Empty conduit for future camera b. Lightning protection air terminal and conductor c. Test well d. PVC coated galvanized conduit	**a. Coordinate with technology for future cameras, b. Yes, c. Yes, d. Yes**
42	Please confirm that all conduit stub ups including ¾” and 1” from beneath slab is to have a PVC coated rigid galvanized steel elbow per detail 5 on sheet E6.01.	**Yes.**
43	Please confirm that all panelboards are to be mounted to a strut frame as shown on detail 13 on sheet E6.01.	**Yes.**
44	Please confirm if detail #2 on E6.01 is applicable for outdoor installation only.	**Yes.**
45	Please confirm if the flashing and sealing of the roof conduit penetration shown in Detail #1 on E6.01 is to be performed by the Bid Category #6 Contractor.	**Yes.**
46	Specifications call for aluminum conductors 150a and larger. Can aluminum conductors be allowed for 100a and larger?	**Correct, 100 A is the maximum for aluminum conductors.**
47	Confirm that grouting is required at the pole base per pole base detail and specification 265600 3.2 D 1	**Yes, per specification and detail provide grouting.**
48	Specification section 260533 – 3.1 B lists EMT as an acceptable installation method for interior applications for exposed and concealed locations, but specification section 260519 – 3.3 W & X allows for MC and AC cable installation for interior application branch circuitry where it is not a homerun applications, feeders, HVAC and kitchen equipment branch circuitry. Please advise if MC/AC cable is acceptable as described by specification 260519 or if conflict between spec sections is in error and what the appropriate application is.	
49	Please advise on all rooms where fire treated plywood backboards is required. Currently drawings only indicate B2013, B2081. A-T0.00 indicates that the MDF and IDF rooms are to be installed with fire treated plywood backboards but there are no rooms on the plans labeled as MDF or IDF.	**First Floor: Data A1071** **Second Floor: Elec/Data B2013**
50	Please indicate the size and quantity of conduits for the communication primary.	**3 (4") conduits for telecom. Redundant pathway is TBD. Need owner input.**

May 23, 2023

Addendum #1: Pre-bid RFI's

Project: Indiana Joint Replacement Institute
Project Number: P225462.00

The following changes incorporate Addendum 1 to the drawings.

ARCHITECTURAL

Core & Shell Sheet G0.01	City Standard Sheet 25 Added to Index
Core & Shell Sheet A2.11A	Door 22A shown on floor plan
Core & Shell Sheet A8.10	Door 22A added to door schedule
Medical Center Sheet B-G0.01	Sheet B-P8.02 on drawing index
ASC A-G0.01	TA1.01B, TA6.02 removed from drawing index

Spec Section 21 13 16 has been added to the TOC.

Page 1 of Section 22 05 13, Common Motor Requirements for Plumbing Equipment has been included.

Section 23 23 00, Refrigerant Piping, full spec section is included.

23 22 13, Steam and Condensate Heating Piping has been added to the TOC

Section 26 05 23 Control-Voltage Electrical Power Cable has been removed from the manual.

Section 26 24 13, Switchboards has been added to the TOC.

Section 26 36 01, Stand-By Engine Generator in the TOC has been updated to Section 26 32 13, Engine Generators.

Section 26 36 00, Transfer Switches has been updated to 26 36 01 in the TOC.

Automatic Sliding Door Specification Section has been added.

ADDENDUM 1 – NARRATIVE

Summary:

This revision includes responding to comments from the City and INAW.

C001 – COVER SHEET

1. Issued for tracking purposes.
2. Added sheet C002 "Drainage Overflow Exhibit"

C002 – DRAINAGE OVERFLOW EXHIBIT

1. Added sheet in its entirety.

C101 – EXISTING CONDITIONS AND DEMOLITION PLAN

1. Extended sawcut limits of asphalt path due to grading.

C201 – SITE PLAN

2. Extended proposed limits of asphalt path due to grading.

C301 – GRADING PLAN

1. Extended proposed limits of asphalt path.
2. Updated grading of southern ramp to be ADA compliant
3. Added details B and C to show slopes and dimensions of ramps.
4. Added spots for clarification around dumpster enclosure's weep hole.

C401 – STORMWATER POLLUTION PREVENTION PLAN

1. Extended proposed limits of asphalt path due to grading.
2. Updated grading of ramp and swale.

C501 – UTILITY PLAN

1. Extended proposed limits of asphalt path due to grading.
2. Revised domestic service tap from single tap to dual service tap.
3. Shifted water meters to be outside of water easement.
4. Revised keynotes 5 to be a dual tap and 2 separate 2" service lines installed by INAW.
5. Revised keynote 7 to be dual tap.

C502 – UTILITY DETAILS

1. Revised detail from single tap to dual tap.
2. Added additional notes to typical dual 2" meter pits detail for clarification.

C701 – STORM SEWER PLAN AND PROFILES

1. Extended proposed limits of asphalt path due to grading.
2. Updated grading of ramp and swale.
3. Revised domestic service tap from single tap to dual service tap.

L2.00 – PLANTING DETAILS

1. Added clarification that size* refers to minimum size at planting.

SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY

Addendum

DATE
05/23/2023

ADDENDUM NO.
1

PROJECT 223183.000| Indiana Joint Replacement Institute

The work described herein shall be added to the scope of work defined by the contract documents or it shall modify the scope of work defined by the contract documents as described. This work shall become a part of the contract documents by addendum.

DRAWINGS

Item 01 **Sheet E1.01 – SITE PLAN – ELECTRICAL**

A. Added keyed note 4.
B. Added labels on junction boxes for signage.
C. Adjusted locations of site pole lights.
D. Added (1) S2 site light fixture.
E. Added (4) W2E wall pack fixtures and circuit as indicated.

Item 02 **Sheet E2.01A – POWER – LEVEL 1 AREA A**

A. Added (2) GFCI general purpose receptacles in elevator pit.
B. Edited general note D.

Item 03 **Sheet E4.01 – ELECTRICAL ONE-LINE DIAGRAM**

A. Changed 225A breakers on the critical and life safety distribution panelboards to 225A LSI breaker types.
B. Changed the 400A, 600A, and 175A breakers on the normal distribution panels to LSI breaker types.
C. Added surge protection schedule.
D. Edited service size to 2500A and feeder size to correspond.
E. Edited generator feeder size.
F. Edited general notes.

Item 04 **Sheet E5.01 – ELECTRICAL LIGHT FIXTURE SCHEDULE**

A. Added battery backup to exit signs.

Item 05 **Sheet E5.02 – ELECTRICAL PANELBOARD SCHEDULES**

A. Changed (2) spare breakers to provide power for elevator pit receptacles. Refer to circuits 15 and 17 on panel schedule 1LA.
B. Changed panel 1LA to a 30 breaker space panel.
C. Edited note on panelboard MSB and updated to 2500A.

Item 06 **Sheet A-E1.01 – SITE PLAN – ELECTRICAL**

A. Added labels on junction boxes for signage.

B. Adjusted locations of site pole lights.
C. Added (1) S2 site light fixture.

Item 07 **Sheet A-E2.01A – POWER – LEVEL 1 AREA A**

A. Added keyed note 5.
B. Added power for area smoke dampers.
C. Added junction boxes for power to lock downs, panic alarms, door releases, door open buttons, and intercoms.
D. Added GFCI general purpose receptacle in elevator pit.
E. Removed (1) redundant clock and (1) card reader.
F. Specified fire alarm annunciator panel location.
G. Added note for clock power circuit.

Item 08 **Sheet A-E2.01B – POWER – LEVEL 1 AREA B**

A. Added junction boxes for power to door open buttons.
B. Added (1) nurse duty station.
C. Edited keyed note 1.
D. Removed (1) clock.
E. Added note for clock power circuit.

Item 09 **Sheet A-E2.03 – POWER – ROOF PLAN**

A. Moved CU-3 to 1QL-4,6.

Item 10 **Sheet A-E2.11A – MECHANICAL POWER – LEVEL 1 AREA A**

A. Edited general note.

Item 11 **Sheet A-E2.11B – MECHANICAL POWER – LEVEL 1 AREA B**

A. Edited general note.
B. Added power for VRH units as indicated.

Item 12 **Sheet A-E4.01 – ELECTRICAL ONE-LINE DIAGRAM**

A. Changed 225A breakers on the critical and life safety distribution panelboards to 225A LSI breaker types.
B. Changed the 400A, 600A, and 175A breakers on the normal distribution panels to LSI breaker types.
C. Added surge protection schedule.
D. Edited service size to 2500A and feeder size to correspond.
E. Edited generator feeder size.
F. Edited general notes.

Item 13 **Sheet A-E5.01 – ELECTRICAL LIGHT FIXTURE SCHEDULE**

A. Added battery backup to exit signs.

Item 14 **Sheet A-E5.02 – ELECTRICAL PANELBOARD SCHEDULES**

A. Edited note on panelboard MSB and updated to 2500A.
B. Edited note on panelboard ESB.
C. Added VRH unit circuits to panel 1HB1 in breaker spaces 33,35,37 and 38,40,42.
D. Added VRH unit circuits to panel 1HB2 in breaker spaces 19,21,23, 25,27,29, 20,22,24, and 26,28,30.

Item 15 **Sheet A-E5.03 – ELECTRICAL PANELBOARD SCHEDULES**

A. Edited note on panelboard ESB.

Item 16 **Sheet A-E5.04 – ELECTRICAL PANELBOARD SCHEDULES**

A. Added circuit for area smoke dampers. Connected to 1QL-2. Refer to panel schedule for additional information.
B. Moved CU-3 to 1QL-4,6.
C. Added circuit for generator enclosure lighting to 1DPEH-12.
D. Added circuit for first floor clocks to 1EL-25.

Item 17 **Sheet B-E2.02A – POWER – LEVEL 2 AREA A**

A. Added note for door, security, and clock power circuit.
B. Added junction boxes for power to door releases, panic alarms, and security cameras.
C. Shifted (1) general purpose receptacle.
D. Added (2) general purpose receptacles and (1) refrigerator receptacle, circuited as indicated.
E. Changed (5) floor boxes and added (1) combination power and data floor boxes. Adjusted circuiting to accommodate the additional floor box.

Item 18 **Sheet B-E2.02B – POWER – LEVEL 2 AREA B**

A. Added (1) general purpose receptacle.
B. Added note for door, security, and clock power circuit.

Item 19 **Sheet A-E2.12A – MECHANICAL POWER – LEVEL 2 AREA A**

A. Edited general note.

Item 20 **Sheet A-E2.12B – MECHANICAL POWER – LEVEL 2 AREA B**

A. Edited general note.
B. Added power for VRH units as indicated.

Item 21 **Sheet B-E4.01 – ELECTRICAL ONE-LINE DIAGRAM**

A. Changed 225A breakers on the critical and life safety distribution panelboards to 225A LSI breaker types.
B. Changed the 400A, 600A, and 175A breakers on the normal distribution panels to LSI breaker types.
C. Added surge protection schedule.
D. Edited service size to 2500A and feeder size to correspond.
E. Edited generator feeder size.
F. Edited general notes.

Item 22 **Sheet B-E5.01 – ELECTRICAL LIGHT FIXTURE SCHEDULE**

A. Added battery backup to exit signs.

Item 23 **Sheet B-E5.02 – ELECTRICAL PANELBOARD SCHEDULES**

A. Changed distribution panelboard 2DPA type to Normal Branch.
B. Edited note on panelboard MSB and updated to 2500A.
C. Added VRH unit circuits to panel 2HA2 in breaker spaces 19,21,23, 25,27,29, 31,33,35, 20,22,24, 26,28,30, and 32,34,36.

Item 24 **Sheet B-E5.03 – ELECTRICAL PANELBOARD SCHEDULES**

A. Added circuit for refrigerator to 2LA2-38.
B. Added circuit for door and security power to 2LA2-59.

MECHANICAL

A-M1.01

- Corrected Mechanical Air Device Schedule to show correct air devices.
- Updated VRH 3-1 Max CFM and associated heating coil data.

A-M2.01A

- Modified slot diffusers to correct identification.
- Modified duct intersection

A-M2.01B

- Clarified visually all the fire/smoke dampers at shaft.

B-M1.01

- Updated VRH 1-6 to account for additional slot diffuser.

B-M2.02A

- Added a slot diffuser to VRH 1-6 and modified the associated ductwork.
- Modified ductwork as shown.

END OF ADDENDUM

TABLE OF CONTENTS

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

DIVISION 08 – OPENINGS

DIVISION 09 – FINISHES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Sliding automatic entrances.

B. Related Requirements:

1. Section 084243 "Intensive Care Unit/Critical Care Unit (ICU/CCU) Entrances" for swinging-sliding, manual ICU/CCU entrance door assemblies.
2. Section 087113 "Power Door Operators" for automatic door operators furnished separately from doors and frames.

1.2 DEFINITIONS

A. AAADM: American Association of Automatic Door Manufacturers.

B. Activation Device: A control that, when actuated, sends an electrical signal to the door operator to open the door.

C. Safety Device: A control that, to avoid injury, prevents a door from opening or closing.

D. For automatic door terminology, refer to BHMA A156.10 for definitions of terms.

1.3 COORDINATION

A. Templates: Distribute for doors, frames, and other work specified to be factory prepared for installing automatic entrances.

B. Coordinate hardware with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish. Coordinate hardware for automatic entrances with hardware required for rest of Project.

C. Electrical System Roughing-in: Coordinate layout and installation of automatic entrances with connections to power supplies and access-control system.

D. System Integration: Integrate sliding automatic entrances with other systems as required for a complete working installation.

1. Provide electrical interface control capability for activation of sliding automatic entrances by security access system on doors with electric locking.
2. Provide electrical interface to deactivate door operators on activation of fire alarm system.

1.4 SUBMITTALS

A. Action, Informational, and Sample submittals: All action and informational submittals listed below are to be submitted in a single pdf at one time. Combining of more than one specification section in a single submittal is not permitted.

1. Product Data:

a. For each type of product.
1) Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for automatic entrances.

2) Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

b. Qualification Data: For Installer.
c. Product Certificates: For each type of automatic entrance. Include emergency-exit features of automatic entrances serving as a required means of egress.

2. Shop Drawings: For sliding automatic entrances.

a. Include plans, elevations, sections, hardware mounting heights, and attachment details.
b. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
c. Include diagrams for power, signal, and control wiring.
d. Indicate locations of activation and safety devices.
e. Include hardware schedule and indicate hardware types, functions, quantities, and locations.

3. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.

B. Closeout Submittals

1. Operation and Maintenance Data: For automatic entrances, safety devices, and control systems to include in operation and maintenance manuals.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation and maintenance of units required for this Project.

1. Maintenance Proximity: Not more than two hours' normal travel time from Installer's place of business to Project site.

1.6 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of automatic entrances that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including, but not limited to, excessive deflection.
b. Faulty operation of operators, controls, and hardware.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.

2. Warranty Period: Two years from date of Substantial Completion.

B. Special Finish Warranty: Manufacturer agrees to repair or replace components on which finishes fail in materials or workmanship within specified warranty period.

1. Deterioration includes, but is not limited to, the following:

a. Color fading more than 5 Delta E units when tested in accordance with ASTM D 2244.
b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Obtain sliding automatic entrances from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Power-Operated Door Standard: BHMA A156.10.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design automatic entrances.

D. Structural Performance: Automatic entrances to withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated in accordance with ASCE/SEI 7.

E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

F. Operating Temperature Range: Automatic entrances to operate within minus 20 to plus 122 deg F (minus 29 to plus 50 deg C).

G. Energy Performance: Certified and labeled by manufacturer for energy performance as follows:

1. Thermal Transmittance (U-factor):

a. Entrance Doors: U-factor of not more than 0.77 Btu/sq. ft. x h x deg F (4.37 W/sq. m x K) as determined in accordance with NFRC 100.

2. Solar Heat Gain Coefficient:

a. Entrance Doors: SHGC of not more than 0.40 as determined in accordance with NFRC 200.

3. Air Leakage:

a. Entrance Doors: Air leakage of not more than 1.0 cfm/sq. ft. (5.08 L/s per sq. m) at a static-air-pressure differential of 1.57 lbf/sq. ft. (75 Pa) when tested in accordance with ASTM E283.

H. Opening Force:

1. Power-Operated Doors: Not more than 50 lbf (222 N) required to manually set door in motion if power fails, and not more than 15 lbf (67 N) required to open door to minimum required width.
2. Breakaway Device for Power-Operated Doors: Not more than 50 lbf (222 N) required for a breakaway door or panel to open.

I. Entrapment-Prevention Force:

1. Power-Operated Sliding Doors: Not more than 30 lbf (133 N) required to prevent stopped door from closing.

2.3 SLIDING AUTOMATIC ENTRANCES

A. General: Provide manufacturer's standard automatic entrances including doors, sidelites, framing, headers, carrier assemblies, roller tracks, door operators, controls, and accessories required for a complete installation.

B. Sliding, Power-Operated Automatic Entrances:

1. Configuration, Biparting-Sliding: Biparting-sliding doors with two sliding leaves, transom, and sidelites on each side.

a. Traffic Pattern: Two way.
b. Emergency Breakaway Capability: As indicated on Drawings.
c. Mounting: Between jambs.

2. Operator Features:

a. Power opening and closing.
b. Drive System: Chain or belt.
c. Adjustable opening and closing speeds.
d. Adjustable hold-open time between zero and 30 seconds.
e. Obstruction recycle.
f. On-off/hold-open switch to control electric power to operator, key operated.

3. Sliding-Door Carrier Assemblies and Overhead Roller Tracks: Carrier assembly that allows vertical adjustment; consisting of nylon- or delrin-covered, ball-bearing-center steel wheels operating on a continuous roller track, or ball-bearing-center steel wheels operating on a nylon- or delrin-covered, continuous roller track. Support doors from carrier assembly by cantilever and pivot assembly.

   a. Rollers: Minimum of two ball-bearing roller wheels and two antirise rollers for each active leaf.

4. Sliding-Door Threshold: Threshold members and bottom-guide-track system with stainless-steel, ball-bearing-center roller wheels.

   a. Configuration, Threshold: Threshold level with floor finishes across door opening and surface-mounted guide-track system at sidelites.

5. Controls: Activation and safety devices as indicated on Drawings and in accordance with BHMA standards.

   a. Activation Device, Motion Sensor: Mounted on each side of door header to detect pedestrians in activating zone and to open door.
   b. Safety Device, Presence Sensor Under Door Header and Photoelectric Beams: Presence sensor mounted to underside of door header and two photoelectric beams mounted in sidelite jambs on one side of the door to detect pedestrians in presence zone and to prevent door from closing.
   c. Sidelite Safety Device: Presence sensor, mounted above each sidelite on side of door opening through which doors travel, to detect obstructions and to prevent door from opening.

6. Finish: Finish framing, door(s), and header with finish matching adjacent storefront.

   a. Color: As selected by Architect from full range of industry colors and color densities.

2.4 ENTRANCE COMPONENTS

A. Framing Members: Extruded aluminum, minimum 0.125 inch (3.2 mm) thick and reinforced as required to support imposed loads.

   1. Nominal Size: As indicated on Drawings.
   2. Extruded Glazing Stops and Applied Trim: Minimum 0.062-inch (1.6-mm) wall thickness.

B. Stile and Rail Doors: 1-3/4-inch-(45-mm-) thick, glazed doors with minimum 0.125-inch-(3.2-mm-) thick, extruded-aluminum tubular stile and rail members. Mechanically fasten corners with reinforcing brackets that are welded, or incorporate concealed tie-rods that span full length of top and bottom rails.

   1. Glazing Stops and Gaskets: Square, snap-on, extruded-aluminum stops and preformed gaskets.
   2. Stile Design: As indicated on Drawings.
   3. Rail Design: As indicated on Drawings.
   4. Muntin Bars: Horizontal tubular rail member for each door; match stile design and finish.

C. Sidelite(s): 1-3/4-inch-(45-mm-) deep sidelite(s) with minimum 0.125-inch-(3.2-mm-) thick, extruded-aluminum tubular stile and rail members matching door design.

   1. Glazing Stops and Gaskets: Same materials and design as for stile and rail door.
   2. Muntin Bars: Horizontal tubular rail members for each sidelite; match stile design.

D. Transom: 1-3/4-inch- (45-mm-) deep transom with minimum 0.125-inch- (3.2-mm-) thick, extruded-aluminum tubular stile and rail members matching door design.

   1. Glazing Stops and Gaskets: Same materials and design as for stile and rail door.

E. Headers: Fabricated from minimum 0.125-inch-(3.2-mm-) thick extruded aluminum and extending full width of automatic entrance units to conceal door operators and controls. Provide hinged or removable access panels for service and adjustment of door operators and controls. Secure panels to prevent unauthorized access.

1. Mounting: Concealed, with one side of header flush with framing.
2. Capacity: Capable of supporting doors up to 175 lb (79 kg) per leaf over spans up to 14 feet (4.3 m) without intermediate supports.

a. Provide sag rods for spans exceeding 14 feet (4.3 m).

F. Brackets and Reinforcements: High-strength aluminum with nonstaining, nonferrous shims for aligning system components.

G. Signage: As required by cited BHMA standard.

1. Application Process: Door manufacturer's standard process.
2. Provide sign materials with instructions for field application after glazing is installed.

2.5 MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.

1. Extrusions: ASTM B221 (ASTM B221M).
2. Sheet: ASTM B209 (ASTM B209M).

B. Steel Reinforcement: Reinforcement with corrosion-resistant primer complying with SSPC-PS Guide No. 12.00 applied immediately after surface preparation and pretreatment. Use surface preparation methods in accordance with recommendations in SSPC-SP COM and prepare surfaces in accordance with applicable SSPC standard.

C. Glazing: As specified in Section 088000 "Glazing."

D. Sealants and Joint Fillers: As specified in Section 079200 "Joint Sealants."

E. Nonmetallic, Shrinkage-Resistant Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout; complying with ASTM C1107/C1107M; of consistency suitable for application.

F. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D1187.

G. Fasteners and Accessories: Corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.

2.6 DOOR OPERATORS AND CONTROLS

A. General: Provide operators and controls, which include activation and safety devices, in accordance with BHMA standards, for condition of exposure, and for long-term, maintenance-free operation under normal traffic load for type of occupancy indicated.

B. Door Operators: Provide door operators of size recommended by manufacturer for door size, weight, and movement.

1. Door Operator Performance: Door operators to open and close doors and maintain them in fully closed position when subjected to Project's design wind loads.
2. Electromechanical Operators: Concealed, self-contained, overhead unit powered by fractional-horsepower, permanent-magnet dc motor; with closing speed controlled mechanically by gear train and dynamically by braking action of electric motor; with solid-state microprocessor controller; complying with UL 325; and with manual operation with power off.

C. Motion Sensors: Self-contained, K-band-frequency, microwave-scanner units; fully enclosed by their plastic housing; adjustable to provide detection-field sizes and functions required by BHMA A156.10.

1. Provide capability for switching between bi- and unidirectional detection.

D. Presence Sensors: Self-contained, active-infrared scanner units; adjustable to provide detection-field sizes and functions required by BHMA A156.10. Sensors remain active at all times.

E. Photoelectric Beams: Pulsed infrared, sender-receiver assembly for recessed mounting. Beams to not be active when doors are fully closed.

F. Electrical Interlocks: Unless units are equipped with self-protecting devices or circuits, provide electrical interlocks to prevent activation of operator when door is locked, latched, or bolted.

2.7 HARDWARE

A. General: Provide units in sizes and types recommended by automatic entrance and hardware manufacturers for entrances and uses indicated. Finish exposed parts to match door finish unless otherwise indicated.

B. Breakaway Device for Power-Operated Doors: Device that allows door to swing out in direction of egress to full 90 degrees from any operating position. Maximum force to open door to be as stipulated in "Performance Requirements" Article. Interrupt powered operation of door operator while in breakaway mode.

1. Include two adjustable detent devices mounted in each breakaway panel; one top mounted and one bottom mounted to control breakaway force.

C. Deadlocks: Deadbolt operated by exterior cylinder and interior thumb turn, with minimum 1-inch- (25-mm-) long throw bolt; BHMA A156.5, Grade 1.

1. Cylinders: As specified in Section 087111 "Door Hardware."
2. Deadbolts: Laminated-steel hook, mortise type, BHMA A156.5, Grade 1.
3. Lock/Unlock Indicator: Lock position indicators integrated with locking system. Stile is mounted on secure side of door. Visual display of lock position as follows: "OPEN" in black letters when unlocked, and "LOCKED" in red letters when locked.

D. Access-Control Locking: Electrically controlled device mounted in header that automatically locks sliding door in closed position, preventing door panels from sliding manually. Provide fail-safe operation if power fails.

1. Include concealed, vertical-rod, tamper-proof exit devices, complying with UL 305, with latching into threshold and overhead carrier assembly and released by flush mounted and concealed within horizontal muntin bar, prohibiting manual breakout of door(s) from exterior.
2. Power Interruption: Lock to be disengaged, allowing doors to slide manually.
3. Means of Egress: Vertical rod exit device.
4. Include locking devices for sidelites to prevent manual breakout.

E. Weather Stripping: Replaceable components.

1. Sliding Type: AAMA 701/702n, made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.

2.8 FABRICATION

A. General: Factory fabricate automatic entrance components to designs, sizes, and thicknesses indicated and to comply with indicated standards.

1. Form aluminum shapes before finishing.
2. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.
3. Use concealed fasteners to greatest extent possible. Where exposed fasteners are required, use countersunk Phillips flat-head machine screws, finished to match framing.

a. Where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration, use self-locking devices.
b. Reinforce members as required to receive fastener threads.

4. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.

B. Framing: Provide automatic entrances as prefabricated assemblies. Complete fabrication, assembly, finishing, hardware application, and other work before shipment to Project site.

1. Fabricate tubular and channel frame assemblies with welded or mechanical joints. Provide subframes and reinforcement as required for a complete system to support required loads.
2. Perform fabrication operations in manner that prevents damage to exposed finish surfaces.
3. Form profiles that are sharp, straight, and free of defects or deformations.
4. Provide components with concealed fasteners and anchor and connection devices.
5. Fabricate components with accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion.
6. Fabricate exterior components to drain water passing joints, condensation occurring within framing members, and moisture migrating within system to exterior.
7. Provide anchorage and alignment brackets for concealed support of assembly from building structure.
8. Allow for thermal expansion of exterior units.

C. Doors: Factory fabricated and assembled in profiles indicated. Reinforce as required to support imposed loads and for installing hardware.

D. Door Operators: Factory fabricated and installed in headers, including adjusting and testing.

E. Glazing: Fabricate framing with minimum glazing edge clearances for thickness and type of glazing indicated, in accordance with GANA's "Glazing Manual."

F. Hardware: Factory install hardware to greatest extent possible; remove only as required for final finishing operation and for delivery to and installation at Project site. Cut, drill, and tap for factory-installed hardware before applying finishes.

1. Provide sliding-type weather stripping, mortised into door, at perimeter of doors and breakaway sidelites.

G. Controls:

1. General: Factory install activation and safety devices in doors and headers as required by BHMA A156.10 for type of door and direction of travel.
2. Install photoelectric beams in vertical jambs of sidelites, with dimension above finished floor as follows:

a. Top Beam: 48 inches (1219 mm).
b. Bottom Beam: 24 inches (610 mm).

2.9 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Apply organic and anodic finishes to formed metal after fabrication unless otherwise indicated.

C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.10 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

B. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.

C. High-Performance Organic Finish, Three-Coat: Fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

1. Color and Gloss: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances, header support, and other conditions affecting performance of automatic entrances.

B. Examine roughing-in for electrical systems to verify actual locations of power connections before automatic entrance installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Install automatic entrances in accordance with manufacturer's written instructions and cited BHMA A156.10 for direction of pedestrian travel, including signage, controls, wiring, and connection to the building's power supply.

1. Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure nonmovement joints. Seal joints watertight.
2. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.
3. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous coating.

B. Entrances: Install automatic entrances plumb and true in alignment with established lines and grades without warp or rack of framing members and doors. Anchor securely in place.

1. Install surface-mounted hardware using concealed fasteners to greatest extent possible.
2. Set headers, carrier assemblies, tracks, operating brackets, and guides level and true to location with anchorage for permanent support.
3. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within system to exterior.

C. Door Operators: Connect door operators to electrical power distribution system.

D. Access-Control Devices: Connect access-control devices to access-control system as specified in Section 281300 "Access Control Software and Database Management."

E. Controls: Install and adjust activation and safety devices in accordance with manufacturer's written instructions and cited BHMA standard for direction of pedestrian travel. Connect control wiring in accordance with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

F. Glazing: Install glazing as specified in Section 088000 "Glazing."

G. Sealants: Comply with requirements specified in Section 079200 "Joint Sealants" to provide weathertight installation.

1. Set thresholds, bottom-guide-track system, framing members and flashings in full sealant bed.
2. Seal perimeter of framing members with sealant.

H. Signage: Apply signage on both sides of each door and breakaway sidelite as required by cited BHMA standard for direction of pedestrian travel.

I. Wiring within Automatic Entrance Enclosures: Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's written limitations on bending radii. Provide and use lacing bars and distribution spools.

3.3 ADJUSTING

A. Adjust hardware, moving parts, door operators, and controls to function smoothly, and lubricate as recommended by manufacturer; comply with requirements of applicable BHMA standards.

1. Adjust exterior doors for tight closure.

B. Readjust door operators and controls after repeated operation of completed installation equivalent to three days' use by normal traffic (100 to 300 cycles).

C. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

3.4 CLEANING

A. Clean glass and metal surfaces promptly after installation. Remove excess glazing and sealant compounds, dirt, and other substances. Repair damaged finish to match original finish.

1. Comply with requirements in Section 088000 "Glazing" for cleaning and maintaining glass.

3.5 MAINTENANCE SERVICE

A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 12 months' full maintenance by skilled employees of automatic entrance Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper automatic entrance operation. Parts and supplies to be manufacturer's authorized replacement parts and supplies.

1. Perform maintenance, including emergency callback service, during normal working hours.

3.6 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain automatic entrances.

END OF SECTION 084229.23

SECTION 220513

COMMON MOTOR REQUIREMENTS FOR PLUMBING EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
- A. This Section includes basic requirements for factory- and field-installed motors.

1.3 DEFINITIONS
- A. Factory-Installed Motor: A motor installed by motorized-equipment manufacturer as a component of equipment.
- B. Field-Installed Motor: A motor installed at Project site and not factory installed as an integral component of motorized equipment.

1.4 SUBMITTALS
- A. Product Data for Field-Installed Motors: For each type and size of motor, provide nameplate data and ratings; shipping, installed, and operating weights; enclosure type and mounting arrangements; size, type, and location of winding terminations; conduit entry and ground lug locations; and information on coatings or finishes.
- B. Shop Drawings for Field-Installed Motors: Dimensioned plans, elevations, sections, and details, including required clearances and service space around equipment. Include the following:
  1. Each installed unit's type and details.
  2. Nameplate legends.
  3. Diagrams of power, signal, and control wiring. Provide schematic wiring diagram for each type of motor and for each control scheme.
- C. Coordination Drawings: Floor plans showing dimensioned layout, required working clearances, and required area above and around field-installed motors. Show motor layout, mechanical power transfer link, driven load, and relationship between electrical components and adjacent structural and mechanical elements. Show support locations, type of support, and weight on each support. Indicate field measurements.
- D. Qualification Data: For testing agency.
- E. Source quality-control test reports.
- F. Field quality-control test reports.
- G. Operation and Maintenance Data: For field-installed motors to include in emergency, operation, and maintenance manuals.

1.5 QUALITY ASSURANCE
- A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.
  1. Testing Agency's Field Supervisor: Person currently certified by the InterNational Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.
- B. Source Limitations: Obtain field-installed motors through one source from a single manufacturer.

C. Product Options for Field-Installed Motors: Drawings indicate size, profiles, and dimensional requirements of motors and are based on the specific system indicated. Refer to Division 1 Section "Product Requirements."
D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
E. Comply with NFPA 70.

1.6 COORDINATION
A. Coordinate features of motors, installed units, and accessory devices and features that comply with the following:
1. Compatible with the following:
a. Magnetic controllers.
b. Multispeed controllers.
c. Reduced-voltage controllers.
2. Designed and labeled for use with variable frequency controllers, and suitable for use throughout speed range without overheating.
3. Matched to torque and horsepower requirements of the load.
4. Matched to ratings and characteristics of supply circuit and required control sequence.
B. Coordinate motor support with requirements for driven load; access for maintenance and motor replacement; installation of accessories, belts, belt guards; and adjustment of sliding rails for belt tensioning.
C. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Division 3.

PART 2 - PRODUCTS

2.1 MOTOR REQUIREMENTS
A. Motor requirements apply to factory- and field-installed motors except as follows:
1. Different ratings, performance, or characteristics for motor are specified in another Section.
2. Motorized-equipment manufacturer requires ratings, performance, or characteristics, other than those specified in this Section, to meet performance specified.

2.2 MOTOR CHARACTERISTICS
A. Motors 3/4 HP and Larger: Three phase.
B. Motors Smaller Than 3/4 HP: Single phase.
C. Frequency Rating: 60 Hz.
D. Voltage Rating: NEMA standard voltage selected to operate on nominal circuit voltage to which motor is connected.
E. Service Factor: 1.15 for open dripproof motors; 1.0 for totally enclosed motors.
F. Duty: Continuous duty at ambient temperature of 105 deg F and at altitude of 1000 feet above sea level.
G. Capacity and Torque Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, at installed altitude and environment, with indicated operating sequence, and without exceeding nameplate ratings or considering service factor.
H. Enclosure: Open dripproof.

2.3 POLYPHASE MOTORS
A. Description: NEMA MG 1, Design B, medium induction motor.
B. Efficiency: Premium, as defined in NEMA MG 1.
C. Stator: Copper windings, unless otherwise indicated.

1. Multispeed motors shall have separate winding for each speed.

D. Rotor: Squirrel cage, unless otherwise indicated.
E. Bearings: Double-shielded, prelubricated ball bearings suitable for radial and thrust loading.
F. Temperature Rise: Match insulation rating, unless otherwise indicated.
G. Insulation: Class F, unless otherwise indicated.
H. Code Letter Designation:
   1. Motors 15 HP and Larger: NEMA starting Code F or Code G.
   2. Motors Smaller Than 15 HP: Manufacturer's standard starting characteristic.
I. Enclosure: Cast iron for motors 7.5 hp and larger; rolled steel for motors smaller than 7.5 hp.
   1. Finish: Gray enamel.

2.4 POLYPHASE MOTORS WITH ADDITIONAL REQUIREMENTS

A. Motors Used with Reduced-Inrush Controllers: Match wiring connection requirements for controller with required motor leads. Provide terminals in motor terminal box, suited to control method.
B. Motors Used with Variable Frequency Controllers: Ratings, characteristics, and features coordinated with and approved by controller manufacturer.
   1. Designed with critical vibration frequencies outside operating range of controller output.
   2. Temperature Rise: Matched to rating for Class B insulation.
   3. Insulation: Class H.
   4. Thermal Protection: Comply with NEMA MG 1 requirements for thermally protected motors.
C. Rugged-Duty Motors: Totally enclosed, with 1.25 minimum service factor, greased bearings, integral condensate drains, and capped relief vents. Windings insulated with non-hygroscopic material.
   1. Finish: Chemical-resistant paint over corrosion-resistant primer.
D. Source Quality Control for Field-Installed Motors: Perform the following tests on each motor according to NEMA MG 1:
   1. Measure winding resistance.
   2. Read no-load current and speed at rated voltage and frequency.
   3. Measure locked rotor current at rated frequency.
   4. Perform high-potential test.

2.5 SINGLE-PHASE MOTORS

A. Type: One of the following, to suit starting torque and requirements of specific motor application:
   1. Permanent-split capacitor.
   2. Split-phase start, capacitor run.
   3. Capacitor start, capacitor run.
B. Shaded-Pole Motors: For motors 1/20 hp and smaller only.
C. Thermal Protection: Internal protection to automatically open power supply circuit to motor when winding temperature exceeds a safe value calibrated to temperature rating of motor insulation. Thermal-protection device shall automatically reset when motor temperature returns to normal range.
D. Bearings: Ball type for belt-connected motors and other motors with high radial forces on motor shaft; sealed, prelubricated-sleeve type for other single-phase motors.
E. Source Quality Control for Field-Installed Motors: Perform the following tests on each motor according to NEMA MG 1:
   1. Measure winding resistance.
   2. Read no-load current and speed at rated voltage and frequency.
   3. Measure locked rotor current at rated frequency.
   4. Perform high-potential test.

2.6 STARTER AND MOTOR CONTROLS FOR MOTORS WITHOUT VFD"S

A. All motors 3/4 horsepower and larger require starters, no exceptions. All motors that are automatically controlled require starters, no exceptions.
B. Provide each motor that does not require a starter, a manual starting switch with thermal overload protection with identifying nameplate, green pilot light and stainless steel cover plate equal to Westinghouse Type MS. Switches installed on finished walls shall be flush type.
C. Starter shall have overload protection on all phases. Provide NEMA 1B control voltage transformer, "on" green pilot light, and 1-normally open and 2-normally closed auxiliary contacts on each starter, unless otherwise noted.
D. On equipment that is NOT controlled by the EMS, provide a "HAND-OFF-AUTOMATIC" control switch. On equipment that is controlled by the EMS, the HOA switch shall be in the EMS field control panel, but the HOA switch shall operate independently if the EMS field control panel is inoperable.
E. Certain starters and motor controls for motors furnished under this Division are scheduled on the Drawings to be elements of motor control centers provided under Division 26. Except for those scheduled starters, provide a suitable starter for control of each motor furnished under this Division.
F. Each starter shall have a capacity rating within the required limits of the motor which it serves; it shall have overload elements selected to provide protection for the motor.
G. Where a combination starter and disconnect switch or starter and circuit breaker in a common enclosure is scheduled, provide auxiliary contacts on the switch or breaker as required to assure that, when the disconnecting means is open, there are no "live" contact points on the starter.
H. Where a schedule holding coil voltage differs from line voltage, install a transformer with secondary fusing in the starter enclosure.
I. Unless otherwise indicated, furnish starters mounted indoors with NEMA Type 1 enclosures; and furnish those exposed to the weather with NEMA Type 3R enclosures.
J. Where starters are exposed to the weather, the heater elements shall be of the ambient temperature-compensated, bimetallic type.
K. All motor starters and control devices shall be of one make and manufactured by one of the following: Allen-Bradley, Clark, Cutler-Hammer, General Electric, Square D, or Westinghouse.
L. Replace, belts, sheaves, dampers, valves, starters and heaters as necessary for actual start-up operating conditions.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive field-installed motors for compliance with requirements, installation tolerances, and other conditions affecting performance.
B. Examine roughing-in for conduit systems to verify actual locations of conduit connections before motor installation.
C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FIELD-INSTALLED MOTOR INSTALLATION

A. Anchor each motor assembly to base, adjustable rails, or other support, arranged and sized according to manufacturer's written instructions. Attach by bolting. Level and align with load transfer link.
B. Install motors on concrete bases complying with Division 3.
C. Comply with mounting and anchoring requirements specified in Division 22 Section "Vibration and Seismic Controls for Plumbing Piping and Equipment."

3.3 FIELD QUALITY CONTROL FOR FIELD-INSTALLED MOTORS

A. Prepare for acceptance tests.

1. Align motors, bases, shafts, pulleys, and belts. Tension belts according to manufacturer's written instructions.
2. Verify bearing lubrication.
3. Run each motor with its controller. Demonstrate correct rotation, alignment, and speed at motor design load.
4. Test interlocks and control and safety features for proper operation.
5. Verify that current and voltage for each phase comply with nameplate rating and NEMA MG 1 tolerances.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust field-assembled components and equipment installation, including connections. Report results in writing.

C. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

D. Testing Agency: Engage a qualified testing and inspecting agency to perform the following field tests and inspections and prepare test reports:

E. Perform the following field tests and inspections and prepare test reports:
1. Perform electrical tests and visual and mechanical inspections including optional tests and inspections stated in NETA ATS on factory- and field-installed motors. Certify compliance with test parameters.
2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

3.4 FIELD-INSTALLED MOTOR DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain field-installed motors. Refer to Division 01 Section "Closeout Procedures."

END OF SECTION 220513

SECTION 232300

REFRIGERANT PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes refrigerant piping used for air-conditioning applications.

1.3 PERFORMANCE REQUIREMENTS

A. Line Test Pressure for Refrigerant R-22:
   1. Suction Lines for Air-Conditioning Applications: 450 psig.
   2. Suction Lines for Heat-Pump Applications: 450 psig.
   3. Hot-Gas and Liquid Lines: 450 psig.
   4. Safeties set at 310-350 psig.

B. Line Test Pressure for Refrigerant R-134a:
   1. Suction Lines for Air-Conditioning Applications: 450 psig.
   2. Suction Lines for Heat-Pump Applications: 450 psig.
   3. Hot-Gas and Liquid Lines: 450 psig.
   4. Safeties set at 310-350 psig.

C. Line Test Pressure for Refrigerant R-407C:
   1. Suction Lines for Air-Conditioning Applications: 450 psig.
   2. Suction Lines for Heat-Pump Applications: 450 psig.
   3. Hot-Gas and Liquid Lines: 450 psig.
   4. Safeties set at 310-350 psig.

D. Line Test Pressure for Refrigerant R-410A:
   1. Suction Lines for Air-Conditioning Applications: 450 psig.
   2. Suction Lines for Heat-Pump Applications: 450 psig.
   3. Hot-Gas and Liquid Lines: 535 psig.
   4. Safeties set at 310-350 psig.

1.4 SUBMITTALS

A. Product Data: For each type of valve and refrigerant piping specialty indicated. Include pressure drop, based on manufacturer's test data, for the following:
   1. Thermostatic expansion valves.
   2. Solenoid valves.
   3. Hot-gas bypass valves.
   4. Filter dryers.
   5. Strainers.
   6. Pressure-regulating valves.

B. Shop Drawings: Show layout of refrigerant piping and specialties, including pipe, tube, and fitting sizes, flow capacities, valve arrangements and locations, slopes of horizontal runs, oil traps, double risers, wall and floor penetrations, and equipment connection details. Show interface and spatial relationships between piping and equipment.
   1. Shop Drawing Scale: 1/4 inch equals 1 foot.

2. Refrigerant piping indicated on Drawings is schematic only. Size piping and design actual piping layout, including oil traps, double risers, specialties, and pipe and tube sizes to accommodate, as a minimum, equipment provided, elevation difference between compressor and evaporator, and length of piping to ensure proper operation and compliance with warranties of connected equipment.

C. Welding certificates.
D. Field quality-control test reports.
E. Operation and Maintenance Data: For refrigerant valves and piping specialties to include in maintenance manuals.

1.5 QUALITY ASSURANCE
A. Welding: Qualify procedures and personnel according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."
B. Comply with ASHRAE 15, "Safety Code for Refrigeration Systems."
C. Comply with ASME B31.5, "Refrigeration Piping and Heat Transfer Components."

1.6 PRODUCT STORAGE AND HANDLING
A. Store piping in a clean and protected area with end caps in place to ensure that piping interior and exterior are clean when installed.

1.7 COORDINATION
A. Coordinate size and location of roof curbs, equipment supports, and roof penetrations. These items are specified in Division 7 Section "Roof Accessories."

PART 2 - PRODUCTS

2.1 COPPER TUBE AND FITTINGS
A. Copper Tube: ASTM B 280, Type ACR.
B. Wrought-Copper Fittings: ASME B16.22.
C. Wrought-Copper Unions: ASME B16.22.
D. Solder Filler Metals: ASTM B 32. Use 15-35% silver solder. No soft solder allowed.
E. Brazing Filler Metals: AWS A5.8.
F. Flexible Connectors:
1. Body: Tin-bronze bellows with woven, flexible, tinned-bronze-wire-reinforced protective jacket.
2. End Connections: Socket ends.
3. Offset Performance: Capable of minimum 3/4-inch misalignment in minimum 7-inch-long assembly.
4. Pressure Rating: Factory test at minimum 500 psig.
5. Maximum Operating Temperature: 250 deg F.

2.2 VALVES AND SPECIALTIES
A. Diaphragm Packless Valves:
1. Body and Bonnet: Forged brass or cast bronze; globe design with straight-through or angle pattern.
2. Diaphragm: Phosphor bronze and stainless steel with stainless-steel spring.
3. Operator: Rising stem and hand wheel.
4. Seat: Nylon.
5. End Connections: Socket, union, or flanged.
6. Working Pressure Rating: 500 psig.
7. Maximum Operating Temperature: 275 deg F.
B. Packed-Angle Valves:
1. Body and Bonnet: Forged brass or cast bronze.

2. Packing: Molded stem, back seating, and replaceable under pressure.
3. Operator: Rising stem.
4. Seat: Nonrotating, self-aligning polytetrafluoroethylene.
5. Seal Cap: Forged-brass or valox hex cap.
6. End Connections: Socket, union, threaded, or flanged.
7. Working Pressure Rating: 500 psig.
8. Maximum Operating Temperature: 275 deg F.

C. Check Valves:
1. Body: Ductile iron, forged brass, or cast bronze; globe pattern.
2. Bonnet: Bolted ductile iron, forged brass, or cast bronze; or brass hex plug.
3. Piston: Removable polytetrafluoroethylene seat.
4. Closing Spring: Stainless steel.
5. Manual Opening Stem: Seal cap, plated-steel stem, and graphite seal.
6. End Connections: Socket, union, threaded, or flanged.
7. Maximum Opening Pressure: 0.50 psig.
8. Working Pressure Rating: 500 psig.
9. Maximum Operating Temperature: 275 deg F.

D. Service Valves:
1. Body: Forged brass with brass cap including key end to remove core.
2. Core: Removable ball-type check valve with stainless-steel spring.
3. Seat: Polytetrafluoroethylene.
4. End Connections: Copper spring.
5. Working Pressure Rating: 500 psig.

E. Solenoid Valves: Comply with ARI 760 and UL 429; listed and labeled by an NRTL.
1. Body and Bonnet: Plated steel.
2. Solenoid Tube, Plunger, Closing Spring, and Seat Orifice: Stainless steel.
3. Seat: Polytetrafluoroethylene.
4. End Connections: Threaded.
5. Electrical: Molded, watertight coil in NEMA 250 enclosure of type required by location with 1/2-inch conduit adapter, and 24-V ac coil.
6. Working Pressure Rating: 400 psig.
7. Maximum Operating Temperature: 240 deg F.
8. Manual operator.

F. Safety Relief Valves: Comply with ASME Boiler and Pressure Vessel Code; listed and labeled by an NRTL.
1. Body and Bonnet: Ductile iron and steel, with neoprene O-ring seal.
2. Piston, Closing Spring, and Seat Insert: Stainless steel.
3. Seat Disc: Polytetrafluoroethylene.
4. End Connections: Threaded.
5. Working Pressure Rating: 400 psig.
6. Maximum Operating Temperature: 240 deg F.

G. Thermostatic Expansion Valves: Comply with ARI 750.
1. Body, Bonnet, and Seal Cap: Forged brass or steel.
2. Diaphragm, Piston, Closing Spring, and Seat Insert: Stainless steel.
3. Packing and Gaskets: Non-asbestos.
4. Capillary and Bulb: Copper tubing filled with refrigerant charge.
5. Suction Temperature: 40 deg F.
6. Superheat: Adjustable.
7. Reverse-flow option (for heat-pump applications).
8. End Connections: Socket, flare, or threaded union.
9. Working Pressure Rating: 700 psig.

H. Hot-Gas Bypass Valves: Comply with UL 429; listed and labeled by an NRTL.
1. Body, Bonnet, and Seal Cap: Ductile iron or steel.
2. Diaphragm, Piston, Closing Spring, and Seat Insert: Stainless steel.
3. Packing and Gaskets: Non-asbestos.
4. Solenoid Tube, Plunger, Closing Spring, and Seat Orifice: Stainless steel.

5. Seat: Polytetrafluoroethylene.
6. Equalizer: Internal, only if external is not available.
7. Electrical: Molded, watertight coil in NEMA 250 enclosure of type required by location with 1/2-inch conduit adapter, and 24-V ac coil.
8. End Connections: Socket.
9. Throttling Range: Maximum 5 psig.
10. Working Pressure Rating: 500 psig.
11. Maximum Operating Temperature: 240 deg F.

I. Straight-Type Strainers:
1. Body: Welded steel with corrosion-resistant coating.
2. Screen: 100-mesh stainless steel.
3. End Connections: Socket or flare.
4. Working Pressure Rating: 500 psig.
5. Maximum Operating Temperature: 275 deg F.

J. Angle-Type Strainers:
1. Body: Forged brass or cast bronze.
2. Drain Plug: Brass hex plug.
3. Screen: 100-mesh monel.
4. End Connections: Socket or flare.
5. Working Pressure Rating: 500 psig.
6. Maximum Operating Temperature: 275 deg F.

K. Moisture/Liquid Indicators:
1. Body: Forged brass.
2. Window: Replaceable, clear, fused glass window with indicating element protected by filter screen.
3. Indicator: Color coded to show moisture content in ppm.
4. Minimum Moisture Indicator Sensitivity: Indicate moisture above 60 ppm.
5. End Connections: Socket or flare.
6. Working Pressure Rating: 500 psig.
7. Maximum Operating Temperature: 240 deg F.

L. Replaceable-Core Filter Dryers: Comply with ARI 730.
1. Body and Cover: Painted-steel shell with ductile-iron cover, stainless-steel screws, and neoprene gaskets.
2. Filter Media: 10 micron, pleated with integral end rings; stainless-steel support.
3. Desiccant Media: Activated alumina.
4. Designed for reverse flow (for heat-pump applications).
5. End Connections: Socket.
6. Access Ports: NPS 1/4 connections at entering and leaving sides for pressure differential measurement.
7. Maximum Pressure Loss: 2 psig.
8. Rated Flow: As scheduled.
9. Working Pressure Rating: 500 psig.
10. Maximum Operating Temperature: 240 deg F.

M. Permanent Filter Dryers: Comply with ARI 730.
1. Body and Cover: Painted-steel shell.
2. Filter Media: 10 micron, pleated with integral end rings; stainless-steel support.
3. Desiccant Media: Activated alumina.
4. Designed for reverse flow (for heat-pump applications).
5. End Connections: Socket.
6. Access Ports: NPS 1/4 connections at entering and leaving sides for pressure differential measurement.
7. Maximum Pressure Loss: 2 psig.
8. Rated Flow: As scheduled.
9. Working Pressure Rating: 500 psig.
10. Maximum Operating Temperature: 240 deg F.

N. Mufflers:

1. Body: Welded steel with corrosion-resistant coating.
2. End Connections: Socket or flare.
3. Working Pressure Rating: 500 psig.
4. Maximum Operating Temperature: 275 deg F.

O. Receivers: Comply with ARI 495.
1. Comply with ASME Boiler and Pressure Vessel Code; listed and labeled by an NRTL.
2. Comply with UL 207; listed and labeled by an NRTL.
3. Body: Welded steel with corrosion-resistant coating.
4. Tappings: Inlet, outlet, liquid level indicator, and safety relief valve.
5. End Connections: Socket or threaded.
6. Working Pressure Rating: 500 psig.
7. Maximum Operating Temperature: 275 deg F.

P. Liquid Accumulators: Comply with ARI 495.
1. Body: Welded steel with corrosion-resistant coating.
2. End Connections: Socket or threaded.
3. Working Pressure Rating: 500 psig.
4. Maximum Operating Temperature: 275 deg F.

2.3 REFRIGERANTS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Atofina Chemicals, Inc.
2. DuPont Company; Fluorochemicals Div.
3. Honeywell, Inc.; Genetron Refrigerants.
4. INEOS Fluor Americas LLC.

B. ASHRAE 34, R-22: Monochlorodifluoromethane.

C. ASHRAE 34, R-134a: Tetrafluoroethane.

D. ASHRAE 34, R-407C: Difluoromethane/Pentafluoroethane/1,1,1,2-Tetrafluoroethane.

E. ASHRAE 34, R-410A: Pentafluoroethane/Difluoromethane.

PART 3 - EXECUTION

3.1 PIPING APPLICATIONS FOR ALL REFRIGERANTS

A. Suction Lines, all pipe sizes, for Conventional Air-Conditioning Applications: Copper, Type ACR, annealed-temper tubing and wrought-copper fittings with brazed joints. Use long radius elbows.

B. Hot-Gas and Liquid Lines, and Suction Lines for Heat-Pump Applications: Copper, Type ACR, annealed-temper tubing and wrought-copper fittings with brazed joints. Use long radius elbows.

3.2 VALVE AND SPECIALTY APPLICATIONS

A. Install packed-angle valves in suction and discharge lines of compressor.

B. Install service valves for gage taps at inlet and outlet of hot-gas bypass valves and strainers if they are not an integral part of valves and strainers.

C. Install a check valve at the compressor discharge and a liquid accumulator at the compressor suction connection.

D. Except as otherwise indicated, install brass refrigerant rated ball valves on inlet and outlet side of filter dryers.

E. Install a full-sized, three-valve bypass around filter dryers with ball valves.

F. Install solenoid valves upstream from each expansion valve and hot-gas bypass valve. Install solenoid valves in horizontal lines with coil at top.

G. Install thermostatic expansion valves as close as possible to distributors on evaporators.
1. Install valve so diaphragm case is warmer than bulb.
2. Secure bulb to clean, straight, horizontal section of suction line using two bulb straps. Do not mount bulb in a trap or at bottom of the line.

3. If external equalizer lines are required, make connection where it will reflect suction-line pressure at bulb location.

H. Install safety relief valves where required by ASME Boiler and Pressure Vessel Code. Pipe safety-relief-valve discharge line to outside according to ASHRAE 15.

I. Install moisture/liquid indicators in liquid line at the inlet of the thermostatic expansion valve or at the inlet of the evaporator coil capillary tube.

J. Install strainers upstream from and adjacent to the following unless they are furnished as an integral assembly for device being protected:
1. Solenoid valves.
2. Thermostatic expansion valves.
3. Hot-gas bypass valves.
4. Compressor.

K. Install filter dryers in liquid line between compressor and thermostatic expansion valve, and in the suction line at the compressor.

L. Install receivers sized to accommodate pump-down charge.

M. Install flexible connectors at compressors.

3.3 PIPING INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems; indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Shop Drawings.

B. Install refrigerant piping according to ASHRAE 15.

C. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

F. Install piping adjacent to machines to allow service and maintenance.

G. Install piping free of sags and bends.

H. Install fittings for changes in direction and branch connections.

I. Select system components with pressure rating equal to or greater than system operating pressure.

J. Refer to Division 23 Sections "Instrumentation and Controls for HVAC" for solenoid valve controllers, control wiring, and sequence of operation.

K. Install piping as short and direct as possible, with a minimum number of joints, elbows, and fittings.

L. Arrange piping to allow inspection and service of refrigeration equipment. Install valves and specialties in accessible locations to allow for service and inspection. Install access doors or panels as specified in Division 8 Section "Access Doors and Frames" if valves or equipment requiring maintenance is concealed behind finished surfaces.

M. Install refrigerant piping in protective conduit where installed belowground.

N. Install refrigerant piping in rigid or flexible conduit in locations where exposed to mechanical injury.

O. Slope refrigerant piping as follows:
1. Install horizontal hot-gas discharge piping with a uniform slope downward away from compressor.
2. Install horizontal suction lines with a uniform slope downward to compressor.
3. Install traps and double risers to entrain oil in vertical runs.
4. Liquid lines may be installed level.

P. When brazing or soldering, remove solenoid-valve coils and sight glasses; also remove valve stems, seats, and packing, and accessible internal parts of refrigerant specialties. Do not apply heat near expansion-valve bulb.

Q. Install pipe sleeves at penetrations in exterior walls and floor assemblies.

R. Seal penetrations through fire and smoke barriers according to Division 7 Section "Through-Penetration Firestop Systems."
S. Install piping with adequate clearance between pipe and adjacent walls and hangers or between pipes for insulation installation.
T. Install sleeves through floors, walls, or ceilings, sized to permit installation of full-thickness insulation.
U. Seal pipe penetrations through exterior walls according to Division 7 Section "Joint Sealants" for materials and methods.
V. Identify refrigerant piping and valves according to Division 23 Section "Identification for HVAC Piping and Equipment."

3.4 PIPE JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
C. Fill pipe and fittings with an inert gas (nitrogen or carbon dioxide), during brazing or welding, to prevent scale formation.
D. Soldered Joints: Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook."
E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," Chapter "Pipe and Tube."
    1. Use Type BcuP, copper-phosphorus alloy for joining copper socket fittings with copper pipe.
    2. Use Type BAg, cadmium-free silver alloy for joining copper with bronze or steel.

3.5 HANGERS AND SUPPORTS

A. Hanger, support, and anchor products are specified in Division 23 Section "Hangers and Supports for HVAC Piping and Equipment."
B. Install the following pipe attachments:
    1. Adjustable steel clevis hangers for individual horizontal runs less than 20 feet long.
    2. Roller hangers and spring hangers for individual horizontal runs 20 feet or longer.
    3. Pipe Roller: MSS SP-58, Type 44 for multiple horizontal piping 20 feet or longer, supported on a trapeze.
    4. Spring hangers to support vertical runs.
    5. Copper-clad hangers and supports for hangers and supports in direct contact with copper pipe.
C. Install hangers for copper tubing with the following maximum spacing and minimum rod sizes:
    1. NPS 1/2: Maximum span, 60 inches; minimum rod size, 1/4 inch.
    2. NPS 5/8: Maximum span, 60 inches; minimum rod size, 1/4 inch.
    3. NPS 1: Maximum span, 72 inches; minimum rod size, 1/4 inch.
    4. NPS 1-1/4: Maximum span, 96 inches; minimum rod size, 3/8 inch.
    5. NPS 1-1/2: Maximum span, 96 inches; minimum rod size, 3/8 inch.
    6. NPS 2: Maximum span, 96 inches; minimum rod size, 3/8 inch.
    7. NPS 2-1/2: Maximum span, 108 inches; minimum rod size, 3/8 inch.
    8. NPS 3: Maximum span, 10 feet; minimum rod size, 3/8 inch.
    9. NPS 4: Maximum span, 12 feet; minimum rod size, 1/2 inch.
D. Support multi-floor vertical runs at least at each floor.

3.6 FIELD QUALITY CONTROL

A. Perform tests and inspections and prepare test reports.
B. Tests and Inspections:
    1. Comply with ASME B31.5, Chapter VI.
    2. Test refrigerant piping, specialties, and receivers. Isolate compressor, condenser, evaporator, and safety devices from test pressure if they are not rated above the test pressure.

3. Test high- and low-pressure side piping of each system separately at not less than the pressures indicated in Part 1 "Performance Requirements" Article.
    a. Fill system with nitrogen to the required test pressure.
    b. System shall maintain test pressure at the manifold gage throughout duration of test.
    c. Test joints and fittings with electronic leak detector or by brushing a small amount of soap and glycerin solution over joints.
    d. Remake leaking joints using new materials, and retest until satisfactory results are achieved.

3.7 SYSTEM CHARGING

A. Charge system using the following procedures:
    1. Install core in filter dryers after leak test but before evacuation.
    2. Evacuate entire refrigerant system with a vacuum pump to 500 micrometers. If vacuum holds for 12 hours, system is ready for charging.
    3. Break vacuum with refrigerant gas, allowing pressure to build up to 2 psig.
    4. Charge system with a new filter-dryer core in charging line.

3.8 ADJUSTING

A. Adjust thermostatic expansion valve to obtain proper evaporator superheat.
B. Adjust high- and low-pressure switch settings to avoid short cycling in response to fluctuating suction pressure.
C. Adjust set-point temperature of air-conditioning or chilled-water controllers to the system design temperature.
D. Perform the following adjustments before operating the refrigeration system, according to manufacturer's written instructions:
    1. Open shutoff valves in condenser water circuit.
    2. Verify that compressor oil level is correct.
    3. Open compressor suction and discharge valves.
    4. Open refrigerant valves except bypass valves that are used for other purposes.
    5. Check open compressor-motor alignment and verify lubrication for motors and bearings.
    6. Verify correct rotation of 3-phase compressor and motors.
E. Replace core of replaceable filter dryer after system has been adjusted and after design flow rates and pressures are established.

END OF SECTION 232300

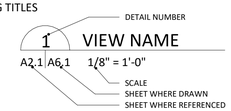
INDIANA JOINT REPLACEMENT INSTITUTE
AMBULATORY SURGICAL CENTER

100% CONSTRUCTION DOCUMENTS

PROJECT SYMBOLS

VIEW REFERENCES

DRAWING TITLES



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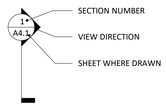

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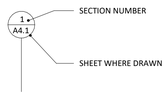
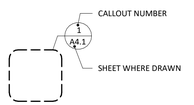


PLAN/DETAIL CALLOUTS



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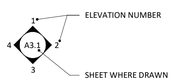
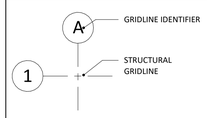
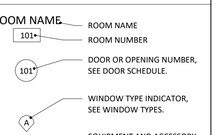


DATUM SYMBOLS



PROJECT SYMBOLS AND ANNOTATION



NOTE: SEE INDIVIDUAL SHEETS FOR ADDITIONAL SYMBOLS.

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PHONE: 317.844.6777

PROJECT DATA

BUILDING ADDRESS: 14065 BORG WARNER DRIVE
NOBLESVILLE, IN 46060

PROJECT DESCRIPTION: TENANT IMPROVEMENT AMBULATORY SURGERY CENTER, LICENSED BY THE STATE OF INDIANAPOLIS WITH (4) ORS

OCCUPANCY: 'B' OCCUPANCY

CONSTRUCTION TYPE: II-B (IBC), II (011) (NFPA), FULLY SPRINKLERED

GROSS BUILDING AREA:

	NEW
FIRST FLOOR	19,343 GSF
SECOND FLOOR	20,237 GSF
TOTAL	39,581 GSF

PROJECT TENANT AREA: 17,900 SF

FLOOR TO FLOOR HEIGHTS: FIRST FLOOR: 15' - 4"
SECOND FLOOR: 14' - 0"

HAZARDOUS MATERIALS: HAZARDOUS MATERIALS ARE NOT USED, STORED OR TRANSPORTED WITHIN THIS BUILDING IN QUANTITIES SUFFICIENT TO REQUIRE PROTECTION.

APPLICABLE CODES:
2012 INTERNATIONAL BUILDING CODE
W/ 2014 INDIANA AMENDMENTS
2006 INTERNATIONAL PLUMBING CODE
W/ 2012 INDIANA AMENDMENTS
2012 INTERNATIONAL MECHANICAL CODE
W/ 2014 INDIANA AMENDMENTS
2012 INTERNATIONAL FUEL GAS CODE
W/ 2014 INDIANA AMENDMENTS
2012 INTERNATIONAL FIRE CODE
W/ 2014 INDIANA AMENDMENTS
2010 INDIANA ENERGY CONSERVATION CODE
2009 INDIANA ELECTRICAL CODE
2014 INDIANA BUILDING CODE
CHAPTER 11 ACCESSIBILITY
2011 INDIANA ELEVATOR SAFETY CODE
2012 NFPA 101, CH. 20
2012 NFPA 99
2018 FGI

DEFERRED SUBMITTALS: FIRE SUPPRESSION SYSTEM
FIRE ALARM SYSTEM

GENERAL NOTES

1. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. REPORT ANY DISCREPANCIES TO ARCHITECT BEFORE CONTINUING. DO NOT SCALE DRAWINGS.
2. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO REVIEW THE ARCHITECTURAL DRAWINGS PRIOR TO PRICING AND BEFORE PROCEEDING WITH INSTALLATION OF ANY MECHANICAL, PLUMBING, OR ELECTRICAL WORK.
3. SEAL AROUND ALL INTERIOR JOINTS AT DOORS, WINDOWS, CABINETS, AND COUNTERTOPS. ALSO SEAL WHERE DOOR FRAMES INTERSECT WITH FLOORING.
4. ALL FIRE SPRINKLER HEADS TO BE SEMI-RECESSED CHROME (EXCEPTION: PROVIDE CONCEALED SPRINKLER HEADS, WHITE, AT WAITING ROOMS).

UNIT PRICES

1. UNIT PRICE 01 - PROVIDE A UNIT PRICE TO ADD A MOISTURE CONTROL SYSTEM PER SECTION 090561.13 "MOISTURE VAPOR EMISSION CONTROL", IN COST/SQUARE FOOT.

ALLOWANCES

1. ALLOWANCE 01 – PROVIDE AN ALLOWANCE TO ADD A MOISTURE CONTROL SYSTEM PER SECTION 090561.13 "MOISTURE VAPOR EMISSION CONTROL", WITH INSTALLATION CONTINGENT UPON MOISTURE TESTING RESULTS PER DIVISION 09 FLOORING SPECIFICATIONS. THE OWNER MAY ELECT TO USE THIS ALLOWANCE TO INSTALL A DIFFERENT (LESS EXPENSIVE) SYSTEM DEPENDING ON THE MOISTURE TEST RESULTS.

SHEET INDEX

SHEET INDEX

BOULDER ASSOCIATES
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214.420.5700

PROJECT 225462.00

IJRI - AMBULATORY SURGICAL CENTER

14065 BORG WARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
1	Addendum #1	2023.05.23

TIMOTHY W. RIDDLE
REGISTERED
No. AR11300105
STATE OF INDIANA
ARCHITECT

2023.05.23

SHEET TITLE

COVER SHEET

SHEET NUMBER

A-G0.01

5/26/2023 10:40:13 AM
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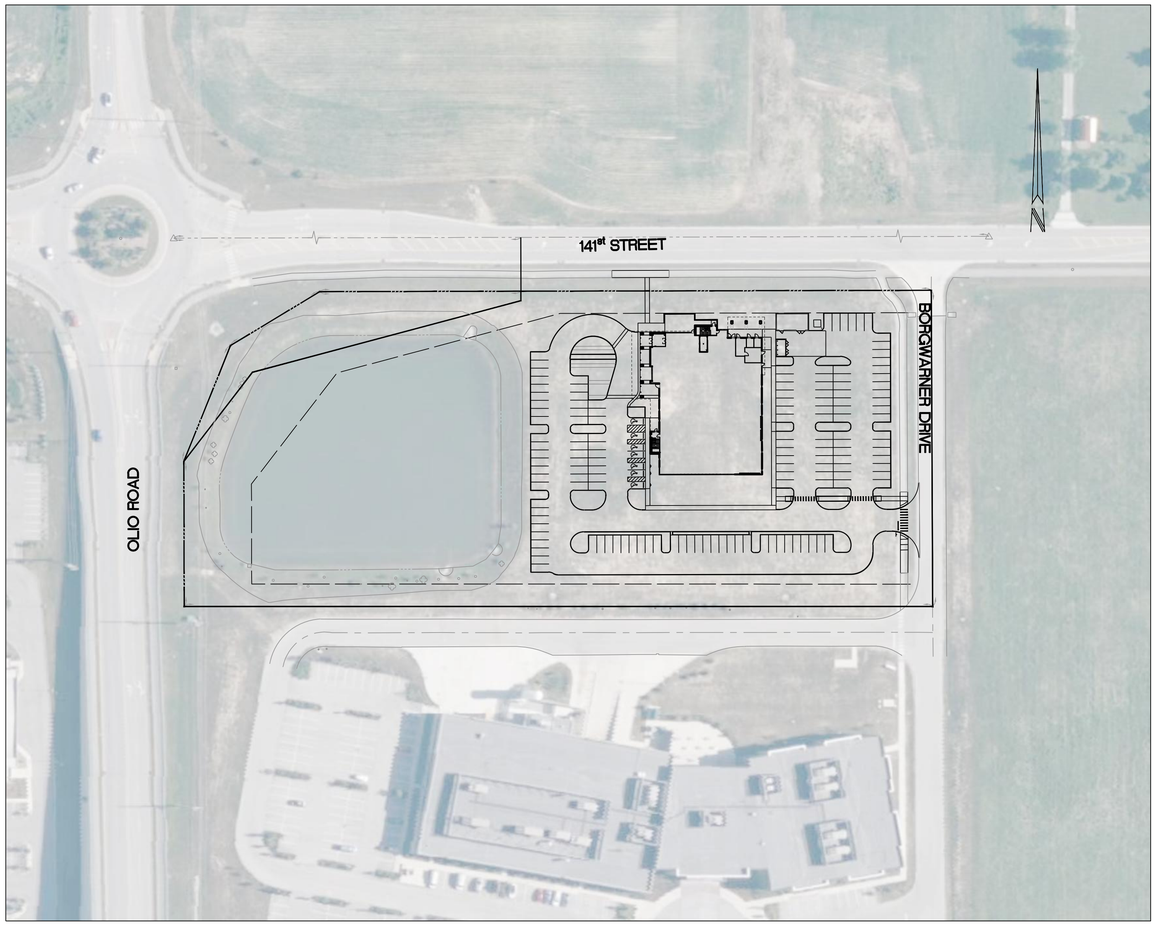
DETAILED DEVELOPMENT PLANS FOR IJRI SITE, CORE AND SHELL



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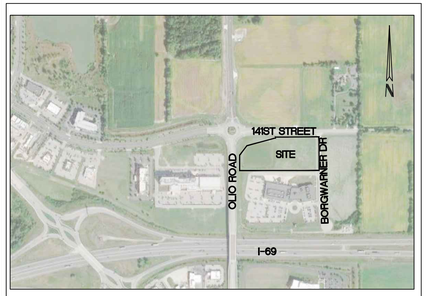
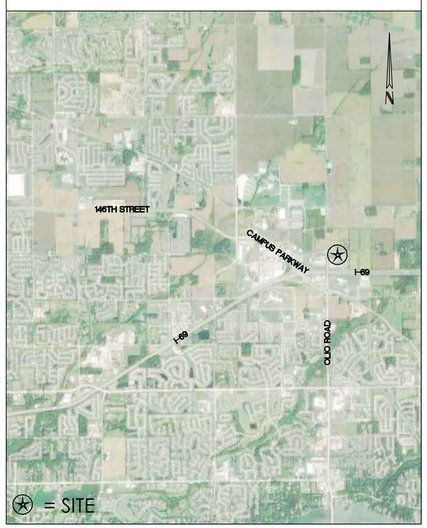
www.cripe.biz

LOCATION MAP:



VICINITY MAP:



BENCHMARKS:

REFERENCE BENCHMARK: HCBR469 – HAMILTON COUNTY GEODETIC CONTROL DISK ON THE SOUTHWEST CORNER OF THE BRIDGE ON OLIO ROAD OVER I-69. LOCATED ON THE SOUTH END OF THE HANDRAIL OF THE SOUTH BRIDGE APPROACH.
ELEV. = 867.73 (NAVD 88)

TEMPORARY BENCHMARK #1: SET CUT BOX IN THE NORTH SIDE OF A CONC. LIGHT BASE. APPROXIMATELY 3.2 FEET NORTH OF THE NORTH EDGE OF AN ASPHALT ACCESS DRIVE AND APPROXIMATELY 151 FEET WEST OF THE CENTERLINE OF BORGWARNER DRIVE.
ELEV. = 841.93 (NAVD 88)

DESIGNING PROFESSIONAL CERTIFYING THE PLANS FOR THE PROJECT ACKNOWLEDGES THEIR PROFESSIONAL RESPONSIBILITY FOR ENSURING THAT ALL WORK IS CORRECT, ACCURATE, AND COMPLIES WITH ALL APPROPRIATE LAWS, STANDARDS, REGULATIONS, AND ORDINANCES. IF SUCH AN ERROR AND/OR OMISSION IS FOUND, THE DESIGN PROFESSIONAL ACCEPTS FULL RESPONSIBILITY AND SHALL DETERMINE A SOLUTION THAT COMPLIES WITH ALL APPROPRIATE LAWS, STANDARDS, REGULATIONS, AND ORDINANCES. IF SUCH AN ERROR OR OMISSION IS FOUND, THE DEVELOPER IS NOT RELIEVED TO COMPLY WITH ALL APPROPRIATE LAWS, STANDARDS, REGULATIONS, AND ORDINANCES.

AGENCY & UTILITY INFO:

AGENCY/UTILITY	PHONE NUMBER
NOBLESVILLE DEPARTMENT OF PLANNING AND DEVELOPMENT	317-776-6325
NOBLESVILLE ENGINEERING DEPARTMENT	317-776-6330
NOBLESVILLE FIRE DEPARTMENT	317-776-6336
HAMILTON COUNTY SWCD	317-773-2181
ELECTRIC COMPANY - DUKE	317-488-3514
GAS COMPANY - CENTER POINT ENERGY (VECTREN)	317-260-5301
TELEPHONE COMPANY - AT&T	317-722-2299
CABLE COMPANY - COMCAST	317-275-6351
WATER COMPANY - INDIANA AMERICAN WATER (INAW)	1-800-492-8373
NOBLESVILLE UTILITY DEPARTMENT (SANITARY)	317-776-6353

CAUTION

LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE (INCLUDING, BUT NOT LIMITED TO, MANHOLES, INLETS, VALVES, AND MARKS MADE UPON THE GROUND BY OTHERS) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF SAID EXISTING UNDERGROUND UTILITIES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.

PROJECT DATA:

PROJECT ADDRESS	14065 BORGWARNER DRIVE
LOT AREA	6.175 AC
PROJECT AREA	3.606 ± AC
STANDARD SPACES PROPOSED	142
ACCESSIBLE SPACES PROPOSED	7
TOTAL PARKING SPACES	149

SHEET INDEX:

CRIPE TEAM:

PROJECT MANAGER	CHRIS WISEMAN, PE	317-706-6429
PROJECT ENGINEER	SUSAN NORRIS, EI	317-706-6347
DESIGN ASSOCIATE	SHANNON SHAW	317-706-6312
QUALITY ASSURANCE	GARY MURRAY, PE, LEED AP	317-706-6310

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Drawn By: S. SHAW
Checked By: S. NORRIS, EI
Quality Assurance: C. WISEMAN, PE
PIC Project Number: 220160-20000

BOULDER ASSOCIATES
5646 MILTON STREET, SUITE 240
DALLAS, TEXAS 75206
214.420.5700

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317.844.6777 www.cripe.biz

PROJECT 225462.00

IJRI SITE, CORE AND SHELL

14065 BORGWARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	2023.05.23

CERTIFIED BY:

CHRISTOPHER M. WISEMAN — REGISTERED — PE 10504920 — STATE OF INDIANA — PROFESSIONAL ENGINEER

Date 05-23-2023

SHEET TITLE

COVER SHEET

SHEET NUMBER

C001

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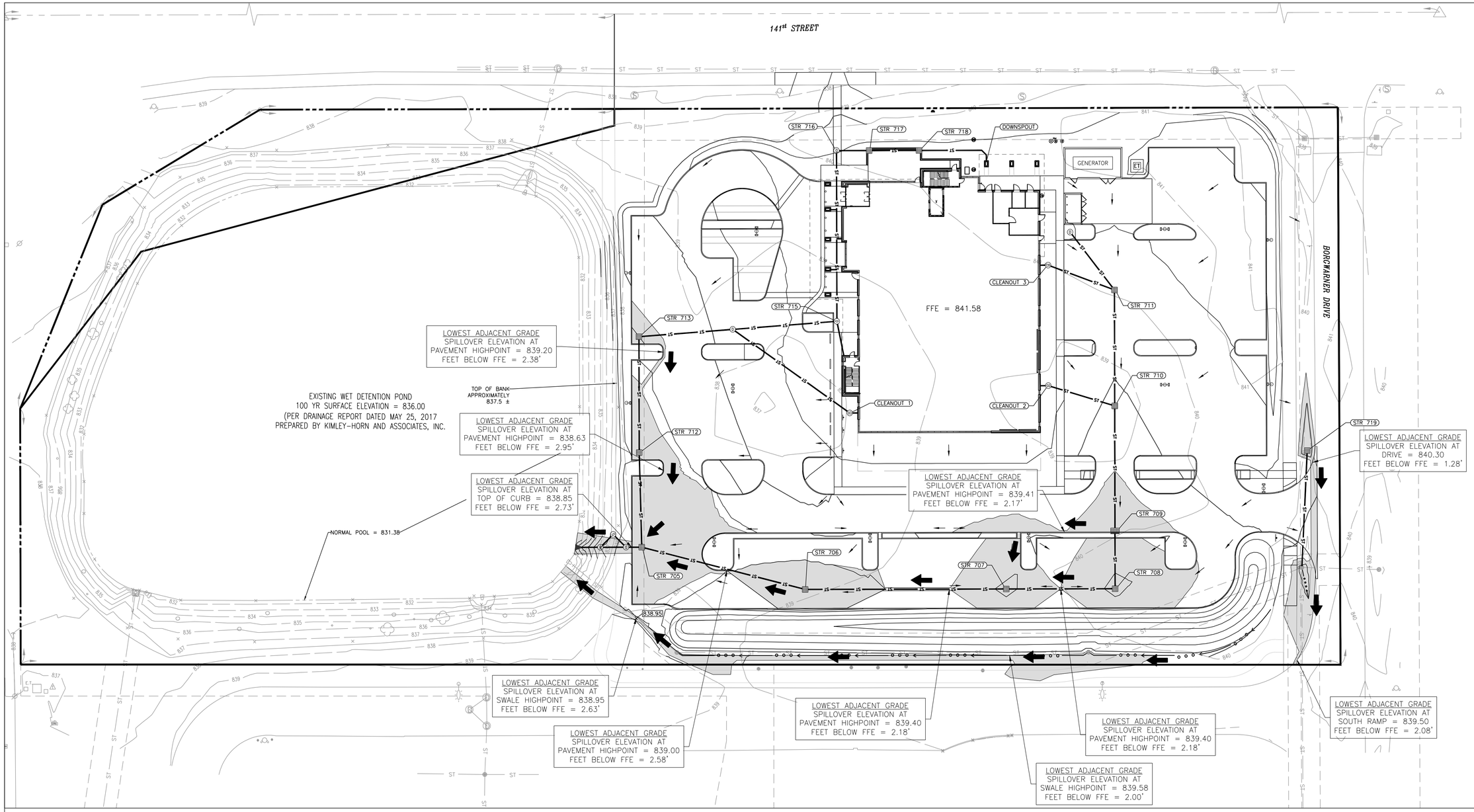

CURVE NUMBER COMPARISON		
	MASTERPLAN TO POND	PROPOSED SITE
AREA (AC)	16.92	6.55
CURVE NUMBER (CN)	92	91.7

TOTAL BASIN AREA = 6.55 AC
LAWN (CN=80) = 2.31 AC
PAVEMENT/ROOF/POND (CN=98) = 4.24 AC
WEIGHTED CN = 91.7

MASTERPLAN TO POND DETERMINED PER PAGE 46 OF THE MASTERPLAN DRAINAGE REPORT NAMED "PROJECT NITC DRAINAGE REPORT" BY KIMLEY HORN DATED MAY 25, 2017.

PER PAGE 19 OF THE MASTERPLAN DRAINAGE REPORT NAMED "PROJECT NITC DRAINAGE REPORT" BY KIMLEY HORN DATED MAY 25, 2017, CURVE NUMBERS OF 80 FOR LAWN AND 98 FOR PAVEMENT, ROOF AND POND WERE UTILIZED.

EXHIBIT LEGEND

FLOOD ROUTE

DRAINAGE OVERFLOW PONDING AREA

0 15 30 60
7.5 22.5 45
SCALE: 1"=30'

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CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	2023.05.23

CERTIFIED BY:

CHRISTOPHER M. WISEMAN REGISTERED PE 10504920 STATE OF INDIANA PROFESSIONAL ENGINEER

Date 05-23-2023

SHEET TITLE

DRAINAGE OVERFLOW EXHIBIT

Drawn By: S. SHAW
Checked By: S. NORRIS, EI
Quality Assurance: C. WISEMAN, PE
PIC Project Number 220160-20000

SHEET NUMBER

C002

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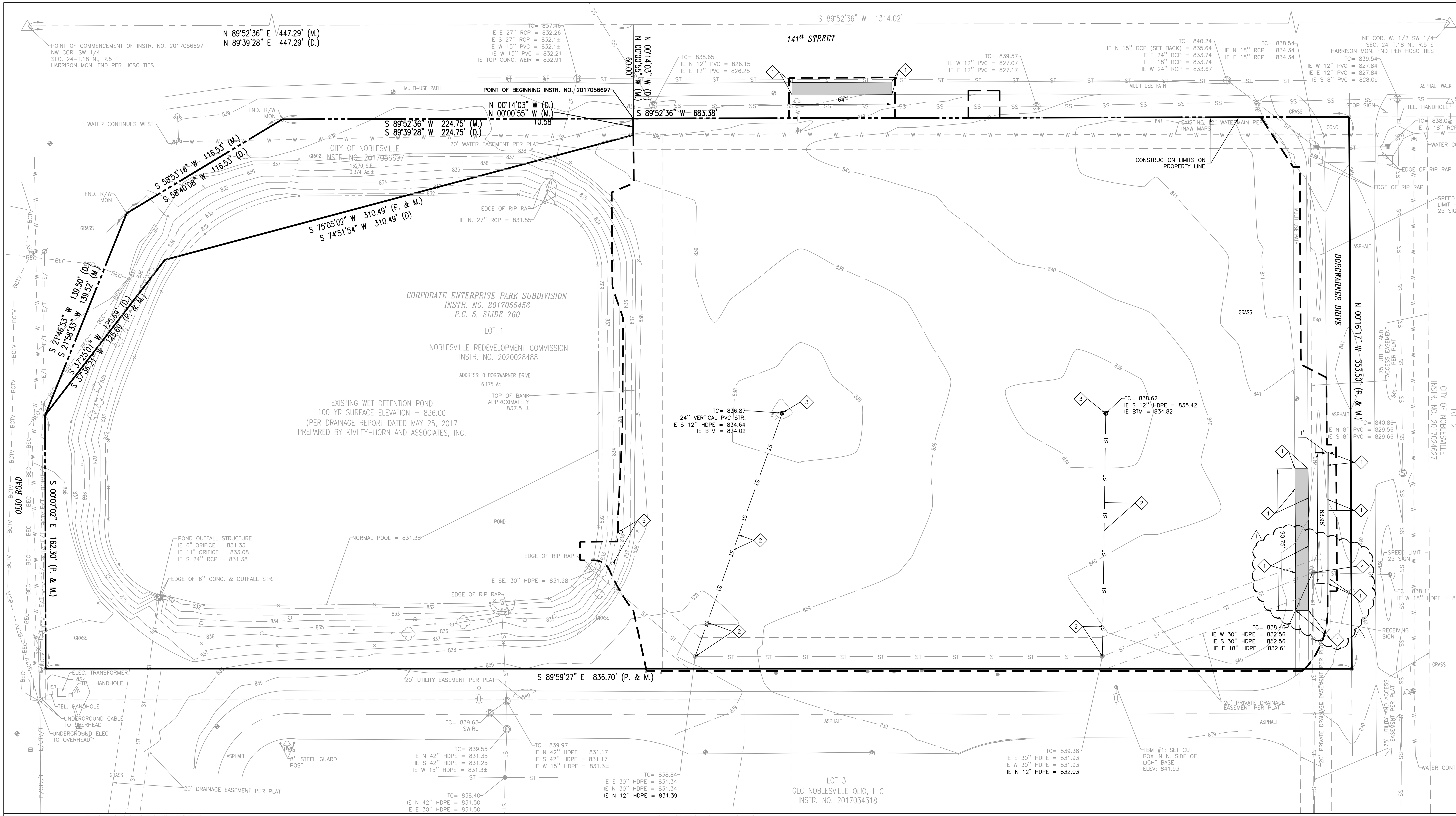

EXISTING CONDITIONS LEGEND

SS	SANITARY SEWER & MANHOLE
ST	STORM SEWER; END SECTION, INLET & M.H.
G	GAS LINE
W	WATER LINE
E	ELECTRIC LINE (AERIAL)
T	TELEPHONE LINE (AERIAL)
CTV	CABLE TELEVISION (AERIAL)
BTC	BURIED TELE. CABLE
BEC	BURIED ELEC. CABLE
X	FENCE LINE (FNC)
BCTV	BURIED CABLE TV
	GUARDRAIL
	RIGHT OF WAY LINE (R/W)
	PROPERTY LINE
	EASEMENT LINE
	CENTER LINE
	SWALE LINE
D.	DEED DIMENSION
M.	MEASURED DIMENSION
P.	PLAT DIMENSION
R.	RADIUS
L.	ARC LENGTH
	POWER POLE
	GUY WIRE
	UTILITY RISER; TELEPHONE, ELECTRIC & CABLE TV
E.T.	ELECTRIC TRANSFORMER
	AIR CONDITIONER UNIT
	STREET LIGHT
	LIGHT POLE
	FLOOD LIGHT
TR	TRAFFIC MANHOLE AND SIGNAL POLE
	FIRE HYDRANT
	VALVE; GAS & WATER
	STREET SIGN
W T E	WATER, TELEPHONE AND ELECTRIC MANHOLE
CO	SEWER CLEANOUT
EM GM WM	ELECTRIC, GAS AND WATER METER
	PIPELINE MARKER POST
	MAILBOX
	GUARD POST
	SPRINKLER HEAD
IRR	IRRIGATION CONTROL BOX
H.H.	HANDHOLE
FND.	FOUND
CONC.	CONCRETE
ASPH.	ASPHALT
TC	TOP OF CASTING ELEVATION
IE	INVERT ELEVATION
FFE	FINISH FLOOR ELEVATION
TBM	TEMPORARY BENCHMARK
●	DENOTES A 5/8" DIA. REBAR WITH YELLOW PLASTIC CAP SET. CAP STAMPED "CRIPE FIRM NO. 0055" UNLESS OTHERWISE NOTED.
○	DENOTES A MAG NAIL WITH WASHER SET. WASHER STAMPED "CRIPE FIRM NO. 0055" UNLESS OTHERWISE NOTED.
+800.25	SPOT GRADE
800.25 / 799.75	TOP CURB/GUTTER GRADE
MW	MONITORING WELL
SP	FIRE SERVICE STAND PIPE
VP	GAS VENT PIPE
STL	SEPTIC TANK LID
WC	WELL CAP
ARV	AIR RELIEF VALVE
FP	UNDERGROUND TANK FILLER PIPE
123	SITE ADDRESS

DEMOLITION PLAN LEGEND

SAWCUT AND REMOVE ASPHALT FROM SITE	(shaded area)
— — —	CONSTRUCTION LIMITS

DEMOLITION PLAN NOTES

1. UTILITY LOCATIONS ARE APPROXIMATE. THE CONTRACTOR IS TO DETERMINE AND FIELD VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. THE CONTRACTOR SHALL COORDINATE ALL WORK ASSOCIATED WITH THE ABANDONMENT, REMOVAL, RELOCATION, AND INSTALLATION OF UTILITIES WITH EVERY UTILITY COMPANY AND OBTAIN THEIR APPROVAL PRIOR TO PERFORMING ANY UTILITY WORK.
3. ALL DEMOLISHED MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE NOTED, AND SHALL BE LEGALLY DISPOSED OF OFF-SITE.
4. CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES PER SHEET C401-C403 PRIOR TO COMMENCING DEMOLITION.
5. MAINTAIN PROPER DRAINAGE IN DEMOLITION AREAS.
6. SAWCUT ASPHALT SURFACES FOR REMOVAL AS NOTED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING DAMAGE TO ALL SITE ENTITIES THAT ARE TO REMAIN.
8. CONTRACTOR TO ESTABLISH NEW LOCAL SURVEY CONTROL SYSTEM (VERTICAL AND HORIZONTAL) PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY. MANY TEMPORARY BENCHMARKS UTILIZED IN THE PREPARATION OF THE TOPOGRAPHIC SURVEY FOR THE DESIGN WILL BE RELOCATED AS PART OF CONSTRUCTION.
9. ANY DISCREPANCIES OR CONFLICTS WHICH BECOME APPARENT BEFORE OR DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
10. DESIGN PROFESSIONAL CERTIFYING THE PLANS FOR THE PROJECT ACKNOWLEDGES THEIR PROFESSIONAL RESPONSIBILITY FOR ENSURING THAT ALL WORK IS CORRECT, ACCURATE, AND COMPLIES WITH ALL APPROPRIATE LAWS, STANDARD, REGULATIONS, AND ORDINANCES. IF SUCH AN ERROR AND/OR OMISSION IS FOUND, THE DEVELOPER IS NOT RELIEVED TO COMPLY WITH ALL APPROPRIATE LAWS, STANDARDS, REGULATIONS, AND ORDINANCES.

KEYNOTE LEGEND

1. SAWCUT AND REMOVE ASPHALT AND GRANULAR SUBBASE
2. REMOVE STORM SEWER PIPE. FILL VOID IN MANHOLE WITH NON-SHRINK GROUT PER CITY OF NOBLESVILLE STANDARDS.
3. REMOVE STORM SEWER STRUCTURE
4. CORE DRILL EXISTING STRUCTURE FOR PROPOSED STORM PIPE
5. REMOVE TREE AND ROOT BALL IN ITS ENTIRETY

SCALE: 1"=30'

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Checked By: S. NORRIS, EI
Quality Assurance: C. WISEMAN, PE
PIC Project Number: 220160-20000

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PROJECT 225462.00

IJRI SITE, CORE AND SHELL

14065 BORGWARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	2023.05.23

CERTIFIED BY:
CHRISTOPHER M. WISEMAN, REGISTERED PE 10504920, STATE OF INDIANA, PROFESSIONAL ENGINEER
Date 05-23-2023

SHEET TITLE
EXISTING CONDITIONS AND DEMOLITION PLAN

SHEET NUMBER
C101

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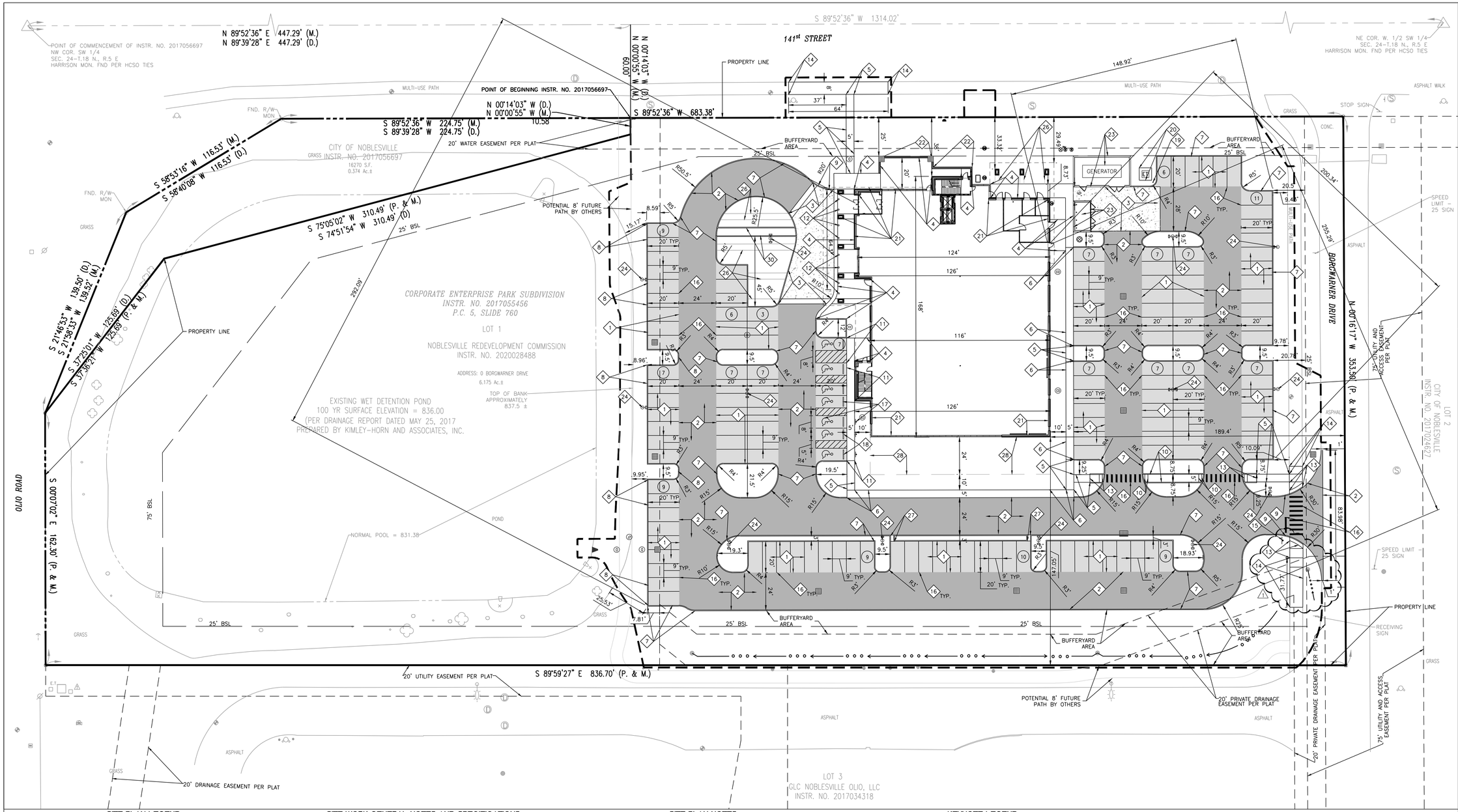

SITE PLAN LEGEND

- PROPERTY LINE
- EASEMENT LINE
- RIGHT-OF-WAY
- CONSTRUCTION LIMITS
- FENCE
- (22) PARKING COUNT

SITE WORK GENERAL NOTES AND SPECIFICATIONS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING, OR VERIFYING, THAT ALL PERMITS AND APPROVALS ARE OBTAINED FROM THE RESPECTIVE CITY, COUNTY, STATE AND ANY OTHER REGULATORY AGENCIES PRIOR TO STARTING CONSTRUCTION.
2. EXISTING UTILITY LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE AND FIELD VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY AND OBTAIN APPROVAL FROM EACH RESPECTIVE UTILITY COMPANY PRIOR TO PERFORMING ANY WORK ON OR IN THE VICINITY OF EXISTING UTILITIES LINES AND APPURTENANCES.
4. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER AND CONTRACTOR TO MAINTAIN QUALITY CONTROL THROUGHOUT THE PROJECT; FAILURE TO DO SO MAY RESULT IN REMOVAL AND REPLACEMENT OF THE DEFECTIVE WORK. IT IS RECOMMENDED THAT THE DEVELOPER HAVE A QUALIFIED INSPECTOR ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION.
5. ALL QUANTITIES GIVEN ON THE PRINTS, VERBALLY OR IN THE SCOPE OF WORK SECTION ARE ESTIMATES AND SHALL BE CONFIRMED BY THE BIDDING CONTRACTOR.
6. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS FOR EXCAVATIONS FINAL RULE 29 CFR PART 1926, SUBPART "P" APPLIES TO ALL EXCAVATIONS EXCEEDING FIVE (5) FEET IN DEPTH.
7. EXCAVATIONS EXCEEDING TWENTY (20) FEET IN DEPTH REQUIRE THE DESIGN OF A TRENCH SAFETY SYSTEM BY A REGISTERED PROFESSIONAL ENGINEER.
8. IT IS ESSENTIAL THAT THE WORK TO BE COMPLETED IN CONJUNCTION WITH THIS PROJECT SHALL BE INSTALLED ACCORDING TO THESE PLANS AND SPECIFICATIONS. THE ENGINEER WILL BE REQUIRED TO CERTIFY TO CERTAIN PORTIONS OF THIS PROJECT UPON COMPLETION. THEREFORE, IT IS NECESSARY TO OBTAIN APPROVAL AND ACCEPTANCE BY THE CITY THAT CONSTRUCTION WAS COMPLETED IN COMPLIANCE WITH THESE PLANS AND SPECIFICATIONS.
9. MAPPED LOCATIONS & ELEVATIONS OF "FLOODWAY LIMITS" AND "100 YEAR FLOOD LIMITS" ARE NOT SHOWN ON THIS SITE. DEVELOPER TO REFER TO NATIONAL FLOOD HAZARD INSURANCE MAP (F.E.M.A.) TO DETERMINE FLOOD HAZARD POTENTIAL PRIOR TO PROJECT CONSTRUCTION. NOTE WET DETENTION POND HAS A 100 YEAR ELEVATION OF 836.00

SITE PLAN NOTES

1. ALL RADII AND STREET DIMENSIONS SHALL BE MEASURED TO BACK OF CURB OR FACE OF INTEGRAL CURB AND WALK. ALL DIMENSIONS TO THE BUILDING ARE TO THE OUTSIDE OF BUILDING FOUNDATION WALL.
2. ALL PAVEMENT AND/OR CURB RADII TO BE FOUR (4) FOOT UNLESS OTHERWISE NOTED.
3. BEARINGS, DIMENSIONS AND EASEMENTS ARE SHOWN FOR REFERENCE ONLY. REFER TO RECORDED BOUNDARY SURVEYS, ALTAS AND SECONDARY PLATS FOR EXACT INFORMATION.
4. ALL PARKING STALLS SHALL BE 9' X 20'. WHERE INTEGRAL CURB AND WALK IS ADJACENT TO A PARKING STALL, TWO (2) FEET OF SIDEWALK SHALL BE UTILIZED AS PARKING AREA OVERHANG. PARKING STALLS ARE DIMENSIONED TO THE FACE OF CURBS.
5. REFER TO ARCHITECTURAL PLANS FOR DETAILS OF BUILDINGS AND BUILDING DIMENSIONS.
6. TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION SHALL CONFORM TO APPLICABLE LOCAL STANDARDS.
7. REFER TO UTILITY PLAN FOR SANITARY AND STORM STRUCTURE LOCATIONS.
8. REFER TO SHEET C202 AND CITY OF NOBLESVILLE DETAIL SHEETS FOR DETAILS REFERENCED.
9. ANY DISCREPANCIES OR CONFLICTS WHICH BECOME APPARENT BEFORE OR DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD IMMEDIATELY SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
10. DESIGN PROFESSIONAL CERTIFYING THE PLANS FOR THE PROJECT ACKNOWLEDGES THEIR PROFESSIONAL RESPONSIBILITY FOR ENSURING THAT ALL WORK IS CORRECT, ACCURATE, AND COMPLIES WITH ALL APPROPRIATE LAWS, STANDARD, REGULATIONS, AND ORDINANCES. IF SUCH AN ERROR AND/OR OMISSION IS FOUND, THE DEVELOPER IS NOT RELIEVED TO COMPLY WITH ALL APPROPRIATE LAWS, STANDARDS, REGULATIONS, AND ORDINANCES.

KEYNOTE LEGEND

1. ASPHALT PAVEMENT SECTION
2. HEAVY DUTY ASPHALT PAVEMENT SECTION
3. CONCRETE PAVEMENT
4. CONCRETE STOOP (REFER TO LANDSCAPE ARCHITECT PLANS FOR LOCATIONS AND SPECIFICATIONS OF DECORATIVE RAMPS AT ENTRANCE. CONTRACTOR TO SUBMIT SHOP DRAWINGS AND POUR A 4'X4' SAMPLE FOR OWNER APPROVAL PRIOR TO INSTALLATION)
5. SIDEWALK REFER TO SHEET 6 OF NOBLESVILLE, INDIANA STANDARDS)
6. COMBINED WALK AND CURB (LIMITS ILLUSTRATED MAY BE DIFFERENT AT SAWCUT LOCATIONS DUE TO EXISTING JOINT LOCATIONS AND DEMOLITION LIMITS).
7. 18" BOX CURB (REFER TO SHEET 4 OF NOBLESVILLE, INDIANA CITY STANDARDS)
8. 8" CONCRETE STRAIGHT CURB
9. CURB END TRANSITION
10. MEDIAN CURB RAMP (REFER TO SHEET 6 OF NOBLESVILLE, INDIANA CITY STANDARDS)
11. PARALLEL CURB RAMP (REFER TO SHEET 6 OF NOBLESVILLE, INDIANA CITY STANDARDS)
12. DECORATIVE PEDESTRIAN BOLLARDS (REFER TO ARCHITECTURAL AND MEP PLANS)
13. ONE-WAY DIRECTIONAL PERPENDICULAR CURB RAMP (REFER TO SHEET 6 OF NOBLESVILLE, INDIANA CITY STANDARDS)
14. MULTI-USE PATH (REFER TO SHEET 3 OF NOBLESVILLE, INDIANA CITY STANDARDS)
15. TYPICAL STREET SIGN – STOP SIGN (REFER TO SHEET 18 OF NOBLESVILLE, INDIANA CITY STANDARDS)
16. PAVEMENT MARKINGS
17. ACCESSIBLE PARKING SPACE
18. CONCRETE PARKING BUMPER
19. PROTECTIVE POST
20. CONCRETE PAD FOR ELECTRIC TRANSFORMER (REFER TO DUKE ENERGY STANDARDS AND SPECIFICATIONS)
21. PROPOSED BUILDING (REFER TO ARCHITECTURAL, STRUCTURAL, AND MEP PLANS)
22. SEAT WALL (REFER TO ARCHITECTURAL AND STRUCTURAL PLANS)
23. DUMPSTER AND GENERATOR ENCLOSURE AND CONCRETE PAD (REFER TO ARCHITECTURAL AND STRUCTURAL PLANS)
24. LIGHT POLE AND FOUNDATION (REFER TO ELECTRICAL PLANS)
25. MEDIAN CURB RAMP WITH NO DETECTABLE WARNING
26. GRAVEL PAD SECTION (REFER TO LANDSCAPE PLANS)
27. CONCRETE FLUME
28. FUTURE BUILDING EXPANSION
29. PERPENDICULAR CURB RAMP (REFER TO SHEET 6 OF NOBLESVILLE, INDIANA CITY STANDARDS)
30. MEDIAN CURB RAMP WITHOUT DETECTABLE WARNING SURFACE (REFER TO SHEET 6 OF NOBLESVILLE, INDIANA CITY STANDARDS)

0 15 30 60
7.5 22.5 45
SCALE: 1"=30'

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PROJECT 225462.00

IJRI SITE, CORE AND SHELL

14065 BORGWARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
2	ADDENDUM 2	2023.06.09
1	ADDENDUM 1	2023.05.23

CERTIFIED BY:

CHRISTOPHER M. WISEMAN — REGISTERED — PE 10504920 — STATE OF INDIANA — PROFESSIONAL ENGINEER

Date 05-23-2023

SHEET TITLE

SITE PLAN

SHEET NUMBER

C201

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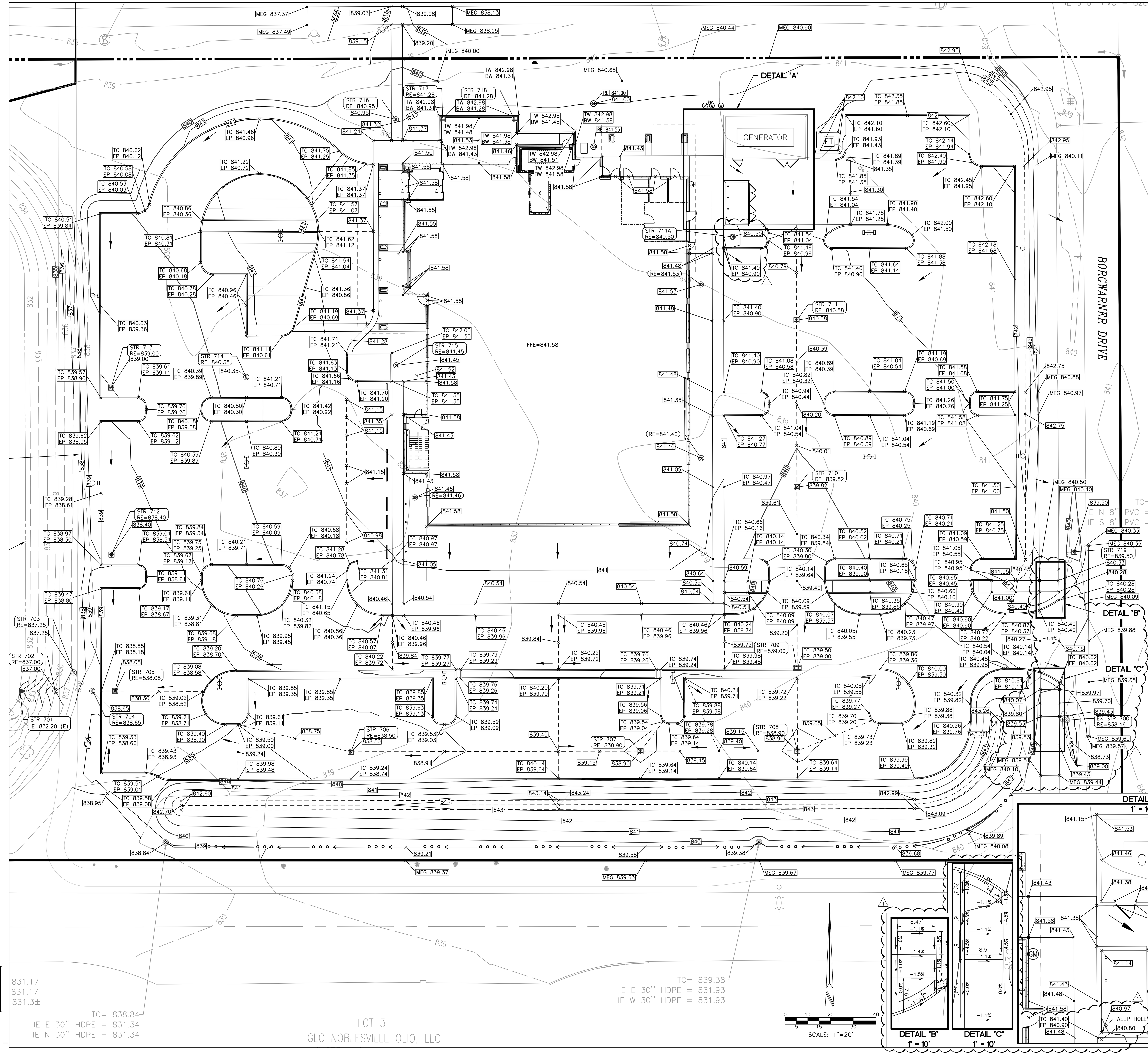


GRADING PLAN LEGEND

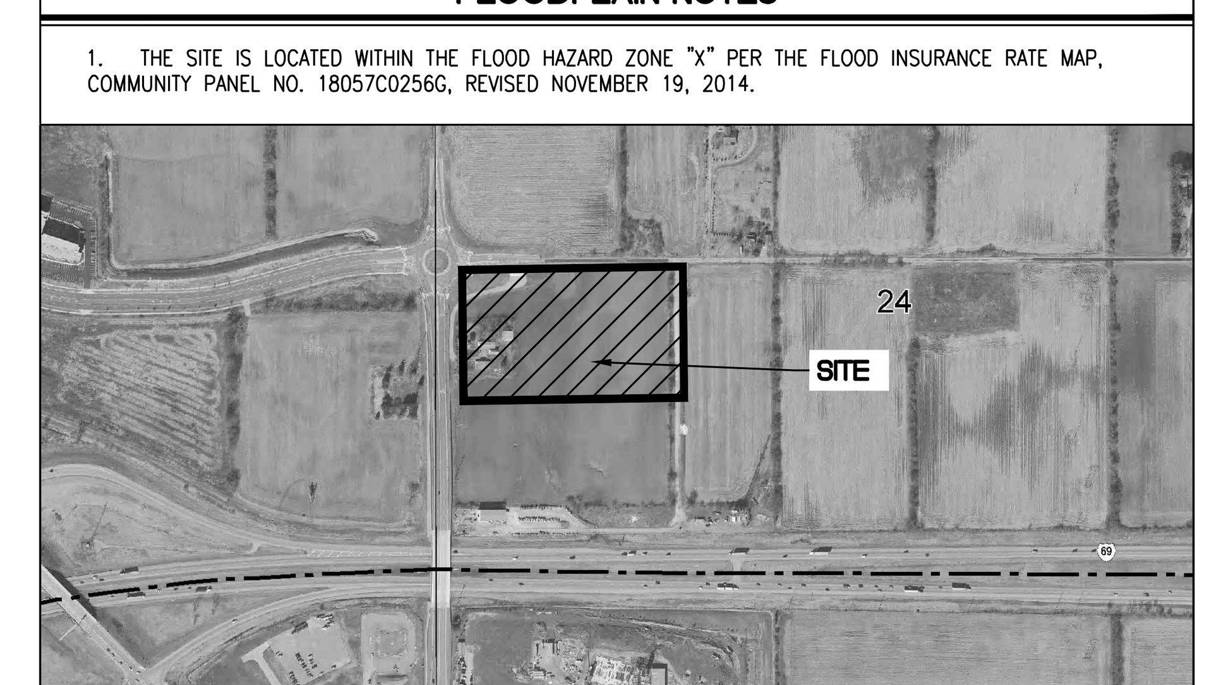
801	PROPOSED 1' CONTOUR
800	PROPOSED 5' CONTOUR
SWALE @ 1.0%	PROPOSED SWALE
SWALE @ 1.0%	PROPOSED SWALE WITH SUB-SURFACE DRAIN
	GRADE BREAK LINE
	DRAINAGE FLOW ARROW
800.00	PROPOSED GRADE
MEG	MATCH EXISTING GRADE
TC 800.50 / EP 800.00	PROPOSED TOP OF CURB / PROPOSED EDGE OF PAVEMENT
TW 800.50 / BW 800.00	PROPOSED TOP OF WALL / PROPOSED BOTTOM OF WALL
FFE=800.00	FINISHED FLOOR ELEVATION
RE=800.00	RIM ELEVATION

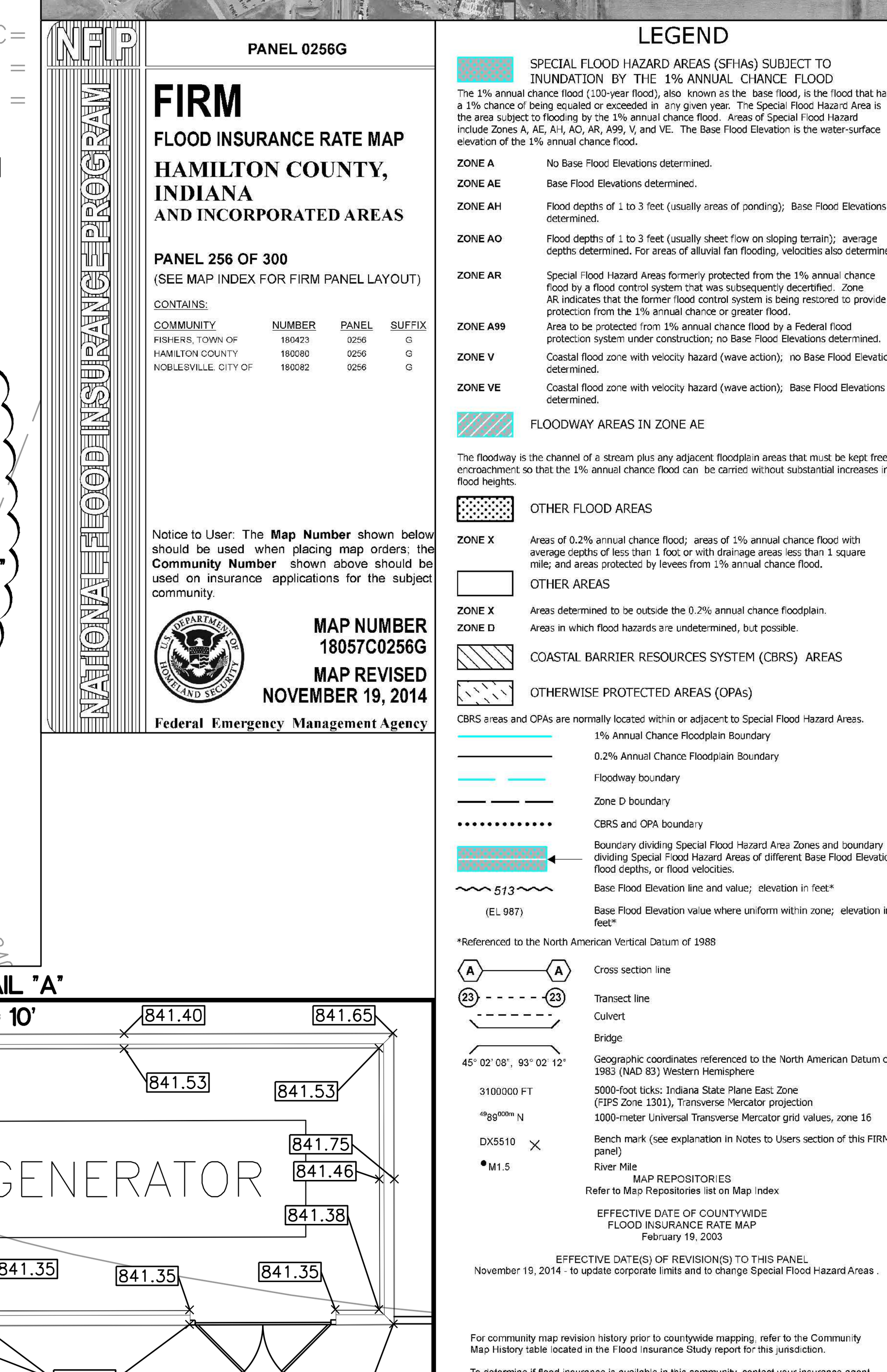
GRADING PLAN NOTES

1. UTILITY LOCATIONS ARE APPROXIMATE. THE CONTRACTOR IS TO DETERMINE AND FIELD VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. TOPOGRAPHIC AND PLANIMETRIC INFORMATION FROM PHOTOGRAPHIC COMPILATION HAS BEEN PROVIDED BY OTHERS. THE ACCURACY HAS NOT BEEN CONFIRMED BY CRIPE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD.
3. ALL GRADES AT BOUNDARY SHALL MEET EXISTING GRADES.
4. RIM ELEVATION (RE) SHALL INDICATE THE ELEVATION THAT WATER WOULD ENTER THE GRATE FOR ALL CASTINGS. IF CASTING HAS SOLID LID, THE RE IS THE LID ELEVATION.
5. BUILDING PAD AREAS AND PAVED AREAS DESIGNATED FOR FILL SHALL BE CONSTRUCTED OF SUITABLE FILL MATERIAL AND COMPACTED PER SPECIFICATIONS. ALL FILL AREAS SHALL BE STRIPPED OF TOPSOIL PRIOR TO PLACEMENT OF FILL.
6. ANY EXCESS SOIL MATERIAL SHALL BE EXPORTED FROM THE SITE AFTER CONSTRUCTION IS COMPLETED.
7. TOPSOIL SHALL BE PLACED IN LAWN, LANDSCAPE, MOUNDING AND NONSTRUCTURAL FILL AREAS. UPON COMPLETION OF MASS EARTHWORK, TOPSOIL SHALL BE SPREAD TO A DEPTH OF FOUR TO SIX (4 TO 6) INCHES IN AREAS LISTED ABOVE. TOPSOIL SHALL NOT BE UTILIZED AS STRUCTURAL FILL IN PAVED AREAS.
8. CONTRACTOR SHALL PRESERVE EXISTING TREES WHEREVER POSSIBLE. CLEARING LIMITS SHALL CONSIST OF ALL TREES WITHIN PAVED AREAS, UTILITY INSTALLATION LIMITS, AND CUT/FILL AREAS.
9. A GEOTECHNICAL REPORT HAS NOT BEEN PROVIDED FOR THIS PROJECT. CONTRACTOR TO PERFORM A SITE VISIT PRIOR TO PROJECT BID. THE ENGINEER HAS BASED RECOMMENDATIONS UPON NRCS MAPS AND GENERAL KNOWLEDGE OF SOILS CONDITIONS IN THE AREA.
10. ANY DISCREPANCIES OR CONFLICTS WHICH BECOME APPARENT BEFORE OR DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD IMMEDIATELY SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.

FLOODPLAIN NOTES

1. THE SITE IS LOCATED WITHIN THE FLOOD HAZARD ZONE "X" PER THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 18057C0256G, REVISED NOVEMBER 19, 2014.





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PROJECT 225462.00

IJRI SITE, CORE AND SHELL

14065 BORGWARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	2023.05.23

CERTIFIED BY:

CHRISTOPHER M. WISEMAN
REGISTERED
PE 10504920
STATE OF
INDIANA
PROFESSIONAL ENGINEER

Date 05-23-2023

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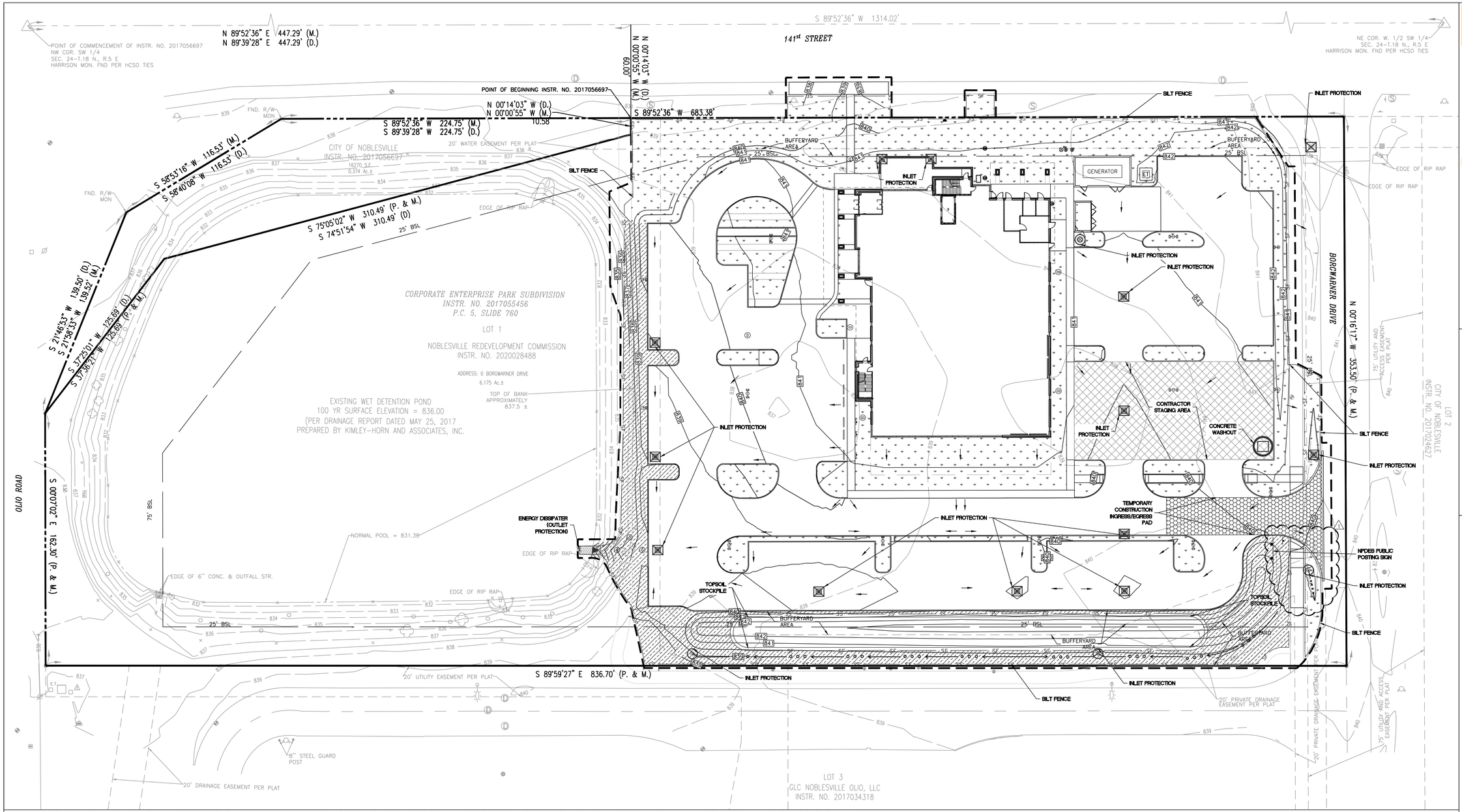
Drawn By: S. SHAW
Checked By: S. NORRIS, EI
Quality Assurance: C. WISEMAN, PE
PIC Project Number 220160-20000

SHEET TITLE

GRADING PLAN

SHEET NUMBER

C301



STORMWATER POLLUTION PREVENTION PLAN LEGEND

- SF — PERIMETER CONTROLS SILT FENCE
- CONSTRUCTION LIMITS
- PERMANENT SEEDING WITH EROSION CONTROL BLANKET (NAG SC150 OR EQUAL)
- PERMANENT SEEDING OR LANDSCAPE AREA (REFER TO LANDSCAPE PLANS)
- TEMPORARY CONSTRUCTION INGRESS/EGRESS PAD (REFER TO NOBLESVILLE, INDIANA CITY STANDARDS)
- CONTRACTOR STAGING AREA
- BASKET INLET PROTECTION
- ENERGY DISSIPATER (OUTLET CONTROL PROTECTION)
- CONCRETE WASHOUT
- NPDES PUBLIC POSTING SIGN

STORMWATER POLLUTION PREVENTION PLAN NOTES

1. REFER TO SHEET C403 FOR SOILS MAP AND SOIL CHARACTERISTICS.
2. REFER TO SHEET C402 FOR STORMWATER POLLUTION PREVENTION PLAN DETAILS.
3. REFER TO LANDSCAPE PLANS FOR PLANTING DETAILS. ANY MOUNDING NOTED ON LANDSCAPE PLANS SHALL NOT CHANGE THE DRAINAGE PATTERN NOTED ON THE GRADING PLAN SHEET C301.
4. PERIMETER CONTROLS SILT FENCE TO BE INSTALLED PRIOR TO CONSTRUCTION.
5. EROSION CONTROL MEASURES TO BE MAINTAINED THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS.
6. REFER TO THE STORMWATER POLLUTION PREVENTIONS NOTES SHEET C403 FOR ALL EROSION CONTROL MEASURES, SCHEDULES, AND SEQUENCES.
7. CONTRACTOR TO PROVIDE A STABLE TEMPORARY CONSTRUCTION INGRESS/EGRESS CONDITION FROM THE CONSTRUCTION SITE TO KEEP MUD AND SEDIMENT OFF PUBLIC ROADS.
8. EROSION CONTROL MAINTENANCE – SITE TO BE INSPECTED AT LEAST ONCE A WEEK AND MAKE REPAIRS IMMEDIATELY AFTER PERIODS OF 1/2" RAINFALL OR GREATER.
9. STORMWATER DISCHARGE WILL NOT ENTER THE GROUNDWATER FOR THIS PROJECT.
10. NO FEMA MAPPED 100 YEAR FLOODPLAIN LOCATION ON THIS SITE. THERE IS A 100 YEAR WATER SURFACE ASSOCIATED WITH THE WET DETENTION POND AT ELEVATION 836.00.
11. SITE DOES NOT HAVE HYDRIC SOILS.
12. CONTRACTOR SHALL PROVIDE THE CITY OF NOBLESVILLE WITH A NARRATIVE DESCRIBING THE CONSTRUCTION SEQUENCE, INCLUDING START DATES FOR EACH LAND DISTURBING ACTIVITY.
13. THE ACTUAL PERSON RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF THE EROSION CONTROL SHALL BE DETERMINED DURING THE BIDDING PROCESS. THE AWARD WINNING CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES. ONCE DETERMINED, CONTRACTOR SHALL COORDINATE WITH THE CITY.
14. ANY DISCREPANCIES OR CONFLICTS WHICH BECOME APPARENT BEFORE OR DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD IMMEDIATELY SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
15. DESIGN PROFESSIONAL CERTIFYING THE PLANS FOR THE PROJECT ACKNOWLEDGES THEIR PROFESSIONAL RESPONSIBILITY FOR ENSURING THAT ALL WORK IS CORRECT, ACCURATE, AND COMPLIES WITH ALL APPROPRIATE LAWS, STANDARD, REGULATIONS, AND ORDINANCES. IF SUCH AN ERROR AND/OR OMISSION IS FOUND, THE DEVELOPER IS NOT RELIEVED TO COMPLY WITH ALL APPROPRIATE LAWS, STANDARDS, REGULATIONS, AND ORDINANCES.

STORMWATER POLLUTION PREVENTION PLAN SEQUENCE AND IMPLEMENTATION

1. INSTALL SILT FENCING. DUST SHALL BE KEPT TO A MINIMUM BY UTILIZING SPRINKLING WATER OR OTHER APPROVED METHODS.
2. INSTALL INLET PROTECTION IN ALL EXISTING INLETS.
3. INSTALL TEMPORARY CONSTRUCTION INGRESS/EGRESS PAD PER NOBLESVILLE, INDIANA CITY STANDARDS.
4. IDENTIFY CONSTRUCTION STAGING AREA, CONCRETE WASHOUT AREAS, MATERIAL STORAGE AND TOPSOIL STOCKPILE AREAS. EACH AREA SHALL BE PROPERLY PROTECTED AND DELINEATED PRIOR TO CONSTRUCTION.
5. THE IDEM NOI AND CONTACT INFORMATION FOR THE PERSON WITH ONSITE RESPONSIBILITIES MUST BE POSTED ONSITE, IN LOCATION AS SHOWN ON THIS SHEET.
6. IDEM AND THE CITY OF NOBLESVILLE AGENCY MUST BE NOTIFIED WITHIN 48 HOURS OF COMMENCING CONSTRUCTION.
7. CONTACT INDIANA UNDERGROUND PLANNED PROTECTION SYSTEMS, INC. ("INDIANA 811") FOR UNDERGROUND UTILITY LOCATIONS. (1-800-382-5544).
8. BEFORE OPENING UP THE SITE, FIRST EVALUATE, MARK AND PROTECT IMPORTANT TREES AND ASSOCIATED ROOT ZONES, UNIQUE AREAS TO BE PRESERVED (I.E. WETLANDS), STREAMS, LAKES OR EXISTING VEGETATION SUITABLE FOR USE AS FILTER STRIPS (ESPECIALLY IN PERIMETER AREAS).
9. STRIP AND STOCKPILE TOPSOIL ON-SITE. THEN INSTALL PERIMETER CONTROLS SILT FENCING PER CITY OF NOBLESVILLE STANDARDS.
10. BEGIN MASS EARTHWORK FOR PROPOSED IMPROVEMENTS.
11. REPAIR ANY SILT FENCING IF DAMAGED. IF SILT IS 1/3 HEIGHT OF FABRIC, REMOVE SILT AND REPLACE TO ORIGINAL CONDITION.
12. IMMEDIATELY AFTER GRADING, APPLY SURFACE STABILIZATION PRACTICES ON ALL GRADED AREAS, USING PERMANENT MEASURES IN ACCORDANCE WITH THE EROSION CONTROL PLAN. HOWEVER, IF WEATHER DELAYS PERMANENT STABILIZATION, TEMPORARY SEEDING AND/OR MULCHING MAY BE NECESSARY AS A PROVISIONAL MEASURE. ALSO STABILIZE (USING TEMPORARY SEEDING/MULCHING OR OTHER SUITABLE MEANS) ANY DISTURBED AREA WHERE ACTIVE CONSTRUCTION WILL NOT TAKE PLACE FOR 15 WORKING DAYS.
13. REMOVE TEMPORARY RUNOFF CONTROL STRUCTURES, ANY UNSTABLE SEDIMENT AROUND THEM, AND STABILIZE THOSE AREAS WITH PERMANENT SEEDING AND EROSION CONTROL BLANKET IF NECESSARY.
14. AFTER CONSTRUCTION AND FINAL GRADING, PERMANENTLY STABILIZE ALL DISTURBED AREAS BEFORE INSTALLING ALL LANDSCAPING, PLANT BEDS, AND PERMANENT SEEDING.
15. MAINTAIN ALL EROSION AND SEDIMENT CONTROL PRACTICES UNTIL SITE HAS BEEN GERMINATION.
16. ONCE 80% GERMINATION ACHIEVED ANY REMAINING EROSION CONTROL MEASURES CAN BE RESUMED.

0 15 30 60
7.5 22.5 45
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CERTIFIED BY:

CHRISTOPHER M. WISEMAN
REGISTERED
PE 10504920
STATE OF
INDIANA
PROFESSIONAL ENGINEER

Date 05-23-2023

SHEET TITLE

STORMWATER POLLUTION PREVENTION PLAN

SHEET NUMBER

C401

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Drawn By: S. SHAW
Checked By: S. NORRIS, EI
Quality Assurance: C. WISEMAN, PE
PIC Project Number 220160-20000

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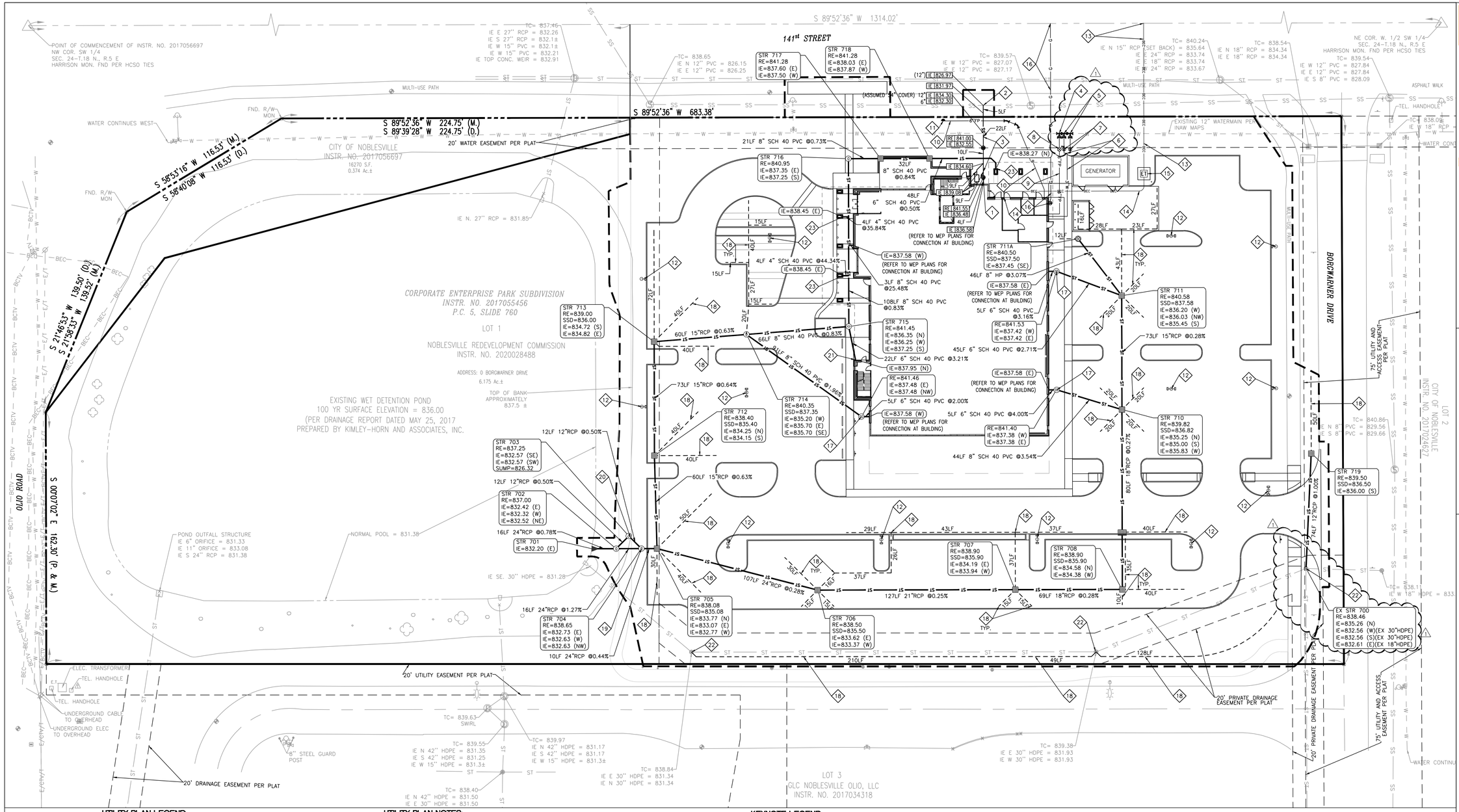

UTILITY PLAN LEGEND

- ST — ST — STORM SEWER, MANHOLE
- SUBSURFACE DRAIN (SSD)
- RD — RD — ROOF DRAIN, CLEANOUT
- W — WATER LINE, METER, VALVE
- SS — SS — SANITARY SEWER, MANHOLE
- SS — SS — SANITARY LATERAL, CLEAN OUT
- EASEMENT LINE
- E — E — OVERHEAD ELECTRIC, POLE
- BEC — BURIED ELECTRIC, MANHOLE
- CTV — CTV — OVERHEAD CABLE TELEVISION
- BCTV — BCTV — BURIED CABLE TELEVISION
- G — GAS LINE, METER, VALVE
- T — T — OVERHEAD TELEPHONE LINE
- BTC — BTC — BURIED TELEPHONE LINE
- END SECTION
- CURB INLET
- STORM SEWER INLETS
- "TEE" FITTING
- TAPPING SLEEVE & VALVE
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- PIV — POST INDICATOR VALVE
- STREET LIGHT
- ET — TRANSFORMER
- ELECTRIC METER
- CABLE RISER PEDESTAL

UTILITY PLAN NOTES:

1. SEE ARCHITECTURAL PLUMBING PLANS FOR PLUMBING DETAILS TO AREAS FIVE (5) FEET OUTSIDE AND INSIDE OF THE PROPOSED STRUCTURE.
2. SITE CONTRACTOR TO VERIFY ALL BUILDING LATERALS WITH PLUMBING DRAWINGS PRIOR TO CONSTRUCTION.
3. SITE UTILITY CONTRACTOR TO VERIFY BUILDING CONNECTION LOCATIONS AND ELEVATIONS WITH MEP AND ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION.
4. EXISTING UTILITY LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE AND FIELD VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
5. RIM ELEVATION (RE) SHALL INDICATE THE ELEVATION THAT WATER WOULD ENTER THE GRATE FOR ALL CASTINGS. IF CASTING HAS SOLID LID, THE RE IS THE LID ELEVATION.
6. WATER AND SEWER CROSSINGS AND SEPARATIONS SHALL BE IN ACCORDANCE WITH "TEN STATE STANDARDS" AND LOCAL CODES.
7. WATER LINES THROUGHOUT THE PROJECT SHALL BE INSTALLED WITH AT LEAST 54 INCHES OF COVER TO PROVIDE PROTECTION FROM FREEZING.
8. PLASTIC WATER LINES SHALL BEAR THE NSF SEAL OF APPROVAL AND MEET COMMERCIAL STANDARD NO. 256-3, PRODUCT STANDARD 22-70, OR ASTM D 2441.
9. ALL SUB-SURFACE DRAIN (SSD) SHALL BE 6" PERFORATED DUAL WALL HDPE UNLESS NOTED OTHERWISE.
10. INVERT ELEVATION OF SUB-SURFACE DRAIN (SSD) AT STRUCTURE TO BE THREE (3) FEET BELOW RIM ELEVATION.
11. REFER TO SHEETS 1 AND 12 IN THE NOBLESVILLE, INDIANA CITY STANDARDS FOR BACKFILL REQUIREMENTS FOR ALL UTILITIES.
12. REFER TO SHEETS 10 AND 12 THRU 14 IN THE NOBLESVILLE, INDIANA CITY STANDARDS FOR SANITARY SEWER DETAILS.
13. REFER TO SHEETS C702 AND C703 AND SHEETS 7 THRU 9 IN THE NOBLESVILLE, INDIANA CITY STANDARDS FOR STORM SEWER DETAILS.
14. REFER TO SHEET C502 FOR ALL OTHER UTILITY DETAILS.
15. SEE STRUCTURE DATA TABLE DETAIL ON SHEET C701 FOR STRUCTURE AND CASTING TYPE AND SIZE.
16. CONNECTIONS TO EXISTING STRUCTURES REQUIRE THAT THE STRUCTURE BE REHABILITATED TO CURRENT CITY OF NOBLESVILLE STANDARDS.
17. ANY DISCREPANCIES OR CONFLICTS WHICH BECOME APPARENT BEFORE OR DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD IMMEDIATELY SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
18. DESIGN PROFESSIONAL CERTIFYING THE PLANS FOR THE PROJECT ACKNOWLEDGES THEIR PROFESSIONAL RESPONSIBILITY FOR ENSURING THAT ALL WORK IS CORRECT, ACCURATE, AND COMPLIES WITH ALL APPROPRIATE LAWS, STANDARD, REGULATIONS, AND ORDINANCES. IF SUCH AN ERROR AND/OR OMISSION IS FOUND, THE DEVELOPER IS NOT RELIEVED TO COMPLY WITH ALL APPROPRIATE LAWS, STANDARDS, REGULATIONS, AND ORDINANCES.

KEYNOTE LEGEND

1. TYPE 1 CLEANOUT DEATIL WITH BACKWATER VALVE (REFER TO SHEET 12 OF NOBLESVILLE, INDIANA CITY STANDARDS)
2. SERVICE CONNECTION FOR SHALLOW SEWERS (LESS THAN 15' DEPTH)(REFER TO SHEET 14 OF NOBLESVILLE, INDIANA CITY STANDARDS)
3. 6" SDR 26 PVC SANITARY SEWER LATERAL (REFER TO SHEET 10 OF NOBLESVILLE, INDIANA CITY STANDARDS)
4. INSTALL 12"X6"X12" TAPPING SLEEVE AND TAPPING VALVE ON EXISTING 12" PVC WATER MAIN PER INDIANA AMERICAN WATER STANDARDS (REFER TO DETAIL ON SHEET C502)
5. DOMESTIC SERVICE TAP WILL BE TWO SEPARATE 2" TAPS. INAW WILL BE RESPONSIBLE FOR PERFORMING THE TWO 2-INCH SERVICE TAPS AND INSTALLING THE 2" SERVICE LINES TO THE CUSTOMER INSTALLED METER PITS. (1)
6. 3" HDPE DR11 DOMESTIC WATER LINE PER INAW STANDARDS AND SPECIFICATIONS
7. TYPICAL DUAL 2" METER PITS DETAIL WITH DUAL TAP. REFER TO INAW STANDARDS AND SPECIFICATIONS ON SHEET C502
8. POST INDICATOR VALVE PAINTED SAFETY RED WITH BOX WIRED TO THE FIRE PROTECTION ALARM SYSTEM (SEE ELECTRICAL PLANS AND THE FIRE PROTECTION PLANS FOR SPECIFICATIONS)
9. 6" DR-14 C900 PVC FIRE PROTECTION LINE PER INAW STANDARDS AND SPECIFICATIONS
10. 6" DR-14 C900 PVC FIRE PROTECTION LINE (DRY TO FDC) PER INAW STANDARDS AND SPECIFICATIONS
11. FIRE DEPARTMENT CONNECTION (FDC) SHALL BE 5" STORZ CONNECTION PAINTED SAFETY RED WITH FDC SIGN (REFER TO SHEET 17 OF NOBLESVILLE, INDIANA CITY STANDARDS)
12. SITE LIGHTING POLES, BASES, FIXTURES (REFER TO ELECTRICAL PLANS FOR DETAILS AND ELECTRICAL WIRING ROUTING AROUND SITE)
13. PRIMARY ELECTRIC SERVICE AND WIRING TO BE INSTALLED BY DUKE ENERGY
14. SECONDARY ELECTRIC SERVICE AND CONDUIT TO BE INSTALLED BY CONTRACTOR. CONTRACTOR TO COORDINATE CONNECTION TO TRANSFORMER WITH DUKE ENERGY (REFER TO ELECTRIC PLANS)
15. ELECTRIC TRANSFORMER TO BE PROVIDED BY DUKE ENERGY. 8'X8' CONCRETE PAD AND CONDUITS TO BE INSTALLED BY CONTRACTOR (REFER TO ELECTRIC PLANS AND DUKE ENERGY STANDARDS)
16. PROPOSED GAS METER AND LINES TO BE PROVIDED BY UTILITY COMPANY. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY (REFER TO MEP PLANS FOR CONNECTION TO BUILDING)
17. STORM SEWER CLEANOUT
18. 6" PERFORATED DUAL WALL SUBSURFACE DRAIN MIN 0.50% SLOPE
19. STORMWATER QUALITY DIVERSION STRUCTURE WITH WEIR WALL
20. STORMWATER QUALITY HYDRODYNAMIC SEPARATOR (CONTECH CASCADE SEPARATOR CS-6)(REFER TO MANUFACTURER DETAILS ON SHEET C502)
21. DOWNSPOUT ADAPTOR
22. EXISTING STORM CASTING TO REMAIN IN PLACE AND BE UNDISTURBED DURING CONSTRUCTION
23. CANOPY DRAINAGE (REFER TO MEP PLANS)

0 15 30 60
7.5 22.5 45
SCALE: 1"=30'

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Checked By: S. NORRIS, EI
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CERTIFIED BY:

CHRISTOPHER M. WISEMAN — REGISTERED — PE 10504920 — STATE OF INDIANA — PROFESSIONAL ENGINEER

Date 05-23-2023

SHEET TITLE

UTILITY PLAN

SHEET NUMBER

C501

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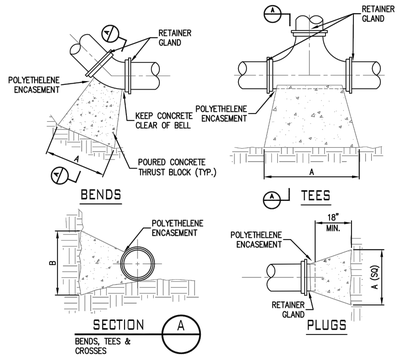


THRUST BLOCK DETAIL

N.T.S.

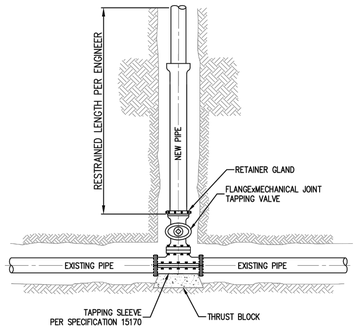
NOTES:
1. THRUST BLOCK DIMENSIONS SHALL BE PROVIDED BY THE DESIGN ENGINEER.
2. THRUST BLOCKS SHALL BE INSTALLED AGAINST UNDISTURBED SOIL WITH ADEQUATE BEARING TO PREVENT MOVEMENT OF FITTING.
3. NO THRUST BLOCKS TO BE PLACED IN SEWER LATERAL DITCHES.
4. THRUST BLOCKING MUST FIT IN EASEMENT, IN SOME CASES ADDITIONAL RESTRAINT MAY BE REQUIRED.
5. DESIGN TO BE BASED ON 200 PSI HYDROSTATIC WATER PRESSURE (150 PSI STATIC PRESSURE PLUS 50 PSI WATER HAMMER).
6. INSTALL POLYETHYLENE ENCASEMENT ON ALL D.I. PIPE AND FITTINGS PRIOR TO POURING CONCRETE.
7. PIPE JOINTS AND BOLTS MUST BE ACCESSIBLE.
8. ALLOW SUFFICIENT CLEARANCE BETWEEN CONCRETE AND BOLTS FOR FUTURE MAINTENANCE.
9. ALL ANCHOR BOLTS SHALL BE CORROSION RESISTANT, AND SIZED PER SPECIFICATION.
10. THRUST BLOCKING DETAILS ARE SHOWN HERE FOR TYPICAL INSTALLATIONS. IN SOME CASES, ADDITIONAL RESTRAINT MAY BE REQUIRED.
11. CONCRETE USED FOR THRUST BLOCKS SHALL BE MIN 3000 PSI CONCRETE.
12. FOR UNSTABLE SOIL CONDITIONS, THE ENGINEER SHALL VERIFY THRUST BLOCK DIMENSIONS.

INDIANA AMERICAN WATER
ENGINEERING DEPARTMENT
153 N. EMERSON AVENUE
GREENWOOD, INDIANA 46143

STANDARD DETAIL

THRUST BLOCKS

DATE: JANUARY, 2018	DRAWN BY: S. FORD
LATEST REV: JANUARY, 2018	APP'D BY: E.N.



NOTE:
1. RETAINER GLAND PER SPECIFICATION 15130.
2. TAPPING SLEEVE FOR HDPE PIPE MUST BE APPROVED FOR THE APPLICATION BY THE MANUFACTURER AND INAWC.

TAPPING SLEEVE AND TAPPING VALVE DETAIL

N.T.S.

INDIANA AMERICAN WATER
ENGINEERING DEPARTMENT
153 N. EMERSON AVENUE
GREENWOOD, INDIANA 46143

STANDARD DETAIL

TAPPING SLEEVE AND TAPPING VALVE

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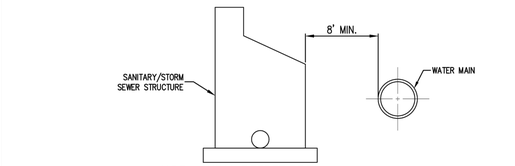
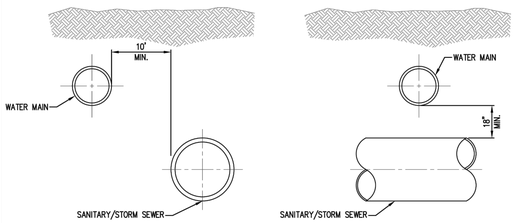


HORIZONTAL OFFSET REQUIREMENTS FOR SANITARY/STORM SEWER STRUCTURES



HORIZONTAL OFFSET REQUIREMENTS | VERTICAL OFFSET REQUIREMENTS

BASIC SEPARATION REQUIREMENTS:
1. WATER MAINS AND SEWERS SHOULD BE SEPARATED AS FAR AS IS REASONABLE IN BOTH THE HORIZONTAL AND VERTICAL DIRECTIONS. THE STANDARD DEPTH OF COVER REQUIREMENTS PER COUNTY, AS SPECIFIED IN 327 IAC 8, SHALL BE MAINTAINED FOR ALL WATER MAIN CROSSINGS.
2. PARALLEL CONSTRUCTION: THE HORIZONTAL DISTANCE BETWEEN PRESSURE WATER MAINS AND SEWERS SHALL BE AT LEAST 10 FEET
3. PERPENDICULAR CONSTRUCTION (CROSSING): PRESSURE WATER MAINS SHALL BE AT LEAST 18" ABOVE SANITARY/STORM SEWERS WHERE THESE LINES MUST CROSS. THE CROSSING MUST BE AT A MINIMUM ANGLE OF 45 DEGREES.

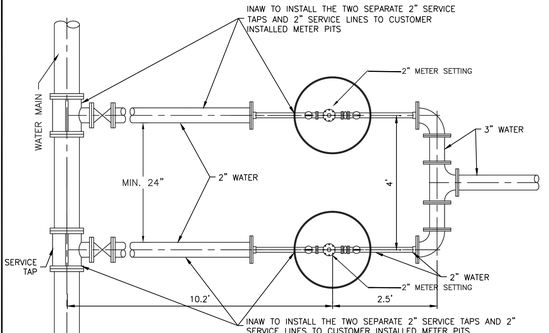
REQUIRED SEPARATION BETWEEN WATER MAINS AND SANITARY/STORM SEWERS & STRUCTURES

INDIANA AMERICAN WATER
ENGINEERING DEPARTMENT
153 N. EMERSON AVENUE
GREENWOOD, INDIANA 46143

STANDARD DETAIL

SEWER SEPARATION

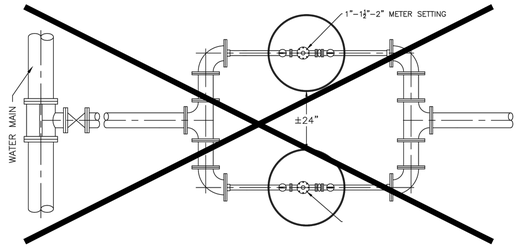
DATE: JANUARY, 2018	DRAWN BY: S. FORD
LATEST REV: JULY, 2018	APP'D BY: E.N.



PLAN VIEW DUAL TAP

2" METER PIT SPEC FOR NOBLESVILLE OPERATIONS (CUSTOMER INSTALLED)
PIT: FORD PMBB-788-36-48-EXP-NL (17" LAYLENGTH, 18" LID TO METER)
FLANGE: FORD FL-36 (FLANGE FOR 36" ID TILE)
RING: FORD PR (RING WITH LID RECESS 6" HEIGHT)
LID: NICOR 21.25CWBLKINAthO (BADGER SINGLE RECESS LID W/INAW LOGO)

THE A.Y. MCDONALD EQUIVALENT FOR THE PIT, FLANGE, AND RING IS ACCEPTABLE.

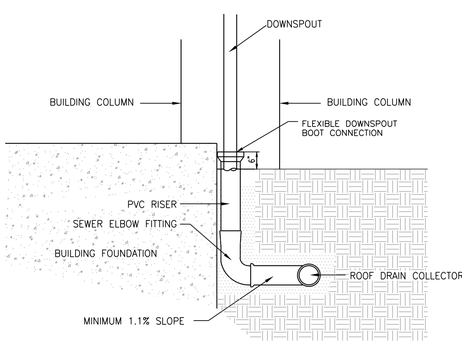


PLAN VIEW SINGLE TAP

NOTES:
METER PIT DETAIL PER DISTRICT.

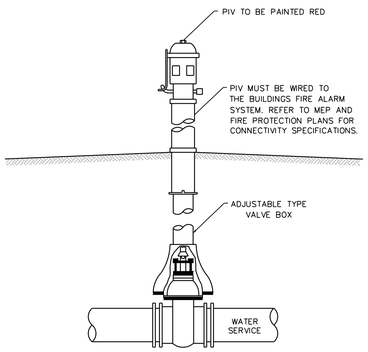
SERVICE MAY REQUIRE APPROVED BACKFLOW PREVENTION DEVICE IN ACCORDANCE WITH 327 IAC 8-10.

INDIANA AMERICAN WATER
NOT TO SCALE | INDIANA
REVISIONS | TYPICAL DUAL 2" METER PITS DETAIL
BY: K.B. 10/5/2016 | SHEET: 1 of 1
Dual 2 Meter Pits.dwg



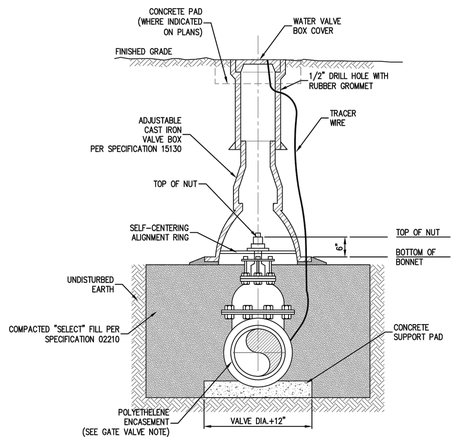
DOWNSPOUT ADAPTOR

NO SCALE



POST INDICATOR VALVE W/BOX

NO SCALE



GATE VALVE (12" AND SMALLER)

N.T.S.

GATE VALVE NOTE
THE POLYETHELENE ENCASEMENT SHALL BE INSTALLED UP TO THE OPERATING NUT, AND OVER THE LOWER PORTION OF THE VALVE BOX, LEAVING THE OPERATING NUT EXPOSED AND FREE TO BE OPERATED WITHIN THE VALVE BOX.

INDIANA AMERICAN WATER
ENGINEERING DEPARTMENT
153 N. EMERSON AVENUE
GREENWOOD, INDIANA 46143

STANDARD DETAIL

GATE VALVE (12" AND SMALLER)

DATE: JANUARY, 2018	DRAWN BY: S. FORD
LATEST REV: JANUARY, 2018	APP'D BY: E.N.

FIRE NOBLESVILLE EST. 1871 EMS

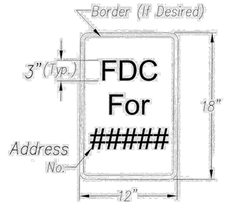
Fire Department Connection (FDC) Specifications

Fire Department Connections (FDC) must meet the stipulations of NFPA 13, NFPA 13R, NFPA 14, and the following criteria:

1. The FDC shall be located in a location approved by the Fire Marshal. A site utility plan shall be submitted to this office for review and approval.
2. The FDC shall be provided with a single *5" storz connection* that shall face towards the nearest point of fire department access. The 5" storz connection shall measure 30-40 inches from the finished grade and project *downward* at a 30-45 degree angle.
3. A minimum of a 4" FDC service pipe shall be utilized on a fire service line that is 6" or larger.
4. FDCs susceptible to vehicular damage must be protected by curbs or bollards in accordance with IFC Section 312.
5. The FDC shall be located not more than 100 feet from the nearest fire hydrant tapped off a public water main.

FDC Sign Specifications

1. The sign shall be constructed out of a material that is not susceptible to degradation. The sign material shall be approved by the Fire Marshal.
2. The sign lettering (and optional border) shall be RED in color.
3. The sign shall be attached to the FDC pipe by an approved method. The preferred method is 4" or 6" electrical minis, available from any electrical supply warehouse.



NOBLESVILLE FIRE DEPARTMENT
DEFEND FROM HARM | COMBAT SUFFERING | SERVE SELFLESSLY
317.776.6336 | 135 South 9th Street | Noblesville, IN 46060 | www.CityofNoblesville.org

FIRE DEPARTMENT CONNECTION SPECIFICATIONS

NOT TO SCALE

BOULDER ASSOCIATES
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PROJECT 225462.00

IJRI SITE, CORE AND SHELL

14065 BORGWARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	2023.05.23

CERTIFIED BY:

CHRISTOPHER M. WISEMAN REGISTERED PE 10504920 STATE OF INDIANA PROFESSIONAL ENGINEER

Date 05-23-2023

SHEET TITLE

UTILITY DETAILS

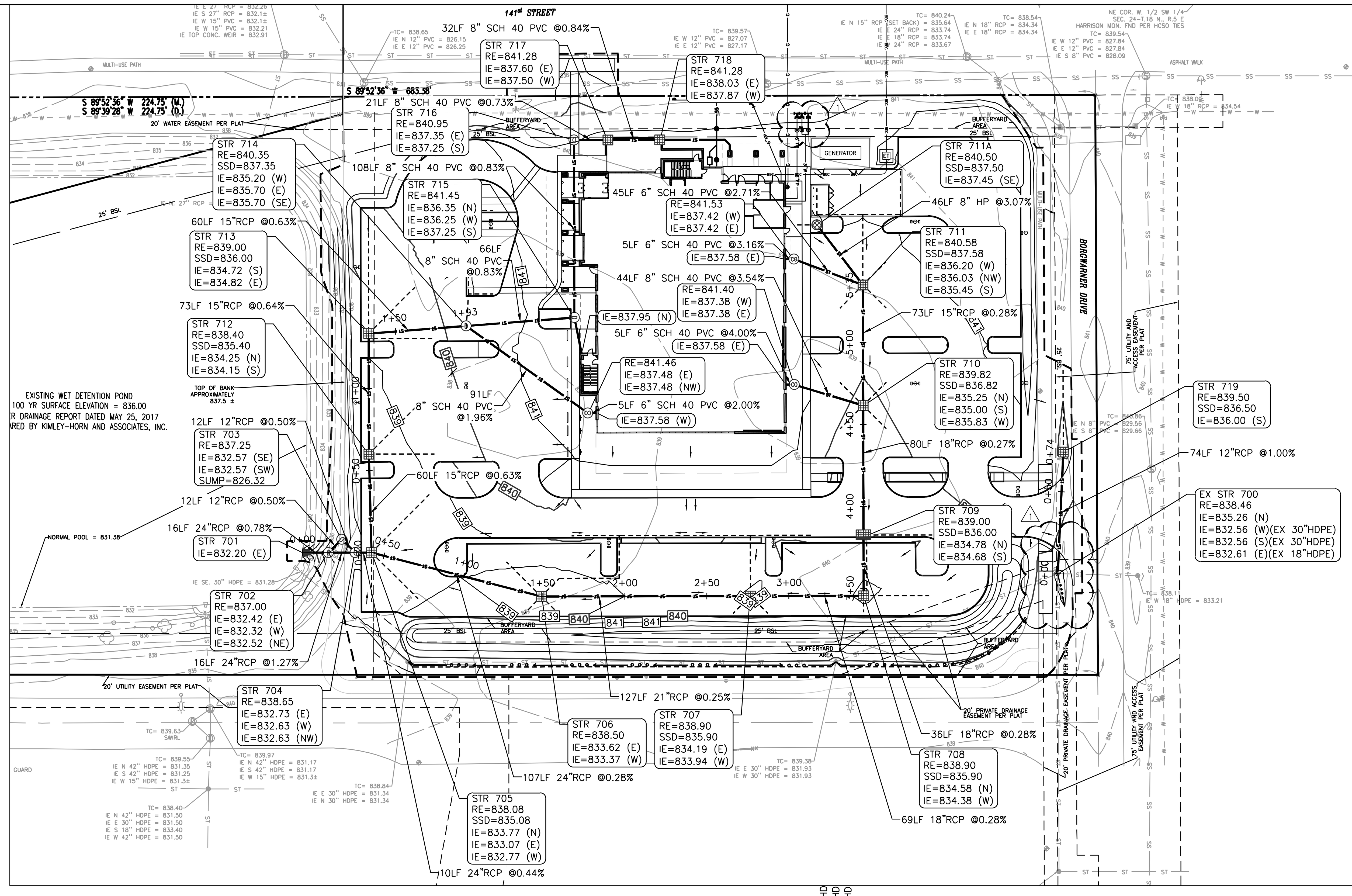
SHEET NUMBER

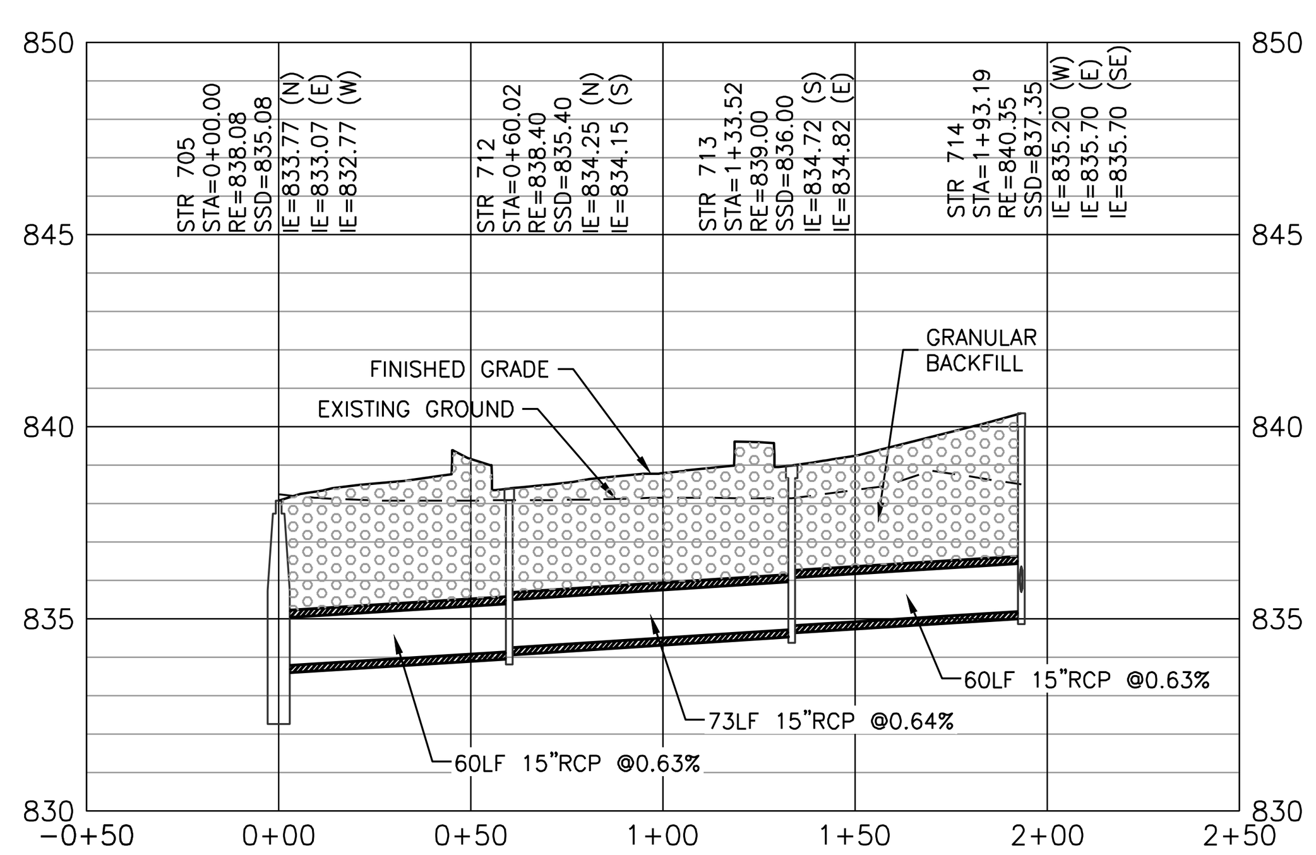
C502

Indiana 811 Know what's below. Call before you dig.
811 FOR CALLS IN INDIANA 1-800-382-5544 (TOLL FREE)

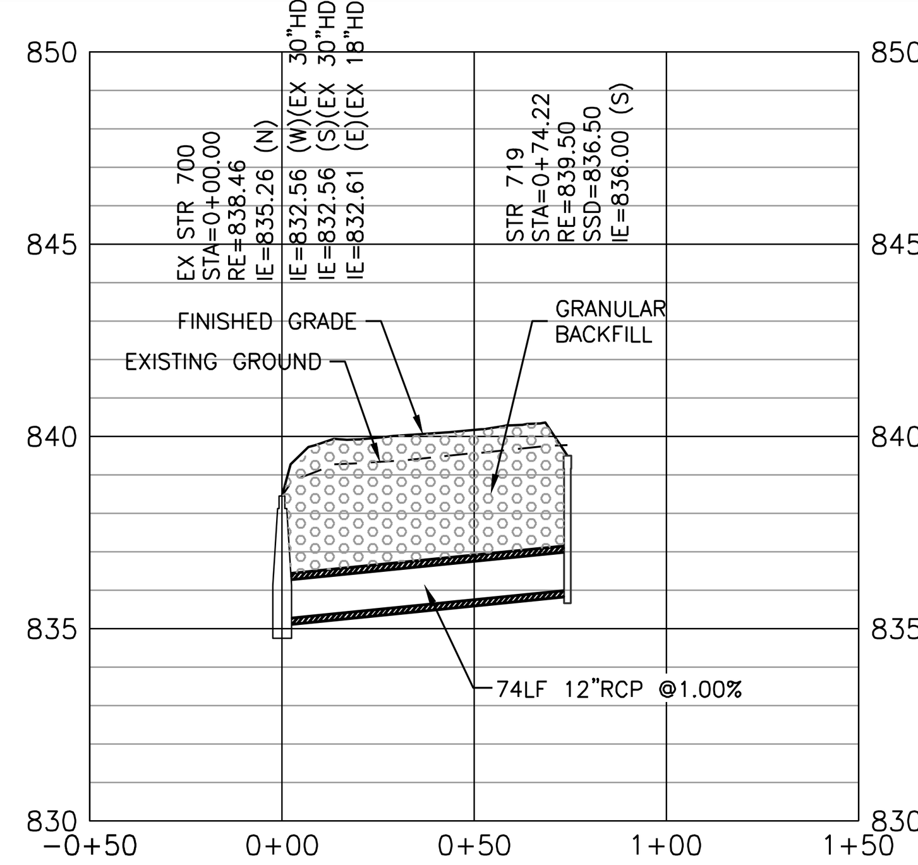
Drawn By: S. SHAW
Checked By: S. NORRIS, EI
Quality Assurance: C. WISEMAN, PE
PIC Project Number 220160-20000

O:\2022\220160\20000\Cad\Engr\CDs\C502_Utility Details.dwg, May 23, 2023 3:23 PM, SUSAN NORRIS, © Paul I. Cripe, Inc.
THIS LINE IS 1 INCH LONG WHEN PRINTED TO FULL SCALE

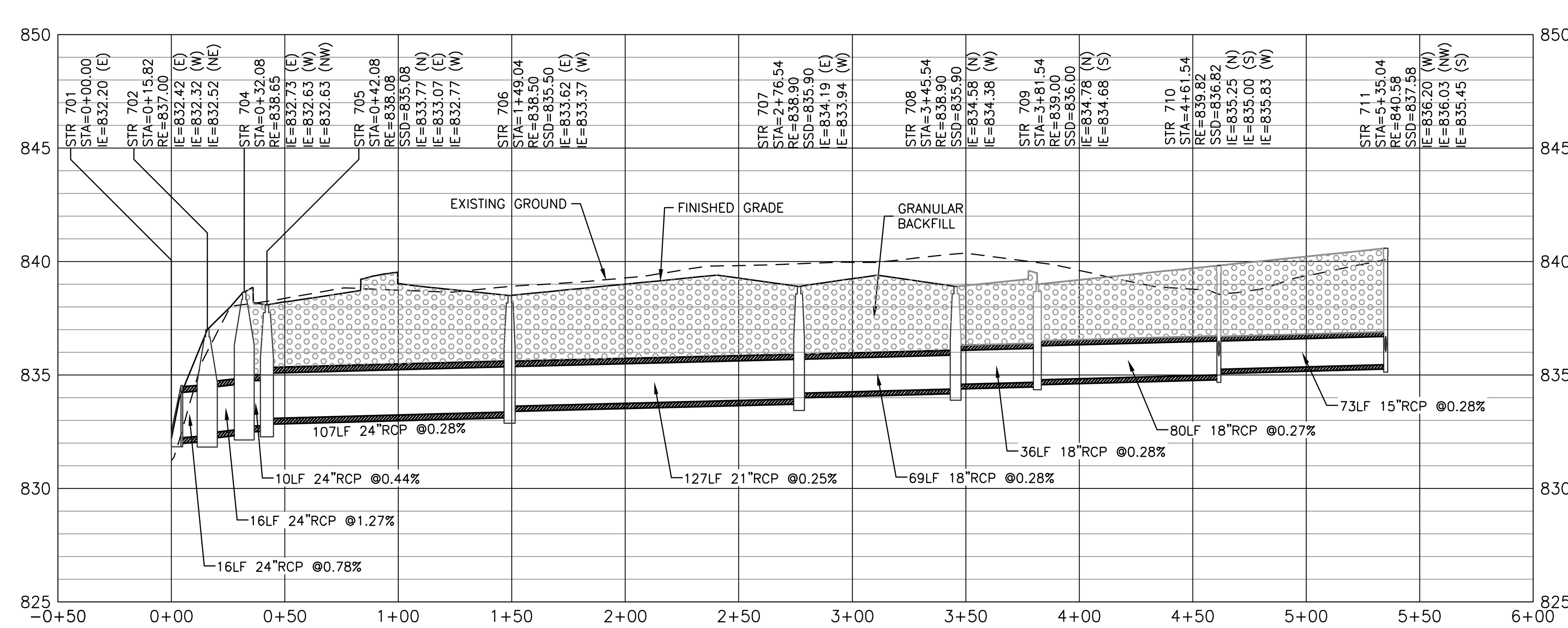




PROFILE - STR 705 TO STR 714
HOR SCALE = 1"=50'
VERT. SCALE = 1"=5'



PROFILE - EX STR 700 TO STR 719
HOR SCALE = 1"=50'
VERT. SCALE = 1"=5'



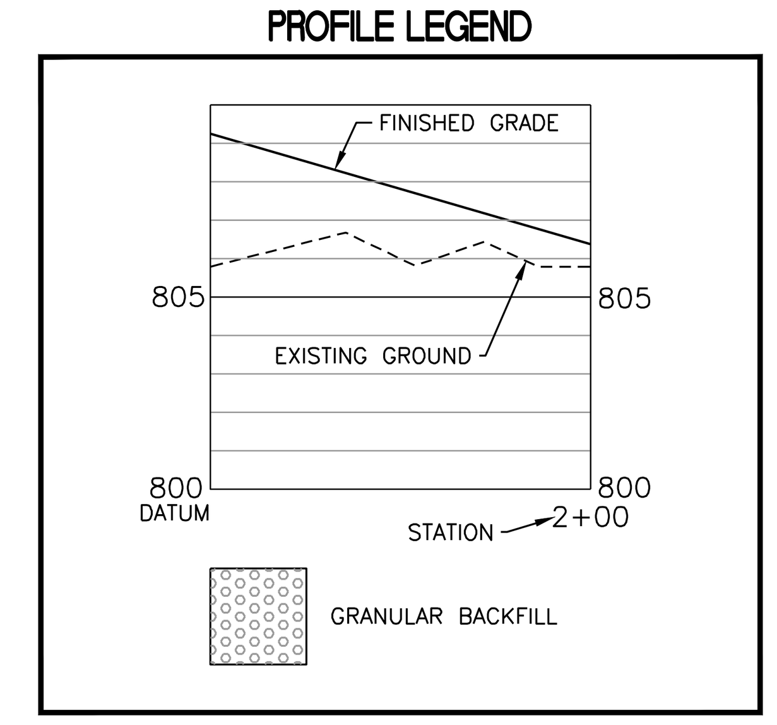
PROFILE - STR 701 TO STR 711
HOR SCALE = 1"=50'
VERT. SCALE = 1"=5'

SCALE: 1"=50'

STORM SEWER PLAN AND PROFILE GENERAL NOTES

1. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS FOR EXCAVATIONS; FINAL RULE 29 CFR PART 1926, SUBPART "P" APPLIES TO ALL EXCAVATIONS EXCEEDING FIVE (5) FEET IN DEPTH.
2. IN ADDITION, EXCAVATIONS EXCEEDING TWENTY (20) FEET IN DEPTH REQUIRE THE DESIGN OF A TRENCH SAFETY SYSTEM BY A REGISTERED PROFESSIONAL ENGINEER.
3. ALL STRUCTURES SHALL HAVE CASTINGS, JOINTS, LIFT RINGS, STEPS AND PIPE CONNECTIONS WELL GROUTED, TROWELED SMOOTH AND BRUSH FINISHED.
4. ALL STRUCTURES (IE: MANHOLES, INLETS) SHALL HAVE POURED FLOW LINES AND BENCH WALLS. THE FLOW LINES AND BENCH WALLS SHALL BE TROWELED SMOOTH AND BRUSH FINISHED.
5. FIELD ADJUSTMENTS OF TOP OF CURB (TC) OF STRUCTURES MAY BE REQUIRED TO MEET FIELD CONDITIONS. ADJUSTMENTS EXCEEDING FIVE TENTHS (0.5) OF A FOOT MUST BE APPROVED BY THE ENGINEER TO DETERMINE THE INTEGRITY OF THE STRUCTURE, AT NO COST TO THE OWNER.
6. STORM STRUCTURES WITH INLET CASTINGS SHALL BE SET TO MAINTAIN A POSITIVE DRAINAGE FLOW INTO THE STRUCTURE.
7. STORM PIPE INVERTS AT OUTLET STRUCTURES (IE: END SECTIONS), AND PIPE LENGTHS MAY REQUIRE FIELD ADJUSTMENTS TO MEET ACTUAL FIELD CONDITIONS.
8. FULL DEPTH GRANULAR BACKFILL SHALL BE REQUIRED UNDER AND WITHIN (5) FEET OF ALL PAVED AREAS, INCLUDING CURBS, EDGE OF PAVEMENT, AND SIDEWALKS.
9. PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND INCLUDE END SECTIONS.
10. RIM ELEVATIONS (RE) SHALL INDICATE THE ELEVATION THAT WATER WOULD ENTER A STRUCTURE.
11. INVERT ELEVATION OF SUB-SURFACE DRAIN (SSD) AT STRUCTURE TO BE THREE (3) FEET BELOW RIM ELEVATION.
12. ANY DISCREPANCIES OR CONFLICTS WHICH BECOME APPARENT BEFORE OR DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
13. NO BLASTING SHALL BE PERFORMED ON THIS SITE.
14. NO SEISMIC VIBRATING OPERATIONS WILL OCCUR ON THIS SITE.
15. STRUCTURES DEEPER THAN 4' MUST BE ACCESSIBLE WITH STEPS.
16. DEBRIS GUARD TO BE INSTALLED ON ALL OPEN ENDED INLETS.
17. ALL STORM SEWER, INCLUDING SSD, SHALL BE CLEANED AND TELEVISED AFTER ALL UNDERGROUND UTILITIES ARE INSTALLED.
18. ALL BEEHIVE CASTINGS ON A 2'X2' BOX SHALL HAVE A SQUARE RISER WITH A ROUND HOLE.
19. WHERE CONNECTIONS ARE MADE TO EXISTING MANHOLES OR INLET STRUCTURES, THOSE STRUCTURES SHALL BE REHABILITATED OR REPLACED TO THOSE MINIMUM STANDARDS OUTLINED IN CHAPTERS 400 AND 500 OF THE CITY OF INDIANAPOLIS STORMWATER SPECIFICATIONS MANUAL, LATEST EDITION. THE REHABILITATION SHALL INCLUDE THE INSTALLATION OF BENCH WALLS, AS WELL AS PRESCRIBED MEASURES TO ELIMINATE THE POTENTIAL FOR MIGRATION OF BACKFILL MATERIALS INTO THE STORMWATER SYSTEMS.

PROFILE LEGEND



STORM SEWER STRUCTURE DATA TABLE

STRUCTURE #	STRUCTURE TYPE	SIZE	CASTING	NOTES
EX STR 700	EXISTING	EXISTING	EXISTING	
STR 701	PRECAST CONCRETE END SECTION	24"		CONCRETE END SECTION TOE ANCHOR PER NOBLESVILLE, INDIANA CITY STANDARDS
STR 702	MANHOLE	96"	EAST JORDAN 1045Z	
STR 703	CONTECH CASCADE SEPARATOR	CS-8	NON-TRAFFIC RATED	REFER TO MANUFACTURER DETAIL
STR 704	MANHOLE	96"	EAST JORDAN 1045Z	BMP DIVERSION STRUCTURE (REFER TO DETAIL ON SHEET C702)
STR 705	MANHOLE	60"	EAST JORDAN 5250	
STR 706	MANHOLE	48"	EAST JORDAN 5250	
STR 707	MANHOLE	48"	EAST JORDAN 5250	
STR 708	MANHOLE	48"	EAST JORDAN 5250	
STR 709	INLET	24" X 36"	EAST JORDAN 7505, TYPE M3	
STR 710	INLET	24" X 24"	EAST JORDAN 5250	
STR 711	INLET	24" X 24"	EAST JORDAN 5250	
STR 711A	NYLOPLAST DRAIN BASIN	8"	8" GRATE	REFER TO MANUFACTURER DETAIL
STR 712	INLET	30" X 30"	EAST JORDAN 5250	
STR 713	INLET	24" X 36"	EAST JORDAN 5250	
STR 714	INLET	24" X 24"	EAST JORDAN 1045Z	
STR 715	NYLOPLAST DRAIN BASIN	10"	10" SOLID	REFER TO MANUFACTURER DETAIL
STR 716	NYLOPLAST DRAIN BASIN	12"	10" SOLID	REFER TO MANUFACTURER DETAIL
STR 717	NYLOPLAST DRAIN BASIN	12"	12" PEDESTRIAN GRATE	REFER TO MANUFACTURER DETAIL
STR 718	NYLOPLAST DRAIN BASIN	12"	12" PEDESTRIAN GRATE	REFER TO MANUFACTURER DETAIL
STR 719	INLET	24" X 24"	EAST JORDAN 5250	

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Drawn By: S. SHAW
Checked By: S. NORRIS, EI
Quality Assurance: C. WISEMAN, PE
PIC Project Number: 220160-20000

BOULDER ASSOCIATES
5646 MILTON STREET, SUITE 240
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IJRI SITE, CORE AND SHELL

14065 BORGWARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	2023.05.23

CERTIFIED BY:

Date 05-23-2023

SHEET TITLE
STORM SEWER PLAN AND PROFILES

SHEET NUMBER
C701

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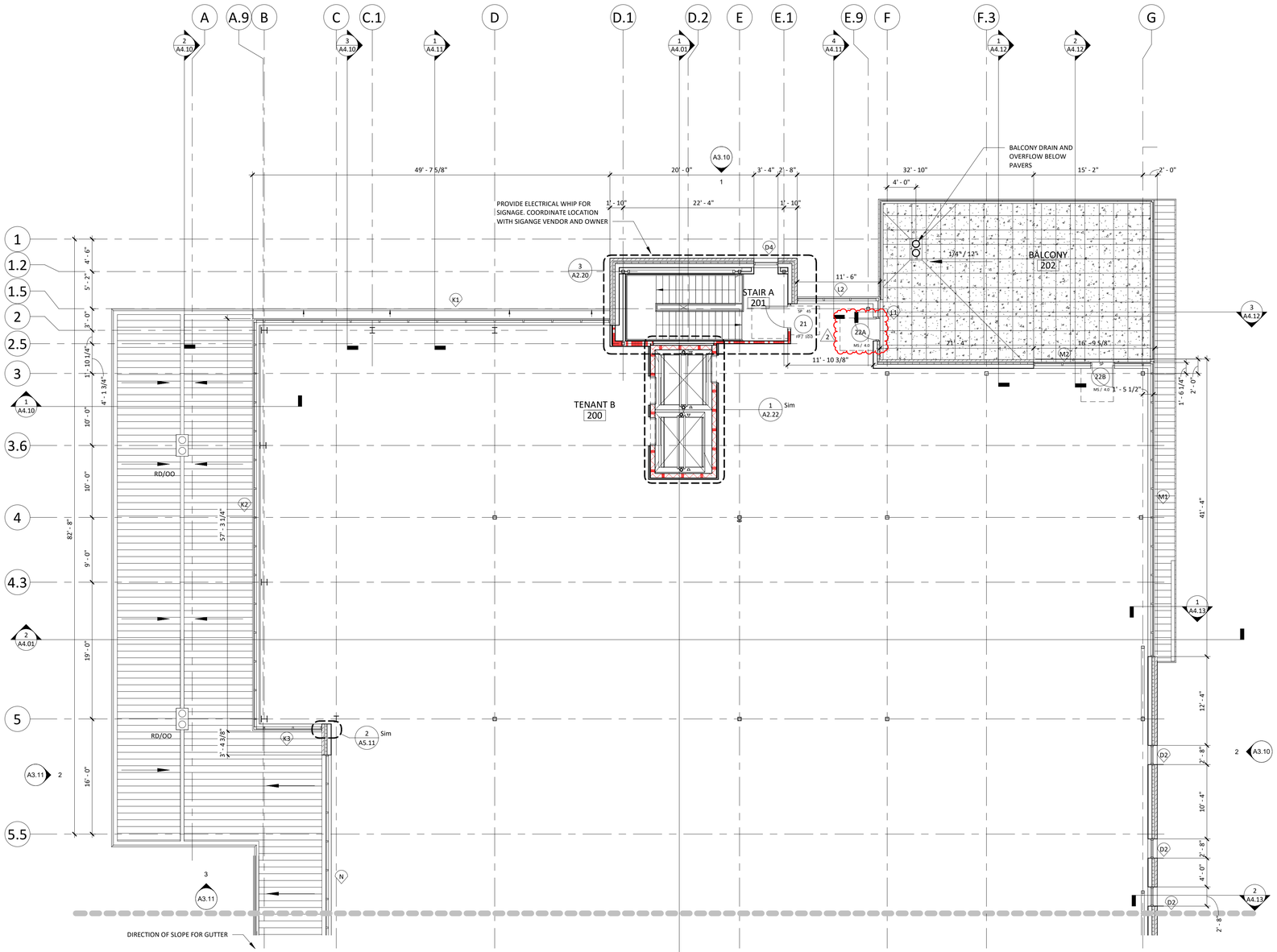


FLOOR PLAN GENERAL NOTES

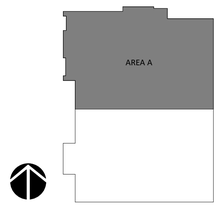
1. DIMENSIONS ARE TO FACE OF INTERIOR GYPSUM BOARD, TILE BACKER BOARD, FACE OF EXTERIOR WALL MATERIALS, STRUCTURAL GRIDS AND CENTERLINES WHERE INDICATED.
2. ALL GYPSUM WALLBOARD TO BE 5/8" UNO TYPE 'X' EXCEPT AT THE FOLLOWING LOCATIONS:
   A. AT RESTROOMS WITHOUT A SHOWER (TCNA COM2 AREAS), PROVIDE 5/8" UNO MOISTURE AND MOLD RESISTANT GYPSUM BOARD COMPLYING WITH ASTM C1396 FOR WALLS AND BEHIND TILE.
   B. AT WET AREAS INCLUDING BUT NOT LIMITED TO SHOWERS, STERILE PROCESSING ROOMS, JANITOR CLOSETS, SAUNAS, AND SWIMMING POOLS (TCNA COM3/4 AREAS), PROVIDE:
      1. AT TILE AND WALL PROTECTION LOCATIONS: PROVIDE 5/8" UNO COATED GLASS-MAT FACED WATER-RESISTANT GYPSUM WALLBOARD COMPLYING WITH ASTM C1178 OR 5/8" UNO CEMENT BACKER BOARD COMPLYING WITH ASTM C1325
      2. AT PAINTED GYPSUM BOARD LOCATIONS (INCLUDING CEILINGS): PROVIDE 5/8" UNO TYPE 'X' MOISTURE AND MOLD RESISTANT GYPSUM BOARD COMPLYING WITH ASTM C1396
3. PROVIDE RATED ENCLOSURES OR PUTTY PACKS AROUND ALL OUTLETS, BOXES, CABINETS, PIPING, DUCTWORK, ETC., THAT ARE RECESSED IN FIRE-RATED WALLS. ENCLOSE TO PROVIDE SAME RATING AS THE WALL WHERE IT IS LOCATED. SEE SHEET DETAILS ON THE A7 SHEETS
4. DOORS SHALL BE LOCATED 4" FROM ADJACENT PERPENDICULAR WALL TO THE INSIDE EDGE OF THE DOOR FRAME, UNO. SEE DOOR DETAILS ON THE A8 SHEETS.
5. J-BOXES SHOWN BACK-TO-BACK MAY BE ADJUSTED TO OFFSET THE BOXES WITH APPROVAL FROM THE ARCHITECT. SEE DETAILS ON THE A7 SHEETS.
6. HIGHEST PRIORITY PARTITIONS ARE LISTED FIRST IN THE PARTITION LEGENDS. SUBSEQUENT PARTITIONS DECREASE IN PRIORITY . HIGHER PRIORITY WALLS TAKES PRECEDENCE, SEE WALL PRIORITY DETAILS ON A7 SHEETS.
7. EXISTING PARTITIONS APPEAR AS 'HALF-TONE" ON PLANS.

PARTITION GRAPHIC LEGEND

1. SEE PARTITION TYPES, SHEET A7.10

GRAPHIC	DESCRIPTION	TYPE
	1 HOUR FIRE BARRIER	1Aa
	1 HOUR FIRE BARRIER	1Ac
	1 HOUR MASONRY FIRE BARRIER	1Ma
	1 HOUR FIRE BARRIER / SHAFT	1Sa
	BRACED PARTITION	0Ba
	FURRING PARTITION	0Fa

KEYPLAN - AREA A



1 FLOOR PLAN - LEVEL 2 - AREA A

A2.20 | A2.11A 1/8" = 1'-0"

BOULDER ASSOCIATES
5646 MILTON STREET, SUITE 240
DALLAS, TEXAS 75206
214.420.5700

PROJECT 225462.00

IJRI - SITE, CORE AND SHELL

14065 BORG WARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
2	Addendum #1	2023.0523

TIMOTHY W. RIDDLE REGISTERED No. AR11300105 STATE OF INDIANA ARCHITECT

2023.0523

SHEET TITLE

FLOOR PLAN - LEVEL 2 AREA A

SHEET NUMBER

A2.11A

5/24/2023 12:56:30 PM
Autodesk Docs://225462.00 M2 Orthopedic Indiana R22/225462.00-A-M2 Orthopedic Indiana Core and Shell.rvt
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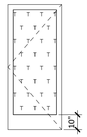
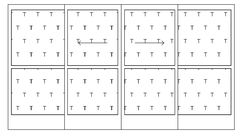
FP
FLUSH PANEL



MS
MEDIUM STILE ALUMINUM STOREFRONT



AS4
AUTOMATIC SLIDER 4 PANEL

SP
STANDARD PROFILE DOUBLE RABBETED

DOOR TYPES

T = TEMPERED GLAZING

DOOR FRAME TYPES

DOOR SCHEDULE

		DOOR									FRAME				DETAILS	
		DOOR WIDTH														
DOOR #	DOOR HARDWARE	OVERALL WIDTH	LEAF 1 WIDTH	LEAF 2 WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	PANEL FINISH	LITE FINISH	TYPE	MATERIAL	FRAME FINISH	FIRE RATING	HEAD	JAMB
10A	45.0	11' - 8"	3' - 0"		8' - 0"	N/A	AS4	AL	-	-	-	AL	-		5/A8.20	5/A8.20
10B	45.0	11' - 8"	3' - 0"		8' - 0"	N/A	AS4	AL	-	-	-	AL	-		5/A8.20	5/A8.20
13B	10.0	3' - 0"	3' - 0"		7' - 0"	1 3/4"	FP	WD	PL1	-	SP	HM	P2	45	3/A8.20	3/A8.20
13F	2.0	3' - 0"	3' - 0"		7' - 6"		MS	AL	-	-	SP	AL	-		1/A5.12 (SIM)	3/A5.12 (SIM)
14A	7.0	4' - 0"	4' - 0"		7' - 6"	1 3/4"	FP	HM	P2X	-	SP	HM	P2X		1/A5.12	3/A5.12
14B	12.1	4' - 0"	4' - 0"		7' - 0"	1 3/4"	FP	WD	PL1	-	SP	HM	P2	45	3/A8.20	3/A8.20
15	8.0	4' - 0"	4' - 0"		7' - 6"	1 3/4"	FP	HM	P2X	-	SP	HM	P2X		1/A5.12	3/A5.12
16	8.0	4' - 0"	4' - 0"		7' - 6"	1 3/4"	FP	HM	P2X	-	SP	HM	P2X		1/A5.12	3/A5.12
17	8.1	4' - 0"	4' - 0"		7' - 6"	1 3/4"	FP	HM	P2X	-	SP	HM	P2X		1/A5.12	3/A5.12
18A	2.1	3' - 0"	3' - 0"		7' - 6"		MS	AL	-	-	SP	AL	-		1/A5.12 (SIM)	3/A5.12 (SIM)
18B	11.0	3' - 0"	3' - 0"		7' - 0"	1 3/4"	FP	WD	PL1	-	SP	HM	P2	45	3/A8.20	3/A8.20
19A	5.1	3' - 0"	3' - 0"		7' - 6"		MS	AL	-	-	SP	AL	-		2/A5.12	3/A5.12
19B	3.0	4' - 0"	4' - 0"		7' - 6"		MS	AL	-	-	SP	AL	-		2/A5.12	3/A5.12
19C	6.0	4' - 0"	4' - 0"		7' - 6"	1 3/4"	FP	HM	P2X	-	SP	HM	-		1/A5.12	3/A5.12
19D	3.0	2' - 10"	2' - 10"		7' - 6"		MS	AL	-	-	SP	AL	-		2/A5.12	3/A5.12
19E	1.1	4' - 0"	4' - 0"		7' - 6"		MS	AL	-	-	SP	AL	-		1/A5.12	3/A5.12
21	10.0	3' - 0"	3' - 0"		7' - 0"	1 3/4"	FP	WD	PL1	-	SP	HM	P2	45	3/A8.20	3/A8.20
22A	4.0	3' - 0"	3' - 0"		7' - 6"		MS	AL	-	-	SP	AL	-		2/A5.12	3/A5.12
22B	4.0	3' - 0"	3' - 0"		7' - 6"		MS	AL	-	-	SP	AL	-		2/A5.12	3/A5.12
23	10.0	3' - 0"	3' - 0"		7' - 0"	1 3/4"	FP	WD	PL1	-	SP	HM	P2	45	3/A8.20	3/A8.20

2

DOOR GENERAL NOTES

1. PROVIDE LEVER-TYPE DOOR HANDLES OPERABLE BY A SINGLE EFFORT WITH NO GRASPING OR HAND MOVEMENT REQUIRED. ALL EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE, WITHOUT ANY SPECIAL KNOWLEDGE, EFFORT OR USE OF A KEY PER BUILDING CODE SECTION 1019.1.9.
2. FURNISH ALL HARDWARE WITH US26D FINISH, UNO. THRESHOLD AND WEATHERSTRIP TO BE MILL FINISH ALUMINUM. CLOSERS TO BE SPRAYED ALUMINUM. SATIN STAINLESS STEEL US32D MAY BE USED FOR TRIM AND FLAT GOODS.
3. DOORS LESS THAN 3'-6" WIDE TO HAVE 4.5 x 4.5 HINGES. DOORS 3'-6" OR WIDER TO HAVE 5 X 4.5 HINGES
4. PROVIDE 3 HINGES EACH FOR LEAFS LESS THAN 8'-0" IN HEIGHT, 4 HINGES EACH FOR LEAFS 8'-0" IN HEIGHT OR GREATER.
5. WHEN SPECIFIED, KICKPLATE TO BE PROVIDED ON PUSH SIDE OF DOORS, UNLESS NOTED OTHERWISE.
6. AUTO DOOR BOTTOMS TO BE FULLY-MORTISED OR SEMI-MORTISED INTO DOORS.
7. ALL DOOR HARDWARE SHALL BE MOUNTED 38" ABOVE FINISHED-FLOOR, UNLESS NOTED OTHERWISE.
8. INSTALL DOOR CLOSERS SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE DOOR WILL TAKE AT LEAST 5 SECONDS TO MOVE TO A POSITION 12 DEGREES FROM THE LATCH.
9. THE MAXIMUM FORCE REQUIRED TO PUSH OR PULL OPEN A DOOR SHALL BE NO MORE THAN 5 LB FOR INTERIOR AND EXTERIOR DOORS. THE MAXIMUM FORCE REQUIRED TO PUSH OR PULL OPEN A FIRE-RATED DOOR SHALL BE NO MORE THAN 15 LBS.
10. THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING DOORS SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.
11. CONTRACTOR TO PROVIDE POWER SUPPLIES & CONNECTS AT ALL APPLICABLE HARDWARE.
12. USE THE ARCHITECTURAL DRAWING DOOR AND HARDWARE NUMBERING SYSTEM FOR THE SUBMITTAL.

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IJRI - SITE, CORE AND SHELL

14065 BORG WARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
2	Addendum #1	2023.0523

TIMOTHY W. RIDDLE
REGISTERED
No. AR11300105
STATE OF INDIANA
ARCHITECT

2023.0523

SHEET TITLE

DOOR SCHEDULE AND TYPES, DOOR HARDWARE

SHEET NUMBER

A8.10

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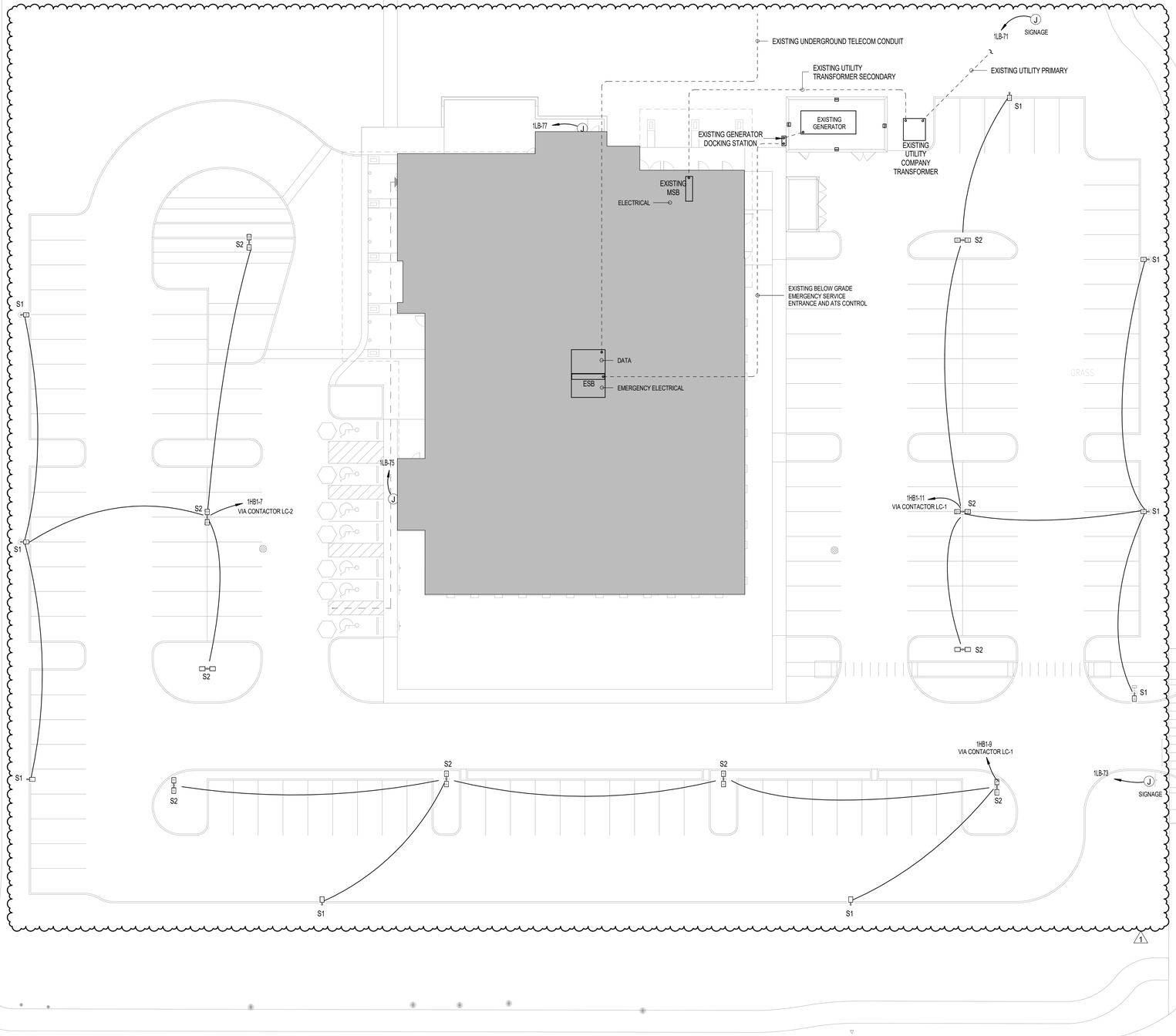

1 SITE PLAN - ELECTRICAL
A-E1.01 1" = 20'-0"

GENERAL NOTES:

A. COORDINATE ELECTRICAL UTILITY REQUIREMENTS WITH UTILITY:

COORDINATE EXACT UTILITY TRANSFORMER LOCATION AND CLEARANCES. PROVIDE PAD PER UTILITY COMPANY REQUIREMENTS.

COORDINATE PRIMARY, INCLUDING CONDUIT SIZE AND QUANTITY, AND ROUTE PATH WITH UTILITY COMPANY AND CIVIL ENGINEER.

B. COORDINATE TELEPHONE SERVICE REQUIREMENTS WITH TELEPHONE COMPANY AND PROVIDE ACCORDINGLY.

C. COORDINATE CABLE TV SERVICE REQUIREMENTS WITH CABLE COMPANY AND PROVIDE ACCORDINGLY.

D. CONTROLE SITE LIGHTING VIA PHOTOCELL ROUTE BRANCH CIRCUITS THROUGH LIGHTING RELAY CONTROL PANEL.

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2023.05.23

PROJECT 225462.00

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CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

SITE PLAN - ELECTRICAL

SHEET NUMBER

A-E1.01

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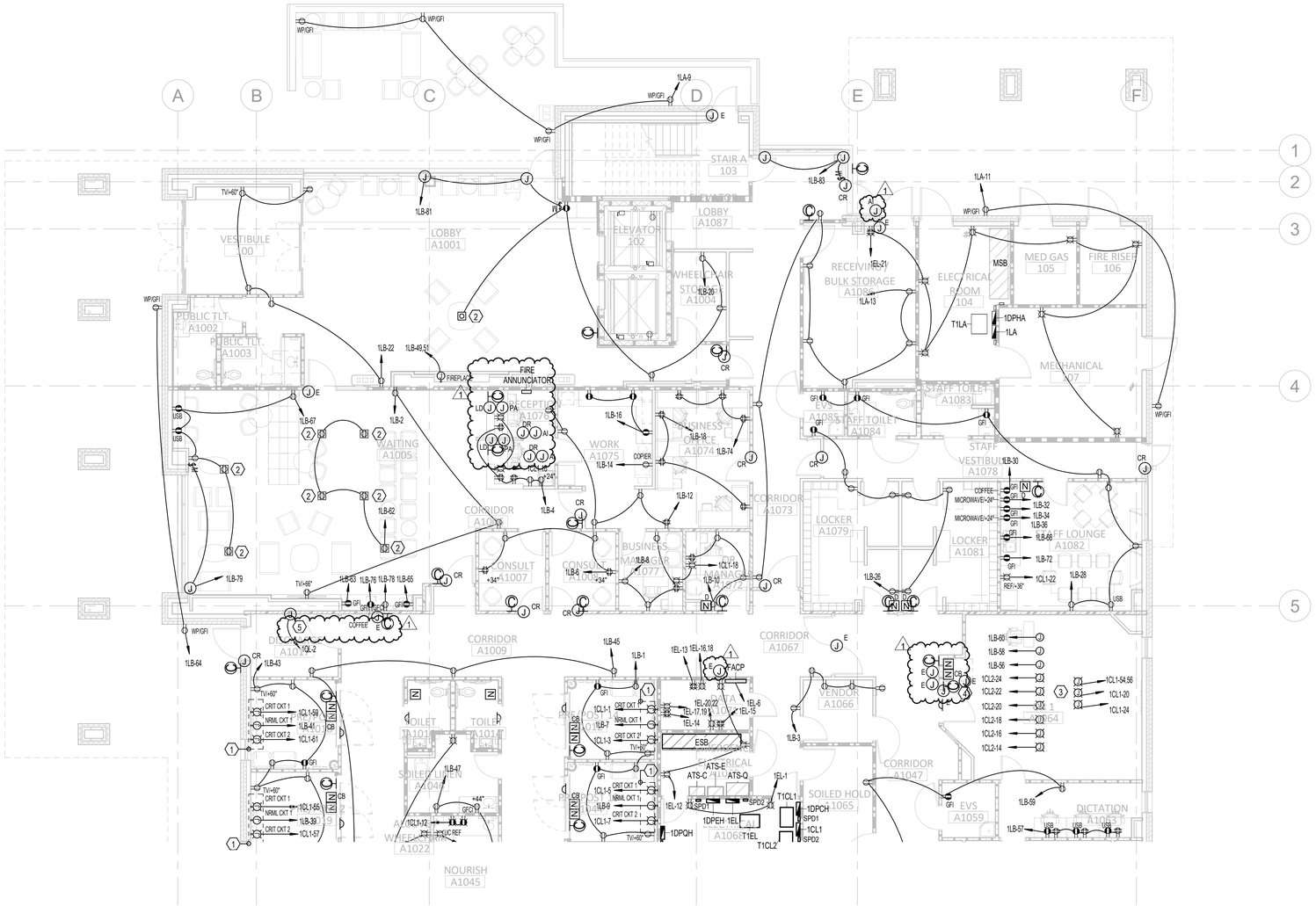

1 FLOOR PLAN - LEVEL 1 - POWER - AREA A
A-E2.01A 1/8" = 1'-0"

GENERAL NOTES:

A. REFER TO ARCHITECTURAL DRAWINGS FOR CONSTRUCTION PHASING REQUIREMENTS.

B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND ELEVATIONS OF WIRING DEVICES.

C. REFER TO SHEET E0.01 FOR ELECTRICAL SYMBOL LEGEND AND SHEET E0.02 FOR ELECTRICAL LIGHT FIXTURE SCHEDULE.

D. FIRE ALARM SYSTEM IS PERFORMANCED BASED. RE: SPECIFICATION 28 31 00.

1. DEVICES SHALL BE ADDRESSABLE AND INTELLIGENT.
2. SYNCHRONIZE DEVICES.
3. PROVIDE INTERFACE TO EGRESS DOORS TO AUTO RELEASE OPEN IN EVENT OF FIRE ALARM.
4. REFER TO SHEET E2.03 ELECTRICAL ROOF PLAN FOR AHU'S (DUCT DETECTORS).

E. PROVIDE BACKBOX AND RACEWAY ROUGH-IN FOR THE FOLLOWING SYSTEMS:
1. NURSE CALL, CODE BLUE, PHYSIOLOGICAL MONITORING.
2. SECURITY (CAMERAS, CARD READERS, ACCESS CONTROL).
3. OVERHEAR PAGE / PUBLIC ADDRESS.
4. TV.
5. VOICE / DATA.

REFER TO TECHNOLOGY T-SERIES DRAWINGS. PROVIDE AND COORDINATE 120V REQUIREMENTS FOR THESE SYSTEMS.

F. PROVIDE TAMPER RESISTANT RECEPTACLES IN BUSINESS OFFICES, CORRIDORS, WAITING ROOMS AND PATIENT CARE AREAS.

KEYED NOTES:

NOTE: REFERENCE NUMBER INSIDE HEXAGON

1 COORDINATE WITH ARCHITECT AND OWNER FOR HEADWALL DEVICE QUANTITIES AND CONFIGURATION.

2 COMBINATION POWER/DATA FLOOR BOX WITH (2) NEMA 5-20R DUPLEX RECEPTACLES AND VOICE DATA JACKS. LEGRAND EVOLUTION SERIES 8 OR EQUAL. COORDINATE FLOOR BOX POWER LOCATIONS WITH ARCHITECT AND FINAL FURNITURE LAYOUT.

3 REFER TO TYPICAL OPERATING ROOM DETAIL, SHOWN ON A-E2.01B, FOR DEVICE LAYOUT AND QUANTITIES.

4 PROVIDE TIMER CONTROL STATION FOR OPERATING ROOM CLOCK. TYPICAL OF ALL OPERATING ROOMS.

5 PROVIDE 120V JUNCTION BOX FOR POWER TO SMOKE DAMPERS IN THIS AREA. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT REQUIREMENTS AND LOCATIONS.

NOTE:

ALL CARD READERS AND POWERED DOORS SHOWN IN THIS AREA ARE TO BE CIRCUITED TO 1EL-23.

ALL CLOCKS SHOWN ON THE FIRST FLOOR TO BE CIRCUITED TO 1EL-25.

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CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

POWER - LEVEL 1 AREA A

SHEET NUMBER

A-E2.01A

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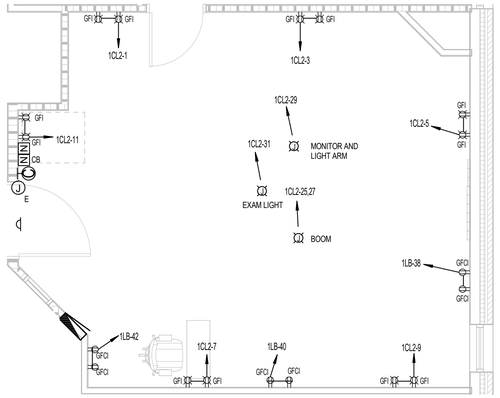


2 TYPICAL ENLARGED PLAN - OR A1056

A-E2.01A | A-E2.01B 1/4" = 1'-0"

KEYED NOTES:

NOTE: REFERENCE NUMBER INSIDE HEXAGON

1 COORDINATE WITH ARCHITECT AND OWNER FOR HEADWALL DEVICE QUANTITIES AND CONFIGURATION.

3 PROVIDE SEPARATE 1" CONDUITS FOR POWER & VOICE/DATA. STUB-UP VOICE/DATA CONDUIT TO ABOVE ACCESSIBLE CEILING.

4 REFER TO TYPICAL OPERATING ROOM DETAIL FOR DEVICE LAYOUT AND QUANTITIES.

5 PROVIDE POWER FOR MEDICAL GAS ALARM PANEL, CIRCUITED AS INDICATED. COORDINATE FINAL LOCATION AND REQUIREMENTS WITH ARCHITECT AND PLUMBING DRAWINGS.

6 PROVIDE POWER FOR NURSE CALL/CONTROL PANEL, CIRCUITED AS INDICATED. COORDINATE FINAL LOCATION WITH ARCHITECT.

7 PROVIDE POWER FOR EMERGENCY GENERATOR ALARM PANEL, CIRCUITED AS INDICATED. COORDINATE FINAL LOCATION WITH ARCHITECT.

8 PROVIDE TIMER CONTROL STATION FOR OPERATING ROOM CLOCK. TYPICAL OF ALL OPERATING ROOMS.

GENERAL NOTES:

A. REFER TO ARCHITECTURAL DRAWINGS FOR CONSTRUCTION PHASING REQUIREMENTS.

B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND ELEVATIONS OF WIRING DEVICES.

C. REFER TO SHEET E0.01 FOR ELECTRICAL SYMBOL LEGEND AND SHEET E0.02 FOR ELECTRICAL LIGHT FIXTURE SCHEDULE.

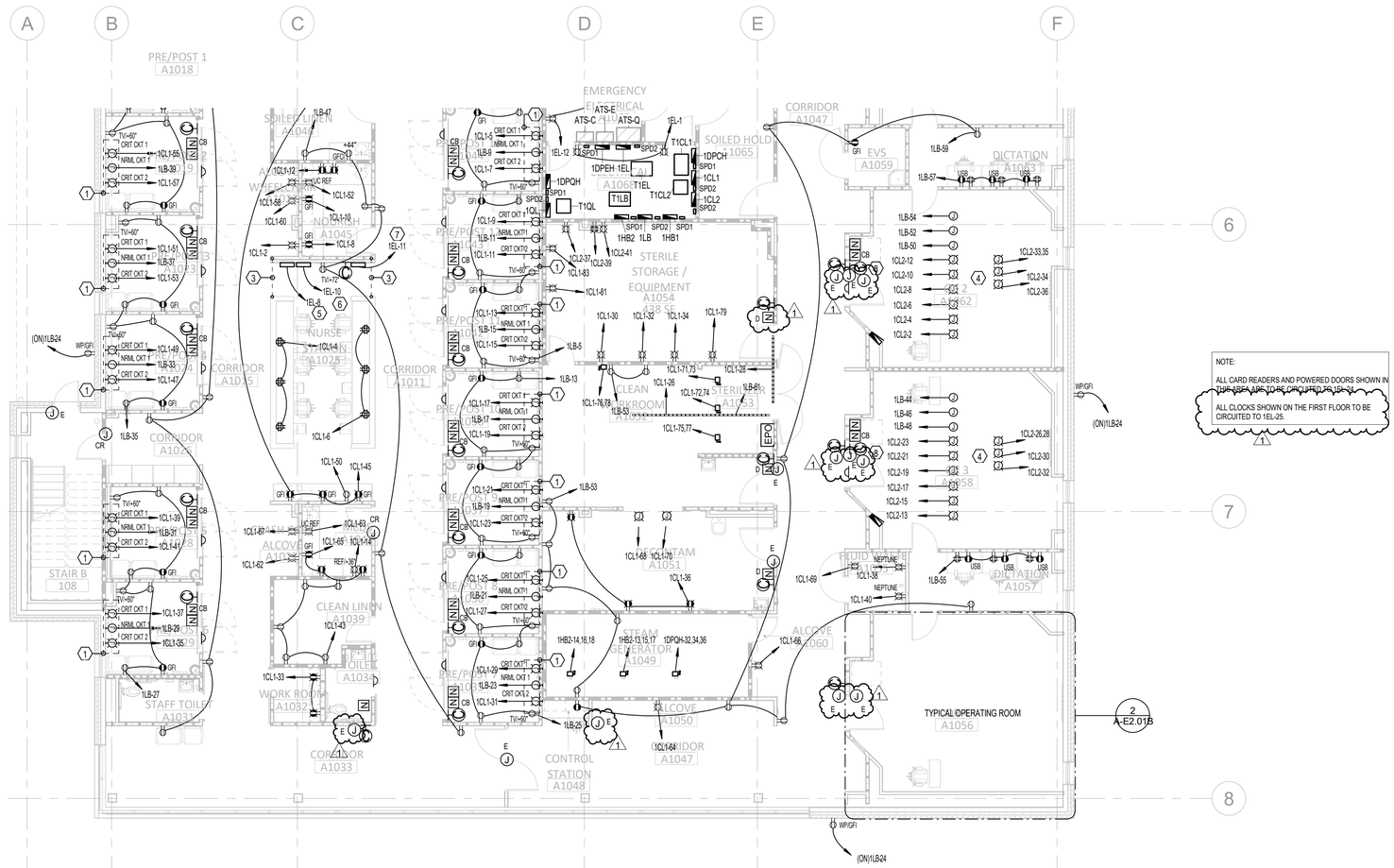
D. FIRE ALARM SYSTEM IS PERFORMANCED BASED. RE: SPECIFICATION 28 31 00.

1. DEVICES SHALL BE ADDRESSABLE AND INTELLIGENT.
2. SYNCHRONIZE DEVICES.
3. PROVIDE INTERFACE TO EGRESS DOORS TO AUTO RELEASE OPEN IN EVENT OF FIRE ALARM.
4. REFER TO SHEET E2.03 ELECTRICAL ROOF PLAN FOR AHU'S (DUCT DETECTORS).

E. PROVIDE BACKBOX AND RACEWAY ROUGH-IN FOR THE FOLLOWING SYSTEMS:
1. NURSE CALL, CODE BLUE, PHYSIOLOGICAL MONITORING.
2. SECURITY (CAMERAS, CARD READERS, ACCESS CONTROL).
3. OVERHEAR PAGE / PUBLIC ADDRESS.
4. TV.
5. VOICE / DATA.

REFER TO TECHNOLOGY T-SERIES DRAWINGS. PROVIDE AND COORDINATE 120V REQUIREMENTS FOR THESE SYSTEMS.

F. PROVIDE TAMPER RESISTANT RECEPTACLES IN BUSINESS OFFICES, CORRIDORS, WAITING ROOMS AND PATIENT CARE AREAS.



NOTE:

ALL CARD READERS AND POWERED DOORS SHOWN IN THIS AREA ARE TO BE CIRCUITED TO 1EL-24.

ALL CLOCKS SHOWN ON THE FIRST FLOOR TO BE CIRCUITED TO 1EL-25.

1 FLOOR PLAN - LEVEL 1 - POWER - AREA B

A-E2.01B 1/8" = 1'-0"

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2023.05.23

PROJECT 225462.00

IJRI - AMBULATORY SURGICAL CENTER

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

POWER - LEVEL 1 AREA B

SHEET NUMBER

A-E2.01B

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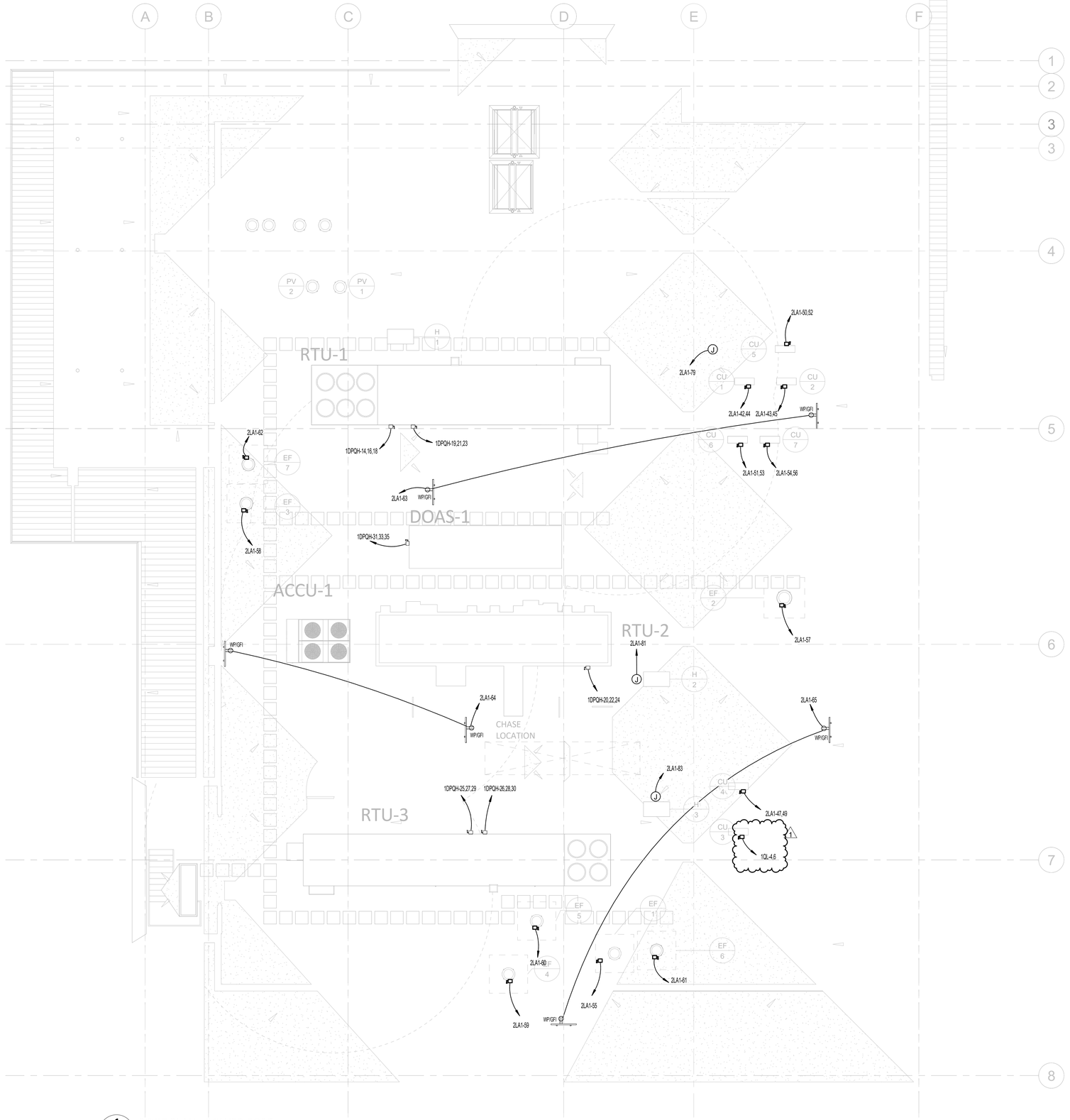

1 ROOF PLAN - POWER CORE

A-E2.03 1/8" = 1'-0"

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4. TV.
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IJRI - SITE, CORE AND SHELL

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

POWER - ROOF PLAN

SHEET NUMBER

A-E2.03

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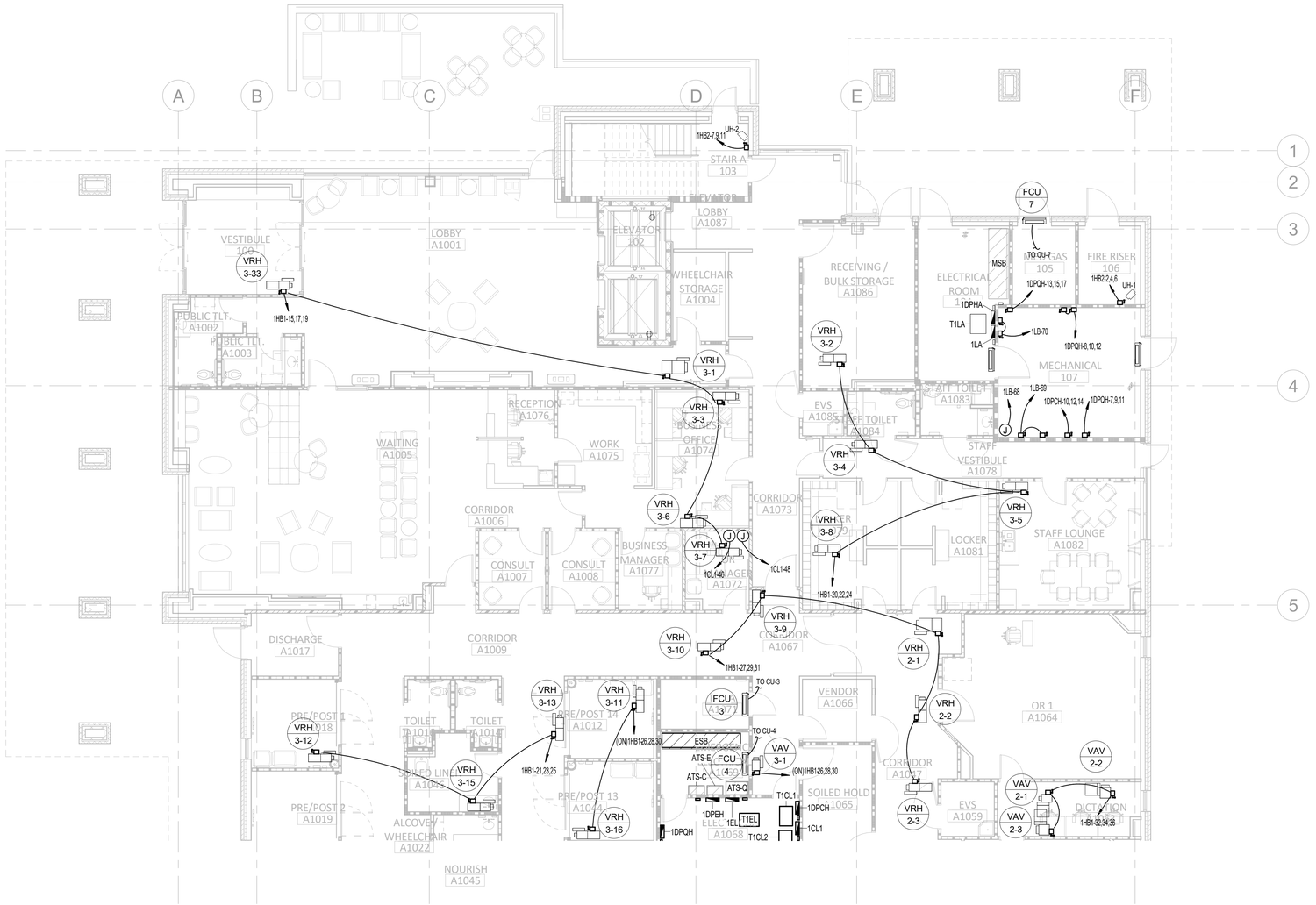

1 FLOOR PLAN - LEVEL 1 - MECHANICAL POWER - AREA A

A-E2.11A 1/8" = 1'-0"

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GENERAL NOTES:

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B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND ELEVATIONS OF WIRING DEVICES.

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F. PROVIDE TAMPER RESISTANT RECEPTACLES IN BUSINESS OFFICES, CORRIDORS, WAITING ROOMS AND PATIENT CARE AREAS.

GENERAL NOTES:

A. COORDINATE WITH CORRESPONDING MECHANICAL SERIES DRAWING FOR EXACT LOCATIONS AND SIZES OF ALL MECHANICAL EQUIPMENT. PROVIDE 30A/3P/30AF FUSED DISCONNECT SWITCH AT EACH VRH UNIT. TYPICAL. 1

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IJRI - AMBULATORY SURGICAL CENTER

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

MECHANICAL POWER - LEVEL 1 AREA A

SHEET NUMBER

A-E2.11A

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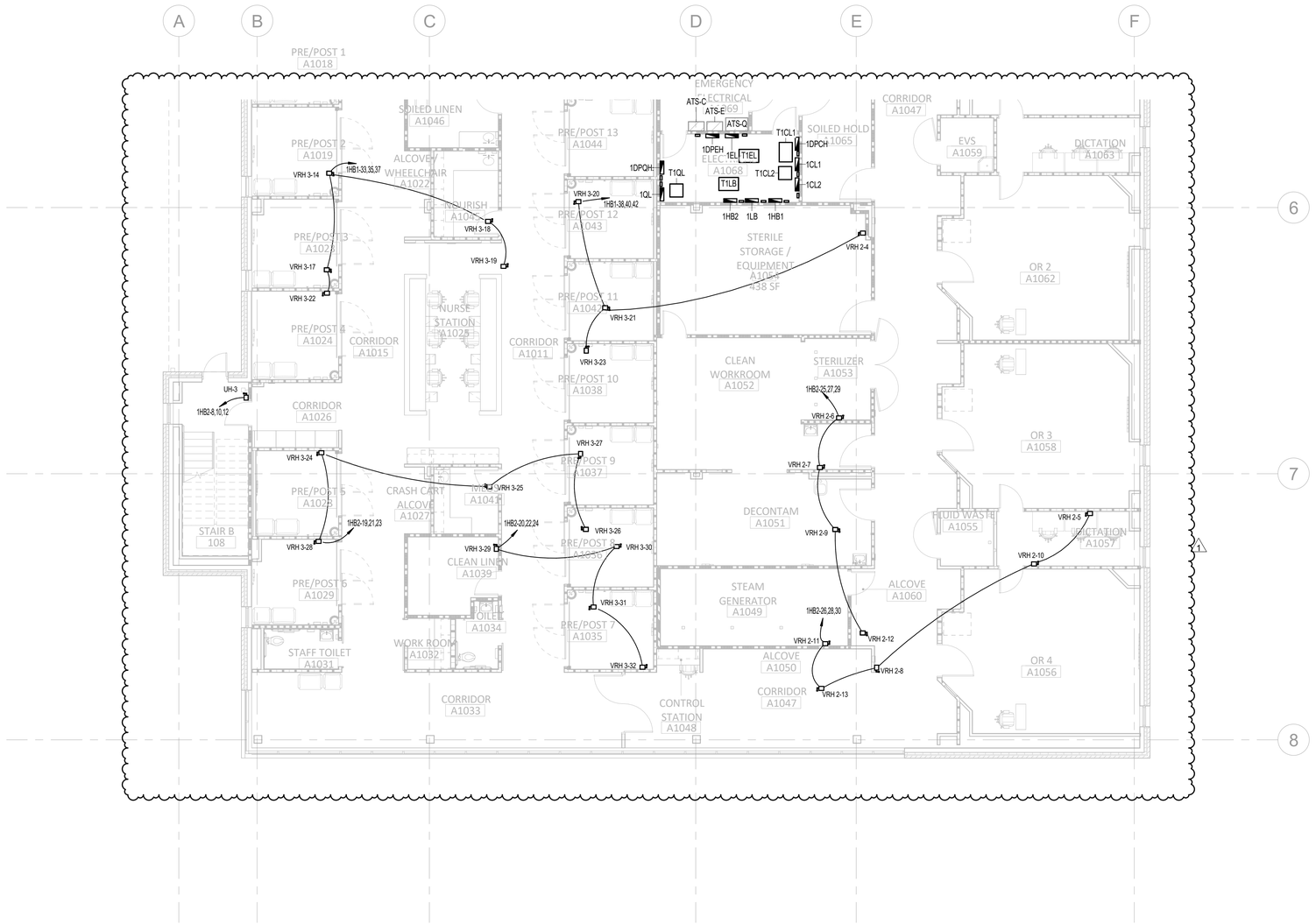

1 FLOOR PLAN - LEVEL 1 - MECHANICAL POWER - AREA B

A-E2.11B 1/8" = 1'-0"

GENERAL NOTES:

A. REFER TO ARCHITECTURAL DRAWINGS FOR CONSTRUCTION PHASING REQUIREMENTS.

B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND ELEVATIONS OF WIRING DEVICES.

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A. COORDINATE WITH CORRESPONDING MECHANICAL SERIES DRAWING FOR EXACT LOCATIONS AND SIZES OF ALL MECHANICAL EQUIPMENT. PROVIDE 30A/3P/30AF FUSED DISCONNECT SWITCH AT EACH VRH UNIT, TYPICAL.

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SHEET TITLE

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SHEET NUMBER

A-E2.11B

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FEEDER CIRCUIT SCHEDULE - COPPER

AMPS	CONDUCTORS	EMT	PVC 40	CONDUCTORS	EMT	PVC 40
175	3#2/0 CU, #6 CU G	2"C	2"C	4#2/0 CU, #6 CU G	2"C	2"C
200	3#3/0 CU, #6 CU G	2 1/2"C	2 1/2"C	4#3/0 CU, #6 CU G	2 1/2"C	2 1/2"C
225	3#4/0 CU, #4 CU G	2 1/2"C	2 1/2"C	4#4/0 CU, #4 CU G	2 1/2"C	2 1/2"C
250	3#250 CU, #4 CU G	2 1/2"C	2 1/2"C	4#250 CU, #4 CU G	2 1/2"C	2 1/2"C
400	2 SETS 3#3/0 CU, #3 CU G	2"C	2"C	2 SETS 4#3/0 CU, #3 CU G	2"C	2"C
600	2 SETS 3#350 CU, #1 CU G	2 1/2"C	3"C	2 SETS 4#350 CU, #1 CU G	3"C	3"C
800	3 SETS 3#300 CU, #1/0 CU G	2 1/2"C	3"C	3 SETS 4#300 CU, #1/0 CU G	2 1/2"C	3"C
1000	3 SETS 3#400 CU, #2/0 CU G	2 1/2"C	3 1/2"C	3 SETS 4#400 CU, #2/0 CU G	3"C	3 1/2"C
1200	3 SETS 3#600 CU, #3/0 CU G	3"C	3 1/2"C	3 SETS 4#600 CU, #3/0 CU G	3 1/2"C	4"C
1600	4 SETS 3#600 CU, #4/0 CU G	3"C	3 1/2"C	4 SETS 4#600 CU, #4/0 CU G	3 1/2"C	4"C
2000	5 SETS 3#600 CU, #250 CU G	3"C	3 1/2"C	5 SETS 4#600 CU, #250 CU G	3 1/2"C	4"C

BRANCH AND FEEDER CIRCUIT SCHEDULE - COPPER

AMPS	CONDUCTORS	EMT	PVC 40	CONDUCTORS	EMT	PVC 40
15	3#12 CU, #12 CU G	3/4"C	3/4"C	4#12 CU, #12 CU G	3/4"C	3/4"C
20	3#12 CU, #12 CU G	3/4"C	3/4"C	4#12 CU, #12 CU G	3/4"C	3/4"C
25	3#10 CU, #10 CU G	3/4"C	3/4"C	4#10 CU, #10 CU G	3/4"C	3/4"C
30	3#10 CU, #10 CU G	3/4"C	3/4"C	4#10 CU, #10 CU G	3/4"C	3/4"C
35	3#8 CU, #10 CU G	3/4"C	3/4"C	4#8 CU, #10 CU G	3/4"C	3/4"C
40	3#8 CU, #10 CU G	3/4"C	3/4"C	4#8 CU, #10 CU G	3/4"C	3/4"C
45	3#6 CU, #10 CU G	3/4"C	3/4"C	4#6 CU, #10 CU G	1"C	1"C
50	3#6 CU, #10 CU G	3/4"C	3/4"C	4#6 CU, #10 CU G	1"C	1"C
60	3#4 CU, #10 CU G	1"C	1"C	4#4 CU, #10 CU G	1 1/4"C	1 1/4"C
70	3#4 CU, #8 CU G	1"C	1"C	4#4 CU, #8 CU G	1 1/4"C	1 1/4"C
80	3#3 CU, #8 CU G	1 1/4"C	1 1/4"C	4#3 CU, #8 CU G	1 1/4"C	1 1/4"C
90	3#2 CU, #8 CU G	1 1/4"C	1 1/4"C	4#2 CU, #8 CU G	1 1/4"C	1 1/4"C
100	3#1 CU, #8 CU G	1 1/4"C	1 1/2"C	4#1 CU, #8 CU G	1 1/2"C	1 1/2"C
110	3#1 CU, #6 CU G	1 1/4"C	1 1/2"C	4#1 CU, #6 CU G	1 1/2"C	1 1/2"C
125	3#1 CU, #6 CU G	1 1/4"C	1 1/2"C	4#1 CU, #6 CU G	1 1/2"C	1 1/2"C
150	3#1/0 CU, #6 CU G	1 1/2"C	1 1/2"C	4#1/0 CU, #6 CU G	2"C	2"C

SCHEDULE NOTES:
1. COPPER CONDUCTOR AMPACITY SIZES BASED ON NEC TABLE 310.15(B)(16). CONDUCTORS 100 AMPS AND LESS UTILIZE UTILIZE 60°C. CONDUCTORS GREATER THAN 100 AMPS UTILIZE 75°C.
2. GROUND CONDUCTOR SIZES ARE BASED ON NEC TABLE 250.122.
3. CONDUIT SIZES ARE BASED ON NEC TABLES C.1 (EMT) AND C.10 (PVC).
4. CONDUIT SIZES FOR OTHER INSULATION CHARACTERISTIC, USE THE NEC, ANNEX C TABLE.

FEEDER CIRCUIT SCHEDULE - ALUMINUM

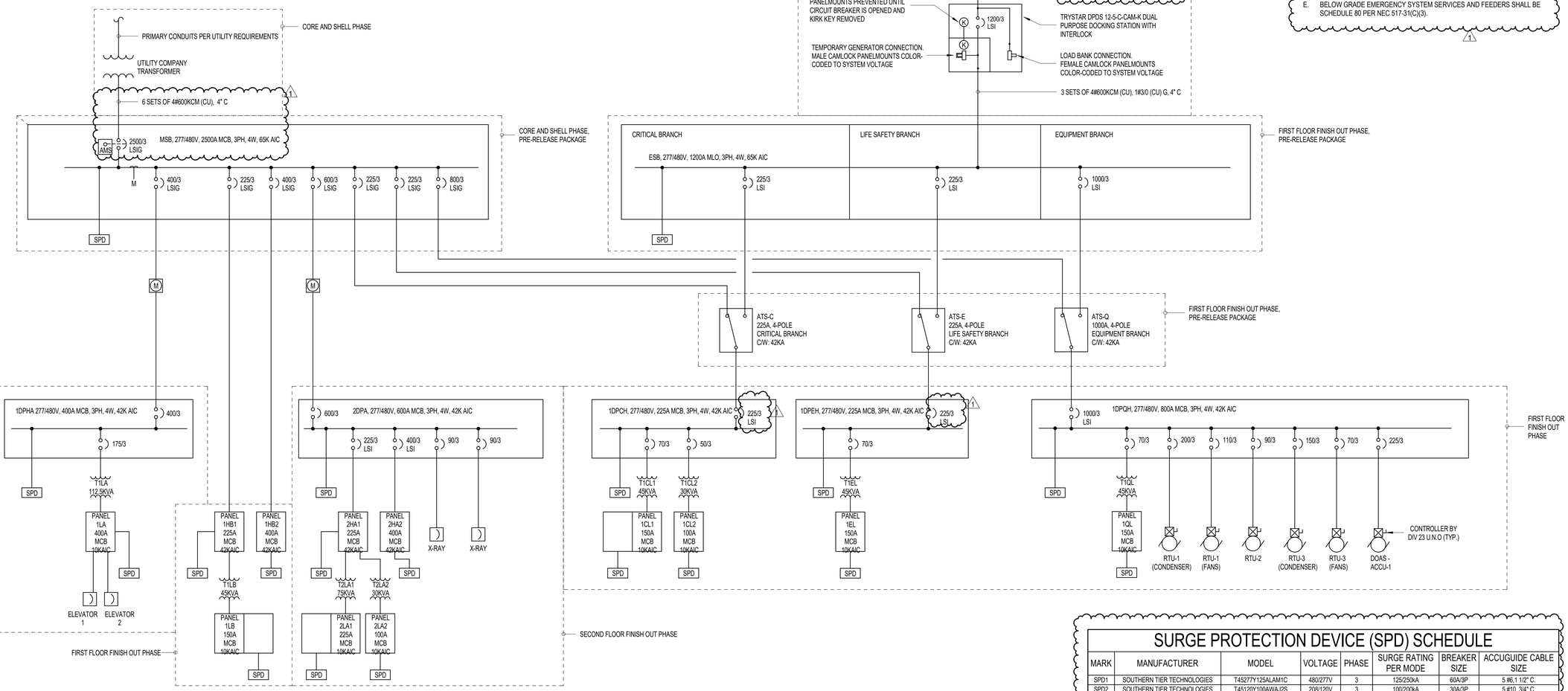
AMPS	CONDUCTORS	EMT	PVC 40	CONDUCTORS	EMT	PVC 40
175	3#4/0 AL, #4 AL G	2"C	2"C	4#4/0 AL, #4 AL G	2 1/2"C	2 1/2"C
200	3#250 AL, #2 AL G	2 1/2"C	2 1/2"C	4#250 AL, #2 AL G	2 1/2"C	3"C
225	3#300 AL, #2 AL G	2 1/2"C	2 1/2"C	4#300 AL, #2 AL G	2 1/2"C	3"C
250	3#350 AL, #2 AL G	2 1/2"C	3"C	4#350 AL, #2 AL G	3"C	3"C
400	2 SETS 3#250 AL, #1 AL G	2 1/2"C	2 1/2"C	2 SETS 4#250 AL, #1 AL G	2 1/2"C	2 1/2"C
600	2 SETS 3#500 AL, #2/0 AL G	3"C	3"C	2 SETS 4#500 AL, #2/0 AL G	3"C	3 1/2"C
800	3 SETS 3#400 AL, #3/0 AL G	2 1/2"C	3"C	3 SETS 4#400 AL, #3/0 AL G	3"C	3"C
1000	3 SETS 3#600 AL, #4/0 AL G	3"C	3 1/2"C	3 SETS 4#600 AL, #4/0 AL G	3 1/2"C	4"C
1200	4 SETS 3#500 AL, #250 AL G	3"C	3"C	4 SETS 4#500 AL, #250 AL G	3"C	3 1/2"C
1600	5 SETS 3#600 AL, #350 AL G	3"C	3 1/2"C	5 SETS 4#600 AL, #350 AL G	3 1/2"C	4"C
2000	6 SETS 3#600 AL, #400 AL G	3"C	3 1/2"C	6 SETS 4#600 AL, #400 AL G	3 1/2"C	4"C

TRANSFORMER SCHEDULE - COPPER

KVA	PRIMARY		SECONDARY		GROUNDING ELECTRODE
	OCP A/P	CONDUCTORS/CONDUIT	OCP A/P	CONDUCTORS/CONDUIT	
15	25/3	3#10, #10G, 3/4"C	60/3	4#4, #8G, 1-1/4"C	1#8G
30	50/3	3#6, #10G, 3/4"C	100/3	4#1, #6G, 1-1/2"C	1#6G
45	70/3	3#4, #8G, 1"C	150/3	4#1/0, #6G, 2"C	1#6G
75	125/3	3#1, #6G, 1-1/4"C	225/3	4#4/0, #2G, 2-1/2"C	1#2G
112.5	175/3	3#2/0, #6G, 2"C	400/3	4#600KCM, #1/0G, 3-1/2"C	1#1/0G
150	225/3	3#4/0, #4G, 2"C	500/3	2 SETS OF 4#250KCM, #1/0G, 2-1/2"C	1#1/0G

OCP - OVERCURRENT PROTECTION
A/P - AMPS/POLES

NOTES:
1. COPPER CONDUCTOR AMPACITY SIZES BASED ON 2011 NEC TABLE 310.15(B)(16). CONDUCTORS LESS THAN 110 AMPS UTILIZE 60°C. CONDUCTORS GREATER THAN 110 AMPS UTILIZE 75°C.
2. CONDUIT SIZES ARE BASED ON 2011 NEC TABLE C.1 (EMT).
3. CONDUIT SIZES FOR OTHER INSULATION CHARACTERISTIC, USE THE 2011 NEC, ANNEX C TABLE.



SURGE PROTECTION DEVICE (SPD) SCHEDULE

MARK	MANUFACTURER	MODEL	VOLTAGE	PHASE	SURGE RATING PER MODE	BREAKER SIZE	ACCUGUIDE CABLE SIZE
SPD1	SOUTHERN TIER TECHNOLOGIES	T4S277Y125ALAM1C	480/277V	3	125/250kA	60A/3P	5 #6,1 1/2" C.
SPD2	SOUTHERN TIER TECHNOLOGIES	T4S120Y100AWAJ2S	208/120V	3	100/200kA	30A/3P	5 #10, 3/4" C.
SPD3	SOUTHERN TIER TECHNOLOGIES	T4S277Y100AWAJ2S	480/277V	3	100/200kA	30A/3P	5 #10, 3/4" C.

1 ELECTRICAL ONE-LINE DIAGRAM
A-E4.01 NOT TO SCALE

GENERAL NOTES:

A. REFER TO PANEL SCHEDULES FOR SPARE CIRCUIT BREAKERS AND SPACE REQUIREMENTS.

B. REFER TO SPECIFICATION SECTION 26 05 73 FOR SHORT CIRCUIT, OVERCURRENT PROTECTIVE DEVICE COORDINATION, AND ARC-FLASH STUDY REQUIREMENTS.

C. VFDS AND PACKAGE EQUIPMENT CONTROLLERS ARE PROVIDED BY DIVISION 22/23 TYPICAL UNLESS NOTED OTHERWISE. STARTER FOR EXHAUST FANS, FAN COIL UNITS AND UNIT HEATERS ARE PROVIDED BY DIVISION 23 UNLESS NOTED OTHERWISE.

D. PROVIDE FULLY ADJUSTABLE L-S-I-G CIRCUIT BREAKERS.

E. BELOW GRADE EMERGENCY SYSTEM SERVICES AND FEEDERS SHALL BE SCHEDULE 80 PER NEC 517-31(C)(3).

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MS	WS	JP	DS	

JOHN G PIAZZA REGISTERED No. PE10003225 STATE OF INDIANA PROFESSIONAL ENGINEER

2023.05.23

PROJECT 225462.00

IJRI - AMBULATORY SURGICAL CENTER

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

ELECTRICAL ONE-LINE DIAGRAM

SHEET NUMBER

A-E4.01

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LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURE	MODEL	NO. OF LAMPS	WATTAGE	DESCRIPTION
A	COLUMBIA	LCAT24 35 ML G ED1 U	1	39 VA	2X4 RECESSED CENTER FILL LED FIXTURE WITH A HIGH EFFICIENCY ACRYLIC LENS, 4000 LUMENS, UNIVERSAL VOLTAGE, 3500K, 0-10V DIMMING TO 1%.
A1	XAL LIGHTING	BASO 4.0 RTLRTR9GR09SG15G WHBL 30K35K 010V 0500LF0965LF ST 48IN72IN96IN	1	72 VA	4' LINEAR DECORATIVE SLOT FIXTURE, EXTRUDED ALUMINUM HOUSING, WHITE PAINT FINISH, FROSTED PRISMATIC ACRYLIC LENS, 0-10V DIMMING, REFER TO PLANS FOR LENGTHS.
A1E	XAL LIGHTING	BASO 4.0 RTLRTR9GR09SG15G WHBL 30K35K 010V 0500LF0955LF ST 48IN72IN96IN	1	72 VA	SAME AS TYPE A1, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
A2	XAL LIGHTING	BASO 2.5 SURPDT WHBL 30K35K 010V 0455LF0750LF ST 48IN72IN96IN	1	59 VA	6' LINEAR DECORATIVE SUSPENDED FIXTURE, EXTRUDED ALUMINUM HOUSING, WHITE PAINT FINISH, FROSTED PRISMATIC ACRYLIC LENS, 0-10V DIMMING, REFER TO PLANS FOR LENGTHS.
A2E	XAL LIGHTING	BASO 2.5 SURPDT WHBL 30K35K 010V 0455LF0750LF ST 48IN72IN96IN	1	59 VA	SAME AS TYPE A2, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
A3	CURRENT	OBX-S-24-DW-I-ASYM-DA-1C-9-35-L220-ED1	1	45 VA	2X4 RECESSED LENSED LED MEDMASTER SURGICAL TROFFER, 3500K, 0-10V DIMMING TO 1%, SYMETRIC/ASYMETRIC LENS, RFI GRID FILTER, EMC EXCEEDS MIL STD 461F REQUIREMENTS, ANTI-MICROBIAL FINISH, CONTINOUS ROW MOUNTING.
A3E	CURRENT	OBX-S-24-DW-I-ASYM-DA-1C-9-35-L220-ED1	1	169 VA	SAME AS TYPE A3, PROVIDE WITH 1400 LUMEN EMERGENCY BATTERY PACK. BATTERY SHALL BE BODINE B50 ST REDITEST SELF-DIAGNOSTIC.
A4	COLUMBIA	LCAT24-35MLG-ED1-U	1	39 VA	2X4 RECESSED CENTER FILL LED FIXTURE WITH FROSTED LENS, 4000 LUMENS, UNIVERSAL VOLTAGE, 3500K, 0-10V DIMMING TO 1%.
A4E	COLUMBIA	LCAT24-35MLG-ED1-U	1	39 VA	SAME AS TYPE A4, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
AE	COLUMBIA	LCAT24 35 ML G ED1 U ELL14	1	39 VA	SAME AS TYPE A, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
BE	COLUMBIA	LJT22-35HLG-FSA19F-ED1-U	1	27 VA	2X2 RECESSED LED TROFFER, 156 DEGREE ACRYLIC LENS, NOMINAL 2500 LUMENS, 3500K, FLUSH STEEL WHITE DOOR, 0-10 DIMMING CAPABILITY TO 1%. PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
C	PRESCOLITE	LFR-6RD-M-10L-35K-8-XW-DM1-LFR-6RD-T-SS-WT-LFR-6RD-H	1	11 VA	6" SPECIFICATION GRADE RECESSED ROUND LED DOWNLIGHT, 1000 LUMENS, 3500K, 0.9 SPACING CRITERIA, 2-STEP SCDM OR BETTER, 0-10V DIMMING TO 1%, WHITE TRIM, SEMI SPEC FINISH.
C2	ARMSTRONG	AXIDL CC 4 1418	1	200 VA	COVE LIGHTS. COORDINATE WITH ARCHITECT FOR EXACT INSTALLATION LOCATIONS AND LENGTHS.
CE	PRESCOLITE	LFR-6RD-M-10L-35K-8-XW-DM1-LFR-6RD-T-SS-WT-LFR-6RD-H	1	11 VA	SAME AS TYPE C.
D1	LIGHTOLOGY	NOREEN PENDANT AHM891721	1	8 VA	6" COMMERCIAL GRADE RECESSED LED DOWNLIGHT, 3500K, 0-10V DIMMING.
D1E	LIGHTOLOGY	NOREEN PENDANT AHM891721	1	8 VA	SAME AS TYPE D1, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
D2	PRESCOLITE	LTR-6RD-H-SL-10L-DM1-LTR-6RD-T-SH-SL-35K-8-WT-AML	1	15 VA	6" SPECIFICATION GRADE RECESSED ROUND LED DOWNLIGHT, SHOWER LIGHT, 1100 LUMENS, 3500K, 0-10V DIMMING, WITH NON CONDUCTIVE TRIM SOLITE LENS.
D2E	PRESCOLITE	LTR-6RD-H-SL-10L-DM1-LTR-6RD-T-SH-SL-35K-8-WT-AML	1	15 VA	SAME AS TYPE D2, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
D3	PRESCOLITE	LFR-6R2-M-20L35K8-LWW-DM1 / LFR-6R2-T / LFR-6RD-H	1	15 VA	6" COMMERCIAL GRADE LED WALL WASH, 3500K, 0-10V DIMMING.
F1E	COLUMBIA	MPS4-35HL-FW-ED1U-CSHC	2	35 VA	4' INDUSTRIAL STRIP LIGHT, ELECTRONIC BALLAST, 2 LAMP, CHAIN HANG LIGHT FIXTURES AT 9'-0", PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
FE	COLUMBIA	LXEM4-35ML-RFA-EDU	1	42 VA	4' INDUSTRIAL STRIP LIGHT, WALL MOUNTED, FOR USE IN ELEVATOR SHAFTS.
P	BROWNLEE LIGHTING	CLOUD DRUM 19 WH C49 WHA	1	45 VA	24" DIA. X 8" H DECORATIVE ROUND DRUM PENDANT WITH DIMMING.
P1	LIGHTOLOGY	AHM891721	1	100 VA	DECORATIVE PENDANT.
P2	BROWNLEE LIGHTING	CLOUD DRUM 12" D	1	100 VA	12" DIA. X 8" H DECORATIVE ROUND DRUM PENDANT WITH DIMMING.
PE	BROWNLEE LIGHTING	CLOUD DRUM 19 WH C49 WHA	1	45 VA	SAME AS TYPE P. PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
S1	BEACON	VP-1-160L-100-4K7-3-UNV-A-DBT-CD-NX SENSOR	1	110 VA	SINGLE HEADED POLE MOUNTED EXTERIOR PARKING LOT AREA SITE LIGHT, TYPE 3 DISTRIBUTION, MVOLT, DARK BRONZE FINISH, MOUNTED ON 20' RSS POLE. PROVIDE WITH INTEGRAL MOTION SENSOR FOR ADDITIONAL LIGHTING CONTROL.
S2	BEACON	VP-1-160L-100-4K7-4W-UNV-A-DBT-CD-NX SENSOR	2	220 VA	DOUBLE HEADED POLE MOUNTED EXTERIOR PARKING LOT AREA SITE LIGHT, FORWARD THROW DISTRIBUTION, MVOLT, DARK BRONZE FINISH, MOUNTED ON 20' RSS POLE. PROVIDE WITH INTEGRAL MOTION SENSOR FOR ADDITIONAL LIGHTING CONTROL.
UC	COLUMBIA	CUC2-CS-ED120	1	14 VA	UNDERCABINET LIGHT. REFER TO DRAWINGS FOR EXACT LENGTHS.
V1	LIGHTOLOGY	MILO BLK872404 24"	1	11 VA	WALL MOUNTED VANITY LIGHT IN RESTROOMS.
W1	SILO	OUTDOOR WALL SCONCE	1	70 VA	EXTERIOR WALL MOUNTED LED SCONCE, 700MA DRIVE CURRENT, NOMINAL 7000 LUMENS, 4000K, TYPE III MEDIUM DISTRIBUTION, UNIVERSAL VOLTAGE, PHOTOELECTRIC CELL, DARK BRONZE FINISH, CONTRACTOR TO VERIFY VOLTAGE FOR PHOTOCELL OPTION.
W2E	CURRENT	WDM D 48L 55 4K7 42 UNV NXWS16F	1	55 VA	EXTERIOR WALL PACK.
W3	CURRENT	OBN-U-S-R-OBN-KIT DIFF SW4	1	13 VA	X-RAY INDICATOR LIGHT.
X1	DUAL-LITE	LE C S R N A	1	5 VA	SURFACE MOUNTED ARCHITECTURAL LED EDGE LIT EXIT SIGN, SINGLE FACE, SATIN ALUMINUM TRIM, RED LETTERS, CHEVRON DIRECTIONAL ARROWS AS INDICATED ON PLANS, PROVIDE WITH BATTERY BACKUP.
X2	DUAL-LITE	LE C D R N A	1	5 VA	SURFACE MOUNTED ARCHITECTURAL LED EDGE LIT EXIT SIGN, DOUBLE FACE, SATIN ALUMINUM TRIM, RED LETTERS, CHEVRON DIRECTIONAL ARROWS AS INDICATED ON PLANS, PROVIDE WITH BATTERY BACKUP.

1

CONTACTOR SCHEDULE

MARK	AMPS	POLES	COIL VOLTAGE	CONTROL	CIRCUIT	REMARKS
LC-1	30	4	120	H-O-A	1HB1-9, 1HB1-11	30A/4P CONTACTOR FOR SITE LIGHTING CIRCUITS
LC-2	30	2	120	H-O-A	1HB1-7	30A/2P CONTACTOR FOR SITE LIGHTING CIRCUIT
LC-3	30	4	120	H-O-A	1HB1-18, 1DPEH-6	30A/4P CONTACTOR FOR EXTERIOR LIGHTING CIRCUITS
LC-4	30	2	120	H-O-A		

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2023.05.23

PROJECT 225462.00

IJRI - AMBULATORY SURGICAL CENTER

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

ELECTRICAL LIGHT FIXTURE SCHEDULE

SHEET NUMBER

A-E5.01

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Switchboard: MSB

Location:
Supply From: UTILITY TRANSFORMER
Mounting: SURFACE
Enclosure: NEMA 1
Volts: 480Y/277
Phases: 3
Wires: 4
A.I.C. Rating: 65,000 AMPS SYMMETRICAL
Mains Type: LSIG MAIN CB
Mains Rating: 2500 A
MCB Rating: 2500 A 1

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Connected Load	Remarks
1	SPD1	3	60 A	60 A	0 VA	
2	1DPHA	3	400 A	400 A	91010 VA	LSIG BREAKER
3	1HB1	3	225 A	225 A	177469 VA	LSIG BREAKER
4	1HB2	3	400 A	400 A	206830 VA	LSIG BREAKER
5	2DPA	3	600 A	600 A	451549 VA	LSIG BREAKER
6	ATS-C	3	225 A	225 A	99612 VA	LSIG BREAKER
7	ATS-E	3	225 A	225 A	38730 VA	LSIG BREAKER
8	ATS-Q	3	800 A	800 A	678950 VA	LSIG BREAKER
9	SPACE	3	--	--	0 VA	
10	SPACE	3	--	--	0 VA	
11	SPACE	3	--	--	0 VA	
12	SPACE	3	--	--	0 VA	
				Total Conn. Load:	1744112 VA	
				Total Amps:	2098 A	

Legend:

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	236499 VA	52.11%	123250 VA		
LIGHTS	4189 VA	125.00%	5236 VA	Total Conn. Load:	1744112 VA
POWER (NON-CONTINUOUS)	16640 VA	100.00%	16640 VA	Total Est. Demand:	1684613 VA
LITES (CONTINUOUS)	29372 VA	125.00%	36715 VA	Total Conn.:	2098 A
L	9964 VA	100.00%	9964 VA	Total Est. Demand:	2026 A
SP	2000 VA	100.00%	2000 VA		
M	1027115 VA	100.00%	1027115 VA		
R	2160 VA	100.00%	2160 VA		
MT	416285 VA	110.88%	461596 VA		

Notes:
SWITCHBOARD MSA TO BE PART OF PRE-RELEASE PACKAGE & SCHEDULE IS FOR REFERENCE ONLY. PROVIDE INTEGRAL METER AND ENERGY REDUCING SWITCH AS INDICATED ON THE ONE-LINE DIAGRAM. 1

Branch Panel: 1HB2

NORMAL BRANCH

Location:
Supply From: MSB
Mounting: SURFACE
Enclosure: NEMA 1
Volts: 480Y/277
Phases: 3
Wires: 4
A.I.C. Rating: 42,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 400 A
MCB Rating: 400 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Circuit Description	CKT
1				0 VA	5000 VA								2
3	SPD1	60 A	3			0 VA	0 VA			3	15 A	UH-1	4
5								0 VA	0 VA				6
7				5000 VA	5000 VA								8
9	UH-2	15 A	3			0 VA	0 VA			3	15 A	UH-3	10
11								0 VA	0 VA				12
13				60415 VA	60415 VA								14
15	STEAM GENERATOR	50 A	3			0 VA	0 VA			3	50 A	STEAM GENERATOR	16
17								0 VA	0 VA				18
19				8000 VA	12200 VA								20
21	VRH UNITS	20 A	3			0 VA	0 VA			3	20 A	VRH UNITS	22
23								0 VA	0 VA				24
25				17600 VA	33200 VA								26
27	VRH UNITS	20 A	3			0 VA	0 VA			3	20 A	VRH UNITS	28
29								0 VA	0 VA				30
31	SPARE	20 A	1	0 VA	--					1	--	SPACE	32
33	SPARE	20 A	1			0 VA	--			1	--	SPACE	34
35	SPARE	20 A	1					0 VA	--	1	--	SPACE	36
37	SPARE	20 A	1	0 VA	--					1	--	SPACE	38
39	SPARE	20 A	1			0 VA	--			1	--	SPACE	40
41	SPARE	20 A	1					0 VA	--	1	--	SPACE	42
		Total Load:		206830 VA		0 VA		0 VA					
		Total Amps:		747 A		0 A		0 A					

1

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
SP	0 VA	0.00%	0 VA		
M	86000 VA	100.00%	86000 VA	Total Conn. Load:	206830 VA
MT	120830 VA	112.50%	135934 VA	Total Est. Demand:	221934 VA
				Total Conn.:	249 A
				Total Est. Demand:	267 A

Notes:

Branch Panel: 1HB1

NORMAL BRANCH

Location:
Supply From: MSB
Mounting: SURFACE
Enclosure: NEMA 1
Volts: 480Y/277
Phases: 3
Wires: 4
A.I.C. Rating: 42,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 225 A
MCB Rating: 225 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Circuit Description	CKT
1				0 VA	25853 VA								2
3	SPD1	60 A	3			0 VA	21537 VA			3	70 A	T1LB	4
5								0 VA	19660 VA				6
7	SITE LIGHTS	25 A	1	990 VA	848 VA					1	20 A	OPERATING ROOM LIGHTS	8
9	SITE LIGHTS	25 A	1			1100 VA	--			1	--	SPACE	10
11	SITE LIGHTS	25 A	1					1100 VA	2054 VA	1	20 A	CORRIDOR LIGHTS	12
13	GENERAL ROOM LIGHTS	20 A	1	288 VA	1052 VA					1	20 A	GENERAL ROOM LIGHTS	14
15						17800 VA	1734 VA			1	20 A	TRANSIENT LIGHTS	16
17	VRH UNITS	25 A	3					0 VA	460 VA	1	20 A	CANOPY LIGHTS	18
19				0 VA	17400 VA								20
21						4400 VA	0 VA			3	25 A	VRH UNITS	22
23	VRH UNITS	20 A	3					0 VA	0 VA				24
25				0 VA	5100 VA								26
27						22200 VA	0 VA			3	20 A	VRH UNITS	28
29	VRH UNITS	25 A	3					0 VA	0 VA				30
31				0 VA	16800 VA								32
33						9100 VA	0 VA			3	20 A	VRH UNITS	34
35	VRH UNITS	20 A	3					0 VA	0 VA				36
37				0 VA	8000 VA								38
39	SPACE	--	1			--	0 VA			3	20 A	VRH UNITS	40
41	SPACE	--	1					--	0 VA				42
		Total Load:		76328 VA		77867 VA		23274 VA					
		Total Amps:		305 A		311 A		84 A					

1

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	53249 VA	59.39%	31624 VA		
LIGHTS	720 VA	125.00%	900 VA	Total Conn. Load:	177469 VA
POWER (NON-CONTINUOUS)	6240 VA	100.00%	6240 VA	Total Est. Demand:	157355 VA
LITES (CONTINUOUS)	4814 VA	125.00%	6018 VA	Total Conn.:	213 A
L	8092 VA	100.00%	8092 VA	Total Est. Demand:	189 A
SP	0 VA	0.00%	0 VA		
M	101860 VA	100.00%	101860 VA		
MT	2500 VA	105.00%	2625 VA		

Notes:

Branch Panel: 1LB

NORMAL BRANCH

Location:
Supply From: T1LB
Mounting: SURFACE
Enclosure: NEMA 1
Volts: 208Y/120
Phases: 3
Wires: 4
A.I.C. Rating: 10,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 150 A
MCB Rating: 150 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Circuit Description	CKT
1	RCPT PRE/POST A1012, A1044	20 A	1	1440 VA	540 VA					1	20 A	RCPT WAITING A1005	2
3	RCPT EMERG ELEC A1069, ELECTRICAL A10...	20 A	1			900 VA	900 VA			1	20 A	RCPT RECEPTION A1076	4
5	RCPT PRE/POST A1043, A1042	20 A	1					1440 VA	720 VA	1	20 A	RCPT CONSULT A1007 & A1008	6
7	HEADWALL PRE/POST A1012	20 A	1	720 VA	720 VA					1	20 A	RCPT BUSINESS MANAGER A1077	8
9	HEADWALL PRE/POST 13 A1044	20 A	1			720 VA	720 VA			1	20 A	RCPT OR MANAGER A1072	10
11	HEADWALL PRE/POST 12 A1043	20 A	1					720 VA	900 VA	1	20 A	RCPT BUSINESS OFFICE A1074	12
13	RCPT PRE/POST A1038, A1037	20 A	1	1440 VA	180 VA					1	20 A	COPIER WORK A1075	14
15	HEADWALL PRE/POST 11 A1042	20 A	1			720 VA	540 VA			1	20 A	RCPT WORK A1075	16
17	HEADWALL PRE/POST 10 A1038	20 A	1					720 VA	540 VA	1	20 A	RCPT BUSINESS OFFICE A1074	18
19	HEADWALL PRE/POST 9 A1037	20 A	1	720 VA	1120 VA					1	20 A	RCPT LOBBY A1001	20
21	HEADWALL PRE/POST 8 A1036	20 A	1			720 VA	900 VA			1	20 A	RCPT LOBBY A1001 PUB TLT A1003, A1002	22
23	HEADWALL PRE/POST 7 A1035	20 A	1					720 VA	540 VA	1	20 A	EXTERIOR RECEPTACLES	24
25	RCPT PRE/POST A1036, A1035	20 A	1	1440 VA	1440 VA					1	20 A	RCPT EVS, STAFF TLT, LOCKER, STAFF...	26
27	RCPT PRE/POST A1028, A1029	20 A	1			1440 VA	1440 VA			1	20 A	RCPT STAFF LOUNGE A1082	28
29	HEADWALL PRE/POST 6 A1029	20 A	1					720 VA	180 VA	1	20 A	COFFEE STAFF LOUNGE A1082	30
31	HEADWALL PRE/POST 5 A1028	20 A	1	720 VA	180 VA					1	20 A	MICROWAVE STAFF LOUNGE A1082	32
33	HEADWALL PRE/POST 4 A1024	20 A	1			720 VA	180 VA			1	20 A	DEDICATED RCPT STAFF LOUNGE A1082	34
35	RCPT PRE/POST A1019, A1024	20 A	1					1440 VA	180 VA	1	20 A	MICROWAVE STAFF LOUNGE A1082	36
37	HEADWALL PRE/POST 2 A1019	20 A	1	720 VA	360 VA					1	20 A	RCPT OR 4 A1056	38
39	HEADWALL PRE/POST 2 A1019	20 A	1			720 VA	360 VA			1	20 A	RCPT OR 4 A1056	40
41	HEADWALL PRE/POST 1 A1018	20 A	1					720 VA	360 VA	1	20 A	RCPT OR 4 A1056	42
43	RCPT PRE/POST A1018, A1019	20 A	1	1440 VA	360 VA					1	20 A	RCPT OR 3 A1058	44
45	RCPT CORRIDOR	20 A	1			1260 VA	360 VA			1	20 A	RCPT OR 3 A1058	46
47	RCPT CORRIDOR	20 A	1					1260 VA	360 VA	1	20 A	RCPT OR 3 A1058	48
49	FIREPLACE	25 A	2	3120 VA	360 VA					1	20 A	RCPT OR 2 A1062	50
51						3120 VA	360 VA			1	20 A	RCPT OR 2 A1062	52
53	RCPT CLEAN WRKRM A1052 DECONTAM...	20 A	1					1260 VA	360 VA	1	20 A	RCPT OR 2 A1062	54
55	RCPT DICTATION A1057	20 A	1	1584 VA	360 VA					1	20 A	RCPT OR 1 A1064	56
57	RCPT DICTATION A1063	20 A	1			1584 VA	360 VA			1	20 A	RCPT OR 1 A1064	58
59	RCPT CORRIDOR	20 A	1					1440 VA	360 VA	1	20 A	RCPT OR 1 A1064	60
61	PLUGMOLD STERILE STORAGE / EQUIPMEN...	20 A	1	1200 VA	1998 VA					1	20 A	FLOOR BOXES WAITING A1005	62
63	DEDICATED RCPT WAITING A1005	20 A	1			180 VA	360 VA			1	20 A	EXTERIOR RECEPTACLES	64
65	DEDICATED RCPT WAITING A1005	20 A	1					180 VA	1180 VA	1	20 A	GARBAGE DISPOSAL	66
67	RCPT WAITING A1005	20 A	1	1519 VA	200 VA					1	20 A	WH1	68
69	CP-1	15 A	1			360 VA	500 VA			1	20 A	WS1	70
71	FUTURE MONUMENT SIGN	25 A	1					1000 VA	180 VA	1	20 A	KITCHEN RECEPTACLE	72
73	FUTURE MONUMENT SIGN	25 A	1	1000 VA	540 VA					1	20 A	OFFICE RECEPTACLES	74
75	SIGNAGE	20 A	1			1000 VA	180 VA			1	20 A	COFFEE MAKER	76
77	SIGNAGE	20 A	1					1000 VA	180 VA	1	20 A	WATER DISPENSER	78
79	MOTORIZED SHADES	20 A	1	500 VA	0 VA								80
81	MOTORIZED SHADES	20 A	1			1000 VA	0 VA			3	30 A	SPD2	82
83	MOTORIZED SHADES	20 A	1					1000 VA	0 VA				84
		Total Load:		25853 VA		21537 VA		19660 VA					
		Total Amps:		218 A		182 A		164 A					

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	53249 VA	59.39%	31624 VA		
POWER (NON-CONTINUOUS)	6240 VA	100.00%	6240 VA	Total Conn. Load:	67047 VA
L	4000 VA	100.00%	4000 VA	Total Est. Demand:	45548 VA
SP	0 VA	0.00%	0 VA	Total Conn.:	186 A
M	1060 VA	100.00%	1060 VA	Total Est. Demand:	126 A
MT	2500 VA	105.00%	2625 VA		

Notes:

MSB	1HB2
1HB1	1LB1

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DBR Project Number 223183.000

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JOHN G PIAZZA REGISTERED No. PE10403225 STATE OF INDIANA PROFESSIONAL ENGINEER

2023.05.23

PROJECT 225462.00

IJRI - AMBULATORY SURGICAL CENTER

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

ELECTRICAL PANELBOARD SCHEDULES

SHEET NUMBER

A-E5.02

5/22/2023 11:43:55 PM
Autodesk Docs://225462.00 M2 Orthopedic Indiana R22/Electrical-M2 Orthopedic Indiana-22702.rvt
THIS LINE IS 1 INCH LONG WHEN PRINTED TO FULL SCALE

Branch Panel: 1DPEH

LIFE SAFETY BRANCH

Location:
Supply From: ATS-E
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 480Y/277
Phases: 3
Wires: 4

A.I.C. Rating: 42,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 225 A
MCB Rating: 225 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1				0 VA 2376 VA			1	20 A	CORRIDOR LIGHTS	2
3	SPD1	60 A	3		0 VA 1007 VA		1	20 A	TRANSIENT AND BACK OF HOUSE LIGHTS	4
5						0 VA 308 VA	1	20 A	CANOPY LIGHTS	6
7				10803 VA 336 VA			1	20 A	ELEVATOR LIGHTS	8
9	T1EL	70 A	3		10923 VA 245 VA		1	20 A	EXIT SIGNS	10
11						12243 VA 220 VA	1	20 A	GENERATOR ENCLOSURE LIGHTING	12
13	BACK OF HOUSE LIGHTS	20 A	1	245 VA 24 VA			1	20 A	STAIRWAY LIGHTS	14
15	SPARE	20 A	1		0 VA --		1	--	SPACE	16
17	SPARE	20 A	1			0 VA --	1	--	SPACE	18
19	SPARE	20 A	1	0 VA --			1	--	SPACE	20
21	SPARE	20 A	1		0 VA --		1	--	SPACE	22
23	SPARE	20 A	1			0 VA --	1	--	SPACE	24
25	SPARE	20 A	1	0 VA --			1	--	Space	26
27	SPARE	20 A	1		0 VA --		1	--	SPACE	28
29	SPARE	20 A	1			0 VA --	1	--	SPACE	30
31	SPARE	20 A	1	0 VA --			1	--	SPACE	32
33	SPARE	20 A	1		0 VA --		1	--	SPACE	34
35	SPARE	20 A	1			0 VA --	1	--	SPACE	36
37	SPARE	20 A	1	0 VA --			1	--	SPACE	38
39	SPARE	20 A	1		0 VA --		1	--	SPACE	40
41	SPARE	20 A	1			0 VA --	1	--	SPACE	42
				Total Load: 13784 VA	12175 VA	12771 VA				
				Total Amps: 50 A	44 A	46 A				

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	21609 VA	73.14%	15804 VA		
POWER (NON-CONTINUOUS)	4160 VA	100.00%	4160 VA	**Total Conn. Load:**	38730 VA
LITES (CONTINUOUS)	3103 VA	125.00%	3879 VA	**Total Est. Demand:**	33701 VA
L	1658 VA	100.00%	1658 VA	**Total Conn.:**	47 A
SP	0 VA	0.00%	0 VA	**Total Est. Demand:**	41 A
M	8200 VA	100.00%	8200 VA		

Notes:

Branch Panel: 1EL

LIFE SAFETY BRANCH

Location:
Supply From: T1EL
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 208Y/120
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 150 A
MCB Rating: 150 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	RCPT ELECTRICAL A1068	20 A	1	360 VA 2080 VA			2	50 A	GENERATOR LOAD CENTER	2
3	RCPT GENERATOR COURTYARD	20 A	1		720 VA 2080 VA					4
5						0 VA 500 VA	1	20 A	FACP	6
7	SPD2	30 A	3	0 VA 500 VA			1	20 A	MED GAS ALARM PANEL	8
9					0 VA 500 VA		1	20 A	NURSE CALL/CONTROL PANEL	10
11	GENERATOR ALARM PANEL	20 A	1			1000 VA 540 VA	1	20 A	BACK OF HOUSE POWER	12
13	IT ROOM POWER	20 A	1	180 VA 180 VA			1	20 A	IT ROOM POWER	14
15	IT ROOM POWER	20 A	1		180 VA 3001 VA		2	30 A	IT ROOM POWER	16
17	IT ROOM POWER	30 A	2			3001 VA 3001 VA				18
19				3001 VA 3001 VA			2	30 A	IT ROOM POWER	20
21	RCPT (NEC 220.44)	20 A	1		1440 VA 3001 VA					22
23	POWERED DOORS	25 A	1			3300 VA 900 VA	1	20 A	POWERED DOORS	24
25	CLOCKS	20 A	1	1500 VA --			1	--	SPACE	26
27	SPARE	20 A	1		0 VA --		1	--	SPACE	28
29	SPARE	20 A	1			0 VA --	1	--	SPACE	30
31	SPARE	20 A	1	0 VA --			1	--	SPACE	32
33	SPARE	20 A	1		0 VA --		1	--	SPACE	34
35	SPARE	20 A	1			0 VA --	1	--	SPACE	36
37	SPARE	20 A	1	0 VA --			1	--	SPACE	38
39	SPARE	20 A	1		0 VA --		1	--	SPACE	40
41	SPARE	20 A	1			0 VA --	1	--	SPACE	42
				Total Load: 10803 VA	10923 VA	12243 VA				
				Total Amps: 90 A	91 A	102 A				

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	21609 VA	73.14%	15804 VA		
POWER (NON-CONTINUOUS)	4160 VA	100.00%	4160 VA	**Total Conn. Load:**	33969 VA
SP	0 VA	0.00%	0 VA	**Total Est. Demand:**	28164 VA
M	8200 VA	100.00%	8200 VA	**Total Conn.:**	94 A
				Total Est. Demand:	78 A

Notes:

Branch Panel: 1DPQH

EQUIPMENT BRANCH

Location:
Supply From: ATS-Q
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 480Y/277
Phases: 3
Wires: 4

A.I.C. Rating: 42,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 1000 A
MCB Rating: 1000 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1				0 VA 500 VA						2
3	SPD1	60 A	3		0 VA 3330 VA		3	70 A	T1QL	4
5						0 VA 0 VA				6
7				6320 VA 17460 VA						8
9	AC1	15 A	3		0 VA 0 VA		3	40 A	BP-1	10
11						0 VA 0 VA				12
13				6320 VA 101765...						14
15	R01	15 A	3		0 VA 0 VA		3	200 A	RTU-1	16
17						0 VA 0 VA				18
19				60525 VA 56535 VA						20
21	RTU-1	110 A	3		0 VA 0 VA		3	90 A	RTU-2	22
23						0 VA 0 VA				24
25				7649... 3626...						26
27	RTU-3	150 A	3		0 VA 0 VA		3	70 A	RTU-3	28
29						0 VA 0 VA				30
31				1321... 1812...						32
33	DOAS ACCU-1	225 A	3		0 VA 0 VA		3	175 A	STEAM GENERATOR	34
35						0 VA 0 VA				36
37	SPACE	--	1	-- --			1	--	SPACE	38
39	SPACE	--	1		-- --		1	--	SPACE	40
41	SPACE	--	1			-- --	1	--	SPACE	42
				Total Load: 675620 VA	3330 VA	0 VA				
				Total Amps: 2441 A	14 A	0 A				

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
SP	0 VA	0.00%	0 VA		
M	497705 VA	100.00%	497705 VA	**Total Conn. Load:**	678950 VA
MT	181245 VA	125.00%	226556 VA	**Total Est. Demand:**	724261 VA
				Total Conn.:	817 A
				Total Est. Demand:	871 A

Notes:

Branch Panel: 1QL

EQUIPMENT BRANCH

Location:
Supply From: T1QL
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 208Y/120
Phases: 3
Wires: 4

INTEGRAL SPD

A.I.C. Rating: 10,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 150 A
MCB Rating: 150 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1				0 VA 500 VA			1	20 A	SMOKE DAMPERS	2
3	SPD2	30 A	3		0 VA 3330 VA		2	25 A	CU-3	4
5						0 VA 0 VA				6
7	SPARE	20 A	1	0 VA --			1	--	SPACE	8
9	SPARE	20 A	1		0 VA --		1	--	SPACE	10
11	SPARE	20 A	1			0 VA --	1	--	SPACE	12
13	SPARE	20 A	1	0 VA --			1	--	SPACE	14
15	SPARE	20 A	1		0 VA --		1	--	SPACE	16
17	SPARE	20 A	1			0 VA --	1	--	SPACE	18
19	SPARE	20 A	1	0 VA --			1	--	SPACE	20
21	SPARE	20 A	1		0 VA --		1	--	SPACE	22
23	SPARE	20 A	1			0 VA --	1	--	SPACE	24
25	SPARE	20 A	1	0 VA --			1	--	SPACE	26
27	SPARE	20 A	1		0 VA --		1	--	SPACE	28
29	SPARE	20 A	1			0 VA --	1	--	SPACE	30
31	SPARE	20 A	1	0 VA --			1	--	SPACE	32
33	SPARE	20 A	1		0 VA --		1	--	SPACE	34
35	SPARE	20 A	1			0 VA --	1	--	SPACE	36
37	SPARE	20 A	1	0 VA --			1	--	SPACE	38
39	SPARE	20 A	1		0 VA --		1	--	SPACE	40
41	SPARE	20 A	1			0 VA --	1	--	SPACE	42
				Total Load: 500 VA	3330 VA	0 VA				
				Total Amps: 5 A	28 A	0 A				

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
SP	0 VA	0.00%	0 VA		
M	3830 VA	100.00%	3830 VA	**Total Conn. Load:**	3830 VA
				Total Est. Demand:	3830 VA
				Total Conn.:	11 A
				Total Est. Demand:	11 A

Notes:

1DPEH	1EL
1DPQH	1QL

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JOHN G PIAZZA REGISTERED No. PE10803225 STATE OF INDIANA PROFESSIONAL ENGINEER

2023.05.23

PROJECT 225462.00

IJRI - AMBULATORY SURGICAL CENTER

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

ELECTRICAL PANELBOARD SCHEDULES

SHEET NUMBER

A-E5.04

5/22/2023 11:43:5 PM
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RTU-2 ELECTRIC REHEAT TERMINAL BOX SCHEDULE

VV	BOX NUMBER	SIZE	MAX SP DROP (IN WG)	MAX CFM	MIN CFM	HEATING COIL	HEATING COIL						MANUFACTURER
						REHEAT CFM	REHEAT CFM	EAT	LAT	REHEAT kW	VOLTAGE	PHASE	
VRH	2-1	14	0.15	1,800	1,800	1800	900	55	78	11.4	480 V	3	SEE SPECIFICATIONS
VRH	2-2	8	0.12	600	180	300	300	55	78	3.8	480 V	3	SEE SPECIFICATIONS
VRH	2-3	6	0.12	205	75	102.5	102.5	55	78	1.3	480 V	3	SEE SPECIFICATIONS
VRH	2-4	8	0.12	500	150	250	250	55	78	3.2	480 V	3	SEE SPECIFICATIONS
VRH	2-5	14	0.15	1,800	1,800	1800	900	55	78	11.4	480 V	3	SEE SPECIFICATIONS
VRH	2-6	8	0.12	400	120	200	200	55	78	2.5	480 V	3	SEE SPECIFICATIONS
VRH	2-7	8	0.12	450	135	225	225	55	78	2.8	480 V	3	SEE SPECIFICATIONS
VRH	2-8	14	0.15	1,800	1,800	1800	900	55	78	11.4	480 V	3	SEE SPECIFICATIONS
VRH	2-9	6	0.10	325	100	162.5	162.5	55	78	2.1	480 V	3	SEE SPECIFICATIONS
VRH	2-10	6	0.12	250	75	125	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	2-11	10	0.15	1,000	300	500	500	55	78	6.3	480 V	3	SEE SPECIFICATIONS
VRH	2-12	14	0.15	1,800	1,800	1800	900	55	78	11.4	480 V	3	SEE SPECIFICATIONS
VRH	2-13	8	0.12	500	120	200	250	55	78	3.2	480 V	3	SEE SPECIFICATIONS

RTU-3 ELECTRIC REHEAT TERMINAL BOX SCHEDULE

DESIGNATION	BOX NUMBER	SIZE	MAX SP DROP (IN WG)	MAX CFM	MIN CFM	HEATING COIL						MANUFACTURER
						REHEAT CFM	EAT	LAT	REHEAT kW	VOLTAGE	PHASE	
VRH	3-1	14	0.15	1,600	450	800	55	78	10.1	480 V	3	SEE SPECIFICATIONS
VRH	3-2	6	0.10	300	100	150	55	78	1.9	480 V	3	SEE SPECIFICATIONS
VRH	3-3	8	0.12	500	150	250	55	78	3.2	480 V	3	SEE SPECIFICATIONS
VRH	3-4	6	0.10	150	50	75	55	78	0.9	480 V	3	SEE SPECIFICATIONS
VRH	3-5	8	0.12	600	180	300	55	78	3.8	480 V	3	SEE SPECIFICATIONS
VRH	3-6	12	0.12	1,100	350	550	55	78	7.0	480 V	3	SEE SPECIFICATIONS
VRH	3-7	8	0.12	400	120	200	55	78	2.5	480 V	3	SEE SPECIFICATIONS
VRH	3-8	8	0.12	500	150	250	55	78	3.2	480 V	3	SEE SPECIFICATIONS
VRH	3-9	8	0.12	475	125	237.5	55	78	3.0	480 V	3	SEE SPECIFICATIONS
VRH	3-10	8	0.12	575	150	287.5	55	78	3.6	480 V	3	SEE SPECIFICATIONS
VRH	3-11	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-12	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-13	6	0.10	225	75	112.5	55	78	1.4	480 V	3	SEE SPECIFICATIONS
VRH	3-14	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-15	6	0.12	175	75	87.5	55	78	1.1	480 V	3	SEE SPECIFICATIONS
VRH	3-16	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-17	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-18	6	0.10	175	50	87.5	55	78	1.1	480 V	3	SEE SPECIFICATIONS
VRH	3-19	8	0.12	510	150	255	55	78	3.2	480 V	3	SEE SPECIFICATIONS
VRH	3-20	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-21	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-22	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-23	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-24	6	0.10	350	125	175	55	78	2.2	480 V	3	SEE SPECIFICATIONS
VRH	3-25	6	0.10	200	75	100	55	78	1.3	480 V	3	SEE SPECIFICATIONS
VRH	3-26	6	0.10	200	75	100	55	78	1.3	480 V	3	SEE SPECIFICATIONS
VRH	3-27	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-28	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-29	8	0.12	425	125	212.5	55	78	2.7	480 V	3	SEE SPECIFICATIONS
VRH	3-30	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-31	6	0.10	250	75	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	3-32	10	0.12	1,000	300	500	55	78	6.3	480 V	3	SEE SPECIFICATIONS
VRH	3-33	10	0.10	800	150	400	55	78	5.1	480 V	3	SEE SPECIFICATIONS

NO REHEAT TERMINAL BOX SCHEDULE

DESIGNATION	BOX NUMBER	SIZE	MAX SP DROP (IN WG)	MAX CFM	MIN CFM	MANUFACTURER
VAV	3-1	8	0.12	400	550	SEE SPECIFICATIONS

UNIT HEATER SCHEDULE

MARK	SERVES	AIRFLOW (CFM)	KW	ELECTRICAL DATA			MANUFACTURER/MODEL NO.	REMARKS/NOTES
				AMPS DRAWN	VOLTS/PHASE	FAN HP		
UH-2	STAIRWELL	530	5	6.5	480/3	1/40	MODINE HER-50	ALL
UH-3	STAIRWELL	530	5	6.5	480/3	1/40	MODINE HER-50	ALL

NOTES:

(1) ENERGIZE UNIT HEATER TO MAINTAIN WALL MOUNTED THERMOSTAT SET POINT.

(2) PROVIDE UNIT WITH THE FOLLOWING FEATURES: AUTOMATIC RESTART THERMAL CUTOUT SWITCH; WALL MOUNT BRACKET; AND CONTROL VOLTAGE TRANSFORMER.

SPLIT SYSTEM SCHEDULE

MARK	CAPACITY (MBH)	SEER	INDOOR UNIT						OUTDOOR UNIT						
			CFM	WATTS	FLA	WEIGHT (LB)	MANUFACTURER	MODEL	MARK	VOLTAGE	MCA	MOCP	WEIGHT (LB)	MANUFACTURER	MODEL
FCU-3	24	21.4	740	56	1 A	46	MITSUBISHI	PKA-A24KA7	CU-1	208/1	19	26	151	MITSUBISHI	PUY-A24NHA7
FCU-4	24	21.4	740	56	1 A	46	MITSUBISHI	PKA-A24KA7	CU-2	208/1	19	26	151	MITSUBISHI	PUY-A24NHA7

NOTES

1. SUPPORT AND INSTALLATION SHALL BE PER MANUFACTURER.
2. UNIT SHALL BE INVERTER DRIVEN.
3. PROVIDE FOR LOW AMBIENT OPERATION.
4. PROVIDE WITH WALL MOUNTED THERMOSTAT.
5. PROVIDE WITH INTEGRAL CONDENSATE PUMP. TRAP, INSULATE, SLOPE, AND RUN FULL SIZE CONDENSATE DRAIN LINES TO THE NEAREST FLOOR DRAIN OR MOP SINK OR SINK TAIL PIPE UPSTREAM OF P-TRAP.
6. PROVIDE HAIL GUARD FOR CONDENSING UNIT ON ROOF.
7. INSULATE REFRIGERANT LINES.

LEVEL 1 EXHAUST FAN SCHEDULE

MARK	SERVES	CFM	SONES	FAN DATA			ELECTRCAL MOTOR DATA				WEIGHT (LBS)	MANUFACTURER	MODEL
				T.S.P.	DRIVE	RPM	HP	BHP	VOLTS	PH			
EF-1	LEVEL 1	160 CFM	12.1	1.40 in-wg	Direct	2086	0.25	0.21	115 V	1	49	Greenheck	FJC-306
EF-3	LEVEL 1	1200 CFM	18.5	1.28 in-wg	Direct	1725	0.50	0.46	115 V	1	64	Greenheck	CUE-120-A
EF-5	LEVEL 1	150 CFM	9.2	1.15 in-wg	Direct	1725	0.25	0.11	115 V	1	49	Greenheck	G-097-A
EF-6	LEVEL 1	560 CFM	11.9	1.70 in-wg	Direct	2343	0.50	0.38	115 V	1	49	Greenheck	CUE-100HP-VG
EF-7	LEVEL 1	500 CFM	11.9	1.70 in-wg	Direct	2343	0.50	0.38	115 V	1	49	Greenheck	CUE-100HP-VG
PV-1	LEVEL 1	980 CFM	0	0.00 in-wg	Direct	1150	0.33	0.00	220 V	3	0	Montigo	SBFPV-R03-10

NOTES:

(1) ALUMINUM WHEEL CONSTRUCTION

(2) STAINLESS STEEL SHAFT

(3) SPRING BASED ISOLATORS

(4) BACKDRAFT DAMPER

(5) BAS CONTROL - START / STOP / STATUS

(6) PROVIDE FUSIBLE DISCONNECT WITH WEATHERPROOF ENCLOSURE WHEN MOUNTED OUTSIDE

(7) PROVIDE ROOF CURB

(8) PROVIDE BUILT-IN VFD

MECHANICAL - AIR DEVICE SCHEDULE

MARK	SIZE	OBD	FINISH	NECK SIZE	MANUFACTURER / MODEL	REMARKS
S1	24/24	NO	OFF WHITE (4)	(1)	TITUS OMNI	CEILING SUPPLY AIR DIFFUSER (3) (4)
S2	12/12	NO	OFF WHITE (4)	(1)	TITUS OMNI	CEILING SUPPLY AIR DIFFUSER (3) (4)
S3	SEE PLANS	NO	OFF WHITE (4)	-	TITUS 300RL	SIDEWALL SUPPLY AIR GRILL (3) (4)
1 S4	SEE PLANS	NO	OFF WHITE (4)	8"	TITUS N-1-D	PLENUM SLOT DIFFUSER, 3/4" SLOT. PROVIDE MOUNTING FRAME FOR GYP. BOARD. (3) (4)
S5	SEE PLANS	NO	OFF WHITE (4)	8"	TITUS N-1-D	PLENUM SLOT DIFFUSER, 3/4" SLOT. PROVIDE MOUNTING FRAME FOR GYP. BOARD. (3) (4)
S6	18/24	NO	OFF WHITE (4)	(1)	TITUS TLF	SUPPLY VERTICAL LAMINAR FLOW DIFFUSER
1 S7	4 FEET	NO	OFF WHITE (4)	8"	TITUS N-1-D	PLENUM SLOT DIFFUSER, 3/4" SLOT. PROVIDE MOUNTING FRAME FOR GYP. BOARD. (3) (4)
S8	SEE PLANS	NO	OFF WHITE (4)	8"	TITUS N-1-D	PLENUM SLOT DIFFUSER, 3/4" SLOT. PROVIDE MOUNTING FRAME FOR GYP. BOARD. (3) (4)
S9	SEE PLANS	NO	OFF WHITE (4)	8"	TITUS N-1-D	PLENUM SLOT DIFFUSER, 3/4" SLOT. PROVIDE MOUNTING FRAME FOR GYP. BOARD. (3) (4)
R1	24/24	NO	OFF WHITE (4)	(2)	TITUS PAR	CEILING RETURN AIR DIFFUSER (3) (4)
R2	12/24	NO	OFF WHITE (4)	(2)	TITUS PAR	CEILING RETURN AIR DIFFUSER (3) (4)
R3	SEE PLANS	NO	OFF WHITE (4)	-	TITUS 350FL F2	SIDEWALL RETURN AIR GRILLE (3) (4)
1 R5	SEE PLANS	NO	OFF WHITE (4)	8"	TITUS N-1-D	PLENUM SLOT DIFFUSER, 3/4" SLOT. PROVIDE MOUNTING FRAME FOR GYP. BOARD. (3) (4)
E1	24/24	NO	OFF WHITE (4)	(2)	TITUS PAR	CEILING EXHAUST AIR DIFFUSER (3) (4)
E2	12/12	NO	OFF WHITE (4)	(2)	TITUS PAR	CEILING EXHAUST AIR DIFFUSER (3) (4)
E3	SEE PLANS	NO	OFF WHITE (4)	-	TITUS 350RL	SIDEWALL EXHAUST GRILLE (3) (4)

NOTES:

(1) 6"Ø 0-125 CFM; 8"Ø 130-210 CFM; 10"Ø 215-325 CFM; 12"Ø 330-400 CFM; 14"Ø 405-525 CFM; 15"Ø 530-730 CFM

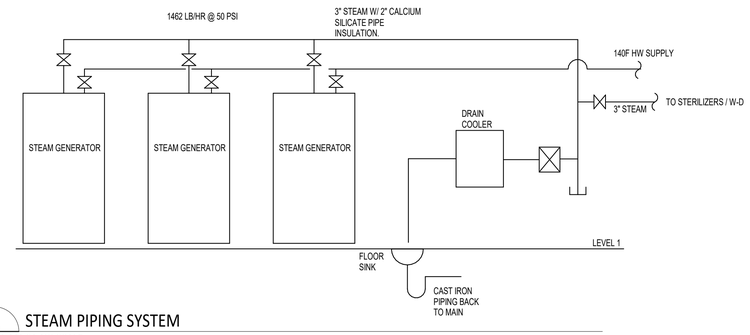
(2) 8/8 0-290 CFM; 12/8 291-400 CFM; 12/12 401-550 CFM; 18/12 551-700 CFM; 18/18 701-1120 CFM; 20/20 1121-1680 CFM; 6"Ø 0-100 CFM; 8"Ø 101-180 CFM; 10"Ø 181-280 CFM; 12"Ø 281-400 CFM; 14"Ø 401-550 CFM; 16"Ø 551-700 CFM

(3) CONTRACTOR TO COORDINATE FRAME STYLE W/ ARCH. PLANS

(4) CONTRACTOR TO COORDINATE COLOR SELECTIONS WITH ARCHITECT.

(5) KNOWN QUANTITY AT PRINTING. CONTRACTOR TO VERIFY ACTUAL QUANTITY.

(6) SOUND VALUES SHALL NOT EXCEED 30 NC.



1 STEAM PIPING SYSTEM

A-M1.01 NO SCALE

AIR CHANGE SCHEDULE

ROOM	AIR CHANGES PER HOUR	AIR MOVEMENT RELATIONSHIP TO ADJACTENT AREAS
PATIENT ROOM	6	NR
ISOLATION ROOM	12	IN
OR	20	OUT
ISOLATION ROOM ANTEROOM	10	IN/OUT
NURSERY	6	NR
DECONTAMINATION	6	IN
LDR	6	NR
EXAM ROOM	6	NR
TRIAGE	12	IN
PREPARATION/ANTE ROOM	6	OUT
PHARMACY	4	OUT
TREATMENT	6	NR
TRAUMA	15	OUT

RETURN TERMINAL BOX SCHEDULE

DESIGNATION	BOX NUMBER	SIZE	MAX SP DROP (IN WG)	MAX CFM	MIN CFM	MANUFACTURER
VAV	2-1	6	0.10	150	0	SEE SPECIFICATIONS
VAV	2-2	12	0.15	1,440	0	SEE SPECIFICATIONS
VAV	2-3	12	0.15	1,440	0	SEE SPECIFICATIONS
VAV	2-4	6	0.10	100	0	SEE SPECIFICATIONS
VAV	2-5	12	0.15	1,440	0	SEE SPECIFICATIONS
VAV	2-6	6	0.10	150	0	SEE SPECIFICATIONS
VAV	2-7	8	0.12	470	0	SEE SPECIFICATIONS
VAV	2-8	8	0.12	550	0	SEE SPECIFICATIONS
VAV	2-9	12	0.15	1,440	0	SEE SPECIFICATIONS

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MIKE L. ASHCRAFT REGISTERED No. PE11900470 STATE OF INDIANA PROFESSIONAL ENGINEER

2023.05.23

PROJECT 225462.00

IJRI - AMBULATORY SURGICAL CENTER

14065 BORG WARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

MECHANICAL SCHEDULES AND DIAGRAMS

SHEET NUMBER

A-M1.01

05/25/2023 8:16:59 PM
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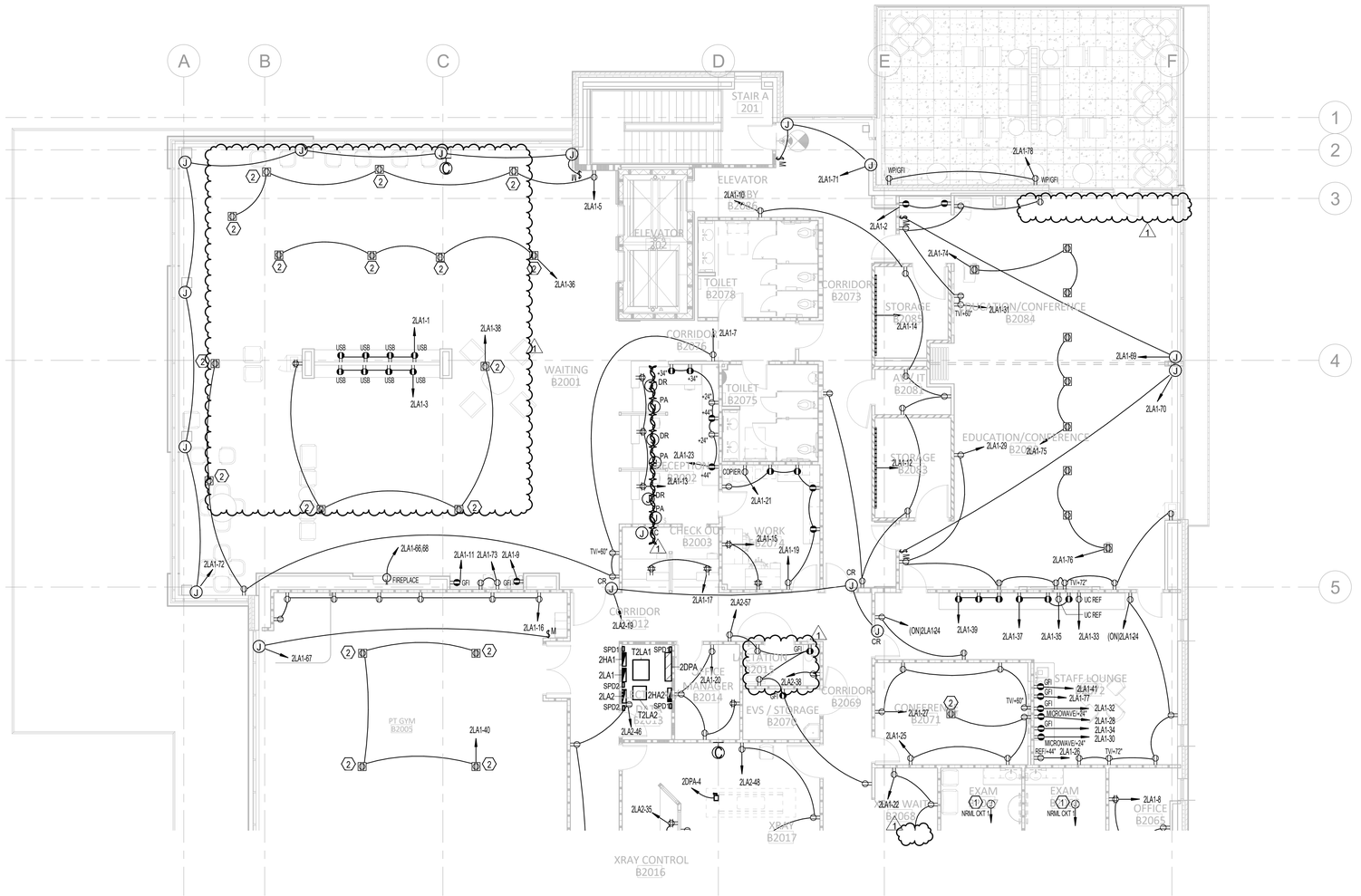

1 FLOOR PLAN - LEVEL 2 - POWER - AREA A

B-E2.02A 1/8" = 1'-0"

GENERAL NOTES:

A. REFER TO ARCHITECTURAL DRAWINGS FOR CONSTRUCTION PHASING REQUIREMENTS.

B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND ELEVATIONS OF WIRING DEVICES.

C. REFER TO SHEET E0.01 FOR ELECTRICAL SYMBOL LEGEND AND SHEET E0.02 FOR ELECTRICAL LIGHT FIXTURE SCHEDULE.

D. FIRE ALARM SYSTEM IS PERFORMANCED BASED. RE: SPECIFICATION 28 31 00.

1. DEVICES SHALL BE ADDRESSABLE AND INTELLIGENT.
2. SYNCHRONIZE DEVICES.
3. PROVIDE INTERFACE TO EGRESS DOORS TO AUTO RELEASE OPEN IN EVENT OF FIRE ALARM.
4. REFER TO SHEET E2.03 ELECTRICAL ROOF PLAN FOR AHU'S (DUCT DETECTORS).

E. PROVIDE BACKBOX AND RACEWAY ROUGH-IN FOR THE FOLLOWING SYSTEMS:
1. NURSE CALL, CODE BLUE, PHYSIOLOGICAL MONITORING.
2. SECURITY (CAMERAS, CARD READERS, ACCESS CONTROL).
3. OVERHEAR PAGE / PUBLIC ADDRESS.
4. TV.
5. VOICE / DATA.

REFER TO TECHNOLOGY T-SERIES DRAWINGS. PROVIDE AND COORDINATE 120V REQUIREMENTS FOR THESE SYSTEMS.

F. PROVIDE TAMPER RESISTANT RECEPTACLES IN BUSINESS OFFICES, CORRIDORS, WAITING ROOMS AND PATIENT CARE AREAS.

KEYED NOTES: ⟨#⟩

NOTE: REFERENCE NUMBER INSIDE HEXAGON

1 REFER TO TYPICAL EXAM ROOM FOR DEVICE LAYOUT AND QUANTITIES.

2 COMBINATION POWER/DATA FLOOR BOX WITH (2) NEMA 5-20R DUPLEX RECEPTACLES AND VOICE DATA JACKS. LEGRAND EVOLUTION SERIES 8 OR EQUAL.

3 PROVIDE SEPARATE 1" CONDUITS FOR POWER & VOICE/DATA. STUB-UP VOICE/DATA CONDUIT TO ABOVE ACCESSIBLE CEILING.

NOTE:

ALL DOOR RELEASES, PANIC ALARMS, SECURITY CAMERAS, AND CLOCKS ON THE SECOND FLOOR ARE TO BE CIRCUITED TO 2LA2-59.

1

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DBR Project Number 223183.000

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JOHN G PIAZZA REGISTERED No. PE10403225 STATE OF INDIANA PROFESSIONAL ENGINEER

2023.05.23

PROJECT 225462.00

IJRI - MEDICAL CENTER

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

Δ	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

POWER - LEVEL 2 AREA A

SHEET NUMBER

B-E2.02A

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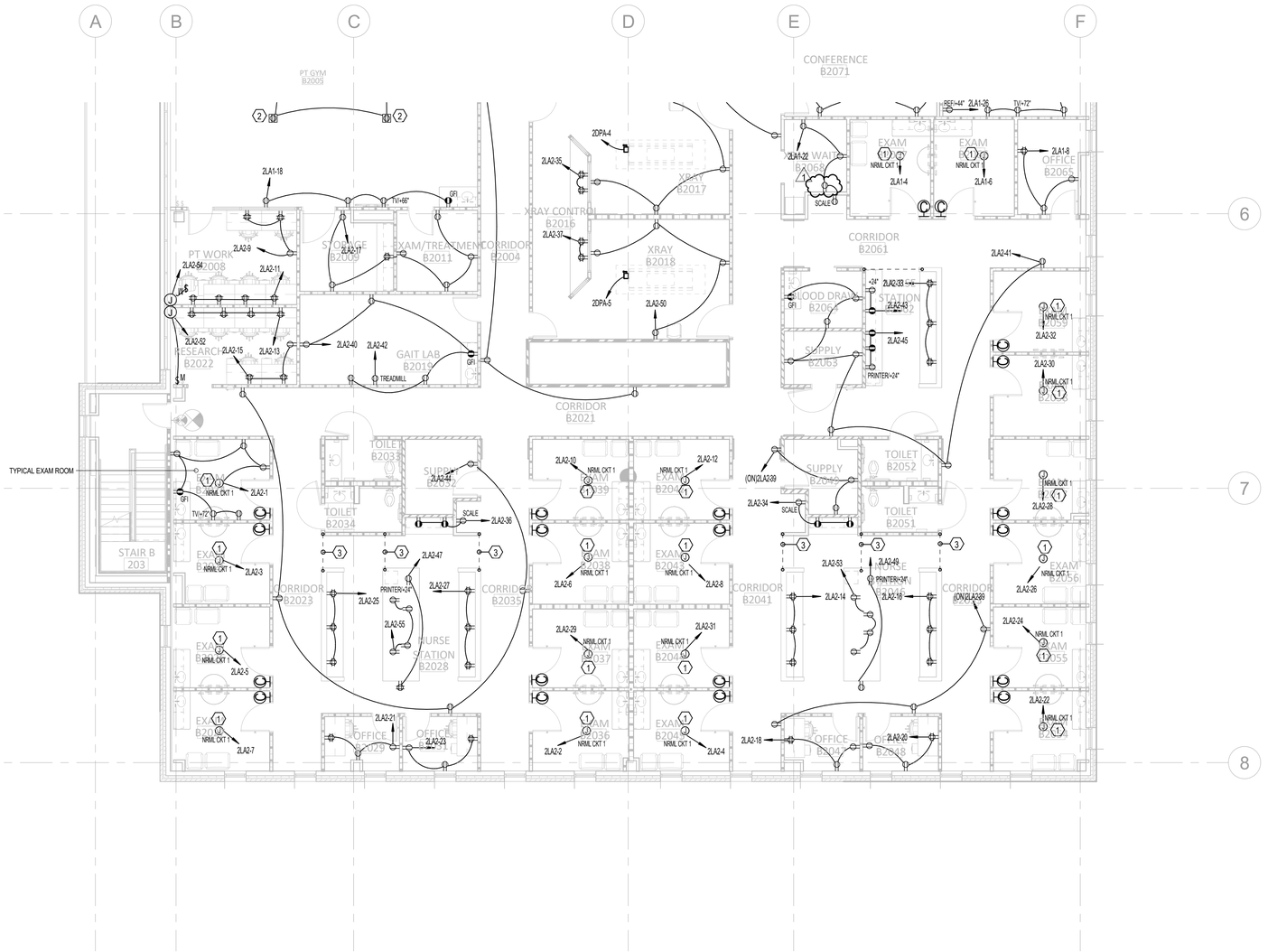

1 FLOOR PLAN - LEVEL 2 - POWER - AREA B

B-E2.02B 1/8" = 1'-0"

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1

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#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

POWER - LEVEL 2 AREA B

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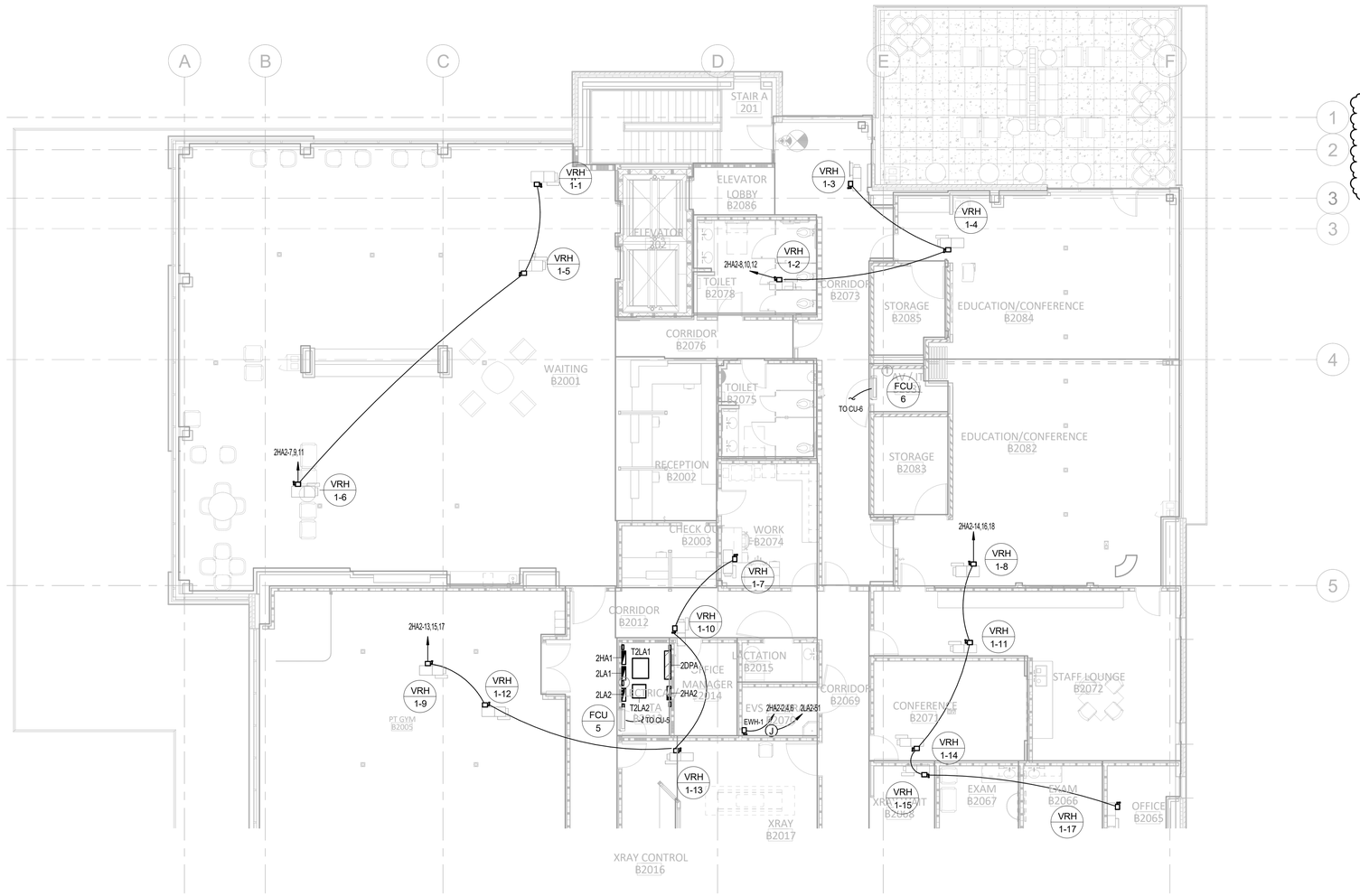

1 FLOOR PLAN - LEVEL 2 - MECHANICAL POWER - AREA A
B-E2.12A 1/8" = 1'-0"

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1	ADDENDUM 1	05/23/2023

SHEET TITLE

MECHANICAL POWER - LEVEL 2 AREA A

SHEET NUMBER

B-E2.12A

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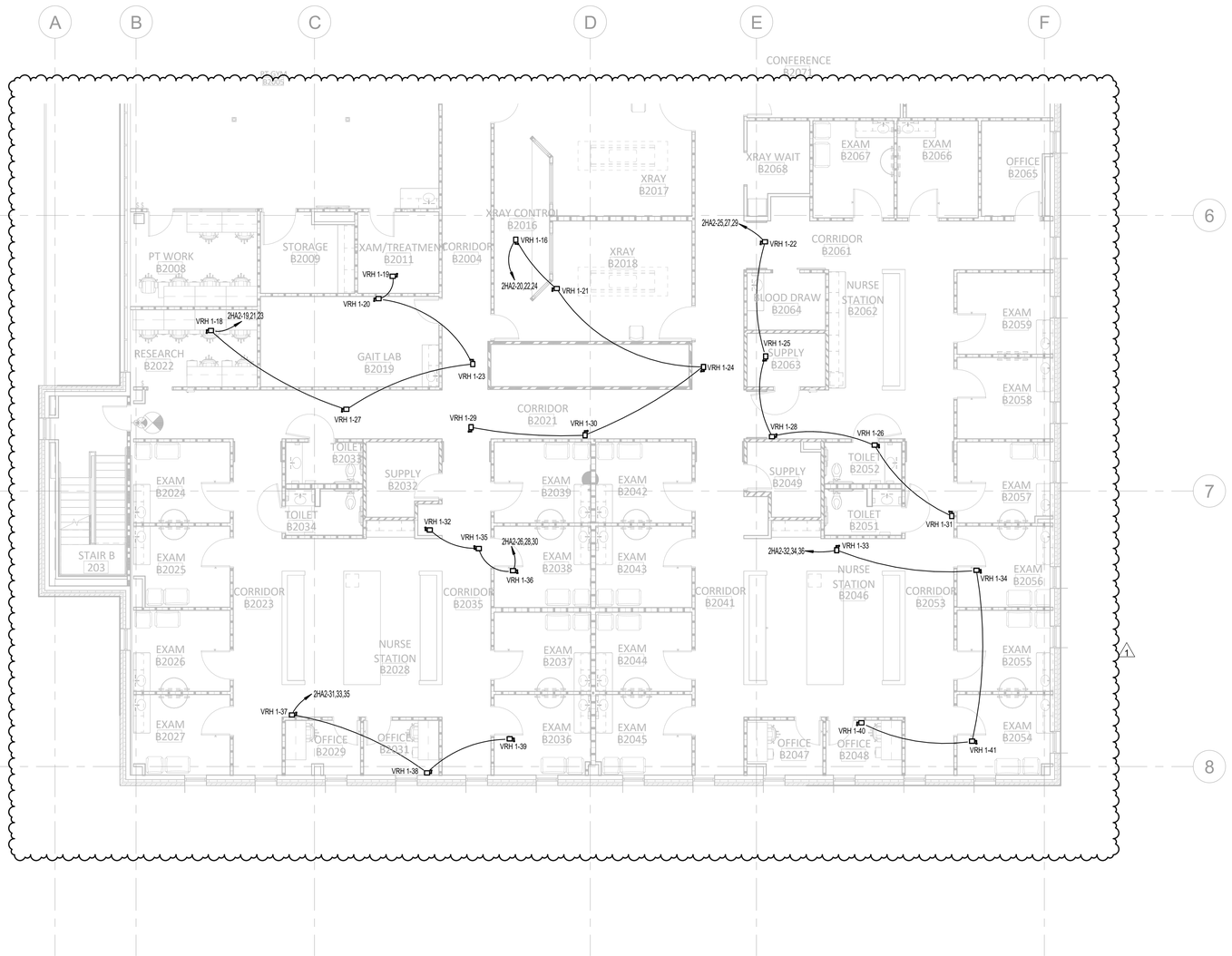

1 FLOOR PLAN - LEVEL 2 - MECHANICAL POWER - AREA B

B-E2.12B 1/8" = 1'-0"

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A. REFER TO ARCHITECTURAL DRAWINGS FOR CONSTRUCTION PHASING REQUIREMENTS.

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2023.05.23

PROJECT 225462.00

IJRI - MEDICAL CENTER

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

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1	ADDENDUM 1	05/23/2023

SHEET TITLE

MECHANICAL POWER - LEVEL 2 AREA B

SHEET NUMBER

B-E2.12B

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FEEDER CIRCUIT SCHEDULE - COPPER

AMPS	CONDUCTORS	EMT	PVC 40	CONDUCTORS	EMT	PVC 40
175	3#2/0 CU, #6 CU G	2"C	2"C	4#2/0 CU, #6 CU G	2"C	2"C
200	3#3/0 CU, #6 CU G	2 1/2"C	2 1/2"C	4#3/0 CU, #6 CU G	2 1/2"C	2 1/2"C
225	3#4/0 CU, #4 CU G	2 1/2"C	2 1/2"C	4#4/0 CU, #4 CU G	2 1/2"C	2 1/2"C
250	3#250 CU, #4 CU G	2 1/2"C	2 1/2"C	4#250 CU, #4 CU G	2 1/2"C	2 1/2"C
400	2 SETS 3#3/0 CU, #3 CU G	2"C	2"C	2 SETS 4#3/0 CU, #3 CU G	2"C	2"C
600	2 SETS 3#350 CU, #1 CU G	2 1/2"C	3"C	2 SETS 4#350 CU, #1 CU G	3"C	3"C
800	3 SETS 3#300 CU, #1/0 CU G	2 1/2"C	3"C	3 SETS 4#300 CU, #1/0 CU G	2 1/2"C	3"C
1000	3 SETS 3#400 CU, #2/0 CU G	2 1/2"C	3 1/2"C	3 SETS 4#400 CU, #2/0 CU G	3"C	3 1/2"C
1200	3 SETS 3#600 CU, #3/0 CU G	3"C	3 1/2"C	3 SETS 4#600 CU, #3/0 CU G	3 1/2"C	4"C
1600	4 SETS 3#600 CU, #4/0 CU G	3"C	3 1/2"C	4 SETS 4#600 CU, #4/0 CU G	3 1/2"C	4"C
2000	5 SETS 3#600 CU, #250 CU G	3"C	3 1/2"C	5 SETS 4#600 CU, #250 CU G	3 1/2"C	4"C

BRANCH AND FEEDER CIRCUIT SCHEDULE - COPPER

AMPS	CONDUCTORS	EMT	PVC 40	CONDUCTORS	EMT	PVC 40
15	3#12 CU, #12 CU G	3/4"C	3/4"C	4#12 CU, #12 CU G	3/4"C	3/4"C
20	3#12 CU, #12 CU G	3/4"C	3/4"C	4#12 CU, #12 CU G	3/4"C	3/4"C
25	3#10 CU, #10 CU G	3/4"C	3/4"C	4#10 CU, #10 CU G	3/4"C	3/4"C
30	3#10 CU, #10 CU G	3/4"C	3/4"C	4#10 CU, #10 CU G	3/4"C	3/4"C
35	3#8 CU, #10 CU G	3/4"C	3/4"C	4#8 CU, #10 CU G	3/4"C	3/4"C
40	3#8 CU, #10 CU G	3/4"C	3/4"C	4#8 CU, #10 CU G	3/4"C	3/4"C
45	3#6 CU, #10 CU G	3/4"C	3/4"C	4#6 CU, #10 CU G	1"C	1"C
50	3#6 CU, #10 CU G	3/4"C	3/4"C	4#6 CU, #10 CU G	1"C	1"C
60	3#4 CU, #10 CU G	1"C	1"C	4#4 CU, #10 CU G	1 1/4"C	1 1/4"C
70	3#4 CU, #8 CU G	1"C	1"C	4#4 CU, #8 CU G	1 1/4"C	1 1/4"C
80	3#3 CU, #8 CU G	1 1/4"C	1 1/4"C	4#3 CU, #8 CU G	1 1/4"C	1 1/4"C
90	3#2 CU, #8 CU G	1 1/4"C	1 1/4"C	4#2 CU, #8 CU G	1 1/4"C	1 1/4"C
100	3#1 CU, #8 CU G	1 1/4"C	1 1/2"C	4#1 CU, #8 CU G	1 1/2"C	1 1/2"C
110	3#1 CU, #6 CU G	1 1/4"C	1 1/2"C	4#1 CU, #6 CU G	1 1/2"C	1 1/2"C
125	3#1 CU, #6 CU G	1 1/4"C	1 1/2"C	4#1 CU, #6 CU G	1 1/2"C	1 1/2"C
150	3#1/0 CU, #6 CU G	1 1/2"C	1 1/2"C	4#1/0 CU, #6 CU G	2"C	2"C

SCHEDULE NOTES:
1. COPPER CONDUCTOR AMPACITY SIZES BASED ON NEC TABLE 310.15(B)(16). CONDUCTORS 100 AMPS AND LESS UTILIZE UTILIZE 60°C. CONDUCTORS GREATER THAN 100 AMPS UTILIZE 75°C.
2. GROUND CONDUCTOR SIZES ARE BASED ON NEC TABLE 250.122.
3. CONDUIT SIZES ARE BASED ON NEC TABLES C.1 (EMT) AND C.10 (PVC).
4. CONDUIT SIZES FOR OTHER INSULATION CHARACTERISTIC, USE THE NEC, ANNEX C TABLE.

FEEDER CIRCUIT SCHEDULE - ALUMINUM

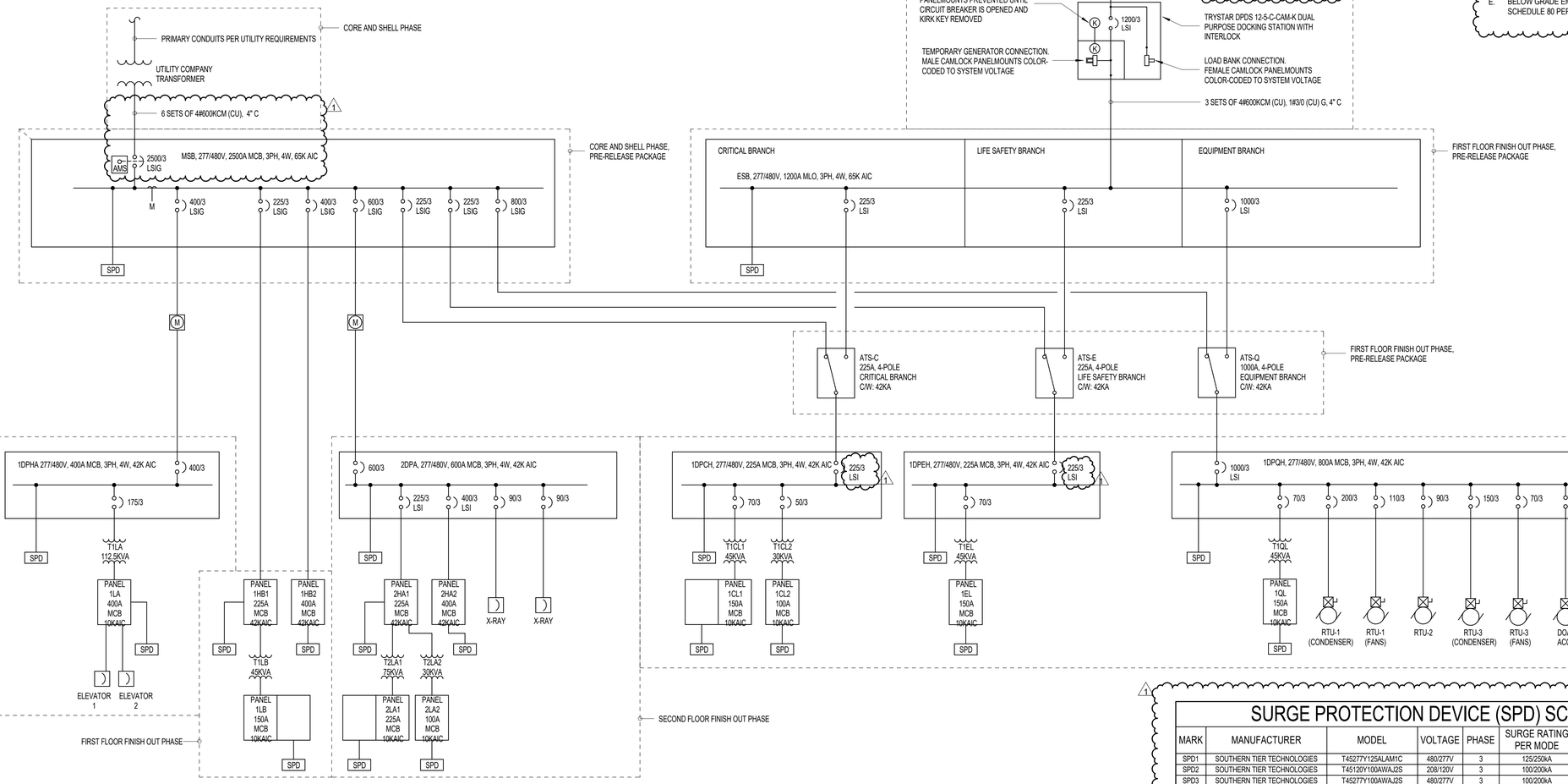
AMPS	CONDUCTORS	EMT	PVC 40	CONDUCTORS	EMT	PVC 40
175	3#4/0 AL, #4 AL G	2"C	2"C	4#4/0 AL, #4 AL G	2 1/2"C	2 1/2"C
200	3#250 AL, #2 AL G	2 1/2"C	2 1/2"C	4#250 AL, #2 AL G	2 1/2"C	3"C
225	3#300 AL, #2 AL G	2 1/2"C	2 1/2"C	4#300 AL, #2 AL G	2 1/2"C	3"C
250	3#350 AL, #2 AL G	2 1/2"C	3"C	4#350 AL, #2 AL G	3"C	3"C
400	2 SETS 3#250 AL, #1 AL G	2 1/2"C	2 1/2"C	2 SETS 4#250 AL, #1 AL G	2 1/2"C	2 1/2"C
600	2 SETS 3#500 AL, #2/0 AL G	3"C	3"C	2 SETS 4#500 AL, #2/0 AL G	3"C	3 1/2"C
800	3 SETS 3#400 AL, #3/0 AL G	2 1/2"C	3"C	3 SETS 4#400 AL, #3/0 AL G	3"C	3"C
1000	3 SETS 3#600 AL, #4/0 AL G	3"C	3 1/2"C	3 SETS 4#600 AL, #4/0 AL G	3 1/2"C	4"C
1200	4 SETS 3#500 AL, #250 AL G	3"C	3"C	4 SETS 4#500 AL, #250 AL G	3"C	3 1/2"C
1600	5 SETS 3#600 AL, #350 AL G	3"C	3 1/2"C	5 SETS 4#600 AL, #350 AL G	3 1/2"C	4"C
2000	6 SETS 3#600 AL, #400 AL G	3"C	3 1/2"C	6 SETS 4#600 AL, #400 AL G	3 1/2"C	4"C

TRANSFORMER SCHEDULE - COPPER

KVA	PRIMARY		SECONDARY		GROUNDING ELECTRODE
	OCP A/P	CONDUCTORS/CONDUIT	OCP A/P	CONDUCTORS/CONDUIT	
15	25/3	3#10, #10G, 3/4"C	60/3	4#4, #8G, 1-1/4"C	1#8G
30	50/3	3#6, #10G, 3/4"C	100/3	4#1, #6G, 1-1/2"C	1#6G
45	70/3	3#4, #8G, 1"C	150/3	4#1/0, #6G, 2"C	1#6G
75	125/3	3#1, #6G, 1-1/4"C	225/3	4#4/0, #2G, 2-1/2"C	1#2G
112.5	175/3	3#2/0, #6G, 2"C	400/3	4#600KCM, #1/0G, 3-1/2"C	1#1/0G
150	225/3	3#4/0, #4G, 2"C	500/3	2 SETS OF 4#250KCM, #1/0G, 2-1/2"C	1#1/0G

OCP - OVERCURRENT PROTECTION
A/P - AMPS/POLES

NOTES:
1. COPPER CONDUCTOR AMPACITY SIZES BASED ON 2011 NEC TABLE 310.15(B)(16). CONDUCTORS LESS THAN 110 AMPS UTILIZE 60°C. CONDUCTORS GREATER THAN 110 AMPS UTILIZE 75°C.
2. CONDUIT SIZES ARE BASED ON 2011 NEC TABLE C.1 (EMT).
3. CONDUIT SIZES FOR OTHER INSULATION CHARACTERISTIC, USE THE 2011 NEC, ANNEX C TABLE.



SURGE PROTECTION DEVICE (SPD) SCHEDULE

MARK	MANUFACTURER	MODEL	VOLTAGE	PHASE	SURGE RATING PER MODE	BREAKER SIZE	ACCUGUIDE CABLE SIZE
SPD1	SOUTHERN TIER TECHNOLOGIES	T4S277Y125ALAM1C	480/277V	3	125/250kA	60A/3P	5 #6,1 1/2" C.
SPD2	SOUTHERN TIER TECHNOLOGIES	T4S120Y100AWAJ2S	208/120V	3	100/200kA	30A/3P	5 #10, 3/4" C.
SPD3	SOUTHERN TIER TECHNOLOGIES	T4S277Y100AWAJ2S	480/277V	3	100/200kA	30A/3P	5 #10, 3/4" C.

GENERAL NOTES:

A. REFER TO PANEL SCHEDULES FOR SPARE CIRCUIT BREAKERS AND SPACE REQUIREMENTS.

B. REFER TO SPECIFICATION SECTION 26 05 73 FOR SHORT CIRCUIT, OVERCURRENT PROTECTIVE DEVICE COORDINATION, AND ARC-FLASH STUDY REQUIREMENTS.

C. VFDS AND PACKAGE EQUIPMENT CONTROLLERS ARE PROVIDED BY DIVISION 22/23 TYPICAL UNLESS NOTED OTHERWISE. STARTER FOR EXHAUST FANS, FAN COIL UNITS AND UNIT HEATERS ARE PROVIDED BY DIVISION 23 UNLESS NOTED OTHERWISE.

D. PROVIDE FULLY ADJUSTABLE L-S-I-G CIRCUIT BREAKERS.

E. BELOW GRADE EMERGENCY SYSTEM SERVICES AND FEEDERS SHALL BE SCHEDULE 80 PER NEC 517-31(C)(3).

1 ELECTRICAL ONE-LINE DIAGRAM
B-E4.01 NOT TO SCALE

DBR
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Dallas, Texas 75201
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TBPE Firm Registration No. 2234

DBR Project Number 223183.000

MS	WS	JP	DS	

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2023.05.23

PROJECT 225462.00

IJRI - MEDICAL CENTER

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

ELECTRICAL ONE-LINE DIAGRAM

SHEET NUMBER

B-E4.01

5/23/2023 11:49:26 PM
Autodesk Docs://225462.00 M2 Orthopedic Indiana R22/Electrical-M2 Orthopedic Indiana-22702.rvt

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DBR Project Number 223183.000

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LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURE	MODEL	NO. OF LAMPS	WATTAGE	DESCRIPTION
A	COLUMBIA	LCAT24 35 ML G ED1 U	1	39 VA	2X4 RECESSED CENTER FILL LED FIXTURE WITH A HIGH EFFICIENCY ACRYLIC LENS, 4000 LUMENS, UNIVERSAL VOLTAGE, 3500K, 0-10V DIMMING TO 1%.
A1	XAL LIGHTING	BASO 4.0 RTLRTR9GR9SG15G WHBL 30K35K 010V 0500LF0955LF ST 48IN72IN96IN	1	72 VA	4' LINEAR DECORATIVE SLOT FIXTURE, EXTRUDED ALUMINUM HOUSING, WHITE PAINT FINISH, FROSTED PRISMATIC ACRYLIC LENS, 0-10V DIMMING, REFER TO PLANS FOR LENGTHS.
A1E	XAL LIGHTING	BASO 4.0 RTLRTR9GR9SG15G WHBL 30K35K 010V 0500LF0955LF ST 48IN72IN96IN	1	72 VA	SAME AS TYPE A1, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
A2	XAL LIGHTING	BASO 2.5 SURPDT WHBL 30K35K 010V 0455LF0750LF ST 48IN72IN96IN	1	59 VA	6' LINEAR DECORATIVE SUSPENDED FIXTURE, EXTRUDED ALUMINUM HOUSING, WHITE PAINT FINISH, FROSTED PRISMATIC ACRYLIC LENS, 0-10V DIMMING, REFER TO PLANS FOR LENGTHS.
A2E	XAL LIGHTING	BASO 2.5 SURPDT WHBL 30K35K 010V 0455LF0750LF ST 48IN72IN96IN	1	59 VA	SAME AS TYPE A2, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
A3	CURRENT	OBX-S-24-DW-I-ASYM-DA-1C-9-35-L220-ED1	1	45 VA	2X4 RECESSED LENSED LED MEDMASTER SURGICAL TROFFER, 3500K, 0-10V DIMMING TO 1%, SYMETRIC/ASYMETRIC LENS, RFI GRID FILTER, EMC EXCEEDS MIL STD 461F REQUIREMENTS, ANTI-MICROBIAL FINISH, CONTINOUS ROW MOUNTING.
A3E	CURRENT	OBX-S-24-DW-I-ASYM-DA-1C-9-35-L220-ED1	1	169 VA	SAME AS TYPE A3, PROVIDE WITH 1400 LUMEN EMERGENCY BATTERY PACK. BATTERY SHALL BE BODINE B50 ST REDITEST SELF-DIAGNOSTIC.
A4	COLUMBIA	LCAT24-35MLG-ED1-U	1	39 VA	2X4 RECESSED CENTER FILL LED FIXTURE WITH FROSTED LENS, 4000 LUMENS, UNIVERSAL VOLTAGE, 3500K, 0-10V DIMMING TO 1%.
A4E	COLUMBIA	LCAT24-35MLG-ED1-U	1	39 VA	SAME AS TYPE A4, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
AE	COLUMBIA	LCAT24 35 ML G ED1 U ELL14	1	39 VA	SAME AS TYPE A, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
BE	COLUMBIA	LJT22-35HLG-FSA19F-ED1-U	1	27 VA	2X2 RECESSED LED TROFFER, 156 DEGREE ACRYLIC LENS, NOMINAL 2500 LUMENS, 3500K, FLUSH STEEL WHITE DOOR, 0-10 DIMMING CAPABILITY TO 1%. PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
C	PRESCOLITE	LFR-6RD-M-10L-35K-8-XW-DM1-LFR-6RD-T-SS-WT-LFR-6RD-H	1	11 VA	6" SPECIFICATION GRADE RECESSED ROUND LED DOWNLIGHT, 1000 LUMENS, 3500K, 0.9 SPACING CRITERIA, 2-STEP SCDM OR BETTER, 0-10V DIMMING TO 1%, WHITE TRIM, SEMI SPEC FINISH.
C2	ARMSTRONG	AXIDL CC 4 1418	1	200 VA	COVE LIGHTS. COORDINATE WITH ARCHITECT FOR EXACT INSTALLATION LOCATIONS AND LENGTHS.
CE	PRESCOLITE	LFR-6RD-M-10L-35K-8-XW-DM1-LFR-6RD-T-SS-WT-LFR-6RD-H	1	11 VA	SAME AS TYPE C.
D1	LIGHTOLOGY	NOREEN PENDANT AHM891721	1	8 VA	6" COMMERCIAL GRADE RECESSED LED DOWNLIGHT, 3500K, 0-10V DIMMING.
D1E	LIGHTOLOGY	NOREEN PENDANT AHM891721	1	8 VA	SAME AS TYPE D1, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
D2	PRESCOLITE	LTR-6RD-H-SL-10L-DM1-LTR-6RD-T-SH-SL-35K-8-WT-AML	1	15 VA	6" SPECIFICATION GRADE RECESSED ROUND LED DOWNLIGHT, SHOWER LIGHT, 1100 LUMENS, 3500K, 0-10V DIMMING, WITH NON CONDUCTIVE TRIM SOLITE LENS.
D2E	PRESCOLITE	LTR-6RD-H-SL-10L-DM1-LTR-6RD-T-SH-SL-35K-8-WT-AML	1	15 VA	SAME AS TYPE D2, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
D3	PRESCOLITE	LFR-6R2-M-20L35K8-LWW-DM1 / LFR-6R2-T / LFR-6RD-H	1	15 VA	6" COMMERCIAL GRADE LED WALL WASH, 3500K, 0-10V DIMMING.
F1E	COLUMBIA	MPS4-35HL-FW-ED1U-CSHC	2	35 VA	4' INDUSTRIAL STRIP LIGHT, ELECTRONIC BALLAST, 2 LAMP, CHAIN HANG LIGHT FIXTURES AT 9'-0", PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
FE	COLUMBIA	LXEM4-35ML-RFA-EDU	1	42 VA	4' INDUSTRIAL STRIP LIGHT, WALL MOUNTED, FOR USE IN ELEVATOR SHAFTS.
P	BROWNLEE LIGHTING	CLOUD DRUM 19 WH C49 WHA	1	45 VA	24" DIA. X 8" H DECORATIVE ROUND DRUM PENDANT WITH DIMMING.
P1	LIGHTOLOGY	AHM891721	1	100 VA	DECORATIVE PENDANT.
P2	BROWNLEE LIGHTING	CLOUD DRUM 12" D	1	100 VA	12" DIA. X 8" H DECORATIVE ROUND DRUM PENDANT WITH DIMMING.
PE	BROWNLEE LIGHTING	CLOUD DRUM 19 WH C49 WHA	1	45 VA	SAME AS TYPE P, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
S1	BEACON	VP-1-160L-100-4K7-3-UNV-A-DBT-CD-NX SENSOR	1	110 VA	SINGLE HEADED POLE MOUNTED EXTERIOR PARKING LOT AREA SITE LIGHT, TYPE 3 DISTRIBUTION, MVOLT, DARK BRONZE FINISH, MOUNTED ON 20' RSS POLE. PROVIDE WITH INTEGRAL MOTION SENSOR FOR ADDITIONAL LIGHTING CONTROL.
S2	BEACON	VP-1-160L-100-4K7-4W-UNV-A-DBT-CD-NX SENSOR	2	220 VA	DOUBLE HEADED POLE MOUNTED EXTERIOR PARKING LOT AREA SITE LIGHT, FORWARD THROW DISTRIBUTION, MVOLT, DARK BRONZE FINISH, MOUNTED ON 20' RSS POLE. PROVIDE WITH INTEGRAL MOTION SENSOR FOR ADDITIONAL LIGHTING CONTROL.
UC	COLUMBIA	CUC2-CS-ED120	1	14 VA	UNDERCABINET LIGHT. REFER TO DRAWINGS FOR EXACT LENGTHS.
V1	LIGHTOLOGY	MILO BLK872404 24"	1	11 VA	WALL MOUNTED VANITY LIGHT IN RESTROOMS.
W1	SILO	OUTDOOR WALL SCONCE	1	70 VA	EXTERIOR WALL MOUNTED LED SCONCE, 700MA DRIVE CURRENT, NOMINAL 7000 LUMENS, 4000K, TYPE III MEDIUM DISTRIBUTION, UNIVERSAL VOLTAGE, PHOTOELECTRIC CELL, DARK BRONZE FINISH, CONTRACTOR TO VERIFY VOLTAGE FOR PHOTOCELL OPTION.
W2E	CURRENT	WDM D 48L 55 4K7 42 UNV NXWS16F	1	55 VA	EXTERIOR WALL PACK.
W3	CURRENT	OBN-U-S-R-OBN-KIT DIFF SW4	1	13 VA	X-RAY INDICATOR LIGHT.
X1	DUAL-LITE	LE C S R N A	1	5 VA	SURFACE MOUNTED ARCHITECTURAL LED EDGE LIT EXIT SIGN, SINGLE FACE, SATIN ALUMINUM TRIM, RED LETTERS, CHEVRON DIRECTIONAL ARROWS AS INDICATED ON PLAN. PROVIDE WITH BATTERY BACKUP.
X2	DUAL-LITE	LE C D R N A	1	5 VA	SURFACE MOUNTED ARCHITECTURAL LED EDGE LIT EXIT SIGN, DOUBLE FACE, SATIN ALUMINUM TRIM, RED LETTERS, CHEVRON DIRECTIONAL ARROWS AS INDICATED ON PLAN. PROVIDE WITH BATTERY BACKUP.

1

CONTACTOR SCHEDULE

MARK	AMPS	POLES	COIL VOLTAGE	CONTROL	CIRCUIT	REMARKS
LC-1	30	4	120	H-O-A	1HB1-9, 1HB1-11	30A/4P CONTACTOR FOR SITE LIGHTING CIRCUITS
LC-2	30	2	120	H-O-A	1HB1-7	30A/2P CONTACTOR FOR SITE LIGHTING CIRCUIT
LC-3	30	4	120	H-O-A	1HB1-18, 1DPEH-6	30A/4P CONTACTOR FOR EXTERIOR LIGHTING CIRCUITS
LC-4	30	2	120	H-O-A		

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JOHN G PIAZZA REGISTERED No. PE10403225 STATE OF INDIANA PROFESSIONAL ENGINEER

2023.05.23

PROJECT 225462.00

IJRI - MEDICAL CENTER

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

ELECTRICAL LIGHT FIXTURE SCHEDULE

SHEET NUMBER

B-E5.01

5/23/2023 11:49:26 PM
Autodesk Docs://225462.00 M2 Orthopedic Indiana R22/Electrical-M2 Orthopedic Indiana-22702.rvt
THIS LINE IS 1 INCH LONG WHEN PRINTED TO FULL SCALE

Switchboard: MSB

Location:
Supply From: UTILITY TRANSFORMER
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 480Y/277
Phases: 3
Wires: 4

A.I.C. Rating: 65,000 AMPS SYMMETRICAL
Mains Type: LSIG MAIN CB
Mains Rating: 2500 A
MCB Rating: 2500 A

1

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Connected Load	Remarks
1	SPD1	3	60 A	60 A	0 VA	
2	1DPHA	3	400 A	400 A	91010 VA	LSIG BREAKER
3	1HB1	3	225 A	225 A	177469 VA	LSIG BREAKER
4	1HB2	3	400 A	400 A	206830 VA	LSIG BREAKER
5	2DPA	3	600 A	600 A	451549 VA	LSIG BREAKER
6	ATS-C	3	225 A	225 A	99612 VA	LSIG BREAKER
7	ATS-E	3	225 A	225 A	38730 VA	LSIG BREAKER
8	ATS-Q	3	800 A	800 A	678950 VA	LSIG BREAKER
9	SPACE	3	--	--	0 VA	
10	SPACE	3	--	--	0 VA	
11	SPACE	3	--	--	0 VA	
12	SPACE	3	--	--	0 VA	
				Total Conn. Load:	1744112 VA	
				Total Amps:	2098 A	

Legend:

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	236499 VA	52.11%	123250 VA		
LIGHTS	4189 VA	125.00%	5236 VA	**Total Conn. Load:**	1744112 VA
POWER (NON-CONTINUOUS)	16640 VA	100.00%	16640 VA	**Total Est. Demand:**	1684613 VA
LITES (CONTINUOUS)	29372 VA	125.00%	36715 VA	**Total Conn.:**	2098 A
L	9964 VA	100.00%	9964 VA	**Total Est. Demand:**	2026 A
SP	2000 VA	100.00%	2000 VA		
M	1027115 VA	100.00%	1027115 VA		
R	2160 VA	100.00%	2160 VA		
MT	416285 VA	110.88%	461596 VA		

Notes:
SWITCHBOARD MSA TO BE PART OF PRE-RELEASE PACKAGE & SCHEDULE IS FOR REFERENCE ONLY. PROVIDE INTEGRAL METER AND ENERGY REDUCING SWITCH AS INDICATED ON THE ONE-LINE DIAGRAM.

1

Distribution Panel: 2DPA

1 NORMAL BRANCH

Location:
Supply From: MSB
Mounting: SURFACE
Enclosure: Type 1

Volts: 480Y/277
Phases: 3
Wires: 4
INTEGRAL SPD

A.I.C. Rating: 42,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 600 A
MCB Rating: 600 A

Notes:

CKT	Circuit Description	# of Poles	Trip Rating	Load	Remarks
1	SPD1	3	60 A	0 VA	
2	2HA1	3	225 A	157647 VA	LSI BREAKER
3	2HA2	3	400 A	134000 VA	LSI BREAKER
4	XRAY 1	3	80 A	80000 VA	
5	XRAY 2	3	80 A	80000 VA	
6	SPACE	1	--	--	
7	SPACE	1	--	--	
8	SPACE	1	--	--	
9	SPACE	3	--	--	
10	SPACE	3	--	--	
11	SPACE	3	--	--	
12	SPACE	3	--	--	
				451549 VA	
				543 A	

Legend:

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	92543 VA	55.40%	51271 VA		
LIGHTS	405 VA	125.00%	506 VA	**Total Conn. Load:**	451549 VA
POWER (NON-CONTINUOUS)	6240 VA	100.00%	6240 VA	**Total Est. Demand:**	415446 VA
LITES (CONTINUOUS)	19452 VA	125.00%	24315 VA	**Total Conn.:**	543 A
L	214 VA	100.00%	214 VA	**Total Est. Demand:**	500 A
SP	0 VA	0.00%	0 VA		
M	325900 VA	100.00%	325900 VA		
MT	7000 VA	101.79%	7125 VA		

Notes:

Branch Panel: 2HA1

NORMAL BRANCH

Location:
Supply From: 2DPA
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 480Y/277
Phases: 3
Wires: 4

A.I.C. Rating: 42,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 225 A
MCB Rating: 225 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1				0 VA	27700 VA								2
3	SPD1	60 A	3			0 VA	21476 VA			3	150 A	T2LA1	4
5								0 VA	34036 VA				6
7	SECOND FLOOR LIGHTS	20 A	1	5186 VA	20573 VA								8
9	SECOND FLOOR LIGHTS	20 A	1			7089 VA	16523 VA			3	50 A	T2LA2	10
11	SECOND FLOOR EXAM ROOM LIGHTS	20 A	1					2880 VA	17433 VA				12
13	SECOND FLOOR LIGHTS	20 A	1	4916 VA	--					1	--	SPACE	14
15	SPARE	20 A	1			0 VA	--			1	--	SPACE	16
17	SPARE	20 A	1					0 VA	--	1	--	SPACE	18
19	SPARE	20 A	1	0 VA	--					1	--	SPACE	20
21	SPARE	20 A	1			0 VA	--			1	--	SPACE	22
23	SPARE	20 A	1					0 VA	--	1	--	SPACE	24
25	SPARE	20 A	1	0 VA	--					1	--	SPACE	26
27	SPARE	20 A	1			0 VA	--			1	--	SPACE	28
29	SPARE	20 A	1					0 VA	--	1	--	SPACE	30
31	SPARE	20 A	1	0 VA	--					1	--	SPACE	32
33	SPARE	20 A	1			0 VA	--			1	--	SPACE	34
35	SPARE	20 A	1					0 VA	--	1	--	SPACE	36
37	SPARE	20 A	1	0 VA	--					1	--	SPACE	38
39	SPARE	20 A	1			0 VA	--			1	--	SPACE	40
41	SPARE	20 A	1					0 VA	--	1	--	SPACE	42
			Total Load:	58327 VA		45009 VA		54318 VA					
			Total Amps:	216 A		162 A		201 A					

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	92543 VA	55.40%	51271 VA		
LIGHTS	405 VA	125.00%	506 VA	**Total Conn. Load:**	157647 VA
POWER (NON-CONTINUOUS)	6240 VA	100.00%	6240 VA	**Total Est. Demand:**	121489 VA
LITES (CONTINUOUS)	19452 VA	125.00%	24315 VA	**Total Conn.:**	190 A
L	214 VA	100.00%	214 VA	**Total Est. Demand:**	146 A
SP	0 VA	0.00%	0 VA		
M	31900 VA	100.00%	31900 VA		
MT	7000 VA	101.79%	7125 VA		

Notes:

Branch Panel: 2HA2

NORMAL BRANCH

Location:
Supply From: 2DPA
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 480Y/277
Phases: 3
Wires: 4

A.I.C. Rating: 42,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 400 A
MCB Rating: 400 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1				0 VA	12000 VA								2
3	SPD1	60 A	3			0 VA	0 VA			3	25 A	EWH-1	4
5								0 VA	0 VA				6
7				22200 VA	10200 VA								8
9	VRH UNITS	20 A	3			0 VA	0 VA			3	20 A	VRH UNITS	10
11								0 VA	0 VA				12
13				17400 VA	18200 VA								14
15	VRH UNITS	25 A	3			0 VA	0 VA			3	25 A	VRH UNITS	16
17								0 VA	0 VA				18
19				12700 VA	9800 VA								20
21	VRH UNITS	20 A	3			0 VA	0 VA			3	20 A	VRH UNITS	22
23								0 VA	0 VA				24
25				9500 VA	8100 VA								26
27	VRH UNITS	20 A	3			0 VA	0 VA			3	20 A	VRH UNITS	28
29								0 VA	0 VA				30
31				5600 VA	8300 VA								32
33	VRH UNITS	20 A	3			0 VA	0 VA			3	20 A	VRH UNITS	34
35								0 VA	0 VA				36
37	SPARE	20 A	1	0 VA	--					1	--	SPACE	38
39	SPARE	20 A	1			0 VA	--			1	--	SPACE	40
41	SPARE	20 A	1					0 VA	--	1	--	SPACE	42
			Total Load:	134000 VA		0 VA		0 VA					
			Total Amps:	484 A		0 A		0 A					

1

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
SP	0 VA	0.00%	0 VA		
M	134000 VA	100.00%	134000 VA	**Total Conn. Load:**	134000 VA
				Total Est. Demand:	134000 VA
				Total Conn.:	161 A
				Total Est. Demand:	161 A

Notes:

MSB	2DPA
2HA1	2HA2

DBR
1700 PAcific Avenue, Suite 2100
Dallas, Texas 75201
214.397.0211 p
TBPE Firm Registration No. 2234

DBR Project Number 223183.000

MS	WS	JP	DS	

BOULDER ASSOCIATES
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JOHN G PIAZZA REGISTERED No. PE10403225 STATE OF INDIANA PROFESSIONAL ENGINEER

2023.05.23

PROJECT 225462.00

IJRI - MEDICAL CENTER

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

ELECTRICAL PANELBOARD SCHEDULES

SHEET NUMBER

B-E5.02

5/23/2023 11:49:26 PM
Autodesk Docs://23-462.00 M2 Orthopedic Indiana R22/Electrical-M2 Orthopedic Indiana-22702.rvt
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DBR
1700 PAcific Avenue, Suite 2100
Dallas, Texas 75201
214.397.0211 p
TBPE Firm Registration No. 2234

DBR Project Number 223183.000

MS	WS	JP	DS	

Branch Panel: 2LA1

NORMAL BRANCH

Location:
Supply From: T2LA1
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 208Y/120
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 225 A
MCB Rating: 225 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	RCPT WAITING B2001	20 A	1	720 VA	360 VA		1	20 A	RCPT EDUCATION / CONFERENCE B2084	2
3	RCPT WAITING B2001	20 A	1		720 VA	1080 VA	1	20 A	RCPT EXAM B2067	4
5	RCPT WAITING B2001	20 A	1			1778 VA	1	20 A	RCPT EXAM B2066	6
7	RCPT WAITING B2001	20 A	1	1519 VA	540 VA		1	20 A	RCPT OFFICE B2065	8
9	DEDICATED ABV CTR WAITING B2001	20 A	1		180 VA	1440 VA	1	20 A	RCPT CORRIDOR	10
11	DEDICATED ABV CTR WAITING B2001	20 A	1			180 VA	1	20 A	PLUGMOLD STORAGE B2083	12
13	RCPT TENANT B 200	20 A	1	1080 VA	1500 VA		1	20 A	PLUGMOLD STORAGE B2085	14
15	RCPT WORK B2074	20 A	1		720 VA	1260 VA	1	20 A	RCPT PT GYM B2005	16
17	RCPT CHECK OUT B2003	20 A	1			720 VA	900 VA	1	20 A	RCPT PT GYM B2005	18
19	RCPT WORK B2074	20 A	1	1080 VA	878 VA		1	20 A	RCPT OFFICE MANAGER B2014	20
21	RCPT WORK B2074	20 A	1		180 VA	720 VA	1	20 A	RCPT XRAY WAIT B2068	22
23	RCPT WORK B2074 & TOILET B2075	20 A	1			1080 VA	1260 VA	1	20 A	RCPT STAFF LOUNGE B2072	24
25	RCPT CONFERENCE B2071	20 A	1	940 VA	1200 VA		1	20 A	REF STAFF LOUNGE B2072	26
27	RCPT CONFERENCE B2071	20 A	1		720 VA	960 VA	1	20 A	RCPT MICROWAVE STAFF LOUNGE B2072	28
29	RCPT EDUCATION / CONFERENCE B2084	20 A	1			1260 VA	960 VA	1	20 A	RCPT MICROWAVE STAFF LOUNGE B2072	30
31	RCPT EDUCATION / CONFERENCE B2084	20 A	1	900 VA	180 VA		1	20 A	RCPT DEDICATED ABV CTR STAFF LOUNGE...	32
33	RCPT UNDER COUNTER REF	20 A	1		600 VA	180 VA	1	20 A	RCPT DEDICATED ABV CTR STAFF LOUNGE...	34
35	RCPT STAFF LOUNGE B2072	20 A	1			600 VA	1598 VA	1	20 A	FLOOR BOXES WAITING B2001	36
37	RCPT STAFF LOUNGE B2072	20 A	1	540 VA	1379 VA		1	20 A	FLOOR BOXES WAITING B2001	38
39	RCPT STAFF LOUNGE B2072	20 A	1		540 VA	1598 VA	1	20 A	FLOOR BOXES PT GYM B2005	40
41	GARBAGE DISPOSAL	20 A	1			1180 VA	3330 VA	2	25 A	CU-1	42
43	CU-2	25 A	2	3330 VA	0 VA						44
45					0 VA	--	1	--	SPACE	46
47	CU-4	25 A	2			3330 VA	--	1	--	SPACE	48
49				0 VA	3330 VA						50
51	CU-6	25 A	2		3330 VA	0 VA	2	25 A	CU-5	52
53						0 VA	3330 VA				54
55	EF-1	15 A	1	700 VA	0 VA		2	25 A	CU-7	56
57	EF-2	30 A	1		1920 VA	1180 VA					58
59	EF-4	15 A	1			700 VA	700 VA	1	15 A	EF-5	60
61	EF-6	20 A	1	1180...	1180...		1	20 A	EF-7	62
63	ROOF RECEPTACLES	20 A	1		360 VA	360 VA	1	20 A	ROOF RECEPTACLES	64
65	ROOF RECEPTACLES	20 A	1			360 VA	3120...	2	25 A	FIREPLACE	66
67	MOTORIZED SHADES	20 A	1	500 VA	3120...						68
69	MOTORIZED SHADES	20 A	1		500 VA	500 VA	1	20 A	MOTORIZED SHADES	70
71	MOTORIZED SHADES	20 A	1			1000...	3500...	1	20 A	MOTORIZED SHADES	72
73	RCPT (NEC 220.44)	20 A	1	360 VA	1199...		1	20 A	FLOOR BOXES	74
75	FLOOR BOXES	20 A	1		1199...	1199...	1	20 A	FLOOR BOXES	76
77	LOUNGE RECEPTACLE	20 A	1			180 VA	360 VA	1	20 A	EXTERIOR RECEPTACLES	78
79	HEAT TRACE	20 A	1	100 VA	0 VA						80
81	HEAT TRACE	20 A	1		100 VA	0 VA	3	30 A	SPD2		82
83	HEAT TRACE	20 A	1			100 VA	0 VA				84
	Total Load:			27700 VA	21476 VA	34036 VA					
	Total Amps:			239 A	179 A	292 A					

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	43139 VA	61.59%	26570 VA		
POWER (NON-CONTINUOUS)	6240 VA	100.00%	6240 VA	**Total Conn. Load:**	83210 VA
SP	0 VA	0.00%	0 VA	**Total Est. Demand:**	66768 VA
M	27840 VA	100.00%	27840 VA	**Total Conn.:**	231 A
MT	6000 VA	102.08%	6125 VA	**Total Est. Demand:**	185 A

Notes:

Branch Panel: 2LA2

NORMAL BRANCH

Location:
Supply From: T2LA2
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 208Y/120
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	RCPT EXAM B2024	20 A	1	2160 VA	1080 VA		1	20 A	RCPT EXAM B2036	2
3	RCPT EXAM B2025	20 A	1		1080 VA	1080 VA	1	20 A	RCPT EXAM B2045	4
5	RCPT EXAM B2026	20 A	1			1080 VA	1080 VA	1	20 A	RCPT EXAM B2038	6
7	RCPT EXAM B2027	20 A	1	1080 VA	1080 VA		1	20 A	RCPT EXAM B2043	8
9	RCPT PT WORK B2008	20 A	1		885 VA	1080 VA	1	20 A	RCPT EXAM B2039	10
11	RCPT PT WORK B2008	20 A	1			1440 VA	1080 VA	1	20 A	RCPT EXAM B2042	12
13	RCPT RESEARCH B2022	20 A	1	1440 VA	1080 VA		1	20 A	RCPT NURSE STATION B2046	14
15	RCPT RESEARCH B2022	20 A	1		885 VA	1080 VA	1	20 A	RCPT NURSE STATION B2046	16
17	RCPT EXAM/TREATMENT B2011	20 A	1			1413 VA	702 VA	1	20 A	RCPT TENANT B 200	18
19	POWERED DOORS	20 A	1	3000 VA	702 VA		1	20 A	RCPT TENANT B 200	20
21	RCPT OFFICE B2029	20 A	1		702 VA	1080 VA	1	20 A	RCPT EXAM B2054	22
23	RCPT OFFICE B2031	20 A	1			702 VA	1080 VA	1	20 A	RCPT EXAM B2055	24
25	RCPT NURSE STATION B2028	20 A	1	1080 VA	1080 VA		1	20 A	RCPT EXAM B2056	26
27	RCPT NURSE STATION B2028	20 A	1		1080 VA	1080 VA	1	20 A	RCPT EXAM B2057	28
29	RCPT EXAM B2037	20 A	1			1080 VA	1080 VA	1	20 A	RCPT EXAM B2058	30
31	RCPT EXAM B2044	20 A	1	1080 VA	1080 VA		1	20 A	RCPT EXAM B2059	32
33	RCPT NURSE STATION B2062	20 A	1		1080 VA	540 VA	1	20 A	RCPT NURSE STATION B2046	34
35	RCPT XRAY CONTROL B2016	20 A	1	720 VA	1200 VA		1	20 A	RCPT NURSE STATION B2028	36
37	RCPT XRAY CONTROL B2016	20 A	1			720 VA	1200 VA	1	20 A	REFRIGERATOR	38
39	RCPT CORRIDOR	20 A	1		1080 VA	900 VA	1	20 A	RCPT GAIT LAB B2019	40
41	RCPT CORRIDOR	20 A	1			1440 VA	1200 VA	1	20 A	TREADMILL GAIT LAB B2019	42
43	RCPT NURSE STATION B2062	20 A	1	360 VA	900 VA		1	20 A	RCPT CORRIDOR	44
45	RCPT NURSE STATION B2062	20 A	1		540 VA	720 VA	1	20 A	RCPT CORRIDOR	46
47	RCPT NURSE STATION B2028	20 A	1			360 VA	720 VA	1	20 A	RCPT XRAY B2017	48
49	RCPT NURSE STATION B2046	20 A	1	360 VA	720 VA		1	20 A	RCPT XRAY B2018	50
51	CP-2	15 A	1		360 VA	500 VA	1	20 A	MOTORIZED SHADES	52
53	NURSE RECEPTACLES	20 A	1			720 VA	500 VA	1	20 A	MOTORIZED SHADES	54
55	NURSE RECEPTACLES	20 A	1	720 VA	0 VA						56
57	CORRIDOR RECEPTACLES	20 A	1		1080 VA	0 VA	3	30 A	SPD2		58
59	DOORS AND SECURITY	20 A	1			700 VA	0 VA				60
	Total Load:			20573 VA	16523 VA	17433 VA					
	Total Amps:			173 A	138 A	146 A					

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	49487 VA	60.10%	29744 VA		
SP	0 VA	0.00%	0 VA	**Total Conn. Load:**	54517 VA
M	4060 VA	100.00%	4060 VA	**Total Est. Demand:**	34900 VA
MT	1000 VA	112.50%	1125 VA	**Total Conn.:**	151 A
				Total Est. Demand:	97 A

Notes:

2LA1	2LA2

BOULDER ASSOCIATES
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214.420.5700

JOHN G PIAZZA REGISTERED No. PE10403225 STATE OF INDIANA PROFESSIONAL ENGINEER

2023.05.23

PROJECT 225462.00

IJRI - MEDICAL CENTER

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

ELECTRICAL PANELBOARD SCHEDULES

SHEET NUMBER

B-E5.03

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LEVEL 2 EXHAUST FAN SCHEDULE

MARK	SERVES	CFM	SONES	FAN DATA			ELECTRCAL MOTOR DATA				WEIGHT (LBS)	MANUFACTURER	MODEL
				T.S.P.	DRIVE	RPM	HP	BHP	VOLTS	PH			
EF-2	LEVEL 2	640 CFM	13.4	2.00 in-wg	Direct	2008	1.00	0.57	115 V	1	89	Greenheck	CUE-160-XP-VG
EF-4	LEVEL 2	160 CFM	12.1	1.40 in-wg	Direct	2086	0.25	0.21	115 V	1	168	Greenheck	FJC-306
PV-2	LEVEL 2	980 CFM	0	0.00 in-wg	Direct	1150	0.33	0.00	220 V	3	0	Montigo	SBFPV-R03-10

NOTES:

(1) ALUMINUM WHEEL CONSTRUCTION

(2) STAINLESS STEEL SHAFT

(3) SPRING BASED ISOLATORS

(4) BACKDRAFT DAMPER

(5) BAS CONTROL - START / STOP / STATUS

(6) PROVIDE FUSIBLE DISCONNECT WITH WEATHERPROOF ENCLOSURE WHEN MOUNTED OUTSIDE

(7) PROVIDE ROOF CURB

(8) PROVIDE BUILT-IN VFD

SPLIT SYSTEM SCHEDULE

MARK	CAPACITY (MBH)	SEER	INDOOR UNIT						OUTDOOR UNIT						
			CFM	WATTS	FLA	WEIGHT (LB)	MANUFACTURER	MODEL	MARK	VOLTAGE	MCA	MOCP	WEIGHT (LB)	MANUFACTURER	MODEL
FCU-5	24	21.4	740	56	1 A	46	MITSUBISHI	PKA-A24KA7	CU-1	208/1	19	26	151	MITSUBISHI	PUY-A24NHA7
FCU-6	24	21.4	740	56	1 A	46	MITSUBISHI	PKA-A24KA7	CU-2	208/1	19	26	151	MITSUBISHI	PUY-A24NHA7

NOTES

1. SUPPORT AND INSTALLATION SHALL BE PER MANUFACTURER.
2. UNIT SHALL BE INVERTER DRIVEN.
3. PROVIDE FOR LOW AMBIENT OPERATION.
4. PROVIDE WITH WALL MOUNTED THERMOSTAT.
5. PROVIDE WITH INTEGRAL CONDENSATE PUMP. TRAP, INSULATE, SLOPE, AND RUN FULL SIZE CONDENSATE DRAIN LINES TO THE NEAREST FLOOR DRAIN OR MOP SINK OR SINK TAIL PIPE UPSTREAM OF P-TRAP.
6. PROVIDE HAIL GUARD FOR CONDENSING UNIT ON ROOF.
7. INSULATE REFRIGERANT LINES.
8. ALL ROOF AND EXTERIOR MOUNTED EQUIPMENT SHALL BE DESIGNED TO WITHSTAND 150 MPH WIND GUSTS AND COMPLY WITH BAYTOWN, TX CODE OF ORDINANCES, CHAPTER 18, ARTICLE II, DIVISION 1 - WINDSTORM STANDARDS.

RTU-1 SINGLE DUCT TERMINAL BOX SCHEDULE

DESIGNATION	BOX NUMBER	SIZE	MAX SP DROP (IN WG)	MAX CFM	MIN CFM	HEATING COIL						MANUFACTURER
						REHEAT CFM	EAT	LAT	REHEAT kW	VOLTAGE	PHASE	
VRH	1-1	10	0.15	900	0	450	55	78	5.7	480 V	3	SEE SPECIFICATIONS
VRH	1-2	6	0.10	100	0	50	55	78	0.6	480 V	3	SEE SPECIFICATIONS
VRH	1-3	8	0.12	450	0	225	55	78	2.8	480 V	3	SEE SPECIFICATIONS
VRH	1-4	12	0.12	1,450	0	725	55	78	9.2	480 V	3	SEE SPECIFICATIONS
VRH	1-5	12	0.15	1,350	0	675	55	78	8.5	480 V	3	SEE SPECIFICATIONS
VRH	1-6	14	0.15	1,650	0	825	55	78	10.4	480 V	3	SEE SPECIFICATIONS
VRH	1-7	10	0.12	750	0	375	55	78	4.7	480 V	3	SEE SPECIFICATIONS
VRH	1-8	14	0.15	1,650	0	825	55	78	10.4	480 V	3	SEE SPECIFICATIONS
VRH	1-9	10	0.12	750	0	375	55	78	4.7	480 V	3	SEE SPECIFICATIONS
VRH	1-10	6	0.12	175	0	87.5	55	78	1.1	480 V	3	SEE SPECIFICATIONS
VRH	1-11	8	0.12	675	0	337.5	55	78	4.3	480 V	3	SEE SPECIFICATIONS
VRH	1-12	10	0.12	750	0	375	55	78	4.7	480 V	3	SEE SPECIFICATIONS
VRH	1-13	10	0.12	750	0	375	55	78	4.7	480 V	3	SEE SPECIFICATIONS
VRH	1-14	8	0.12	400	0	200	55	78	2.5	480 V	3	SEE SPECIFICATIONS
VRH	1-15	6	0.10	275	0	137.5	55	78	1.7	480 V	3	SEE SPECIFICATIONS
VRH	1-16	6	0.10	200	0	100	55	78	1.3	480 V	3	SEE SPECIFICATIONS
VRH	1-17	6	0.12	300	0	150	55	78	1.9	480 V	3	SEE SPECIFICATIONS
VRH	1-18	8	0.12	500	0	250	55	78	3.2	480 V	3	SEE SPECIFICATIONS
VRH	1-19	6	0.10	250	0	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	1-20	8	0.12	450	0	225	55	78	2.8	480 V	3	SEE SPECIFICATIONS
VRH	1-21	10	0.12	750	0	375	55	78	4.7	480 V	3	SEE SPECIFICATIONS
VRH	1-22	8	0.12	400	0	200	55	78	2.5	480 V	3	SEE SPECIFICATIONS
VRH	1-23	6	0.12	200	0	100	55	78	1.3	480 V	3	SEE SPECIFICATIONS
VRH	1-24	6	0.12	350	0	175	55	78	2.2	480 V	3	SEE SPECIFICATIONS
VRH	1-25	6	0.10	175	0	87.5	55	78	1.1	480 V	3	SEE SPECIFICATIONS
VRH	1-26	8	0.12	450	0	225	55	78	2.8	480 V	3	SEE SPECIFICATIONS
VRH	1-27	8	0.12	600	0	300	55	78	3.8	480 V	3	SEE SPECIFICATIONS
VRH	1-28	6	0.12	300	0	150	55	78	1.9	480 V	3	SEE SPECIFICATIONS
VRH	1-29	6	0.12	150	0	75	55	78	0.9	480 V	3	SEE SPECIFICATIONS
VRH	1-30	6	0.10	300	0	150	55	78	1.9	480 V	3	SEE SPECIFICATIONS
VRH	1-31	6	0.12	150	0	75	55	78	0.9	480 V	3	SEE SPECIFICATIONS
VRH	1-32	8	0.12	680	0	340	55	78	4.3	480 V	3	SEE SPECIFICATIONS
VRH	1-33	8	0.12	480	0	240	55	78	3.0	480 V	3	SEE SPECIFICATIONS
VRH	1-34	6	0.10	325	0	162.5	55	78	2.1	480 V	3	SEE SPECIFICATIONS
VRH	1-35	6	0.10	300	0	150	55	78	1.9	480 V	3	SEE SPECIFICATIONS
VRH	1-36	6	0.10	300	0	150	55	78	1.9	480 V	3	SEE SPECIFICATIONS
VRH	1-37	8	0.12	450	0	225	55	78	2.8	480 V	3	SEE SPECIFICATIONS
VRH	1-38	6	0.12	250	0	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	1-39	6	0.10	300	0	150	55	78	1.9	480 V	3	SEE SPECIFICATIONS
VRH	1-40	6	0.12	250	0	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS
VRH	1-41	6	0.10	250	0	125	55	78	1.6	480 V	3	SEE SPECIFICATIONS

MECHANICAL - AIR DEVICE SCHEDULE

MARK	SIZE	OBD	FINISH	NECK SIZE	MANUFACTURER / MODEL	REMARKS
S1	24/24	NO	OFF WHITE (4)	(1)	TITUS OMNI	CEILING SUPPLY AIR DIFFUSER (3) (4)
S2	12/12	NO	OFF WHITE (4)	(1)	TITUS OMNI	CEILING SUPPLY AIR DIFFUSER (3) (4)
S3	SEE PLANS	NO	OFF WHITE (4)	-	TITUS 300RL	SIDEWALL SUPPLY AIR GRILL (3) (4)
S4	SEE PLANS	NO	OFF WHITE (4)	8"	TITUS N-1-D	PLENUM SLOT DIFFUSER, 3/4" SLOT. PROVIDE MOUNTING FRAME FOR GYP. BOARD. (3) (4)
S5	SEE PLANS	NO	OFF WHITE (4)	8"	TITUS N-1-D	PLENUM SLOT DIFFUSER, 3/4" SLOT. PROVIDE MOUNTING FRAME FOR GYP. BOARD. (3) (4)
S6	48/24	NO	OFF WHITE (4)	(1)	TITUS TLF	SUPPLY -VERTICAL LAMINAR FLOW DIFFUSER
S7	4 FEET	NO	OFF WHITE (4)	8"	TITUS N-1-D	PLENUM SLOT DIFFUSER, 3/4" SLOT. PROVIDE MOUNTING FRAME FOR GYP. BOARD. (3) (4)
S8	SEE PLANS	NO	OFF WHITE (4)	8"	TITUS N-1-D	PLENUM SLOT DIFFUSER, 3/4" SLOT. PROVIDE MOUNTING FRAME FOR GYP. BOARD. (3) (4)
S9	SEE PLANS	NO	OFF WHITE (4)	8"	TITUS N-1-D	PLENUM SLOT DIFFUSER, 3/4" SLOT. PROVIDE MOUNTING FRAME FOR GYP. BOARD. (3) (4)
R1	24/24	NO	OFF WHITE (4)	(2)	TITUS PAR	CEILING RETURN AIR DIFFUSER (3) (4)
R2	12/24	NO	OFF WHITE (4)	(2)	TITUS PAR	CEILING RETURN AIR DIFFUSER (3) (4)
R3	SEE PLANS	NO	OFF WHITE (4)	-	TITUS 350FLF2	SIDEWALL RETURN AIR GRILLE(3) (4)
R5	SEE PLANS	NO	OFF WHITE (4)	8"	TITUS N-1-D	PLENUM SLOT DIFFUSER, 3/4" SLOT. PROVIDE MOUNTING FRAME FOR GYP. BOARD. (3) (4)
E1	24/24	NO	OFF WHITE (4)	(2)	TITUS PAR	CEILING EXHAUST AIR DIFFUSER (3) (4)
E2	12/12	NO	OFF WHITE (4)	(2)	TITUS PAR	CEILING EXHAUST AIR DIFFUSER (3) (4)
E3	SEE PLANS	NO	OFF WHITE (4)	-	TITUS 350RL	SIDEWALL EXHAUST GRILLE (3) (4)

NOTES:

(1)

6"Ø	0-125 CFM	8/8	0-290 CFM	6"Ø	0-100 CFM
8"Ø	130-210 CFM	12/8	291-400 CFM	8"Ø	101-180 CFM
10"Ø	215-325 CFM	12/12	401-550 CFM	10"Ø	181-280 CFM
12"Ø	330-400 CFM	18/12	551-700 CFM	12"Ø	281-400 CFM
14"Ø	405-525 CFM	18/18	701-1120 CFM	14"Ø	401-550 CFM
15"Ø	530-730 CFM	20/20	1121-1680 CFM	16"Ø	551-700 CFM

(2)

(3) CONTRACTOR TO COORDINATE FRAME STYLE W/ ARCH. PLANS

(4) CONTRACTOR TO COORDINATE COLOR SELECTIONS WITH ARCHITECT.

(5) KNOWN QUANTITY AT PRINTING. CONTRACTOR TO VERIFY ACTUAL QUANTITY.

(6) SOUND VALUES SHALL NOT EXCEED 30 NC.

AIR CHANGE SCHEDULE

ROOM	AIR CHANGES PER HOUR	AIR MOVEMENT RELATIONSHIP TO ADJACTENT AREAS
PATIENT ROOM	6	NR
ISOLATION ROOM	12	IN
OR	20	OUT
ISOLATION ROOM ANTEROOM	10	IN/OUT
NURSERY	6	NR
DECONTAMINATION	6	IN
LDR	6	NR
EXAM ROOM	6	NR
TRIAGE	12	IN
PREPARATION/ANTE ROOM	6	OUT
PHARMACY	4	OUT
TREATMENT	6	NR
TRAUMA	15	OUT

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2023.05.23

PROJECT 225462.00

IJRI - MEDICAL CENTER

14065 BORG WARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

MECHANICAL SCHEDULES AND DIAGRAMS

SHEET NUMBER

B-M1.01

05/25/2023 8:17:08 PM
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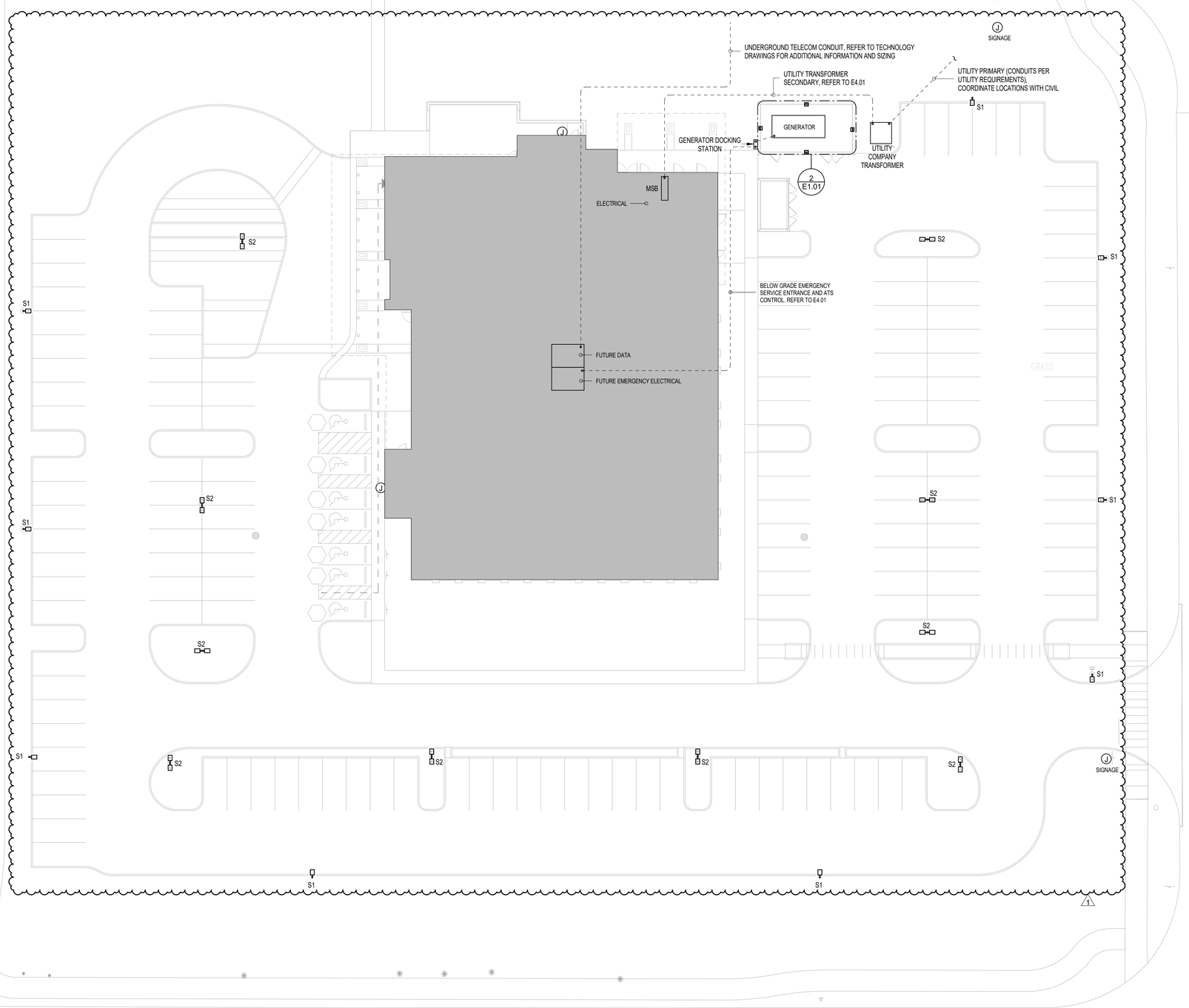
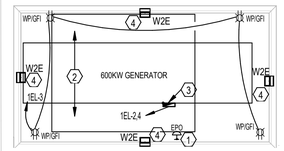


1 SITE PLAN - ELECTRICAL CORE
E1.01 1" = 20'-0"



2 ENLARGED PLAN - GENERATOR COURTYARD
E1.01 E1.01 1" = 10'-0"

GENERAL NOTES:

A. COORDINATE ELECTRICAL UTILITY REQUIREMENTS WITH UTILITY:

COORDINATE EXACT UTILITY TRANSFORMER LOCATION AND CLEARANCES. PROVIDE PAD PER UTILITY COMPANY REQUIREMENTS.

COORDINATE PRIMARY, INCLUDING CONDUIT SIZE AND QUANTITY, AND ROUTE PATH WITH UTILITY COMPANY AND CIVIL ENGINEER.

B. COORDINATE TELEPHONE SERVICE REQUIREMENTS WITH TELEPHONE COMPANY AND PROVIDE ACCORDINGLY.

C. COORDINATE CABLE TV SERVICE REQUIREMENTS WITH CABLE COMPANY AND PROVIDE ACCORDINGLY.

D. CONTROLE SITE LIGHTING VIA PHOTOCELL ROUTE BRANCH CIRCUITS THROUGH LIGHTING RELAY CONTROL PANEL.

KEYED NOTES: (#)

NOTE: REFERENCE NUMBER INSIDE HEXAGON

1 GENERATOR REMOTE MANUAL EMERGENCY STOP STATION. COORDINATE EXACT LOCATION WITH FIRE MARSHALL PRIOR TO ROUGH IN.

2 GENERATOR PLATFORM WITH STAIRS ON EACH END (PROVIDED WITH GENERATOR).

3 100A, 120/240V 1-PHASE LOAD CENTER PROVIDED WITH GENERATOR TO SERVE BATTERY CHARGER, BATTERY WARMER, BLOCK HEATER, LIGHTS, AND CONVENIENCE RECEPTACLE WITHIN GENERATOR ENCLOSURE.

4 PROVIDE WALL PACK AS INDICATED AND CONNECT TO CIRCUIT 1DPEH-12. REFER TO PANEL SCHEDULE FOR ADDITIONAL INFORMATION.

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2023.05.23

PROJECT 225462.00

IJRI - SITE, CORE AND SHELL

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

SITE PLAN - ELECTRICAL

SHEET NUMBER

E1.01

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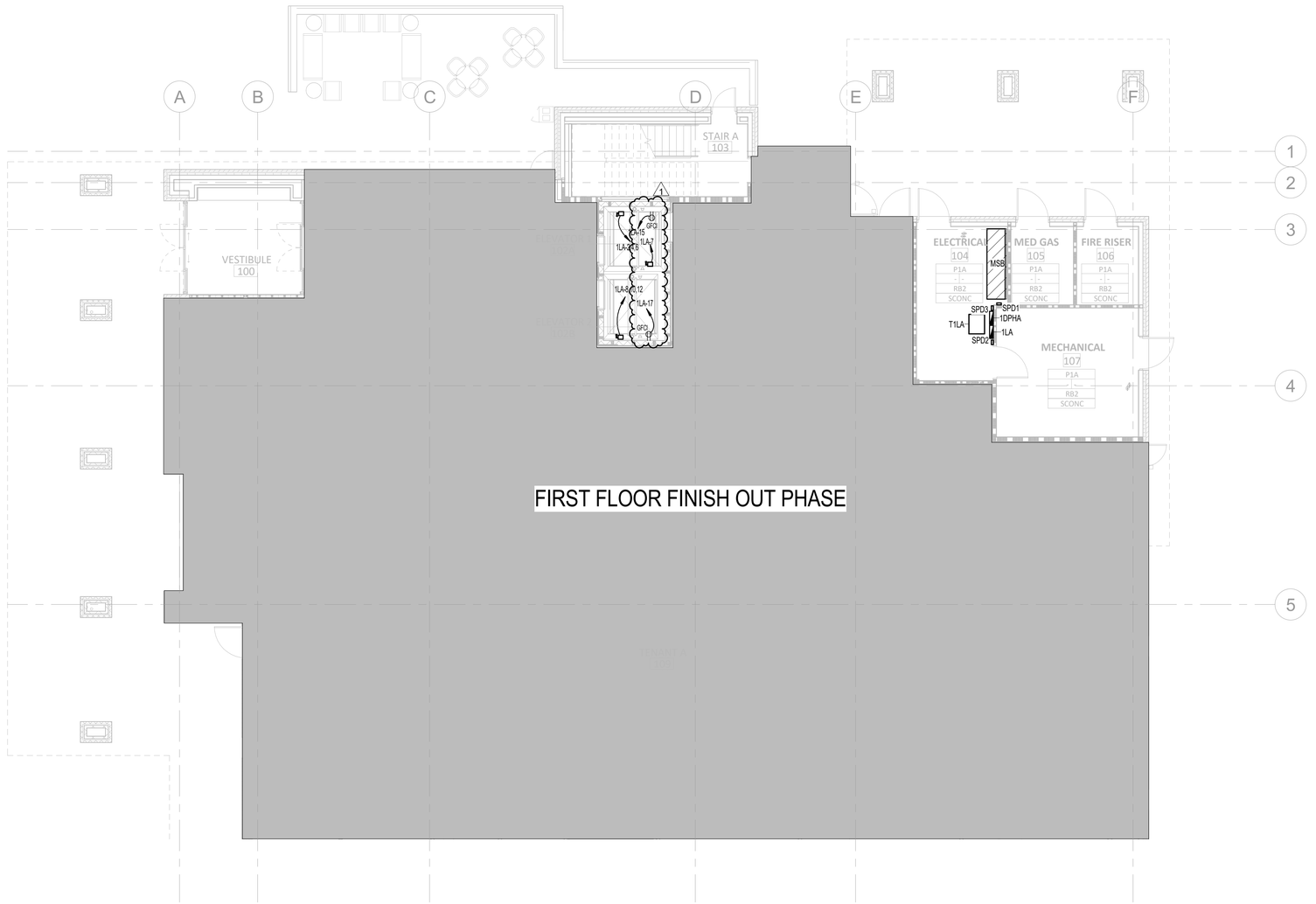

1 FLOOR PLAN - LEVEL 1 - POWER CORE - AREA A
E2.01A 1/8" = 1'-0"

GENERAL NOTES:

A. REFER TO ARCHITECTURAL DRAWINGS FOR CONSTRUCTION PHASING REQUIREMENTS.

B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND ELEVATIONS OF WIRING DEVICES.

C. REFER TO SHEET E0.01 FOR ELECTRICAL SYMBOL LEGEND AND SHEET E0.02 FOR ELECTRICAL LIGHT FIXTURE SCHEDULE.

1 D. FIRE ALARM SYSTEM IS PERFORMANCED BASED. RE: SPECIFICATION 28 31 00.

1. DEVICES SHALL BE ADDRESSABLE AND INTELLIGENT.
2. SYNCHRONIZE DEVICES.
3. PROVIDE INTERFACE TO EGRESS DOORS TO AUTO RELEASE OPEN IN EVENT OF FIRE ALARM.
4. REFER TO SHEET E2.03 ELECTRICAL ROOF PLAN FOR AHU'S (DUCT DETECTORS).

E. PROVIDE BACKBOX AND RACEWAY ROUGH-IN FOR THE FOLLOWING SYSTEMS:
1. NURSE CALL, CODE BLUE, PHYSIOLOGICAL MONITORING.
2. SECURITY (CAMERAS, CARD READERS, ACCESS CONTROL).
3. OVERHEAR PAGE / PUBLIC ADDRESS.
4. TV.
5. VOICE / DATA.

REFER TO TECHNOLOGY T-SERIES DRAWINGS. PROVIDE AND COORDINATE 120V REQUIREMENTS FOR THESE SYSTEMS.

F. PROVIDE TAMPER RESISTANT RECEPTACLES IN BUSINESS OFFICES, CORRIDORS, WAITING ROOMS AND PATIENT CARE AREAS.

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DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

POWER - LEVEL 1 AREA A

SHEET NUMBER

E2.01A

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FEEDER CIRCUIT SCHEDULE - COPPER

AMPS	CONDUCTORS	EMT	PVC 40	CONDUCTORS	EMT	PVC 40
175	3#2/0 CU, #6 CU G	2"C	2"C	4#2/0 CU, #6 CU G	2"C	2"C
200	3#3/0 CU, #6 CU G	2 1/2"C	2 1/2"C	4#3/0 CU, #6 CU G	2 1/2"C	2 1/2"C
225	3#4/0 CU, #4 CU G	2 1/2"C	2 1/2"C	4#4/0 CU, #4 CU G	2 1/2"C	2 1/2"C
250	3#250 CU, #4 CU G	2 1/2"C	2 1/2"C	4#250 CU, #4 CU G	2 1/2"C	2 1/2"C
400	2 SETS 3#3/0 CU, #3 CU G	2"C	2"C	2 SETS 4#3/0 CU, #3 CU G	2"C	2"C
600	2 SETS 3#350 CU, #1 CU G	2 1/2"C	3"C	2 SETS 4#350 CU, #1 CU G	3"C	3"C
800	3 SETS 3#300 CU, #1/0 CU G	2 1/2"C	3"C	3 SETS 4#300 CU, #1/0 CU G	2 1/2"C	3"C
1000	3 SETS 3#400 CU, #2/0 CU G	2 1/2"C	3 1/2"C	3 SETS 4#400 CU, #2/0 CU G	3"C	3 1/2"C
1200	3 SETS 3#600 CU, #3/0 CU G	3"C	3 1/2"C	3 SETS 4#600 CU, #3/0 CU G	3 1/2"C	4"C
1600	4 SETS 3#600 CU, #4/0 CU G	3"C	3 1/2"C	4 SETS 4#600 CU, #4/0 CU G	3 1/2"C	4"C
2000	5 SETS 3#600 CU, #250 CU G	3"C	3 1/2"C	5 SETS 4#600 CU, #250 CU G	3 1/2"C	4"C

BRANCH AND FEEDER CIRCUIT SCHEDULE - COPPER

AMPS	CONDUCTORS	EMT	PVC 40	CONDUCTORS	EMT	PVC 40
15	3#12 CU, #12 CU G	3/4"C	3/4"C	4#12 CU, #12 CU G	3/4"C	3/4"C
20	3#12 CU, #12 CU G	3/4"C	3/4"C	4#12 CU, #12 CU G	3/4"C	3/4"C
25	3#10 CU, #10 CU G	3/4"C	3/4"C	4#10 CU, #10 CU G	3/4"C	3/4"C
30	3#10 CU, #10 CU G	3/4"C	3/4"C	4#10 CU, #10 CU G	3/4"C	3/4"C
35	3#8 CU, #10 CU G	3/4"C	3/4"C	4#8 CU, #10 CU G	3/4"C	3/4"C
40	3#8 CU, #10 CU G	3/4"C	3/4"C	4#8 CU, #10 CU G	3/4"C	3/4"C
45	3#6 CU, #10 CU G	3/4"C	3/4"C	4#6 CU, #10 CU G	1"C	1"C
50	3#6 CU, #10 CU G	3/4"C	3/4"C	4#6 CU, #10 CU G	1"C	1"C
60	3#4 CU, #10 CU G	1"C	1"C	4#4 CU, #10 CU G	1 1/4"C	1 1/4"C
70	3#4 CU, #8 CU G	1"C	1"C	4#4 CU, #8 CU G	1 1/4"C	1 1/4"C
80	3#3 CU, #8 CU G	1 1/4"C	1 1/4"C	4#3 CU, #8 CU G	1 1/4"C	1 1/4"C
90	3#2 CU, #8 CU G	1 1/4"C	1 1/4"C	4#2 CU, #8 CU G	1 1/4"C	1 1/4"C
100	3#1 CU, #8 CU G	1 1/4"C	1 1/2"C	4#1 CU, #8 CU G	1 1/2"C	1 1/2"C
110	3#1 CU, #6 CU G	1 1/4"C	1 1/2"C	4#1 CU, #6 CU G	1 1/2"C	1 1/2"C
125	3#1 CU, #6 CU G	1 1/4"C	1 1/2"C	4#1 CU, #6 CU G	1 1/2"C	1 1/2"C
150	3#1/0 CU, #6 CU G	1 1/2"C	1 1/2"C	4#1/0 CU, #6 CU G	2"C	2"C

SCHEDULE NOTES:
1. COPPER CONDUCTOR AMPACITY SIZES BASED ON NEC TABLE 310.15(B)(16). CONDUCTORS 100 AMPS AND LESS UTILIZE UTILIZE 60°C. CONDUCTORS GREATER THAN 100 AMPS UTILIZE 75°C.
2. GROUND CONDUCTOR SIZES ARE BASED ON NEC TABLE 250.122.
3. CONDUIT SIZES ARE BASED ON NEC TABLES C.1 (EMT) AND C.10 (PVC).
4. CONDUIT SIZES FOR OTHER INSULATION CHARACTERISTIC, USE THE NEC, ANNEX C TABLE.

FEEDER CIRCUIT SCHEDULE - ALUMINUM

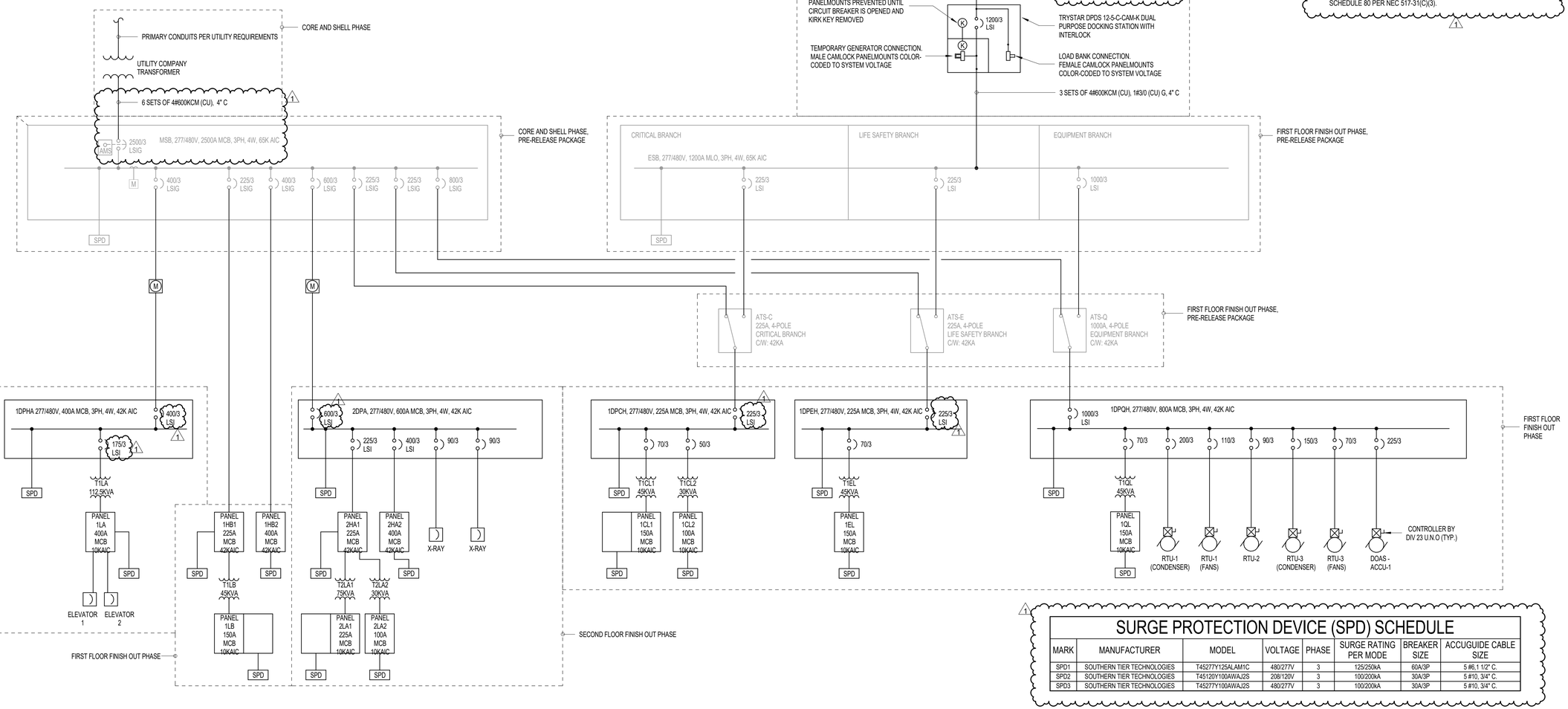
AMPS	CONDUCTORS	EMT	PVC 40	CONDUCTORS	EMT	PVC 40
175	3#4/0 AL, #4 AL G	2"C	2"C	4#4/0 AL, #4 AL G	2 1/2"C	2 1/2"C
200	3#250 AL, #2 AL G	2 1/2"C	2 1/2"C	4#250 AL, #2 AL G	2 1/2"C	3"C
225	3#300 AL, #2 AL G	2 1/2"C	2 1/2"C	4#300 AL, #2 AL G	2 1/2"C	3"C
250	3#350 AL, #2 AL G	2 1/2"C	3"C	4#350 AL, #2 AL G	3"C	3"C
400	2 SETS 3#250 AL, #1 AL G	2 1/2"C	2 1/2"C	2 SETS 4#250 AL, #1 AL G	2 1/2"C	2 1/2"C
600	2 SETS 3#500 AL, #2/0 AL G	3"C	3"C	2 SETS 4#500 AL, #2/0 AL G	3"C	3 1/2"C
800	3 SETS 3#400 AL, #3/0 AL G	2 1/2"C	3"C	3 SETS 4#400 AL, #3/0 AL G	3"C	3"C
1000	3 SETS 3#600 AL, #4/0 AL G	3"C	3 1/2"C	3 SETS 4#600 AL, #4/0 AL G	3 1/2"C	4"C
1200	4 SETS 3#500 AL, #250 AL G	3"C	3"C	4 SETS 4#500 AL, #250 AL G	3"C	3 1/2"C
1600	5 SETS 3#600 AL, #350 AL G	3"C	3 1/2"C	5 SETS 4#600 AL, #350 AL G	3 1/2"C	4"C
2000	6 SETS 3#600 AL, #400 AL G	3"C	3 1/2"C	6 SETS 4#600 AL, #400 AL G	3 1/2"C	4"C

TRANSFORMER SCHEDULE - COPPER

KVA	PRIMARY		SECONDARY		GROUNDING ELECTRODE
	OCP A/P	CONDUCTORS/CONDUIT	OCP A/P	CONDUCTORS/CONDUIT	
15	25/3	3#10, #10G, 3/4"C	60/3	4#4, #8G, 1-1/4"C	1#8G
30	50/3	3#6, #10G, 3/4"C	100/3	4#1, #6G, 1-1/2"C	1#6G
45	70/3	3#4, #8G, 1"C	150/3	4#1/0, #6G, 2"C	1#6G
75	125/3	3#1, #6G, 1-1/4"C	225/3	4#4/0, #2G, 2-1/2"C	1#2G
112.5	175/3	3#2/0, #6G, 2"C	400/3	4#600KCM, #1/0G, 3-1/2"C	1#1/0G
150	225/3	3#4/0, #4G, 2"C	500/3	2 SETS OF 4#250KCM, #1/0G, 2-1/2"C	1#1/0G

OCP - OVERCURRENT PROTECTION
A/P - AMPS/POLES

NOTES:
1. COPPER CONDUCTOR AMPACITY SIZES BASED ON 2011 NEC TABLE 310.15(B)(16). CONDUCTORS LESS THAN 110 AMPS UTILIZE 60°C. CONDUCTORS GREATER THAN 110 AMPS UTILIZE 75°C.
2. CONDUIT SIZES ARE BASED ON 2011 NEC TABLE C.1 (EMT).
3. CONDUIT SIZES FOR OTHER INSULATION CHARACTERISTIC, USE THE 2011 NEC, ANNEX C TABLE.



SURGE PROTECTION DEVICE (SPD) SCHEDULE

MARK	MANUFACTURER	MODEL	VOLTAGE	PHASE	SURGE RATING PER MODE	BREAKER SIZE	ACCUGUIDE CABLE SIZE
SPD1	SOUTHERN TIER TECHNOLOGIES	T45277Y125ALAM1C	480/277V	3	125/250kA	60A/3P	5 #6,1 1/2" C.
SPD2	SOUTHERN TIER TECHNOLOGIES	T45120Y100AWAJ2S	208/120V	3	100/200kA	30A/3P	5 #10, 3/4" C.
SPD3	SOUTHERN TIER TECHNOLOGIES	T45277Y100AWAJ2S	480/277V	3	100/200kA	30A/3P	5 #10, 3/4" C.

1 ELECTRICAL ONE-LINE DIAGRAM
E4.01 NOT TO SCALE

GENERAL NOTES:

A. REFER TO PANEL SCHEDULES FOR SPARE CIRCUIT BREAKERS AND SPACE REQUIREMENTS.

B. REFER TO SPECIFICATION SECTION 26 05 73 FOR SHORT CIRCUIT, OVERCURRENT PROTECTIVE DEVICE COORDINATION, AND ARC-FLASH STUDY REQUIREMENTS.

C. VFDS AND PACKAGE EQUIPMENT CONTROLLERS ARE PROVIDED BY DIVISION 22/23 TYPICAL UNLESS NOTED OTHERWISE. STARTER FOR EXHAUST FANS, FAN COIL UNITS AND UNIT HEATERS ARE PROVIDED BY DIVISION 23 UNLESS NOTED OTHERWISE.

D. PROVIDE FULLY ADJUSTABLE L-S-I-G CIRCUIT BREAKERS.

E. BELOW GRADE EMERGENCY SYSTEM SERVICES AND FEEDERS SHALL BE SCHEDULE 80 PER NEC 517-31(C)(3).

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2023.05.23

PROJECT 225462.00

IJRI - SITE, CORE AND SHELL

CONSTRUCTION DOCUMENTS

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REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

ELECTRICAL ONE-LINE DIAGRAM

SHEET NUMBER

E4.01

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LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURE	MODEL	NO. OF LAMPS	WATTAGE	DESCRIPTION
A	COLUMBIA	LCAT24 35 ML G ED1 U	1	39 VA	2X4 RECESSED CENTER FILL LED FIXTURE WITH A HIGH EFFICIENCY ACRYLIC LENS, 4000 LUMENS, UNIVERSAL VOLTAGE, 3500K, 0-10V DIMMING TO 1%.
A1	XAL LIGHTING	BASO 4.0 RTLRTR9GR9SG15G WHBL 30K35K 010V 0500LF0955LF ST 48IN72IN96IN	1	72 VA	4' LINEAR DECORATIVE SLOT FIXTURE, EXTRUDED ALUMINUM HOUSING, WHITE PAINT FINISH, FROSTED PRISMATIC ACRYLIC LENS, 0-10V DIMMING, REFER TO PLANS FOR LENGTHS.
A1E	XAL LIGHTING	BASO 4.0 RTLRTR9GR9SG15G WHBL 30K35K 010V 0500LF0955LF ST 48IN72IN96IN	1	72 VA	SAME AS TYPE A1, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
A2	XAL LIGHTING	BASO 2.5 SURPDT WHBL 30K35K 010V 0455LF0750LF ST 48IN72IN96IN	1	59 VA	6' LINEAR DECORATIVE SUSPENDED FIXTURE, EXTRUDED ALUMINUM HOUSING, WHITE PAINT FINISH, FROSTED PRISMATIC ACRYLIC LENS, 0-10V DIMMING, REFER TO PLANS FOR LENGTHS.
A2E	XAL LIGHTING	BASO 2.5 SURPDT WHBL 30K35K 010V 0455LF0750LF ST 48IN72IN96IN	1	59 VA	SAME AS TYPE A2, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
A3	CURRENT	OBX-S-24-DW-I-ASYM-DA-1C-9-35-L220-ED1	1	45 VA	2X4 RECESSED LENSED LED MEDMASTER SURGICAL TROFFER, 3500K, 0-10V DIMMING TO 1%, SYMETRIC/ASYMETRIC LENS, RFI GRID FILTER, EMC EXCEEDS MIL STD 461F REQUIREMENTS, ANTI-MICROBIAL FINISH, CONTINOUS ROW MOUNTING.
A3E	CURRENT	OBX-S-24-DW-I-ASYM-DA-1C-9-35-L220-ED1	1	169 VA	SAME AS TYPE A3, PROVIDE WITH 1400 LUMEN EMERGENCY BATTERY PACK. BATTERY SHALL BE BODINE B50 ST REDITEST SELF-DIAGNOSTIC.
A4	COLUMBIA	LCAT24-35MLG-ED1-U	1	39 VA	2X4 RECESSED CENTER FILL LED FIXTURE WITH FROSTED LENS, 4000 LUMENS, UNIVERSAL VOLTAGE, 3500K, 0-10V DIMMING TO 1%.
A4E	COLUMBIA	LCAT24-35MLG-ED1-U	1	39 VA	SAME AS TYPE A4, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
AE	COLUMBIA	LCAT24 35 ML G ED1 U ELL14	1	39 VA	SAME AS TYPE A, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
BE	COLUMBIA	LJT22-35HLG-FSA19F-ED1-U	1	27 VA	2X2 RECESSED LED TROFFER, 156 DEGREE ACRYLIC LENS, NOMINAL 2500 LUMENS, 3500K, FLUSH STEEL WHITE DOOR, 0-10 DIMMING CAPABILITY TO 1%. PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
C	PRESCOLITE	LFR-6RD-M-10L-35K-8-XW-DM1-LFR-6RD-T-SS-WT-LFR-6RD-H	1	11 VA	6" SPECIFICATION GRADE RECESSED ROUND LED DOWNLIGHT, 1000 LUMENS, 3500K, 0.9 SPACING CRITERIA, 2-STEP SCDM OR BETTER, 0-10V DIMMING TO 1%, WHITE TRIM, SEMI SPEC FINISH.
C2	ARMSTRONG	AXIDL CC 4 1418	1	200 VA	COVE LIGHTS. COORDINATE WITH ARCHITECT FOR EXACT INSTALLATION LOCATIONS AND LENGTHS.
CE	PRESCOLITE	LFR-6RD-M-10L-35K-8-XW-DM1-LFR-6RD-T-SS-WT-LFR-6RD-H	1	11 VA	SAME AS TYPE C.
D1	LIGHTOLOGY	NOREEN PENDANT AHM891721	1	8 VA	6" COMMERCIAL GRADE RECESSED LED DOWNLIGHT, 3500K, 0-10V DIMMING.
D1E	LIGHTOLOGY	NOREEN PENDANT AHM891721	1	8 VA	SAME AS TYPE D1, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
D2	PRESCOLITE	LTR-6RD-H-SL-10L-DM1-LTR-6RD-T-SH-SL-35K-8-WT-AML	1	15 VA	6" SPECIFICATION GRADE RECESSED ROUND LED DOWNLIGHT, SHOWER LIGHT, 1100 LUMENS, 3500K, 0-10V DIMMING, WITH NON CONDUCTIVE TRIM SOLITE LENS.
D2E	PRESCOLITE	LTR-6RD-H-SL-10L-DM1-LTR-6RD-T-SH-SL-35K-8-WT-AML	1	15 VA	SAME AS TYPE D2, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
D3	PRESCOLITE	LFR-6R2-M-20L35K8-LWW-DM1 / LFR-6R2-T / LFR-6RD-H	1	15 VA	6" COMMERCIAL GRADE LED WALL WASH, 3500K, 0-10V DIMMING.
F1E	COLUMBIA	MPS4-35HL-FW-ED1U-CSHC	2	35 VA	4' INDUSTRIAL STRIP LIGHT, ELECTRONIC BALLAST, 2 LAMP, CHAIN HANG LIGHT FIXTURES AT 9'-0", PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
FE	COLUMBIA	LXEM4-35ML-RFA-EDU	1	42 VA	4' INDUSTRIAL STRIP LIGHT, WALL MOUNTED, FOR USE IN ELEVATOR SHAFTS.
P	BROWNLEE LIGHTING	CLOUD DRUM 19 WH C49 WHA	1	45 VA	24" DIA. X 8" H DECORATIVE ROUND DRUM PENDANT WITH DIMMING.
P1	LIGHTOLOGY	AHM891721	1	100 VA	DECORATIVE PENDANT.
P2	BROWNLEE LIGHTING	CLOUD DRUM 12" D	1	100 VA	12" DIA. X 8" H DECORATIVE ROUND DRUM PENDANT WITH DIMMING.
PE	BROWNLEE LIGHTING	CLOUD DRUM 19 WH C49 WHA	1	45 VA	SAME AS TYPE P, PROVIDE WITH BATTERY BACKUP FOR SECOND FLOOR FIXTURES.
S1	BEACON	VP-1-160L-100-4K7-3-UNV-A-DBT-CD-NX SENSOR	1	110 VA	SINGLE HEADED POLE MOUNTED EXTERIOR PARKING LOT AREA SITE LIGHT, TYPE 3 DISTRIBUTION, MVOLT, DARK BRONZE FINISH, MOUNTED ON 20' RSS POLE. PROVIDE WITH INTEGRAL MOTION SENSOR FOR ADDITIONAL LIGHTING CONTROL.
S2	BEACON	VP-1-160L-100-4K7-4W-UNV-A-DBT-CD-NX SENSOR	2	220 VA	DOUBLE HEADED POLE MOUNTED EXTERIOR PARKING LOT AREA SITE LIGHT, FORWARD THROW DISTRIBUTION, MVOLT, DARK BRONZE FINISH, MOUNTED ON 20' RSS POLE. PROVIDE WITH INTEGRAL MOTION SENSOR FOR ADDITIONAL LIGHTING CONTROL.
UC	COLUMBIA	CUC2-CS-ED120	1	14 VA	UNDERCABINET LIGHT. REFER TO DRAWINGS FOR EXACT LENGTHS.
V1	LIGHTOLOGY	MILO BLK872404 24"	1	11 VA	WALL MOUNTED VANITY LIGHT IN RESTROOMS.
W1	SILO	OUTDOOR WALL SCONCE	1	70 VA	EXTERIOR WALL MOUNTED LED SCONCE, 700MA DRIVE CURRENT, NOMINAL 7000 LUMENS, 4000K, TYPE III MEDIUM DISTRIBUTION, UNIVERSAL VOLTAGE, PHOTOELECTRIC CELL, DARK BRONZE FINISH, CONTRACTOR TO VERIFY VOLTAGE FOR PHOTOCELL OPTION.
W2E	CURRENT	WDM D 48L 55 4K7 42 UNV NXWS16F	1	55 VA	EXTERIOR WALL PACK.
W3	CURRENT	OBN-U-S-R-OBN-KIT DIFF SW4	1	13 VA	X-RAY INDICATOR LIGHT.
X1	DUAL-LITE	LE C S R N A	1	5 VA	SURFACE MOUNTED ARCHITECTURAL LED EDGE LIT EXIT SIGN, SINGLE FACE, SATIN ALUMINUM TRIM, RED LETTERS, CHEVRON DIRECTIONAL ARROWS AS INDICATED ON PLANS, PROVIDE WITH BATTERY BACKUP.
X2	DUAL-LITE	LE C D R N A	1	5 VA	SURFACE MOUNTED ARCHITECTURAL LED EDGE LIT EXIT SIGN, DOUBLE FACE, SATIN ALUMINUM TRIM, RED LETTERS, CHEVRON DIRECTIONAL ARROWS AS INDICATED ON PLANS, PROVIDE WITH BATTERY BACKUP.

1

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DBR Project Number 223183.000

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JOHN G PIAZZA REGISTERED No. PE10403225 STATE OF INDIANA PROFESSIONAL ENGINEER

2023.05.23

PROJECT 225462.00

IJRI - SITE, CORE AND SHELL

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

ELECTRICAL LIGHTING FIXTURE SCHEDULE

SHEET NUMBER

E5.01

5/23/2023 11:39:24 PM
Autodesk Docs://225462.00 M2 Orthopedic Indiana R23/Electrical M2 Orthopedic Indiana-22702.rvt
THIS LINE IS 1 INCH LONG WHEN PRINTED TO FULL SCALE

Switchboard: MSB

Location:
Supply From: UTILITY TRANSFORMER
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 480Y/277
Phases: 3
Wires: 4

A.I.C. Rating: 65,000 AMPS SYMMETRICAL
Mains Type: LSIG MAIN CB
Mains Rating: 2500 A
MCB Rating: 2500 A

1

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Connected Load	Remarks
1	SPD1	3	60 A	60 A	0 VA	
2	1DPHA	3	400 A	400 A	91010 VA	LSIG BREAKER
3	1HB1	3	225 A	225 A	177469 VA	LSIG BREAKER
4	1HB2	3	400 A	400 A	206830 VA	LSIG BREAKER
5	2DPA	3	600 A	600 A	451549 VA	LSIG BREAKER
6	ATS-C	3	225 A	225 A	99612 VA	LSIG BREAKER
7	ATS-E	3	225 A	225 A	38730 VA	LSIG BREAKER
8	ATS-Q	3	800 A	800 A	678950 VA	LSIG BREAKER
9	SPACE	3	--	--	0 VA	
10	SPACE	3	--	--	0 VA	
11	SPACE	3	--	--	0 VA	
12	SPACE	3	--	--	0 VA	
				Total Conn. Load:	1744112 VA	
				Total Amps:	2098 A	

Legend:

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	236499 VA	52.11%	123250 VA		
LIGHTS	4189 VA	125.00%	5236 VA	**Total Conn. Load:**	1744112 VA
POWER (NON-CONTINUOUS)	16640 VA	100.00%	16640 VA	**Total Est. Demand:**	1684613 VA
LITES (CONTINUOUS)	29372 VA	125.00%	36715 VA	**Total Conn.:**	2098 A
L	9964 VA	100.00%	9964 VA	**Total Est. Demand:**	2026 A
SP	2000 VA	100.00%	2000 VA		
M	1027115 VA	100.00%	1027115 VA		
R	2160 VA	100.00%	2160 VA		
MT	416285 VA	110.88%	461596 VA		

Notes:
SWITCHBOARD MSA TO BE PART OF PRE-RELEASE PACKAGE & SCHEDULE IS FOR REFERENCE ONLY. PROVIDE INTEGRAL METER AND ENERGY REDUCING SWITCH AS INDICATED ON THE ONE-LINE DIAGRAM.

1

Branch Panel: 1DPHA

NORMAL BRANCH

Location:
Supply From: MSB
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 480Y/277
Phases: 3
Wires: 4

A.I.C. Rating: 42,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 400 A
MCB Rating: 400 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1				0 VA	89570 VA								2
3	SPD3	60 A	3			0 VA	900 VA			3	70 A	T1LA	4
5								0 VA	540 VA				6
7	SPACE	--	1	--	--					1	--	SPACE	8
9	SPACE	--	1			--	--			1	--	SPACE	10
11	SPACE	--	1					--	--	1	--	SPACE	12
13	SPACE	--	1	--	--					1	--	SPACE	14
15	SPACE	--	1			--	--			1	--	SPACE	16
17	SPACE	--	1					--	--	1	--	SPACE	18
19	SPACE	--	1	--	--					1	--	SPACE	20
				Total Load:	89570 VA		900 VA		540 VA				
				Total Amps:	324 A		3 A		2 A				

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	2880 VA	100.00%	2880 VA		
SP	0 VA	0.00%	0 VA	**Total Conn. Load:**	91010 VA
MT	88130 VA	112.26%	98939 VA	**Total Est. Demand:**	101819 VA
				Total Conn.:	109 A
				Total Est. Demand:	122 A

Notes:

Branch Panel: 1LA

NORMAL BRANCH

Location:
Supply From: T1LA
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 208Y/120
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AMPS SYMMETRICAL
Mains Type: MCB
Mains Rating: 400 A
MCB Rating: 400 A
Sub Feed Lugs: No

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1				0 VA	43235 VA								2
3	SPD2	30 A	3			0 VA	0 VA			3	175 A	ELEVATOR 1	4
5								0 VA	0 VA				6
7	SUMP PUMP	25 A	1	1660 VA	43235 VA								8
9	EXTERIOR RECEPTACLES	20 A	1			720 VA	0 VA			3	175 A	ELEVATOR 2	10
11	EXTERIOR RECEPTACLES	20 A	1					360 VA	0 VA				12
13	CORRIDOR RECEPTACLES	20 A	1	1440 VA						1		SPACE	14
15	ELEVATOR PIT RECEPTACLE	20 A	1			180 VA	--			1	--	SPACE	16
17	ELEVATOR PIT RECEPTACLE	20 A	1					180 VA	--	1	--	SPACE	18
19	SPARE	20 A	1	0 VA	--					1	--	SPACE	20
21	SPARE	20 A	1			0 VA	--			1	--	SPACE	22
23	SPARE	20 A	1					0 VA	--	1	--	SPACE	24
25	SPARE	20 A	1	0 VA	--					1	--	SPACE	26
27	SPARE	20 A	1			0 VA	--			1	--	SPACE	28
29	SPARE	20 A	1					0 VA	--	1	--	SPACE	30
				Total Load:	89570 VA		900 VA		540 VA				
				Total Amps:	747 A		8 A		5 A				

1

Load Classification Per NEC Article 220	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT (NEC 220.44)	2880 VA	100.00%	2880 VA		
SP	0 VA	0.00%	0 VA	**Total Conn. Load:**	91010 VA
MT	88130 VA	112.26%	98939 VA	**Total Est. Demand:**	101819 VA
				Total Conn.:	253 A
				Total Est. Demand:	283 A

Notes:

MSB	1DPHA
	1LA

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TBPE Firm Registration No. 2234

DBR Project Number 223183.000

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JOHN G PIAZZA REGISTERED No. PE10403225 STATE OF INDIANA PROFESSIONAL ENGINEER

2023.05.23

PROJECT 225462.00

IJRI - SITE, CORE AND SHELL

CONSTRUCTION DOCUMENTS

DATE 2023.05.23

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

ELECTRICAL PANELBOARD SCHEDULES

SHEET NUMBER

E5.02

5/23/2023 11:39:24 PM
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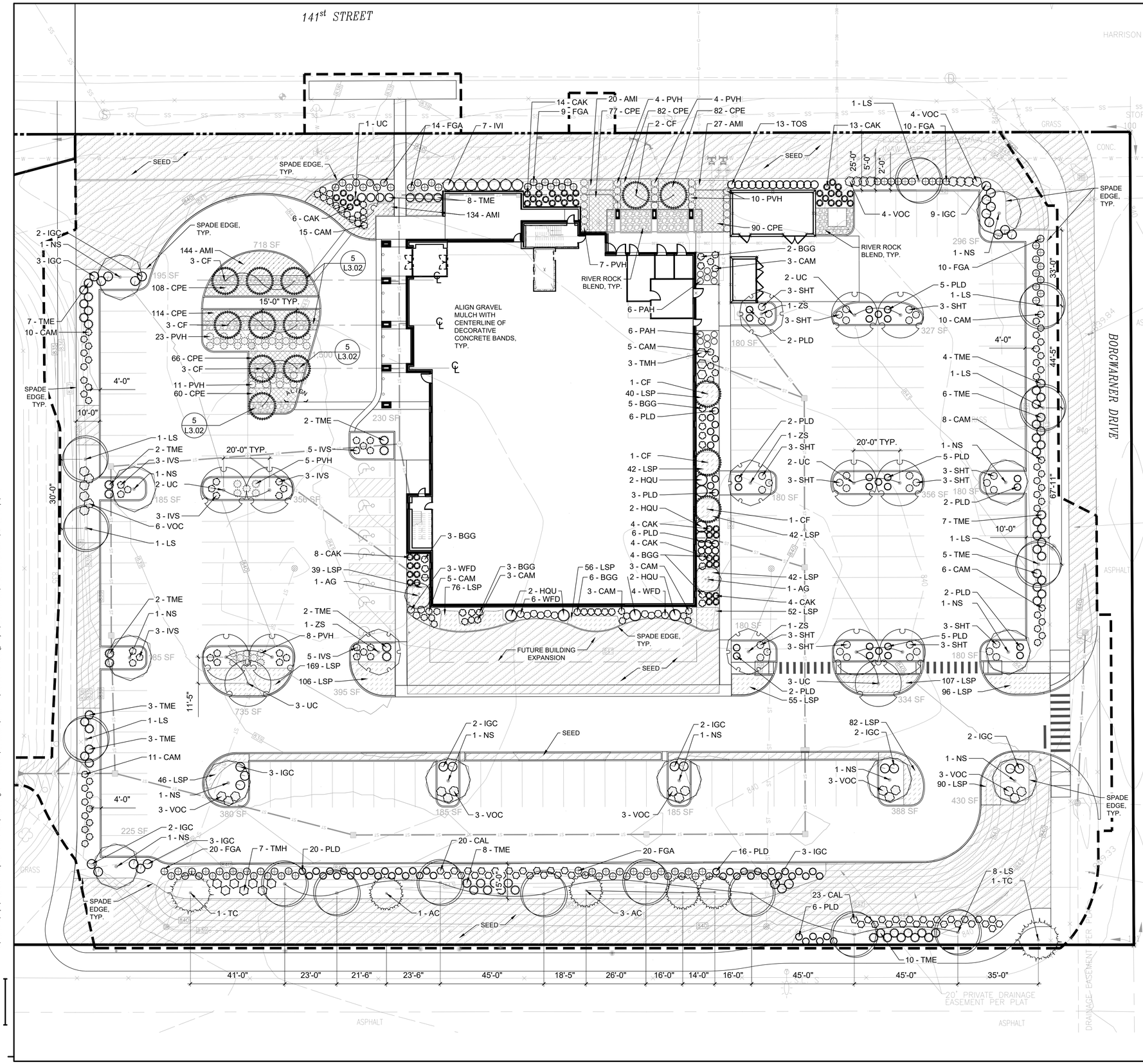

PLANTING NOTES

A. CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL IN ALL SEEDED/SODDED AREAS.

B. PLANT MATERIAL SHALL BE INSTALLED AND MAINTAINED BY A QUALIFIED AND EXPERIENCED LANDSCAPE CONTRACTOR.

C. LOCATE AND VERIFY ALL PUBLIC AND PRIVATE UTILITIES PRIOR TO STARTING LANDSCAPE WORK.

D. STAKE AND CONFIRM ALL DIMENSIONS, GRADES, AND PLANT LAYOUT PRIOR TO STARTING WORK. REPORT ANY DISCREPANCIES TO OWNER'S REPRESENTATIVE IMMEDIATELY.

E. PROVIDE 3" SHREDDED HARDWOOD MULCH (BROWN) IN ALL PLANTING BEDS AND IN 6' DIA AROUND ALL TREES UNLESS OTHERWISE NOTED. CONTRACTOR SHALL PROVIDE A MULCH RING AROUND ALL EXISTING TREES WITHIN THE LIMIT OF WORK. REMOVE ALL EXISTING GRASS FROM AREA TO BE MULCHED AND PROVIDE A TYPICAL SPADE EDGE.

F. DO NOT LOCATE PLANTS WITHIN 10' OF UTILITY STRUCTURES, OR WITHIN 5' HORIZONTALLY OF UNDERGROUND UTILITY LINES UNLESS OTHERWISE SHOWN ON THE PLANS. CONSULT WITH OWNER'S REPRESENTATIVE IF THESE CONDITIONS EXIST.

G. PLANTS AND OTHER MATERIALS ARE QUANTIFIED AND SUMMARIZED FOR THE CONVENIENCE OF THE OWNER AND JURISDICTIONAL AGENCIES ONLY. CONFIRM AND INSTALL SUFFICIENT QUANTITIES TO COMPLETE THE WORK AS DRAWN AND SPECIFIED. SUBSTITUTIONS SHALL NOT BE ALLOWED UNLESS SUBMITTED IN WRITING AT LEAST 10 DAYS PRIOR TO BID DATE AND APPROVED VIA ADDENDUM BY OWNER'S REPRESENTATIVE.

H. SEED ALL AREAS DISTURBED BY CONTRACTOR'S OPERATIONS, INCLUDING AREAS BEYOND THE PROJECT LIMIT WORK LINE.

I. PLANTING BEDS SHALL RECEIVE SPADE EDGE UNLESS OTHERWISE NOTED.

J. AMEND OR INSTALL TOPSOIL MEETING ASTM D5268 STANDARDS, TOPSOIL SHALL BE FREE OF DELETERIOUS MATERIALS OR EXTRANEOUS MATERIALS LARGER THAN 1". VERIFY DEPTH AND QUALITY OF TOPSOIL PRIOR TO PLANT INSTALLATION. LAWN AREAS SHALL HAVE A MIN. OF 4" TOPSOIL, AND PLANTING BEDS A MIN. OF 12". TOPSOIL SHALL BE STOCKPILED AND REUSED ON SITE. WHERE QUANTITIES ARE INSUFFICIENT, TOPSOIL MAY BE IMPORTED FROM OFF SITE.

K. PROVIDE PRE-EMERGENT HERBICIDE ON PLANTING BEDS AT RATES PER MANUFACTURER'S DIRECTIONS.

L. TREES SHALL NOT BE STAKED EXCEPT WITH APPROVAL FROM OWNER'S REPRESENTATIVE FOR ACCOMMODATION OF ENVIRONMENTAL CONDITIONS.

M. INSTALL ALL PLANT MATERIAL IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AS REQUIRED BY LOCAL JURISDICTIONS.

N. PLANT MATERIAL AND WORKMANSHIP SHALL BE WARRANTED FOR A PERIOD OF 1 YEAR FROM SUBSTANTIAL COMPLETION. REPLACE ALL PLANTS MORE THAN 1/4 DEAD AS SOON AS WEATHER CONDITIONS ALLOW THROUGHOUT WARRANTY PERIOD.

O. FOR UNIT PRICE CONTRACTS, PAYMENTS WILL BE MADE BASED ON ACTUAL QUANTITIES INSTALLED AS MEASURED IN PLACE BY THE OWNERS REPRESENTATIVE.

SLEEVING NOTES

A. CONTRACTOR TO PROVIDE A SLEEVING DIAGRAM FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

B. CONTRACTOR SHALL PROVIDE AT LEAST TWO (2) SLEEVES FOR FUTURE IRRIGATION AND ELECTRICAL SERVICE TO EACH PLANTING AREA AND /OR RAISED PLANTER, SURROUNDED OR ISOLATED BY PAVING.

C. SLEEVING SHALL BE SCHEDULE 40 PVC PIPE UNLESS OTHERWISE NOTED. WHERE POSSIBLE SLEEVING SHOULD BE STACKED OR GANGED TO MINIMIZE SPACE REQUIREMENTS.

D. LOCATE SLEEVES IN ACCESSIBLE CORNERS OR ALONG EDGES OF PAVEMENT. AVOID DIRECTING SLEEVES TOWARD OR THROUGH THE CENTER OF PLANTING AREAS WHERE LARGE ROOTBALLS ARE INTENDED.

E. EXTEND SLEEVES 2' BEYOND EDGE OF PAVEMENT EACH SIDE. INSTALL APPROXIMATELY 18" BELOW FINISH GRADE. CAP ENDS AND PROVIDE DETECTIBLE TAPE A LAST 2' EACH SIDE.

NOTE: REFER TO SHEET L1.01 FOR REQUIRED LANDSCAPE CALCULATIONS TABLE AND FULL PLANT SCHEDULE

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INDIANAPOLIS, INDIANA 46240
317.844.6777 www.cripe.biz

PROJECT 225462.00

IJRI SITE, CORE AND SHELL

Construction Documents

DATE 2023.04.28

REVISIONS

	DESCRIPTION	DATE
1	ADDENDUM 01	2023.05.23

SCALE IN FEET
1" = 20'
0' 10' 20' 60'

CERTIFIED BY:
DOUGLAS RANDALL ROYER
REGISTERED
No. LA20000005
STATE OF INDIANA
LANDSCAPE ARCHITECT
Date 05-25-2023

SHEET TITLE
Planting Plan

SHEET NUMBER
L1.00

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Drawn By: M.ABURTO
Checked By: S.HARCOURT
Quality Assurance: R.ROYER
Cripe Project Number: 220160-20000

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S:\PROJECTS\Cripe\Indiana Joint Replacement Institute\06 Drawings and Production\01 HDC CAD\00 Current\L1.00-300 Series.dwg, May 24, 2023 10:09 AM, SHANNON HARCOURT,

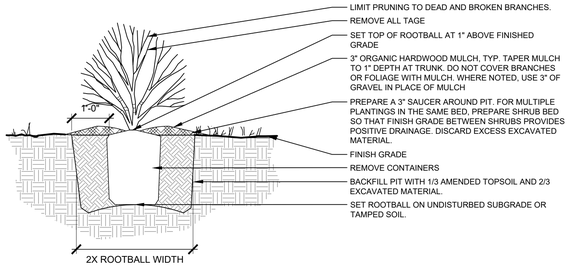
THIS LINE IS 1 INCH LONG WHEN PRINTED TO STYLUS SCALE

PLANT SCHEDULE -OVERALL

TREES	BOTANICAL / COMMON NAME	SIZE *	CONTAINER	QTY
LS	Liquidambar styraciflua Sweet Gum	2.5" Cal.	B & B	15
NS	Nyssa sylvatica 'Wildfire' Wildfire Tupelo	2.5" Cal.	B & B	12
UC	Ulmus x 'Frontier' Frontier Elm	2.5" Cal.	B & B	13
ZS	Zelkova serrata 'JFS-KW1' City Sprite® Japanese Zelkova	2.5" Cal.	B & B	4
EVERGREEN TREES	**BOTANICAL / COMMON NAME**	**SIZE ***	**CONTAINER**	**QTY**
AC	Abies concolor White Fir	8` Ht.	B & B	4
TC	Tsuga canadensis Canadian Hemlock	8` Ht.	B & B	2
ORNAMENTAL TREES	**BOTANICAL / COMMON NAME**	**SIZE ***	**CONTAINER**	**QTY**
AG	Amelanchier x grandiflora 'Autumn Brilliance' Autumn Brilliance Apple Serviceberry Multi-Stem	1.5" Cal.	B & B	2
CF	Cornus florida Flowering Dogwood	1.5" Cal.	B & B	14
DECIDUOUS SHRUBS	**BOTANICAL / COMMON NAME**	**SIZE ***	**CONTAINER**	**QTY**
CAM	Ceanothus americanus New Jersey Tea	24" Ht.	-	82
CAL	Clethra alnifolia `Sixteen Candles` Summersweet Clethra	24" Ht.	-	43
FGA	Fothergilla gardenii Dwarf Fothergilla	24" Ht.	-	83
HQU	Hydrangea quercifolia Oakleaf Hydrangea	36" Ht.	-	8
IVI	Itea virginica `Henry`s Garnet` Henry`s Garnet Sweetspire	36" Ht.	-	7
IVS	Itea virginica 'Sprich' Little Henry® Sweetspire	24" Ht.	-	28
PLD	Physocarpus opulifolius `Little Devil` TM Little Devil Ninebark	24" Ht.	-	82
VOC	Viburnum opulus `Compactum` Compact European Cranberrybush	24" Ht.	-	29
WFD	Weigela florida `Dark Horse` Dark Horse Weigela	24" Ht.	-	13
EVERGREEN SHRUBS	**BOTANICAL / COMMON NAME**	**SIZE ***	**CONTAINER**	**QTY**
BGG	Buxus x `Green Gem` Green Gem Boxwood	24" Ht.	-	23
IGC	Ilex glabra `Chamzin` TM Nordic Holly	24" Ht.	-	33
TME	Taxus x media `Densiformis` Dense Yew	24" Ht.	-	69
TMH	Taxus x media `Hicksii` Hicks Yew	24" Ht.	-	10
TOS	Thuja occidentalis 'Smaragd' Emerald Green Arborvitae Planted @ 3' O.C.	7' Ht.	-	13
GRASSES	**BOTANICAL / COMMON NAME**	**SIZE ***	**CONTAINER**	**QTY**
CAK	Calamagrostis x acutiflora 'Karl Foerster' Karl Foerster Feather Reed Grass	24" Ht.	-	53
PVH	Panicum virgatum `Heavy Metal` Blue Switch Grass	36" Ht.	-	72
PAH	Pennisetum alopecuroides `Hameln` Hameln Dwarf Fountain Grass	24" Ht.	-	12
SHT	Sporobolus heterolepis 'Tara' Tara Prairie Dropseed	24" Ht.	-	33
GROUND COVERS	**BOTANICAL / COMMON NAME**	**SIZE ***		
AMI	Allium x `Millenium` Millenium Ornamental Chive	1 gal.	18" o.c.	
CPE	Carex pensylvanica Pennsylvania Sedge	1 gal.	18" o.c.	
LSP	Liriope spicata Creeping Lily Turf	1 gal.	18" o.c.	
TURFGRASS	**BOTANICAL / COMMON NAME**	**SIZE**		
SEED	Seeded Lawn Drought Tolerant Fescue Blend	seed		

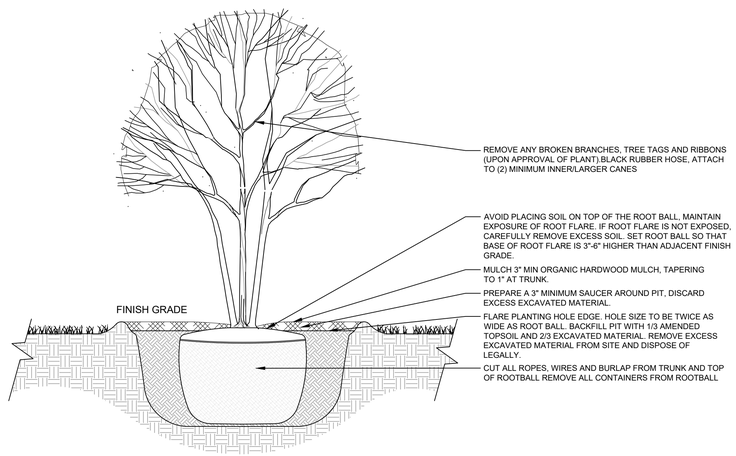
1 * INDICATES MINIMUM SIZE AT PLANTING.

REQUIRED PLANT MATERIALS FOR SUBDISTRICT ZONING			
SUBDISTRICT ZONING VIEW CORRIDOR		REQUIRED	PROPOSED
Sec. 8	PARKING LOT INTERIOR 10% OF PARKING AREA =6,9140 sf 1 TREE/120 sf 1 SHRUB/25 sf	6,914 sf 58 TREES 277 SHRUBS	8,132 sf 28 TREES 185 SHRUBS
Sec. 8	BUILDING FOUNDATION (552') 1 ORNAMENTAL TREE/20' FACADE 1 SHRUB/3' FACADE	28 TREES 184 SHRUBS	7 TREES 186 SHRUBS
Sec. 8	PARKING LOT SCREENING 10' WIDTH @ R.O.W./5'WIDTH @ REAR & INTERIOR SIDE YARDS 2 CANOPY TREES/100 LF 33 SHRUBS/100 LF		
	NORTH PARKING - 54'	1 TREE 18 SHRUBS	1 TREE 18 SHRUBS
	EAST PARKING - 121'	3 TREES 56 SHRUBS	3 TREES 56 SHRUBS
	SOUTH PARKING - 273' (INCLUDED FOR SCREENING PURPOSES)	5 TREES 90 SHRUBS	11 TREES 115 SHRUBS
	WEST PARKING* - 246'	3 TREES 40 SHRUBS	3 TREES 40 SHRUBS
Sec. 8	PERIMETER SITE BUFFERYARD ADJACENT TO R.O.W. 25' WIDTH ADJACENT TO SIMILAR 15' WIDTH	25' WIDTH 15' WIDTH	25' 15'
*PARKING SCREEN PROVIDED AT 50% NOT ADJACENT TO PUBLIC RIGHT-OF-WAY			



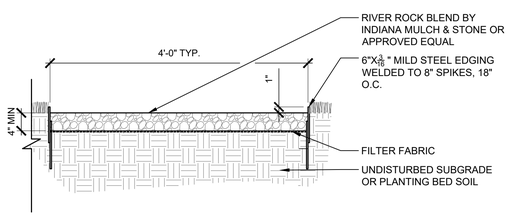
3 SHRUB PLANTING

1/2" = 1'-0"



2 ORNAMENTAL TREE PLANTING

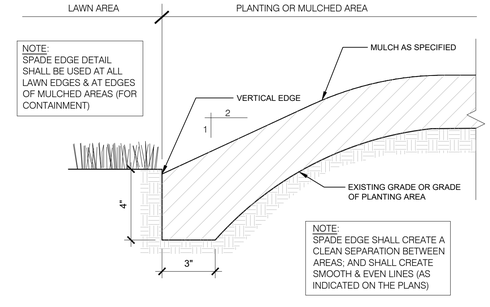
1/2" = 1'-0"



5 GRAVEL BED SECTION

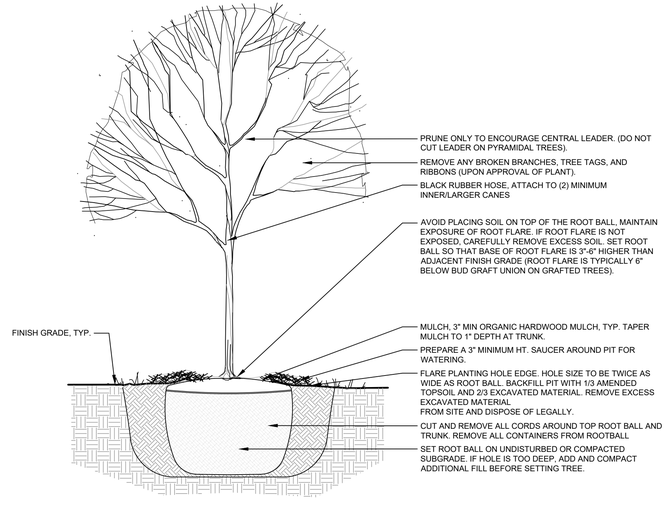
1" = 1'-0"

P-INDY-CRI-IJRI-10



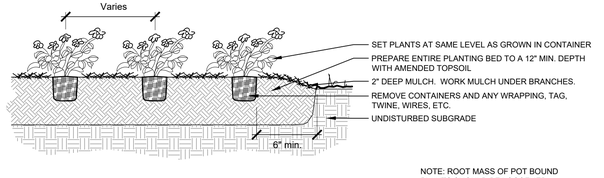
4 SPADE EDGE

3" = 1'-0"



1 SHADE TREE

1/2" = 1'-0"



NOTE: ROOT MASS OF POT BOUND PLANTS SHOULD BE LOOSENED BEFORE PLANTING

6 PERENNIAL PLANTING

1/2" = 1'-0"

NORTH

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PROJECT 225462.00

IJRI SITE, CORE AND SHELL

Construction Documents

DATE 2023.04.28

REVISIONS

	DESCRIPTION	DATE
1	ADDENDUM 01	2023.05.23

SCALE IN FEET
as noted

CERTIFIED BY:
DOUGLAS RANDALL ROYER
REGISTERED
No. LA20000005
STATE OF INDIANA
LANDSCAPE ARCHITECT
Date 05-23-2023

SHEET TITLE
Planting Details

SHEET NUMBER
L2.00

Drawn By: M.ABURTO
Checked By: S.HARCOURT
Quality Assurance: R.ROYER
PIC Project Number: 220160-20000

Indiana 811 Know what's below. Call before you dig. 811 or 1-800-382-5544 FOR CALLS IN INDIANA CALL TOLL FREE

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S:\PROJECTS\Cripe\Indiana Joint Replacement Institute\06 Drawings and Production\01 HDG CAD\00 Current\L100-300 Series.dwg, May 24, 2023 10:09 AM, SHANNON HARCOURT,
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214.397.0211 p

TBPE Firm Registration No. 2234

DBR Project Number 223183.000

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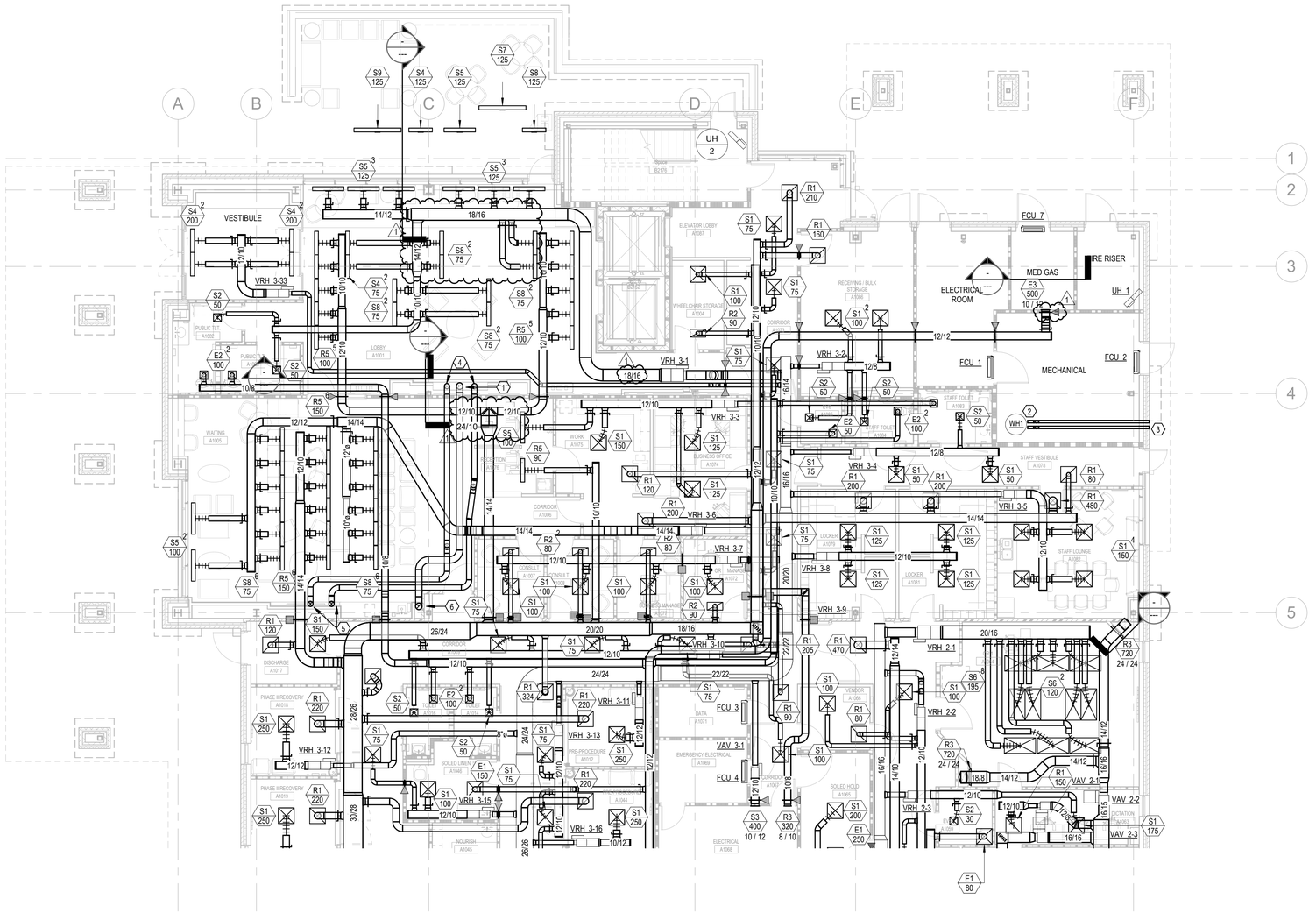

KEYED NOTES: (#)

NOTE: REFERENCE NUMBER INSIDE HEXAGON

1 10" CLASS B ROUND EXHAUST FLUE UP FROM FIREPLACE.

2 4" EXHAUST FLUE AND INTAKE DUCT CONNECTED TO WH1.

3 4" EXHAUST FLUE AND INTAKE DUCT. TERMINATE WITH 45 DEGREE DOWN ANGLE AND COVER WITH 1/2" BIRD SCREEN.

4 8" CLASS C INTAKE DUCTCONNECTED TO THE FIRST FLOOR FIREPLACE.

5 8" CLASS C INTAKE DUCT UP TO SECOND FLOOR.

6 10" CLASS B ROUND EXHAUST FLUE UP TO THE SECOND FLOOR.

1 FLOOR PLAN - LEVEL 1 - MECHANICAL - AREA A

A-M2.01A1/8" = 1'-0"

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MIKE L. ASHCRAFT
REGISTERED
No. PE11900470
STATE OF INDIANA
PROFESSIONAL ENGINEER

2023.05.23

PROJECT 225462.00

IJRI - AMBULATORY SURGICAL CENTER

14065 BORG WARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

MECHANICAL - LEVEL 1 AREA A

SHEET NUMBER

A-M2.01A

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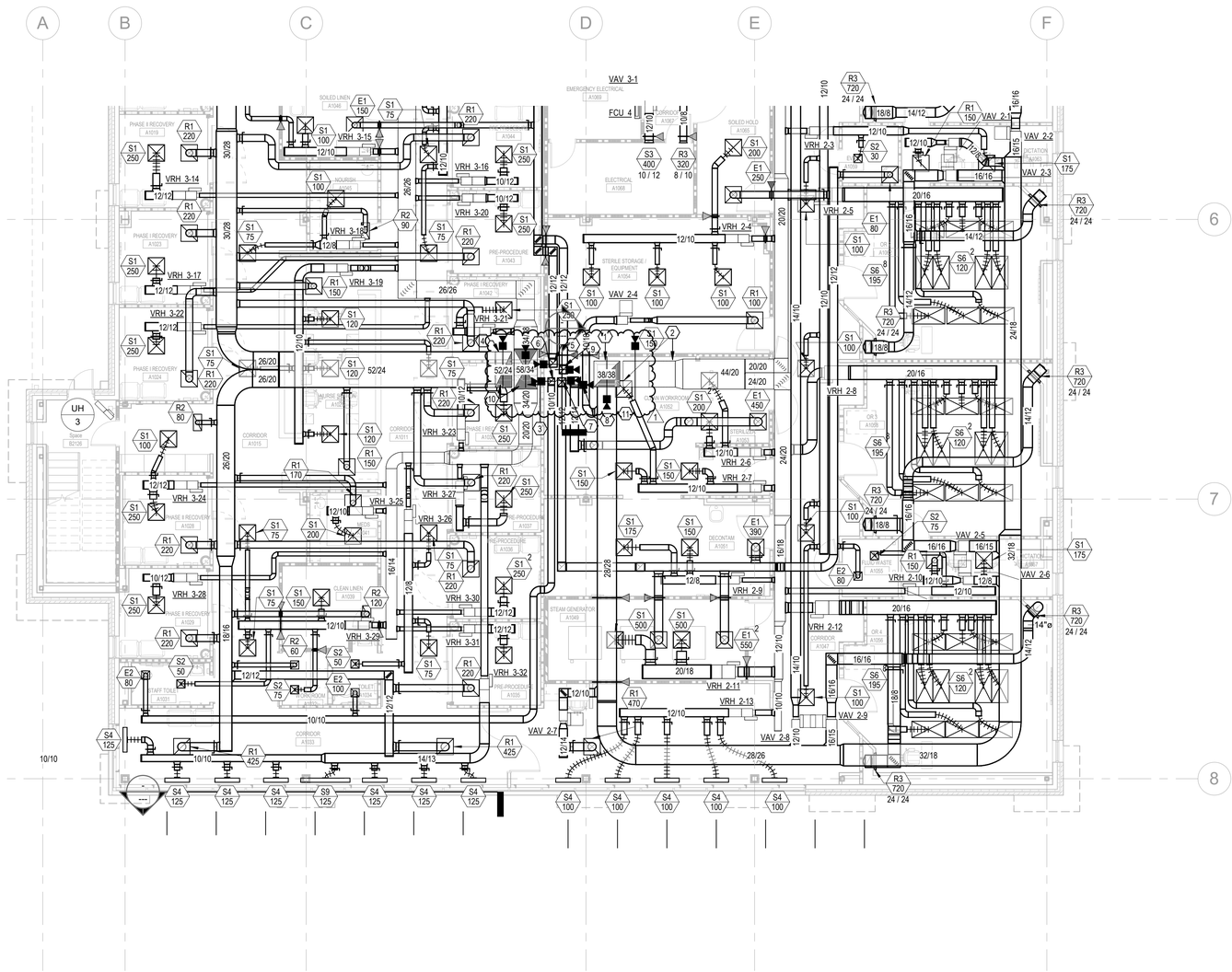

1 FLOOR PLAN - LEVEL 1 - MECHANICAL - AREA B

A-M2.01B1/8" = 1'-0"

KEYED NOTES: (#)

NOTE: REFERENCE NUMBER INSIDE HEXAGON

1 38"x38" LOW PRESSURE RETURN DUCT UP TO RTU-2.

2 38"x38" MEDIUM PRESSURE SUPPLY DUCT UP TO RTU-2.

3 58"x34" MEDIUM PRESSURE SUPPLY DUCT UP TO RTU-3.

4 52"x24" LOW PRESSURE RETURN DUCT UP TO RTU-3.

5 12"x12" LOW PRESSURE EXHAUST DUCT UP TO SECOND FLOOR.

6 10"x10" LOW PRESSURE EXHAUST DUCT UP TO SECOND FLOOR.

7 12"x12" LOW PRESSURE EXHAUST DUCT UP TO SECOND FLOOR.

8 12"x14" LOW PRESSURE EXHAUST DUCT UP TO SECOND FLOOR.

9 10"x10" LOW PRESSURE EXHAUST DUCT UP TO SECOND FLOOR.

10 PROVIDE AUDIOSEAL DUCT WRAP OR SIMILAR FROM SHAFT PENETRATION TO ANY DUCT WITHIN 10 FEET RUN OF ELBOW.

11 ENSURE ALL DUCTWORK GOING IN AND OUT OF THE CHASE HAS A FIRE-SMOKE DAMPER AT RATED PENETRATION.

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DBR Project Number 223183.000

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2023.05.23

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DATE 2023.04.28

REVISIONS

Δ	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

MECHANICAL - LEVEL 1 AREA B

SHEET NUMBER

A-M2.01B

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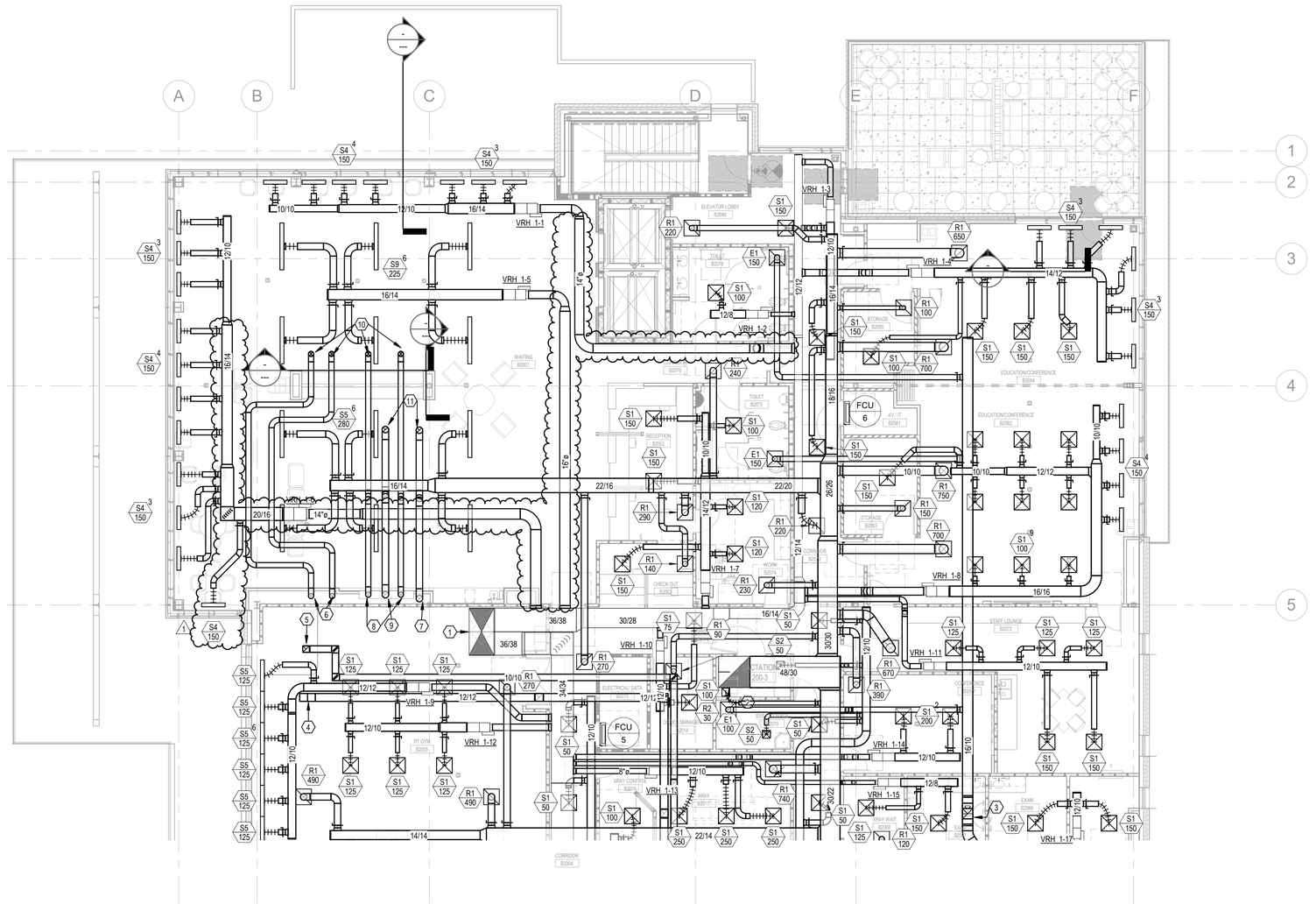

1 FLOOR PLAN - LEVEL 2 - MECHANICAL - AREA A

B-M2.02A1/8" = 1'-0"

KEYED NOTES: (#)

NOTE: REFERENCE NUMBER INSIDE HEXAGON

1 38"x72" MEDIUM PRESSURE SUPPLY DUCT UP TO RTU-1.

2 48"x48" LOW PRESSURE RETUN DUCT UP TO RTU-1.

3 16"x16" LOW PRESSURE EXHAUST DUCT UP TO EF-2.

4 12"x12" LOW PRESSURE EXHAUST DUCT UP TO EF-3.

5 10"x10" LOW PRESSURE EXHAUST DUCT UP TO EF-7.

6 8" CLASS C INTAKE DUCT DOWN TO FIRST FLOOR.

7 10" CLASS B ROUND EXHAUST FLUE DOWN TO FIRST FLOOR.

8 8" CLASS C INTAKE DUCT DOWN TO SECOND FLOOR FIREPLACE.

9 10" CLASS B ROUND EXHAUST FLUE DOWN TO SECOND FLOOR FIREPLACE.

10 8" CLASS C INTAKE DUCT UP TO ROOF.

11 10" CLASS B ROUND EXHAUST FLUE UP TO ROOF.

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DALLAS, TEXAS 75206
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No. PE11900470
STATE OF INDIANA
PROFESSIONAL ENGINEER

2023.05.23

PROJECT 225462.00

IJRI - MEDICAL CENTER

14065 BORG WARNER DRIVE
NOBLESVILLE, IN 46060

CONSTRUCTION DOCUMENTS

DATE 2023.04.28

REVISIONS

#	DESCRIPTION	DATE
1	ADDENDUM 1	05/23/2023

SHEET TITLE

MECHANICAL - LEVEL 2 AREA A

SHEET NUMBER

B-M2.02A

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