



October 01, 2026

Maryland Zoo in Baltimore Chesapeake Flyway
Responses to Bidder Questions and Written Identification of Modifications to Project Documents

BULLETIN NO. 1

Responses to Bidder Questions:

Questions in Black

Answers in Red

1. Can't find a specification for the pool drain piping. Is sch. 40 PVC acceptable?

Response: Provide schedule 80 PVC

2. Specification Section 220523 paragraph 2.3 calls for a pool drain butterfly valve, but detail C on dwg M102 shows a ball valve. Please confirm that a butterfly valve should be used in this location.

Response: Refer to Bid Set dated 09/01/2026

3. Specification Section 221316 paragraph 3.6 calls for the sump pump discharge to be Sch 40 black steel. Seems odd for below grade piping. Please confirm pipe specification.

Response: Specification covers sump pump discharge piping within sump. Refer to civil drawing for underground piping. Contractor to provide a transition coupling for transition from steel to PVC.

4. The geotechnical plan provided by Century Engineering notes that helical anchors are not appropriate for the site however A1/S303 note 5 states the design intent is to use helical piles in lieu of rock anchors. Please confirm what method should be assumed in the base bid.

Response: See updated S303 note 5 to indicate the use of rock anchors.

5. C800 allows for pipe crossings below wall footings, however note 11 on S101 states that no utilities may pass below footings. Please confirm which drawing to follow.

Response: Refer to C800 for site retaining walls and note 11 on S101 refers specifically to building and exhibit mast footings.

6. Please confirm that the owner will carry all third-party testing required including geotechnical, steel and concrete.

Response: Owner will not carry.

ARCHITECTURE PLANNING INTERIORS

BKP Architects, P.C. | 1525 Locust Street, 5th Floor, Philadelphia, PA 19102 | T 215.557.6509 | F 215.557.6321

Darrell L. Kratzer, AIA, Principal | Joseph H. Powell, AIA, Principal | Caitlin A. Daley, AIA, Principal

7. Please confirm that owner will carry all commissioning required.

Response: Not required.

8. The RFP includes a Bid Form as Exhibit B. An additional bid form is included in specification section 004113. Please confirm which bid form should be utilized for this proposal.

Response: Utilize bid form labeled with specification section 004113. Owner to provide.

9. Please provide the Excel Bid Form for Eagle/Owl.

Response: No excel document. Utilize PDF provided by Owner.

10. Are engineered stamped as-builts for the stormwater structure required to be submitted to the City since there is no permit planned for this project?

Response: Required to be submitted directly to the owner.

11. The LOD will need to be extended further plan North into the woods in order to have adequate layback and installation room for the footers. Please confirm that the LOD can be revised.

Response: Acceptable.

12. C312 indicates top of masts located within the footprint of the Eagle and Owl exhibit however no corresponding masts are shown on the structural plans. Please confirm if there are interior masts located within the exhibits.

Response: Refer to Bid Set dated 09/01/2026

13. We acknowledge Exhibit E included in the RFP however we believe this project triggers Baltimore City Code for a permit despite exhibit E. Per Baltimore City a permit is required if you are "Performing any grading or excavation, changing or installing electrical, gas, mechanical or HVAC&R and plumbing systems and/or construction structures". This project appears to be more than a "minor improvement" that does not need a permit as indicated in MZB's lease. MDZ lease section 18.5 indicates no other alteration, improvement or addition to the Zoo cannot be made without prior consent of the State and the City. Please confirm that no permit is required for this project.

Response: No permit.

14. Please provide section 5.4 of MD Zoo Lease as mentioned in Exhibit E.

Response: Owner to provide.

15. Scope of Work lists "rock work drainage". What work is this referring to?

Response: Unclear on where this note is coming from.

16. Scope clarifies Yard Hydrants are provided by others. Is 23A responsible for Vacuum Breakers and Concrete Protective Bases indicated on M102?

Response: Yard hydrants are NOT provided by others and are to be included in scope. Division 22.

17. Detail on M102 indicates an 1/8" drain port. Do Yard Hydrants require dedicated drain line piping?

Response: No. Drain port drains water underground into surrounding soil.

18. SWM sheets listed on cover sheet are missing

Response: SWM sheets purposely excluded.

19. The existing tree located directly behind the owl exhibit retaining wall will need to be removed in order to excavate for the footings. Please confirm this tree can be removed.

Response: Acceptable to remove if needed

20. Structural Sheet S301 identifies the slab base material as "See Geotech." The geotechnical report permits slab-on-grade construction on acceptable natural soil or structural fill and recommends select granular backfill where unsuitable subgrade is undercut, but does not identify a minimum aggregate base/drainage-course thickness beneath the slab. Please confirm whether a continuous aggregate drainage course is required beneath the building slabs and, if so, provide the required material and compacted thickness.

Response: As indicated in the schedule, refer to Owner and geotechnical requirements for slab-on-grade subgrade requirements. The geotechnical engineer to provide additional direction regarding aggregate base/drainage course requirements for slab-on-grade.

21. Detail H1/A120 indicates steel across the top of the catchboxes for netting attachment however the structural drawings do not indicate how the steel is to be attached. Please provide structural details for this attachment and at the vestibules.

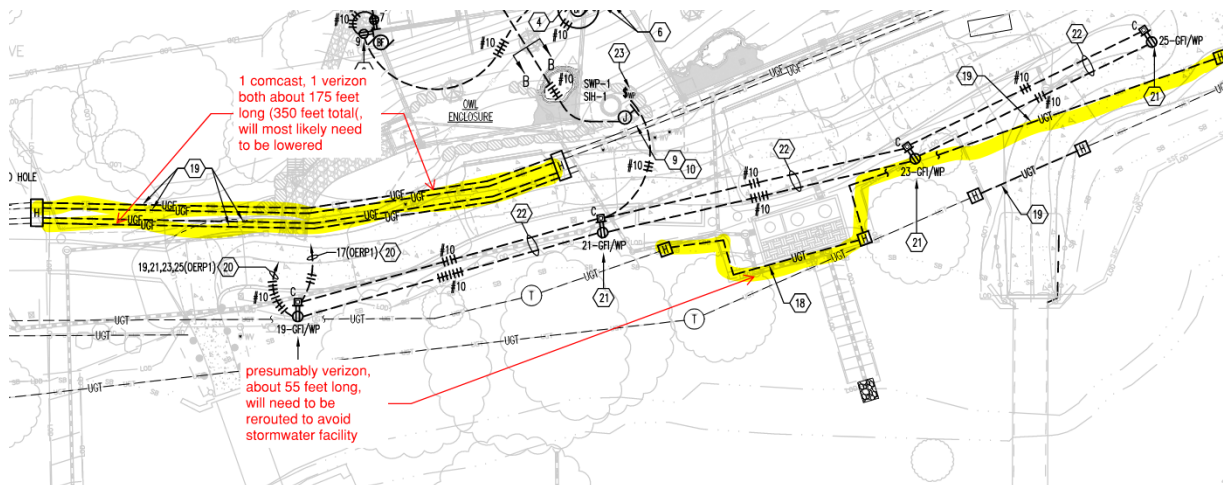
Response: Steel header at catchboxes are 6"x4"x3/8" and vertical post is 4"x4"x3/8". See detail A5/S531 for HSS to HSS welding requirements.

22. On drawing E101 keynote 19 and keynote 18 and Drawings E102 keynote 5 all reference relocating utilities. What are we to include for this? What # and size of conduits need to be rerouted at all locations?

Response: Refer to Civil drawing for revisions to existing site utilities. See responses below for additional information.

23. At fiber locations, will the fiber be removed and repulped by others? Typically, fiber is not recommended to be spliced.

Response: Verizon and comcast are to reroute their fiber lines. GC to provide conduit and coordinate with the owner, Verizon, and Comcast as soon as possible. Expected to have (2) 4" bore conduits – this information and existing conduit elevations need to be confirmed by the GC during CA. Construction sketches to be provided as needed after existing conditions are confirmed.



24. Will the tele/data cables be removed and reinstalled by others? Typically, they are not spliced. The handholes will need to be sized off number and size of conduits entering and leaving.

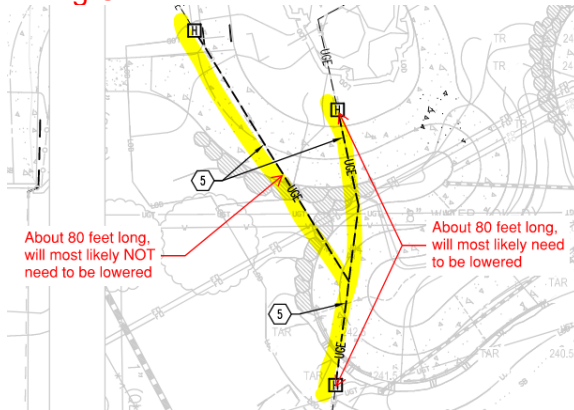
Response: Verizon to reroute their telephone lines. GC to provide conduit and coordinate with the owner and Verizon as soon as possible. Existing conditions unknown. Construction sketches to be provided as needed after existing conditions are identified by the GC during CA.

25. Can we have the fiber or power shut down for a long duration of time?

Response: No. Timeframe and duration to be coordinated with the owner.

26. For the power locations - Are these BGE feeders? If so, BGE will need to get involved with this scope of work on what they need from us, we would probably only provide conduit for them. If not BGE, what size wire are we rerouting in each conduit?

Response: They are not BGE feeders. Existing conditions unknown. Construction sketches to be provided as needed after existing conditions are identified by the GC during CA.



27. Can we utilize epoxy coated and/or galvanized grid mesh for the owl and eagle pool and back themed walls/embankments reinforcement?

Response: Acceptable

28. Can we suggest the pool and back themed walls be monolithic and sprayed as a shotcrete structure and form and include a waterproofing integral additive known as Aquaron300 into our shotcrete design mix?

Response: Monolithic pour acceptable. Crystalline waterproofing to be included per spec 071616. Contractor may submit alternate product for review by vet staff and Architect.

29. May we apply a themed topcoat over a shotcrete shell for both the owl and eagle habitat pools and earthen embankment walls to add realism and detail as well as to add additional shell protection using a modified mortar render with integral colors? Staining will be additionally applied over as final scenic habitat enhancement layers.

Response: Acceptable

30. Could bids be possibly emailed only instead of emailed and hand delivered? Or could we have 24 hr after to hand deliver the written proposal?

Response: Hand delivered proposal required by 10/8 at 12PM per the updated schedule. Digital copies may be sent over within 24 hours after that date.



**KOVACS, WHITNEY
& ASSOCIATES, INC.**

190 W Ostend St, Ste 300, Baltimore, MD 21230
(410) 244-7191
Kovacs-Whitney.com

BULLETIN NO.1

TO: BKP
ATTN: Crystal Collado
PROJECT: Chesapeake Flyway
PROJECT NO : 11045
CHANGE BULLETIN NO. : CB-1 DATE: October 1, 2026
COORDINATE WITH CB NO. : None PREPARED BY: Stephen Jones
Bobby Biddinger

CONTRACT DRAWINGS: M101, M102, E101 and E601

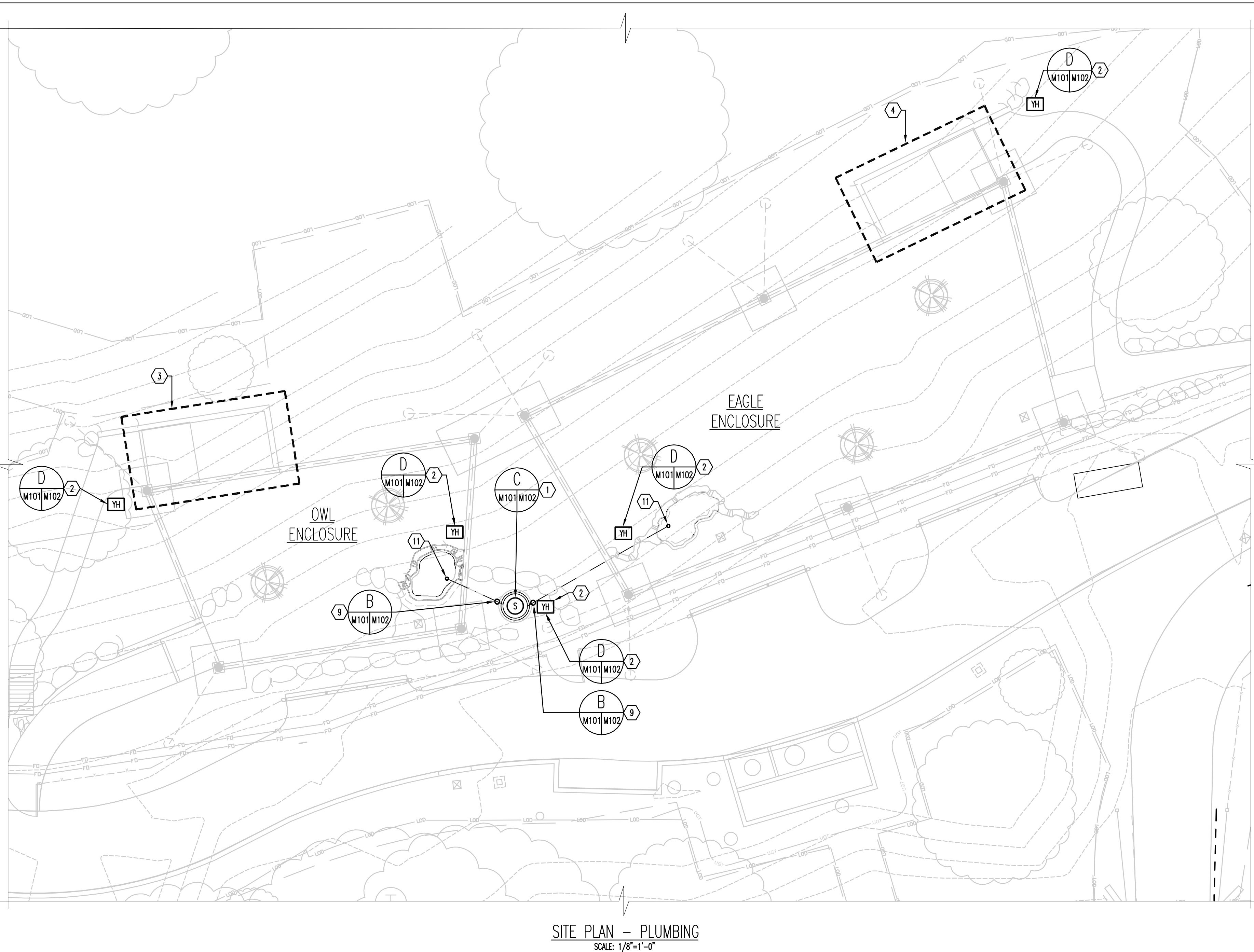
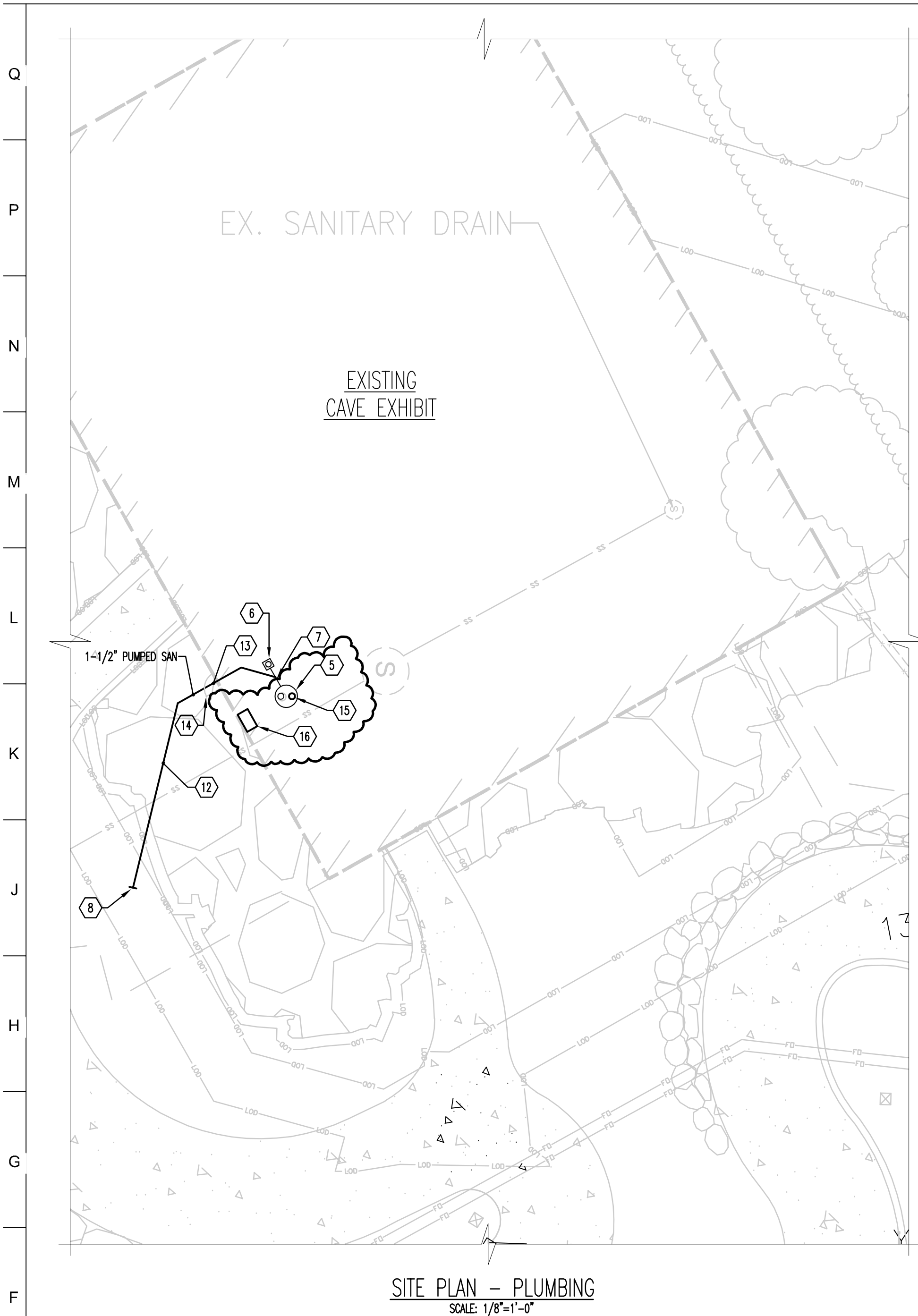
BULLETIN DRAWINGS: M101, M102, E101 and E601

The following additions and modifications shall be included as part of the original bidding documents for the above referenced project. Refer to clouded areas on attached drawings. This bulletin addresses addition of new sump pump and duplex control panel in Caves and revises circuit breaker trip rating for reduced horsepower SW-1.

DESCRIPTION:

1. Drawing M101
 - a. Added new sump pump, controls and cabling to existing sump pump system in the Caves exhibit.
 - b. Revised drawing note 5 and added drawing notes 15 and 16.
2. Drawing M102
 - a. Revised Sewage Waste Sump Pump Schedule.
3. Drawing E101
 - a. Added demolition of existing sump pump controllers and associated branch circuit wiring.
 - b. Added new duplex sump control panel, buck/boost transformer, and interconnecting wiring in Caves.
 - c. Added drawing notes 24-28.
4. Drawing E601
 - a. New Panel A Schedule; added new 2P-25A circuit breaker in positions 37/39 for connection of CSP-1 branch circuit wiring.
 - b. New Panel OERP1 Schedule; revised circuit breaker trip rating for branch circuit #16 to be 15A in lieu of 20A to coordinate with reduced HP sump pump motor.

G:\11045\Construction Administration\Change Bulletins\CB1\11045 CB#1.docx

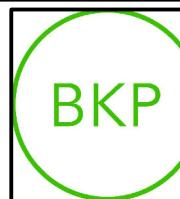
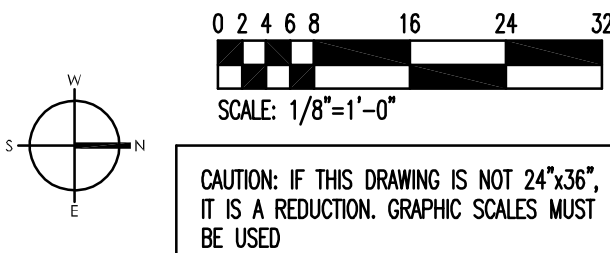


MECHANICAL / PLUMBING LEGEND					
SYMBOL	ABBREV	DESCRIPTION	SYMBOL	ABBREV	DESCRIPTION
	CX	CONNECT NEW WORK TO EXISTING			AUTOMATIC AIR VENT
	EX	EXISTING WORK TO REMAIN			STRAINER
	RX	REMOVE EXISTING WORK			UNION
		RELOCATED WORK		YH	YARD HYDRANT
	SAN	SANITARY LINE			THERMOMETER
	VP	VENT PIPE			PRESSURE GAUGE
	CW	COLD WATER			PIPE TURNED UP, PIPE TURNED DOWN
	HW	HOT WATER		FD	FLOOR DRAIN
	HWR	HOT WATER RECIRCULATING		FC	FLEXIBLE CONNECTION
		SHUT OFF VALVE IN RISER			SUPPLY DUCT TURNED UP, TURNED DOWN
		GATE VALVE, GLOBE VALVE			RETURN DUCT TURNED UP, TURNED DOWN
		CHECK VALVE			DIRECTION OF RISE IN DUCT
		STATIONARY FLOW METER, PORTABLE FLOW METER, GPM			SQUARE TO ROUND TRANSITION
	BFP	BACK FLOW PREVENTER			REFER TO NOTE 1 ON THIS SHEET
		BALANCING VALVE		AFF	ABOVE FINISHED FLOOR
		TEMPERATURE CONTROL VALVE (2 WAY, 3 WAY)		CLG	CEILING
		PRESSURE REDUCING VALVE		CFM	CUBIC FEET PER MINUTE
		RELIEF OR SAFETY VALVES		DN	DOWN
		BUTTERFLY VALVE		EF	EXHAUST FAN
		MANUAL AIR VENT		EXH	EXHAUST
		AUTOMATIC AIR VENT		TYP	TYPICAL

DRAWING NOTES

- SEWAGE WASTE SUMP PUMP. REFER TO DETAIL B. REFER TO CIVIL DRAWINGS FOR CONTINUATION OF PIPING.
- PROVIDE YARD HYDRANT AT THIS LOCATION. REFER TO CIVIL DRAWINGS FOR WATER CONNECTION.
- REFER TO OWL CATCHBOX PLAN ON SHEET M-102 FOR WORK IN THIS AREA.
- REFER TO EAGLE CATCHBOX PLAN ON SHEET M-102 FOR WORK IN THIS AREA.
- LOCATION OF EXISTING SUMP WITH SINGLE PUMP INSTALLATION. SUMP HAS SPACE FOR ADDITIONAL PUMP TO CREATE DUPLEX SYSTEM. EXISTING SYSTEM BY ENVIRONMENT ONE CORP. (E-ONE). LOCAL REPRESENTATIVE FOR E-ONE CORP IS: FREEMIRE AND ASSOCIATES INC. CONTACT: KEVIN STROCK PHONE: 410-768-8500 EMAIL: kstrock@freemire.com
- EXISTING FLOOR DRAIN.
- CONNECT NEW 1-1/2" PUMPED SANITARY TO EXISTING SANITARY CONNECTION TO EXISTING SUMP.
- REFER TO CIVIL DRAWINGS SITE PLAN FOR CONTINUATION.

- PROVIDE 5-1/4" REGULAR STYLE SLIDE CANADA VALVE BOX, EQUAL TO SIP INDUSTRIES ITEM #CNS605.
- PROVIDE VGBA TESTED AND CERTIFIED POOL DRAIN WITH SUMP. CMP GALAXY POOL DRAIN OR EQUAL. COLOR BLACK.
- PROVIDE POOL DRAIN. EQUAL TO ZURN #FD2210 OR EQUAL. CMP GALAXY POOL DRAIN OR EQUAL. COLOR BLACK.
- EXTEND PUMPED SANITARY UNDER CONCRETE PATHWAY FOR ZOOKEEPER ENTRANCE TO BACKUP SPACE TO CAVE EXHIBIT.
- EXTEND PUMPED SANITARY UNDERGROUND THROUGH DOORWAY THRESHOLD.
- LOCATION OF EXISTING CAVE EXHIBIT BACKUP SPACE ENTRANCE DOOR.
- FURNISH AND INSTALL NEW PUMP IN AVAILABLE OPEN SPACE IN SUMP ADJACENT TO EXISTING PUMP. CONNECT DISCHARGE FROM NEW PUMP TO EXISTING DISCHARGE HEADER. PUMP TO BE E-ONE CORP. EXTREME SERIES PUMP (11 GPM AT 40 PSIG, 1HP, 240V) WITH EXTREME SERIES QDC PLUG. INSPECT TOTAL COMPLETED SYSTEM.
- REMOVE EXISTING TWO ALARM PANELS AND EXISTING CABLING FROM PANELS TO SUMP PUMPS. PROVIDE AND INSTALL NEW E-ONE SENTRY PROTECT PLUS ALARM PANEL ON WALL. FURNISH 32 FOOT LONG SUPPLY CABLE FOR EACH PUMP.



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CLIENT:
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THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

**CHESAPEAKE
FLYWAY**

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
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SEAL:

DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY KWA

CHECKED BY KWA

SUBMISSION DATE

BID SET 09/01/2026

REVISION DATE

BULLETIN #1 10/01/2026

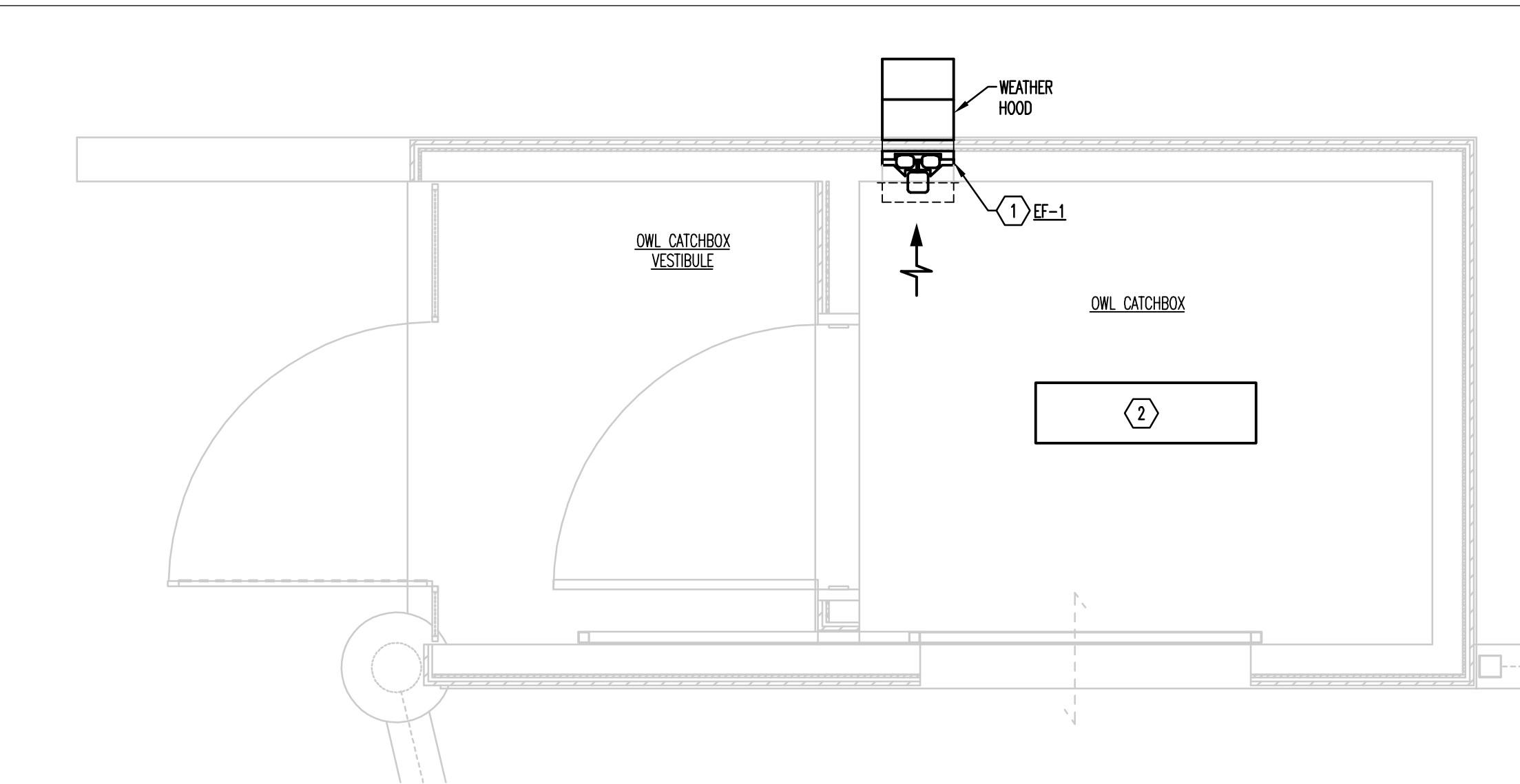
DRAWING TITLE:

EAGLE AND OWL EXHIBIT -
SITE PLAN - PLUMBING

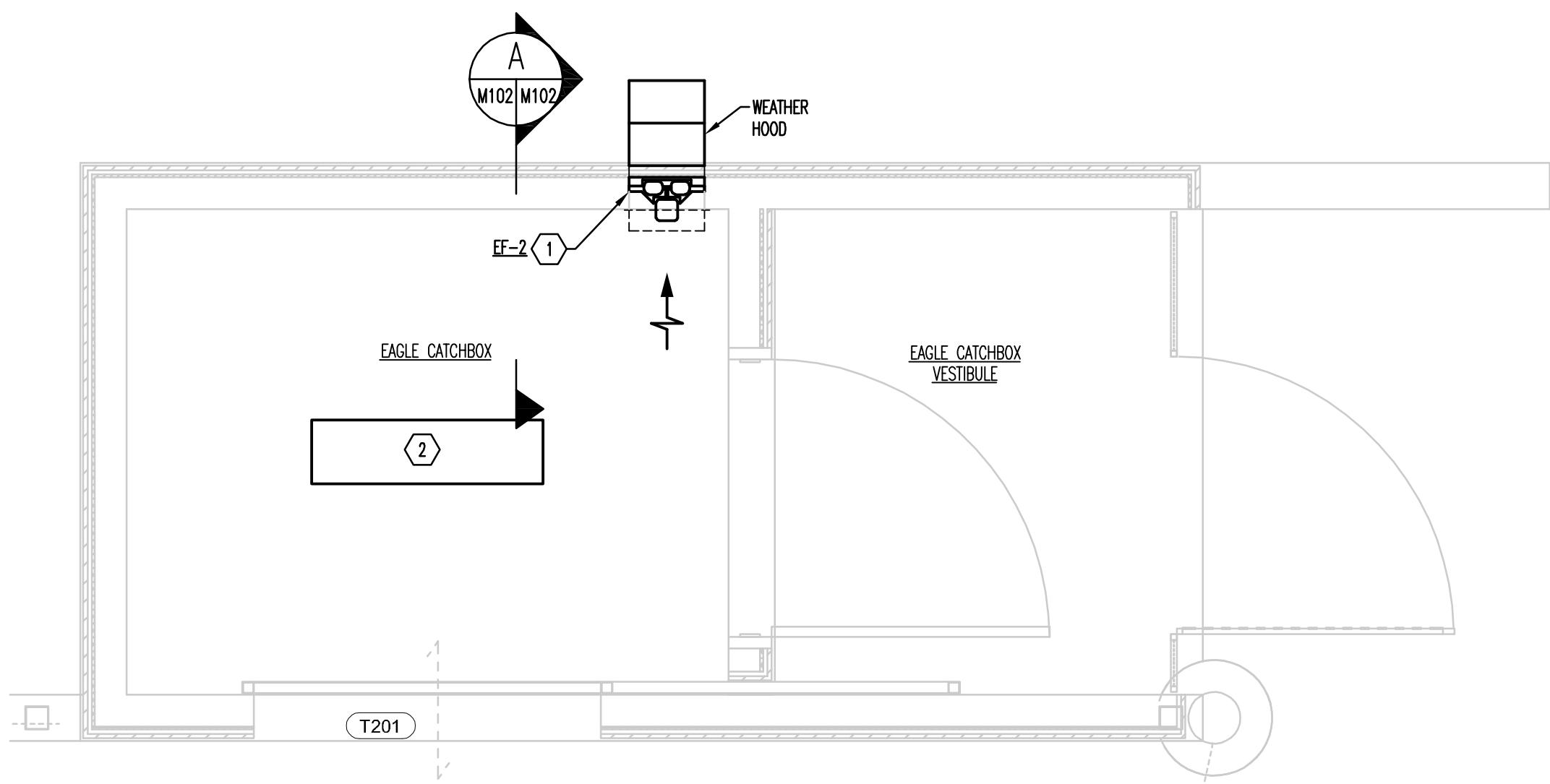
DRAWING NO:

M101

Q
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A



OWL CATCHBOX PLAN - NEW WORK
SCALE: 1/2"=1'-0"



EAGLE CATCHBOX PLAN - NEW WORK
SCALE: 1/2"=1'-0"

EXHAUST FAN SCHEDULE

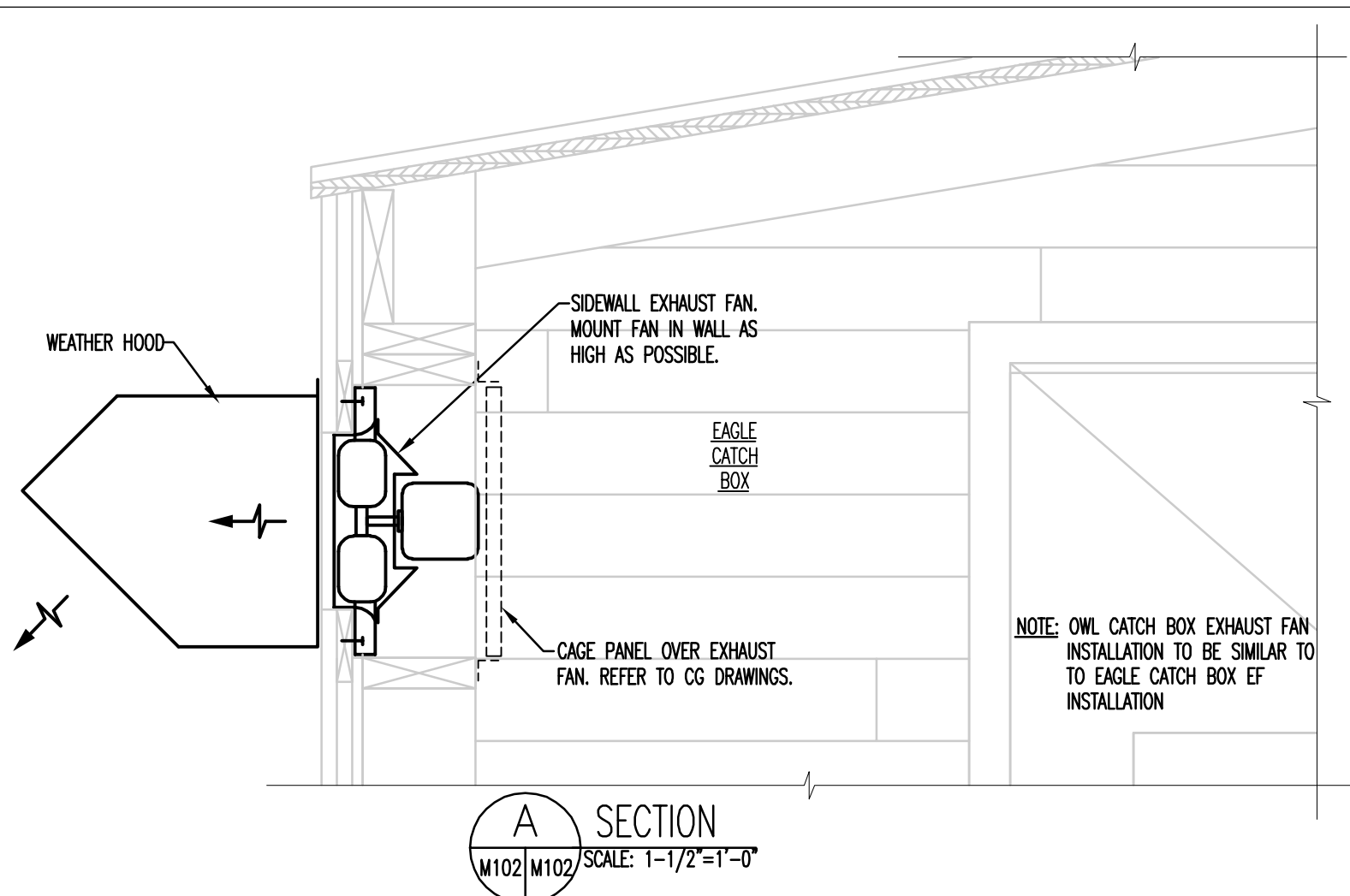
DESIG.	SERVES	TYPE	CFM	FAN RPM	ESP IN WG	BHP	MOTOR HP	WATTS	MOTOR RPM	BELT/DIRECT	VOLTS/PHASE	GREENHECK MODEL NUMBER	REMARKS
EF-1	OWL CATCH BOX	1	255	1,550	0.15	-	1/25	75	3	DIRECT	120/1	SE1-8-440	2
EF-2	EAGLE CATCH BOX	1	255	1,550	0.15	-	1/25	75	3	DIRECT	120/1	SE1-8-440	2

- NOTES:
- DIRECT DRIVE SIDEWALL MOUNTED PROPELLER FAN
 - PROVIDE FAN MANUFACTURER'S 45° WEATHERHOOD ON EXTERIOR. FABRICATE INSIDE ENCLOSURE. REFER TO ARCHITECTURAL DRAWINGS.
 - EC MOTOR.

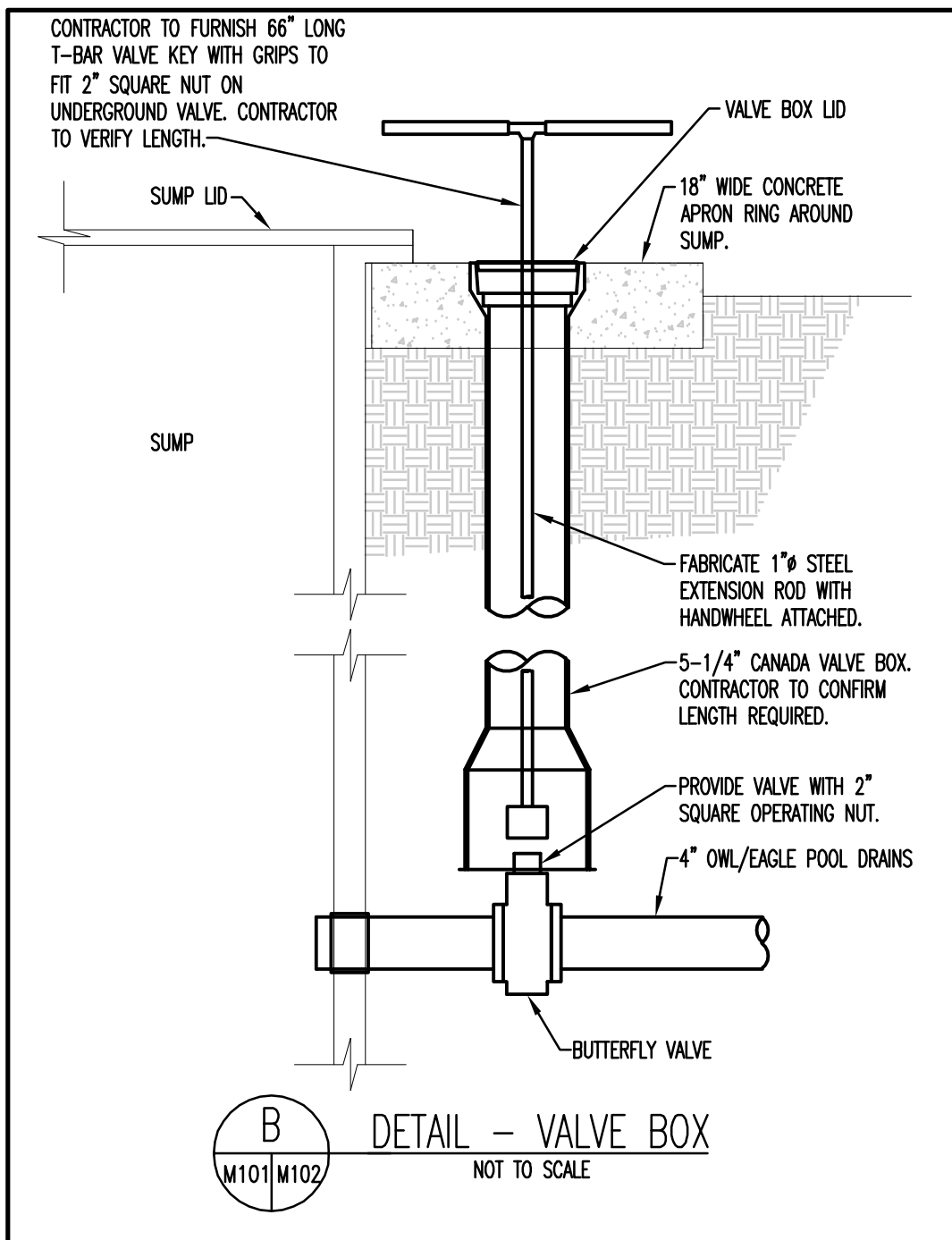
SEWAGE WASTE SUMP PUMP SCHEDULE

DESIGN	SERVICE	TYPE	GPM	HEAD FEET	MOTOR RPM	HP	VOLTS	PHASE	MANUFACTURER NAME	MODEL	REMARKS
SWP-1	SEWAGE WASTE SUMP	SUBMERSIBLE	12	24	1750	1/3	120	1	WEL	#1408AMESFDM	1 2 3 4 5

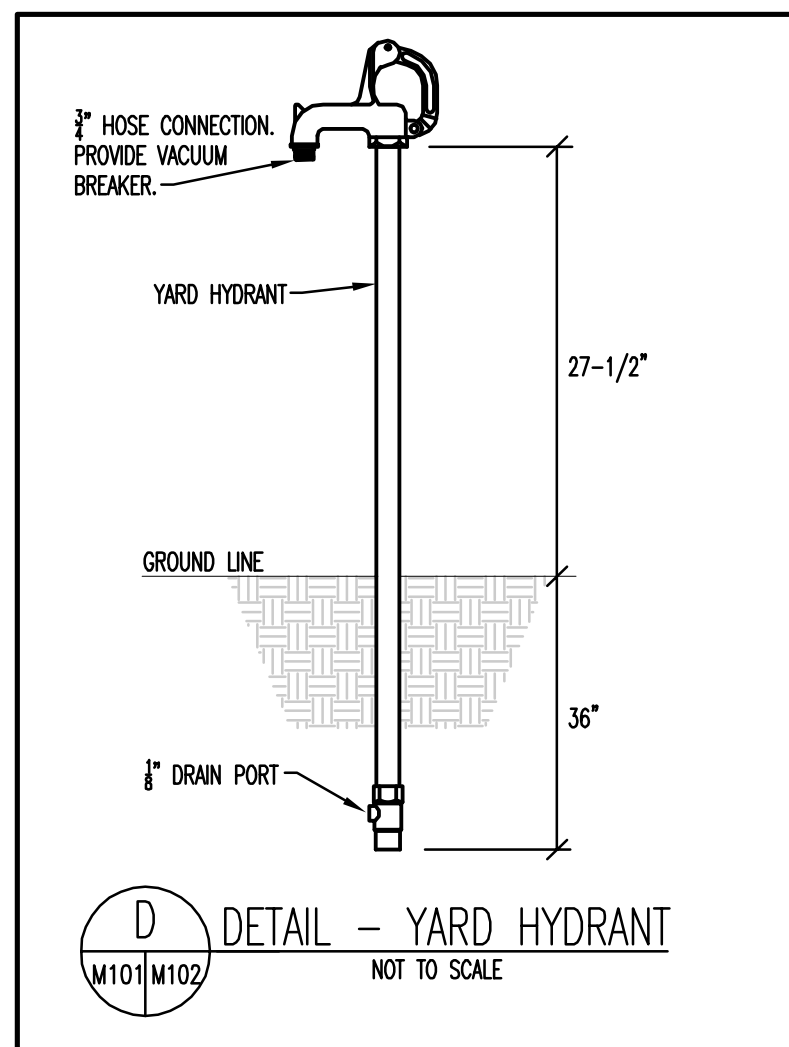
- NOTES:
- DUPLEX SUMP PUMP SYSTEM; SUBMERSIBLE GUIDE RAIL TYPE SUMP PUMPS. 1-1/4" DISCHARGE.
 - DISCHARGE ELECTRIC AND VENT SHALL PROTRUDE THROUGH THE SIDE OF THE BASIN AND GATE/CHECK VALVES SHALL BE INSIDE OF THE BASIN.
 - AMES, INC. DUPLEX CONTROL PANEL IN A NEMA 4X FIBERGLASS ENCLOSURE WITH (2) CB MOTOR PROTECTORS, (2) MAGNETIC STARTERS, (1) PLC WITH PUMP ALTERNATION, ECOM3MNO, (2) HOA WITH RUN LIGHTS, (1) HIGH WATER ALARM WITH LIGHT, BUZZER AND SILENCING SWITCH WITH DRY CONTACTS FOR "ON/OFF" AND "HWA. PROVIDE (4) AMES, INC. #6SEP430NO SUBMERSIBLE ENCAPSULATED PUMP CONTROL PACKAGE SHOULD ALLOW FOR THE FOLLOWING:
 - ONLY ONE PUMP IS TO RUN AT ANYTIME. THERE SHOULD BE NO OCCASION WHEN BOTH PUMPS WILL RUN.
 - LEAD AND LAG PUMPS SHALL ALTERNATE ROLES.
 - WHEN WASTEWATER IN SUMP REACHES "PUMP ON" LEVEL THEN LEAD PUMP SHALL BE ENERGIZED.
 - WHEN WASTEWATER IN SUMP DROPS TO "PUMP OFF" LEVEL THEN LEAD PUMP SHALL BE DE-ENERGIZED.
 - IF WASTEWATER REACHES "LAG PUMP" LEVEL LEAD PUMP SHALL BE DE-ENERGIZED AND LAG PUMP SHALL BE ENERGIZED. ALARM SHALL ANNUNCIATE AT PANEL.
 - IF WASTEWATER REACHES "HIGH WATER ALARM" LEVEL THEN ALARM SHALL ANNUNCIATE AT PANEL.
 - PROVIDE AK INDUSTRIES #6B3642AMESFDM, 42" DIA. X 120" DEEP FIBERGLASS BASIN WITH FIBERGLASS ANTI-FLOATATION FLANGE ON THE BOTTOM OF THE BASIN. PROVIDE MATCHING BLANK CAST-IRON PEDESTAL RATED ALUMINUM STEEL COVER.
 - THE CONTRACTOR SHALL INSTALL AN IMMERSION HEATER PROBE IN THE BASIN AND WIRE BACK TO THE CONTROL PANEL. IT SHALL INCLUDE STAINLESS STEEL HEATER ELEMENT (500W AT 115V). PROVIDE A PANEL MOUNTED THERMOSTAT TO CONTROL THE IMMERSION HEATER.



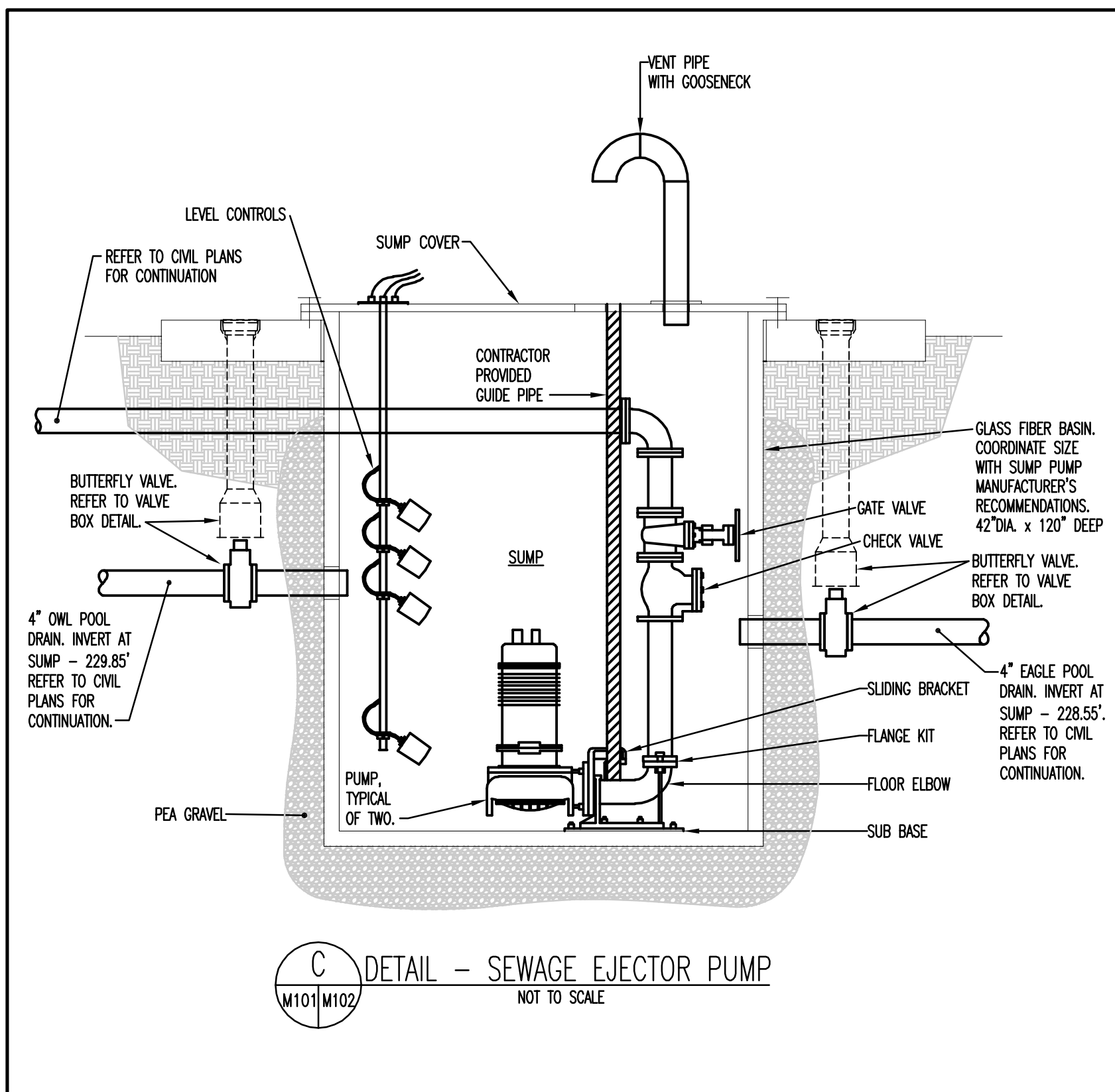
SECTION A
M102 M102 SCALE: 1-1/2"=1'-0"



DETAIL - VALVE BOX
M101 M102 NOT TO SCALE



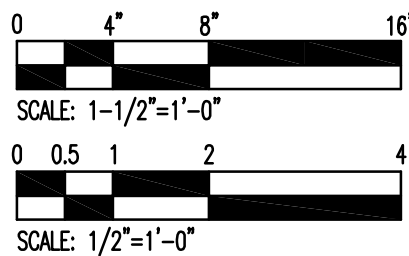
DETAIL - YARD HYDRANT
M101 M102 NOT TO SCALE



DETAIL - SEWAGE EJECTOR PUMP
M101 M102 NOT TO SCALE

DRAWING NOTES

- MOUNT EXHAUST FAN IN EXTERIOR WALL AS CLOSE TO ROOF STRUCTURE AS POSSIBLE. REFER TO SECTION-A.
- PROVIDE RADIANT HEATER. SUSPEND HEATER FROM ROOF STRUCTURE WITH CHAIN AND HOOKS, DIMENSIONS : 40"D x 11"W x 2"H. 150 WATTS, CORD AND PLUG. INFRATHERM PRODUCTS INC, SWEETER HEATER MODEL #0H11x40.



CAUTION: IF THIS DRAWING IS NOT 24"x36", IT IS A REDUCTION. GRAPHIC SCALES MUST BE USED

BKP

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CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

CHESAPEAKE FLYWAY
THE MARYLAND ZOO
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SEAL:

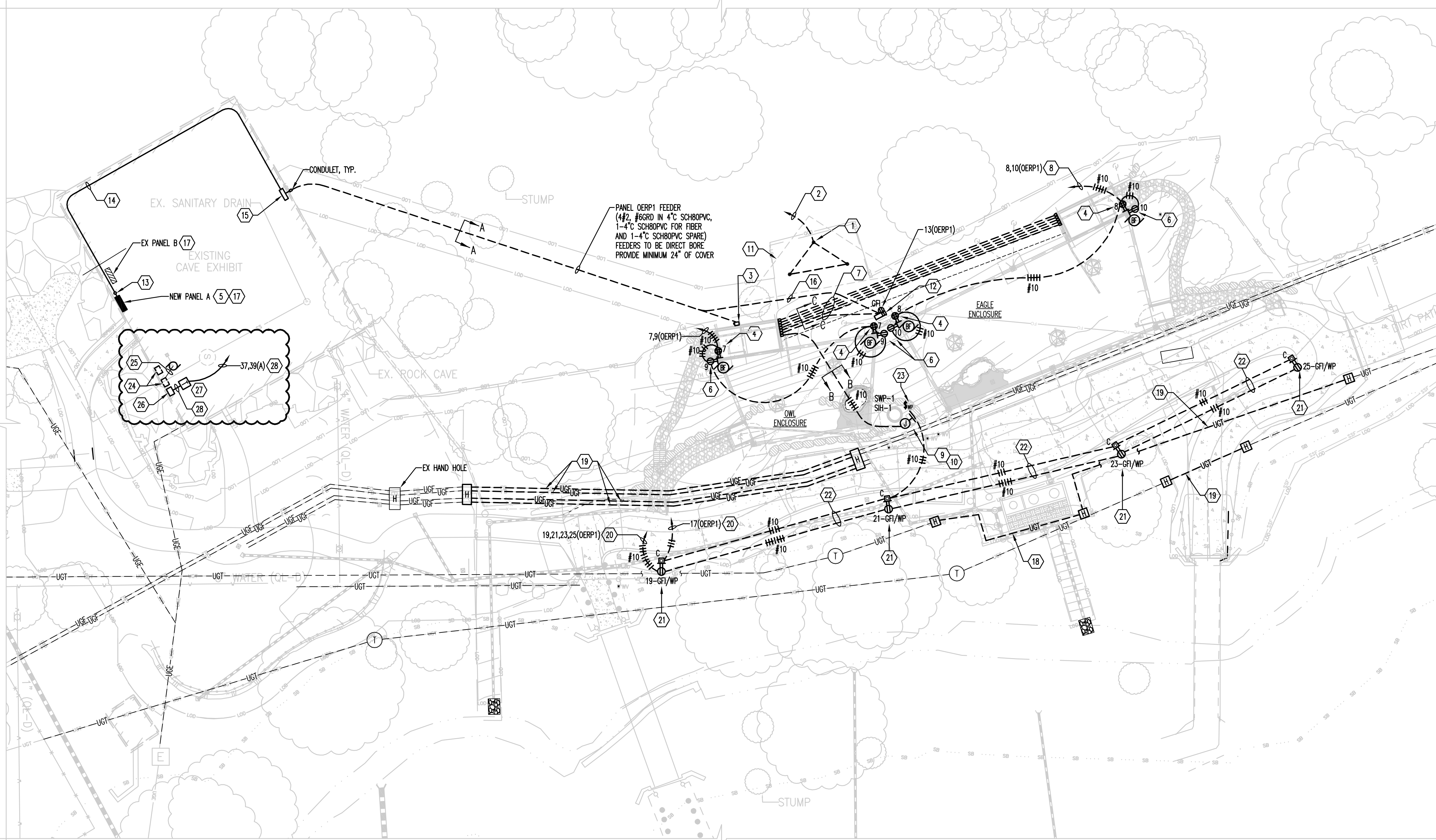
DATE: SEPTEMBER 01, 2026
PROJECT NO: 2023-10.07
DRAWN BY: KWA
CHECKED BY: KWA
SUBMISSION: DATE
BID SET: 09/01/2026

REVISION: DATE
BULLETIN #1: 10/01/2026

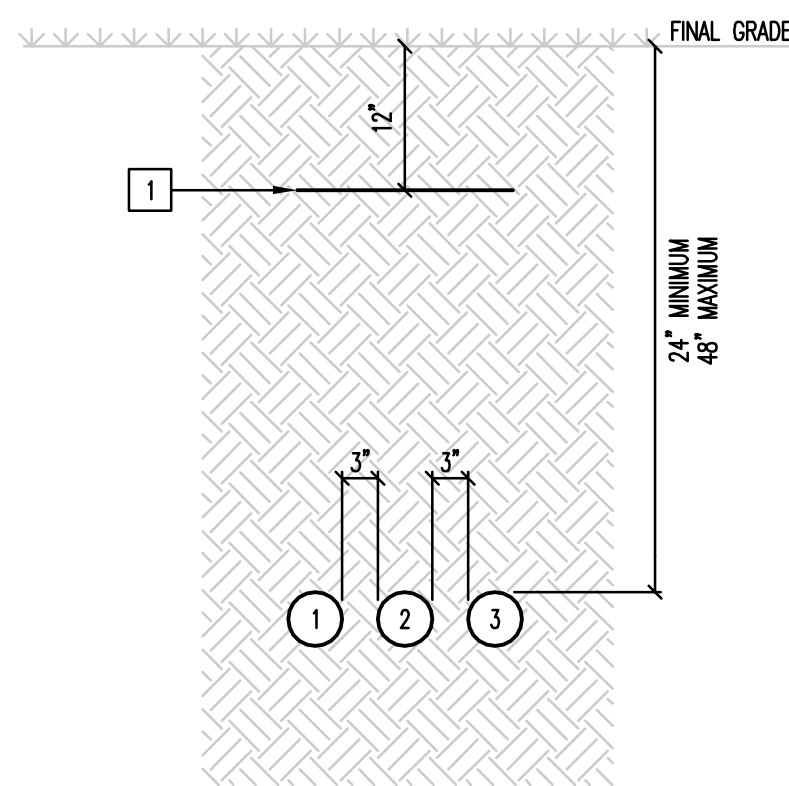
DRAWING TITLE:
PART FLOOR PLANS,
SCHEDULES AND DETAILS

DRAWING NO:
M102

Q
P
N
M
L
K
J
H
G
F
E
D
C
B
A

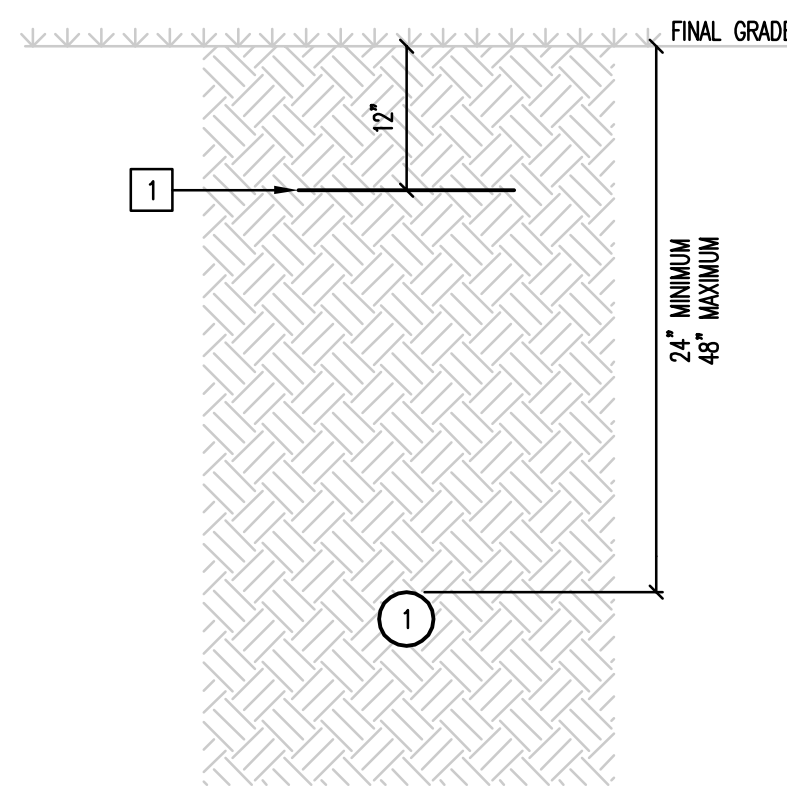


SITE PLAN - ELECTRICAL - NEW WORK - BASE BID
SCALE: 1/16"=1'-0"



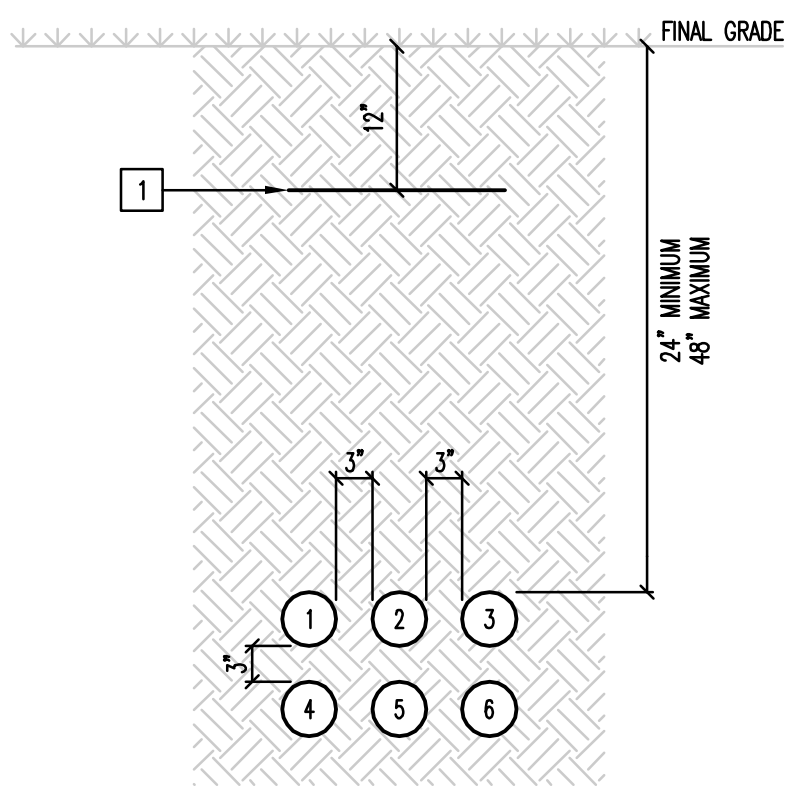
DETAIL - DUCT BANK A-A
NOT TO SCALE

DUCT BANK A-A SCHEDULE		
CONDUIT	SIZE	DESCRIPTION
1	4"	EAGLE/OWL HOLDING FEEDER
2	4"	FIBER/FIRE ALARM/LOW VOLTAGE
3	4"	SPARE



DETAIL - DUCT BANK B-B
NOT TO SCALE

DUCT BANK B-B SCHEDULE		
CONDUIT	SIZE	DESCRIPTION
1	1"	BRANCH CIRCUITS 14,16(OERP1)



DETAIL - DUCT BANK C-C
NOT TO SCALE

DUCT BANK C-C SCHEDULE					
CONDUIT	SIZE	DESCRIPTION	CONDUIT	SIZE	DESCRIPTION
1	1"	BRANCH CIRCUITS 2,4,6(OERP1)	4	1"	SPARE
2	1"	BRANCH CIRCUITS 8,10(OERP1)	5	1"	SPARE
3	1"	BRANCH CIRCUIT 12(OERP1)	6	1"	BRANCH CIRCUIT 13(OERP1)

NOTES:

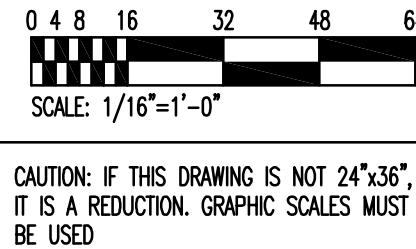
- 1 PROVIDE A RED DIRECTOR MAGNETIC TAPE IMPRINTED WITH A CONTINUOUS WARNING "CAUTION ELECTRICAL LINE BURIED BELOW" REPEATED EVERY 36". THE TAPE SHALL BE INDUCTIVITY AND CONDUCTIVITY TRACEABLE USING A STANDARD PIPE CABLE LOCATING DEVICE.
- 2 ENVELOPE SHALL BE 3" CONCRETE WITH 3" SPACING BETWEEN CONDUITS.
- 3 ALL DUCT BANKS UNDER PAVED AREAS SHALL BE REINFORCED.
- 4 PROVIDE 1/8" NYLON DRAW CORD IN ALL CONDUITS.
- 5 ALL CONDUIT SHALL BE SCHEDULE 80 PVC, UNO.

GENERAL NOTES

1. NEW DUCT BANK(S) SHALL BE RUN BELOW EX UTILITIES WHEN CROSSING.
2. NEW DUCT BANK(S) TO BE ENCASED IN CONCRETE WHERE BELOW PAVED AREAS.
3. SEE THIS DRAWING FOR DUCT BANK SECTIONS AND SCHEDULES.
4. PROVIDE #10AWG CONDUCTORS WHEN RUN IN DUCT BANK OR WHERE CONDUITS ARE BURIED BELOW GRADE.
5. ALL SCH80PVC CONDUITS RUN IN DUCT BANK OR BURIED BELOW GRADE SHALL BE 1" UNLESS NOTED OTHERWISE.
6. ALL EXPOSED CONDUIT TO BE INSTALLED TIGHT AGAINST WALLS, FRAMING, ROOF, ETC. NOT TO EXCEED 1/2" GAP.

DRAWING NOTES

- 1 NEW GROUND FIELD: (3) 10'-0"x3/4" GROUND RODS SPACED APPROXIMATELY 12'-0" ON CENTER WITH #2 BARE COPPER GROUND CONDUCTOR. CADCWELDED TO GROUND RODS.
- 2 EXTEND #2 BARE COPPER GROUND IN 1" (SCH80PVC) TO S.E. RATED FUSED DISCONNECT SWITCH GROUND BUS AND PANEL OERP1 GROUND BUS. PROVIDE 3" CONCRETE ENVELOPE WHERE RUN UNDER PAVING.
- 3 60A, 3P/0/0A, 3N, 240V S.E. RATED DISCONNECT SWITCH IN NEMA 3R ENCLOSURE FOR INCOMING FEEDERS. MOUNT AT 42" ABOVE FINAL GRADE TO BOTTOM.
- 4 MOUNT QUAD RECEPTACLE TO MAST AT 48" ABOVE GRADE. RECEPTACLE TO BE GF TYPE IN A WEATHERPROOF, IN-USE ENCLOSURE.
- 5 RX PANEL A AND REPLACE WITH NEW PANEL A. RECONNECT EX BRANCH CIRCUIT WIRING TO SAME CIRCUIT NUMBER. REWORK EX CONDUITS AS REQUIRED.
- 6 RECEPTACLE FOR BLUE FAN. MOUNT TO MAST AT 72" ABOVE GRADE. RECEPTACLE TO BE GF TYPE IN A WEATHERPROOF, IN-USE ENCLOSURE.
- 7 EXTEND (6) SIX EMPTY 1" (SCH80PVC) FOR BRANCH CIRCUIT WIRING FROM PANEL OERP1 TO THE EAGLE CATCH BOX/ENCLOSURE. CONDUITS WILL BE BURIED. CAP SPARE CONDUIT ON BOTH ENDS. CONDUIT CONTENTS BELOW:
CONDUIT #1: BRANCH CIRCUITS 2,4,6(OERP1)
CONDUIT #2: BRANCH CIRCUITS 8,10(OERP1)
CONDUIT #3: BRANCH CIRCUIT 12(OERP1)
CONDUIT #4: SPARE
CONDUIT #5: SPARE
CONDUIT #6: BRANCH CIRCUIT 13(OERP1) TO FIBER JUNCTION BOX.
- 8 ROUTE BRANCH CIRCUIT WIRING HOME RUN VIA CONDUITS INDICATED IN DRAWING NOTE #7. HOME RUN INDICATED FOR CLARITY.
- 9 120V ELECTRICAL CONNECTION TO SWP-1 CONTROL PANEL. INSTALL SWP-1 CONTROL PANEL IN NEMA 4 HOFFMAN ENCLOSURE. MOUNT TO CONTRACTOR PROVIDED UNISTRUT MOUNTING FRAME. COORDINATE EXACT LOCATION WITH CIVIL AND LANDSCAPE DIVISIONS. CONTRACTOR TO MAKE ALL FINAL CONNECTIONS TO EQUIPMENT.
- 10 SLUMP IMMERSION HEATER CONTROL WIRING IS CONNECTED TO SWP-1 CONTROL PANEL.
- 11 NEW GROUND FIELD BOUNDARY OFFSET OF 5'-0".
- 12 NEW 30"x24"x12" NEMA 4 JUNCTION BOX FOR FIBER. PROVIDE GF TYPE RECEPTACLE MOUNTED INSIDE OF JUNCTION BOX FOR NETWORK SWITCH.
- 13 NEW CONDUITS (2-1 1/2" AND 1-2") FROM CAVES TO EAGLE/OWL SHED THRU ROOF VIA NEW PORTALS PLUS 2303S, ALUMI-FLASH EXTRA WIDE BASE WITH 412 BLACK CAP ROOF FLASHING DEVICE.
- 14 ROUTE NEW CONDUITS TO EAGLE/OWL SHED AROUND PERIMETER OF ROOF. INSTALL DIRECTLY TO MEMBRANE ROOF UTILIZING NON-PENETRATING ROOF BLOCK CONDUIT SUPPORTS.
- 15 PROVIDE WEATHERPROOF JUNCTION BOX FOR CONDUITS TO EAGLE/OWL SHED. SIZE PER NEC. MOUNT JUNCTION BOX TO UNISTRUT AT PARAPET WALL. ROUTE CONDUITS OVER PARAPET WALL AND DOWN TO BELOW GRADE.
- 16 PROPOSED ROUTING OF NEW 4" SCH80PVC TO FIBER JUNCTION BOX. DIRECT BORE. COORDINATE WITH CIVIL DIVISION. PROVIDE MINIMUM 24" OF COVER.
- 17 THE CONTRACTOR SHALL CIRCUIT TRACE ALL EX BRANCH CIRCUITS TO CONFIRM THAT THE CONNECTED DEVICE MATCHES THE EX PANEL DIRECTORY. THIS INFORMATION MUST BE SENT TO THE ENGINEER OF RECORD PRIOR TO STARTING NEW CONSTRUCTION.
- 18 CONTRACTOR TO REWORK SECTION OF EX UTILITY CONDUIT TO AVOID MODULAR WETLANDS. PROVIDE HAND HOLES AS REQUIRED. COORDINATE WITH CIVIL DIVISION AND UTILITY CONDUIT OWNER.
- 19 CONTRACTOR TO CONFIRM THAT SUFFICIENT COVER (24" MIN) IS OVER UTILITY CONDUIT UNDER THE PROPOSED CONDITIONS. CONTRACTOR SHALL RELOCATE UTILITY CONDUIT TO PROVIDE SUFFICIENT COVER ABOVE UTILITY CONDUIT UNDER THIS CONTRACT. PROVIDE HAND HOLES AS REQUIRED. COORDINATE WITH CIVIL DIVISION AND UTILITY CONDUIT OWNER.
- 20 EXTEND BRANCH CIRCUIT WIRING IN 1" (SCH80PVC) IN DUCT BANK SIMILAR TO DUCT BANK C-C. PROVIDE 3" CONCRETE ENVELOPE AROUND CONDUITS WHEN RUN UNDER PAVING. CONCRETE SHALL BE DYED RED.
- 21 APPROXIMATE LOCATION OF NEW BOLLARD BY OTHERS. COORDINATE EXACT LOCATION WITH LANDSCAPE DIVISION. SEE DETAIL ON DRAWING E102 FOR ADDITIONAL INFORMATION. LIGHTS AT BOLLARDS TO BE SWITCHED. RECEPTABLES TO BE ENERGIZED AT ALL TIMES.
- 22 EXTEND BRANCH CIRCUIT WIRING IN 1" (SCH80PVC) IN DUCT BANK SIMILAR TO DUCT BANK C-C. PROVIDE 3" CONCRETE ENVELOPE AROUND CONDUITS WHEN RUN UNDER PAVING. CONCRETE SHALL BE DYED RED. SCH80PVC CONDUIT STUB UPS SHALL BE BROWN IN COLOR AT STUB-UP TO BOLLARDS. SEE DETAIL ON DRAWING E102 FOR ADDITIONAL INFORMATION.
- 23 MOUNT SWITCH TO CONTRACTOR PROVIDED UNISTRUT MOUNTING FRAME AT SLUMP.
- 24 RX SLUMP PUMP CONTROL PANEL.
- 25 EX CONDUIT FROM BOTTOM OF CONTROL PANEL BEING REMOVED TO SLUMP PIT TO REMAIN FOR REUSE.
- 26 APPROXIMATE LOCATION OF CSP-1 CONTROL PANEL. COORDINATE EXACT LOCATION WITH MECHANICAL DIVISION. SHOWN HERE FOR CLARITY. THE EX CONDUIT TO CSP-1 CONTROL PANEL WIRING (6 CONDUIT SUPPLY CABLE) BETWEEN CONTROL PANEL AND SLUMP PUMPS TO BE FURNISHED WITH NEW CONTROL PANEL.
- 27 NEW 0.75KVA, 120/240V BUCK/BOOST TRANSFORMER MOUNTED ABOVE SLUMP CONTROL PANEL.
- 28 3#10, #10GRD IN 3/4"



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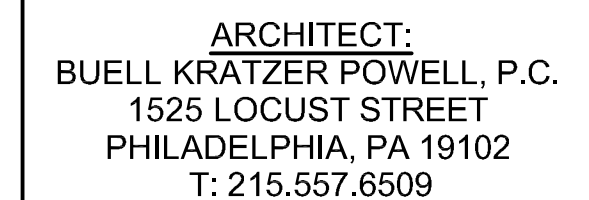
SEAL:

DATE: SEPTEMBER 01, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	KWA
CHECKED BY	KWA
SUBMISSION	DATE
BID SET	09/01/2026
REVISION	DATE
BULLETIN #1	10/01/2026

DRAWING TITLE:
OWL EXHIBIT - SITE PLAN - ELECTRICAL

DRAWING NO:
E101

11045 - MARYLAND ZOO EAGLE AND OWL EXHIBIT



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DRAWN BY

CHECKED BY

SUBMISSION	DATE
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BID SET	09/01/2026

REVISION

BULLETIN #1	10/01/2026
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DRAWING TITLE:

RISER DIAGRAMS AND PANEL SCHEDULES

DRAWING NO:

E601



37	CSP-1 IN CAVES	2	25	1.83	A	
39				1.83	B	

NOTES:

1. THE CONTRACTOR SHALL CIRCUIT TRACE ALL EX BRANCH CIRCUITS TO CONFIRM THAT THE CONNECTED DEVICE MATCHES THE PANEL DIRECTORY. THIS INFORMATION MUST BE SENT TO THE ENGINEER OF RECORD PRIOR TO THE START OF CONSTRUCTION.

A	1.5	21	1	SWP-1	14
B	0.86	15	1	SWP-1	16

Q

P

N

M

L

K

J

H

G

F

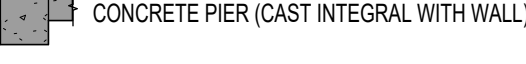
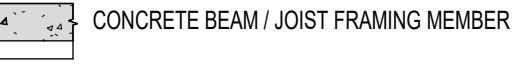
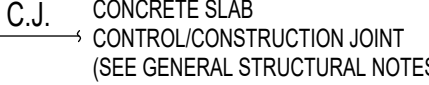
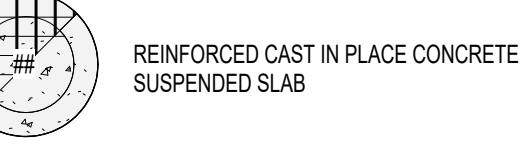
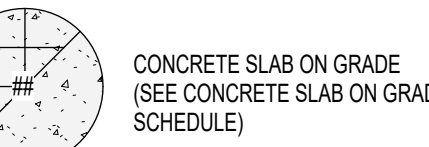
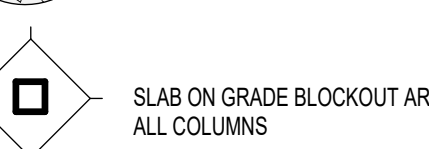
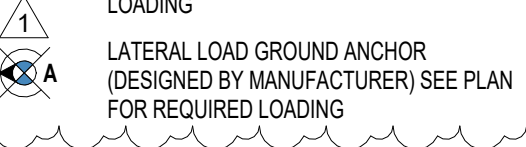
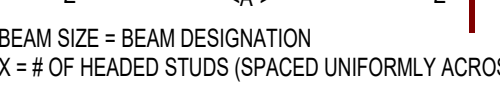
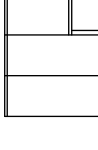
E

D

C

B

A

STRUCTURAL DRAWING LEGEND		
CONCRETE CONSTRUCTION	STEEL CONSTRUCTION	GENERAL ANNOTATIONS
 CONCRETE SPOT FOOTING  CONCRETE CONTINUOUS FOOTING  CONCRETE WALL  CONCRETE COLUMN  CONCRETE PIER (CAST INTEGRAL WITH WALL)  CONCRETE BEAM / JOIST FRAMING MEMBER  CONCRETE LINTEL / BEAM (INTEGRAL WITH WALL)  CONCRETE SLAB CONTROL/CONSTRUCTION JOINT (SEE GENERAL STRUCTURAL NOTES)  REINFORCED CAST IN PLACE CONCRETE SUSPENDED SLAB  CONCRETE SLAB ON GRADE (SEE CONCRETE SLAB ON GRADE SCHEDULE)  SLAB ON GRADE BLOCKOUT AROUND ALL COLUMNS  FOOTING STEP  GROUND ANCHOR (DESIGNED BY MANUFACTURER) SEE PLAN FOR REQUIRED LOADING  LATERAL LOAD GROUND ANCHOR (DESIGNED BY MANUFACTURER) SEE PLAN FOR REQUIRED LOADING	 STEEL COLUMN (WIDE FLANGE SHAPE)  STEEL COLUMN (HSS)  STEEL COLUMN (HSS ROUND)  STEEL BASE PLATE  STEEL BEAM / JOIST FRAMING MEMBER  DRAG STRUT CONNECTION (SEE STEEL CONNECTION SCHEDULE)  MOMENT FRAME CONNECTION (SEE STRUCTURAL ELEVATIONS)  BRACED FRAME CONNECTION (SEE STRUCTURAL ELEVATIONS)  DOUBLE SHEAR CONNECTION (SEE STEEL CONNECTION SCHEDULE)  CANTILEVER MOMENT CONNECTION (SEE STRUCTURAL DETAILS)  STEEL ANGLE BRACING (SEE STRUCTURAL DETAILS)  BEAM SIZE = BEAM DESIGNATION X = # OF HEADED STUDS (SPACED UNIFORMLY ACROSS BEAM) Y = BEAM CAMBER (CROWN UPWARD @ MIDSPAN) Z = SPECIAL REACTIONS OR OTHER NOTES A = DEVIATION FROM TYPICAL NOTED TOP OF STEEL ELEVATION  STEEL ROOF DECK (SEE PLANS AND GENERAL NOTES FOR SPECIFIC INFORMATION)  CONCRETE SLAB ON STEEL DECK (SEE PLANS AND GENERAL NOTES FOR SPECIFIC INFORMATION)  WOOD CONSTRUCTION  PLYWOOD / OSB WOOD DECK (SEE WOOD DECK SCHEDULE)  WOOD BEARING WALL  WOOD SHEARWALL  WOOD HEADER (INTEGRAL WITH WALL)  WOOD COLUMN (INTEGRAL WITH WALL)  WOOD COLUMN (FREE-STANDING)  HOLDOWN AS DESIGNATED (SEE SCHEDULE)  WOOD SHEAR WALL (SEE SCHEDULE)	 STACKED STRUCTURAL TAGS REPRESENT STRUCTURAL RELATIONSHIPS BETWEEN VARIOUS ELEMENTS  CONCRETE FOOTING TAG  COLUMN TAG (X=MATERIAL, #=DESIGNATION) C=CONCRETE, M=MASONRY, S=STEEL, W=WOOD  BASE PLATE TAG  WALL TAG (X=MATERIAL, #=DESIGNATION) C=CONCRETE, M=MASONRY, W=WOOD  BEAM TAG (X=MATERIAL, #=DESIGNATION) C=CONCRETE, M=MASONRY, W=WOOD  LINTEL TAG (X=MATERIAL, #=DESIGNATION) C=CONCRETE, M=MASONRY  98'-0" ELEVATION AT TOP OF FOOTING  STEP CHANGE IN ELEVATION  SLOPED 1/4 ROOF SLOPE DESIGNATION (SEE ARCH FOR ACTUAL SLOPES)  SPECIAL DECK OR FLOOR AREA  1 TYP DETAIL OR PLAN REFERENCE  A101 SHEET REFERENCE  1 TYP SECTION REFERENCE  A101 TYPICAL (TYP) OR SIMILAR (SIM) DETAIL  A101 SHEET REFERENCE  S1 ELEVATION REFERENCE  S101 SHEET REFERENCE  N DESIGNATES PLAN NORTH  GREY TONE OR LIGHTER DRAWING ELEMENTS DESIGNATE EXISTING STRUCTURAL COMPONENTS AND/OR ELEMENTS
STRUCTURAL ABBREVIATIONS		
ABV ABOVE ADDL ADDITIONAL ALT ALTERNATE ARCH ARCHITECT(URAL) BLDG BUILDING BLW BELOW BTM BOTTOM BTWN BETWEEN CFS COLD FORMED STEEL CJ CONTROL OR CONSTRUCTION JOINT CJP COMPLETE JOINT PENETRATION CLR CLEAR CMU CONCRETE MASONRY UNIT COL COLUMN CONC CONCRETE CONST CONSTRUCTION CONT CONTINUOUS COORD COORDINATE CRWH CONCRETE RETAINING WALL CTR CENTERED) CWH CONCRETE WALL DBA DEFORMED BAR ANCHOR DBE DECK BEARING ELEVATION (SEE ARCH) DBL DOUBLE DIA DIAMETER DIM DIMENSION DNG DRAWING EF EACH FACE EJ SEISMIC ISOLATION JOINT EA EACH ELEC ELECTRICAL ELEV ELEVATION EQ EQUAL EQUIP EQUIPMENT EXIST EXISTING EXT EXTERIOR FF FINISH FLOOR	FCF CONTINUOUS FOOTING FSF SPOT FOOTING FT FOOT FTG FOOTING FDTN FOUNDATION GA GAUGE GALV GALVANIZED GLB GLUE-LAMINATED BEAM GR GRADE GSN GENERAL STRUCTURAL NOTES HK HOOK HSA HEADED STUD ANCHOR HORIZ HORIZONTAL HT HEIGHT INT INTERIOR IF INSIDE FACE IBC INTERNATIONAL BUILDING CODE IEBC INTERNATIONAL EXISTING BUILDING CODE ICC INTERNATIONAL CODES COUNCIL IN INCH K KIPS KLF KIPS PER LINEAL FOOT KSF KIPS PER SQUARE FOOT KSI KIPS PER SQUARE INCH LBS POUNDS LG LIGHT GAUGE LH LONG LEG HORIZONTAL LVH LONG LEG VERTICAL LSH LONG SIDE HORIZONTAL LW LIGHT-WEIGHT MANUF MANUFACTURER MAX MAXIMUM MCA MASONRY COLUMN MECH MECHANICAL MEP MECHANICAL/PLUMB MIN MINIMUM	MISC MISCELLANEOUS ML# MASONRY LINTEL MWH MASONRY WALL NS NON-SHRINK NTS NOT TO SCALE NW NORMAL WEIGHT OC ON CENTER OF OUTSIDE FACE OPP OPPOSITE OWSJ OPEN WEB STEEL JOIST PCF POUNDS PER CUBIC FOOT PEMB PRE-ENGINEERED METAL BUILDING PL PLATE PLF POUNDS PER LINEAL FOOT PSF POUND PER SQUARE FOOT PSI POUND PER SQUARE INCH REIN REINFORCING REQD REQUIRED SC# STEEL COLUMN SIM SIMILAR SOG SLAB ON GRADE SOMD SLAB ON METAL DECK STD STANDARD STIFF STIFFENER STL STEEL TB TOP AND BOTTOM TOP TOP OF FOOTING TOS TOP OF SLAB TOW TOP OF WALL TYP TYPICAL UNO UNLESS NOTED OTHERWISE VERT VERTICAL VIF VERIFY IN FIELD WI WITH W/C WATER / CEMENT RATIO WC# WOOD COLUMN WWF WELDED WIRE FABRIC

GENERAL PROJECT INSTRUCTIONS

- GENERAL NOTES: THESE GENERAL STRUCTURAL NOTES DO NOT SUPERSEDE THE PROJECT SPECIFICATIONS, BUT ARE INTENDED TO BE COMPLIMENTARY TO THEM. CONSULT THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS IN EACH SECTION. NOTATION AND SPECIFIC DETAILS ON THE DRAWINGS TAKE PRECEDENCE OVER THESE NOTES AND TYPICAL DETAILS.
- CONTRACT DRAWINGS: THE PRIME CONTRACT DRAWINGS ARE THE ARCHITECTURAL DRAWINGS. THESE STRUCTURAL DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. ALL OMISSIONS OR CONFLICTS, INCLUDING DIMENSIONS, BETWEEN THE VARIOUS ELEMENTS OF THE STRUCTURAL DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE THERE IS A CONFLICT BETWEEN DRAWINGS, FOLLOW THE MOST STRINGENT REQUIREMENT, SUBMIT A REQUEST FOR INFORMATION, AND/OR PROCEED AS DIRECTED BY THE ARCHITECT WITHOUT ANY ADDITIONAL COST TO THE OWNER. ANY WORK DONE BY THE CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE CONTRACTOR'S RISK.
- STRUCTURAL DRAWINGS: THESE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL AND OTHER CONSULTANT DRAWINGS. ONLY THE PRIMARY STRUCTURAL ELEMENTS AND SYSTEMS ARE INDICATED WITHIN THESE STRUCTURAL DRAWINGS. ALL STRUCTURAL DETAILS ARE REPRESENTATIVE IN NATURE AND ARE NOT TO BE SCALED FOR ANY REASON. MANY OTHER ELEMENTS SUCH AS, ARCHITECTURAL LAYOUTS, ELEVATIONS, SLOPES, DEPRESSIONS, CURBS, MECHANICAL/ELECTRICAL EQUIPMENT, EXTERIOR LIGHT GAUGE FRAMING, STAIRS, ETC. ARE GENERALLY NOT SHOWN IN THESE STRUCTURAL DRAWINGS. IT IS INTENDED THAT ALL SHOP DRAWINGS AND DETAILING OF STRUCTURAL ELEMENTS WILL REQUIRE INFORMATION FROM ALL CONTRACT DOCUMENTS, NOT JUST THESE STRUCTURAL DRAWINGS.
- PROJECT COORDINATION: IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE ALL ITEMS WITH ALL TRADES TO INSURE THERE ARE NO CONFLICTS BETWEEN OTHER TRADES AND THE STRUCTURAL ELEMENTS. ANY OPENINGS, PENETRATIONS, OR ATTACHMENTS TO ANY STRUCTURAL ELEMENT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND SHALL BE COORDINATED WITH THE ARCHITECT/ENGINEER.
- SUBMITTALS: STRUCTURAL SUBMITTALS SHALL ONLY BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AFTER THE GENERAL CONTRACTOR HAS REVIEWED AND APPROVED THE SUBMITTAL. CONTRACTOR SHALL ALLOW AT LEAST 10 BUSINESS DAYS (2 WEEKS) FOR EACH SUBMITTAL TO BE REVIEWED. IF AN ITEM IS SUBMITTED WHILE ANOTHER SUBMITTAL IS UNDER REVIEW, THE 10 DAY REVIEW PERIOD FOR THAT NEWLY SUBMITTED ITEM DOES NOT BEGIN UNTIL THE PREVIOUS SUBMITTAL IS COMPLETE. THE SHOP DRAWING REVIEW PROCESS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY OF COMPLETING THE PROJECT ACCORDING TO THE CONTRACT DOCUMENTS, REGARDLESS OF INFORMATION SHOWN IN THE REVIEW COMMENTS. SHOP DRAWINGS MADE FROM REPRODUCTIONS OF THESE STRUCTURAL DRAWINGS WILL BE REJECTED.
- SHORING AND BRACING REQUIREMENTS: THE STRUCTURAL SYSTEMS SHOWN IN THESE DRAWINGS SHALL NOT BE CONSIDERED STABLE UNTIL ALL STRUCTURAL ELEMENTS ARE IN PLACE AND COMPLETED. IT IS THEREFORE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO DETERMINE THE METHOD OF CONSTRUCTION SEQUENCE, AS WELL AS PROVIDE ANY SHORING, BRACING, ETC. TO INSURE THE STRUCTURE IS STABLE UNTIL ALL ELEMENTS ARE COMPLETED.
- FIELD VERIFICATION: THE GENERAL CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, AND CONDITIONS. IF THE CONTRACT DRAWINGS DO NOT REPRESENT ACTUAL CONDITIONS, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER PRIOR TO FABRICATION OR CONSTRUCTION WITHIN THAT AREA. IF CONTRACTOR PROCEEDS WITH ANY WORK WITHOUT PROPERLY FIELD VERIFYING DIMENSIONS, CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION AND DESIGN COSTS ASSOCIATED WITH FIXING THE SITUATION.
- PERMIT PLAN CHECK: PRIOR TO OBTAINING FINAL BUILDING PERMITS FROM THE BUILDING OFFICIAL AND OTHER AUTHORITIES HAVING JURISDICTION, ALL PRICING, BIDDING, OR CONSTRUCTION PROGRESS IS DONE AT THE CONTRACTOR'S OWN RISK. CHANGES TO THESE DRAWINGS MAY BE REQUIRED AS PART OF THE PLAN CHECK AND PERMITTING PROCESS AND THUS STRUCTURAL DESIGN STUDIO, INC. WILL NOT BE HELD LIABLE (FINANCIAL OR OTHERWISE) FOR ANY CHANGES MADE TO THESE DRAWINGS.
- NOTICE OF COPYRIGHT: ALL DRAWINGS, DETAILS, NOTES, ELEMENTS, ETC. CONTAINED WITHIN THESE DRAWINGS ARE COPYRIGHTED BY STRUCTURAL DESIGN STUDIO, INC. SUBMISSION OR DISTRIBUTION OF DOCUMENTS TO MEET OFFICIAL REGULATORY REQUIREMENTS OR FOR SIMILAR PURPOSES IN CONNECTION WITH THE PROJECT IS NOT TO BE CONSTRUED AS PUBLICATION IN DEROGATION OF STRUCTURAL DESIGN STUDIO, INC.'S RIGHTS. THE DOCUMENTS DEFINING THE STRUCTURE ARE INSTRUMENTS OF SERVICE PREPARED BY STRUCTURAL DESIGN STUDIO, INC. FOR ONE USE ONLY. FURTHERMORE, THESE DOCUMENTS SHALL NOT BE REPRODUCED, OR COPIED, IN WHOLE OR IN PART BY THE CONTRACTOR OR HIS SUBCONTRACTORS FOR PREPARATION OF SHOP DRAWINGS OR ANY OTHER SUBMITTALS.

CRITERIA FOR STRUCTURAL DESIGN

- GOVERNING BUILDING CODES AND GENERAL DESIGN STANDARDS**
 - 2021 INTERNATIONAL BUILDING CODE (IBC)
 - ASCE/SEI 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- ROOF LIVE LOADING:**
 - ROOF LIVE LOAD = 20 PSF
 - ROOF SNOW LOAD = 24 PSF
 - GROUND SNOW LOAD, $P_g = 25$ PSF
 - FLAT ROOF SNOW LOAD, $P_f = 24$ PSF
 - SNOW EXPOSURE FACTOR, $C_e = 1.10$
 - IMPORTANCE FACTOR, $I_s = 1.00$
 - THERMAL FACTOR, $C_t = 1.20$
 - SLOPE FACTOR(S), $C_s = 1.00$
- SEISMIC DESIGN CRITERIA AND PARAMETERS:**
 - RISK CATEGORY II (ALL OTHERS) - BUILDING TYPE
 - SEISMIC DESIGN CATEGORY = A
 - SPECTRAL RESPONSE ACCELERATIONS:
 $S_s = 0.14$ g $S_{ds} = 0.12$ g
 $S_1 = 0.04$ g $S_{d1} = 0.04$ g
 - SOIL SITE CLASS = SITE CLASS-C (VERY DENSE SOIL)
 $F_a = 1.30$ $F_v = 1.50$
 - BASIC SEISMIC-FORCE-RESISTING SYSTEM: ORDINARY REINFORCED CONCRETE SHEAR WALLS
 $R = 4.00$ $C_d = 4.00$ $\Omega = 2.50$
 - IMPORTANCE FACTOR, $I_e = 1.00$
 - ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE (ELF-STATIC)
- WIND DESIGN CRITERIA:**
 - BASIC WIND SPEED (V) = 115 MPH
 - ALLOWABLE STRESS WIND DESIGN SPEED (V) = 89 MPH
 - RISK CATEGORY II (ALL OTHERS) - BUILDING TYPE
 - EXPOSURE CATEGORY = EXPOSURE C (ALL OTHERS)
 - INTERNAL PRESSURE COEFFICIENT (G_{cpi}) = ± 0.18
 - TOPOGRAPHIC FACTOR (K_{zt}) = 1.00
 - COMPONENTS AND CLADDING BASED ON 20 SQ. FT. TRIBUTARY AREA:
 - WALL INTERIOR ZONES = 23.6 PSF / 27.0 PSF
 - WALL END ZONES = 23.6 PSF / 33.4 PSF
 - ROOF INTERIOR ZONES = 16.0 PSF / 32.1 PSF
 - ROOF END ZONES = 16.0 PSF / 38.5 PSF
 - ROOF CORNER ZONES = 16.0 PSF / 67.5 PSF

FOUNDATION CRITERIA & EARTHWORK GUIDELINES

- GEOTECHNICAL INFORMATION**
 - A SOILS INVESTIGATION AND GEOTECHNICAL REPORT WAS COMPLETED ON BEHALF OF THIS PROJECT BY CENTURY ENGINEERING, AND IS DATED 05/17/2025. AS DIRECTED BY THE OWNER THIS REPORT WAS USED IN THE DESIGN OF THE FOUNDATION SYSTEMS FOR THIS PROJECT. IT SHALL NOT BE CONSIDERED A WARRANTY TO THE SOILS OR SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED BY THE CONTRACTOR. THE REPORT IS NOT PART OF THESE STRUCTURAL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL OBTAIN A COPY OF THE REPORT DIRECTLY FROM THE OWNER AND SHALL FOLLOW THE RECOMMENDATIONS OF THE REPORT. ANY QUESTIONS OR INQUIRIES REGARDING SOIL PREPARATION, REMEDIATION, ETC. SHALL BE DIRECTED TO THE GEOTECHNICAL ENGINEER.
- SHALLOW FOUNDATION REQUIREMENTS:**
 - ALL FOOTINGS + FOUNDATIONS TO BE PLACED ON PROPERLY PREPARED NATIVE SOILS AND/OR COMPACTED STRUCTURAL FILL.
 - BOTTOM OF FOOTING MUST BEAR AT LEAST 30 INCHES BELOW FINAL GRADE.
 - BASED ON FINAL IN-FIELD GRADE, CONTRACTOR SHALL COORDINATE FOOTING ELEVATIONS SHOWN ON PLAN AND PROVIDE ADDITIONAL FOOTING STEPS AS NECESSARY TO INSURE THE ABOVE REQUIREMENT IS MET IN ALL CONDITIONS.
 - DO NOT PLACE ANY FOOTING ON UNSUITABLE OR DELETERIOUS MATERIAL. REMOVE ALL UNSUITABLE MATERIAL BELOW FOOTINGS AND REPLACE IT WITH COMPACTED STRUCTURAL FILL AS OUTLINED IN THE GEOTECHNICAL REPORT, AND IN ACCORDANCE WITH THE TYPICAL COMPACTED STRUCTURAL FILL DETAIL CONTAINED IN THESE DRAWINGS.
 - ALL NATURAL UNDISTURBED SOILS LOCATED BELOW ALL FOOTINGS SHALL BE PROOF ROLLED AND TESTED PRIOR TO PLACING CONCRETE. REMOVE ALL SOFT SPOTS AND REPLACE WITH COMPACTED STRUCTURAL FILL AS OUTLINED IN THE GEOTECHNICAL REPORT.
 - ALL STRUCTURAL FILL SHALL BE TESTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND THE GOVERNING BUILDING CODE.
- SOIL PROPERTIES + DESIGN PARAMETERS:**
 - NET SOIL BEARING PRESSURE = 3,000 PSF
 - LATERAL LOAD SLIDING COEFFICIENT = 0.58
 - SHORT-TERM SOIL CAPACITY INCREASE (WIND/SEISMIC) = 100%
 - LATERAL SOIL PROPERTIES FOR USE IN RETAINING STRUCTURE:
 - SOIL UNIT WEIGHT = 120 PCF
 - ACTIVE PRESSURE (K_a) = 52 PCF
 - AT-REST PRESSURE (K_o) = 79 PCF
 - PASSIVE PRESSURE (K_p) = 250 PCF
- GROUND ANCHOR / ROCK ANCHOR FOUNDATION CRITERIA:**
 - GROUND ANCHOR / ROCK ANCHORS SHALL BE A DEFERRED SUBMITTAL AND DESIGNED BY A PROFESSIONAL ENGINEER AS INDICATED IN THE DEFERRED SUBMITTAL SECTION OF THE THESE NOTES.
 - SEE PLAN NOTES AND DETAILS FOR LOADING CRITERIA FOR GROUND ANCHOR / ROCK ANCHOR DESIGN.
 - INSTALLATION OF GROUND ANCHOR / ROCK ANCHOR SHALL BE IN ACCORDANCE WITH SPECIFIED EMBEDMENT DEPTH AND TORSIONAL RESISTANCE CRITERIA AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL OF THE GROUND ANCHOR / ROCK ANCHORS AND GEOTECHNICAL REPORT.
 - GENERAL CONTRACTOR SHALL PROVIDE AN AS-INSTALLED PLAN SHOWING ALL GROUND ANCHOR / ROCK ANCHOR LOCATIONS, DIMENSIONS, ANGLES AND DEPTHS.

DEFERRED SUBMITTALS (STRUCTURAL)

- DEFERRED SUBMITTALS REQUIRED BY STRUCTURAL ENGINEER ARE AS FOLLOWS:
 - GROUND ANCHOR / ROCK ANCHORS
- DEFERRED SUBMITTALS SHALL INCLUDE STRUCTURAL CALCULATIONS, PLANS, AND DETAILS PROPERLY SHOWING LOCATION AND MAGNITUDE OF LOADS, CONFIGURATION AND SIZE OF ELEMENTS, AND COMPATIBILITY OF SUBMITTAL ITEM WITH THE PRIMARY STRUCTURAL SYSTEM. DRAWINGS, CALCULATIONS, ETC SHALL BE STAMPED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND.
- STRUCTURAL ENGINEER WILL RELY ON THE SEAL OF THE SPECIALTY ENGINEER'S SEAL AS CERTIFICATION THAT THE ITEMS DESIGNED BY THE SPECIALTY ENGINEER COMPLY WITH THE CRITERIA SET FORTH IN THE CONTRACT DOCUMENTS AND APPLICABLE CODES AND STANDARDS. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ADEQUACY OF DESIGNS PROVIDED BY OTHERS.
- DEFERRED SUBMITTALS ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION IN ACCORDANCE WITH IBC 107.3.4.1.



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CLIENT:

MARYLAND ZOO

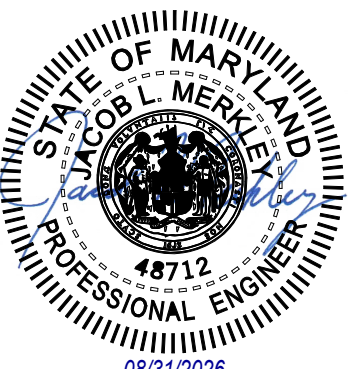
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

EAGLE AND OWL EXHIBITS

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
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THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE, NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

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DRAWING TITLE:
**GENERAL
STRUCTURAL NOTES**

DRAWING NO:
S001



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A

STATEMENT OF SPECIAL INSPECTIONS (STRUCTURAL)

1. IN ADDITION TO STANDARD INSPECTIONS BY THE BUILDING OFFICIAL REQUIRED IN IBC SECTION 110, THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS AS REQUIRED IN IBC SECTION 1704 AND 1705. THESE SECTIONS REFER TO THE SPECIAL INSPECTIONS PERTAINING TO THE STRUCTURAL SYSTEM ONLY AND DOES NOT ENCOMPASS INSPECTIONS REQUIRED BY OTHER DISCIPLINES.
2. UNLESS WAIVED BY THE BUILDING OFFICIAL, THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE REQUIRED INSPECTIONS.
3. TYPES OF WORK REQUIRING SPECIAL INSPECTION AND TESTING ON THIS PROJECT ARE LISTED IN THE FOLLOWING MATERIAL SPECIFIC TABLES. THESE TABLES ARE NOT MEANT TO ENCOMPASS ALL SPECIAL INSPECTIONS ON THE PROJECT, JUST THOSE DIRECTLY RELATED TO ELEMENTS AND MATERIALS USED FOR STRUCTURAL SUPPORT.
4. IN ADDITION TO THE SUBMITTAL REPORTS OF SPECIAL INSPECTIONS AND TESTS, REPORTS AND CERTIFICATIONS SHALL BE SUBMITTED BY THE OWNER (OR OWNER'S AGENT) TO THE BUILDING OFFICIAL FOR EACH OF THE FOLLOWING:
- A. REPORTS OF PRECONSTRUCTION TESTS FOR SHOTCRETE.
- B. REPORTS OF MATERIAL PROPERTIES VERIFYING COMPLIANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR WELDABILITY AS SPECIFIED IN SECTION 26.6.4 OF ACI 318 FOR REINFORCING BARS IN CONCRETE COMPLETED WITH A STANDARD OTHER THAN ASTM A706 THAT ARE TO BE WELDED.
5. STRUCTURAL OBSERVATIONS (WHEN REQUIRED BY BUILDING OFFICIAL)
- A. STRUCTURAL OBSERVATIONS MAY BE PERFORMED AS DEEMED NECESSARY BY THE STRUCTURAL ENGINEER OF RECORD.
- B. OBSERVATION VISITS TO THE SITE BY THE ENGINEER'S FIELD REPRESENTATIVES SHALL NOT BE CONSTRUED AS AN INSPECTION OR APPROVAL OF CONSTRUCTION.
- C. IN AN EFFORT TO KEEP THE STRUCTURAL ENGINEER OF RECORD CURRENT AS TO THE STATE OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER VIA TELEPHONE OR EMAIL TWENTY-FOUR HOURS PRIOR TO:
- a. PLACING OF ANY CONCRETE IN STRUCTURAL MEMBERS DESIGNATED IN THESE DRAWINGS.
- b. COMPLETING THE MAIN ERECTION OF STRUCTURAL STEEL ELEMENTS DESIGNATED IN THESE DRAWINGS.
- c. COMPLETING THE NAILING OF ANY MAJOR PORTIONS OF WOOD ROOF DIAPHRAGMS DESIGNATED IN THESE DRAWINGS.

SOILS INSPECTION AND TESTING TABLE		
VERIFICATION + INSPECTION	PO	CO
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	X	-
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	X	-
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	X	-
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	-	X
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	X	-
NOTES: PO = REPRESENTS PERIODIC INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK. CO = REPRESENTS CONTINUOUS INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK. 1. TABLE IS SPECIFICALLY BASED UPON SECTION 1705.6 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THIS SECTION OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND BUILDING OFFICIAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING. 2. REFER TO PROJECT GEOTECHNICAL REPORT, PROVIDED BY OWNER, TO VERIFY REQUIREMENTS FOR COMPACTED FILL, SOIL PROPERTIES, AND PREPARATION GUIDELINES.		

GROUND ANCHOR / ROCK ANCHOR FOUNDATION INSPECTION AND TESTING TABLE		
VERIFICATION + INSPECTION	PO	CO
OBSERVE DRILLING OPERATIONS AND MAINTAIN COMPLETE ACCURATE RECORDS FOR EACH ELEMENT.	-	X
VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM GROUND ANCHOR DIMENSIONS, TIP ELEVATIONS, FINAL DEPTH, FINAL INSTALLATION TORQUE.	-	X
NOTES: PO = REPRESENTS PERIODIC INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK. CO = REPRESENTS CONTINUOUS INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK. 1. TABLE IS SPECIFICALLY BASED UPON SECTION 1705.9 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THIS SECTION OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND BUILDING OFFICIAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING. 2. REFER TO PROJECT GEOTECHNICAL REPORT, PROVIDED BY OWNER, TO VERIFY REQUIREMENTS FOR GROUND ANCHOR INSTALLATION, PRELIMINARY DEPTHS, AND POTENTIAL LOADING REQUIREMENTS. 3. REFER TO STRUCTURAL DRAWINGS FOR SERVICE LOADING REQUIRED AT EACH GROUND ANCHOR LOCATION.		

CONCRETE CONSTRUCTION INSPECTION AND TESTING TABLE		
VERIFICATION + INSPECTION	PO	CO
INSPECT REINFORCEMENT, INCLUDING, PRESTRESSING TENDONS, AND VERIFY PLACEMENT	X	-
REINFORCING BAR WELDING: - VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706 - INSPECT SINGLE-PASS FILLET WELDS, MINIMUM 5/16" - INSPECT ALL OTHER WELDS	X X -	- - X
INSPECTION OF ANCHORS CAST IN CONCRETE	X	-
INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS - ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS - MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED	- X	X -
VERIFYING USE OF REQUIRED DESIGN MIX	X	-
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	-	X
INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	-	X
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	X	-
VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	X	-
NOTES: PO = REPRESENTS PERIODIC INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK. CO = REPRESENTS CONTINUOUS INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK. 1. TABLE IS SPECIFICALLY BASED UPON SECTION 1705.3 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THIS SECTION OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND BUILDING OFFICIAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING.		

WOOD CONSTRUCTION INSPECTION AND TESTING TABLE		
VERIFICATION + INSPECTION	PO	CO
INSPECTION OF HIGH-LOAD DIAPHRAGMS TO VERIFY THE FOLLOWING: - STRUCTURAL PANEL GRADE AND THICKNESS - NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES - NAIL AND/OR STAPLE DIAMETER AND LENGTH, NUMBER, FASTENER LINES, SPACING, EDGE MARGIN	X	-
INSPECTION OF NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF ELEMENTS OF THE MAIN SEISMIC WIND FORCE RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, AND HOLD-DOWNS	X	-
VERIFY INSTALLATION OF PREFABRICATED WOOD STRUCTURAL TRUSSES/JOISTS FOR COMPLIANCE WITH DETAILS AND REQUIREMENTS OF THE APPROVED CONSTRUCTION DOCUMENTS	X	-
INSPECTION OF METAL-PLATE-CONNECTED WOOD TRUSSES SPANNING 80' OR GREATER: VERIFY TEMPORARY INSTALLATION RESTRAINT/BRACING AND PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE	X	-
NOTES: PO = REPRESENTS PERIODIC INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK. CO = REPRESENTS CONTINUOUS INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK. 1. TABLE IS SPECIFICALLY BASED UPON SECTION 1705.5 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THIS SECTION OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND BUILDING OFFICIAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING.		

STRUCTURAL STEEL WELDING INSPECTION AND TESTING TABLE		
VERIFICATION + INSPECTION	QC	QA
INSPECTION TASKS PRIOR TO WELDING		
WELDING QUALIFICATION RECORDS AND CONTINUITY RECORDS	P	O
WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	P	P
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLE AVAILABLE.	P	P
MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O
WELDER IDENTIFICATION SYSTEM	O	O
FIT-UP GROOVE WELDS (INCLUDING JOINT GEOMETRY) - JOINT PREPARATION - DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) - CLEANLINESS (CONDITION OF STEEL SURFACES) - TACKING (TACK WELD QUALITY AND LOCATION) - BACKING TYPE AND FIR (IF APPLICABLE)	O	O
FIT-UP CJP GROOVE WELDS OF HSS T-, Y- AND K-JOINTS WITHOUT BACKING (INCLUDING JOINT GEOMETRY) - JOINT PREPARATION - DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) - CLEANLINESS (CONDITION OF STEEL SURFACES) - TACKING (TACK WELD QUALITY AND LOCATION)	P	O
CONFIGURATION AND FINISH OF ACCESS HOLES	O	O
FIT-UP OF FILLET WELDS - DIMENSIONS (ALIGNMENT, GAPS AT ROOT) - CLEANLINESS (CONDITION OF STEEL SURFACES) - TACKING (TACK WELD QUALITY AND LOCATION)	O	O
CHECK WELDING EQUIPMENT	O	-
INSPECTION TASKS DURING WELDING		
CONTROL AND HANDLING OF WELDING CONSUMABLES - PACKAGING - EXPOSURE CONTROL	O	O
NO WELDING OVER CRACKED TACK WELDS	O	O
ENVIRONMENTAL CONDITIONS - WIND SPEED WITHIN LIMITS - PRECIPITATION AND TEMPERATURE	O	O
WPS FOLLOWED - SETTINGS ON WELDING EQUIPMENT - TRAVEL SPEED - SELECTED WELDING MATERIALS - SHIELDING GAS TYPE/FLOW RATE - PREHEAT APPLIED - INTERPASS TEMPERATURE MAINTAINED (MIN/MAX) - PROPER POSITION (F, V, H, OH)	O	O
WELDING TECHNIQUES - INTERPASS AND FINAL CLEANING - EACH PASS WITHIN PROFILE LIMITATIONS - EACH PASS MEETS QUALITY REQUIREMENTS	O	O
PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	P	P
INSPECTION TASKS AFTER WELDING		
WELDS CLEANED	O	O
SIZE, LENGTH AND LOCATION OF WELDS	P	P
WELDS MEET VISUAL ACCEPTANCE CRITERIA - CRACK PROHIBITION - WELD/BASE-METAL FUSION - CRATER CROSS SECTION - WELD PROFILES - WELD SIZE - UNDERCUT - POROSITY	P	P
ARC STRIKES	P	P
K-AREA	P	P
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P	P
REPAIR ACTIVITIES	P	P
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	P
NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF EOR	O	O
NOTES: QC = REPRESENTS QUALITY CONTROL PERSONNEL PROVIDED BY THE FABRICATOR AND THE ERECTOR WHO ARE QUALIFIED TO PERFORM REQUIRED TASKS. QA = REPRESENTS QUALITY ASSURANCE PERSONNEL PROVIDED BY OTHERS (OWNER ENGAGED) AS REQUIRED BY JURISDICTION AND/OR OWNER. O = REPRESENTS PERIODIC INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK. P = REPRESENTS CONTINUOUS INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK. 1. TABLE IS SPECIFICALLY BASED UPON SECTION 1705.2 AND 1705.12.1 OF THE INTERNATIONAL BUILDING CODE AS WELL AS AISI 360, CHAPTER N, FABRICATOR/ERECTOR AND SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THESE SECTIONS OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND JURISDICTIONAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING. 2. ALL ELEMENTS THAT ARE PART OF THE LATERAL FORCE RESISTING SYSTEM (LFRS) MUST, IN ADDITION TO REQUIREMENTS ABOVE, ADHERE TO AISI-341 CHAPTER J, FABRICATOR/ERECTOR AND SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THESE SECTIONS OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND JURISDICTIONAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING.		

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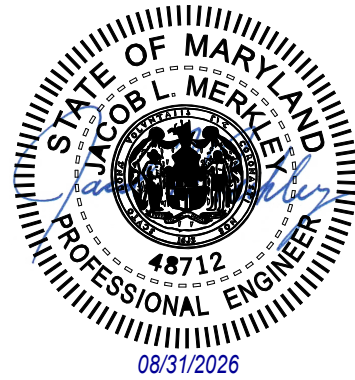
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DRAWING TITLE:
**SPECIAL
INSPECTIONS TABLE**

DRAWING NO:

S003



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A

F1
S121

ROOF FRAMING PLAN
Scale: 3/16" = 1'-0"

ROOF FRAMING PLAN NOTES

1. ALL DIMENSIONS SHOWN ON THIS PLAN ARE FOR GENERAL INFORMATION ONLY. CONTRACTOR TO COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL ROOF STEPS AND SLOPES TO DRAINS, ETC.
3. CONTRACTOR TO COORDINATE SIZE, LOCATIONS AND SUPPORT OF ALL EQUIPMENT WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.
4. CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION SEQUENCE FOR ALL STRUCTURAL ELEMENTS IN THE PROJECT. CONTRACTOR IS RESPONSIBLE TO PROVIDE ANY SHORING OR BRACING AS NEEDED UNTIL STRUCTURE IS COMPLETE.
5. COORDINATE ALL DECK EDGES AROUND PERIMETER AND OPENINGS WITH ARCHITECTURAL DRAWINGS.
6. ALL STEEL CABLES AND GUY WIRES SHALL BE GALVANIZED STEEL WITH A 6X19 EIPS CLASSIFICATION WITH GALVANIZED HARDWARE AS REQUESTED BY THE CLIENT.
7. SEE LANDSCAPE DRAWINGS FOR TOP OF EXHIBIT MAST ELEVATIONS.
8. ALL MESH USED IN ENCLOSURE FOR ROOF AND WALL IS TO BE DESIGNED BY THE MESH SUPPLIER AND CORRESPONDING CONNECTIONS TO THE SUPER STRUCTURE. ALL MESH SHALL BE INSTALLED WITH NO PRETENSION LOAD INDUCED ON CABLES, COLUMNS, NOR FOUNDATIONS.
9. ALL GUY WIRES ARE TO BE INSTALLED TAUT, BUT WITH NO RESIDUAL PRETENSION LOAD INDUCED.
10. ALL STEEL SHOWN IN THIS PLAN VIEW AND CONNECTING ELEMENTS IS TO BE GALVANIZED.
11. SAG DENOTED ON THE DRAWINGS IS THE MINIMUM SAG ACROSS THE CABLE FROM THE LOWEST ANCHOR POINT, TO THE LOWEST POINT ON THE CABLE. SEE E1/S531 FOR DEFINITION OF SAG.
12. ALL WOOD HEADERS ARE TO HDR1. SEE HEADER SCHEDULE ON S302 FOR ADDITIONAL INFORMATION.

KEYNOTES

- A MESH ROOF ENCLOSURE (MESH DESIGN AND CONNECTIONS BY OTHERS), MESH DESIGNER TO PROVIDE ADDITIONAL SECONDARY CABLES IF REQUIRED
- B MESH WALL ENCLOSURE (MESH DESIGN AND CONNECTION BY OTHERS), TYP



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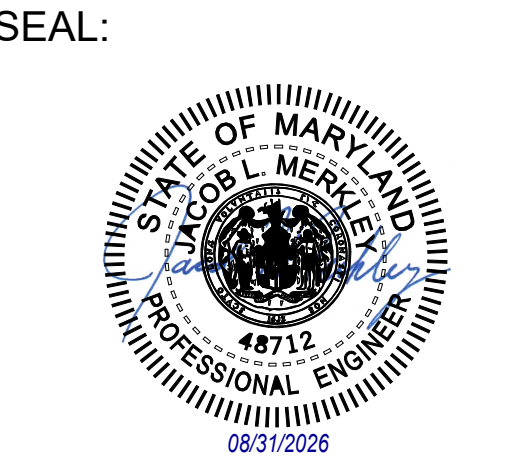
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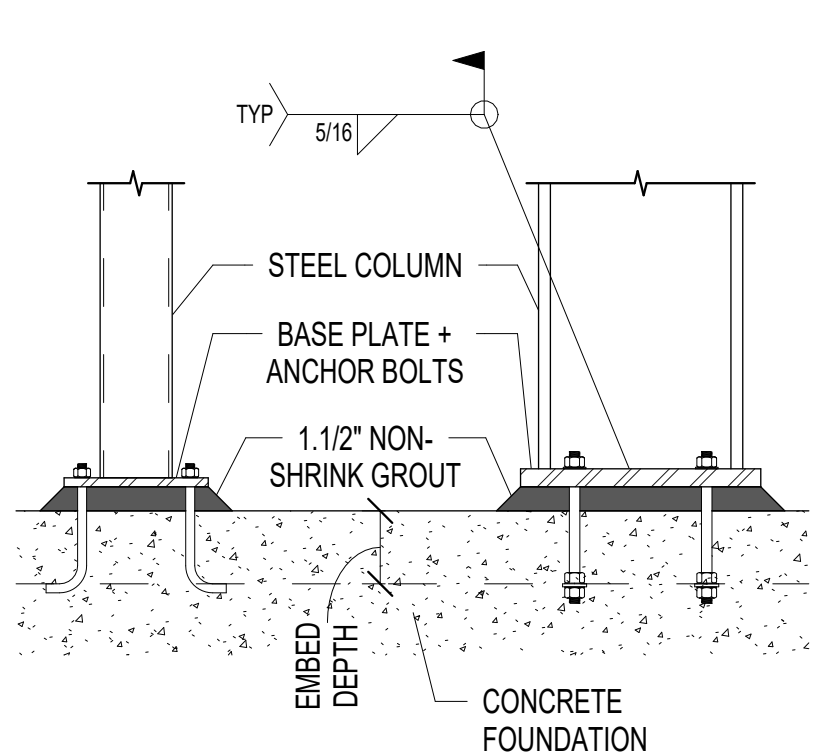
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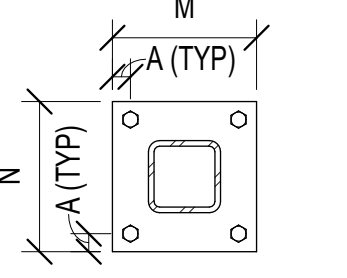
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ROOF FRAMING PLAN

DRAWING NO:
S121

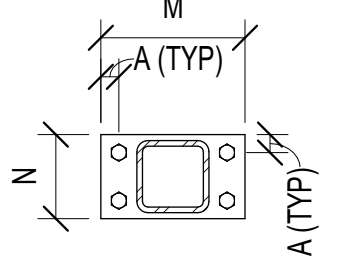
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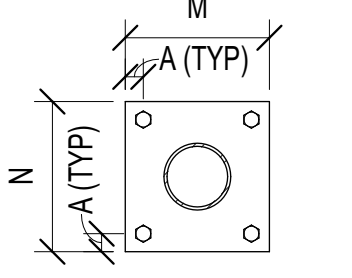
TYPICAL COLUMN BASE CONDITION



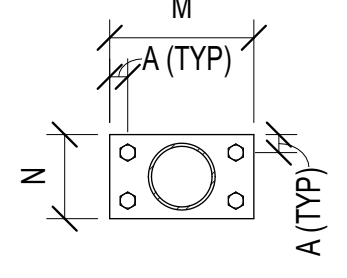
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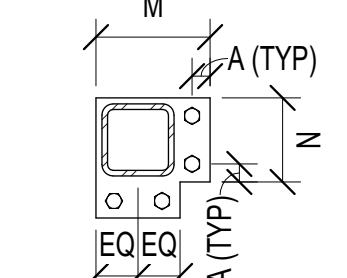
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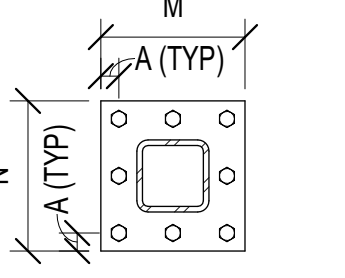
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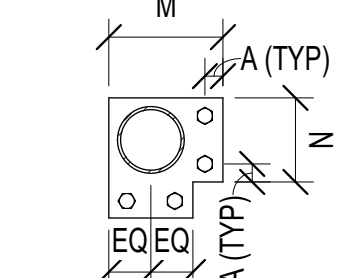
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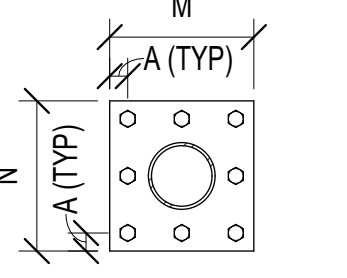
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TYPE-HD



TYPE-PC



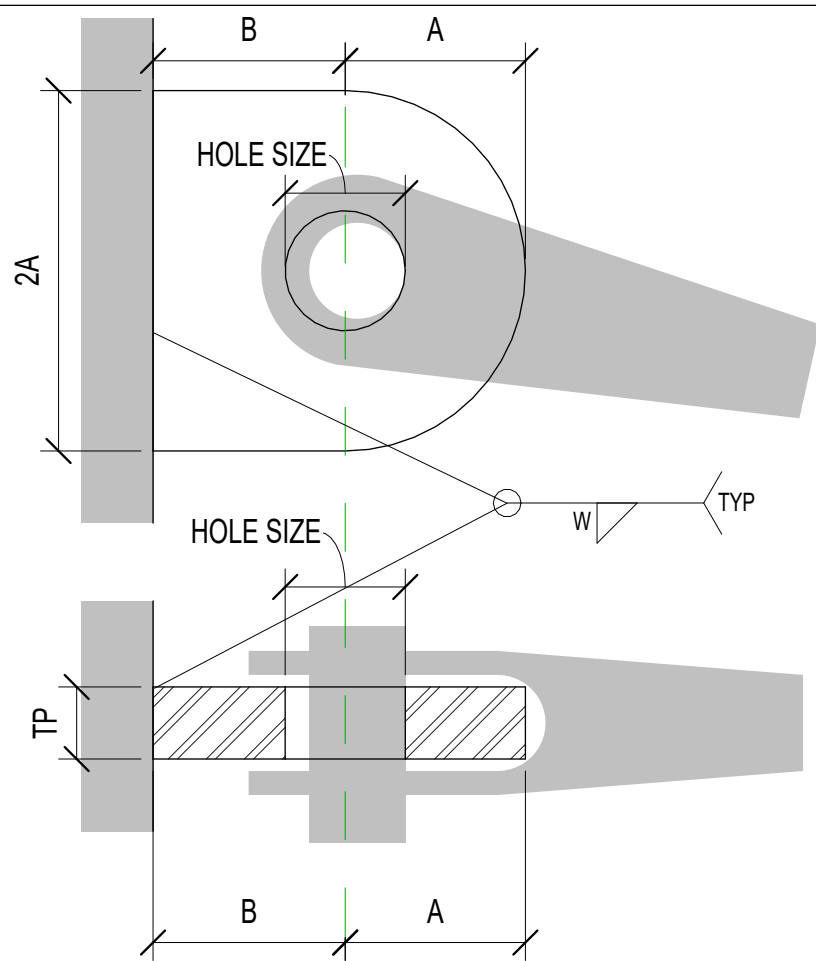
TYPE-PD

HSS COLUMN BASE PLATE TYPES

ROUND HSS + PIPE COLUMN BASE PLATE TYPES

M1
S303 GRAVITY STEEL COLUMN + BASE PLATE SCHEDULE
Scale: NTS

WIRE ROPE CONNECTION PLATE SCHEDULE					
CABLE SIZE	THICKNESS (TP)	HOLE SIZE	WELD W	PLATE DIMENSIONS	
				A	B
1/4"	1/2"	3/4"	1/4"	1"	3"
3/8"	1/2"	1"	5/16"	1.1/4"	3"
1/2"	1/2"	1.1/4"	5/16"	1.5/8"	3"
5/8"	3/4"	1.1/2"	3/8"	1.7/8"	3"
3/4"	1"	1.5/8"	3/8"	2"	3"
7/8"	1"	1.3/4"	3/8"	2.1/2"	3"
1"	1.1/4"	2.1/4"	7/16"	3"	3"
1.1/4"	1.1/2"	2.3/4"	1/2"	3.1/2"	3.1/4"
1.1/2"	1.3/4"	3.1/4"	1/2"	4.3/4"	3.1/2"
HARDWARE NOTES: 1. EACH WIRE ROPE IS CONNECTED USING A FORGED CLEVIS SOCKET FITTING ON ONE END AND A OPEN BODY FORGED CLEVIS AND SOCKET TURNBUCKLE AT THE OTHER END. MANUFACTURERS TO BE ESMET OR CROSBY. 2. HARDWARE IS TO MATCH THE SAME FINISH AS THE WIRE ROPE. IF THIMBLES ARE USED, THEY MUST BE RATED AS HEAVY DUTY. 3. GENERAL CONTRACTOR TO COORDINATE HOLE SIZE AND LOCATION IN TABS WITH PURCHASED HARDWARE. 4. DO NOT USE SHACKLES AT CONNECTION POINT.					



G1
S303 WIRE ROPE CONNECTION PLATE SCHEDULE
Scale: NTS

GROUND ANCHOR / ROCK ANCHOR DESIGN LOADING SCHEDULE										
MARK	TYPE	X-DIM	DEAD	LIVE	SNOW	WIND	ICE	WIND ICE	SEISMIC	COMMENTS
A	LATERAL	13'-0"	5k		25k	15k	35k	27k		
B	LATERAL	13'-8"	5k		35k	21k	50k	39k		
C	LATERAL	10'-8"	5k		25k	16k	40k	29k		
D	LATERAL	11'-0"	5k		35k	21k	50k	39k		
E1	LATERAL	10'-6"	5k		30k	20k	50k	37k		
E2	LATERAL	9'-11"	5k		30k	20k	50k	37k		
F1	LATERAL	10'-3"	5k		35k	22k	51k	40k		
F2	LATERAL	10'-0"	5k		35k	22k	51k	40k		
G1	LATERAL	12'-6"	5k		30k	19k	45k	36k		
G2	LATERAL	11'-3"	5k		30k	19k	45k	36k		
H1	LATERAL	11'-6"	5k		25k	15k	36k	29k		
H2	LATERAL	14'-0"	5k		25k	15k	36k	29k		
J1	LATERAL	11'-6"	5k		20k	11k	30k	21k		
J2	LATERAL	11'-6"	5k		20k	11k	30k	21k		
K	LATERAL	11'-6"	5k		10k	5k	10k	8k		

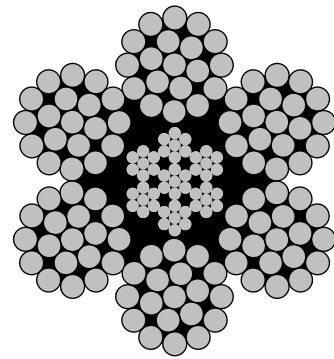
- NOTES:**
- ALL GROUND ANCHORS / ROCK ANCHORS ARE TO BE DESIGNED BY THE CONTRACTOR AS A DELEGATED DESIGN. CONTRACTOR TO WORK CLOSELY WITH THE GEOTECHNICAL ENGINEER DURING THE DESIGN PROCESS. ANY QUESTIONS RELATED TO THE GROUND ANCHORS, ROCK ANCHORS, OR SOIL CONFLICTS TO BE DIRECTED TO THE GEOTECHNICAL ENGINEER.
 - ALL LOADS SHOWN IN THIS TABLE ARE "**LOAD CASES**". THE GROUND ANCHOR / ROCK ANCHOR DESIGNER IS TO USE ALL APPLICABLE LOAD COMBINATIONS AS OUTLINED IN THE GOVERNING BUILDING CODE TO DETERMINE THE PROPER DESIGN MAGNITUDES.
 - DURING INSTALLATION OF GROUND ANCHORS / ROCK ANCHORS, CONTRACTOR TO TAKE SPECIAL CARE NOT TO DAMAGE ANY EXISTING UTILITIES. CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO INSTALLING ANY GROUND ANCHORS / ROCK ANCHORS.
 - IN THE EVENT THAT MULTIPLE GROUND ANCHORS / ROCK ANCHORS ARE REQUIRED FOR A SINGLE CABLE CONNECTION, A BRIDGE PLATE/MEMBER MUST BE PROVIDED AND DESIGNED BY THE CONTRACTOR THAT SPANS BETWEEN THE GROUND ANCHORS / ROCK ANCHORS AND IS ABLE TO SUPPORT THE SCHEDULED LOADS AT A SINGLE POINT.
 - THE DESIGN INTENT IS TO USE ROCK ANCHORS AS INDICATED IN THE GEOTECHNICAL REPORT. IF BEDROCK IS ENCOUNTERED, THE CONTRACTOR IS TO DESIGN A ROCK ANCHOR SYSTEM (DYWIDAG) CAPABLE OF RESISTING THE SAME LOADS. THE CONTRACTOR IS TO DESIGN THE NECESSARY CAP PLATE(S) TO RECEIVE THE GUY WIRE CONNECTION TAB.
 - ALL GROUND ANCHORS / ROCK ANCHORS TO BE INSTALLED AT THE SAME ANGLE AS THE SUPPORTING GUY WIRE. THEY ARE NOT TO BE INSTALLED VERTICAL.
 - "X-DIM" IS THE HORIZONTAL DISTANCE FROM CENTER OF STEEL COLUMN TO GROUND ANCHOR / ROCK ANCHOR. CONTRACTOR TO COORDINATE DIMENSIONS WITH SITE CONDITIONS AND ARCHITECTURAL / LANDSCAPE DRAWINGS.

A1
S303 GROUND ANCHOR / ROCK ANCHOR SCHEDULE
Scale: NTS

STEEL COLUMN SCHEDULE		
SC#	COLUMN SIZE	COMMENTS
SC1	HSS7.500X0.500	
NOTES: 1. ALL COLUMNS TO BE CENTERED ON FOOTINGS AND FOUNDATIONS UNLESS SPECIFICALLY NOTED OTHERWISE. 2. ALL COLUMNS ARE TO BE GALVANIZED. SEE ARCH FOR FINAL FINISH.		

STEEL BASE PLATE SCHEDULE										
#	MARK	TYPE	"M" DIM	"N" DIM	PLATE THICKNESS	GROUT THICKNESS	"A" DIM	NO. OF ANCHORS	ANCHOR SIZE	ANCHOR EMBED
1	1	TYPE-PD	16"	16"	1"	1 1/2"	2"	8	7/8"	11"
2	2	TYPE-PD	16"	16"	1"	1 1/2"	2"	8	1"	1'-1"
NOTES: 1. ALL COLUMNS TO BE CENTERED ON BASE PLATES UNLESS SPECIFICALLY NOTED OTHERWISE. 2. ALL ANCHOR BOLTS SHALL BE STANDARD 90 DEGREE HOOK BOLTS W/ 3" HOOK LENGTH UNO. 3. ALL ANCHORS DESIGNATED "HEADED" ARE TO BE HEADED ANCHOR RODS W/ 3"x3"x3/8" PLATE WASHERS WITH DOUBLE NUTS EMBEDDED IN CONCRETE AT THE EMBEDMENT DEPTH SPECIFIED. 4. ALL ANCHOR RODS ARE TO BE ASTM F1554-55 UNLESS NOTED OTHERWISE. 5. SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.										

WIRE ROPE (6X19 CLASS) INFORMATION SCHEDULE					
WIRE ROPE SIZE	WIRE ROPE TYPE	CORE	GRADE	FINISH	MIN BREAKING STRENGTH
1/4"	6X19	IWRC	EIPS	GALVANIZED	6,100 LBS
3/8"	6X19	IWRC	EIPS	GALVANIZED	13,600 LBS
1/2"	6X25	IWRC	EIPS	GALVANIZED	24,000 LBS
5/8"	6X25	IWRC	EIPS	GALVANIZED	37,000 LBS
3/4"	6X25	IWRC	EIPS	GALVANIZED	53,000 LBS
7/8"	6X25	IWRC	EIPS	GALVANIZED	71,500 LBS
1"	6X25	IWRC	EIPS	GALVANIZED	93,000 LBS
1.1/4"	6X25	IWRC	EIPS	GALVANIZED	143,500 LBS
1.1/2"	6X25	IWRC	EIPS	GALVANIZED	206,000 LBS



HARDWARE NOTES:

- EACH WIRE ROPE IS CONNECTED USING A FORGED CLEVIS SOCKET FITTING ON ONE END AND A OPEN BODY FORGED CLEVIS AND SOCKET TURNBUCKLE AT THE OTHER END. MANUFACTURERS TO BE ESMET OR CROSBY.
- HARDWARE IS TO MATCH THE SAME FINISH AS THE WIRE ROPE. IF THIMBLES ARE USED, THEY MUST BE RATED AS HEAVY DUTY.
- GENERAL CONTRACTOR TO COORDINATE HOLE SIZE AND LOCATION IN TABS WITH PURCHASED HARDWARE.
- DO NOT USE SHACKLES AT CONNECTION POINT.

G10
S303 WIRE ROPE INFORMATION SCHEDULE
Scale: NTS

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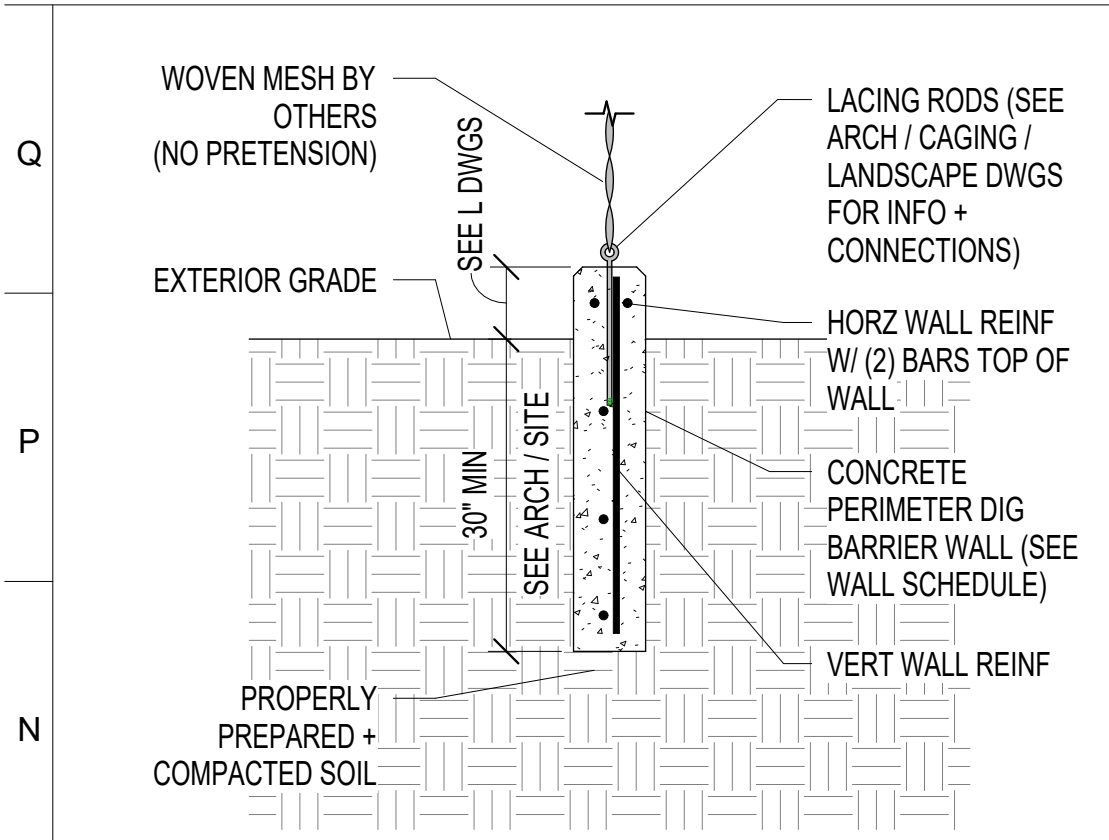
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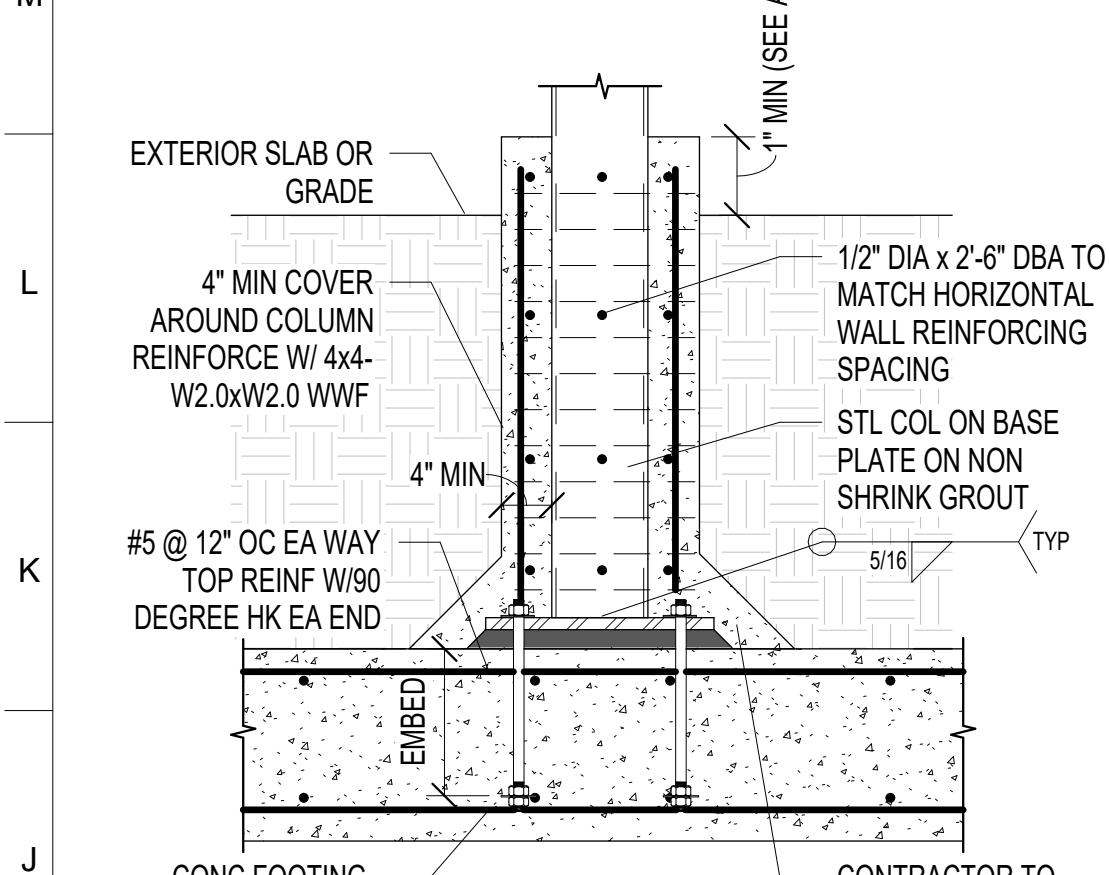
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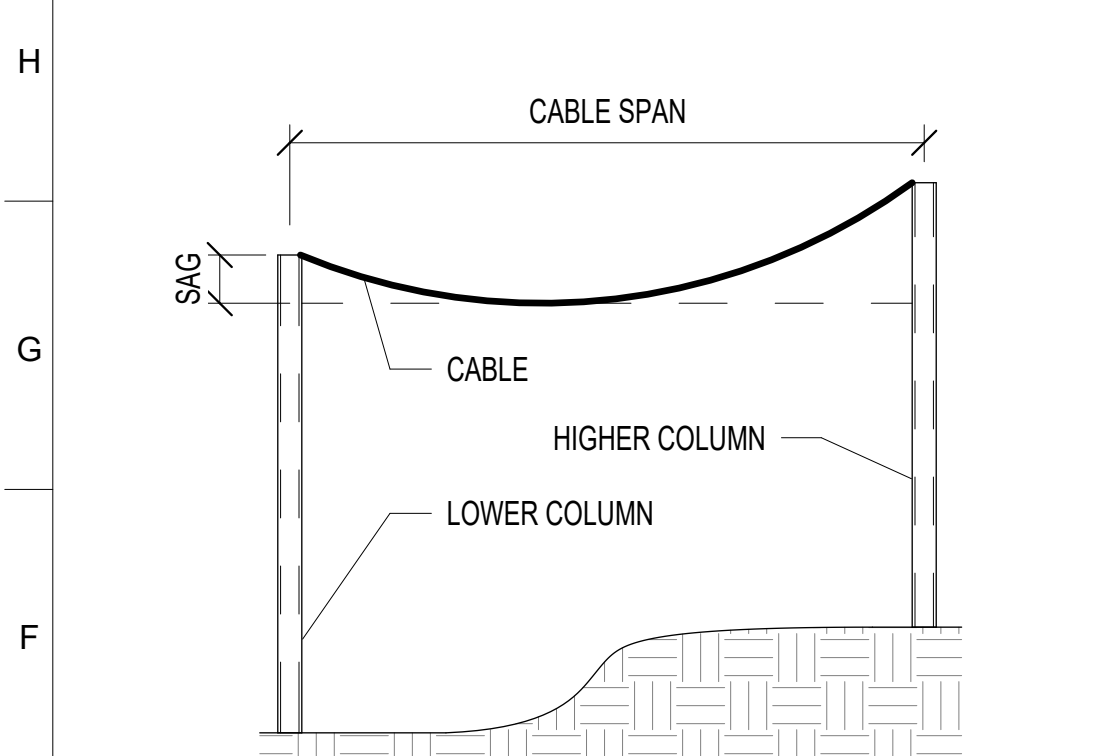




M1
S531
Scale: NTS
TYPICAL DIG BARRIER/MESH TERMINATION



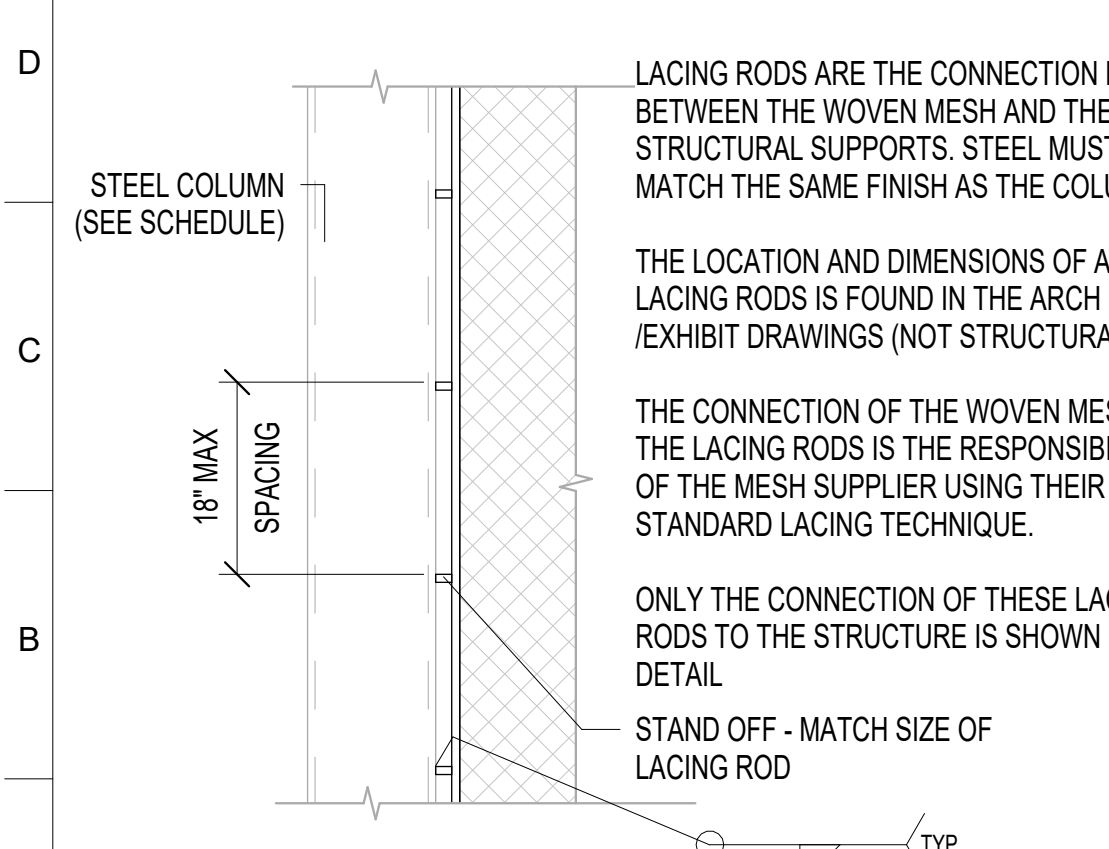
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Scale: NTS
TYPICAL COLUMN BASE DETAIL



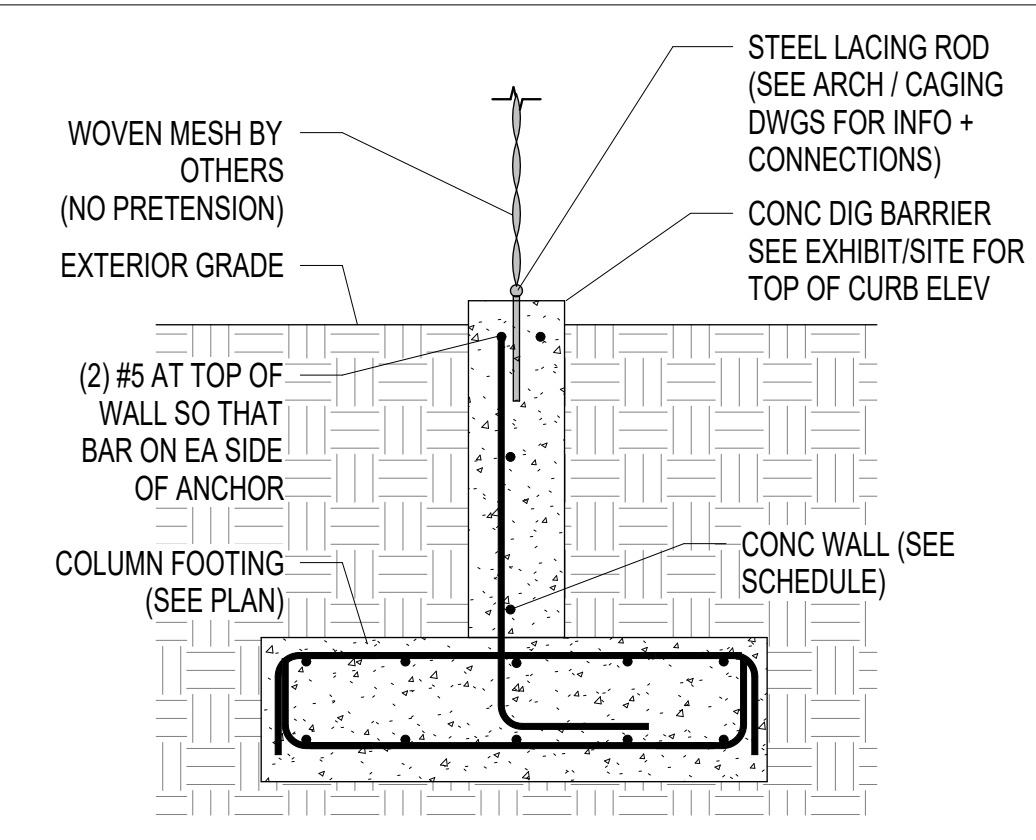
NOTE: SAG IS MEASURED FROM THE TOP OF THE LOWER COLUMN TO LOWEST POINT ALONG CABLE SPAN

CABLE "SAG" DEFINITION

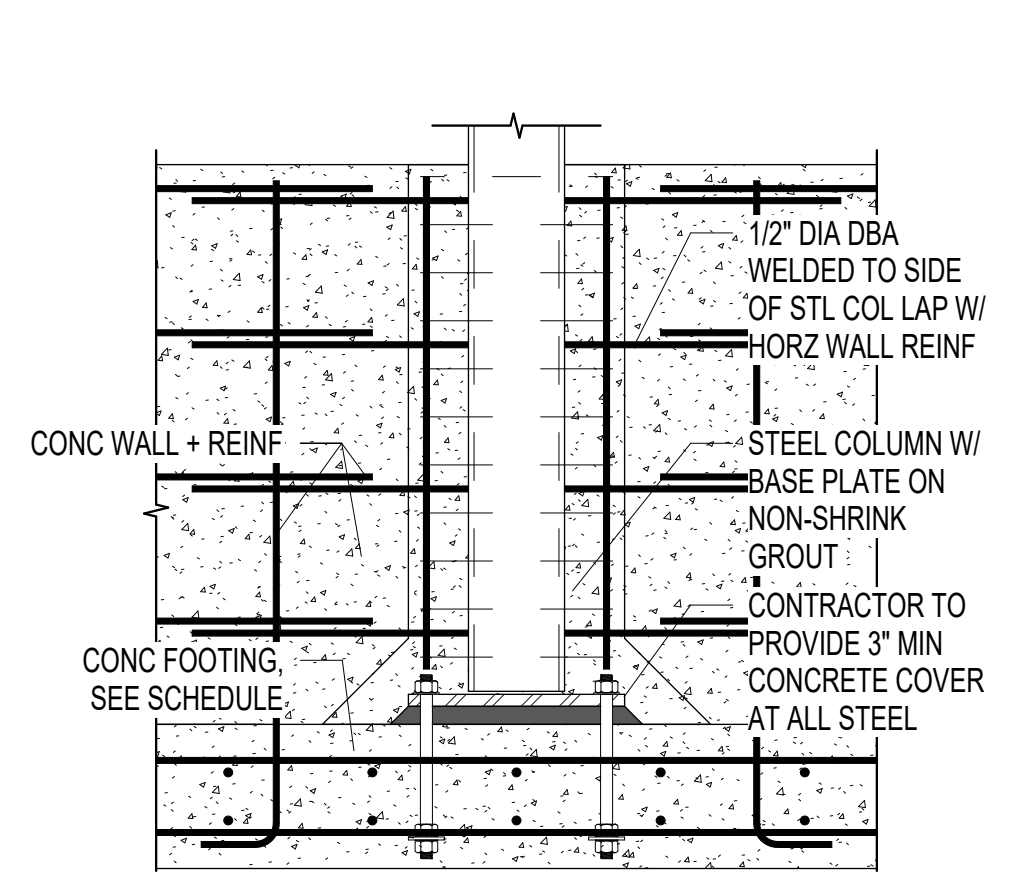
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Scale: NTS
CABLE SAG DEFINITION DETAIL



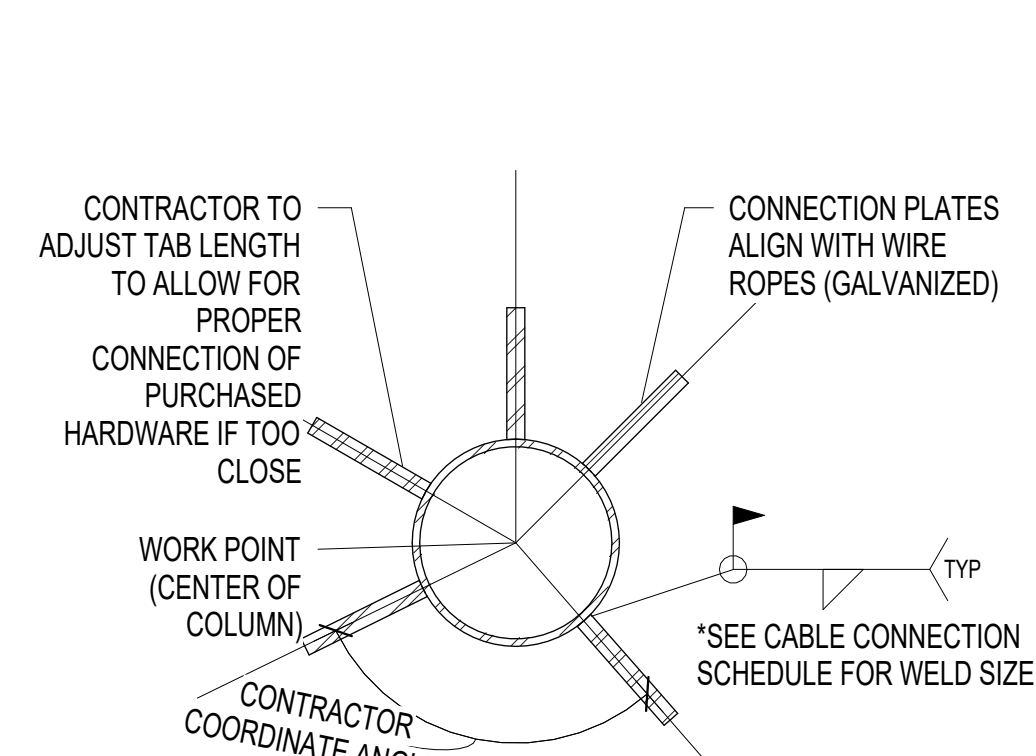
A1
S531
Scale: NTS
TYPICAL LACING ROD DETAIL INFORMATION



M5
S531
Scale: NTS
TYPICAL DIG BARRIER OVER EXHIBIT FOOTING

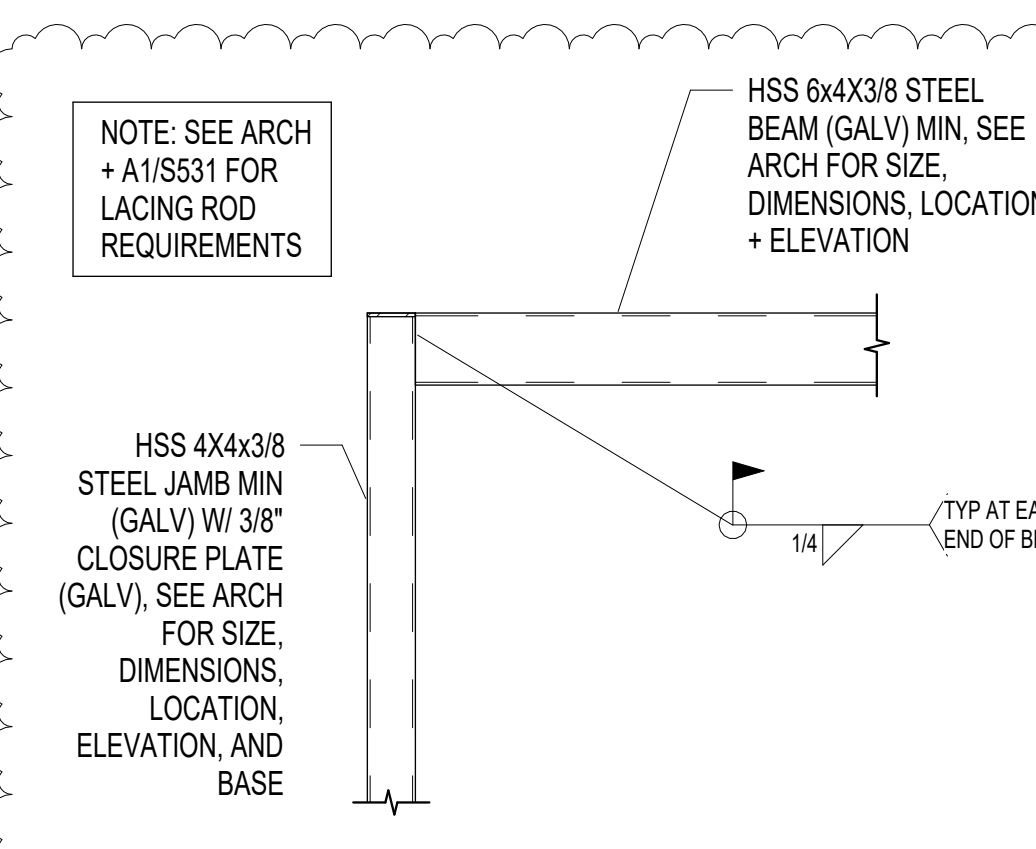


J5
S531
Scale: NTS
TYPICAL DIG BARRIER TO COLUMN BASE

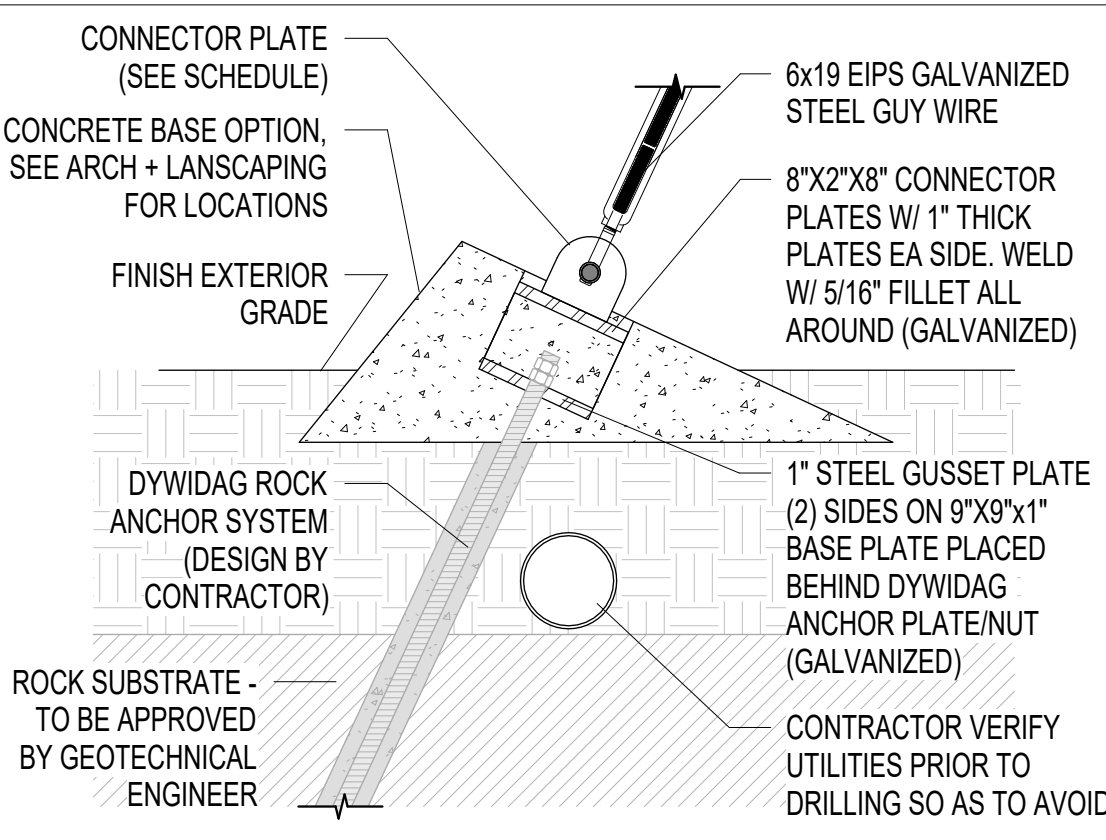


NOTE: LAYOUT SHOWN IS NOT SPECIFIC TO THIS PROJECT. EACH COLUMN HAS ITS OWN UNIQUE LAYOUT TO BE DETERMINED BY CONTRACTOR + PER ARCH + LANDSCAPE DRAWINGS

E5
S531
Scale: NTS
TOP OF COLUMN GEOMETRY EXAMPLE



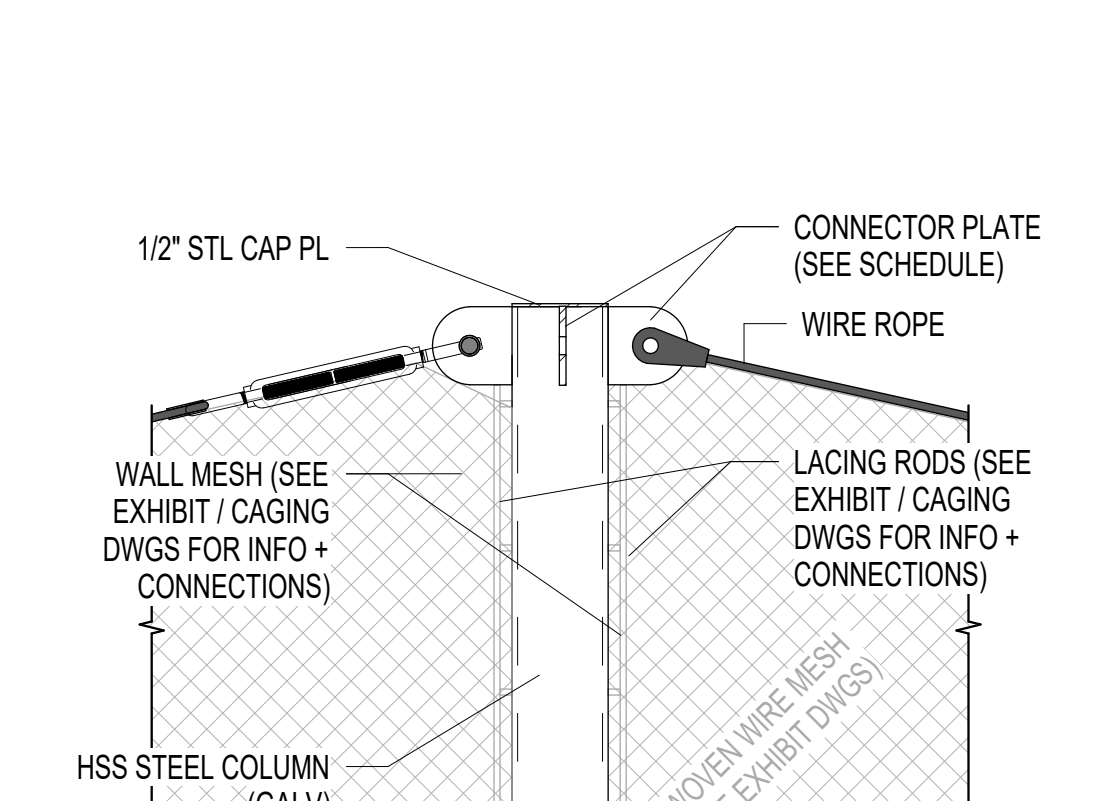
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S531
Scale: NTS
TYPICAL CATCH BOX BEAM TO COLUMN DETAIL



M9
S531
Scale: NTS
TYPICAL ROCK ANCHOR CONNECTION DETAIL



E9
S531
Scale: NTS
TYPICAL WIRE ROPE TO EXHIBIT COLUMN

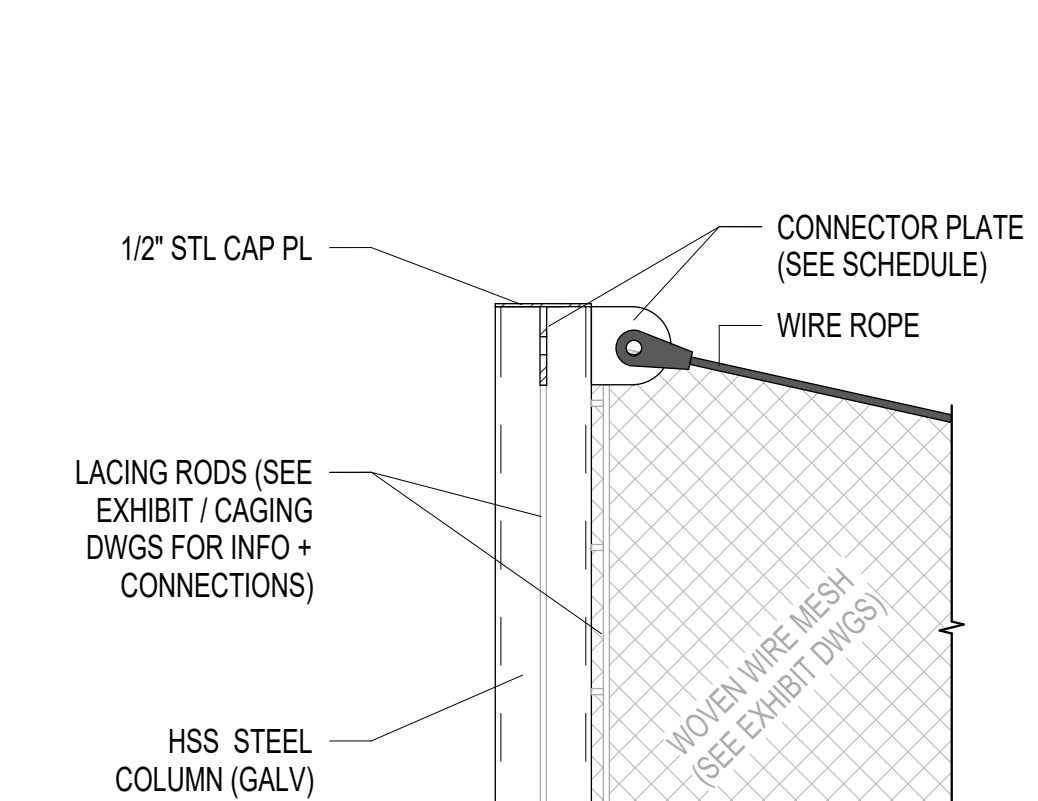


NOTE: WIRE ROPE SHALL BE CONNECTED TO STEEL PLATES USING WIRE ROPE THIMBLE + CLIPS AT ONE END AND COMPATIBLE TURNBUCKLE THE OTHER END (MATCH WIRE ROPE FINISH)

E9
S531
Scale: NTS
TYPICAL WIRE ROPE TO EXHIBIT COLUMN

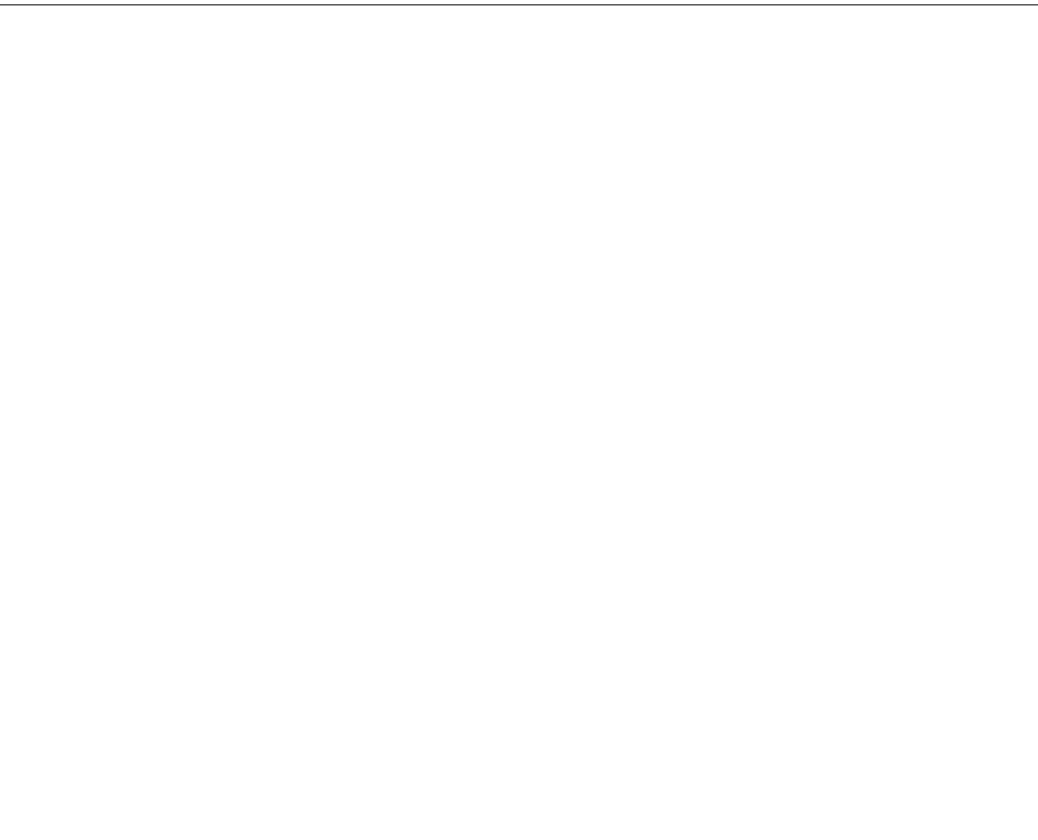


E13
S531
Scale: NTS
TYPICAL WIRE ROPE TO EXHIBIT COLUMN



NOTE: WIRE ROPE SHALL BE CONNECTED TO STEEL PLATES USING WIRE ROPE THIMBLE + CLIPS AT ONE END AND COMPATIBLE TURNBUCKLE THE OTHER END (MATCH WIRE ROPE FINISH)

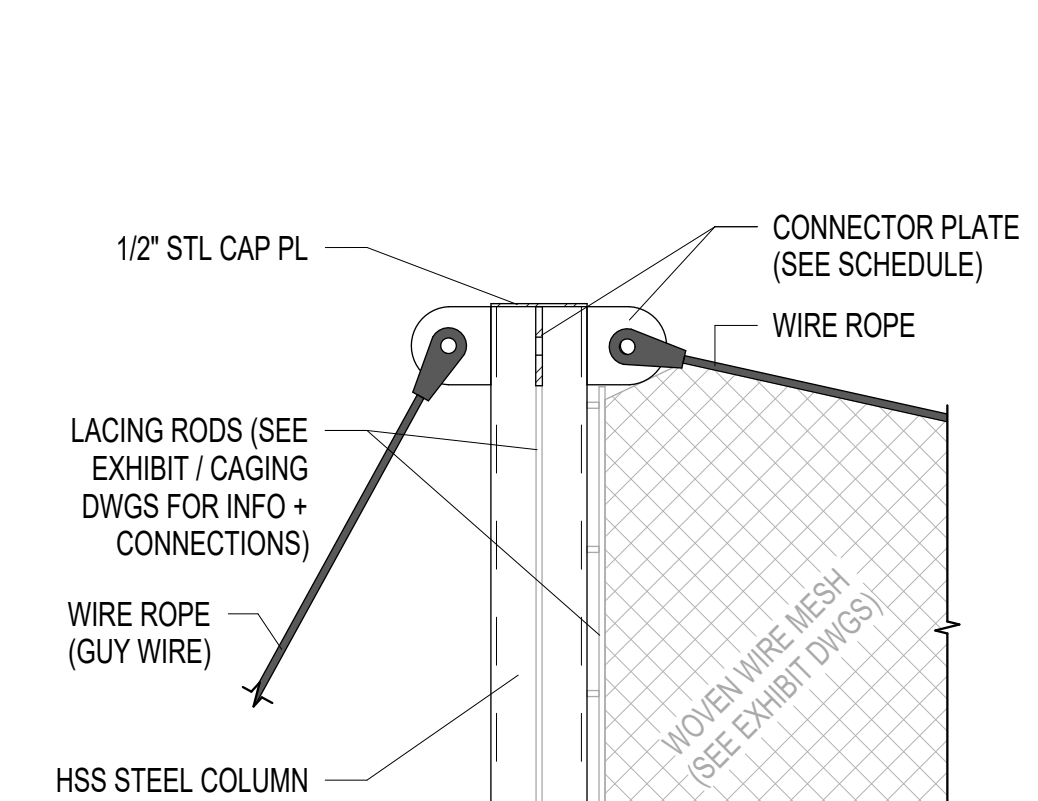
E13
S531
Scale: NTS
TYPICAL WIRE ROPE TO EXHIBIT COLUMN



E17
S531
Scale: NTS
TYPICAL WIRE ROPE TO EXHIBIT COLUMN



E17
S531
Scale: NTS
TYPICAL WIRE ROPE TO EXHIBIT COLUMN



NOTE: WIRE ROPE SHALL BE CONNECTED TO STEEL PLATES USING WIRE ROPE THIMBLE + CLIPS AT ONE END AND COMPATIBLE TURNBUCKLE THE OTHER END (MATCH WIRE ROPE FINISH)

E17
S531
Scale: NTS
TYPICAL WIRE ROPE TO EXHIBIT COLUMN

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STRUCTURAL
DETAILS**

DRAWING NO:
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