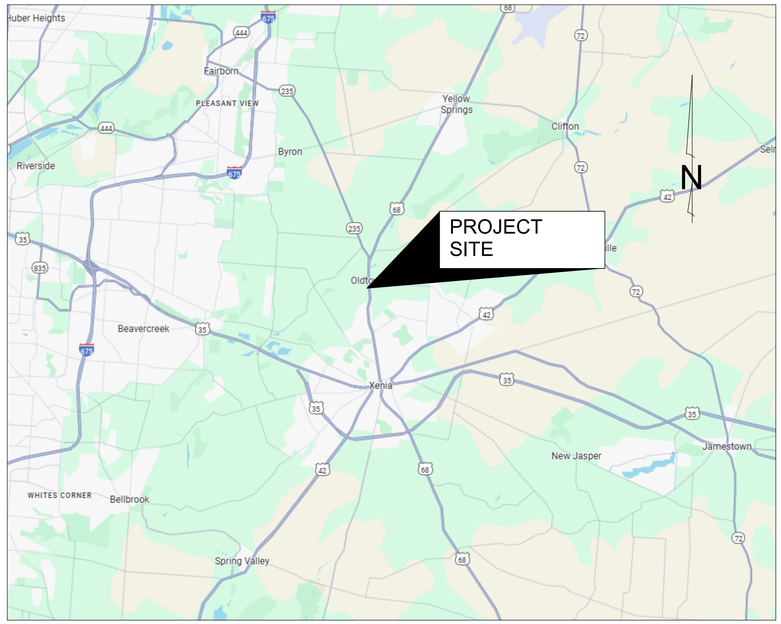
DIVISION OF ENGINEERING

GREAT COUNCIL

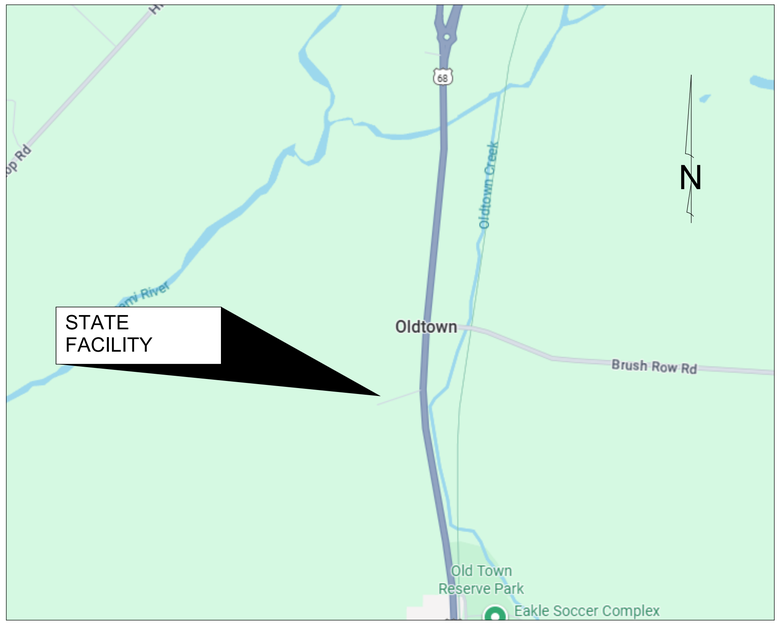
OBSERVATION TOWER

DNR-250004

GREENE COUNTY, OHIO



VICINITY MAP
SCALE: 1"=2 MILE



LOCATION MAP
SCALE: 1"=1/4 MILE

APPROVED FOR BID

Glen Cobb

GLEN COBB, CHIEF, Division of PARKS AND WATERCRAFT

03/09/2025
DATE

Signed by:
4F4556366F8C4B6...

JEREMY WENNER, P.E., ACTING CHIEF, Division of ENGINEERING

9/5/2025 | 9:30 PM EDT
DATE

REVIEWED BY

Mary Lynn Happ

MARY LYNN HAPP, PROJECT MANAGER, Division of ENGINEERING

08/25/2025
DATE

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STATE OF OHIO
William K. Fleming
0915056
REGISTERED ARCHITECT

WILLIAM K. FLEMING, AIA 9/8/25
DATE

William K. Fleming, License #0915056
Expiration Date 12/31/2025

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OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

CONTRACTING AUTHORITY:
OHIO FACILTY CONSTRUCTION
COMMISSION (OFCC):
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COLUMBUS, OH 43215
PHONE: 614-466-1049

Ohio Facilities Construction Commission

Governor Mike DeWine,
OFCC Executive Director
Joy C. Bledsoe

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ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY:	JOB NUMBER: DNR-250004
DRAWN BY:	SCALE: AS NOTED
CHECKED BY:	DATE: 08/28/2025
APPROVED BY:	BID DOCUMENTS

Cover Sheet | **G0** | 62

Material Indications

- **Brick (elevation)**
- **Brick (section)**
- **Concrete**
- **Concrete Block (section)**
- **Earth**
- **Existing Construction, U.N.O.**
- **Finish wood (section)**
- **Gravel fill**
- **Gypsum Board**
- **Marble**
- **Metal 1/2" and larger**
- **Metal 1/2" and smaller**
- **Plaster**
- **Plywood**
- **Rigid insulation**
- **Rough wood**

Symbols

SITE

- 481.0 — Point Elevation
- 130 — Existing Contours
- 130 — New Contours
- Property / Boundary Line

ARCHITECTURAL

- MATCH LINE — Match Line
- A / 1 — Column Grid
  Use letters in horizontal direction
  Use numbers in vertical direction
- ROOM 104 — Room Number & Name
- 8000 — Door Number
  See door schedule in A600 series
- E-1 — Window / Louver Type
  See window & louver schedules in A600 series
- XX-XX-XX — Partition Type
  See partition schedule in A000 series
- Exst Basement EL. 139'-1" — Datum Point
- 1 / A101 — Building / Wall Section
  Detail number
  Sheet number
- 1 / A101 — Elevation
  Detail number
  Sheet number
- 1 / A101 — Detail
  Detail number
  Sheet number
- 1/A101 — Photograph Call-out
- Coded Note
- Alternate Tag
- Wall Finish / Base Finish / Floor Finish — Finish Tag
- Center Line
- 1 — Revision Mark
- North Arrow

General Notes

1. Schedules:
   Partition Type Schedule see drawing A020.
   Exterior and Interior Window and Louver Schedule see drawing A600.
   Door and Frame Schedule see drawing A610.
2. All dimensions shall be verified at the job by the General Contractor and each Sub-Contractor and the Architect must be notified of any discrepancies before proceeding with the work.
3. All dimensions are to the face of finish, face of concrete, face of masonry, to centerlines of columns and other grid points, and to centerlines of doors and other scheduled openings unless otherwise noted.
4. All door locations not dimensioned are located by details * /A800 and * /A800 respectively for framed and masonry walls.
5. Access door locations are noted on the drawings. Actual size, location, and quantity may vary upon field conditions. Verify and coordinate locations and quantity required with the appropriate contractor(s).
6. Offset studs and/or shim as required to align finish material.
7. All housekeeping pads and curbs shall be furnished and installed by the general (lead) contractor. Verify with appropriate contractor(s) for required size and location.
8. All floor drain (F.D.) elevations are 1/2" lower than finished floor elevation unless otherwise noted.
9. All vertical elevations and working points are given with reference to level one finish floor elevation 100'-0" datum.
10. The drawings are the graphic portion of the contract documents showing the design, location, and dimensions of the work. Do not scale the drawings to determine a dimension in question, consult the architect for clarification.
11. Contractor(s) are to investigate and verify location, condition, and capacity of all existing utilities within the limits of work, prior to beginning construction. See site utility, mechanical and electrical drawings for further information.
12. The structure is designed to be self-supporting and stable after the building is fully completed. It is solely the contractor(s) responsibility to determine erection procedures and sequences and to ensure the safety of the building and its component parts during erection, including the addition of shoring, sheathing, temporary enclosure, etc. It is the contractor(s) sole responsibility to follow all applicable safety and construction regulations, ordinances and codes during the course of construction.

REMODELING NOTES

1. The coursing of all masonry to match that in existing building.
2. Contractor to verify all dimensions and profiles of stone at the site.
3. Fill any masonry voids with mortar or concrete where anchors occur.
4. Provide lintels over all openings including those req'd for ductwork, pipes, louvers, grilles, dampers, etc.
5. Coordinate locations and/or elevations of floor drain, registers, access panels, grilles, louvers, convectors, cabinet unit heaters, panels, etc., with mechanical and electrical contractors. Size and location of all floor openings to be verified with trade affected before proceeding with work.
6. Bolting of wood to structural members or masonry shall be in general with a minimum of 1/2" bolts @ 4'-0" O.C. except where shown otherwise. Situations requiring special bolting shall be with the size and spacing of bolts to suit the conditions.
7. In any room in which plumbing, heating, or electrical alterations are made: the General Contractor shall make proper repairs to other building items affected; i.e. floors, walls, ceilings, base, chair rail, trim, etc. In general, new materials and materials for repair conditions shall match similar items in quality, detail, profile and finish as those already built into the work.
8. All shaded walls appearing on reflected ceiling plans are to extend to underside of structure above.
9. All walls of all rooms with exposed structure ceilings to extend and seal to the structure.
10. All concrete curbs and equipment pads shall be furnished by the General Contractor and sized and located by the contractor installing the equipment.

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Abbreviations

&	And	FA	Fire Alarm	PLAM	Plastic Laminate
∠	Angle	FD	Floor Drain	PLYWD	Plywood
@	At	FE	Fire Extinguisher.	PSF	Pounds per Square Foot
∅	Diameter	FEC	Fire Extinguisher Cabinet	PSI	Pounds per Square Inch
#	Pound(s)	F.F.	Finished Floor	PT / PTD	Paint / Painted
		FF EL	Finish Floor Elevation	PVC	Poly Vinyl Chloride
A/C	Air Conditioning	FIN	Finish		
ACT	Acoustic Ceiling Tile	FLR	Floor	QT	Quarry Tile
ADD'L	Additional	FTG	Footing		
ADJ	Adjacent			R	Radius
A/E	Architect And/ Or Engineer	GA	Gauge	RCP	Reflected Ceiling Plan
AFF	Above Finished Floor	GB	Grab Bar	RD	Roof Drain
ALUM	Aluminum	GYP	Gypsum	REINF	Reinforced / Reinforcing
ALT	Alternate			REQD	Required
ARCH	Architectural	HM	Hollow Metal	RR	Rest Room
ASPH	Asphalt	HORIZ	Horizontal	REV	Revision
		HSS	Tube Steel	RM	Room
B/	Bottom of	HT	Height	RO	Rough Opening
BD	Board	HVAC	Heating/Ventilating/Air Conditioning		
BLDG	Building			SCHED	Schedule
BOT	Bottom	INSUL	Insulation	SD	Storm Drain
		INT	Interior	SECT	Section
C	Center			SF	Square Feet
C/C	Center to Center	JC	Janitor's Closet	SHT	Sheet
CAB	Cabinet	JT	Joint	SIM	Similar
CJ ℄	Control Joint			SPEC	Specifications
CL /	Center Line	LAM	Laminate	SQ	Square
CLG	Ceiling	LAV	Lavatory	STD	Standard
CLR	Clear	LB / Lbs.	Pound(s)	STL	Steel
CMU	Concrete Masonry Unit	LG	Long	STOR	Storage
COL	Column	LH	Left Hand	STR	Stair
CONC	Concrete			STRUCT	Structural
CONT	Continuous	MATL	Material	SUSP	Suspended
CONSTR	Construction	MAX	Maximum		
COORD	Coordinate	MECH	Mechanical	T/	Top of (T/STL, T/CONC)
CT	Ceramic Tile	MFR	Manufacturer / Supplier	THK	Thickness
CTR	Center	MIN	Minimum	THRU	Through
CU FT	Cubic Foot	MO	Masonry Opening	TOC	Top of Concrete
CU YD	Cubic Yard	MTL	Metal	TOM	Top of Masonry
				TOS	Top of Steel
DEMO	Demolish	NA / N/A	Not Applicable	TYP	Typical
DET	Detail	NIC	Not in Contract		
DF	Drinking Fountain	NO / #	Number	UNO	Unless Noted Otherwise
DIA	Diameter	NOM	Nominal		
DIM	Dimension	NRC	Noise Reduction Coefficient	VERT	Vertical
DIV	Division	NTS	Not to Scale	VB	Vinyl Base
DS	Down Spout			VCT	Vinyl Composition Tile
DWG	Drawing	O.C.	On Center	VIF	Verify in Field
		OH	Opposite Hand		
EA	Each	OPP	Opposite	W/	With
EL	Elevation			WC	Water Closet
ELEC	Electrical			WD	Wood
EQ	Equal			WF	Wide Flange
EXIST	Existing			W/O	Without
EXP	Expansion or Exposed				
EXT	Exterior				

Project Keynotes

05 50 00	METAL FABRICATIONS
06 10 00	ROUGH CARPENTRY
033000.1	STRUCTURAL CAST-IN-PLACE CONCRETE
051200.1	STRUCTURAL STEEL FRAMING
053100.4	COMPOSITE METAL DECKING
055100.1	METAL STAIRS
055200.1	METAL RAILINGS/GUARDRAILS
055200.2	METAL HANDRAILS
061000.1	BLOCKING
061000.2	DIMENSIONAL WOOD FRAMING
061000.5	PLYWOOD/OSB WALL SHEATHING
061000.6	PLYWOOD ROOF SHEATHING
061700.1	WOOD I-JOIST STRUCTURAL FRAMING
072100.1.2	MINERAL WOOL BATT INSLUATION
072100.2.3	(ISO) POLYISOCYANURATE
072613.2	ABOVE GRADE VAPOR RETARDER
074263.1	FABRICATED WALL PANEL ASSEMBLIES
075400.03	THERMOPLASTIC MEMBRANE ROOFING
078413.1	FIRESTOPPING
081113.1	HOLLOW METAL DOORS
081113.2	HOLLOW METAL DOOR FRAMES
081433.1	STILE AND RAIL WOOD DOORS
081433.2	WOOD DOOR FRAMES
085113.1	ALUMINUM WINDOW
085200.1	WOOD WINDOW
092216.1	NON-STRUCTURAL METAL FRAMING
092216.2	METAL CHANNEL FURRING
092216.3	RESILIENT CHANNEL FURRING
092900.1	GYPSUM BOARD
092900.3	ACOUSTIC BATT INSULATION
099600.1	HIGH PERFORMANCE COATING
102113.1	TOILET COMPARTMENTS
102813.01	PAPER TOWEL DISPENSER
102813.02	WASTE RECEPTACLE
102813.03	FRAMED MIRROR
102813.04	SOAP DISPENSER
102813.05	TOILET TISSUE DISPENSER
102813.06	CHANGING TABLE
102813.07.1	12" GRAB BAR
102813.07.2	18" GRAB BAR
102813.07.3	24" GRAB BAR
102813.07.4	36" GRAB BAR
102813.07.5	42" GRAB BAR
102813.07.6	18" VERTICAL GRAB BAR
102813.07.7	16" X 31" L-SHAPED GRAB BAR
102813.07.8	42" X 54" L-SHAPED GRAB BAR
102813.08	FOLDING SHOWER SEAT
102813.09	SHOWER CURTAIN ROD
102813.10	SHOWER CURTAIN
102813.11	SHOWER DOOR
102813.12	TOWEL PIN
102813.13	TOWEL ROD
102813.14	SANITARY NAPKIN VENDOR
102813.15	SANITARY NAPKIN DISPOSAL
102813.16	TOILET SEAT COVER VENDOR
102813.17	MOP AND BROOM HOLDER
102813.18	GARMENT HOOK
[illegible]	[illegible]
102813.21	WARM-AIR DRYER

Vicinity Map

Area Map

SCHOOLEY CALDWELL
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Columbus OH 43215
schooleycaldwell.com
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F 614-628-0311

ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY:	JOB NUMBER: DNR-250004
DRAWN BY:	SCALE: AS NOTED
CHECKED BY:	DATE: 09/04/2025
APPROVED BY:	BID DOCUMENTS

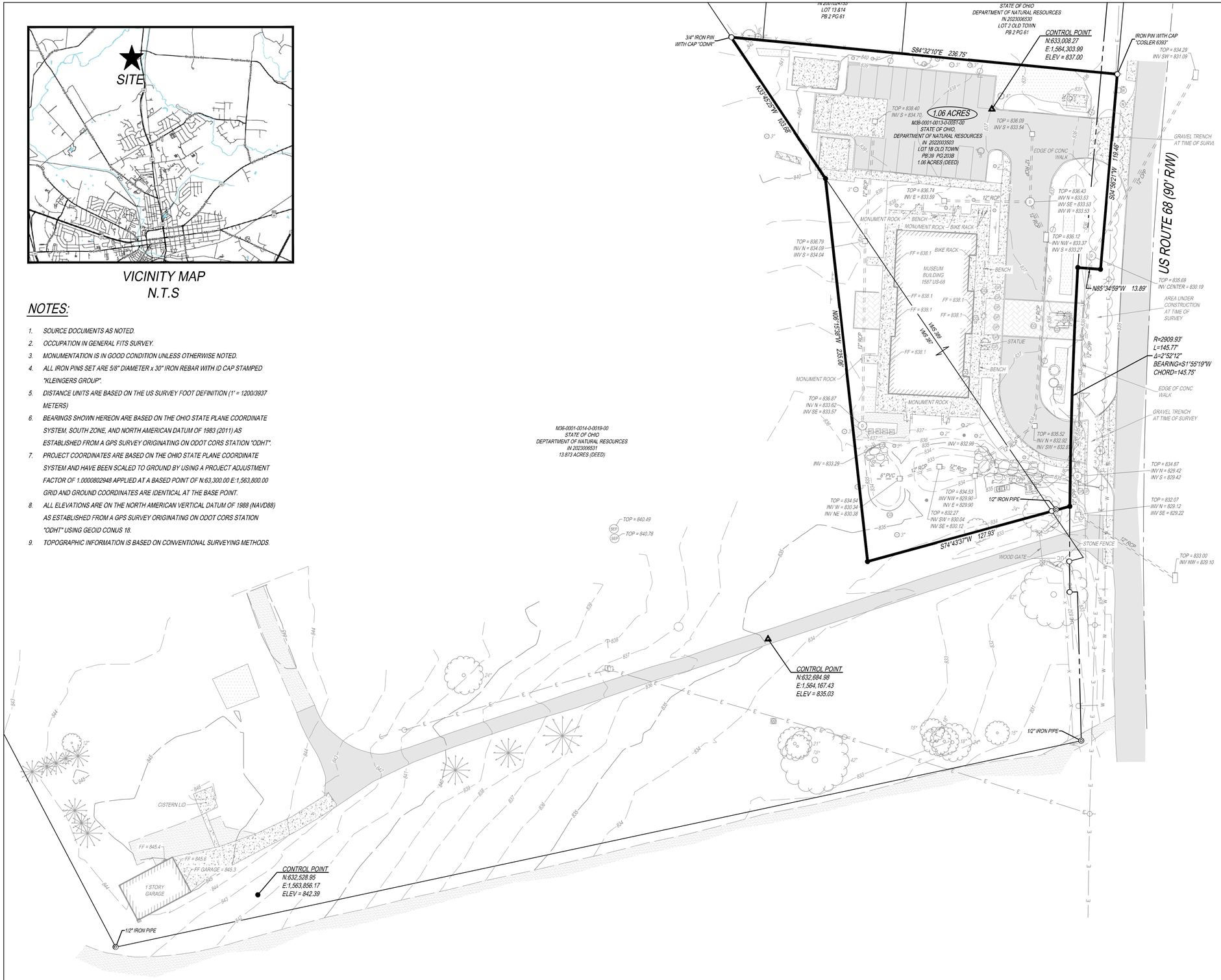
Index and Symbols

G1

VICINITY MAP
N.T.S

NOTES:

1. SOURCE DOCUMENTS AS NOTED.
2. OCCUPATION IN GENERAL FITS SURVEY.
3. MONUMENTATION IS IN GOOD CONDITION UNLESS OTHERWISE NOTED.
4. ALL IRON PINS SET ARE 5/8" DIAMETER x 30" IRON REBAR WITH ID CAP STAMPED "KLEINGERS GROUP".
5. DISTANCE UNITS ARE BASED ON THE US SURVEY FOOT DEFINITION (1' = 1200/3937 METERS)
6. BEARINGS SHOWN HEREON ARE BASED ON THE OHIO STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, AND NORTH AMERICAN DATUM OF 1983 (2011) AS ESTABLISHED FROM A GPS SURVEY ORIGINATING ON ODOT CORS STATION "ODHT".
7. PROJECT COORDINATES ARE BASED ON THE OHIO STATE PLANE COORDINATE SYSTEM AND HAVE BEEN SCALED TO GROUND BY USING A PROJECT ADJUSTMENT FACTOR OF 1.0000802948 APPLIED AT A BASED POINT OF N:63,300.00 E:1,563,800.00 GRID AND GROUND COORDINATES ARE IDENTICAL AT THE BASE POINT.
8. ALL ELEVATIONS ARE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS ESTABLISHED FROM A GPS SURVEY ORIGINATING ON ODOT CORS STATION "ODHT" USING GEOID CONUS 18.
9. TOPOGRAPHIC INFORMATION IS BASED ON CONVENTIONAL SURVEYING METHODS.



LEGEND:

- 5/8" IRON PIN FOUND (UNLESS NOTED OTHERWISE)
- IRON PIPE FOUND (SIZE AS NOTED)
- 5/8" IRON PIN SET (KLEINGERS GROUP)
- MAG NAIL SET
- CLEANOUT
- SEPTIC TANK LID
- MANHOLE UNKNOWN TYPE
- STORM MANHOLE
- CATCH BASIN
- INLET
- DOWNSPOUT
- ELECTRIC BOX
- ELECTRIC METER
- A/C UNIT
- BOLLARD
- LIGHT POLE
- UTILITY POLE
- GUY WIRE
- TRANSFORMER
- GROUND LIGHT
- PHONE BOX
- FIRE HYDRANT
- WATER VALVE
- FIRE DEPARTMENT CONNECTION
- POST INDICATOR VALVE
- WATER METER
- GUARD POST
- FENCE POST
- SINGLE POST SIGN
- DOUBLE POST SIGN
- HANDICAP
- FENCE LINE
- WATER LINE
- OVERHEAD ELECTRIC
- UNDERGROUND CABLE
- STORM SEWER
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH
- ASPHALT
- CONCRETE
- GRAVEL
- LANDSCAPE
- PAVERS
- RIP RAP

0 15 30 60

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BOUNDARY & TOPOGRAPHIC SURVEY

G100

H:\Columbus\2024\240854\000_DWG_Sheets\240854SURV000.dwg, 8/27/2025 1:03 PM, Michael Pistolas

CODE DATA - SYMBOL LEGEND

HFB	HOUR FIRE BARRIER
HFW	HOUR FIRE WALL
HFS	HOUR FIRE SEPARATION
	USE AND OCCUPANCY: A-3 and A-5, ASSEMBLY 15 NET SQ FT PER OCCUPANT
	USE AND OCCUPANCY: B, BUSINESS 100 GROSS SQ FT PER OCCUPANT
	USE AND OCCUPANCY: R-2, RESIDENTIAL 200 GROSS SQ FT PER OCCUPANT
	USE AND OCCUPANCY: S-1, MODERATE-HAZARD STORAGE 300 GROSS SQ FT PER OCCUPANT
	USE AND OCCUPANCY: S-2, LOW-HAZARD STORAGE 300 GROSS SQ FT PER OCCUPANT
	EGRESS
	ONE (1) HOUR FIRE BARRIER (HFB) COMPLY WITH UL FIRE ASSEMBLIES
	TWO (2) HOUR FIRE BARRIER (HFB) COMPLY WITH UL FIRE ASSEMBLIES
	TWO (2) HOUR FIRE SEPARATION (HFS) COMPLY WITH UL FIRE ASSEMBLIES
	THREE (3) HOUR FIRE WALL (HFW) COMPLY WITH UL FIRE ASSEMBLIES
	PATH OF EGRESS
	COMMON PATH OF TRAVEL
	EGRESS EXIT
	ADA ACCESS OR ADA DWELLING UNIT
	OCCUPANT LOAD SIGNAGE
FE	NEW FIRE EXTINGUISHER
FEC	NEW FIRE EXTINGUISHER CABINET, RECESSED IN WALL
T	TOLIET

DESIGN LOADS - 2024 OHIO BUILDING CODE

ROOF SNOW LOAD:

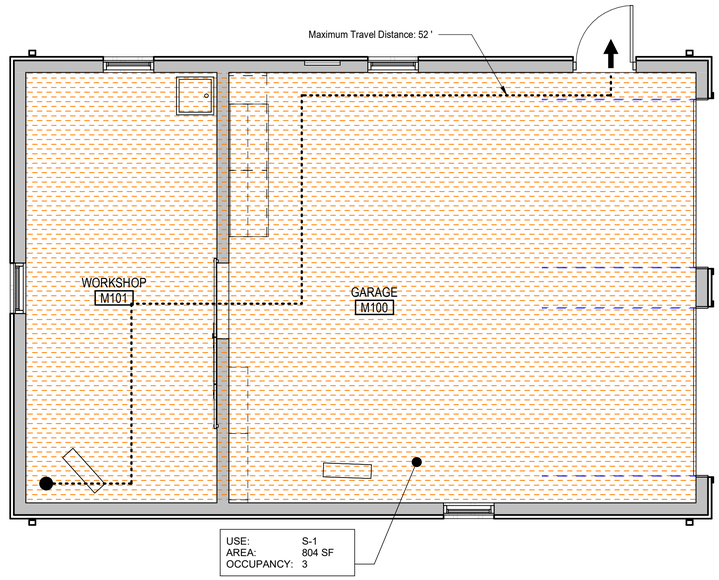
GROUND SNOW LOAD (Pg):	- 20 PSF
SNOW EXPOSURE FACTOR (Ce):	- 1.0
IMPORTANCE FACTOR (Is):	- 1.0
THERMAL FACTOR (Ct):	- 1.0
FLAT ROOF SNOW LOAD (Pf)	- 14 PSF
UNIFORM ROOF DESIGN SNOW LOAD	- 20 PSF

WIND LOAD:

BASIC WIND SPEED	- 107 MPH
ALLOWABLE WIND SPEED	- 83 MPH
RISK CATEGORY	- II
EXPOSURE CATEGORY	- EXPOSURE C
INTERNAL PRESSURE COEFFECIENT (G Cpi)	- ±0.18

SEISMIC LOAD:

RISK CATEGORY	- II
IMPORTANCE FACTOR (Ie)	- 1.0
MAPPED SPECTRAL RESPONSE ACCELERATION AT SHORT PERIOD (Ss):	- 0.138
MAPPED SPECTRAL RESPONSE ACCELERATION AT ONE-SECOND PERIOD (S1)	- 0.069
SITE CLASS	- D
SPECTRAL RESPONSE PARAMETER AT SHORT PERIOD (SDs)	- 0.148
SPECTRAL RESPONSE PARAMETER AT ONE-SECOND PERIOD (SD1)	- 0.11
SEISMIC DESIGN CATEGORY	- B
DESIGN BASE SHEAR ASD	- 2K
SEISMIC RESPONSE COEFFICIENT (Cs):	- 0.074



2 First Floor Code Plan
1/4" = 1'-0"

CODE DATA - 2024 OHIO BUILDING CODE

PROJECT SUMMARY:

THE PROJECT IS A RENOVATION OF AN EXISTING RESIDENTIAL GARAGE.

APPLICABLE CODES:

ZONING:	Xenia Township Zoning District Base Zoning: Parcel ID's:	 A - AGRICULTURAL B-2 - NEIGHBORHOOD BUSINESS DISTRICT M36000100140001900
FLOOD ZONE:	Flood Zone X – F.E.M.A. Map Number 39057C0130E – (3/8/2022)	
FIRE CODE:	OAC 1301:7 (1-7)	2024 – Ohio Fire Code (2021 IFC with Ohio amendments)
BUILDING CODE:	OAC 4101:1 (1-35)	2024 – Ohio Building Code (2021 IBC with Ohio amendments)
ACCESSIBILITY:	OAC 4101:1 (11)	2024 – OBC Chapter 11 and ICC A117.1 - 2017 new construction, 2009 for alterations / change of use
ENERGY CODE:	OAC 4101:1 (13)	2021 – IECC and ASHRAE 90.1-2019 (with Ohio amendments)
ELECTRICAL CODE:	OAC 4101:1 (27)	2024 – OBC Chapter 27 and National Electrical Code NFPA 70-23
MECHANICAL CODE:	OAC 4101:2 (1-15)	2024 – Ohio Mechanical Code (2021 IMC with Ohio amendments)
PLUMBING CODE:	OAC 4101:3 (1-15)	2024 – Ohio Plumbing Code (2021 IPC with Ohio amendments)

CLIMATE ZONE (IECC C301.1):
4A Greene County

PROVISIONS FOR COMPLIANCE METHODS - OHIO EXISTING BUILDING CODE 2024:
OEBC 301.3: ALTERATION, ADDITION OR CHANGE OF OCCUPANCY OF ALL EXISTING BUILDINGS SHALL COMPLY WITH ONE OF THE METHODS LISTED:

OEBC 301.3.1: THIS PROJECT WILL USE **THE PRESCRIPTIVE COMPLIANCE METHOD**.

USE AND OCCUPANCY CLASSIFICATION:
OBC 311.2: S-1, MODERATE-HAZARD STORAGE (GARAGE AND WORKSHOP). NO CHANGE IN USE.

SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY:

NONE

GENERAL BUILDING HEIGHTS AND AREAS:
OBC TABLE 504.3: ALLOWABLE HEIGHT:
TYPE V-B CONSTRUCTION
MAX 1 STORY AND 40' HEIGHT
1 STORY ACTUAL AND 19'-6" HEIGHT ACTUAL

OBC TABLE 506.2: BUILDING AREA:
TYPE V-B CONSTRUCTION
6,000 SF FLOOR ALLOWABLE
804 SF FLOOR ACTUAL

TYPE OF CONSTRUCTION:
OBC TABLE 601:

TYPE V-B CONSTRUCTION

STRUCTURAL FRAME:	0-HOURS
BEARING WALLS, EXTERIOR:	0-HOURS
BEARING WALLS, INTERIOR:	0-HOURS
NON-BEARING WALLS AND PARTITIONS:	0-HOUR
FLOOR CONSTRUCTION:	0-HOURS
ROOF CONSTRUCTION:	0-HOURS

FIRE RESISTANCE RATED CONSTRUCTION:
NOT APPLICABLE

FIRE PROTECTION SYSTEMS:
NOT APPLICABLE

MEANS OF EGRESS:

OBC 1004.1:	DESIGN OCCUPANT LOAD: 3 OCCUPANTS
OBC TABLE 1006.2.1:	COMMON PATH OF EGRESS TRAVEL: S-2 = 75 FT MAX ALLOWABLE COMMON PATH OF EGRESS TRAVEL: A-3 = 75 FT MAX ALLOWABLE
OBC TABLE 1017.2:	EXIT ACCESS TRAVEL DISTANCE: 200 FT MAX ALLOWABLE

ACCESSIBILITY:

OBC TABLE 1106.1:	0 PARKING SPACES PROVIDED 0 REQUIRED ACCESSIBLE PARKING SPACES

PLUMBING FOR BASEMENT & FIRST FLOORS:
OBC TABLE 2902.1 / OPC 403: REQUIRED MINIMUM PLUMBING FACILITIES

NO PLUMBING FACILITIES ARE PROVIDED WITH THIS STRUCTURE SINCE IT IS PART OF A LARGER CAMPUS THAT CONTAINS RESTROOMS

STATE OF OHIO
William K. Fleming
0915056
REGISTERED ARCHITECT

William K. Fleming, License #0915056
Expiration Date 12/31/2025

SCHOOLEY CALDWELL
ARCHITECTURE. INSPIRED.
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ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

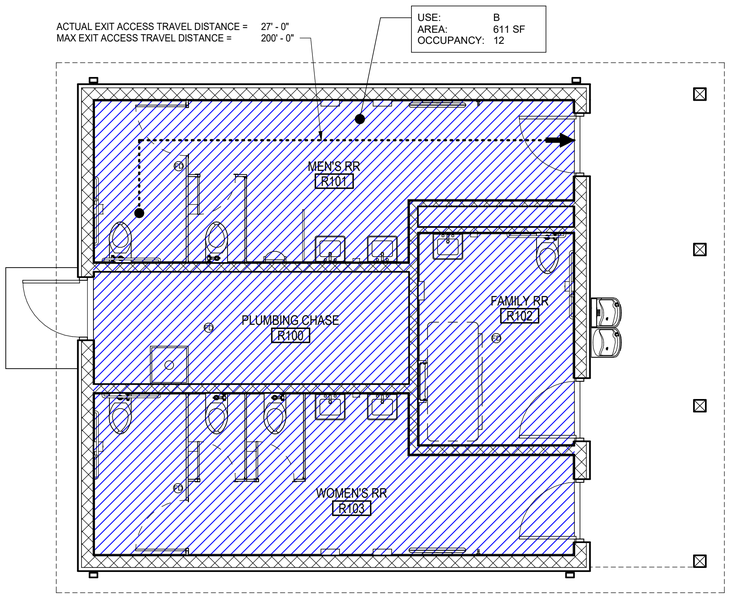
DESIGNED BY: AJP	JOB NUMBER: DNR-210062.02
DRAWN BY: PS / CM	SCALE: AS NOTED
CHECKED BY: PS	DATE: 09/04/2025
APPROVED BY:	BID DOCUMENTS

Code Analysis

M-G2

CODE DATA - SYMBOL LEGEND

HFB	HOUR FIRE BARRIER
HFW	HOUR FIRE WALL
HFS	HOUR FIRE SEPARATION
	USE AND OCCUPANCY: A-3 and A-5, ASSEMBLY 15 NET SQ FT PER OCCUPANT
	USE AND OCCUPANCY: B, BUSINESS 100 GROSS SQ FT PER OCCUPANT
	USE AND OCCUPANCY: S-1, MODERATE-HAZARD STORAGE 300 GROSS SQ FT PER OCCUPANT
	EGRESS
	ONE (1) HOUR FIRE BARRIER (HFB) COMPLY WITH UL FIRE ASSEMBLIES
	TWO (2) HOUR FIRE BARRIER (HFB) COMPLY WITH UL FIRE ASSEMBLIES
	TWO (2) HOUR FIRE SEPARATION (HFS) COMPLY WITH UL FIRE ASSEMBLIES
	THREE (3) HOUR FIRE WALL (HFW) COMPLY WITH UL FIRE ASSEMBLIES
	PATH OF EGRESS
	COMMON PATH OF TRAVEL
	EGRESS EXIT
	ADA ACCESS OR ADA DWELLING UNIT
	OCCUPANT LOAD SIGNAGE
FE	NEW FIRE EXTINGUISHER
FEC	NEW FIRE EXTINGUISHER CABINET, RECESSED IN WALL
T	TOLIET



2 First Floor - Code Plan
1/4" = 1'-0"

CODE DATA - 2024 OHIO BUILDING CODE

PROJECT SUMMARY:

THIS PROJECT IS NEW CONSTRUCTION OF A NEW PUBLIC RESTROOM FACILITY FOR GREAT COUNCIL STATE PARK. THIS STRUCTURE IS PART OF A LARGER PROJECT INCLUDING A NEW OBSERVATION TOWER AND THE RENOVATION OF AN EXISTING GARAGE.

APPLICABLE CODES:

ZONING:	Xenia Township Zoning District Base Zoning:	 A - AGRICULTURAL B-2 - NEIGHBORHOOD BUSINESS DISTRICT
	Parcel ID's:	M36000100140001900
FLOOD ZONE:	Flood Zone X – F.E.M.A. Map Number 39057C0130E – (3/8/2022)	
FIRE CODE:	OAC 1301:7 (1-7)	2024 – Ohio Fire Code (2021 IFC with Ohio amendments)
BUILDING CODE:	OAC 4101:1 (1-35)	2024 – Ohio Building Code (2021 IBC with Ohio amendments)
ACCESSIBILITY:	OAC 4101:1 (11)	2024 – OBC Chapter 11 and ICC A117.1 2017 new construction/2009 for alterations/change of use
ENERGY CODE:	OAC 4101:1 (13)	2021 – IECC and ASHRAE 90.1-2019 (with Ohio amendments)
ELECTRICAL CODE:	OAC 4101:1 (27)	2024 – OBC Chapter 27 and National Electrical Code NFPA 70-23
MECHANICAL CODE:	OAC 4101:2 (1-15)	2024 – Ohio Mechanical Code (2021 IMC with Ohio amendments)
PLUMBING CODE:	OAC 4101:3 (1-15)	2024 – Ohio Plumbing Code (2021 IPC with Ohio amendments)

CLIMATE ZONE (IECC C301.1):
4A Greene County

USE AND OCCUPANCY CLASSIFICATION:
OBC 304.1: B, BUSINESS (RESTROOMS)

GENERAL BUILDING HEIGHTS AND AREAS:
OBC TABLE 504.3: ALLOWABLE HEIGHT:
TYPE V-B CONSTRUCTION
MAX 1 STORY AND 40' HEIGHT
1 STORY ACTUAL AND 19'-6" HEIGHT ACTUAL

OBC TABLE 506.2: BUILDING AREA:
TYPE V-B CONSTRUCTION
6,000 SF FLOOR ALLOWABLE
611 SF FLOOR ACTUAL

TYPE OF CONSTRUCTION:
OBC TABLE 601:

TYPE V-B CONSTRUCTION

STRUCTURAL FRAME:	0-HOURS
BEARING WALLS, EXTERIOR:	0-HOURS
BEARING WALLS, INTERIOR:	0-HOURS
NON-BEARING WALLS AND PARTITIONS:	0-HOURS
FLOOR CONSTRUCTION:	0-HOURS
ROOF CONSTRUCTION:	0-HOURS

FIRE RESISTANCE RATED CONSTRUCTION:
NOT APPLICABLE

MIXED USE AND OCCUPANCY:
NOT APPLICABLE

FIRE PROTECTION SYSTEMS:
NOT APPLICABLE

MEANS OF EGRESS:
OBC 1004.1: DESIGN OCCUPANT LOAD: 12 OCCUPANTS
OBC TABLE 1006.2.1: COMMON PATH OF EGRESS TRAVEL: B = 75 FT MAX ALLOWABLE
OBC TABLE 1017.2: EXIT ACCESS TRAVEL DISTANCE: 200 FT MAX ALLOWABLE

ACCESSIBILITY:
OBC TABLE 1106.1: 0 PARKING SPACES PROVIDED
0 REQUIRED ACCESSIBLE PARKING SPACES

PLUMBING FOR BASEMENT & FIRST FLOORS:
OBC TABLE 2902.1 / OPC 403: REQUIRED MINIMUM PLUMBING FACILITIES

WATER CLOSETS		
	REQUIRED:	2
	PROVIDED:	2
LAVATORIES		
	REQUIRED:	2
	PROVIDED:	2
DRINKING FOUNTAINS		
	REQUIRED:	1
	PROVIDED:	1
OTHER REQUIRED:		1 SERVICE SINK
OTHER PROVIDED:		1 SERVICE SINK

STATE OF OHIO
William K. Fleming
0915056
REGISTERED ARCHITECT

William K. Fleming, License #0915056
Expiration Date 12/31/2025

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GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: AJP	JOB NUMBER: DNR-210062.02
DRAWN BY: PS / CM	SCALE: AS NOTED
CHECKED BY: PS	DATE: 09/04/2025
APPROVED BY:	BID DOCUMENTS

Code Analysis

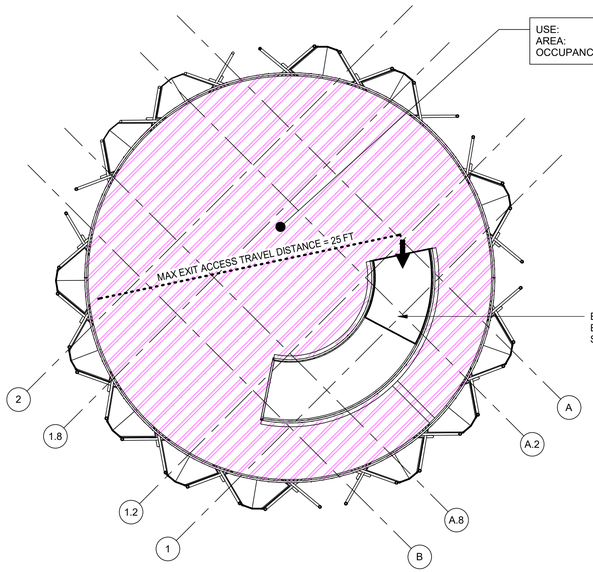
R-G2

FLOOR AREA AND OCCUPANCY

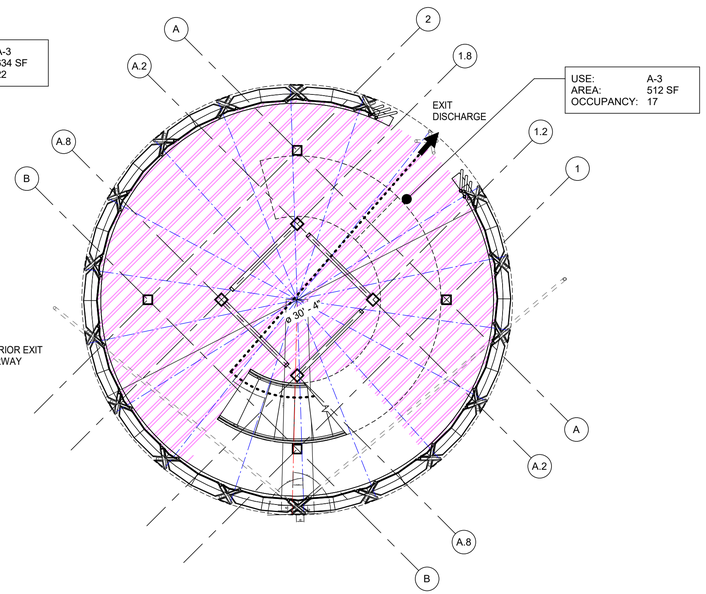
	AREA, USE, AND OCCUPANCY		
LEVEL	GROSS AREA	USE GROUP	CALCULATED OCCUPANCY
GROUND	512	A-3	17
PLATFORM	634	A-3	22
TOTAL	1,146	-	39

CODE DATA - SYMBOL LEGEND

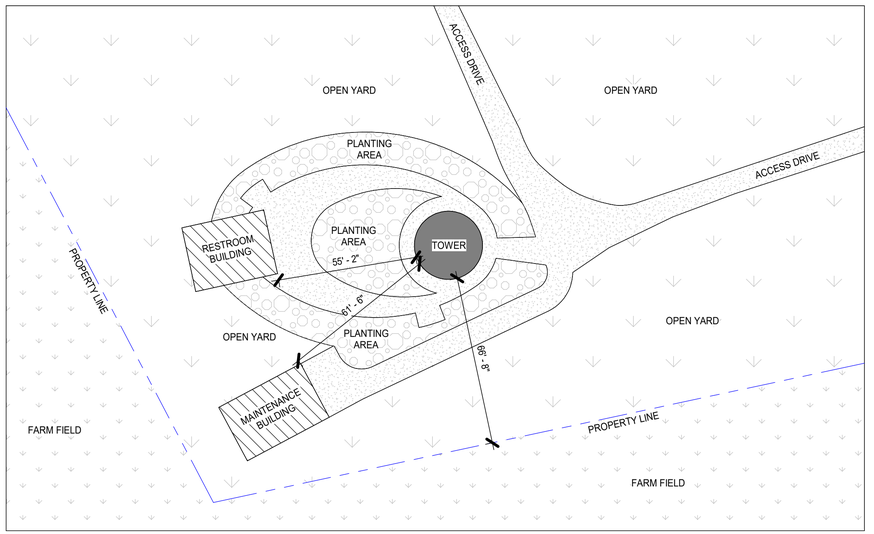
HFB	HOUR FIRE BARRIER
HFW	HOUR FIRE WALL
HFS	HOUR FIRE SEPARATION
	USE AND OCCUPANCY: A-3 and A-5, ASSEMBLY 15 NET SQ FT PER OCCUPANT
	USE AND OCCUPANCY: B, BUSINESS 100 GROSS SQ FT PER OCCUPANT
	EGRESS
	ONE (1) HOUR FIRE BARRIER (HFB) COMPLY WITH UL FIRE ASSEMBLIES
	TWO (2) HOUR FIRE BARRIER (HFB) COMPLY WITH UL FIRE ASSEMBLIES
	TWO (2) HOUR FIRE SEPARATION (HFS) COMPLY WITH UL FIRE ASSEMBLIES
	THREE (3) HOUR FIRE WALL (HFW) COMPLY WITH UL FIRE ASSEMBLIES
	PATH OF EGRESS
	COMMON PATH OF TRAVEL
	EGRESS EXIT
	ADA ACCESS OR ADA DWELLING UNIT
	OCCUPANT LOAD SIGNAGE
FE	NEW FIRE EXTINGUISHER
FEC	NEW FIRE EXTINGUISHER CABINET, RECESSED IN WALL
T	TOLIET



2 Platform - Code Plan
3/16" = 1'-0"



1 Ground Floor - Code Plan
3/16" = 1'-0"



3 Code Site Plan
1" = 30'-0"

CODE DATA - 2024 OHIO BUILDING CODE

PROJECT SUMMARY:

THE PROJECT IS A NEW CONSTRUCTION OF AN OPEN AIR OBSERVATION TOWER.

APPLICABLE CODES:

ZONING:	Xenia Township Zoning District Base Zoning:	A - AGRICULTURAL B-2 - NEIGHBORHOOD BUSINESS DISTRICT
	Parcel ID's:	M36000100140001900
FLOOD ZONE:	Flood Zone X – F.E.M.A. Map Number 39057C0130E – (3/8/2022)	
FIRE CODE:	OAC 1301:7 (1-7)	
BUILDING CODE:	OAC 4101:1 (1-35)	
ACCESSIBILITY:	OAC 4101:1 (11)	2024 – Ohio Fire Code (2021 IFC with Ohio amendments)
ENERGY CODE:	OAC 4101:1 (13)	2024 – Ohio Building Code (2021 IBC with Ohio amendments)
ELECTRICAL CODE:	OAC 4101:1 (27)	2024 – OBC Chapter 11 and ICC A117.1 - 2017 new construction, 2009 for alterations / change of use
MECHANICAL CODE:	OAC 4101:2 (1-15)	2021 – IECC and ASHRAE 90.1-2019 (with Ohio amendments)
PLUMBING CODE:	OAC 4101:3 (1-15)	2024 – OBC Chapter 27 and National Electrical Code NFPA 70-23
		2024 – Ohio Mechanical Code (2021 IMC with Ohio amendments)
		2024 – Ohio Plumbing Code (2021 IPC with Ohio amendments)

CLIMATE ZONE (IECC C301.1):
4A Greene County

USE AND OCCUPANCY CLASSIFICATION:
OBC 303.1: ASSEMBLY GROUP A
OBC 303.1.1: SMALL BUILDINGS AND TENANT SPACES
A BUILDING OR TENANT SPACE USED FOR ASSEMBLY PURPOSES WITH AN OCCUPANT LOAD OF LESS THAN 50 PERSONS SHALL BE CLASSIFIED AS A GROUP B OCCUPANCY.

GENERAL BUILDING HEIGHTS AND AREAS:
OBC TABLE 504.3: ALLOWABLE HEIGHT:
TYPE III-B CONSTRUCTION
MAX 2 STORIES AND 55' HEIGHT
1 STORY ACTUAL AND 48' HEIGHT ACTUAL

OBC TABLE 506.2: BUILDING AREA:
TYPE III-B CONSTRUCTION
9,500 SF FLOOR ALLOWABLE
1,146 SF FLOOR ACTUAL

TYPE OF CONSTRUCTION:
OBC TABLE 601:

TYPE III-B CONSTRUCTION

STRUCTURAL FRAME:	0-HOURS
BEARING WALLS, EXTERIOR:	2-HOURS
BEARING WALLS, INTERIOR:	0-HOURS
NON-BEARING WALLS AND PARTITIONS:	0-HOURS
FLOOR CONSTRUCTION:	0-HOURS
ROOF CONSTRUCTION:	0-HOURS

MEANS OF EGRESS:
OBC 1004.1: DESIGN OCCUPANT LOAD: 39 OCCUPANTS
OBC TABLE 1006.2.1: COMMON PATH OF EGRESS TRAVEL: A-3 = 75 FT MAX ALLOWABLE
OBC TABLE 1006.3.4(2): STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES
MAXIMUM OCCUPANT LOAD PER STORY: 29
MAXIMUM EXIT ACCESS TRAVEL DISTANCE IN FEET: 75

OBC 1027 EXTERIOR EXIT STAIRWAYS AND RAMPS
OBC 1027.3 OPEN SIDE: SEE CODE ELEVATIONS SHEET T-G3
OBC 1027.4 SIDE YARDS: SEE CODE SITE PLAN 3/T-G2
OBC 1027.5 LOCATION: SEE CODE SITE PLAN 3/T-G2

ACCESSIBILITY:
OBC TABLE 1106.1: 0 PARKING SPACES PROVIDED
0 REQUIRED ACCESSIBLE PARKING SPACES

OBC 1104.4: EXCEPTION 1 - NO ELEVATOR PROVIDED SINCE OBSERVATION PLATFORM IS LESS THAN 3,000 SF

PLUMBING FOR BASEMENT & FIRST FLOORS:
OBC TABLE 2902.1 / OPC 403: REQUIRED MINIMUM PLUMBING FACILITIES

WATER CLOSETS
REQUIRED: 2
PROVIDED: 2 (IN ADJACENT BUILDING, PERMITTED SEPARATELY)

LAVATORIES
REQUIRED: 1
PROVIDED: 2 (IN ADJACENT BUILDING, PERMITTED SEPARATELY)

DRINKING FOUNTAINS
REQUIRED: 1
PROVIDED: 1 (IN ADJACENT BUILDING, PERMITTED SEPARATELY)

OTHER REQUIRED: 1 SERVICE SINK
OTHER PROVIDED: 1 SERVICE SINK (IN ADJACENT BUILDING, PERMITTED SEPARATELY)

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Ohio Department of Natural Resources

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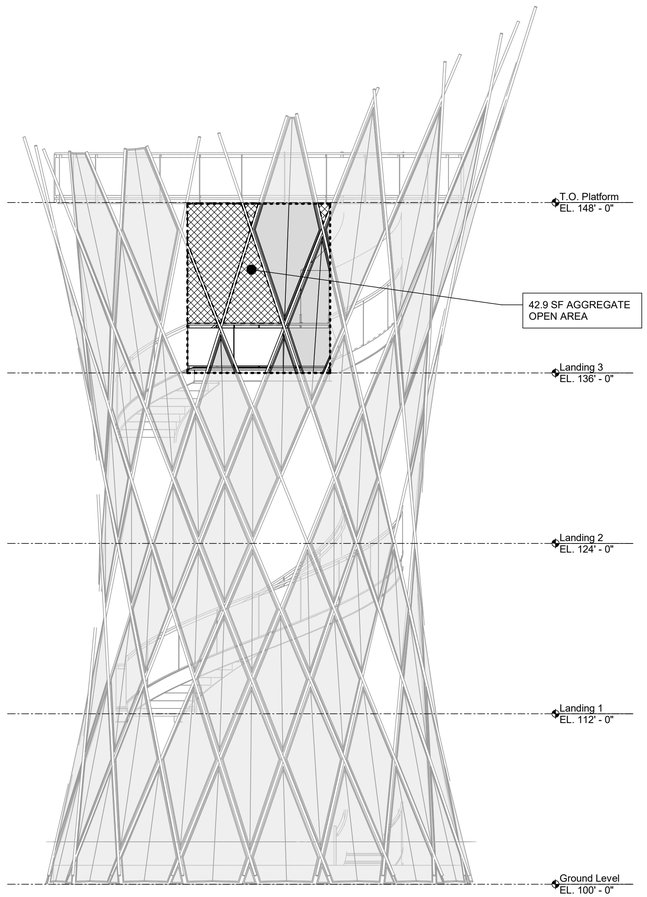
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

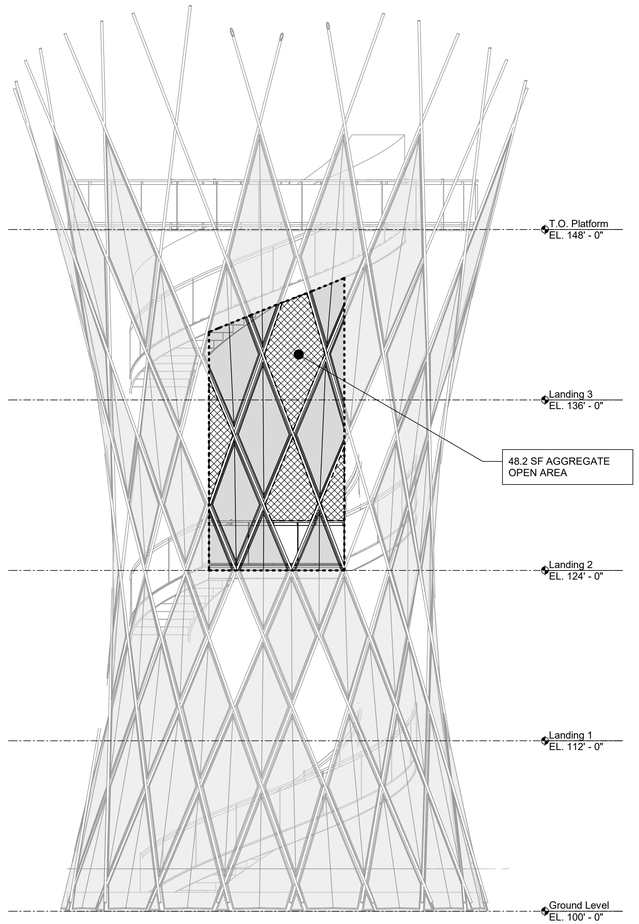
DESIGNED BY:	JOB NUMBER: DNR-250004
DRAWN BY:	SCALE: AS NOTED
CHECKED BY:	DATE: 08/28/2025
APPROVED BY:	BID DOCUMENTS

Code Analysis - Tower

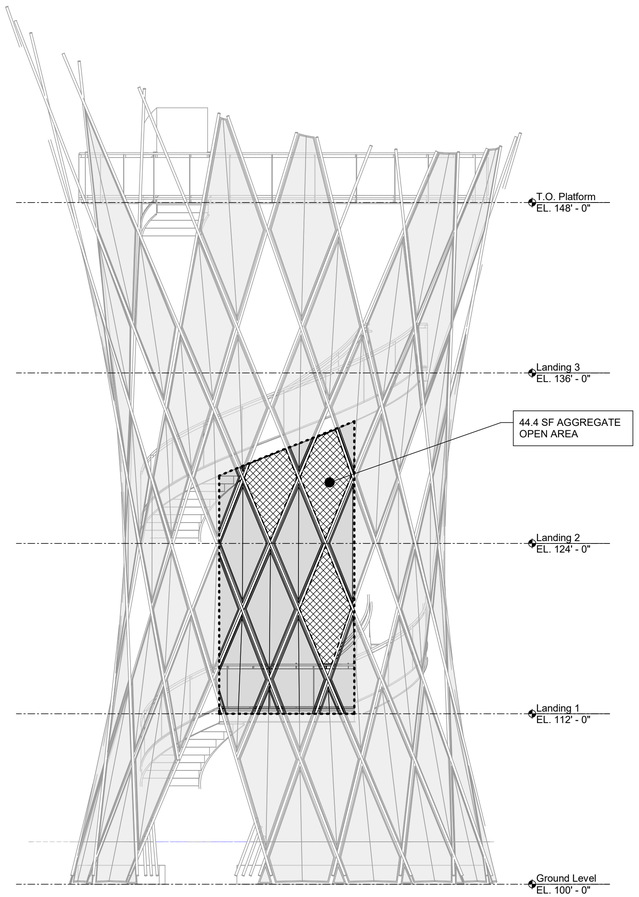
T-G2



3 Code Elevation - Landing 3
3/16" = 1'-0"



2 Code Elevation - Landing 2
3/16" = 1'-0"



1 Code Elevation - Landing 1
3/16" = 1'-0"

CODE ELEVATION LEGEND

- PERFORATED METAL PANEL (64% OPEN)
- OPEN SIDE EXTENT (AT LANDING)
- OPEN AREA

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DESIGNED BY:	JOB NUMBER: DNR-250004
DRAWN BY:	SCALE: AS NOTED
CHECKED BY:	DATE: 08/28/2025
APPROVED BY:	BID DOCUMENTS

Code Elevations - Tower

T-G3

UTILITY NOTES

1. ALL DRAIN TILE AND STORM SEWERS DAMAGED, DISTURBED OR REMOVED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH THE SAME QUALITY PIPE OR BETTER, MAINTAINING THE SAME GRADIENT AS EXISTING. THE DRAIN TILE AND/OR STORM SEWER SHALL BE CONNECTED TO THE CURB SUBDRAIN, STORM SEWER SYSTEM OR OUTLETTED INTO THE ROADWAY DITCH AS APPLICABLE. REPLACED DRAIN TILE/STORM SEWER SHALL BE LAID ON COMPACTED BEDDING EQUAL IN DENSITY TO SURROUNDING STRATUM. REPLACEMENT SHALL BE DONE AT THE TIME OF THE BACKFILL OPERATION. COST OF THIS WORK TO BE INCLUDED IN THE PRICE BID FOR THE PROJECT.
2. ALL EXISTING UTILITIES KNOWN TO EXIST HAVE BEEN SHOWN ON THESE PLANS IN THEIR APPROXIMATE LOCATION. PRIOR TO THE BEGINNING OF CONSTRUCTION OR EARTH MOVING OPERATIONS, THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF THE UTILITIES SHOWN. THE CONTRACTOR IS ALSO RESPONSIBLE FOR THE PROTECTION AND/OR RELOCATION OF ANY UTILITIES THAT MAY EXIST AND ARE NOT SHOWN.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE RELOCATION AND/OR PROTECTION OF ANY UTILITIES AS REQUIRED BY THE PLAN WITH THE OWNER OF THE AFFECTED UTILITY.
4. UTILITY POLES WITHIN INFLUENCE OF THE UTILITY OPERATIONS SHALL BE REINFORCED BY THE UTILITY COMPANY PRIOR TO THESE CONSTRUCTION ACTIVITIES. NOTIFICATION OF THE UTILITY COMPANY PRIOR TO CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. COMPACTED FILLS ARE TO BE MADE TO A MINIMUM OF THREE FEET ABOVE THE CROWN OF ANY PROPOSED SEWER PRIOR TO CUTTING OF TRENCHES FOR PLACEMENT OF SAID SEWERS. ALL FILLS SHALL BE CONTROLLED, COMPACTED, AND INSPECTED BY AN APPROVED TESTING LABORATORY OR AN INSPECTOR FROM THE APPROPRIATE GOVERNMENTAL AGENCY.
6. CONTRACTOR TO REPLACE ANY PAVEMENT OR UTILITIES DAMAGED WHICH ARE NOT SPECIFIED TO BE REMOVED ON THESE PLANS.
7. ADJUST ALL EXISTING CASTINGS AND CLEANOUTS WITHIN PROJECT AREA TO GRADE AS REQUIRED.
8. DISTANCES SHOWN FOR BOTH SANITARY AND STORM SEWER PIPES ARE MEASURED FROM CENTER OF STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR ACTUAL FIELD CUT LENGTH. COORDINATES FOR STORM AND SANITARY STRUCTURES ARE SHOWN TO THE CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.
9. IMMEDIATELY AFTER PLACEMENT OF ANY CONDUITS, THE CONTRACTOR SHALL CONSTRUCT THE END TREATMENTS REQUIRED BY THE PLANS AT BOTH THE OUTLET AND INLET ENDS. THIS SHALL INCLUDE HEADWALLS, CONCRETE, RIP RAP, ROCK CHANNEL PROTECTION, SODDING, POURING BOTTOMS, MUDDING LIFT HOLES, ETC.
10. ALL PROPOSED STORM SEWERS, SURFACE OR OTHER DRAINAGE FACILITIES ARE TO BE PRIVATE AND MAINTAINED BY THE OWNER. EROSION CONTROL MEASURES MUST PROVIDE PROTECTION UNTIL COMPLETION OF THE PROJECT AND VEGETATIVE STABILIZATION.
11. ROOF DRAINS, FOUNDATION DRAINS AND ALL OTHER CLEAR WATER CONNECTIONS TO THE SANITARY SEWER SYSTEMS ARE PROHIBITED.
12. SITE CONTRACTOR SHALL PICK UP ALL UTILITIES, WITH THE EXCEPTION OF DOWNSPOUTS, 5' OUTSIDE BUILDING WALL. COORDINATE WITH CONSTRUCTION MANAGER.
13. ALL STORM STRUCTURES ARE ODOT TYPES UNLESS OTHERWISE INDICATED.
14. STORM SEWER PIPE LABELED "STM" SHALL BE ONE OF THE FOLLOWING: PVC SDR-35 PER ODOT ITEM 707.45, PVC PROFILE PIPE PER ODOT ITEM 707.43, HIGH DENSITY POLYETHYLENE PER ODOT ITEM 707.33, ALUMINIZED CORRUGATED METAL, ODOT ITEM 707.01, 707.02, OR REINFORCED CONCRETE PIPE, ODOT ITEM 706.02 CLASS IV. STORM SEWER PIPE LABELED "RCP" SHALL BE REINFORCED CONCRETE PIPE, ODOT ITEM 706.02 CLASS IV. ALL STORM IS TO BE INSTALLED PER ODOT ITEM 611. ALL STORM PIPE USED MUST HAVE A MANUFACTURER SPECIFIED FRICTION FACTOR OF 0.013 (N=0.013) OR LESS.
15. ALL YARD DRAINS SHALL BE ONE OF THE FOLLOWING: NYLOPLAST-ADS DRAIN BASIN, NDS DURACAST FABRICATED PVC CATCH BASIN, AGRI-DRAIN CATCH BASIN, OR APPROVED EQUAL.
16. ALL EXISTING INVERTS ALONG PROPOSED PIPE ALIGNMENTS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION OF THE SEWER.
17. ANY FIELD TILE CUT IN EXCAVATION WHICH DRAINS IN AN OFFSITE AREA MUST BE TIED INTO THE STORM DRAINAGE SYSTEM.
18. THE FLOW IN ALL SEWERS, DRAINS, FIELD TILES AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND WHENEVER SUCH WATERCOURSES AND DRAINS ARE DISTURBED OR DESTROYED DURING THE PROSECUTION OF THE WORK, THEY SHALL BE RESTORED BY THE CONTRACTOR AT HIS OWN EXPENSE TO A CONDITION SATISFACTORY TO THE ENGINEER.
19. SANITARY SEWER SHALL BE SDR-35 OR APPROVED EQUAL AND CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE GREENE COUNTY. PIPE MUST MEET MINIMUM SLOPE REQUIREMENTS OF THE GREENE COUNTY AND OHIO EPA. SANITARY SEWER SHALL BE INSTALLED AT A MINIMUM DEPTH OF FOUR FEET (4') UNLESS OTHERWISE NOTED. A MINIMUM OF 18" CLEARANCE SHALL BE MAINTAINED AT ALL WATERLINE CROSSINGS. SANITARY SERVICE JOINTS SHALL CONFORM TO ASTM D-3212.
20. SANITARY SEWER IS TO BE BEDDED WITH CLEAN GRANULAR MATERIAL-AGGREGATES NOT TO BE LARGER THAN 3/4" AND NOT SMALLER THAN NO. 8 SIEVE, FREE OF SILT AND FINES, AASHTO M43 SIZE #67, 7 OR 8. BEDDING TO BE MINIMUM OF 6" BELOW & 12" ABOVE THE PIPE.
21. ALL WATERLINE CROSSINGS SHALL MAINTAIN A VERTICAL SEPARATION OF 18" MINIMUM. SANITARY SEWER SHALL BE LOCATED A MINIMUM OF 18" BELOW WATERLINE AT ALL CROSSINGS. WATERLINE SHALL BE LOCATED A MINIMUM OF 10' HORIZONTALLY FROM ANY SANITARY SEWER. ALL MEASUREMENTS SHALL BE TAKEN FROM OUTSIDE OF SEWER PIPE TO THE OUTSIDE OF WATERLINE PIPE. ONE FULL LENGTH OF WATERLINE PIPE SHALL BE LOCATED AT ALL CROSSINGS TO ENABLE BOTH JOINTS TO BE LOCATED AS FAR FROM SEWER AS POSSIBLE. ALL WATER SHALL HAVE A MINIMUM OF 4' OF COVER.
22. WATERLINE 2 INCHES AND UNDER TO BE TYPE "K" SOFT COPPER TUBING, ASTM B 88, OR APPROVED POLYTUBING.

UTILITY CONTACTS

ALTAFIBER
CONSTRUCTION MANAGEMENT CENTER
221 E 4TH STREET, SUITE 347-300
CINCINNATI, OH 45202
513-566-8130

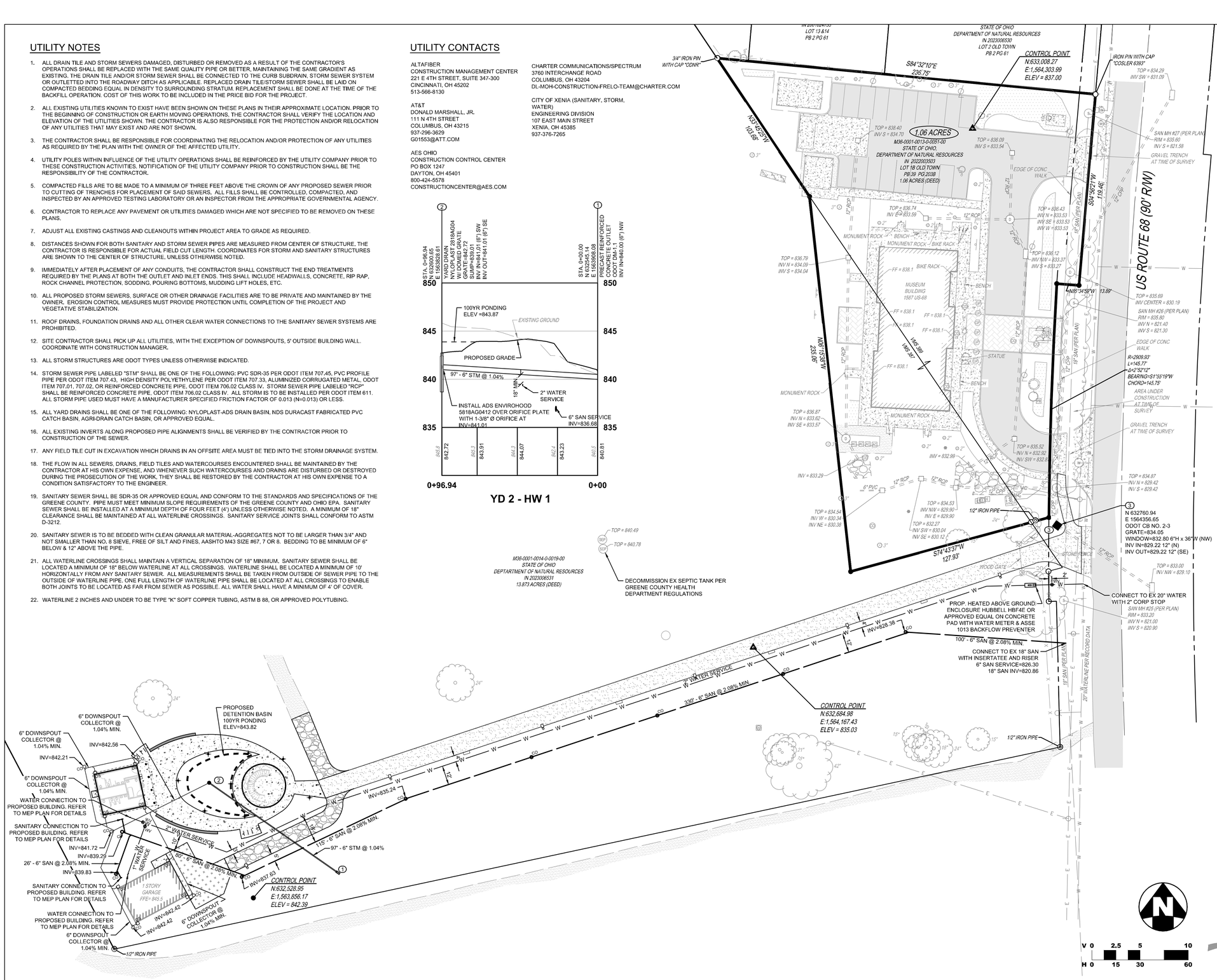
AT&T
DONALD MARSHALL, JR.
111 N 4TH STREET
COLUMBUS, OH 43215
937-296-3629
G01553@ATT.COM

AES OHIO
CONSTRUCTION CONTROL CENTER
PO BOX 1247
DAYTON, OH 45401
800-424-5578
CONSTRUCTIONCENTER@AES.COM

CHARTER COMMUNICATIONS/SPECTRUM
3760 INTERCHANGE ROAD
COLUMBUS, OH 43204
DL-MOH-CONSTRUCTION-FRELO-TEAM@CHARTER.COM

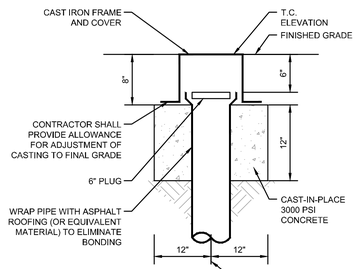
CITY OF XENIA (SANITARY, STORM, WATER)
ENGINEERING DIVISION
107 EAST MAIN STREET
XENIA, OH 45385
937-376-7265

YD 2 - HW 1

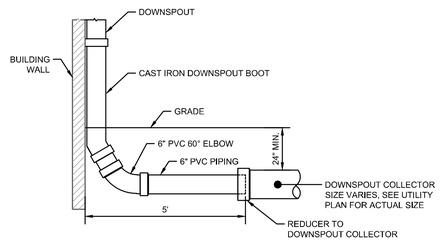


PROPOSED LEGEND

- STM — STORM SEWER PIPE
- 100 — YARD DRAIN
- CO — CLEANOUT
- DS — DOWNSPOUT
- SAN — SANITARY SEWER PIPE
- WAT — WATERLINE PIPE
- WV — WATER VALVE
- PONDING LIMITS



CLEANOUT DETAIL
N.T.S.



DOWNSPOUT BOOT DETAIL
N.T.S.

V 0 2.5 5 10
H 0 15 30 60

STATE OF OHIO
MICHAEL J. COUVREUR
E-70851
REGISTERED
PROFESSIONAL ENGINEER

OHIO811.org Before You Dig

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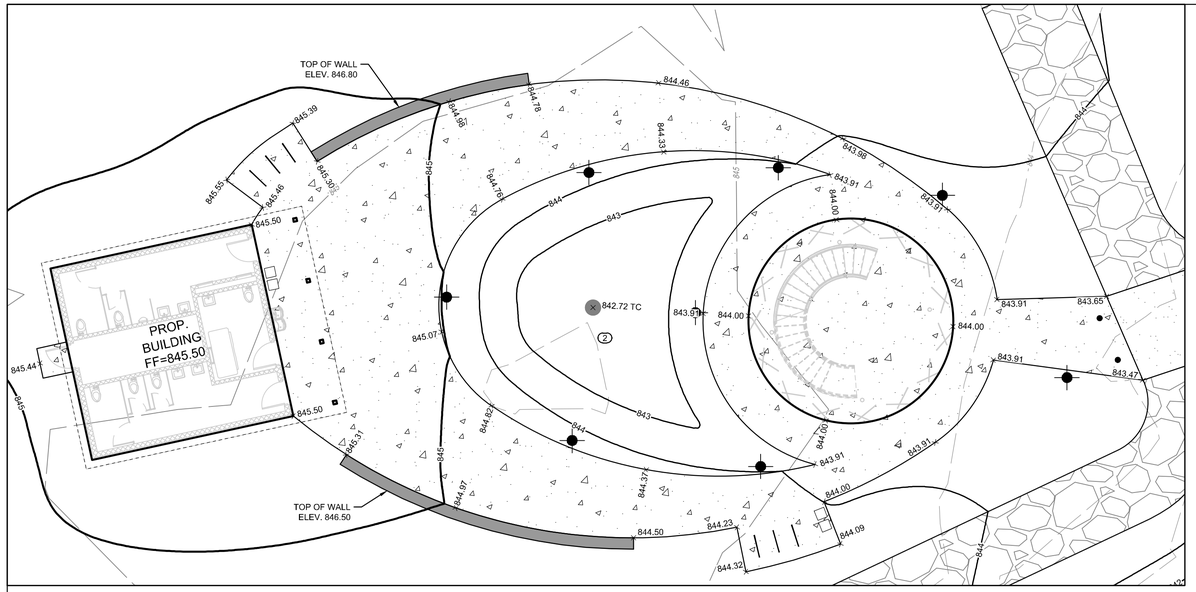
ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: MGP / CM	JOB NUMBER: DNR-250004
DRAWN BY: MGP / CM	SCALE: AS NOTED
CHECKED BY: MS	DATE: 08/28/2025
APPROVED BY:	BID DOCUMENTS

UTILITY PLAN

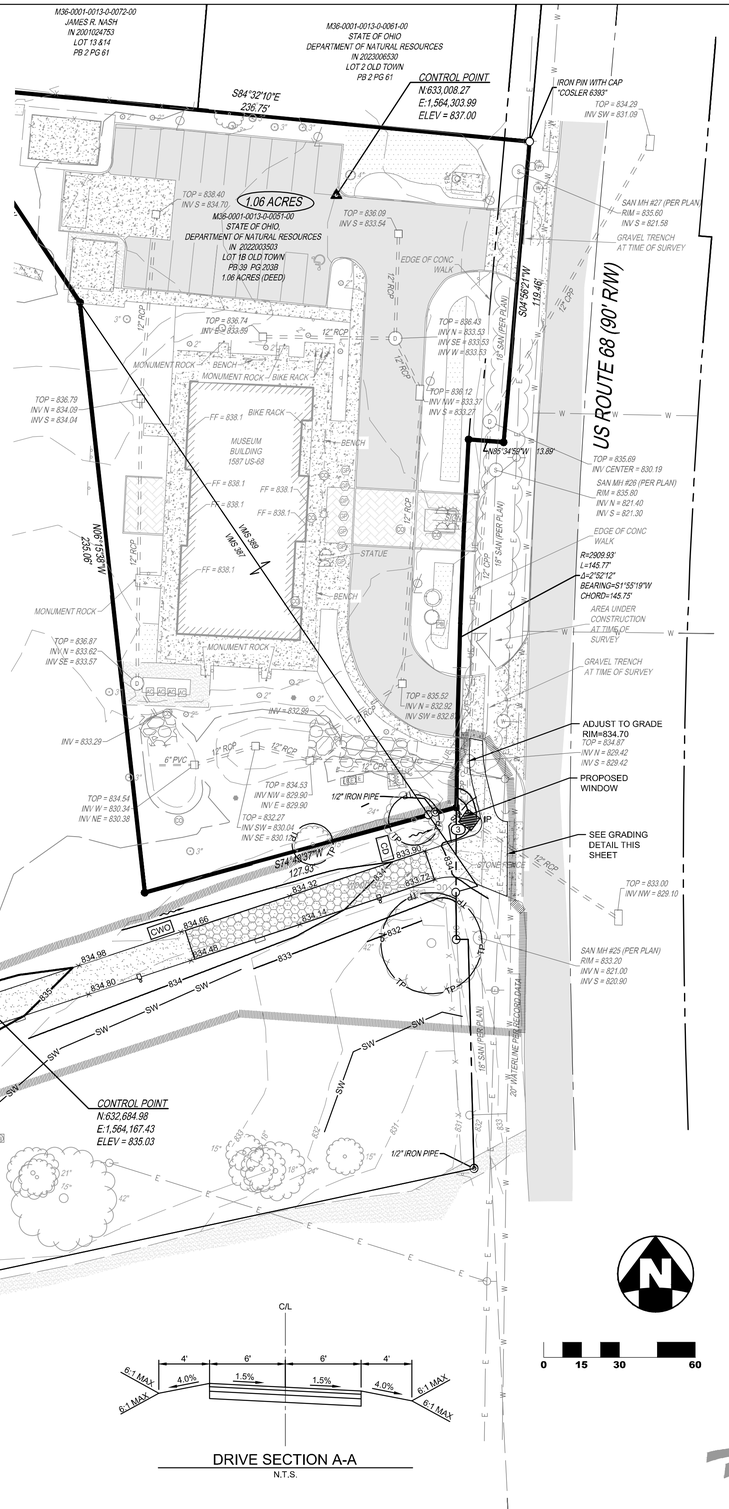
C100

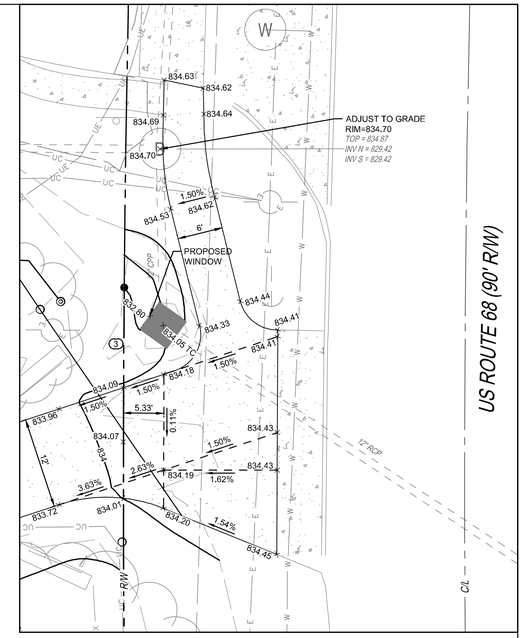


GRADING DETAIL
1"=10'
0 5 10 20

GRADING NOTES

1. CONTRACTOR TO REMOVE TREES AND CLEAR AREAS AS NECESSARY TO PERFORM ALL SITE WORK INCLUDING GRADING AND UTILITY WORK.
2. PROTECTION OF EXISTING TREES AND VEGETATION: PROTECT EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND VEGETATION TO BE LEFT STANDING.
3. ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS.
4. SITE BUILDING PAD EXCAVATION AND CONSTRUCTION TO BE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. BUILDING PAD PREPARATION SHALL BEGIN BY CLEARING & STRIPPING UNSUITABLE MATERIAL FROM PAD SITE. THEN PLACE & COMPACT BACKFILL MATERIAL AT GEOTECHNICAL ENGINEER'S AND ARCHITECT'S RECOMMENDATIONS. ALL BACKFILL MATERIAL MUST BE ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.
5. ALL FILL UNDER PAVEMENT SHALL BE COMPACTED TO THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE IMPORT OR EXPORT OF MATERIAL TO THE SITE IN ORDER TO ACHIEVE THE DESIGN GRADES.
7. CONTRACTOR SHALL IMPLEMENT ALL SOIL AND EROSION CONTROL PRACTICES REQUIRED BY GREENE COUNTY AND THE OHIO EPA.
8. ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. IF NO SPECIFICATIONS ARE SUPPLIED, USE ODOT ITEM 659.





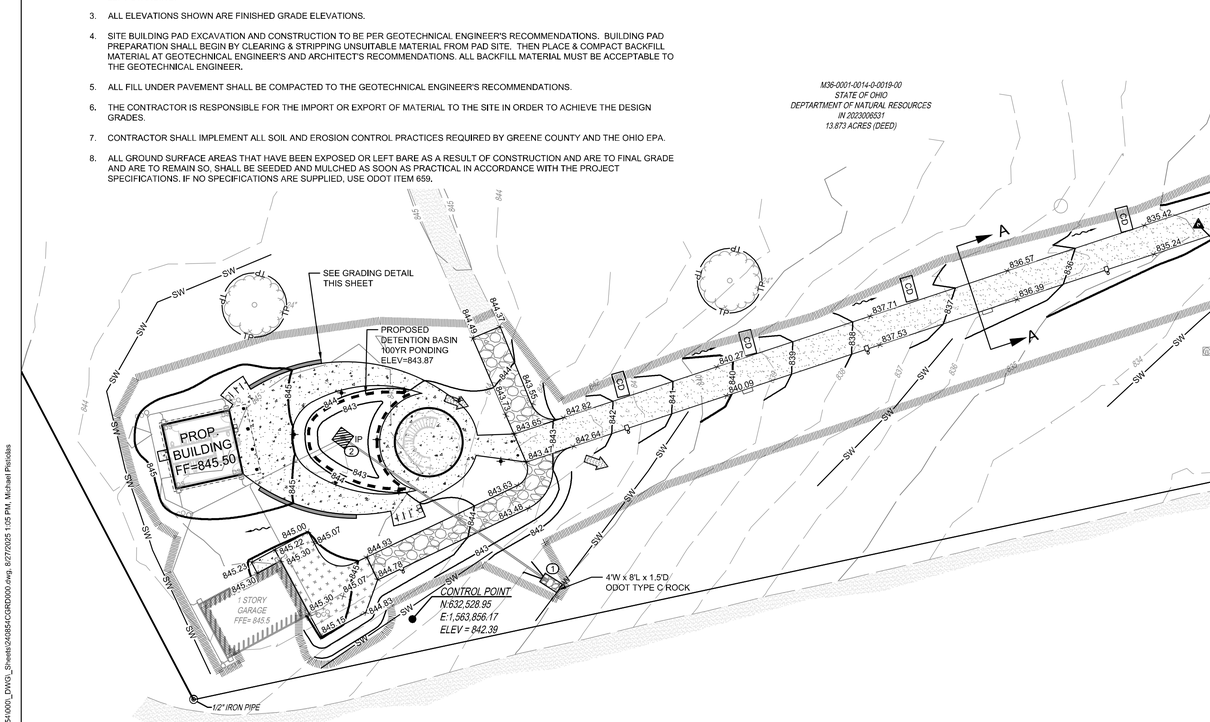
DRIVE GRADING DETAIL
1"=10'
0 5 10 20

GRADING LEGEND

- 1215 — EXISTING MAJOR CONTOUR
- 1216 — EXISTING MINOR CONTOUR
- 1215 — PROPOSED MAJOR CONTOUR
- 1216 — PROPOSED MINOR CONTOUR
- × 1215.00 — PROPOSED SPOT ELEVATION
- × 1215.00 TC — PROPOSED TOP OF CASTING ELEVATION
- PROPOSED SWALE
- 100-YEAR FLOOD ROUTE

PROPOSED EROSION CONTROL LEGEND

- IP — INLET PROTECTION, SEE DETAIL 1 / C202
- SW — STRAW WATTLE, SEE DETAIL 3 / C202
- TP — TREE PROTECTION, SEE DETAIL 9 / L100
- CWO — CONCRETE WASHOUT, SEE DETAIL 4 / C202
- CD — CHECK DAM, SEE DETAIL 6 / C202
- CONSTRUCTION ENTRANCE, SEE DETAIL 2 / C202
- ODOT TYPE C ROCK CHANNEL PROTECTION, SEE DETAIL 5 / C202
- LIMITS OF DISTURBANCE



DRIVE SECTION A-A
N.T.S.

0 15 30 60

STATE OF OHIO
MICHAEL J. COUVREUR
E-70851
REGISTERED
PROFESSIONAL ENGINEER

OHIO811.org Before You Dig

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GRADING AND EROSION CONTROL PLAN

C200

PROJECT DATA

PROJECT DESCRIPTION
THE PROPOSED WORK INCLUDES A NEW OBSERVATION TOWER, RESTROOM BUILDING, AND WALKING PATHS.

LATITUDE:	N 39°43'41.94"
LONGITUDE:	W 83°56'16.73"
ESTIMATED CONSTRUCTION DATES:	10/01/2025 - 12/01/2026
TOTAL SITE AREA:	13.88 ACRES
TOTAL DISTURBED AREA:	0.70 ACRES
EXISTING IMPERVIOUS AREA:	0.53 ACRES
PROPOSED IMPERVIOUS AREA:	0.66 ACRES
TOTAL IMPERVIOUS AREA AFTER CONSTRUCTION:	0.66 ACRES
INCREASE IN IMPERVIOUS AREA:	1%
PRE-CONSTRUCTION RUNOFF COEFFICIENT :	C=0.61
POST-CONSTRUCTION RUNOFF COEFFICIENT:	C=0.61
IMMEDIATE RECEIVING WATER/MS4:	OLDTOWN CREEK
ULTIMATE RECEIVING STREAM:	LITTLE MIAMI RIVER
EXISTING LAND USE:	STATE PARK
SOILS:	EmB2, EmB, EmA

CONSTRUCTION SEQUENCE

TO COMPLETE THE EXCAVATION AND CONSTRUCTION OF THE PROPOSED IMPROVEMENTS, COORDINATION OF THE CONTRACTOR'S WORK CREWS WILL BE REQUIRED. THE INLET PROTECTION AND PERIMETER CONTROLS WILL PERFORM TEMPORARY SEDIMENT CONTROL AND STORAGE DURING THE PROPOSED CONSTRUCTION. WORK WILL GENERALLY PROCEED FROM DOWNSTREAM TO UPSTREAM IN THESE WORK AREAS. THE GENERAL CONSTRUCTION SEQUENCE IS AS FOLLOWS.

A. INSTALL CONSTRUCTION ENTRANCE, CONCRETE WASHOUT AREA, TREE PROTECTION, PERIMETER CONTROLS AND INLET PROTECTION ON EXISTING STRUCTURES.
B. STRIP AND STOCKPILE TOPSOIL AND ANY UNSUITABLE MATERIAL THROUGH THE INCREMENTAL WORK AREA. MAINTAIN STOCKPILES WITH TEMPORARY SEEDING. INSTALL ALL TEMPORARY SEDIMENT CONTROLS WITHIN 24 HOURS FOLLOWING THE STRIPPING OPERATION.
C. PERFORM MASS GRADING FOR PAVED AREAS.
E. INSTALL SITE UTILITIES AND INLET PROTECTION ON NEW STORM STRUCTURES AS WORK PROGRESSES. ANY DISTURBED AREAS SHALL BE STABILIZED PER OEPA TEMPORARY AND PERMANENT STABILIZATION.
F. INSTALL FINAL PAVING AND WALKS.
G. PROVIDE PERMANENT STABILIZATION FOR ANY DISTURBED AREAS AND REMOVE TEMPORARY SEDIMENT CONTROLS, PERIMETER CONTROLS, AND INLET PROTECTION.
H. MAINTAIN POST CONSTRUCTION BMPs AS REQUIRED.

EMERGENCY ACTION & SPILL PREVENTION PLAN

THE SCOPE OF WORK COVERED BY THIS PLAN INCLUDES EMERGENCY RESPONSE TO SPILLS, CONTAINMENT OF SPILLED LIQUIDS, EMERGENCY NOTIFICATION NUMBERS, AND SOIL EXCAVATION FOR SPILL CLEAN-UP.

IN THE EVENT OF A SPILL EVENT THE EMPLOYEE SHALL ASSESS THE SPILL AND IMMEDIATELY NOTIFY THE SAFETY OFFICER AND SUPERVISOR IN CHARGE.

ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY. MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE. SPILLS OF 25 OR MORE GALLONS OF PETROLEUM WASTE MUST BE REPORTED TO OHIO EPA (1-800-282-9378), THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES OF THE SPILL. ALL SPILLS, WHICH RESULT IN CONTACT WITH WATERS OF THE STATE, MUST BE REPORTED TO THE OHIO EPA'S HOTLINE.

SOILS CONTAMINATED BY PETROLEUM OR OTHER CHEMICAL SPILLS MUST BE TREATED/DISPOSED AT AN OHIO EPA APPROVED SOLID WASTE MANAGEMENT FACILITY OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITY (TSDF).

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR AND DESIGNATE SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING:
1. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
2. ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
3. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
4. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
5. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
6. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
7. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.

HAZARDOUS PRODUCTS:
1. PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
2. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
3. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURERS' OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

GENERAL NOTES

THE CONTRACTOR IS HEREBY ADVISED THAT STRICTER POLLUTION CONTROL STANDARDS AND ENFORCEMENT HAVE BEEN IMPOSED BY THE OHIO EPA SINCE MARCH 10, 2003 AND WITH REVISIONS IN APRIL 2018 AND IN APRIL 2023. ALSO, MANY PRIVATE CITIZEN ENVIRONMENTAL GROUPS, WHO HAVE BEEN KNOWN TO FILE CIVIL LEGAL ACTIONS, ARE PRESENT IN THE AREA AND OBSERVE ALL CONSTRUCTION OPERATIONS.

THE CONTRACTOR SHALL INFORM ALL SUBCONTRACTORS OF THE REQUIREMENTS AND RESPONSIBILITIES OF THE SWPPP AND SHALL DOCUMENT ALL SUCH NOTIFICATIONS AND/OR DISCUSSIONS.

THE CONTRACTOR WILL BE REQUIRED TO PARTICIPATE IN SEDIMENT AND EROSION CONTROL INSPECTIONS ON A WEEKLY BASIS AND SIGN AN APPROVED INSPECTION SHEET THAT SHALL BE KEPT ON FILE AT THE JOB SITE.

UNLESS OTHERWISE NOTED, STANDARDS AND SPECIFICATIONS ESTABLISHED IN THE LATEST EDITION OF THE OEPA "RAINWATER AND LAND DEVELOPMENT" HANDBOOK SHALL GOVERN THE EROSION AND SEDIMENT CONTROL INSTALLATIONS SPECIFIED ON THIS PLAN.

THIS PROJECT WILL INVOLVE SEVERAL CONSTRUCTION PHASES AND SEQUENCING THROUGHOUT ITS LIFETIME. IT IS VERY IMPORTANT THAT ALL TEMPORARY SEDIMENT AND EROSION CONTROL (S&EC) FIELD METHODS ALONG WITH THIS PLAN, ARE UPDATED TO REFLECT THE ACTUAL FIELD CONDITIONS, CURRENT WEATHER CONDITIONS AND SITE GRADE CHANGES. THE ENGINEER OR THE OHIO EPA CAN AND WILL MODIFY THIS PLAN AS NECESSARY.

THE CONTRACTOR WILL VOLUNTARILY SELF REPORT ANY POTENTIAL VIOLATIONS OF THE OEPA NPDES PERMIT TO THE ENGINEER AND THE OEPA.

THE CONTRACTOR SHALL REMOVE EXISTING GROUND COVER ONLY AS NECESSARY FOR THE PROJECT PHASE CURRENTLY UNDER CONSTRUCTION.

CONSTRUCTION AND DEMOLITION DEBRIS SHALL BE PROPERLY DISPOSED OF ACCORDING TO OHIO EPA REQUIREMENTS.

THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS, RESULTING FROM DEWATERING ACTIVITIES. SEDIMENT-LADEN WATER MUST PASS THROUGH A SETTLING POND, FILTER BAG, OR OTHER COMPARABLE PRACTICE, PRIOR TO DISCHARGE.

NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.

ALL PROCESS WASTEWATER (EQUIPMENT WASHING, LEACHATE FROM ON-SITE WASTE DISPOSAL, ETC.) SHALL BE COLLECTED AND DISPOSED OF AT A PUBLICLY OWNED TREATMENT WORKS.

ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH ALL LOCAL EROSION/SEDIMENT CONTROL, WASTE DISPOSAL, SANITARY AND HEALTH REGULATIONS.

OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND IMPLEMENTATION OF ADDITIONAL EROSION CONTROL ITEMS, AT THE ENGINEER'S DISCRETION.

NO SOIL, ROCK, DEBRIS OR OTHER MATERIAL SHALL BE DUMPED OR PLACED IN ANY AREAS NOT ADEQUATELY PROTECTED BY EROSION CONTROL INSTALLATIONS.

IT IS PREFERRED TO USE PERMANENT EROSION CONTROL ITEMS AS SHOWN IN THE PLANS TO CONTROL CONSTRUCTION POLLUTION WHEN POSSIBLE. OTHERWISE, THE TEMPORARY POLLUTION PREVENTION ITEMS ARE TO BE USED.

MOST TEMPORARY S&EC METHODS, INCLUDING BUT NOT LIMITED TO, SILT FENCE AND DITCH CHECKS MAY ALL HAVE TO BE PERIODICALLY REMOVED AND REPLACED, OR MOVED FROM THE EXISTING ROAD DITCH OR STRIPPED AREAS AS WORK PROGRESSES. ANY CHANGES SHALL BE NOTED IN THE PLAN BY RED LINE AND DATED ON A CORRECTIVE ACTION LOG.

ALL TEMPORARY SEDIMENT CONTROLS AND STORM WATER QUALITY METHODS WILL BE BUILT/INSTALLED AS THE PROJECT PROGRESSES TO ELIMINATE UNNECESSARY DISTURBANCE AND REDUNDANCY. ALL TEMPORARY CONTROLS SHALL BE IN PLACE AND FUNCTIONING PROPERLY WHEN THREATENING WEATHER IS IMMINENT.

"TEMPORARY STABILIZATION" MEANS THE ESTABLISHMENT OF TEMPORARY VEGETATION, MULCHING, GEOTEXTILES, SOD, PRESERVATION OF EXISTING VEGETATION AND OTHER TECHNIQUES CAPABLE OF QUICKLY ESTABLISHING COVER OVER DISTURBED AREAS TO PROVIDE EROSION CONTROL BETWEEN CONSTRUCTION OPERATIONS.

"PERMANENT STABILIZATION" MEANS THE ESTABLISHMENT OF PERMANENT VEGETATION, DECORATIVE LANDSCAPE MULCHING, MATTING, SOD, RIP RAP AND LANDSCAPING TECHNIQUES TO PROVIDE PERMANENT EROSION CONTROL ON AREAS WHERE CONSTRUCTION OPERATIONS ARE COMPLETE OR WHERE NO FURTHER DISTURBANCE IS EXPECTED FOR AT LEAST A YEAR.

OFF-SITE TRACKING OF SEDIMENTS SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. ALL PAVED STREETS ADJACENT TO THE SITE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARP.

STABILIZATION PRACTICES

PERMANENT SEEDING AND MULCHING STABILIZATION SHALL BE PROVIDED PER OEPA GUIDELINES AS SET FORTH IN PART II.B OF OHIO EPA PERMIT NO.: OHC000006. (SEE TABLE 1)

TABLE 1: PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

TEMPORARY SEEDING AND MULCHING STABILIZATION SHALL BE PROVIDED PER OEPA GUIDELINES AS SET FORTH IN PART II.B OF OHIO EPA PERMIT NO.: OHC000006. (SEE TABLE 2)

TABLE 2: TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITH 50 FEET OF A SURFACE WATER OF THE STATE AND NOT AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A SURFACE WATER OF THE STATE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S).
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER

ALL TEMPORARY EROSION AND SEDIMENT CONTROL INSTALLATIONS SHALL BE REMOVED WHEN 70% VEGETATION HAS BEEN REACHED.

SEEDING & MULCHING

MULCH AND/OR OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN 14 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.

MULCH SHALL CONSIST OF UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/AC. OR 90 LB./1000 SQ. FT. (TWO TO THREE BALES). THE STRAW MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1000-SQ.-FT. SECTIONS AND PLACE TWO 45-LB. BALES OF STRAW IN EACH SECTION.

MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH:
1. MECHANICAL-USE A DISK, CRIMPER, OR SIMILAR TYPE TOOL SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT BE LEFT GENERALLY LONGER THAN 6 IN.
2. MULCH NETTINGS-USE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING SUGGESTIONS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
3. SYNTHETIC BINDERS-FOR STRAW MULCH, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER. ALL APPLICATIONS OF SYNTHETIC BINDERS MUST BE CONDUCTED IN SUCH A MANNER WHERE THERE IS NO CONTACT WITH WATERS OF THE STATE.
4. WOOD CELLULOSE FIBER - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB./ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB./100 GAL. OF WOOD CELLULOSE FIBER.

TEMPORARY SEEDING & MULCHING FOR EROSION CONTROL

SEED TYPE	PER 1,000 SQ FT	PER ACRE
PERENNIAL RYEGRASS TALL FESCUE ANNUAL RYEGRASS	1 POUND 1 POUND 1 POUND	40 POUNDS 40 POUNDS 40 POUNDS
SMALL GRAIN STRAW	90 POUNDS	2 TONS
FERTILIZER	6 POUNDS OF 10-10-10 OR 12-12-12	250 POUNDS OF 10-10-10 OR 12-12-12

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED

STOCKPILE

SILT FENCING SHALL BE INSTALLED AROUND TEMPORARY SPOIL STOCKPILES. THESE STOCKPILES SHALL BE STRAW MULCHED AND/OR TEMPORARILY SEEDED WITHIN 7 WORKING DAYS IF LEFT DORMANT FOR 14 DAYS OR LONGER.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, CONSTRUCTION ENTRANCE(S) AND SILT FENCE WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. SEDIMENT CONTROL DEVICES SHALL BE IMPLEMENTED FOR ALL AREAS REMAINING DISTURBED LONGER THAN 14 DAYS AND/OR WITHIN 7 DAYS OF ANY GRUBBING ACTIVITIES. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 14 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 2 DAYS OF THE LAST DISTURBANCE IF THE AREA IS WITHIN 50 FEET OF A STREAM, AND WITHIN 7 DAYS OF THE LAST DISTURBANCE IF THE AREA IS MORE THAN 50 FEET AWAY FROM A STREAM. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE BASIN.

STABILIZATION TYPE	J	F	M	A	M	J	J	A	S	O	N	D
PERMANENT SEEDING			●	●	●	*	*	*	●	●		
DORMANT SEEDING	●	●	●							●	●	●
TEMPORARY SEEDING			●	●	●	*	*	*	●	●		
SODDING			**	**	**	**	**	**	**			
MULCHING	●	●	●	●	●	●	●	●	●	●	●	●

* IRRIGATION NEEDED

** IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SOD IS APPLIED

INSPECTIONS

ALL BMPS ON THIS SITE SHALL BE INSPECTED BY "QUALIFIED INSPECTION PERSONNEL" ASSIGNED BY THE CONTRACTOR OR DESIGNATED REPRESENTATIVE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND BY THE END OF THE NEXT CALENDAR DAY, EXCLUDING WEEKENDS AND HOLIDAYS UNLESS WORK IS SCHEDULED, AFTER A RAIN EVENT OF 0.5 INCHES PER 24 HOUR PERIOD. A RECORD OF THESE INSPECTIONS SHALL BE MAINTAINED IN THE CONSTRUCTION OFFICE WITH THE SWPPP FOR PUBLIC VIEWING. ANY VIOLATIONS WILL BE REPORTED THROUGH THE PROJECT PERSONNEL. A RAIN GAUGE WILL BE LOCATED WITHIN THE PROJECT LIMITS.

FOLLOWING EACH INSPECTION, A CHECKLIST MUST BE COMPLETED AND SIGNED BY THE QUALIFIED INSPECTION PERSONNEL REPRESENTATIVE. AT A MINIMUM, THE INSPECTION REPORT SHALL INCLUDE:
1. THE INSPECTION DATE;
2. NAMES, TITLES, AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION;
3. WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION (OR SINCE COMMENCEMENT OF CONSTRUCTION ACTIVITY IF THE FIRST INSPECTION) INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT, DURATION OF EACH STORM EVENT, APPROXIMATE AMOUNT OF RAINFALL FOR EACH STORM EVENT (IN INCHES), AND WHETHER ANY DISCHARGES OCCURRED;
4. WEATHER INFORMATION AND A DESCRIPTION OF ANY DISCHARGES OCCURRING AT THE TIME OF THE INSPECTION;
5. LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE;
6. LOCATION(S) OF BMPS THAT NEED TO BE MAINTAINED;
7. LOCATION(S) OF BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION;
8. LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION; AND
9. CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO THE SWP3 NECESSARY AND IMPLEMENTATION DATES.

MAINTENANCE

THE CONTRACTOR SHALL MAINTAIN, REPAIR, OR REPLACE ALL EROSION CONTROL INSTALLATIONS AS NEEDED TO ENSURE THE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL REPAIRS TO BMPS SHALL BE MADE WITHIN 3 DAYS (OR SOONER IF POSSIBLE) OF NOTIFICATION OF DEFICIENCIES. IF THE CORRECTIONS ARE NOT MADE WITHIN THE 3 DAY PERIOD, LIQUIDATED DAMAGES MAY BE ASSESSED AS PER THE ODOT CMS SECTION 108.07.

ONGOING INSPECTION OF INSTALLATIONS WILL BE PERFORMED BY THE CONTRACTOR OR DESIGNATED REPRESENTATIVE.

ANY TRAPPED SEDIMENT OR DEBRIS REMOVED DURING CLEANING OF OR REMOVAL OF BMP INSTALLATIONS SHALL BE PLACED IN AREAS NOT SUBJECT TO EROSION AND PERMANENTLY STABILIZED.

DUST CONTROL

DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE.

THE FOLLOWING SPECIFICATIONS FOR DUST CONTROL SHALL BE FOLLOWED ONSITE:
1. VEGETATIVE COVER AND/MULCH - APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 14 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING; PERMANENT SEEDING; MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.
2. WATERING - SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.
3. SPRAY-ON ADHESIVES - APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURERS' INSTRUCTIONS.

ADHESIVE	WATER DILUTION (ADHESIVE: WATER)	NOZZLE TYPE	APPLICATION RATE (GAL/AC)
LATEX EMULSION	12.5:1	FINE	235
RESIN IN WATER ACRYLIC EMULSION (NO TRAFFIC)	4:1	FINE	300
ACRYLIC EMULSION (NO TRAFFIC)	7:1	COARSE	450
ACRYLIC EMULSION (TRAFFIC)	3.5:1	COARSE	350

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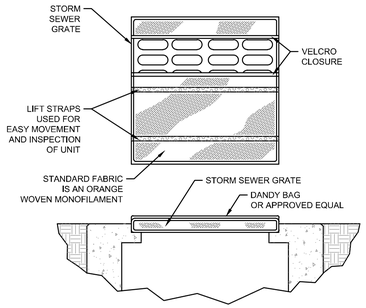
GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: MGP / CM	JOB NUMBER: DNR-250004
DRAWN BY: MGP / CM	SCALE: AS NOTED
CHECKED BY: MS	DATE: 08/28/2025
APPROVED BY:	BID DOCUMENTS

EROSION CONTROL NOTES

C201



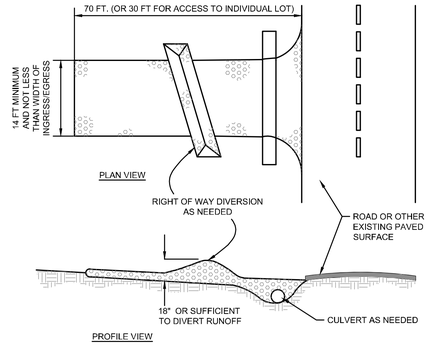
SPECIFICATIONS

MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
GRAB TENSILE STRENGTH	ASTM D 4632	KN (LBS)	1.62 (365) X 0.89 (200)
GRAB TENSILE ELONGATION	ASTM D 4632	%	24 X 10
PUNCTURE STRENGTH	ASTM D 4833	KN (LBS)	0.40 (90)
MULLEN BURST STRENGTH	ASTM D 3786	KPA (PSI)	3097 (450)
TRAPEZOID TEAR STRENGTH	ASTM D 4533	KN (LBS)	0.51 (115) X 0.33 (75)
UV RESISTENCE	ASTM D 4355	%	90
APPARENT OPENING SIZE	ASTM D 4751	MM (US STD SIEVE)	0.425 (40)
FLOW RATE	ASTM D 4491	1/MIN/M² (GAL/MIN/FT²)	5907 (145)
PERMITTIVITY	ASTM D 4491	SEC⁻¹	2.1

INSTALLATION: THE EMPTY DANDY BAG SHOULD BE PLACED OVER THE GRATE AS THE GRATE STANDS ON END. IF USING OPTIONAL OIL ABSORBENTS: PLACE ABSORBENT PILLOW IN POUCH, ON THE BOTTOM (BELOW-GRADE SIDE) OF THE UNIT. ATTACH ABSORBENT PILLOW TO TETHER LOOP. TUCK THE ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING DEVICES (DO NOT RELY ON LIFTING DEVICES TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO ITS FRAME.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE DANDY BAG AS NEEDED. IF USING OPTIONAL OIL ABSORBENTS; REMOVE AND REPLACE ABSORBENT PILLOW WHEN NEAR SATURATION.

1 DANDY BAG
N.T.S.



PROFILE VIEW

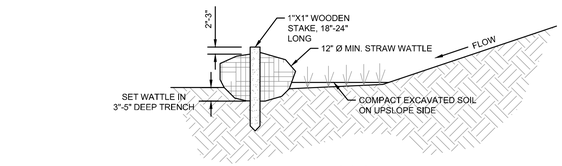
NOTES

1. STONE SIZE - ODOT #2 (1.5-2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY 30 FT. MINIMUM TO SINGLE RESIDENCE LOTS).
3. THICKNESS - THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10 INCHES FOR HEAVY DUTY USE.
4. WIDTH - THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE - A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE ARE PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:

MINIMUM TENSILE STRENGTH	200 LBS
MINIMUM PUNCTURE STRENGTH	80 LBS
MINIMUM TEAR STRENGTH	50 LBS
MINIMUM BURST STRENGTH	320 PSI
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS< 0.6MM
PERMITTIVITY	1X10⁻²CM/SEC

6. TIMING - THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
7. CULVERT - A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEED ED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
8. WATER BAR - A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
9. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. THE USE OF WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES. TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND, MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVE IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
10. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
11. REMOVAL - THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

2 CONSTRUCTION ENTRANCE
N.T.S.



SECTION

NOTES:

1. MATERIALS – WATTLE SHALL BE COMPOSED OF 100% WEED FREE AGRICULTURAL STRAW AND/OR COCONUT FIBER BE WRAPPED IN TUBULAR UV STABILIZED SYNTHETIC NET.
2. THE NETTING WEIGHT SHALL BE APPROXIMATELY 0.35 OUNCES/LINEAR FT. AND SHALL BE MADE FROM HDPE (HIGH DENSITY POLYETHYLENE) PHOTODEGRADABLE ORIENTED NET WITH UV INHIBITION. THE NETTING SHALL HAVE A DIAMOND SHAPED APERTURE MEASURING 0.50 X 0.50 INCHES (1.27 X 1.27 CM).
3. THE WATTLE ENDS WILL BE SECURED WITH CLOSURES.
4. MINIMUM WATTLE DIAMETER IS 12 INCHES AND SHALL HAVE A MINIMUM WEIGHT OF 2.5 LBS/LF.

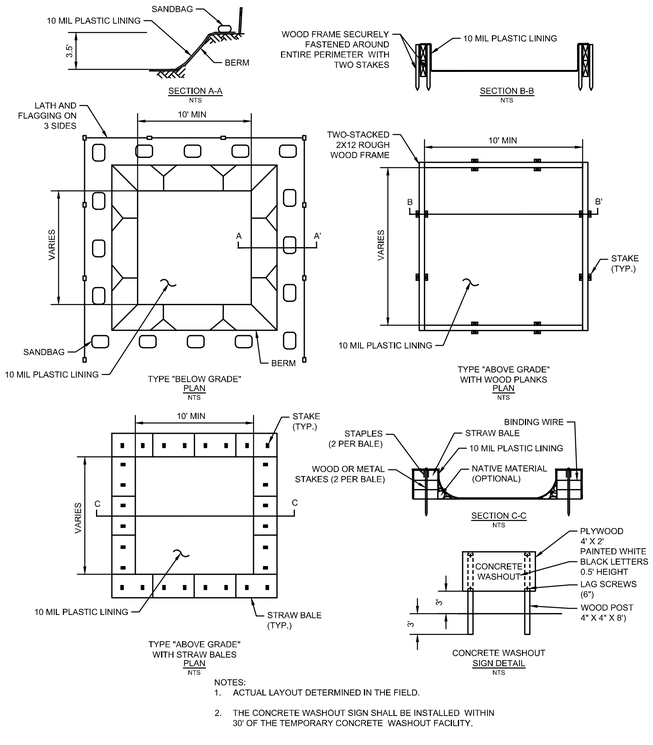
INSTALLATION:

5. WATTLES WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA, ON SLOPES APPROACHING 2:1, ADDITIONAL WATTLES SHALL BE PROVIDED AT THE TOP AND AS NEEDED MIDSLOPE.
6. USE A HAND TOOL SUCH AS A MADDOX OR PICK TO SCORE THE GROUND. USING A SHOVEL, DIG THE TRENCH TO THE NEEDED DEPTH. SOIL FROM EXCAVATING THE TRENCHES CAN BE PLACED ON THE UPHILL, OR FLOW SIDE, OF THE TRENCH TO BE USED DURING INSTALLATION.
7. LAY THE FIRST STRAW WATTLE SNUGLY IN THE TRENCH. NO DAYLIGHT SHOULD BE SEEN UNDER THE WATTLE. PACK SOIL FROM TRENCHING AGAINST THE WATTLE ON THE UPHILL SIDE. WHEN INSTALLING RUNNING LENGTHS OF STRAW WATTLES, BUTT THE SECOND WATTLE TIGHTLY AGAINST THE FIRST WATTLE. DO NOT OVERLAP THE ENDS ON TOP OF EACH OTHER. STAKE THE STRAW WATTLES AT EACH END AND 3-4 FEET ON CENTER.
8. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE, LEAVING 2-3 INCHES OF THE STAKE PROTRUDING ABOVE THE WATTLE. WHEN STRAW WATTLES ARE USED FOR FLAT GROUND APPLICATIONS, DRIVE THE STAKES STRAIGHT DOWN; WHEN INSTALLING WATTLES ON SLOPES, DRIVE THE STAKES PERPENDICULAR TO THE SLOPE.
9. WATTLES ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.

MAINTENANCE:

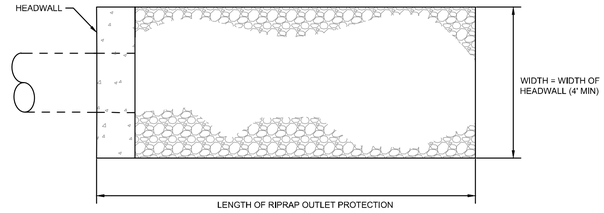
10. ROUTINELY INSPECT WATTLES AFTER EACH SIGNIFICANT RAIN, MAINTAINING WATTLES IN A FUNCTIONAL CONDITION AT ALL TIMES.
11. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE WATTLES WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE PRACTICE.
12. WHERE THE WATTLE DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.
13. REMOVAL – WATTLES WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH AS WAY AS TO FACILITATE AND NOT OBSTRUCT SEEDINGS.

3 STRAW WATTLE
N.T.S.

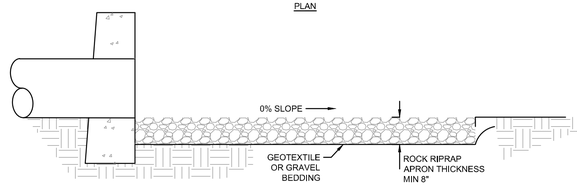


NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

4 CONSTRUCTION WASHOUT
N.T.S.



PLAN

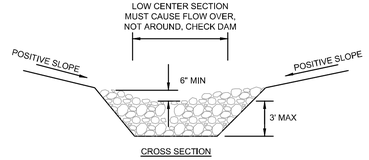


PROFILE

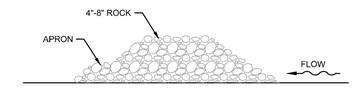
NOTES:

1. SUBGRADE FOR THE FILTER OR BEDDING AND RIPRAP SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES AS SHOWN ON THE PLAN. THE SUBGRADE SHALL BE CLEARED OF ALL TREES, STUMPS, ROOTS, SOD, LOOSE ROCK, OR OTHER MATERIAL.
2. RIPRAP SHALL CONFORM TO THE GRADING LIMITS AS SHOWN ON THE PLAN.
3. GEOTEXTILE SHALL BE SECURELY ANCHORED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS.
4. GEOTEXTILE SHALL BE LAID WITH THE LONG DIMENSION PARALLEL TO THE DIRECTION OF FLOW AND SHALL BE LAID LOOSELY BUT WITHOUT WRINKLES AND CREASES. WHERE JOINTS ARE NECESSARY, STRIPS SHALL BE PLACED TO PROVIDE A 12-IN. MINIMUM OVERLAP, WITH THE UPSTREAM STRIP OVERLAPPING THE DOWNSTREAM STRIP.
5. GRAVEL BEDDING SHALL BE ODOT NO. 67'S OR 57'S UNLESS SHOWN DIFFERENTLY ON THE DRAWINGS.
6. RIPRAP MAY BE PLACED BY EQUIPMENT BUT SHALL BE PLACED IN A MANNER TO PREVENT SLIPPAGE OR DAMAGE TO THE GEOTEXTILE.
7. RIPRAP SHALL BE PLACED BY A METHOD THAT DOES NOT CAUSE SEGREGATION OF SIZES. EXTENSIVE PUSHING WITH A DOZER CAUSES SEGREGATION AND SHALL BE AVOIDED BY DELIVERING RIPRAP NEAR ITS FINAL LOCATION WITHIN THE CHANNEL.
8. CONSTRUCTION SHALL BE SEQUENCED SO THAT OUTLET PROTECTION IS PLACED AND FUNCTIONAL WHEN THE STORM DRAIN, CULVERT, OR OPEN CHANNEL ABOVE IT BECOMES OPERATIONAL.
9. ALL DISTURBED AREAS WILL BE VEGETATED AS SOON AS PRACTICAL.

5 ROCK OUTLET PROTECTION
N.T.S.



CROSS SECTION



PROFILE

NOTES:

1. THE CHECK DAM SHALL BE CONSTRUCTED OF 4-8 INCH DIAMETER STONE, PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL. ODOT TYPE D STONE IS ACCEPTABLE, BUT SHOULD BE UNDERLAIN WITH A GRAVEL FILTER CONSISTING OF ODOT NO. 3 OR 4 OR SUITABLE FILTER FABRIC.
2. MAXIMUM HEIGHT OF CHECK DAM SHALL NOT EXCEED 3.0 FEET.
3. THE MIDPOINT OF THE ROCK CHECK DAM SHALL BE A MINIMUM OF 6 INCHES LOWER THAN THE SIDES IN ORDER TO DIRECT ACROSS THE CENTER AND AWAY FROM THE CHANNEL SIDES.
4. THE BASE OF THE CHECK DAM SHALL BE ENTRENCHED APPROXIMATELY 6 INCHES.
5. SPACING OF CHECK DAMS SHALL BE IN A MANNER SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
6. A SPLASH APRON SHALL BE CONSTRUCTED WHERE CHECK DAMS ARE EXPECTED TO BE IN USE FOR AN EXTENDED PERIOD OF TIME. A STONE APRON SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE CHECK DAM TO PREVENT FLOWS FROM UNDERCUTTING THE STRUCTURE. THE APRON SHOULD BE 6 IN. THICK AND ITS LENGTH TWO TIMES THE HEIGHT OF THE DAM.
7. STONE PLACEMENT SHALL BE PERFORMED EITHER BY HAND OR MECHANICALLY AS LONG AS THE CENTER OF CHECK DAM IS LOWER THAN THE SIDES AND EXTENDS ACROSS ENTIRE CHANNEL.
8. SIDE SLOPES SHALL BE A MINIMUM OF 2:1.

MAINTENANCE

9. SEDIMENT SHALL BE REMOVED FROM BEHIND CHECK DAM ONCE IT ACCUMULATES TO ONE-HALF THE ORIGINAL HEIGHT OF THE CHECK DAM.

6 ROCK CHECK DAM
N.T.S.

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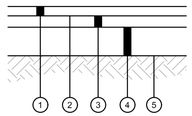
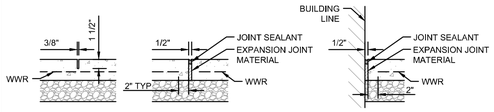
EROSION CONTROL DETAILS

C202

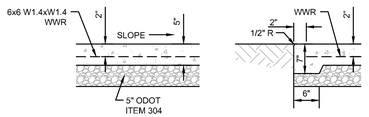


1. 1 1/2" ODOT ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22
2. ODOT ITEM 407 TACK COAT, APPLY IF TIME BETWEEN ASPHALT LIFTS EXCEEDS 30 DAYS
3. 2" ODOT ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448), PG64-22
4. 4" ODOT ITEM 304 AGGREGATE BASE
5. SUBGRADE COMPACTION, REFERENCE ODOT ITEM 204 AND SOILS REPORT

1 ASPHALT PAVING
N.T.S.



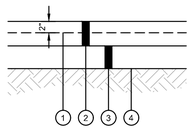
CONTROL JOINT | EXPANSION JOINT | WALK EDGE AT BUILDING LINE



WALK TYPICAL SECTION | WALK EDGE AT LAWN AREA

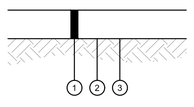
NOTES:
1. INSTALL EXPANSION JOINTS AT 30' OC MAXIMUM AND WHERE SLAB ABUTS STRUCTURES, WHERE NEW WALK ABUTS ADJOINING WALK, SAWCUT EXISTING WALK TO NEAREST JOINT AND INSTALL EXPANSION JOINT. EXPANSION JOINTS SHALL BE 1/2" WIDE BY DEPTH OF SLAB. SEAL ALL EXPANSION JOINTS.
2. INSTALL CONTROL JOINTS AS SHOWN AND AT 12' OC MAXIMUM. CONTROL JOINTS SHALL BE 3/8" WIDE BY 1 1/2" DEEP AND SAWED.
3. WALK SHALL HAVE A MINIMUM CROSS SLOPE OF 1.00%, MAXIMUM CROSS SLOPE OF 2.00%.
4. WATER AND UTILITY BOXES IN THE WALK AREA SHALL BE ADJUSTED FLUSH WITH THE FINAL SURFACE.
5. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL DETAIL AT ALL BUILDING DOORS.
6. JOINTING PLANS MUST BE SUBMITTED FOR APPROVAL.
7. SEE SPECIFICATION 32 13 16.

2 CONCRETE WALK
N.T.S.



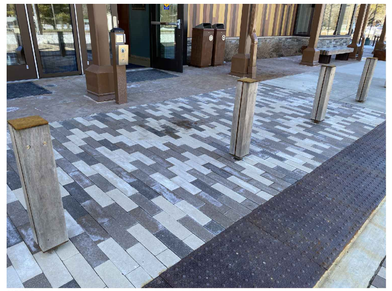
1. 6X6 W4XW4 WELDED WIRE REINFORCEMENT
2. 8" ODOT ITEM 452 NONREINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
3. 6" ODOT ITEM 304 AGGREGATE BASE
4. SUBGRADE COMPACTION, REFERENCE ODOT ITEM 204 AND SOILS REPORT

3 HEAVY DUTY CONCRETE PAVING
N.T.S.



1. 10" ODOT ITEM 304 AGGREGATE BASE
2. WOVEN GEOTEXTILE FABRIC, ODOT ITEM 712.09 TYPE D
3. SUBGRADE COMPACTION, REFERENCE ODOT ITEM 204 AND SOILS REPORT

4 GRAVEL PAVING
N.T.S.

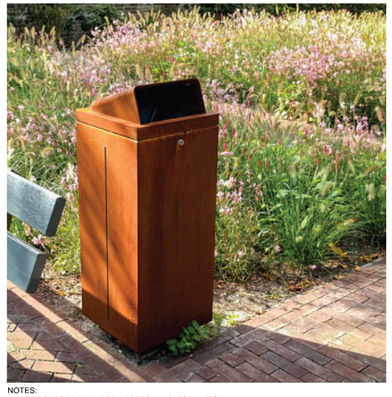


NOTES:
1. SEE SPEC 32 33 00 FOR ADDITIONAL INFORMATION.

5 BOLLARD
N.T.S.

NOTES:
1. SEE SPEC 32 33 00 FOR ADDITIONAL INFORMATION.

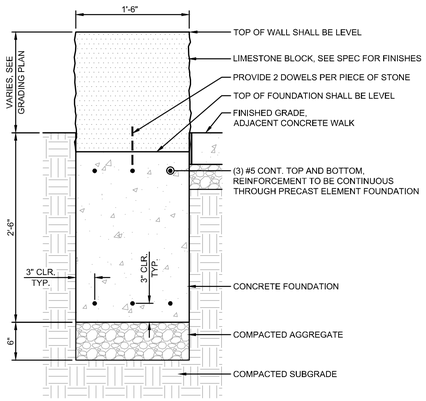
6 BIKE RACK
N.T.S.



NOTES:
1. SEE SPEC 32 33 00 FOR ADDITIONAL INFORMATION.

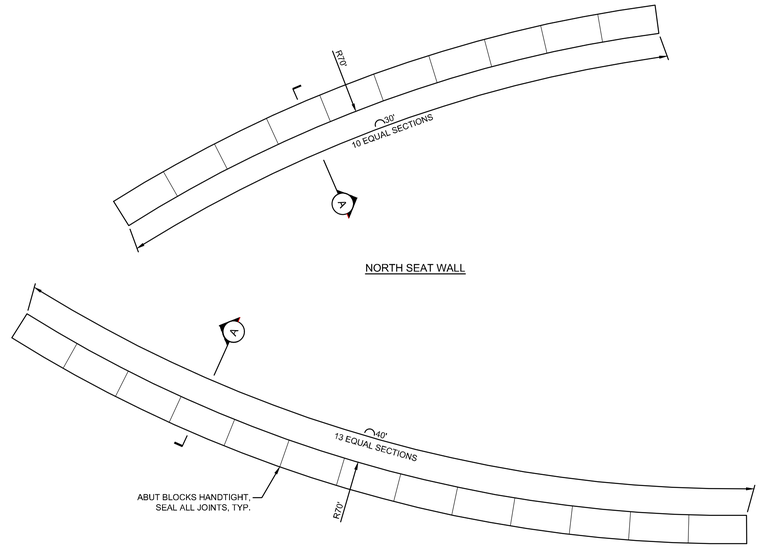
7 LITTER / RECYCLING RECEPTACLE
N.T.S.

NOTES:
1. SEE SPEC 32 32 53 FOR ADDITIONAL INFORMATION.



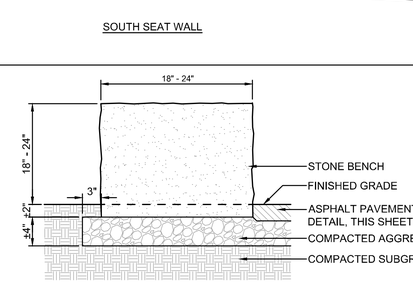
SECTION 'A'

8 SEAT WALL
N.T.S.



NOTES:
1. PROTECT EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND AND VEGETATION TO BE LEFT STANDING.
2. SIGNAGE SHALL CLEARLY IDENTIFY THE TREE AND NATURAL PRESERVATION AREA AND STATE THAT NO CLEARING OR EQUIPMENT IS ALLOWED WITHIN IT.
3. TREE AND NATURAL PRESERVATION AREA SHALL BE FENCED PRIOR TO BEGINNING CLEARING OPERATIONS.
4. FENCE MATERIALS SHALL BE METAL FENCE POSTS WITH SNOW FENCE.
5. FENCE SHALL BE PLACED AS SHOWN ON PLANS AND BEYOND THE DRIP LINE OR CANOPY OF TREES TO BE PROTECTED.
6. IF ANY CLEARING IS DONE AROUND SPECIMEN TREES IT SHALL BE DONE BY CUTTING AT GROUND LEVEL WITH HAND HELD TOOLS AND SHALL NOT BE GRUBBED OR PULLED OUT. NO CLEARING SHALL BE DONE IN BUFFER STRIPS OR OTHER PRESERVED FORESTED AREAS.
7. NO FILLING OR STOCKPILING OF MATERIALS SHALL OCCUR WITHIN THE TREE PROTECTION AREA, INCLUDING DEPOSITION OF SEDIMENT.
8. WHERE UTILITIES MUST RUN THROUGH A TREE'S DRIP LINE, TUNNELING SHOULD BE USED TO MINIMIZE ROOT DAMAGE. TUNNELING SHOULD BE AT A MINIMUM DEPTH OF 24 INCHES FOR TREES LESS THAN 12 INCHES IN DIAMETER OR AT A MINIMUM DEPTH OF 36 INCHES FOR LARGER DIAMETER TREES.
9. WHERE TUNNELING WILL BE PERFORMED WITHIN THE DRIP LINE OF A TREE, THE TUNNEL SHOULD BE PLACED A MINIMUM OF 2 FEET AWAY FROM THE TREE TRUNK TO AVOID TAPROOTS.
10. MINIMIZE EXCAVATION OR TRENCHING WITHIN THE DRIP LINE OF THE TREE. ROUTE TRENCHES AROUND THE DRIP LINE OF TREES.
11. ROOTS 2 INCHES OR LARGER THAT ARE SEVERED BY TRENCHING SHOULD BE SAWN OFF NEATLY IN ORDER TO ENCOURAGE NEW GROWTH AND DISCOURAGE DECAY.
12. SOIL EXCAVATED DURING TRENCHING SHALL BE PILED ON THE SIDE AWAY FROM THE TREE.
13. ROOTS SHALL BE KEPT MOIST WHILE TRENCHES ARE OPEN AND REFILLED IMMEDIATELY AFTER UTILITIES ARE INSTALLED OR REPAIRED.

9 TREE PROTECTION
N.T.S.



SECTION

NOTES:
1. RUSTIC BENCHES SUPPLIED BY PHILLIPS LAND IMPROVEMENT CENTER, 636 PHILLIPS DRIVE, BEAVERCREEK, OHIO 45434; PHONE: (937) 431-7701.
2. SIZE: 4' - 5' IN LENGTH, 18" - 24" IN HEIGHT AND WIDTH.
3. COLOR: RUST ORANGE, GREEN AND GRAY/TAN.

10 STONE BENCH
N.T.S.

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GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

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CHECKED BY: MS	DATE: 08/28/2025
APPROVED BY:	BID DOCUMENTS

SITE DETAILS

L100

62

GENERAL NOTES

1. **TREES REMOVAL IS ALLOWED ONLY BETWEEN OCTOBER 1 TO MARCH 31.**
2. EACH CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES.
3. SUBSURFACE IMPROVEMENTS SHALL BE OBSERVED. THE CONTRACTOR SHALL CONTACT THE OHIO UTILITIES PROTECTION SERVICE (OUPS) 48 HOURS PRIOR TO ANY EXCAVATION OR DIGGING TO ENSURE THE LOCATION OF UNDERGROUND UTILITIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT SUCH UNDERGROUND UTILITIES.
4. ALL CONCRETE FORMS SHALL BE FIELD STAKED AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO CONCRETE INSTALLATION.
5. ALL HORIZONTAL AND VERTICAL LAYOUT SHALL BE REVIEWED BY THE OWNER'S REPRESENTATIVE TO ENSURE GENERAL CONFORMANCE PRIOR TO CONSTRUCTION.
6. PROVIDE ISOLATION JOINT WHERE CONCRETE PAVING ABUTS BUILDINGS, COLUMNS, AND STRUCTURES. VERIFY COLOR OF SEALANT WITH OWNER'S REPRESENTATIVE.
7. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS, AREA DISCREPANCIES AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATIONS.
8. CONTRACTOR SHALL BE RESPONSIBLE TO CONSULT WITH SITE SUPERINTENDENT, APPROPRIATE AGENCIES, AND PLANS FOR LOCATION OF ALL UNDERGROUND UTILITIES, PIPES, AND STRUCTURES.
9. CONTRACTOR TO REPORT TO ENGINEER ANY ADDITIONAL UTILITY LINES FOUND DURING CONSTRUCTION.
10. ALL JOINTS TO BE 90° UNLESS OTHERWISE NOTED.
11. THE CONTRACTOR TO STAKE ALL SITE ELEMENTS WITH ELEVATIONS IN THE FIELD AND NOTIFY THE OWNER/LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO CONSTRUCTION.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION. ANY DAMAGE TO UTILITIES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
13. A DIGITAL FILE IN AUTOCAD FORMAT WILL BE PROVIDED UPON REQUEST TO THE CONTRACTOR FOR DIMENSIONS AND LAYOUT.

DEMOLITION LEGEND

- REMOVE ASPHALT PAVEMENT & BASE
- REMOVE CONCRETE PAVEMENT & BASE
- REMOVE GRAVEL PAVEMENT & BASE
- REMOVE LANDSCAPING
- REMOVE TREE, GRIND STUMP TO 12" BELOW FINISHED GRADE
- TP TREE PROTECTION, SEE DETAIL 9 / L100

CONSTRUCTION NOTES:

1. EXISTING GARAGE, PROTECT IN PLACE
2. REMOVE ELECTRIC POLES AND GUY WIRES, FILL VOID WITH BACKFILL, SEE ELECTRICAL PLANS
3. SALVAGE BOLLARDS AND RETURN TO OWNER
4. BREAK UP BOTTOM OF CISTERN AND BURY IN PLACE
5. EXISTING STONE WALL AND GATE, PROTECT IN PLACE
6. REMOVE EXISTING CATCH BASIN
7. APPROXIMATE LOCATION OF HOUSE FOUNDATION. REMOVE AND REPLACE WITH CONTROLLED FILL PER GEOTECH REPORT REQUIREMENTS. EXISTING FOOTPRINT IS 2330 SQUARE FEET AND CONTROLLED FILL REPLACEMENT DEPTH IS ASSUMED TO BE 10 FEET FOR BIDDING PURPOSES. APPROXIMATELY 865 CUBIC YARDS OF CONTROLLED FILL WILL BE NEEDED FOR THIS AREA.

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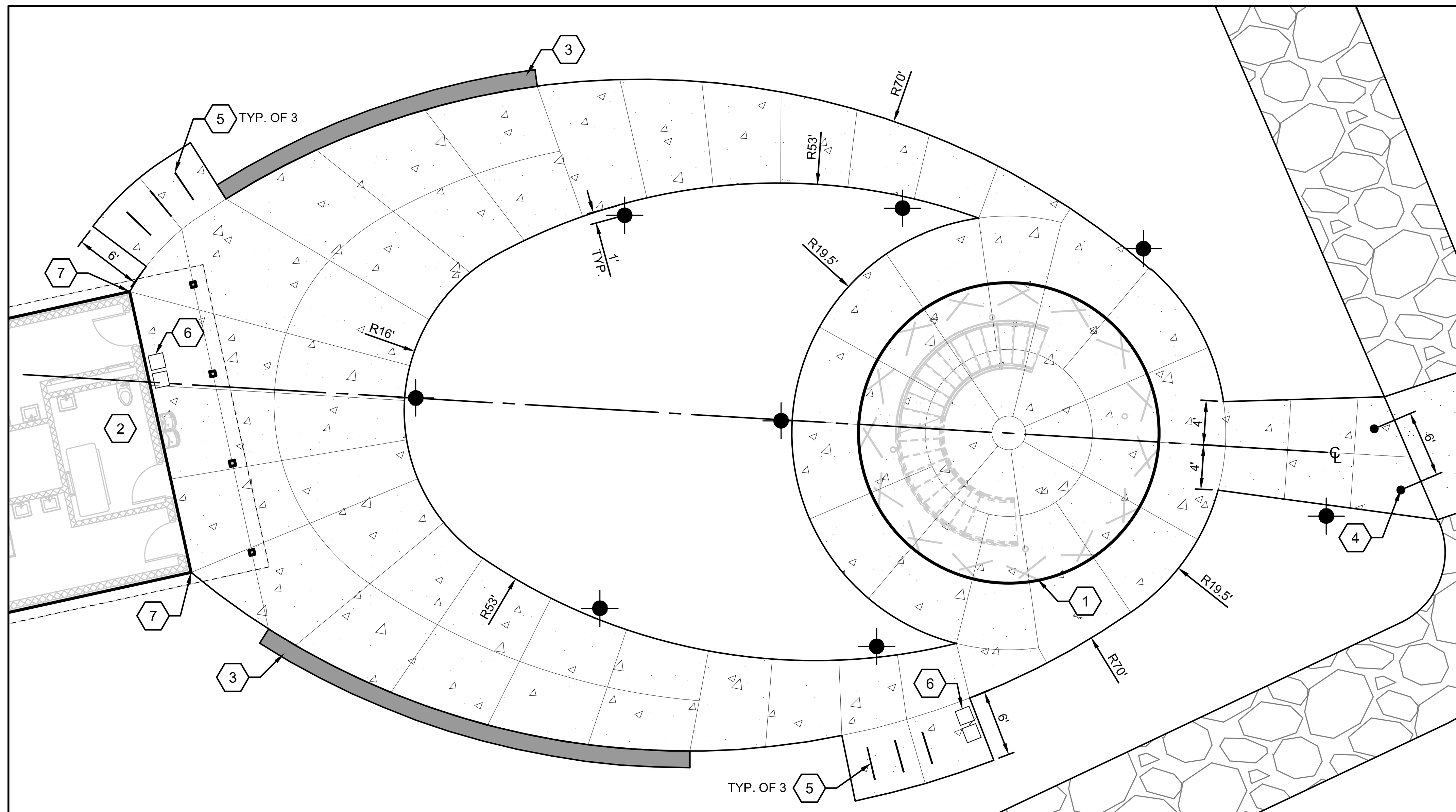
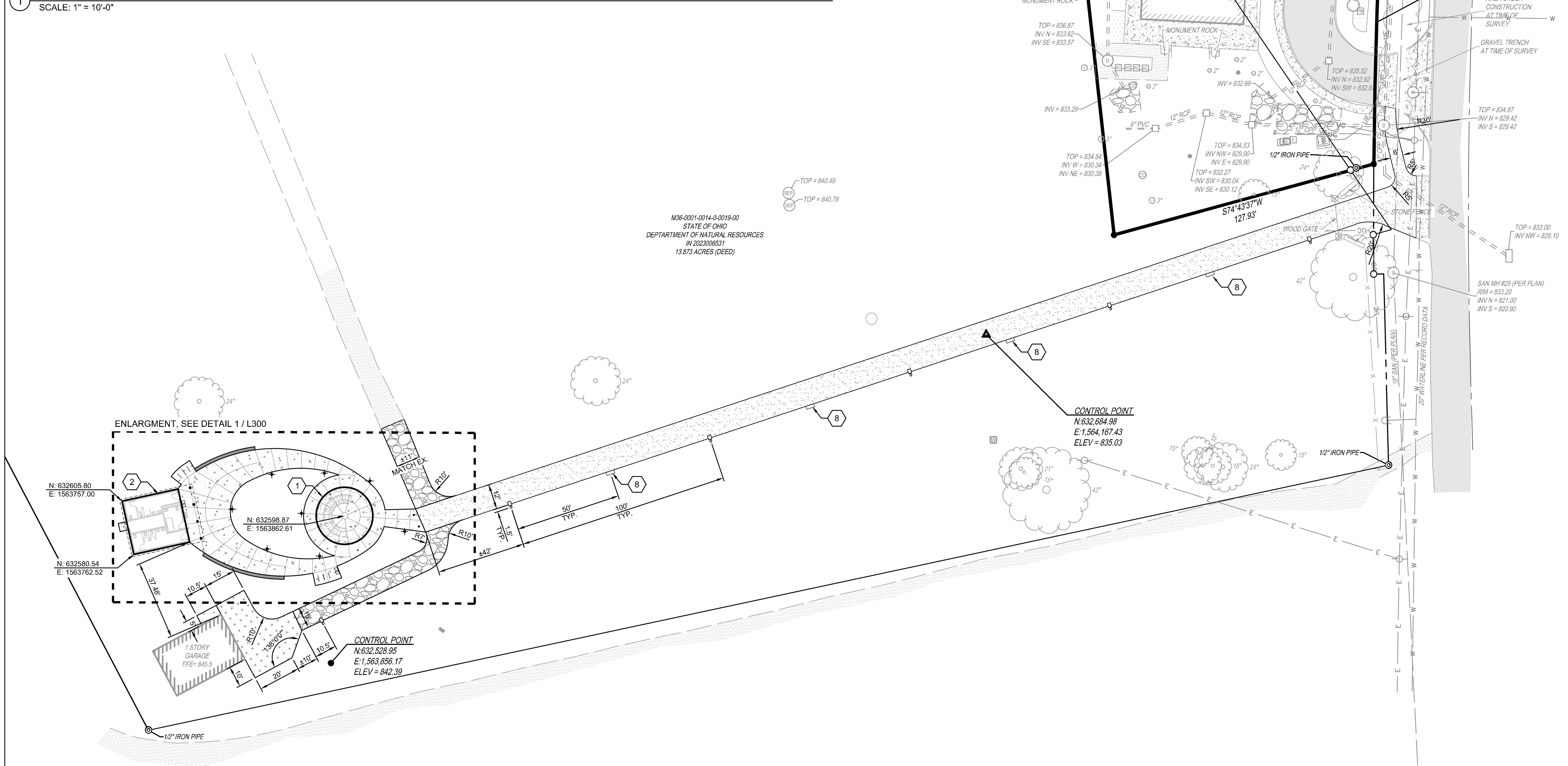
DEMOLITION PLAN

L200



1 ENLARGEMENT
SCALE: 1" = 10'-0"



GENERAL NOTES

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3. ALL CONCRETE FORMS SHALL BE FIELD STAKED AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO CONCRETE INSTALLATION.
4. ALL HORIZONTAL AND VERTICAL LAYOUT SHALL BE REVIEWED BY THE OWNER'S REPRESENTATIVE TO ENSURE GENERAL CONFORMANCE PRIOR TO CONSTRUCTION.
5. PROVIDE ISOLATION JOINT WHERE CONCRETE PAVING ABUTS BUILDINGS, COLUMNS, AND STRUCTURES. VERIFY COLOR OF SEALANT WITH OWNER'S REPRESENTATIVE.
6. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS, AREA DISCREPANCIES AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATIONS.
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12. A DIGITAL FILE IN AUTOCAD FORMAT WILL BE PROVIDED UPON REQUEST TO THE CONTRACTOR FOR DIMENSIONS AND LAYOUT.

LEGEND

- ASPHALT PAVING, SEE DETAIL 1 / L100 AND SPEC 32 12 16
- CONCRETE WALKS, BUFF WASH FINISH SEE DETAIL 2 / L100 AND SPEC 32 13 16
- HEAVY DUTY CONCRETE PAVEMENT, BROOM FINISH SEE DETAIL 3 / L100 AND SPEC 32 13 16
- GRAVEL PAVEMENT, SEE DETAIL 4 / L100
- PEDESTRIAN LIGHT, SEE ELECTRICAL PLANS
- BOLLARD LIGHT, SEE ELECTRICAL PLANS

CONSTRUCTION NOTES:

1. OBSERVATION TOWER, SEE ARCHITECTURE PLANS
2. RESTROOM FACILITY, SEE ARCHITECTURE PLANS
3. STONE SEAT WALL, SEE DETAIL 8 / L100
4. BOLLARD, TYPICAL OF 2. SEE DETAIL 5 / L100
5. BIKE RACK, TYPICAL. SEE DETAIL 6 / L100
6. LITTER AND RECYCLING RECEPTACLES, SEE DETAIL 7 / L100
7. PAVEMENT TO END AT CORNER OF BUILDING
8. STONE BENCH, SEE DETAIL 10 / L100

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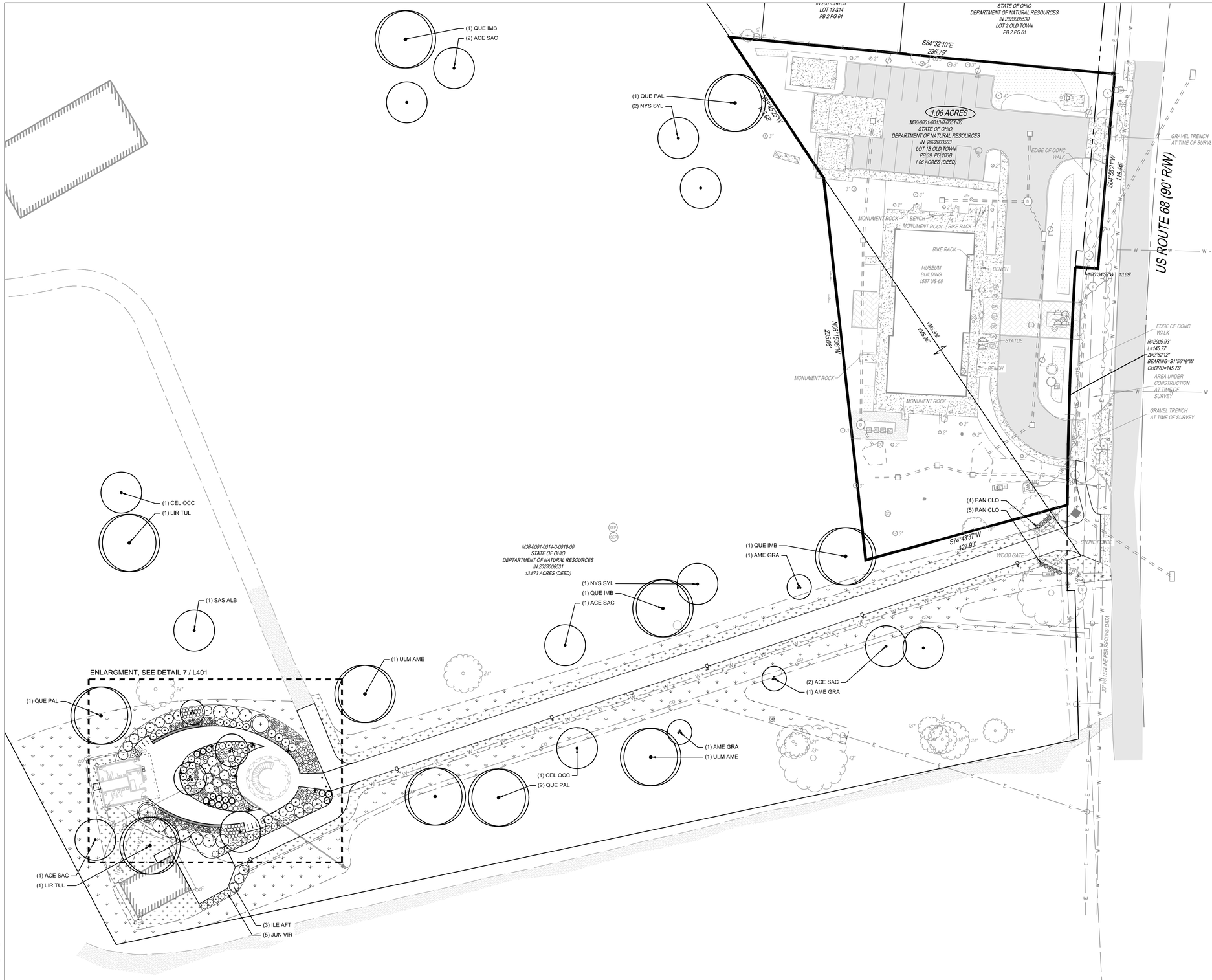
MATERIAL PLAN

L300



PLANTING NOTES

1. EACH CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES.
2. CONTRACTOR SHALL VERIFY ALL PLANTING CONDITIONS FOR OBSTRUCTIONS, EXISTING TREE CANOPY COVERAGE, AND OVERHEAD ELECTRICAL POWER LINES PRIOR TO PLANTING. IF ADVERSE PLANTING CONDITIONS ARE OBSERVED, CONTACT THE OWNERS REPRESENTATIVE IMMEDIATELY.
3. ALL SHRUB MASSES TO BE INCORPORATED BY A CONTINUOUS MULCH BED TO LIMITS SHOWN AND AS SPECIFIED. MULCH BEDS TO HAVE A NEAT, EDGED APPEARANCE.
4. SUBSURFACE IMPROVEMENTS SHALL BE OBSERVED. THE CONTRACTOR SHALL CONTACT THE OHIO UTILITIES PROTECTION SERVICE (OUPS) 48 HOURS PRIOR TO ANY EXCAVATION OR DIGGING TO ENSURE THE LOCATION OF UNDERGROUND UTILITIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT SUCH UNDERGROUND UTILITIES.
5. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE FINE GRADED AND SEEDED.
6. ALL TREES WITHIN A SPECIES SHALL HAVE MATCHING FORM.
7. THE CONTRACTOR SHALL ENSURE THAT ALL NEWLY PLANTED TREES ARE PERFECTLY ALIGNED AND SET PLUMB WITH PROPER RELATIONSHIP TO THE SURROUNDING GRADE. CONFIRM FINISHED GRADE PRIOR TO PLANTING.
8. ALL PLANT MATERIAL SHALL BE OF THE SIZE AND TYPE SPECIFIED. IF SUBSTITUTIONS ARE APPROVED BY THE OWNER'S REPRESENTATIVE, THE SIZE AND GRADING STANDARDS SHALL CONFORM TO THOSE OF AMERICANHORT.
9. PRIOR TO ORDERING PLANT MATERIAL, THE CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES AND NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN THE PLAN, LABELS, AND PLANT SCHEDULE.

LEGEND

- TURF GRASS, SEE SPEC 32 92 00
- MEADOW MIX, SEE SPEC 32 92 00
- DECIDUOUS TREE — 5 / L401
- EVERGREEN TREE — 6 / L401
- SHRUBS, ORNAMENTAL GRASSES, AND PERENNIALS — 2 - 4 / L401
- EXISTING TREE

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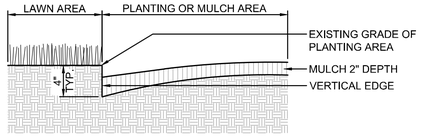
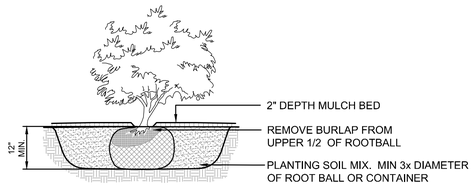
PLANTING PLAN

L400



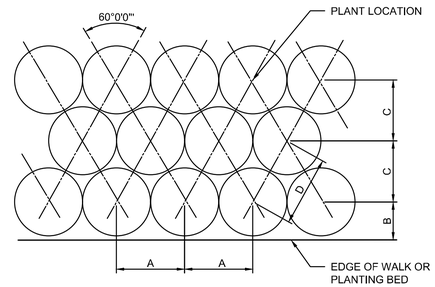
1 PLANTING BED / TREE PIT EDGING DETAIL
N.T.S.



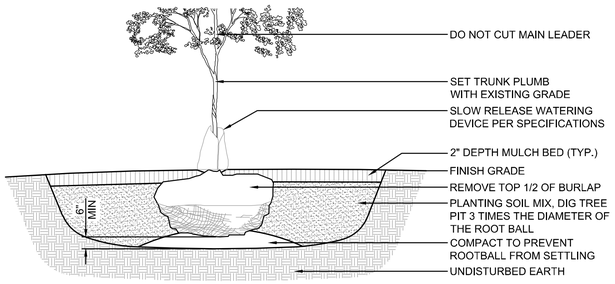
3 SHRUB PLANTING
N.T.S.

SPACING	A	B	C	D
12"	12"	6"	10"	12"
18"	18"	8"	15	18"
24"	24"	10"	20"	24"
30"	30"	15"	25"	30"
36"	36"	18"	31"	36"
48"	48"	21"	41"	48"

A = SPACING
B = SP/2
C = SP/1.2
D = SPACING

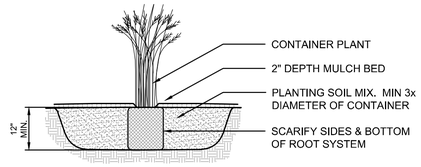


4 PLANT SPACING
N.T.S.

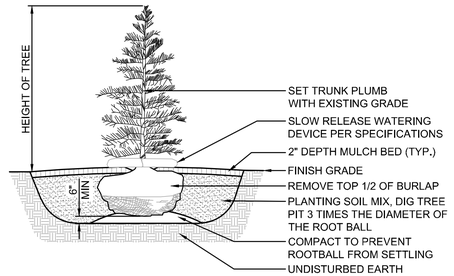


NOTES:
1. TOP OF ROOT BALL TO BE 2"-3" ABOVE ADJACENT FINISHED GRADE.
2. REMOVE ALL LABELS, TAGS, OR OTHER FOREIGN MATERIALS FROM LIMBS.
3. THE AMOUNT OF PRUNING SHALL BE LIMITED TO THE MINIMUM NECESSARY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES AND TO COMPENSATE FOR THE LOSS OF ROOTS DURING TRANSPLANTING. RETAIN NORMAL SHAPE OF TREE. OWNER'S REPRESENTATIVE WILL DETERMINE AMOUNT OF PRUNING NECESSARY. PLANT TREES AT SAME GRADE AS GROWN IN THE NURSERY.
4. DO NOT STAKE AND GUY TREES UNLESS NEEDED FOR STABILITY BASED ON SITE CONDITIONS OR A DIRECTED BY OWNER'S REPRESENTATIVE.
5. PROVIDE SLOW RELEASE WATERING DEVICE. ONE PER TREE. REFER TO SPECIFICATIONS.

5 DECIDUOUS TREE PLANTING WITH WATERING DEVICE
N.T.S.

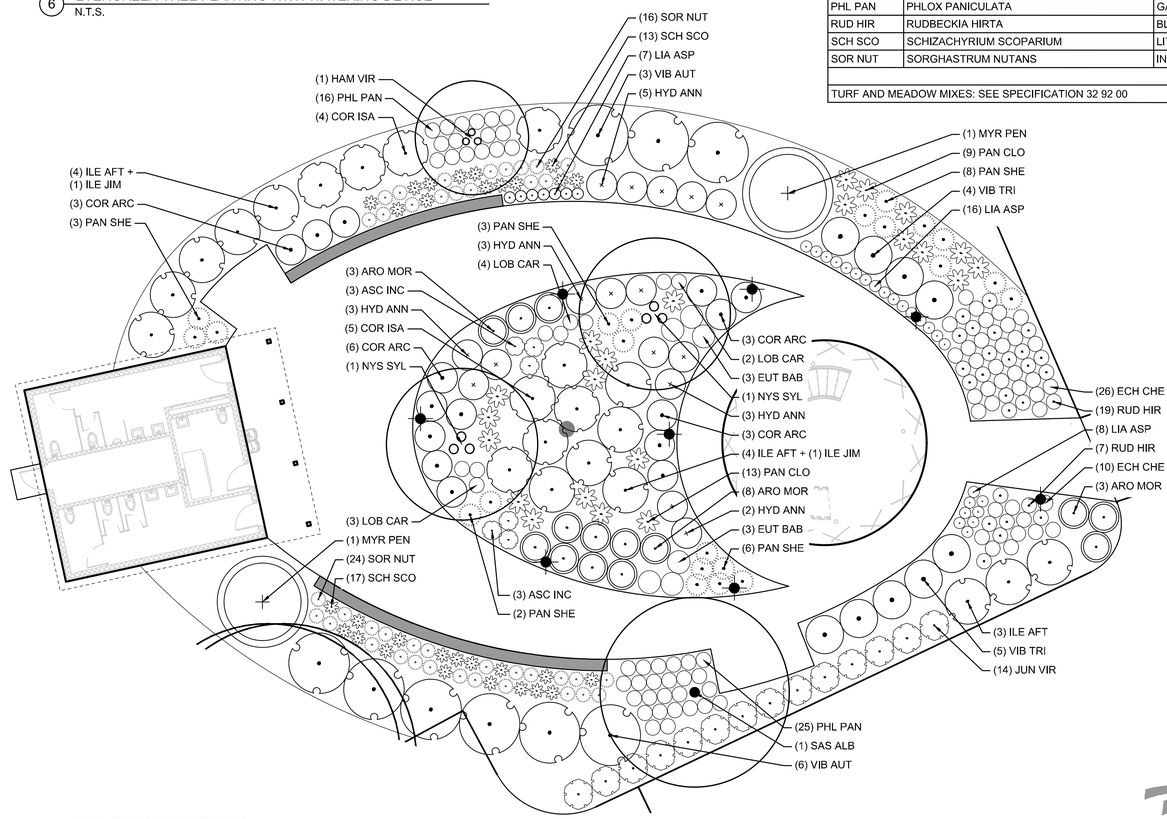


2 PERENNIAL / ORNAMENTAL GRASS PLANTING
N.T.S.



NOTES:
1. SEE NOTES ON DETAIL 5, THIS SHEET.

6 EVERGREEN TREE PLANTING WITH WATERING DEVICE
N.T.S.



7 PLANTING ENLARGEMENT
SCALE: 1" = 10'-0"

PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
DECIDUOUS TREES:					
ACE SAC	ACER SACCHARUM 'GREEN MOUNTAIN'	GREEN MOUNTAIN SUGAR MAPLE	3" CAL. MIN.	B&B	
AME GRA	AMELANCHIER x GRANDIFLORA	APPLE SERVICEBERRY	8' HT. MIN.	B&B	MULTI-STEM
CEL OCC	CELTIS OCCIDENTALIS	HACKBERRY	3" CAL. MIN.	B&B	
HAM VIR	HAMAMELIS VIRGINIANA	COMMON WITCHHAZEL	5' HT. MIN.	B&B	MULTI-STEM
LIR TUL	LIRIODENDRON TULIPIFERA	TULIP TREE	3" CAL. MIN.	B&B	
NYS SYL	NYSSA SYLVATICA	BLACK GUM	3" CAL. MIN.	B&B	
QUE IMB	QUERCUS IMBRICARIA	SHINGLE OAK	3" CAL. MIN.	B&B	
QUE PAL	QUERCUS PALUSTRIS	PIN OAK	3" CAL. MIN.	B&B	
SAS ALB	SASSAFRAS ALBIDUM	SASSAFRAS	3" CAL. MIN.	B&B	
ULM AME	ULMUS AMERICANA 'NEW HARMONY'	NEW HARMONY ELM	3" CAL. MIN.	B&B	
EVERGREEN TREES:					
JUN VIR	JUNIPERUS VIRGINIANA 'EMERALD SENTINEL'	EMERALD SENTINEL JUNIPER	6' HT. MIN.	B&B	PLANT 4' O.C.
SHRUBS:					
ARO MOR	ARONIA MELANOCARPA 'MORTON'	IROQUOIS BEAUTY CHOKEBERRY	24" HT. MIN.	CONT.	PLANT 4' O.C.
COR ARC	CORNUS SERICEA 'ARCTIC FIRE'	ARCTIC FIRE RED TWIG DOGWOOD	24" HT. MIN.	CONT.	PLANT 4' O.C.
COR ISA	CORNUS SERICEA 'ISANTI'	ISANTI RED TWIG DOGWOOD	24" HT. MIN.	CONT.	PLANT 6' O.C.
HYD ANN	HYDRANGEA ARBORESCENS 'ANNABELLE'	ANNABELLE HYDRANGEA	24" HT. MIN.	CONT.	PLANT 4' O.C.
ILE AFT	ILEX VERTICILLATA 'AFTERGLOW'	AFTERGLOW WINTERBERRY	30" HT. MIN.	CONT.	PLANT 6' O.C.
ILE JIM	ILEX VERTICILLATA 'JIM DANDY'	JIM DANDY WINTERBERRY	30" HT. MIN.	CONT.	PLANT 6' O.C.
MYR PEN	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	30" HT. MIN.	CONT.	PLANT AS SHOWN
VIB AUT	VIBURNUM DENTATUM 'AUTUMN JAZZ'	AUTUMN JAZZ VIBURNUM	5' HT. MIN.	B&B	PLANT 6' O.C.
VIB TRI	VIBURNUM TRILOBUM 'COMPACTUM'	COMPACT AMERICAN CRANBERRY BUSH	24" HT. MIN.	B&B	PLANT 5' O.C.
PERENNIALS AND ORNAMENTAL GRASSES:					
ASC INC	ASCLEPIAS INCARNATA	SWAMP MILKWEED	#2	CONT.	PLANT 30" O.C.
ECH CHE	ECHINACEA PURPUREA 'CHEYENNE SPIRIT'	CHEYENNE SPIRIT PURPLE CONEFLOWER	#2	CONT.	PLANT 24" O.C.
EUT BAB	EUTROCHIUM DUBIUM 'BABY JOE'	BABY JOE PYE WEED	#2	CONT.	PLANT 36" O.C.
LIA ASP	LIATRIS ASPERA	BUTTON BLAZING STAR	#2	CONT.	PLANT 18" O.C.
LOB CAR	LOBELIA CARDINALIS	CARDINAL FLOWER	#2	CONT.	PLANT 24" O.C.
PAN CLO	PANICUM VIRGATUM 'CLOUD NINE'	CLOUD NINE SWITCH GRASS	#2	CONT.	PLANT 36" O.C.
PAN SHE	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	#2	CONT.	PLANT 36" O.C.
PHL PAN	PHLOX PANICULATA	GARDEN PHLOX	#2	CONT.	PLANT 24" O.C.
RUD HIR	RUDBECKIA HIRTA	BLACK EYED SUSAN	#2	CONT.	PLANT 24" O.C.
SCH SCO	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	#2	CONT.	PLANT 24" O.C.
SOR NUT	SORGHASTRUM NUTANS	INDIANGRASS	#2	CONT.	PLANT 24" O.C.
TURF AND MEADOW MIXES: SEE SPECIFICATION 32 92 00					

LEGEND

DECIDUOUS TREE	5 L401
EVERGREEN TREE	6 L401
SHRUBS, ORNAMENTAL GRASSES, AND PERENNIALS	2 - 4 L401
EXISTING TREE	

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Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: MGP / CM	JOB NUMBER: DNR-250004
DRAWN BY: MGP / CM	SCALE: AS NOTED
CHECKED BY: MS	DATE: 08/28/2025
APPROVED BY:	BID DOCUMENTS

PLANT SCHEDULE & DETAILS

L401

DEMOLITION - GENERAL NOTES

A. Items shown dashed are to be removed - typical. All shaded walls indicate existing construction to remain.

B. Remove ceilings referenced by coded notes.

C. Coodinate areas with enlarged plans and new work plans.

D. Coordinate all demolition work with New Work plans. Review New Work drawings to verify and/or determine extent of demolition prior to performing demolition work.

E. Refer to Mechanical, Plumbing, and Electrical plans for extent of equipment, fixtures, and ductwork to be removed. Remove abandoned or unused plumbing.

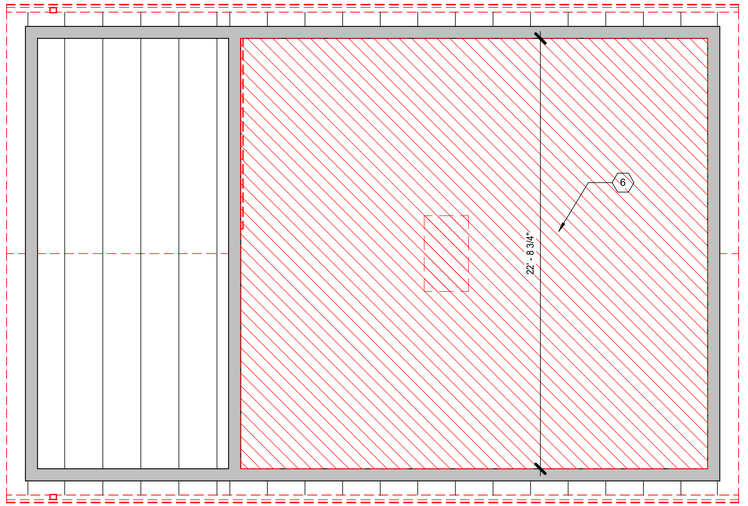
F. For all removed finishes, furnishings, casework and building elements the demolition shall include all mounting materials, adhesives, hardware, fasteners or other associated supporting elements of the construction.

G. At interior walls where doors and windows have been removed, patch back the opening to match the thickness and construciton of the adjacent wall surfaces as required for the new work.

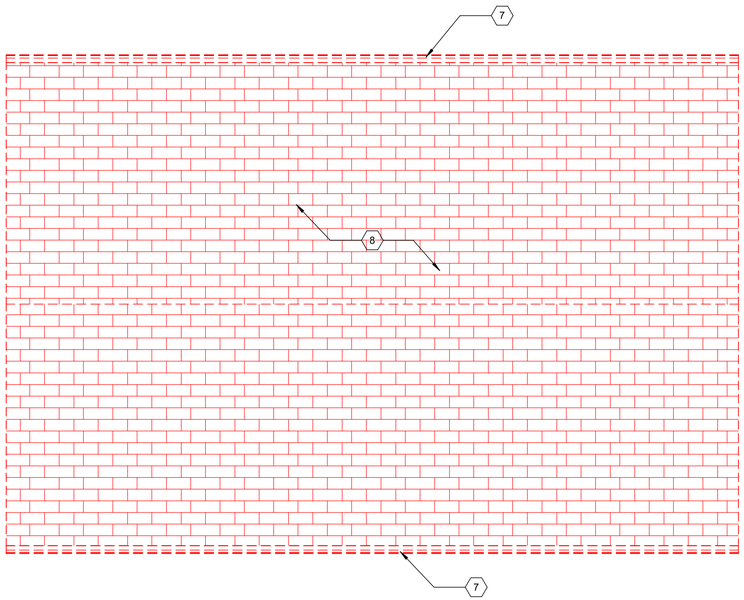
H. At all removed interior walls, patch to match adjacent wall and ceiling.

DEMOLITION - CODED NOTES

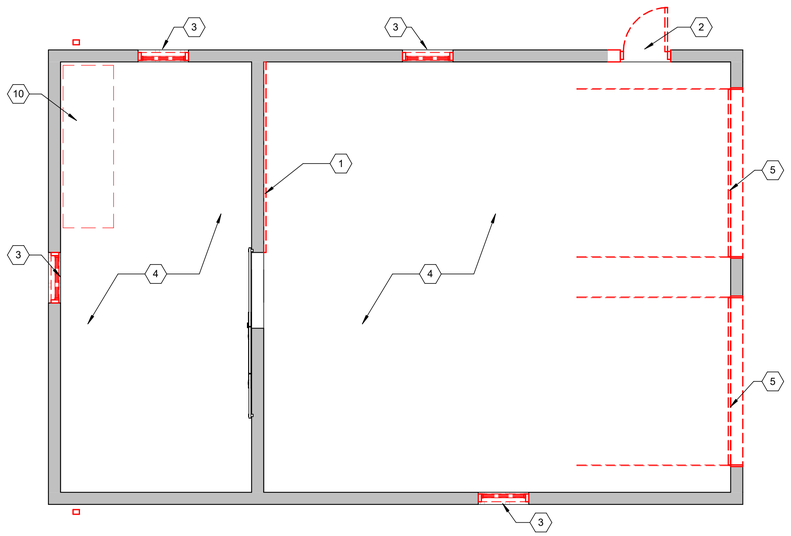
1. Remove panelling and wall furring.
2. Remove exisiting door. Repair CMU header as required for new door and door frame. Provide new (2) L3 1/2x3 1/2x1/4 Lintel w/ 8" BRG each end.
3. Remove existing window. Patch/grout CMU as required for new windows. At all window openings where there is no existing steel lintel, provide (2) L3 1/2x3 1/2x1/4 w/ 8" BRG each end.
4. Remove all existing electrical panels, lighting, wiring, and devices.
5. Demo existing garage doors.
6. Remove existing plywood ceiling for future access.
7. Remove existing gutters and downspouts.
8. Remove existing shingles and underlayment down to roof sheathing.
9. Remove existing vinyl siding and air/weather barrier down to sheathing.
10. Remove/salvage work bench for reinstallation during new work.
11. Widen existing opening for new door. Refer to new work plan.
12. New opening for new louver. Refer to mechanical drawings.



3 Reflected Ceiling Plan Demolition
1/4" = 1'-0"



2 Roof Demolition Plan
1/4" = 1'-0"



1 First Floor Demolition
1/4" = 1'-0"

STATE OF OHIO
William K. Fleming
0915056
REGISTERED ARCHITECT

William K. Fleming, License #0915056
Expiration Date 12/31/2025

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ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: AJP	JOB NUMBER: DNR-210062.02
DRAWN BY: PS / CM	SCALE: AS NOTED
CHECKED BY: PS	DATE: 09/04/2025
APPROVED BY:	BID DOCUMENTS

Floor Plan Demolition

M-AD1

51

DEMOLITION - GENERAL NOTES

A. Items shown dashed are to be removed - typical. All shaded walls indicate existing construction to remain.

B. Remove ceilings referenced by coded notes.

C. Coodinate areas with enlarged plans and new work plans.

D. Coordinate all demolition work with New Work plans. Review New Work drawings to verify and/or determine extent of demolition prior to performing demolition work.

E. Refer to Mechanical, Plumbing, and Electrical plans for extent of equipment, fixtures, and ductwork to be removed. Remove abandoned or unused plumbing.

F. For all removed finishes, furnishings, casework and building elements the demolition shall include all mounting materials, adhesives, hardware, fasteners or other associated supporting elements of the construction.

G. At interior walls where doors and windows have been removed, patch back the opening to match the thickness and construciton of the adjacent wall surfaces as required for the new work.

H. At all removed interior walls, patch to match adjacent wall and ceiling.

DEMOLITION - CODED NOTES

1. Remove panelling and wall furring.
2. Remove exisiting door. Repair CMU header as required for new door and door frame. Provide new (2) L3 1/2x3 1/2x1/4 Lintel w/ 8" BRG each end.
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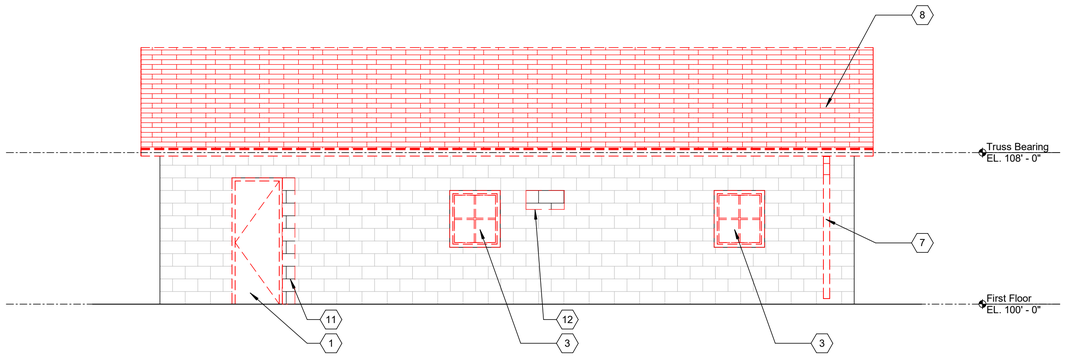
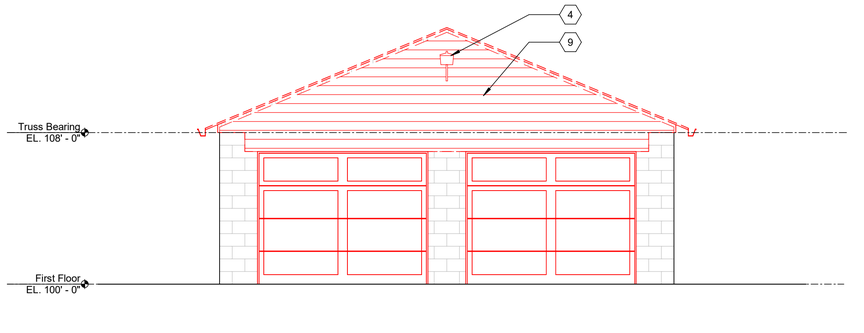
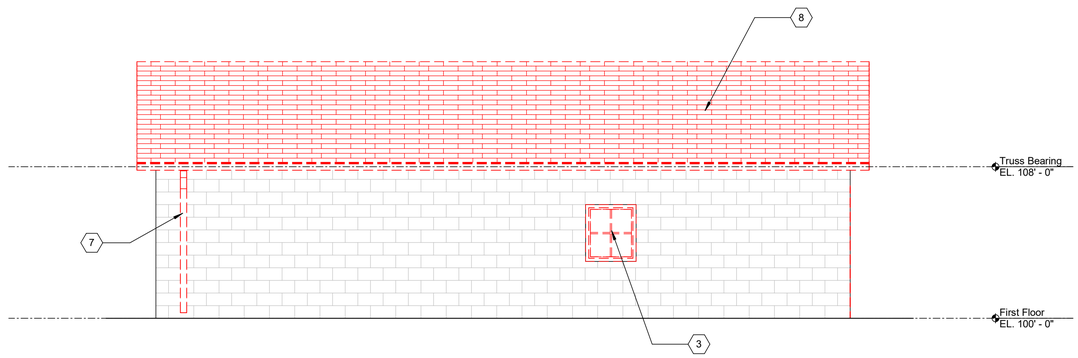
4. Remove all existing electrical panels, lighting, wiring, and devices.
5. Demo existing garage doors.
6. Remove existing plywood ceiling for future access.
7. Remove existing gutters and downspouts.
8. Remove existing shingles and underlayment down to roof sheathing.
9. Remove existing vinyl siding and air/weather barrier down to sheathing.
10. Remove/salvage work bench for reinstallation during new work.
11. Widen existing opening for new door. Refer to new work plan.
12. New opening for new louver. Refer to mechanical drawings.



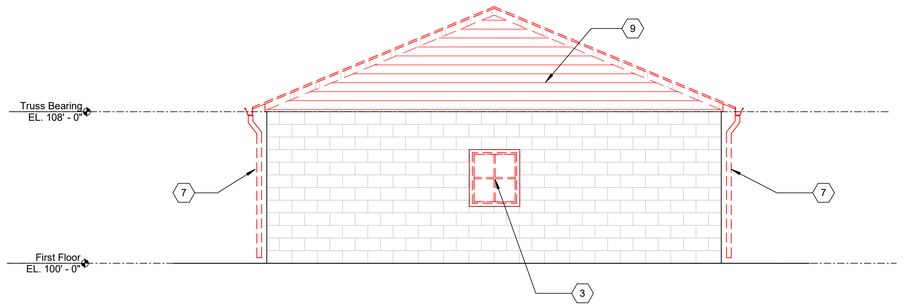
2 North Elevation Demolition
1/4" = 1'-0"



1 East Elevation Demolition
1/4" = 1'-0"



4 South Elevation Demolition
1/4" = 1'-0"



3 West Elevation Demolition
1/4" = 1'-0"

STATE OF OHIO
William K. Fleming
0915056
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Elevation Demolition

M-AD2

Door & Frame Schedule

DOOR MARK	DOOR TYPE	SIZE W	SIZE H	SIZE THK	DOOR STATUS	DOOR MATERIAL	DOOR FINISH	DOOR GLAZING TYPE	FRAME TYPE	FRAME STATUS	FRAME MATERIAL	FRAME FINISH	DETAIL HEAD	DETAIL JAMB	DETAIL SILL	FIRE RATING	HARDWARE SET NO	HARDWARE ELECTRICAL	REMARKS
First Floor																			
M100A	D8	3' - 0"	6' - 6"	1 3/4"	NEW	HM	PT	-	F1	NEW	HM	PT	6/M-A1	5/M-A1	7/M-A1	-	01	YES	
M100B	D7	8' - 10"	6' - 11"	1 1/2"	NEW		PT	-	-	NEW	-	-	5/M-A4	6/M-A4	7/M-A4	-	04	-	
M100C	D7	8' - 10"	6' - 11"	1 1/2"	NEW		PT	-	-	NEW	-	-	5/M-A4	6/M-A4	7/M-A4	-	04	-	
M101		4' - 0"	7' - 0"		EXISTING		-	-	-	EXISTING	-	-	-	-	-	-	-	-	Existing barn door to remain

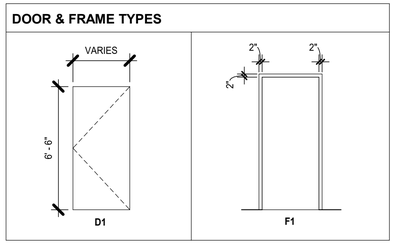
Room Finish Schedule

ROOM #	ROOM NAME	FLOOR FINISH	BASE FINISH	CEILING FINISH	WALL FINISHES NORTH	WALL FINISHES EAST	WALL FINISHES SOUTH	WALL FINISHES WEST	REMARKS
First Floor									
M100	GARAGE	SC	-	PT-1	PT-1	PT-1	PT-1	PT-1	
M101	WORKSHOP	SC	-	PT-1	PT-1	PT-1	PT-1	PT-1	

Finish Legend

KEYNOTE	ITEM	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN PRODUCT	COLOR/FINISH	SIZE	EDGE/PROFILE	NOTES	SPECIFICATION SECTION (hidden)
07 31 53 - Plastic Synthetic Shingles								
PSS-1	Roof Shingles	DaVinci RoofScapes	DaVinci Shake	Aged Cedar	Single Width	-		07 31 53 - Plastic Synthetic Shingles
07 46 46 - Fiber Cement Siding								
S-1	Siding	Woodtone	RusticSeries	Aspen Ridge	-	Board and Batten		07 46 46 - Fiber Cement Siding
09 91 00 - Painting								
PT-1	CMU Wall Paint	Sherwin-Williams	-	SW6035/ Gauzy White	-	-	Satin	09 91 00 - Painting
PT-2	Ceiling Paint	Sherwin-Williams	-	SW6035/ Gauzy White	-	-	Satin	09 91 00 - Painting
PT-3	Trim Paint	Sherwin-Williams	-	SW 6103 Tea Chest	-	-	Satin	09 91 00 - Painting
E. Plastic Laminate Clad Casework - 12 32 16								
PL-1		Sample Manufacturer	Sample Product	Sample Color	See Elevations	-	Refer to M-A5	E. Plastic Laminate Clad Casework - 12 32 16

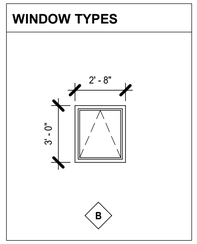
DOOR & FRAME TYPES



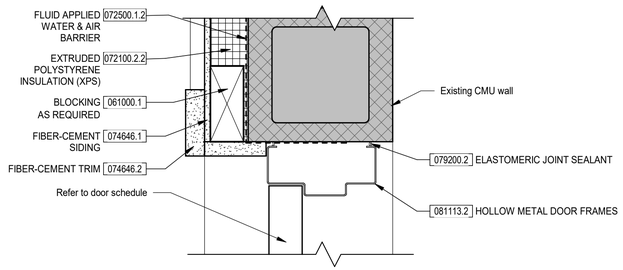
081113.1 - HOLLOW METAL DOOR TYPES

081113.2 - HOLLOW METAL FRAME TYPES

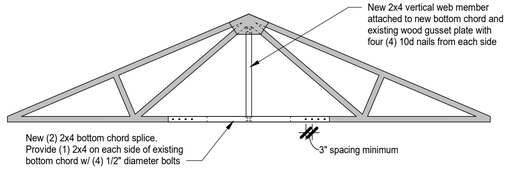
WINDOW TYPES



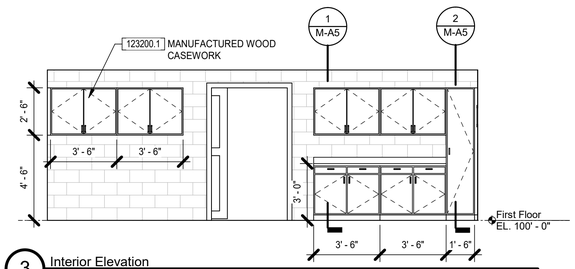
085113.1 - ALUMINUM WINDOW TYPES



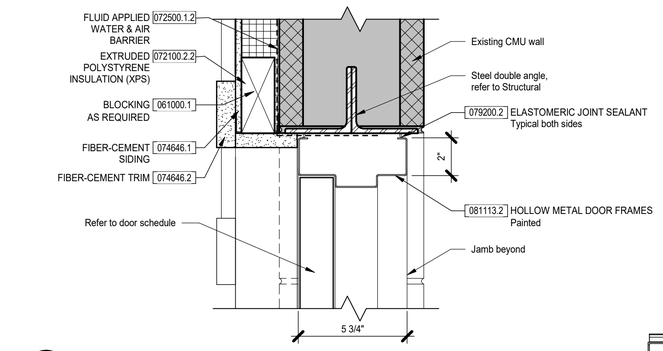
5 Door Jamb Detail
3" = 1'-0"



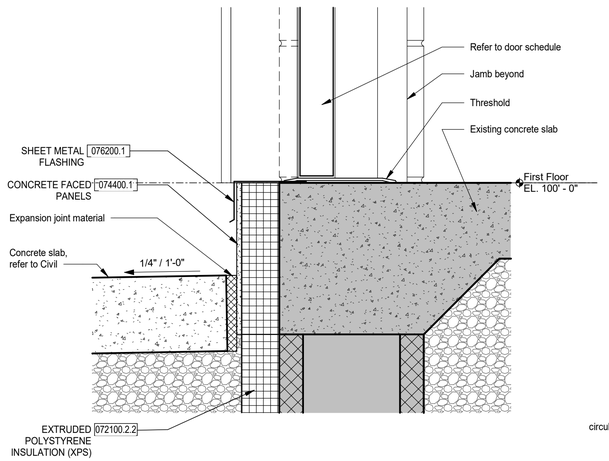
4 Truss Repair Detail
1/4" = 1'-0"



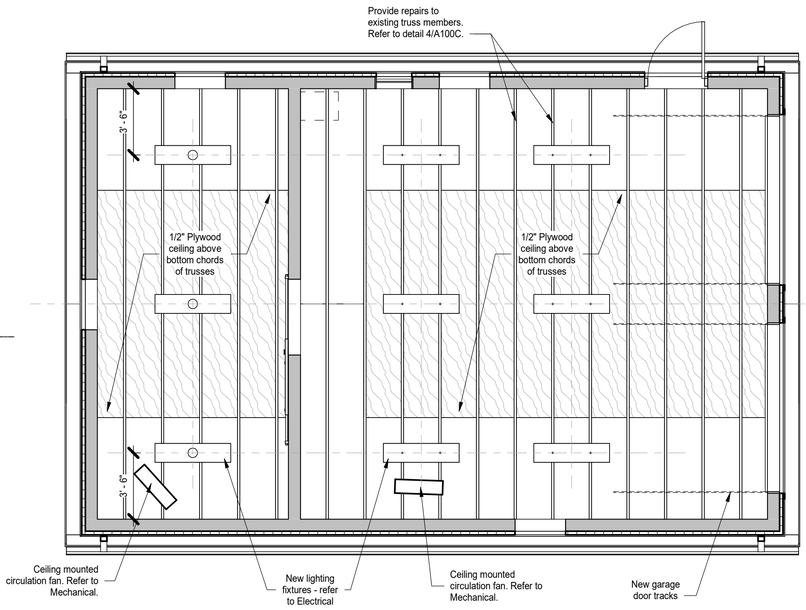
3 Interior Elevation
1/4" = 1'-0"



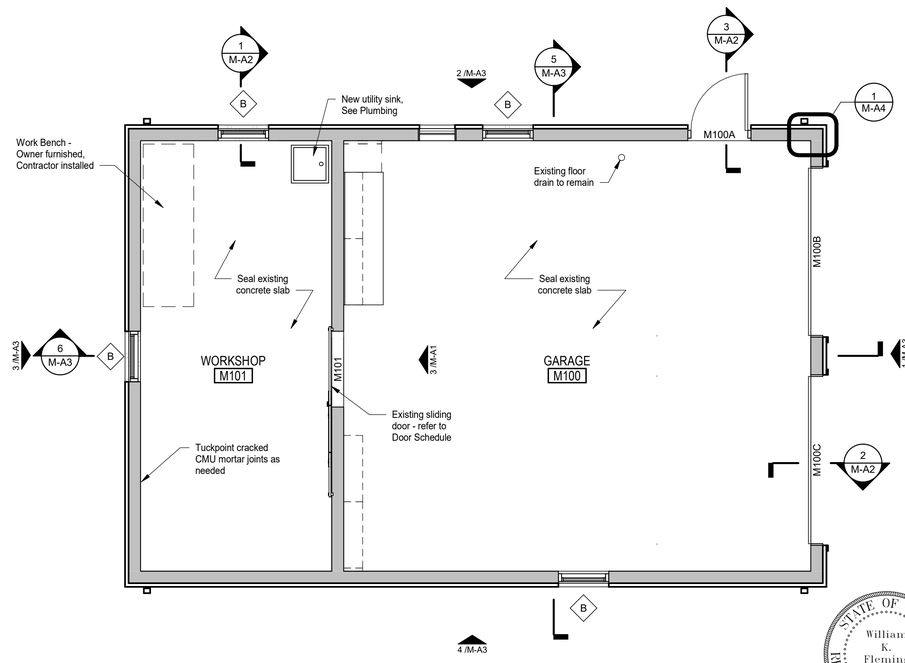
6 Door Head Detail
3" = 1'-0"



7 Door Sill Detail
3" = 1'-0"



2 Reflected Ceiling Plan - New Work
1/4" = 1'-0"



1 Floor Plan - New Work
1/4" = 1'-0"

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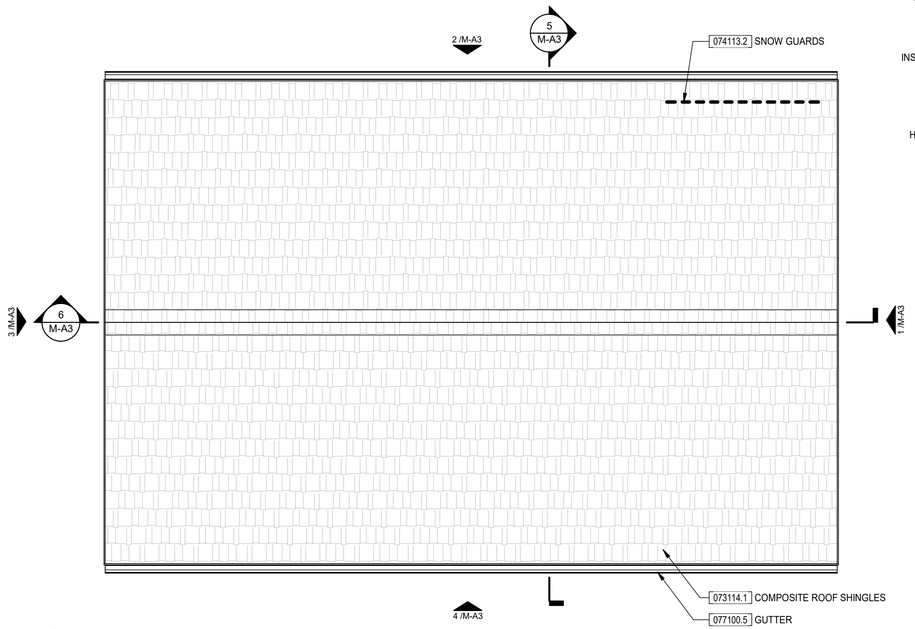
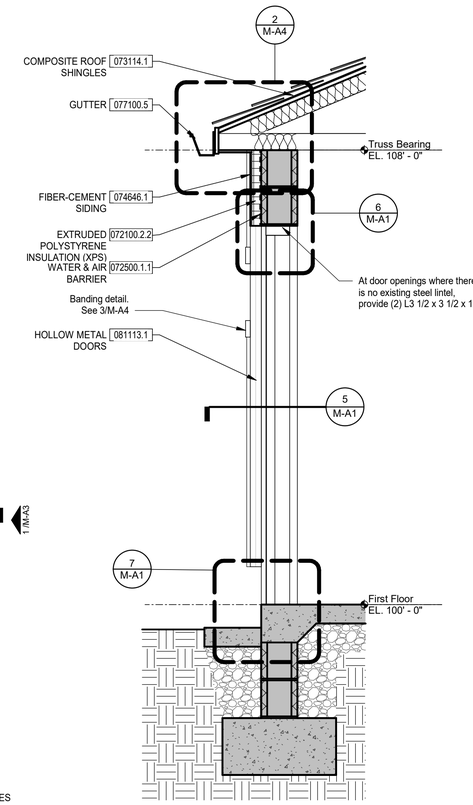
Floor Plans and Interior Elevation

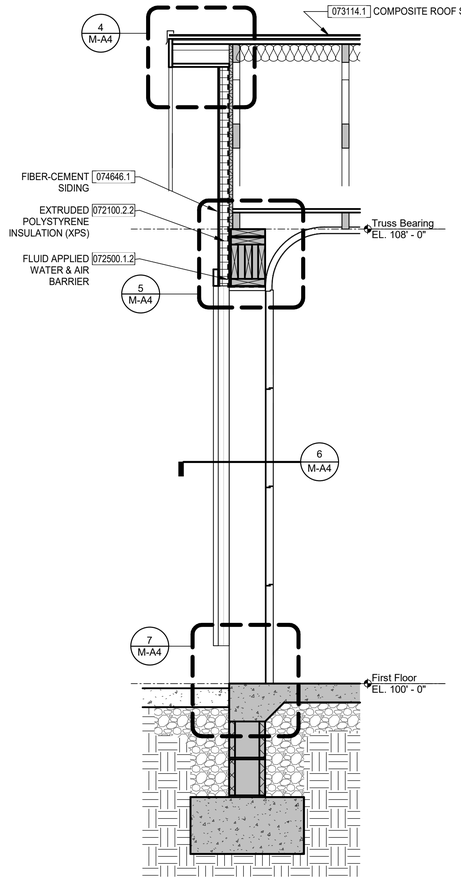
M-A1



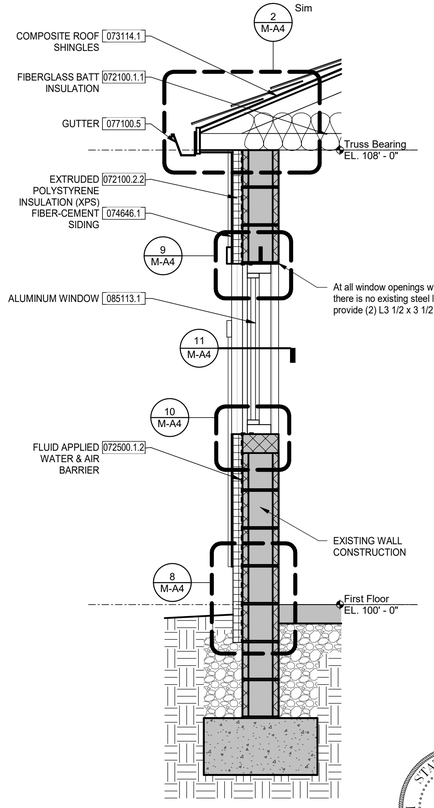
4 Roof Plan - New Work
1/4" = 1'-0"



3 Wall Section at Door
3/4" = 1'-0"



2 Wall Section at Garage Door
3/4" = 1'-0"



1 Wall Section at Window
3/4" = 1'-0"

STATE OF OHIO
William
K.
Fleming
0915056
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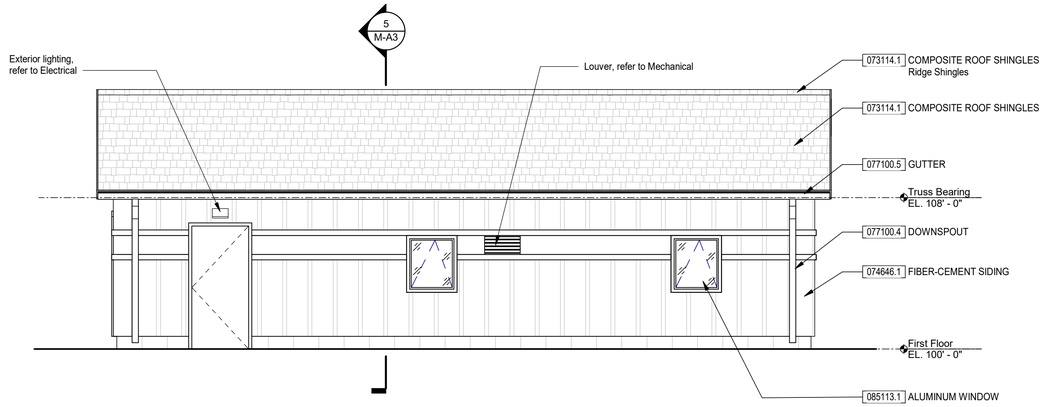
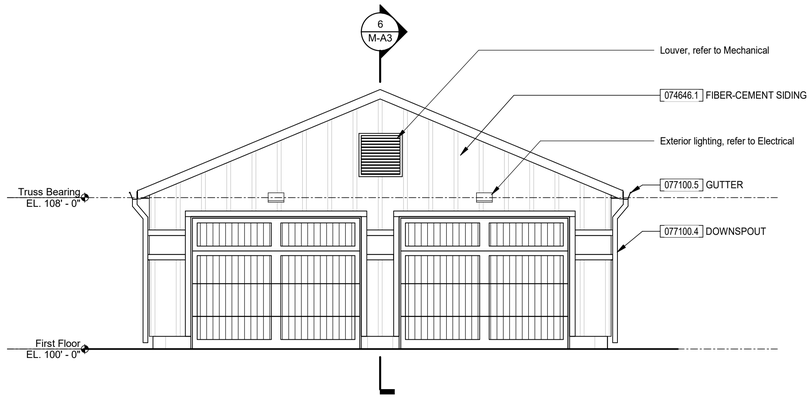
Wall Sections and Roof Plan

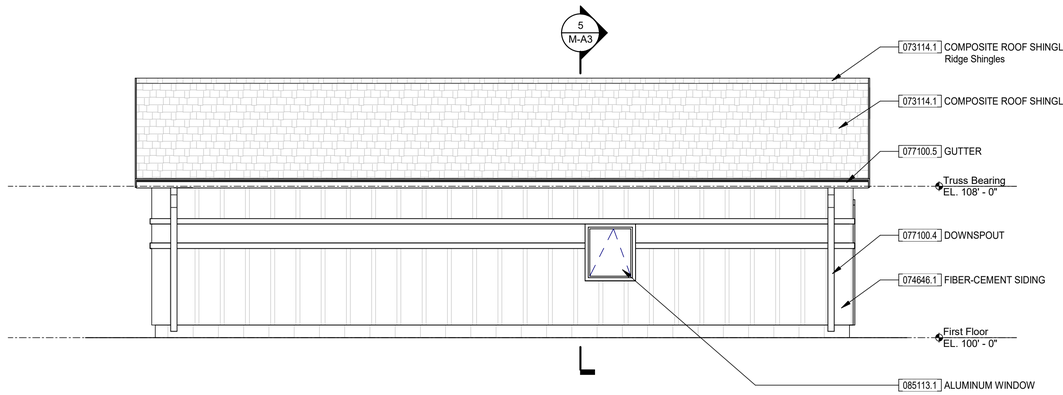
M-A2



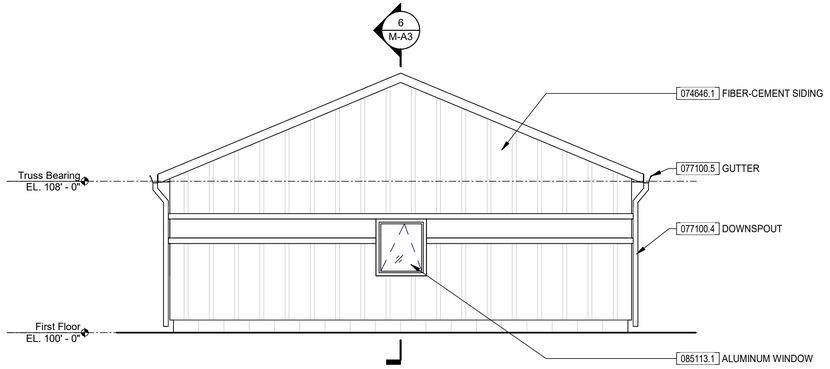
2 North Elevation
1/4" = 1'-0"



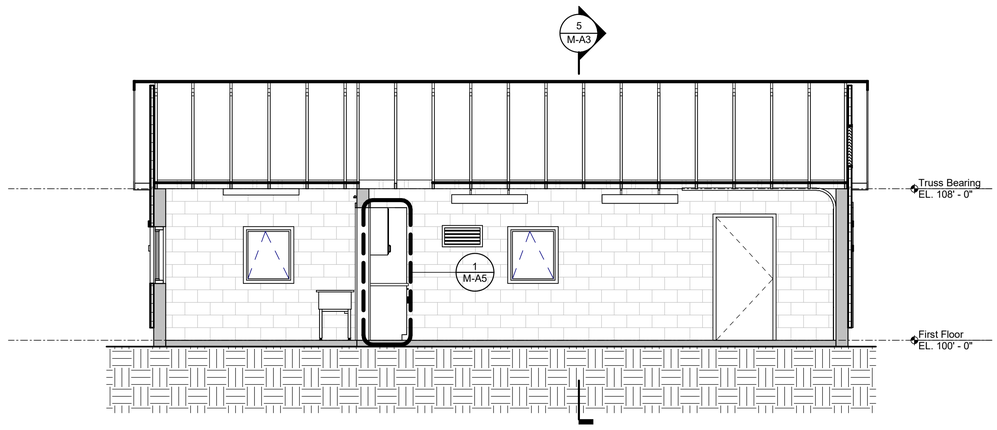
1 East Elevation
1/4" = 1'-0"



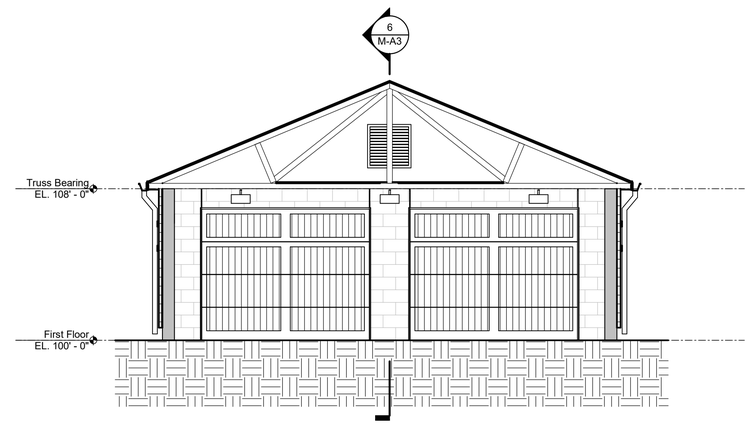
4 South Elevation
1/4" = 1'-0"



3 West Elevation
1/4" = 1'-0"



6 Longitudinal Section
1/4" = 1'-0"



5 Transverse Section
1/4" = 1'-0"

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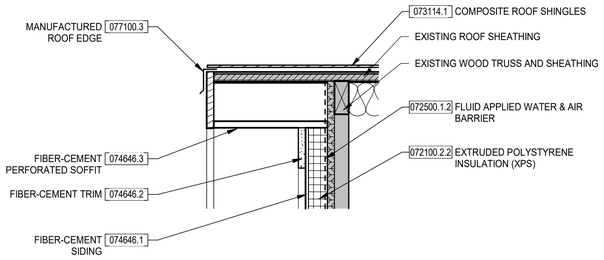
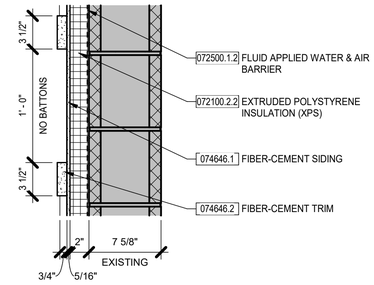
Exterior Elevations and Building Sections

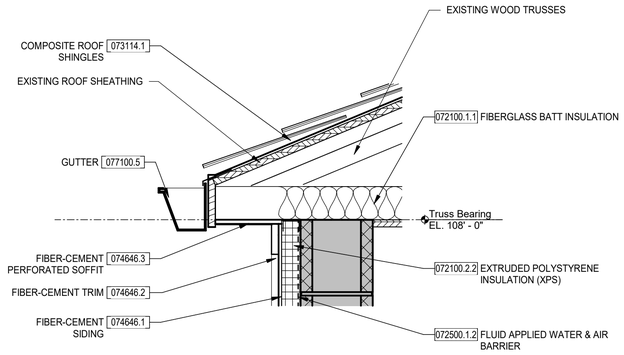
M-A3



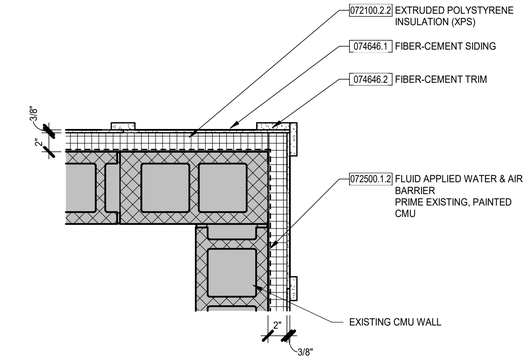
4 Rake Detail
1 1/2" = 1'-0"



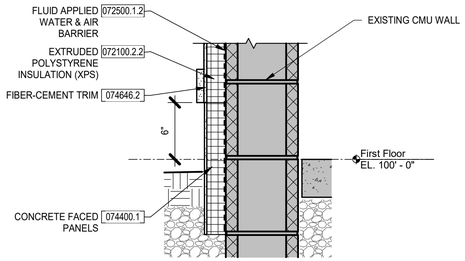
3 Exterior Trim Detail
1 1/2" = 1'-0"



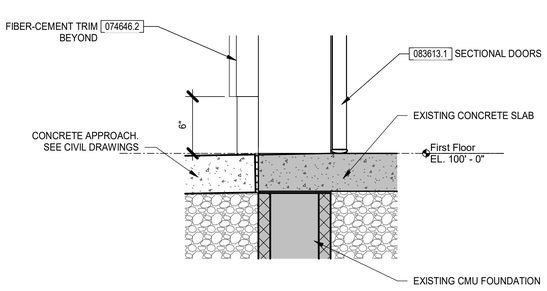
2 Eave Detail
1 1/2" = 1'-0"



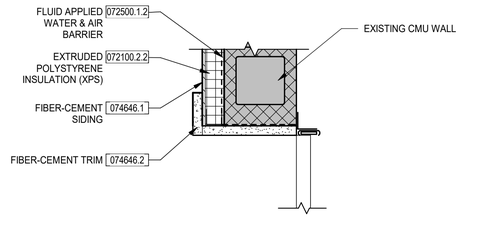
1 Corner Detail
1 1/2" = 1'-0"



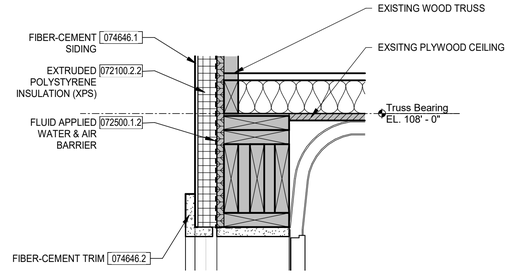
8 Bottom of Wall Detail
1 1/2" = 1'-0"



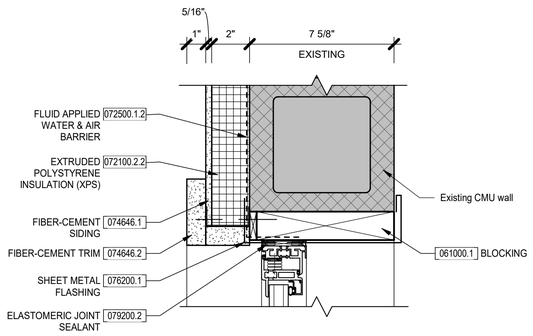
7 Garage Door Sill Detail
1 1/2" = 1'-0"



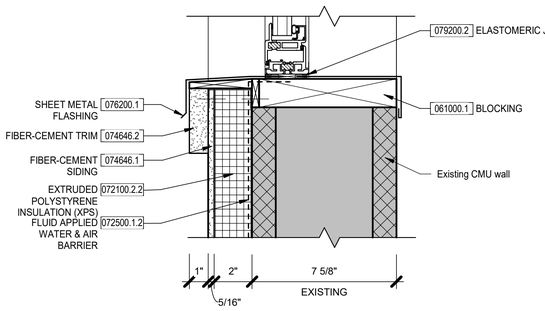
6 Garage Door Jamb Detail
1 1/2" = 1'-0"



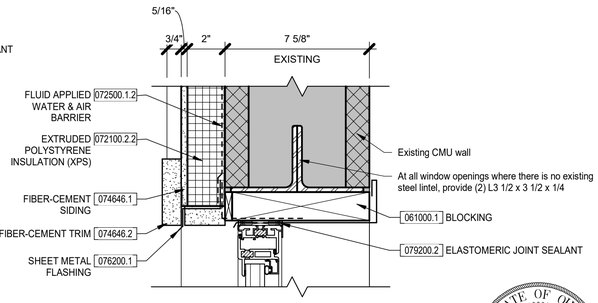
5 Garage Door Head Detail
1 1/2" = 1'-0"



11 Window Jamb Detail
3" = 1'-0"



10 Window Sill Detail
3" = 1'-0"



9 Window Head Detail
3" = 1'-0"

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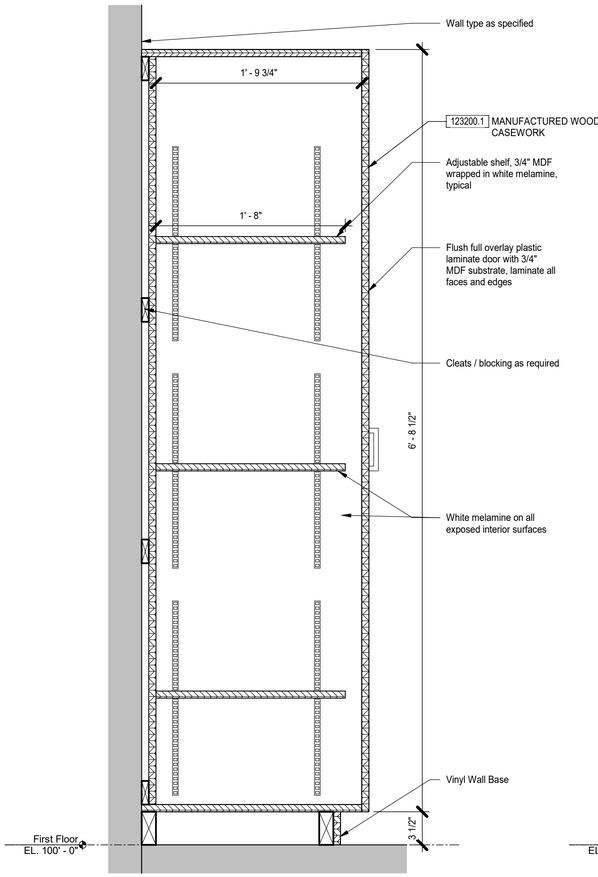
GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: AJP	JOB NUMBER: DNR-210062.02
DRAWN BY: PS / CM	SCALE: AS NOTED
CHECKED BY: PS	DATE: 09/04/2025
APPROVED BY:	BID DOCUMENTS

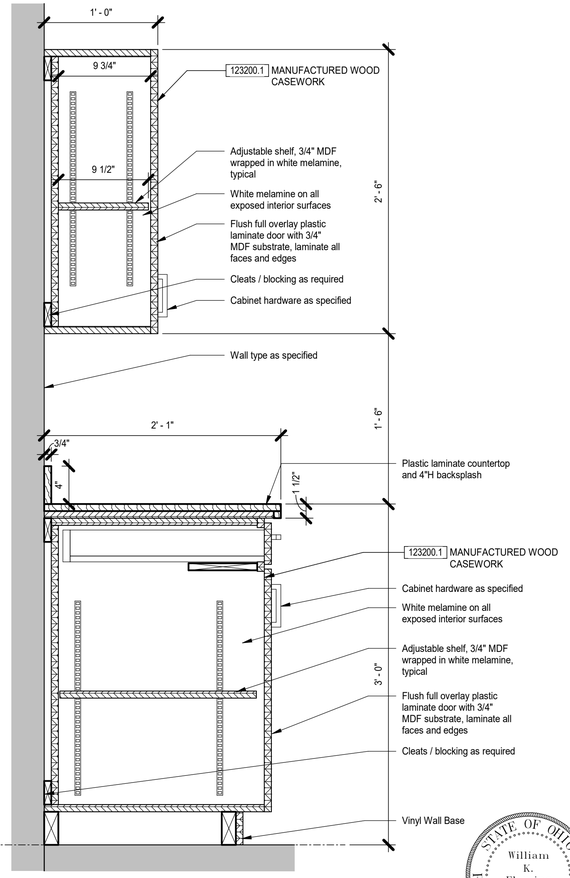
Exterior Details

M-A4

51



2 Tall Cabinet Section Detail
1 1/2" = 1'-0"



1 Base and Upper Cabinet Section Detail
1 1/2" = 1'-0"

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Expiration Date 12/31/2025

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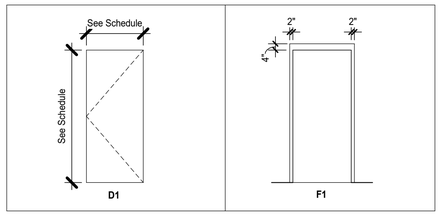
Interior Details

M-A5

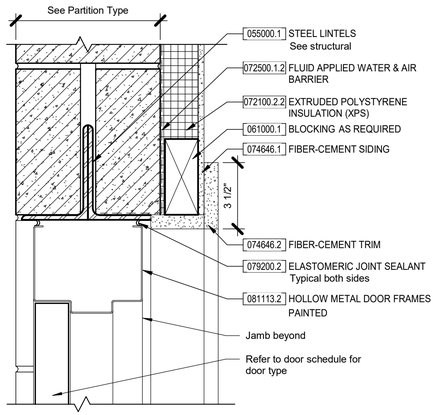
Door & Frame Schedule

	DOOR							FRAME							HARDWARE		
		SIZE									DETAIL						
DOOR MARK	TYPE	W	H	THK	MATERIAL	FINISH	GLAZING TYPE	TYPE	MATERIAL	FINISH	HEAD	JAMB	SILL	FIRE RATING	SET NO	ELECTRICAL	REMARKS
First Floor																	
R100	D1	3' - 0"	7' - 0"	1 3/4"	HM	PT-2	-	F1	HM	PT-2	4/A100	3/A100	5/A100	-	01	-	
R101	D1	3' - 0"	7' - 0"	1 3/4"	HM	PT-2	-	F1	HM	PT-2	4/A100	3/A100	5/A100	-	02	YES	
R102	D1	3' - 0"	7' - 0"	1 3/4"	HM	PT-2	-	F1	HM	PT-2	4/A100	3/A100	5/A100	-	03	YES	
R103	D1	3' - 0"	7' - 0"	1 3/4"	HM	PT-2	-	F1	HM	PT-2	4/A100	3/A100	5/A100	-	02	YES	

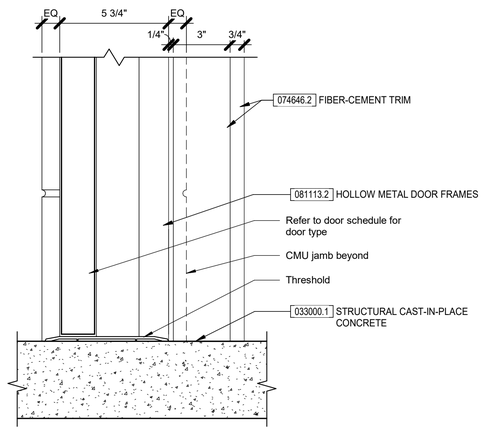


081113.1 - HOLLOW METAL DOOR TYPES

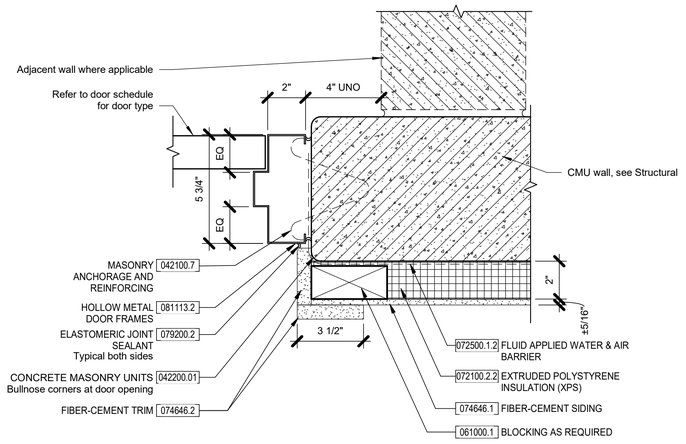
081113.2 - HOLLOW METAL FRAME TYPES



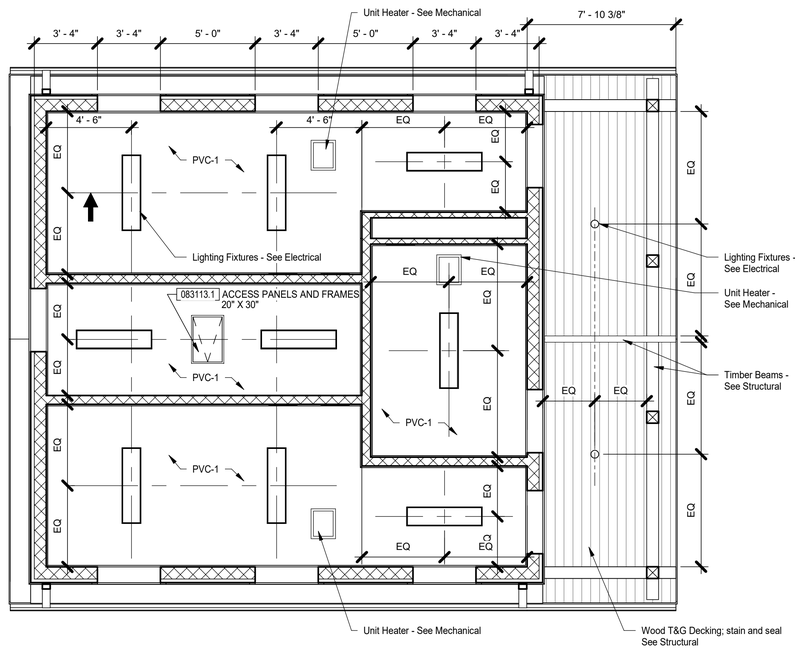
4 Hollow Metal Door and Frame - Head Detail
3" = 1'-0"



5 Hollow Metal Door and Frame - Sill Detail
3" = 1'-0"



3 Hollow Metal Door and Frame - Jamb Detail
3" = 1'-0"



N

2 Reflected Ceiling Plan
1/4" = 1'-0"

Room Finish Schedule

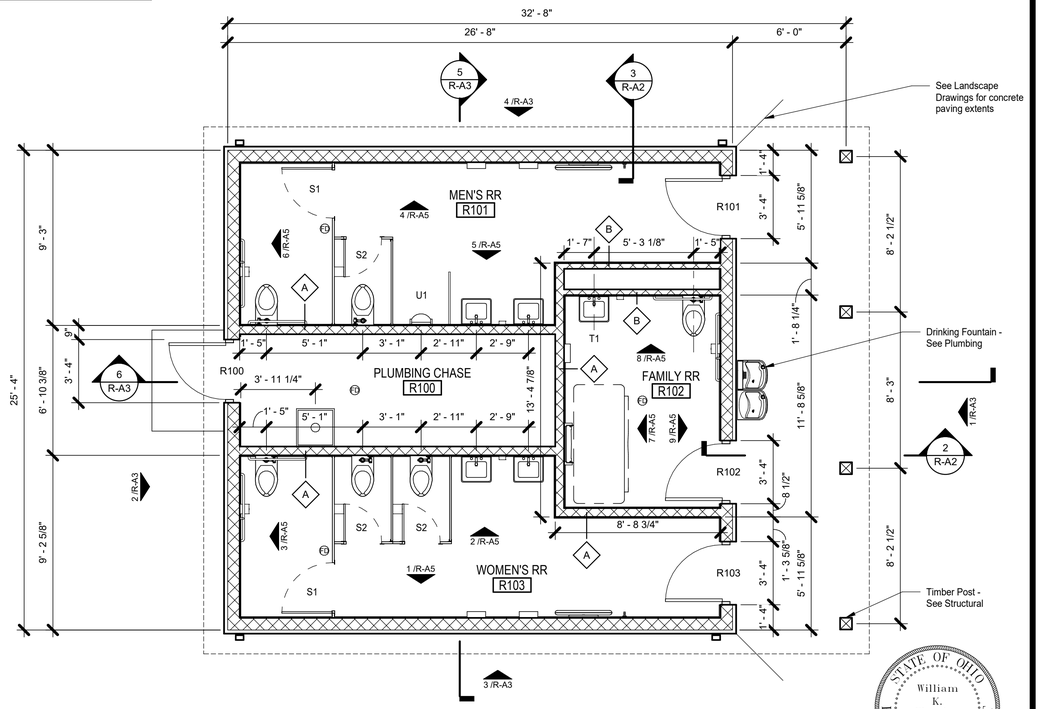
					WALL FINISHES				
ROOM #	ROOM NAME	FLOOR FINISH	BASE FINISH	CEILING FINISH	NORTH	EAST	SOUTH	WEST	REMARKS
First Floor									
R100	PLUMBING CHASE	SC	-	PVC-1	-	-	-	-	
R101	MEN'S RR	RES-1	-	PVC-1	PT-1	PT-1	PT-1	PT-1	
R102	FAMILY RR	RES-1	-	PVC-1	PT-1	PT-1	PT-1	PT-1	
R103	WOMEN'S RR	RES-1	-	PVC-1	PT-1	PT-1	PT-1	PT-1	

Finish Legend

KEYNOTE	ITEM	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN PRODUCT	COLOR/FINISH	SIZE	EDGE/PROFILE	NOTES	SPECIFICATION SECTION (hidden)
06 83 16 - Fiberglass Reinforced Wall Panel								
PVC-1	PVC Ceiling Panel	Trusscore	Wall and Ceiling Board	White		-		06 83 16 - Fiberglass Reinforced Wall Panel
07 31 53 - Plastic Synthetic Shingles								
PSS-1	Roof Shingles	DaVinci Roofscapes	DaVinci Shake	Aged Cedar	Single Width			07 31 53 - Plastic Synthetic Shingles
07 46 46 - Fiber Cement Siding								
S-1	Siding	Woodtone	RusticSeries	Aspen Ridge	-	Board and Batten		07 46 46 - Fiber Cement Siding
09 67 00 - Resinous Flooring								
RF-1	Flooring & Base	Sherwin-Williams	Resuflor	Americano	-	-	Floor and 6" Base	09 67 00 - Resinous Flooring
09 91 00 - Painting								
PT-1	CMU Wall Paint	Sherwin-Williams	-	SW 6035 Gauzy White	-	-	Satin	09 91 00 - Painting
PT-2	Ceiling Paint	Sherwin-Williams	-	SW 6035 Gauzy White	-	-	Satin	09 91 00 - Painting
PT-3	Trim Paint	Sherwin-Williams	-	SW 6103 Tea Chest	-	-	Satin	09 91 00 - Painting
102113 - Toilet Compartments								
TC-1	Toilet Partitions	Hadrian	Hadrian Plastic Partitions	Canyon Granite 217				102113 - Toilet Compartments

Non-Bearing Partition Legend

A	6" Concrete Masonry Unit
B	4" Concrete Masonry Unit



N

1 New Work Plan
1/4" = 1'-0"

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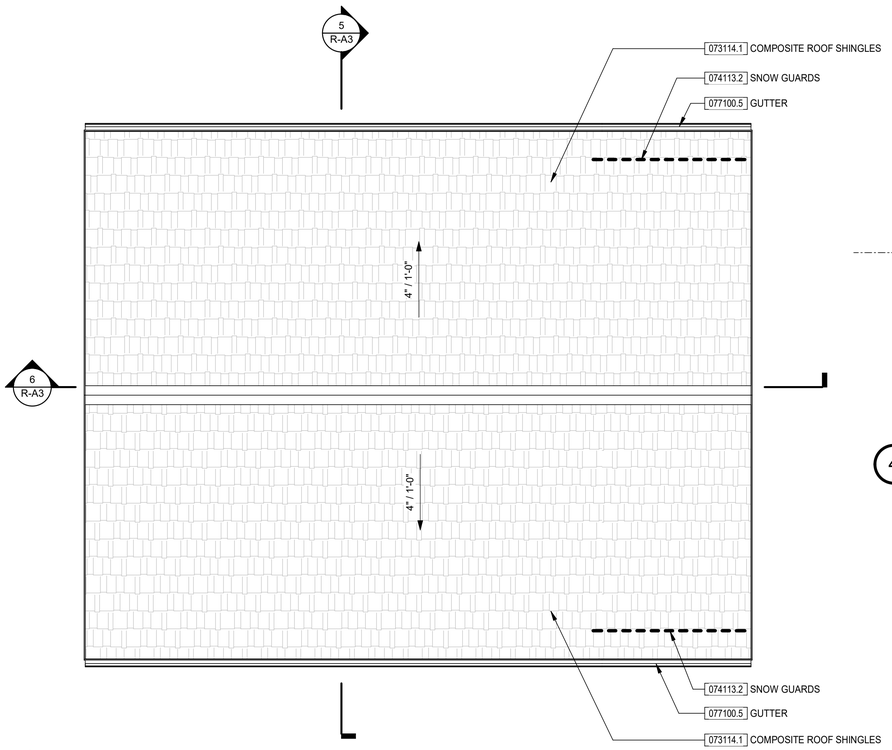
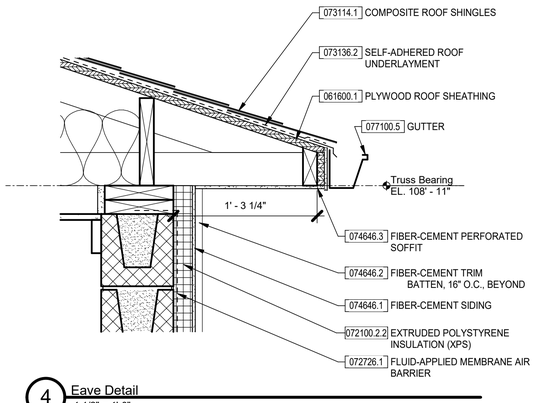
Floor Plan

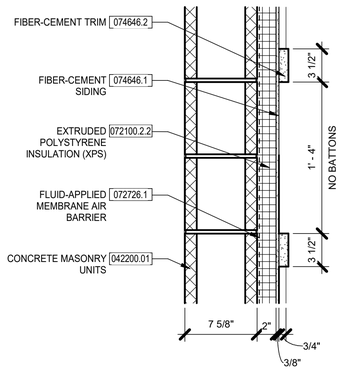
R-A1



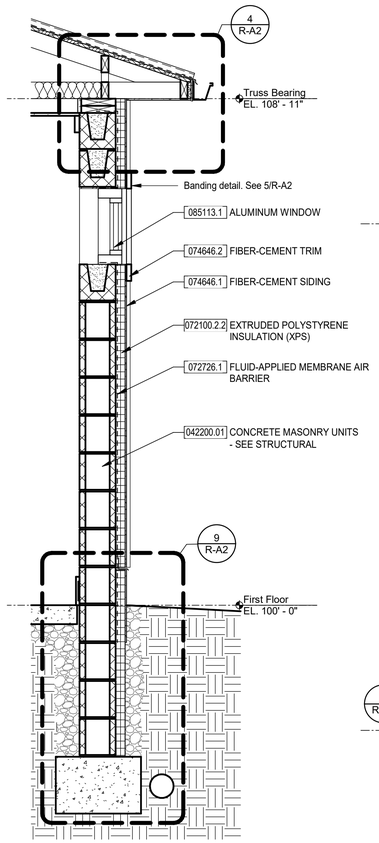
1 Roof Plan
1/4" = 1'-0"



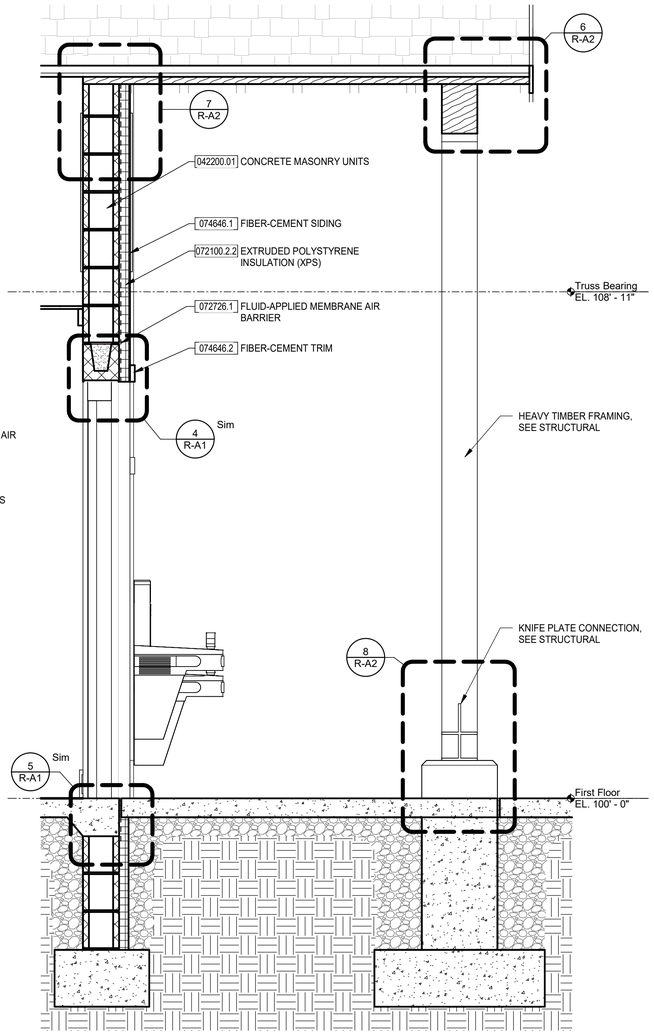
4 Eave Detail
1 1/2" = 1'-0"



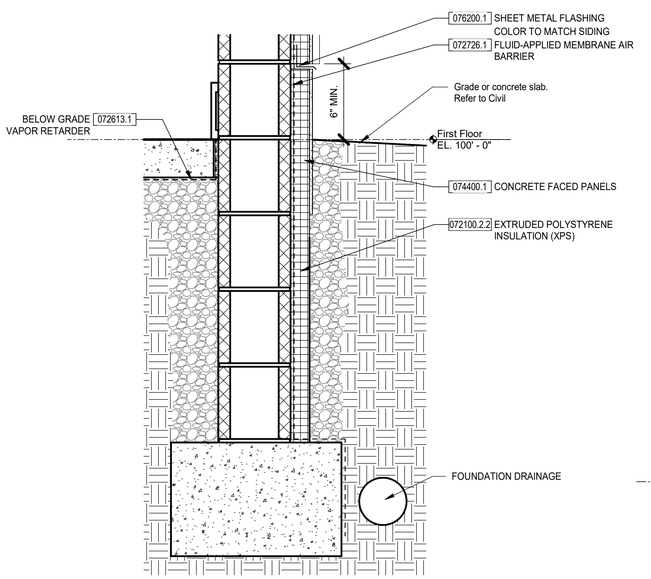
5 Exterior Trim Detail
1 1/2" = 1'-0"



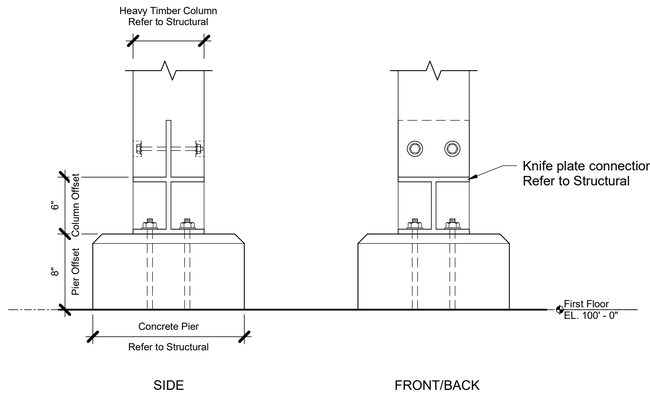
3 Wall Section 1
3/4" = 1'-0"



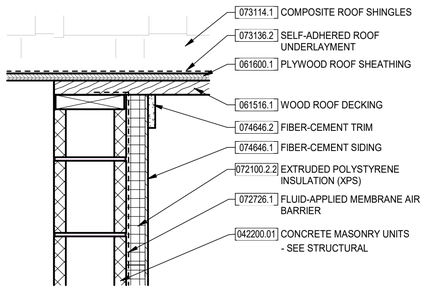
2 Wall Section 2
3/4" = 1'-0"



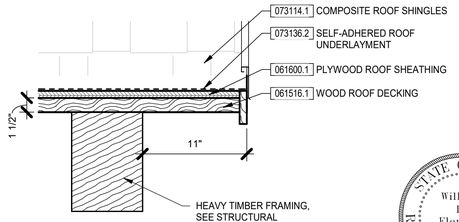
9 Foundation Detail
1 1/2" = 1'-0"



8 Column Base Detail
1 1/2" = 1'-0"



7 Wall/Roof Join Detail
1 1/2" = 1'-0"



6 Rake Detail
1 1/2" = 1'-0"

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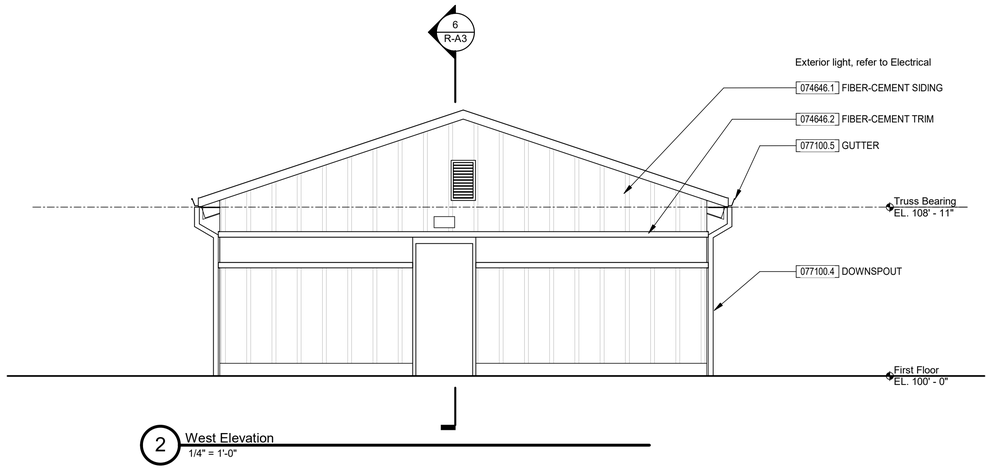
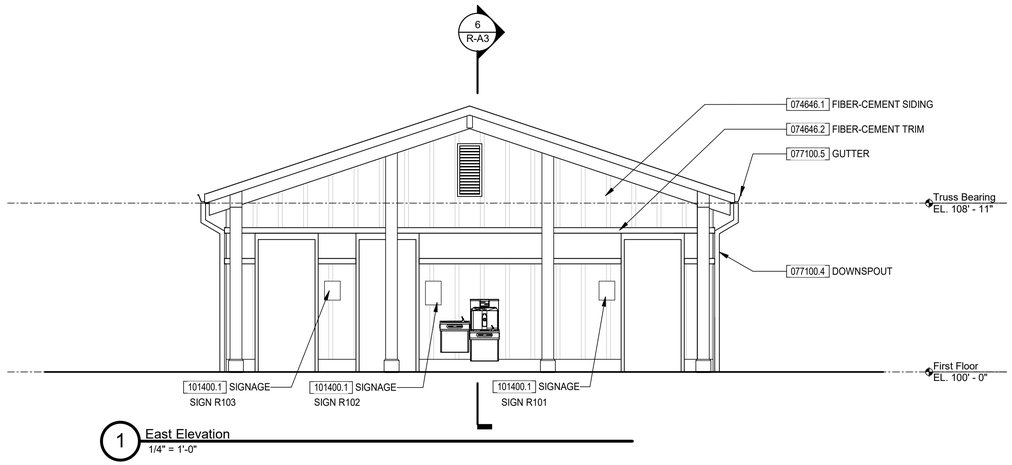
Roof Plan and Sections

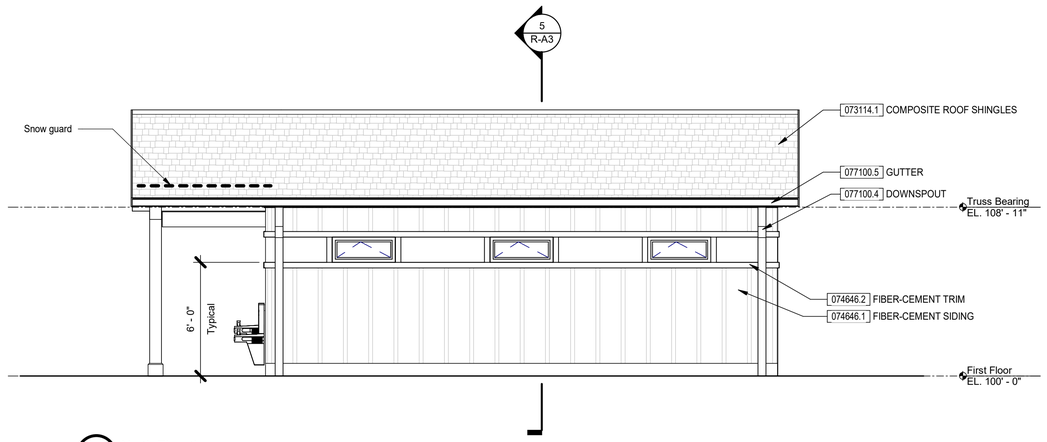
R-A2



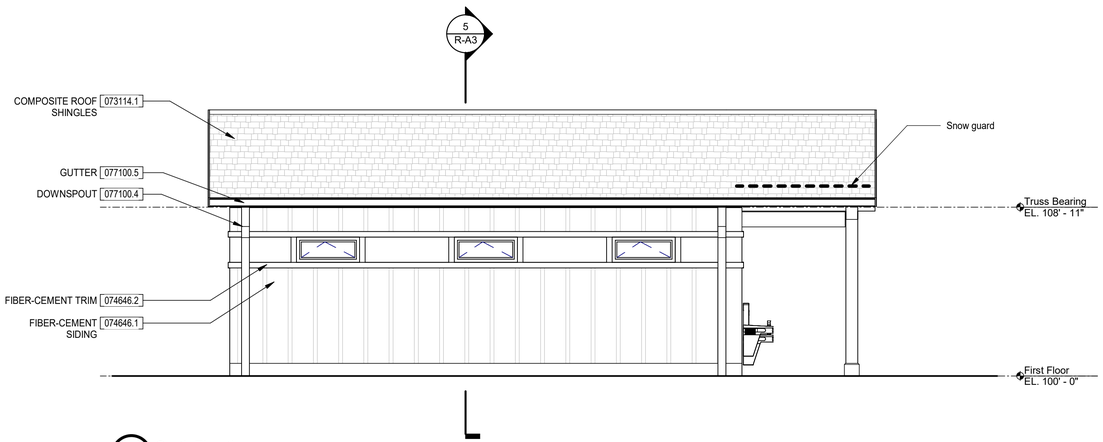
2 West Elevation
1/4" = 1'-0"



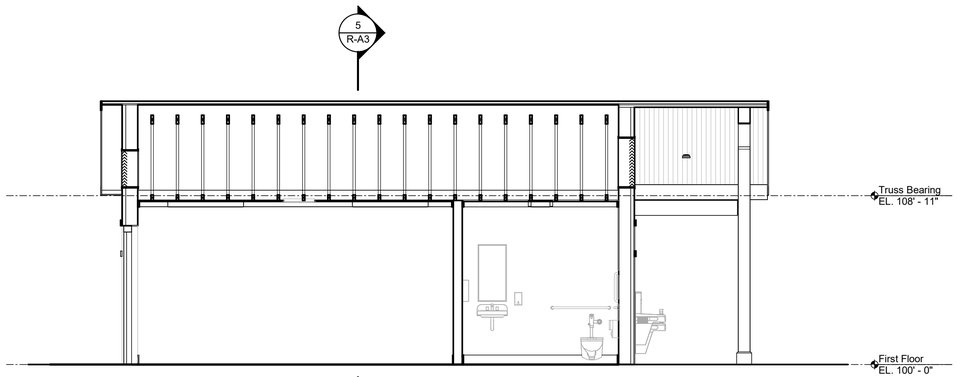
1 East Elevation
1/4" = 1'-0"



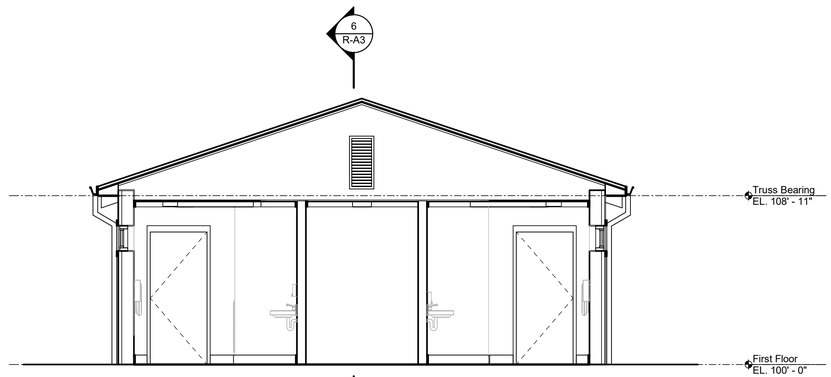
4 North Elevation
1/4" = 1'-0"



3 South Elevation
1/4" = 1'-0"



6 Longitudinal Section
1/4" = 1'-0"



5 Transverse Section
1/4" = 1'-0"

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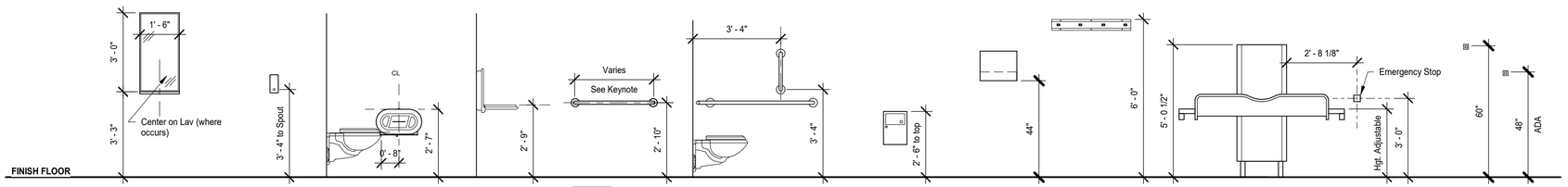
Exterior Elevations and Building Sections

R-A3

TOILET ACCESSORY MOUNTING DIAGRAM



KEYNOTE

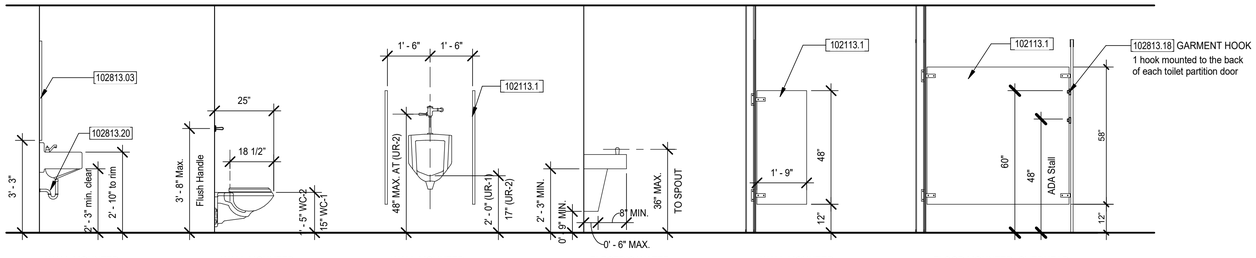
102813.03 | 102813.04 | 102813.05 | 102813.06 | 102813.07.4 36" GRAB BAR, 102813.07.5 42" GRAB BAR | 102813.07.6 | 102813.15 | 102813.21 | 102813.17 | 102813.08 | 102813.18

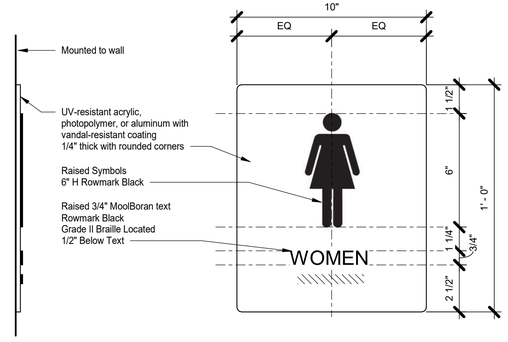
TOILET ACCESSORY TYPE	Mirror (over counter) with shelf	Soap Dispenser	Toilet Tissue Dispenser	Changing Table	Horizontal Grab Bars	Vertical Grab Bar	Sanitary Napkin Disposal (at Women's only)	Warm Air Dryer	Mop and Broom Holder	Adult Changing Table	Garment Hook
MOUNTING TYPE	Surface mounted	Surface mounted	Surface mounted / partition mounted	Surface mounted	Surface mounted / partition mounted	Surface mounted / partition mounted	Surface Mounted	Surface mounted	Surface mounted	Surface mounted	Surface mounted Toilet Partition mounted
MODEL	Bobrick B292 1836 Bradley 7805 ASI 0625	Owner provided, Contractor installed	Owner provided, Contractor installed	Bobrick KB200-00 Bradley 9632 ASI 9012 Koala KB200-00	Bobrick B-5806 Bradley 832 ASI 3700 series	Bobrick B-5806 Bradley 832 ASI 3700 series	Bobrick B-6047 Bradley 4781-11 ASI 0852	Bobrick B-7179 Bradley Model 2B4 Excel Dryer Inc - ThinAir Hand Dryer	Bobrick B-223x24 Bradley 9953 ASI 8215-3	KB3000-AHL	Bobrick 76717 Bradley 9114 ASI 7340-S

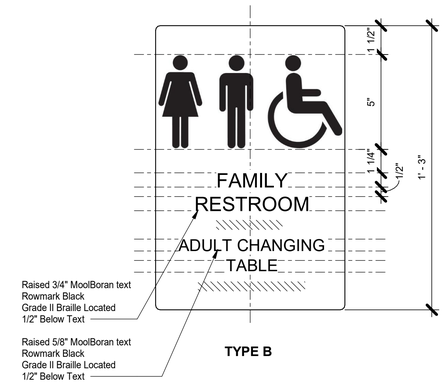
Keynote Legend

102113.1	
102813.01	PAPER TOWEL DISPENSER
102813.02	WASTE RECEPTACLE
102813.03	FRAMED MIRROR
102813.04	SOAP DISPENSER
102813.05	TOILET TISSUE DISPENSER
102813.06	CHANGING TABLE
102813.07.2	18" GRAB BAR
102813.07.4	36" GRAB BAR
102813.07.5	42" GRAB BAR
102813.07.6	18" VERTICAL GRAB BAR
102813.07.7	16" X 31" L-SHAPED GRAB BAR
102813.07.8	42" X 54" L-SHAPED GRAB BAR
102813.08	ADULT CHANGING TABLE
102813.11	SHOWER DOOR
102813.15	SANITARY NAPKIN DISPOSAL
102813.17	MOP AND BROOM HOLDER
102813.18	GARMENT HOOK
102813.20	UNDERLAVATORY GUARDS
102813.21	WARM-AIR DRYER

FIXTURE AND PARTITION MOUNTING DIAGRAM





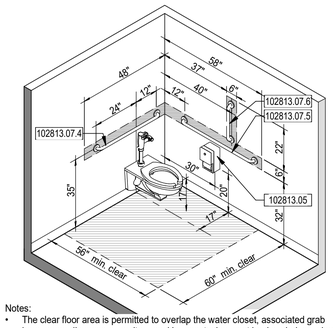


1 Sign Types
3" = 1'-0"

Signage Schedule

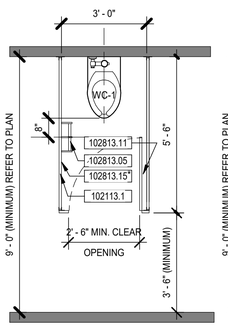
Sign #	Type	Sign Text
R101	A	MEN
R102	B	FAMILY RESTROOM ADULT CHANGING TABLE
R103	A	WOMEN

ACCESSIBLE TOILET STALLS & ROOMS



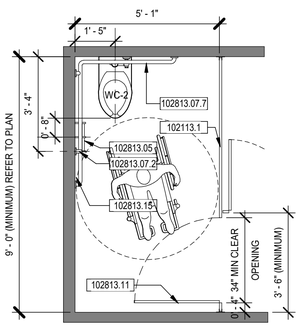
Notes:
- The clear floor area is permitted to overlap the water closet, associated grab bars, paper dispensers, sanitary napkin receptacles, coat hooks, shelves, clear floor space at other fixtures and the turning space.
- No other fixture shall be within the required water closet clearance.
- Flush controls shall be located on the open side of the water closet.
- Hatched zone at walls indicates minimum extent of continuous in-wall reinforcement.
- Combination L-shaped grab bars (Item 1028G8) may be utilized in lieu of items 1028G4 and 1028G5.

STANDARD TOILET STALLS AND ACCESSIBLE TOILET ROOMS

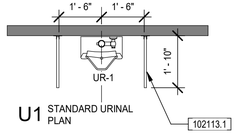


S1 STANDARD TOILET COMPARTMENT PLAN

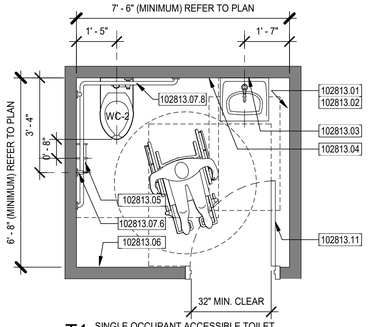
* AT FEMALE ONLY



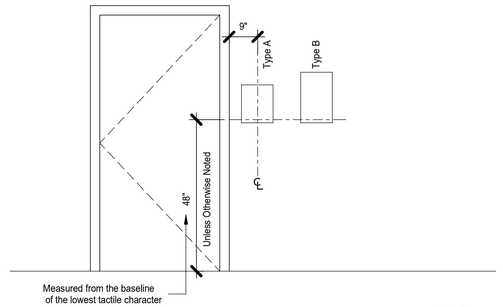
S2 ACCESSIBLE TOILET COMPARTMENT - END OF ROW



U1 STANDARD URINAL PLAN



T1 SINGLE OCCUPANT ACCESSIBLE TOILET ROOM PLAN



2 Typical Signage Mounting Heights
1/2" = 1'-0"

STATE OF OHIO
William K. Fleming
0915056
REGISTERED ARCHITECT

William K. Fleming, License #0915056
Expiration Date 12/31/2025

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Ohio Department of Natural Resources

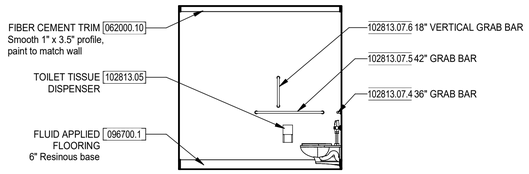
GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: AJP	JOB NUMBER: DNR-210062.02
DRAWN BY: PS / CM	SCALE: AS NOTED
CHECKED BY: PS	DATE: 09/04/2025
APPROVED BY:	BID DOCUMENTS

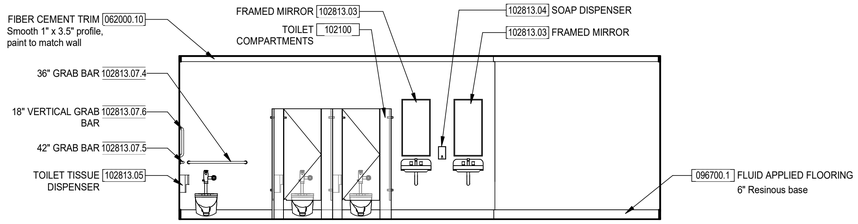
Toilet Layouts and Elevations

R-A4

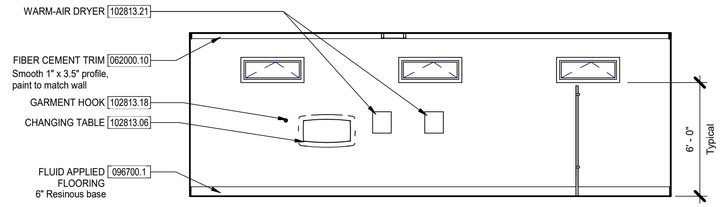
General Note: See sheet R0A4 for toilet accessory mounting heights.



3 Women's West Elevation
1/4" = 1'-0"



2 Women's North Elevation
1/4" = 1'-0"



1 Women's South Elevation
1/4" = 1'-0"

6 Men's West Elevation
1/4" = 1'-0"

5 Men's South Elevation
1/4" = 1'-0"

4 Men's North Elevation
1/4" = 1'-0"

9 Family East Elevation
1/4" = 1'-0"

8 Family North Elevation
1/4" = 1'-0"

7 Family West Elevation
1/4" = 1'-0"

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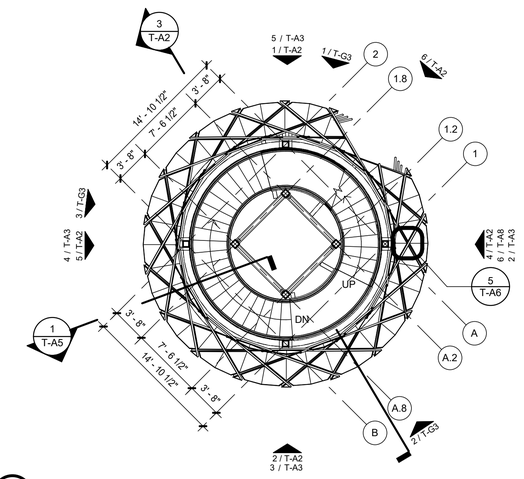
Interior Elevations

R-A5

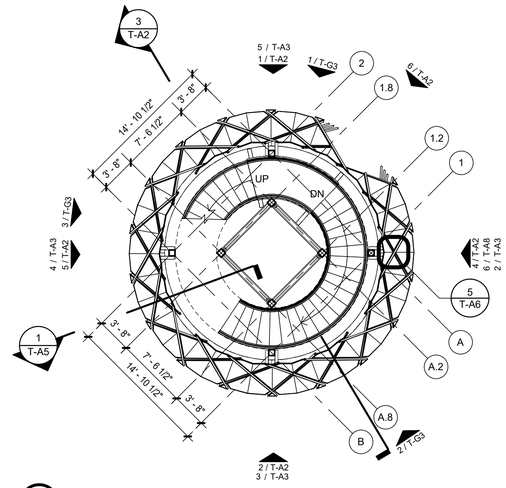
Finish Legend

KEYNOTE	ITEM	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN PRODUCT	COLOR/FINISH	SIZE	EDGE/PROFILE	NOTES
A. Interior Architectural Woodwork - 06 40 23							
CD-1	Composite Decking	Trex	Transcend	Jasper	-	-	06 73 00 - Composite Wood Decking
B. Painting - 09 91 00							
PT-4	Paint	Sherwin-Williams	-	SW7057/ Silver Strand	-	-	Eggshell



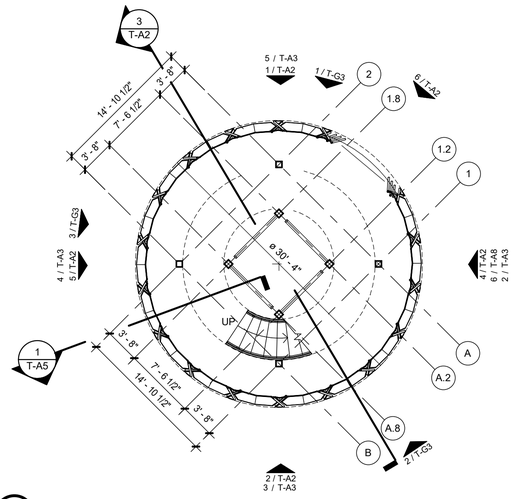
N

3 Landing 2
1/8" = 1'-0"



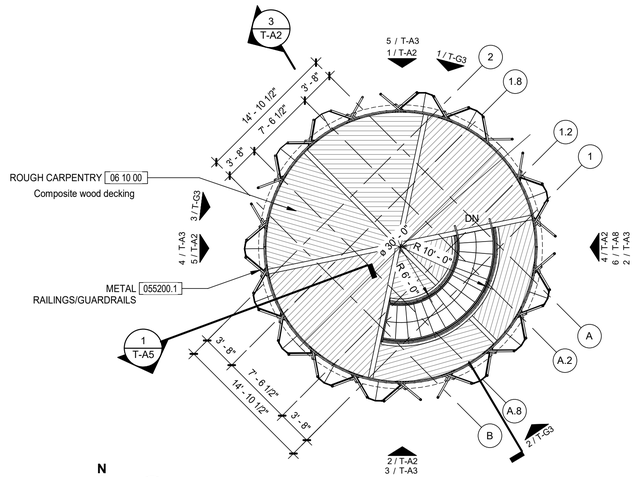
N

2 Landing 1
1/8" = 1'-0"



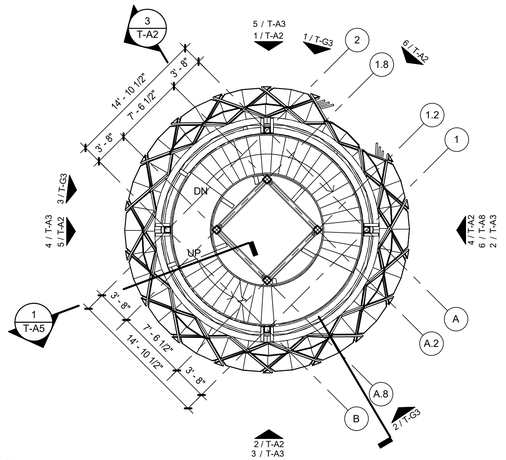
N

1 Observation Tower Floor Plan
1/8" = 1'-0"



N

5 T.O. Platform
1/8" = 1'-0"



N

4 Landing 3
1/8" = 1'-0"

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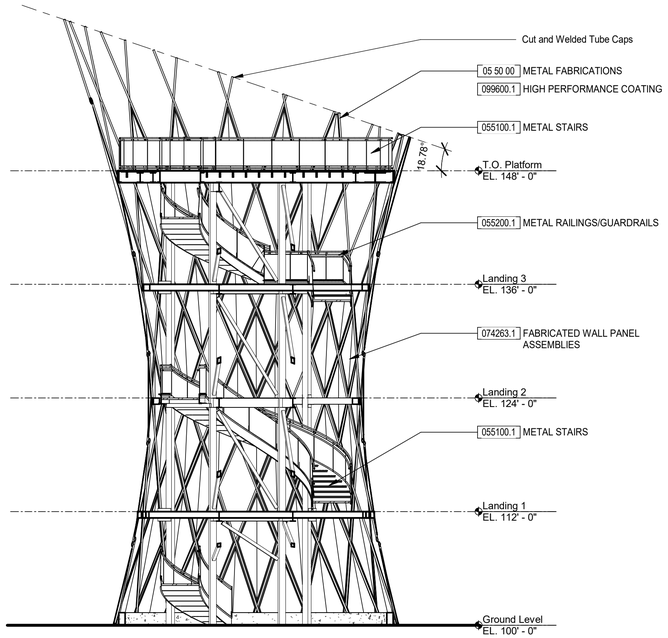
DESIGNED BY:	JOB NUMBER: DNR-250004
DRAWN BY:	SCALE: AS NOTED
CHECKED BY:	DATE: 08/28/2025
APPROVED BY:	BID DOCUMENTS

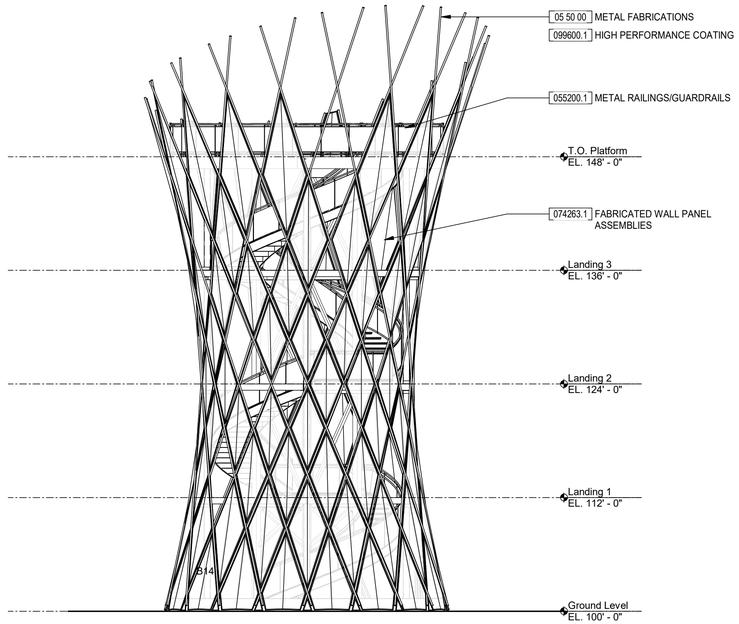
Tower Floor Plan

T-A1

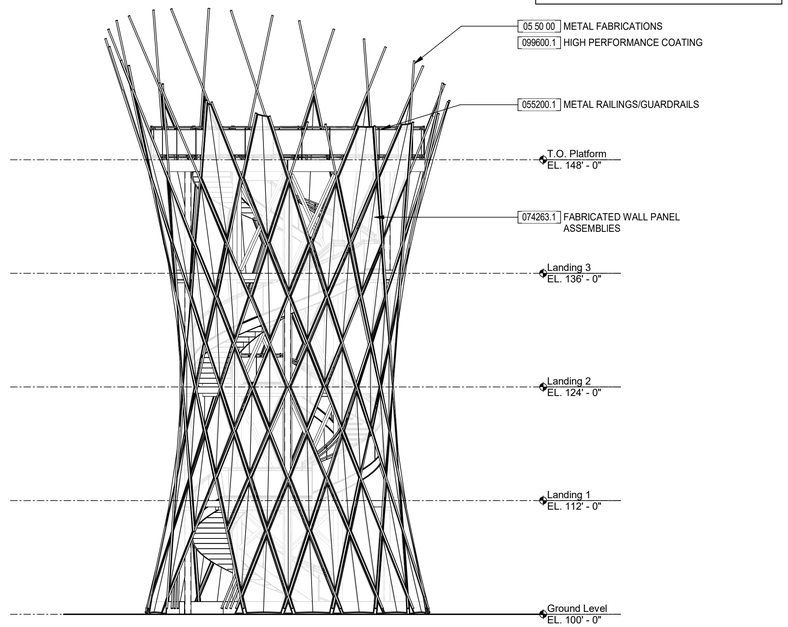
REFER TO SHEET T-A3 FOR PANEL SCHEDULE



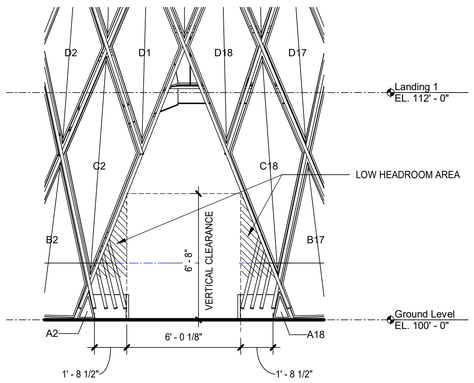
3 Elevation - Cut Slope
1/8" = 1'-0"



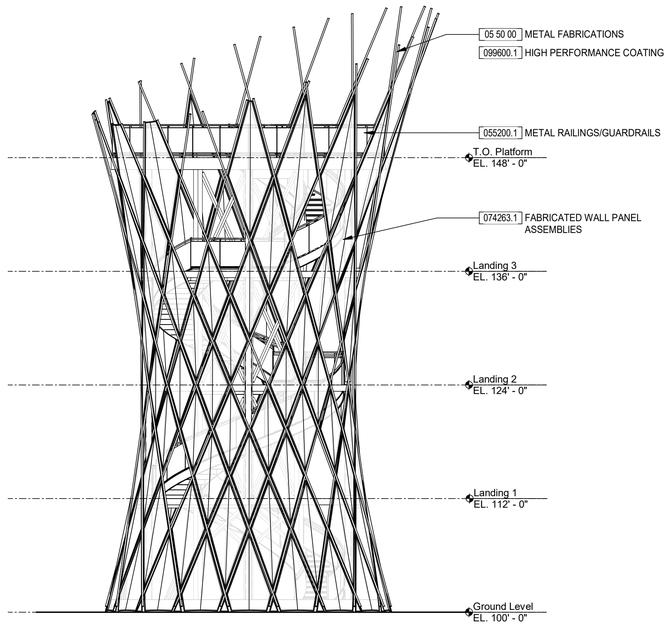
2 South Elevation
1/8" = 1'-0"



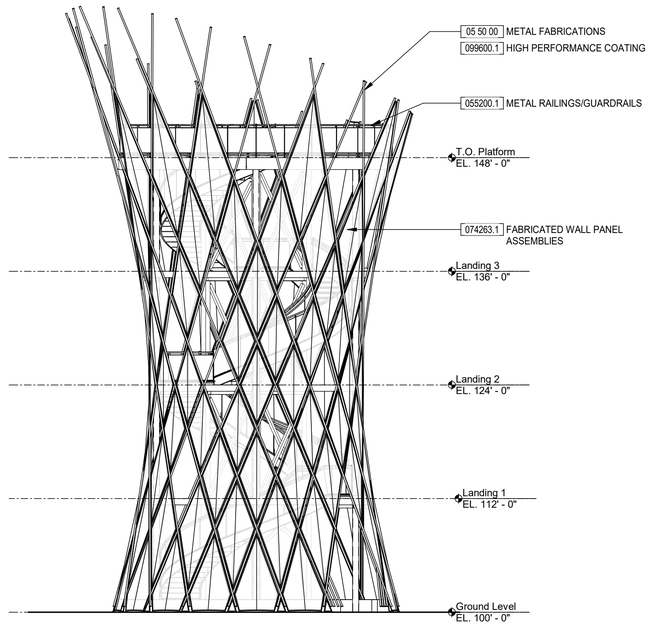
1 North Elevation
1/8" = 1'-0"



6 Tower Entrance Elevation
1/4" = 1'-0"



5 West Elevation
1/8" = 1'-0"



4 East Elevation
1/8" = 1'-0"

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CHECKED BY:	DATE: 09/04/2025
APPROVED BY:	BID DOCUMENTS

Exterior Elevations and Building Sections

T-A2

Infill Panel Schedule		
PANEL NUMBER	MATERIAL	COLOR
A2	Zinc	Roano
A3	Zinc	Roano
A4	Zinc	Roano
A5	Zinc	Roano
A6	Zinc	Roano
A7	Zinc	Roano
A8	Zinc	Roano
A9	Zinc	Roano
A10	Zinc	Roano
A11	Zinc	Roano
A12	Zinc	Roano
A13	Zinc	Roano
A14	Zinc	Roano
A15	Zinc	Roano
A16	Zinc	Roano
A17	Zinc	Roano
A18	Zinc	Roano
B2	Zinc	Roano
B3	Zinc	Roano
B4	Copper	Dirty Penny
B5	Zinc	Baroque
B6	Zinc	Baroque
B7	Copper	Dirty Penny
B8	Zinc	Roano
B9	Zinc	Roano
B10	Zinc	Baroque
B11	Zinc	Roano
B12	Zinc	Roano
B13	Zinc	Roano
B14	Copper	Dirty Penny
B15	Zinc	Roano
B16	Copper	Dirty Penny
B17	Zinc	Roano
C2	Zinc	Baroque
C3	Copper	Dirty Penny
C4	Zinc	Baroque
C5	Zinc	Roano
C6	Zinc	Roano
C7	Zinc	Roano
C8	Zinc	Roano
C9	Copper	Dirty Penny
C10	Zinc	Roano
C11	Zinc	Roano
C12	Copper	Dirty Penny

Infill Panel Schedule		
PANEL NUMBER	MATERIAL	COLOR
C13	Copper	Dirty Penny
C14	Zinc	Baroque
C15	Zinc	Roano
C16	Zinc	Baroque
C17	Zinc	Roano
C18	Zinc	Roano
D1	Zinc	Baroque
D2	Zinc	Roano
D3	Zinc	Roano
D4	Zinc	Roano
D5	Empty	-
D6	Zinc	Roano
D7	Copper	Dirty Penny
D8	Zinc	Roano
D9	Zinc	Baroque
D10	Empty	-
D11	Zinc	Roano
D12	Copper	Dirty Penny
D13	Zinc	Roano
D14	Empty	-
D15	Copper	Dirty Penny
D16	Copper	Dirty Penny
D17	Zinc	Roano
D18	Zinc	Roano
E1	Zinc	Roano
E2	Copper	Dirty Penny
E3	Empty	-
E4	Zinc	Roano
E5	Zinc	Roano
E6	Copper	Dirty Penny
E7	Empty	-
E8	Zinc	Baroque
E9	Zinc	Roano
E10	Zinc	Roano
E11	Zinc	Baroque
E12	Zinc	Baroque
E13	Zinc	Baroque
E14	Zinc	Baroque
E15	Zinc	Roano
E16	Empty	-
E17	Empty	-
E18	Copper	Dirty Penny
F1	Empty	-
F2	Zinc	Baroque

Infill Panel Schedule		
PANEL NUMBER	MATERIAL	COLOR
F3	Zinc	Roano
F4	Empty	-
F5	Zinc	Baroque
F6	Zinc	Roano
F7	Copper	Dirty Penny
F8	Empty	-
F9	Empty	
F10	Copper	Dirty Penny
F11	Zinc	Roano
F12	Empty	-
F13	Zinc	Roano
F14	Zinc	Roano
F15	Zinc	Roano
F16	Zinc	Baroque
F17	Zinc	Baroque
F18	Zinc	Roano
G1	Zinc	Roano
G2	Zinc	Roano
G3	Zinc	Baroque
G4	Zinc	Roano
G5	Empty	-
G6	Empty	-
G7	Zinc	Baroque
G8	Zinc	Baroque
G9	Zinc	Roano
G10	Empty	-
G11	Copper	Dirty Penny
G12	Empty	-
G13	Copper	Dirty Penny
G14	Copper	Dirty Penny
G15	Empty	-
G16	Zinc	Roano
G17	Empty	-
G18	Empty	-
H1	Zinc	Roano
H2	Empty	-
H3	Copper	Dirty Penny
H4	Empty	-
H5	Zinc	Roano
H6	Copper	Dirty Penny
H7	Empty	-
H8	Zinc	Roano
H9	Zinc	Roano
H10	Zinc	Baroque

Infill Panel Schedule		
PANEL NUMBER	MATERIAL	COLOR
H11	Zinc	Roano
H12	Zinc	Baroque
H13	Zinc	Roano
H14	Copper	Dirty Penny
H15	Zinc	Baroque
H16	Zinc	Roano
H17	Zinc	Roano
H18	Copper	Dirty Penny
J1	Zinc	Baroque
J2	Zinc	Roano
J3	Zinc	Baroque
J4	Zinc	Roano
J5	Zinc	Baroque
J6	Empty	-
J7	Zinc	Roano
J8	Zinc	Baroque
J9	Empty	-
J10	Copper	Dirty Penny
J11	Empty	-
J12	Zinc	Roano
J13	Empty	-
J14	Empty	-
J15	Zinc	Sample Color
J16	Copper	Dirty Penny
J17	Zinc	Baroque
J18	Empty	-
K1	Empty	-
K2	Zinc	Baroque
K3	Empty	-
K4	Zinc	Roano
K5	Copper	Dirty Penny
K6	Zinc	Roano
K7	Empty	-
K8	Copper	Dirty Penny
K9	Zinc	Baroque
K10	Copper	Dirty Penny
K11	Zinc	Baroque
K12	Zinc	Baroque
K13	Empty	-
K14	Zinc	Roano
K15	Zinc	Roano
K16	Zinc	Roano
K17	Copper	Dirty Penny
K18	Zinc	Roano

Grand total: 176

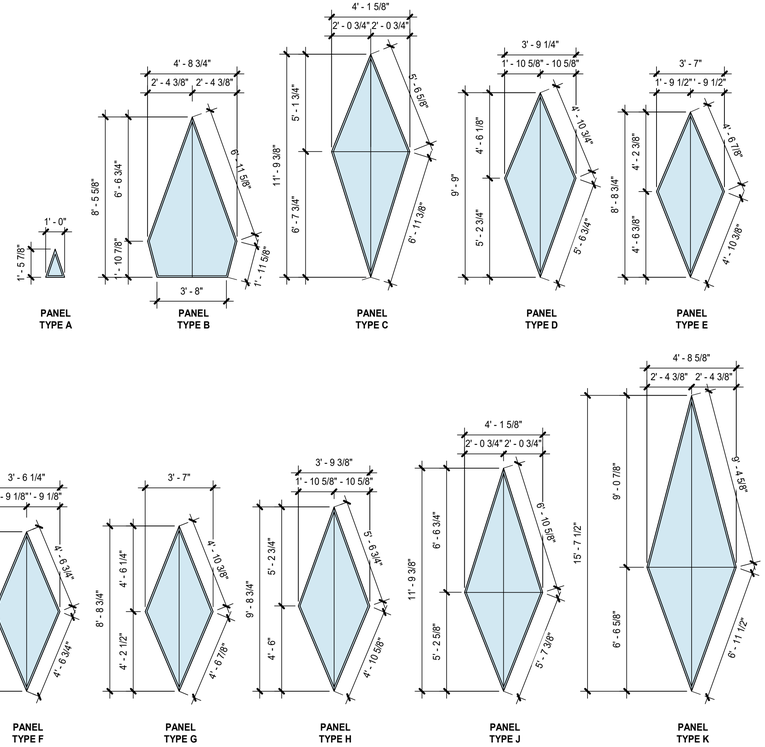
FABRICATED WALL PANEL ASSEMBLIES - 07 42 63

PANEL COLOR LEGEND

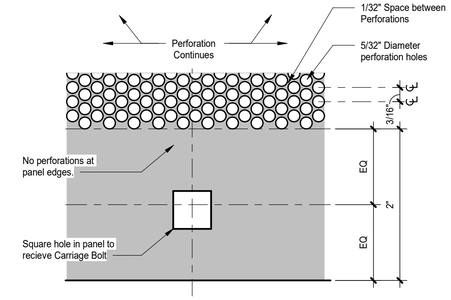
Color: Baroque

Color: Dirty Penny

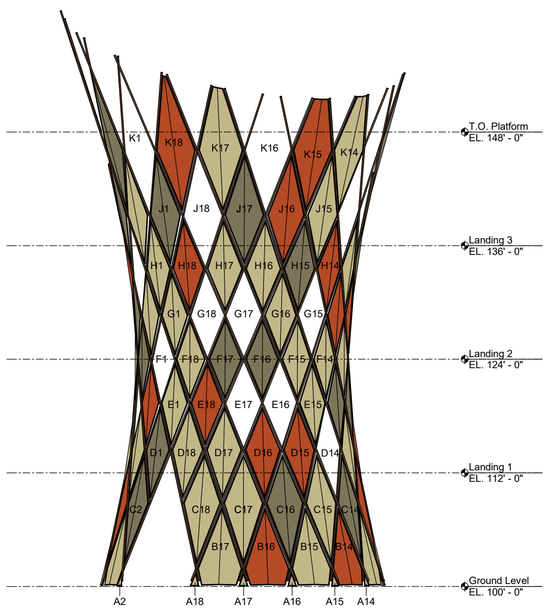
Color: Roano



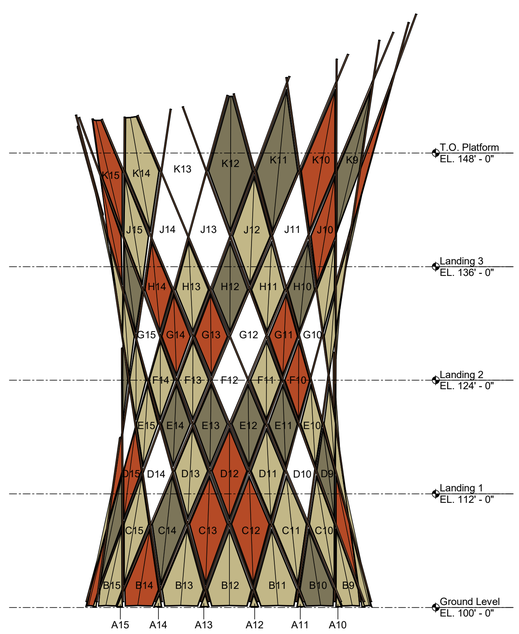
1 Panel Type Legend
1/4" = 1'-0"



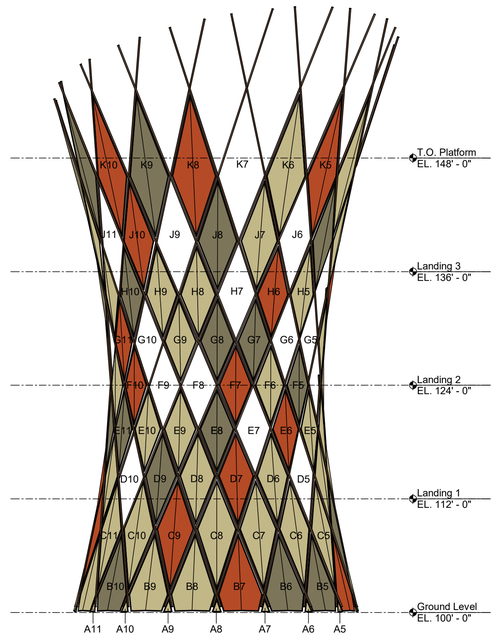
6 Enlarged Panel Clamp Detail
12" = 1'-0"



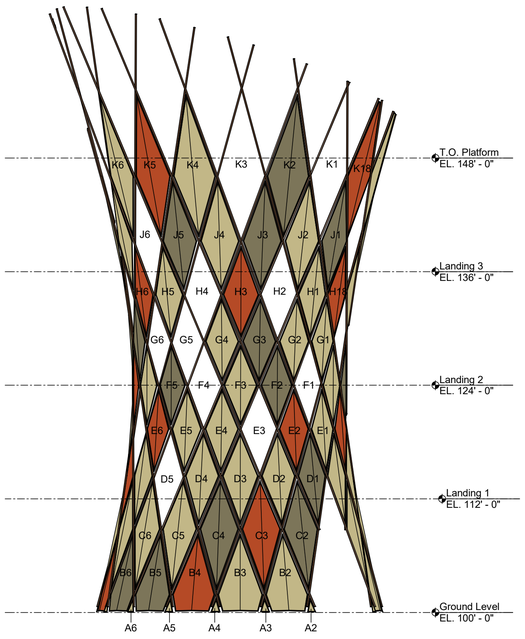
5 North Panel Elevation
1/8" = 1'-0"



4 West Panel Elevation
1/8" = 1'-0"



3 South Panel Elevation
1/8" = 1'-0"



2 East Panel Elevation
1/8" = 1'-0"

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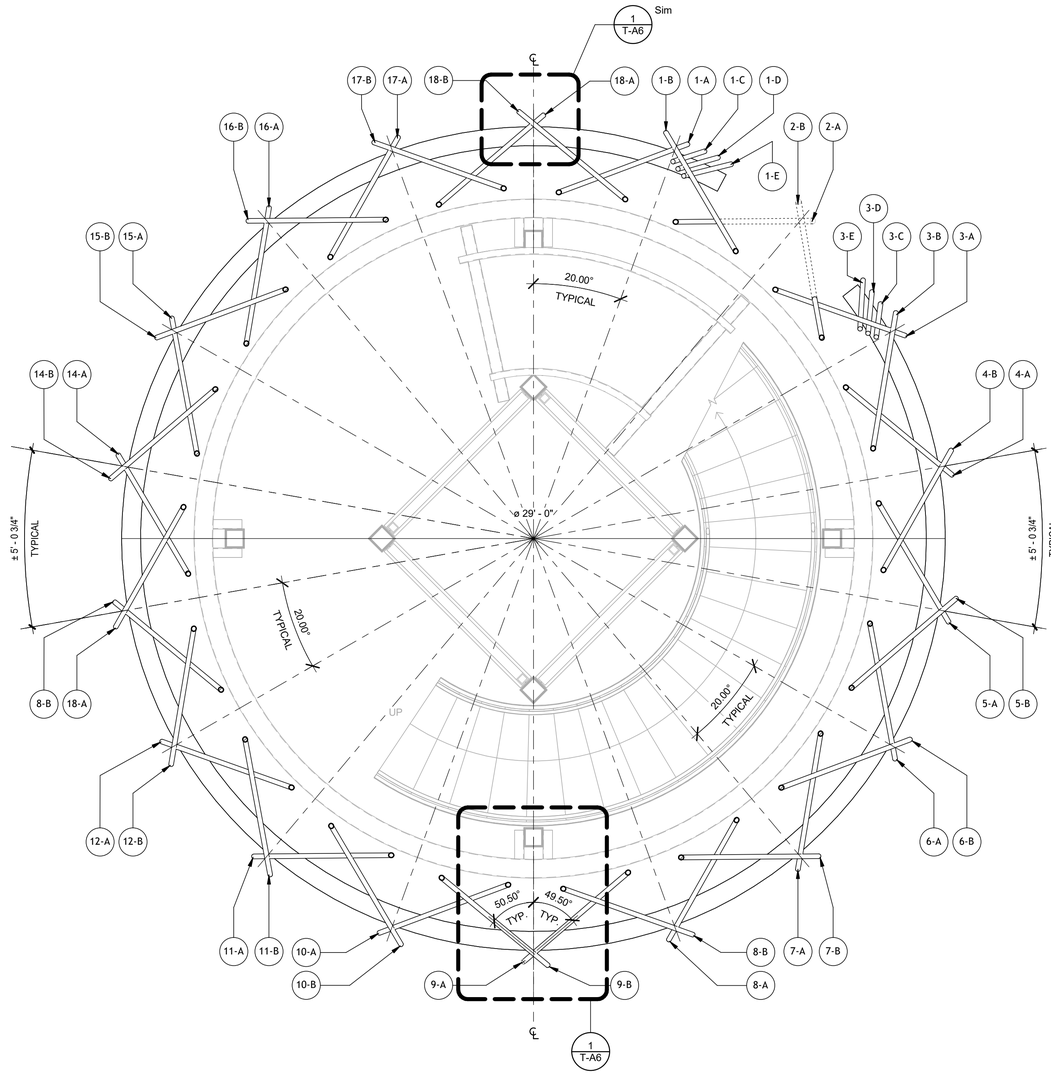
APPROVED BY:	BID DOCUMENTS

Infill Panel Schedule

T-A3



3 Ground Level Tube Layout Plan
3/8" = 1'-0"

Platform Tube Schedule	
Mark	**Cut Length**
1-C	3' - 0"
3-C	3' - 0"
1-D	3' - 9"
3-D	3' - 9"
1-E	4' - 4 3/4"
3-E	4' - 4 3/4"
2-A	46' - 9 3/8"
12-B	55' - 4 3/8"
3-A	55' - 4 7/8"
13-B	55' - 6 7/8"
11-B	55' - 9 5/8"
4-A	55' - 10 1/8"
14-B	56' - 5 7/8"
1-A	56' - 6 1/8"
10-B	56' - 9 5/8"
5-A	56' - 10 1/8"
15-B	58' - 1 3/8"
18-A	58' - 1 3/8"
9-B	58' - 3 3/8"
6-A	58' - 3 7/8"
2-B	59' - 9 7/8"
8-B	60' - 1 7/8"
7-A	60' - 2 3/8"
17-A	60' - 3 3/8"
16-B	60' - 3 5/8"
7-B	62' - 3 1/8"
8-A	62' - 3 5/8"
16-A	62' - 9 7/8"
17-B	62' - 10 5/8"
6-B	64' - 5 1/8"
9-A	64' - 5 5/8"
15-A	65' - 4 1/8"
18-B	65' - 4 5/8"
5-B	66' - 5 5/8"
10-A	66' - 5 5/8"
14-A	67' - 5 1/8"
1-B	67' - 5 5/8"
11-A	68' - 0 1/8"
4-B	68' - 0 3/8"
13-A	68' - 7 3/8"
12-A	68' - 9 5/8"
3-B	68' - 10 1/8"
Grand total: 42	

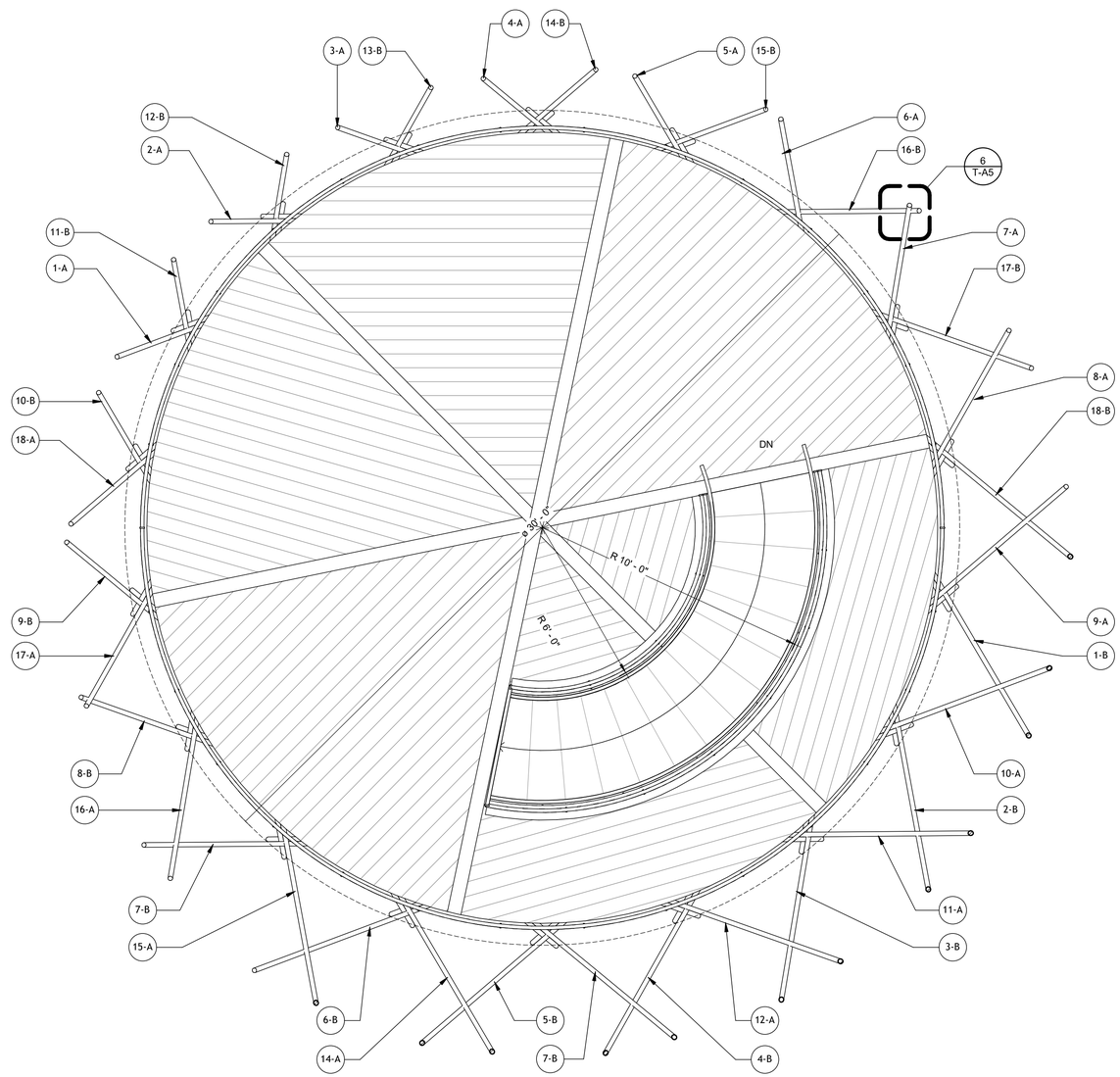
Base Tube Schedule	
Mark	**Cut Length**
1-A	56' - 6 1/8"
1-B	67' - 5 5/8"
1-C	3' - 0"
1-D	3' - 9"
1-E	4' - 4 3/4"
2-A	46' - 9 3/8"
2-B	59' - 9 7/8"
3-A	55' - 4 7/8"
3-B	68' - 10 1/8"
3-C	3' - 0"
3-D	3' - 9"
3-E	4' - 4 3/4"
4-A	55' - 10 1/8"
4-B	68' - 0 3/8"
5-A	56' - 10 1/8"
5-B	66' - 5 5/8"
6-A	58' - 3 7/8"
6-B	64' - 5 1/8"
7-A	60' - 2 3/8"
7-B	62' - 3 1/8"
8-A	62' - 3 5/8"
8-B	60' - 1 7/8"
9-A	64' - 5 5/8"
9-B	58' - 3 3/8"
10-A	66' - 5 5/8"
10-B	56' - 9 5/8"
11-A	68' - 0 1/8"
11-B	55' - 9 5/8"
12-A	68' - 9 5/8"
12-B	55' - 4 3/8"
13-A	68' - 7 3/8"
13-B	55' - 6 7/8"
14-A	67' - 5 1/8"
14-B	56' - 5 7/8"
15-A	65' - 4 1/8"
15-B	58' - 1 3/8"
16-A	62' - 9 7/8"
16-B	60' - 3 5/8"
17-A	60' - 3 3/8"
17-B	62' - 10 5/8"
18-A	58' - 1 3/8"
18-B	65' - 4 5/8"
Grand total: 42	

Tube Cladding:

Metal Fabrications - 05 50 00
High Performance Coating - 09 96 00

Tube Cladding Schedule Notes:

Cut length represents overall length and may differ from what will be required. Contractor to verify in field to ensure tube cuts and terminations match as described by the elevation shown on 3/T-A2.



6 Platform Level Tube Layout Plan
3/8" = 1'-0"

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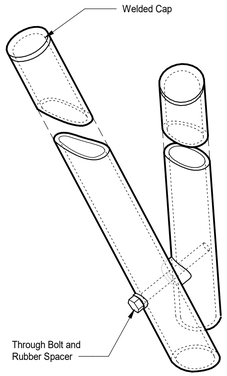
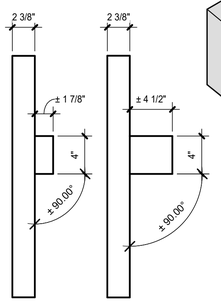
DESIGNED BY:	JOB NUMBER: DNR-250004
DRAWN BY:	SCALE: AS NOTED
CHECKED BY:	DATE: 09/04/2025
APPROVED BY:	BID DOCUMENTS

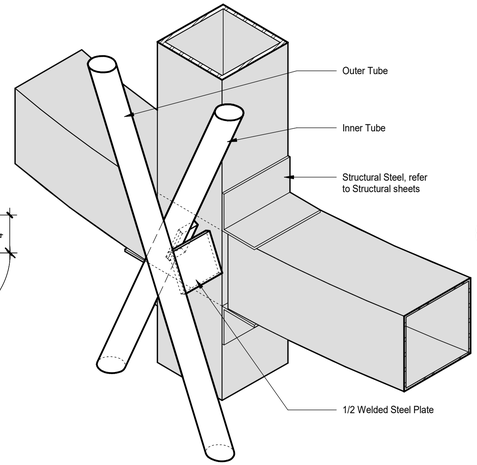
Enlarged Tower Plans and Tube Schedules

T-A4

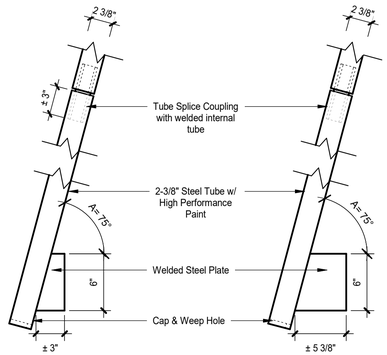


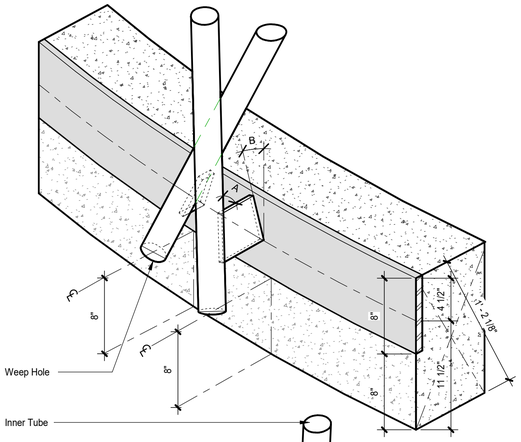
6 Typical Tube Top Termination and Anchor

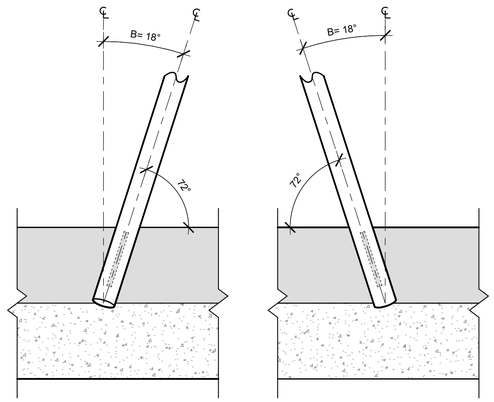


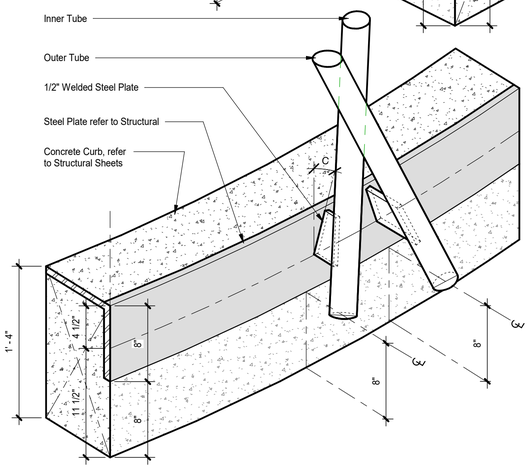


5 Typical Tube Intermediate Overlap at Column Detail



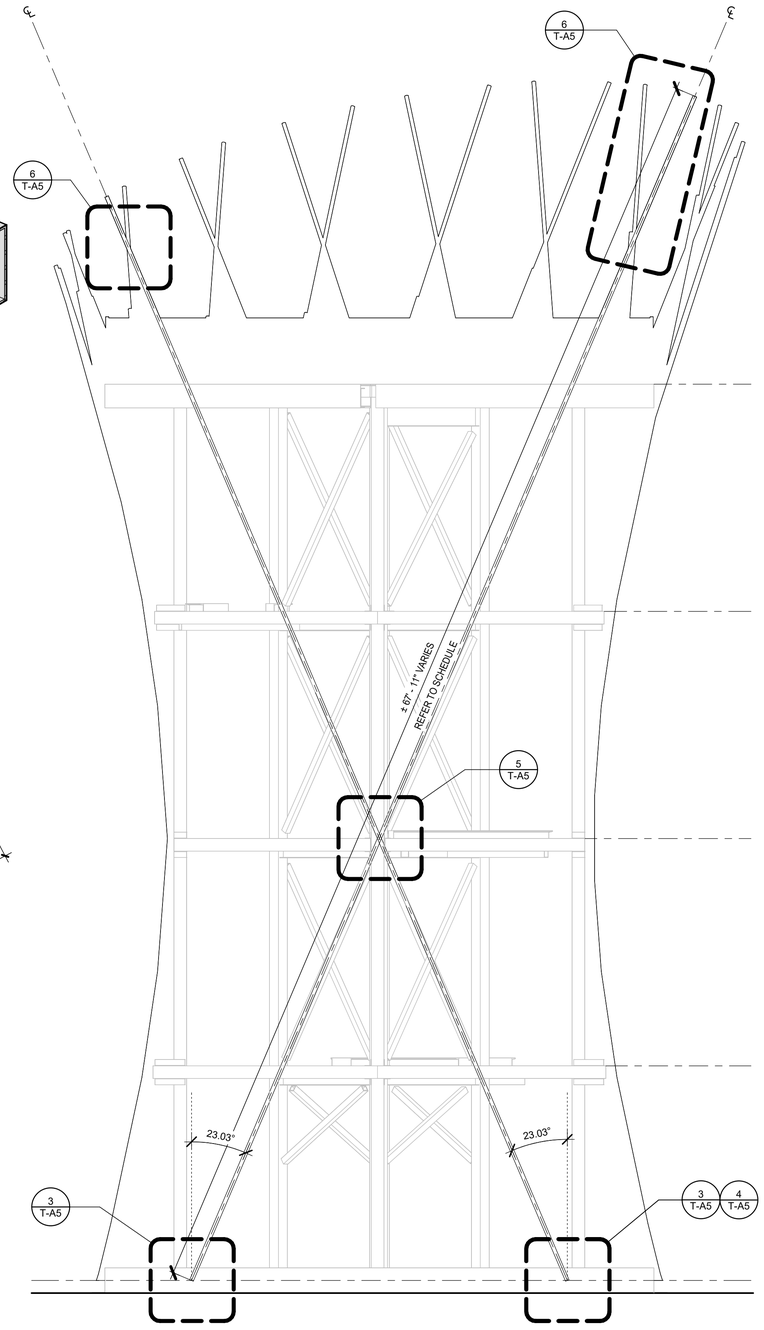




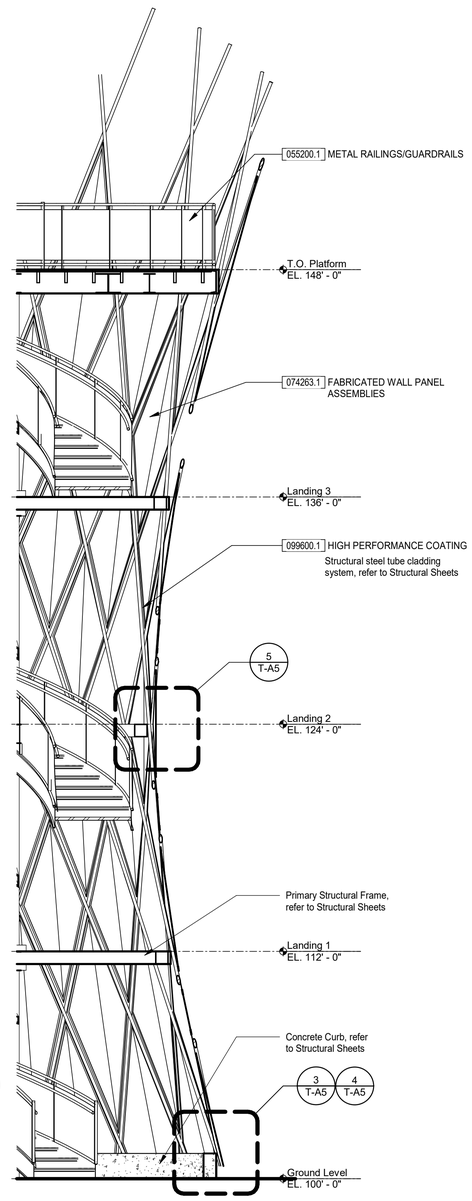


4 Typical Tube Slope at Base
1 1/2" = 1'-0"

3 Typical Tube Base Connection Detail



2 Typical Tube Elevation
1/4" = 1'-0"



1 Wall Section
1/4" = 1'-0"

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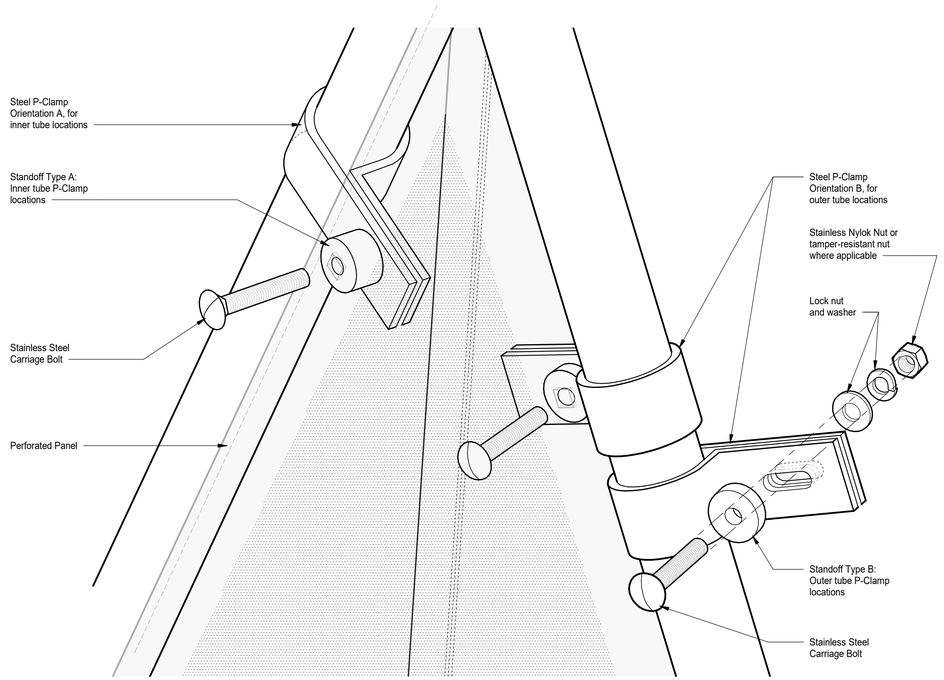
ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

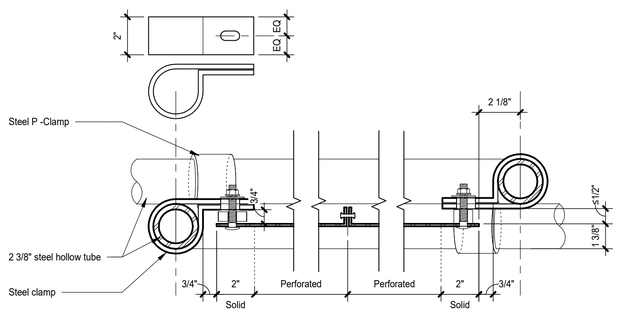
DESIGNED BY:	JOB NUMBER: DNR-250004
DRAWN BY:	SCALE: AS NOTED
CHECKED BY:	DATE: 09/04/2025
APPROVED BY:	BID DOCUMENTS

Tower Wall Sections and Details

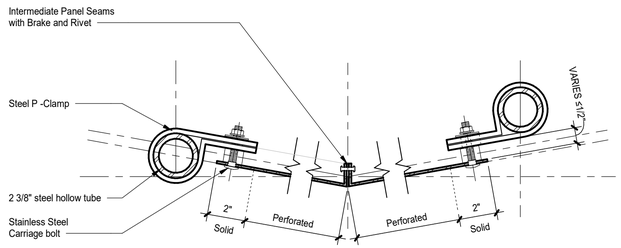
T-A5



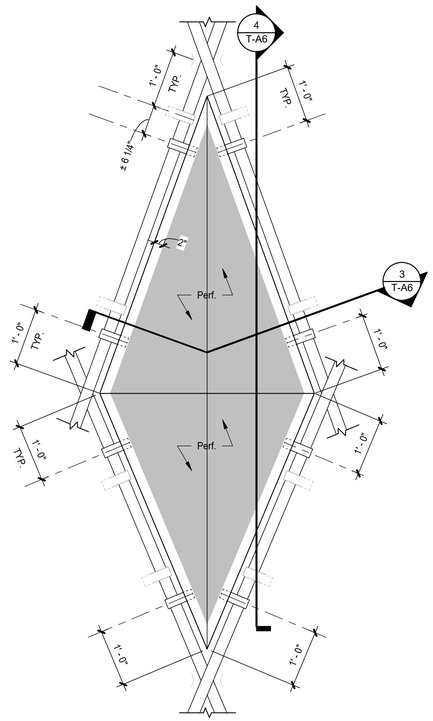
5 Typical Skin Fastening Detail



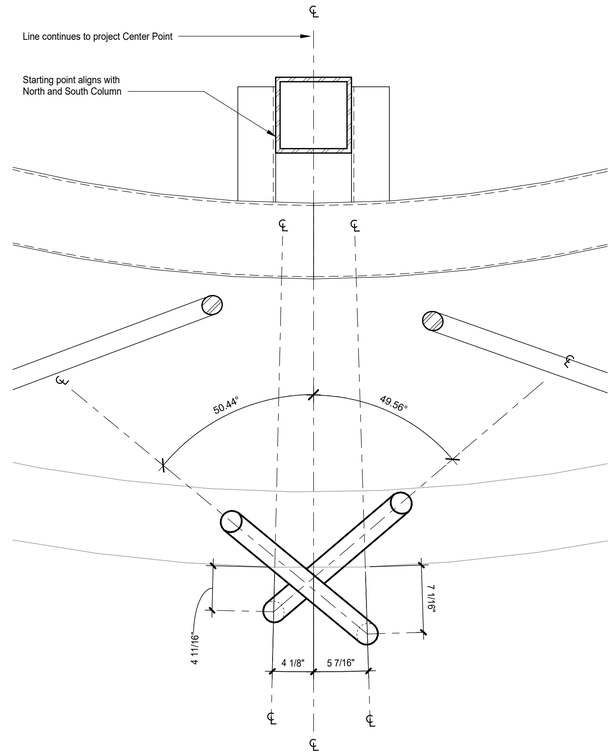
4 Panel Detail Horizontal Seam
3" = 1'-0"



3 Panel Detail Vertical Seam
3" = 1'-0"



2 Typical Panel Elevation
3/4" = 1'-0"



1 Typical Tube Starting Angle Detail
1 1/2" = 1'-0"

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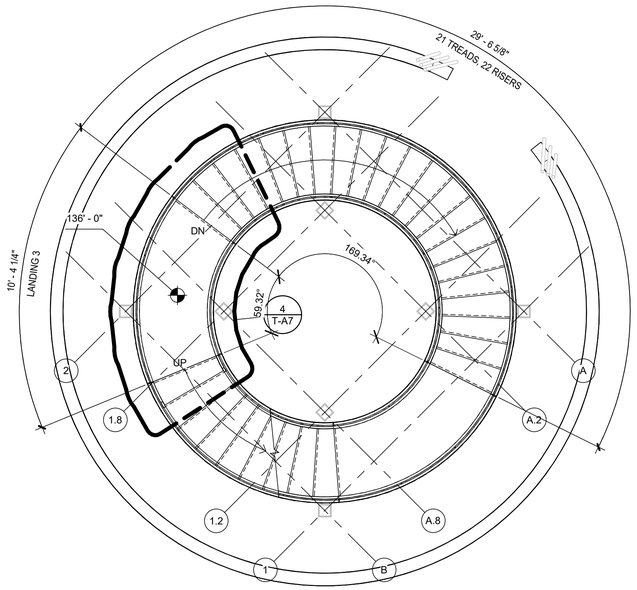
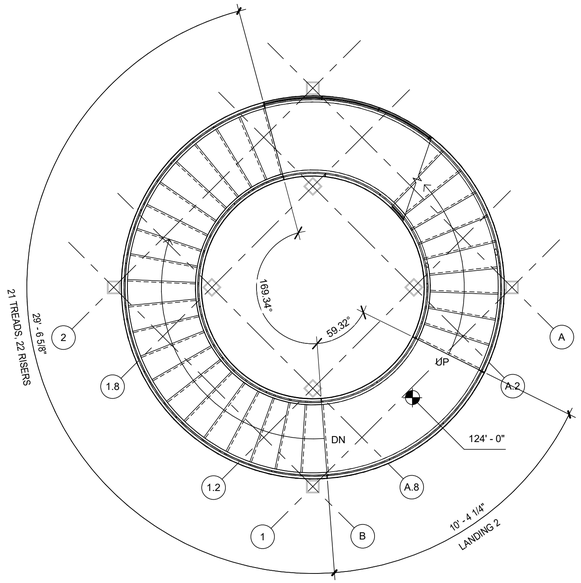
APPROVED BY:	BID DOCUMENTS

Exterior Details

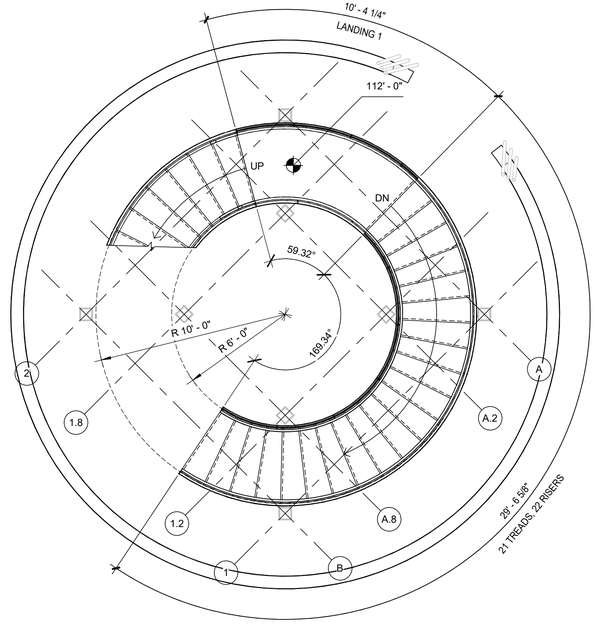
T-A6



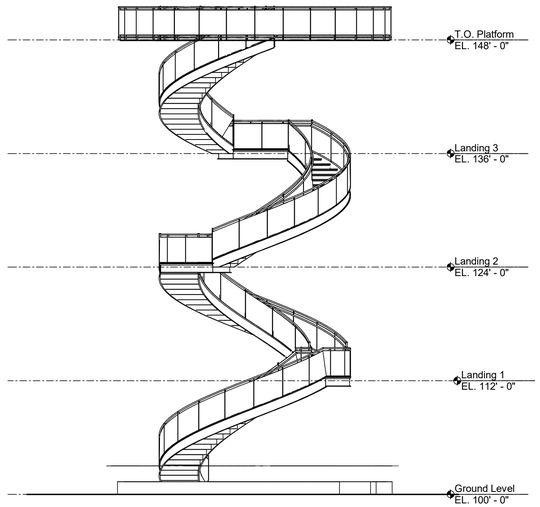
3 Stair Plan - Landing 3
1/4" = 1'-0"



2 Stair Plan - Landing 2
1/4" = 1'-0"

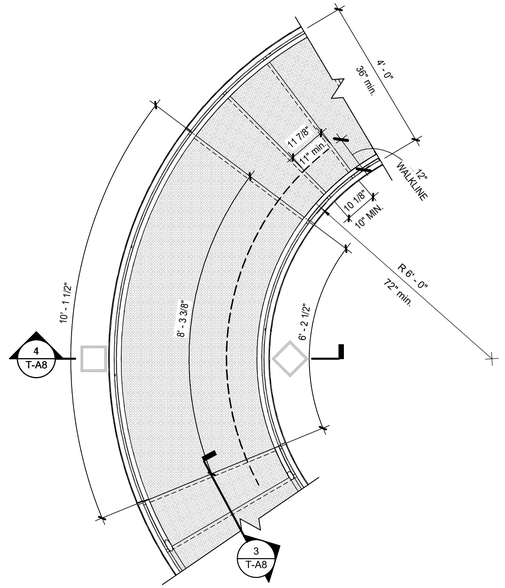


1 Stair Plan - Landing 1
1/4" = 1'-0"

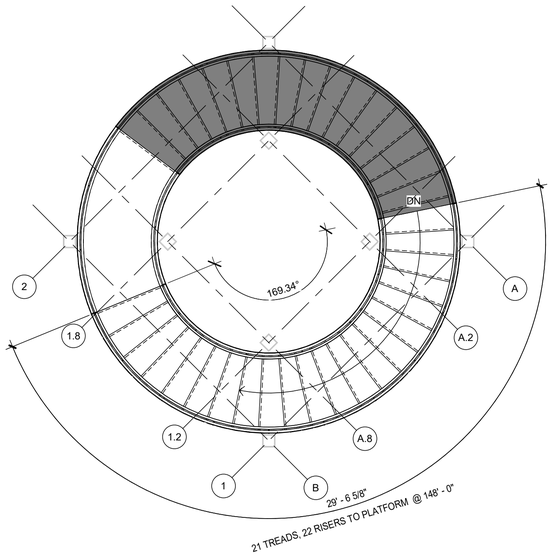


NOTE:
CLADDING AND STRUCTURE NOT SHOWN FOR A CLEAR VIEW OF STAIRS AND LANDINGS.

6 East Elevation Stair Diagram
1/8" = 1'-0"



4 Typical Landing Plan
1/2" = 1'-0"



5 Stair Plan - Platform
1/4" = 1'-0"

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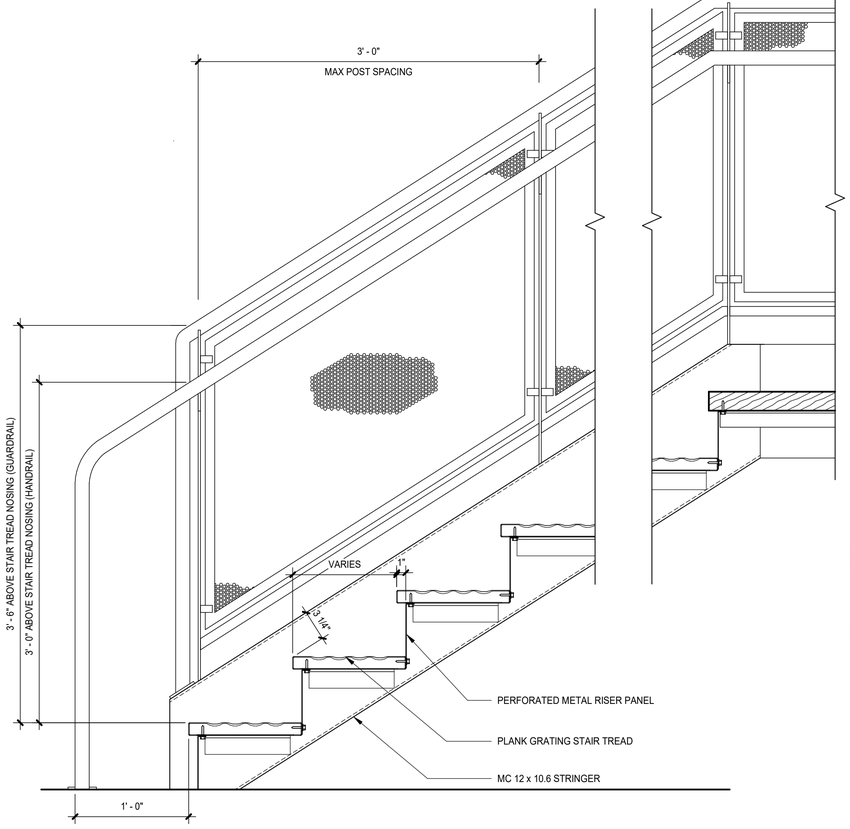
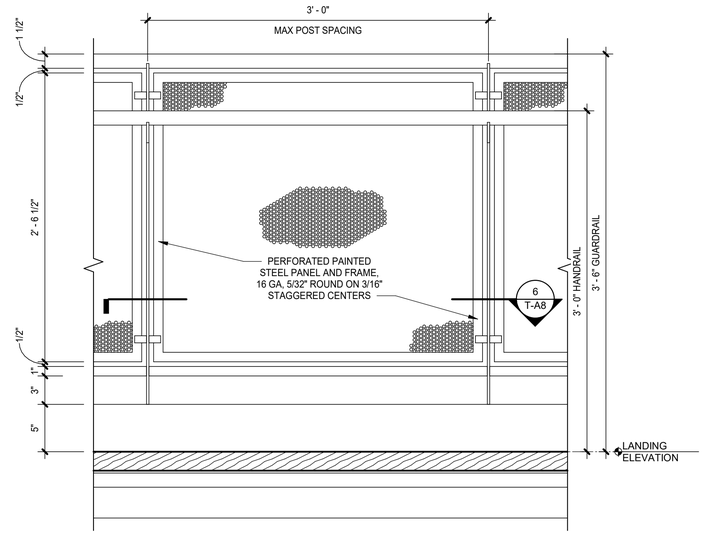
Tower Stair Details

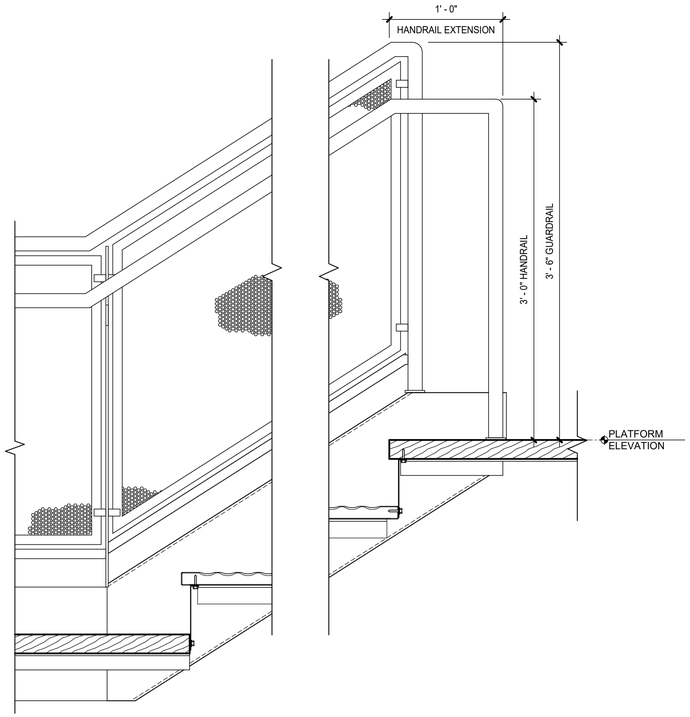
T-A7



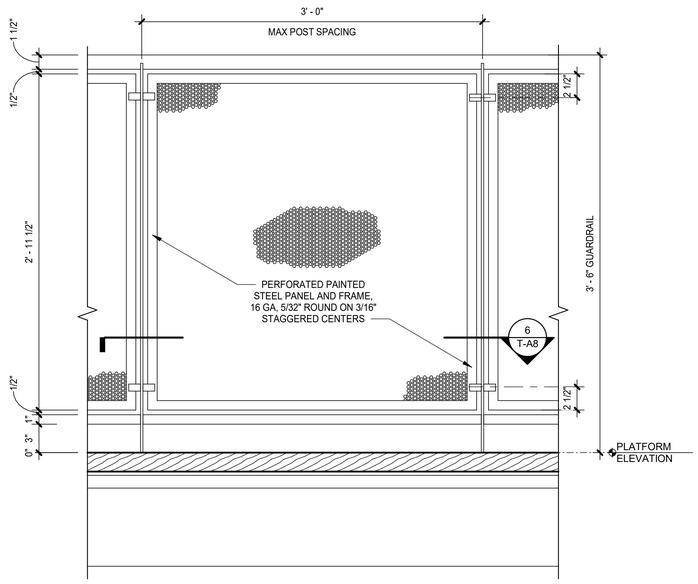
3 Grated Stair Detail
1 1/2" = 1'-0"



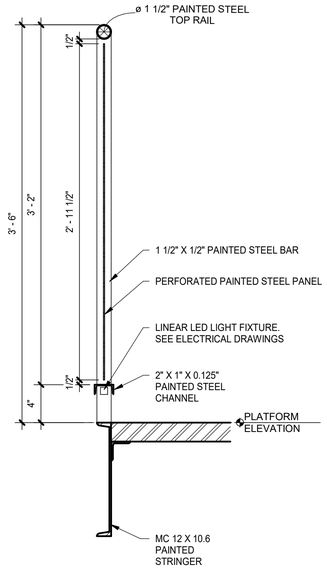
2 Stair Railing Elevation
1 1/2" = 1'-0"



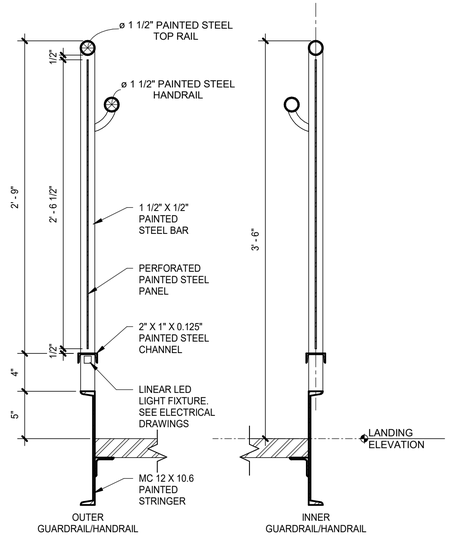
7 Grated Stair Detail Handrail Extension
1 1/2" = 1'-0"



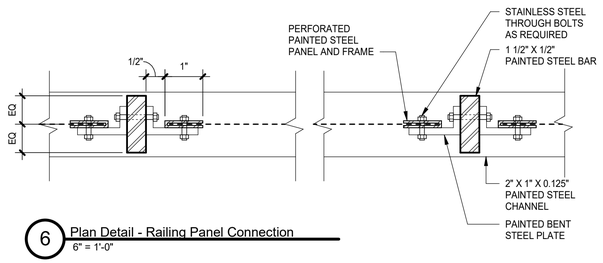
5 Platform Guard Railing Elevation
1 1/2" = 1'-0"



4 Platform Guard Railing Detail
1 1/2" = 1'-0"



1 Stair Railing Detail
1 1/2" = 1'-0"



6 Plan Detail - Railing Panel Connection
6" = 1'-0"

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Tower Stair and Railing Details

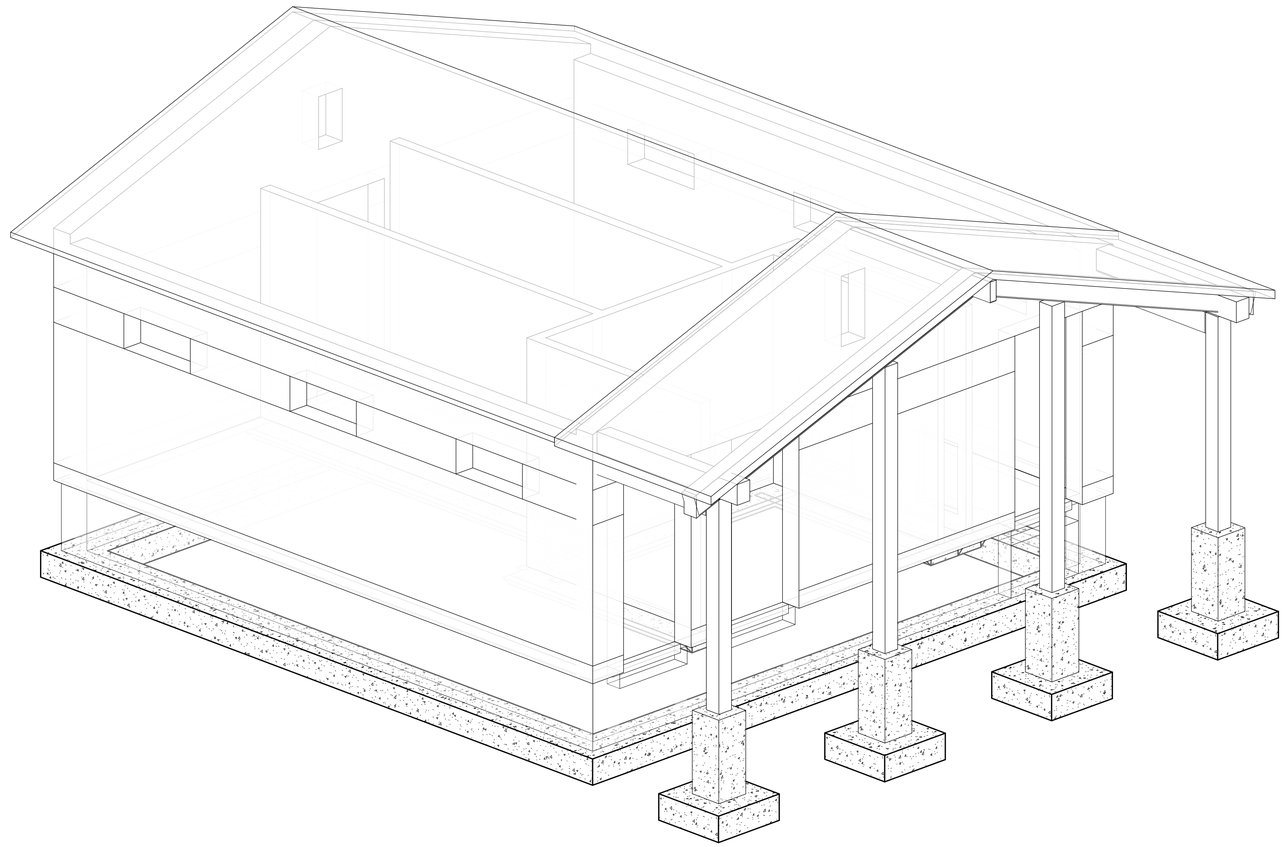
T-A8

ABBREVIATIONS

#	NUMBER
#	POUND (S)
#/FT	POUNDS PER LINEAL FOOT
CL	CENTERLINE
PL	PLATE
Ø	DIAMETER
AB	ANCHOR BOLT
ADD'L	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
ANC	ANCHOR
APPROX	APPROXIMATELY
ARCH	ARCHITECT(URAL)
B PL	BASE PLATE
B, BOT	BOTTOM
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BRG	BEARING
BRK	BRICK
BS	BOTH SIDES
BSMT	BASEMENT
BTWN	BETWEEN
c/c	CENTER-TO-CENTER
CB	CONCRETE BEAM
CE	CONTINUOUS END
CFMF	COLD FORMED METAL FRAMING
CJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECT (ION)
CONST	CONTRUCT (ION)
CONT	CONTINUOUS (ATION)
CONTR	CONTRACTOR
CTR	CENTER
CW	CURTAIN WALL
CY	CUBIC YARDS
DA	DRILLED ANCHOR
DBL	DOUBLE
DBLS	DOUBLE TIES
DE	DISCONTINUOUS END
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DR	DISTRIBUTION RIB
DWG	DRAWING
DWL	DOWEL
E	EAST
E-, EXTG	EXISTING
EA	EACH
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEV	ELEVATOR
EMBED	EMBEDDED (MENT)
ENGR	ENGINEER
EOS	EDGE OF SLAB
EQ	EQUAL
ES	EACH SIDE
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
FAB	FROM ADJACENT BEAM

FABR	FABRICATE (OR)
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FIN	FINISHED
FL	FULL LENGTH
FLR	FLOOR
FND	FOUNDATION
FOM	FACE OF MASONRY
FOS	FACE OF SHEATHING
FOV	FACE OF VENEER
FOW	FACE OF WALL
FS	FAR SIDE
FT	FEET, FOOT
FTG	FOOTING
GA	GAGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERAL
GR	GRADE
GRND	GROUND
GRTG	GRATING
H, HORIZ	HORIZONTAL
HD	HEADED
HK	HOOK
HS	HIGH-STRENGTH
HVAC	HEATING VENTILATING AIR CONDITIONING
ID	INSIDE DIAMETER (DIMENSION)
IF	INSIDE FACE
IN	INCH
INT	INTERIOR, INTERMEDIATE
JST	JOIST
JT	JOINT
KP	KIP (1000 POUNDS)
KSF	KIPS PER SQUARE FOOT
LAT	LATERAL
LBS, #	POUNDS
LG	LONG
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LOC	LOCATION
LSH	LONG SIDE HORIZONTAL
LSL	LONG SLOTTED HOLES
LSV	LONG SIDE VERTICAL
LVL	LAMINATED VENEER LUMBER
LW	LONG WAY
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MBR	MEMBER
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURE (R)
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MPH	MILES PER HOUR
MTL	METAL
N	NORTH
N/A	NOT APPLICABLE
NF	NEAR FACE
NIC	NOT IN CONTRACT
NO, #	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NSH	NORMAL SLOTTED HOLES
NTS	NOT TO SCALE
o/o	OUT-TO-OUT

OC	ON CENTER (S)
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE (HAND)
OPT	OPTIONAL
ORIG	ORIGINAL
OSB	ORIENTED STRAND BOARD
OSL	OUT STANDING LEG
OVHD	OVERHEAD
OVS	OVERSIZED ROUND HOLES
P/C	PRECAST CONCRETE
PAF	POWDER ACTUATED FASTENER (S)
PEMB	PRE-ENGINEERED METAL BUILDING
PLF	POUND PER LINEAR FOOT
PLWD	PLYWOOD
PNL	PANEL
PREL	PRELIMINARY
PROJ	PROJECT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
QTY	QUANTITY
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCE (ING), (ED)
REQ	REQUIRE (MENTS)
REQD	REQUIRED
REV	REVIS (ION), (ED)
RF	ROOF
RM	ROOM
RTU	ROOF TOP UNIT
S	SOUTH
SC	SLIP-CRITICAL
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL	SLOPE (D)
SP	SPACE (S), (ED)
SPEC	SPECIFICATION (S)
SPL	SPLICE
SQ	SQUARE
SS	STAINLESS STEEL
SSL	SHORT SLOTTED HOLES
SSR	SHEAR STUD RAILS
STA	STATION
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURE (AL)
SVC	SERVICE
SW	SHORT WAY
SYM	SYMMETRICAL
T	TOP
T&B	TOP AND BOTTOM
T/	TOP OF
TEMP	TEMPERATURE, TEMPORARY
THD	THREADED
THK	THICK (NESS)
TOS	TOP OF STEEL
TOSL	TOP OF SLAB
TOT	TOTAL
TYP	TYPICAL
UN	UNLESS NOTED
UNO	UNLESS NOTED OTHERWISE
V	VERTICAL
VERT	VERTICAL
W	WEST
W/	WITH
W/C	WATER/CEMENT RATIO
W/O	WITHOUT
WD	WOOD
WL	WIND LOAD
WP	WORK (ING) POINT
WT	WEIGHT
WWR	WELDED WIRE REINFORCING
XX	EXTRA STRONG
XXS	DOUBLE EXTRA STRONG



RESTROOMS BUILDING

SMBH SHEET LIST

NUMBER	NAME
R-S1	STRUCTURAL COVER SHEET
R-S2	GENERAL NOTES
R-S3	SPECIAL INSPECTIONS
R-S4	FOUNDATION PLAN
R-S5	ROOF FRAMING PLAN
R-S6	RESTROOM BLDG SECTIONS

STATE OF OHIO
GREGORY WILLIAM BARSCH
63430
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PROFESSIONAL ENGINEER
09 / 03 / 2025

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Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: SMBH	JOB NUMBER: DNR-210062.02
DRAWN BY: SMBH	SCALE: AS NOTED
CHECKED BY: SMBH	DATE: 08/28/2025
APPROVED BY: SMBH	CONSTRUCTION DOCUMENTS

STRUCTURAL COVER SHEET | **R-S1** | 51

010000 - GENERAL STRUCTURAL NOTES

1. THE GENERAL STRUCTURAL NOTES ARE INTENDED TO AUGMENT THE DRAWINGS. SHOULD CONFLICTS EXIST BETWEEN THE DRAWINGS AND THE GENERAL STRUCTURAL NOTES, THE STRICTEST PROVISION SHALL GOVERN.
2. GOVERNING CODE:
   OHIO BUILDING CODE - 2024 EDITION
3. SEE STRUCTURAL PLANS FOR DESIGN SOIL BEARING PRESSURE AND LIVE LOADS. LIVE LOADS REDUCED IN ACCORDANCE WITH THE GOVERNING CODE, IF APPLICABLE.
4. ROOF SNOW LOAD:

GROUND SNOW LOAD (Pg)	- 20 PSF
SNOW EXPOSURE FACTOR (Ce)	- 1.0
IMPORTANCE FACTOR (Is)	- 1.0
THERMAL FACTOR (Ct)	- 1.0
FLAT ROOF SNOW LOAD (Pf)	- 14 PSF
UNIFORM ROOF DESIGN SNOW LOAD	- 20 PSF

   SEE PLANS OR JOIST DIAGRAMS FOR SNOW DRIFT INFORMATION
5. WIND LOAD:

BASIC WIND SPEED	- 107 MPH
ALLOWABLE WIND SPEED	- 83 MPH
RISK CATEGORY	- II
EXPOSURE CATEGORY	- EXPOSURE C
INTERNAL PRESSURE COEFFICIENT (G Cpi)	- ±0.18

   COMPONENTS AND CLADDING - SEE TABLE BELOW

COMPONENTS AND CLADDING

WIND SPEED, V= 107 MPH
EXPOSURE CATEGORY _
HEIGHT, H, 11 FT (ENCLOSED BUILDING; H< 60 FT)
PARAPET HT < 3'-0"

ROOF			
	SURFACE PRESSURE (PSF)		
AREA	10 sf	50 sf	100 sf
NEGATIVE ZONE 1	-27.7	-16.8	-10.0
NEGATIVE ZONE 2	-40.4	-27.7	-22.2
NEGATIVE ZONE 3	-48.0	-32.0	-25.1
POSITIVE ALL ZONES	10.0	10.0	10.0
OVERHANG ZONE 1 & 1'	-31.7	-24.5	-19.0
OVERHANG ZONE 2	-44.4	-34.9	-30.8
OVERHANG ZONE 3	-52.0	-35.5	-28.4

WALLS			
	SURFACE PRESSURE (PSF)		
WALL AREA	10 sf	100 sf	500 sf
NEGATIVE ZONE 4	-16.2	-14.0	-12.4
NEGATIVE ZONE 5	-20.0	-15.6	-12.4
POSITIVE ZONES 4 & 5	15.0	12.7	11.2

NOTES:
1. SEE ASCE7 FOR ZONE DEFINITIONS.
2. ALL WIND PRESSURES ARE ULTIMATE LOADS.

6. SEISMIC LOAD:

RISK CATEGORY	- II
IMPORTANCE FACTOR (Ie)	- 1.0
MAPPED SPECTRAL RESPONSE ACCELERATION AT SHORT PERIOD (Ss)	- 0.138
MAPPED SPECTRAL RESPONSE ACCELERATION AT ONE-SECOND PERIOD (S1)	- 0.069
SITE CLASS	- D
SPECTRAL RESPONSE PARAMETER AT SHORT PERIOD (SDs)	- 0.148
SPECTRAL RESPONSE PARAMETER AT ONE-SECOND PERIOD (SD1)	- 0.11
SEISMIC DESIGN CATEGORY	- B
DESIGN BASE SHEAR ASD	- 2K
SEISMIC RESPONSE COEFFICIENT (Cs)	- 0.074

   BASIC SEISMIC FORCE RESISTING SYSTEM:
   A9 -ORDINARY REINFORCED MASONRY SHEAR WALLS (R=2, Ω=2 1/2, Cd=1 3/4)
   DESIGN BY EQUIVALENT LATERAL FORCE PROCEDURE.
7. MECHANICAL FRAMING LOADS, OPENINGS, AND STRUCTURE IN ANY WAY RELATED TO MECHANICAL REQUIREMENTS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL OBTAIN APPROVAL OF MECHANICAL AND OTHER TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. EXCESS COST RELATED TO VARIATION IN MECHANICAL REQUIREMENTS TO BE BORNE BY MECHANICAL CONTRACTOR. COORDINATE SIZE AND LOCATION OF ALL OPENINGS WITH THE MECHANICAL DRAWINGS.
8. IF EQUIPMENT SHIPPING OR OPERATING WEIGHT EXCEEDS VALUE SHOWN ON THESE DRAWINGS, DO NOT PLACE EQUIPMENT. NOTIFY STRUCTURAL ENGINEER AND ARCHITECT.
9. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCES AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS, OR TIE-DOWNS WHICH MIGHT BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER COMPLETION OF THE PROJECT.
10. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
11. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS RELATING TO EXISTING CONSTRUCTION AND EXISTING SERVICE ON THE SITE.
12. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF COLUMNS, WALLS, OPENINGS ETC. WITH THE ARCHITECTURAL DRAWINGS PRIOR TO PROCEEDING WITH THE WORK. DO NOT SCALE THESE DRAWINGS. USE DIMENSIONS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN STRUCTURAL DRAWINGS AND DRAWINGS OF ANY OTHER DISCIPLINE.
13. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION DEAD LOAD APPLIED TO THE STRUCTURAL FRAMING.
14. THE ERECTION AND CONSTRUCTION SEQUENCES SHALL BE DEVELOPED BY THE CONTRACTOR TO ACCOUNT FOR THE EFFECTS OF THERMAL MOVEMENTS TO THE STRUCTURE. DETAILED EXPANSION JOINTS ON THESE DRAWINGS ARE DESIGNED FOR MOVEMENT OF A COMPLETED STRUCTURE.
15. DO NOT MODIFY, ALTER OR REPAIR ANY STRUCTURAL MEMBER WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
16. SHOP DRAWINGS SHALL BE REVIEWED AND STAMPED BY CONTRACTOR PRIOR TO SUBMISSION TO STRUCTURAL ENGINEER.
17. DEFERRED SUBMITTALS: THE FOLLOWING COMPONENTS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER HIRED BY THE CONTRACTOR, LICENSED IN THE STATE OF THE PROJECT. DESIGN INFORMATION SHALL BE SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER. SEE CONTRACT DOCUMENTS FOR DESIGN LOADS AND OTHER DESIGN CRITERIA.
    A. WOOD ROOF TRUSSES.
    B. ERECTION PROCEDURES AND SEQUENCES.
18. SEE SHEET R-S3 FOR SPECIAL INSPECTIONS.

033000 - CAST-IN-PLACE CONCRETE

1. SPECIFICATIONS AND STANDARDS:
   CONCRETE WORK, DETAILING, FABRICATION AND PLACING OF BARS AND CONCRETE SHALL BE GOVERNED BY THE APPLICABLE VERSION OF:
   A. ACI 301, ACI 315, AND ACI 318.
   B. CRSI RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS.
   C. ACI 306 AND ACI 305 FOR COLD AND HOT WEATHER CONCRETING, RESPECTIVELY. THE CONTRACTOR SHALL AT ALL TIMES HAVE A COPY OF THE RELEVANT SPECIFICATIONS QUOTED ABOVE ON THE SITE AND THE SUPERVISORY PERSONNEL SHALL BE THOROUGHLY FAMILIAR WITH THE CONTENTS THEREOF.
2. CONTINGENCIES:
   A. LEAN CONCRETE UNDER FOUNDATIONS FOR EARTH FILL DUE TO ACCIDENTAL OVEREXCAVATION OR SOFT SPOTS.
3. CONCRETE REQUIREMENTS AND LOCATION IN JOB:

CLASS	LOCATION	f'c	MAX W/C RATIO	SPECIAL REQUIREMENTS
1	FOOTINGS	3000PSI		
2	EXTERIOR CONCRETE	4500 PSI	0.45	6% +/- 1.5% AIR CONTENT
3	INTERIOR SLABS-ON-GRADE,	3500 PSI	0.50	3% MAX AIR CONTENT
4	LEAN CONCRETE	1500 PSI		NO TESTS, SOFT SOIL REPLACE
5	FLOWABLE FILL	85 PSI		NO TESTS, UTILITY BACKFILL UNDER FOOTINGS

   SUBMIT CONCRETE MIXES FOR APPROVAL IN ACCORDANCE WITH ACI 301 BEFORE PLACING ANY CONCRETE. ALL MIXES SHALL INCLUDE EITHER ASTM C150 PORTLAND CEMENT OR ASTM C595 PORTLAND-LIMESTONE CEMENT AND ALL AGGREGATE SHALL CONFORM TO ASTM C33. CONCRETE TESTING PER ACI 318 SECTION 26.12.
4. REINFORCING REQUIREMENTS:
   A. BARS: ASTM A615, GRADE 60.
   B. WELDED WIRE REINFORCING: ASTM A1064.
5. FOOTINGS:
   A. DOWELS IN FOOTINGS TO MATCH VERTICAL REINFORCING IN WALLS, COLUMNS AND PIERS. DOWELS IN FOOTINGS FOR MASONRY WALLS ARE NOT REQUIRED UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DETAILS.
   B. BEND ALL BARS 24 DIAMETERS AROUND CORNERS OF FOOTINGS. BARS AT THE INSIDE FACE OF THE CORNER SHALL BE CONTINUED ACROSS TO THE OUTSIDE AND THEN BENT.
6. SLABS:
   A. IF NO OTHER REINFORCING IS SHOWN IN A SLAB ON GRADE, PROVIDE 6x6-W1.4xW1.4 WWR AT THICKNESS/3 FROM TOP OF SLAB, UNLESS NOTED OTHERWISE.
   B. PROVIDE (2) #4x3'-0" DIAGONAL REINF AT 2" SPACING IN TOP THIRD OF SLAB (1" MIN CLR) AT ALL RE-ENTRANT CORNERS IN SLABS ON GRADE.
   C. PROVIDE (2) #4x3'-0" REINF AT 2" SPACING IN TOP THIRD OF SLAB (1" MIN CLR) PERPENDICULAR TO JOINTS THAT TERMINATE AT A PARTICULAR JOINT IN SLABS ON GRADE.
7. COVER:
   A. MINIMUM CONCRETE COVER, UNLESS NOTED OTHERWISE:
      - UNFORMED SURFACE IN CONTACT WITH THE GROUND: 3".
      - FORMED SURFACES EXPOSED TO EARTH OR WEATHER: 1 1/2" FOR #5 OR SMALLER, 2" FOR #6 OR LARGER.
      - FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER: WALLS & SLABS: 3/4", BEAMS & COLUMNS (TO TIES OR STIRRUPS): 1 1/2".
8. MISCELLANEOUS:
   A. CONSTRUCTION JOINTS PERMITTED ONLY WHERE SHOWN OR AS APPROVED BY THE STRUCTURAL ENGINEER.
   B. PROVIDE EQUIPMENT PADS, INERTIA BASES AND CURBS AS NOTED ELSEWHERE IN THE CONTRACT DOCUMENTS. UNLESS NOTED, DOWEL PADS WITH HOOKED #4x0'-6" PROJECTING 3" FROM CONCRETE BELOW AT 18" c/c EACH WAY. REINFORCE PADS WITH #4 @ 18" c/c EACH WAY AT MID-DEPTH (FOR PADS <8" THICK) UNLESS REQUIRED OTHERWISE BY EQUIPMENT SUPPLIER.
   C. SUBMIT STEEL REINFORCING SHOP DRAWINGS THAT DETAIL FABRICATION, BENDING AND PLACEMENT PRIOR TO FABRICATION.

042000 CONCRETE UNIT MASONRY

1. SPECIFICATIONS AND STANDARDS: DESIGN OF MASONRY SHALL BE GOVERNED BY THE APPLICABLE VERSION OF:
   A. TMS 402, TMS 403, AND TMS 404.
2. COMPRESSIVE STRENGTH OF MASONRY (f'm) 2,500 PSI, DETERMINED BY UNIT STRENGTH OR PRISM METHOD.
3. MASONRY MATERIALS:
   A. HOLLOW AND SOLID LOAD BEARING CONCRETE MASONRY UNITS: ASTM C90, NORMAL WEIGHT. NET COMPRESSIVE STRENGTH OF CMU = 3,250 PSI.
   B. CONCRETE BRICK: ASTM C55, GRADE N1.
   C. MORTAR: ASTM C270, TYPE S.
   D. COARSE MASONRY GROUT: ASTM C476.
      - 28-DAY COMPRESSIVE STRENGTH TO MATCH F'M GIVEN IN ITEM 2.
      - PROVIDE GROUT WITH A SLUMP OF 8-11 INCHES AS MEASURED ACCORDING TO ASTM C143.
      - TESTING - PROVIDE ONE SET OF TESTS FOR EACH 5,000 SF OF WALL WITH A MINIMUM OF ONE TEST PER DAY. TESTS SHALL CONSIST OF EITHER (2) 6"X12" CYLINDERS, (3) 4"X8" CYLINDERS OR A GROUT TEST PER ASTM C1019.
   E. MASONRY REINFORCEMENT:
      - HORIZONTAL JOINT REINFORCEMENT: 9 GA DEFORMED WIRE, LADDER TYPE REINFORCEMENT.
        a. IN EVERY SECOND BLOCK COURSE, FULL HEIGHT, AND WHERE SHOWN ON DRAWINGS.
        b. IN FIRST BED JOINT ABOVE AND BELOW OPENINGS EXTENDING 24" BEYOND OPENING.
        c. LAP REINFORCEMENT A FULL WIDTH AT CORNERS AND INTERSECTIONS.
      - VERTICAL REINFORCEMENT: ASTM A615, GRADE 60.
4. BEARING POINTS:
   A. TRUSSES: 3 COURSES x 24" WIDE SOLID OR GROUTED SOLID MASONRY.
   B. LINTELS: 2 COURSES x 16" WIDE SOLID OR GROUTED SOLID MASONRY.
5. REINFORCED MASONRY:
   A. INSTALL REINFORCING BARS IN LOCATIONS SHOWN. SEE TABLE BELOW FOR LAP SPLICE REQUIREMENTS.

      CMU LAP SPLICE SCHEDULE (f'm≥2000 PSI):

BAR SIZE	8" CMU - CENTERED	12" CMU - CENTERED	8" CMU - EDGE	12" CMU - EDGE
#4	13"	N/A	22"	N/A
#5	20"	13"	35"	34"
#6	38"	24"	64"	64"
#7	52"	33"	87"	87"
#8	79"	50"	131"	131"
#9	N/A	64"	N/A	166"

      NOTES: CENTERED & EDGE REFER TO THE REINFORCING BAR POSITION IN MASONRY WALL. FOR EDGE CONDITIONS, PROVIDE 2" OF COVER FROM EXTERIOR FACE OF CMU TO EDGE OF REINFORCING BAR.

   B. GROUT BLOCK WITH COARSE MASONRY GROUT VIBRATED IN PLACE TO FILL ALL VOIDS AND INTERSECTIES. FOLLOW RECOMMENDATIONS OF NCMA TEK NO. 3-2.
6. CONTROL JOINTS:
   A. INSTALL CONTROL JOINTS IN ALL MASONRY WALLS AS INDICATED ON PLAN AND AT A SPACING NOT TO EXCEED THE LESSER OF THREE TIMES THE WALL HEIGHT OR 24 FEET ON CENTER.
   B. INSTALL CONTROL JOINTS AT THE FOLLOWING LOCATIONS:
      - CHANGE IN WALL HEIGHT.
      - CHANGE IN WALL THICKNESS.
      - TRANSITION FROM INTERIOR WALL TO EXTERIOR WALL.
      - TRANSITION FROM WALL BEARING ON FOUNDATION TO WALL BEARING ON FLOOR SLAB
   C. STOP ALL HORIZONTAL REINFORCING AT CONTROL JOINTS UNLESS NOTED OTHERWISE.
7. POST-INSTALLED WEDGE ANCHORS: (FOR USE IN GROUT-FILLED CONCRETE MASONRY):
   A. THE ENTIRE ANCHOR SHALL BE CARBON STEEL (INTERIOR) OR STAINLESS STEEL/GALVANIZED (EXTERIOR).
   B. THE ENTIRE ANCHOR SYSTEM SHALL BE EVALUATED TO COMPLY WITH THE APPLICABLE VERSION OF IBC AND BE CERTIFIED BY AN ICC-ES EVALUATION REPORT SHOWING SUITABILITY WITH GROUT-FILLED CONCRETE MASONRY.
   C. SUBJECT TO COMPLIANCE REQUIREMENTS, PROVIDE THE PRODUCT INDICATED ON DRAWINGS OR COMPARABLE PRODUCT CAPABLE OF RESISTING LOADS EQUIVALENT TO THE BASIS OF DESIGN PRODUCT WHEN USED WITH THE SAME EMBEDMENT, ORIENTATION, EDGE DISTANCE, AND SPACING. SUBMIT PROPOSED SUBSTITUTION FOR APPROVAL WITH ACCOMPANYING ICC-ES REPORT.
8. COORDINATE BLOCK-OUTS, REVEALS, OPENINGS AND ALL OTHER BUILT-IN ITEMS WITH ALL CONTRACT DOCUMENTS AND TRADES.

061000 - ROUGH CARPENTRY

1. SPECIFICATIONS AND STANDARDS:
   A. DESIGN AND DETAILING OF CONNECTIONS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION RECOMMENDED PRACTICE BY THE AMERICAN FOREST AND PAPER ASSOCIATION.
2. MATERIALS:
   A. ONLY USE DIMENSIONAL LUMBER - SPRUCE-PINE-FIR #1/#2 OR BETTER: E = 1,400,000 PSI. Fb = 875 PSI. Fv = 135 PSI. Fc = 1150 PSI. DIMENSIONAL LUMBER FOR PRESSURE TREATED AND FRT STRESSES - BEFORE TREATMENT - SOUTHERN PINE #1 OR BETTER: E = 1,600,000 PSI. Fb = 1250 PSI (2x8). Fv = 175 PSI. Fc = 1500 PSI (2x8).
   B. NAILS: COMMON WIRE NAILS: ASTM F1667.
   C. STEEL CONNECTION MATERIALS: ASTM A36.
   D. BOLTS: ASTM A307 (SAE J429 Grade 1 EQUIV Fyb = 45,000 PSI = Fy/2+Fu/2) WITH TWO WASHERS.
   E. WOOD SCREWS: ASME B18.6.1.
   F. LAG BOLTS: ASME B18.2.1.
   G. METAL FRAMING ANCHORS AND CONNECTORS: 16 OR 18 GA. GALVANIZED STEEL (ASTM A653, G60) SIZED FOR FULL LOAD CARRYING CAPACITY OF SUPPORTED MEMBER. NOMENCLATURE BASED ON ANCHORS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY INC.
   H. ALL SHEATHING TO HAVE EXTERIOR GLUE.
3. CONSTRUCTION REQUIREMENTS:
   A. MAKE ALL CUTS TRUE AND SQUARE FOR FULL BEARING AT STRUCTURAL JOINTS.
   B. CONNECT ALL FRAMING SECURELY TOGETHER WITH NAILS, SPIKES, OR FRAMING ANGLES.
   C. SOLID BLOCKING IN FLOOR CONSTRUCTION UNDER POSTS, MULTIPLE STUDS AND BEAM BEARINGS.
   D. BRIDGING FOR FLOOR, ATTIC AND ROOF JOIST: NOT LESS THAN ONE LINE FOR EACH EIGHT FEET OF SPAN FOR MEMBERS 2x10 AND DEEPER.

061300 HEAVY TIMBER CONSTRUCTION

1. SPECIFICATIONS AND STANDARDS
   A. DESIGN AND DETAILING OF CONNECTIONS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION RECOMMENDED PRACTICE BY THE AMERICAN FOREST AND PAPER ASSOCIATION.
   B. GRADING AND FABRICATION TO COMPLY WITH AITC 108, "STANDARD FOR HEAVY TIMBER CONSTRUCTION" AND DOC PS 20, "AMERICAN SOFTWOOD LUMBER STANDARD" AND WITH APPLICABLE GRADING RULES OF INSPECTION AGENCIES CERTIFIED BY ALSC'S BOARD OF REVIEW.
   C. INSPECTION AGENCIES INCLUDE THE FOLLOWING: NELMA, WCLIB, WWPA
2. MATERIALS:
   A. USE SOUTHERN PINE NO. 1 DENSE OR BETTER;
      E = 1,600,000 PSI, Fb= 1,550 PSI, Fv= 165 PSI, Fc= 975 PSI
   B. MOISTURE CONTENT: SEASONED TO 16% MOISTURE CONTENT
   C. DRESSING: ROUGH SAWN, UNLESS OTHERWISE INDICATED
   D. EDGE TREATMENT: 3/16" CONTINUOUS CHAMFER
   E. END SEALER: MANUFACTURER'S STANDARD, TRANSPARENT, COLORLESS WOOD SEALER THAT IS EFFECTIVE IN RETARDING THE TRANSMISSION OF MOISTURE AT CROSS-GRAIN CUTS AND IS COMPATIBLE WITH INDICATED FINISH.
3. CONNECTIONS
   A. NAILS: COMMON WIRE NAILS: ASTM F1667
   B. STEEL CONNECTION MATERIALS: ASTM A36
   C. BOLTS: ASTM A307 WITH 2 WASHERS
   D. WOOD SCREWS: ASME B18.6.1.
   E. STRUCTURAL TIMBER SCREWS: BLUE (ELECTRO) GALVANIZED 8MM x 224MM MINIMUM
   F. LAG BOLTS: ASME B18.2.1.
   G. METAL FRAMING ANCHORS AND CONNECTORS: 16 OR 18 GA. GALVANIZED STEEL (ASTM A653, G60) SIZED FOR FULL LOAD CARRYING CAPACITY OF SUPPORTED MEMBER. NOMENCLATURE BASED ON ANCHORS MANUFACTURED BY SIMPSON STRONG-TIE CO. INC.
4. MISCELLANEOUS
   A. AVOID EXTRA CUTTING AFTER FABRICATION
   B. CONNECT ALL FRAMING SECURELY TOGETHER
   C. ERECT FRAMING TRUE AND PLUMB, PROVIDE TEMPORARY BRACING AS REQUIRED
   D. SUBMIT, FOR APPROVAL, DETAILED SHOP DRAWINGS. THE SHOP DRAWINGS SHALL SHOW ALL DESIGN CRITERIA, LAYOUT, MEMBER SIZES AND LUMBER GRADES, DESIGN STRESSES, CONNECTION DETAILS, REQUIRED BEARING LENGTHS AND BRACING REQUIREMENTS. THE SHOP DRAWINGS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT.

061753 - SHOP-FABRICATED WOOD TRUSSES

1. DESIGN, DETAILING, FABRICATION AND ERECTION SHALL BE GOVERNED BY:
   A. TRUSS PLATE INSTITUTE - NATIONAL DESIGN STANDARD OR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION.
   B. AMERICAN INSTITUTE OF TIMBER CONSTRUCTION OR APA OR EWS - TIMBER CONSTRUCTION STANDARDS.
   C. AMERICAN FOREST AND PAPER ASSOCIATION - NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION.
2. SUBMIT, FOR APPROVAL, DETAILED SHOP DRAWINGS. THE SHOP DRAWINGS SHALL SHOW ALL DESIGN CRITERIA, LAYOUT, MEMBER SIZES AND LUMBER GRADES, DESIGN STRESSES, CONNECTION DETAILS, REQUIRED BEARING LENGTHS AND BRACING REQUIREMENTS. THE SHOP DRAWINGS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT.
3. MATERIALS:
   A. LUMBER: SOUTHERN PINE #2 OR BETTER.
   B. BOLTS: ASTM A307.
   C. CONNECTORS-TRUSS MEMBER CONNECTOR PLATES SHALL BE NOT LESS THAN 20 GAGE GALVANIZED STEEL PLATES.
   D. LIGHT-GAGE JOIST HANGERS AND FRAMING ANCHORS: GALVANIZED STEEL FOR THE FULL LOAD CARRYING CAPACITY OF THE SUPPORTED MEMBER. PROVIDE SIMPSON "STRONG-TIE" OR BETTER.
4. FABRICATION:
   A. ALL MEMBERS SHALL BE CUT TO BEAR FROM STRAIGHT LUMBER AND BUTTED TIGHT.
   B. ALL MEMBERS AND CONNECTOR PLATES SHALL BE PROPERLY PLACED IN JIGS UNTIL THE CONNECTOR PLATES HAVE BEEN PRESSED INTO PLACE.
5. ERECTION:
   A. ALL TRUSSES SHALL BE BRACED DURING ERECTION. ERECTION BRACING SHALL HOLD TRUSSES STRAIGHT AND PLUMB UNTIL DECKING AND PERMANENT BRACING HAVE BEEN FASTENED. PROPER HANDLING AND ERECTION BRACING SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
   B. PROVIDE AND INSTALL PERMANENT TRUSS BRACING IN ACCORDANCE WITH THE REFERENCED STANDARDS AND THE APPROVED SHOP DRAWINGS.
      - WEB MEMBER HORIZONTAL BRACING SHALL BE CONTINUOUS ALONG THE LENGTH OF THE ROOF. PROVIDE DIAGONAL WEB MEMBER BRACING BETWEEN EACH HORIZONTAL LINE OF BRACING AND THE SHEATHED TRUSS TOP CHORD AT 20'-0" INTERVALS ALONG THE LENGTH OF THE ROOF, AND AT EACH END.
      - IF THE TOP OR BOTTOM CHORDS OF THE TRUSSES ARE NOT PERMANENTLY BRACED BY SHEATHING, PROVIDE CONTINUOUS HORIZONTAL BRACING FOR THE UN-BRACED CHORDS AT A MINIMUM OF 5'-0" ON CENTER ALONG THE LENGTH OF THE TRUSS, AND PROVIDE DIAGONAL BRACING AT THESE LOCATIONS, BETWEEN THE TOP AND BOTTOM TRUSS CHORDS, AT 20'-0" ON CENTER ALONG THE LENGTH OF THE ROOF, AND AT EACH END.
6. MISCELLANEOUS
   A. DESIGN AND SUPPLY CONNECTIONS FOR TRUSSES TO GIRDER TRUSSES, TRUSS PLY TO PLY AND TRUSS FIELD SPLICES.
   B. GIRDER TRUSSES - MINIMUM TWO PLYS AND FASTENED TOGETHER PER MANUFACTURER'S RECOMMENDATIONS.
   C. TRUSS PROFILES SHOWN ARE FOR SCHEMATIC PURPOSES ONLY. THE TRUSS DESIGNER IS RESPONSIBLE FOR CALCULATING THE TRUSS GEOMETRIES AND LOADING.
   D. ADJACENT TRUSSES OF THE SAME PROFILE SHALL HAVE WEB MEMBERS IN LINE TO PERMIT PASSAGE OF MECHANICAL DUCTS.
   E. TRUSS ANCHORAGES AND HOLD-DOWNS ARE BASED ON TRUSS LAYOUT SHOWN. COORDINATE FINAL LOCATION OF MULTI-PLY STUDS UNDER GIRDER TRUSSES WITH TRUSS SHOP DRAWINGS.

STATE OF OHIO
GREGORY WILLIAM BARSCH
63430
REGISTERED
PROFESSIONAL ENGINEER
09 / 03 / 2025

PART 1: SCHEDULE OF SPECIAL INSPECTIONS
STATEMENT OF SPECIAL INSPECTIONS
1. SPECIAL INSPECTION FREQUENCY DEFINITIONS:
A. CONTINUOUS: THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED.
B. PERIODIC: THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK.

PART I: SCHEDULE OF SPECIAL INSPECTIONS					
IBC TABLE 1705.3					
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION					
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARDS [A]	IBC SECTION	REMARKS
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.	N/A	N/A	ACI 318 CH. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4000	
2. INSPECTION OF REINFORCING STEEL WELDING	N/A	N/A	AWS D1.4, ACI 318: 26.6.4	-	
A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706;	-	X			
B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"	-	X			
C. INSPECT ALL OTHER WELDS	X	-			
3. INSPECTION OF ANCHORS CAST IN CONCRETE	-	X	ACI 318: 17.8.2	-	
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	N/A	N/A	ACI 318: 17.8.2	-	
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	-			
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A	-	X			
5. VERIFY USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3	
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM C 172 ASTM C 31 ACI 318: 26.4, 26.12	1908.10	
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8	
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 26.5.3, 26.5.5	1908.9000	
9. INSPECTION OF PRESTRESSED CONCRETE:	N/A	N/A	ACI 318: 26.10	-	
A. APPLICATION OF PRESTRESSING FORCES.	X				
B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC FORCE RESISTING SYSTEM.	X				
10. ERECTION OF PRECAST CONCRETE MEMBERS.	N/A	N/A	ACI 318: 26.8	-	
11. VERIFICATION OF 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.	-	X	ACI 318: 26.11.2	-	
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 26.11.1.2(B)	-	
A. WHERE APPLICABLE, SEE ALSO SECTION 1705.12, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE. REFERENCE CODE IS ACI 318					
B. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.					

PART I: SCHEDULE OF SPECIAL INSPECTIONS					
TABLE 3.1.2 (TMS 402/ACI 530/ASCE 5, PER IBC 1705.4)					
LEVEL B QUALITY ASSURANCE OF MASONRY CONSTRUCTION					
	FREQUENCY OF INSPECTION		REFERENCE		REMARKS
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	TMS 402/ ACI 530/ ASCE 5	TMS 602/ ACI 530.1/ ASCE 6	
1. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS	-	X		1.5	
2. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:					
A. PROPORTIONS OF SITE-PREPARED MORTAR	-	X		2.1, 2.6 A	
B. CONSTRUCTION OF MORTAR JOINTS.	-	X		3.3 B	
C. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES	N/A	N/A		2.4 B, 2.4 H	
D. LOCATION OF REINFORCEMENT,CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES	-	X		3.4, 3.6 A	
E. PRESTRESSING TECHNIQUE	N/A	N/A		3.6 B	
F. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	-	X[B]		2.1 C	
3. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:					
A. GROUT SPACE	-	X		3.2 D, 3.2 F	
B. GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES	-	X	6.1	2.4, 3.4	
C. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES	-	X	6.1, 6.2.1, 6.2.6, 6.2.7	3.2 E, 3.4, 3.6 A	
D. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	-	X		2.6 B, 2.4 G.1.B	
E. CONSTRUCTION OF MORTAR JOINTS	-	X		3.3 B	
4. VERIFY DURING CONSTRUCTION:					
A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS	-	X		3.3 F	
B. TYPE, SIZE, & LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION	-	X	1.16.4.3, 1.17.1		
C. WELDING OF REINFORCEMENT	-	X	2.1.7.7.2, 3.3.3.4(C), 8.3.3.4(B)		
D. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F)	-	X		1.8 C, 1.8 D	
E. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	N/A	N/A		3.6 B	
F. PLACEMENT OF GROUT & PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE	X	-		3.5, 3.6 C	
G. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	-	X[B]		3.3 B.9, 3.3 F.1.B	
5. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS	-	X		1.4 B.2.A.3, 1.4 B.2.B.3, 1.4 B.2.C.3, 1.4 B.3, 1.4 B.4	
(A) REQUIRED FOR THE FIRST 5000 SQUARE FT OF AAC MASONRY					
(B) REQUIRED AFTER THE FIRST 5000 SQUARE FT OF AAC MASONRY					

PART I: SCHEDULE OF SPECIAL INSPECTIONS			
IBC 1705.5 WOOD CONSTRUCTION			
VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	REMARKS
1. INSPECTION OF THE FABRICATION PROCESS OF WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES IN ACCORDANCE WITH SECTION 1704.2.5	-	X	
2. FOR HIGH-LOAD DIAPHRAGMS, VERIFY GRADE AND THICKNESS OF STRUCTURAL PANEL SHEATHING AGREE WITH APPROVED BUILDING PLANS	-	X	
3. FOR HIGH-LOAD DIAPHRAGMS, VERIFY NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES, NAIL OR STAPLE DIAMETER AND LENGTH, NUMBER OF FASTENER LINES, AND THAT SPACING BETWEEN FASTENERS IN EACH LINE AND AT EDGE MARGINS AGREE WITH APPROVED BUILDING PLANS	-	X	
4. METAL-PLATE-CONNECTED WOOD TRUSSES SPANNING 60 FEET OR GREATER: VERIFY TEMPORARY AND PERMANENT RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE	-	X	

PART I: SCHEDULE OF SPECIAL INSPECTIONS			
IBC TABLE 1705.6			
REQUIRED VERIFICATION AND INSPECTION OF SOILS			
VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	REMARKS
1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X	
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X	
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY SITE HAS BEEN PREPARED PROPERLY.	-	X	

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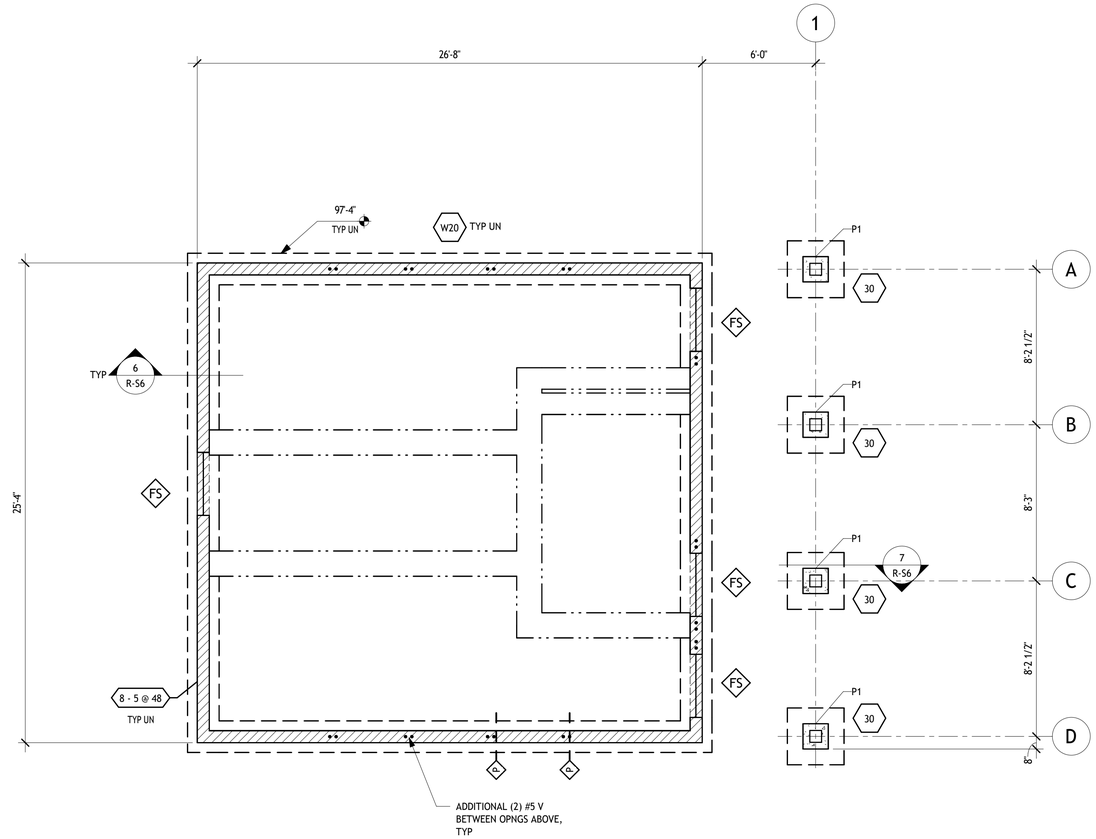

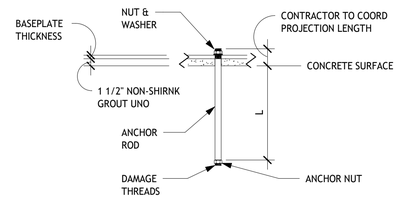

1. L = ANCHOR ROD EMBEDMENT (8" MIN UNO)
2. TYPICAL ANCHOR ROD DESIGNATION
   __ Ø X L A. ROD

TYPICAL ANCHOR ROD DETAIL

CONCRETE PIER SCHEDULE

MARK	WIDTH	LENGTH	REINFORCING	REMARKS
P1	1'-4"	1'-4"	(4) #6 VERT w/ #4 TIES @ 12"c/c	T/PIER = 100'-6"

FOOTING SCHEDULE - ISOLATED FOOTINGS

TYPE	SIZE			REINFORCING	REMARKS
	WIDTH	LENGTH	THICKNESS		
30	3'-0"	3'-0"	1'-0"	(3) #5 EWB	

FOOTING SCHEDULE - WALL FOOTINGS

TYPE	SIZE			REINFORCING	REMARKS
	WIDTH	LENGTH	THICKNESS		
W20	1'-8"	CONT	1'-0"	(2) #5 CONT BOT	

FOUNDATION PLAN

1/4" = 1'-0"

NORTH

1. VERIFY LOCATIONS OF COLUMNS, WALLS, OPENINGS, ETC. WITH ARCHITECTURAL DRAWINGS BEFORE PLACING FOUNDATIONS.
2. 4" SLAB ON GRADE WITH 6x6-W1.4xW1.4 WWR. TYPICAL EXCEPT AS NOTED. PROVIDE 4" OF GRANULAR SUBGRADE BELOW SLAB UNLESS NOTED OTHERWISE IN THE REFERENCED GEOTECHNICAL REPORT.
3. TOP OF SLAB ELEVATION 100'-0" EXCEPT AS NOTED. SEE CIVIL DRAWINGS FOR REFERENCE SITE ELEVATION.
4. DESIGN SOIL BEARING PRESSURE 2,000 PSF. ANY SOFT SPOTS OR VARIATIONS IN SUBSURFACE CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER. THE DESIGN BEARING CAPACITY SHALL BE FIELD VERIFIED BY AN INDEPENDENT TESTING AGENCY SPECIALIZING IN SOILS INVESTIGATIONS. GEOTECHNICAL INFORMATION INCLUDED IN THE CONSTRUCTION DOCUMENTS WAS OBTAINED FROM A REPORT ISSUED BY CTL ENGINEERING, PROJECT NUMBER 25050027COL, DATED JUNE 9, 2025.
5. ELEVATIONS SHOWN ON PLAN ARE TOP OF THE FOOTING OR SLAB.
6. FOOTINGS TO CENTER UNDER COLUMN OR WALL UNLESS NOTED.
7. CONTRACTOR SHALL PROVIDE FLOOR CONTROL AND CONSTRUCTION JOINTS IN SLAB ON GRADE IN ACCORDANCE WITH SECTIONS 1/R-S6 , 2/R-S6 & 3/R-S6 .
8. ALL EXTERIOR FOOTINGS ARE TO EXTEND A MINIMUM OF 3'-0" BELOW FINISHED GRADE OR TO LOCALLY RECOGNIZED FROST DEPTH.
9. WHERE FILL IS ON BOTH SIDES OF THE FOUNDATION WALLS, INSTALL THE FILL UNIFORMLY ON BOTH SIDES OF THE WALL.
10. REFERENCE: GENERAL STRUCTURAL NOTES - R-S2 .
11. SYMBOL LEGEND:

- INDICATES TOP OF FOOTING ON PLAN.
- INDICATES FOOTING MARK. SEE SCHEDULE ON SHEET R-S4 .
- INDICATES THICKENED SLAB ON PLAN, 16" WIDE x 8" DEEP WITH (2) #4 CONTINUOUS. SEE SECTION 4/R-S6 .
- FS — INDICATES FROST SLAB. SEE SECTION 5/R-S6 FOR MORE INFORMATION.
- A - B @ C — INDICATES CMU BEARING WALL MARK;
  "A" -INDICATES WALL THICKNESS IN INCHES.
  "B" -INDICATES REINFORCING BAR SIZE.
  "C" -INDICATES REINFORCING SPACING IN INCHES.
  REINFORCING BAR SIZE AND SPACING IS FROM TOP OF FOUNDATION TO TOP OF WALL. PROVIDE DOWELS FROM FOOTING TO MATCH VERTICAL REINFORCING SIZE AND SPACING.

  PROVIDE ADDITIONAL REINFORCING AS SHOWN IN SECTION ON PLAN.
- P# — INDICATES COLUMN (OR PIER) ON PLAN. SEE SCHEDULE ON SHEET R-S4 .
- P — INDICATES APPROXIMATE LOCATION OF PLUMBING UNDER SLAB ON PLAN. COORDINATE WITH MEP.

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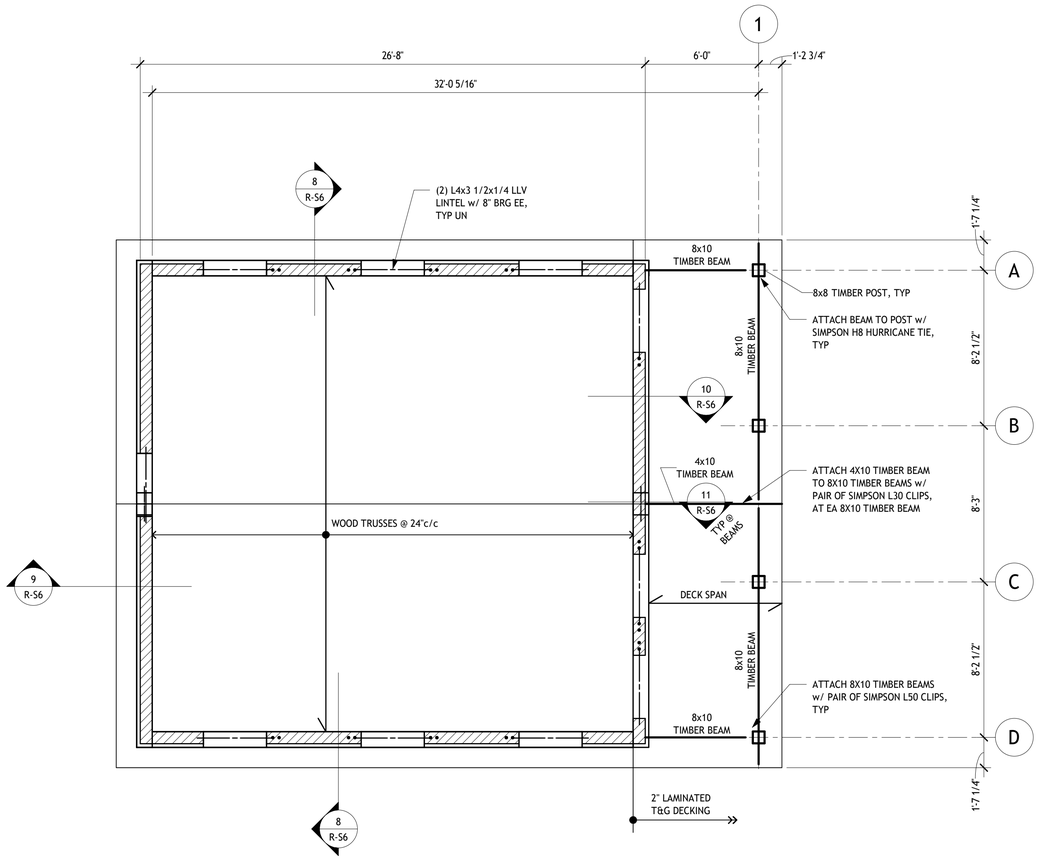
FOUNDATION PLAN

R-S4



ROOF FRAMING PLAN

1/4" = 1'-0"

NORTH

1. DESIGN LIVE LOADS: ROOF LIVE LOAD = 20 PSF (REDUCIBLE). SEE GENERAL STRUCTURAL NOTES FOR ROOF SNOW LOAD.
2. TOP OF TRUSS BEARING ELEVATION 108'-9.5" EXCEPT AS NOTED (±).
3. ROOF CONSTRUCTION: 19/32" (5/8" NOMINAL) APA RATED SHEATHING WITH EDGE CLIPS. PANEL INDEX 32/16. INTERIOR WITH EXTERIOR GLUE. EXPOSURE 1. INSTALL WITH 10d NAILS AT 6" c/c AT SUPPORTED PANEL EDGES AND 10d NAILS AT 12"c/c AT INTERMEDIATE SUPPORTS.
4. ROOF CONSTRUCTION: 2" NOMINAL LAMINATED WOOD DECK (SOUTHERN PINE) AT LOCATIONS NOTED ON PLAN WITH 1/2" PLYWOOD SHEATHING ON TOP. ATTACH LAMINATED WOOD DECK TO SUPPORTS w/ (2) #12x 2 1/2" SCREWS AT EA DECK MEMBER. ATTACH ADJACENT DECK MEMBERS TO ONE ANOTHER WITH 8d TOENAILS AT 30" ON CENTER. PANEL INDEX 32/16. INTERIOR WITH EXTERIOR GLUE. EXPOSURE 1. INSTALL WITH 10d NAILS AT 6" ON CENTER AT PANEL EDGES AND 10d NAILS AT 12" ON CENTER AT EACH LAMINATED DECK MEMBER.
5. VERIFY ALL WOOD TRUSS DIMENSIONS AND GEOMETRIES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO DESIGNING AND FABRICATING TRUSSES.
6. SPACE WOOD TRUSSES AT 2'-0" ON CENTER. TYPICAL UNLESS NOTED.
7. WOOD TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING LOADS:

LOAD	BOTTOM CHORD	TOP CHORD
DEAD	10 PSF	10 PSF
LIVE		20 PSF
WIND		9 PSF (NET UPLIFT)

   SEE PLAN FOR ADDITIONAL LOADS. TRUSSES SHALL BE DESIGNED FOR UNBALANCED AND DRIFTED SNOW IN ACCORDANCE WITH THE GOVERNING BUILDING CODE. LOADS SHALL BE COMBINED USING LOAD COMBINATIONS IN ACCORDANCE WITH THE GOVERNING BUILDING CODE. GIRDER TRUSSES SHALL BE DESIGNED FOR REACTIONS FROM SUPPORTED MEMBERS.
8. WOOD TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING MAXIMUM DEFLECTION TOTAL LOAD = SPAN/240; LIVE LOAD = SPAN/360.
9. REFERENCES: GENERAL STRUCTURAL NOTES - R-S2 .

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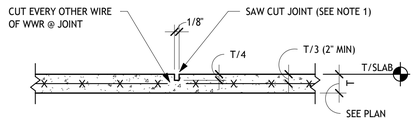
ROOF FRAMING PLAN

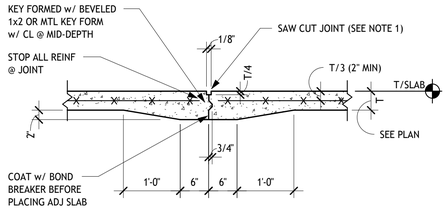
R-S5

51



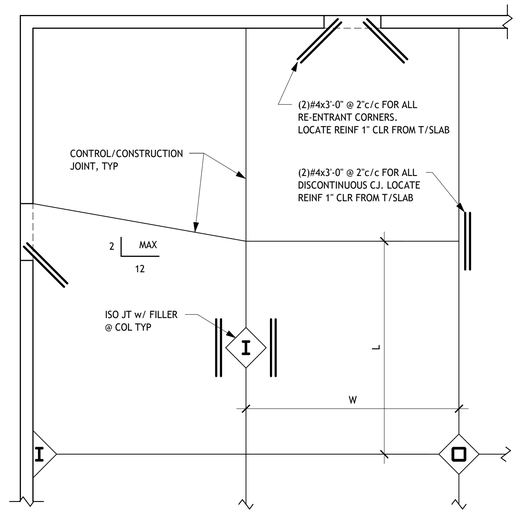
1. SAW CUTTING OF JOINTS SHALL BE DONE WHEN THE CONCRETE IS FIRM ENOUGH TO PERMIT CUTTING WITHOUT TEARING OR DAMAGE BY THE BLADE AND BEFORE RANDOM DRYING SHRINKAGE CRACKS CAN FORM, BUT NO MORE THAN 24 HOURS AFTER PLACING. FILL JOINT WITH JOINT SEALANT PER ARCH.

1 R-S6 **DETAIL** 3/4" = 1'-0"



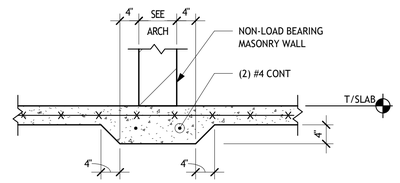
1. SAW CUTTING OF JOINTS SHALL BE DONE WHEN THE CONCRETE IS FIRM ENOUGH TO PERMIT CUTTING WITHOUT TEARING OR DAMAGE BY THE BLADE AND BEFORE RANDOM DRYING SHRINKAGE CRACKS CAN FORM, BUT NO MORE THAN 24 HOURS AFTER PLACING. FILL JOINT WITH JOINT SEALANT PER ARCH.

2 R-S6 **DETAIL** 3/4" = 1'-0"

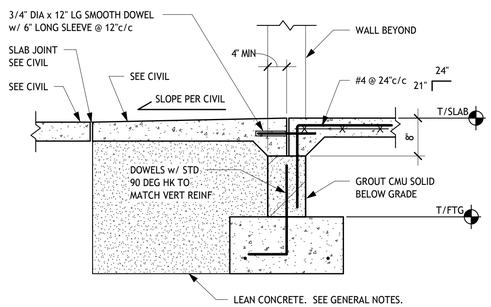


NOTE:
1. JOINTS SHALL DIVIDE SLAB INTO AREAS AS SQUARE AS POSSIBLY (1.25 TO 1) FOR MAXIMUM LxW RATIO.
2. MAXIMUM CONTROL/CONSTRUCTION JOINT SPACING SHALL BE 36 TIMES THE SLAB ON GRADE THICKNESS BUT SHALL NOT EXCEED 15'-0" FOR SLAB ON GRADE THICKNESS OF 5" OR GREATER.

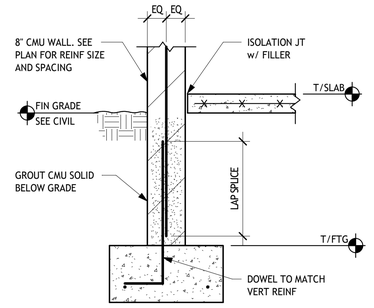
3 R-S6 **CJ LAYOUT** 1/4" = 1'-0"



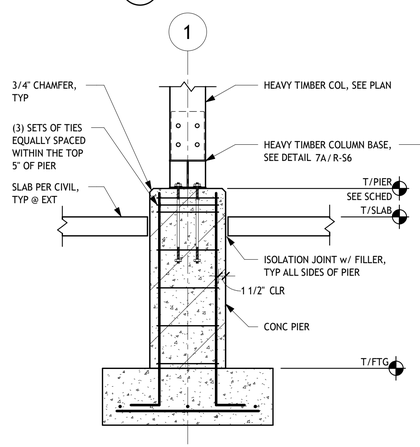
4 R-S6 **SECTION** 3/4" = 1'-0"



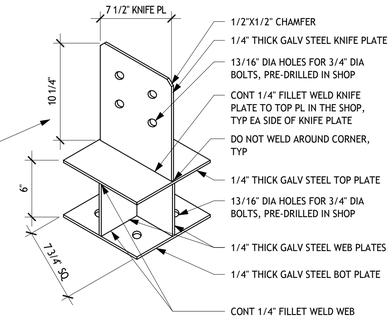
5 R-S6 **SECTION** 3/4" = 1'-0"



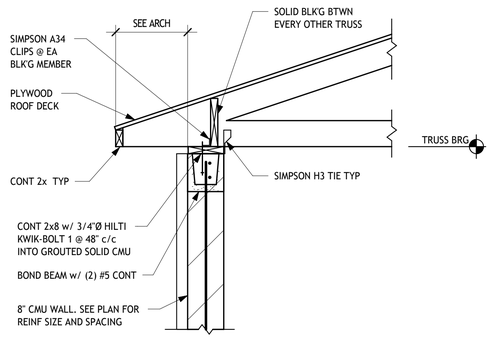
6 R-S6 **SECTION** 3/4" = 1'-0"



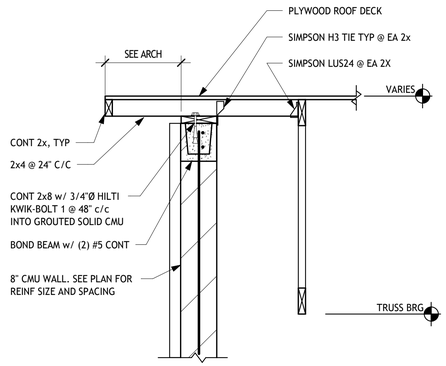
7 R-S6 **SECTION** 3/4" = 1'-0"



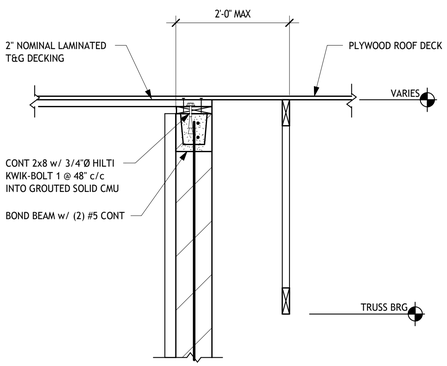
7A R-S6 **COLUMN BASE DETAIL** 1 1/2" = 1'-0"



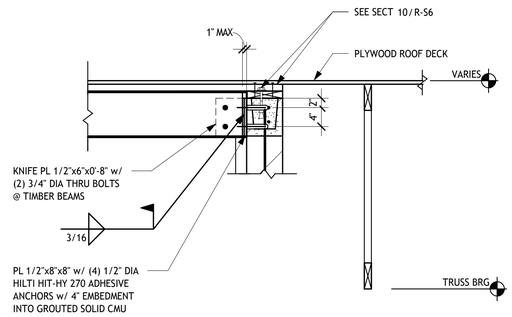
8 R-S6 **SECTION** 3/4" = 1'-0"



9 R-S6 **SECTION** 3/4" = 1'-0"



10 R-S6 **SECTION** 3/4" = 1'-0"



11 R-S6 **SECTION** 3/4" = 1'-0"

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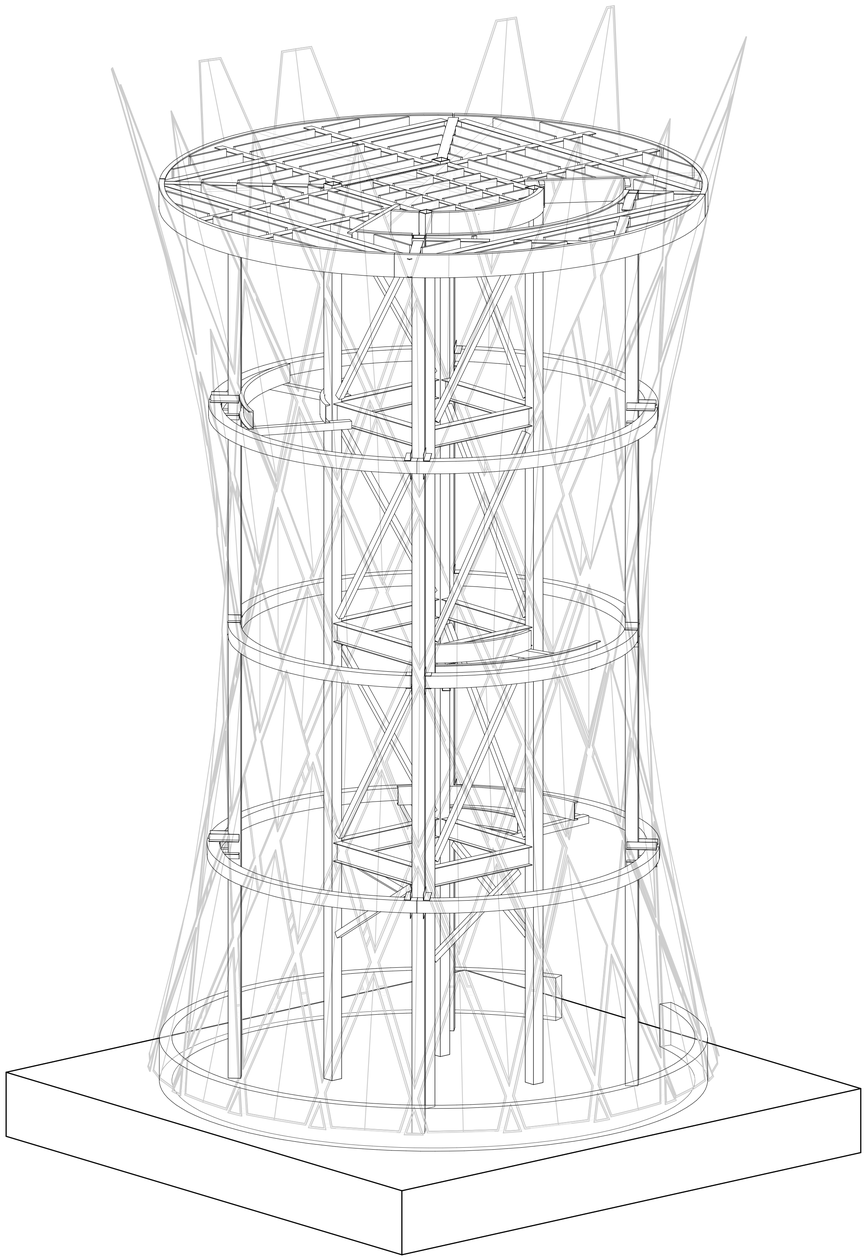
RESTROOM BLDG SECTIONS | **R-S6** | 51

ABBREVIATIONS

#	NUMBER
#	POUND (S)
#/FT	POUNDS PER LINEAL FOOT
CL	CENTERLINE
PL	PLATE
Ø	DIAMETER
AB	ANCHOR BOLT
ADD'L	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
ANC	ANCHOR
APPROX	APPROXIMATELY
ARCH	ARCHITECT(URAL)
B PL	BASE PLATE
B, BOT	BOTTOM
BLDG	BUILDING
BLK	BLOCK
BLK'G	BLOCKING
BM	BEAM
BRG	BEARING
BRK	BRICK
BS	BOTH SIDES
BSMT	BASEMENT
BTWN	BETWEEN
c/c	CENTER-TO-CENTER
CB	CONCRETE BEAM
CE	CONTINUOUS END
CFMF	COLD FORMED METAL FRAMING
CJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECT (ION)
CONST	CONTRUCT (ION)
CONT	CONTINUOUS (ATION)
CONTR	CONTRACTOR
CTR	CENTER
CW	CURTAIN WALL
CY	CUBIC YARDS
DA	DRILLED ANCHOR
DBL	DOUBLE
DBLS	DOUBLE TIES
DE	DISCONTINUOUS END
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DR	DISTRIBUTION RIB
DWG	DRAWING
DWL	DOWEL
E	EAST
E-, EXTG	EXISTING
EA	EACH
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEV	ELEVATOR
EMBED	EMBEDDED (MENT)
ENGR	ENGINEER
EOS	EDGE OF SLAB
EQ	EQUAL
ES	EACH SIDE
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
FAB	FROM ADJACENT BEAM

FABR	FABRICATE (OR)
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FIN	FINISHED
FL	FULL LENGTH
FLR	FLOOR
FND	FOUNDATION
FOM	FACE OF MASONRY
FOS	FACE OF SHEATHING
FOV	FACE OF VENEER
FOW	FACE OF WALL
FS	FAR SIDE
FT	FEET, FOOT
FTG	FOOTING
GA	GAGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERAL
GR	GRADE
GRND	GROUND
GRTG	GRATING
H, HORIZ	HORIZONTAL
HD	HEADED
HK	HOOK
HS	HIGH-STRENGTH
HVAC	HEATING VENTILATING AIR CONDITIONING
ID	INSIDE DIAMETER (DIMENSION)
IF	INSIDE FACE
IN	INCH
INT	INTERIOR, INTERMEDIATE
JST	JOIST
JT	JOINT
KP	KIP (1000 POUNDS)
KSF	KIPS PER SQUARE FOOT
LAT	LATERAL
LBS, #	POUNDS
LG	LONG
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LOC	LOCATION
LSH	LONG SIDE HORIZONTAL
LSL	LONG SLOTTED HOLES
LSV	LONG SIDE VERTICAL
LVL	LAMINATED VENEER LUMBER
LW	LONG WAY
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MBR	MEMBER
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURE (R)
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MPH	MILES PER HOUR
MTL	METAL
N	NORTH
N/A	NOT APPLICABLE
NF	NEAR FACE
NIC	NOT IN CONTRACT
NO, #	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NSH	NORMAL SLOTTED HOLES
NTS	NOT TO SCALE
o/o	OUT-TO-OUT

OC	ON CENTER (S)
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE (HAND)
OPT	OPTIONAL
ORIG	ORIGINAL
OSB	ORIENTED STRAND BOARD
OSL	OUT STANDING LEG
OVHD	OVERHEAD
OVS	OVERSIZED ROUND HOLES
P/C	PRECAST CONCRETE
PAF	POWDER ACTUATED FASTENER (S)
PEMB	PRE-ENGINEERED METAL BUILDING
PLF	POUND PER LINEAR FOOT
PLWD	PLYWOOD
PNL	PANEL
PREL	PRELIMINARY
PROJ	PROJECT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
QTY	QUANTITY
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCE (ING), (ED)
REQ	REQUIRE (MENTS)
REQD	REQUIRED
REV	REVIS (ION), (ED)
RF	ROOF
RM	ROOM
RTU	ROOF TOP UNIT
S	SOUTH
SC	SLIP-CRITICAL
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL	SLOPE (D)
SP	SPACE (S), (ED)
SPEC	SPECIFICATION (S)
SPL	SPLICE
SQ	SQUARE
SS	STAINLESS STEEL
SSL	SHORT SLOTTED HOLES
SSR	SHEAR STUD RAILS
STA	STATION
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURE (AL)
SVC	SERVICE
SW	SHORT WAY
SYM	SYMMETRICAL
T	TOP
T&B	TOP AND BOTTOM
T/	TOP OF
TEMP	TEMPERATURE, TEMPORARY
THD	THREADED
THK	THICK (NESS)
TOS	TOP OF STEEL
TOSL	TOP OF SLAB
TOT	TOTAL
TYP	TYPICAL
UN	UNLESS NOTED
UNO	UNLESS NOTED OTHERWISE
V	VERTICAL
VERT	VERTICAL
W	WEST
W/	WITH
W/C	WATER/CEMENT RATIO
W/O	WITHOUT
WD	WOOD
WL	WIND LOAD
WP	WORK (ING) POINT
WT	WEIGHT
WWR	WELDED WIRE REINFORCING
XX	EXTRA STRONG
XXS	DOUBLE EXTRA STRONG



GREAT COUNCIL OBSERVATION TOWER

SMBH SHEET LIST

NUMBER	NAME
T-S1	STRUCTURAL COVER SHEET
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T-S7	TOWER SECTIONS

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ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: SMBH	JOB NUMBER: DNR-250004
DRAWN BY: SMBH	SCALE: AS NOTED
CHECKED BY: SMBH	DATE: 08/28/2025
APPROVED BY: SMBH	CONSTRUCTION DOCUMENTS

STRUCTURAL COVER SHEET | **T-S1** |

010000 - GENERAL STRUCTURAL NOTES

1. THE GENERAL STRUCTURAL NOTES ARE INTENDED TO AUGMENT THE DRAWINGS AND SPECIFICATIONS. SHOULD CONFLICTS EXIST BETWEEN THE DRAWINGS, SPECIFICATIONS AND THE GENERAL STRUCTURAL NOTES, THE STRICTEST PROVISION SHALL GOVERN.
2. GOVERNING CODE:
   OHIO BUILDING CODE - 2024 EDITION
3. SEE STRUCTURAL PLANS FOR DESIGN SOIL BEARING PRESSURE AND LIVE LOADS. LIVE LOADS REDUCED IN ACCORDANCE WITH THE GOVERNING CODE, IF APPLICABLE.
4. ROOF SNOW LOAD:

GROUND SNOW LOAD (Pg)	- 20 PSF
SNOW EXPOSURE FACTOR (Ce)	- 1.0
IMPORTANCE FACTOR (Is)	- 1.0
THERMAL FACTOR (Ct)	- 1.0
FLAT ROOF SNOW LOAD (Pf)	- 14 PSF
UNIFORM ROOF DESIGN SNOW LOAD	- 20 PSF

5. WIND LOAD:

BASIC WIND SPEED	- 107 MPH
ALLOWABLE WIND SPEED	- 83 MPH
RISK CATEGORY	- II
EXPOSURE CATEGORY	- EXPOSURE C
INTERNAL PRESSURE COEFFICIENT (G Cpi)	- ±0.18
COMPONENTS AND CLADDING - SEE TABLE BELOW	

6. SEISMIC LOAD:

RISK CATEGORY	- II
IMPORTANCE FACTOR (Ie)	- 1.0
MAPPED SPECTRAL RESPONSE ACCELERATION AT SHORT PERIOD (Ss)	- 0.14
MAPPED SPECTRAL RESPONSE ACCELERATION AT ONE-SECOND PERIOD (S1)	- 0.07
SITE CLASS	- D
SPECTRAL RESPONSE PARAMETER AT SHORT PERIOD (SDs)	- 0.147
SPECTRAL RESPONSE PARAMETER AT ONE-SECOND PERIOD (SD1)	- 0.110
SEISMIC DESIGN CATEGORY	- B
DESIGN BASE SHEAR LRFD	- 40 KIP
SEISMIC RESPONSE COEFFICIENT (Cs)	- 0.049

   BASIC SEISMIC FORCE RESISTING SYSTEM:
   H - STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE, EXCLUDING CANTILEVER COLUMN SYSTEMS (R=3, Ω=3, Cd=3)
   DESIGN BY EQUIVALENT LATERAL FORCE PROCEDURE.
7. MECHANICAL FRAMING LOADS, OPENINGS, AND STRUCTURE IN ANY WAY RELATED TO MECHANICAL REQUIREMENTS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL OBTAIN APPROVAL OF MECHANICAL AND OTHER TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. EXCESS COST RELATED TO VARIATION IN MECHANICAL REQUIREMENTS TO BE BORNE BY MECHANICAL CONTRACTOR. COORDINATE SIZE AND LOCATION OF ALL OPENINGS WITH THE MECHANICAL DRAWINGS.
8. IF EQUIPMENT SHIPPING OR OPERATING WEIGHT EXCEEDS VALUE SHOWN ON THESE DRAWINGS, DO NOT PLACE EQUIPMENT. NOTIFY STRUCTURAL ENGINEER AND ARCHITECT.
9. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCES AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS, OR TIE-DOWNS WHICH MIGHT BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER COMPLETION OF THE PROJECT.
10. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
11. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS RELATING TO EXISTING CONSTRUCTION AND EXISTING SERVICE ON THE SITE.
12. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF COLUMNS, WALLS, OPENINGS ETC. WITH THE ARCHITECTURAL DRAWINGS PRIOR TO PROCEEDING WITH THE WORK. DO NOT SCALE THESE DRAWINGS. USE DIMENSIONS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN STRUCTURAL DRAWINGS AND DRAWINGS OF ANY OTHER DISCIPLINE.
13. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION DEAD LOAD APPLIED TO THE STRUCTURAL FRAMING.
14. THE ERECTION AND CONSTRUCTION SEQUENCES SHALL BE DEVELOPED BY THE CONTRACTOR TO ACCOUNT FOR THE EFFECTS OF THERMAL MOVEMENTS TO THE STRUCTURE. DETAILED EXPANSION JOINTS ON THESE DRAWINGS ARE DESIGNED FOR MOVEMENT OF A COMPLETED STRUCTURE.
15. DO NOT MODIFY, ALTER OR REPAIR ANY STRUCTURAL MEMBER WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
16. SHOP DRAWINGS SHALL BE REVIEWED AND STAMPED BY CONTRACTOR PRIOR TO SUBMISSION TO STRUCTURAL ENGINEER.
17. DEFERRED SUBMITTALS: THE FOLLOWING COMPONENTS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER HIRED BY THE CONTRACTOR, LICENSED IN THE STATE OF THE PROJECT. DESIGN INFORMATION SHALL BE SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER. SEE CONTRACT DOCUMENTS FOR DESIGN LOADS AND OTHER DESIGN CRITERIA.
    A. STEEL CONNECTIONS NOT SPECIFICALLY AND FULLY DETAILED ON THE STRUCTURAL DRAWINGS.
    B. STEEL STAIRS AND RAILINGS.
    C. ERECTION PROCEDURES AND SEQUENCES.
    D. STEEL CLADDING AND CONNECTIONS.
18. SEE SHEET T-S3 FOR SPECIAL INSPECTIONS.

COMPONENTS AND CLADDING

WIND SPEED, V=107 MPH
EXPOSURE CATEGORY C
HEIGHT, H, 11 FT (ENCLOSED BUILDING; H< 60 FT)
PARAPET HT < 3'-0"

ROOF			
	SURFACE PRESSURE (PSF)		
AREA	10 sf	50 sf	100 sf
NEGATIVE ZONE 1	-27.7	-16.8	-10.0
NEGATIVE ZONE 2	-40.4	-27.7	-22.2
NEGATIVE ZONE 3	-48.0	-32.0	-25.1
POSITIVE ALL ZONES	10.0	10.0	10.0
OVERHANG ZONE 1 & 1'	-31.7	-24.5	-19.0
OVERHANG ZONE 2	-44.4	-34.9	-30.8
OVERHANG ZONE 3	-52.0	-35.5	-28.4
WALLS			
	SURFACE PRESSURE (PSF)		
WALL AREA	10 sf	100 sf	500 sf
NEGATIVE ZONE 4	-16.2	-14.0	-12.4
NEGATIVE ZONE 5	-20.0	-15.6	-12.4
POSITIVE ZONES 4 & 5	15.0	12.7	11.2

NOTES:
1. SEE ASCE7 FOR ZONE DEFINITIONS.
2. ALL WIND PRESSURES ARE ULTIMATE LOADS.

033000 - CAST-IN-PLACE CONCRETE

1. SPECIFICATIONS AND STANDARDS:
   CONCRETE WORK, DETAILING, FABRICATION AND PLACING OF BARS AND CONCRETE SHALL BE GOVERNED BY THE APPLICABLE VERSION OF:
   A. ACI 301, ACI 315, AND ACI 318.
   B. CRSI RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS.
   C. ACI 306 AND ACI 305 FOR COLD AND HOT WEATHER CONCRETING, RESPECTIVELY. THE CONTRACTOR SHALL AT ALL TIMES HAVE A COPY OF THE RELEVANT SPECIFICATIONS QUOTED ABOVE ON THE SITE AND THE SUPERVISORY PERSONNEL SHALL BE THOROUGHLY FAMILIAR WITH THE CONTENTS THEREOF.
2. CONTINGENCIES:
   A. LEAN CONCRETE UNDER FOUNDATIONS FOR EARTH FILL DUE TO ACCIDENTAL OVEREXCAVATION OR SOFT SPOTS.
3. CONCRETE REQUIREMENTS AND LOCATION IN JOB:

CLASS	LOCATION	f'c	MAX W/C RATIO	SPECIAL REQUIREMENTS
1	FOOTINGS	3000PSI		
2	EXTERIOR CONCRETE	4500 PSI	0.45	6% +/- 1.5% AIR CONTENT
3	STAIR PAN FILL	3000 PSI	0.50	3/8" MAX AGGREGATE
4	LEAN CONCRETE	1500 PSI		NO TESTS, SOFT SOIL REPLACE
5	FLOWABLE FILL	85 PSI		NO TESTS, UTILITY BACKFILL UNDER FOOTINGS

   SUBMIT CONCRETE MIXES FOR APPROVAL IN ACCORDANCE WITH ACI 301 BEFORE PLACING ANY CONCRETE. ALL MIXES SHALL INCLUDE EITHER ASTM C150 PORTLAND CEMENT OR ASTM C595 PORTLAND-LIMESTONE CEMENT AND ALL AGGREGATE SHALL CONFORM TO ASTM C33. CONCRETE TESTING PER ACI 318 SECTION 26.12
4. REINFORCING REQUIREMENTS:
   A. BARS: ASTM A615, GRADE 60.
   B. WELDED WIRE REINFORCING: ASTM A1064.
5. FOOTINGS:
   A. DOWELS IN FOOTINGS TO MATCH VERTICAL REINFORCING IN CONCRETE WALLS.
   B. BEND ALL BARS 24 DIAMETERS AROUND CORNERS OF FOOTINGS. BARS AT THE INSIDE FACE OF THE CORNER SHALL BE CONTINUED ACROSS TO THE OUTSIDE AND THEN BENT.
6. SLABS:
   A. IF NO OTHER REINFORCING IS SHOWN IN A SLAB ON GRADE, PROVIDE 6x6-W1.4xW1.4 WWR AT THICKNESS/3 FROM TOP OF SLAB, UNLESS NOTED OTHERWISE.
   B. PROVIDE (2) #4x3'-0" DIAGONAL REINF AT 2" SPACING IN TOP THIRD OF SLAB (1" MIN CLR) AT ALL RE-ENTRANT CORNERS IN SLABS ON GRADE.
   C. PROVIDE (2) #4x3'-0" REINF AT 2" SPACING IN TOP THIRD OF SLAB (1" MIN CLR) PERPENDICULAR TO JOINTS THAT TERMINATE AT A PARTICULAR JOINT IN SLABS ON GRADE.
7. SPLICES:
   A. NO SPLICES IN BEAM, JOIST, OR SLAB STEEL UNLESS SPECIFICALLY SHOWN OTHERWISE.
   B. TENSION SPLICES, WHEN PERMITTED - LAP IN ACCORDANCE WITH THE ACI CODE AND THE TABLE SHOWN BELOW.

   LAP SPLICE SCHEDULE:

BAR SIZE	LAP CLASS	TOP BAR (f'c<4000 PSI)	TOP BAR (f'c≥4000 PSI)	OTHER BAR (f'c<4000 PSI)	OTHER BAR (f'c≥4000 PSI)
#3	A	22"	19"	17"	15"
	B	28"	24"	22"	19"
#4	A	29"	25"	22"	19"
	B	37"	32"	29"	25"
#5	A	36"	31"	28"	24"
	B	47"	40"	36"	31"
#6	A	43"	37"	33"	29"
	B	56"	48"	43"	37"
#7	A	62"	54"	48"	42"
	B	81"	70"	62"	54"
#8	A	71"	62"	55"	47"
	B	93"	80"	71"	62"
#9	A	80"	70"	62"	54"
	B	104"	91"	80"	70"
#10	A	91"	78"	70"	60"
	B	118"	102"	91"	78"
#11	A	100"	87"	77"	67"
	B	130"	113"	100"	87"

   NOTES:
   a. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CONCRETE BELOW THEM.
   b. ALL LAP SPLICES SHALL BE CLASS B UNLESS OTHERWISE NOTED.
   c. VALUES ARE NORMAL WEIGHT CONCRETE NON-EPOXY COATED BARS.
   C. LAP WELDED WIRE REINFORCING 1 SPACE + 2" AT ALL EDGES AND ENDS OF SHEETS.
8. OPENINGS:
   A. OPENINGS SHOWN ARE FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS WITH ARCHITECTURAL, MECHANICAL AND OTHER REQUIREMENTS BEFORE PROCEEDING WITH THE WORK. IF ANY OPENING NOT SHOWN ON THE PLAN IS REQUIRED, APPROVAL MUST BE SECURED FROM THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH THE WORK.
9. COVER:
   A. MINIMUM CONCRETE COVER, UNLESS NOTED OTHERWISE:
      - UNFORMED SURFACE IN CONTACT WITH THE GROUND: 3".
      - FORMED SURFACES EXPOSED TO EARTH OR WEATHER: 1 1/2" FOR #5 OR SMALLER, 2" FOR #6 OR LARGER.
      - FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER: WALLS & SLABS: 3/4", BEAMS & COLUMNS (TO TIES OR STIRRUPS): 1 1/2".
10. MISCELLANEOUS:
    A. CONSTRUCTION JOINTS PERMITTED ONLY WHERE SHOWN OR AS APPROVED BY THE STRUCTURAL ENGINEER.
    B. SUBMIT STEEL REINFORCING SHOP DRAWINGS THAT DETAIL FABRICATION, BENDING AND PLACEMENT PRIOR TO FABRICATION.

051200 - STRUCTURAL STEEL FRAMING

1. SPECIFICATIONS AND STANDARDS:
   UNLESS SPECIFICALLY SHOWN OTHERWISE, DESIGN, FABRICATION AND ERECTION SHALL BE GOVERNED BY:
   A. ANSI/AISC 360 - SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS. ASD
   B. AISC 303 - CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
   C. AWS STANDARD WELDING SYMBOLS.
   D. AWS D1.1 STRUCTURAL WELDING CODE - STEEL. WELDING SHALL BE PERFORMED ONLY BY OPERATORS QUALIFIED, BY THE AWS STANDARD QUALIFICATION PROCEDURE, TO PERFORM THE PARTICULAR TYPE OF WORK REQUIRED.
   E. RCSC - SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS.
2. TESTING:
   A. WELDS: VISUAL TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY ON ALL WELDS. INADEQUATE WELDS SHALL BE STRENGTHENED OR CUT OUT AND REPLACED AS DIRECTED.
   B. STRUCTURAL STEEL: PROVIDE MILL REPORTS FOR PROPERLY IDENTIFIED MATERIALS ON REQUEST.
   C. A325 AND A490 BOLTS: PROVIDE BOLT INSPECTION AS DETAILED IN SECTION 9 OF SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS.
3. MATERIALS:
   A. "W" SHAPES: ASTM A992 Fy = 50 KSI, ASTM A572 Fy = 50 KSI.
   B. CHANNELS: ASTM A36.
   C. ANGLES, PLATES AND BARS: ASTM A36.
   D. RECTANGULAR HOLLOW STRUCTURAL SECTIONS: ASTM A500 GR C, Fy = 50 KSI, ASTM A1085, Fy = 50 KSI.
   E. WELDING ELECTRODES: AWS A5.1 OR A5.5 SERIES E70.
   F. BOLTS: ASTM F3125 GRADE A325, TYPE I, HEAVY-HEX STEEL STRUCTURAL BOLTS.
   G. ANCHOR RODS: ASTM F1554 GRADE 36.
   H. NUTS AND WASHERS: ASTM A563, GRADE DH, HEAVY-HEX CARBON-STEEL NUTS; AND ASTM F436, TYPE 1, HARDENED CARBON-STEEL WASHERS.
   I. PAINT AND PROTECTION - NONE EXCEPT AS NOTED BELOW:
      - INTERIOR MEMBERS EXPOSED TO VIEW IN THE FINISHED STRUCTURE - PRIME COAT, TOUCH UP AFTER ERECTION.
      - MEMBERS EXPOSED TO WEATHER IN FINISHED STRUCTURE - GALVANIZED PER ASTM A123 AFTER FABRICATION.
   J. SHRINKAGE-RESISTANT GROUT: ASTM C1107, NON-METALLIC AGGREGATE, NON-CORROSIVE, NON-STAINING. F'C= 5,000 PSI MIN.
4. CONNECTION REQUIREMENTS:
   A. DESIGN CONNECTIONS FOR VERTICAL REACTIONS SHOWN ON DRAWINGS OR FOR FULL CAPACITY OF MEMBER WHERE NO REACTION IS SHOWN.
   B. DESIGN MOMENT BEAM CONNECTIONS FOR VALUES SHOWN OR FOR FULL MOMENT CAPACITY OF MEMBER.
   C. CONNECTIONS SHOWN AND DETAILED ON THE DRAWINGS MAY BE REDESIGNED BY THE STRUCTURAL STEEL CONTRACTOR FOR EQUAL FORCES PROVIDED THE SAME ARRANGEMENT OF MEMBERS IS USED AND THE OVERALL SIZE OF THE CONNECTION DOES NOT EXCEED THAT OF THE CONNECTION DETAILED.
   D. OBTAIN APPROVAL FROM STRUCTURAL ENGINEER FOR TYPES OF CONNECTIONS BEFORE FABRICATION.
   E. ALL BOLTED CONNECTIONS TO BE SHEAR/BEARING TYPE WITH BOLTS IN THE SNUG TIGHT CONDITION UNLESS NOTED OTHERWISE.
5. MISCELLANEOUS REQUIREMENTS:
   A. ROUND PENETRATIONS ARE PERMITTED IN THE WEB OF WIDE-FLANGE MEMBERS THAT MEET ALL OF THE FOLLOWING CRITERIA. CONTACT SMBH FOR PENETRATIONS THAT DO NOT MEET THESE CRITERIA.
      - OPENING DIAMETER IS LESS THAN OR EQUAL TO 0.15 TIMES THE DEPTH OF THE BEAM.
      - EDGE OF OPENING IS A MINIMUM OF 0.15 TIMES THE DEPTH OF THE BEAM FROM THE TOP AND BOTTOM OF THE BEAM.
      - OPENINGS ARE NOT PERMITTED WITHIN 1.0 TIMES THE DEPTH OF THE BEAM AWAY FROM THE ENDS.
      - OPENINGS ARE NOT PERMITTED WITHIN 0.5 TIMES THE DEPTH OF THE BEAM AWAY FROM AN INFILL BEAM CONNECTION.
      - EDGES OF ADJACENT OPENINGS ARE AT LEAST 2X THE LARGEST OPENING DIAMETER APART.
   B. STEEL FRAMING INTENDED TO SUPPORT EQUIPMENT OR MECHANICAL/ELECTRICAL/PLUMBING OPENINGS IS SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS WITH MECHANICAL AND OTHER REQUIREMENTS BEFORE PROCEEDING WITH THE WORK. CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF STEEL ANGLE FRAMES FOR OPENINGS THAT ARE SHOWN ON THE MECHANICAL AND ARCHITECTURAL DRAWINGS.
   C. STEEL BELOW GRADE TO BE PROTECTED BY A MINIMUM OF 3" OF CONCRETE OR 4" OF MASONRY.
   D. UNLESS NOTED OTHERWISE, FIREPROOFING IS NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRERATING REQUIREMENTS, METHODS AND MATERIALS.
   E. SUBMIT SHOP DRAWINGS TO STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

061000 - ROUGH CARPENTRY

1. SPECIFICATIONS AND STANDARDS:
   A. DESIGN AND DETAILING OF CONNECTIONS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION RECOMMENDED PRACTICE BY THE AMERICAN FOREST AND PAPER ASSOCIATION.
2. MATERIALS:
   A. ONLY USE DIMENSIONAL LUMBER - SPRUCE-PINE-FIR #1/#2 OR BETTER: E = 1,400,000 PSI. Fb = 875 PSI. Fv = 135 PSI. Fc = 1150 PSI. DIMENSIONAL LUMBER FOR PRESSURE TREATED AND FRT STRESSES - BEFORE TREATMENT - SOUTHERN PINE #1 OR BETTER: E = 1,600,000 PSI. Fb = 1250 PSI (2x8). Fy = 175 PSI. Fc = 1500 PSI (2x8).
   B. NAILS: COMMON WIRE NAILS: ASTM F1667.
   C. STEEL CONNECTION MATERIALS: ASTM A36.
   D. BOLTS: ASTM A307 (SAE J429 Grade 1 EQUIV Fyb = 45,000 PSI = Fy/2+Fu/2) WITH TWO WASHERS.
   E. WOOD SCREWS: ASME B18.6.1.
   F. LAG BOLTS: ASME B18.2.1.
   G. METAL FRAMING ANCHORS AND CONNECTORS: 16 OR 18 GA. GALVANIZED STEEL (ASTM A653, G60) SIZED FOR FULL LOAD CARRYING CAPACITY OF SUPPORTED MEMBER. NOMENCLATURE BASED ON ANCHORS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY INC.
   H. PRESERVATIVE TREATMENT
      - AWPA U1.
      - PRESSURE-TREAT ABOVE-GROUND ITEMS WITH WATER-BORNE PRESERVATIVES, CATEGORY UC3b.
      - STEEL FASTENERS AND CONNECTION MATERIALS IN CONTACT WITH PRESERVATIVE TREATED MATERIAL SHALL BE HOT-DIPPED GALVANIZED PER ASTM A153.
3. CONSTRUCTION REQUIREMENTS:
   A. MAKE ALL CUTS TRUE AND SQUARE FOR FULL BEARING AT STRUCTURAL JOINTS.
   B. CONNECT ALL FRAMING SECURELY TOGETHER WITH NAILS, SPIKES, OR FRAMING ANGLES.
   C. BRIDGING FOR FLOOR JOIST: NOT LESS THAN ONE LINE FOR EACH EIGHT FEET OF SPAN FOR MEMBERS 2x10 AND DEEPER.

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ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: Designer	JOB NUMBER: DNR-250004
DRAWN BY: Author	SCALE: AS NOTED
CHECKED BY: Checker	DATE: 08/28/2025
APPROVED BY: Approver	CONSTRUCTION DOCUMENTS

GENERAL NOTES

T-S2

PART 1: SCHEDULE OF SPECIAL INSPECTIONS
STATEMENT OF SPECIAL INSPECTIONS
1. SPECIAL INSPECTION FREQUENCY DEFINITIONS:
A. CONTINUOUS: THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED.
B. PERIODIC: THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK.

PART I: SCHEDULE OF SPECIAL INSPECTIONS				
IBC 1705.2.1 STRUCTURAL STEEL				
	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA	
VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC SECTION
1. LISTED IN AISC 360, CHAPTER N, PARAGRAPH 3.2 FOR COMPLIANCE WITH CONSTRUCTION DOCUMENTS	EACH SUBMITTAL	-	AISC 360 N3.2	1705.2
2. MATERIAL VERIFICATION OF STRUCTURAL STEEL	-	X	AISC 360	
3. VISUAL INSPECTION OF EXPOSED CUT SURFACES OF GALVANIZED STRUCTURAL STEEL MAIN MEMBERS AND EXPOSED CORNERS OF THE RECTANGULAR HSS FOR CRACKS AND SUBSEQUENT TO GALVANIZING	-	X		
4. EMBEDMENTS (VERIFY DIAMETER, GRADE, TYPE, LENGTH, EMBEDMENT. SEE 1705.3 FOR ANCHORS)	-	X		
5. VERIFY MEMBER LOCATIONS, BRACES, STIFFENERS, AND APPLICATION OF JOINT DETAILS AT EACH CONNECTION COMPLY WITH CONSTRUCTION DOCUMENTS	-	X		
6. STRUCTURAL STEEL WELDING:				
A. INSPECTION TASKS PRIOR TO WELDING OF STRUCTURAL STEEL (PERFORM QA TASKS LISTED IN AISC 360, TABLE N5.4-1)	OBSERVE/PERFORM		AISC 360 TABLE N5.4-1	1705.2.1
B. INSPECTION TASKS DURING WELDING OF STRUCTURAL STEEL (PERFORM QA TASKS LISTED IN AISC 360, TABLE N5.4-2)	OBSERVE/PERFORM		AISC 360 TABLE N5.4-2	
C. INSPECTION TASKS AFTER WELDING OF STRUCTURAL STEEL (PERFORM QA TASKS LISTED IN AISC 360, TABLE N5.4-3)	OBSERVE/PERFORM		AISC 360 TABLE N5.4-3	
7. NONDESTRUCTIVE TESTING (NDT) OF WELDED JOINTS:				
A. UT TESTING ON ALL BUTT, T- & CORNER JOINTS IN MATERIALS 5/16" THICK OR GREATER (RISK CATEGORY III OR IV ONLY)	-		AISC 360 N5.5B	1705.2.1
B. UT TESTING ON 10% OF BUTT, T- & CORNER JOINTS IN MATERIAL 5/16" THICK OR GRATER (RISK CATEGORY II ONLY)	AS NOTED			
C. WELDED JOINTS SUBJECT TO FATIGUE WHEN REQUIRED BY AISC 360, APPX 3, TABLE A-3.1	AS NOTED		AISC 360 N5.5C	
D. FABRICATOR'S NDT REPORTS WHEN FABRICATOR PERFORMS NDT	VERIFY REPORTS		AISC 360 N5.5G	
8. STRUCTURAL STEEL BOLTING:				
A. INSPECTION TASKS PRIOR TO BOLTING OF STRUCTURAL STEEL (PERFORM QA TASKS LISTED IN AISC 360, TABLE N5.6-1)	OBSERVE/PERFORM		AISC 360 TABLE N5.6-1	1705.2.1
B. INSPECTION TASKS DURING BOLTING OF STRUCTURAL STEEL (PERFORM QA TASKS LISTED IN AISC 360, TABLE N5.6-2)	OBSERVE		AISC 360 TABLE N5.6-2	
C. INSPECTION TASKS AFTER BOLTING OF STRUCTURAL STEEL (PERFORM QA TASKS LISTED IN AISC 360, TABLE N5.6-3)	PERFORM		AISC 360 TABLE N5.6-3	
9. WHERE APPLICABLE, SEE SECTION 1705.13, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.				
10. SEE AISC 360, APPENDIX N, FOR DEFINITIONS OF OBSERVE AND PERFORM.				

PART I: SCHEDULE OF SPECIAL INSPECTIONS				
IBC 1705.3 REQUIRED SPECIAL INSPECTIONS AND TESTS FOR CONCRETE CONSTRUCTION				
	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA	
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARDS [A]	IBC SECTION
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.	-	X	ACI 318 CH. 20, 25.2, 25.3, 26.6.1-26.6.3	-
2. INSPECTION OF REINFORCING STEEL WELDING				
A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706	-	N/A	AWS D1.4 ACI 318 26.13.1.4	-
B. INSPECT WELDING OF REINFORCEMENT FOR SPECIAL MOMENT FRAMES, BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS AND COUPLING BEAMS	N/A	-	AWS D1.4 ACI 318 26.13.3	-
C. INSPECT WELDED REINFORCEMENT SPLICES	N/A	-	-	-
D. INSPECT WELDING OF PRIMARY TENSION REINFORCEMENT IN CORBELS	N/A	-	-	-
E. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"	-	N/A	AWS D1.4 ACI 318 26.13.3	-
F. INSPECT ALL OTHER WELDS.	-	N/A	AWS D1.4 ACI 318 26.13.3	-
3. INSPECTION OF ANCHORS CAST IN CONCRETE	-	X	ACI 318 26.13.3.3	-
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS [B].				
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	-	ACI 318 26.13.3.2	-
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A	-	X	ACI 318 26.13.3	-
5. VERIFY USE OF REQUIRED DESIGN MIX.	-	X	ACI 318 CH. 19, 26.4.3, 26.4.4	1904.1 1904.2
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM C31 ASTM C172 ACI 318 26.5, 26.12	-
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318 26.5	-
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318 26.5.3 - 26.5.5	-
9. INSPECTION OF PRESTRESSED CONCRETE:				
A. APPLICATION OF PRESTRESSING FORCES.	N/A	-	ACI 318 26.10	-
B. GROUTING OF BONDED PRESRESSING TENDONS	N/A			
10. INSPECTION OF ERECTION OF PRECAST CONCRETE MEMBERS	-	N/A	ACI 318 26.8	-
11. FOR PRECAST CONCRETE DIAPHRAGM CONNECTIONS OR REINFORCEMENT JOINTS CLASSIFIED AS MODERATE OR HIGH DEFORMABILITY (MDE OR HDE) IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E, OR F, INSPECT SUCH CONNECTION AND REINFORCEMENT IN THE FIELD FOR:				
A. INSTALLATION OF THE EMBEDDED PARTS	N/A	-	ACI 318 26.13.1.3 ACI 550.5	-
B. COMPLETION OF THE CONTINUITY OF REINFORCEMENT ACROSS JOINTS.	N/A	-	ACI 318 26.13.1.3 ACI 550.5	-
C. COMPLETION OF CONNECTIONS IN THE FIELD	N/A	-	ACI 318 26.13.1.3 ACI 550.5	-
12. INSPECT INSTALLATION TOLERANCES OF PRECAST CONCRETE DIAPHRAGM CONNECTIONS FOR COMPLIANCE WITH ACI 550.5	-	N/A	ACI 318 26.13.1.3	-
13. 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	-	N/A	ACI 318 26.11.2	-
14. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	-	X	ACI 318 26.11.1.2(b)	-
A. WHERE APPLICABLE, SEE SECTION 1705.13, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.				
B. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 26.13 IN ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.				

PART I: SCHEDULE OF SPECIAL INSPECTIONS		
IBC 1705.6 REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS		
VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X
4. DURING FILL PLACEMENT, VERIFY USE OF PROPER MATERIALS AND PROCEDURES IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT. VERIFY DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY SITE HAS BEEN PREPARED PROPERLY.	-	X

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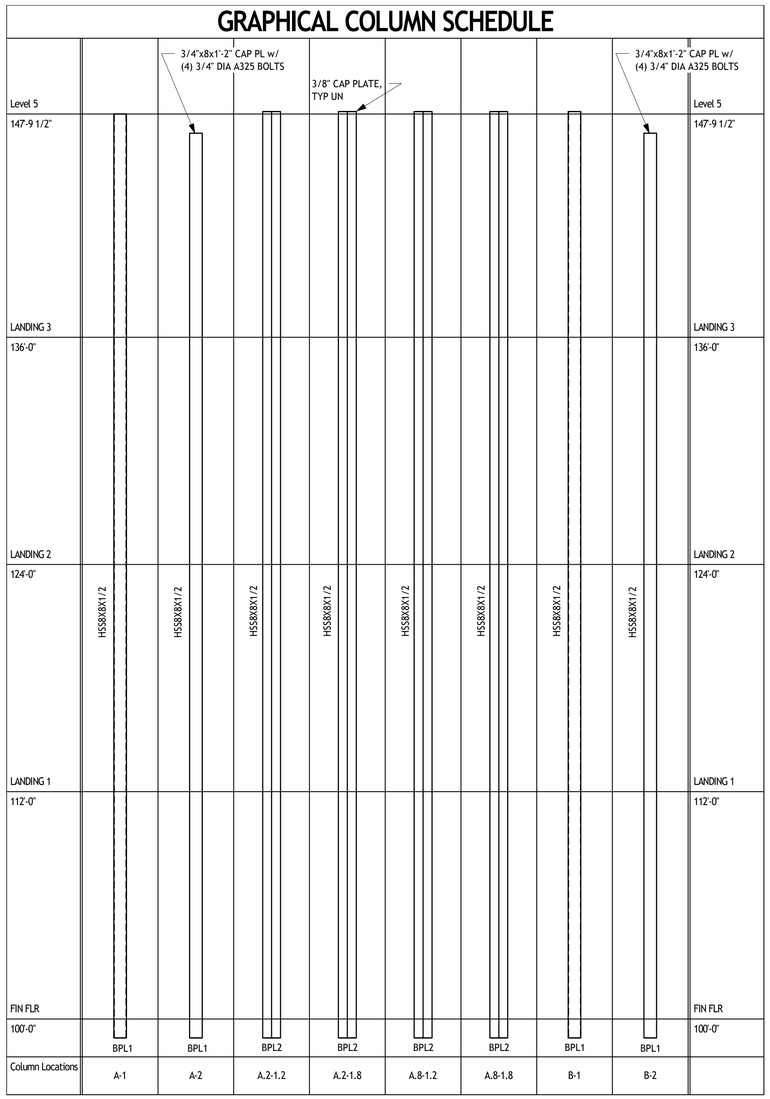
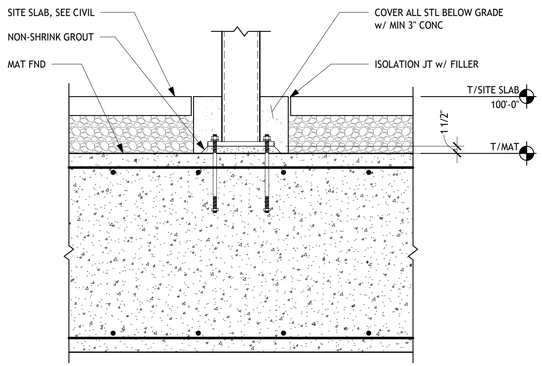
DRAWN BY: Author	SCALE: AS NOTED
CHECKED BY: Checker	DATE: 08/28/2025
APPROVED BY: Approver	CONSTRUCTION DOCUMENTS

SPECIAL INSPECTIONS

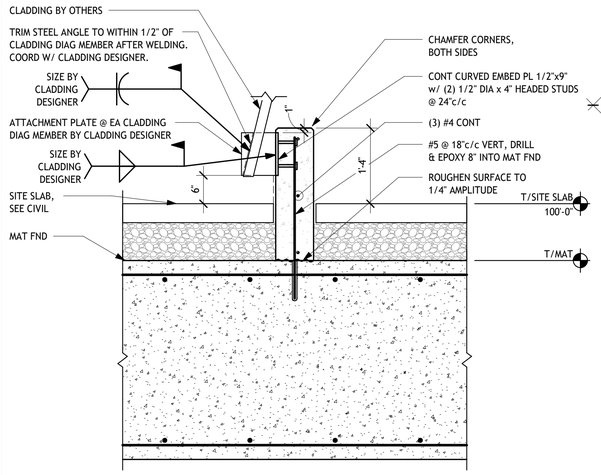
T-S3

GRAPHICAL COLUMN SCHEDULE

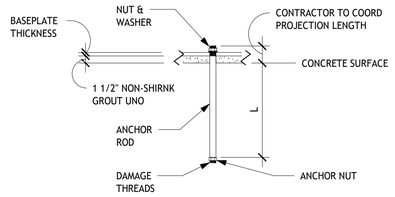




1 T-S4 SECTION
3/4" = 1'-0"

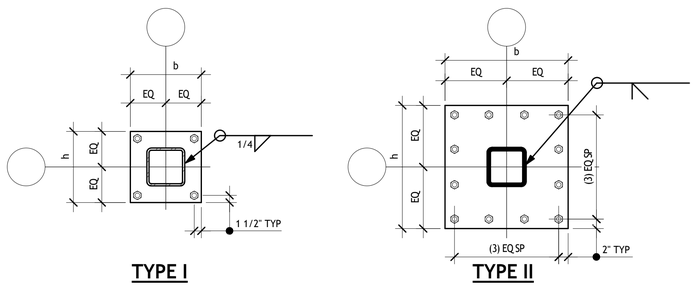


2 T-S4 SECTION
3/4" = 1'-0"



1. L = ANCHOR ROD EMBEDMENT (8" MIN UNO)
2. TYPICAL ANCHOR ROD DESIGNATION
   __" Ø X L A. ROD

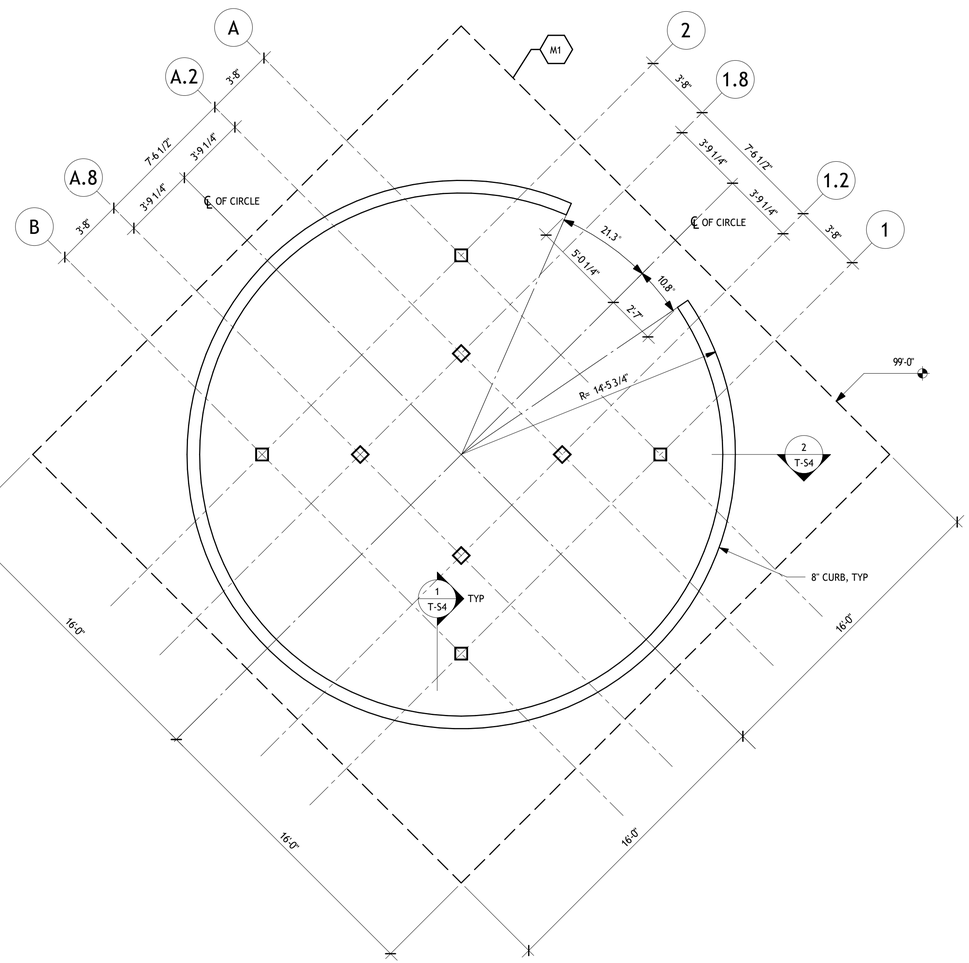
TYPICAL ANCHOR ROD DETAIL



TYPE I TYPE II

COLUMN BASE PLATE DETAILS

BASE PLATE SCHEDULE			
MARK	BASE PLATE SIZE	ANCHOR BOLTS	BASE PLATE TYPE
BPL1	1'x1'4"x1'-2"	(4) 3/4" DIA x1'-4"	TYPE 1
BPL2	1 3/4"X26"x2'-2"	(12) 1" DIA x1'-6"	TYPE 2



FOUNDATION PLAN

1/4" = 1'-0"

1. VERIFY LOCATIONS OF COLUMNS, WALLS, OPENINGS, ETC. WITH ARCHITECTURAL DRAWINGS BEFORE PLACING FOUNDATIONS.
2. TOP OF MAT ELEVATION 99'-0" EXCEPT AS NOTED. SEE CIVIL DRAWINGS FOR REFERENCE SITE ELEVATION.
3. DESIGN SOIL BEARING PRESSURE 2,000 PSF. ANY SOFT SPOTS OR VARIATIONS IN SUBSURFACE CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER. THE DESIGN BEARING CAPACITY SHALL BE FIELD VERIFIED BY AN INDEPENDENT TESTING AGENCY SPECIALIZING IN SOILS INVESTIGATIONS. GEOTECHNICAL INFORMATION INCLUDED IN THE CONSTRUCTION DOCUMENTS WAS OBTAINED FROM A REPORT ISSUED BY CTL ENGINEERING, PROJECT NUMBER 25050027COL, DATED JUNE 9, 2025..
4. ELEVATIONS SHOWN ON PLAN ARE TOP OF THE FOOTING OR SLAB.
5. REFERENCE: GENERAL STRUCTURAL NOTES - T-S2 ; COLUMN SCHEDULE - T-S4 .
6. SYMBOL LEGEND:
   - ◆ • INDICATES TOP OF FOOTING ON PLAN.
   - M1 • INDICATES MAT FOUNDATION. SEE SCHEDULE ON SHEET T-S4 .
   - C# • INDICATES COLUMN ON PLAN. SEE SCHEDULE ON SHEET T-S4 .

FOOTING SCHEDULE - MAT FOUNDATIONS					
	SIZE				
TYPE	WIDTH	LENGTH	THICKNESS	REINFORCING	REMARKS
M1	32'-0"	32'-0"	3'-6"	#9 @ 10" c/c EA WAY T&B	

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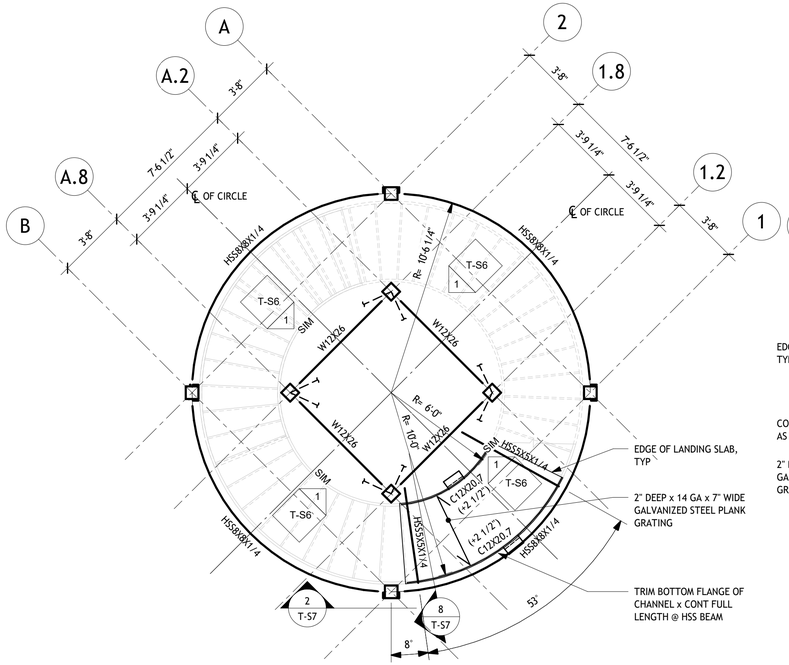
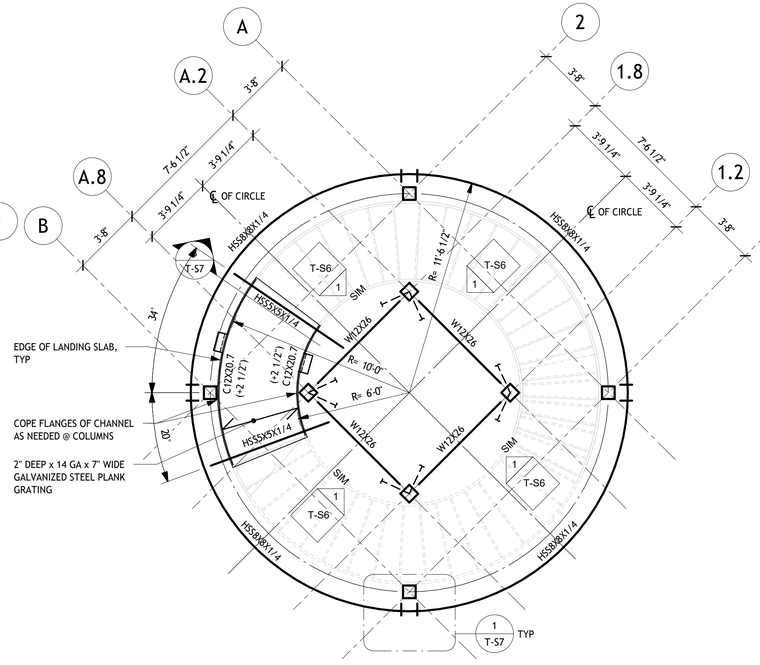
FOUNDATION PLAN & DETAILS | **T-S4**



LANDING 2 FRAMING PLAN @ 124'-0"

1/4" = 1'-0"

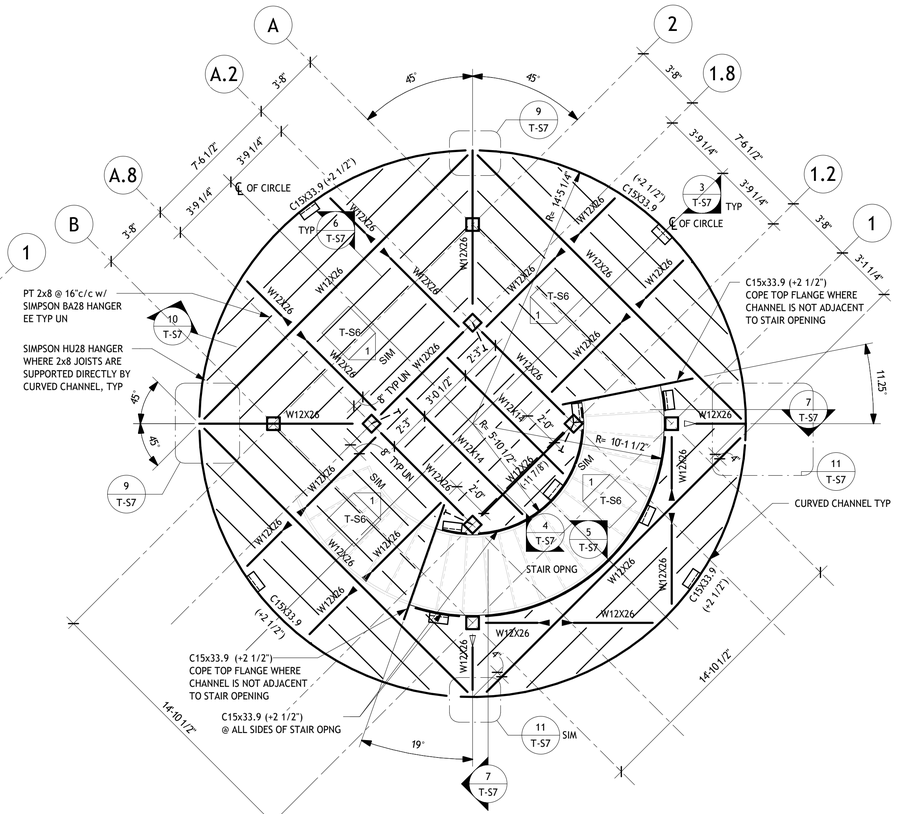
1. TOP OF STEEL ELEVATION = 124'-0" EXCEPT AS NOTED THUS (+/-).



LANDING 3 FRAMING PLAN @ 136'-0"

1/4" = 1'-0"

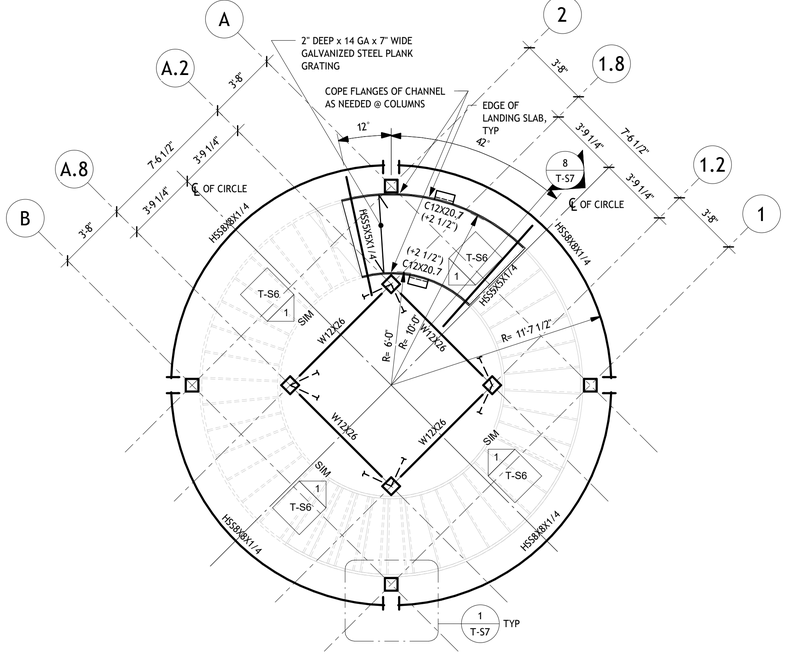
1. TOP OF STEEL ELEVATION = 136'-0" EXCEPT AS NOTED THUS (+/-).



FRAMING PLAN @ 148'-0"

1/4" = 1'-0"

1. TOP OF STEEL ELEVATION = 148'-0" EXCEPT AS NOTED THUS (+/-).



LANDING 1 FRAMING PLAN @ 112'-0"

1/4" = 1'-0"

1. TOP OF STEEL ELEVATION = 112'-0" EXCEPT AS NOTED THUS (+/-).

TOWER FRAMING - STRUCTURAL STEEL

1. DESIGN LIVE LOADS: ROOF LIVE LOAD = 20 PSF (REDUCIBLE). SEE GENERAL STRUCTURAL NOTES FOR ROOF SNOW LOAD. PLATFORM FLOOR LIVE LOAD = 100 PSF; STAIR LIVE LOAD = 100 PSF.
2. TOP OF STEEL ELEVATIONS AS NOTED ON EACH PLAN.
3. FLOOR CONSTRUCTION: 1x6 COMPOSITE WOOD DECKING OVER 2x8 INFILL JOISTS BETWEEN STEEL BEAM FRAMING.
4. BEAMS ARE UNIFORMLY SPACED BETWEEN COLUMNS UNLESS NOTED OTHERWISE.
5. ALL STEEL MEMBERS EXPOSED TO WEATHER IN FINISHED STRUCTURE ARE TO BE GALVANIZED PER ASTM A123 AFTER FABRICATION.
6. REFERENCES: GENERAL STRUCTURAL NOTES - T-S2 ; COLUMN SCHEDULE - T-S4 .
7. SYMBOL LEGEND:

- 20K • INDICATES BEAM REACTION IN KIPS (ASD). SAME BOTH ENDS EXCEPT AS SHOWN. DESIGN CONNECTION FOR A MINIMUM OF 17 KIPS WHERE NO REACTION IS SHOWN.
- • INDICATES MOMENT AND SHEAR CONNECTION ON PLAN. SEE SECTION 6/T-S7 .
- • INDICATES MOMENT AND SHEAR WIDE FLANGE BEAM TO HSS COLUMN CONNECTION ON PLAN. SEE SECTION 7/T-S7 .

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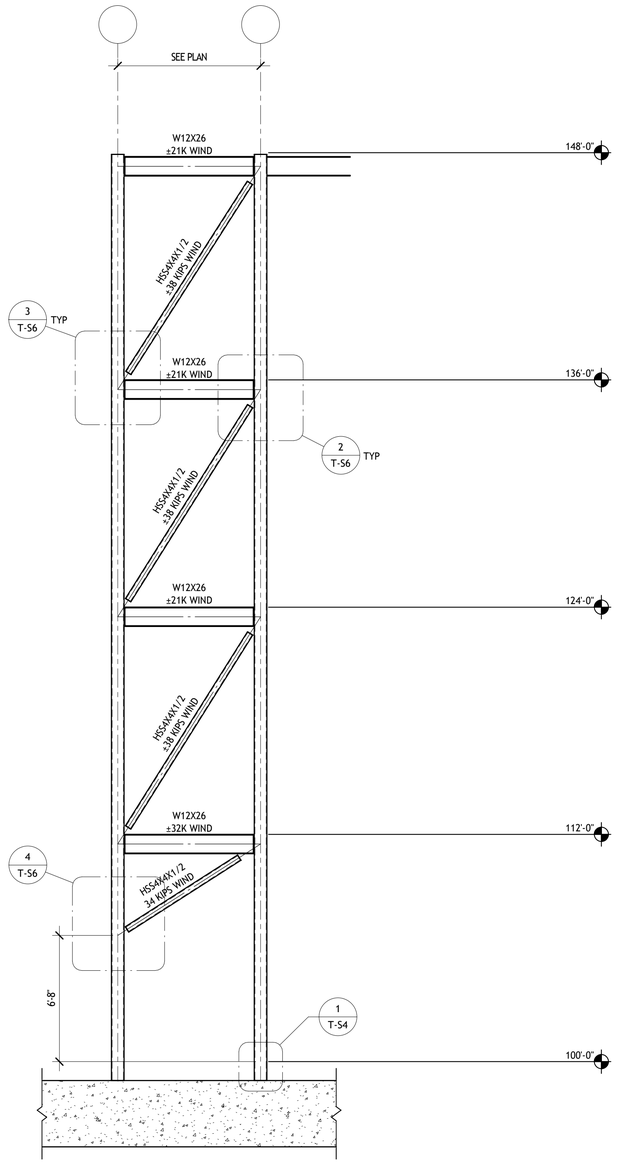
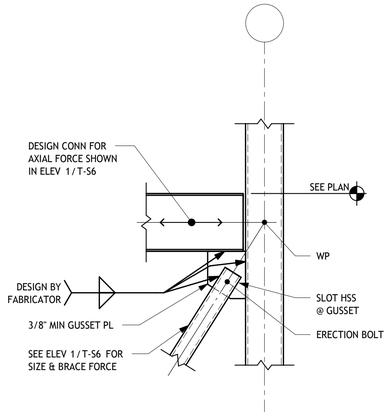
FRAMING PLANS

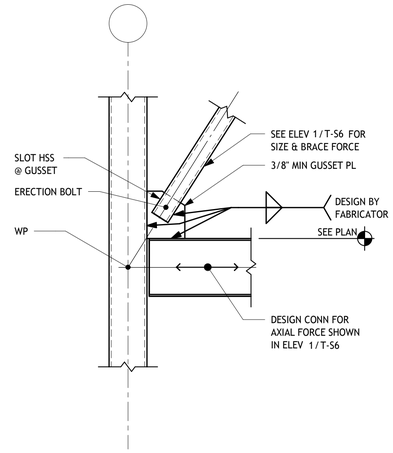
T-S5



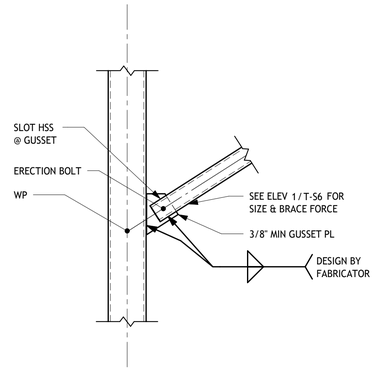
1 T-S6 ELEVATION
1/4" = 1'-0"



2 T-S6 SECTION
3/4" = 1'-0"



3 T-S6 SECTION
3/4" = 1'-0"



4 T-S6 SECTION
3/4" = 1'-0"

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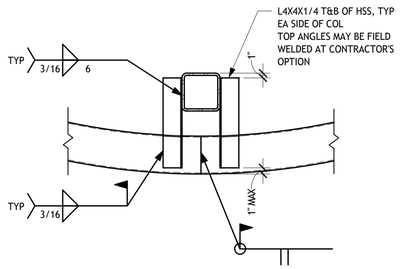
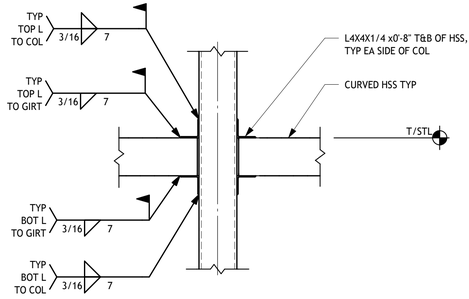
FRAMING ELEVATIONS & DETAILS

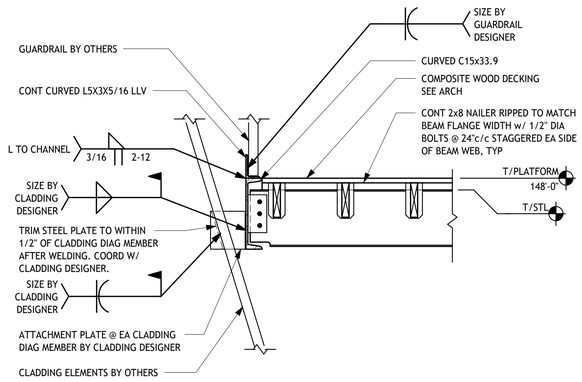
T-S6



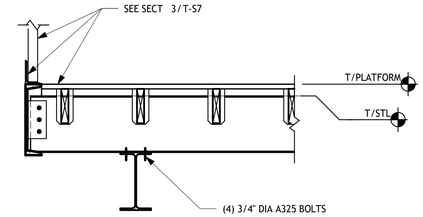
1 T-S7 **DETAIL**
3/4" = 1'-0"



2 T-S7 **SECTION**
3/4" = 1'-0"



3 T-S7 **SECTION**
3/4" = 1'-0"



4 T-S7 **SECTION**
3/4" = 1'-0"

5 T-S7 **SECTION**
3/4" = 1'-0"

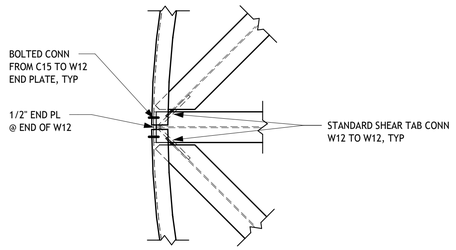
TYPICAL GRAVITY MOMENT CONNECTION

6 T-S7 **SECTION**
3/4" = 1'-0"

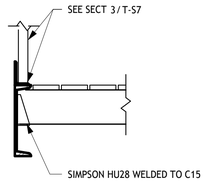
SHEAR TAB FOR W12 FRAMING INTO CANTILEVER BEAM AT A 45 DEGREE ANGLE NOT SHOWN FOR CLARITY.

7 T-S7 **SECTION**
3/4" = 1'-0"

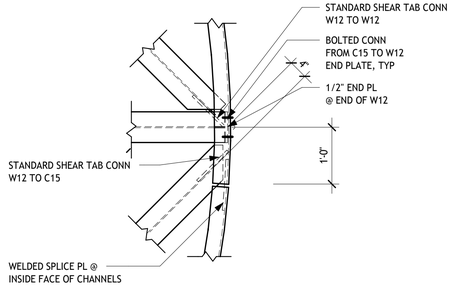
8 T-S7 **SECTION**
3/4" = 1'-0"



9 T-S7 **DETAIL**
3/4" = 1'-0"



10 T-S7 **SECTION**
3/4" = 1'-0"



11 T-S7 **DETAIL**
3/4" = 1'-0"

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TOWER SECTIONS

T-S7

ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS MAY BE USED.

(A)	EXISTING TO BE ABANDONED
(D)	EXISTING TO BE DEMOLISHED
(E)	EXISTING TO REMAIN
(F)	FUTURE
(R)	EXISTING TO BE RELOCATED
A	COMPRESSED AIR (SHOP AIR)
ABV	ABOVE
AE	ANESTHESIA EVACUATION
AFF	ABOVE FINISHED FLOOR
AMP	AMPERE
APPROX	APPROXIMATE
AR	ARGON
ARCH	ARCHITECT
AUTO	AUTOMATIC
AV	ACID VENT
AVG	AVERAGE
AW	ACID WASTE
BF	BELOW FLOOR
BFV	BUTTERFLY VALVE
BLDG	BUILDING
BOP	BOTTOM OF PIPE
BT	BATHTUB
CAP	CAPACITY
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CONN	CONNECTION OR CONNECT
CONT	CONTINUATION
CS	CLINIC SINK
CU FT	CUBIC FEET
CU IN	CUBIC INCH
D	DRAIN
DEPT	DEPARTMENT
DIA	DIAMETER
DI	DEIONIZED WATER
DN	DOWN
DW	DISTILLED WATER
DWG	DRAWING
E	EMERGENCY FIXTURE
EL	ELEVATION
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXP	EXPANSION
EXIST	EXISTING
°F	DEGREES FAHRENHEIT
FD	FLOOR DRAIN
FIN FL EL	FINISHED FLOOR ELEVATION
FOD	FUEL OIL DISCHARGE
FOF	FUEL OIL FILL
FOG	FUEL OIL GAUGE LINE
FOO	FUEL OIL OVER FLOW LINE
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL TANK VENT
FT	FOOT OR FEET
GA	GAUGE
GAL	GALLONS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H	HYDROGEN
HD	HEAD
HE	HELIUM
HGT	HEIGHT
HP	HORSEPOWER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HZ	HERTZ

ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS MAY BE USED.

IN	INCHES
INV EL	INVERT ELEVATION
IW	INDIRECT WASTE
KW	KILOWATT
L	LAVATORY
LB	POUNDS
LF	LINEAR FEET
LG	LENGTH
LN	LIQUID NITROGEN
LOX	LIQUID OXYGEN
MA	COMPRESSED AIR (MEDICAL GAS)
MAX	MAXIMUM
MECH	MEHCANICAL
MFG	MANUFACTURER
MIN	MINIMUM
MS	MOP SINK
MV	VACUUM (MEDICAL GAS)
N20	NITROUS OXIDE
N	NITROGEN
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NPW	NON-POTABLE WATER
NTS	NOT TO SCALE
O	OXYGEN
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OS&Y	OUTSIDE STEM AND YOKE VALVE
PD	PUMPED DISCHARGE
PLBG	PLUMBING
PPM	PARTS PER MILLION
PR	FUEL POLISH RETURN
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PS	FUEL POLISH SUPPLY
PSI	POUNDS PER SQUARE INCH
PSIG	PSI GUAGE
RCP	RECIRCULATING PUMP
RD	ROOF DRAIN
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
RO	REVERSE OSMOSIS WATER
S	SINK
SEC	SECOND
SH	SHOWER
SHT	SHEET
SPEC	SPECIFICATION
SRD	SECONDARY ROOF DRAIN
STSTL	STAINLESS STEEL
STD	STANDARD
STR	STRAINER
SW	SOFT POTABLE WATER
TE	TOP ELEVATION
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TOP	TOP OF PIPE
TWS	TEMPERED WATER SUPPLY
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
V	VOLT
VB	VACUUM BREAKER
VTR	VENT THRU ROOF
W	WATER
WC	WATER CLOSET
WF	WASH FOUNTAIN

SYMBOLS LIST

NOTE: NOT ALL SYMBOLS MAY BE USED.

PIPING

EXISTING TO REMAIN	(E)
EXISTING TO BE DEMOLISHED	(D)
EXISTING ABANDONED	(A)
DOMESTIC HOT WATER	HW
DOMESTIC COLD WATER	CW
DOMESTIC HOT WATER RETURN	HWR
SANITARY	SAN
VENT	V
STORM	ST
SECONDARY STORM	SS
NATURAL GAS	G

DESCRIPTION	2D SYMBOL	3D SYMBOL	
		PLAN VIEW	SECTION VIEW
DROP			
RISE			
TEE			
CAP			
GLOBE VALVE			
PLUG VALVE			
SOLENOID VALVE			
GAS PRESSURE REGULATOR			
PRESSURE REDUCING VALVE			
OUTSIDE STEM & YOKE VALVE			
BUTTERFLY VALVE			
BALL VALVE			
CHECK VALVE			
BALANCE VALVE			
STRAINER			
UNION			
TEMPERATURE & PRESSURE RELIEF VALVE			
METER			
AQUASTAT			
THERMOMETER			
PRESSURE GAUGE WITH STOPCOCK			
REDUCED PRESSURE BACKFLOW PREVENTER			
PUMP			
WALL HYDRANT			
HOSE BIBB			
CLEANOUT	CO	CO	CO
CLEANOUT AT FLOOR OR AT GRADE	CO	CO	CO
FLOOR OR AREA DRAIN			
ROOF DRAIN			
DOWNSPOUT NOZZLE			

GENERAL NOTES:

1. PROVIDE NEW DOMESTIC WATER, SANITARY WASTE, NATURAL GAS FOR THIS BUILDING. PROVIDE ALL NECESSARY COMPONENTS FOR FULLY OPERATIONAL SYSTEM. INSTALL SYSTEMS IN ACCORDANCE WITH STATE REQUIREMENTS AND LOCAL AUTHORITY HAVING JURISDICTION. COORDINATE THE LOCATION OF ALL UTILITY CONNECTION POINTS, FLOOR DRAINS AND HUB DRAINS FOR EQUIPMENT WITH OTHER TRADES.
2. ALL FLOOR PENETRATIONS TO BE SEALED WATER TIGHT AND COMPLETELY PACKED WITH FIRE STOP MATERIAL BY TRADE CONTRACTORS.
3. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT INTENDED TO SHOW THE EXACT LOCATIONS OF COMPONENTS, NOR SHOW ALL SYSTEM COMPONENTS. CONTRACTOR SHALL PROVIDE ADDITIONAL OFFSETS OR FITTINGS REQUIRED FOR PROPER INSTALLATION, COORDINATION WITH OTHER TRADES, AND/OR TO MAINTAIN PROPER CLEARANCES.
4. DRAWINGS ARE NOT TO BE SCALED. DIMENSIONS SHALL GOVERN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE CONCERNING EXISTING AND NEW WORK BEFORE PROCEEDING WITH EITHER FABRICATION OR INSTALLATION IN MECHANICAL AREAS WITH NUMEROUS OBSTRUCTIONS INCLUDING DUCTWORK, EQUIPMENT AND PIPING. THIS WILL REQUIRE ON SITE CUTTING AND VERIFICATION.
5. ANY INFORMATION CONFLICTS BETWEEN THE SPECIFICATIONS AND DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS'S ATTENTION. THE CONTRACTOR(S) SHALL NOT PROCEED WITH ANY WORK, EXCEPT AT THEIR OWN RISK, UNTIL CLARIFICATIONS OF THE CONFLICTS ARE ISSUED TO THE CONTRACTOR(S) BY THE ENGINEER.
6. THE TERM "PROVIDE" SHALL MEAN THE CONTRACTOR SHALL FURNISH, INSTALL AND CONNECT FOR A COMPLETE AND OPERATIONAL SYSTEM.
7. ALL MATERIAL AND LABOR SHALL BE UNDER WARRANTY FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER. ANY NEW DEVICES OR EQUIPMENT FOUND FAULTY SHALL BE REPLACED AS PART OF THE WARRANTY.
8. A SET OF APPROVED DRAWINGS SHALL BE MAINTAINED ON SITE AND ALL FIELD CHANGES SHALL BE RED LINED ON THE DRAWINGS. CONTRACTOR SHALL PREPARE "AS-BUILT" DRAWINGS IN ELECTRONIC (AUTOCAD) FORMAT, REFLECTING ACCURATE FIELD CONDITIONS.
9. ALL PENETRATIONS THROUGH FIRE RESISTANCE RATED CONSTRUCTION SHALL BE PROVIDED A UL LISTED THROUGH PENETRATION FIRESTOP ASSEMBLY. THE RATINGS OF ALL FIRESTOP ASSEMBLIES SHALL BE GREATER THAN OR EQUAL TO THE RATING OF THE PENETRATED BARRIER.
10. CORE DRILL PENETRATIONS IN CONCRETE FLOORS OR WALLS 1-2 INCHES LARGER THAN THE PIPE DIAMETER OF THE PENETRATING PIPE.
11. DUCTWORK, PIPING, MECHANICAL EQUIPMENT AND CEILINGS SHALL NOT BE USED AS LADDERS, SCAFFOLDING OR WORK PLATFORMS.
12. NO STRUCTURAL MEMBERS SHALL BE CUT, DRILLED, OR BURNED WITHOUT THE KNOWLEDGE AND WRITTEN APPROVAL OF THE OWNER.
13. EQUIPMENT, MATERIALS, INSTALLATION WORKMANSHIP, EXAMINATION AND TESTING SHALL BE IN ACCORDANCE WITH CURRENT PLUMBING CODE. INSTALL PIPING STRAIGHT AND TRUE TO BEAR EVENLY ON HANGARS AND SUPPORTS. PIPE SHALL NOT INTERFERE WITH OTHER EQUIPMENT AND CONSTRUCTION.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL CONFLICTS WITH LIGHTING FIXTURES, DIFFUSERS, GRILLS, DUCTS, STRUCTURAL MEMBERS, MECHANICAL EQUIPMENT AND PIPES.
15. NO FABRICATION OR INSTALLATION IS ALLOWED WITHOUT APPROVED SHOP DRAWING SUBMITTALS.
16. CONTRACTOR SHALL SUBMIT SYSTEM CATALOG PRODUCT DATA SHEETS OF ALL COMPONENTS PROPOSED FOR USE PRIOR TO INSTALLATION FOR APPROVAL. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL.
17. ALL MATERIALS AND EQUIPMENT SHALL BE NEW.
18. PIPING SHALL NOT SHARE SUPPORTS WITH OTHER BUILDING SYSTEMS. IN MECHANICAL AREAS, PIPING SHALL NOT BE ATTACHED TO THE DUCT WORK. STANCHIONS SHALL BE USED WHERE PIPING IS UNABLE TO BE HUNG FROM ABOVE.
19. PIPING IN AREAS WITH FINISHED CEILINGS SHALL BE INSTALLED ABOVE FINISHED CEILINGS.
20. CONTRACTOR SHALL PROVIDE LABELS (WITH FLOW ARROWS) FOR ALL PIPING.
21. PIPING SHALL NOT BE INSTALLED PASSING THROUGH ELECTRICAL ROOMS OR OVER ELECTRICAL PANELS / EQUIPMENT WHICH SERVES OTHER AREAS. COORDINATE THE LOCATION OF ALL PIPING WITH ELECTRICAL EQUIPMENT AND OTHER TRADES AND ADJUST AS NECESSARY.
22. MAKE REASONABLE AND NECESSARY MODIFICATIONS IN LAYOUTS AND COMPONENTS NEEDED TO PREVENT CONFLICTS WITH WORK OF OTHER TRADES AND TO COORDINATE IN ACCORDANCE WITH SPECIFICATIONS.
23. MAINTAIN MAXIMUM HEADROOM AT ALL LOCATIONS. ALL PIPING TO BE AS TIGHT TO THE UNDERSIDE OF DECK AS POSSIBLE. ALL EXPOSED PIPING SHALL BE APPROVED BY ARCHITECT AND SHALL MAINTAIN REQUIRED CLEARANCES.
24. CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, FEES, AND PERMITS FOR A COMPLETE INSTALLATION. CONTRACTOR SHALL COMPLY WITH ALL GENERAL CONDITIONS LISTED ON THE ARCHITECTURAL DOCUMENTS.

STATE OF OHIO
7/28/25
COLIN TODD

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ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: JPV
DRAWN BY: JPV
CHECKED BY: PM
APPROVED BY: CT

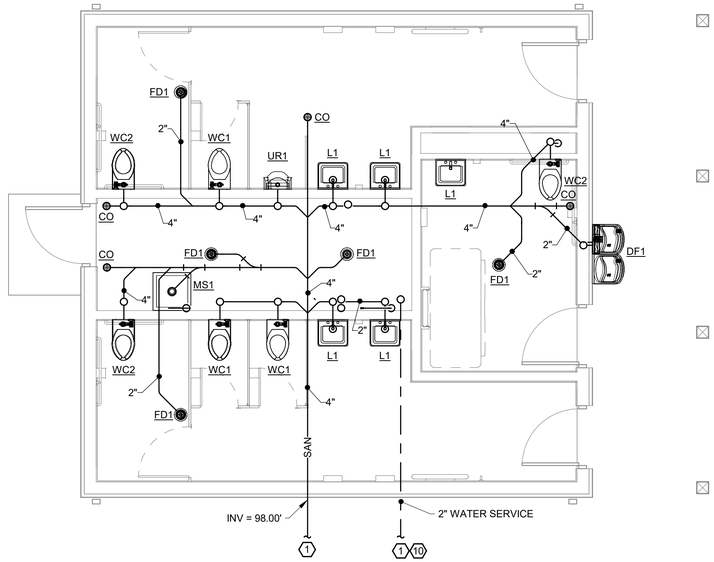
JOB NUMBER: DNR-210062.02
SCALE: AS NOTED
DATE: 09/04/2025
CONSTRUCTION DOCUMENTS

GENERAL INFORMATION - PLUMBING

P001

GENERAL SHEET NOTES:

1. CLOSELY COORDINATE WORK WITHIN PLUMBING CHASE WITH ALL OTHER TRADES.

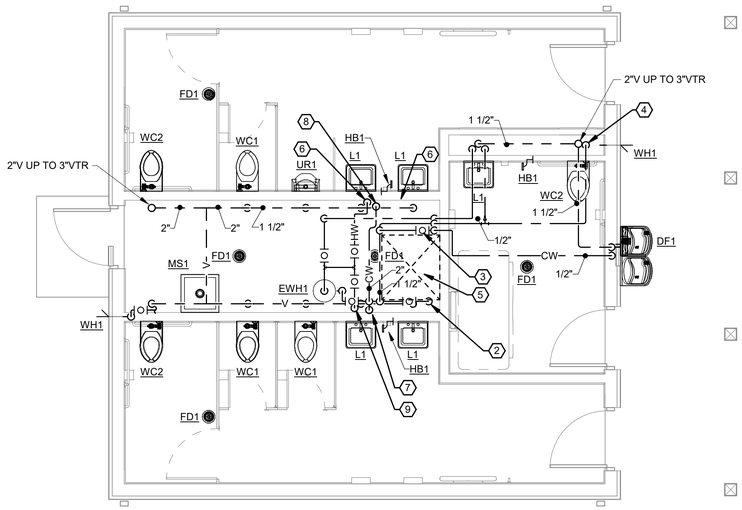


N

2 UNDERFLOOR PLAN - PLUMBING
1/4" = 1'-0"

SHEET KEYNOTES:

1. EXTEND 5 FEET BEYOND BUILDING WALL FOR CONTINUATION BY SITE UTILITY CONTRACTOR.
2. WATER SERVICE ENTRANCE WITH SHUT-OFF VALVE. COORDINATE PENTRATION LOCATION AND ELECTRICAL PANEL CLEARANCES WITH ELECTRICAL CONTRACTOR. PROVIDE COMPRESSED AIR FITTING DOWNSTREAM OF SHUT OFF VALVE FOR WINTERIZATION BLOW DOWN.
3. PROVIDE SHUT OFF VALVE WITH COMPRESSED AIR FITTING DOWNSTREAM FOR WINTERIZATION BLOW DOWN OF DRINKING FOUNTAIN SUPPLY.
4. 1" CW DOWN IN CHASE. EXTEND 1" CW TO WC, 3/4" CW TO WH1, AND 1/2" CW TO HB1.
5. MAINTAIN CLEARANCE AROUND ELECTRICAL PANELS. COORDINATE WITH ELECTRICAL CONTRACTOR.
6. 3/4" HW DOWN ON WALL. EXTEND AND CONNECT 1/2" HW TO EACH LAV.
7. 2" CW DOWN ON WALL WITH SHUT OFF VALVE. EXTEND FULL SIZE ON WALL AND CONNECT 1" TO EACH WC, 1/2" TO EACH LAV, 1/2" TO THE HB, AND 1/2" CW TO MS1. EXTEND 3/4" DRAIN DOWN LINE WITH SHUT OFF VALVE TO DISCHARGE IN THE MOP SINK.
8. 2" CW DOWN ON WALL WITH SHUT OFF VALVE. EXTEND FULL SIZE ON WALL AND CONNECT 1" TO EACH WC, 3/4" TO THE UR, 1/2" TO EACH LAV AND 1/2" TO THE HB.
9. 3/4" HW DOWN ON WALL. EXTEND AND CONNECT 1/2" HW TO EACH LAV AND MS1.
10. SEE CIVIL PLANS FOR WATER METER AND BACKFLOW PREVENTER LOCATED ON SITE.



N

1 FIRST FLOOR PLAN - PLUMBING
1/4" = 1'-0"

STATE OF OHIO
7/28/25
COLIN
TODD
PROFESSIONAL ENGINEER

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ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

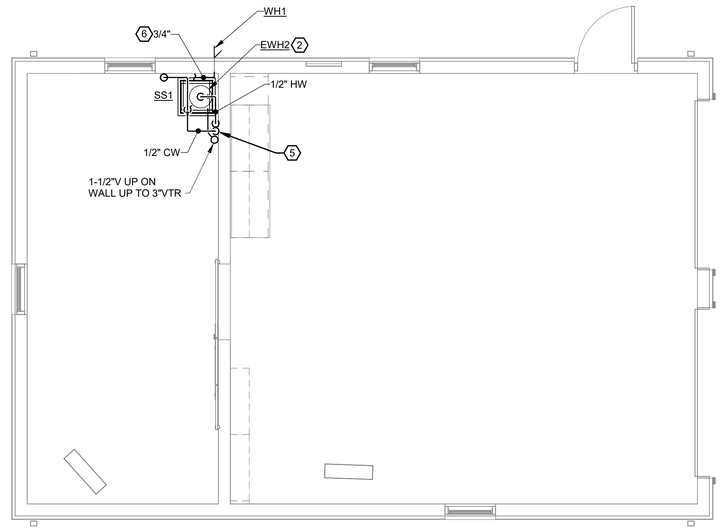
DESIGNED BY: JPV	JOB NUMBER: DNR-210062.02
DRAWN BY: JPV	SCALE: AS NOTED
CHECKED BY: PM	DATE: 09/04/2025
APPROVED BY: CT	CONSTRUCTION DOCUMENTS

FIRST FLOOR PLAN - PLUMBING

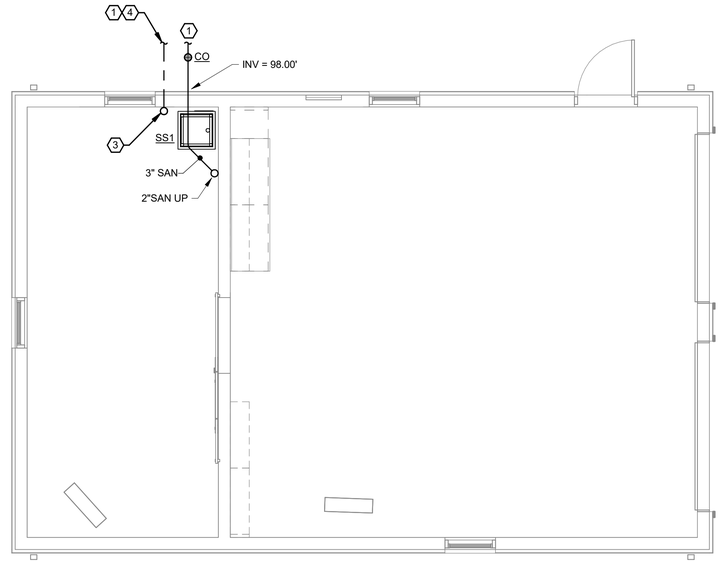
P101

SHEET NOTES:

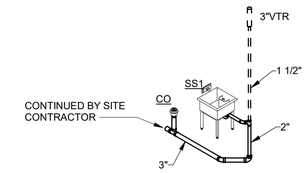
1. EXTEND 5 FEET BEYOND BUILDING FOOTPRINT FOR CONTINUATION BY SITE UTILITY CONTRACTOR.
2. WATER HEATER MOUNTED ON WALL ABOVE SERVICE SINK. PROVIDE PLATFORM WITH WALL BRACKET AND GALVANIZED DRAIN PAN. EXTEND 1/2" HW DOWN ON WALL TO UTILITY SINK. EXTEND DRAIN LINES ON WALL TO SINK.
3. 1" CW UP ON WALL WITH SHUT-OFF VALVE.
4. SEE CIVIL PLANS FOR WATER METER AND BACKFLOW PREVENTER LOCATED ON SITE.
5. 1/2" CW DOWN ON WALL. EXTEND AND CONNECT 1/2" CW TO UTILITY SINK.
6. 3/4" EXTENDED FROM WATER ENTRANCE WITH SHUT OFF VALVE FOR WALL HYDRANT SUPPLY.



1 FIRST FLOOR PLAN - PLUMBING
1/4" = 1'-0"



2 UNDERFLOOR PLAN - PLUMBING
1/4" = 1'-0"



A SANITARY ISOMETRIC
NTS

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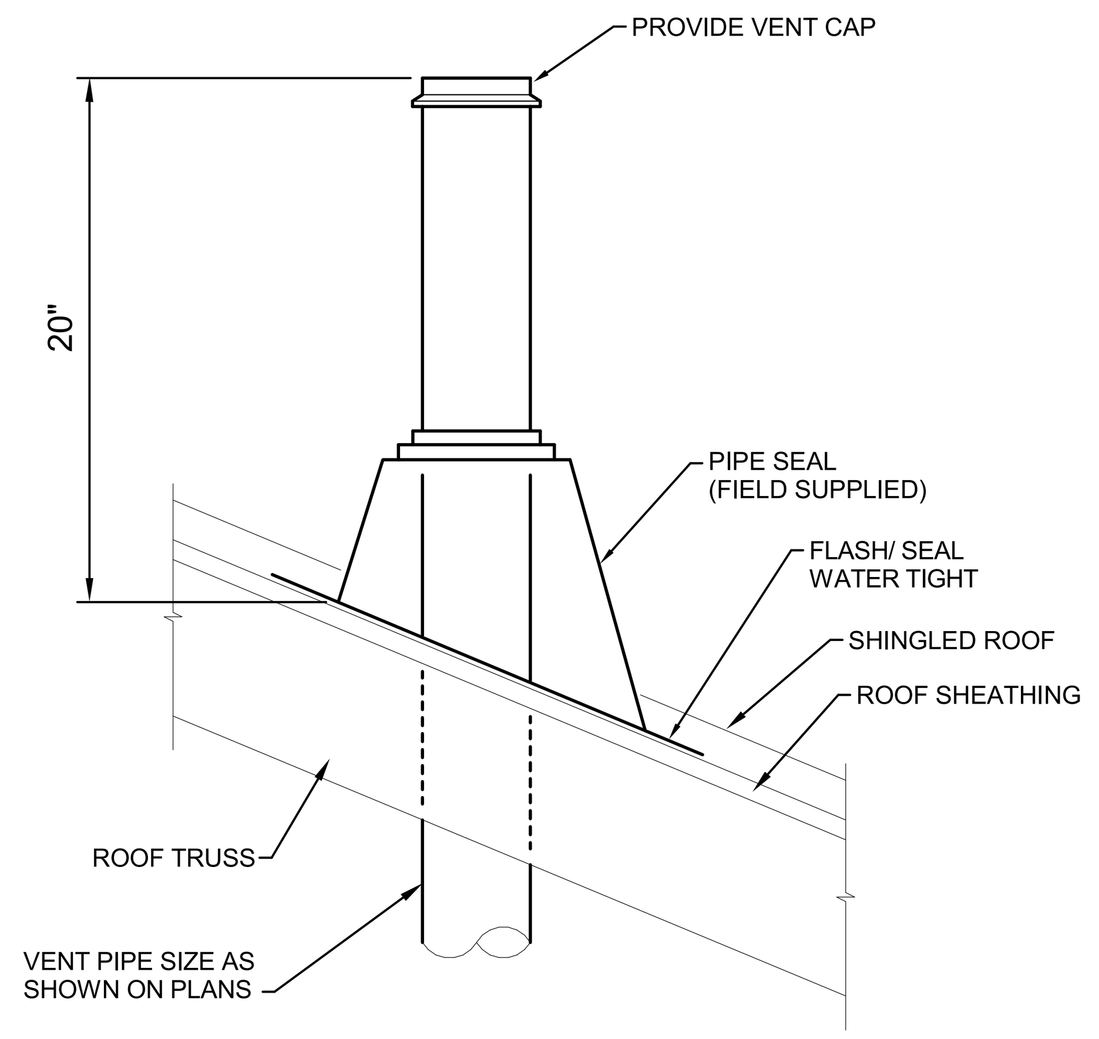
ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

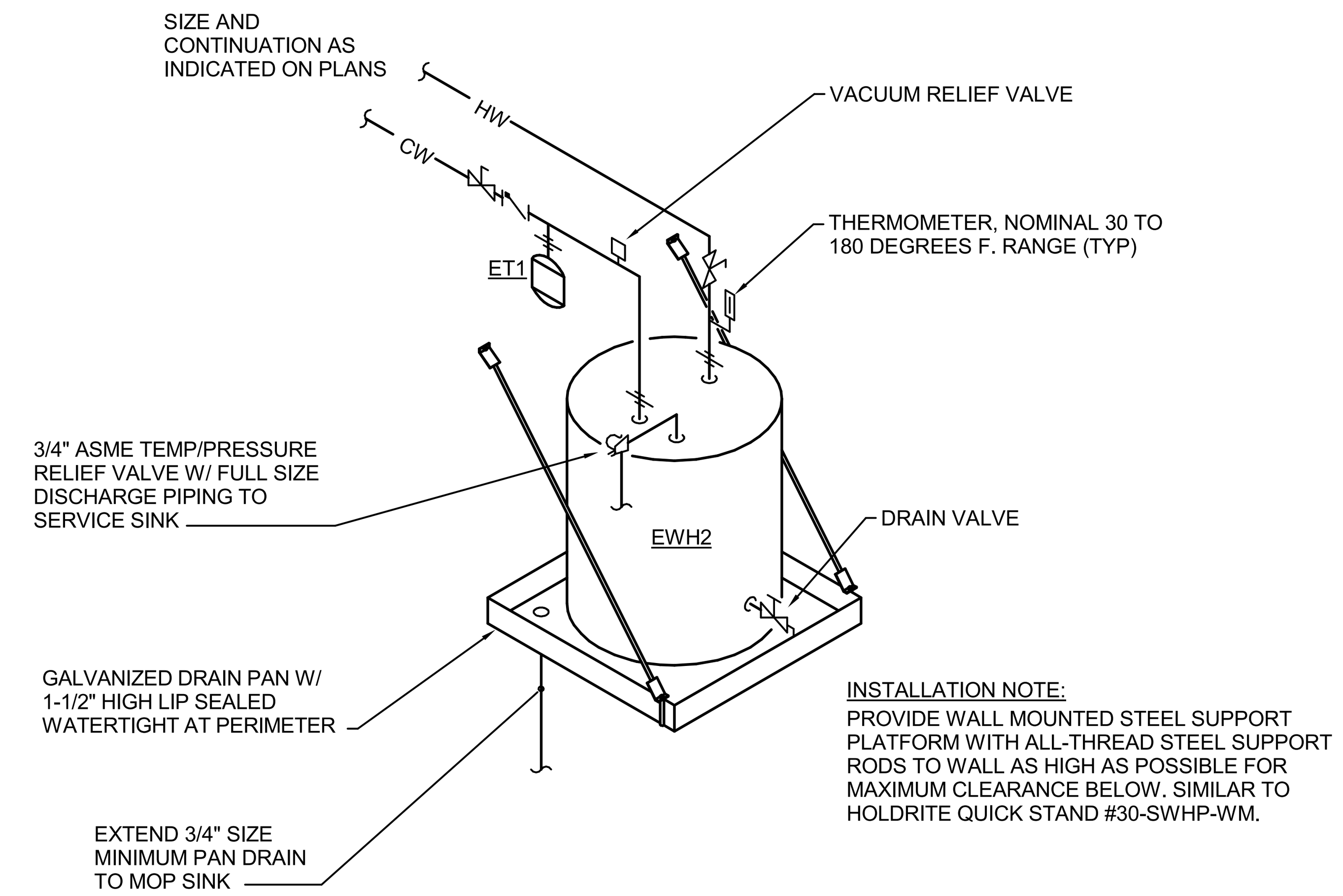
DESIGNED BY: Designer	JOB NUMBER: DNR-210062.02
DRAWN BY: Author	SCALE: AS NOTED
CHECKED BY: Checker	DATE: 09/04/25
APPROVED BY: Approver	CONSTRUCTION DOCUMENTS

FLOOR PLAN - PLUMBING

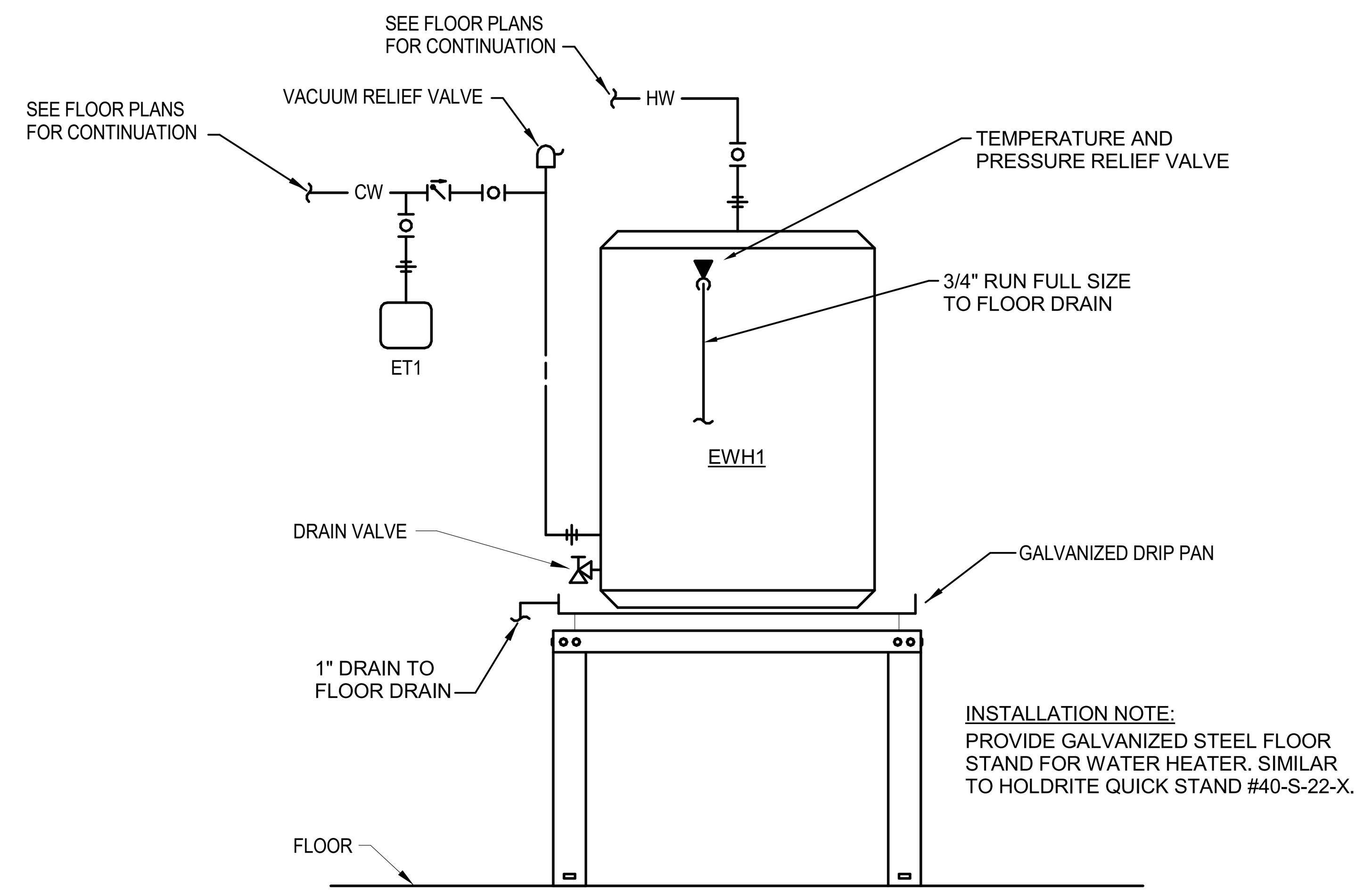
P201



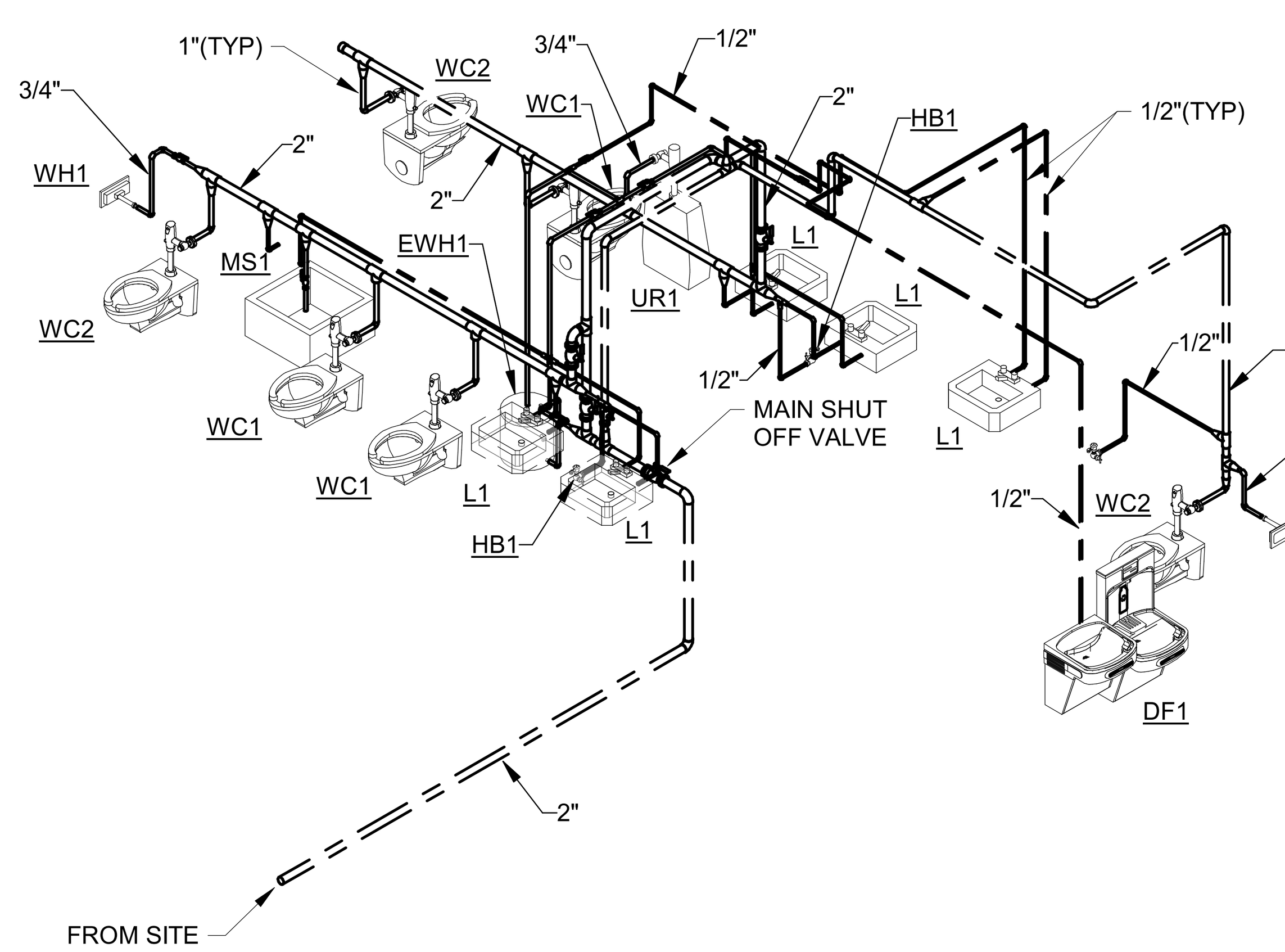
3 DETAIL - VENT THROUGH ROOF
NTS



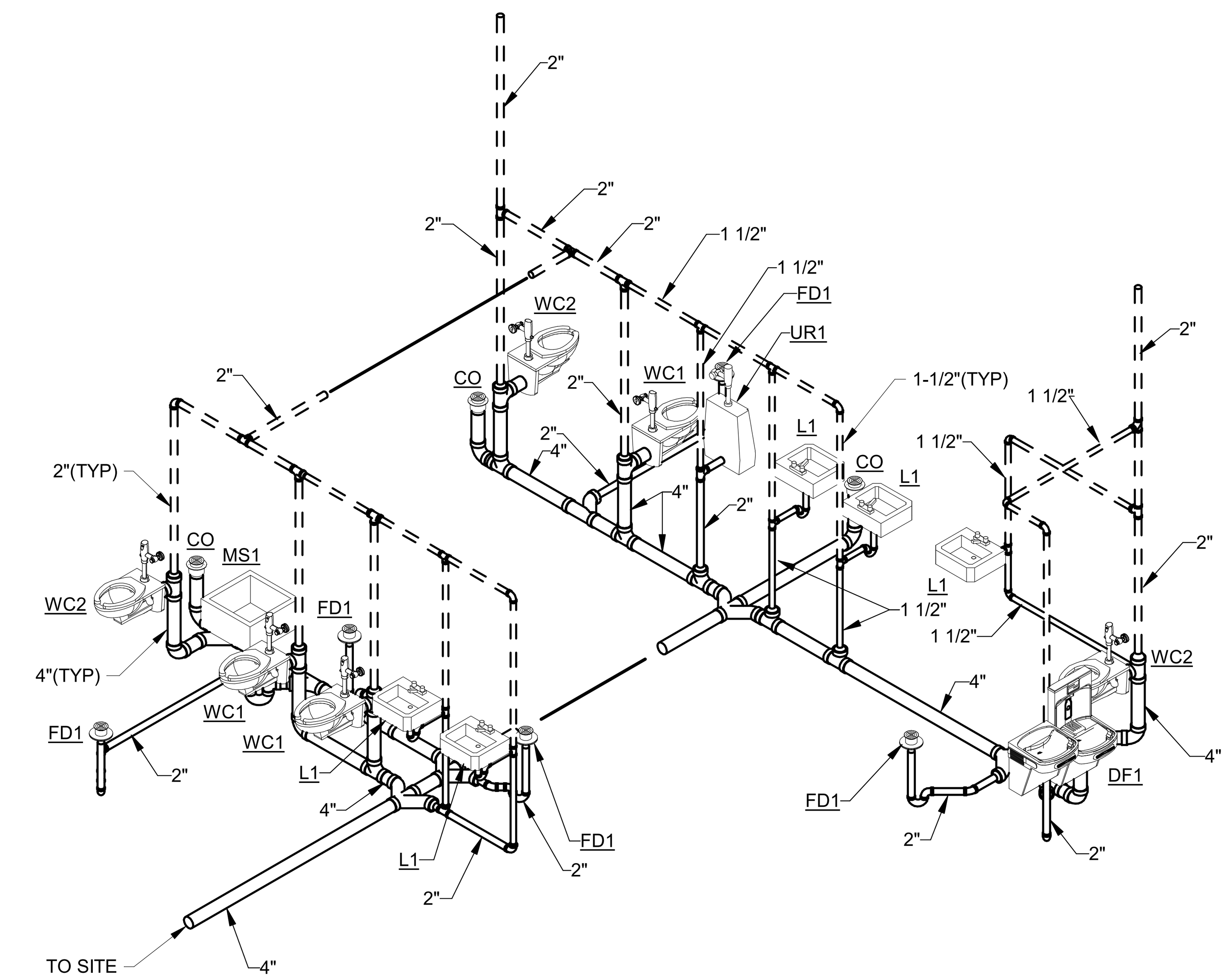
2 DETAIL - ELECTRIC WATER HEATER EWH2
NTS



1 DETAIL - ELECTRIC WATER HEATER EWH1
NTS



5 DOMESTIC ISOMETRIC



4 SANITARY ISOMETRIC

SCHOOLEY CALDWELL 300 Marconi Boulevard Columbus OH 43215 schooleycaldwell.com T 614-628-0300 F 614-628-0311	ENGINEERING Ohio Department of Natural Resources	**GREAT COUNCIL STATE PARK** **OBSERVATION TOWER, RESTROOM, AND MAINTENANCE** **GREENE COUNTY, OHIO**	DESIGNED BY: JPV DRAWN BY: JPV CHECKED BY: PM APPROVED BY: CT	JOB NUMBER: DNR-210062.02 SCALE: AS NOTED DATE: 09/04/2025 CONSTRUCTION DOCUMENTS	**DETAILS - PLUMBING**	**P501**	51

STATE OF OHIO — 7/28/25 — COLIN TODD — REGISTERED PROFESSIONAL ENGINEER

Autodesk Docs://24410 - Great Council Observation Tower and Restroom Facility/Great Council Restroom and Storage Building - v24 - MEP.rvt
9/4/2025 1:05:33 PM

PLUMBING FIXTURE ROUGH-IN SCHEDULE

FIXTURE	WASTE	TRAP	VENT	COLD	HOT	TEMPERED
WC1	4"	INTEGRAL	2"	1"	NA	NA
UR1	2"	INTEGRAL	1-1/2"	3/4"	NA	NA
L1	1-1/2"	1-1/4"x1-1/2"	1-1/2"	1/2"	1/2"	NA
SS1	2"	2"	1-1/2"	1/2"	1/2"	NA
DF1	1-1/2"	1-1/4"x1-1/2"	1-1/2"	1/2"	N/A	NA
FD1	2"	2"	1-1/2"	NA	NA	NA
WH1	NA	NA	NA	3/4"	NA	NA
HB1	NA	NA	NA	1/2"	NA	NA
MS1	3"	3"	1-1/2"	1/2"	1/2"	NA

PLUMBING FIXTURE SCHEDULE

TAG	FIXTURE DESCRIPTION	MANUFACTURER	MODEL #
WC1	WATER CLOSET: VITREOUS CHINA, WALL-MOUNTED ELONGATED BOWL, 1-1/2" INLET BACK SPUD, LOW-CONSUMPTION 1.6 GPF, DIRECT-FED SIPHON JET ACTION, FULLY-GLAZED 2-1/8" TRAPWAY, 10"x12" WATER, SURFACE AREA, MEETS ASME FLUSH REQUIREMENTS AT 1.28 GPF.	AMERICAN STANDARD	2634.101
	FLUSH VALVE: CONCEALED DIAPHRAGM TYPE FLUSH VALVE, ROUGH BRASS, SYNTHETIC RUBBER DIAPHRAGM, HARDWIRED AUTOMATIC SENSOR, OVERRIDE BUTTON, VACUUM BREAKER FLUSH CONNECTION, SPUD COUPLING AND FLANGE FOR 1-1/2" BACK SPUD, SWEAT SOLDER ADAPTER AND CAST SET SCREW WALL FLANGE, LOW CONSUMPTION 1.28 GPF, 24VAC ACTUATOR.	SLOAN	152 ESS-1.28-HW
	SEAT: HEAVY WEIGHT AND INJECTION-MOLDED OF SOLID PLASTIC, OPEN FRONT LESS COVER FOR ELONGATED BOWL AND FEATURE EXCLUSIVE, FOUR LARGE MOLDED-IN BUMPERS, CONCEALED CHECK HINGES WITH STAINLESS STEEL POSTS.	CHURCH	295CT
	CARRIER: ADJUSTABLE, SIPHON JET WATER CLOSET CARRIER SYSTEM WITH NO-HUB CONNECTIONS. CAST IRON MAIN FITTING WITH 2" VENT, ADJUSTABLE GASKETED FACE PLATE, UNIVERSAL FLOOR MOUNTED FOOT SUPPORTS, CORROSION RESISTANT ADJUSTABLE COUPLING WITH INTEGRAL TEST CAP, FIXTURE BOLTS, TRIM, AND STUD PROTECTORS. REAR ANCHOR TIE DOWN AND BONDED GASKET.	ZURN	SERIES Z1200
WC2	WATER CLOSET: ADA COMPLIANT, VITREOUS CHINA, WALL-MOUNTED ELONGATED BOWL, 1-1/2" INLET BACK SPUD, LOW-CONSUMPTION 1.6 GPF, DIRECT-FED SIPHON JET ACTION, FULLY-GLAZED 2-1/8" TRAPWAY, 10"x12" WATER, SURFACE AREA, MEETS ASME FLUSH REQUIREMENTS AT 1.28 GPF.	AMERICAN STANDARD	2634.101
	FLUSH VALVE: CONCEALED DIAPHRAGM TYPE FLUSH VALVE, ROUGH BRASS, SYNTHETIC RUBBER DIAPHRAGM, HARDWIRED AUTOMATIC SENSOR, OVERRIDE BUTTON, VACUUM BREAKER FLUSH CONNECTION, SPUD COUPLING AND FLANGE FOR 1-1/2" BACK SPUD, SWEAT SOLDER ADAPTER AND CAST SET SCREW WALL FLANGE, LOW CONSUMPTION 1.28 GPF, 24VAC ACTUATOR.	SLOAN	152 ESS-1.28-HW
	SEAT: HEAVY WEIGHT AND INJECTION-MOLDED OF SOLID PLASTIC, OPEN FRONT LESS COVER FOR ELONGATED BOWL AND FEATURE EXCLUSIVE, FOUR LARGE MOLDED-IN BUMPERS, CONCEALED CHECK HINGES WITH STAINLESS STEEL POSTS.	CHURCH	295CT
	CARRIER: ADJUSTABLE, SIPHON JET WATER CLOSET CARRIER SYSTEM WITH NO-HUB CONNECTIONS. CAST IRON MAIN FITTING WITH 2" VENT, ADJUSTABLE GASKETED FACE PLATE, UNIVERSAL FLOOR MOUNTED FOOT SUPPORTS, CORROSION RESISTANT ADJUSTABLE COUPLING WITH INTEGRAL TEST CAP, FIXTURE BOLTS, TRIM, AND STUD PROTECTORS. REAR ANCHOR TIE DOWN AND BONDED GASKET.	ZURN	SERIES Z1200
UR1	URINAL: VITREOUS CHINA, WALL HUNG, HIGH EFFICIENCY 0.5 GPF, FLUSHING RIM, ELONGATED 14" RIM FROM FINISHED WALL, WASHOUT FLUSH ACTION, EXTENDED SIDES FOR PRIVACY, 3/4" INLET BACK SPUD, OUTLET CONNECTION THREADED 2" INSIDE , MEETS ASME FLUSH REQUIREMENTS AT 0.5 GPF. STAINLESS STEEL STRAINER.	AMERICAN STANDARD	6515.001
	FLUSH VALVE: CONCEALED DIAPHRAGM TYPE FLUSH VALVE, ROUGH BRASS, SYNTHETIC RUBBER DIAPHRAGM, HARDWIRED AUTOMATIC SENSOR, OVERRIDE BUTTON, VACUUM BREAKER FLUSH CONNECTION, SPUD COUPLING AND FLANGE FOR 1" BACK SPUD, SWEAT SOLDER ADAPTER AND CAST SET SCREW WALL FLANGE, LOW CONSUMPTION 0.5 GPF, 24VAC ACTUATOR.	SLOAN	190 ESS-0.5-HW
	CARRIER: WALL URINAL SUPPORT WITH TOP SUPPORT PLATE, RECTANGULAR STEEL UPRIGHTS WITH WELDED FEET, ADJUSTABLE SUPPORT PLATE AND MOUNTING FASTENERS.	ZURN	SERIES Z1200
L1	LAVATORY: 20-1/2" X 18-1/4", VITREOUS CHINA, WALL HUNG, FRONT OVERFLOW, SELF-DRAINING DECK AREA WITH CONTOURED BACK AND SIDE SPLASH SHIELDS, FAUCET LEDGE, FAUCET HOLES ON 4" CENTERS, CONCEALED ARMS SUPPORT.	AMERICAN STANDARD	0355.012
	FAUCET: CHROME PLATED BRASS, HARD WIRED SENSOR ACTIVATED, 0.5 GPM AERATOR, SENSOR RANGE ADJUSTMENT SCREW, FILTERED SOLENOID VALVE WITH SERVICEABLE STRAINER FILTER. 120VAC/ 24VDC TRANSFORMER.	SLOAN	ETF-600
	TRIM: SUPPLY PIPE WITH LOOSE KEY STOPS. CAST BRASS P-TRAP WITH CLEAN-OUT. DRAIN WITH CHROME PLATED CAST BRASS SOLID TOP, OPEN GRID, P.O. PLUG. CHROME PLATED BRASS 17 GAUGE TAILPIECE.	MCGUIRE	165LK, 8902, 149
	THEMOSTATIC MIXING VALVE: LEAD-FREE DESIGN, WAX-FILLED THERMOSTAT, ADJUSTABLE SET POINT WITHIN TEMPERATURE RANGE, UNIVERSAL MOUNTING CAPABILITY, INTEGRAL CHECK VALVES AND STRAINER, ASSE 1070 COMPLIANT. SET TO 110°F.	BRADLEY	S59-4000
	CARRIER: LAVATORY SUPPORT WITH CONCEALED ARMS, RECTANGULAR STEEL UPRIGHTS WITH WELDED FEET, CAST IRON ADJUSTABLE HEADERS, CONCEALED ARMS, STEEL SLEEVE, ALIGNMENT TRUSS AND MOUNTING FASTENERS.	ZURN	SERIES Z1200
SS1	SERVICE SINK: ONE PIECE MOLDED CONTRUCTION, FIBERGLASS AND CRUSHED STONE, SINGLE BOWL, 13" DEEP BOWL, INTEGRAL DRAIN WITH STOPPER, SELF-DRAINING BACK SHELF, HEAVY GUAGE STEEL LEGS WITH ADJUSTABLE FEET.	MUSTEE	17F
	FAUCET: DECK MOUNTED 4" CENTERS, 6" S-TYPE SWING SPOUT, 2.2 GPM AERATOR, METAL LEVER HANDELS.	CHICAGO	891-ABCP
	TRIM: SUPPLY PIPE WITH LOOSE KEY STOPS. CAST BRASS P-TRAP WITH CLEAN-OUT. DRAIN WITH CHROME PLATED CAST BRASS SOLID TOP, OPEN GRID, P.O. PLUG. CHROME PLATED BRASS 17 GAUGE TAILPIECE.	MCGUIRE	165LK, 8902, 149
DF1	DRINKING FOUNTAIN: WALL HUNG, ADA COMPLIANT, BI-LEVEL, NON-REFRIGERATED, FROST-RESISTANT DRINKING FOUNTAIN. FRONT MOUNTED PUSH BUTTONS. BUBBLER WITH VANDAL RESISTANT BUBBLER.	ELKAY	LK4406
	TRIM: SUPPLY PIPE WITH LOOSE KEY STOPS. CAST BRASS P-TRAP WITH CLEAN-OUT. DRAIN WITH CHROME PLATED CAST BRASS SOLID TOP,	MCGUIRE	165LK, 8902
MS1	MOP SINK: 24"x24", ONE PIECE PRECAST TERRAZZO, MARBLE CHIPS CAST IN PORTLAND CEMENT. 12" HIGH. SHOULDERS SHALL NOT BE LESS THAN 2" WIDE WITH 1/2" PITCH TOWARD INSIDE. STAINLESS STEEL CAPS ON ALL CURBS. DRAIN BODY MADE OF STAINLESS STEEL CAST INTEGRALLY AND PROVIDE FOR A CAULKED LEAD CONNECTION NOT LESS THAN 1" DEEP TO A 3" PIPE.	CREATIVE INDUSTRIES	MC2424-12
	FAUCET: WALL MOUNTED WITH WALL SUPPORTS FOR SUPPLY PIPING FROM ABOVE, POLISHED CHROME PLATED FINISH, SOLID BRASS BODY CONSTRUCTION, ATMOSPHERIC VACUUM BREAKER SPOUT WITH PAIL HOOK AND WALL BRACE, 3/4" MALE GARDEN HOSE THREAD OUTLET, INTEGRAL SUPPLY STOPS, LEVER HANDLES WITH SECURED COLOR CODED INDEX BUTTONS.	T&S BRASS	B-0662
FD1	FLOOR DRAIN: CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE STRAINER HEAD WITH 5" ROUND NICKEL BRONZE STRAINER. CAULK OUTLET. CONTRACTOR SHALL BUFF STRAINER TO BE SUITABLE FOR BAREFOOT TRAFFIC IN SHOWER AREAS. INLINE FLOOR DRAIN TRAP SEALER.	J.R. SMITH	2005-A
WH1	WALL HYDRANT: AUTOMATIC DRAINING, FREEZEPROOF FAUCET, LOOSE KEY OPERATION, SELF-DRAINING INTEGRAL BACKFLOW PREVENTER, 3/4" INLET AND OUTLET. LENGTH AS REQUIRED.	WOODFORD	67
HB1	BRONZE CASING, HINGED, LOCKING POLISHED BRONZE (NICKEL) BOX AND COVER, SELF-DRAINING VACUUM BREAKER, INTEGRAL BACKFLOW PREVENTER, 3/4" SIZE. LENGTH AS REQUIRED.	WOODFORD	B24

DOMESTIC WATER HEATER SCHEDULE

TAG	LOCATION	ELECTRIC			GALLONS OF STORAGE	RECOVERY AT 100°F	MANUFACTURER	MODEL #	NOTES
		VOLT	PHASE	KW					
EWH1	RESTROOMS	208	1	4	20	16	A.O. SMITH	DEL-20	SET TANK TEMPERATURE TO 140°F. PROVIDE GALVANIZED STEEL FLOOR STAND FOR HEATER.
EWH2	MAINTENANCE BUILDING	208	1	2	15	8	A.O. SMITH	DEL-15	SET TANK TEMPERATURE TO 140°F. PROVIDE WALL MOUNTED STEEL SUPPORT PLATFORM FOR HEATER.

EXPANSION TANK SCHEDULE

TAG	LOCATION	TOTAL TANK VOLUME (GALLONS)	TOTAL EXPANSION CAPACITY (GALLONS)	INLET	MANUFACTURER	MODEL #	NOTES
ET1	SEE PLANS	2	0.9	3/4"	AMTROL	ST-5C	CHARGE TO INCOMING WATER PRESSURE

STATE OF OHIO
7/28/25
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TODD

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ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: JPV	JOB NUMBER: DNR-210062.02
DRAWN BY: JPV	SCALE: AS NOTED
CHECKED BY: PM	DATE: 09/04/2025
APPROVED BY: CT	CONSTRUCTION DOCUMENTS

SCHEDULES - PLUMBING

MECHANICAL SYMBOLS LIST

NOT ALL SYMBOLS MAY BE USED

GENERAL LINE STYLES

	NEW WORK (VISIBLE)
	NEW WORK (HIDDEN)
	EXISTING WORK (VISIBLE)
	EXISTING WORK (HIDDEN)
	EXISTING TO BE DEMOLISHED
	FUTURE

GENERAL

SYMBOL	DESCRIPTION
1	KEYNOTE
1	REVISION TRIANGLE
	CONNECT TO EXISTING
	BEGINNING AND/OR END OF DEMOLITION (ONLY USED WHERE CLARFICIATION IS NEEDED)

DUCTWORK

SYMBOL	DESCRIPTION
	SUPPLY AND OUTDOOR AIR RECTANGULAR DUCT ELBOW UP ROUND/OVAL DUCT ELBOW UP
	RETURN, RELIEF AND EXHAUST AIR RECTANGULAR DUCT ELBOW UP ROUND/OVAL DUCT ELBOW UP
	SUPPLY AND OUTDOOR AIR RECTANGULAR DUCT ELBOW DOWN ROUND/OVAL DUCT ELBOW DOWN
	RETURN, RELIEF AND EXHAUST AIR RECTANGULAR DUCT ELBOW DOWN ROUND/OVAL DUCT ELBOW DOWN
	SUPPLY DIFFUSER WITH FLEXIBLE DUCT TAG - NECK SIZE / AIRFLOW (CFM) TAG EXAMPLE: S1-6ø / 100
	SUPPLY DIFFUSER TAG - NECK SIZE / AIRFLOW (CFM) TAG EXAMPLE: S1-6ø / 100
	RETURN/EXHAUST GRILLE TAG - NECK SIZE / AIRFLOW (CFM) TAG EXAMPLE: R1-22/10 / 500 E1-22/10 / 500
(WITH PLENUM)	**SIDEWALL SUPPLY DIFFUSER** TAG - NECK SIZE / AIRFLOW (CFM) TAG EXAMPLE: S2-12/8 / 100
(WITH PLENUM)	**SIDEWALL RETURN/EXHAUST GRILLE** TAG - NECK SIZE / AIRFLOW (CFM) TAG EXAMPLE: R2-10/10 / 100 E2-10/10 / 100
	AIRFLOW ARROW
	MECHANICAL EQUIPMENT (WITH CLEARANCE SHOWN)
	GENERIC FAN
	TERMINAL BOXES TERMINAL BOX (WITH REHEAT) TERMINAL BOX (NO REHEAT)
	TERMINAL BOX NOTES 1. IF MIN COOLING CFM IS NOT SHOWN ON PLANS, THEN MIN COOLING CFM IS EQUAL TO 30% OF MAX COOLING CFM. 2. HEATING CFM IS EQUAL TO MIN COOLING CFM.
	DUCTWORK PLANS TAG / MAX COOLING CFM / MIN COOLING CFM
	PIPING PLANS TAG
	TAG EXAMPLES: DUCTWORK PLANS: TB1 / 500/200, TB1 / 500; PIPING PLANS: TB1
BDD	DAMPERS/DUCT ACCESSORIES BDD: BACKDRAFT DAMPER FSD: FIRE/SMOKE DAMPER FD: FIRE DAMPER MD: MOTORIZED DAMPER SD: SMOKE DAMPER VD: VOLUME DAMPER SB: SECURITY BARS
OR	ACCESS DOOR

PIPING

SYMBOL	DESCRIPTION
	PIPE CAPPED
	PIPE DROP
	PIPE RISE
	PIPE TEE DOWN
	PIPE TEE UP
	PIPE REDUCER
	PIPE FLOW ARROW
	PIPE UNION
	PIPE GUIDES
	PIPE ANCHOR
	FLEXIBLE CONNECTION
	EXPANSION JOINT
	HEAT TRACED PIPE
	GENERAL SERVICE VALVE (SEE SPECS FOR VALVE TYPE PER APPLICATION)
	CHECK VALVE (ARROW INDICATES DIRECTION OF FLOW)
	STRAINER WITH BLOW DOWN VALVE
	PRESSURE REDUCING VALVE
	RELIEF VALVE
AAV	AUTOMATIC AIR VENT
MAV	MANUAL AIR VENT
	TEMPERATURE/PRESSURE TEST PLUG (PETE'S PLUG)
	PRESSURE GAUGE WITH STOPCOCK
	THERMOMETER
	DRAIN VALVE WITH HOSE END ADAPTER
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
PICBV	TWO-WAY PRESSURE INDEPENDENT CONTROL AND BALANCE VALVE
M	MANUAL BALANCING VALVE
A	AUTOMATIC BALANCING VALVE
	PUMP
	STEAM TRAP
	STEAM PRESSURE REGULATING VALVE
	BACKFLOW PREVENTER
	SIGHT FLOW INDICATOR
‖ CO ○ CO	CLEAN OUT

CONTROLS

SYMBOL	DESCRIPTION
Ⓗ	HUMIDISTAT WITH ADJUSTABLE CONTROL
Ⓣ	THERMOSTAT WITH ADJUSTABLE CONTROL
H	HUMIDITY SENSOR
T	TEMPERATURE SENSOR
H2	HYDROGEN SENSOR
CO2	CARBON DIOXIDE SENSOR
CO	CARBON MONOXIDE SENSOR
NO2	NITROGEN DIOXIDE SENSOR
OS	OCCUPANCY SENSOR
AF	AIR FLOW MEASURING DEVICE
AS	AIR SWITCH
CT	CONDUCTIVITY TRANSMITTER
CS	CURRENT SENSOR
DP	DIFFERENTIAL PRESSURE TRANSMITTER
ECM	ELECTRONICALLY COMMUTATED MOTOR
ES	END SWITCH
FM	FLOW METER
HOA	HAND-OFF-AUTO SWITCH
LT	LEVEL TRANSMITTER
Ⓜ	METER
PHT	PH TRANSMITTER
PS	PRESSURE SWITCH
PT	PRESSURE TRANSMITTER
SD	DUCT MOUNTED SMOKE DETECTOR
	STARTER WITH DISCONNECT
TS	TEMPERATURE SWITCH
VFD	VARIABLE FREQUENCY DRIVE
VT	VIBRATION TRANSMITTER
FS	WATER FLOW SWITCH
EPT	ELECTRONIC PNEUMATIC TRANSDUCER

MECHANICAL ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS MAY BE USED.

ABBREVIATION	DESCRIPTION
(A)	EXISTING TO BE ABANDONED
(D)	EXISTING TO BE DEMOLISHED
(E)	EXISTING TO REMAIN
(F)	FUTURE
(R)	EXISTING TO BE RELOCATED
A/E	ARCHITECT/ENGINEER
AFF	ABOVE FINISHED FLOOR
APD	AIR PRESSURE DROP
AVG	AVERAGE OR AVERAGING
BAS	BUILDING AUTOMATION SYSTEM
BHP	BRAKE HORSEPOWER
BOB	BOTTOM OF BEAM
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BTUH	BRITISH THERMAL UNITS PER HOUR
CAV	CONSTANT AIR VOLUME
CFM	CUBIC FEET PER MINUTE
COMPR	COMPRESSOR
COP	COEFFICIENT OF PERFORMANCE
DB	DRY BULB OR DECIBELS
DDC	DIRECT DIGITAL CONTROLS
DIA	DIAMETER
DN	DOWN
EAT	ENTERING AIR TEMPERATURE
ECM	ELECTRONICALLY COMMUTATED MOTOR
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
EG	ETHYLENE GLYCOL
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
FEI	FAN EFFICIENCY INDEX
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET
GAL	GALLONS
GPM	GALLONS PER MINUTE
HD	HEAD
HP	HORSEPOWER
ID	INNER DIAMETER
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
IN	INCHES
IPLV	INTEGRATED PART LOAD VALUE
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MBH	BRITISH THERMAL UNIT (THOUSAND)
MCA	MINIMUM CIRCUIT AMPACITY
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MOCP	MAXIMUM OVERCURRENT PROTECTION
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED OR NOISE CRITERIA
NO	NORMALLY OPEN
NPLV	NONSTANDARD PART LOAD VALUE
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
PD	PRESSURE DROP
PG	PROPYLENE GLYCOL
PPH	POUNDS PER HOUR
PPM	PARTS PER MILLION
PSI	POUNDS PER SQUARE INCH (GAUGE)
REFRIG	REFRIGERANT
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SP	STATIC PRESSURE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VRF	VARIABLE REFRIGERANT FLOW
W	WATTS
WB	WET BULB
WG	WATER GAUGE
WPD	WATER PRESSURE DROP

MECHANICAL SYSTEM TYPES

NOTE: NOT ALL ABBREVIATIONS MAY BE USED.

ABBREVIATION	DESCRIPTION
CA	COMBUSTION AIR
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
COND	CONDENSATE
CR	CONDENSER WATER RETURN
CS	CONDENSER WATER SUPPLY
EA	EXHAUST AIR
FLUE	FLUE
GR	GEOTHERMAL RETURN
GS	GEOTHERMAL SUPPLY
HR	HEAT PUMP RETURN
HS	HEAT PUMP SUPPLY
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
OA	OUTDOOR AIR
PC	PUMPED CONDENSATE
RA	RETURN AIR
REF	REFRIGERANT
REL	RELIEF AIR
SA	SUPPLY AIR

GENERAL MECHANICAL NOTES

1. VISIT THE SITE OF THE WORK TO GAIN AN ACCEPTABLE KNOWLEDGE OF CONDITIONS AFFECTING THE EXECUTION OF THE WORK. AFTER VISITING THE SITE, REQUEST INFORMATION AND/OR CLARIFICATIONS AS NECESSARY TO FULLY UNDERSTAND THE WORK REQUIRED AND TO PROPERLY ESTIMATE COSTS.
2. REVIEW ALL CONSTRUCTION DOCUMENTS TO VERIFY EXTENT AND SCHEDULING OF ALL DEMOLITION ACTIVITIES PRIOR TO COMMENCING WORK. TO AID IN DRAWING CLARITY, ALL EXISTING SYSTEMS MAY NOT BE SHOWN. FIELD VERIFY ALL SIZES AND LOCATIONS OF EXISTING DUCTWORK, PIPING, EQUIPMENT, ETC. NOTIFY ARCHITECT/ENGINEER OF DEVIATIONS WHICH AFFECT RENOVATION WORK PRIOR TO PROCEEDING WITH THE WORK. COORDINATE DISPOSAL/SALVAGE OF ALL FIXTURES, DEVICES, EQUIPMENT, ETC. (INDICATED FOR DEMOLITION) WITH THE OWNER. ALL EQUIPMENT TO BE REUSED OR RETURNED TO OWNER SHALL BE REMOVED AS TO NOT DAMAGE THE EQUIPMENT OR AFFECT ITS REUSE. IF ANY REUSED OR RETURNED EQUIPMENT OR MATERIAL IS DAMAGED BY THE CONTRACTOR, IT SHALL BE REPLACED BY THE CONTRACTOR, WITH NO EXPENSE TO THE OWNER.
3. ITEMS NOTED TO BE DEMOLISHED INCLUDE BUT ARE NOT LIMITED TO ALL ASSOCIATED COMPONENTS, CONTROL WIRING, PIPING, DUCTWORK, ELECTRICAL CONNECTIONS, SUPPORTS, INSULATION, ETC. COORDINATE WITH OTHER TRADES AS REQUIRED.
4. ALL WORK IS TO BE PHASED AS INDICATED ON THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL COORDINATE PHASING OF ALL DEMOLITION, RENOVATION, AND NEW WORK WITH OTHER TRADES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND PHASE ALL TIE-INS AND INTERRUPTIONS OF EXISTING SERVICES TO MINIMIZE OR ELIMINATE DOWNTIME. CLOSELY COORDINATE PHASING OF WORK WITHIN CORRIDORS WITH THE OWNER. CORRIDORS MAY NOT BE ABLE TO BE COMPLETELY CLOSED OFF TO PEDESTRIAN TRAFFIC. TO ACCOMMODATE PHASING, CORRIDOR ACCESS WORK MAY NEED TO BE PERFORMED DURING OFF PEAK PERIODS. PRIOR TO MOVING ON TO THE NEXT PHASE, ALL WORK IN PREVIOUSLY PHASED AREAS MUST BE COMPLETE AND OPERATIONAL. THE CONTRACTOR SHALL INSTALL ALL NEW SERVICES AND EQUIPMENT AND HAVE THEM TESTED AND FULLY AND RELIABLY FUNCTIONAL PRIOR TO INTERRUPTING, RELOCATING, OR REMOVING ANY EXISTING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BARE ANY AND ALL COSTS ASSOCIATED WITH THIS PHASING, INCLUDING TEMPORARY SERVICES, TEMPORARY RELOCATION, PREMIUM TIME WORK, ETC.
5. ENSURE THAT THE WORK WILL NOT INTERFERE OR INTERRUPT SERVICES TO AREAS OUTSIDE OF THE DESIGNATED CONTRACT AREAS. SCHEDULE ALL WORK AS TO CAUSE MINIMAL SERVICE INTERRUPTIONS FOR THE OWNER. UNAVOIDABLE INTERRUPTIONS ARE TO BE SCHEDULED WITH THE OWNER NO LESS THAN TWO WEEKS PRIOR TO THEIR EXPECTED COMMENCEMENT. WORK SHALL BE PERFORMED AT SUCH TIMES AS DIRECTED BY THE OWNER AND, IF POSSIBLE, ARE TO OCCUR DURING OFF HOURS OR PEAK PERIODS.
6. THE CONTRACTOR IS TO VERIFY THE EXACT SERVICE OF ANY EXISTING PIPING OR DUCTWORK PRIOR TO INSTALLING ANY NEW CONNECTIONS. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS OR THE DESIGN INTENT AND ACTUAL CONDITIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY, PRIOR TO FABRICATION OR INSTALLATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND SHALL REPAIR ADJACENT SURFACES, AREAS, EQUIPMENT, SYSTEMS, AND PROPERTY THAT MAY BE DAMAGED AS A RESULT OF DEMOLITION AND/OR NEW WORK. CONTRACTOR SHALL REMOVE AND REPLACE EXISTING LAY-IN CEILING GRID AND TILES AS NECESSARY TO COMPLETE ABOVE CEILING WORK. RETURN CEILING TO ORIGINAL CONDITION FOLLOWING COMPLETION OF CONSTRUCTION.
8. ALL PATCH AND REPAIR WORK IN ARCHITECTURAL TYPE SURFACES SHALL BE PERFORMED BY THE GENERAL CONTRACTOR. PATCH AND REPAIR FLOOR SLAB AND WALL PENETRATIONS TO MATCH EXISTING WHERE THE PIPING, DUCT OR EQUIPMENT IS BEING REMOVED OR INSTALLED. MECHANICAL CONTRACTOR TO COORDINATE WITH GENERAL CONTRACTOR.
9. ALL ROOFING MODIFICATIONS SHALL BE DONE BY OWNER’S ROOFING VENDOR TO MAINTAIN ANY AND ALL WARRANTIES. COST TO BE INCLUDED IN THIS CONTRACT UNLESS SPECIFICALLY INCLUDED IN GENERAL TRADES CONTRACTOR’S SCOPE OF WORK. CONFIRM OWNER'S ROOFING VENDOR PRIOR TO BID.
10. INSULATE DUCTWORK AND PIPING WHERE EXISTING INSULATION HAS BEEN DAMAGED AND/OR REMOVED IN THE PERFORMANCE OF WORK FOR THIS PROJECT.
11. FOR RENOVATION WORK, IT IS PROHIBITED TO SUSPEND NEW WORK FROM THE EXISTING FLOOR SLAB OR ROOF DECK. ALL NEW WORK SHALL BE SUPPORTED FROM STRUCTURE THAT IS ADEQUATELY SIZED FOR THE ADDED LOAD.
12. THE CONTRACTOR IS HEREBY ADVISED THAT IT IS POSSIBLE THAT ASBESTOS, LEAD BASED PAINTS, AND/OR OTHER HAZARDOUS MATERIALS ARE OR WERE PRESENT IN THIS BUILDING(S). ANY WORKER, OCCUPANT, VISITOR, ETC., WHO ENCOUNTERS ANY MATERIAL OF WHOSE CONTENT THEY ARE NOT CERTAIN SHALL PROMPTLY REPORT THE EXISTENCE AND LOCATION OF THAT MATERIAL TO THE OWNER. FURTHERMORE, THE CONTRACTOR SHALL ENSURE THAT NO ONE COMES NEAR TO OR IN CONTACT WITH ANY SUCH MATERIAL, FUMES, OR DUST UNTIL ITS CONTENT CAN BE ASCERTAINED TO BE NON-HAZARDOUS. THE ENGINEER HAS NO EXPERTISE IN THE DETERMINATION OF THE PRESENCE OF ANY HAZARDOUS MATERIAL. THEREFORE, NO ATTEMPT HAS BEEN MADE BY THE ENGINEER TO IDENTIFY THE EXISTENCE OR LOCATION OF ANY SUCH HAZARDOUS MATERIAL. FURTHERMORE, THE ENGINEER NOR ANY AFFILIATE HEREOF WILL NOT OFFER OR MAKE ANY RECOMMENDATIONS RELATIVE TO THE REMOVAL, HANDLING, OR DISPOSAL OF SUCH MATERIAL. IF THE WORK WHICH IS TO BE PERFORMED INTERFACES, CONNECTS, OR RELATES IN ANY PHYSICAL WAY WITH OR TO EXISTING COMPONENTS WHICH CONTAIN OR BEAR ANY HAZARDOUS MATERIAL, THEN IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO CONTACT THE OWNER AND SO ADVISE THE OWNER IMMEDIATELY. THE CONTRACTOR, BY EXECUTION OF THE CONTRACT FOR ANY WORK AND/OR BY THE ACCOMPLISHMENT OF ANY WORK, THEREBY AGREE TO BRING NO CLAIM RELATIVE TO OTHER SUCH ITEM AGAINST THE ENGINEER, ITS PRINCIPALS, EMPLOYEES, AGENTS, OR CONSULTANTS. ALSO, THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD THE ENGINEER, ITS PRINCIPALS, EMPLOYEES, AGENTS, AND CONSULTANTS HARMLESS FROM ANY SUCH RELATED CLAIMS WHICH MAY BE BROUGHT BY ANY SUBCONTRACTORS, SUPPLIERS OR ANY OTHER THIRD PARTIES.
13. ALL WORK SHALL BE PERFORMED IN ACCORDANCE AND COMPLY WITH ALL LAWS, ALL REGULATIONS, INSURANCE CARRIER REQUIREMENTS, CODES, AND STANDARDS (FEDERAL, STATE, AND LOCAL) AS ADOPTED BY THE AUTHORITIES HAVING JURISDICTION, WHERE ANY DIFFER, THE MOST STRINGENT SHALL APPLY.
14. CONTRACTOR SHALL COMPLY WITH THE ENTIRE SET OF CONSTRUCTION DOCUMENTS (DRAWINGS AND SPECIFICATIONS) FOR ALL DIVISIONS/TRADES. CONTRACTOR SHALL PAY CLOSE ATTENTION TO ADDITIONAL REQUIREMENTS THAT MAY BE LISTED IN THE GENERAL CONDITIONS ON THE ARCHITECTURAL DRAWINGS AND IN THE DIVISION 01 FRONT-END SPECIFICATIONS.
15. IN CASE OF CLARIFICATIONS OR DISCREPANCIES, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT/ENGINEER IN WRITING FOR FINAL DETERMINATION PRIOR TO THE BID.
16. THE ARCHITECT/ENGINEER DOES NOT DEFINE THE SCOPE OF INDIVIDUAL DIVISIONS/TRADES, SUBCONTRACTORS, MATERIAL SUPPLIERS AND VENDORS. ANY SHEET NUMBERING OR SPECIFICATION NUMBERING SYSTEM USED WHICH IDENTIFIES DISCIPLINES IS SOLELY FOR THE ARCHITECT/ENGINEER'S CONVENIENCE AND IS NOT INTENDED TO DEFINE A SUBCONTRACTOR'S SCOPE OF WORK. INFORMATION REGARDING INDIVIDUAL TRADES, SUBCONTRACTORS, MATERIAL SUPPLIERS AND VENDORS MAY BE DETAILED, DESCRIBED, AND INDICATED AT DIFFERENT LOCATIONS THROUGHOUT THE CONTRACT DOCUMENTS. NO CONSIDERATION WILL BE GIVEN TO REQUESTS FOR CHANGE ORDERS FOR FAILURE TO OBTAIN AND REVIEW THE COMPLETE SET OF CONTRACT DOCUMENTS WHEN PREPARING BIDS, PRICES, AND QUOTATIONS. UNLESS STATED OTHERWISE, THE SUBDIVISION AND ASSIGNMENT OF WORK UNDER THE VARIOUS SECTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR HOLDING THE PRIME CONTRACT.
17. CONTRACT DOCUMENTS FOR MECHANICAL WORK ARE SCHEMATIC IN NATURE AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. ALL OFFSETS, TURNS, FITTINGS, TRIM, DETAIL, ETC., MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. INSTALL DUCTWORK/PIPING NEATLY ALONG WALLS AND/OR IN HORIZONTAL GROUPS AND MAINTAIN REQUIRED SLOPES. WORK SHALL BE INSTALLED FROM THE COORDINATION AND FABRICATION DRAWINGS WHICH ARE FULLY COORDINATED, CONTRACTOR GENERATED, DIMENSIONED DRAWINGS.
18. PROVIDE ALL MATERIALS, EQUIPMENT, FEES, AND PERMITS TO PERFORM ALL THE LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE SYSTEMS AS STATED, IMPLIED, OR INTENDED IN THE DRAWINGS AND SPECIFICATIONS. INCLUDE IN THE BID AS PART OF THE CONTRACT, ALL NECESSARY AND APPLICABLE SUPPLIES, MATERIALS, AND APPURTENANCES, WHETHER INDICATED OR NOT.
19. ALL MATERIALS, EQUIPMENT, SEALS, BEARINGS, PACKINGS, ACCESSORIES, AND PIPING SPECIALTIES SHALL BE SUITABLE FOR THE CONTINUOUS OPERATIONAL TEMPERATURES, PRESSURES, AND CHARACTERISTICS OF THE SYSTEM THEY SERVE.
20. WHERE CEILINGS ARE INDICATED, ALL DUCTS, PIPES, AND WIRING SHALL BE ROUTED ABOVE CEILING, UNLESS NOTED OTHERWISE. IN EXPOSED CONDITIONS, INSTALL DUCTWORK, PIPING, AND WIRING TIGHT TO THE BOTTOM OF STRUCTURE UNLESS NOTED OTHERWISE. ALL EXPOSED WIRING SHALL BE RUN IN CONDUIT.
21. ALL SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SYSTEMS, AND DEVICES SHALL BE FROM THE BUILDING STRUCTURE. SUPPORT FROM STRUCTURAL BRIDGING IS UNACCEPTABLE. SUPPORTS SHALL BE IN ACCORDANCE WITH LATEST ANSI AND SMACNA STANDARDS.
22. FIRESTOP AND SEAL WATERTIGHT ALL FLOOR PENETRATIONS AND ALL RATED WALL PENETRATIONS. THE ANNULAR SPACE AROUND THE PENETRATING DUCT/PIPE SHALL BE PROTECTED WITH AN APPROVED NONCOMBUSTIBLE MATERIAL THAT RESISTS THE FREE PASSAGE OF FLAME AND THE PRODUCTS OF COMBUSTION. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND TYPE OF FIRE AND/OR SMOKE RATED BUILDING ELEMENTS.
23. INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORDANCE WITH THE MANUFACTURER’S RECOMMENDATIONS AND DIRECTION. PROVIDE STRAIGHT INLET AND OUTLET DUCTS/PIPES BASED ON EQUIPMENT MANUFACTURER’S RECOMMENDATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR START-UP PER MANUFACTURER'S RECOMMENDATIONS OF ALL EQUIPMENT AND SYSTEMS INSTALLED, MODIFIED, OR REVISED. IF IN CONFLICT WITH THE CONTRACT DOCUMENTS, ADVISE THE ARCHITECT/ENGINEER IN WRITING PRIOR TO INSTALLATION FOR CLARIFICATION.
24. ALL ITEMS THAT REQUIRE MAINTENANCE OR ADJUSTMENT MUST BE INSTALLED IN ACCESSIBLE LOCATIONS WITH PROPER CLEARANCES MAINTAINED. WHERE POSSIBLE INSTALL IN LOCATIONS THAT ARE ACCESSIBLE FROM FLOOR LEVEL. PROVIDE APPROPRIATELY SIZED ACCESS DOORS AS REQUIRED AT NO ADDITIONAL COST TO OTHERS WHETHER SHOWN OR NOT ON THE PLANS, FOR ACCESS AND MAINTENANCE.
25. ANY DEVIATIONS FROM THE BASIS OF DESIGN THAT REQUIRE ADDITIONAL PROVISIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
26. COORDINATE THE EXACT REQUIREMENTS, LOCATION, AND CLEARANCES OF WORK WITH THE WORK OF OTHER TRADES PRIOR TO FABRICATION AND INSTALLATION. PROVIDE ADDITIONAL OFFSETS AND SECTIONS IN DUCTWORK AND/OR PIPING REQUIRED TO MEET THE APPLICABLE JOB CONDITION REQUIREMENTS. VERIFY JOB SITE ELEVATIONS, DIMENSIONS, AND CONDITIONS, PRIOR TO FABRICATION OR INSTALLATION OF THE WORK. COORDINATE EXACT ROUTING OF DUCTWORK AND PIPING WITH OTHER TRADES SO THAT NO CONFLICTS OCCUR WITH DUCTWORK, PIPING, LIGHTS, STRUCTURE, ETC. PROVIDE ALL PERTINENT DATA CONCERNING THE LOCATION, DIMENSIONS, ETC., OF THE MECHANICAL EQUIPMENT THAT REQUIRE BASES, CURBS, AND SUPPORTS TO THE APPROPRIATE TRADES. WORK NOT APPROPRIATELY COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR(S).
27. PRIOR TO ORDERING ANY MATERIALS OR ROUGH-IN OF ANY KIND, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL COORDINATION OF ALL ELECTRICAL REQUIREMENTS (I.E. VOLTAGE, PHASE, CIRCUIT BREAKER, WIRE SIZING, ETC.) WITH THE ELECTRICAL CONTRACTOR. THERE WILL BE NO CHANGE IN THE CONTRACT AMOUNT FOR ANY DISCREPANCIES.
28. CONTRACTOR IS TO MAINTAIN AS-BUILT DRAWINGS FOR ALL EXISTING SERVICES UNCOVERED DURING CONSTRUCTION (IF APPLICABLE) AND ALL NEW SERVICES BEING INSTALLED. AS-BUILT DRAWINGS SHALL BE MAINTAINED IN THE FIELD AND SHALL CAPTURE THE ACTUAL INSTALLATION CONDITIONS AND ALL CHANGES TO THE ORIGINAL CONSTRUCTION DOCUMENTS. THESE CHANGES INCLUDE BUT ARE NOT LIMITED TO PLANS, ELEVATIONS, DETAILS, ROUTING, INVERT ELEVATIONS, DIMENSIONS, QUANTITIES, SIZING, CONTROLS, FINAL LOCATION AND ARRANGEMENT OF EQUIPMENT, ETC. AT THE COMPLETION OF THE CONTRACT, THE CONTRACTOR SHALL PROVIDE ELECTRONIC (PDF) VERSION TO THE ARCHITECT/ENGINEER.
29. THE CONTRACTOR SHALL INFORM THE ARCHITECT/ENGINEER AS SOON AS THE AIR AND WATER SYSTEMS ARE READY FOR BALANCING. A COMPLETE AIR AND WATER SYSTEM FLOW BALANCE FOR ALL EQUIPMENT THAT IS SHOWN, SCHEDULED, OR OTHERWISE IDENTIFIED IS REQUIRED. CONTRACTOR SHALL INCLUDE TIME IN THE CONSTRUCTION SCHEDULE TO FULLY TEST AND BALANCE SYSTEMS PRIOR TO OCCUPANCY TO ASSURE ADJUSTMENTS CAN BE MADE TO MITIGATE COMFORT ISSUES FOR OCCUPANTS POST CONSTRUCTION.
30. CONTRACTOR SHALL PROVIDE TRAINING TO THE OWNER'S MAINTENANCE AND/OR ENGINEERING PERSONNEL TO ADJUST, OPERATE, AND MAINTAIN ALL EQUIPMENT AND SYSTEMS. TRAINING SHALL OCCUR PRIOR TO SUBSTANTIAL COMPLETION. CONTRACTOR SHALL ALSO PROVIDE SEASONAL TRAINING FOR ALL EQUIPMENT AND SYSTEMS THAT THEY COULD NOT FULLY TRAIN DUE TO OUTSIDE WEATHER CONDITIONS DURING THE ORIGINAL TRAINING TIMEFRAME.
31. DUCTWORK DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE CLEAR, UNLESS NOTED OTHERWISE. WHERE DUCT LINING IS REQUIRED INCREASE DUCT SIZE AS NECESSARY TO MAINTAIN INSIDE CLEAR DIMENSION.
32. COORDINATE THE EXACT LOCATIONS OF AIR DEVICES AND ALL OTHER CEILING MOUNTED ITEMS WITH ARCHITECTURAL REFLECTED CEILING PLANS, AREA SMOKE DETECTORS, SPRINKLERS, LIGHTS, AND ELECTRICAL DEVICES. AIR DEVICES SHALL NOT BE WITHIN 3 FEET OF AN AREA SMOKE DETECTOR.
33. UNLESS NOTED OTHERWISE, PROVIDE BRANCH DUCT TO DIFFUSERS SAME SIZE AS DIFFUSER NECK. FLEXIBLE DUCT CONNECTIONS TO THE DIFFUSER SHALL BE NO MORE THAN 5 FEET IN LENGTH. IN ALL DUCT SYSTEMS, PROVIDE A MANUAL BALANCING DAMPER IN EACH DUCT THAT REQUIRES AN AIR BALANCE. ALL BRANCH DUCT TAKEOFFS TO AIR DEVICES SHALL HAVE A MANUAL BALANCE DAMPER INSTALLED AS CLOSE AS POSSIBLE TO THE BRANCH DUCT TAKEOFF TO MINIMIZE AIR DEVICE NOISE. ALL MANUAL BALANCING DAMPERS SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION OR CONTROLLED BY A REMOTE ACTUATED DAMPER.
34. CONTRACTOR IS RESPONSIBLE FOR MAKING ALL HVAC EXPOSED-TO-VIEW ITEMS PAINT READY.
35. PROVIDE ROOM TEMPERATURE THERMOSTATS WITH TEMPERATURE INDICATOR AND SET POINT ADJUSTMENT, UNLESS NOTED OTHERWISE, FOR ALL EQUIPMENT THAT MAINTAINS SPACE TEMPERATURE. PREFERRED LOCATIONS ARE SHOWN ON THE PLANS. THERMOSTATS SHALL BE MOUNTED WITH CENTERLINE AT 46 INCHES ABOVE FINISHED FLOOR, UNLESS NOTED OTHERWISE. COORDINATE THE EXACT LOCATIONS OF THERMOSTATS WITH FURNITURE, FRAMING, MARKERBOARDS, SWITCHES, OUTLETS, AND ANY OTHER WALL MOUNTED ITEMS PRIOR TO ROUGH IN. COORDINATE TO NEATLY ALIGN ALL THERMOSTATS IN ELEVATION WITH ADJACENT EQUIPMENT FROM ALL DIVISIONS/TRADES.
42. INSTALLATION OF HVAC, REFRIGERATION, AND FIRE SUPPRESSION EQUIPMENT SHALL NOT CONTAIN ANY CFCS, HCFCS, OR HALONS.
43. AT TIME OF ROUGH INSTALLATION, DURING STORAGE ON THE CONSTRUCTION SITE, AND UNTIL FINAL STARTUP OF THE HVAC SYSTEMS, ALL EQUIPMENT, DUCT, PIPE, AND OTHER DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE FOR PROTECTION TO REDUCE THE AMOUNT OF DUST, DEBRIS, AND MOISTURE WHICH MAY COLLECT IN THE SYSTEM(S). ANY ITEM NOT PROTECTED SHALL BE CLEANED OR REPLACED AT THE CONTRACTOR’S EXPENSE.
44. IF THE HVAC SYSTEMS ARE OPERATED PRIOR TO AIR BALANCE, PROVIDE TEMPORARY AIR FILTRATION MEDIA THAT PROVIDES AT LEAST A MERV OF 8 AT ALL OUTDOOR, EXHAUST, AND RETURN AIR INTAKES/GRILLES. THESE TEMPORARY AIR FILTERS SHALL BE REMOVED PRIOR TO AIR BALANCE. ALL HVAC FILTERS SHALL BE CHANGED PRIOR TO AIR BALANCE AND COMMISSIONING, AND AGAIN AT SUBSTANTIAL COMPLETION WITH FILTERS PER THE CONSTRUCTION DOCUMENTS.

STATE OF OHIO
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ENGINEERING
Ohio Department of Natural Resources

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: BH
DRAWN BY: BH
CHECKED BY: CT
APPROVED BY: CT

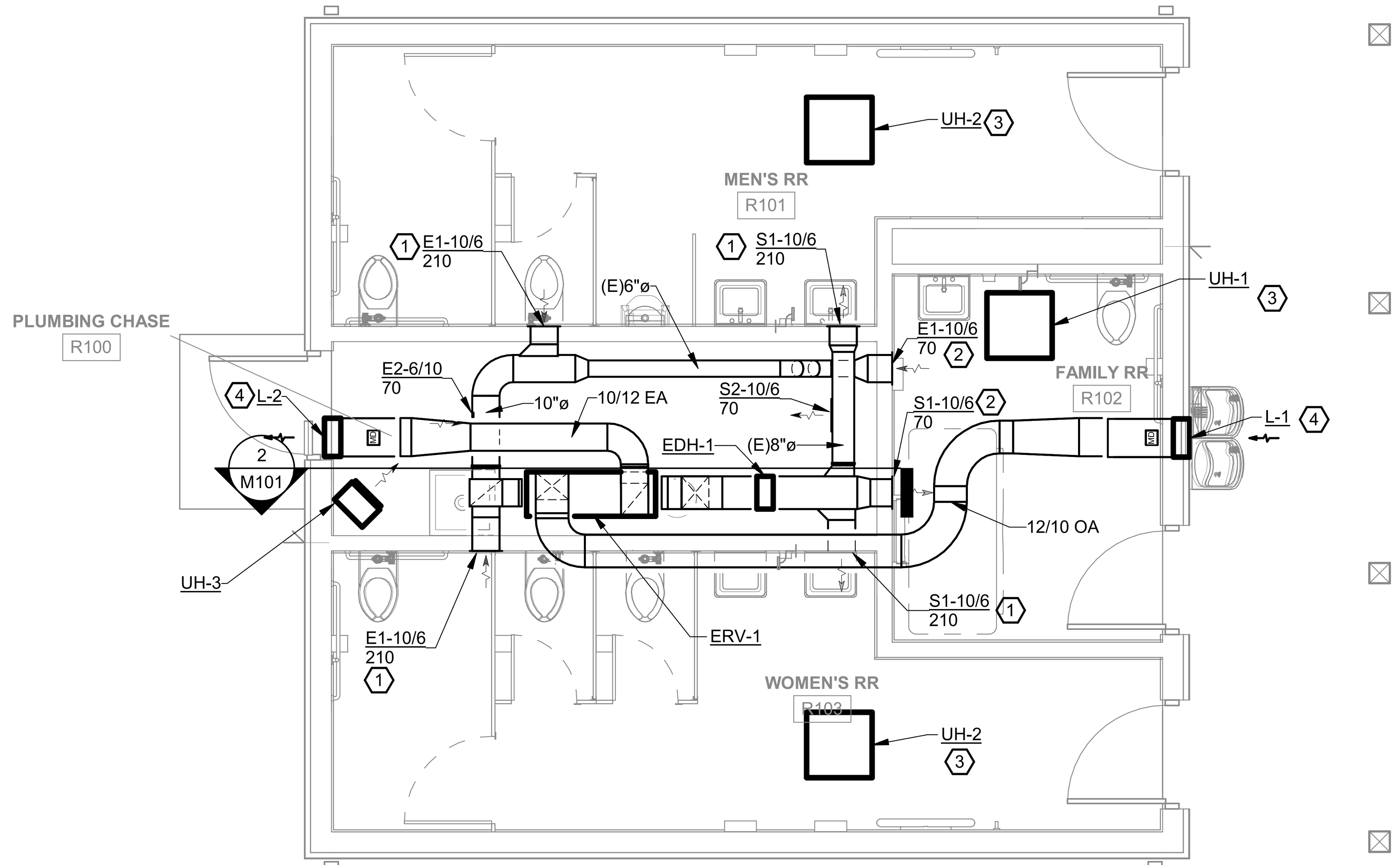
JOB NUMBER: DNR-210062.02
SCALE: AS NOTED
DATE: 09/04/2025
CONSTRUCTION DOCUMENTS

GENERAL INFORMATION - MECHANICAL

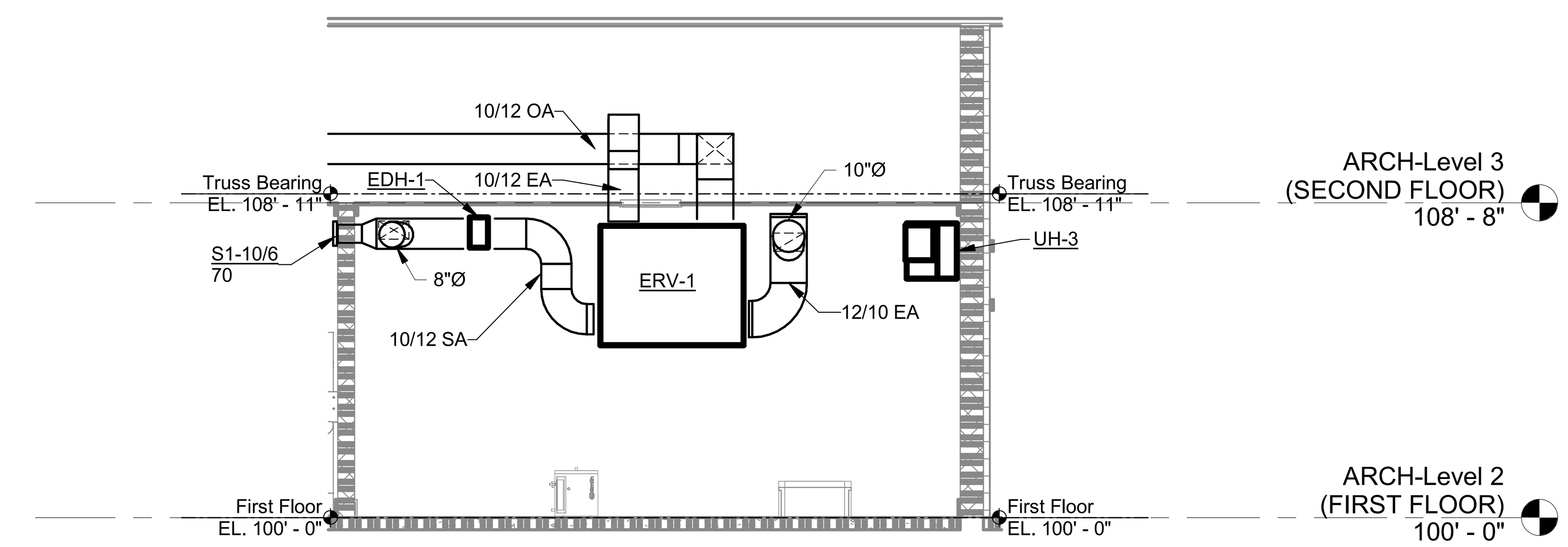
M001

SHEET KEYNOTES:

1. LOCATE TOP OF GRILLE 6" BELOW CEILING.
2. BOTTOM OF GRILLE LOCATED 6'-10" ABOVE FINISHED FLOOR.
3. CEILING MOUNTED UNIT HEATER. REFER TO SCHEDULES FOR ADDITIONAL INFORMATION.
4. COORDINATE LOUVER LOCATION WITH ARCHITECTURAL ELEVATION.



1 RESTROOM - FIRST FLOOR PLAN - MECHANICAL
1/4" = 1'-0"



2 ERV SECTION
1/4" = 1'-0"

Autodesk Docs://24410 - Great Council Observation Tower and Restroom Facility/Great Council Restroom and Storage Building - v24 - MEP.rvt
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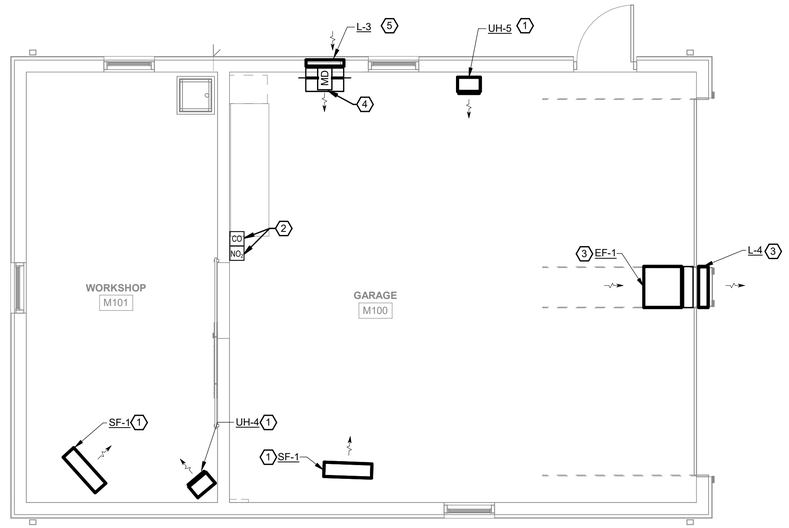
FIRST FLOOR PLAN - MECHANICAL

M101

STATE OF OHIO
7/28/25
COLIN TODD
REGISTERED PROFESSIONAL ENGINEER

⬡SHEET NOTES:

1. MOUNT TOP OF UNIT 3" BELOW CEILING.
2. PROVIDE CARBON MONOXIDE AND NITROGEN DIOXIDE SENSOR. SENSOR SHALL BE 24V THAT UPON ALARM TRIGGERS AN AUDIBLE AND VISUAL ALARM AS WELL AS ENABLING EF-1 AND OPENING L-3. REFER TO SEQUENCE OF OPERATION FOR ADDITIONAL INFORMATION. BASIS OF DESIGN SHALL BE MACURCO CX-6.
3. MOUNT 9'-2" ABOVE FINISHED FLOOR.
4. PROVIDE BIRD SCREEN OVER OPENING.
5. COORDINATE WITH ARCHITECTURAL FOR LOCATION.



1 MAINTENANCE BUILDING - FIRST FLOOR PLAN - MECHANICAL
1/4" = 1'-0"

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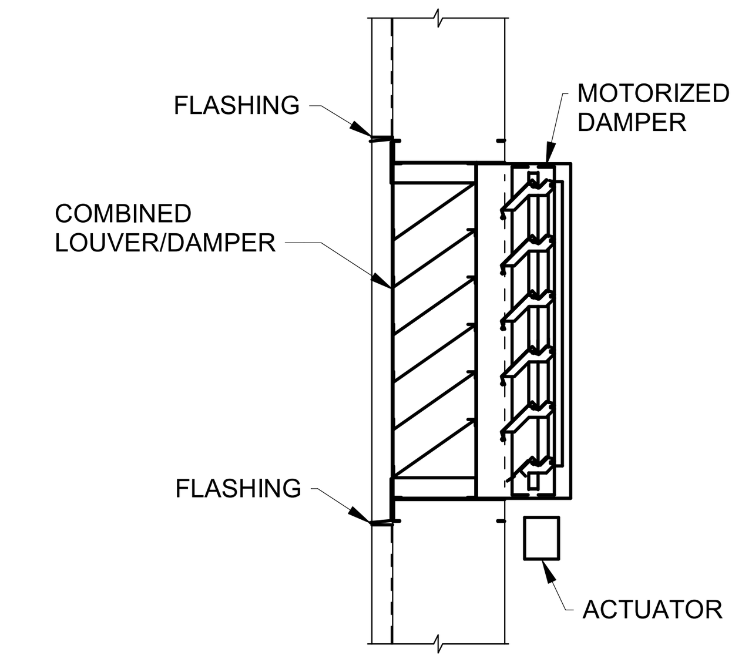
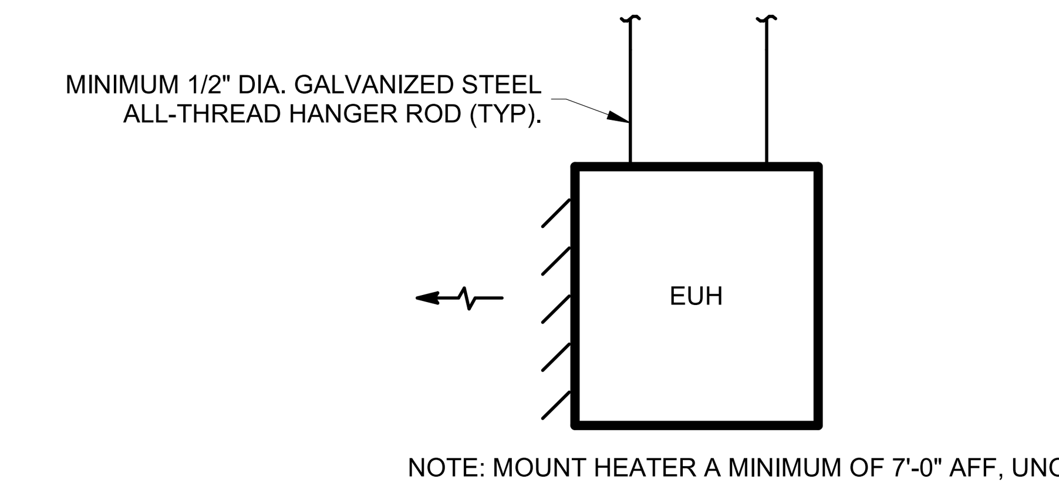
FLOOR PLAN - MECHANICAL

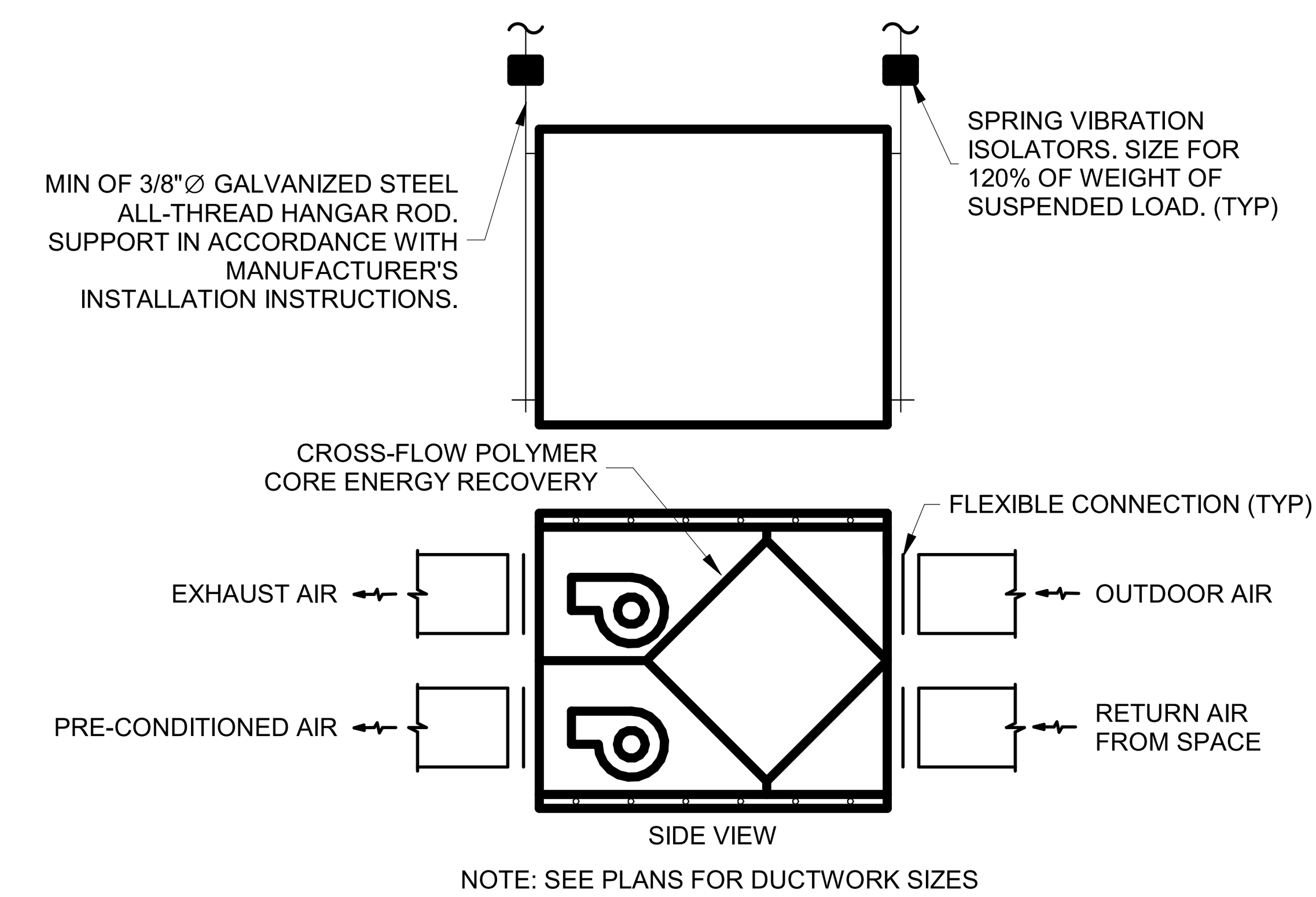
M201



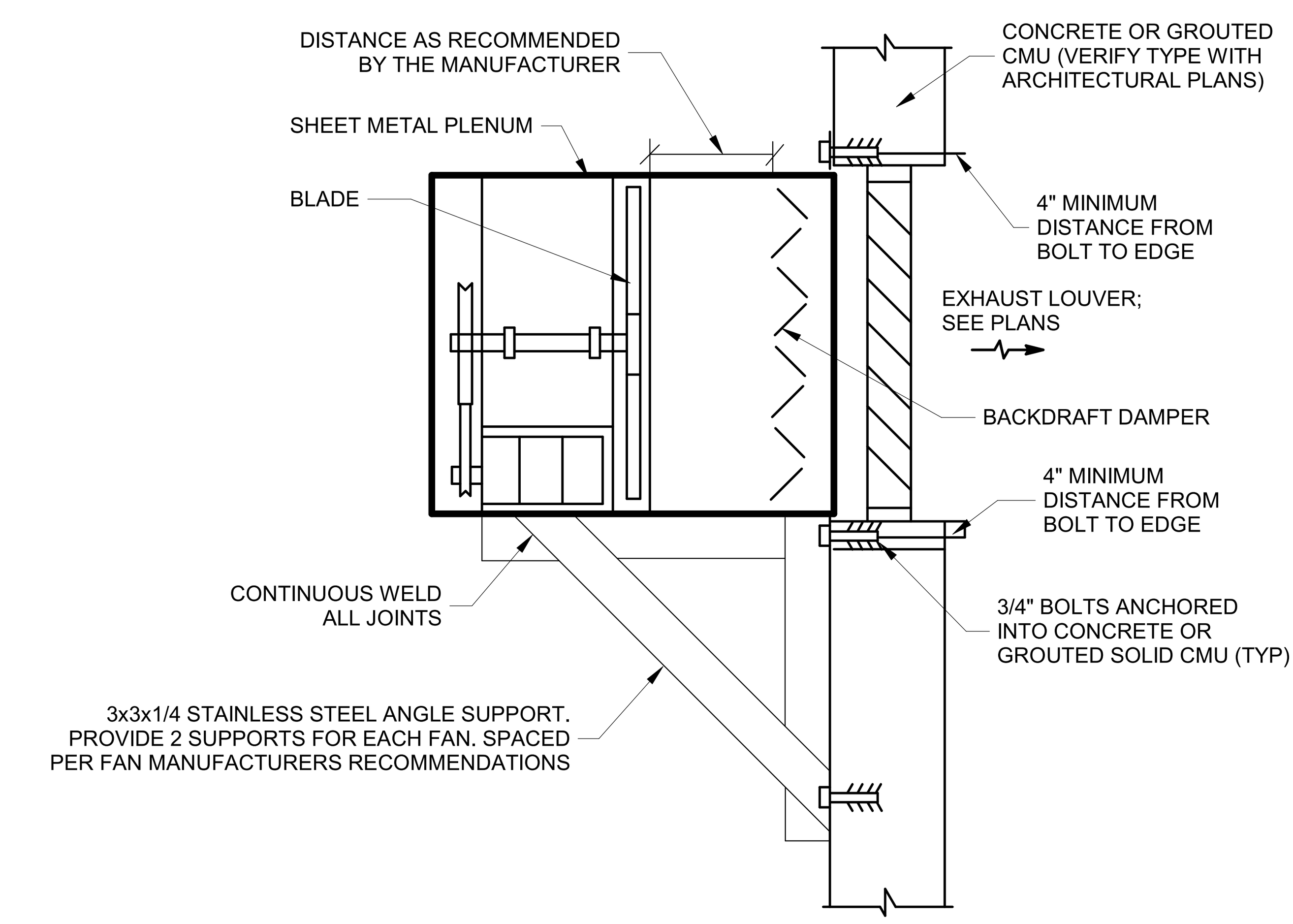
1 DETAIL - LOUVER



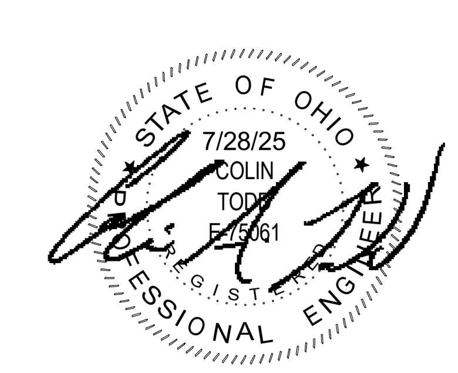
2 DETAIL - HUNG ELECTRIC UNIT HEATER



3 DETAIL - ENERGY RECOVERY VENTILATOR



4 DETAIL - PROPELLER EXHAUST FAN



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DETAILS - MECHANICAL

M501

FAN SCHEDULE

UNIT DATA			BASIS OF DESIGN		PERFORMANCE DATA					MOTOR DATA					GENERAL DATA						
TAG	LOCATION	FUNCTION	MANUFACTURER	MODEL	AIRFLOW (CFM)	ESP (IN WG)	FAN TYPE	MOTOR/DRIVE TYPE	SOUND RATING (SONES)	HP (EACH)	BHP (EACH)	VOLTS	PHASE	VFD	GENERATOR POWER	DAMPER TYPE	REDUNDANT	GREASE RATED	SMOKE RATED	WEIGHT (LBS)	SCHEDULE NOTES
EF-1	GARAGE	EXHAUST AIR	GREENHECK	AER 20	425	0.50	PROP	DIRECT	11.5	0.25	0.10	208	1	No	No	BACKDRAFT	No	No	No	60	1-3
SF-1	MAINTENANCE	SUPPLY AIR	AIR KING	9374	5,770	0.10	PROP	DIRECT	[redacted]	0.33	0.30	115	1	No	No	NONE	No	No	No	38	3-4

1. PROVIDE WITH EC MOTOR.
2. PROVIDE WITH MOTOR COVER AND WALL HOUSING.
3. PROVIDE WITH PROPELLER GUARD OVER OPENING.
4. FAN PLUGS INTO ELECTRICAL OUTLET. CONTROLLED BY PULL CORD.

ELECTRIC DUCT HEATER SCHEDULE

UNIT DATA		BASIS OF DESIGN		HEATER DATA			ELECTRICAL DATA			
TAG	FUNCTION	MANUFACTURER	MODEL	CAPACITY (KW)	DUCT WIDTH (IN)	DUCT HEIGHT (IN)	STAGES	VOLTS	PHASE	SCHEDULE NOTES
EDH-1	OUTDOOR AIR	MARKEL	HF	5.0	12	10	1	208	1	ALL

1. PROVIDE WITH CONTROL BOX WITH 1/2" INSULATION.
2. PROVIDE WITH FACTORY CONTROLLER.

LOUVER SCHEDULE

UNIT DATA		BASIS OF DESIGN		DIMENSIONS			PERFORMANCE DATA			GENERAL DATA		
TAG	FUNCTION	MANUFACTURER	MODEL	DEPTH (IN)	WIDTH (IN)	HEIGHT (IN)	AIRFLOW (CFM)	FREE AREA (SQ. FT)	VELOCITY (FPM)	BIRDSCREEN	DRAINABLE BLADE	SCHEDULE NOTES
L-1	OUTDOOR AIR	GREENHECK	ESD-635	6.0	14.0	30.0	560	1.30	450	Yes	Yes	ALL
L-2	EXHAUST AIR	GREENHECK	ESJ-635	6.0	14.0	30.0	560	1.40	400	Yes	No	ALL
L-3	OUTDOOR AIR	GREENHECK	ESD-435	4.0	24.0	12.0	425	0.70	629	Yes	Yes	ALL
L-4	EXHAUST AIR	GREENHECK	ESJ-635	6.0	26.0	26.0	425	2.20	200	Yes	No	ALL

1. FINAL COLOR TO BE SELECTED FROM MANUFACTURE'S FULL RANGE.

ENERGY RECOVERY VENTILATOR SCHEDULE (PART 1 OF 2)

UNIT DATA			BASIS OF DESIGN		SUPPLY FAN DATA												EXHAUST FAN DATA										
TAG	LOCATION	FUNCTION	MANUFAC TURER	MODEL	AIRFLOW (CFM)	MIN OA (CFM)	ESP (IN WG)	TSP (IN WG)	FAN TYPE	MOTOR /DRIVE TYPE	# OF FANS	HP (EACH)	BHP (EACH)	VOLTS	PHASE	VFD	AIRFLOW (CFM)	ESP (IN WG)	TSP (IN WG)	FAN TYPE	MOTOR/ DRIVE TYPE	# OF FANS	HP (EACH)	BHP (EACH)	VOLTS	PHASE	VFD
ERV-1	PLUMBING CHASE	EXHAUST/VENT	GREENHECK	MINICORE-5-VG-P	560	560	0.50	0.60	FC	DIRECT	1	0.50	0.25	208	1	No	560	0.50	0.60	FC	DIRECT	1	0.50	0.34	208	1	No

ENERGY RECOVERY VENTILATOR SCHEDULE (PART 2 OF 2)

	HEAT EXCHANGER (EFF + 55% SUMMER / 56% WINTER)																FILTER DATA		GENERAL DATA			
	SUMMER SA				SUMMER EA				WINTER SA				WINTER EA									
TAG	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	OA-FILTER (MERV)	EA-FIL TER (MERV)	GENERATOR POWER	REDUNDANT	WEIGHT (LBS)	SCHEDULE NOTES
ERV-1	88.5	73.2	82.9	69.7	80.0	66.5	85.6	70.4	8.6	6.2	44.8	36.1	68.0	52.7	31.7	29.8	8	8	No	No	215	ALL

1. PROVIDE FACTORY MOUNTED DISCONNECT.
2. PROVIDE WITH FACTORY CONTROLS.

<u>SEQUENCE OF OPERATION:</u>

<u>BATHROOM VENTILATION</u>
ERV PROVIDES CODE MINIMUM EXHAUST AND MAKEUP AIR TO THE SPACE AND WILL RUN UPON OCCUPANCY TRIP IN ANY SPACE. THE UNIT SHALL RUN FOR A MINIMUM OF 10 MINUTES (ADJUSTABLE) UPON TRIP.

<u>ELECTRIC DUCT HEATER SEQUENCE</u>
THE ELECTRIC DUCT HEATER SHALL BE TIED TO THE ERV FANS THAT RUN ACCORDING TO THE SEQUENCE ABOVE. WHEN CALLED TO RUN THE UNIT SHALL OPERATE UNDER ITS FACTORY CONTROLS.

IF SUPPLY AIR TEMPERATURE FROM THE ERV DROPS BELOW SETPOINT (50 DEGREES, ADJUSTABLE), HEATING SHALL BE ENABLED.

<u>ELECTRIC HEATER SEQUENCE</u>
CEILING MOUNTED UNIT HEATERS AND SUSPENDED ELECTRIC UNIT HEATERS SHALL ACTIVATE UPON A SIGNAL FROM ITS INTEGRAL THERMOSTAT WHEN THE SPACE TEMPERATURE DROPS BELOW SETPOINT (65 DEGREES, ADJUSTABLE)

<u>GAS DETECTION SYSTEM SEQUENCE (EF-1)</u>
THE GARAGE IS EQUIPPED WITH HIGH AIR CHANGE EXHAUST SYSTEM TO QUICKLY REMOVE VEHICLE EXHAUST GASES AND TO PROVIDE ADDITIONAL SUMMER VENTILATION. EF-1, SHALL BE ALL INTERLOCKED TO THE MOTORIZED DAMPER AT THE OUTDOOR AIR LOUVER (L-3). EF-1 SHALL BE ENERGIZED AND THE MOTORIZED DAMPER SHALL OPEN ACCORDING TO THE FOLLOWING 2 ACTIVATION SEQUENCES, ORDERED ACCORDING TO PRIORITY:

PRIORITY 1 - GAS MONITORING SYSTEM:
UPON DETECTION OF GAS BY SENSORS IN THE GARAGE, THE SYSTEM DAMPERS SHALL OPEN AND ONCE VERIFIED BY THE DAMPER END SWITCHES, THE EXHAUST FAN SHALL BE ENERGIZED. VISUAL AND AUDIBLE ALARMS ON THE SENSOR SHALL ALSO BE ACTIVATED. EF-1 WILL CONTINUE TO RUN FOR A MINIMUM PERIOD OF 3 MINUTES FOLLOWING THE RETURN TO NORMAL AS INDICATED BY THE GAS DETECTION PANEL. UPON RETURN TO NORMAL, SYSTEM DAMPERS SHALL FULLY CLOSE. SETPOINTS FOR ACTIVATION OF GAS EXHAUST SYSTEM SHALL BE 50 PPM (ADJUSTABLE) FOR CO AND 5 PPM (ADJUSTABLE) FOR NO2.

PRIORITY 2 - MANUAL SUMMER VENTILATION:
A ROOM OVERRIDE SWITCH WITH A PILOT LIGHT WILL OPEN THE SYSTEM DAMPERS AND ONCE THE DAMPERS HAVE BEEN VERIFIED BY THE DAMPER END SWITCHES, ENERGIZE THE EXHAUST FAN THROUGH A TIMER. THE PILOT LIGHT PROVIDES INDICATION THAT THE NORMAL AUTOMATIC SEQUENCE HAS BEEN MANUALLY OVERRIDDEN. THE TIMER SHALL PERMIT THE SYSTEM TO RUN FOR A PERIOD OF 3 HOURS (ADJUSTABLE) AFTER THE ROOM OVERRIDE SWITCH HAS BEEN ACTIVATED.

AIR DEVICE SCHEDULE

UNIT DATA		BASIS OF DESIGN				GENERAL DATA			
TAG	FUNCTION	MANUFACTURER	MODEL	NECK SIZE	FACE SIZE	MATERIAL	INTEGRAL VOLUME DAMPER	MAX NC	SCHEDULE NOTES
S1	SUPPLY	PRICE	620L	10" x 6"	NECK SIZE + 1.75"	ALUMINUM	No	25	
S2	SUPPLY	PRICE	SDGE	10" x 6"	NECK SIZE + 2"	ALUMINUM	Yes	25	
E1	EXHAUST	PRICE	630L	10" x 6"	NECK SIZE + 1.75"	ALUMINUM	No	25	
E2	EXHAUST	PRICE	SDGER	10" x 6"	NECK SIZE + 2"	ALUMINUM	Yes	25	

UNIT HEATER (ELECTRIC) SCHEDULE

UNIT DATA		BASIS OF DESIGN		PERFORMANCE DATA			ELECTRICAL DATA					
TAG	TYPE	MANUFACTURER	MODEL	AIRFLOW (CFM)	EAT DB (°F)	LAT DB (°F)	CAPACITY (KW)	STAGES	VOLTS	PHASE	GENERATOR POWER	SCHEDULE NOTES
UH-1	CEILING	INDEECO	CCI	160	65.0	95.0	1.5	1	208	1	No	1-3,5
UH-2	CEILING	INDEECO	CCI	160	55.0	115.0	3.0	1	208	1	No	1-3,5
UH-3	HUNG	INDEECO	UCI	510	65.0	83.0	3.0	1	208	1	No	1-4
UH-4	HUNG	INDEECO	UCI	700	65.0	88.0	5.0	1	208	1	No	1-4
UH-5	HUNG	INDEECO	UCI	700	65.0	110.0	10.0	1	208	1	No	1-4

1. PROVIDE WITH INTEGRAL DISCONNECT.
2. PROVIDE WITH INTEGRAL THERMOSTAT.
3. FINAL COLOR TO BE SELECTED FROM MANUFACTURE'S FULL RANGE.
4. PROVIDE WITH SUPPORT BRACKET. REFER TO MECHANICAL DETAILS FOR ADDITIONAL SUPPORT INFORMATION.
5. PROVIDE WITH CEILING MOUNTING KIT FOR APPROPRIATE FRAME SIZE.

STATE OF OHIO
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COLIN TODD
REGISTERED PROFESSIONAL ENGINEER

ABBREVIATIONS

NOT ALL ABBREVIATIONS MAY BE USED.

ABBREVIATION	DESCRIPTION
(A)	EXISTING TO BE ABANDONED
(D)	EXISTING TO BE DEMOLISHED
(E)	EXISTING TO REMAIN
(F)	FUTURE
(R)	EXISTING TO BE RELOCATED
A	AMPERE
AC	ALTERNATING CURRENT OR AIR CONDITIONER
AF/AFI/AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPS INTERRUPTING CAPACITY
ANNC	ANNUNCIATOR
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BPS	BOLTED PRESSURE SWITCH
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CM	CONSTRUCTION MANAGER
DC	DIRECT CURRENT
DP	DISTRIBUTION PANELBOARD
EC	ELECTRICAL CONTRACTOR
EM	EMERGENCY
EMT	ELECTRICAL METAL TUBING
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FLA	FULL LOAD AMPS
G	GROUND
GC	GENERAL TRADES CONTRACTOR
GEN	GENERATOR
GF/GFI	GROUND FAULT CIRCUIT INTERRUPTER
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HZ	HERTZ
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
KVA	KILOVOLT AMPERE
KW	KILOWATT
LRA	LOCKED ROTOR AMPS
LTG	LIGHTING OR LIGHT
MC	METAL CLAD RACEWAY
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MH	MOUNTING HEIGHT (CENTERLINE OF DEVICE)
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MSB	MAIN SWITCHBOARD
MTS	MANUAL TRANSFER SWITCH
NAC	NOTIFICATION APPLIANCE CIRCUIT
NC	NORMALLY CLOSED
NF	NON-FUSED
NO	NORMALLY OPEN
OCC	OCCUPANCY
PA	PUBLIC ADDRESS
PB	PULL BOX OR PUSH BUTTON
PVC	POLYVINYL CHLORIDE (PLASTIC PIPE)
PWR	POWER
RCPT/REC/RECPT	RECEPTACLE
RGC	RIGID GALVANIZED CONDUIT
STP	SHIELDED, TWISTED PAIR
TC	TIME CLOCK
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
W	WATT
WAP	WIRELESS ACCESS POINT
WH	WATTHOUR
WP	WEATHERPROOF/WEATHER RESISTANT
XFMR	TRANSFORMER
Z	IMPEDANCE
Ø	PHASE

LIGHTING SYMBOLS LIST

NOT ALL SYMBOLS MAY BE USED

	GENERAL PURPOSE LUMINAIRE: REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION
	GENERAL PURPOSE LUMINAIRE ON EMERGENCY POWER: REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION
	GENERAL PURPOSE DUAL DRIVER LUMINAIRE ONE DRIVER ON EMERGENCY POWER: REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION
	ROUND LUMINAIRE: REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION
	WALL WASHER: REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION
	WALL MOUNTED LUMINAIRE: REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION
	REMOTE HEAD
	EMERGENCY LIGHT
	EXIT SIGN
	CEILING MOUNTED ILLUMINATED EXIT SIGN WITH DIRECTIONAL ARROWS
	EMERGENCY DUAL FACE ILLUMINATED EXIT SIGN WITH DIRECTIONAL ARROWS
	EXIT SIGN WITH INTEGRAL HEADS
$X	LINE VOLTAGE SWITCH: X=BLANK-SINGLE POLE 20A, TOGGLE; X=3-THREE WAY; X=4-FOUR WAY; X=P-PILOT LIGHT; X=K-KEY; X=MS-MOMENTARY; X=OS,D-COMBINATION OCCUPANCY SENSOR/0-10V DIMMER
PC	PHOTOCELL
DL	DAYLIGHT SENSOR
LV X	LOW VOLTAGE SWITCH; X=BLANK-2 BUTTON ON/OFF; X=2-4 BUTTON ON/OFF RAISE/LOWER; X=3-MULTI ZONE, PROVIDE BUTTONS AS REQUIRED FOR EACH ZONE ON/OFF, RAISE LOWER
OS X	WALL MOUNTED OCCUPANCY SENSOR: X=BLANK-DUAL TECHNOLOGY; X=IR-PASSIVE INFRARED; X=US-ULTRASONIC
OS X	CEILING MOUNTED OCCUPANCY SENSOR: X=BLANK-DUAL TECHNOLOGY; X=IR-PASSIVE INFRARED; X=US-ULTRASONIC
D	DIMMER
PP	POWER PACK
J	JUNCTION BOX
	PANELBOARD
	LIGHTING CONTROL PANEL
	LOW VOLTAGE TRANSFORMER

POWER SYMBOLS LIST

NOT ALL SYMBOLS MAY BE USED

X Y Z	DUPLEX RECEPTACLE: X=TYPE, Y"=NON-STANDARD MOUNTING HEIGHT, Z=SPECIAL DESIGNATION (S-AUTOMATICALLY CONTROLLED); (18" MH TYPICAL) *NOTATIONS APPLY TO ALL RECEPTACLES*
	DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT
	LOCALLY SWITCHED DUPLEX RECEPTACLE
F,C	FLOOR OR CEILING MOUNTED DUPLEX RECEPTACLE: F=FLOOR, C=CEILING
	DUPLEX RECEPTACLE: ELEVATED (46" MH TYPICAL)
	DOUBLE-DUPLEX RECEPTACLE WITH SINGLE COVER PLATE
	SIMPLEX RECEPTACLE WITH COVER PLATE
WP	WEATHER RESISTANT DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTING WITH IN-USE COVER
	WALL MOUNTED SPECIAL RECEPTACLE: REFER TO PLANS FOR ADDITIONAL INFORMATION
F,C	FLOOR OR CEILING MOUNTED SPECIAL RECEPTACLE: F=FLOOR, C=CEILING REFER TO PLANS FOR ADDITIONAL INFORMATION
X Y	STANDARD DISCONNECT SWITCH: X=DISCONNECT SIZE, Y=NUMBER OF POLES
X Y Z	STANDARD FUSED DISCONNECT SWITCH: X=DISCONNECT SIZE, Y=FUSE SIZE, Z=NUMBER OF POLES
X Y	MOTOR STARTER: X=STARTER SIZE, Y=NUMBER OF POLES
X Y Z	COMBINATION MOTOR STARTER/DISCONNECT SWITCH: X=STARTER SIZE, Y=FUSE SIZE, Z=NUMBER OF POLES
M	MOTOR: PROVIDE POWER AS INDICATED
M	UTILITY METER
$M	FRACTIONAL HORSEPOWER MANUAL MOTOR STARTER
J	JUNCTION BOX
	TRANSFORMER
HH	HANDHOLE/PULL BOX: SEE DETAILS FOR ADDITIONAL INFORMATION
MH	MANHOLE: SEE DETAILS FOR ADDITIONAL INFORMATION
CP	CONTROL PANEL
SPD	SURGE PROTECTIVE DEVICE
	PANELBOARD
VFD	VARIABLE FREQUENCY DRIVE
	PUSH BUTTON
Ø	POWER POLE
	CORD REEL
	GROUND ROD
PT X	POKE THROUGH SERVICE FITTING: X=TYPE

SECURITY SYMBOLS

NOTE: NOT ALL SYMBOLS MAY BE USED.

CR	CARD READER
DL	DOOR LATCH
EL	ELECTRIC LATCH
IC	INTERCOM
KP	KEY PAD
LM	LATCH MONITOR
PS	POWER SUPPLY
RX	REQUEST EXIT
ES	ELECTRIC STRIKE

FIRE ALARM SYMBOLS LIST

NOT ALL SYMBOLS MAY BE USED

F	MANUAL PULL STATION (46" MH TYPICAL)
	HEAT DETECTOR
	DUCT MOUNTED HEAT DETECTOR
S	SMOKE DETECTOR
S	DUCT MOUNTED SMOKE DETECTOR
S	SPEAKER (80" AFF TO BOTTOM OF DEVICE)
	SPEAKER WITH STROBE (80" AFF TO BOTTOM OF DEVICE)
F	HORN (80" AFF TO BOTTOM OF DEVICE)
	HORN WITH STROBE (80" AFF TO BOTTOM OF DEVICE)
	STROBE (80" AFF TO BOTTOM OF DEVICE)
	WALL MOUNTED STROBE (80" AFF TO BOTTOM OF DEVICE)
F	BELL, 120V
WF	WATER FLOW SWITCH: DIVISION 28 TO PROVIDE
T	WATER TAMPER SWITCH: DIVISION 28 TO PROVIDE
PV	POST INDICATOR VALVE
AIO	ADDRESSABLE INPUT-OUTPUT MODULE
IM	ISOLATION MODULE
CO	CARBON MONOXIDE DETECTOR
DH	MAGNETIC DOOR HOLDER
	FIREMAN'S PHONE
	REMOTE INDICATOR STATION FOR DUCT SMOKE DETECTOR
	WALL MOUNTED REMOTE INDICATOR STATION FOR DUCT SMOKE DETECTOR (60" AFF TO CENTERLINE)
	REMOTE INDICATOR TEST SWITCH
R	FAN SHUT-DOWN RELAY
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
NAC	NOTIFICATION APPLIANCE CIRCUIT PANEL
	TEXT NOTIFICATION APPLIANCE PANEL

GENERAL SYMBOLS LIST

NOT ALL SYMBOLS MAY BE USED

———	NEW WORK (VISIBLE)
- - - - - -	NEW WORK (HIDDEN)
———	EXISTING WORK (VISIBLE)
- - - - - -	EXISTING WORK (HIDDEN)
- - - - - -	EXISTING TO BE DEMOLISHED
– – – – – –	FUTURE

SYMBOL	DESCRIPTION
1	KEYNOTE
1	REVISION TRIANGLE

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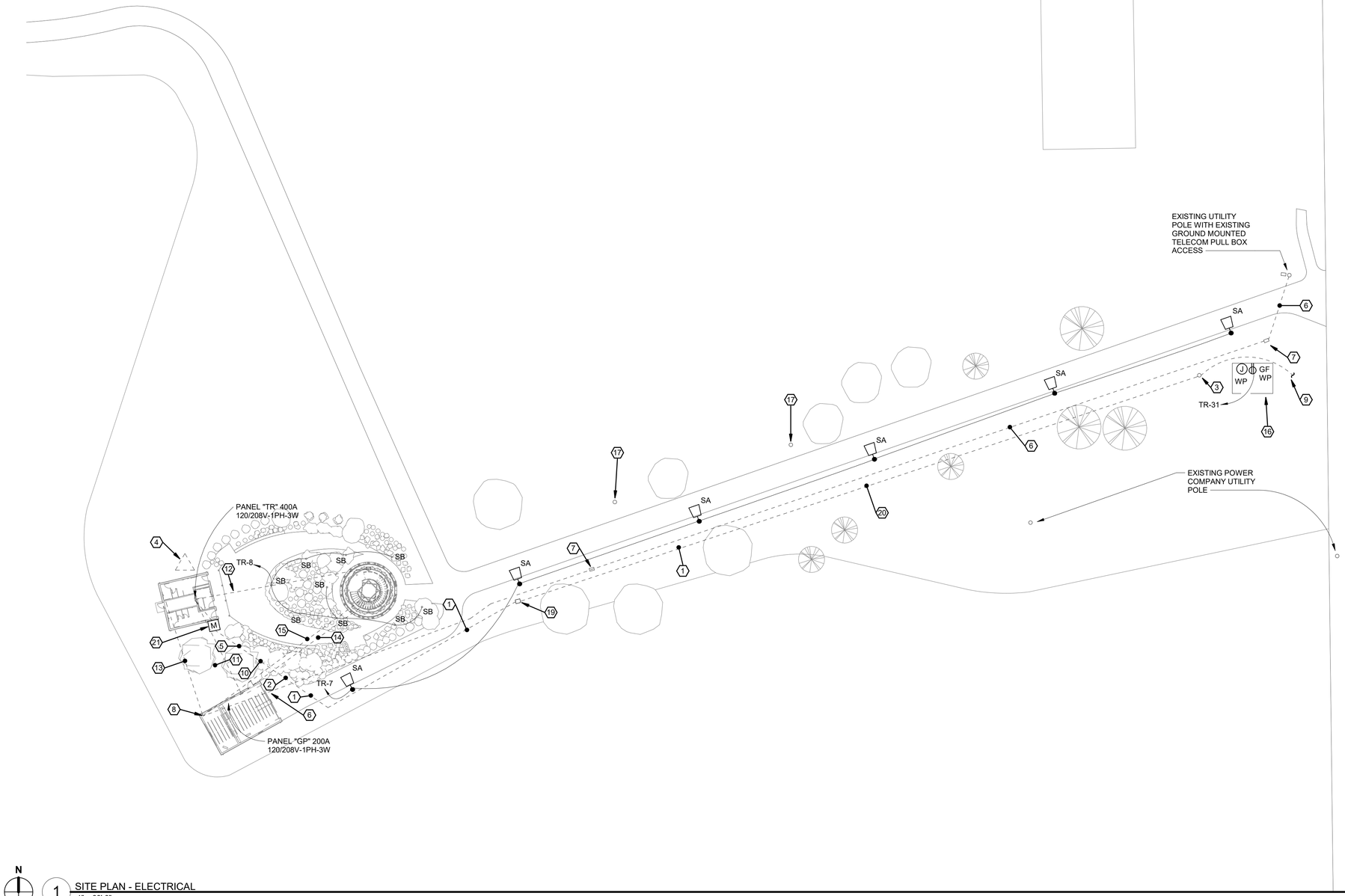
GENERAL INFORMATION - ELECTRICAL

E001



N

1 SITE PLAN - ELECTRICAL
1" = 30'-0"

GENERAL SHEET NOTES:

A. UNLESS OTHERWISE NOTED, MINIMUM UNDERGROUND CONDUIT SIZE SHALL BE 1.25", DIRECT BURIED, PER DETAIL 2/E-501.

B. UNDERGROUND CONDUIT ROUTING SHOWN IS DIAGRAMMATIC. CONTRACTOR SHALL DETERMINE EXACT ROUTING.

C. COORDINATE ALL SITE WORK WITH OTHER TRADES AND EXISTING UNDERGROUND UTILITIES.

D. ALL POLE MOUNTED LIGHTING FIXTURES SHALL HAVE A TRANSIENT VOLTAGE SURGE ARRESTOR MOUNTED IN THE POLE BASE ACCESSIBLE THROUGH THE HAND HOLE. THE SURGE ARRESTOR SHALL BE DITEK MODEL DTK-DL277 OR APPROVED EQUAL.

E. ALL EXTERIOR CONDUITS RISING ABOVE GRADE, ENTERING MANHOLES, HANDHOLES, BUILDING, AND OR EQUIPMENT SHALL BE RGC FROM THE LAST 6 FEET OF TRANSITION FROM BELOW GRADE.

F. UNLESS NOTED, OTHERWISE ALL LIGHTING CIRCUITS SHALL BE CONNECTED WITH A MINIMUM #8 CONDUCTORS. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL CIRCUITS MAINTAIN A 3% VOLTAGE DROP MAXIMUM THROUGHOUT THE CIRCUIT. INCREASE WIRE SIZE AS REQUIRED TO MAINTAIN VOLTAGE DROP REQUIREMENTS.

G. CALL BEFORE YOU DIG #811.

SHEET KEYNOTES:

1. CONCRETE ENCASED DUCT BANK, REFER TO DETAIL 1/E501.
2. DIRECT BURY CONDUIT, REFER TO DETAIL 2/E501.
3. NEW UTILITY POLE AND OVERHEAD AND PRIMARY RISER LINES TO BE FURNISHED BY AES POWER WITHIN PROPERTY LINE OF ODNR. CONTRACTOR SHALL STUB PRIMARY DUCT BANK UP AT BOTTOM OF POLE.
4. GROUNDING TRIANGLE AND TEST WELL. REFER TO DETAIL 7 AND 8/E501. EXTEND GROUNDING ELECTRODE TO GROUND BAR IN MAIN ELECTRICAL ROOM.
5. INCOMING ELECTRICAL DUCT BANKS SHALL TURN UP AT CT CABINET. REFER TO E101 FOR EXTENSION INTO BUILDING.
6. PROVIDE TELECOM PATHWAYS WITH 4-CELL FABRIC INNERDUCT WITHIN CONDUIT. EQUAL TO MAXCELL DIRECT BURIED, PER DETAIL 2/E501.
7. GROUND MOUNTED PULL BOX 17" x 30" QUAZITE PG STYLE, REFER TO DETAIL 3/E501.
8. INCOMING TELECOM DUCT BANKS SHALL TURN UP WITHIN MAINTWENANCE BUILDING, WORKSHOP #105. REFER TO E101 FOR EQUIPMENT LOCATION WITHIN ROOM.
9. AES POWER SHALL EXTEND OVERHEAD AERIAL LINES FROM NEARBY DISTRIBUTION TO RISER POLE LOCATED ON ODNR PROPERTY. REFER TO KEYNOTE #3.
10. PROVIDE 3#600KCMIL, 4"C FROM PANEL "TR" UNDERGROUND TO NEW UTILITY POLE AND UP POLE TO TRANSFORMERS. PROVIDE 6' EXTRA CONDUCTORS FOR UTILITY COMPANY CONNECTION.
11. PROVIDE 3#3/0, 1#6(G)-2"C FROM PANEL "TR" UNDERGROUND TO PANEL "GP".
12. PROVIDE A 1.25" CONDUIT WITH (3 SETS) 2#12, 1#12(G) FOR TOWER LIGHTING AND POWER.
13. PROVIDE A 2" CONDUIT WITH PULLWIRE FOR FUTURE COMMUNICATION WIRING UNDERGROUND FROM WORK SHOP TO PLUMBING CHASE IN RESTROOM BUILDING. CAP AND TAG UNDERGROUND SPARE.
14. PROVIDE A 1.25" CONDUIT WITH PULLWIRE UNDERGROUND FROM PANEL "GR" TO TOWER FOR FUTURE ELECTRICAL.
15. PROVIDE A 2" CONDUIT WITH PULLWIRE UNDERGROUND FROM GARAGE WORK SHOP TO TOWER FOR FUTURE COMMUNICATION. CAP AND TAG UNDERGROUND SPARE.
16. WATER METER ENCLOSURE AND HEATER. PROVIDE A WEATHERPROOF JUNCTION BOX AND WEATHERPROOF GFCI DUPLEX AT METER ENCLOSURE. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR. PROVIDE A JUNCTION BOX NEAR PANEL "TR". FROM A 20/1 CIRCUIT BREAKER IN PANEL "TR", PROVIDE 2#12, 1#12(G)-3/4"C TO JUNCTION BOX LOCATED NEAR PANEL. FROM JUNCTION BOX, PROVIDE 2 #3, 1#10(G)-1 1/4"C (BRANCH CIRCUIT IS SIZED FOR VOLTAGE DROP) UNDERGROUND TO WEATHERPROOF JUNCTION BOX IN WATER METER ENCLOSURE. FROM JUNCTION BOX IN METER ENCLOSURE, PROVIDE 2# 12, 1#12(G)-3/4"C TO WEATHERPROOF GFCI DUPLEX RECEPTACLE IN WATER METER ENCLOSURE.
17. APPROXIMATE LOCATION OF EXISTING POWER COMPANY UTILITY POLE TO BE REMOVED BY THE POWER COMPANY.
18. APPROXIMATE LOCATION OF UTILITY COMPANY POWER POLES.
19. APPROXIMATE LOCATION OF NEW AES POWER COMPANY TRANSFORMER. COORDINATE WITH AES POWER AND PROVIDE TRANSFORMER PAD TO AES STANDARD.
20. PROVIDE TWO (2) 4" PVC CONDUITS UNDERGROUND FOR AWS POWER PRIMARY FEDERS.
21. METER AND CT CABINET LOCATION ON SIDE OF RESTROOM. CONTRACTOR TO PROVIDE PER AES STANDARDS .

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SITE PLAN - ELECTRICAL

E002

Panel: TR

Location: FAMILY RR R102 **Volts:** 120/208 Single **A.I.C. Rating:** 22 KAIC
Supply From: UTILITY TRANSFORMER **Phases:** 1 **Mains Type:** M.C.B.
Mounting: Surface **Wires:** 3 **Mains Rating:** 400 A
Enclosure: Type 1 **MCB Rating:** 400 A

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	LIGHTING	20 A	1	0.4	0.1			1	20 A	LIGHTING	2
3	RECEPTACLE	20 A	1			0.5	0.4	1	20 A	RECEPTACLE	4
5	FLUSH/SINK VALVES	20 A	1	0.4	0.4			1	20 A	DOOR SECURITY	6
7	SITE LIGHTING	20 A	1			0.3	0.2	1	20 A	BOLLARD LIGHTING	8
9	ELEC HAND DRYER	20 A	1	1.0	1.0			1	20 A	ELEC HAND DRYER	10
11	ELEC HAND DRYER	20 A	1			1.0	0.2	1	20 A	ELEC WTR CLR	12
13	UH-3	20 A	2	1.5	1.5			2	20 A	UH-2 MEN'S ROOM	14
15						1.5	1.5				16
17	UH-2 WOMEN'S ROOM	20 A	2	1.5	0.8			2	15 A	UH-1	18
19						1.5	0.8				20
21	EWH-1	30 A	2	2.0	2.5			2	20 A	EDH-1	22
23						2.0	2.5				24
25	TOWER GFCI...	20 A	1	0.2	0.9			2	20 A	ERV-1	26
27	TOWER STAIR LTG	20 A	1			0.2	0.9				28
29	TWR PLAT LTG	20 A	1	0.2	0.3			1	20 A	FACP	30
31	WATER METER HEATER	20 A	1			1.9	0.2	1	20 A	LTG CNTR PANEL	32
33	BABY CHANGING...	20 A	1	0.3	1.0			1	20 A	ELEC HAND DRYER	34
35	ELEC HAND DRYER	20 A	1			1.0	0.0	1	20 A	SPARE	36
37	SPARE	20 A	1	0.0	0.0			1	20 A	SPARE	38
39	SPD	30 A	2			0.0	0.0	2	200 A	POWER	40
41				0.0	0.0						42
		Total Load:		15.9 kVA		16.6 kVA					
		Total Amps:		153 A		159 A					

Conn. Load:	Demand Load:	Demand...
32.3 kVA	32.3 kVA	155 A

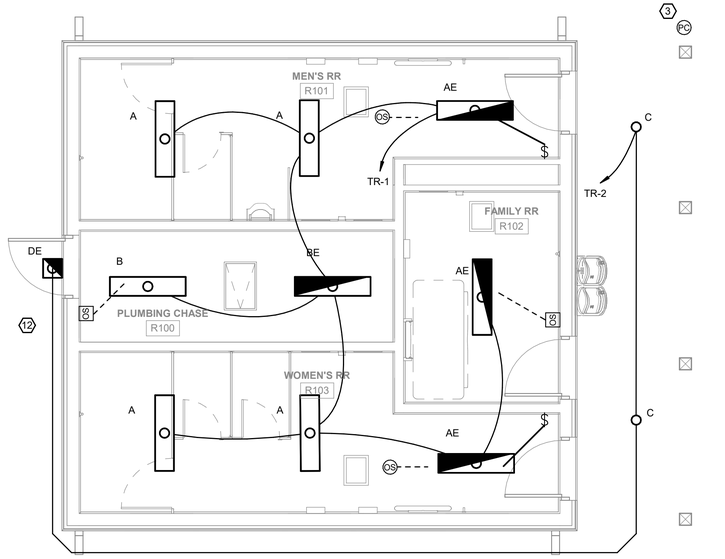
LIGHTING RELAY PANEL SCHEDULE

ZONE	DESCRIPTION	CONTROL ON	CONTROL OFF	CIRCUIT
1	RESTROOM CANOPY LIGHTING	PC	TC	TR-2
2	SITE LIGHTING	PC	TC	TR-7
3	BOLLARD LIGHTING	PC	TC	TR-8
4	TOWER STAIR LIGHTING	PC	TC	TR-27
5	TOWER PLATFORM LIGHTING	PC	TC	TR-29
6	SPARE	-	-	-
7	SPARE	-	-	-
8	SPARE	-	-	-

CONTROL LEGEND

LS: LOCAL SWITCH
TC: TIME CLOCK
OS: OCCUPANCY SENSOR
PC: PHOTOCELL
TM: TIMER SWITCH
MS: MASTER SWITCH

NOTE:
-



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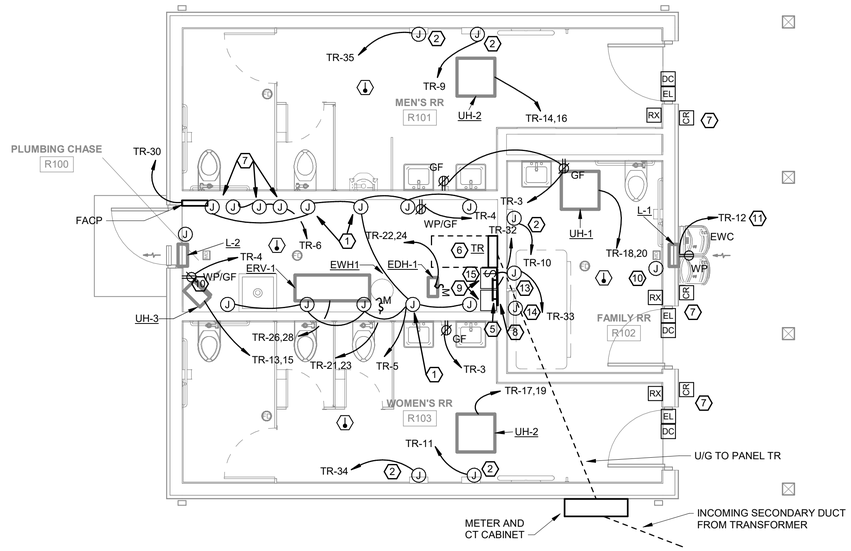
1 FIRST FLOOR CEILING PLAN - LIGHTING
1/4" = 1'-0"



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2 FIRST FLOOR PLAN - POWER AND SYSTEMS
1/4" = 1'-0"

GENERAL SHEET NOTES:

LIGHTING GENERAL NOTES

A. COORDINATE EXACT LOCATIONS OF DEVICE AND LUMINAIRES WITH ARCHITECTURAL REFLECTED CEILING PLAN AND HVAC PLANS PRIOR TO ROUGH-IN TO AVOID CONFLICTS.

B. PROVIDE ALL MOUNTING HARDWARE PER MANUFACTURER'S WRITTEN INSTRUCTIONS TO SUPPORT LUMINAIRE. CONTRACTOR TO VERIFY MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN. LUMINAIRES SHALL NOT BE SUPPORTED BY CEILINGS.

C. NO SHARED NEUTRALS - EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR.

D. STRAIGHT LINES INDICATE LUMINAIRES CIRCUITED TO COMMON CONTROL AND CIRCUIT. ARC LINES INDICATE A COMMON BRANCH BUT SEPARATE CONTROLS CIRCUIT.

E. UNLESS NOTED OTHERWISE, LIGHTING CONTROLS SHALL SERVE LUMINAIRES IN THE SAME SPACE.

POWER AND SYSTEMS GENERAL NOTES

A. FIELD VERIFY EXACT LOCATIONS OF ALL RECEPTACLES AND EQUIPMENT. REFER TO DRAWINGS AND SPECIFICATIONS OF OTHER CONSTRUCTION WORK TRADES FOR ADDITIONAL ELECTRICAL WORK INCLUDED IN DIVISION 26.

B. ALL RECEPTACLES WITHIN GENERAL PUBLIC ACCESS SHALL BE TAMPER RESISTANT TYPE.

C. COORDINATE ALL ROUGH-IN REQUIREMENTS OF DEVICES AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

D. UNLESS NOTED OTHERWISE, ALL CABLING SHALL BE IN CONDUIT ROUTED PARALLEL AND TIGHT TO BUILDING STRUCTURE.

E. PROVIDE FINAL CONNECTIONS AS SHOWN TO ALL EQUIPMENT SHOWN PER MANUFACTURER'S PUBLISHED INSTRUCTION.

F. COORDINATE DEVICE COLOR SELECTIONS WITH ARCHITECT AND OWNER.

G. REFER TO MECHANICAL SCHEDULE SHEETS FOR ADDITIONAL INFORMATION.

H. ALL EXTERIOR CONNECTIONS AND DEVICES SHALL BE LISTED WEATHER RESISTANT AND WATER TIGHT.

SHEET KEYNOTES:

1. PROVIDE120V, 20A CIRCUIT TO AUTOMATIC FLUSH VALVE AND FAUCET TRANSFORMERS. COORDINATE EXACT LOCATION WITH OTHER TRADES.
2. PROVIDE A JUNCTION BOX RECESS MOUNTED IN WALL FOR CONNECTION TO HAND DRYER. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS. PROVIDE LOCK OFF DISCONNECT SWITCH (HUBBELL 1372D OR APPROVED EQUAL) NEAR PANELBOARD. PROVIDE LABEL "LOCK OFF DEVICE FOR HAND DRYER (IN ROOM #). COORDINATE EXACT LOCATION WITH OTHER TRADES.
3. PROVIDE PHOTOCELL FOR AUTO ON/AUTO OFFCONTROL OF EXTERIOR BUILDING MOUNTED FIXTURES AND SITE LIGHTING POLE MOUNTED AND BOLLARD FIXTURES. MOUNT PHOTOCELL TO BUILDING FACING NORTH AND INSTALL AND AIM PER MANUFACTURER.
4. NOT USED.
5. PROVIDE LIGHTING CONTROL PANEL HUBBELL (CX-08-2-S-08-SP OR EQUAL AS APPOVED BY ARCHITECT/ENGINEER). COORDINATE EXACT LOCATION WITH OTHER TRADES.
6. MOUNT PANELBOARD ON SURFACE OF WALL.
7. PROVIDE CONDUIT AND PULLWIRE AT DOOR FOR LOW VOLTAGE DOOR HARDWARE.COORDINATE EXACT LOCATION AND WIRING REQUIREMENTS WITH OTHER TRADES AND APPROVED SHOP DRAWINGS. COORDINATE EXACT LOCATION OF POWER SUPPLY, CARD READER, AND CONTROLLER WITH OTHER TRADES. INDICATES DOOR HARDWARE IS ROUGH-IN ONLY, CARD ACCESS SYSTEM SHALL BE PROVIDED BY OWNER. PROVIDE BLANK COVERPLATES ON "CR".
8. PROVIDE BUILDING GROUND. SEE DETAIL 7 & 8 ON SHEET E501 FOR ADDITIONAL INFORMATION.
9. PROVIDE TWO (2) EMERGENCY BACKUP INVERTERS (BODINE ELI-S-400 LFP OR APPROVED EQUAL). ONE TO BACK-UP TOWER STAIR LIGHTING AND THE OTHER TO BACK-UP TOWER PLATFORM LIGHTING.
10. COORDINATE WITH CONTROLS CONTRACTOR AND PROVIDE A JUNCTION BOX, 3/4" CONDUIT WITH PULLWIRE FOR CONTROL WIRING FOR LOUVER BY OTHERS.
11. PROVIDE A GFCI BREAKER IN PANEL "TR" FOR ELECTRIC WATER HEATER.
12. MOUNT EXTERIOR WALL MOUNTED FIXTURE 6" ABOVE DOOR FRAME TO BOTTOM OF FIXTURE.
13. PROVIDE A JUNCTION BOX WITH 120V-1PH CIRCUIT FOR CHANGING STATION POWER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH-IN.
14. PROVIDE A JUNCTION BOX FOR EQUIPMENT PROVIDED EMERGENCY STOP. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH-IN.
15. PROVIDE A 2-POLE SWITCH TO CONTROL CHANGING STATION CIRCUIT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH-IN.

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FIRST FLOOR PLAN - ELECTRICAL

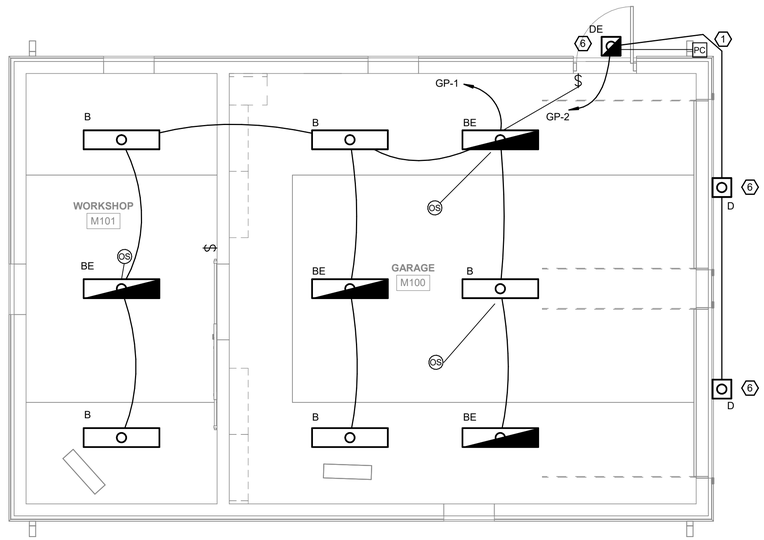
E101

Panel: GP

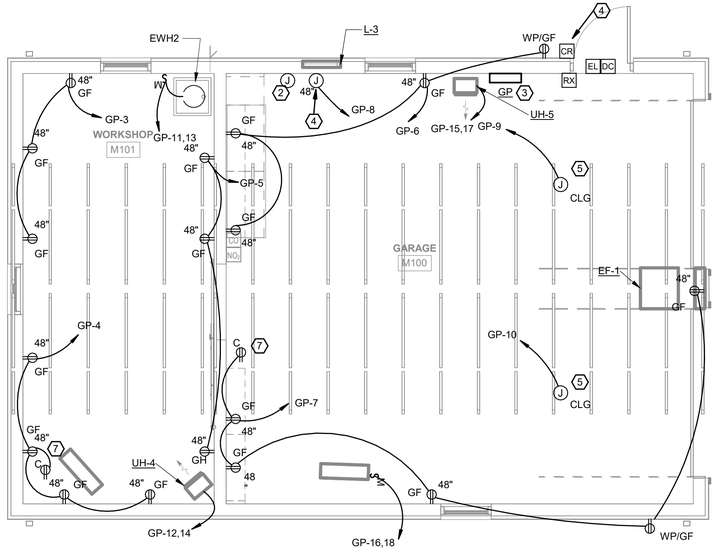
Location: | **Volts:** 120/208 Single | **A.I.C. Rating:** 22,000
Supply From: TR | **Phases:** 1 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 3 | **Mains Rating:** 200 A
Enclosure: Type 1 | **MCB Rating:** 200 A

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	104, 105 LIGHTING	20 A	1	0.4	0.1			1	20 A	GARAGE EXTERIOR...	2
3	RECEPTACLE	20 A	1			0.5	0.9	1	20 A	RECEPTACLE	4
5	RECEPTACLE	20 A	1	0.5	0.7			1	20 A	RECEPTACLE	6
7	RECEPTACLE	20 A	1			1.1	0.1	1	20 A	DOOR SECURITY	8
9	DOOR OPENER	20 A	1	1.2	1.2			1	20 A	DOOR OPENER	10
11	EWH-2	20 A	2			1.0	5.0	2	30 A	UH-4	12
13				1.0	5.0						14
15	UH-5	60 A	2			5.0	0.3	2	15 A	EF-1	16
17				5.0	0.3						18
19	SPARE	20 A	1			0.0	0.0	1	20 A	SPARE	20
21	SPARE	20 A	1	0.0	0.0			1	20 A	SPARE	22
23	SPARE	20 A	1			0.0	0.0	1	20 A	SPARE	24
25	SPARE	20 A	1	0.0	0.0			1	20 A	SPARE	26
27	SPARE	20 A	1			0.0	0.0	1	20 A	SPARE	28
29	SPARE	20 A	1	0.0	0.0			1	20 A	SPARE	30
31	SPARE	20 A	1			0.0	0.0	1	20 A	SPARE	32
33	SPARE	20 A	1	0.0	0.0			1	20 A	SPARE	34
35	SPARE	20 A	1			0.0	0.0	1	20 A	SPARE	36
37	SPARE	20 A	1	0.0	0.0			1	20 A	SPARE	38
39	SPARE	20 A	1			0.0	0.0	1	20 A	SPARE	40
41	SPARE	20 A	1	0.0	0.0			1	20 A	SPARE	42
			Total Load:	15.4 kVA		13.9 kVA					
			Total Amps:	146 A		134 A					

Conn. Load:	Demand Load:	Demand...
29.3 kVA	29.3 kVA	141 A



1 FIRST FLOOR CEILING PLAN - LIGHTING
1/4" = 1'-0"



2 FIRST FLOOR PLAN - POWER AND SYSTEMS
1/4" = 1'-0"

GENERAL SHEET NOTES:

LIGHTING GENERAL NOTES

A. COORDINATE EXACT LOCATIONS OF DEVICE AND LUMINAIRES WITH ARCHITECTURAL REFLECTED CEILING PLAN AND HVAC PLANS PRIOR TO ROUGH-IN TO AVOID CONFLICTS.

B. PROVIDE ALL MOUNTING HARDWARE PER MANUFACTURER'S WRITTEN INSTRUCTIONS TO SUPPORT LUMINAIRE. CONTRACTOR TO VERIFY MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN. LUMINAIRES SHALL NOT BE SUPPORTED BY CEILINGS.

C. NO SHARED NEUTRALS - EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR.

D. STRAIGHT LINES INDICATE LUMINAIRES CIRCUITED TO COMMON CONTROL AND CIRCUIT. ARC LINES INDICATE A COMMON BRANCH BUT SEPARATE CONTROLS CIRCUIT.

E. UNLESS NOTED OTHERWISE, LUMINAIRES WITH 0-10V DIMMING DRIVERS SHALL HAVE 0-10V DIMMING CONTROLS WIRED TO LIGHTING CONTROL DEVICE, JUNCTION BOX OR POWER PACK, REGARDLESS OF CONTROLS (DIM OR NONDIM) DEFINED.

F. UNLESS NOTED OTHERWISE, LIGHTING CONTROLS SHALL SERVE LUMINAIRES IN THE SAME SPACE.

POWER AND SYSTEMS GENERAL NOTES

A. FIELD VERIFY EXACT LOCATIONS OF ALL RECEPTACLES AND EQUIPMENT. REFER TO DRAWINGS AND SPECIFICATIONS OF OTHER CONSTRUCTION WORK TRADES FOR ADDITIONAL ELECTRICAL WORK INCLUDED IN DIVISION 26.

B. ALL RECEPTACLES WITHIN GENERAL PUBLIC ACCESS SHALL BE TAMPER RESISTANT TYPE.

C. COORDINATE ALL ROUGH-IN REQUIREMENTS OF DEVICES AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

D. UNLESS NOTED OTHERWISE, ALL CABLING SHALL BE IN CONDUIT ROUTED PARALLEL AND TIGHT TO BUILDING STRUCTURE.

E. PROVIDE FINAL CONNECTIONS AS SHOWN TO ALL EQUIPMENT SHOWN PER MANUFACTURER'S PUBLISHED INSTRUCTION.

F. COORDINATE DEVICE COLOR SELECTIONS WITH ARCHITECT AND OWNER.

G. REFER TO MECHANICAL SCHEDULE SHEETS MX.XX AND MX.XX FOR ADDITIONAL INFORMATION.

H. COORDINATE FINAL FLOOR BOX LOCATION WITH ARCHITECTURAL FURNITURE PLANS.

I. ALL EXTERIOR CONNECTIONS AND DEVICES SHALL BE LISTED WEATHE RESISTANT AND WATER TIGHT.

SHEET NOTES:

1. PROVIDE PHOTOCELL FOR AUTO ON/AUTO OFFCONTROL OF EXTERIOR BUILDING MOUNTED FIXTURES AND SITE LIGHTING POLE MOUNTED AND BOLLARD FIXTURES. MOUNT PHOTOCELL TO BUILDING FACING NORTH AND INSTALL AND AIM PER MANUFACTURER.
2. COORDINATE WITH CONTROLS CONTRACTOR AND PROVIDE A JUNCTION BOX, 3/4" CONDUIT WITH PULLWIRE FOR CONTROL WIRING FOR LOUVER BY OTHERS.
3. MOUNT PANELBOARD ON SURFACE OF WALL.
4. PROVIDE CONDUIT AND PULLWIRE AT DOOR FOR LOW VOLTAGE DOOR HARDWARE.COORDINATE EXACT LOCATION AND WIRING REQUIREMENTS WITH OTHER TRADES AND APPROVED SHOP DRAWINGS. COORDINATE EXACT LOCATION OF POWER SUPPLY, CARD READER, AND CONTROLLER WITH OTHER TRADES. INDICATES DOOR HARDWARE IS ROUGH-IN ONLY. CARD ACCESS SYSTEM SHALL BE PROVIDED BY OWNER. PROVIDE BLANK COVERPLATES ON "CR".
5. PROVIDE A CEILING MOUNTED JUNCTION BOX FOR DIRECT CONNECTION TO GARAGE DOOR OPENERS. MAKE FINAL CONNECTIONS.
6. MOUNT EXTERIOR WALL MOUNTED FIXTURE 6" ABOVE DOOR FRAME TO BOTTOM OF FIXTURE.
7. GFCI DUPLEX RECEPTACLE MOUNTED AT CEILING FOR AIR CIRCULATION FAN. COORDINATE EXACT OCATION WITH MECHAICAL CONTRACTOR PRIOR TO ROUGH-IN.

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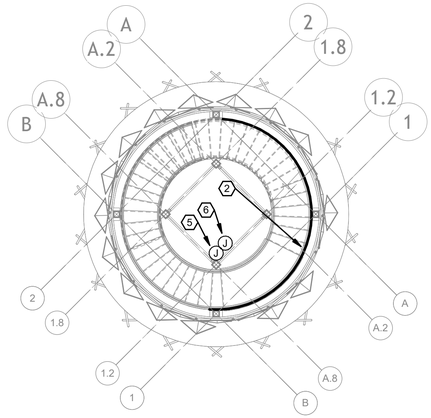
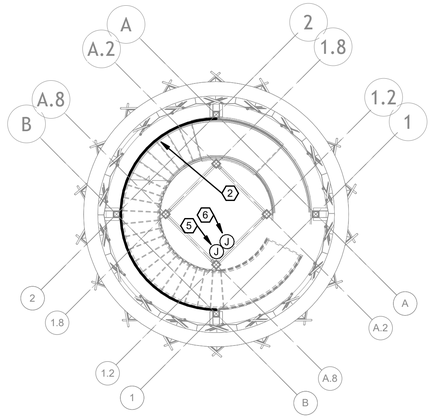
FLOOR PLAN - ELECTRICAL

E201



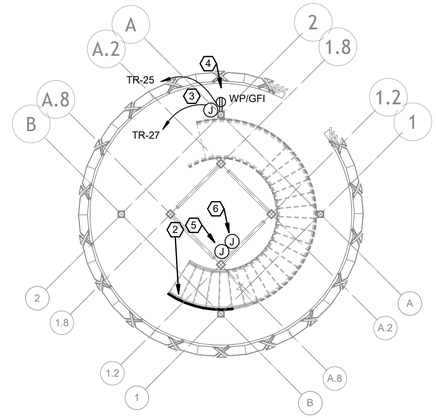
N

3 LANDING 2 PLAN - POWER AND SYSTEMS
1/8" = 1'-0"



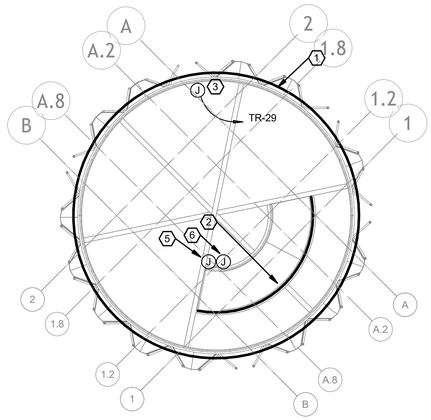
N

2 LANDING 1 PLAN - POWER AND SYSTEMS
1/8" = 1'-0"



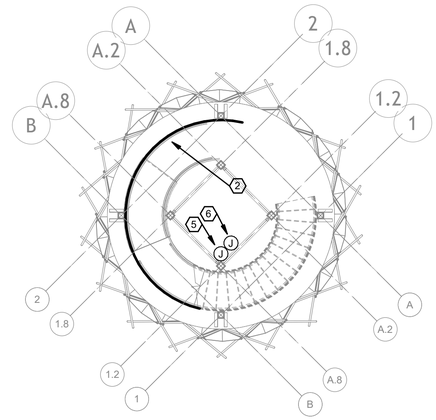
N

1 GROUND FLOOR PLAN - POWER AND SYSTEMS
1/8" = 1'-0"



N

5 T.O. PLATFORM PLAN - POWER AND SYSTEMS
1/8" = 1'-0"



N

4 LANDING 3 PLAN - POWER AND SYSTEMS
1/8" = 1'-0"

GENERAL SHEET NOTES:

LIGHTING GENERAL NOTES

A. COORDINATE EXACT LOCATIONS OF DEVICE AND LUMINAIRES WITH ARCHITECTURAL REFLECTED CEILING PLAN AND HVAC PLANS PRIOR TO ROUGH-IN TO AVOID CONFLICTS.

B. PROVIDE ALL MOUNTING HARDWARE PER MANUFACTURER'S WRITTEN INSTRUCTIONS TO SUPPORT LUMINAIRE. CONTRACTOR TO VERIFY MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN. LUMINAIRES SHALL NOT BE SUPPORTED BY CEILINGS.

C. NO SHARED NEUTRALS - EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR.

D. STRAIGHT LINES INDICATE LUMINAIRES CIRCUITED TO COMMON CONTROL AND CIRCUIT. ARC LINES INDICATE A COMMON BRANCH BUT SEPARATE CONTROLS CIRCUIT.

E. UNLESS NOTED OTHERWISE, LUMINAIRES WITH 0-10V DIMMING DRIVERS SHALL HAVE 0-10V DIMMING CONTROLS WIRED TO LIGHTING CONTROL DEVICE, JUNCTION BOX OR POWER PACK, REGARDLESS OF CONTROLS (DIM OR NONDIM) DEFINED.

F. UNLESS NOTED OTHERWISE, LIGHTING CONTROLS SHALL SERVE LUMINAIRES IN THE SAME SPACE.

POWER AND SYSTEMS GENERAL NOTES

A. FIELD VERIFY EXACT LOCATIONS OF ALL RECEPTACLES AND EQUIPMENT. REFER TO DRAWINGS AND SPECIFICATIONS OF OTHER CONSTRUCTION WORK TRADES FOR ADDITIONAL ELECTRICAL WORK INCLUDED IN DIVISION 26.

B. ALL RECEPTACLES WITHIN GENERAL PUBLIC ACCESS SHALL BE TAMPER RESISTANT TYPE.

C. COORDINATE ALL ROUGH-IN REQUIREMENTS OF DEVICES AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

D. UNLESS NOTED OTHERWISE, ALL CABLING SHALL BE IN CONDUIT ROUTED PARALLEL AND TIGHT TO BUILDING STRUCTURE.

E. PROVIDE FINAL CONNECTIONS AS SHOWN TO ALL EQUIPMENT SHOWN PER MANUFACTURER'S PUBLISHED INSTRUCTION.

F. COORDINATE DEVICE COLOR SELECTIONS WITH ARCHITECT AND OWNER.

G. REFER TO MECHANICAL SCHEDULE SHEETS FOR ADDITIONAL INFORMATION.

H. ALL EXTERIOR CONNECTIONS AND DEVICES SHALL BE LISTED WEATHER RESISTANT AND WATER TIGHT.

SHEET NOTES:

1. PROVIDE 95 LINEAR FEET (CONFIRM WITH ARCHITECT PRIOR TO PURCHASE ORDER) OF FIXTURE TYPE "F" IN UNDERSIDE OF GUARD RAIL AROUND PERIMETER OF OBSERVATION DECK. PROVIDE ALL POWER SUPPLIES, CONNECTORS, ENDCAPS, ETC AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. LIGHTING TO BE CONTROLLED VIA LIGHTING CONTROL PANEL IN PLUMBING CHASE OF RESTROOM BUILDING. REFER TO ARCHITECTURAL DETAIL FOR MOUNTING ON SHEET T-A5.
2. PROVIDE 118 (CONFIRM WITH ARCHITECT PRIOR TO PURCHASE ORDER) LINEAR FEET OF FIXTURE TYPE "F" IN UNDERSIDE OF GUARD RAIL AT THE EXTERIOR OF THE STAIRS. PROVIDE ALL POWER SUPPLIES, CONNECTORS, ENDCAPS, ETC AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. LIGHTING TO BE CONTROLLED VIA LIGHTING CONTROL PANEL IN PLUMBING CHASE OF RESTROOM BUILDING. REFER TO ARCHITECTURAL DETAIL FOR MOUNTING FOR MOUNTING ON SHEET T-A5.
3. PROVIDE A WEATHERPROOF JUNCTION BOX FOR ELECTRICAL CONNECTION TO POWER SUPPLY, 1" CONDUIT AND 2#12, 1#12(G) FOR LED STRIP LIGHTING.
4. PROVIDE A WEATHERPROOF GFCI DUPLEX RECEPTACLE MOUNTED ON STRUCTURAL SUPPORT BEAM AT GROUND FLOOR LEVEL.
5. PROVIDE A SINGLE GANG WEATHER PROOF JUNCTION BOX WITH BLANK COVERPLATE FOR FUTURE ELECTRICAL WIRING. PROVIDE 1" CONDUIT BETWEEN JUNCTION BOXES AT EACH LEVEL AND RUN UNDERGROUND BACK TO PANEL "TR" IN RESTROOM PLUMBING CHASE.
6. PROVIDE A SINGLE GANG WEATHER PROOF JUNCTION BOX WITH BLANK COVERPLATE FOR FUTURE COMMUNICATION WIRING. PROVIDE 1 1/4" CONDUIT BETWEEN JUNCTION BOXES AT EACH LEVEL AND RUN UNDERGROUND BACK TO RESTROOM PLUMBING CHASE.

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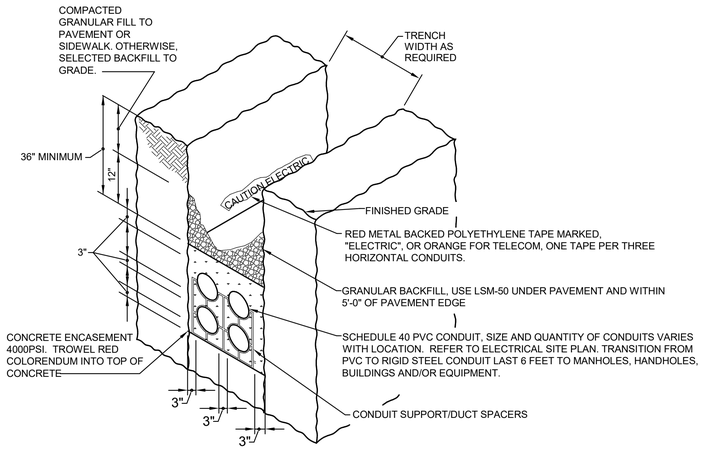
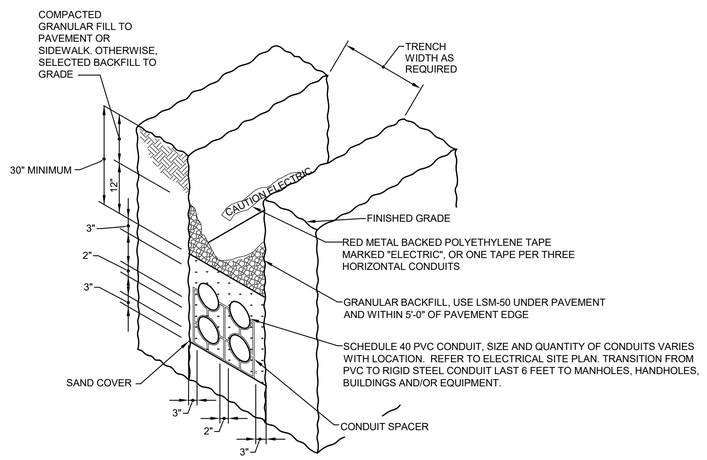
FLOOR PLANS - ELECTRICAL

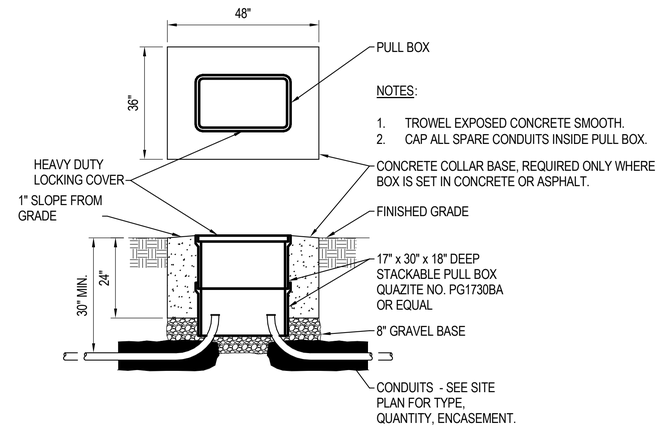
E301



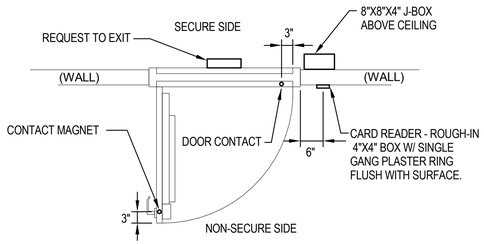
1 DETAIL - ENCASED DUCT BANK
NTS

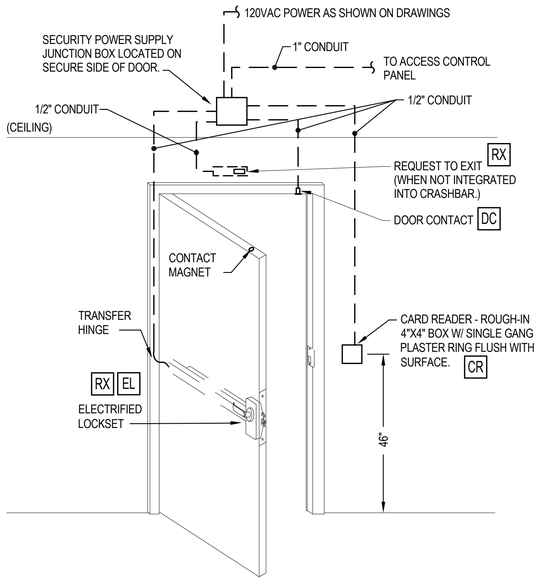


2 DETAIL - DIRECT BURIED CONDUITS
NTS

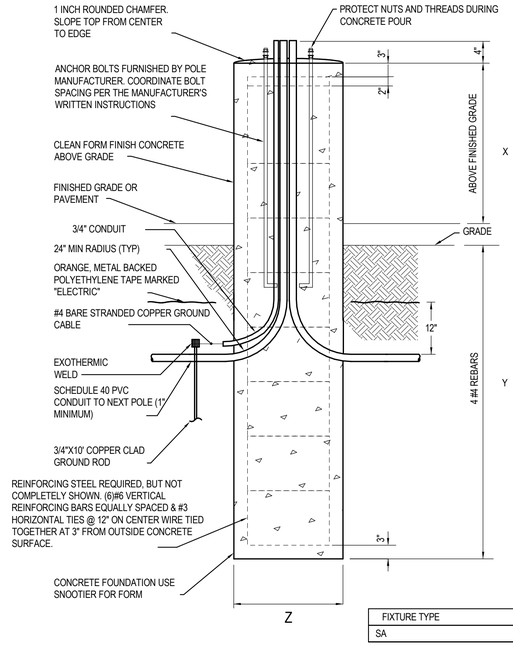


3 DETAIL - GROUND MOUNTED PULL BOX
NTS



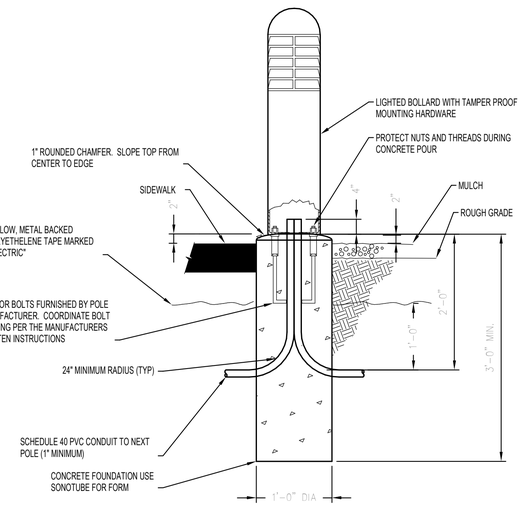


4 DETAIL - DOOR HARDWARE ROUGH-IN
NTS

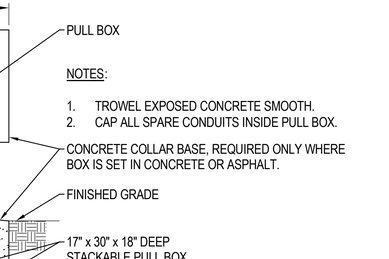


FIXTURE TYPE	X	Y	Z
SA	4"	60"	24"

5 DETAIL - POLE BASE DETAIL
NTS



6 DETAIL - ILLUMINATED BOLLARD FOUNDATION
NTS



7 DETAIL - GROUND ROD ARRAY
NTS

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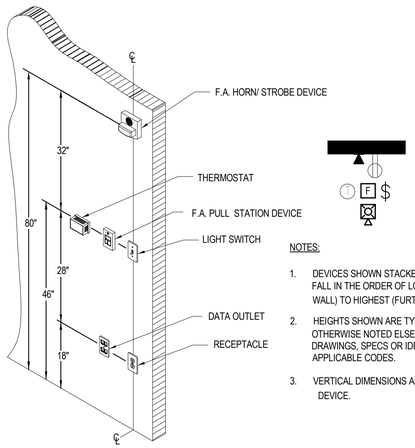
DETAILS - ELECTRICAL

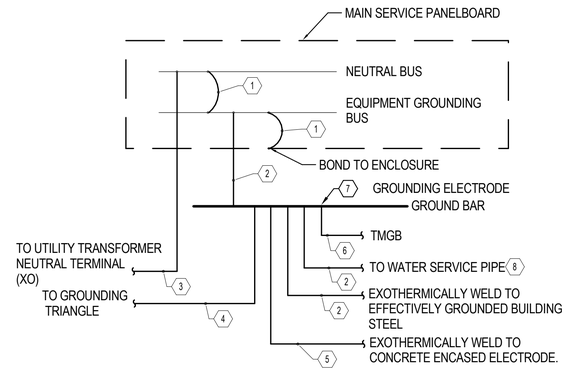
E501



NOTES:

1. DEVICES SHOWN STACKED ALONG WALLS FALL IN THE ORDER OF LOWEST (CLOSEST TO WALL) TO HIGHEST (FURTHEST FROM WALL).
2. HEIGHTS SHOWN ARE TYPICAL UNLESS OTHERWISE NOTED ELSEWHERE ON DRAWINGS, SPECS OR IDENTIFIED IN APPLICABLE CODES.
3. VERTICAL DIMENSIONS ARE TO CENTER OF DEVICE.

1 DETAIL - TYPICAL DEVICE MOUNTING HEIGHT
NTS



2 DETAIL - INTERSYSTEM GROUND BAR
NTS

CODED NOTES:

1. MAIN BONDING JUMPER: PROVIDED AS PART OF LISTED AND LABELED SERVICE EQUIPMENT.
2. GROUNDING ELECTRODE CONDUCTOR: #3/0 AWG COPPER.
3. GROUNDED (NEUTRAL) CONDUCTOR: (REFER TO DISTRIBUTIN ONE-LINE FOR SIZE).
4. SUPPLEMENTAL GROUNDING ELECTRODE BONDING JUMPER CONDUCTOR: #3/0 AWG COPPER.
5. GROUND ELECTRODE SYSTEM BONDING JUMPER CONDUCTOR: #3/0 AWG COPPER.
6. BONDING CONDUCTOR FOR TELECOMMUNICATIONS: 3/0 AWG STRANDED COPPER WITH GREEN INSULATION.
7. PROVIDE UL 467 LISTED CONNECTIONS (TYPICAL)
8. PROVIDE #3/0 BOND ACROSS WATER METER.

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DETAILS - ELECTRICAL

E502

MOTOR SCHEDULE

MARK	NAMEPLATE	ROOM NUMBER	LOCATION	ELECTRICAL DATA: LOAD: HORSEPOWER (HP)	ELECTRICAL DATA: LOAD: MCA (KVA)	ELECTRICAL DATA: LOAD: MOCP	ELECTRICAL DATA: VOLTAGE: 120V-1PH	208V-1PH	208V-3PH	277V-1PH	480V-1PH	480V-3PH	STARTER: NEMA SIZE	STARTER: TYPE: MANUAL	MAGNETIC	BUILT-IN MOTOR O/L	2-SPEED	VFD	STARTER: LOCATION: NEAR MOTOR	MOTOR CONT CENTER	EQUIP CONT PANEL	ROOM NUMBER	STARTER: FURNISHED BY	DISCONNECT MEANS: TYPE: DISC SWITCH	MANUAL MOTOR STARTER	RECEPTACLE	FEEDER SWITCH OR BREAKER	NEMA TYPE	DISC SIZE	FUSE SIZE	DISCONNECT MEANS: LOCATION: NEAR MOTOR	MOTOR CONT CENTER	EQUIP CONT PANEL	PANELBOARD	INTEGRAL WITH VFD	DISCONNECT MEANS: FURNISHED BY	CONTROL: INTERLOCK WITH MOTOR	MANUAL AT STARTER	INTEGRAL WITH EQUIPMENT	BAS/OTHER SYSTEM AS NOTED	CONTROL: FURNISHED BY	FEEDER: NUMBER OF CONDUCTORS	WIRE SIZE	GROUND SIZE	CONDUIT SIZE	SEE CODED NOTE
EF-1	EXHAUST FAN	-	GARAGE ROOF	-	(0.6)	15		●																●							●					EC			●		ES	2	12	12	0.75	
EDH-1	ELECTRIC DUCT HEATER	100	PLUMBING CHASE	-	(5.0)	30		●																●					1	30	-	●					EC			●		ES	2	10	10	0.75	
ERV-1	ENERGY REVOVERY VENTILATOR	100	PLUMBING CHASE	-	(1.8)	15		●																●					1	30	-			●			ES			●		ES	2	12	12	0.75	
UH-1	ELECTRIC UNIT HEATER	102	FAMILY RESTROOM	-	(1.5)	15		●																●					1	30	-			●			ES			●		ES	2	12	12	0.75	
UH-2	ELECTRIC UNIT HEATER	101	MEN'S RESTROOM	-	(3.0)	20		●																●					1	30	-			●			ES			●		ES	2	12	12	0.75	
UH-2	ELECTRIC UNIT HEATER	103	WOMEN'S RESTROOM	-	(3.0)	20		●																●					1	30	-			●			ES			●		ES	2	12	12	0.75	
UH-3	ELECTRIC UNIT HEATER	100	PLUMBING CHASE	-	(3.0)	20		●																●					1	30	-	●					ES			●		ES	2	12	12	0.75	
UH-4	ELECTRIC UNIT HEATER	105	WORKSHOP	-	(5.0)	30		●																●					1	30	-	●					ES			●		ES	2	10	10	0.75	
UH-5	ELECTRIC UNIT HEATER	104	GARAGE	-	(10.0)	60		●																●					1	60	-	●					ES			●		ES	2	6	10	1.00	
EWH-1	ELECTRIC WATER HEATER	100	PLUMBING CHASE	-	(4.0)	25		●																	●				1	30	-	●					EC			●		EC	2	10	10	0.75	
EWH-2	ELECTRIC WATER HEATER	105	WORKSHOP	-	(2.0)	15		●																	●				1	30	-	●					EC			●		EC	2	12	12	0.75	

EC - ELECTRICAL CONTRACTOR; ES - EQUPMENT SUPPLIER; HC - HVAC CONTRACTOR; PC - PLUMBING CONTRACTOR.

LUMINAIRE SCHEDULE

TYPE	DIMENSIONS	MOUNTING	CONSTRUCTION AND FINISH	DESCRIPTION AND OPTIONS	LAMPS	BALLAST(S)	VOLTAGE/LOAD	APPROVED MANUFACTURER(S)
A	4 5/8"W x 46 7/8"L x 4 3/8"D	SURFACE	COLD ROLLED STEEL AND VANDAL RESISTANT POLYCARBONATE LENS	4' SURFACE MOUNTED LINEAR LED, LENSED, VANDAL RESISTANT, EMERGENCY BATTERY BACK UP	LED,4600L, 30K	LED 1% DIMMING DRIVER	120V, 45W	MERCURY LIGHTING L65VP-4-4600-30K-HTP- 1% UN OR AS APPROVED BY OWNER/ARCHITECT
AE	4 5/8"W x 46 7/8"L x 4 3/8"D	SURFACE	COLD ROLLED STEEL AND VANDAL RESISTANT POLYCARBONATE LENS	4' SURFACE MOUNTED LINEAR LED, LENSED, VANDAL RESISTANT, EMERGENCY BATTERY BACK UP	LED,4600L, 30K	LED 1% DIMMING DRIVER	120V, 45W	MERCURY LIGHTING L65VP-4-4600-30K-HTP- 1% UNI-EM10 OR AS APPROVED BY OWNER/ARCHITECT
B	4.5"W x 48"L x 3 13/16"D	CHAIN SUSPENDED	CODE GUAGED STEEL, FROSTED PRISMATIC ACRYLIC LENS	4' SUSPENDED LINEAR LED, LENSED, STRIP LIGHT, EMERGENCY BATTERTY BACK UP	LED,	LED DRIVER	120V, 48W	CURRENT LIGHTING LCL4-30ML-E-CSHC OR AS APPROVED BY OWNER/ARCHITECT
BE	4.5"W x 48"L x 3 13/16"D	CHAIN SUSPENDED	CODE GUAGED STEEL, FROSTED PRISMATIC ACRYLIC LENS	4' SUSPENDED LINEAR LED, LENSED, STRIP LIGHT, EMERGENCY BATTERTY BACK UP	LED,	LED DRIVER	120V, 48W	CURRENT LIGHTING LCL4-30ML-EUELL14-CSHC OR AS APPROVED BY OWNER/ARCHITECT
C	6" DIAMETER W x 6.68"H	CABLE SUSPENDED	DIE-CAST ALUMINUM, GLASS LENS	6" DIAMETER LED CYLINDER CABLE SUSPENDED FIXTURE WITH BLACK FINISH, PENDANT MOUNTING KIT, WET LOCATION LISTED.	LED, 4400L, 30K	LED 0-10V-1% DIMMING DRIVER	120V, 50W	METEOR LIGHTING, #RH6C-50-308-120-STV-55-BLK-SAD10-OUT
D	7.81"D x 13.09"L x 6.79"H	SURFACE	DIE-CAST ALUMINUM WITH POWDER COATED FINISH	WALL MOUNTED, EXTERIOR, LED LUMINAIRE, DARK SKY FRIENDLY, WET LOCATION LISTED, EMERGENCY BATTERY BACK-UP	LED,2900L, 3000K	LED 0-10V-1% DIMMING DRIVER	120V, 25W	CURRENT LIGHTING QSP1-24L-25-3K8-3K7-120-DB OR APPROVED EQUAL BY OWNER/ARCHITECT.
DE	7.81"D x 13.09"L x 6.79"H	SURFACE	DIE-CAST ALUMINUM WITH POWDER COATED FINISH	WALL MOUNTED, EXTERIOR, LED LUMINAIRE, DARK SKY FRIENDLY, WET LOCATION LISTED, EMERGENCY BATTERY BACK-UP	LED,2900L, 3000K	LED 0-10V-1% DIMMING DRIVER	120V, 25W	CURRENT LIGHTING QSP1-24L-25-3K8-3K7-120-DBT-E OR APPROVED EQUAL BY OWNER/ARCHITECT.
F	AS NEEDED	RECESSED	ENCAPSULATED LED FLEXIBLE STRIP	FLEXIBLE LED ENCAPSULATED LED STRIP WITH MOUNTING HARDWARE, AND REMOTE POWER SUPPLIES (Q-SET-QZ-ND)	LED, 2.0W/FT, 3000K	LED DRIVER	24V, 2W/PER FT	QTL LIGHTING ANBD-SW-XX-WET-30-2-ENC/CL-XX-XX-XX-CL WHITE-XX-0 OR APPROVED EQUAL BY OWNER/ARCHITECT.
SA	18"W x 23"D	POLE MOUNTED	DIE-CAST ALUMINUM	POLE MOUNTED SITE LIGHTING LED FIXTURE WITH ACRYLIC OPTICS, TYPE 3 WIDE OPTICS, WITH 12' ALUMINUM POLE ON 24" BASE, FINISH AS SELECTED BY ARCHITECT.	LED, 9,000L, 3000K	LED DRIVER	120V, 54W	LSI LIGHTING VALS-9L-3W-UNV-30K8-XX-SAPOLE LS1 SQUARE ALUMINUM 4SQB3-A125-12'-S-XX OR APPROVED EQUAL BY OWNER/ARCHITECT.
SB	9" DIA x 44"H	BOLLARD	DIE-CAST ALUMINUM WITH POWDER COATED FINISH	LED BOLLARD WITH ASSYMETRICAL OPTICS	LED, 2,500L, 3000K	LED DRIVER	120V, 23W	LSI LIGHTING MRB-LED-25L-ACR-A-UNV-DIM-30-XX OR APPROVED EQUAL BY OWNER/ARCHITECT.

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ENGINEERING
Ohio Department of Natural Resources

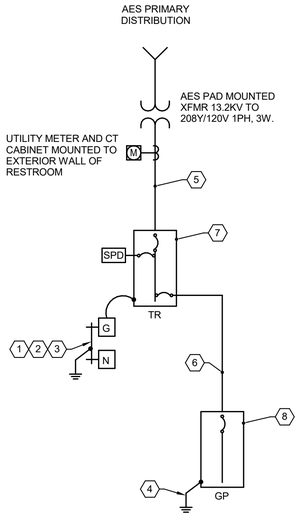
STATE OF OHIO
7/28/25
JOHNATHAN S. SAIGE
E-82841
REGISTERED
PROFESSIONAL ENGINEER

GREAT COUNCIL STATE PARK
OBSERVATION TOWER, RESTROOM, AND MAINTENANCE
GREENE COUNTY, OHIO

DESIGNED BY: DPL	JOB NUMBER: DNR-210062.02
DRAWN BY: DPL	SCALE: AS NOTED
CHECKED BY: JSS	DATE: 09/04/2025
APPROVED BY: JSS	CONSTRUCTION DOCUMENTS

SCHEDULES - ELECTRICAL

E601



1 SINGLE-LINE DIAGRAM - ELECTRICAL
NTS

SHEET KEYNOTES:

1. BOND NEUTRAL TO GROUND AT SERVICE ENTRANCE EQUIPMENT. PROVIDE GROUNDING ELECTRODE CONDUCTOR TO UL LISTED INTERSYSTEM GROUND BAR. REFER TO DETAIL 8/E501.
2. PROVIDE BONDING JUMPERS FROM GROUND BAR TO EACH GROUNDING ELECTRODE IN ACCORDANCE WITH NEC ARTICLE 250.
3. PROVIDE 10' X 3/4" DIA. UL LISTED GROUND ROD(S) AS REQUIRED. REFER TO DETAIL 7/E501.
4. PROVIDE GROUND ROD(S) AT REMOTE BUILDING PANELBOARD, DO NOT BOND NEUTRAL TO GROUND, BOND EQUIPMENT GROUNDING CONDUCTOR FROM FEEDER.
5. FROM TRANSFORMER, PROVIDE (2 SETS) 3#250KCMIL (AL), 1#1(G), 3"C FROM POWER COMPANY PAD MOUNTED TRANSFORMER TO PANEL "TR".
6. PROVIDE 3#250KCMIL (AL), 1#2(G)-3"C. FROM PANEL "TR" IN RESTROOM PLUMBING CHASE TO PANEL "GP" IN GARAGE.
7. PROVIDE A 42 SPACE, 400A MCB, 208Y/120V-1PH-4W PANELBOARD.
8. PROVIDE A 42 SPACE, 200A MCB, 208Y/120V-1PH-3W PANELBOARD.

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DIAGRAMS - ELECTRICAL

E701