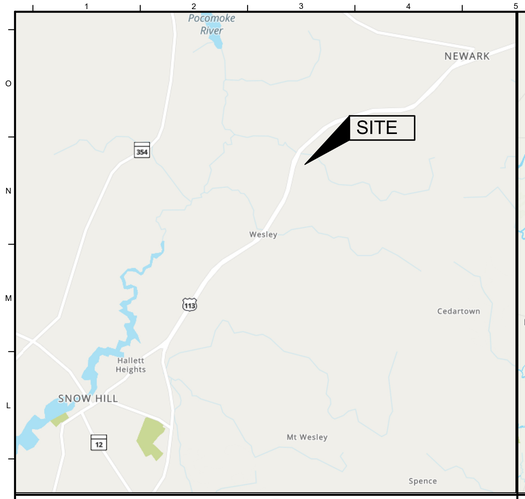

LOCATION MAP

VICINITY MAP

VEHICLE STORAGE FACILITY

CENTRAL SITE LANE

WORCESTER COUNTY, MARYLAND

DBF PROJECT NO. 0085B049.A01

BID SET

DRAWINGS INDEX

G-001	TITLE SHEET
C-001	TITLE SHEET
C-051	EXISTING CONDITIONS & DEMO PLAN
C-101	SITE & UTILITY PLAN
C-102	SITE CONSTRUCTION DETAILS
C-301	GRADING PLAN
C-302	STORMDRAIN PROFILES
C-303	STORMWATER MANAGEMENT PLAN & PROFILES
C-304	STORMWATER MANAGEMENT PLAN & PROFILES
C-401	EROSION & SEDIMENT CONTROL PLAN
C-402	EROSION & SEDIMENT CONTROL DETAILS
C-403	EROSION & SEDIMENT CONTROL NOTES
L-101	LANDSCAPE PLAN
S0	TRAINING TOWER FOUNDATION PLAN & GENERAL NOTES
S1	TRAINING TOWER FOUNDATION DETAILS
A-X-101	EXISTING FIRE TRAINING CENTER PLAN AND MEZZANINE
A-101	GROUND FLOOR PLAN, DETAILS & STRUCTURAL NOTES
A-102	SCHEDULES & FIRE PUMP BLDG
A-103	ROOF PLAN
A-104	REFLECTED CEILING PLAN
A-201	EXTERIOR ELEVATIONS
A-301	BUILDING SECTIONS
A-302	WALL SECTIONS
FP-101	FIRE PROTECTION ZONING DIAGRAM
FA-001	LEGEND & ABBREVIATIONS FIRE ALARM
FA-100	SITE PLAN FIRE ALARM
FA-101	FIRST FLOOR PLAN FIRE ALARM
FA-201	PART PLAN FIRE ALARM
P-001	LEGEND PLUMBING
P-100	SITE PLAN PLUMBING
P-101	FIRST FLOOR PLAN PLUMBING
P-201	PART PLAN PLUMBING
P-301	DETAILS PLUMBING
P-302	DETAILS PLUMBING
P-303	DETAILS PLUMBING
P-304	DETAILS PLUMBING
P-401	SCHEDULES PLUMBING
P-501	RISERS PLUMBING
M-001	LEGEND & ABBREVIATIONS HVAC
M-100	SITE PLAN HVAC
M-101	FIRST FLOOR PLAN HVAC
M-201	PART PLAN HVAC
M-301	DETAILS HVAC
M-302	DETAILS HVAC
M-303	DETAILS HVAC
M-401	AUTOMATIC TEMPERATURE CONTROLS
M-402	AUTOMATIC TEMPERATURE CONTROLS
M-501	SCHEDULES HVAC
M-601	BUILDING SECTION HVAC
E-001	LEGENDS & ABBREVIATIONS ELECTRICAL
E-002	LEGENDS & ABBREVIATIONS ELECTRICAL
E-100	SITE PLAN ELECTRICAL
EL-101	FIRST FLOOR PLAN LIGHTING
EP-101	FIRST FLOOR PLAN POWER
ES-101	FIRST FLOOR PLAN SECURITY
E-103	EXISTING FIRE TRAINING CENTER FLOOR PLAN ELECTRICAL
E-201	PART PLANS ELECTRICAL
E-301	DETAILS ELECTRICAL
E-302	DETAILS ELECTRICAL
E-303	DETAILS ELECTRICAL
E-304	DETAILS ELECTRICAL
E-305	DETAILS ELECTRICAL
E-306	DETAILS ELECTRICAL
E-307	DETAILS ELECTRICAL
E-401	LIGHTING CONTROL SEQUENCES
E-501	SCHEDULES ELECTRICAL
E-502	SCHEDULES ELECTRICAL
E-503	SCHEDULES ELECTRICAL
E-504	SCHEDULES ELECTRICAL
E-601	SINGLE LINE DIAGRAM ELECTRICAL

MATERIAL LEGEND

- NEW MASONRY WALL
- MASONRY IN ELEVATION
- CONCRETE IN PLAN OR DRYWALL IN SECTION
- CONCRETE
- EARTH
- POROUS FILL
- WOOD (FINISH) IN SECTION
- WOOD (ROUGH) IN SECTION
- BRICK
- CONCRETE MASONRY
- BATT INSULATION
- RIGID INSULATION
- PLYWOOD
- GLAZING

GRAPHIC SYMBOL LEGEND

- PROPERTY LINE
- CENTER LINE
- HIDDEN LINE
- DEMOLITION
- FENCE LINE
- CONSTRUCTION FENCE
- COLUMN LINE
- REVISION: WINDOW, & ROOM SYMBOLS
- LINTEL NUMBER: AND EQUIPMENT NUMBER
- POINT ELEV. EXIST. POINT ELEV. NEW
- CONTOURS EXIST: NEW (NOTED HIGH SIDE)
- LEVEL LINE
- DETAIL SECTION OR EXTERIOR ELEV.
- WALL SECTION CUT
- NORTH ARROW

DRAWING ABBREVIATIONS

SYMBOLS used as abbreviations

∠	angle
℄	centerline
d	penny
⊥	perpendicular
PL	plate
Ø	round

ABBREVIATIONS

AB	anchor bolt
ABV	above
A/C	air conditioning
ACC	access
ACFL	access floor
AD	area drain
ADD	addendum
ADH	adhesive
ADJ	adjacent
ADJT	adjustable
AFF	above finish floor
AGG	aggregate
AL	aluminum
ALT	alternate
ANC	anchor, anchorage
ANO	anodized
ANG	angle
AP	access panel
APX	approximate
ARCH	architect (ural)
ASB	asbestos
ASPH	asphalt
ATC	acoustical tile clg
AUTO	automatic
BBD	bulletin board
BD	board
BEL	below
BET	between
BIT	bituminous
BLDG	building
BKHD	bulkhead
BLK	block
BLKG	blocking
BM	beam
BOT	bottom
BP	back plaster (ed)
BPL	bearing plate
BRG	bearing
BRK	brick
BRZ	bronze
BS	both sides
BSMT	basement
BTY	battery
BUR	built up roofing
BVL	beveled
BW	both ways
CAB	cabinet
CB	catch basin
CEM	cement
CER	ceramic
CF	cold-formed
CFL	counterflashing
CFT	cubic feet
CHAM	chamfer
CHBD	chalkboard
CHT	ceiling height
CIPC	cast-in-place-concrete
CIR	circle
CIRC	circumference
CJT	control joint
CK	caulking
CLL	contract limit line
CLG	ceiling
CLR	clear or clearance
CMT	ceramic mosaic tile
CMU	concrete masonry unit
COL	column
COMB	combination
CONC	concrete
CONST	construction
CONT	continuous or continue
CONTR	contract (or)
CORR	corrugated
CPR	copper
CPT	carpet
CR	cold-rolled
CRS	course (s)
CSMT	casement
CT	ceramic tile
CTER	counter
CTR	center
CTSK	countersunk screw
CYD	cubic yard
D	dryer
DA	double acting
DEM	demolish, demolition
DF	drinking fountain
DH	double hung
DIA	diameter
DIAG	diagonal
DL	dead load
DP	damp proofing
DPR	damper
DR	door
DRN	drain
DS	downspout
DT	drain tile
DTL	detail
DWR	drawer
DWG	drawing
EB	expansion bolt
EF	each face
EIFS	exterior insulated finish system
EJT	expansion joint
EL	elevation
ELEV	elevator
EMER	emergency
ENC	enclose
EP	electrical panelboard
EQ	equal
EQP	equipment
EST	estimate
EWC	electric water cooler
EXCA	excavate
EXG	existing
EXH	exhaust
EXP	exposed
EXT	exterior
FA	fire alarm
FAS	fasten, fastener
FB	face brick
FBD	fiberboard
FBO	furnished by others
FD	floor drain
FE	fire extinguisher
FEC	fire extinguisher cabinet
FF	factory finish
FFE	finished floor elevation
FFL	finished floor line
FGL	fiberglass
FIN	finish (ed)
FLCO	floor cleanout
FLG	flashing
FLPL	floor plate
FLR	floor (ing)
FLUR	flourescent
FN	fence
FND	foundation
FOC	face of concrete
FOF	face of finish
FOM	face of masonry
FOS	face of studs
FPL	fireplace
FR	frame (d) (ing)
FRP	fiberglass reinforced plastic
FTG	footing
FUR	furred (ing)
FUT	future
GA	gage, gauge
GB	grab bar
GC	general contract (or)
GD	grade. grading
GL	glass, glazing
GLB	glass block
GYPBD	gypsum drywall
GT	grout
GALV	galvanized
GVL	gravel
HB	hose bib
HBD	hardboard
HC	hollow core
HD	heavy duty
HDPE	high-density polyethelene
HDW	hardware
HDR	header
HM	hollow metal
HOR	horizontal
HP	handicapped
HT	height
HTG	heating
HVAC	heating/ventilation/air conditioning
HWD	hardwood
HWH	hot water heater
ID	inside diameter
INCL	include (d) (ing)
INS	insulate (d) (ion)
INT	interior
INV	invert
JAN	janitor's closet
JST	joist
JT	joint
KIT	kitchen
KO	knockout
KPL	kickplate
L	length
LAD	ladder
LAM	laminate
LAV	lavatory
LB	lag bolt
LBL	label
LH	left hand
LL	live load
LT	light
LTL	lintel
LVP	luxury vinyl plank
LVR	louver
MAS	masonry
MAX	maximum
MBR	member
MC	medicine cabinet
MECH	mechanic (al)
MET	metal
MFD	metal floor decking
MFR	manufacture (er)
MH	manhole
MIN	minimum
MIR	mirror
MISC	miscellaneous
MLD	molding, moulding
MMB	membrane
MO	masonry opening
MOD	modular
MOV	movable
MR	moisture resistant
MRD	metal roof decking
MT	mount (ed) (ing)
MTFR	metal furring
MTHR	metal threshold
MTL	material (s)
MUL	mullion
MWK	millwork
NAT	natural
NIC	not in contract
NOM	nominal
NTS	not to scale
OA	overall
OBS	obscure
OC	on center (s)
OD	outside diameter
OH	overhead
OP	opaque
OPG	opening
OPH	opposite hand
OPP	opposite
OWJ	open-web joist
PAR	parallel
PB	panic bar
PBD	particle board
PCC	pre-cast concrete
PCF	pounds per cubic foot
PCPL	cement plaster (portland)
PERF	perforate
PERI	perimeter
PEMB	pre-eng metal bldg
PFB	prefabricated
PFN	prefinished
PG	plate glass
PK	parking
PL	property line
PLAM	plastic laminate
PLAS	plaster
PLF	pounds per lineal foot
PLT	plate
PNL	panel
PNT	paint (ed)
PRF	preformed
PRTR	pressure treated wood
PSF	pounds per square foot
PSI	pounds per square inch
PSL	parallel strand lumber
PT	point
PTD	paper towel dispenser
PTN	partition
PTR	paper towel receptor
PV	pave (d) (ing)
PVF	plank vinyl floor
PVC	polyvinyl chloride
PVMT	pavement
PLYWD	plywood
QT	quarry tile
R	riser
RA	return air
RB	rubber base
RBT	rabbet, rebate
RCP	reflected ceiling plan
RD	roof drain
REINF	reinforce (d) (ing)
REF	reference
REFR	refrigerator
REG	register
REM	remove
REQ'D	required
RES	resilient
RET	return
REV	revision (s), revised
RFG	roofing
RFH	roof hatch
RFL	reflect (ed) (ive)
RH	right hand
RL	rail (ing)
RM	room
RO	rough opening
ROW	right of way
R.S.	reverse (side)
RTU	roof top unit
RWC	rain water collector
SC	solid core
SCH	schedule
SCN	screen
SDT	static dissipative tile
SD	storm drain
SEC	section
SG	sheet glass
SH	shelf, shelving
SHO	shore (d) (ing)
SHT	sheet
SHTH	sheathing
SIM	similar
SKL	skylight
SL	sleeve
SNT	sealant
SPC	spacer
SPEC	specification (s)
SPL	special
SPR	single-ply roof(ing)
SQ	square
STA	station
STG	seating
STL	steel
STO	storage
STR	structural
SSK	service sink
SST	stainless steel
SUSP	suspended
SYM	symmetry (ical)
SYN	synthetic
SYS	system
T	tread
TB	towel bar
TC	carpet tile
TEL	telephone
T&G	tongue and groove
TGL	tempered glass
THK	thick (ness)
THR	threshold
TKBD	tackboard
TKS	tackstrip
TOF	top of footing
TOL	tolerance
TOM	top of masonry
TOW	top of wall
TRTD	treated
TPTN	toilet partition
TPD	toilet paper dispenser
TSL	top of slab
TST	top of steel
TR	transom
TRANS	transverse
TV	television
TYP	typical
TZ	terrazzo
UC	undercut
UNF	unfinished
UNO	unless noted otherwise
UR	urinal
VAT	vinyl asbestos tile
VB	vapor barrier
VB	vinyl base
VCT	vinyl composition tile
VERT	vertical
VG	vertical grain
VIN	vinyl
VNR	veneer
VRM	vermiculite
VT	vinyl tile
VTR	vent thru roof
W	washing machine
W/	with
WB	wood base
WC	water closet
WCV	wallcovering
WD	wood
WDW	window
WG	wired glass
WH	wall hung
WHB	wheel bumper
WIN	window
WM	wire mesh
w/o	without
WP	waterproofing
WPT	working point
WS	waterstop
WSCT	wainscot
WTH	wide, width
WWF	welded wire fabric

CODE ANALYSIS

APPLICABLE CODES:

IBC / IEBC 2021
IECC 2021
NFPA 101 Life Safety Code 2021
2010 ADA Standards for Accessible Design

BUILDING INFORMATION:

Use Group: S-2
Fire Area: 11,813 SF
Group S-2 Occupant Load: 11,813/500 = 24

CONSTRUCTION TYPE: Type 5-B, Sprinklered

Allowable Area: 54,000 SF
Allowable Building Height: 3 Stories (60')
Actual Building Height: 1 Story

FIRE RESISTIVE RATINGS FOR BUILDING ELEMENTS:

Structural Frame:	0hr
Bearing Walls:	0hr
Non Bearing Walls	0hr
Floor/Roof Construction:	0hr
Corridors:	0hr

INTERIOR FINISHES:

Exit Passageways: C
Corridors, Rooms, Enclosed Spaces, Exit Access: C

FIRE PROTECTION SYSTEMS:

Fire Extinguishers: Required
Fire Alarm: Required
Sprinkler System: Required

EGRESS REQUIREMENTS:

Exit Access Travel Distance:
B = 400' Max

Panic Hardware: Not Required
Exit Signs: Required
Emergency Lights: Required
Dead End: 50' Max
Exits: 2 Required

I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the State of Maryland License Number 15115 Expiration Date 09-08-2026

DAVIS BOWEN & FRIEDEL, INC.
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EASTON, MARYLAND 410.770.4744
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SALISBURY, MARYLAND 410.543.9091

VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: 8/8/2025
Scale: NOTED
Dwn.By: WLN
Proj.No.: 0085B049.A01

TITLE SHEET

Dwg.No.: G-001

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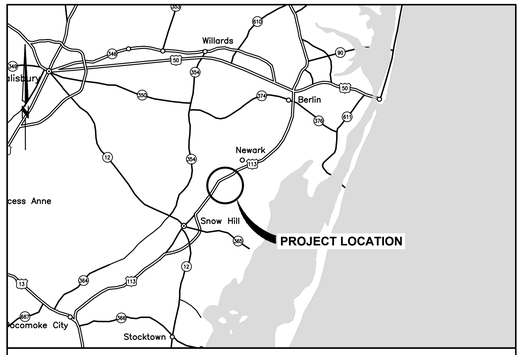
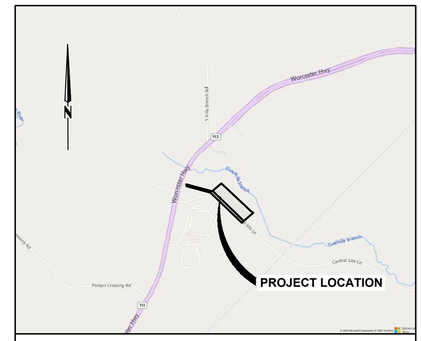
VEHICLE STORAGE FACILITY

CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

DBF PROJECT NO. 0085B049
SEPTEMBER 2024



VICINITY MAP SCALE: 1"=6 MILES



LOCATION MAP SCALE: 1"=2,000'

GENERAL NOTES

1. BEFORE ANY EXCAVATION IS PERFORMED, THE CONTRACTOR SHALL CONTACT "MISS UTILITY" OF DELMARVA AT 1-800-441-8355, AT LEAST THREE (3) WORKING DAYS PRIOR TO EXCAVATION TO HAVE EXISTING UNDERGROUND UTILITIES LOCATED.
2. ALL DETERIORATED CURB, GUTTER AND SIDEWALKS, AS DETERMINED BY THE COUNTY, ALONG THE FRONTAGE(S) OF THE PROPERTY MUST BE REPAIRED/REPLACED AT THE TIME OF CONSTRUCTION USING A CONCRETE CONTRACTOR WHO IS CURRENTLY APPROVED BY THE TOWN. HANDICAP RAMPS WITH A MAXIMUM 12:1 SLOPE ARE REQUIRED AT ALL PUBLIC STREET AND DRIVEWAY INTERSECTIONS. DETECTABLE WARNING DEVICES (TRUNCATED DOMES) MUST BE PROVIDED AT ALL HANDICAP RAMPS.
3. ALL STABILIZATION, PAVING AND ROAD PATCHING IN THE PUBLIC ROADWAY, WHICH IS NECESSITATED BY THE CONSTRUCTION OF THIS PROJECT, SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, USING A PAVING CONTRACTOR WHO IS CURRENTLY APPROVED BY THE COUNTY.
4. CONTRACTOR SHALL PROVIDE STAKEOUT NECESSARY FOR THE INSTALLATION OF THE UTILITIES, PAVING, STORM DRAINAGE, AND ALL OTHER SITE WORK INCLUDED IN THESE PLANS.
5. CONSTRUCTION OF ROADS, LOT AND SITE GRADING SHALL CONFORM TO EROSION AND SEDIMENT CONTROL REQUIREMENTS DEFINED ON THE SEDIMENT CONTROL PLAN DRAWINGS.
6. ALL DISTURBED AREAS WITHIN THE PUBLIC RIGHT-OF-WAY BUT NOT IN PAVEMENT SHALL BE TOPSOILED (4" MINIMUM), FERTILIZED AND SEEDED IN ACCORDANCE WITH SPECIFICATIONS AND THE EROSION AND SEDIMENT CONTROL PLAN.
7. EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE BASED UPON THE BEST AVAILABLE INFORMATION AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. NO GUARANTEE IS MADE OR IMPLIED REGARDING THE ACCURACY OR COMPLETENESS THEREOF. CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF DEPTH, SIZE AND MATERIAL OF ALL UNDERGROUND UTILITIES TO HIS OWN SATISFACTION BEFORE BEGINNING ANY EXCAVATION OR PIPE LAYING. THE OWNER AND ENGINEER DISCLAIM ANY RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF SAID INFORMATION. IF THE CONTRACTOR RELIES ON SAID INFORMATION, HE DOES SO AT HIS OWN RISK. THE GIVING OF THE INFORMATION ON THE PLANS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO SUPPORT AND PROTECT ALL SHOWN OR NOT SHOWN EXISTING UTILITIES AND APPURTENANCES. SHOULD ANY EXISTING UTILITIES BE DAMAGED BY THE CONTRACTOR, THEN THE CONTRACTOR SHALL REPAIR THE DAMAGE CAUSED TO THE OWNER'S SATISFACTION, AT THE CONTRACTORS EXPENSE.
8. PIPELINE DETECTION TAPE SHALL BE INSTALLED CONTINUOUSLY ALONG THE SEWER PIPELINES AT 6" DEPTH BELOW GRADE. THE TAPE SHALL HAVE A MINIMUM WIDTH OF 2" AND BE CAPABLE OF BEING DETECTED BY INDUCTIVE METHODS. IT SHALL BE IMPRINTED WITH THE WORDS "CAUTION, SEWER LINE BELOW," NO. 14 SOLID COPPER WIRE SHALL BE INSTALLED ALONG THE WATER PIPELINE.
9. CONNECT TO EXISTING WATER MAIN WHERE SHOWN ON PLAN. TEST PIT TO VERIFY SIZE, MATERIALS AND LOCATION OF EXISTING LINE.
10. CONTRACTOR TO MAINTAIN 3.5 FEET OF COVER OVER ALL NEW WATER LINES.
11. USE ONLY SUITABLE AND APPROVED GRANULAR MATERIAL FOR BACKFILLING TRENCHES.
12. ON-SITE TOPOGRAPHIC SURVEY BY DAVIS, BOWEN & FRIEDEL, INC. TAKEN IN AUGUST 2022. HORIZONTAL DATUM IS MARYLAND STATE GRID, NAD 83. VERTICAL DATUM IS BASED ON IRON CAP BENCHMARK` FOUND, ELEV. 25.79'.
13. THERE ARE NO WETLANDS PRESENT ON THIS SITE.
14. THE LOCATION OF THE 100 YEAR FLOOD PLAIN AS SHOWN IS BASED ON INFORMATION OBTAINED FROM THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD BOUNDARY AND FLOODWAY MAP PANEL NUMBER 24047C0255H EFFECTIVE DATE JULY 16, 2015.
15. THIS SITE IS NOT WITHIN THE "CHESAPEAKE BAY CRITICAL AREA" AS DEFINED BY THE WORCESTER COUNTY CHESAPEAKE BAY CRITICAL PROGRAM, PUBLISHED SEPTEMBER 14, 1998.
16. THIS SITE IS NOT WITHIN THE AREA OF THE PALEOCHANNEL.
17. THIS PROJECT WILL UTILIZE A PRIVATE TRASH COLLECTION SERVICE (BFI OR ALLIED).
18. DURING THE PROCESS OF THE JOB, THE CONTRACTOR SHALL KEEP A CAREFUL RECORD AT THE JOB SITE OF ALL CHANGES AND CORRECTIONS TO THE INFORMATION SHOWN ON THE CONTRACT DRAWING(S) AND THE STORMWATER MANAGEMENT PLAN DRAWING(S). PRIOR TO BACKFILL, THE CONTRACTOR SHALL ENTER SUCH CHANGES AND CORRECTIONS ON ONE SET OF RED LINE AS-BUILT DRAWINGS. THE RED LINE AS-BUILT DRAWINGS SHALL INDICATE, IN ADDITION TO ALL CHANGES AND CORRECTIONS, ALL SUBSURFACE STRUCTURES/UTILITIES INSTALLED OR UNCOVERED, REFERENCED TO PERMANENTLY FIXED SURFACE STRUCTURES. PRIOR TO TESTING OF THE UTILITY/UTILITIES AND ACCEPTANCE OF THE SWM FACILITIES INVOLVED UNDER THE CONTRACT, THE CONTRACTOR SHALL SUBMIT, CONCURRENTLY, TO THE OWNER ONE SET OF RED LINE AS-BUILT DRAWINGS SHOWING THE AFOREMENTIONED DATA. SHOULD THE CONTRACTOR FAIL TO MAINTAIN RED LINE AS-BUILT DRAWING(S), THE OWNER MAY BE REQUIRED TO HIRE A PRIVATE LOCATOR AND MAY BE REQUIRED TO TEST PIT THE MAINS AT THE DISCRETION OF THE TOWN ENGINEER. PARTIAL ACCEPTANCE OF THE PUBLIC UTILITIES AND ACCEPTANCE OF THE STORMWATER MANAGEMENT FACILITY MAY BE DELAYED PENDING RECEIPT OF THIS INFORMATION.
19. DISCREPANCIES
    A. THE CONTRACTOR SHALL IMMEDIATELY STOP WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES DISCOVERED BETWEEN THE DRAWINGS AND EXISTING CONDITIONS.
    B. ERRORS OR OMISSIONS IN DRAWINGS OR LAYOUT SHALL BE TREATED AS A DISCREPANCY (ABOVE).
    C. THE ENGINEER OR AUTHORIZED REPRESENTATIVES WILL REVIEW THE CONTRACTOR'S FINDING TO CONFIRM THE DISCREPANCY.
    D. THE ENGINEER WILL ISSUE NEW INSTRUCTIONS AS SOON AS POSSIBLE TO RELIEVE THE DISCREPANCY.
    E. THE CONTRACTOR SHALL RESOLVE ANY QUESTIONS BEFORE START OF WORK OR CONTINUATION AFTER THE DISCREPANCY OR QUESTIONS ARISES.''
20. THIS SITE IS SUBJECT TO THE WORCESTER COUNTY FOREST CONSERVATION LAW. THIS SITE IS SUBJECT TO FOREST CONSERVATION PLAN NO. XX-XXX. THIS SITE HAS MET COMPLIANCE WITH THE WORCESTER COUNTY FOREST CONSERVATION LAW, BY OBTAINING A CREDIT FROM AN OFF-SITE FOREST CONSERVATION MITIGATION AREA. A PLAT DEPICTING THE OFF-SITE FOREST CONSERVATION MITIGATION EASEMENT AREA AND A PERPETUAL PROTECTIVE AGREEMENT WERE PREVIOUSLY RECORDED IN THE LAND RECORDS OF WORCESTER COUNTY, MARYLAND. A CERTIFICATE OF UTILIZATION HAS BEEN EXECUTED AND RECORDED IN THE LAND RECORDS BETWEEN THE GRANTOR OF THE MITIGATION AREA AND USER WHO IS SEEKING A CREDIT FROM THE MITIGATION AREA IN ORDER TO OBTAIN COMPLIANCE.

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE OR RIGHT-OF-WAY LINE	
	SHORE LINE	
	PUBLIC UTILITY EASEMENT	
X	FENCE	X
24	CONTOUR	24
x24.24 x24.74 TC 24.24	SPOT ELEVATIONS: SURFACE, TOP OF CURB / BOTTOM OF CURB	24.24 24.74 T.C. 24.24 B.C.
	SWALE	
	EDGE OF WOODS, LIMITS OF CLEARING LINE	
E	UNDERGROUND ELECTRIC LINE	
OH/E	OVERHEAD ELECTRIC LINE	
T	UNDERGROUND TELEPHONE LINE	
G	UNDERGROUND GAS LINE	
	SEWER MAIN, MANHOLE, AND CLEANOUT	C.O.
	WATER MAIN, HYDRANT, VALVE, AND METER	W.M.
	STORMDRAIN, MANHOLE, AND INLET	
	CURB, CURB AND GUTTER	
	CONCRETE SIDEWALK, PAD, OR PAVING	
	BITUMINOUS PAVING	
	BUILDING	
	ITEMS TO BE DEMOLISHED	
	DECIDUOUS TREE, EVERGREEN TREE, AND SHRUBS	
	ROAD SIGN, MAIL BOX	
	LIGHT POLE	
	UTILITY POLE WITH GUY WIRES	

ABBREVIATIONS

PR	PROPOSED
EX.	EXISTING
D.I.	DUCTILE IRON

SITE DATA

OWNER:	COUNTY COMMISSIONERS OF WORCESTER COUNTY 1 WEST MARKET STREET, ROOM 1103 SNOW HILL, MD 21863-1195 PHONE: 410-632-1194 FAX: 410-632-3131
ENGINEER:	DAVIS, BOWEN, & FRIEDEL, INC. 601 E. MAIN ST., SUITE 100 SALISBURY, MARYLAND 21804 PHONE: 410-543-9091 FAX: 410-543-4172
PROPERTY ADDRESS:	6743 CENTRAL SITE LANE NEWARK, MD 21841
TAX MAP, GRID, PARCEL NO.:	0048, 0022, P. 0050
TAX ACCOUNT ID NO.:	003012
TAX DISTRICT:	4
DEED REF.:	04442/00192
ZONING:	A1- AGRICULTURE
BUILDING SETBACKS:	35' FRONT SETBACK 30' SIDE SETBACK 30' REAR SETBACK
EXISTING BUILDING AREA:	4,908 SF
PROPOSED BUILDING AREA:	13,525 SF
GROSS FLOOR AREA:	12,275 SF
NUMBER OF STORIES:	1 (HEIGHT 29')
TYPE OF CONSTRUCTION:	METAL BUILDING
SPRINKLERED:	YES
TYPE OF PLAN:	MAJOR SITE PLAN
EXISTING USE:	PUBLIC UTILITY PROPERTY
PROPOSED USE:	PUBLIC UTILITY PROPERTY
PARKING: REQUIRED PROVIDED	 N/A 3 EXISTING MARKED + UNMARKED LOT
TOTAL PARCEL AREA:	12.1 ACRES
LIMIT OF DISTURBANCE: SF, 2.58 AC	112,587 SQUARE FEET
EX. IMPERVIOUS SURFACE:	1.257 ACRES
EX. IMPERVIOUS %:	10%
PRO. IMPERVIOUS SURFACE:	1.773 ACRES
PRO. IMPERVIOUS %:	15%
FLOOD ZONE:	ZONE X - OUTSIDE FLOODPLAIN (FIRM MAP 24047C0255H, DATED JULY 16, 2015)
ACTUAL BUILDING COVERAGE:	3.7% (0.449 ACRES)
EXISTING WATER PROVIDER:	WELL
EXISTING SEWER PROVIDER:	SEPTIC TANK WITH DRAINAGE FIELD
CUT VOLUME:	1400 C.Y.
FILL VOLUME:	596 C.Y.
EXPORT VOLUME:	804 C.Y.

ENGINEER'S STATEMENT

I, JASON P. LOAR, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31100, EXPIRATION DATE: 01/21/25.

SIGNATURE: _____ _____
JASON P. LOAR, P.E. DATE

INDEX OF SHEETS

PRELIMINARY GENERAL PLAN	
C-001	TITLE SHEET
C-051	EXISTING CONDITIONS & DEMO PLAN
C-101	SITE & UTILITY PLAN
C-102	SITE CONSTRUCTION DETAILS
C-301	GRADING PLAN
C-302	STORMDRAIN PROFILES
C-303 - C-304	STORMWATER MANAGEMENT PLAN & PROFILES
C-401	EROSION & SEDIMENT CONTROL PLAN
C-402	EROSION & SEDIMENT CONTROL DETAILS
C-403	EROSION & SEDIMENT CONTROL NOTES
L-101	LANDSCAPE PLAN

RESPONSIBLE PERSONNEL STATEMENT

I, DAVID M. BRADFORD, JR , HEREBY CERTIFY THAT:

- I AM THE DEVELOPER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT MY DIRECTION, THAT I ACKNOWLEDGE THE SAME TO BE MY ACT, AND DESIRE THE PLAN TO BE DEVELOPED AS SHOWN IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.
- ALL PHASES OF STORMWATER MANAGEMENT CALCULATIONS, STRUCTURAL DESIGN, AND CONSTRUCTION WILL ADHERE TO CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR STORMWATER MANAGEMENT AND STORMWATER MANAGEMENT PLAN FOR THIS SITE.
- ALL INFORMATION SET FORTH IN THIS PLAN ACCURATELY CONVEYS THIS SITE'S CONDITIONS TO THE BEST OF MY KNOWLEDGE.
- ALL STRUCTURAL DEVICES FOR STORMWATER MANAGEMENT WILL BE PROTECTED BY PROPER SOIL EROSION AND SEDIMENT CONTROL DEVICES UNTIL ALL CONTRIBUTING AREAS HAVE PASSED FINAL STABILIZATION.
- UPON COMPLETION OF THE PROJECT, AN AS-CONSTRUCTED SURVEY, NOTICE OF CONSTRUCTION COMPLETION (NOCC), AND LETTER CERTIFICATION MUST BE SUBMITTED TO THE WORCESTER COUNTY DEPARTMENT OF ENVIRONMENTAL PROGRAMS. ONCE REVIEW IS COMPLETE AND APPROVED, A CERTIFICATE OF OCCUPANCY CAN BE ISSUED.

_____ _____
DAVID M. BRADFORD, JR. DATE
OWNER'S REPRESENTATIVE

OWNER:
COUNTY COMMISSIONERS OF WORCESTER COUNTY
1 WEST MARKET STREET, ROOM 1103
SNOW HILL, MD 21863-1195
PHONE: 410-632-1194
FAX: 410-632-3131

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the laws of the State of Maryland License No.:31100 Expire Date:01-21-27.

DAVIS BOWEN & FRIEDEL, INC.
ARCHITECTS - ENGINEERS - SURVEYORS
EASTON, MARYLAND 410.770.4744
SALISBURY, MARYLAND 410.543.9091
MILFORD, DELAWARE 302.424.1441

VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: SEPTEMBER 2024
Scale: NONE
Dwn.By: ADM
Proj.No.: 0085B049

TITLE SHEET

Dwg.No.: C-001

P:\0085\0085B049\CAD\SHEET\0085B049-C-001-TITLE SHEET.dwg Aug 08 , 2025 - 11:47am PERY

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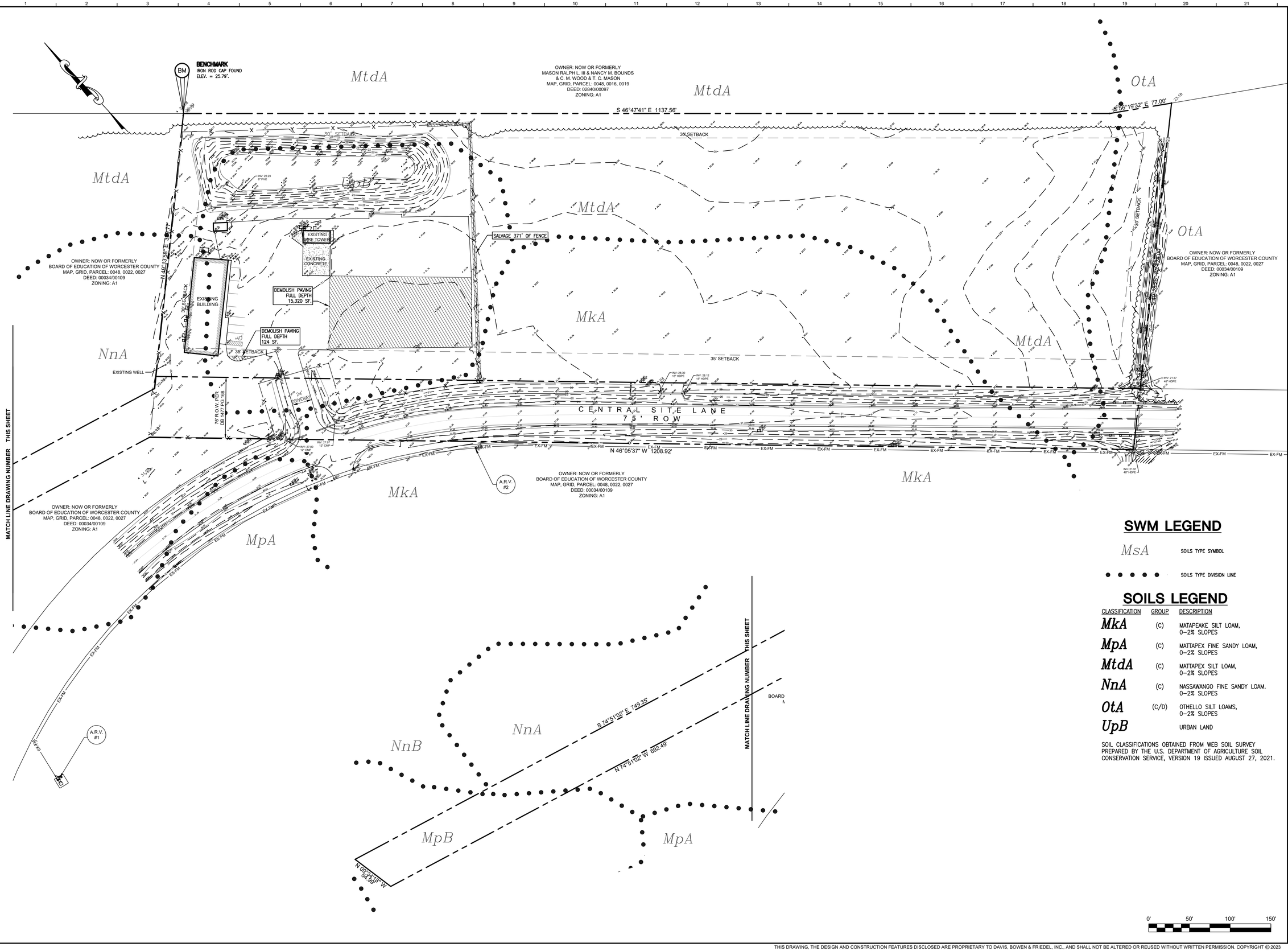

SWM LEGEND

MsA — SOILS TYPE SYMBOL

SOILS TYPE DIVISION LINE

SOILS LEGEND

CLASSIFICATION	GROUP	DESCRIPTION
MkA	(C)	MATAPEAKE SILT LOAM, 0–2% SLOPES
MpA	(C)	MATTAPEX FINE SANDY LOAM, 0–2% SLOPES
MtdA	(C)	MATTAPEX SILT LOAM, 0–2% SLOPES
NnA	(C)	NASSAWANGO FINE SANDY LOAM. 0–2% SLOPES
OtA	(C/D)	OTHELLO SILT LOAMS, 0–2% SLOPES
UpB		URBAN LAND

SOIL CLASSIFICATIONS OBTAINED FROM WEB SOIL SURVEY PREPARED BY THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, VERSION 19 ISSUED AUGUST 27, 2021.

0' 50' 100' 150'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the laws of the State of Maryland License No. 31100 Expiration Date: 01-21-27.

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SALISBURY, MARYLAND 410.543.9091
MILFORD, DELAWARE 302.424.1441

VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: SEPTEMBER 2024
Scale: 1" = 50'
Dwn.By: ADM
Proj.No.: 0085B049

EXISTING CONDITIONS & DEMO PLAN

Dwg.No.: **C-051**

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BENCHMARK
IRON ROD CAP FOUND
ELEV. = 25.79'.

BM

OWNER: NOW OR FORMERLY
MASON RALPH L. III & NANCY M. BOUNDS
& C. M. WOOD & T. C. MASON
MAP, GRID, PARCEL: 0048, 0016, 0019
DEED: 02840/00097
ZONING: A1

TIE INTO EXISTING FENCE

S 46°47'41" E 1137.56'

30' SETBACK

EXISTING STORMWATER MANAGEMENT POND

INV: 22.23
6" PVC

SUBMERGED GRAVEL WETLAND POND 2

50'
71.42'
50'
50'
21.92'
PROPOSED FIRE TOWER
1,565 SF
FFE 29.40'

VALLEY GUTTER

PROPOSED PAVING

38'

107.90'

134.97'

FIRE HYDRANT ASSEMBLY

28.17'

36.45'

BEGIN VALLEY GUTTER

EXISTING FIRE TOWER

EXISTING CONCRETE

MILL AND OVERLAY EXISTING PAVING

76.73'

60.29'

112.0'

SUBMERGED GRAVEL WETLAND POND 1

91.89'

787 LF OF NEW OR RELOCATED FENCE

PROPOSED FENCE

172.50'

VALLEY GUTTER

4" ROOF LEADER (TYP)

BOLLARD, TYP.

FIRE HYDRANT ASSEMBLY

4" VALVE

PUMP HOUSE

LIMIT OF DISTURBANCE = 2.58 AC. (112,587 SQ. FT.)

4" SANITARY SEWER CAPPED FOR FUTURE

SECURITY DOUBLE LEAF GATE

88.23'

PROPOSED BUILDING
12,275 SF
FFE 32.83'

71.16'

SPRINKLER TANK

5' x 6' CONC. PAD

EXTERNAL HVAC DUCTWORK

4" ROOF LEADER (TYP)

SITE LIGHTING FIXTURE (TYP.) BY OTHERS

94.87'

PROPOSED TRANSFORMER

3" VALVE

3"x2" REDUCER

90° BEND

90° BEND & 3" VALVE

PROPOSED WELL

W/ 3" VALVE

TIE INTO EXISTING FENCE

INV: 28.30
15" HDPE

INV: 28.12
15" HDPE

35' SETBACK

OWNER: NOW OR FORMERLY
BOARD OF EDUCATION OF WORCESTER COUNTY
MAP, GRID, PARCEL: 0048, 0022, 0027
DEED: 00034/00109
ZONING: A1

N 49°13'58" E 339.77'

EXISTING BUILDING

30' SETBACK

EXISTING SEPTIC TANK AND DRAINAGE FIELD

EXISTING WELL

75' R.O.W. PER DB 1477 PG 188

ACCESS CONTROL PEDESTAL

INV: 27.80
12" CMP

INV: 27.97
12" CMP

CENTRAL SITE LANE
75' ROW

N 46°05'37" W 1208.92'

EX-FM

A.R.V. #2

OWNER: NOW OR FORMERLY
BOARD OF EDUCATION OF WORCESTER COUNTY
MAP, GRID, PARCEL: 0048, 0022, 0027
DEED: 00034/00109
ZONING: A1

PROPOSED PAVEMENT LEGEND

- FULL DEPTH PAVEMENT
- MILL & OVERLAY PAVEMENT
- GRAVEL
- CONCRETE

0' 30' 60' 90'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the laws of the State of Maryland License No. 31100 Expiration Date: 01-21-27.

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MILFORD, DELAWARE 302.424.1441
EASTON, MARYLAND 410.770.4744

VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: SEPTEMBER 2024
Scale: 1" = 30'
Dwn.By: ADM
Proj.No.: 0085B049

SITE & UTILITY PLAN

Dwg.No.: C-101

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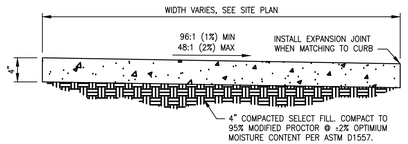
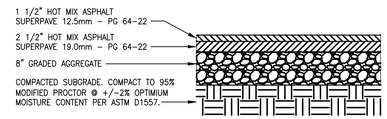
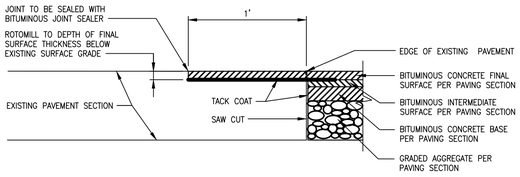


NOTES:
1. ALL CONCRETE USED FOR SIDEWALK SHALL BE PORTLAND CEMENT CONCRETE MIX NO. 3. SEE DETAIL 4202.
2. TOOLED CONTRACTION JOINTS TO BE PLACED EVERY 5'-0" FOR WIDTHS EQUAL TO OR GREATER THAN 5'-0", AND EVERY 4'-0" FOR WIDTHS LESS THAN 5'-0".
3. EXPANSION JOINTS ARE TO BE INSTALLED EVERY 20'-0".
4. WHEN ADJACENT TO FOUNDATION WALL, CONCRETE CURB, CONCRETE PAVEMENT OR OTHER STRUCTURE INSTALL APPROVED EXPANSION JOINT.

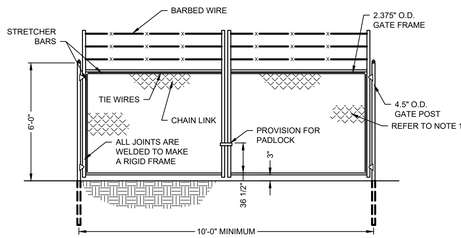
CONCRETE SIDEWALK DETAIL
NOT TO SCALE

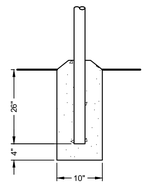


TRUCK AND HIGH TRAFFIC AREAS PARKING LOT PAVING SECTION
NOT TO SCALE



TYPICAL PAVEMENT TIE-IN FOR PRIVATE PROPERTY
NOT TO SCALE

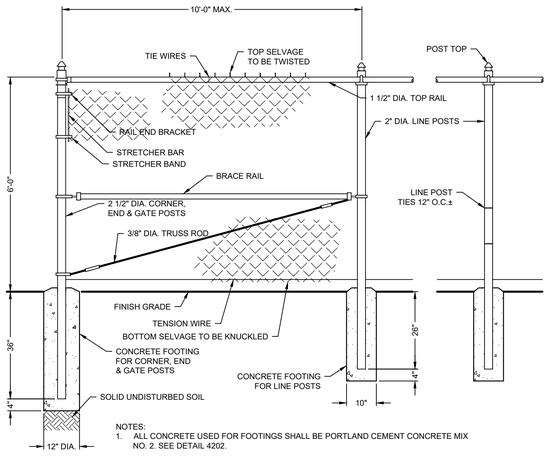




LINE POST

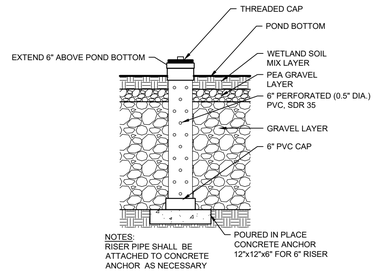
NOTES:
1. OPTIONAL: CHAIN LINK FENCE SHALL BE 6' TALL W/ PRIVACY SLATS. (COLOR TO BE DETERMINED BY OWNER)

SECURITY DOUBLE LEAF GATE DETAIL
NOT TO SCALE



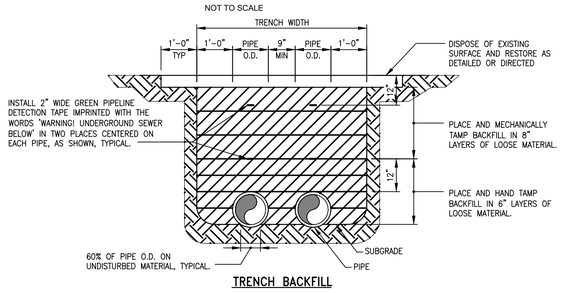
NOTES:
1. ALL CONCRETE USED FOR FOOTINGS SHALL BE PORTLAND CEMENT CONCRETE MIX NO. 2. SEE DETAIL 4202.
2. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. FINISH SHALL BE AS SELECTED BY OWNER.
4. POST TOPS SHALL BE AS SELECTED BY OWNER.
5. REFER TO MANUFACTURER'S SPECIFICATIONS FOR ADDITIONAL INFORMATION.

6' HIGH CHAIN LINK FENCE
NOT TO SCALE

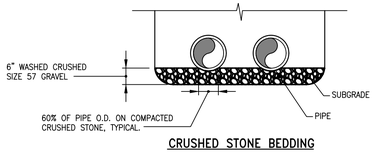


NOTES:
RISER PIPE SHALL BE ATTACHED TO CONCRETE ANCHOR AS NECESSARY

OBSERVATION WELL DETAIL
NOT TO SCALE



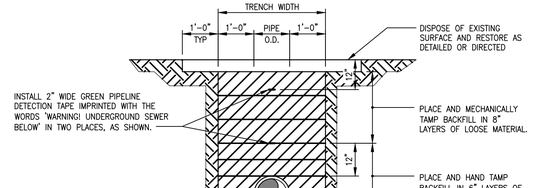
TRENCH BACKFILL
NOT TO SCALE



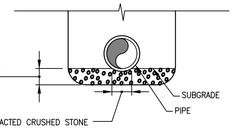
CRUSHED STONE BEDDING
NOT TO SCALE

NOTES:
1. BACKFILL TRENCH WITH SUITABLE MATERIAL, AS APPROVED BY THE ENGINEER, FROM EXCAVATION OR SPECIAL BACKFILL.
2. COMPACT EACH LAYER TO 95% OF MODIFIED PROCTOR AT ±2% OF OPTIMUM MOISTURE CONTENT ASTM D 1557.
3. CONTRACTOR SHALL EXCERCISE CAUTION DURING BACKFILL AND COMPACTION TO PREVENT DISTURBANCE OR DAMAGE TO PIPELINE.
4. IN CASES WHERE UNSUITABLE SUBGRADE OR WET TRENCH CONDITIONS EXIST, CONTRACTOR SHALL REMOVE UNSUITABLE MATERIAL BELOW SUBGRADE AND REPLACE WITH CRUSHED STONE AS DETAILED ABOVE.

MULTIPLE PIPE INSTALLATION TRENCH BACKFILL & PIPE BEDDING
NOT TO SCALE



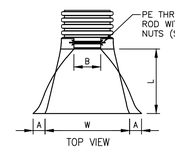
TRENCH BACKFILL
NOT TO SCALE



CRUSHED STONE BEDDING
NOT TO SCALE

NOTES:
1. BACKFILL TRENCH WITH SUITABLE MATERIAL, AS APPROVED BY THE ENGINEER, FROM EXCAVATION OR SPECIAL BACKFILL.
2. COMPACT EACH LAYER TO 95% OF MODIFIED PROCTOR AT ±2% OF OPTIMUM MOISTURE CONTENT ASTM D 1557.
3. CONTRACTOR SHALL EXCERCISE CAUTION DURING BACKFILL AND COMPACTION TO PREVENT DISTURBANCE OR DAMAGE TO PIPELINE.
4. IN CASES WHERE UNSUITABLE SUBGRADE OR WET TRENCH CONDITIONS EXIST, CONTRACTOR SHALL REMOVE UNSUITABLE MATERIAL BELOW SUBGRADE AND REPLACE WITH CRUSHED STONE AS DETAILED ABOVE.

TRENCH BACKFILL & PIPE BEDDING
NOT TO SCALE

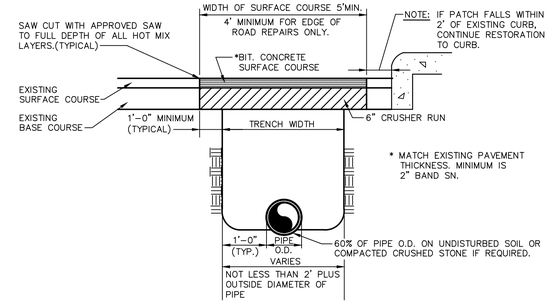


PIPE SIZE	A	B (MAX)	H	L	W
12"	6.50"	10.00"	6.50"	25.00"	29.00"
15"	6.50"	10.00"	6.50"	25.00"	29.00"
18"	7.50"	15.00"	6.50"	32.00"	35.00"
24"	7.50"	18.00"	6.50"	36.00"	45.00"
30"	10.50"	N/A	7.00"	53.00"	68.00"
36"	10.50"	N/A	7.00"	53.00"	68.00"

NOTE: ALL DIMENSIONS ARE NOMINAL

NOTE:
PE THREADED ROD WITH WING NUTS PROVIDED FOR END SECTIONS 12"–24". 30" & 36" END SECTIONS TO BE WELDED TO PIPE PER MANUFACTURER'S RECOMMENDATIONS.

HDPE END SECTION DETAIL
NOT TO SCALE



PAVING RESTORATION DETAIL
NOT TO SCALE

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the laws of the State of Maryland License No. 31100 Expiration Date: 01-21-27.

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SALISBURY, MARYLAND 410.543.9091
MILFORD, DELAWARE 302.424.1441

VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: SEPTEMBER 2024
Scale: AS SHOWN
Dwn.By: ADM
Proj.No.: 0085B049

SITE CONSTRUCTION DETAILS

Dwg.No.: C-102

P:\0085B\0085B049\CAD\SHEET\0085B049-C-204-CONSTRUCTION DETAILS.DWG Aug 08 , 2025 - 11:47am PERY

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BENCHMARK
IRON ROD CAP FOUND
ELEV. = 25.79'.

BM

OWNER: NOW OR FORMERLY
MASON RALPH L. III & NANCY M. BOUNDS
& C. M. WOOD & T. C. MASON
MAP, GRID, PARCEL: 0048, 0016, 0019
DEED: 02840/00097
ZONING: A1

S 46°47'41" E 1137.56'

30' SETBACK

EXISTING STORMWATER MANAGEMENT POND

INV: 22.23
6" PVC

PROPOSED FIRE TOWER
1,565 SF
FFE 29.40'

VALLEY GUTTER

PROPOSED PAVING

BEGIN VALLEY GUTTER

SUBMERGED GRAVEL WETLAND POND 2

SUBMERGED GRAVEL WETLAND POND 1

MILL AND OVERLAY EXISTING PAVING

EXISTING FIRE TOWER

EXISTING CONCRETE

PROPOSED PAVING

VALLEY GUTTER

4" ROOF LEADER (TYP)

PROPOSED BUILDING
12,275 SF
FFE 32.83'

EXTERNAL HVAC DUCTWORK

4" ROOF LEADER (TYP)

PUMP HOUSE

4" SANITARY SEWER CAPPED FOR FUTURE

SPRINKLER TANK

PROPOSED FENCE

LIMIT OF DISTURBANCE = 2.58 AC. (112,587 SQ. FT.)

SECURITY DOUBLE LEAF GATE

PROPOSED TRANSFORMER

INV: 28.30
15" HDPE

INV: 28.12
15" HDPE

OWNER: NOW OR FORMERLY
BOARD OF EDUCATION OF WORCESTER COUNTY
MAP, GRID, PARCEL: 0048, 0022, 0027
DEED: 00034/00109
ZONING: A1

N 49°13'58" E 249.77'

EXISTING BUILDING

EXISTING SEPTIC TANK AND DRAINAGE FIELD

EXISTING WELL

30' SETBACK

35' SETBACK

75' R.O.W. PER DB 1477 PG 169

INV: 27.80
12" CMP

INV: 27.97
12" CMP

OWNER: NOW OR FORMERLY
BOARD OF EDUCATION OF WORCESTER COUNTY
MAP, GRID, PARCEL: 0048, 0022, 0027
DEED: 00034/00109
ZONING: A1

CENTRAL SITE LANE
75' ROW

N 46°05'37" W 1208.92'

0' 30' 60' 90'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the laws of the State of Maryland License No. 31100 Expiration Date: 01-21-27.

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SALISBURY, MARYLAND 410.543.9091
MILFORD, DELAWARE 302.424.1441

VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date:	SEPTEMBER 2024
Scale:	1" = 30'
Dwn.By:	ADM
Proj.No.:	0085B049

GRADING PLAN

Dwg.No.:
C-301

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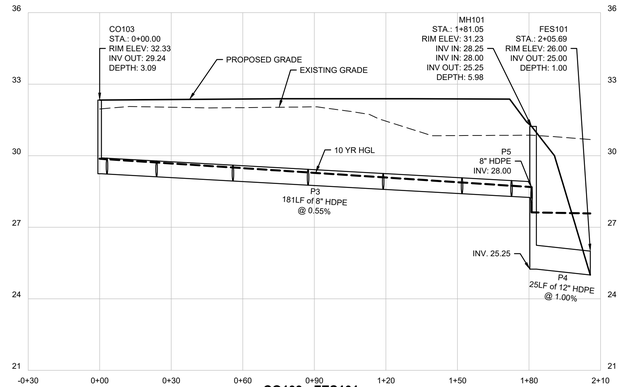
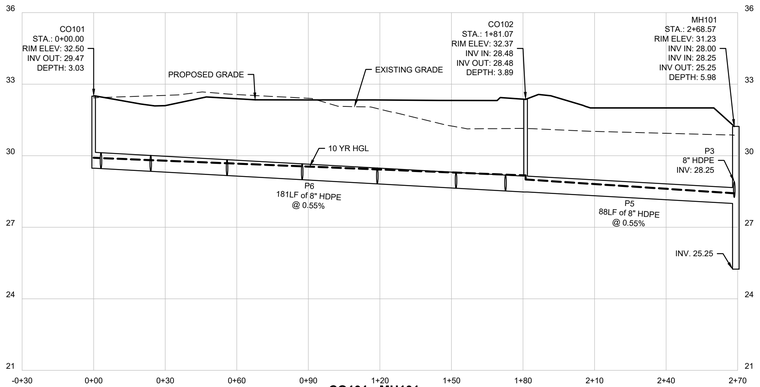


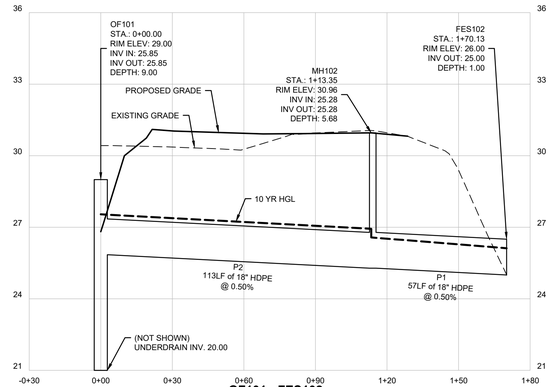
CO103 - FES101
STORM PROFILE

SCALE: 1" = 30" HORIZ.
1" = 3' VERT.



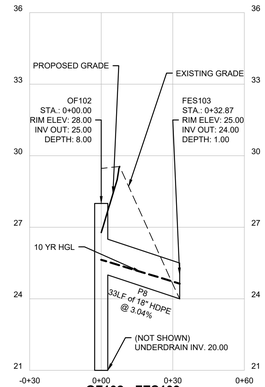
CO101 - MH101
STORM PROFILE

SCALE: 1" = 30" HORIZ.
1" = 3' VERT.



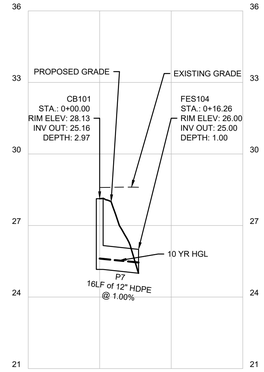
OF101 - FES102
STORM PROFILE

SCALE: 1" = 30" HORIZ.
1" = 3' VERT.



OF102 - FES103
STORM PROFILE

SCALE: 1" = 30" HORIZ.
1" = 3' VERT.



CB101 - FES104
STORM PROFILE

SCALE: 1" = 30" HORIZ.
1" = 3' VERT.

PIPE SCHEDULE

LABEL	FROM	TO	SIZE/TYPE		CLASS	LENGTH (ft.)	Slope %	INV. UP	INV. DN
P1	MH 102	FES 102	18	HDPE	N-12	57	0.50%	25.28	25.00
P2	OF 101	MH 102	18	HDPE	N-12	113	0.50%	25.78	25.22
P3	CO 103	MH 101	8	HDPE	N-12	181	0.55%	29.24	28.25
P4	MH 101	FES 101	12	HDPE	N-12	25	1.00%	25.25	25.00
P5	CO 102	MH 101	8	HDPE	N-12	88	0.55%	28.48	28.00
P6	CO 101	CB 102	8	HDPE	N-12	181	0.55%	29.47	28.48
P7	CB 101	FES 104	12	HDPE	N-12	16	1.00%	25.16	25.00
P8	OF 102	FES 103	18	HDPE	N-12	33	3.04%	25.00	24.00

STRUCTURE SCHEDULE

LABEL	DESCRIPTION	T.G. EL.	INVERT ELEVATION			
			IN	IN	IN	OUT
CB 101	MDOT SHA STANDARD 374.23 - SINGLE WEIR INLET	28.13	----	----	----	25.16
CO 101	4" CLEANOUT	32.50	----	----	----	29.47
CO 102	4" CLEANOUT	32.37	----	----	28.48	28.48
CO 103	4" CLEANOUT	32.33	----	----	----	29.24
FES 101	12" HDPE END SECTION	26.00	----	----	----	25.00
FES 102	18" HDPE END SECTION	26.50	----	----	----	25.00
FES 103	18" HDPE END SECTION	25.50	----	----	----	24.00
FES 104	12" HDPE END SECTION	26.00	----	----	----	25.00
MH 101	MDOT SHA STANDARD 384.03-48" DIAM	31.23	----	28.25	28.00	25.25
MH 102	MDOT SHA STANDARD 384.03-48" DIAM	30.96	----	----	25.28	25.28
OF 101	MDOT SHA STANDARD 374.23	28.13	----	----	----	25.16
OF 102	MDOT SHA STANDARD 374.23	28.00	----	----	----	25.00

0' 30' 60' 90'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the laws of the State of Maryland. License No. 31100 Expiration Date: 01-21-27.

DAVIS BOWEN & FRIEDEL, INC.
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MILFORD, DELAWARE 302.424.1441

VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: SEPTEMBER 2024
Scale: 1" = 30'
1" = 3'
Dwn.By: ADM
Proj.No.: 0085B049

STORMDRAIN PROFILES

Dwg.No.: **C-302**

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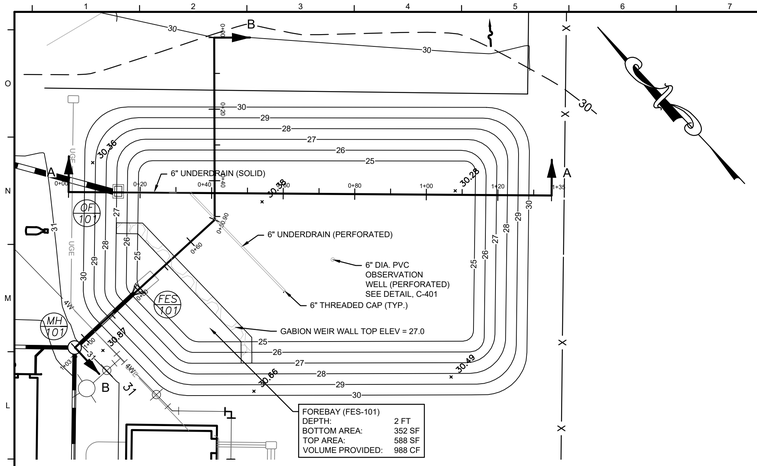
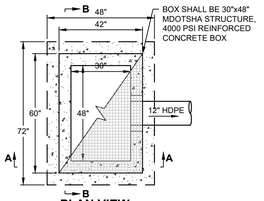
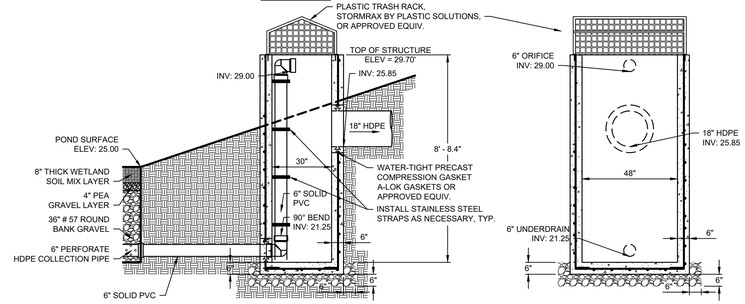


SUBMERGED GRAVEL WETLAND POND 1

SCALE: 1" = 20'



PLAN VIEW



SECTION A - A

SECTION B - B

OUTFALL STRUCTURE OF-101 DETAIL

SCALE: 1" = 3'

DESIGN / AS-BUILT DATA : SUBMERGED GRAVEL WETLAND			
FEATURE*	DESIGN	AS-BUILT	DIFFERENCE
CELL 1 BOTTOM WIDTH (FT)			
CELL 1 BOTTOM LENGTH (FT)			
CELL 1 LEFT SIDE SLOPE (H:V) - MAY NOT BE STEEPER THAN 3:1			
CELL 1 RIGHT SIDE SLOPE (H:V) - MAY NOT BE STEEPER THAN 3:1			
CELL 2 BOTTOM WIDTH (FT)			
CELL 2 BOTTOM LENGTH (FT)			
CELL 2 LEFT SIDE SLOPE (H:V) - MAY NOT BE STEEPER THAN 3:1			
CELL 2 RIGHT SIDE SLOPE (H:V) - MAY NOT BE STEEPER THAN 3:1			
SUB-DRAIN PIPE DIAMETER (IN.) - MAY NOT DIFFER FROM VALUE SPECIFIED	12		
SUB-DRAIN INVERT OUT ELEVATION (FT)			
INVERTED J-HOOK OUTLET ELEVATION (FT) - MAY NOT BE MORE THAN 4 IN. BELOW CELL BOTTOM ELEVATION AND NOT HIGHER THAN THE CELL BOTTOM ELEVATION			
THICKNESS OF NO. 57 AGGREGATE (IN.)	48		
THICKNESS OF NO. 7 AGGREGATE (IN.) - MAY NOT BE LESS THAN 4 IN.	4		
THICKNESS OF COARSE SAND (IN.) - MAY NOT BE LESS THAN 4 IN.	4		
THICKNESS OF BSM (IN.) - MAY NOT BE LESS THAN 8 IN.	8		

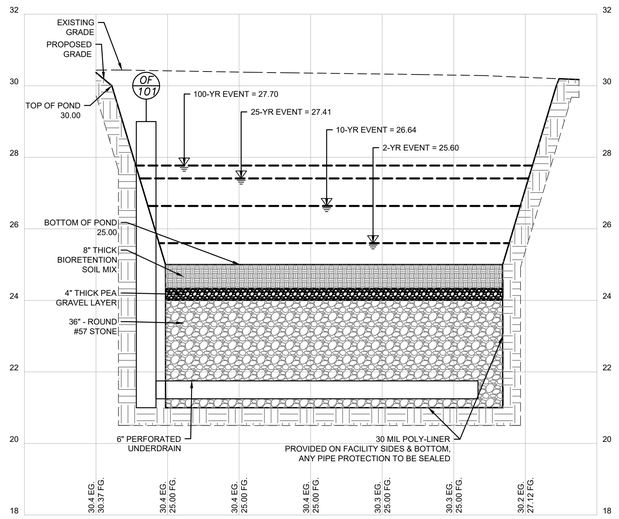
SUBMERGED GRAVEL WETLAND GENERAL NOTES:

1. ALL ON-SITE DISTURBED AREAS SHOULD BE STABILIZED PRIOR TO ALLOWING RUNOFF TO ENTER THE NEWLY CONSTRUCTED WETLAND.
2. WETLAND CONSTRUCTION SHALL BE PERFORMED WITH LIGHTWEIGHT, WIDE-TRACKED EQUIPMENT TO MINIMIZE DISTURBANCE AND COMPACTION. EXCAVATED MATERIALS SHALL BE PLACED IN A CONTAINED AREA. ANY PUMPING OPERATIONS SHALL DISCHARGE FILTERED WATER TO A STABLE OUTLET.
3. THE SURFACE OF THE SOIL MUST NOT BE COMPACTED TO THE EXTENT THAT IT LIMITS PLANT ESTABLISHMENT AND MICROBIAL ACTIVITY. WATER QUALITY TREATMENT IN THE WETLAND SURFACE IS PRIMARILY PROVIDED THROUGH UPTAKE, NITRIFICATION AND SETTLING.
4. BIORETENTION SOIL SHALL BE USED AS PLANTING SOIL LAYER. A MINIMUM SOIL DEPTH OF EIGHT INCHES MUST BE PROVIDED FOR THE VEGETATION. THE SOIL SHALL BE A UNIFORM MIX CONTAINING, 35-60% SAND, 30-55% SILT, AND 10-25% CLAY. SOIL MIXTURE IS TO BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05. THA PLANTING OISL SHALL BE TESTED AND SHALL MEET THE FOLLIWING CRITERIA:
   - PH RANGE: 5.2 - 7.0
   - ORGANIC MATTER: 1.5 - 4% (BY WEIGHT)
   - MAGNESIUM: 35 LB./AC
   - PHOSPHORUS (PHOSPHATE - P 2 O 5): 75 LB./AC
   - POTASSIUM (POTASH - K 2 O): 85 LB./AC
   - SOLUBLE SALTS NOT TO EXCEED: 500 PPM
5. THE SOILS LAYER MUST BE CONTINUOUSLY INUNDATED AT A DEPTH OF FOUR INCHES FROM THE BOTTOM OF THE WETLAND SOIL IN ORDER TO SUPPORT WETLAND VEGETATION AND TO MAINTAIN ANAEROBIC CONDITIONS IN THE GRAVEL CELLS BELOW.
6. GRAVEL MEDIA SHALL BE COMPOSED OF AN 18 TO 48 INCH LAYER OF CLEAN WASHED, UNIFORMLY GRADED MATERIAL WITH A POROSITY OF 40%. ROUNDED BANK RUN GRAVEL IS RECOMMENDED (E.G., ASTM D448 4,5, OR 6 STONE OR EQUAL).
7. REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:
   - DURING EXCAVATION TO SUBGRADE.
   - DURING PLACEMENT OF BACKFILL OF PERFORATED INLET PIPE AND OBSERVATION WELLS.
   - DURING PLACEMENT OF GEOTEXTILES AND ALL FILTER MEDIA.
   - DURING CONSTRUCTION OF ANY APPURTENANT CONVEYANCE SYSTEMS SUCH AS DIVERSION STRUCTURES, INLETS, OUTLETS, AND FLOW DISTRIBUTION STRUCTURES.
   - UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION, AND BEFORE ALLOWING RUNOFF TO ENTER THE WETLAND.

SUBMERGED GRAVEL WETLAND MAINTENANCE NOTES:

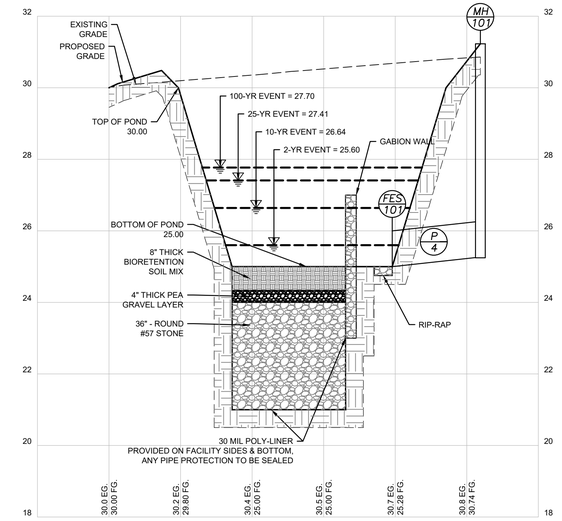
1. DURING THE FIRST YEAR OF OPERATION, INSPECTIONS SHOULD BE CONDUCTED AFTER EVERY MAJOR STORM AND POORLY ESTABILSHED AREAS REVEGETATED.
2. SEDIMENT ACCUMULATION IN THE PRETREATMENT AREAS SHOULD BE REMOVED AS NECESSARY.
3. SIGNS OF UNEVEN FLOW DISTRIBUTION WITHIN THE WETLAND MAY MEAN THAT THE GRAVEL OR UNDERDRAIN IS CLOGGED. THE GRAVEL AND/OR UNDERDRAIN MAY NEED TO BE REMOVED, CLEANED, OR REPLACED.
4. A DENSE STRAND OF WETLAND VEGETATION SHOULD BE MAINTAINED THROUGH THE LIFE OF THE FACILITY WITH PLANTINGS REPLACED AS NEEDED.
5. INLETS / OUTLETS TO EACH SUBMERGED GRAVEL WETLAND CELL SHOULD BE FREE FROM DEBRIS TO PREVENT CLOGGING.
6. EROSION AT INFLOW POINTS SHALL BE REPAIRED AS NECESSARY.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING NECESSARY CLEANING OF ACCUMULATED SEDIEMT, DEBRIS, ETC. FROM THE EXISTING STORMWATER MANAGEMENT INFRASTRUCTURE THROUGHOUT THE CONSTRUCTION DURATION.
8. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL STORMWATER MANAGEMENT PRACTICES, ESD DEVICES, AND BMP STRUCTURES.

MAINTENANCE TASKS & FREQUENCY FOR SUBMERGED GRAVEL WETLANDS	
FREQUENCY	MAINTENANCE ITEMS
AS NEEDED / AFTER MAJOR STORMS	• REMOVE ANY SEDIMENT ACCUMULATION • REMOVE ANY TRASH / DEBRIS ACCUMULATION
SEMI - ANNUALLY	• DREDGE SEDIMENT FROM WETLAND AREA TO PREVENT THE GRAVEL BASE FROM BECOMING CLOGGED, THIS MAY REQUIRE REMOVING AND REPLACING GRAVEL. • REMOVE ANY INVASIVE SPECIES. • REPLANT WETLAND VEGETATION IN POORLY ESTABLISHED AREAS
ANNUALLY	• CLEAR DEBRIS AND CLOGGING FROM INLETS AND OUTLETS TO EACH SUBMERGED WETLAND CELL. • REPAIR ANY EROSION AT INFLOW / OUTFLOW POINTS.



SUBMERGED GRAVEL WETLAND POND 1 PROFILE A-A

SCALE: 1" = 20' HORIZ.
1" = 2' VERT.



SUBMERGED GRAVEL WETLAND POND 1 PROFILE B-B

SCALE: 1" = 20' HORIZ.
1" = 2' VERT.

0' 20' 40' 60'

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the laws of the State of Maryland License No. 31100 Expiration Date: 01-21-27.

DAVIS BOWEN & FRIEDEL, INC.
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MILFORD, DELAWARE 302.424.1441
SALISBURY, MARYLAND 410.543.9091

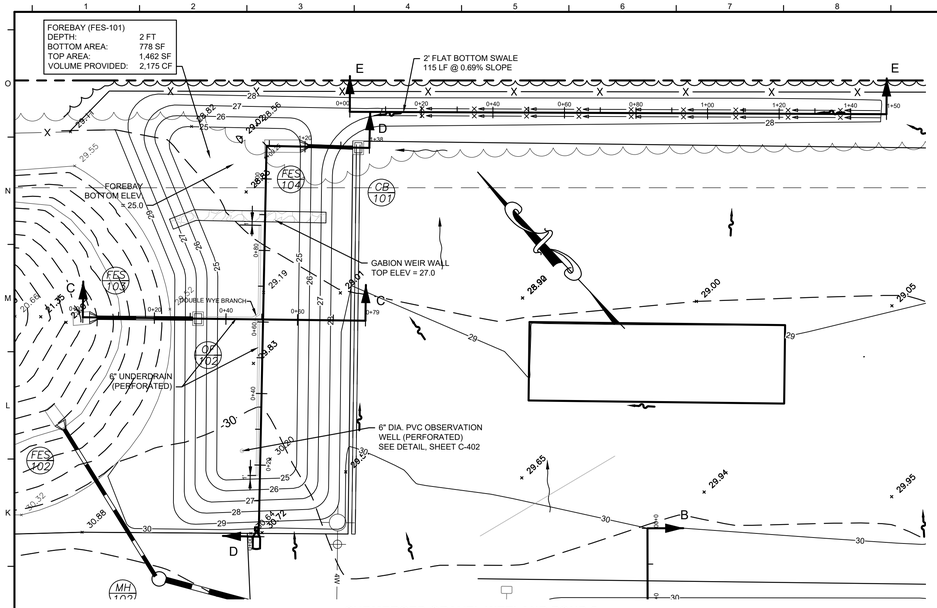
VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date:	SEPTEMBER 2024
Scale:	1" = 20' 1" = 2'
Dwn.By:	ADM
Proj.No.:	0085B049

STORMWATER MANAGEMENT PLAN & PROFILES

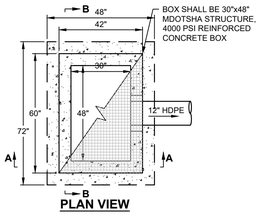
Dwg.No.:

C-303

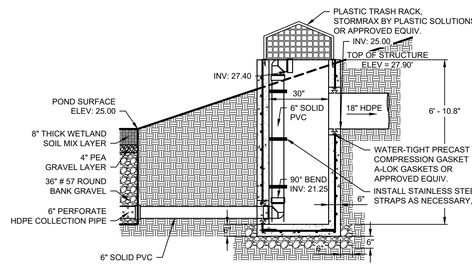


SUBMERGED GRAVEL WETLAND POND 2

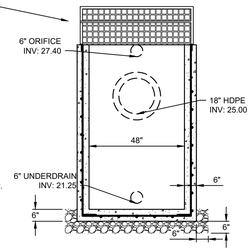
SCALE: 1" = 20'



PLAN VIEW



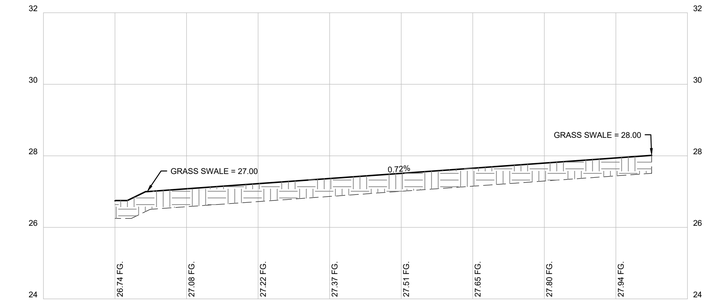
SECTION A - A



SECTION B - B

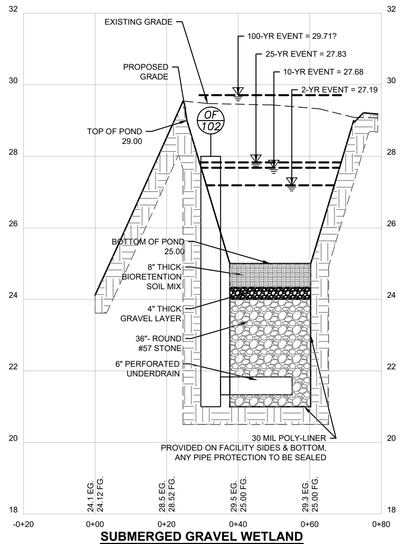
OUTFALL STRUCTURE OF-102 DETAIL

SCALE: 1" = 3'



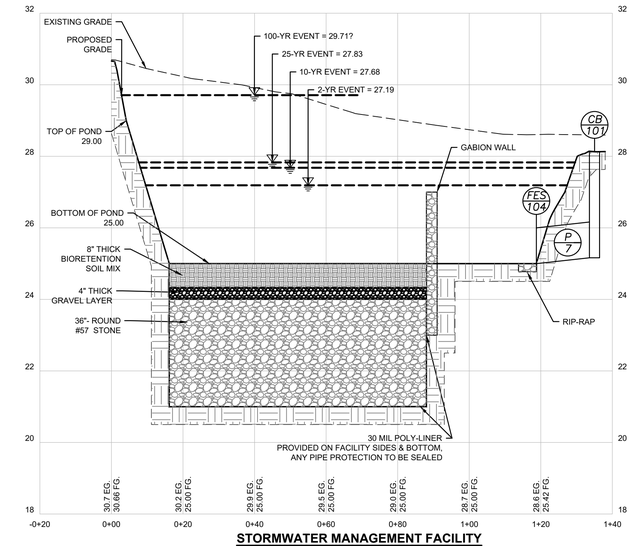
STORMWATER MANAGEMENT FACILITY SWALE PROFILE E-E

SCALE: 1" = 20' HORIZ.
1" = 2' VERT.



SUBMERGED GRAVEL WETLAND POND 1 PROFILE C-C

SCALE: 1" = 20" HORIZ.
1" = 2' VERT.



STORMWATER MANAGEMENT FACILITY POND PROFILE D-D

SCALE: 1" = 20' HORIZ.
1" = 2' VERT.

0' 20' 40' 60'

DESIGN / AS-BUILT DATA : SUBMERGED GRAVEL WETLAND			
FEATURE*	DESIGN	AS-BUILT	DIFFERENCE
CELL 1 BOTTOM WIDTH (FT)			
CELL 1 BOTTOM LENGTH (FT)			
CELL 1 LEFT SIDE SLOPE (H:V) - MAY NOT BE STEEPER THAN 3:1			
CELL 1 RIGHT SIDE SLOPE (H:V) - MAY NOT BE STEEPER THAN 3:1			
CELL 2 BOTTOM WIDTH (FT)			
CELL 2 BOTTOM LENGTH (FT)			
CELL 2 LEFT SIDE SLOPE (H:V) - MAY NOT BE STEEPER THAN 3:1			
CELL 2 RIGHT SIDE SLOPE (H:V) - MAY NOT BE STEEPER THAN 3:1			
SUB-DRAIN PIPE DIAMETER (IN.) - MAY NOT DIFFER FROM VALUE SPECIFIED	12		
SUB-DRAIN INVERT OUT ELEVATION (FT)			
INVERTED J-HOOK OUTLET ELEVATION (FT) - MAY NOT BE MORE THAN 4 IN. BELOW CELL BOTTOM ELEVATION AND NOT HIGHER THAN THE CELL BOTTOM ELEVATION			
THICKNESS OF NO. 57 AGGREGATE (IN.)	48		
THICKNESS OF NO. 7 AGGREGATE (IN.) - MAY NOT BE LESS THAN 4 IN.	4		
THICKNESS OF COARSE SAND (IN.) - MAY NOT BE LESS THAN 4 IN.	4		
THICKNESS OF BSM (IN.) - MAY NOT BE LESS THAN 8 IN.	8		

SUBMERGED GRAVEL WETLAND GENERAL NOTES:

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3. THE SURFACE OF THE SOIL MUST NOT BE COMPACTED TO THE EXTENT THAT IT LIMITS PLANT ESTABLISHMENT AND MICROBIAL ACTIVITY. WATER QUALITY TREATMENT IN THE WETLAND SURFACE IS PRIMARILY PROVIDED THROUGH UPTAKE, NITRIFICATION AND SETTLING.
4. BIORETENTION SOIL SHALL BE USED AS PLANTING SOIL LAYER. A MINIMUM SOIL DEPTH OF EIGHT INCHES MUST BE PROVIDED FOR THE VEGETATION. THE SOIL SHALL BE A UNIFORM MIX CONTAINING, 35-60% SAND, 30-55% SILT, AND 10-25% CLAY. SOIL MIXTURE IS TO BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05. THA PLANTING OISL SHALL BE TESTED AND SHALL MEET THE FOLLIWING CRITERIA:
   - PH RANGE: 5.2 - 7.0
   - ORGANIC MATTER: 1.5 - 4% (BY WEIGHT)
   - MAGNESIUM: 35 LB./AC
   - PHOSPHORUS (PHOSPHATE - P 2 O 5): 75 LB./AC
   - POTASSIUM (POTASH - K 2 O): 85 LB./AC
   - SOLUBLE SALTS NOT TO EXCEED: 500 PPM
5. THE SOILS LAYER MUST BE CONTINUOUSLY INUNDATED AT A DEPTH OF FOUR INCHES FROM THE BOTTOM OF THE WETLAND SOIL IN ORDER TO SUPPORT WETLAND VEGETATION AND TO MAINTAIN ANAEROBIC CONDITIONS IN THE GRAVEL CELLS BELOW.
6. GRAVEL MEDIA SHALL BE COMPOSED OF AN 18 TO 48 INCH LAYER OF CLEAN WASHED, UNIFORMLY GRADED MATERIAL WITH A POROSITY OF 40%. ROUNDED BANK RUN GRAVEL IS RECOMMENDED (E.G., ASTM D448 4,5, OR 6 STONE OR EQUAL).
7. REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:
   - DURING EXCAVATION TO SUBGRADE.
   - DURING PLACEMENT OF BACKFILL OF PERFORATED INLET PIPE AND OBSERVATION WELLS.
   - DURING PLACEMENT OF GEOTEXTILES AND ALL FILTER MEDIA.
   - DURING CONSTRUCTION OF ANY APPURTENANT CONVEYANCE SYSTEMS SUCH AS DIVERSION STRUCTURES, INLETS, OUTLETS, AND FLOW DISTRIBUTION STRUCTURES.
   - UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION, AND BEFORE ALLOWING RUNOFF TO ENTER THE WETLAND.

SUBMERGED GRAVEL WETLAND MAINTENANCE NOTES:

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5. INLETS / OUTLETS TO EACH SUBMERGED GRAVEL WETLAND CELL SHOULD BE FREE FROM DEBRIS TO PREVENT CLOGGING.
6. EROSION AT INFLOW POINTS SHALL BE REPAIRED AS NECESSARY.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING NECESSARY CLEANING OF ACCUMULATED SEDIEMT, DEBRIS, ETC. FROM THE EXISTING STORMWATER MANAGEMENT INFRASTRUCTURE THROUGHOUT THE CONSTRUCTION DURATION.
8. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL STORMWATER MANAGEMENT PRACTICES, ESD DEVICES, AND BMP STRUCTURES.

MAINTENANCE TASKS & FREQUENCY FOR SUBMERGED GRAVEL WETLANDS	
FREQUENCY	MAINTENANCE ITEMS
AS NEEDED / AFTER MAJOR STORMS	• REMOVE ANY SEDIMENT ACCUMULATION • REMOVE ANY TRASH / DEBRIS ACCUMULATION
SEMI - ANNUALLY	• DREDGE SEDIMENT FROM WETLAND AREA TO PREVENT THE GRAVEL BASE FROM BECOMING CLOGGED, THIS MAY REQUIRE REMOVING AND REPLACING GRAVEL. • REMOVE ANY INVASIVE SPECIES. • REPLANT WETLAND VEGETATION IN POORLY ESTABLISHED AREAS
ANNUALLY	• CLEAR DEBRIS AND CLOGGING FROM INLETS AND OUTLETS TO EACH SUBMERGED WETLAND CELL • REPAIR ANY EROSION AT INFLOW / OUTFLOW POINTS.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the laws of the State of Maryland License No. 31100 Expiration Date: 01-21-27.

DAVIS BOWEN & FRIEDEL, INC.
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SALISBURY, MARYLAND 410.543.9091
MILFORD, DELAWARE 302.424.1441

VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: SEPTEMBER 2024
Scale: 1" = 20'
1" = 2'
Dwn.By: ADM
Proj.No.: 0085B049

STORMWATER MANAGEMENT PLAN & PROFILES

Dwg.No.: C-304

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P:\0085\0085B049\CAD\SHEET\0085B049-C401-SWM PLAN.dwg Aug 08, 2025 - 11:47am PERY

BENCHMARK
IRON ROD CAP FOUND
ELEV. = 25.79'.

BM

OWNER: NOW OR FORMERLY
MASON RALPH L. III & NANCY M. BOUNDS
& C. M. WOOD & T. C. MASON
MAP, GRID, PARCEL: 0048, 0016, 0019
DEED: 02840/00097
ZONING: A1

OWNER: NOW OR FORMERLY
BOARD OF EDUCATION OF WORCESTER COUNTY
MAP, GRID, PARCEL: 0048, 0022, 0027
DEED: 00034/00109
ZONING: A1

OWNER: NOW OR FORMERLY
BOARD OF EDUCATION OF WORCESTER COUNTY
MAP, GRID, PARCEL: 0048, 0022, 0027
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OWNER: NOW OR FORMERLY
BOARD OF EDUCATION OF WORCESTER COUNTY
MAP, GRID, PARCEL: 0048, 0022, 0027
DEED: 00034/00109
ZONING: A1

S 46°47'41" E 1137.56'

N 49°13'58" E 139.77'

N 46°05'37" W 1208.92'

CENTRAL SITE LANE
75' ROW

30' SETBACK

35' SETBACK

PROPOSED FIRE TOWER
1,565 SF
FFE 29.40'

PROPOSED BUILDING
12,275 SF
FFE 32.83'

EXISTING FIRE TOWER

EXISTING CONCRETE

EXISTING BUILDING

EXISTING SEPTIC TANK AND DRAINAGE FIELD

EXISTING WELL

PUMP HOUSE

SPRINKLER TANK

EXTERNAL HVAC DUCTWORK

PROPOSED TRANSFORMER

PROPOSED WELL

SUBMERGED GRAVEL WETLAND POND 1

SUBMERGED GRAVEL WETLAND POND 2

FIRE HYDRANT ASSEMBLY

4" SANITARY SEWER CAPPED FOR FUTURE

4" VALVE

3"x2" REDUCER

3" VALVE

90° BEND

90° BEND & 3" VALVE

3" TEE W/ 3" VALVE

INV: 22.23
6" PVC

INV: 27.80
12" CMP

INV: 27.97
12" CMP

INV: 28.30
15" HDPE

INV: 28.12
15" HDPE

ROP II
CLASS I RIPRAP
La: 10 FT
W: 12 FT
T: 19 IN
H: 9 IN

ROP II
CLASS I RIPRAP
La: 10 FT
W: 11 FT
T: 19 IN
H: 6 IN

ROP II
CLASS I RIPRAP
La 10'
W 12'
T 19"
H 2'-7"

ROP II
CLASS I RIPRAP
La: 10 FT
W: 11 FT
T: 19 IN
H: 6 IN

SEDIMENT TRAP NO. 2

SEDIMENT TRAP NO. 1

ST-1 FES 104 ROPII CB 101 AGIP

ROPII FES 103 P-8

OF 102 SIP

ROPII FES 102

MH 102

CO 103

P-3

QI 101 SIP

FES 101 ROPII

MH 101

P-2

P-5

P-6

CO 101

CO 102

CWS

78' R/D FROM DB 697/ PG 169

MtdA MkA NnA MpA

SOILS DATA

LABEL	SOIL	TYPE
MkA	MATAPEAKE SILT LOAM, 0-2% SLOPES	C
MpA	MATTAPEX FINE SANDY LOAM, 0-2% SLOPES	C
MtdA	MATTAPEX SILT LOAM, 0-2% SLOPES	C
NnA	NASSAWANGO FINE SANDY LOAM, 0-2% SLOPES	C/D
OtA	OTHELLO SILT LOAMS, 0-2% SLOPES	C/D
UpB	URBAN LAND	-

SOIL CLASSIFICATION OBTAINED FROM WEB SOIL SURVEY PREPARED BY THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, VERSION 19 ISSUED AUGUST 27, 2021.

PIPE OUTLET SEDIMENT TRAP, ST-I, TRAP NO. 1

DRAINAGE AREA	0.788 AC
TOTAL STORAGE REQUIRED	2,837 CF
TOTAL STORAGE PROVIDED	36,303 CF
WET STORAGE REQUIRED	1,418 CF
WET STORAGE PROVIDED	18,582 CF
DRY STORAGE REQUIRED	1,418 CF
DRY STORAGE PROVIDED	17,721 CF
TRAP BOTTOM ELEVATION	25.0 FT
TRAP BOTTOM DIMENSIONS	94 FT X 50 FT
OUTLET (WET STORAGE) ELEVATION	25.28 FT
CREST (DRY STORAGE) ELEVATION	25.55 FT
CLEANOUT ELEVATION	25.14 FT
TOP OF EMBANKMENT ELEVATION	30.00 FT
SIDE SLOPE	3:1 RATIO
EMBANKMENT TOP WIDTH	6 FT
BARREL DIAMETER	18"

PIPE OUTLET SEDIMENT TRAP, ST-I, TRAP NO. 2

DRAINAGE AREA	0.890 AC
TOTAL STORAGE REQUIRED	3,204 CF
TOTAL STORAGE PROVIDED	9,736 CF
WET STORAGE REQUIRED	1,602 CF
WET STORAGE PROVIDED	2,461 CF
DRY STORAGE REQUIRED	1,602 CF
DRY STORAGE PROVIDED	7,275 CF
TRAP BOTTOM ELEVATION	25.0 FT
TRAP BOTTOM DIMENSIONS	97 FT X 26 FT
OUTLET (WET STORAGE) ELEVATION	25.65 FT
CREST (DRY STORAGE) ELEVATION	26.15 FT
CLEANOUT ELEVATION	25.32 FT
TOP OF EMBANKMENT ELEVATION	29.00 FT
SIDE SLOPE	3:1 RATIO
EMBANKMENT TOP WIDTH	6 FT
BARREL DIAMETER	18"

EROSION & SEDIMENT CONTROL

LINETYPE	DESCRIPTION
MsA	SOILS TYPE SYMBOL
	SOILS TYPE DIVISION LINE
LOD	LIMIT OF DISTURBANCE
LOD/SF	LIMIT OF DISTURBANCE - SILT FENCE
SF	SILT FENCE
CWS	CONCRETE WASHOUT STRUCTURE
SIP	STANDARD INLET PROTECTION
ST-1	SEDIMENT TRAP
SCE	STABILIZED CONSTRUCTION ENTRANCE
ROPII	ROCK OUTLET PROTECTION
	TREE PROTECTION

0' 30' 60' 90'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the laws of the State of Maryland License No. 31100 Expiration Date: 01-21-27.

DAVIS BOWEN & FRIEDEL, INC.
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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: SEPTEMBER 2024
Scale: 1" = 30'
Dwn.By: ADM
Proj.No.: 0085B049

EROSION & SEDIMENT CONTROL PLAN

Dwg.No.: C-401

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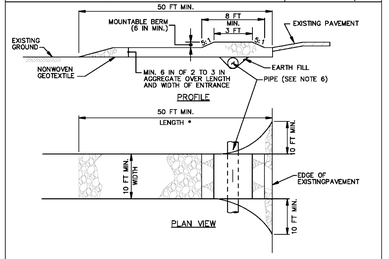
DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*)30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

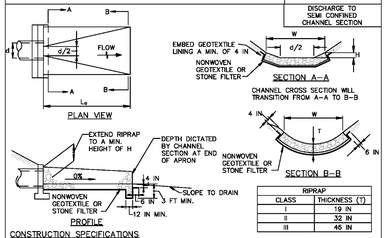
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-4-1-A ROCK OUTLET PROTECTION I

STANDARD SYMBOL: ROP1

DISCHARGE TO SEMI CONFINED CHANNEL SECTION



RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

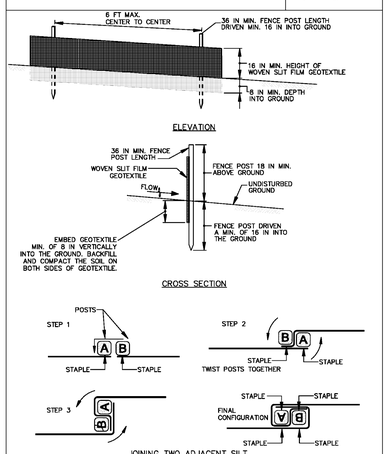
1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE EITHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF THE RIPRAP.
5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
7. CONSTRUCT APRON WITH ON SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1⅜ X 1⅜ ± ⅜ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID–SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

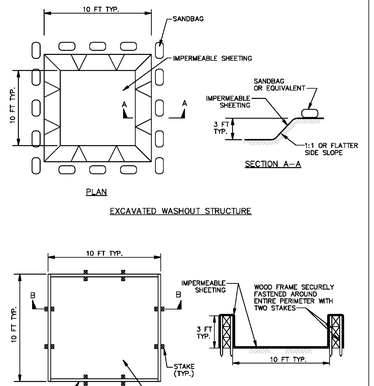
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL: CWS



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL: CWS

NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED), EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET–VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

2 OF 2

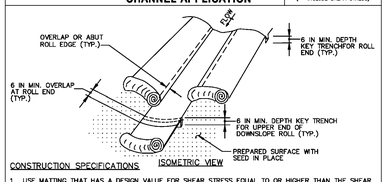
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

II.25

DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL: TSSMS – * lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN–MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON–LEACHING AND NON–TOXIC TO VEGETATION AND SEED GERMINATION AND NON–INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH–SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. KEY–IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.
7. OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM). WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION.

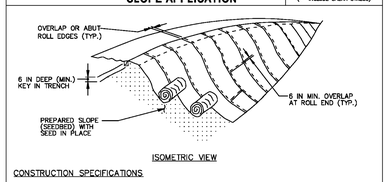
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

II.38

DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: TSSMS – * lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN–MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON–LEACHING AND NON–TOXIC TO VEGETATION AND SEED GERMINATION AND NON–INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH–SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
5. UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM). WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
7. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION.

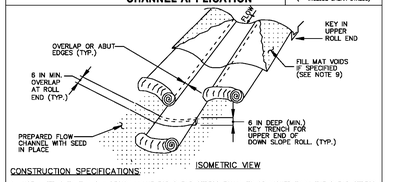
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

II.39

DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL: PSSMC – * lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON–DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON–LEACHING AND NON–TOXIC TO VEGETATION AND SEED GERMINATION AND NON–INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH–SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM). WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. IF SPECIFIED BY THE DESIGNER ON MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION.

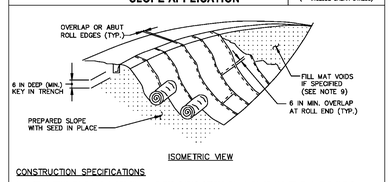
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

II.40

DETAIL B-4-6-D PERMANENT SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: PSSMS – * lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON–DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON–LEACHING AND NON–TOXIC TO VEGETATION AND SEED GERMINATION AND NON–INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH–SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING DOWN SLOPE. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM). WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

| U.S. DEPARTMENT OF AGRICULTURE NATUR

SEQUENCE OF CONSTRUCTION

1. CONTACT MDE INSPECTOR AT LEAST TWO (2) WEEKS (410-901-4020) PRIOR TO CONSTRUCTION AND ANY LAND DISTURBING ACTIVITIES TO SCHEDULE A PRE-CONSTRUCTION MEETING.
2. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE ALL AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL".
3. FUTURE ESD PRACTICES SHALL BE PROTECTED FROM DISTURBANCE TO THE MAXIMUM EXTENT PRACTICAL DURING CONSTRUCTION. EXCAVATION FOR SUBMERGED GRAVEL WETLANDS, INFILTRATION BASINS AND GRASSED SWALE AREAS SHALL BE COMPLETED USING WIDE TRACK OR MARSH TRACK EQUIPMENT OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION AND ARE NOT ACCEPTABLE.
4. LIMITS OF DISTURBANCE AREA NOTED BY THE LIMIT OF DISTURBANCE LINE (LOD).
5. CLEAR AND GRUB AREAS NECESSARY FOR THE INSTALLATION OF EROSION & SEDIMENT CONTROLS. INSTALL PERIMETER CONTROLS, ESD SILT FENCING, AND CONSTRUCTION ENTRANCES. INSTALL INLET PROTECTION AS NECESSARY.
6. NOTIFY MDE ONCE PERIMETER SEDIMENT CONTROLS ARE IN PLACE.
7. PROCEED WITH GRADING OF ALL AREAS, SITE/BUILDING DEMOLITION AND CONSTRUCTION, ALL UTILITES AND CONCRETE WASHOUT STRUCTURE. STORM PIPING SHALL BE INSTALLED IN A DOWNSTREAM TO UPSTREAM MANNER.
   - SWM FACILITY SHALL BE EXCAVATED TO ACT AS A SEDIMENT TRAP PRIOR TO CONSTRUCTION. INSTALL OUTFALLS, OUTFALL PIPES, SKIMMER DEWATERING DEVICES, AND ROCK OUTLET PROTECTION AT EACH SEDIMENT TRAP. INSTALL RIPRRAP INFLOW PROTECTION AND STABILIZE THE TRAP PER THE EROSION AND SEDIMENT CONTROL NOTES.
8. FINE GRADE FOR PROPOSED PAVING, AS WELL AS GRASS PAVERS PLACE PAVEMENT PER PAVEMENT SPECIFICATIONS AND PLANS.
9. CONSTRUCTION OF SWM FACILITIES ALONG WITH ALL ASSOCIATED PIPING AND OUTFALLS, MAY BEGIN ONCE THEIR RESPECTIVE DRAINAGE AREAS HAVE BEEN CONSTRUCTED AND STABILIZED. INSTALL SOIL STABILIZATION MATTING IN ALL SWALES FOLLOWING FINAL GRADING AND PERMANENT SEEDING.
11. CONVERT SEDIMENT TRAP TO SWM FACILITIES AS SHOWN ON THE PLANS FOLLOWING THE STABILIZATION OF CONTRIBUTING DRAINAGE AREA. THE SWM FACILITIES MUST BE DEWATERED, DREDGED, AND RE-GRADED TO THE FINAL DESIGN DIMENSIONS AFTER SITE CONSTRUCTION IS COMPLETE FOR THEIR RESPECTIVE DRAINAGE AREAS.
12. FINALIZE ALL SITE AND BUILDING CONSTRUCTION. INSTALL ALL LANDSCAPING, SIGNS, AND OTHER SITE DECORATIONS.
13. SURVEY SHALL BE PERFORMED WITHIN EACH STORMWATER MANAGEMENT FACILITY AFTER FINAL EXCAVATION AND BEFORE MATERIAL FILLING FOR VOLUME VERIFICATION. THIS SURVEY INFORMATION SHALL BE INCLUDED IN THE AS-BUILT SUBMITTAL.
14. CONTRACTOR TO PROVIDE STORMWATER MANAGEMENT AS-BUILTS TO OWNER, WORCESTER COUNTY PUBLIC WORKS, AND WORCESTER COUNTY CONSERVATION DISTRICT WITHIN THIRTY (30) DAYS AFTER COMPLETION OF CONSTRUCTION.
15. STABILIZE AND RESTORE ALL OTHER DISTURBED AREAS NOT OCCUPIED BY BUILDING, PAVEMENT, IMPERVIOUS FEATURES, OR ESD'S PER EROSION AND SEDIMENT CONTROL NOTES.
16. AFTER FINAL STABILIZATION CONTACT MDE AND WORCESTER COUNTY FOR INSPECTION, REMOVE EROSION AND SEDIMENT CONTROL MEASURES NOT BEING USED AND STABILIZE AS NECESSARY.
17. CONTACT THE WORCESTER COUNTY DEPARTMENT OF ENVIRONMENTAL PROGRAMS AT 410–632-1220 TO SCHEDULE A PRE-CONSTRUCTION MEETING AT LEAST 48 HOURS PRIOR TO COMMENCING ANY SITE WORK. FAILURE TO DO SO MAY RESULT IN AN IMMEDIATE 'SOP WORK ORDER' .
18. A DETAILED DESCRIPTION OF HOW STORMWATER BMP'S WILL BE CONSTRUCTED / PHASED ANY PROTECTED DURING CONSTRUCTION.

CHANNEL MAINTENANCE NOTES:

1. FOR GRASSED SWALES, REGULAR MOWING (AT LEAST BI-ANNUALLY) IS CRITICAL IN ORDER TO REDUCE COMPETITION FROM WEEDS AND IRRIGATION MAY BE NEEDED DURING DRY WEATHER TO ESTABLISH VEGETATION. SPARSELY VEGETATED AREAS NEED TO BE RE-SEEDED TO MAINTAIN DENSE COVERAGE.
2. IF WATER DOES NOT DRAIN WITHIN 48 HOURS, THE BOTTOM SOIL SHOULD BE TILLED AND REVEGETATED.
3. INSPECTIONS SHOULD BE PERFORMED ONCE A YEAR TO ASSESS SLOPE INTEGRITY, VEGETATIVE HEALTH, SOIL STABILITY, COMPACTION, EROSION, PONDING, AND SEDIMENTATION. PERIODIC REMOVAL OF SEDIMENT, LITTER, OR OBSTRUCTIONS SHOULD BE DONE AS NEEDED. ERODED SIDE SLOPES AND THE SWALE BOTTOM SHOULD BE REPAIRED AND STABILIZED WHERE NEEDED.
4. REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:
   - DURING PLACEMENT AND BACKFILL OF UNDERDRAINS AND THE INSTALLATION OF DIAPHRAGMS, FOREBAYS, CHECK DAMS, OR WEIRS.
   - UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

EROSION AND SEDIMENT CONTROL NOTES

1. ALL SEDIMENT AND EROSION MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".
2. A PERIODIC MAINTENANCE OF ALL SEDIMENT CONTROL MEASURES SHALL BE REQUIRED TO INSURE EFFECTIVE SEDIMENT CONTROL. INSPECTION OF ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MADE WEEKLY AND AFTER EACH RAINFALL.
3. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION IS ESTABLISHED.
4. ALL AREAS NOT COVERED BY BUILDINGS, PAVEMENT, OR OTHER SUITABLE LANDSCAPING WILL BE SEEDED USING PERMANENT SEED MIXTURE SHOWN ON THIS PLAN.
5. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THE REQUIREMENTS OF THIS SUBPARAGRAPH DO NOT APPLY TO THOSE AREAS WHICH ARE SHOWN ON THE PLAN AND ARE CURRENTLY BEING USED FOR MATERIAL STORAGE OF FOR THESE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED.
6. THE SOIL CONSERVATION DISTRICT RESERVES THE RIGHT TO REQUIRE ADDITIONAL SEDIMENT AND EROSION MEASURES DURING THE CONSTRUCTION OF THIS PROJECT.
7. SEEDING (PERMANENT)
   A. SHALL BE CONDUCTED BETWEEN MARCH 1 TO MAY 15 OR AUGUST 15 TO OCTOBER 15.
   B. SEED BED PREPARATION: APPLY 10-20-20 FERTILIZER AS SHOWN ON THE PERMANENT SEEDING SUMMARY AND HARROW OR DISC INTO SOIL TO A DEPTH OF 2 TO 4 INCHES; APPLY GRANULATED LIMESTONE AT 2 TONS PER ACRE. LEVEL AND RAKE THE AREA TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 ½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
   C. SEEDING: APPLY SEED AS SHOWN IN THE PERMANENT SEEDING SUMMARY ON A MOIST SEED BED WITH SUITABLE EQUIPMENT - MINIMUM COVERAGE 1/4 TO 1/2 INCH. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATERS FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABILISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.
   D. MULCHING: IMMEDIATELY AFTER SEEDING, UNIFORMLY MULCH ENTIRE AREA WITH UNWEATHERED SMALL GRAIN STRAW AT A RATE OF 2.5 TONS PER ACRE. MULCH TO BE ANCHORED WITH MULCH ANCHORING TOOL ON THE CONTOUR.
8. TEMPORARY STABILIZATION:
   A. SEED BED PREP: APPLY 10 LB PER 1,000 SQ FT OF 10-20-20.
   B. PROVIDE TEMPORARY SEEDING AS SHOWN ON THE TEMPORARY SEEDING SUMMARY, BETWEEN FALL AND SPRING SEEDING DATES USE MULCH ONLY IF GROUND IS FROZEN AND RESEED WHEN THAWED.
   C. MULCH PER 7.D. ABOVE.
9. IF TEMPORARY STABILIZATION IS REQUIRED, PERMANENT SEEDING SHALL BE PERFORMED DURING THE NEXT APPLICABLE PERIOD PER PARAGRAPH (7) ABOVE.
10. ALL FILL SLOPE AREAS SHOWN HEREON ARE TO BE STABILIZED PER PARAGRAPHS (7) OR (8) ABOVE IMMEDIATELY AFTER COMPLETION OF GRADING OPERATIONS FOR THESE SLOPES.
11. INSTALL EROSION CONTROL MATTING ON ALL SLOPES 3:1 0R GREATER.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING NECESSARY CLEANING OF ACCUMULATED SEDIMENT, DEBRIS, ETC. FROM THE EXISTING STORMWATER MANAGEMENT INFRASTRUCTURE.
13. SITE INFORMATION:

TOTAL AREA OF PROJECT SITE:	±12.107 ACRES
AREA DISTURBED:	±2.585 ACRES
AREA TO BE ROOFED AND/OR PAVED:	±1.306 ACRES
TOTAL CUT:	±0.000 CUBIC YARDS*
TOTAL FILL:	±0.000 CUBIC YARDS*
OFFSITE WASTE/BORROW AREA LOCATION:	TO BE DETERMINED

*CUT AND FILL NUMBERS ARE NOT TO BE USED BY CONTRACTOR, FOR ESTIMATING PURPOSES ONLY

ESD TO THE MEP

ESD TO THE MEP HAS BEEN IMPLEMENTED IN ORDER TO MEET THE FOLLOWING ELEMENTS:

1. PREVENT SOIL EROSION FROM DEVELOPMENT PROJECTS.
2. PREVENT INCREASES IN NONPOINT POLLUTION.
3. MINIMIZE POLLUTANTS IN STORMWATER RUNOFF FROM BOTH NEW DEVELOPMENT AND REDEVELOPMENT.
4. RESTORE, ENHANCE, AND MAINTAIN CHEMICAL, PHYSICAL, AND BIOLOGICAL INTEGRITY OF RECEIVING WATERS TO PROTECT PUBLIC HEALTH AND ENHANCE DOMESTIC, MUNICIPAL, RECREATIONAL, INDUSTRIAL AND OTHER USES OF WATER AS SPECIFIED BY MDE.
5. MAINTAIN 100% OF THE AVERAGE ANNUAL PREDEVELOPMENT GROUNDWATER RECHARGE VOLUME.
6. CAPTURE AND TREAT RUNOFF TO REMOVE POLLUTANTS.
7. IMPLEMENT A CHANNEL PROTECTION STRATEGY TO PROTECT RECEIVING STREAMS.
8. PREVENT INCREASES IN THE FREQUENCY AND MAGNITUDE OF OUT-OF-BANK FLOODING FROM LARGE, LESS FREQUENT STORMS.
9. PROTECT PUBLIC SAFETY THROUGH THE PROPER DESIGN AND OPERATION OF STORMWATER MANAGEMENT FACILITIES.

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B. SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING

GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY

THE FOLLOWING ITEMS HAVE BEEN ADDRESSED TO MEET THE REQUIREMENTS OF THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY (NPDES NUMBER MDR10, STATE DISCHARGE PERMIT NUMBER 09GP).

1. UTILIZATION OF ENVIRONMENTAL SITE DESIGN.
2. MAINTENANCE OF LIMITS OF DISTURBANCE TO PROTECT NATURAL AREAS.
3. CONTROL OF CONSTRUCTION EQUIPMENT AND VEHICLES.
4. EVALUATION AND APPROPRIATE LIMITATION OF SITE CLEARING.
5. EVALUATION AND DESIGNATION OF SITE AREA FOR PHASING OR SEQUENCING.
6. IDENTIFICATION OF SOILS AT HIGH RISK FOR EROSION AND ADVANCED STABILIZATION TECHNIQUES TO BE USED.
7. IDENTIFICATION OF STEEP SLOPES AND DESIGNATION OF LIMITATIONS ON CLEARING THEM.
8. EVALUATION AND DESIGNATION OF STABILIZATION REQUIREMENTS AND TIME LIMITS AND PROTECTION MEASURES FOR DISCHARGES TO THE CHESAPEAKE BAY, IMPAIRED WATERS OR WATERS WITH AN ESTABLISHED TOTAL MAXIMUM DAILY LOAD (TMDL).

TEMPORARY SEEDING SUMMARY

SEED MIXTURE (HARDINESS ZONE 7b) FROM TABLE 26

SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)	LIME RATE
ANNUAL RYE	40	2/15 - 4/30 8/15 - 11/30	1/2"	436 lb/ac (10lb/1000sf)	2 tons/ac (90lb/1000sf)
FOX TAIL MILLET	30	5/1 - 8/14	1/2"		

NOTE: FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.

PERMANENT SEEDING SUMMARY

SEED MIXTURE (HARDINESS ZONE 7b) FROM TABLE 25

SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20) N	P205	K20	LIME RATE
TALL FESCUE BLUEGRASS RED TOP	100 15 1	3/1 - 5/15 8/15 - 10/15	1/4" - 1/2"	45 lb/ac (1lb / 1000sf)	90 lb/ac (2lb / 1000sf)	90 lb/ac (2lb / 1000sf)	2 tons/ac (90lb / 1000sf)

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I & II AND THE MARYLAND ENVIRONMENT EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT REGULATIONS.

JASON P. LOAR, P.E. DATE
LICENSE NO. 31100, EXP. 1/21/2027
DAVIS, BOWEN & FRIEDEL, INC.
601 E. MAIN STREET, SUITE 100
SALISBURY, MARYLAND 21804

RESPONSIBLE PERSONNEL CERTIFICATION

"I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT, WILL BE DONE PURSUANT TO THIS PLAN AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A DEPARTMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT." I/WE HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ONSITE EVALUATION BY THE WORCESTER COUNTY SOIL CONSERVATION DISTRICT AND/OR THE STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the laws of the State of Maryland License No. 31100 Expiration Date: 01-21-27.

DAVIS BOWEN & FRIEDEL, INC.
ARCHITECTS - ENGINEERS - SURVEYORS
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SALISBURY, MARYLAND 410.543.9091
MILFORD, DELAWARE 302.424.1441

VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: SEPTEMBER 2024
Scale: AS SHOWN
Dwn.By: ADM
Proj.No.: 0085B049

EROSION & SEDIMENT CONTROL NOTES

Dwg.No.: **C-403**

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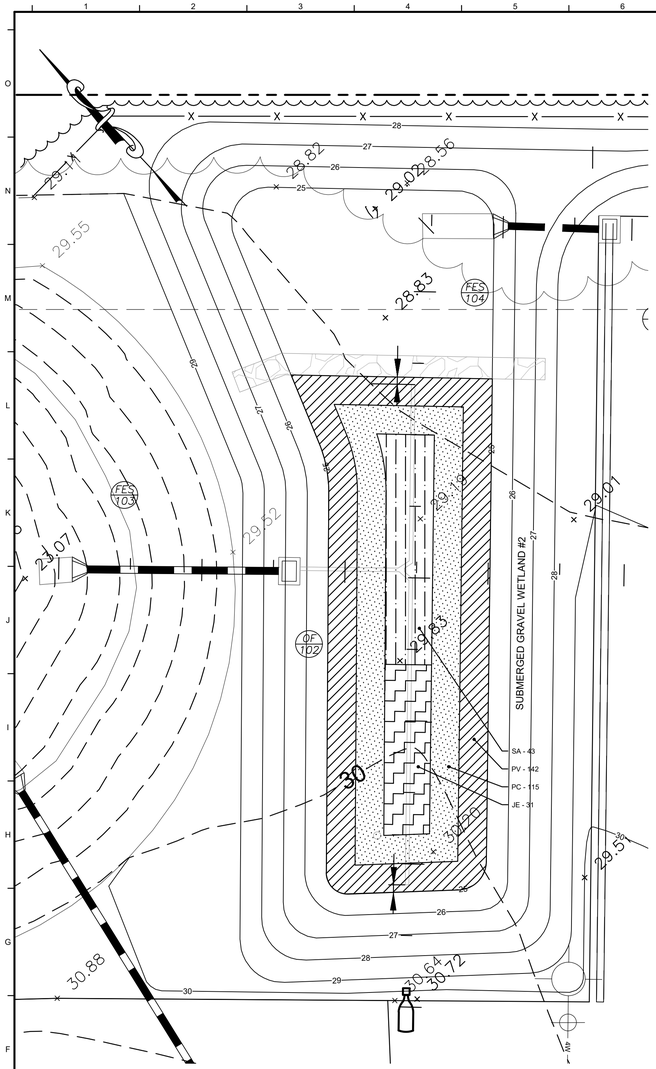
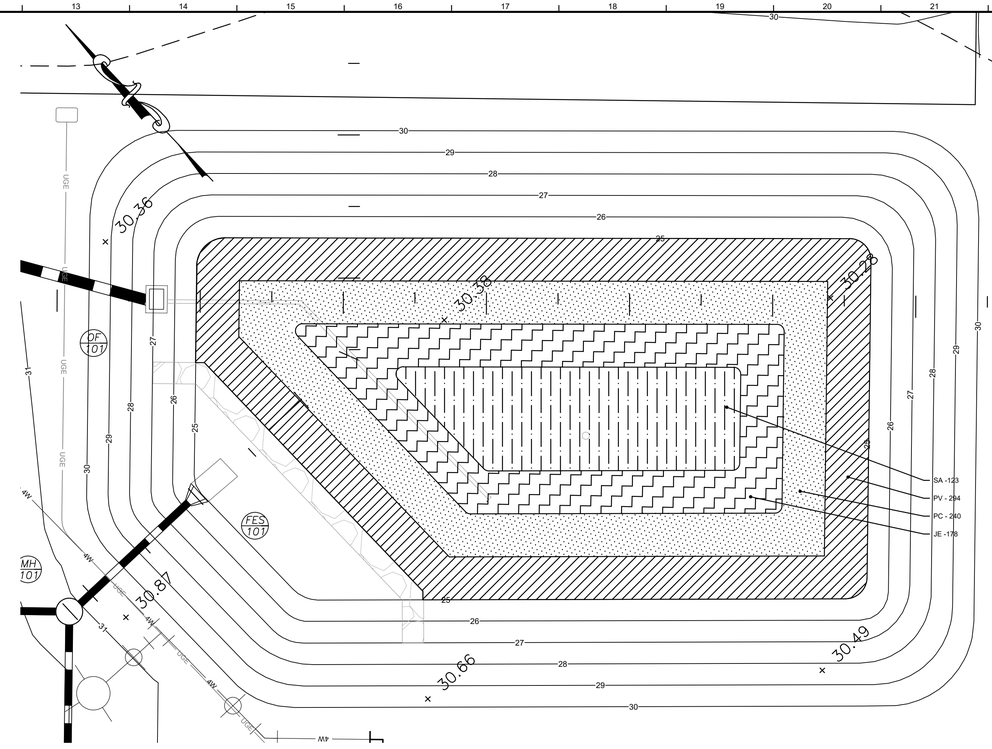


SUBMERGED GRAVEL WETLAND #2 PLANTING PLAN

SCALE: 1" = 10" HORIZ.



SUBMERGED GRAVEL WETLAND #1 PLANTING PLAN

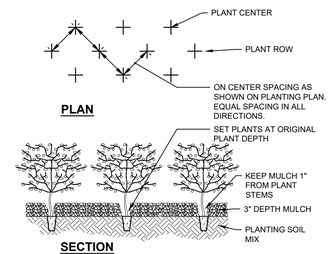
SCALE: 1" = 10" HORIZ.

SUBMERGED GRAVEL WETLAND PLANT SCHEDULE

SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY SGW #1	QUANTITY SGW #2
	PV	PELTANDRA virginica	ARROW ARUM	2" PLUG, 18" O.C.	294	142
	PC	PONTEDERIA cordata	PICKERELWEED	2" PLUG, 18" O.C.	240	115
	JE	JUNCUS effusus	COMMON RUSH	2" PLUG, 36" O.C.	178	31
	SA	SCIRPUS atrovirens	GREEN BULRUSH	2" PLUG, 18" O.C.	123	43

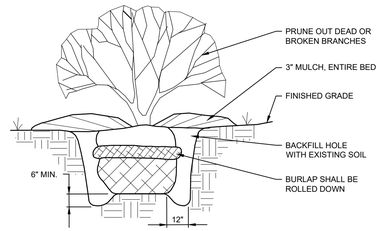
STORMWATER FACILITY SEED MIX SCHEDULE

MIX	CULTIVAR	SEEDING RATE	
		LB/AC	LB/1,000 SF
BASIN SLOPE OF ALL SWM FACILITIES & DRY SWALES			
SEED MIX 1: COASTAL PANIC GRASS (PANICUM AMARUM VAR. AMARULUM)	ATLANTIC	10	0.23
CREEPING RED FESCUE (FESTUA RUBRA VAR. RUBRA)	DAWSON	15	0.34
PARTRIDGE PEA (CHAMAECRISTA FASCICULATE)	COMMON	4	0.09



GROUND COVER PLANTING DETAIL

NOT TO SCALE

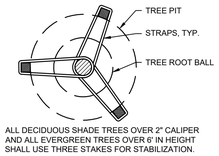


SHRUB PLANTING DETAIL

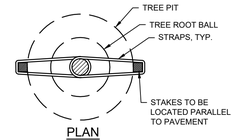
NOT TO SCALE

GENERAL LANDSCAPE NOTES

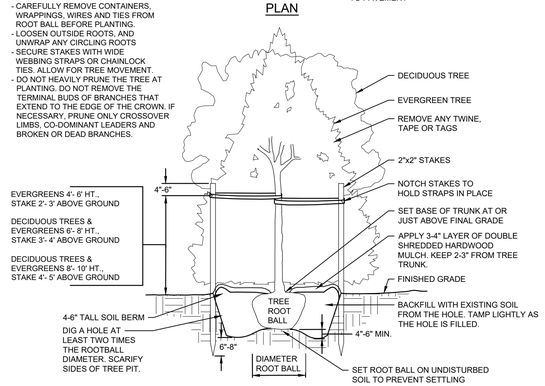
1. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN "AMERICAN STANDARDS FOR NURSERY STOCK".
2. CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR AFTER INSTALLATION IS COMPLETE AND FINAL ACCEPTANCE OF SITE WORK HAS BEEN GIVEN. AT THE END OF ONE YEAR ALL PLANT MATERIAL WHICH IS DEAD OR DYING SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AS ORIGINALLY SPECIFIED.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND MAY MAKE MINOR ADJUSTMENTS IN SPACING AND/OR LOCATION OF PLANT MATERIALS. CONTRACTOR TO VERIFY "AS BUILT" LOCATION OF ALL UTILITIES.
4. NO SUBSTITUTIONS SHALL BE MADE WITHOUT APPROVAL OF THE OWNER AND REVIEWED BY THE ENGINEER.
5. ALL AREAS NOT STABILIZED IN PAVING OR PLANT MATERIALS SHOULD BE SEEDED AND MULCHED. (SEE EROSION & SEDIMENT CONTROL PLAN.)
6. EVERGREEN TREES SHALL HAVE A FULL, WELL-BRANCHED, CONICAL FORM TYPICAL OF THE SPECIES.
7. ALL DECIDUOUS SHADE TREES SHALL BRANCH A MINIMUM OF 6'-0" ABOVE GROUND LEVEL. TREES SHALL BE PLANTED AND STAKED IN ACCORDANCE WITH THE STAKING DETAIL SHOWN.
8. THE FULL EXTENT OF ALL PLANTING BEDS SHALL RECEIVE 4" OF TOPSOIL AND 3" OF BARK MULCH PER SPECIFICATIONS.
9. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THIS DRAWING AND AS SPECIFIED.
10. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE BEFORE DIGGING.
11. THE CONTRACTOR SHALL WATER ALL PLANTS THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING, AND THEN WEEKLY OR MORE OFTEN, IF NECESSARY, DURING THE FIRST GROWING SEASON.
12. LANDSCAPE BEDS NOT DEFINED BY CURBS, SIDEWALKS, WALLS OR OTHER STRUCTURES SHALL BE ENCLOSED BY ALUMINUM EDGING UNLESS OTHERWISE INDICATED.
13. PLANTING SHOULD OCCUR BETWEEN MARCH 1 TO MAY 15 AND SEPTEMBER 15 TO DECEMBER 31. LARGE TREES MAY REQUIRE STAKING OR GUYING AND SMALLER TREES AND WHIPS WILL REQUIRE PROTECTION DEVICES OR FENCING. WATERING AND FERTILIZING MAY BE NEEDED DEPENDING ON WEATHER, SOIL CONDITIONS, OR IF PLANTED OUT OF SEASON. A MINIMUM OF TWO INCHES OF HARDWOOD SHREDDED MULCH, SPREAD TO AT LEAST CANOPY EXTENT IS STRONGLY RECOMMENDED.



ALL DECIDUOUS SHADE TREES OVER 2" CALIPER AND ALL EVERGREEN TREES OVER 6' IN HEIGHT SHALL USE THREE STAKES FOR STABILIZATION.



NOTE:
- WATER DEEPLY ONCE A WEEK DURING THE FIRST TWO SUMMERS. APPLY A MINIMUM OF 5-10 GALLONS OF WATER EACH WEEK.
- CAREFULLY REMOVE CONTAINERS, WRAPPINGS, WIRES AND TIES FROM ROOT BALL BEFORE PLANTING.
- LOOSEN OUTSIDE ROOTS, AND UNWRAP ANY CIRCLING ROOTS
- SECURE STAKES WITH WIDE WEBBING STRAPS OR CHAINLOCK TIES. ALLOW FOR TREE MOVEMENT.
- DO NOT HEAVILY PRUNE THE TREE AT PLANTING. DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN. IF NECESSARY, PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS AND BROKEN OR DEAD BRANCHES.



TREE PLANTING DETAIL

NOT TO SCALE

0' 10' 20' 30'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the laws of the State of Maryland. License No. 31100 Expiration Date: 01-21-27.

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: SEPTEMBER 2024
Scale: 1" = 10'
Dwn.By: ADM
Proj.No.: 0085B049

LANDSCAPE PLAN

Dwg.No.: **L-101**

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STRUCTURAL NOTES:

1. GENERAL
   - A. Design and construction shall conform to the 2021 International Building Code as amended by the County of Worcester, Maryland.
   - B. The Contractor shall notify the Structural Engineer when actual conditions vary relevantly from what these drawings portray. The Engineer is not responsible for the consequences of construction that do not comply with the requirements specified or the reasonable intent conveyed in these drawings or approved revisions thereof.
   - C. This design is valid only for the dimensions shown. This design may not be valid if actual constructed dimensions vary substantially from what is shown.
   - D. On the drawings details marked "Typical" shall apply to all situations occurring on the project that are the same or similar, as may be ascertained by the title of the detail, whether the section is cut on the drawing at each required location or not. If it is not clear how a particular typical detail applies to a specific location, the Contractor shall seek clarification from the Engineer before proceeding with construction.
   - E. The Contractor shall take all necessary and prudent precautions to maintain the full integrity of the structure during construction. The Contractor is also solely responsible for designing and installing all temporary shoring and bracing.
   - F. Structural members shall not be cut, notched or otherwise penetrated unless specifically approved by the engineer in advance or as shown on these drawings.
   - G. If geotechnical investigation is not provided, structural engineer is not responsible for the consequences of inadequate bearing on soil, including heave or settlement.
   - H. These drawings and notes are for this specific project and no other use is authorized.

2. DESIGN CRITERIA [Occupancy II]

A.	Dead:	Flrs/Roof	5 psf self + 38 psf for 4" concrete slab + 9 psf for padgenite (fire insulation panel) + 5 psf collateral = 57 psf total.
		Walls	3 psf self.
B.	Live:	Flrs/Roof	100 psf (inlcudes snow and rain loads).
		Ground	100 psf slab-on-grade.
C.	Lateral:	Wind	Ultimate Velocity 125 mph, Exposure C, Importance 1.00
		Seismic	Ss = 0.087, S1 = 0.036, Soil site class "D", Importance 1.00 Seismic Design Category = A R = 6.50, [re ASCE 7-16 Tbl 12.2-1 #A13: Steel Shear Walls], Cs = 0.014; Equivalent Lateral Force Procedure. Ultimate Seismic Base Shear = 3,500 lbs.
D.	Soil:	Bearing	Allow 2000 psf [Hardin Kight Associates, Inc. - Job# 22828, sealed by Justin A. Frizzell, PE on Jan 16, 2023]

3. FOUNDATIONS
   - A. All foundation excavations shall be approved by a project geotechnical engineer licensed in Maryland prior to placement of reinforcing steel or concrete.
   - B. The Contractor is entirely responsible for safely excavating soil and constructing stable soil slopes.
   - C. All perimeter footings, stoops and retaining structures shall bear minimally 1'-6" below grade.
   - D. Zones of soil encountered at the bottom of footing excavations deemed "soft" or inadequate shall be replaced or remediated as directed by the geotechnical engineer.
   - E. The Contractor shall provide dewatering of excavations from either surface water or seepage. The moisture content in soils prior to excavation should not be allowed to change relavantly after the excavation is made. Concrete for foundations shall not be placed on frozen ground or on ground softened from excess water.
   - F. The base of the excavation shall be free of water and loose soil prior to placement of reinforcing or concrete. Footing excavations left open for more than 24 hours shall be covered over and protected to reduce evaporation or entry of moisture. Ideally, foundation concrete shall be placed the same day the excavation is made.
   - G. Establish grades so that drainage flows positively away from the building perimeter.
   - H. Shrubs, trees or other plants with deep roots requiring large quantities of water shall not be planted within 20' of the building perimeter.
   - I. Unless noted otherwise, all concrete slabs-on-grade shall be poured upon 4" gravel on stabilized compacted fill. The gravel shall consisted of well-graded crushed stone with 3/4" maximum particle size and less than 5% passing through No. 4 sieve. Prior to concrete placement, the gravel shall be compacted with a minimum of 4 passes of a vibratory plate compactor or vibratory drum roller.
   - J. For interior slabs only, place a continuous impenetrable 15 mil polyethylene vapor barrier on the gravel directly under the concrete slab according to ACI 302.1R.

4. STRUCTURAL CONCRETE
   - A. All concrete shall be designed and constructed according to ACI 318-19, "Building Code Requirements for Reinforced Concrete," and Commentary (ACI 318-19R).
   - B. All concrete shall develop a minimum ultimate compressive strength of 2800 psi in 3 days and 4000 psi in 28 days, with not less than 550 pounds of Type I/II Portland cement per cubic yard of concrete, regardless of the strengths obtained, not more than 6 gallons of water for each 100 pounds of cement, with aggregate not larger than 3/4" diameter, and slump that does not exceed 4-1/2".
   - C. All concrete other than flatwork may have up to 15% of Portland cement weight replaced with an equivalent weight of an approved Class F fly ash.
   - D. All admixtures shall be approved by the structural engineer in writing before use.
   - E. Entrain exterior exposed concrete and concrete flatwork with 6% +/- 1% air.
   - F. All concrete is reinforced unless specifically called out as unreinforced. Reinforce all concrete not otherwise shown with same steel as in similar sections or areas. Any sections not shown shall be detailed per ACI 315, "Details and Detailing of Concrete Reinforcement", current edition.
   - G. Clear minimum coverage of concrete over reinforcing steel shall be minimized, but it shall not be less than the largest nominal bar diameter, nor less than the following (unless noted otherwise):
     1. Concrete placed against trenched earth: 3"
     2. Concrete placed against form in earth: 2"
     3. Un-tied elements (elevated slabs and walls): 1"
     4. Tied elements (columns & elevated beams): 1-1/2"
   - H. No aluminum items shall be embedded in any concrete.
   - I. Limit control joints in dirt-formed slab areas to 16'-0" apart along any side.
   - J. Cut saw joints in slab-on-grade concrete maximum 8 hours after concrete pour.

5. REINFORCING STEEL
   - A. Fabrication, erection and placement of reinforcing steel shall conform to Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice".
   - B. Bar reinforcing shall conform to ASTM A615 Gr 60 deformed reinforcing steel, except stirrups and ties shall comply with CRSI requirements for improved bendability.
   - C. Reinforcing steel shall not be heated or welded. All bar bends shall be made cold.
   - D. Reinforcing steel shall be clean of rust, grease or other material likely to impair bond.
   - E. Fabricate reinforcing bars in continuous lengths as is practible. Where discrete rebars require splicing, use direct contact bar laps according to the Schedule:

BAR SIZE	MIN LAP IN CONC	90° HOOK IN CONC
#3	18"	6"
#4	24"	8"
#5	30"	10"

BAR SIZE	MIN LAP IN CONC	90° HOOK IN CONC
#6	36"	12"
#7	42"	14"
#8	48"	16"

   - F. Place dowels between adjacent or sequential pours and as indicated. All dowels shall be same size and spacing as adjoining main bars. Unless noted otherwise, set equal legs into adjoining members and lap according to the Schedule above.
   - G. All reinforcing shall be secured from displacement prior to pouring concrete using wire ties and anchorage devices.
   - H. At all corners, supply corner bars minimum 2'-6" or 48 bar diameters in each direction in outside face, matching the size and spacing of horizontal bars.
   - I. At all holes in concrete slabs and slabs-on-ground, along each side of the hole place 2 #4's (one top, one bottom) continuous, extending 2'-0" straight beyond the corners.
   - J. At all re-entrant corners in concrete slab-on-grade not otherwise reinforced with edge bars, provide 2#4 x 4'-0" (one top, one bottom) placed transverse diagonally and centered across the corner.
   - K. All concrete slabs, stairs, porches and stoops not otherwise noted shall be 6" thick and reinforced with #4 @ 12" each way slab-center. Porches shall be doweled to adjacent foundation walls or grade beams, and sloped 1/8" per foot for drainage, unless shown or required otherwise by plan or by the architect.
   - L. Allow 400 lbs of reinforcing bars #4 and #5 to be used as directed in the field by the Structural Engineer for special conditions. Labor for placing same to be included.

6. EPOXY ANCHORING
   - A. Anchor bolts cannot be post-installed without approval from the engineer of record prior to pouring concrete stem walls.
   - B. Drill clean holes not to exceed 1-1/2 times the diameter of the bar or anchor being installed. Prior to epoxying, the holes shall be cleaned of laitenance and debris.
   - C. The bar or anchor shall be drilled to such depth as required to withstand 2-1/2 times the yield capacity of the anchor or reinforcing bar.
   - D. The epoxy product shall be waterproof and be able to maintain bond within the range of 10 degrees F below zero up to 120 degrees F above zero.

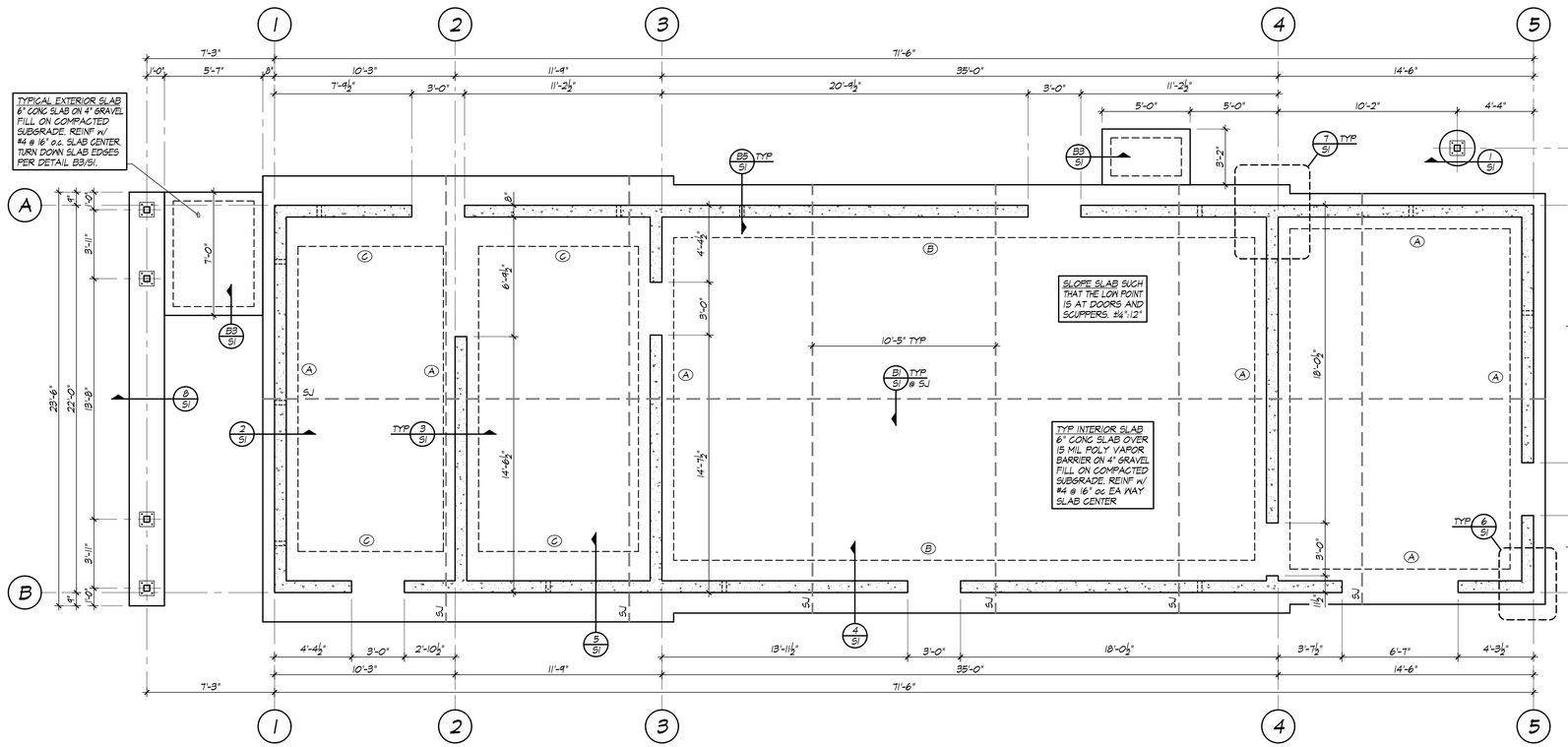
7. STRUCTURAL STEEL
   - A. Design, fabrication and erection of steel shall be according to the AISC, "Manual of Steel Construction", 15th Edition, 2017 ["AISC #15"].
   - B. Unless noted otherwise, all anchor bolts shall be ASTM F1554-36 with 36 ksi yield, hot dip galvanized, at least 24" long, which includes a 2.5" threaded projection above top-of-concrete, and hex headed end.
   - C. Reference Behlen drawings for anchor bolt size and locations.

8. CONSTRUCTION ADMINISTRATION
   - A. The Owner shall engage a Special Inspector independent from the Contractor to perform testing of structural materials and to regularly inspect if ongoing construction is in compliance with project contract documents and IBC provisions.
   - B. Individuals performing special inspections shall be qualified by IBC 1704.1 and shall be approved by the architect. All special inspections shall be reported in a timely manner, providing the time of inspection, to the Engineer, Architect and Contractor.
   - C. The Contractor shall notify special inspector or special inspection agency at least 24 hours in advance of the requested time of inspection.
   - D. The Contractor shall submit the following shop drawings to the Engineer and Architect for review and approval prior to fabrication or construction.
     1. Concrete mix design.
     2. Mill verification for reinforcing steel and structural steel.
     3. For concrete: reinforcing steel placement drawings w/ bar lists and bar bends.
   - E. The Special Inspector shall inspect:
     1. Placement of reinforcing steel in concrete forms - periodic.
     2. Placement of bolts set in concrete - periodic.
     3. Installation of anchors epoxied or set into existing concrete - periodic.
     4. If required design concrete mix is being used - periodic.
     5. Slump, air content & temperature of concrete - periodic.
     6. Placement of concrete - periodic.
   - F. Materials testing shall be as dictated by project specifications.
   - G. The Contractor shall replace or repair all construction identified as defective in the Special Inspection reports, as required by the Engineer, without cost to the Owner.

9. COPYRIGHT & DISCLAIMER
   - A. The following structural drawings dated June 2025 are the copyrighted work of CEO Structural Engineers, Inc., whom shall retain ownership of all created works:
     - S0 and S1 [2 - 24x36 drawings]

     Drawings may be reproduced for use on this project only; no other use is authorized.
   - B. I, Walter Griewing, registered engineer and a representative of CEO Structural Engineers, Inc., do hereby accept professional responsibility as required by the professional registration laws of the State of Maryland only for the aforementioned drawings prepared under my direct supervision and control.
   - C. I hereby disclaim responsibility for all other drawings in the document package, they possibly being the responsibility of other design professionals whose seals and signed statements may appear elsewhere in the construction document package.

     Walter Griewing, PE
     Maryland License No. 05-57917



VERIFY LOCATION OF STAIR CGLS WITH FINAL STAIR SHOP DRAWINGS BEFORE CASTING GRADE BM

VERIFY LOCATION OF EA ANCHOR BOLT RE: BEHLEN SHT 102 REV A. ANCHOR BOLTS SHALL BE PLACED WITHIN ⅛" OF LOCATION SHOWN ON BUILDING PLANS.

NORTH PLAN

FOUNDATION PLAN

A / S0

¼" = 1'-0"

T/C FF = 99'-6"
T/C CURB = 100'-0"

GRADE BEAM SCHEDULE

MARK	SIZE
A	2'-0" x 2'-0" DP
B	3'-0" x 2'-0" DP
C	4'-0" x 2'-0" DP

STATE OF MARYLAND
WALTER GRIEWING
05-57911
PROFESSIONAL ENGINEER
06/17/25

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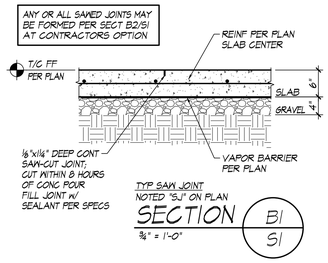
FIRE TRAINING SIMULATOR
WORCESTER CO., MD

FOUNDATION PLAN & GENERAL NOTES

DATE	REVISIONS	BY

DRAWN BY: MJR
DESIGNED BY: MJR
CHECKED BY: WMG
DATE: 6/17/25
PROJECT #: WHP09.25

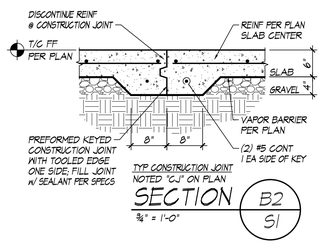
S0



TYP. SAW JOINT
NOTED "SJ" ON PLAN

SECTION B1 / S1

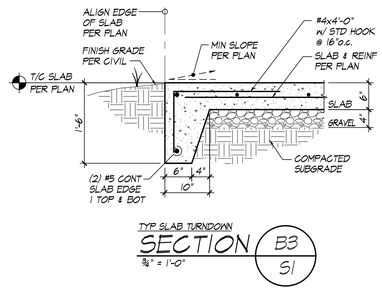
3/4" = 1'-0"



TYP. CONSTRUCTION JOINT
NOTED "CJ" ON PLAN

SECTION B2 / S1

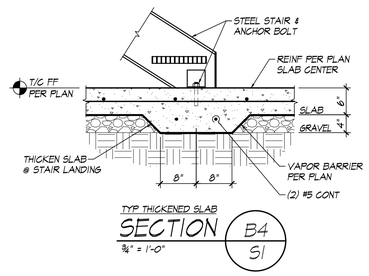
3/4" = 1'-0"



TYP. SLAB TURNDOWN

SECTION B3 / S1

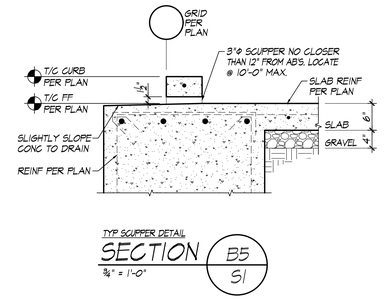
3/4" = 1'-0"



TYP. THICKENED SLAB

SECTION B4 / S1

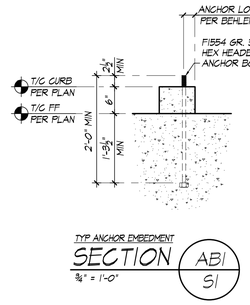
3/4" = 1'-0"



TYP. SCUPPER DETAIL

SECTION B5 / S1

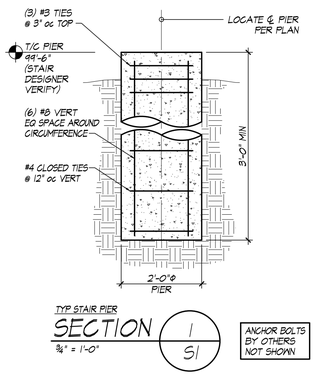
3/4" = 1'-0"



TYP. ANCHOR EMBEDMENT

SECTION AB1 / S1

3/4" = 1'-0"

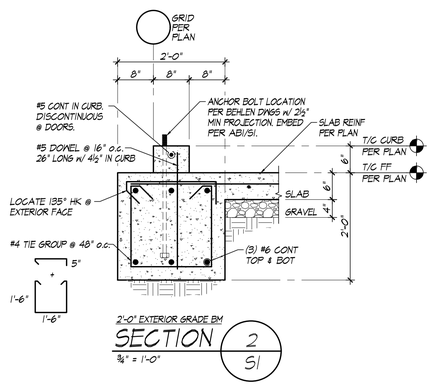


TYP STAIR PIER

SECTION 1 / S1

3/4" = 1'-0"

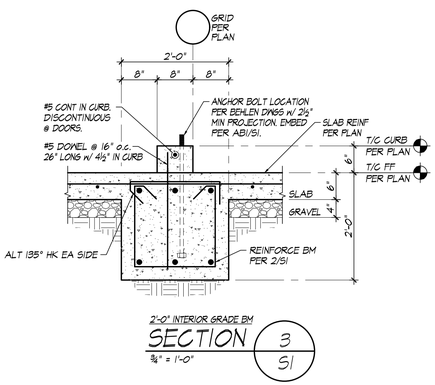
ANCHOR BOLTS BY OTHERS NOT SHOWN



2'-0" EXTERIOR GRADE BM

SECTION 2 / S1

3/4" = 1'-0"



2'-0" INTERIOR GRADE BM

SECTION 3 / S1

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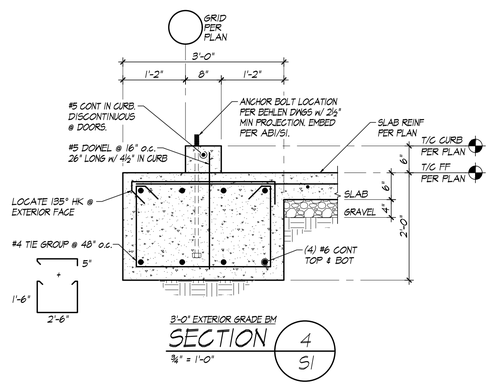
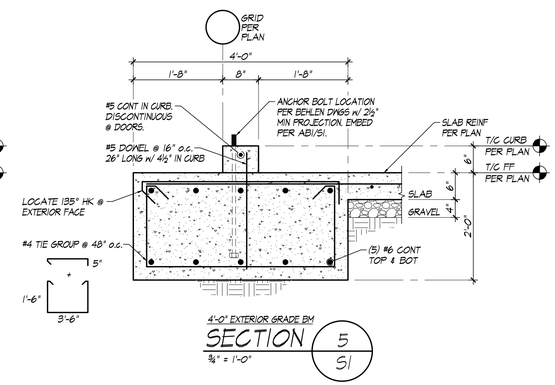


3'-0" EXTERIOR GRADE BM

SECTION 4 / S1

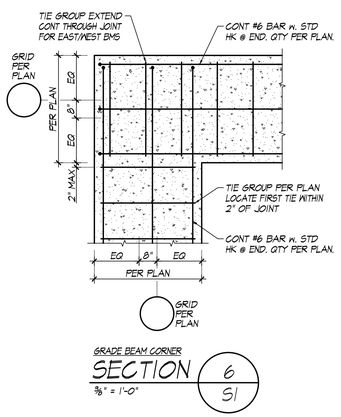
3/4" = 1'-0"



4'-0" EXTERIOR GRADE BM

SECTION 5 / S1

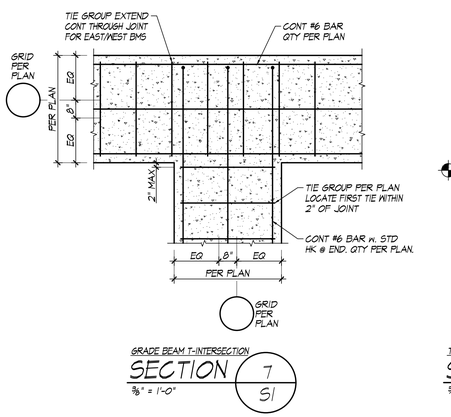
3/4" = 1'-0"



GRADE BEAM CORNER

SECTION 6 / S1

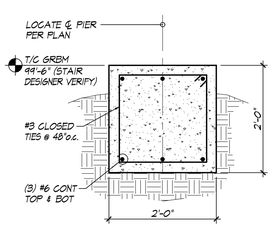
3/8" = 1'-0"



GRADE BEAM T-INTERSECTION

SECTION 7 / S1

3/8" = 1'-0"



TYP STAIR GRADE BEAM

SECTION 8 / S1

3/4" = 1'-0"

ANCHOR BOLTS BY OTHERS NOT SHOWN

STATE OF MARYLAND
WALTER GRIESHAUF
PROFESSIONAL ENGINEER
No. 25571
06/17/25

STRUCTURAL ENGINEERS
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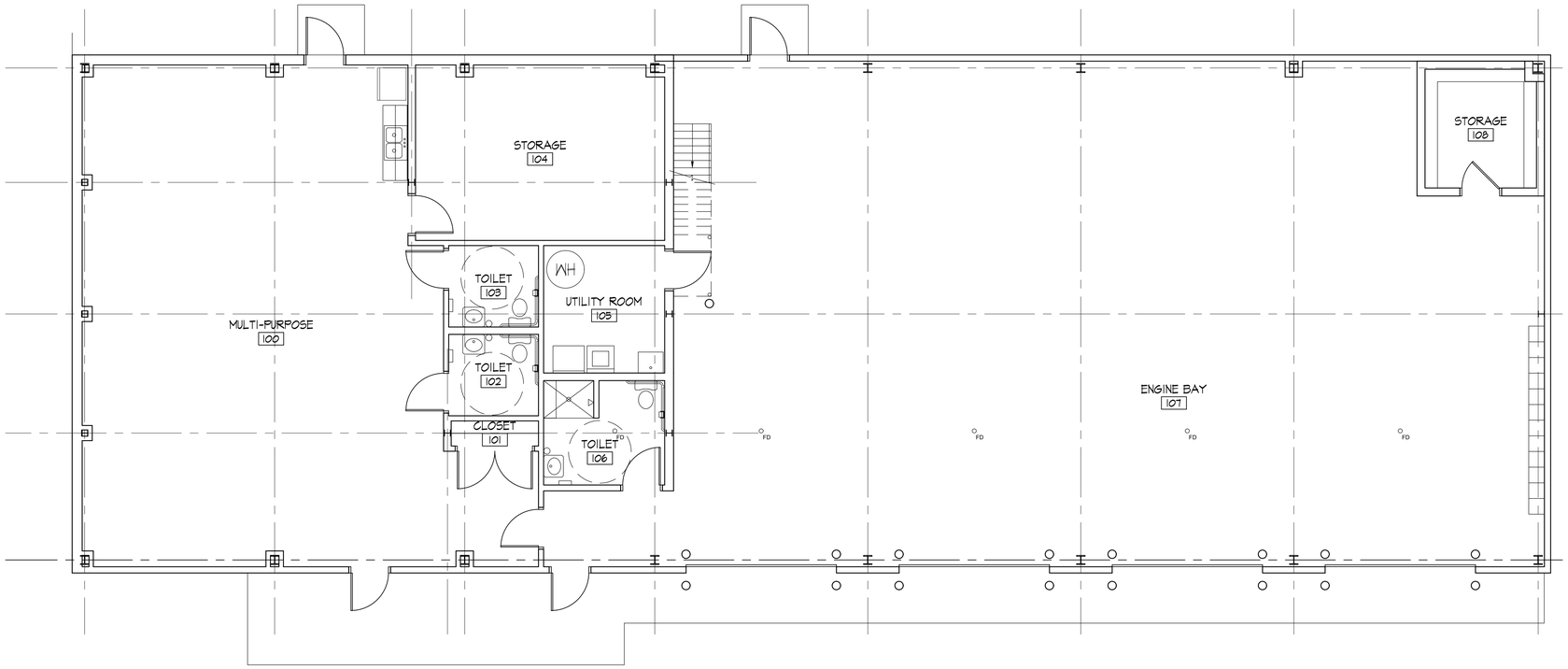
FIRE TRAINING SIMULATOR
WORCESTER CO., MD

FOUNDATION DETAILS

DATE	REVISIONS	BY

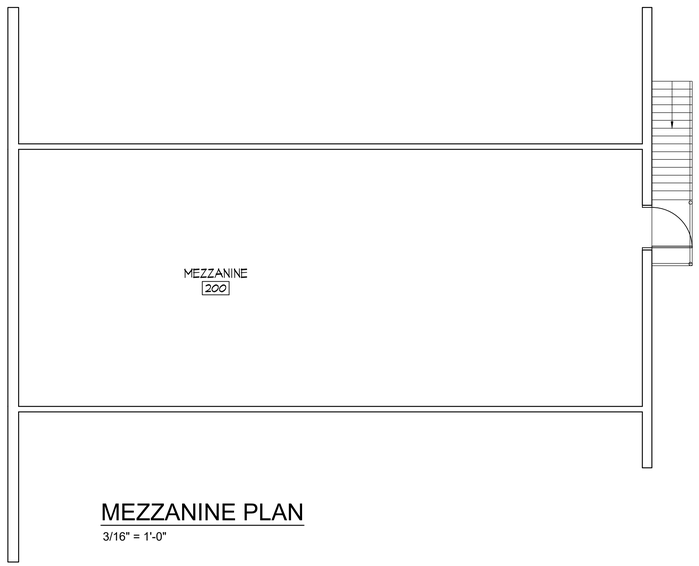
DRAWN BY: MJR
DESIGNED BY: MJR
CHECKED BY: WMG
DATE: 6/17/25
PROJECT #: WHP09.25

S1



EXISTING FIRE TRAINING CENTER

3/16" = 1'-0"



MEZZANINE PLAN

3/16" = 1'-0"

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional in the laws of the State of
License No. Expiration Date:

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VEHICLE STORAGE FACILTY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: 08/08/2025
Scale: NOTED
Dwn.By: WLN
Proj.No.: 0085B049.A01

EXISTING FIRE TRAINING CENTER PLAN & MEZZANINE

Dwg.No.:
A-X-101

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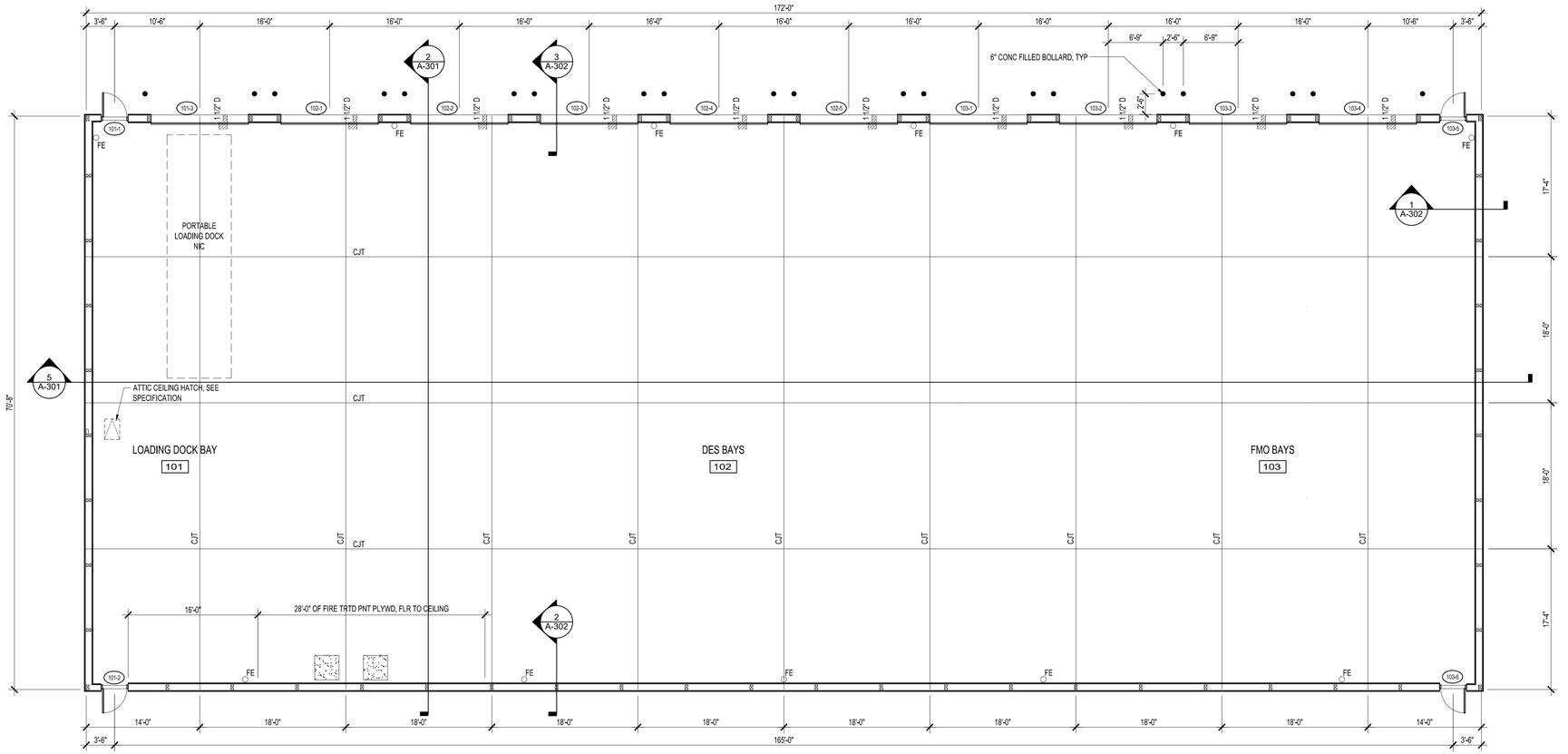
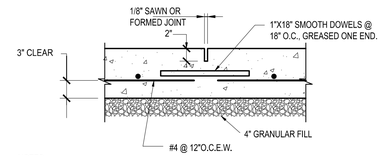


GROUND FLOOR

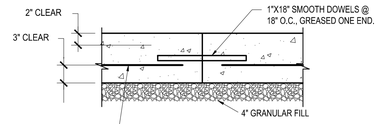
1/8" = 1'-0"

PROJECT NORTH



NOTES:
- CONTROL JOINTS SHALL BE SPACED NO GREATER THAN 18'-0".
- CONTROL JOINTS SHALL BE CUT 4 TO 12 HOURS AFTER SLAB HAS BEEN FINISHED.
  - 4 HOURS IN HOT WEATHER
  - 12 HOURS IN COLD WEATHER

CONTROL JOINT DETAIL



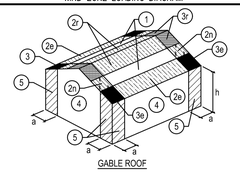
CONSTRUCTION JOINT DETAIL

ASCE 7-16: CHAPTER 30, PART 2
WIND LOADS - COMPONENTS & CLADDING (GABLE ROOF)

RISK CATEGORY	IV	TOPO. FACTOR	1.0	MEAN ROOF HT., h (ft)	23.25
BASIC WIND SPEED, V (mph)	140	ADJUST. FACTOR, λ	1.4	LEAST HORIZ. DIM. (ft)	71
EXPOSURE CATEGORY	C	ROOF ANGLE (deg)	7 – 20	END ZONE, a (ft)	7.1

WIND ZONE	EFF. WIND AREA	(+) WIND PRESSURE	(–) WIND PRESSURE	WIND ZONE	EFF. WIND AREA	(–) WIND PRESSURE
1	10	30	–91.1	1 (OVERHANG)	10	–104.6
	20	27	–91.1		20	–104.6
	50	23.1	–55.4		50	–90.4
	100	20	–28.4		100	–79.7
2e	10	30	–91.1	2e (OVERHANG)	10	–104.6
	20	27	–91.1		20	–104.6
	50	23.1	–55.4		50	–90.4
	100	20	–28.4		100	–79.7
2n	10	30	–133.0	2n (OVERHANG)	10	–146.4
	20	27	–114.9		20	–127.5
	50	23.1	–91.1		50	–102.6
	100	20	–73.2		100	–83.7
2r	10	30	–133.0	2r (OVERHANG)	10	–146.4
	20	27	–114.9		20	–127.5
	50	23.1	–91.1		50	–102.6
	100	20	–73.2		100	–83.7
3e	10	30	–133.0	3e (OVERHANG)	10	–171.5
	20	27	–114.9		20	–148.1
	50	23.1	–91.1		50	–117.2
	100	20	–73.2		100	–93.7
3r	10	30	–158.1	3r (OVERHANG)	10	–200.8
	20	27	–135.5		20	–169.3
	50	23.1	–105.6		50	–127.7
	100	20	–82.9		100	–96.2
4	10	49.4	–53.5			
	20	47.2	–51.4			
	50	44.2	–48.4			
	100	42	–46.2			
5	10	49.4	–66.1			
	20	47.2	–61.6			
	50	44.2	–55.7			
	100	42	–51.4			

WIND ZONE LOADING DIAGRAM



GABLE ROOF

STRUCTURAL NOTES: POLE BARN DESIGN

GENERAL

THIS BUILDING SHALL COMPLY WITH THE **"INTERNATIONAL BUILDING CODE", INTERNATIONAL CODE COUNCIL, INC., 2021 EDITION**

DESIGN LOADS FOR THE POLE BARN SHALL BE AS SPECIFIED BY THE **"INTERNATIONAL BUILDING CODE", INTERNATIONAL CODE COUNCIL, 2021 EDITION** AND THE **"AMERICAN SOCIETY OF CIVIL ENGINEERS" 7-16: MINIMUM DESIGN LOADS FORBUILDINGS AND OTHER STRUCTURES** AND BY THE FOLLOWING:

GRAVITY

ROOF LIVE LOAD: 25 PSF

ROOF DEAD LOAD: 10 PSF (TOP CHORD)

COLLATERAL LOAD:

BOTTOM CHORD: 10 PSF

TOP CHORD: 7 PSF (FUTURE SOLAR)

SNOW LOAD: 24 PSF

WIND

WIND SPEED (Vult): 140 MPH

RISK CATEGORY: IV

WIND EXP. CATEGORY: C

SEISMIC

SITE CLASS: D

IMPORTANCE FACTOR (IE): 1.5

Ss: 0.088

S1: 0.036

FOUNDATION

FOUNDATIONS SHALL BEAR ON UNDISTURBED SOIL OR CONTROLLED COMPACTED FILL HAVING A MINIMUM ALLOWABLE BEARING CAPACITY OF **2000 PSF**. IF MATERIAL OF AT LEAST THIS CAPACITY IS NOT ENCOUNTERED AT THE ELEVATIONS TESTED, THE FOOTING SIZE SHALL BE INCREASED OR FOUNDATION LOWERED AS DIRECTED BY THE ENGINEER. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2 FT. -0 IN. BELOW GRADE. PLACE FOOTINGS ON FIRM, DRY, NON-FROZEN SUBGRADE. FOOTINGS, FOUNDATION WALLS AND SLABS SHALL NOT BE PLACED ON SOFT SOILS OR IN MARINE CLAY, PEAT OR OTHER ORGANIC MATERIALS.

BACKFILL & COMPACTION

ON SITE MATERIALS USED FOR STRUCTURAL FILL SHALL BE FREE OF DELETERIOUS MATTER AND CLASSIFIED AS GW, GP, GM, SM, SW, AND SP PER ASTM D-2487. PRIOR TO THE PLACEMENT OF FILL, THE SITE SHALL BE STRIPPED OF TOPSOIL, DEBRIS, VEGETATION AND ORGANIC MATERIALS. THE EXPOSED SUBGRADE OF ANY EXCAVATED AREA SHALL BE COMPACTED IN PLACE TO A DENSITY OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY.

FILL MATERIAL SHALL BE PLACED IN 8 IN. MAXIMUM LOOSE LIFTS AND COMPACTED BY MECHANICAL EQUIPMENT TO A DENSITY OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY IN ACCORD WITH ASTM D-1557. THE CONTRACTOR SHALL PROVIDE MEANS OF FREE DRAINAGE OF THE SITE AND SHALL MAINTAIN NECESSARY SEDIMENT CONTROLS. PLACEMENT OF FILL WITH A MOISTURE CONTENT TOO HIGH FOR PROPER COMPACTION IS NOT ACCEPTABLE. PLACEMENT OF FILL IN STANDING WATER OR ON FROZEN MATERIAL IS NOT ACCEPTABLE. UNSUITABLE AREA WHICH REQUIRE OVER EXCAVATION SHALL BE BACKFILLED WITH COMPACTED STRUCTURAL FILL OR STONE AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.

STRUCTURAL NOTES: POLE BARN DESIGN CONT.

STRUCTURE

CONTRACTOR SHALL PROVIDE A WOOD FRAMED, POLE BUILDING STRUCTURE AS INDICATED. CONTRACTOR SHALL PROVIDE ALL DESIGN WORK COMPLETED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MARYLAND. FRAMING PLANS AND DETAILS SHALL INCLUDE ALL WOOD CONNECTIONS AND FOUNDATIONS REQUIRED BY THE CONTRACT DOCUMENTS TO BE SELECTED OR CONSTRUCTED BY THE POLE BUILDING MANUFACTURER TO WITHSTAND THE LOADS INDICATED AND COMPLY WITH THE ADDTIONAL INFORMATION AND RESTRICTIONS INDICATED.

CONTRACTOR SHALL PROVIDE THE FOLLOWING SUBMITTALS OF THE POLE BARN STRUCTURE:

- FRAMING PLANS AND DETAILS OF CONNECTIONS, SPLICES, MATERIAL SPECIFICATIONS, AND OTHER PERTINENT INFORMATION.
- FOUNDATION PLANS AND DETAILS OF REQUIRED FOUNDATION CAPABLE OF SUPPORTING ALL LATERAL AND GRAVITY LOADS INDICATED.

ALL SUBMITTALS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT JURISDICTION.

POURED-IN-PLACE CONCRETE

ALL WORK DONE SHALL BE DONE IN ACCORDANCE WITH THE ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI-318), LATEST EDITION WITH LATEST REVISIONS AND COMMENTARY, AND SUCH REQUIREMENTS SHALL BE BINDING AS IF SPECIFIED DIRECTLY HEREIN. SAMPLES SHALL BE MADE AND LABORATORY CURED IN ACCORDANCE WITH ASTM C31 AND TESTED IN ACCORDANCE WITH ASTM C39. TWENTY-EIGHT-DAY COMPRESSIVE STRENGTH SHALL BE:

FOOTINGS 4,500 PSI

SLABS SUPPORTED ON GRADE 4,500 PSI

THE CONTRACTOR SHALL SUPPLY CONCRETE OF THE SPECIFIED STRENGTH, AND THE RESPONSIBILITY FOR OBTAINING THIS STRENGTH SHALL REST SOLELY UPON THE CONTRACTOR. MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.45 UNLESS NOTED OTHERWISE.

CEMENT SHALL BE PORTLAND AND SHALL CONFORM TO ASTM DESIGNATION C 150, TYPE I OR II. ALL EXTERIOR CONCRETE EXPOSED TO FREEZING AND THAWING CONDITIONS SHALL BE AIR ENTRAINED TO 6 PERCENT. CONCRETE SHALL CONFORM TO EXPOSURE CLASSES F2 S0, W0, AND C1. CONCRETE SHALL NOT BE PLACED IN WATER OR FROZEN GROUND.

REINFORCING STEEL SHALL BE NEW DEFORMED BILLET STOCK CONFORMING TO ASTM A-615, GRADE 60. WELDED WIRE FABRIC SHALL BE IN ACCORD WITH ASTM A185.

REINFORCEMENT SHALL BE CONTINUOUS AROUND CORNERS AND AT INTERSECTIONS. PROVIDE CLASS B TENSION LAP SPLICES FOR ALL HORIZONTAL WALL REINFORCING UNLESS OTHERWISE SHOWN ON PLAN. WELDING OF REINFORCEMENT IS NOT PERMITTED. COMPLETE SHOP DRAWINGS AND SCHEDULES OF ALL REINFORCING STEEL SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR REVIEW. REFER TO SPECIFICATIONS.

CONCRETE FOR SLABS-ON-GRADE SHALL BE PLACED IN A SEQUENCE AND MANNER THAT IS CONSISTENT WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE. VAPOR RETARDER SHALL BE PLACED UNDER ALL CONCRETE SLABS IN CONTACT WITH THE GROUND, AND SHALL HAVE A MINIMUM THICKNESS OF 15 MILS. EXPANSION JOINTS SHALL BE PLACED WHERE SLABS MEET WALLS, STEPS OR OTHER RIGID OBJECTS. CONTROL JOINTS SHALL BE LOCATED AT COLUMN CENTERLINES AND AS INDICATED. CONTROL JOINTS SHALL BE CUT AS SOON AS THE FRESH CONCRETE WILL SUPPORT SAWING EQUIPMENT. CUT EVERY OTHER WIRE OF WELDED WIRE FABRIC AT CONTROL JOINTS. LAP ALL BARS MINIMUM 40 DIAMETERS. LAP ALL WWF A MINIMUM OF 6 INCHES. ANCHOR BOLTS SHALL CONFORM TO ASTM A307 UNLESS NOTED OTHERWISE.

STRUCTURAL LUMBER

WOOD MEMBERS SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 19%. ALL WOOD EXPOSED TO WEATHER, IN CONTACT WITH EARTH, CONCRETE, MASONRY, OR STEEL, SHALL BE PRESSURE PRESERVATIVE TREATED, MICRONIZED COPPER AZOLE, (MCA) IN ACCORDANCE WITH AWPA STANDARDS. ALL STEEL FASTENERS AND CONNECTORS IN CONTACT WITH TREATED LUMBER SHALL BE HOT-DIPPED GALVANIZED OR GALVANIZED WITH A MINIMUM OF 1.85 OZ. OF ZINC PER SQUARE FOOT. ALL NAILS AND FASTENERS SHALL BE IN ACCORDANCE WITH THE BUILDING CODE FOR A HIGH WIND REGION.

DESIGN AND INSTALLATION OF MANUFACTURED TRUSSES SHALL BE IN ACCORDANCE WITH SPECIFICATIONS AND RECOMMENDATIONS OF THE TRUSS PLATE INSTITUTE. TRUSS SUPPLIER TO SUBMIT SHOP DRAWINGS AND CALCULATIONS CERTIFIED BY A PROFESSIONAL ENGINEER. TRUSSES SHALL BE DESIGNED FOR THE DESIGN LOADS INDICATED ABOVE. DEFLECTION IN ROOF TRUSSES SHALL NOT EXCEED L/360 FOR LIVE AND SNOW LOADS AND L/300 FOR TOTAL LOAD. DEFLECTION IN FLOOR TRUSSES SHALL NOT EXCEED L/480 FOR LIVE LOAD AND L/360 FOR TOTAL LOAD. PROVIDE ALL CLIPS, CONNECTORS, FASTENERS AND BRACING TO RESIST TRUSS REACTION FORCES INCLUDING UPLIFT AS CALCULATED BY TRUSS MANUFACTURER. TRUSS MANUFACTURER TO DESIGN AND PROVIDE TRUSS TO TRUSS CONNECTIONS. PROVIDE A CONTINUOUS LOAD PATH UPLIFT RESISTANCE FROM THE TRUSS TO THE FOUNDATION. TRUSSES SHALL BE ERECTED AND BRACED BY THE CONTRACTOR IN ACCORDANCE WITH TRUSS PLATE INSTITUTE "COMMENTARY AND RECOMMENDATIONS FOR HANDLING, INSTALLING AND BRACING METAL PLATE CONNECTED WOOD TRUSSES."

I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the State of Maryland License Number 11115 Expiration Date 09-08-2026.

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: 8/8/2025
Scale: NOTED
Dwn.By: WLN
Proj.No.: 0085B049.A01

GROUND FLOOR PLAN, DETAILS & STRUCTURAL NOTES

Dwg.No.: A-101

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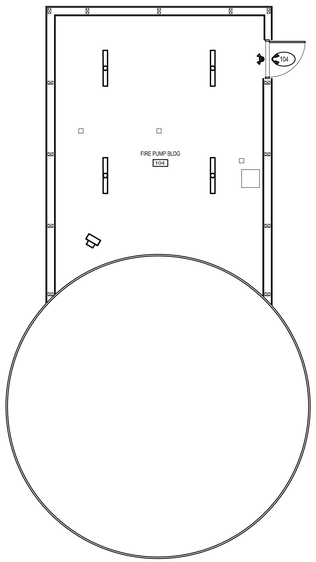
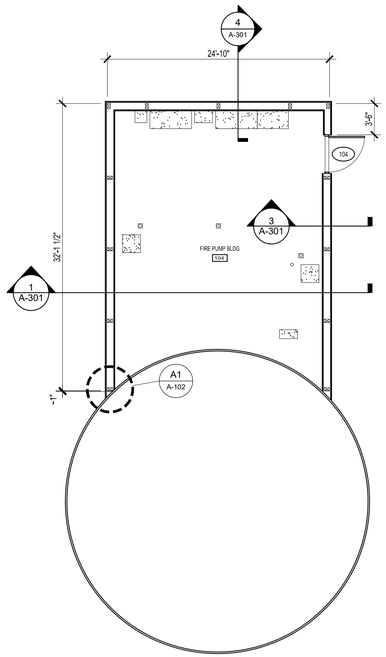


FP REFLECTED CEILING PLAN

1/8" = 1'-0"

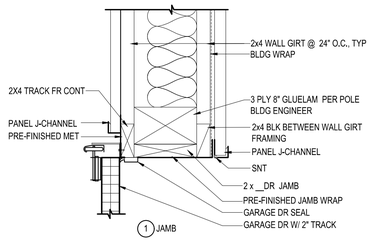
PROJECT NORTH



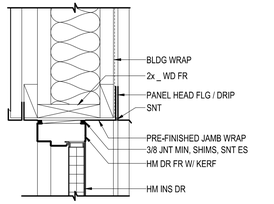
FIRE PUMP (FP) BUILDING PLAN

1/8" = 1'-0"

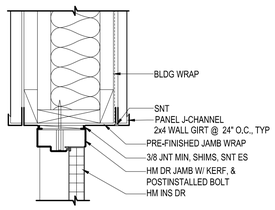
PROJECT NORTH



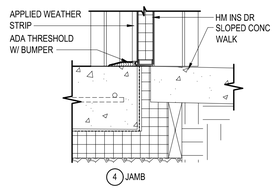
1 JAMB



2 HEAD



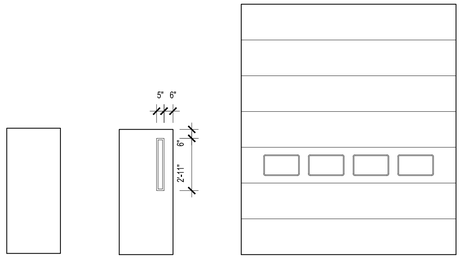
3 JAMB

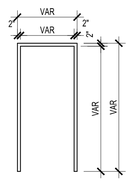


4 JAMB

DOOR DETAILS

1 1/2" = 1'-0"





DOOR & FRAME TYPES

1/4" = 1'-0"

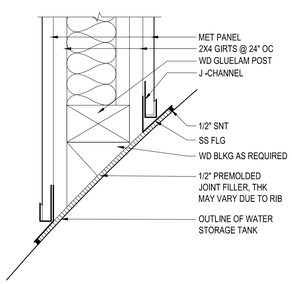
DOOR SCHEDULE

NO	DOOR				FRAME					HRDW SET	DP RATING	NOTES
	SIZE	TYPE	MATL	GLAZ	TYPE	MATL	SILL	HEAD	JAMB			
101-1	3'-0" x 7'-0" x 1 3/4"	NV	HM	TEMP INS	1	HM	4	3	2	1	DP 40	INSULATED
101-2	3'-0" x 7'-0" x 1 3/4"	F	HM	--	1	HM	4	3	2	1	DP 40	INSULATED
101-3	12'-0" x 14'-0" x 2"	SD	STL	--	--	STL	3/A-302	3/A-302	1	--	DP 30	INSULATED
102-1	12'-0" x 14'-0" x 2"	SD	STL	--	--	STL	3/A-302	3/A-302	1	--	DP 30	INSULATED
102-2	12'-0" x 14'-0" x 2"	SD	STL	--	--	STL	3/A-302	3/A-302	1	--	DP 30	INSULATED
102-3	12'-0" x 14'-0" x 2"	SD	STL	--	--	STL	3/A-302	3/A-302	1	--	DP 30	INSULATED
102-4	12'-0" x 14'-0" x 2"	SD	STL	--	--	STL	3/A-302	3/A-302	1	--	DP 30	INSULATED
102-5	12'-0" x 14'-0" x 2"	SD	STL	--	--	STL	3/A-302	3/A-302	1	--	DP 30	INSULATED
103-1	12'-0" x 14'-0" x 2"	SD	STL	--	--	STL	3/A-302	3/A-302	1	--	DP 30	INSULATED
103-2	12'-0" x 14'-0" x 2"	SD	STL	--	--	STL	3/A-302	3/A-302	1	--	DP 30	INSULATED
103-3	12'-0" x 14'-0" x 2"	SD	STL	--	--	STL	3/A-302	3/A-302	1	--	DP 30	INSULATED
103-4	12'-0" x 14'-0" x 2"	SD	STL	--	--	STL	3/A-302	3/A-302	1	--	DP 30	INSULATED
103-5	3'-0" x 7'-0" x 1 3/4"	NV	HM	TEMP INS	1	HM	4	3	2	1	DP 40	INSULATED
103-6	3'-0" x 7'-0" x 1 3/4"	F	HM	--	1	HM	4	3	2	1	DP 40	INSULATED
104	4'-0" x 7'-0" x 1 3/4"	F	HM	--	1 SIM	HM	4	3	2	1	DP 40	INSULATED

ROOM FINISH SCHEDULE

NO	Name	FLR	Base	Walls				CLG	HGT	NOTES
				N	S	E	W			
101	LOADING DOCK BAY	CONC	--	MET	--	MET	MET	MET	16'-1"	
102	DES BAYS	CONC	--	--	--	MET	MET	MET	16'-1"	
103	FMO BAYS	CONC	--	--	MET	MET	MET	MET	16'-1"	
104	FIRE PUMP BLDG	CONC	--	MET	MET	MET	MET	MET	8'-0"	

LEGEND
CONC - CONCRETE SEALED
MET - PBR METAL PANEL



A1 / A-102

PLAN DETAIL

1 1/2" = 1'-0"

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CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: 8/8/2025
Scale: NOTED
Dwn.By: WLN
Proj.No.: 0085B049.A01

SCHEDULES & FIRE PUMP BLDG

Dwg.No.: **A-102**

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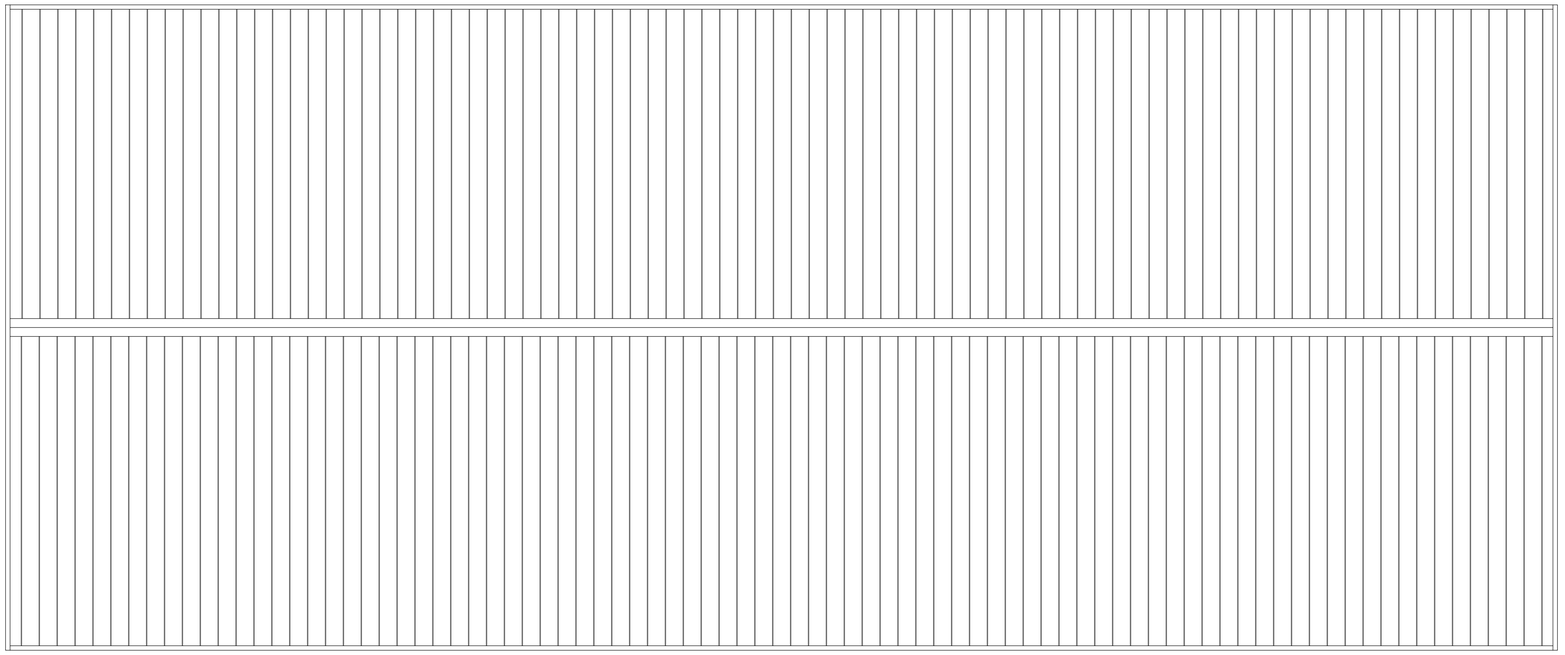

ROOF PLAN

1/8" = 1'-0"

PROJECT NORTH

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WORCESTER COUNTY, MARYLAND

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ROOF PLAN

Dwg.No.:
A-103

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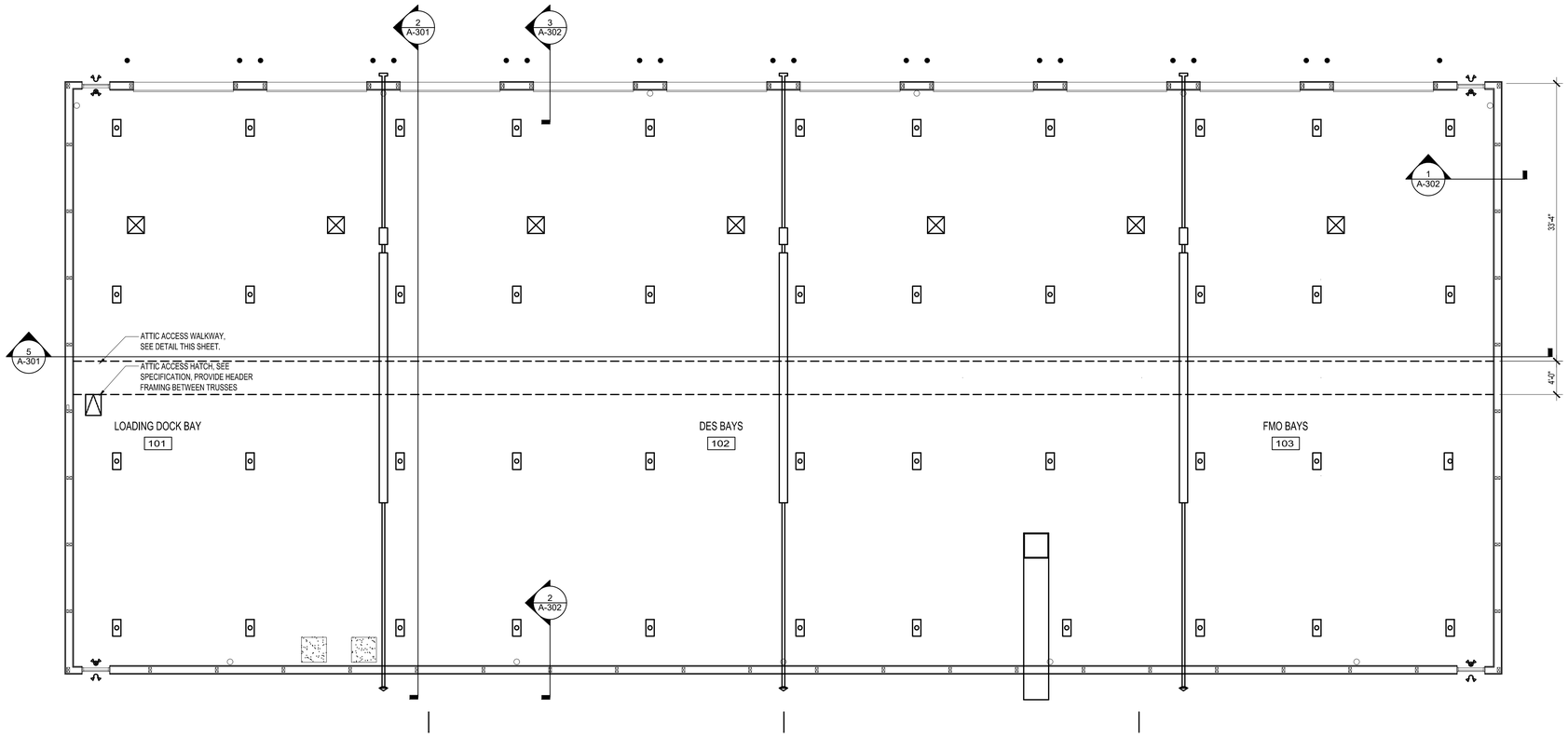
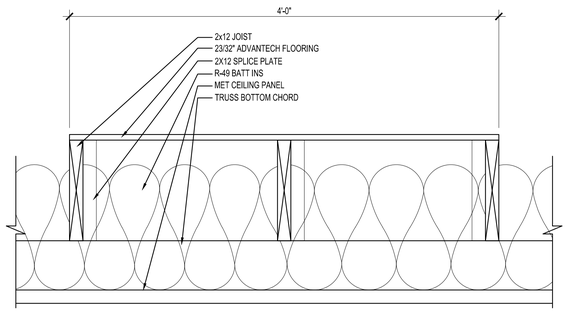


REFLECTED CEILING PLAN

1/8" = 1'-0"

PROJECT
NORTH



DETAIL ATTIC ACCESS PLATFORM

1 1/2" = 1'-0"

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CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

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REFLECTED CEILING PLAN

Dwg.No.:
A-104

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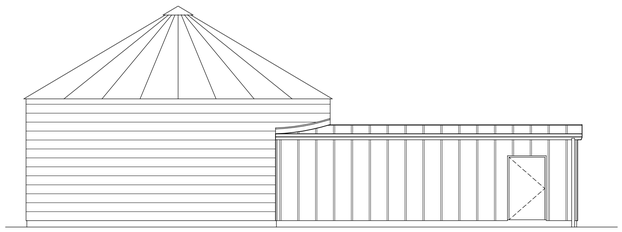
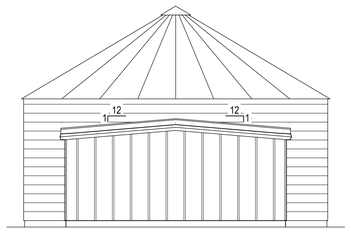


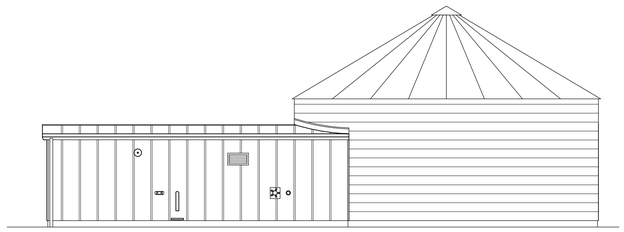
1 PUMP BUILDING SOUTH ELEVATION

1/4"=1'-0"



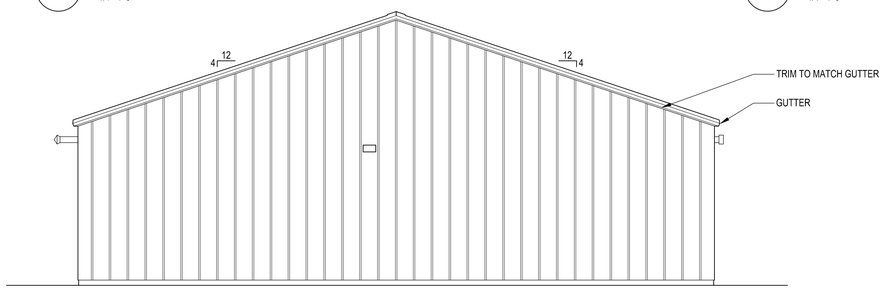
2 PUMP BUILDING EAST ELEVATION

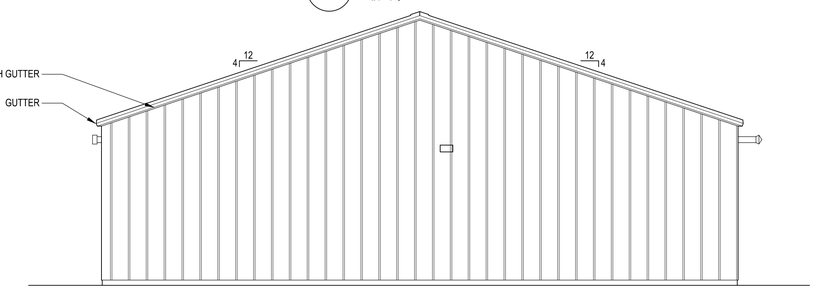
1/4"=1'-0"



3 PUMP BUILDING NORTH ELEVATION

1/4"=1'-0"





4 SOUTH ELEVATION

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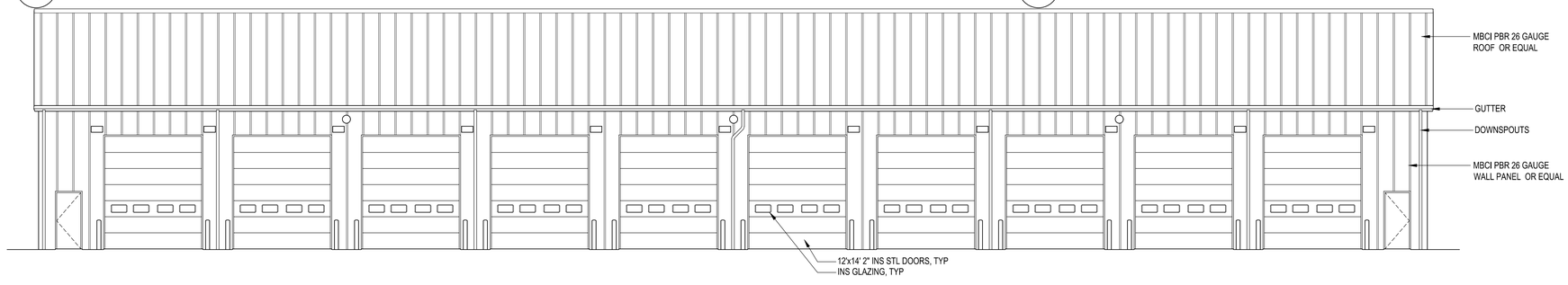
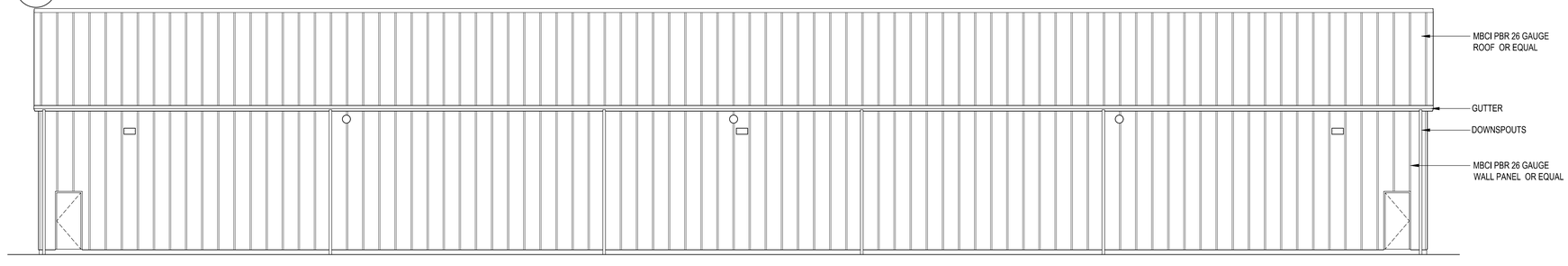


5 NORTH ELEVATION

1/4"=1'-0"

6 EAST ELEVATION

1/4"=1'-0"



7 WEST ELEVATION

1/4"=1'-0"

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CENTRAL SITE LANE
WORCESTER COUNTY, MARYLAND

Date: 8/8/2025
Scale: NOTED
Dwn.By: WLN
Proj.No.: 0085B049.A01

EXTERIOR ELEVATIONS

Dwg.No.: **A-201**

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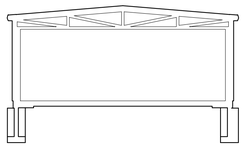
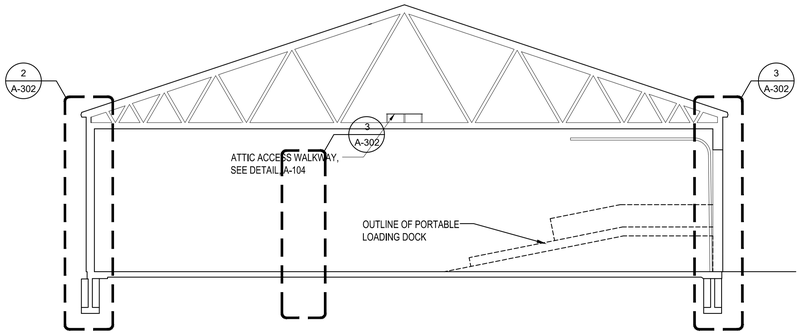


1 PUMP BLDG SECTION
1/8"=1'-0"



2 STOR BLDG SECTION
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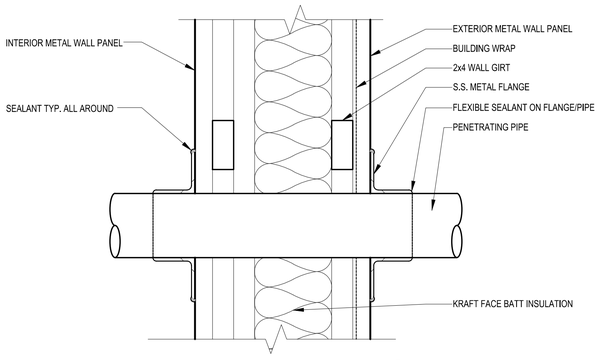

7 PIPE PENETRATION DETAIL
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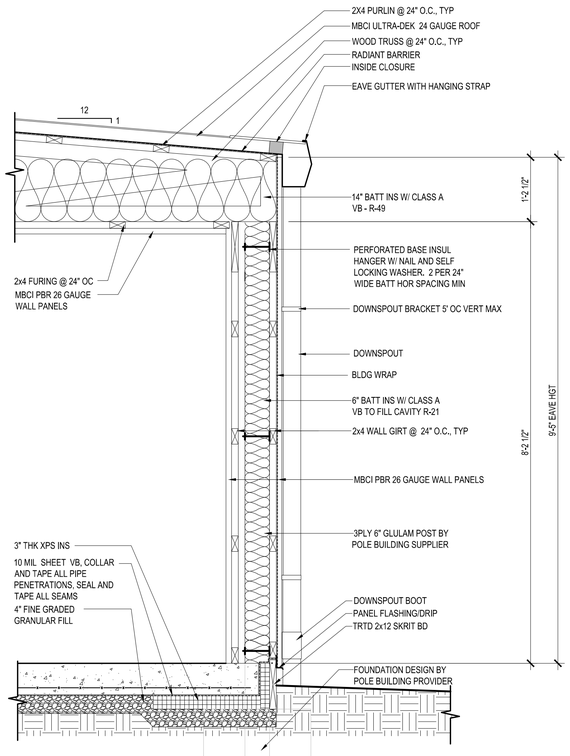

3 PUMP BLDG WALL SECTION
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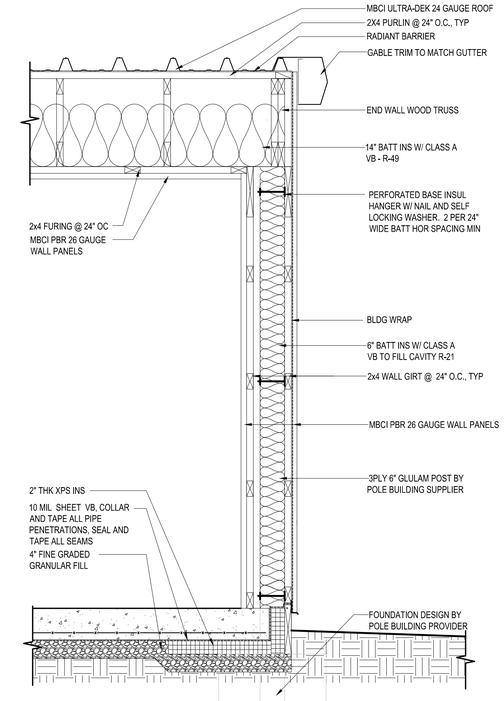

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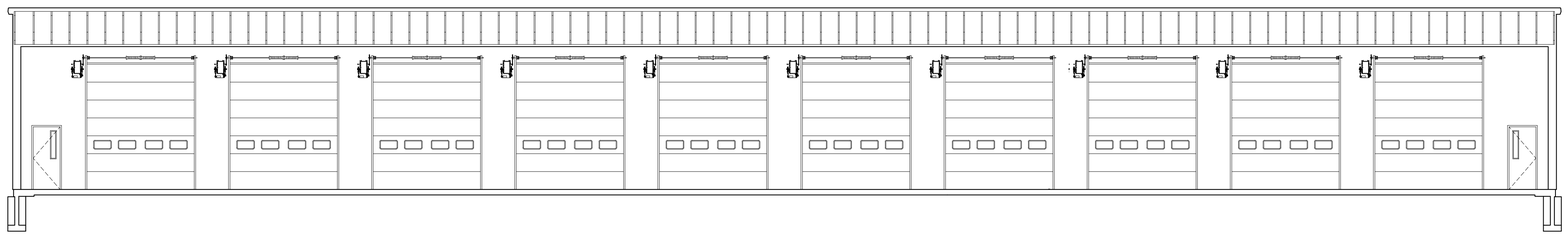

5 STOR BLDG SECTION
1/8"=1'-0"

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WORCESTER COUNTY, MARYLAND

Date: 8/8/2025
Scale: NOTED
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BUILDING SECTIONS

Dwg.No.: **A-301**

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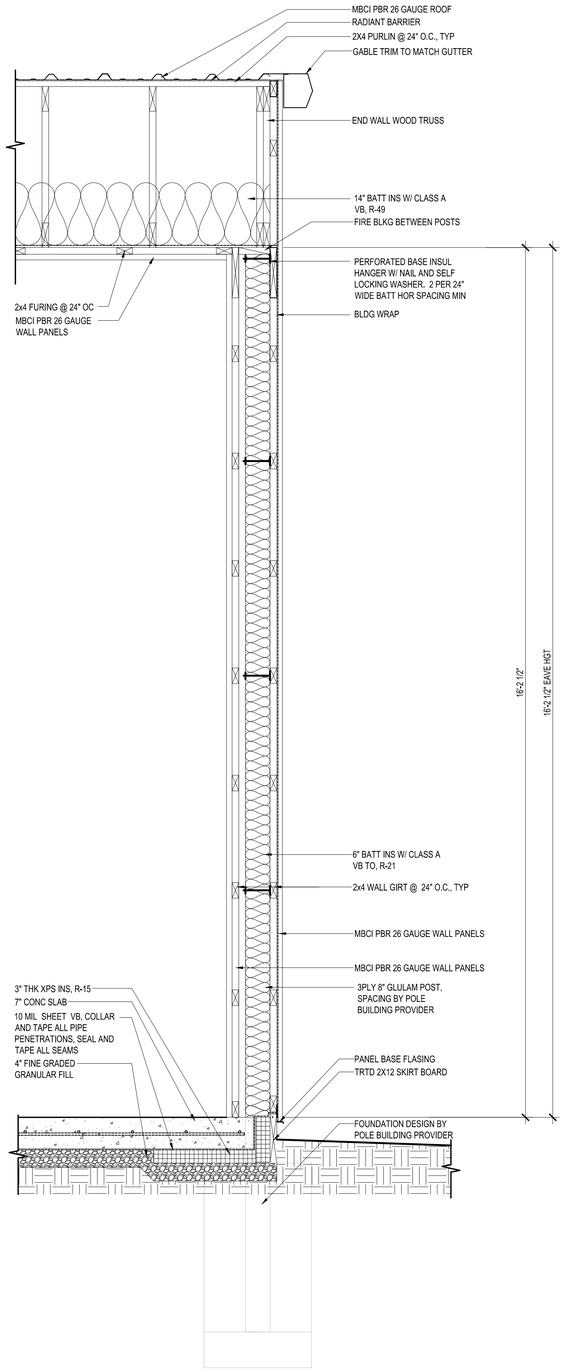
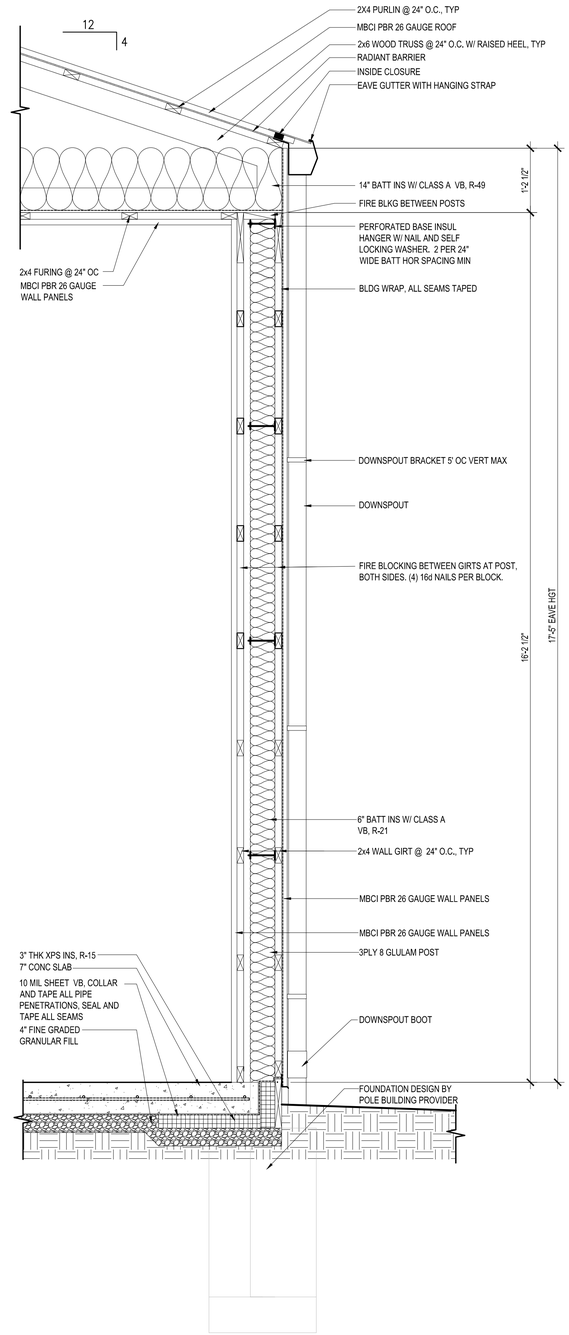
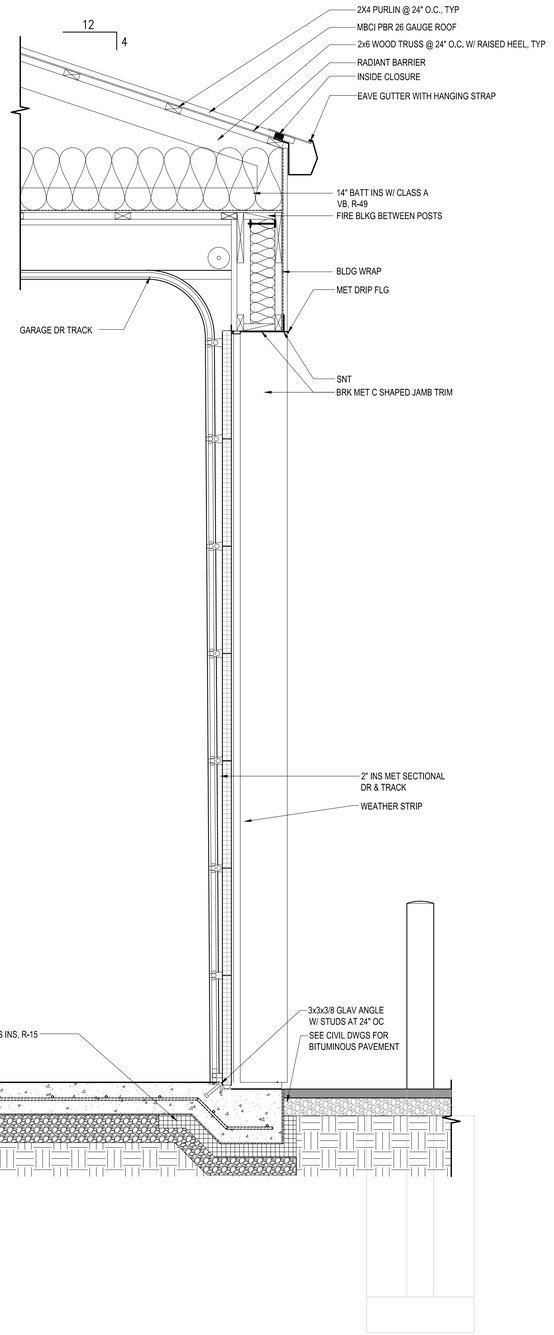


1 **WALL SECTION**
3/4"=1'-0"



2 **WALL SECTION**
3/4"=1'-0"



3 **WALL SECTION**
3/4"=1'-0"

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WORCESTER COUNTY, MARYLAND

Date: 8/8/2025
Scale: NOTED
Dwn.By: WLN
Proj.No.: 0085B049.A01

WALL SECTIONS

Dwg.No.: **A-302**

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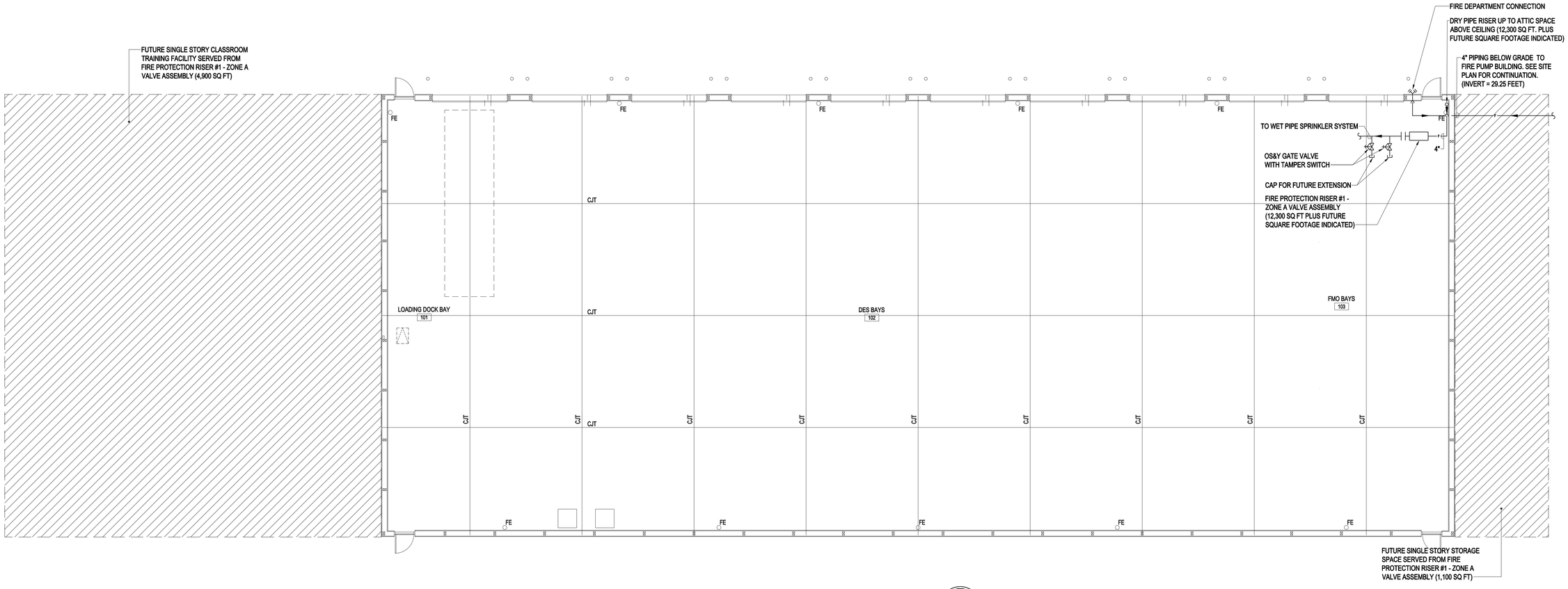
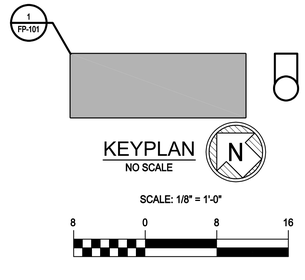


1 FP-101 FIRE PROTECTION ZONING DIAGRAM



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

8 0 8 16

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BID SET

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Scale: AS NOTED
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FIRE PROTECTION ZONING DIAGRAM

Dwg.No.: **FP-101**

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FIRE ALARM ABBREVIATIONS

ABBREVIATION	DEFINITION
A	AMPERES
AC	ALTERNATING CURRENT
ADA	AMERICANS WITH DISABILITIES ACT
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIM	ADDRESSABLE INPUT MODULE
AMM	ADDRESSABLE MONITOR MODULE
AMP	AMPLIFIER
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ARM	ADDRESSABLE RELAY MODULE
ATC	AUTOMATIC TEMPERATURE CONTROL
AV, A/V	AUDIO/VIDEO
AWG	AMERICAN WIRE GAUGE
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CAT	CATEGORY
CIRC	CIRCUIT
CKT	CIRCUIT
CL	CENTER LINE
CMU	CONCRETE MASONRY UNIT
CNTRL	CONTROL
CO	CARBON MONOXIDE
CT	CURRENT TRANSFORMER
CU	COPPER
D	DEEP, DEPTH
dB	DECIBEL (A SCALE)
DC	DIRECT CURRENT
DD	DUCT SMOKE DETECTOR
DH	DOOR-HOLD OPEN DEVICE
DE	DELAWARE
DED	DELAYED EXIT DEVICE
DIAM	DIAMETER
DIV	DIVISION
DN	DOWN
DPDT	DOUBLE-POLE, DOUBLE-THROW
DPST	DOUBLE-POLE, SINGLE-THROW
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EC	EMPTY CONDUIT
ECS	EMERGENCY COMMUNICATIONS SYSTEM
EF	EXHAUST FAN
E.G.	EXAMPLE GIVEN
ELEC	ELECTRIC
ELEV	ELEVATOR
EMER	EMERGENCY
EMR	ELEVATOR MACHINE ROOM
EOL	END-OF-LINE
EQ	EQUAL
EQUIP	EQUIPMENT
ER	ELEVATOR RECALL
ERV	ENERGY RECOVERY VENTILATOR
ETC	ET CETERA
ETR	EXISTING TO REMAIN
EX/EXST	EXISTING
EXT	EXTERIOR
F	FUSED
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FL/FLR	FLOOR
FM	FIRE MARSHAL
FP	FIRE PUMP
FPLP	FIRE-POWER LIMITED-PLENUM
FREQ	FREQUENCY
FS	FLOW SWITCH
FT	FEET
GEN	GENERATOR
H	HEIGHT
HD	HEAT DETECTOR
HVAC	HEATING VENTILATION AIR CONDITIONING
HT	HIGH TEMPERATURE
HW	HIGH WATER
HZ	HERTZ

ABBREVIATION	DEFINITION
ID	IDENTIFICATION
I.E.	THAT IS
JB	JUNCTION BOX
K	THOUSAND
L	LENGTH
LAN	LOCAL AREA NETWORK
LCP	LIGHTING CONTROL PANEL
LT	LOW TEMPERATURE
LW	LOW WATER
MA	MILLI-AMPERES
MAX	MAXIMUM
MD	MARYLAND
MECH	MECHANICAL
MH	MOUNTING HEIGHT
MIC	MICROPHONE
MIN	MINIMUM
ML	MAGNETIC LOCK
N	NEUTRAL, NORMAL, NORTH
NAC	NOTIFICATION APPLIANCE CIRCUIT
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PH	PHASE
POTS	PLAIN OLD TELEPHONE SERVICE
PS	PULL STATION
PWR	POWER
QTY	QUANTITY
RF	RADIO FREQUENCY
RM	ROOM
RMS	ROOT MEAN SQUARE
RPS	REMOTE POWER SUPPLY
RTS	REMOTE TEST STATION
SD	SMOKE DETECTOR
SLC	SIGNALING LINE CIRCUIT
SMR	SURFACE METAL RACEWAY
SPD	SURGE PROTECTIVE DEVICE
SS	SPEAKER STROBE
SW	SWITCH, SOUTHWEST
S/V	SPEAKER/VISUAL
TBD	TO BE DETERMINED
TEL/TELE	TELEPHONE
TEMP	TEMPORARY, TEMPERATURE
TS	TAMPER SWITCH
TYP	TYPICAL
UG	UNDERGROUND
U.O.N.	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT-AMPERES
VF	VENTILATION FAN
VIA	BY THE WAY OF
W	WIRE, WIDTH, WEST
W/	WITH
WG	WIREGUARD
W/O	WORK ORDER
WP	WEATHERPROOF
XF MR	TRANSFORMER
YR	YEAR
ZVA	ZONE VALVE ASSEMBLY
©	COPYRIGHT
%	PERCENT
'	FEET
"	INCHES
+/-	PLUS OR MINUS
ø	PHASE
&	AND
#	NUMBER

FIRE ALARM LEGEND

SYMBOL	DESCRIPTION
FACP FACP	FIRE ALARM SYSTEM - CONTROL PANEL - SURFACE-MOUNTED, FLUSH-MOUNTED - TOP 5'-6" AFF
FAAP FAAP	FIRE ALARM SYSTEM - ANNUNCIATOR PANEL - SURFACE-MOUNTED, FLUSH-MOUNTED - TOP 5'-6" AFF
NAC NAC	FIRE ALARM SYSTEM - NAC PANEL - SURFACE-MOUNTED, FLUSH-MOUNTED - TOP 5'-6" AFF
F FVS	FIRE ALARM - MANUAL PULL STATION - STANDARD, WITH VANDAL SHIELD - M.H. 42" TO BOTTOM, 48" TO TOP
F F	FIRE ALARM - MANUAL PULL STATION M.H. 42" TO BOTTOM, 48" AFF TO TOP, WITH NOTIFICATION DEVICE M.H. 7'-6" AFF
F	FIRE ALARM SYSTEM - AUDIO/VISUAL STROBE - WALL-MOUNTED 7'-6" AFF, CEILING MOUNTED
F WP	FIRE ALARM SYSTEM - AUDIO/VISUAL STROBE - WALL-MOUNTED 7'-6" AFF, CEILING MOUNTED - WEATHERPROOF
	FIRE ALARM SYSTEM - VISUAL STROBE - WALL-MOUNTED 7'-6" AFF, CEILING MOUNTED
WG WG	FIRE ALARM SYSTEM - VISUAL STROBE - WALL-MOUNTED 7'-6" AFF, CEILING MOUNTED - WIRE GUARDED
	FIRE ALARM SYSTEM - SMOKE DETECTOR - CEILING MOUNTED, WALL MOUNTED 7'-6" AFF U.O.N.
ER	FIRE ALARM SYSTEM - SMOKE DETECTOR WITH ELEVATOR RECALL - CEILING MOUNTED, WALL MOUNTED 7'-6" AFF U.O.N.
	FIRE ALARM SYSTEM - SMOKE DETECTOR WITH SOUNDER BASE - CEILING MOUNTED, WALL MOUNTED 7'-6" AFF U.O.N.
	FIRE ALARM SYSTEM - HEAT DETECTOR - CEILING MOUNTED, WALL MOUNTED 7'-6" AFF U.O.N.
S	FIRE ALARM SYSTEM - HEAT DETECTOR WITH SHUNT TRIP CONTACTS - CEILING MOUNTED, WALL MOUNTED 7'-6" AFF U.O.N.
CO CO	FIRE ALARM SYSTEM - CARBON MONOXIDE DETECTOR - CEILING MOUNTED, WALL MOUNTED 18" AFF U.O.N.
WF	FIRE ALARM SYSTEM - WATER FLOW SWITCH
TS	FIRE ALARM SYSTEM - TAMPER SWITCH
WP	FIRE ALARM SYSTEM - DUCT DETECTOR - STANDARD, WEATHERPROOF
RTS RTS	FIRE ALARM SYSTEM - DUCT DETECTOR REMOTE TEST STATION - CEILING MOUNTED, WALL MOUNTED 42" AFF TO BOTTOM, 48" AFF TO TOP
AIM	FIRE ALARM SYSTEM - ADDRESSABLE INTERFACE MODULE - M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP
AIM WF	FIRE ALARM SYSTEM - ADDRESSABLE INTERFACE MODULE - WATER FLOW - M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP
AIM TS	FIRE ALARM SYSTEM - ADDRESSABLE INTERFACE MODULE - TAMPER SWITCH - M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP
AIM LCP	FIRE ALARM SYSTEM - ADDRESSABLE INTERFACE MODULE - LIGHTING CONTROL PANEL - M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP
AIM DD	FIRE ALARM SYSTEM - ADDRESSABLE INTERFACE MODULE - DUCT DETECTOR - M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP
G	FIRE ALARM SYSTEM - ELECTRIC FIRE GONG - PROVIDED UNDER DIVISION 21, WIRED UNDER DIVISION 28
DH	FIRE ALARM SYSTEM - MAGNETIC DOOR HOLD-OPEN DEVICE - PROVIDED UNDER DIVISION 08, CONNECTED UNDER DIVISION 28 - INTERLOCK WITH FACP TO RELEASE DOORS DURING FIRE ALARM - FIELD COORDINATE MOUNTING HEIGHT WITH DOORS
ML	FIRE ALARM SYSTEM - MAGNETIC DOOR LOCK - PROVIDED UNDER DIVISION 08, CONNECTED UNDER DIVISION 28 - INTERLOCK WITH FACP TO RELEASE LOCKS DURING FIRE ALARM - FIELD COORDINATE MOUNTING HEIGHT WITH DOORS
DE	FIRE ALARM SYSTEM - DELAYED EXIT DEVICE - PROVIDED UNDER DIVISION 08, CONNECTED UNDER DIVISION 28 - INTERLOCK WITH FACP TO DISARM EXIT DEVICE DURING FIRE ALARM - FIELD COORDINATE MOUNTING HEIGHT WITH DOORS
SW SW	SPRINKLER TANK ALARM - HIGH WATER, LOW WATER - PROVIDED UNDER DIVISION 21, INTERLOCKED WITH FIRE ALARM SYSTEM UNDER DIVISION 28 - PROVIDE ADDRESSABLE INTERFACE MODULE TO INTERLOCK WITH FACP
LT	SPRINKLER TANK ALARM - LOW TEMPERATURE - PROVIDED UNDER DIVISION 21, INTERLOCKED WITH FIRE ALARM SYSTEM UNDER DIVISION 28 - PROVIDE ADDRESSABLE INTERFACE MODULE TO INTERLOCK WITH FACP

NOTE:
1. NOT ALL ITEMS WITHIN LEGEND MAY BE UTILIZED ON THIS PROJECT.

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CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: KDS
Proj.No.: 0085B049.A01

LEGEND & ABBREVIATIONS FIRE ALARM

Dwg.No.:
FA-001

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DRAWING NOTES:
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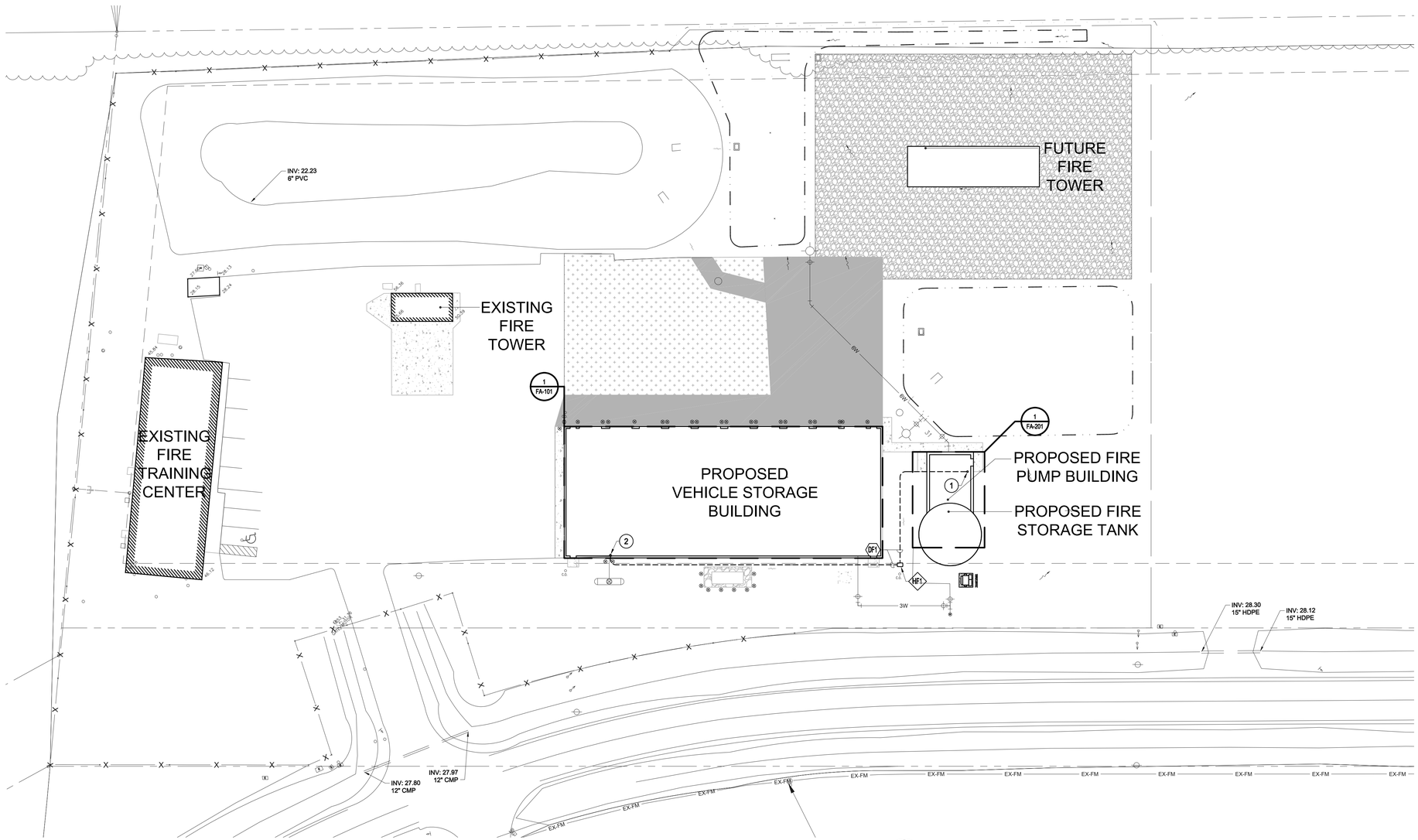
1. STUB UP CONDUIT AT FACP IN FIRE PUMP BUILDING. SEE SHEET FA-201.
2. STUB UP CONDUIT AT NAC PANEL IN VEHICLE STORAGE BUILDING. SEE PART PLAN 1, SHEET EP-101.



1 FA-100 SITE PLAN - FIRE ALARM

SCALE: 1" = 30'-0"

30 0 30 60

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SITE PLAN FIRE ALARM

Dwg.No.: **FA-100**

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DRAWING NOTES:
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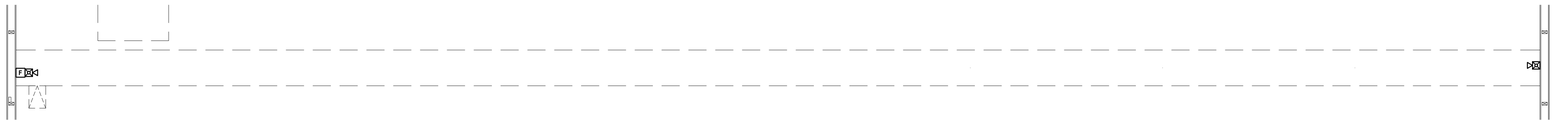
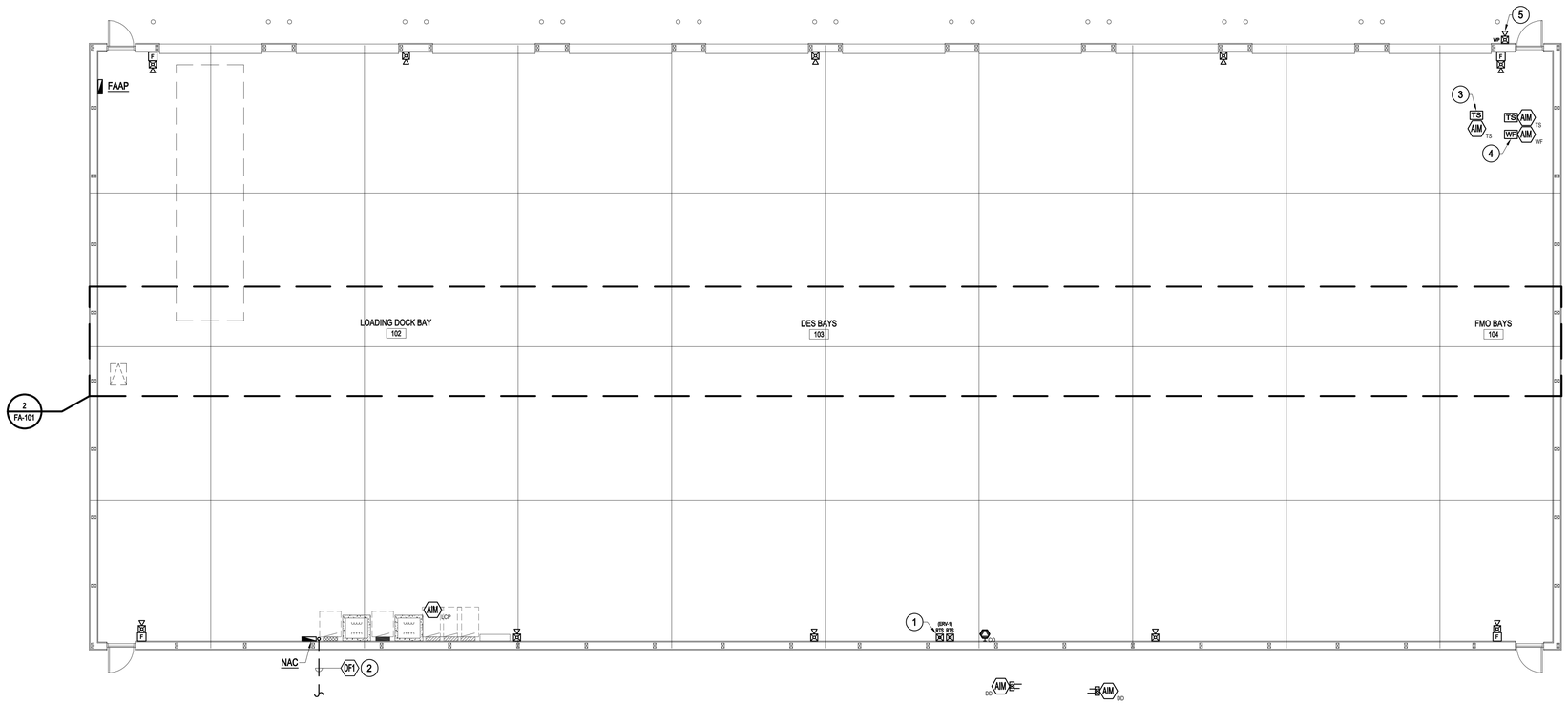
1. FIELD COORDINATE EXACT LOCATION OF REMOTE TEST SWITCH FOR DUCT MOUNTED SMOKE DETECTOR AND LABEL PER DETAILS. MOUNTING HEIGHT SHALL BE 7'-0" AFF.
2. SEE SITE PLAN FA-100 FOR CONTINUATION.
3. MONITOR TAMPER SWITCH ON GATE VALVE.
4. MONITOR FLOW SWITCH AND TAMPER SWITCH FOR FIRE PROTECTION ZONE VALVE ASSEMBLY. REFER TO FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
5. NOTIFICATION APPLIANCE TO BE INSTALLED ABOVE FIRE DEPARTMENT CONNECTION (FDC). FIELD COORDINATE EXACT LOCATION.



2 FA-101 ATTIC PLAN - FIRE ALARM



1 FA-101 FIRST FLOOR PLAN - FIRE ALARM

KEYPLAN
NO SCALE

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

8 0 8 16

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FIRST FLOOR PLAN FIRE ALARM

Dwg.No.:
FA-101

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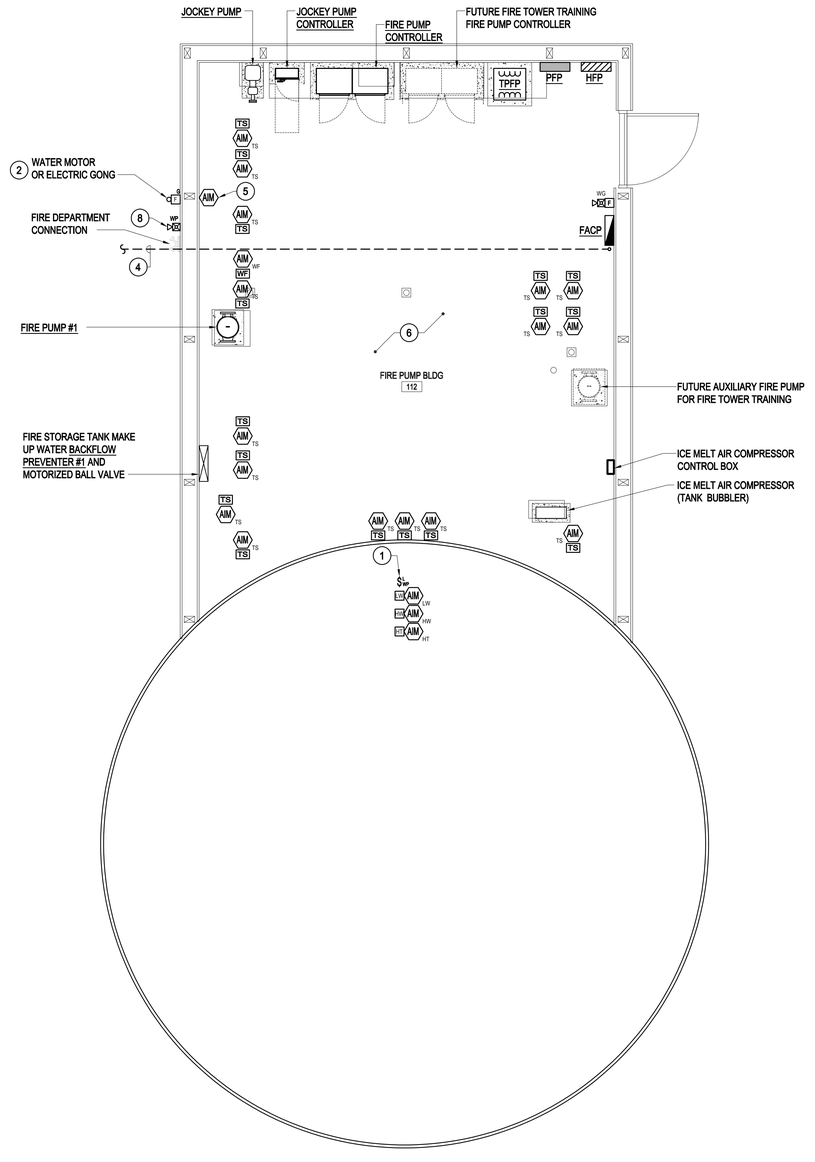
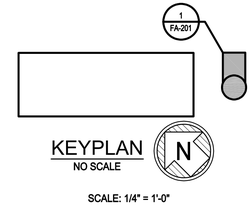


1 FA-201 PART PLAN - FIRE ALARM

DRAWING NOTES:
(APPLY TO THIS DRAWING ONLY)

1. INTERLOCK FIRE PROTECTION STORAGE TANK ALARMS WITH FIRE ALARM SYSTEM AS REQUIRED. PROVIDE 120V CONNECTIONS TO EQUIPMENT AS REQUIRED PER EQUIPMENT WIRING DIAGRAMS.
2. FIRE GONG PROVIDED UNDER DIVISION 21. CONNECT TO FIRE ALARM SYSTEM AS REQUIRED. SEE POWER PART PLAN 2, SHEET E-201, FOR CIRCUIT INFORMATION.
3. INTERLOCK WITH FIRE PUMP CONTROLLER.
4. FIRE ALARM CONDUIT TO NAC PANEL IN MAIN BUILDING. SEE FIRE ALARM SITE PLAN, DRAWING FA-100, FOR CONTINUATION.
5. ADDRESSABLE INPUT MODULE SHALL MONITOR STATUS OF FIRE GONG. CONNECT TO FIRE ALARM SYSTEM AS REQUIRED.
6. COORDINATE EXACT QUANTITIES AND LOCATIONS OF FLOW SWITCHES AND TAMPER SWITCHES FOR FIRE PROTECTION SYSTEM WITH DIVISION 21. REFER TO FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
7. MONITOR FLOW SWITCH AND TAMPER SWITCH FOR FIRE PROTECTION ZONE VALVE ASSEMBLY. REFER TO FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
8. NOTIFICATION APPLIANCE TO BE INSTALLED ABOVE FIRE DEPARTMENT CONNECTION (FDC). FIELD COORDINATE EXACT LOCATION.
9. PROVIDE ALL CODE REQUIRED ALARMS AND STATUS MONITORING OF FIRE SPRINKLER PIPING FREEZE PROTECTION CONTROL PANEL, INCLUDING BUT NOT LIMITED TO, LOW PIPE TEMPERATURE, HIGH PIPE TEMPERATURE, LOSS OF POWER, AND GROUND FAULT TRIP.



KEYPLAN
NO SCALE

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

4 0 4 8

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PART PLAN FIRE ALARM

Dwg.No.:

FA-201

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PLUMBING LEGEND

SYMBOL	ABBREVIATION	DEFINITION
		SHOCK ABSORBER
		THERMOMETER
		PRESSURE GAUGE W/ NEEDLE VALVE
	VTR	VENT THRU ROOF
		FIRE PROTECTION SHUT-OFF VALVE W/ TAMPER SWITCH
		STRAINER W/ BLOW DOWN VALVE AND HOSE END DRAIN CONNECTION
		GAS COCK
		GAUGE VALVE
		BALL VALVE
		CIRCUIT SETTER
		BALANCE & SHUT-OFF VALVE W/ MEMORY
		UNION
	NFWH	WALL HYDRANT (NON-FREEZE)
	HB	HOSE BIBB
	IRWH	INTERIOR RECESSED WALL HYDRANT
		GLOBE VALVE
		GATE VALVE
		MULTI-PURPOSE VALVE
		RPZ BACKFLOW PREVENTER
		BALANCE VALVE
		STRAINER
	OS&Y	OUTSIDE SCREW AND YOKE
		CHECK VALVE
		CAPPED PIPE
		PIPE UP
		PIPE DOWN
		BOTTOM PIPE CONNECTION
		TOP PIPE CONNECTION
	FDR	FLOOR SINK W/ TRAP PRIMING LINE
	FDR	FLOOR DRAIN W/ TRAP PRIMING LINE
	SAN, W	SANITARY, SOIL, WASTE
	V	PLUMBING VENT
	CO	CLEANOUT: LINE, FLUSH
		BELOW SLAB/GRADE PIPING
	CW	COLD WATER
	CW	COLD WATER (BELOW GRADE)
LPG	LPG	PROPANE GAS PIPING
LPG	LPG	PROPANE GAS PIPING (BELOW GRADE)
JPS	JPS	JOCKEY PUMP SUCTION
JPD	JPD	JOCKEY PUMP DISCHARGE
JPSL	JPSL	JOCKEY PUMP SENSING LINE
FPSL	FPSL	FIRE PUMP SENSING LINE
FDC	FDC	FIRE DEPT. CONNECTION PIPING
TH	TH	FIRE PUMP TEST HEADER PIPING
FPR	FPR	FIRE PUMP RELIEF VALVE PIPING
	PDI	PLUMBING & DRAINAGE INSTITUTE
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	DS	DOWNSPOUT
	EX	EXISTING
		DOUBLE CHECK VALVE BACKFLOW PREVENTER
	CX	CONNECT TO EXISTING
#		DRAWING NOTE - NEW WORK
X / XXX	PART PLAN NO. / DRAWING NO.	PART PLAN DESIGNATION

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LEGEND PLUMBING

Dwg.No.:

P-001

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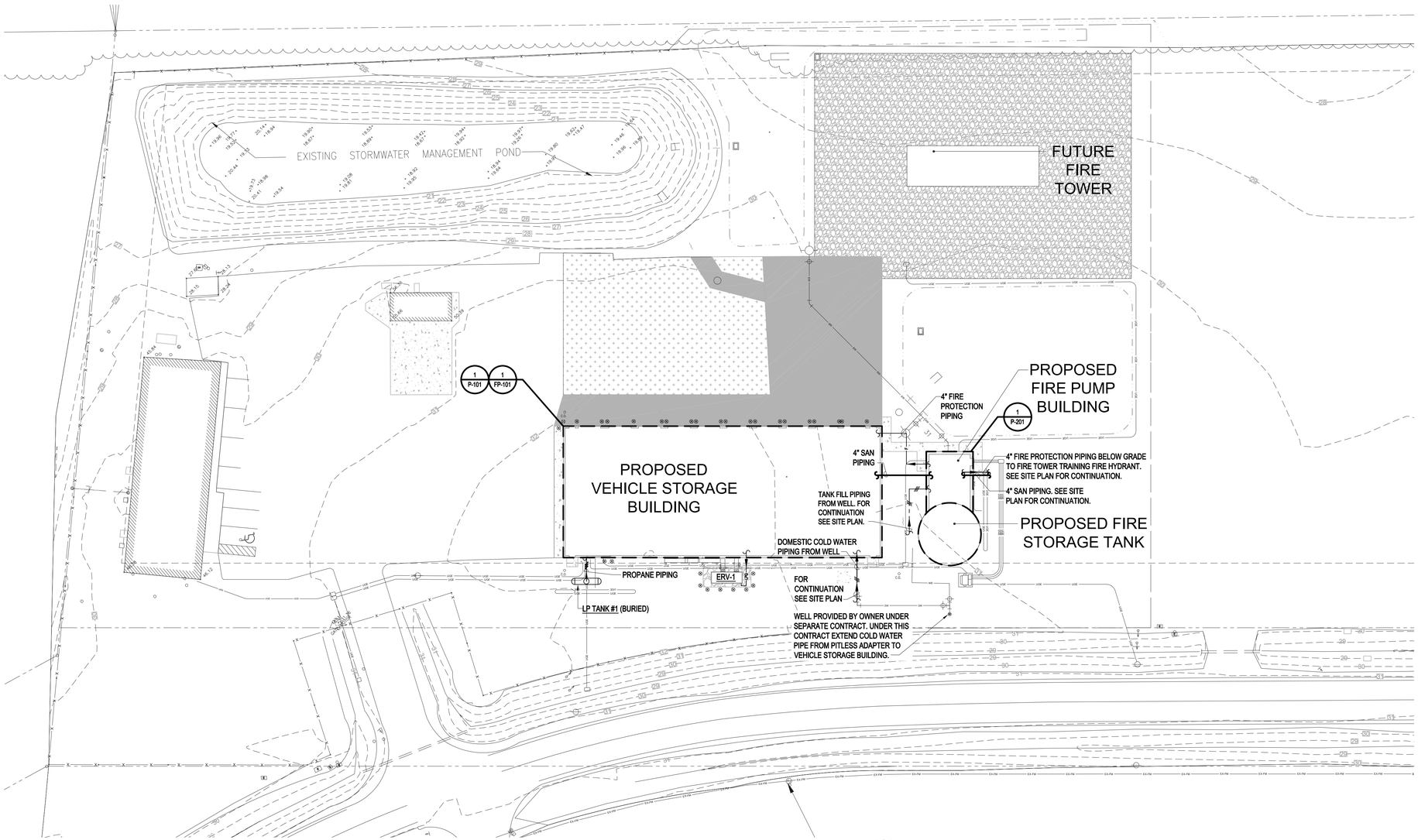

SITE PLAN - PLUMBING

SCALE: 1" = 30'-0"

30 0 30 60

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SITE PLAN PLUMBING

Dwg.No.: **P-100**

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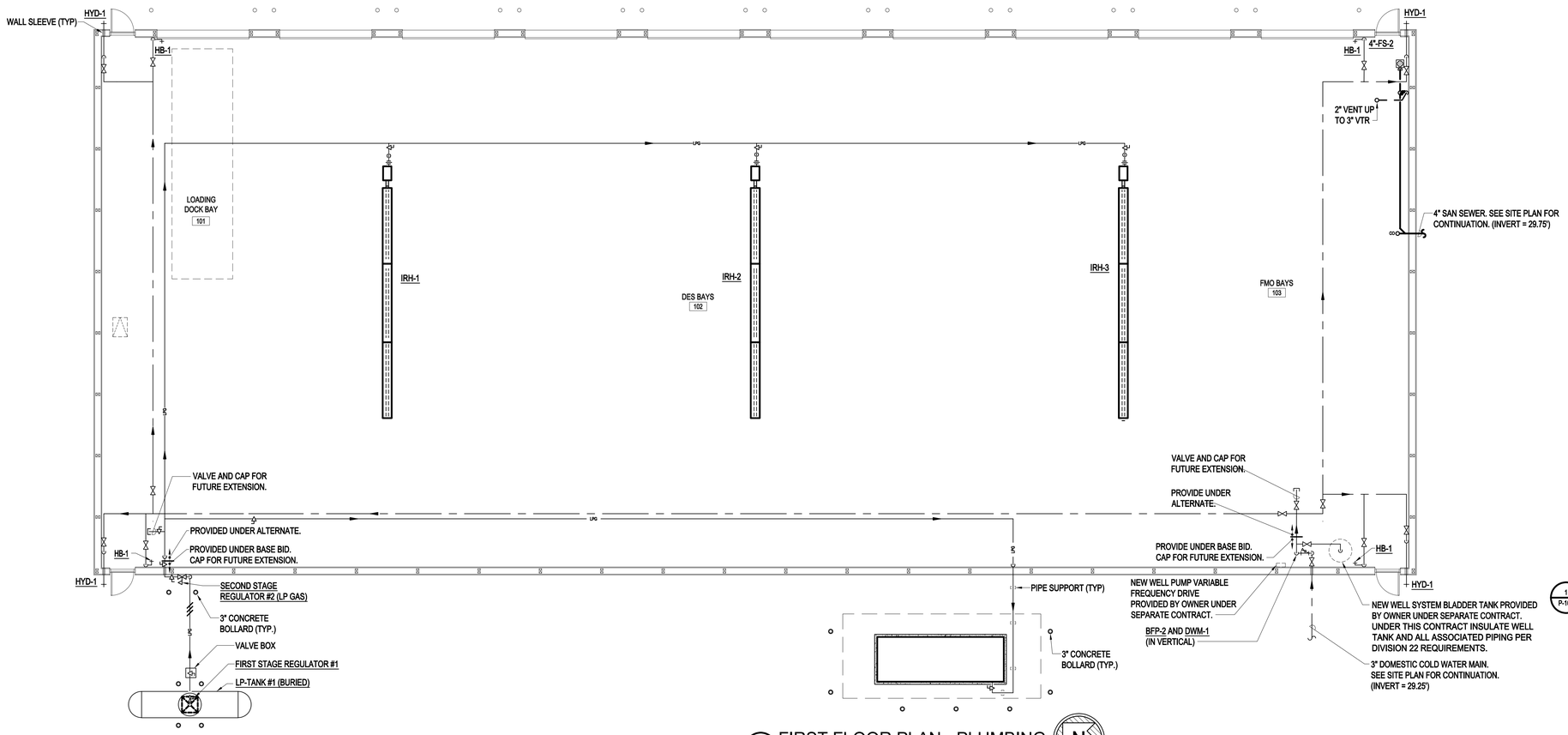
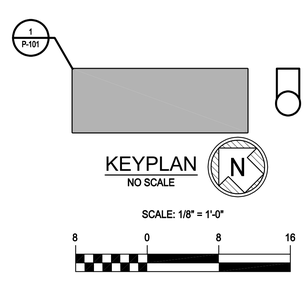
GENERAL NOTES:

(APPLY TO ALL DRAWINGS)

1. ALL INVERT CALCULATIONS ARE BASED ON ASSUMED FINISHED FLOOR ELEVATION OF 32.5 FEET AND GRADE ELEVATION OF 32.17 FEET. REFER TO CIVIL DRAWINGS FOR EXACT ELEVATIONS.
2. REFER TO DIVISION 01 FOR EXTENT OF WORK TO BE PROVIDED UNDER BASE BID AND EXTENT OF WORK TO BE PROVIDED UNDER ALTERNATE.
3. NEW WELL, WELL SYSTEM BLADDER TANK, VARIABLE FREQUENCY DRIVE, AND PRESSURE TRANSDUCER PROVIDED AND INSTALLED UNDER SEPARATE CONTRACT. UNDER THIS CONTRACT PROVIDE DOMESTIC COLD WATER PIPING FROM NEW WELL INTO BUILDING TO POINT INDICATED PER THE CONTRACT DOCUMENTS. UNDER THIS CONTRACT PROVIDE TEE FITTING AND VALVE FOR CONNECTION TO WELL SYSTEM BLADDER TANK. ALSO UNDER THIS CONTRACT INSULATE, JACKET, AND LABEL ALL WELL SYSTEM TANKS AND PIPING.



1 / P-101 FIRST FLOOR PLAN - PLUMBING



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

8 0 8 16

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FIRST FLOOR PLAN PLUMBING

Dwg.No.: **P-101**

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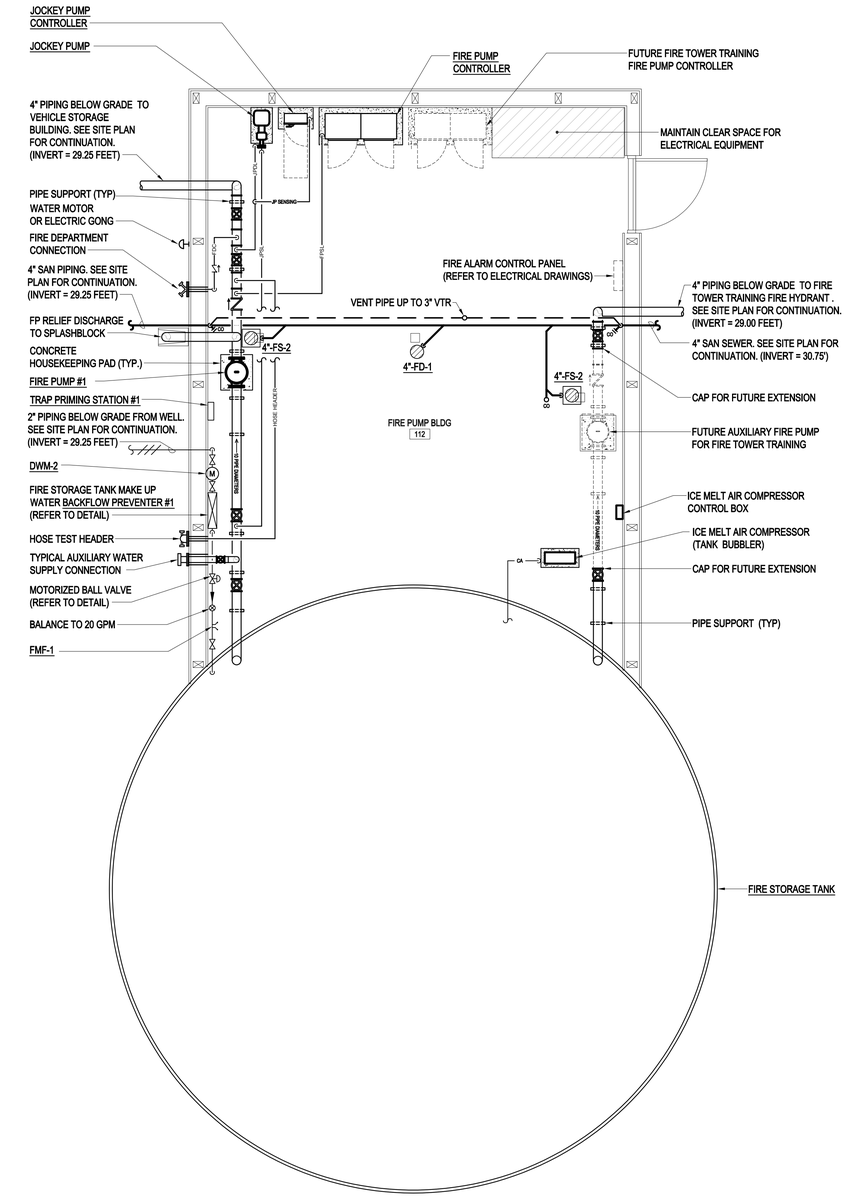
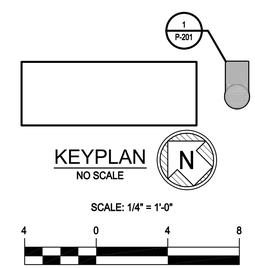


1 P-201 PART PLAN - PLUMBING



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

4 0 4 8

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PART PLAN PLUMBING

Dwg.No.:

P-201

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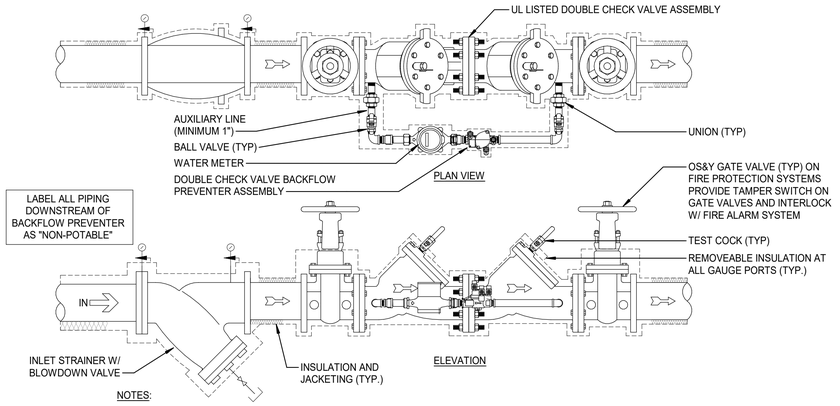
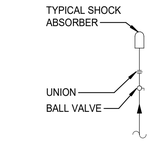


NOTES:

1. UNLESS OTHERWISE NOTED MOUNTING HEIGHT SHALL BE BETWEEN 12" AND 60" ABOVE THE FINISHED FLOOR.
2. EXTERNALLY INSULATE AS SPECIFIED, PROVIDE REMOVABLE INSULATION COVERS FOR TEST PORTS.
3. FIRE ALARM AND POWER WIRING FOR TAMPER SWITCHES SHALL BE INSTALLED UNDER DIVISION 28.

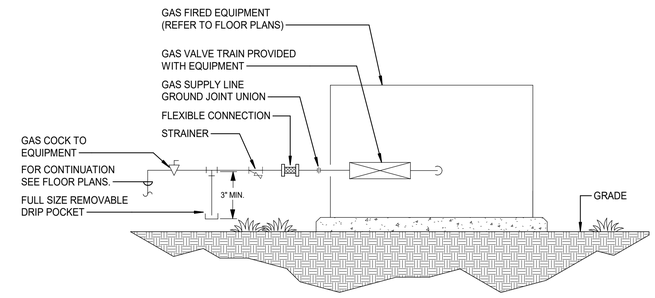
1 DETAIL - DOUBLE DETECTOR CHECK VALVE ASSEMBLY (MAKE-UP WATER FOR FIRE STORAGE TANK)



NOTE:

1. REFER TO DOMESTIC WATER RISER DIAGRAM FOR "PDI" SIZE CLASSIFICATION

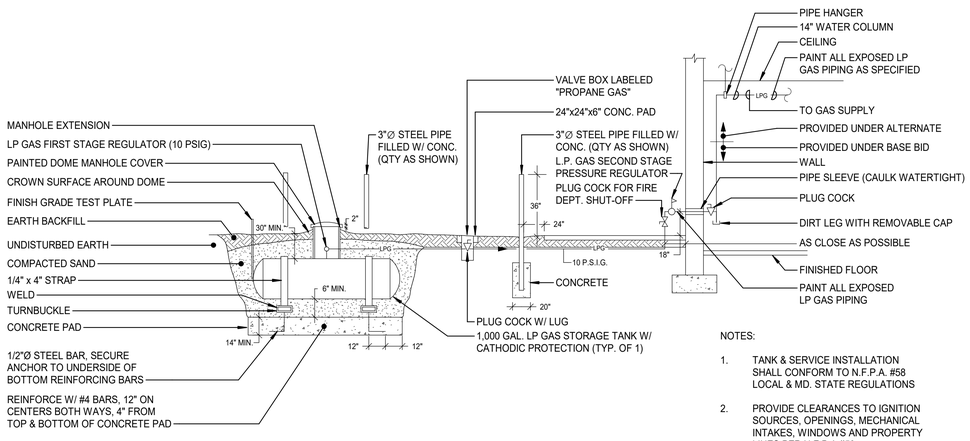
2 DETAIL - TYPICAL SHOCK ABSORBER



NOTE:

1. PAINT ALL EXPOSED PIPING AND VALVES AS SPECIFIED. PAINT VALVES IN CONTRASTING COLOR TO PIPING TO MAKE THE VALVES "STAND OUT".
2. PROVIDE CLEARANCES TO PROPANE TANK, IGNITION SOURCES, OPENINGS, MECHANICAL INTAKES, WINDOWS AND PROPERTY LINES PER N.F.P.A.#58.
3. LOCATE GAS PRESSURE REGULATOR AWAY FROM SOURCES OF IGNITION PER MANUFACTURER'S REQUIREMENTS.

3 DETAIL - GRADE MOUNTED ENERGY RECOVERY VENTILATOR GAS PIPING CONNECTION

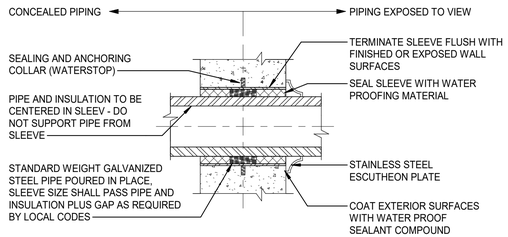


NOTES:

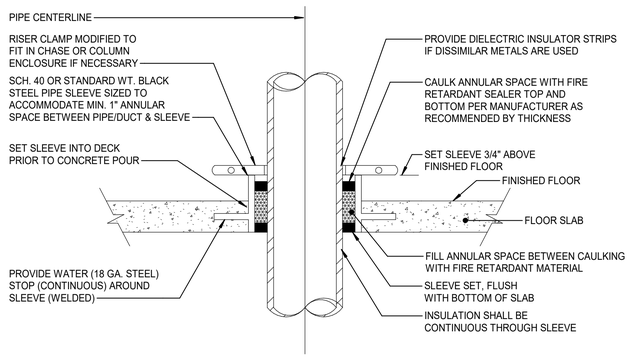
1. TANK & SERVICE INSTALLATION SHALL CONFORM TO N.F.P.A. #58 LOCAL & MD. STATE REGULATIONS
2. PROVIDE CLEARANCES TO IGNITION SOURCES, OPENINGS, MECHANICAL INTAKES, WINDOWS AND PROPERTY LINES PER N.F.P.A.#58.

4 DETAIL - LP UNDERGROUND GAS STORAGE TANK AND SERVICE LINE - GERNEAL BUILDING SERVICE

5 DETAIL - GAS PIPING CONNECTIONS TO INTERIOR EQUIPMENT



6 DETAIL - TYPICAL PIPE SLEEVE THRU EXTERIOR WALL (ABOVE GRADE)



7 DETAIL - TYPICAL PIPE SLEEVE THRU INTERIOR FLOOR

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WORCESTER, MARYLAND

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: GAW
Proj.No.: 0085B049.A01

DETAILS PLUMBING

Dwg.No.: P-301

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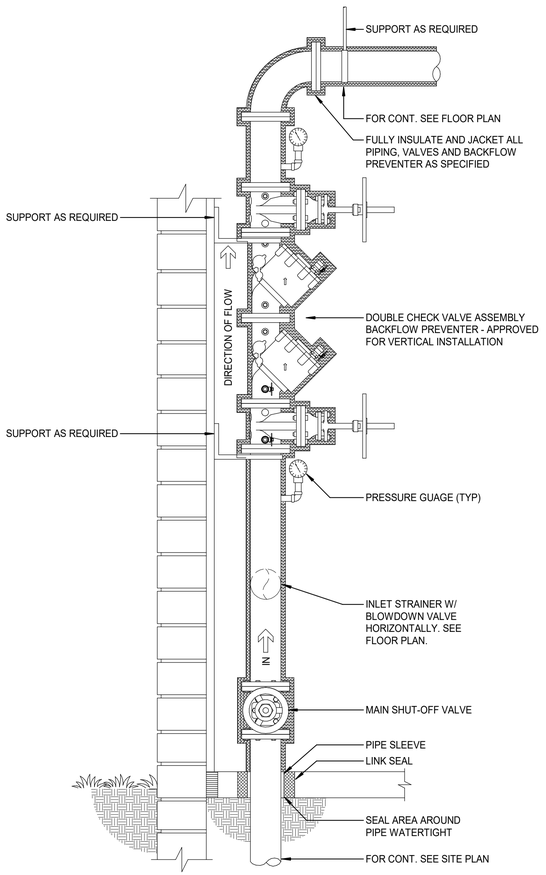
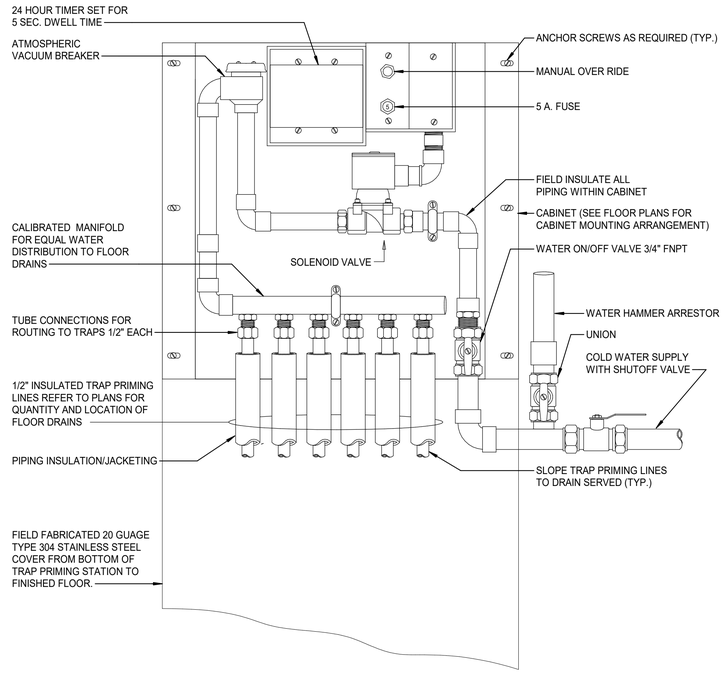
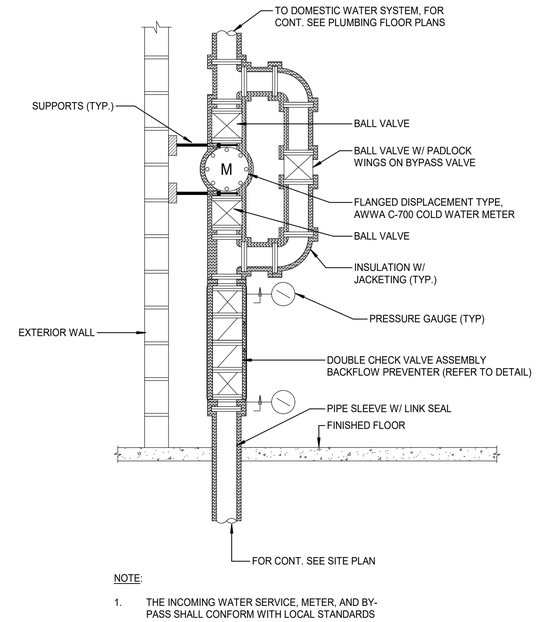


1 DETAIL - INCOMING DOMESTIC WATER SERVICE



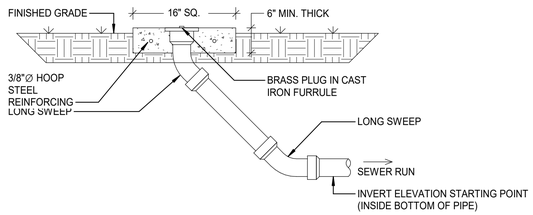
2 DETAIL - TRAP PRIMING STATION



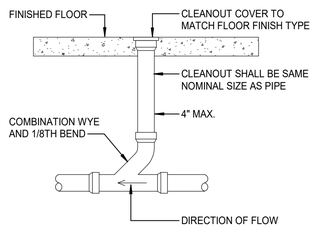
NOTE:

1. THE INCOMING WATER SERVICE, METER, AND BY-PASS SHALL CONFORM WITH LOCAL STANDARDS

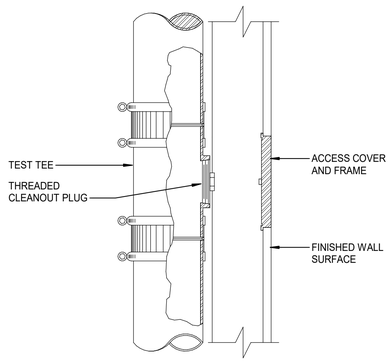
3 DETAIL - INCOMING DOMESTIC WATER SERVICE W/ METER



5 DETAIL - EXTERIOR CLEANOUT



6 DETAIL - TYPICAL INTERIOR SANITARY CLEANOUT



7 DETAIL - INTERIOR WALL CLEANOUT - NO-HUB WITH ACCESS COVER

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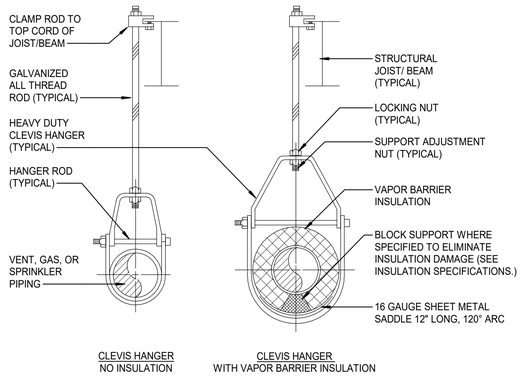
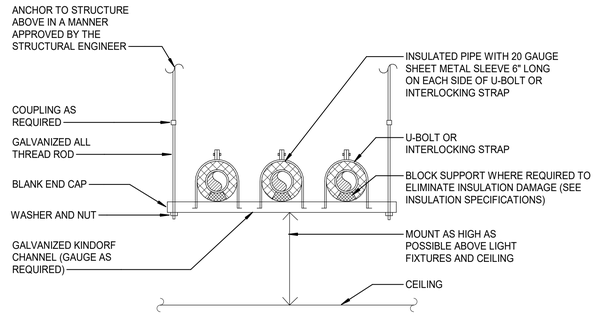


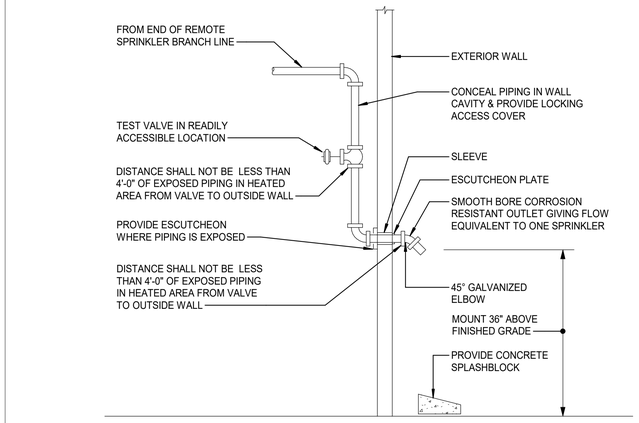
1 DETAIL - TYPICAL INDIVIDUAL PIPE SUPPORT



NOTES:

1. ALL PIPING SUPPORT SYSTEM COMPONENTS SHALL HAVE A NON-CORROSIVE METAL FINISH, GALV-KROM OR EQUAL.
2. COORDINATE CROSS PIPING WITH MECHANICAL PIPING ROUTED IN CORRIDORS & SPRINKLER PIPING MAINS CROSSING IN CORRIDORS.

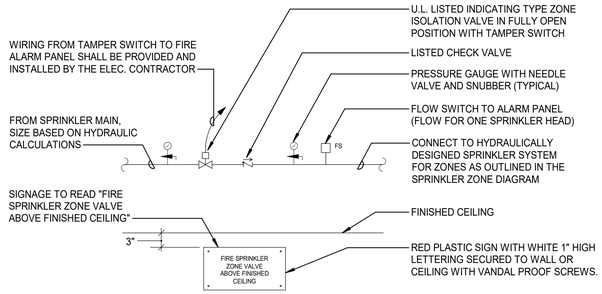
2 DETAIL - TYPICAL TRAPEZE PIPING SUPPORT



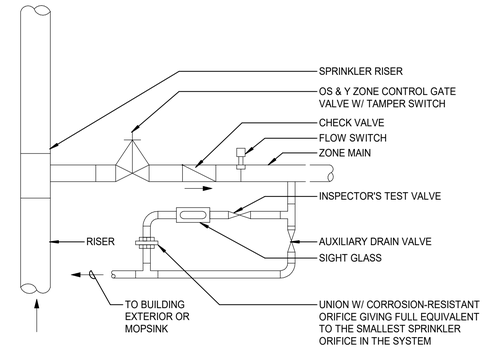
NOTE:

1. APPLICATION IS FOR WET-PIPE SPRINKLER SYSTEM ONLY.

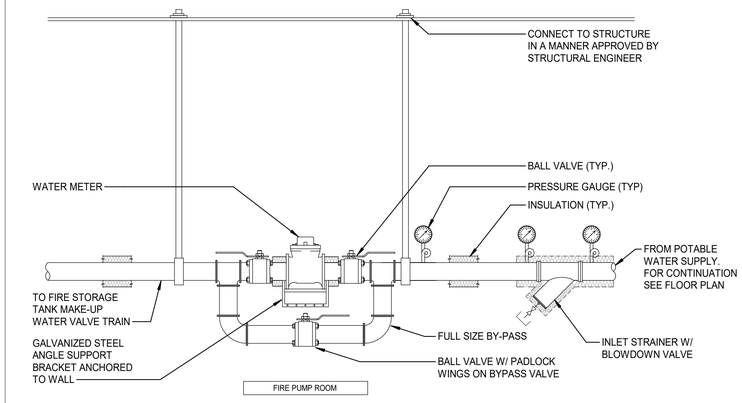
3 DETAIL - TYPICAL SPRINKLER SYSTEM TEST / DRAIN PIPE



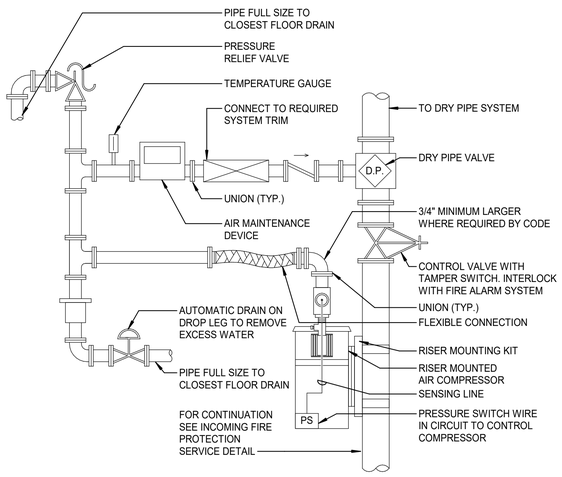
4 DETAIL - TYPICAL SPRINKLER ZONE ALARM VALVE ASSEMBLY



5 DETAIL - TYPICAL SPRINKLER ZONE CONTROL VALVE



6 DETAIL - FIRE STORAGE TANK FILL WATER METER



7 DETAIL - RISER MOUNTED DRY PIPE AIR COMPRESSOR

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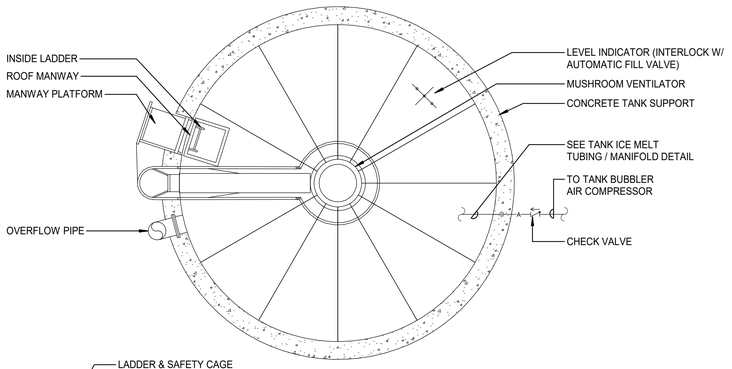
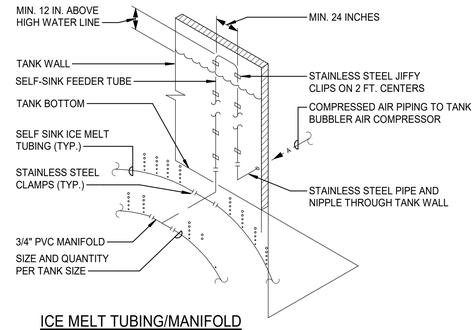
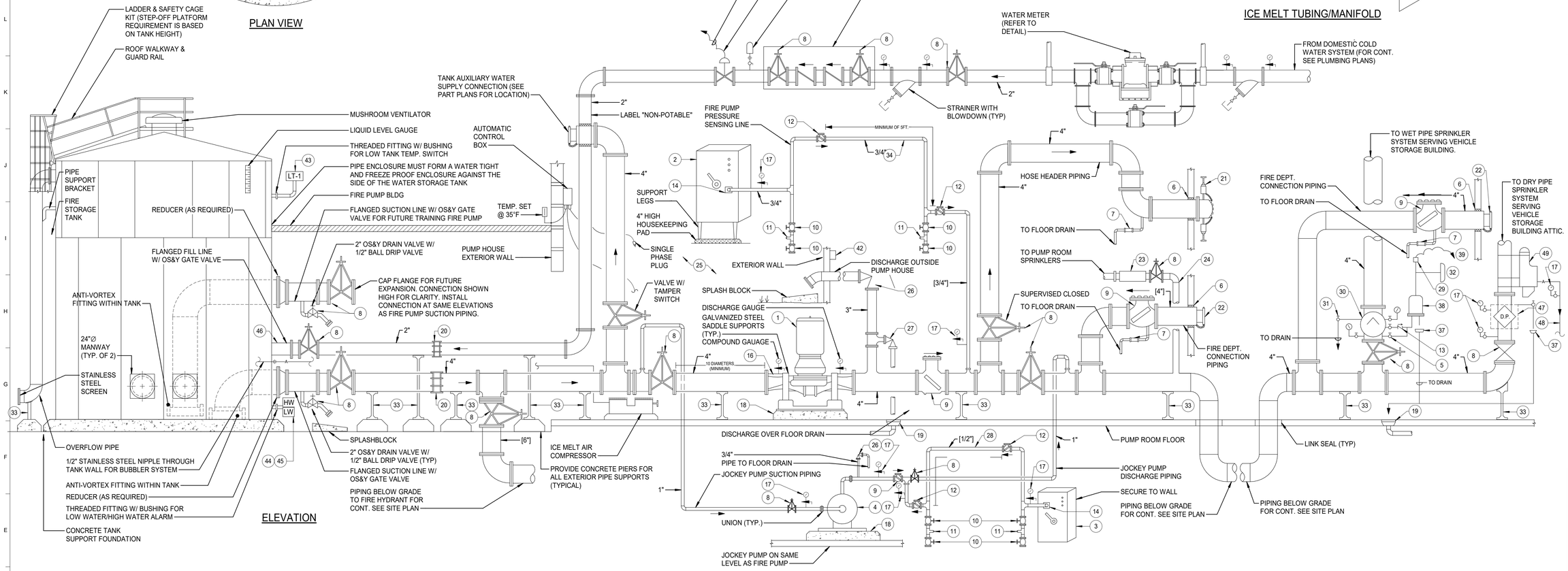


PLAN VIEW



ICE MELT TUBING/MANIFOLD



ELEVATION

DRAWING NOTES:

(APPLY TO THIS FLOW DIAGRAM ONLY)

1. VERTICAL IN-LINE LISTED FIRE PUMP
2. FIRE PUMP CONTROLLER
3. JOCKEY PUMP CONTROLLER
4. JOCKEY PUMP
5. ALARM TEST VALVE
6. PIPE SLEEVE
7. AUTOMATIC BALL DRIP VALVE (PIPE TO FLOOR DRAIN)
8. LISTED O,S & Y GATE VALVE WITH TAMPER SWITCH
9. LISTED CHECK VALVE
10. 1/2" GLOBE VALVE
11. 1/4" PLUG
12. LISTED BRONZE CHECK VALVE WITH 3/32" ORIFICE IN CLAPPER
13. ALARM SHUT-OFF AND CHECK VALVE
14. PRESSURE SWITCH
15. AUTOMATIC AIR RELEASE
16. ECCENTRIC TAPERED REDUCER
17. PRESSURE GAUGE WITH 1/4" GAGE VALVE
18. 6" HIGH RE-INFORCED CONCRETE HOUSEKEEPING PAD (SUPPORT PUMP WITH GALVANIZED STEEL SADDLES AND ANGLES)
19. FLOOR DRAIN
20. FLEXIBLE COUPLINGS
21. HOSE HEADER VALVES (QUANTITY PER N.F.P.A.-20)
22. FIRE DEPARTMENT CONNECTION
23. PUMP ROOM INSPECTOR'S TEST STATION
24. PUMP ROOM SPRINKLER ZONE ALARM VALVE ASSEMBLY
25. FIRE PUMP BUILDING MUST BE PROVIDED WITH ADEQUATE HEAT AND MUST PROTECT ALL PIPING AND VALVES FROM FREEZING
26. RELIEF VALVE
27. CIRCULATION RELIEF VALVE
28. JOCKEY PUMP PRESSURE SENSING LINE
29. WATER FLOW ALARM SWITCH
30. SPRINKLER ALARM VALVE
31. MAIN DRAIN VALVE
32. WATER MOTOR OR ELECTRIC GONG
33. PIPE SUPPORTS AS REQUIRED
34. FIRE PUMP PRESSURE SENSING LINE
35. JOCKEY PUMP SUCTION LINE
36. JOCKEY PUMP DISCHARGE LINE
37. DRIP CUP
38. RETARDING CHAMBER
39. TO FIRE ALARM SYSTEM
40. HOSE HEADER SUPPLY SHALL BE INCREASED BY ONE PIPE SIZE, WHEN THE DISTANCE BETWEEN THE HOSE HEADER AND CONNECTION TO THE PUMP DISCHARGE EXCEEDS 15 FT. IN LENGTH, PER NFPA-20.
41. ALL EXTERIOR DRAINS SHALL DISCHARGE ON A CONCRETE SPLASHBLOCK
42. SPARE SPRINKLERS, WRENCH, AND STORAGE BOX
43. LISTED LOW TEMPERATURE ALARM, INTERLOCK WITH FIRE ALARM SYSTEM
44. LISTED HIGH WATER LEVEL ALARM, INTERLOCK WITH FIRE ALARM SYSTEM
45. LISTED LOW WATER LEVEL ALARM, INTERLOCK WITH FIRE ALARM SYSTEM
46. AUTOMATIC FILL LINE SHALL DISCHARGE INTO THE OPPOSITE HALF OF THE TANK FROM THE PUMP SUCTION PIPE
47. DRY PIPE ALARM VALVE, COMPRESSOR & ACCESSORIES
48. DRY PIPE DRAIN VAVLE
49. DRY PIPE AIR COMPRESSOR

1 DETAIL - FIRE AND JOCKEY PUMP FLOW DIAGRAM

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WORCESTER, MARYLAND

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PLUMBING FIXTURE SCHEDULE

FIXTURE NO.	TYPE	SAN. (INCHES)	VENT (INCHES)	CW (INCHES)	HW (INCHES)	FLOW RATE	ELEC. CHARACTERISTICS VOLTS	PHASE	HZ	REMARKS
HOSE BIBBS - HYDRANTS										
HB-1	HOSE BIBB	---	---	3/4"	3/4"	2.5 GALLONS PER MINUTE	---	---	---	PROVIDED UNDER ALTERNATE.
HYD-1	WALL HYDRANT - EXTERIOR	---	---	3/4"	3/4"	2.5 GALLONS PER MINUTE	---	---	---	KEY OPERATED W/ HINGED LOCKING COVER. NON-FREEZE TYPE. PROVIDED UNDER ALTERNATE.
FLOOR DRAINS										
FD-1	FLOOR DRAIN	VARIES	---	---	---	---	---	---	---	CAST IRON, BOTTOM OUTLET, NICKLE BRONZE ROUND STRAINER, TRAP PRIMING CONNECTION. PROVIDED UNDER BASE BID.
FLOOR SINKS										
FS-2	FLOOR SINK	VARIES	---	---	---	---	---	---	---	SANITARY FLOOR SINK. PROVIDED UNDER BASE BID.

DRY PIPE FIRE PROTECTION SYSTEM AIR COMPRESSOR SCHEDULE

DRY PIPE AIR COMPRESSOR NO.	FLOW AND PRESSURE	MAX. HORSEPOWER	VOLTS	PHASE	HZ	REMARKS
1	PER NFPA-13	1	240	1	60	RISER MOUNTED

FIRE STORAGE TANK MAKE-UP WATER MOTORIZED BALL VALVE SCHEDULE

UNIT #	FLUID TYPE	TYPE	VALVE SIZE (INCHES)	VALVE FLOW RATE (GPM)	MAX. ALLOWABLE P.D. @ DESIGN FLOW RATE (PSIG)	ELEC. CHARACTERISTICS AMPS	VOLTAGE	PHASE	HZ	REMARKS
SV-1	WATER	2-WAY, 2-POSITION MOTORIZED BALL VLAVE	2	20	5	5	120	1	60	

DOMESTIC WATER METER SCHEDULE

UNIT #	RUN-OUT PIPE SIZE (INCHES)	PEAK BUILDING FLOW RATE (GPM)	METER SIZE "INCHES"	MAX. PRESSURE DROP @ PEAK FLOW RATE (PSIG)	REMARKS
DWM-1	3	65	2	1	
DWM-2	2	20	1-1/2"	1	

BACKFLOW PREVENTER SCHEDULE

NO.	SERVICE	LINE SIZE (in)	MAX. PRESSURE DROP (psig)	FLOW (gpm)	REMARKS
1	FIRE PROTECTION MAKE-UP WATER	2"	5	20	DOUBLE DETECTOR CHECK TYPE
2	INCOMING DOMESTIC WATER	3"	5	70	VERTICAL DOUBLE CHECK VALVE

TRAP PRIMING STATION

UNIT #	ELEC. CHARACTERISTICS AMPS	VOLTAGE	PHASE	REMARKS
1	5	120	1	

GAS PRESSURE REGULATOR SCHEDULE

GAS REGULATOR NO.	GAS TYPE	CAPACITY (SCFH)	CAPACITY (MBH)	INLET PRESSURE (PSIG)	OUTLET PRESSURE SETPOINT (PSIG OR INCHES W.C.)	REMARKS
1	LP-GAS	359	1,040	---	10 PSIG	TANK #1 FIRST STAGE REGULATOR
2	LP-GAS	359	1,040	10	14 INCHES W.C.	TANK #1 SECOND STAGE REGULATOR

FIRE PROTECTION STORAGE TANK ICE MELTING SYSTEM SCHEDULE

ITEM NO.	AIR COMPRESSOR PERFORMANCE SCFM	PRESSURE (PSIG)	HP	RECEIVER CAPACITY (GALLONS)	VOLTS	PHASE	HZ	REMARKS
ICE MELT COMPRESSOR	5.0	20	1	4	115	1	60	
NOTE: FURNISH COMPLETE SYSTEM WITH AUTOMATIC CONTROL BOX, PIPING, SINGLE PHASE PLUG & CORD.								

PROPANE TANK SCHEDULE

TANK #	NOMINAL SIZE (GALLONS)	DIAMETER (FT-INCHES)	LENGTH (FT-INCHES)	OPERATING WEIGHT (LBS)	TYPE	REMARKS
#1	1,000	3'-5"	16'-0"	5,100	BURIED	HORIZONTAL

FIRE STORAGE TANK SCHEDULE

TANK NO.	NOMINIAL CAPACITY (GALLONS)	NOMINAL DIAMETER (FT.)	NOMINAL HEIGHT (FT.)	REMARKS
FIRE STORAGE TANK #1	90,000	39	12	NFPA-22 & NSF-61 COMPLIANT

NOTE:
TANK CAPACITY IS NOMINAL, ACTUAL CAPACITY SHALL BE DETERMINED BASED ON NFPA-13, BUT SHALL BE NO LESS THAN 90,000 GALLONS DUE TO FIRE FIGHTING TRAINING USE OF TANK.

FIRE PROTECTION PUMP SCHEDULE

PUMP	GPM	FT. OF HEAD	HP	RPM	ELEC. CHAR. VOLTS	PHASE	REMARKS
FIRE PUMP	400	185	30	3550	480	3	VERTICAL IN-LINE
JOCKEY PUMP	4	200	1.5	3500	480	3	REGENERATIVE TURBINE

NOTE:
FLOW AND HEAD ARE NOMINAL, ACTUAL FLOW AND HEAD SHALL BE BASED ON REQUIREMENTS OF NFPA-13 AND NFPA-20 BASED ON HYDRAULIC CALCULATIONS.

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SCHEDULES PLUMBING

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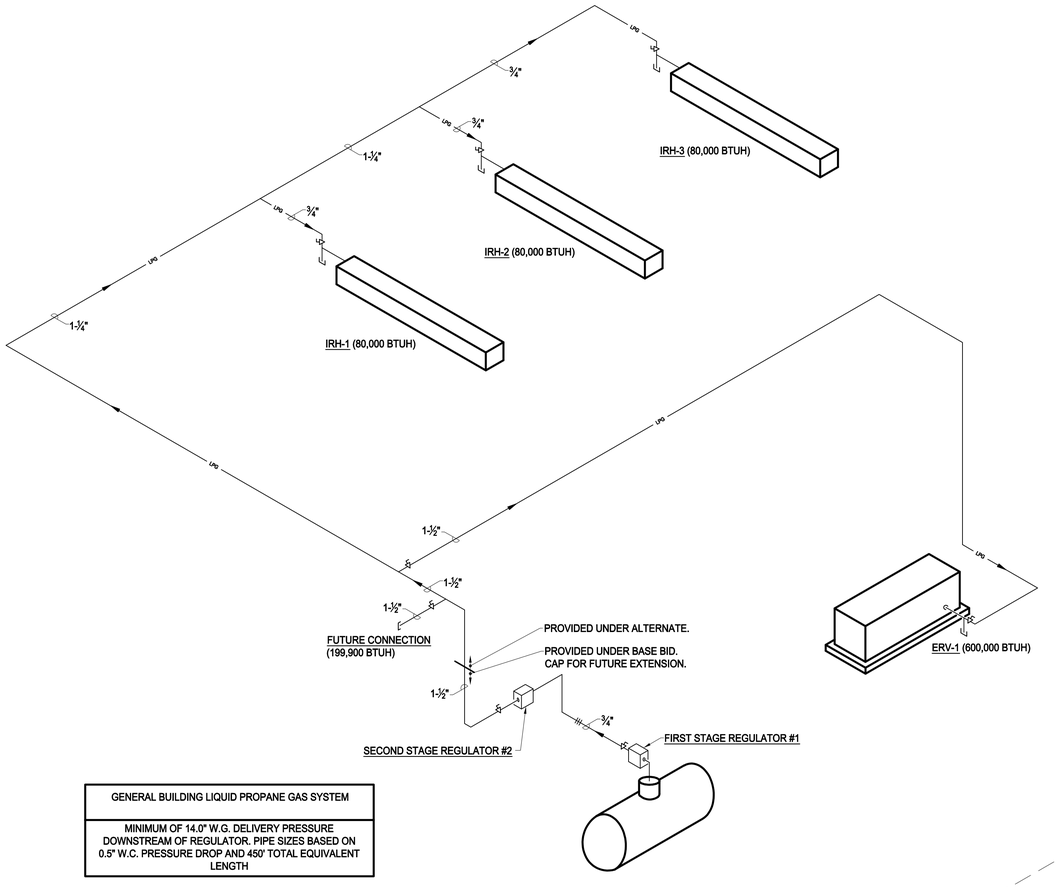
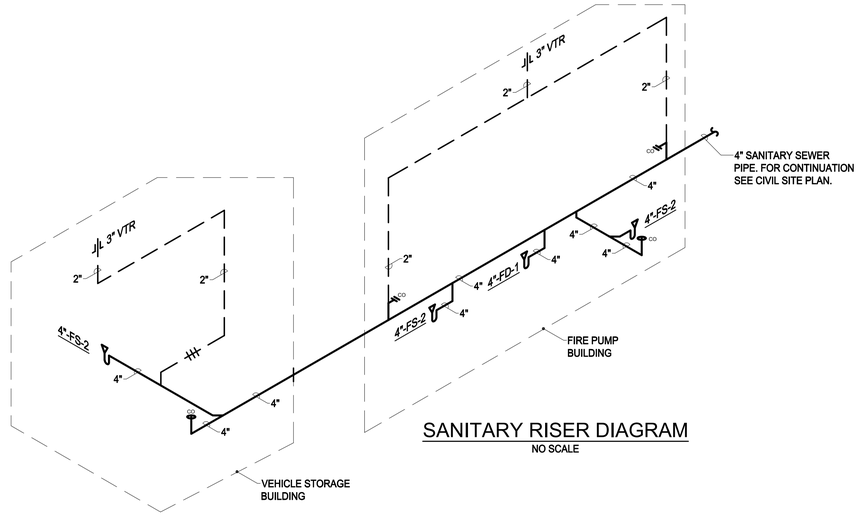
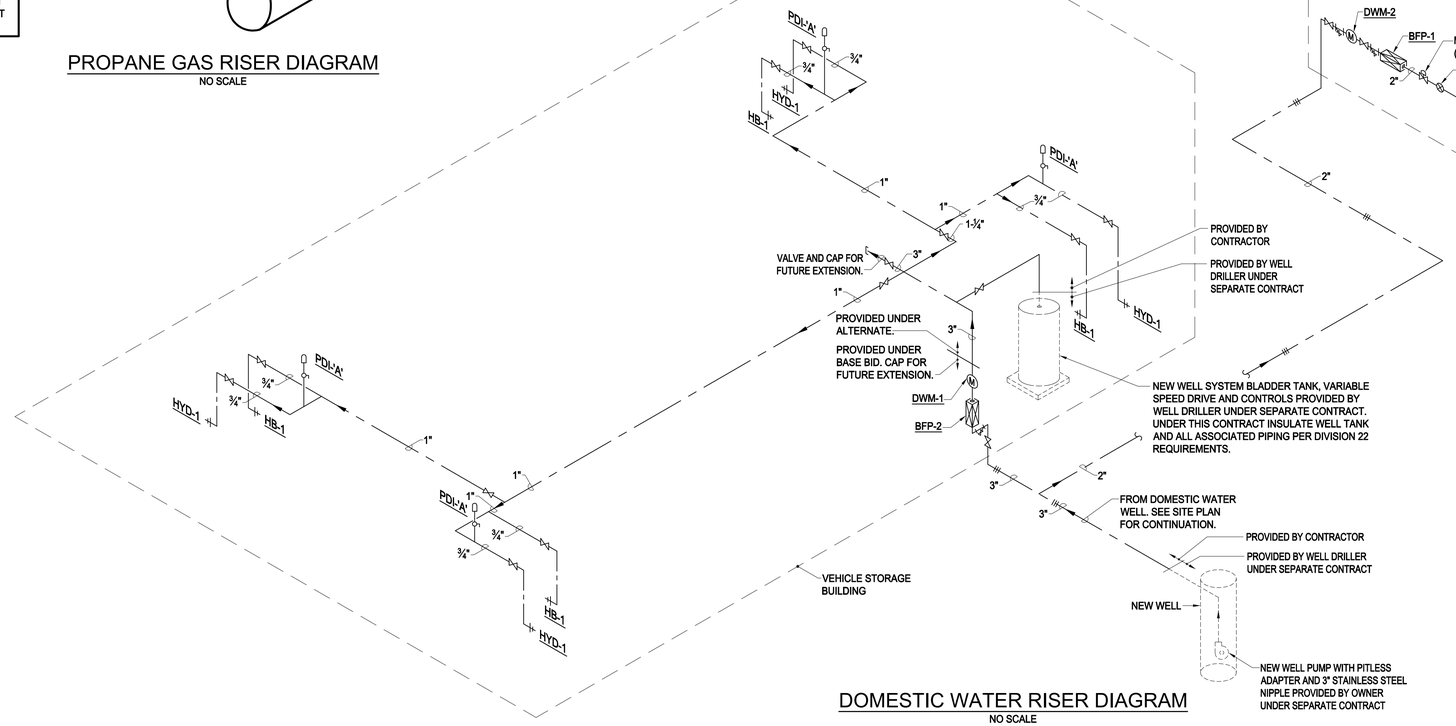


GENERAL BUILDING LIQUID PROPANE GAS SYSTEM
MINIMUM OF 14.0" W.G. DELIVERY PRESSURE DOWNSTREAM OF REGULATOR. PIPE SIZES BASED ON 0.5" W.C. PRESSURE DROP AND 450' TOTAL EQUIVALENT LENGTH

PROPANE GAS RISER DIAGRAM
NO SCALE



SANITARY RISER DIAGRAM
NO SCALE



DOMESTIC WATER RISER DIAGRAM
NO SCALE

SYSTEM SUMMARY		
SYSTEM	FIXTURE UNITS	GPM
DOMESTIC WATER MAIN	—	5
FUTURE DOMESTIC WATER MAIN	92.4	60
FUTURE DOMESTIC COLD WATER	83.25	57
FUTURE DOMESTIC HOT WATER	27.25	18.4

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: GAW
Proj.No.: 0085B049.A01

RISERS PLUMBING

Dwg.No.: **P-501**

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MECHANICAL ABBREVIATIONS

ABBREV.	DEFINITION	ABBREV.	DEFINITION
°F	DEGREES FAHRENHEIT	L	LOUVER
ACI	AIR CONDITIONING UNIT (INSIDE)	LAT	LEAVING AIR TEMPERATURE
ACO	AIR CONDITIONING UNIT (OUTSIDE)	LBS	POUNDS
AFF	ABOVE FINISHED FLOOR	MAU	MAKE-UP AIR UNIT
AFG	ABOVE FINISHED GRADE	MAX	MAXIMUM
APD	AIR PRESSURE DROP	MBH	BTU PER HOUR (THOUSAND)
APPROX	APPROXIMATELY	MECH	MECHANICAL
ARCH	ARCHITECTURAL	MIN	MINIMUM
BHP	BRAKE HORSEPOWER	MOCP	MAX. OVERCURRENT PROTECTION
BTU	BRITISH THERMAL UNIT	MOD	MOTORIZED DAMPER
BTUH	BRITISH THERMAL UNITS/HOUR	NC	NORMALLY CLOSED
C	CLOSED	NC	NOISE CRITERIA
CAP	CAPACITY	NO	NORMALLY OPEN
CCMS	CENTRAL CONTROL MONITORING STATION	NO/#	NUMBER
CFM	CUBIC FEET PER MINUTE	ø	PHASE
CONT	CONTINUATION	OA	OUTSIDE AIR
COP	COEFFICIENT OF PERFORMANCE	OAT	OUTSIDE AIR TEMPERATURE
CU	CONDENSING UNIT	OED	OPEN END DUCT
CUH	CABINET UNIT HEATER	PD	PRESSURE DROP
DB	DRY BULB	PSI	POUNDS PER SQUARE INCH
DD	DUCT DETECTOR	RE-CIRC	RECIRCULATING
DEPT	DEPARTMENT	REG	REGISTER
DIFF	DIFFUSER	REQ'D	REQUIRED
DWG	DRAWING	RH	RELIEF HOOD
EAT	ENTERING AIR TEMPERATURE	RH	RELATIVE HUMIDITY
EER	ENERGY EFFICIENCY RATIO	RM	ROOM
EF	EXHAUST FAN	RPM	REVOLUTIONS PER MINUTE
EFF	EFFICIENCY	SECT	SECTION
ELEC CHAR	ELECTRICAL CHARACTERISTICS	SENS	SENSIBLE
EQUIP	EQUIPMENT	SL	SOUND LINING
ERHP	ELECTRIC RADIANT HEAT PANEL	SP	STATIC PRESSURE
ERV	ENERGY RECOVERY VENTILATOR	SPC	STATIC PRESSURE CONTROLLER
ESP	EXTERNAL STATIC PRESSURE	TEMP	TEMPERATURE
EXH	EXHAUST	THD	TOP HORIZONTAL DISCHARGE
FLA	FULL LOAD AMPS	T-OA	OUTSIDE TEMPERATURE SENSOR
FPM	FEET PER MINUTE	TONS	TONS OF REFRIGERATION
FT H2O	FEET WATER GAUGE	TYP	TYPICAL
GPM	GALLONS PER MINUTE	UBD	UP-BLAST DISCHARGE
HC	HANDICAPPED	UH	UNIT HEATER
HP	HEAT PUMP	V	VOLTS
HP	HORSEPOWER	VAV	VARIABLE AIR VOLUME
HPI	HEAT PUMP (INDOOR)	VEL	VELOCITY
HPO	HEAT PUMP (OUTDOOR)	VF	VENTILATION FAN
HT	HEIGHT	VSD	VARIABLE SPEED DRIVE
HZ	HERTZ	VTR	VENT THROUGH ROOF
IH	INTAKE HOOD	W/	WITH
IN H2O	INCHES WATER GAUGE	WB	WET BULB
%	PERCENT	WG	WATER GAUGE
DELTA P	PRESSURE DIFFERENCE	WPD	WATER PRESSURE DROP
DELTA T	TEMPERATURE DIFFERENCE	WTR	WATER
KW	KILOWATT		

MECHANICAL LEGEND

SYMBOL	ABBREV.	DEFINITION
	SA	SUPPLY AIR DUCT UP,DOWN
	RA	RETURN AIR DUCT UP,DOWN
	EA	EXHAUST AIR DUCT UP,DOWN
	OA	OUTSIDE AIR DUCT UP,DOWN
		RECT. TO ROUND TRANSITION
		DUCT TRANSITION
		FLEXIBLE CONNECTION (DUCTWORK)
AMS	AMS	AIR MONITORING STATION
	SL	SOUND LINING
		ELBOW W/ TURNING VANES
		RADIUS ELBOW
	VD	MANUAL VOLUME DAMPER
MOD	MOD	MOTOR OPERATED DAMPER
DD	DD	DUCT SMOKE DETECTOR
T	T'STAT	TEMPERATURE SENSOR WITH GUARD
CO	CO	CARBON MONOXIDE SENSOR
ATC	ATC	AUTOMATIC TEMPERATURE CONTROL PANEL
	UH	UNIT HEATER
		BLIND FLANGE
		FLEXIBLE HOSE
LPG	LPG	PROPANE GAS PIPING
#		DRAWING NOTE - NEW WORK
		SHUT-OFF VALVE
		GLOBE VALVE
		BALANCING VALVE
		CHECK VALVE
		NEEDLE VALVE
		PRESSURE RELIEF OR SAFETY VALVE
TYPE RG1 CFM 7X7 24X24 MODULE SIZE NECK SIZE		RETURN AIR DEVICE TAG

SYMBOL	ABBREV.	DEFINITION
		STRAINER W/HOSE END DRAIN VALVE AND CAP
		HOSE END DRAIN VALVE
		MANUAL AIR VENT
		PRESSURE GAUGE W/NEEDLE VALVE AND SNUBBER
		COMB. SHUT-OFF/BALANCE VALVE WITH MEMORY (CIRCUIT SETTER)
		THERMOMETER
		UNION
		CONCENTRIC REDUCER
		FLEXIBLE CONNECTION (PIPING)
		BACKFLOW PREVENTER MAKE-UP WATER SYSTEM
		PIPE - TURN DOWN
		PIPE - TURN UP
		PIPE - BOTTOM TAKE OFF
		PIPE - TOP TAKE OFF
		END CAP
		DIRECTION OF FLOW
		GAUGE VALVE
	CW	COLD WATER
X XX.X PART PLAN NO. DRAWING NO.		PART PLAN DESIGNATION
TYPE SD1 CFM 7X7 24X24 MODULE SIZE NECK SIZE		SUPPLY AIR DEVICE TAG
TYPE SG1 CFM 7X7 8'-0" A.F.F. NECK SIZE ELEV. CENTER OF FACE		SIDEWALL AIR DEVICE TAG
TYPE RG1 CFM 7X7 24X24 MODULE SIZE NECK SIZE		EXHAUST AIR DEVICE TAG

NOTE:
1. NOT ALL ITEMS WITHIN LEGEND MAY BE UTILIZED ON THIS PROJECT.

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CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date: 08/08/2025
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LEGEND & ABBREVIATIONS HVAC

Dwg.No.:
M-001

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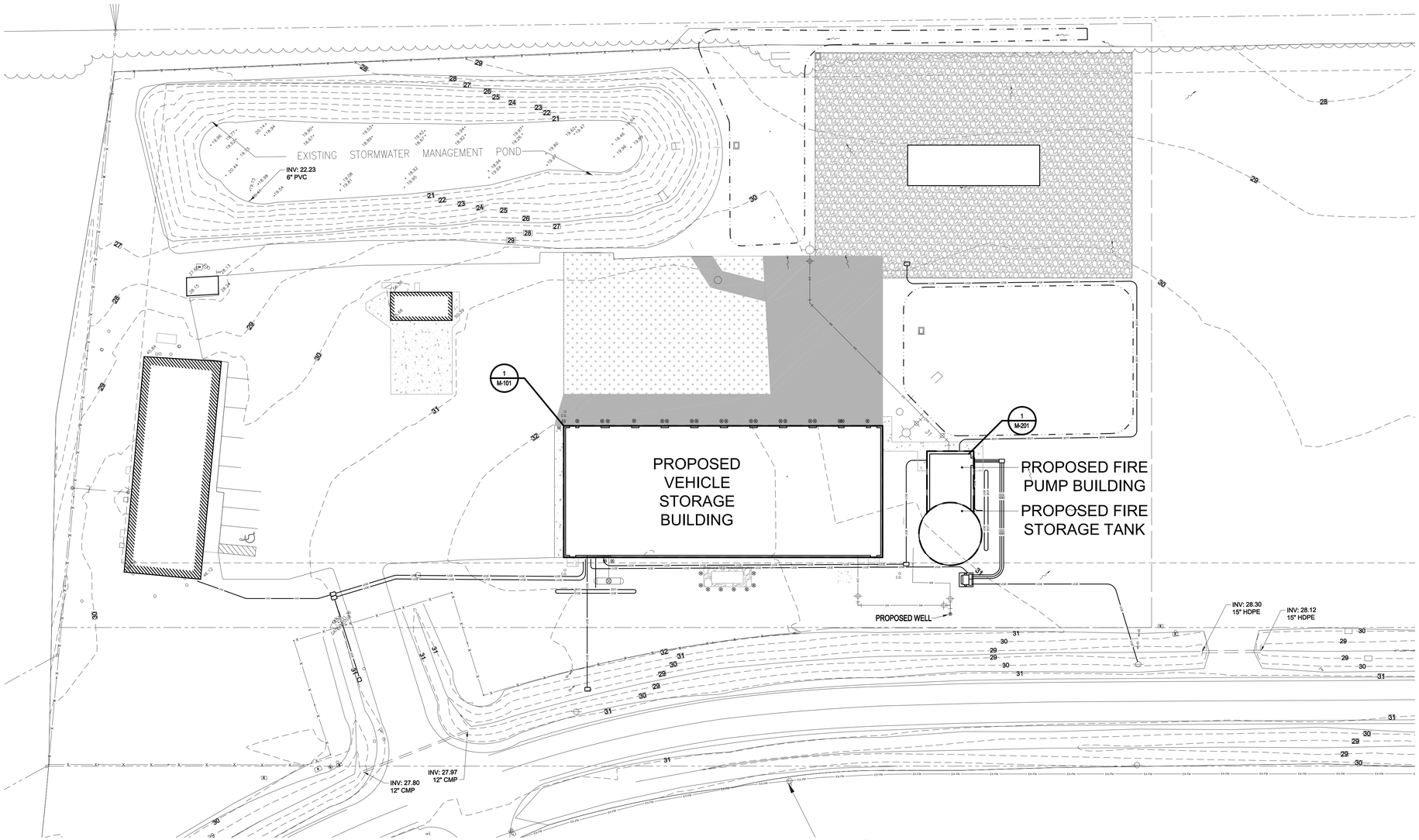

SITE PLAN - HVAC

SCALE: 1" = 30'-0"

30 0 30 60

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SITE PLAN HVAC

Dwg.No.: **M-100**

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GENERAL NOTES:
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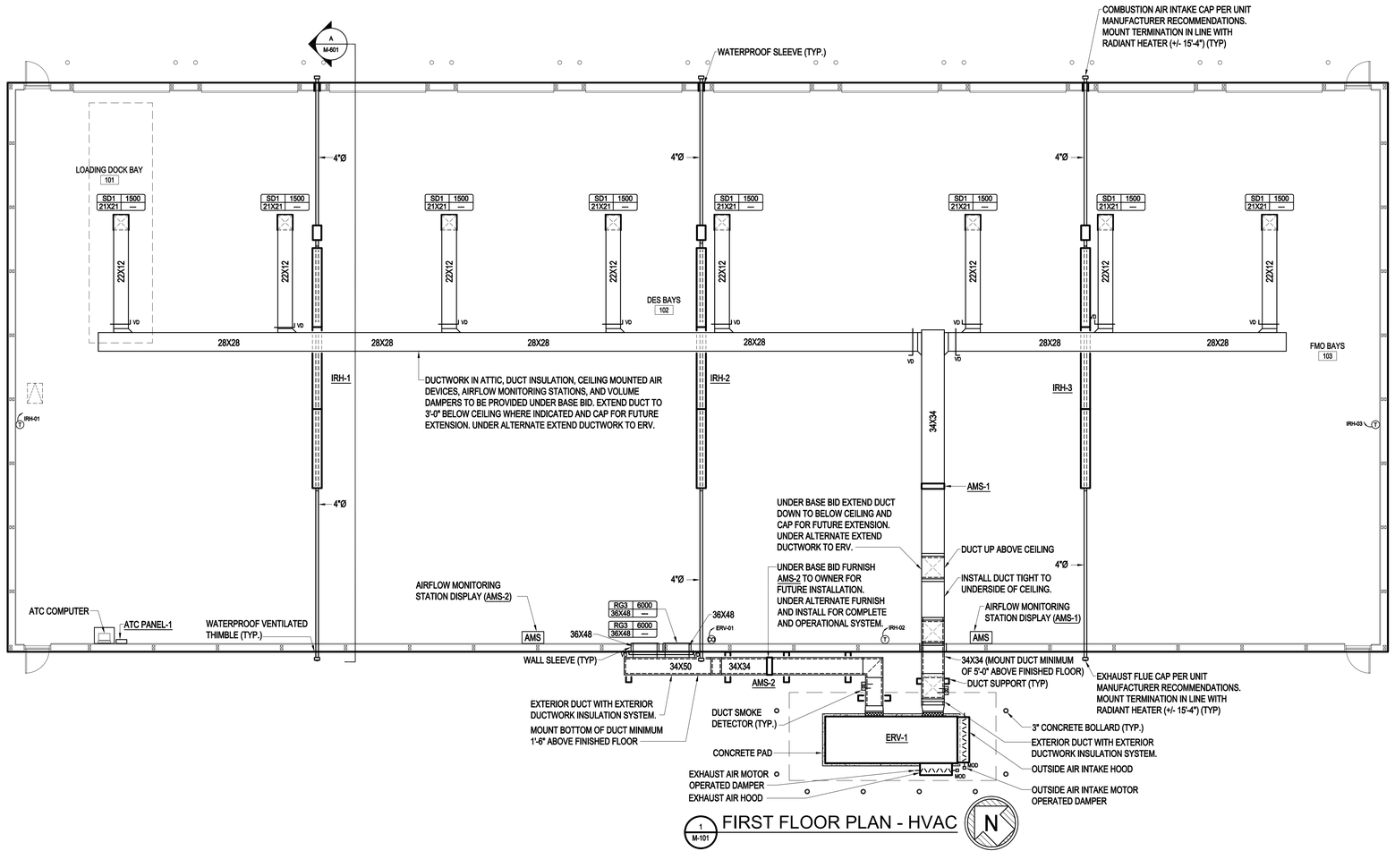
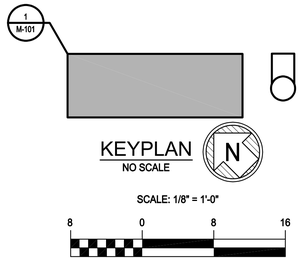
1. REFER TO DIVISION 01 FOR EXTENT OF WORK TO BE PROVIDED UNDER BASE BID AND EXTENT OF WORK TO BE PROVIDED UNDER ALTERNATE .



1 M-101 FIRST FLOOR PLAN - HVAC



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

8 0 8 16

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FIRST FLOOR PLAN HVAC

Dwg.No.: M-101

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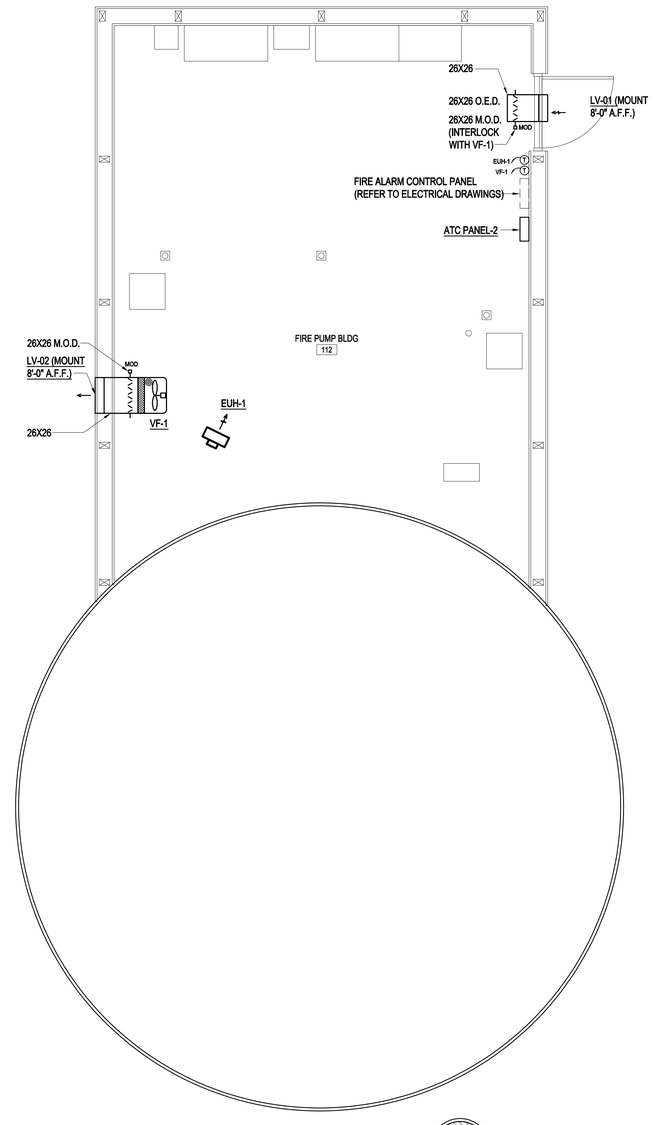
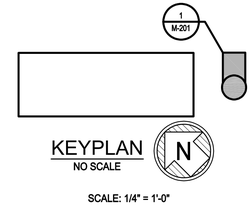


1 M-201 PART PLAN - HVAC



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

4 0 4 8

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PART PLAN HVAC

Dwg.No.:

M-201

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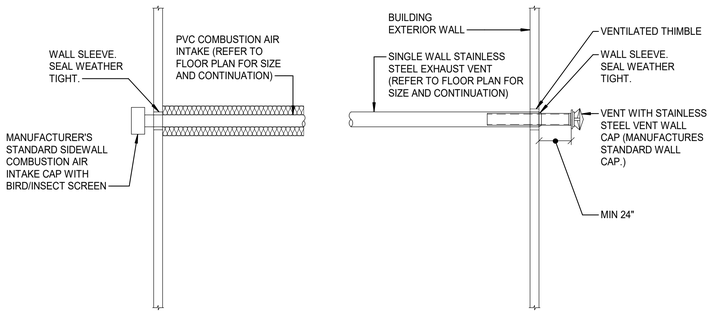
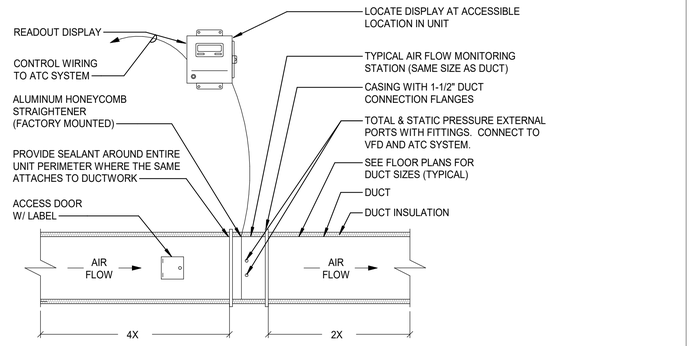


NOTES:

1. MAINTAIN MANUFACTURER'S SUGGESTED CLEARANCES TO COMBUSTIBLES.
2. MINIMUM DISTANCE BETWEEN EXHAUST VENT AND COMBUSTION AIR INTAKE = 60 INCHES.
3. SUPPORT PER MANUFACTURER'S RECOMMENDATIONS.

1 DETAIL - GAS FIRED INFRARED RADIANT HEATER SIDEWALL COMBUSTION AIR/VENT PIPING TERMINATIONS



X = ONE DIAMETER FOR ROUND DUCTS

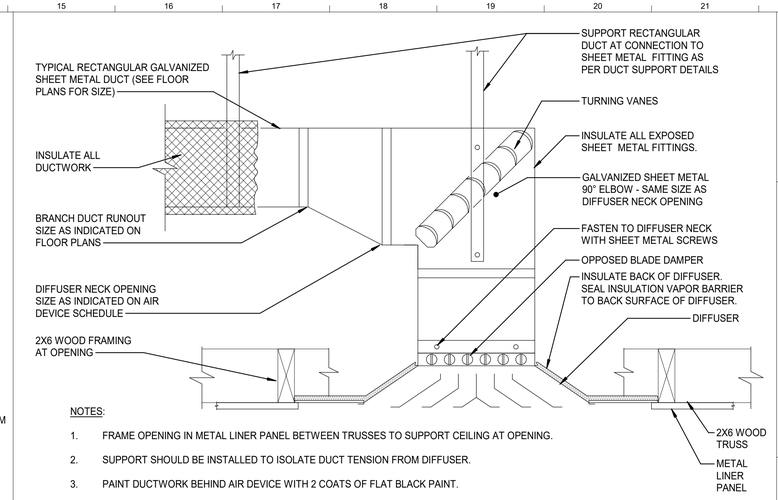
X = ONE DUCT DIMENSION FOR SQUARE DUCTS

X = DUCT WIDTH + DUCT HEIGHT FOR RECTANGULAR DUCTS / 2

NOTES:

1. PROVIDE MINIMUM STRAIGHT RUN UPSTREAM & DOWNSTREAM OF UNIT AS INDICATED PRIOR TO ANY OBSTRUCTION, OFFSET, ELBOWS, EQUIPMENT TAKE-OFFS, ETC.
2. PROVIDE ADDITIONAL DUCT ACCESS DOOR ON OPPOSITE SIDE OF DUCT.

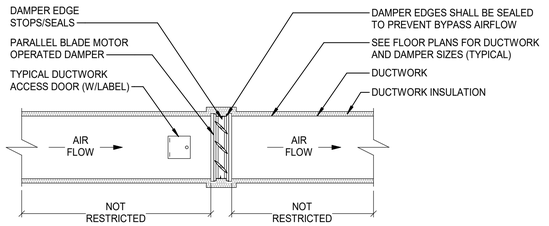
2 DETAIL - TYPICAL AIR FLOW MONITORING STATION



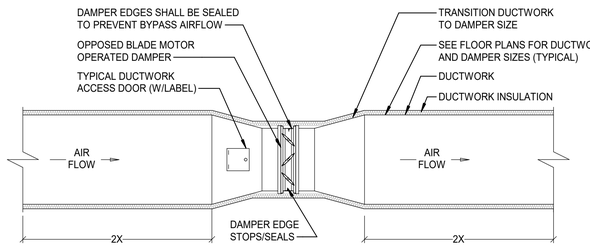
NOTES:

1. FRAME OPENING IN METAL LINER PANEL BETWEEN TRUSSES TO SUPPORT CEILING AT OPENING.
2. SUPPORT SHOULD BE INSTALLED TO ISOLATE DUCT TENSION FROM DIFFUSER.
3. PAINT DUCTWORK BEHIND AIR DEVICE WITH 2 COATS OF FLAT BLACK PAINT.

3 DETAIL - TYPICAL CEILING MOUNTED DIFFUSER



PARALLEL BLADE - 2-POSITION CONTROL DAMPER



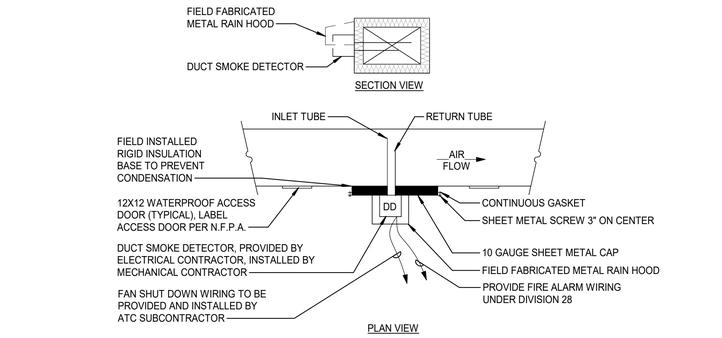
OPPOSED BLADE - MODULATING CONTROL DAMPER

X = ONE DIAMETER FOR ROUND DUCTS
X = ONE DUCT DIMENSION FOR SQUARE DUCTS
X = DUCT WIDTH + DUCT HEIGHT FOR RECTANGULAR DUCTS / 2

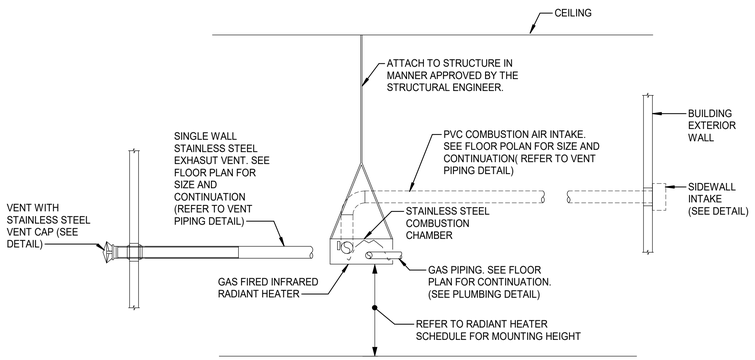
NOTES:

1. PROVIDE MINIMUM STRAIGHT RUN UPSTREAM & DOWNSTREAM OF DAMPER AS INDICATED PRIOR TO ANY OBSTRUCTION, OFFSET, ELBOWS, EQUIPMENT TAKE-OFFS, ETC. WHERE ABOVE STRAIGHT RUN OF DUCTWORK IS NOT FEASIBLE PROVIDE MAXIMUM STRAIGHT RUN AVAILABLE.
2. MOUNT DAMPER ACTUATOR IN ACCESSIBLE LOCATION ON SIDE OF DUCTWORK.

4 DETAIL - TYPICAL DUCTWORK MOUNTED CONTROL DAMPER



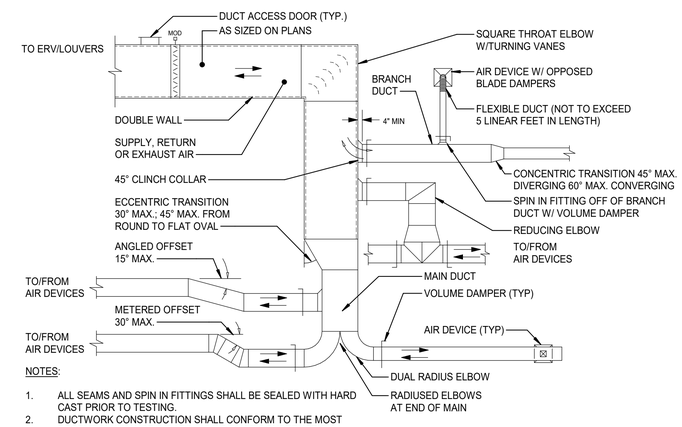
5 DETAIL - TYPICAL DUCT SMOKE DETECTOR (EXTERIOR)



NOTES:

1. MAINTAIN MANUFACTURER'S SUGGESTED CLEARANCES TO COMBUSTIBLES.
2. SUPPORT PER MANUFACTURER'S RECOMMENDATIONS.

6 DETAIL - GAS FIRED INFRARED RADIANT HEATER INSTALLATION



NOTES:

1. ALL SEAMS AND SPIN IN FITTINGS SHALL BE SEALED WITH HARD CAST PRIOR TO TESTING.
2. DUCTWORK CONSTRUCTION SHALL CONFORM TO THE MOST RECENT SMACNA STANDARD - HVAC DUCT CONSTRUCTION STANDARDS.
3. PROVIDE INSULATED STAND-OFFS AT VOLUME DAMPERS INSTALLED IN INSULATED DUCT SYSTEMS.
4. FURNISH AND INSTALL ADEQUATELY SIZED DUCT ACCESS DOORS AT ALL FIRE DAMPERS, AIR MEASURING DEVICES, MOTOR-OPERATED DAMPERS, DUCT SMOKE DETECTORS, AND OTHER LOCATIONS WHERE INDICATED AND REQUIRED FOR DUCT ACCESS.
5. INSTALL PINK RIBBON AT ALL VOLUME DAMPERS LOCATED ABOVE CEILINGS.
6. LABEL ALL DUCT ACCESS DOORS.
7. PAINT BEHIND ALL AIR DEVICES/LOUVERS WITH 2 COATS OF FLAT BLACK PAINT.

7 DETAIL - TYPICAL SUPPLY, EXHAUST, OR RETURN DUCT OFFSET, TRANSITION AND DUCT ACCESS DOORS

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CENTRAL SITE LANE
WORCESTER, MARYLAND

Date: 08/08/2025
Scale: AS NOTED
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Proj.No.: 0085B049.A01

DETAILS HVAC

Dwg.No.: M-301

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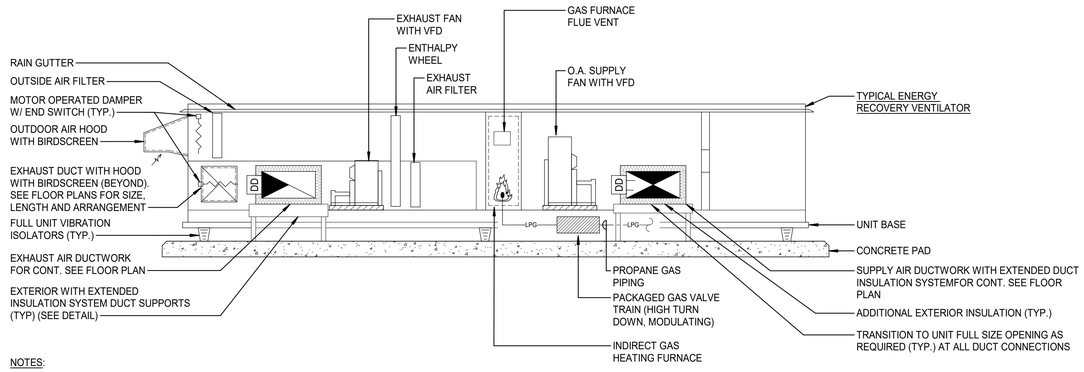
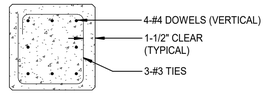


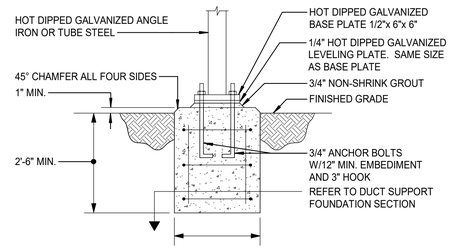
NOTES:

1. PROVIDE WATERPROOF DUCT SMOKE DETECTORS ON SUPPLY AND EXHAUST DUCTS.
2. FURNISH AND INSTALL GRADE MOUNTED CONCRETE DUCT SUPPORTS.
3. PROVIDE A MINIMUM OF 10 FEET OF SOUND LINING FOR SUPPLY AND EXHAUST DUCTS FROM ENERGY RECOVERY VENTILATOR.
4. INSTALL WATERPROOF FLEXIBLE DUCT CONNECTORS WHERE DUCTWORK ATTACHES TO UNIT.
5. INSTALL AIRFLOW MONITORING STATIONS IN DUCTWORK PER FLOOR PLANS.
6. ALL AIR SYSTEMS SHALL BE FURNISHED WITH FACTORY PROVIDED FILTER HOUSINGS AND FILTERS.
7. INSTALL GAS PRESSURE REGULATOR MINIMUM 10 FEET FROM UNIT.

1 DETAIL - TYPICAL GRADE MOUNTED ENERGY RECOVERY VENTILATOR

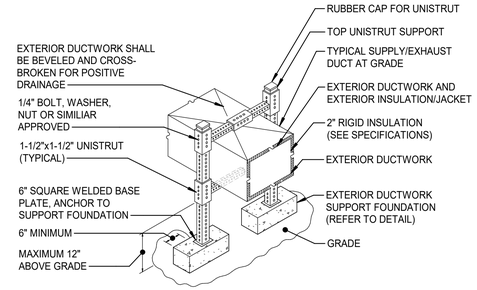


DUCTWORK SUPPORT FOUNDATION SECTION



DUCTWORK SUPPORT FOUNDATION - SIDE VIEW

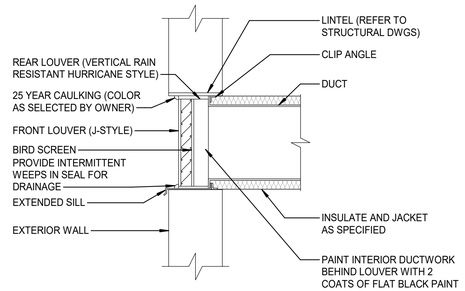
2 DETAIL - EXTERIOR DUCTWORK SUPPORT FOUNDATION



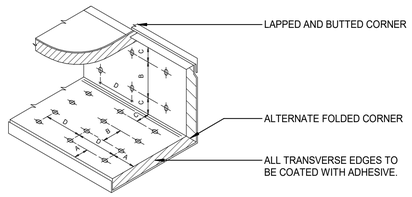
NOTES:

1. ALL EXTERIOR UNISTRUT, SUPPORTS & HARDWARE SHALL BE STAINLESS STEEL.
2. INSTALL WATERPROOF, ACCESSIBLE ACCESS DOORS AT ALL DUCT MOUNTED EQUIPMENT AND LABEL THE SAME.

3 DETAIL - EXTERIOR DUCTWORK ON GRADE



4 DETAIL - EXTERIOR MECHANICAL LOUVER - HURRICANE RATED

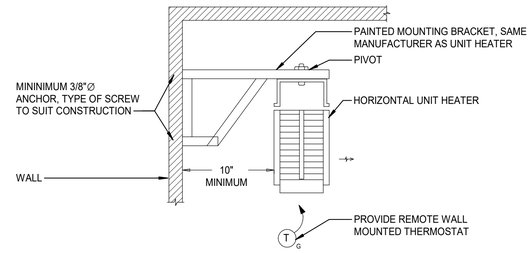


VELOCITY	MAX SPACING FOR FASTENERS			
	A	B	C	D
LOW - 2 INCH S.P. AND LESS	3"	12"	4"	18"
MED.- 3 INCH S.P. & GREATER	3"	6"	4"	16"

NOTES:

1. LINER ADHERED TO THE DUCT WITH 90% MINIMUM AREA COVERAGE OF ADHESIVE.
2. THE VELOCITY RATED SIDE OF THE LINER MUST FACE THE AIR FLOW.
3. PROVIDE GALVANIZED PERFORATED LINER ON ON TOP OF SOUND LINING WHERE SPECIFIED.

5 DETAIL - TYPICAL FLEXIBLE DUCT LINER INSTALLATION



6 DETAIL - ELECTRIC HORIZONTAL UNIT HEATER

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER, MARYLAND

Date:	08/08/2025
Scale:	AS NOTED
Dwn.By:	GAW
Proj.No.:	0085B049.A01

DETAILS HVAC

Dwg.No.: M-302

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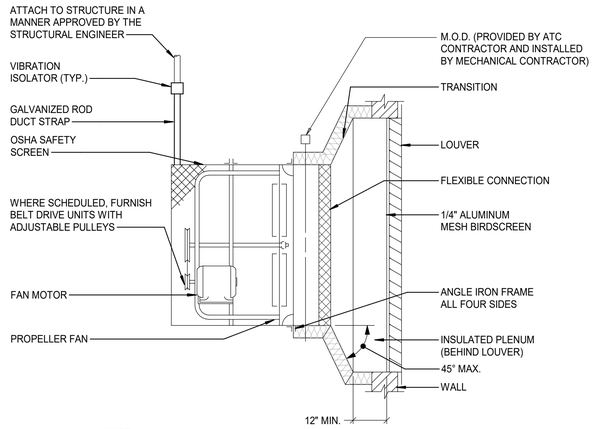
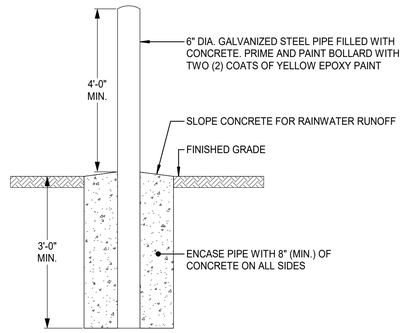


NOTE:

1. REFER TO SCHEDULE TO DETERMINE IF FAN IS DIRECT DRIVE OR BELT DRIVE.
2. PAINT INTERIOR DUCTWORK BEHIND LOUVER WITH 2 COATS OF FLAT BLACK PAINT.

1 DETAIL - TYPICAL PROPELLER FAN DETAIL

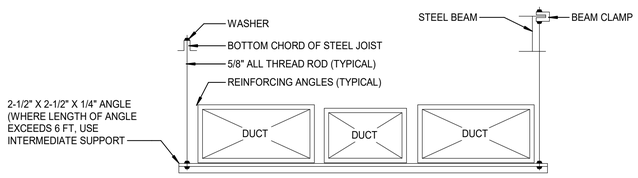


NOTES:

1. FIELD-COORDINATE EXACT LOCATION(S) OF BOLLARD(S) WITH EQUIPMENT BEING PROTECTED BY THE SAME TO ENSURE THAT BOLLARD(S) DO NOT OBSTRUCT ACCESS TO EQUIPMENT.

2 DETAIL - PROTECTIVE BOLLARD

SINGLE RECTANGULAR DUCT



* USE THIS METHOD WHENEVER DUCTS CAN BE GROUPED TOGETHER

MULTIPLE DUCT RUNS ON TRAPEZE HANGERS

NOTE:

1. DUCTS SHALL BE SUPPORTED PER SMACNA STANDARDS

3 DETAIL - TYPICAL INSTALLATION OF HANGERS AND SUPPORTS FOR DUCTWORK

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CENTRAL SITE LANE
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DETAILS HVAC

Dwg.No.: M-303

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AUTOMATIC TEMPERATURE CONTROL POINT LIST

EQUIPMENT OR SYSTEM	EQUIPMENT STATUS	GRAPHIC DISPLAY	SPACE TEMPERATURE	START & STOP	TOTAL RUN TIME
GAS FIRE INFRARED RADIANT HEATER	●	●	●	●	●

NOTE:
1. PROVIDE ADDITIONAL DIGITAL POINTS AS NECESSARY TO ACCOMPLISH THE SEQUENCE OF OPERATION.
2. ALL ITEMS IN THE POINTS LIST MUST BE VIEWABLE FROM THE OPERATOR'S TERMINAL.

ATC CONTROL SEQUENCE

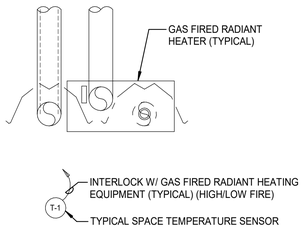
A. GENERAL

1. THE GAS FIRED INFRARED RADIANT HEATERS SHALL BE PROVIDED WITH FACTORY PACKAGED AND FIELD INSTALLED CONTROLS AS INDICATED IN ANOTHER DIVISION 23 OF MECHANICAL SPECIFICATION.

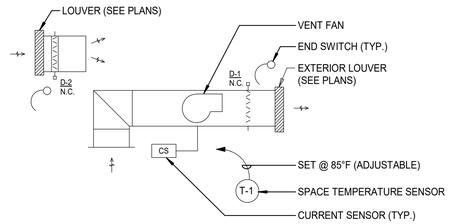
2. THE ATC CONTRACTOR SHALL INSTALL FACTORY FURNISHED CONTROLS, INTERLOCK WIRING, THERMOSTATS AND CONTROL WIRING FOR A COMPLETE AND OPERATIONAL SYSTEM.

B. OCCUPIED CYCLE: DURING THE OCCUPIED CYCLE, ON A FALL IN ROOM TEMPERATURE TO 70 DEGREES F (ADJUSTABLE), THE SPACE THERMOSTAT, T-1 SHALL ENERGIZE RADIANT HEATER IGNITION CONTROLS (HI/LOW) IN SEQUENCE TO MAINTAIN A SPACE TEMPERATURE OF 70 DEGREES F (ADJUSTABLE). THE REVERSE SEQUENCE SHALL OCCUR UPON A RISE IN SPACE TEMPERATURE ABOVE ITS SET POINT.

C. UNOCCUPIED CYCLE: DURING THE UNOCCUPIED CYCLE, ON A FALL IN ROOM TEMPERATURE TO 60 DEGREES F (ADJUSTABLE), THE SPACE THERMOSTAT, T-1 SHALL ENERGIZE RADIANT HEATER IGNITION CONTROLS (HI/LOW) IN SEQUENCE TO MAINTAIN A SPACE TEMPERATURE OF 60 DEGREES F (ADJUSTABLE). THE REVERSE SEQUENCE SHALL OCCUR UPON A RISE IN SPACE TEMPERATURE ABOVE ITS SET POINT.



1 CONTROL DIAGRAM - GAS FIRED INFRARED HEATERS (ALTERNATE)



ATC CONTROL SEQUENCE

A. GENERAL

1. WHENEVER THE VENTILATION AIR FAN IS ENERGIZED, ASSOCIATED MOTOR OPERATED DAMPER (D-1) SHALL BE IN WIDE OPEN POSITION.

2. ALL MOTOR OPERATED DAMPERS, D-1 AND D-2, SHALL FAIL IN THE CLOSED POSITION (NORMALLY CLOSED).

B. OPERATION:

1. A SPACE TEMPERATURE SENSOR, T-1, SHALL UPON A RISE IN ROOM TEMPERATURE ABOVE ITS SET POINT, 85°F, (ADJUSTABLE) SHALL POSITION MOTOR OPERATED DAMPER, D-1, TO THE WIDE OPEN POSITION. AN ELECTRIC END SWITCH (OR TIME DELAY) SHALL BE PROVIDED THAT ONCE THE DAMPER, D-1, IS PROVED WIDE OPEN SHALL ENERGIZE VENTILATION FAN. VENTILATION FAN SHALL BE INTERLOCKED WITH INTAKE HOOD OR LOUVER SUCH THAT WHEN VENTILATION FAN IS ENERGIZED, D-2, SHALL OPEN AND WHEN VENTILATION FAN IS DE-ENERGIZED, D-2, SHALL CLOSE. VENTILATION FAN SHALL CONTINUE TO OPERATE UNTIL SET POINT TEMPERATURE IS REACHED. THE REVERSE SEQUENCE SHALL OCCUR UPON A DROP IN SPACE TEMPERATURE BELOW SET POINT.

AUTOMATIC TEMPERATURE CONTROL POINT LIST

EQUIPMENT OR SYSTEM	DAMPER - TWO POSITION	EQUIPMENT STATUS	GRAPHIC DISPLAY	START & STOP	TEMP - SPACE	TOTAL RUN TIME
VENTILATION FAN (VF-1)	●	●	●	●	●	●

NOTE:
1. PROVIDE ADDITIONAL DIGITAL POINTS AS NECESSARY TO ACCOMPLISH THE SEQUENCE OF OPERATION.
2. ALL ITEMS IN THE POINTS LIST MUST BE VIEWABLE FROM THE OPERATOR'S TERMINAL.

2 CONTROLS - GENERAL VENTILATION (BASE BID)

AUTOMATIC TEMPERATURE CONTROL POINT LIST

EQUIPMENT OR SYSTEM	EQUIPMENT STATUS	GRAPHIC DISPLAY	SPACE TEMPERATURE	START & STOP	TOTAL RUN TIME
ELECTRIC UNIT HEATER	●	●	●	●	●

NOTE:
1. PROVIDE ADDITIONAL DIGITAL POINTS AS NECESSARY TO ACCOMPLISH THE SEQUENCE OF OPERATION.
2. ALL ITEMS IN THE POINTS LIST MUST BE VIEWABLE FROM THE OPERATOR'S TERMINAL.

ATC CONTROL SEQUENCE

A. GENERAL

1. THE ELECTRIC HORIZONTAL UNIT HEATERS SHALL BE PROVIDED WITH FACTORY PACKAGED AND FIELD INSTALLED CONTROLS AS INDICATED IN DIVISION 23 - HEATING, VENTILATING AND AIR CONDITIONING.

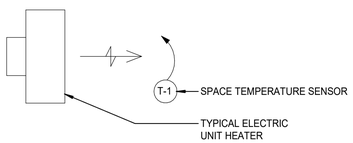
2. THE MECHANICAL SUBCONTRACTOR SHALL INSTALL FACTORY FURNISHED CONTROLS, INTERLOCK WIRING, THERMOSTATS, AND CONTROL WIRING FOR A COMPLETE AND OPERATIONAL SYSTEM.

B. SYSTEM OPERATION:

1. ON A FALL IN ROOM TEMPERATURE TO 60°F (ADJUSTABLE), THE SPACE THERMOSTAT, T-1, SHALL ENERGIZE UNIT HEATER FANS AND HEATING ELEMENTS IN SEQUENCE TO MAINTAIN A SPACE TEMPERATURE OF 65°F (ADJUSTABLE). THE REVERSE SEQUENCE SHALL OCCUR UPON A RISE IN SPACE TEMPERATURE ABOVE SET POINT.

2. FOR MECHANICAL ROOM AND SIMILAR NON-FINISHED SPACES, SET POINT SHALL BE 50°F (ADJUSTABLE).

3. ANYTIME OUTSIDE AIR TEMPERATURE IS ABOVE 60°F, THE UNIT HEATER SHALL NOT OPERATURE REGARDLESS OF SPACE TEMPERATURE.



3 CONTROLS - TYPICAL ELECTRIC UNIT HEATER (BASE BID)

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Dwn.By: GAW
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AUTOMATIC TEMPERATURE CONTROLS

Dwg.No.: M-401

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ATC CONTROL SEQUENCE

A. GENERAL

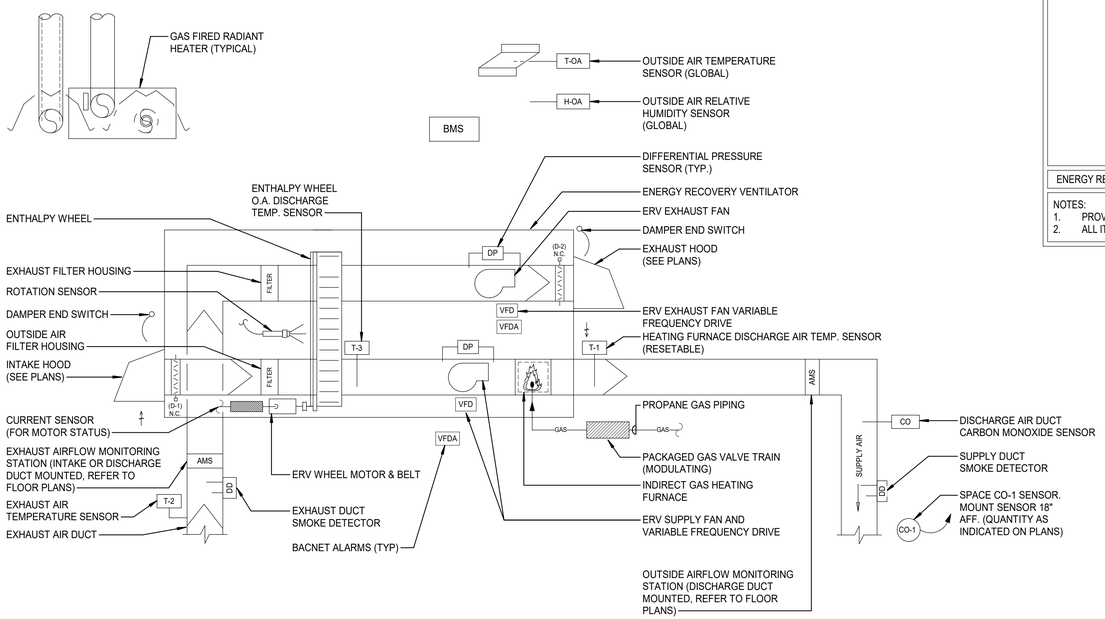
1. ENERGY RECOVERY VENTILATORS SHALL BE FURNISHED WITH A COMBINATION OF PACKAGED CONTROLS/DEVICES AND FIELD INSTALLED CONTROLS/DEVICES. ALL CONTROLS/DEVICES SHALL BE INTEGRATED, COORDINATED, AND INSTALLED TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM. ALL PROTECTIVE CIRCUITS SHALL BE PROVIDED BY UNIT MANUFACTURER. A FACTORY FURNISHED AND LABELED TERMINAL STRIP LOCATED WITHIN UNIT FOR MOUNTING FIELD INSTALLED DDC CONTROLS SHALL BE PROVIDED BY MANUFACTURER.
2. ENERGY RECOVERY VENTILATOR (ERV) SHALL BE STARTED AND STOPPED THROUGH THE CCMS SYSTEM (WITH MANUAL OVERRIDE). ERV SHALL BE ENERGIZED DURING ALL OCCUPIED PERIODS. THE ERV SHALL NOT ENERGIZE UNTIL SPACE HEATING EQUIPMENT HAS ACHIEVED OCCUPIED SETPOINT.
3. ERV SUPPLY FAN, ERV EXHAUST FAN AND ERV WHEEL SHALL BE INTERLOCKED TO OPERATE DURING ALL OCCUPIED PERIODS.
4. WHEN THE ERV IS DE-ENERGIZED, THE OUTSIDE AIR DAMPER, D-1 AND EXHAUST AIR DAMPER, D-2 SHALL CLOSE, THE ENERGY RECOVERY WHEEL SHALL STOP ROTATING, THE GAS FURNACE SHALL DE-ENERGIZE WHENEVER THE SUPPLY AIR FAN IS DE-ENERGIZED.
5. THE ERV UNIT DAMPERS SHALL BE PROVIDED WITH END SWITCHES TO PREVENT OPERATION OF ERV SUPPLY FAN AND ERV EXHAUST FAN UNTIL DAMPERS ARE PROVEN OPEN.
6. DUCT MOUNTED SMOKE DETECTORS DD-1 AND DD-2 (PROVIDED UNDER DIVISION 28) SHALL BE MOUNTED IN THE DISCHARGE DUCT AND EXHAUST DUCT OF THE ERV. UPON DETECTION OF PRODUCTS OF COMBUSTION, THE ERV SHALL SHUT DOWN AND A SIGNAL SHALL BE SENT TO THE FIRE ALARM SYSTEM. THE ELECTRICAL CONTRACTOR SHALL RUN SIGNAL WIRING FROM THE SMOKE DETECTORS TO THE FIRE ALARM SYSTEM. THE WIRING FROM THE SMOKE DETECTORS TO FANS SHALL BE BY THE ATC CONTRACTOR.
7. PROVIDE DIFFERENTIAL PRESSURE SENSORS (OR MOTORS CURRENT SENSORS) TO DETERMINE THE STATUS OF ALL FANS ASSOCIATED WITH THE ERV.
8. THE ERV SUPPLY FAN SPEED AND EXHAUST FAN SPEED SHALL BE MONITORED VIA VFD'S AND SHALL REPORT THE SAME ON THE BMS SYSTEM.
9. THE BUILDING DISCHARGE AIR CARBON MONOXIDE LEVEL SHALL BE MONITORED AND TRENDED ON THE BMS SYSTEM. SHOULD THE DISCHARGE AIR CO LEVEL REACH AN UNSAFE CONDITION (200 PPM) THE ERV GAS FURNACE SHALL SHALL BE SHUT DOWN AND AN ALARM SHALL ANNUNCIATE LOCALLY AND REMOTELY ON THE ATC SYSTEM.
10. THE WHEEL DISCHARGE AIR CONDITIONS SHALL BE MONITORED BY TEMPERATURE SENSOR, T-3.
11. THE BUILDING EXHAUST AIR TEMPERATURE SHALL BE MONITORED BY TEMPERATURE SENSOR, T-2.
12. GAS VALVES SHALL BE FULLY MODULATING.
13. ALL SET POINT TEMPERATURES SHALL BE RE-SETTABLE AND ADJUSTABLE THROUGH BMS SYSTEM SOFTWARE. ALL TEMPERATURE SENSORS, CO SENSORS, AIRFLOW MONITORING STATIONS, DIFFERENTIAL PRESSURE SENSORS, AND DUCT DETECTORS SHALL BE MONITORED ON THE CENTRAL BMS SYSTEM.
14. FIELD INSTALLED CONTROLLER SHALL DETERMINE HEATING MODE, VENTILATION MODE, AND TEMPERATURE SET POINTS. ALL MODE SET POINTS SHALL BE ADJUSTABLE.
15. ALL VARIABLE SPEED FANS SHALL "SOFT" START AND STOP WHEN COMMANDED TO DO THE SAME.
16. ATC SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL INTERLOCK WIRING, ALL TEMPERATURE SENSORS, CO SENSORS, DAMPERS, ROTATION SENSOR AND CONTROL WIRING FOR A COMPLETE AND OPERATIONAL SYSTEM.
17. FURNISH AND INSTALL AND INTERLOCK SPACE CO SENSORS WITH ERV.
18. FURNISH AND INSTALL ALL INTERLOCK WIRING BETWEEN ERV UNIT AND BMS SYSTEM.
19. REFER TO ATC POINT LIST FOR ADDITIONAL MONITORING AND CONTROL REQUIREMENTS.
20. INSTALL GRAPHICS FOR UNITS AND DISPLAY ALL POINTS ON THE BMS SYSTEM. ALL SET POINTS, SCHEDULES, ETC... SHALL BE FULLY ADJUSTABLE FROM THE BMS SYSTEM.
21. FURNISH SUPPLY AIR AND EXHAUST AIR VARIABLE FREQUENCY DRIVES AND CARBON MONOXIDE SENSORS TO ALLOW AIR FLOW MODULATION BASED ON CARBON MONOXIDE LEVELS. MONITOR FAN SPEEDS AND AMPERAGES ON BMS SYSTEM.
22. ENERGY RECOVERY WHEEL MOTOR STATUS VIA A CURRENT SENSOR SHALL BE MONITORED ON THE BMS SYSTEM.
23. INTERLOCK BMS SYSTEM WITH ENERGY RECOVERY WHEEL ROTATION SENSOR. PROVIDE STATUS OF ENERGY RECOVERY WHEEL AND REPORT ON BMS SYSTEM.
24. INTERLOCK AIR FLOW MONITORING STATIONS TO MONITOR AND REPORT OUTSIDE AND EXHAUST AIR FLOW RATES (IN CFM) ON BMS SYSTEM.
25. THE EXHAUST AIR FAN SPEED SHALL TRACK THE SUPPLY AIR FAN SPEED BASED ON FIELD MEASUREMENT OF THE MAXIMUM AND MINIMUM AIR FLOW RATES RECORDED BY THE TEST/BALANCE ENGINEER. THE SUPPLY AIR FAN SPEED/HERTZ AND EXHAUST AIR FAN SPEED/HERTZ SHALL BE PROVIDED TO THE ATC SUBCONTRACTOR FOR INSERTION INTO THE VFD/CONTROLLER FAN TRACKING PROGRAM.
26. PROVIDE AN ALARM ON THE BMS SYSTEM THAT WILL ANNUNCIATE ANYTIME THE OUTSIDE AIR FLOW RATE OR THE EXHAUST AIR FLOW RATE OF THE ERV UNIT DROPS MORE THAN 15% (ADJUSTABLE) BELOW THE DESIGN MINIMUM OUTSIDE AIR/EXHAUST AIR FLOW RATE. ALARM SHALL HAVE A 10 MINUTE DELAY (ADJUSTABLE). REFER TO THE ERV UNIT SCHEDULE FOR MAX. / MIN. OUTSIDE AIR FLOW RATES.
27. WHEEL DISCHARGE AIR TEMPERATURE SENSOR, T-3, SHALL ALSO BE UTILIZED AS A TEMPERATURE ALARM ANYTIME THE TEMPERATURE AT THIS LOCATION IS BELOW 40 DEGREES F WHEN THE ERV UNIT IS OPERATING. A TEMPERATURE ALARM SHALL INDICATE ON THE BMS SYSTEM INDICATING WHEEL FAILURE.

A. OCCUPIED CYCLE:

1. THE ENERGY RECOVERY VENTILATOR FANS AND ENERGY RECOVERY WHEEL SHALL OPERATE CONTINUOUSLY DURING OCCUPIED PERIODS TO PROVIDE TEMPERED, 100 PERCENT OUTSIDE AIR TO THE SPACES.
2. HEATING MODE: DURING HEATING MODE, THE ERV FANS AND ERV WHEEL SHALL OPERATE CONTINUOUSLY. THE ERV SHALL MODULATE THE GAS HEATER TO MAINTAIN VARIABLE DISCHARGE AIR SET PONT (ADJUSTABLE). DURING HEATING MODE, THE SUPPLY AIR TEMPERATURE SET POINT SHALL BE RE-SET BASED ON OUTSIDE AIR TEMPERATURE AS SCHEDULED.
3. THE GLOBAL OUTSIDE AIR TEMPERATURE SENSOR, T-OA SHALL DETERMINE HEATING OR VENTILATION MODE. WHENEVER OUTSIDE AIR TEMPERATURE IS 65 DEGREES F (ADJUSTABLE) OR ABOVE, THE ERV SHALL OPERATE IN VENTILATION MODE. WHENEVER THE OUTSIDE AIR TEMPERATURE IS 65 DEGREES F (ADJUSTABLE) OR BELOW, THE ERV SHALL OPERATE IN THE HEATING MODE.
4. DISCHARGE AIR TEMPERATURE (T-1) SHALL BE RESETTABLE AND ADJUSTABLE THROUGH SOFTWARE.
5. CARBON MONOXIDE VENTILATION: CARBON MONOXIDE SENSOR (CO-1) SHALL THROUGH THE DDC SYSTEM BE INTERLOCKED WITH THE ENERGY RECOVERY VNETILATOR. UPON SENSING A CARBON MONOXIDE CONCENTRATION OF 100 PPM, CARBON MONOXIDE SENSOR (CO-1) SHALL MODULATE THE SUPPLY AND EXHAUST AIR STREAMS TO MAINTAIN THE CO LEVEL. ON A CONTINUAL RISE IN CARBON MONOXIDE CONCENTRATION TO 200 PPM, CARBON MONOXIDE SENSOR, (CO-1) SHALL ANNUNCIATE AN AUDIBLE AND VISUAL ALARM WITH SILENCE SWITCH. THE REVERSE SEQUENCE SHALL OCCUR UPON A DROP IN CARBON MONOXIDE CONCENTRATION. THE MINIMUM FAN AIRFLOW RATES SHALL BE AS SCHEDULED. SET UP AND TEST MINIMUM AIRFLOW RATES WITH TEST & BALANCE ENGINEER SO THAT FANS DO NOT OPERATE BELOW MINIMUM AIRFLOW RATES REGARDLESS OF MEASURED CO LEVELS. THE CO SENSOR WITH THE HIGHEST READING SHALL TAKE PRIORITY CONTROL OF FANS USING A DISCRIMINATOR CONTROL STRATEGY. THE EXHAUST AIR FAN SPEED SHALL TRACK THE SUPPLY AIR FAN SPEED BASED ON FIELD MEASUREMENT OF THE MAXIMUM AND MINIMUM AIR FLOW RATES RECORDED BY THE TEST/BALANCE ENGINEER. THE SUPPLY AIR FAN SPEED/HERTZ AND EXHAUST AIR FAN SPEED/HERTZ SHALL BE PROVIDED TO THE ATC SUBCONTRACTOR FOR INSERTION INTO THE VFD/CONTROL SYSTEM FAN TRACKING PROGRAM.
6. VENTILATION MODE: THE GLOBAL OUTSIDE AIR TEMPERATURE SENSOR (OA) SHALL BE UTILIZED TO DETERMINE VENTILATION MODE WHENEVER THE OUTSIDE AIR TEMPERATURE IS ABOVE 65°F (ADJUSTABLE) THE UNIT SHALL OPERATE IN VENTILATION MODE. DURING VENTILATION MODE NO GAS HEATING SHALL BE PROVIDED AND THE FANS AND ENERGY RECOVERY WHEEL SHALL CONTINUE TO OPERATE BASED ON SPACE CO LEVELS. UPON A RISE IN SPACE CO ABOVE 200PPM A LOCAL ALARM SHALL BE ANNUNCIATED.

B. UNOCCUPIED CYCLE:

1. DURING THE UNOCCUPIED CYCLE THE SUPPLY FAN AND EXHAUST AIR FANS SHALL BE DE-ENERGIZED. OUTSIDE AIR DAMPER (D-1) AND EXHAUST DAMPER (D-2), SHALL CLOSE. THE MODULATING GAS VALVE TRAIN SHALL BE DE-ENERGIZED AND GAS VALVE SHALL CLOSE.
2. GAS FIRED RADIANT HEATERS SHALL CYCLE INDEPENDENTLY TO MAINTAIN A REDUCED 60 DEGREES F (ADJUSTABLE) NIGHT SET BACK TEMPERATURE. DURING BUILDING WARM-UP GAS FIRED RADIANT HEATERS SHALL BE SCHEDULED TO OPERATE PRIOR TO ERV OPERATION TO ALLOW TIME FOR SPACES TO REACH SET POINT TEMPERATURE PRIOR TO ERV UNITS ENERGIZING.



ATC POINTS LIST

EQUIPMENT OR SYSTEM	AIRFLOW MEASURING STATIONS (TYP OF 2)	DAMPER - TWO POSITION	DUCT SMOKE DETECTORS (TYP OF 2)	ENTHALPY WHEEL DISCHARGE TEMPERATURE	ENTHALPY WHEEL MOTOR STATUS	ENTHALPY WHEEL ROTATION	EQUIPMENT STATUS	DISCHARGE AIR CO	GAS - MODULATING VALVE TRAIN	GAS SYSTEMS	GLOBAL - OA RELATIVE HUMIDITY	GLOBAL - OA TEMP	GRAPHIC DISPLAY	HEATING AIR RESET	LOW OUTDOOR/EXHAUST AIRFLOW ALARM	LOW TEMPERATURE ALARM	MODE OF OPERATION	SPACE CO	START & STOP	TEMP - EXHAUST AIR	TEMP - SUPPLY AIR	TIME PROGRAM	TOTAL RUN TIME	VFD AMPERAGE, SPEED, AND BACNET ALARMS	VFD DRIVES
ENERGY RECOVERY VENTILATOR	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

NOTES:
1. PROVIDE ADDITIONAL DIGITAL POINTS AS NECESSARY TO ACCOMPLISH THE SPECIFIED SEQUENCE OF OPERATION DESCRIBED IN THE SPECIFICATIONS.
2. ALL ITEMS IN THE POINTS LIST MUST BE VIEWABLE FROM THE OPERATOR'S TERMINAL.

HEATING AIR RE-SET SCHEDULE

T-OA OUTSIDE AIR TEMP.	HEATING AIR SUPPLY TEMP. (T-2)
50°F	65°F
10°F	75°F

ENERGY RECOVERY UNIT (ERV) ATC INTERLOCK SCHEDULE

ERV NO.	GAS FIRED INFRARED HEATER
ERV-1	IRH-1, IRH-2, IRH-3

NOTES:
1. ANYTIME AN INFRARED RADIANT HEATER OPERATES IN OCCUPIED MODE, INTERLOCKED ERV UNIT SHALL OPERATE IN OCCUPIED MODE TO PROVIDE CODE REQUIRED FRESH AIR.

1 CONTROLS - ENERGY RECOVERY VENTILATOR - GRADE MOUNTED (ALTERNATE)

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. _____, EXPIRATION DATE: _____

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER, MARYLAND

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: GAW
Proj.No.: 0085B049.A01

AUTOMATIC TEMPERATURE CONTROLS

Dwg.No.: M-402

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DUCT SMOKE DETECTOR SCHEDULE (ALTERNATE)

UNIT #	UNIT SERVED	ELECTRICAL CHARACTERISTICS	REMARKS
DD-1	ERV-1	REFER TO DIVISION 28	SUPPLY
DD-2	ERV-1	REFER TO DIVISION 28	EXHAUST

NOTE; FURNISH UNDER DIVISION 28, INSTALLED UNDER DIVISION 23.

ENERGY RECOVERY VENTILATOR (VARIABLE AIR VOLUME) - GAS FIRED HEATING SCHEDULE (ERV) (ALTERNATE)

UNIT #	SUPPLY FAN (W/VARIABLE SPEED DRIVES)							EXHAUST FAN (W/VARIABLE SPEED DRIVES)							ENERGY RECOVERY WHEEL PERFORMANCE												HEATING PERFORMANCE GAS HEATER						ENERGY RECOVERY EFFICIENCY		ELECTRICAL CHARACTERISTICS				MAXIMUM WEIGHT (LBS.)
	TOTAL SUPPLY CFM		E.S.P. (IN. W.G.)	MAX RPM	MAX. BHP	MOTOR		TOTAL CFM		E.S.P. (IN. W.G.)	MAX RPM	MAX. BHP	MOTOR		SUMMER						WINTER						TOTAL OUTPUT (MBH)	TOTAL INPUT (MBH)	E.A.T. DB (°F)	L.A.T. DB (°F)	FUEL TYPE	DIRECT OR INDIRECT FIRED	FUEL HEATING VALUE (BTU/H/FT³)	MAX APD (IN. H20)	GAS PIPING RUN-OUT SIZE (INCHES)	OUT SIDE AIR WHEEL EFFICIENCY	INSIDE AIR WHEEL EFFICIENCY	VOLTS	PHASE	MIN. CIRCUIT AMPACITY	MOCP (AMPS)	
	MAX	MIN				QTY	HP	MAX.	MIN				QTY	HP	OUTSIDE DB (°F)	OUTSIDE WB (°F)	ROOM AIR DB (°F)	ROOM AIR %RH	SUPPLY AIR DB (°F)	SUPPLY AIR WB (°F)	OUTSIDE DB (°F)	OUTSIDE WB (°F)	ROOM AIR DB (°F)	ROOM AIR % R.H.	SUPPLY AIR DB (°F)	SUPPLY AIR WB (°F)														
ERV-1	12,000	6,000	1.5	1,976	7.51	2	10	12,000	6,000	1.00	2,444	5.12	2	7.5	---	---	---	---	---	---	10	8	65	35	45	37	480	600	45	82	PROPANE	INDIRECT	2,516	1.9	1-1/2"	64	64	480	3	43	60	6,500

NOTES:
1. MOTOR DATA TYPICAL FOR QUANTITY OF FANS INDICATED IN SCHEDULE.
2. GAS BURNER SHALL BE CAPABLE OF OPERATION ON A MINIMUM GAS PRESSURE OF 14 INCHES W.C.
3. GAS EFFICIENCY SHALL BE A MINIMUM OF 80%.

LOUVER SCHEDULE (BASE BID)

ITEM	NOMINAL SIZE WXH (INCHES)	UNIT(S) SERVED	SERVICE	MIN. FREE AREA (FT^2)	MAX. STATIC PRESSURE (IN. W.G.)	TOTAL AIR FLOW (CFM)	REMARKS
LV-01	26X26	VF-01	INTAKE	2	0.1	1,000	
LV-02	26X26	VF-01	EXHAUST	2	0.1	1,000	

NOTES:
1. EXTRUDED ALUMINUM WITH BAKED ENAMEL FINISH, COLOR AS SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRD SCREEN WITH 1/4"OPENINGS.
3. DRAINABLE BLADES WITH ZERO WATER PENETRATION AT 700 FPM VELOCITY.
4. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL LOUVERS AND EXACT LOUVER SIZES AND LOCATION.

ELECTRIC UNIT HEATER SCHEDULE (BASE BID)

UNIT NO.	AIRFLOW (CFM)	TOTAL CAPACITY (BTUH)	KW	ELEC. CHAR. VOLTS	PHASE	HERTZ	FAN MOTOR DATA RPM	FAN MOTOR DATA H.P.	MOUNTING HEIGHT ABOVE FINISHED FLOOR INCHES	REMARKS
EUH-1	350	17,060	5	480	3	60	1600	0.01	96	

VENTILATION AIR FAN SCHEDULE (BASE BID)

UNIT #	STD. AIR CFM	TOTAL SP (IN. H2O)	MAX BHP	MOTOR HP	MAX RPM	ELECTRICAL CHAR. VOLTS	PHASE	HERTZ	TYPE	REMARKS
VF-1	1,000	0.25	0.17	1/4	896	120	1	60	BELT DRIVE SIDEWALL PROPELLER FAN	EXHAUST

NOTES:
1. PROVIDE END SWITCH ON MOTOR OPERATED DAMPER TO PROVE DAMPER OPEN BEFORE ALLOWING FAN OPERATION. (SEE ATC SPECIFICATIONS)

GRILLES, REGISTERS AND DIFFUSERS SCHEDULE

ID	DESCRIPTION	REMARKS
RG3	LOUVERED FILTER GRILLE	STEEL - HEAVY DUTY (ALTERNATE)
SD1	LOUVERED FACE DIFFUSER	HIGH PERFORMANCE ALUMINIUM LOUVERED DIFFUSER (BASE BID)

AIRFLOW MONITORING STATION (AMS) (ALTERNATE)

UNIT #	SERVICE	ELEC. CHAR. VOLTAGE	MAX. PRESSURE DROP (IN W.C.)	TYPE	DUCT SIZE (__ IN. X __ IN.)	FAN ARRAY TYPE	MAX. AIRFLOW RATE (CFM)	MAX. DUCT WORK VELOCITY (FPM)	MIN. AIRFLOW RATE (CFM)	MIN. DUCT WORK VELOCITY (FPM)	REMARKS
AMS -1	ERV-1 (OUTSIDE AIR FLOW)	24	0.085	THERMAL DISPERSION	34X34	--	12,000	1,495	6,000	747	INTERLOCK WITH ATC SYSTEM
AMS-2	ERV-1 (EXHAUST AIR FLOW)	24	0.085	THERMAL DISPERSION	34X34	---	12,000	1,495	6,000	747	INTERLOCK WITH ATC SYSTEM

NOTES: 1. COORDINATE ELECTRICAL CONNECTION OF DISPLAY MODULE AND AIRFLOW MONITORING SYSTEM WITH ATC SYSTEM.
2. FURNISH AND INSTALL CFM DISPLAY MODULE FOR EACH AIR FLOW MONITORING STATION.
3. FIELD VERIFY EXACT EXISTING DUCT WORK SIZES AND COORDINATE AIRFLOW MONITORING STATION TO FIT THE SAME.

INFRA-RED RADIANT HEATER SCHEDULE (ALTERNATE)

UNIT NO.	LENGTH TUBE (FEET-INCHES)	LENGTH UNIT (FEET-INCHES)	SIZE WIDTH (INCHES)	HEIGHT (INCHES)	COMBUSTION AIR INTAKE (IN.)	FLUE SIZE (IN.)	HEATING CAPACITY HIGH INPUT (MBH)	HEATING CAPACITY HIGH OUTPUT (MBH)	HEATING CAPACITY LOW INPUT (MBH)	HEATING CAPACITY LOW OUTPUT (MBH)	GAS RUN-OUT SIZE (IN.)	BLOWER ELECTRICAL CHARACTERISTICS MAX. BHP	VOLTS	PHASE	HZ	REMARKS
IRH-1	30'-0"	30'-0"	16"	16"	4	4	80	64	60	48	3/4"	0.03	120	1	60	
IRH-2	30'-0"	30'-0"	16"	16"	4	4	80	64	60	48	3/4"	0.03	120	1	60	
IRH-3	30'-0"	30'-0"	16"	16"	4	4	80	64	60	48	3/4"	0.03	120	1	60	

NOTES:
1. MOUNT UNITS MINIMUM 12'-6" ABOVE FINISHED FLOOR.
2. REFER TO PLUMBING DRAWING FOR GAS PIPE SIZE INDICATED ON GAS RISER DIAGRAM
3. MINIMUM INLET PRESSURE = 11 IN. W.C. AND MAXIMUM INLET PRESSURE = 14 IN. W.C.

AUTOMATIC TEMPERATURE CONTROL PANEL SCHEDULE (ATC)

UNIT #	SYSTEM/EQUIPMENT SERVED	ELECTRICAL CHARACTERISTICS VOLTAGE/PHASE/HERTZ	REMARKS
ATC PANEL-1	ERV-1, INFRARED HEATERS	120/1/60	ALTERNATE
ATC PANEL-2	UNIT HEATER, VENTILATION FAN	120/1/60	BASE BID

NOTES:
1. ATC SUBCONTRACTOR SHALL PROVIDE ADDITIONAL PANELS AND POWER WIRING IF REQUIRED.
2. PROVIDE DATA CONDUIT AND BACK BOX. COORDINATE DATA CABLE AND OUTLET WITH IT CONTRACTOR.
3. SIZE OF ATC PANEL SHALL BE COORDINATED BASED ON QUANTITY OF CONTROLLERS INSTALLED WITHIN THE SAME.

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: GAW
Proj.No.: 0085B049.A01

SCHEDULES HVAC

Dwg.No.: **M-501**

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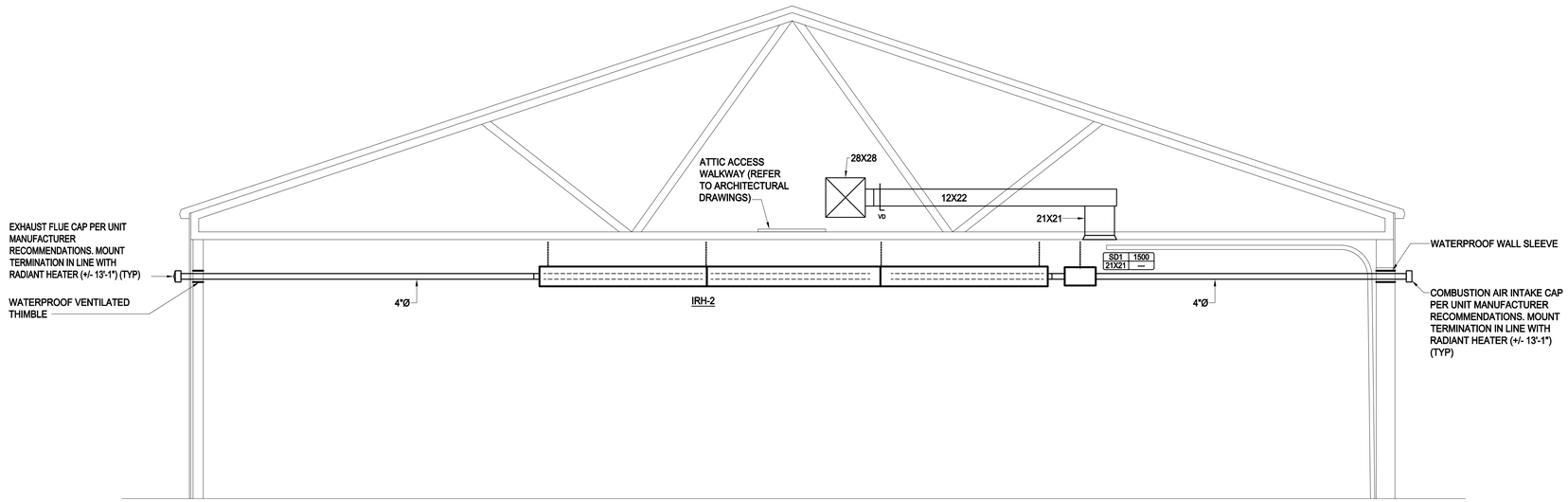
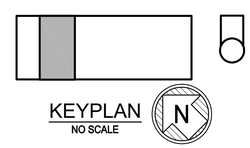


A / M-601 BUILDING SECTION - HVAC



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

4 0 4 8

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: GAW
Proj.No.: 0085B049.A01

BUILDING SECTION HVAC

Dwg.No.:

M-601

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SINGLE LINE DIAGRAM LEGEND

SYMBOL	DESCRIPTION
N.C. N.O.	PUSHBUTTON - NORMALLY CLOSED, NORMALLY OPEN
N.C. N.O.	CONTACT - NORMALLY CLOSED, NORMALLY OPEN
	SAFETY/DISCONNECT SWITCH - FUSIBLE, NON-FUSIBLE - SINGLE LINE REPRESENTATION
	CT CABINET WITH ELECTRICITY METER
M	ELECTRICITY METER
	FUSE
#P #A	CIRCUIT BREAKER - TOP NUMBER INDICATES NUMBER OF POLES, BOTTOM NUMBER INDICATES TRIP RATING
	TOGGLE/DISCONNECT SWITCH - SINGLE LINE REPRESENTATION
	TRANSFORMER - SINGLE LINE REPRESENTATION - DELTA PRIMARY / WYE SECONDARY
	TRANSFORMER - SINGLE LINE REPRESENTATION - GROUNDED WYE PRIMARY / GROUNDED WYE SECONDARY
###	LOW-VOLTAGE TRANSFORMER - SINGLE LINE REPRESENTATION - SEE LOW-VOLTAGE TRANSFORMER SCHEDULE
	ENCLOSED CIRCUIT BREAKER - SINGLE LINE REPRESENTATION - SEE ENCLOSED CIRCUIT BREAKER SCHEDULE

NOTE:
1. NOT ALL ITEMS WITHIN LEGEND MAY BE UTILIZED ON THIS PROJECT.

LIGHTING LEGEND

SYMBOL	DESCRIPTION
A AE	SURFACE-MOUNT LIGHTING FIXTURE - NORMAL POWER, EMERGENCY BATTERY BACKED - UPPER-CASE LETTER INDICATES FIXTURE TYPE, LOWER-CASE LETTER INDICATES SWITCH LEG (WHERE INDICATED)
N N	PENDANT-MOUNT LIGHTING FIXTURE - NORMAL POWER - UPPER-CASE LETTER INDICATES FIXTURE TYPE, LOWER-CASE LETTER INDICATES SWITCH LEG (WHERE INDICATED)
F	WALL SCONCE LIGHTING FIXTURE - NORMAL POWER - UPPER-CASE LETTER INDICATES FIXTURE TYPE, LOWER-CASE LETTER INDICATES SWITCH LEG (WHERE INDICATED)
U	DOWNLIGHT LIGHTING FIXTURE - NORMAL POWER - UPPER-CASE LETTER INDICATES FIXTURE TYPE, LOWER-CASE LETTER INDICATES SWITCH LEG (WHERE INDICATED)
SA 1 SB 2 SC 3	SITE LIGHTING FIXTURE - POLE-MOUNTED - LETTER INDICATES FIXTURE TYPE, NUMBER INDICATES CIRCUIT NUMBER
E ER	EMERGENCY LIGHTING UNIT - INTEGRAL BATTERY, REMOTE - M.H. 7'-6" AFF U.O.N. - LETTER INDICATES FIXTURE TYPE
X1 X2 X3	EXIT SIGN - CEILING-MOUNTED, WALL-MOUNTED, WITH DIRECTIONAL ARROWS AS INDICATED/REQUIRED - LETTER INDICATES FIXTURE TYPE - M.H. 7'-6" AFF U.O.N.
X1 X2	EXIT SIGN - CEILING-MOUNTED, WALL-MOUNTED, WITH INTEGRAL EMERGENCY LIGHTING HEADS - LETTER INDICATES FIXTURE TYPE - M.H. 7'-6" AFF U.O.N.
$ $2 $3 $4	SWITCH - SINGLE POLE, DOUBLE POLE, 3-WAY, 4-WAY - M.H. 42" TO BOTTOM, 48" TO TOP
$K $3K $4K	SWITCH - SINGLE POLE KEY OPERATED, 3-WAY KEY OPERATED, 4-WAY KEY OPERATED - M.H. 42" TO BOTTOM, 48" TO TOP
$P $LT	TOGGLE SWITCH - SINGLE POLE WITH PILOT LIGHT - LIT WHEN "ON", LIT WHEN "OFF" - M.H. 42" TO BOTTOM, 48" TO TOP
$LV $LVD	NETWORK WALL SWITCH - M.H. 42" TO BOTTOM, 48" TO TOP - TOP NUMBER INDICATES NUMBER OF ZONES CONTROLLED AND DIMMING, IF APPLICABLE - SEE NETWORK WALL SWITCH SCHEDULE
$OS $SOS	WALL SWITCH OCCUPANCY SENSOR - SINGLE RELAY, DUAL RELAY - DUAL TECHNOLOGY SENSING - M.H. 42" TO BOTTOM, 48" TO TOP
$LVOS $LVOSD	NETWORK WALL SWITCH OCCUPANCY SENSOR - ON/OFF, ON/OFF WITH RAISE/LOWER DIM CONTROL - DUAL TECHNOLOGY SENSING - M.H. 42" TO BOTTOM, 48" TO TOP
OS	OCCUPANCY SENSOR - CEILING MOUNTED - NUMBER INDICATES TYPE - ARROWS INDICATE COVERAGE AND AIM - SEE OCCUPANCY SENSOR SCHEDULE
OSD	OCCUPANCY/VACANCY SENSOR - WALL MOUNTED - NUMBER INDICATES TYPE - ARROW INDICATES COVERAGE AND AIM - SEE OCCUPANCY SENSOR SCHEDULE
PPD PPE	POWER PACK RELAY MODULE - DIMMING, EMERGENCY - SEE POWER PACK SCHEDULE
P	PHOTOCELL

NOTE:
1. NOT ALL ITEMS WITHIN LEGEND MAY BE UTILIZED ON THIS PROJECT.

GENERAL ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	BRANCH CIRCUIT CONCEALED ABOVE CEILING WITH (2) 12 AWG + (1) 12 AWG GROUND IN 3/4" CONDUIT U.O.N.
	BRANCH CIRCUIT CONCEALED IN OR UNDER FLOOR SLAB WITH (2) 12 AWG + (1) 12 AWG GROUND IN 3/4" CONDUIT U.O.N.
	LOW VOLTAGE WIRING
L1A1-1	HOMERUN TO PANELBOARD - SINGLE CIRCUIT - LETTERS INDICATE PANELBOARD DESINGATION AND NUMBER INDICATES CIRCUIT DESIGNATION, WITH (1) PHASE + (1) NEUTRAL + (1) GROUNDING CONDUCTOR IN 3/4" CONDUIT U.O.N. (NOTE: CONDUCTOR SIZE DEPENDENT ON HOMERUN LENGTH, REFER TO SPECIFICATIONS)
L1A1-1/3 L1A1-2/4/6	HOMERUN TO PANELBOARD - TWO-POLE CIRCUIT, THREE-POLE CIRCUIT - LETTERS INDICATE PANELBOARD DESIGNATION AND NUMBERS INDICATE CIRCUIT DESIGNATION, WITH (1) PHASE CONDUCTOR PER POLE + (1) GROUNDING CONDUCTOR IN 3/4" CONDUIT PER CIRCUIT U.O.N. (NOTE: CONDUCTOR SIZE DEPENDENT ON HOMERUN LENGTH, REFER TO SPECIFICATIONS)
	EQUIPMENT CONNECTION
	CONDUIT UP
	CONDUIT DOWN
J	JUNCTION BOX
	ENCLOSURE OR CABINET AS NOTED
#	DRAWING NOTE - NEW WORK
#V####	FEEDER DESIGNATION NUMBER - SEE LOW VOLTAGE FEEDER SCHEDULE
D#	DUCTBANK DESIGNATION NUMBER - SEE DUCTBANK SCHEDULE
HH#	HANDHOLE DESIGNATION NUMBER - SEE HANDHOLE SCHEDULE
X PART PLAN NO. XXX DRAWING NO.	PART PLAN DESIGNATION

NOTE:
1. NOT ALL ITEMS WITHIN LEGEND MAY BE UTILIZED ON THIS PROJECT.

POWER LEGEND

SYMBOL	DESCRIPTION
	SINGLE RECEPTACLE - M.H. 18" AFF U.O.N.
	DUPLEX, DOUBLE DUPLEX RECEPTACLE - M.H. 18" AFF U.O.N.
	DUPLEX, DOUBLE DUPLEX RECEPTACLE - M.H. 6" ABOVE COUNTER OR 42" AFF U.O.N., 48" AFF MAX.
G G	DUPLEX, DOUBLE DUPLEX RECEPTACLE - GFCI TYPE - M.H. 18" AFF U.O.N.
WP	DUPLEX RECEPTACLE - WEATHER-RESISTANT GFCI TYPE WITH WEATHERPROOF WHILE-IN-USE COVER - M.H. 18" AFF U.O.N.
TR TR	DUPLEX, DOUBLE DUPLEX RECEPTACLE - TAMPER-RESISTANT - M.H. 18" AFF U.O.N.
WR WR	DUPLEX, DOUBLE DUPLEX RECEPTACLE - WEATHER-RESISTANT - M.H. 18" AFF U.O.N.
	DUPLEX, DOUBLE DUPLEX RECEPTACLE IN FS BOX ON CONDUIT STUB
14 50R	SPECIAL PURPOSE RECEPTACLE OUTLET - NEMA CONFIGURATION AS NOTED - M.H. 18" AFF U.O.N.
PPL	POWER PACK RELAY MODULE - PLUG LOAD CONTROL - SEE POWER PACK SCHEDULE
	PANELBOARD - 120/208V - SURFACE-MOUNTED, FLUSH-MOUNTED, TOP 6'-6" AFF
	PANELBOARD - 277/480V - SURFACE-MOUNTED, FLUSH-MOUNTED, TOP 6'-6" AFF
	PANELBOARD - 120/240V - SURFACE-MOUNTED, FLUSH-MOUNTED, TOP 6'-6" AFF
	TRANSFORMER - GENERAL PURPOSE - WALL-MOUNTED, PAD-MOUNTED - SEE LOW-VOLTAGE TRANSFORMER SCHEDULE
	ENCLOSURE OR CABINET AS NOTED
FUSE	SPARE FUSE CABINET - TOP 5'-6" AFF
KEY	SPARE KEY CABINET - TOP 5'-6" AFF
CB	CIRCUIT BREAKER IN NEMA 1 ENCLOSURE U.O.N.
	SAFETY SWITCH - FUSED, NON-FUSED - 30A, 3 POLE, 600V, NEMA 1 U.O.N. - TOP 5'-6" AFF U.O.N.
	COMBINATION MAGNETIC MOTOR CONTROLLER - NEMA SIZE 1 STARTER WITH 30A, 3 POLE, 600V FUSED SAFETY SWITCH IN NEMA 1 ENCLOSURE U.O.N. - TOP 5'-6" AFF U.O.N.
$L $L2	TOGGLE SWITCH - SINGLE POLE, TWO POLE - HORSEPOWER RATED, WITH LOCKABLE HANDLE GUARD COVERPLATE - M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP
$P $P2	TOGGLE SWITCH - PILOT LIGHTED TYPE, LIT WHEN "ON" - SINGLE POLE, TWO POLE - HORSEPOWER RATED, WITH LOCKABLE HANDLE GUARD COVERPLATE - M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP
$M	MANUAL MOTOR CONTROLLER - SINGLE POLE - 20A, 120-277VAC, WITH H.O.A. SWITCH AND LOCKABLE HANDLE GUARD COVERPLATE - M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP
$J2 $J3	MANUAL MOTOR SWITCH - TWO POLE, THREE POLE - 30A, 600VAC, WITH LOCKABLE HANDLE GUARD COVERPLATE - M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP
$MD	MOTOR DISCONNECT SWITCH - 60A, 3P, 600V WITH LOCKABLE HANDLE, M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP
$FS	FAN SPEED CONTROL SWITCH - M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP - FURNISHED UNDER DIVISION 23, INSTALLED UNDER DIVISION 26
	GROUNDING ELECTRODE
VFD	VARIABLE FREQUENCY DRIVE
ATC	AUTOMATIC TEMPERATURE CONTROL PANEL
MOD	MOTOR OPERATED DAMPER
FSD	COMBINATION FIRE-SMOKE DAMPER
EGB	ELECTRICAL GROUNDING BUS BAR
PBB	PRIMARY BONDING BUS BAR
CR#	RETRACTABLE CORD REEL - "CR" NUMBER DESIGNATES TYPE - SEE "RETRACTABLE CORD REEL SCHEDULE"
	MOTOR - GENERIC - REFER TO FLOOR PLANS FOR MOTOR DESIGNATION
	OPEN/CLOSE CONTROL STATION FOR OVERHEAD DOOR AND/OR GATE OPERATOR
OHD	OVERHEAD DOOR/GRILLE - PROVIDED UNDER DIVISION 08, CONNECTED UNDER DIVISION 26

NOTE:
1. NOT ALL ITEMS WITHIN LEGEND MAY BE UTILIZED ON THIS PROJECT.

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: KDS
Proj.No.: 0085B049.A01

LEGEND & ABBREVIATIONS ELECTRICAL

Dwg.No.:
E-001

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ELECTRICAL ABBREVIATIONS

ABBREVIATION	DEFINITION
A	AMPERES
A/C	AIR CONDITIONER
AC	ALTERNATING CURRENT
ADA	AMERICANS WITH DISABILITIES ACT
AF	AMPERE FRAME
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AG	AGRICULTURE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AT	AMPERE TRIP
ATC	AUTOMATIC TEMPERATURE CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
AV, A/V	AUDIO/VIDEO
AWG	AMERICAN WIRE GAUGE
BIL	BASIC INSULATION LEVEL
BKR	BREAKER
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CAT	CATEGORY
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCT	CORRELATED COLOR TEMPERATURE
CEC	CHOPTANK ELECTRIC COOPERATIVE
CEE	CONSORTIUM FOR ENERGY EFFICIENCY
CIRC	CIRCUIT
CFL	COMPACT FLUORESCENT
CKT	CIRCUIT
CL	CENTER LINE
CMU	CONCRETE MASONRY UNIT
CNTRL	CONTROL
CO	CARBON MONOXIDE
COAX	COAXIAL
COMBO	COMBINATION
CR	CORD REEL
CRI	COLOR RENDERING INDEX
CT	CURRENT TRANSFORMER
CU	COPPER
D	DEEP, DEPTH
DAS	DISTRIBUTED ANTENNA SYSTEM
dB	DECIBEL (A SCALE)
DB	DUCT BANK
DC	DIRECT CURRENT
DIAM	DIAMETER
DIM	DIMMING
DIV	DIVISION
DN	DOWN
DPDT	DOUBLE-POLE, DOUBLE-THROW
DPST	DOUBLE-POLE, SINGLE-THROW
DR	DIMMER RACK
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
EC	ELECTRICAL CONTRACTOR
EC	EMPTY CONDUIT
EC	ENCLOSED CONTACTOR
EF	EXHAUST FAN
EFF	EFFICIENCY
E.G.	EXAMPLE GIVEN
EGB	ELECTRIC GROUNDING BUSBAR
ELEC	ELECTRIC
EM	EMERGENCY
EMER	EMERGENCY
EMH	ELECTRIC MANHOLE
EMT	ELECTRICAL METALLIC TUBING
EPO	EMERGENCY POWER OFF
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPS	ELECTRONIC PROGRAMMED START
EQ	EQUAL
EQUIP	EQUIPMENT
ER	EQUIPMENT RACK
ERHP	ELECTRIC RADIANT HEAT PANEL
ETC	ET CETERA
ETR	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX/EXST	EXISTING
EXT	EXTERIOR
F	FUSED
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FU/FLR	FLOOR
FM	FIRE MARSHAL
FMC	FLEXIBLE METAL CONDUIT
FREQ	FREQUENCY
FT	FEET
G	GROUND,GFCI
GSB	GROUNDING BUSBAR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRD	GROUND
GY	GROUNDED-WYE
H	HEIGHT
HDPE	HIGH DENSITY POLYETHYLENE
HH	HANDHOLE
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER / HEAT PUMP
HVAC	HEATING VENTILATION AIR CONDITIONING
HZ	HERTZ
ID	IDENTIFICATION
IDF	INTERMEDIATE DISTRIBUTION FRAME
I.E.	THAT IS
IES/IESNA	ILLUMINATING ENGINEERING SOCIETY (OF NORTH AMERICA)
ISOL	ISOLATED
IT/I.T.	INFORMATION TECHNOLOGY
JB	JUNCTION BOX
K	KELVIN
K	THOUSAND
KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KW	KILOWATTS
KWH	KILOWATT HOURS
L	LENGTH
LAN	LOCAL AREA NETWORK
LB	ELL-BACK
LBS	POUNDS
LC	LIGHTING CONTACTOR
LED	LIGHT EMITTING DIODE
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
LM	LUMEN MAINTENANCE
LPW	LUMENS PER WATT
LTG	LIGHTING
LTS	LIGHTS
LV	LOW VOLTAGE
MA	MILLI-AMPERES
MACH	MACHINE
MAX	MAXIMUM
MC	METAL-CLAD
MCB	MAIN CIRCUIT BREAKER
MCCB	MOLDED CASE CIRCUIT BREAKER
MCS	MOLDED CASE SWITCH
MD	MARYLAND
MDF	MAIN DISTRIBUTION FRAME
MDP	MAIN DISTRIBUTION PANELBOARD
MECH	MECHANICAL
MGMT	MANAGEMENT
MH	MOUNTING HEIGHT
MIC	MICROPHONICS
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MM	MILLI-METER
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
MULTI	MULTIPLE
MV	MEDIUM VOLTAGE
MVS	MEDIUM VOLTAGE SWITCH
N	NEUTRAL, NORMAL, NORTH
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NON-FUSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NM	NON-METALLIC
N.O.	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE
OAU	OUTSIDE AIR UNIT
O.C.	ON CENTER
OHD	OVERHEAD DOOR
OS	OCCUPANCY SENSOR
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
P	POLE(S)
PBB	PRIMARY BONDING BUSBAR
PC	PHOTOCELL
PF	POWER FACTOR
PH	PHASE
PIR	PASSIVE INFRARED
PNL	PANEL
POE	POWER OVER ETHERNET
PP	POWER PACK
PSI	POUNDS PER SQUARE INCH
PT	POTENTIAL TRANSFORMER
PV	PHOTOVOLTAIC
PVC	POLYVINYL CHLORIDE
PWR	POWER
QTY	QUANTITY
RCPT	RECEPTACLE(S)
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RMS	ROOT MEAN SQUARE
RNC	RIGID NONMETALLIC CONDUIT
RP	RELAY PANEL
SBB	SECONDARY BONDING BUSBAR
SCCR	SHORT CIRCUIT CURRENT RATING
SD	SELF-DIAGNOSTICS
SD	SMOKE DETECTOR
SMR	SURFACE METAL RACEWAY
SPD	SURGE PROTECTIVE DEVICE
SS	SAFETY SWITCH
SS	STAINLESS STEEL
ST	SHUNT TRIP
SW	SWITCH, SOUTHWEST
T	TELEPHONE, TRANSFORMER
TBD	TO BE DETERMINED
TC	TELECOMMUNICATIONS CLOSET
TC	TIME CLOCK
TEL/TELE	TELEPHONE
TEMP	TEMPORARY, TEMPERATURE
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
TPS	TRAP PRIMING STATION
TR	TAMPER RESISTANT
TV	TELEVISION
TYP	TYPICAL
UG	UNDERGROUND
UH	UTILITY HOLE
U.O.N.	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
US	ULTRASONIC
V	VOLTS
VA	VOLT-AMPERES
VF	VENTILATION FAN
VIA	BY THE WAY OF
VR	VOLTAGE REGULATOR
W	WIRE, WIDTH, WEST
W/	WITH
WAP	WIRELESS ACCESS POINT
WC	WORCESTER COUNTY
WG	WIREGUARD
WO	WORK ORDER
WP	WEATHERPROOF
WR	WEATHER RESISTANT
XFMR	TRANSFORMER
Y	WYE
Z	IMPEDANCE
Δ	DELTA
YR	YEAR
©	COPYRIGHT
%	PERCENT
'	FEET
"	INCHES
+/-	PLUS OR MINUS
ø	PHASE
&	AND
#	NUMBER

COMMUNICATIONS LEGEND

SYMBOL	DESCRIPTION
(W)	WIRELESS ACCESS POINT - MOUNTED IN CEILING
▽	DATA OUTLET - M.H. 18" A.F.F. U.O.N.
▼	TELEPHONE OUTLET - M.H. 18" A.F.F. U.O.N.
▽▼	DATA/TELEPHONE OUTLET - M.H. 18" A.F.F. U.O.N.
PBB	TELECOMMUNICATIONS PRIMARY BONDING BUS BAR
	CONDUIT SLEEVE THRU WALL PARTITION ABOVE FINISHED CEILING WHERE REQUIRED - 2" SLEEVE AT CLASSROOMS WITH PULL CORD AT ALL OTHER SPACES - 1" SLEEVE WITH A PULL CORD U.O.N.

NOTE:
1. NOT ALL ITEMS WITHIN LEGEND MAY BE UTILIZED ON THIS PROJECT.

SECURITY LEGEND

SYMBOL	DESCRIPTION
	SECURITY SYSTEM - VIDEO SURVEILLANCE CAMERA - CEILING-MOUNTED, WALL-MOUNTED 12'-0" AFF U.O.N.
MD	SECURITY SYSTEM - MOTION DETECTOR
CR	SECURITY SYSTEM - CARD READER - M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP
DPS	SECURITY SYSTEM - DOOR POSITION SWITCH
KP	SECURITY SYSTEM - KEY PAD
PS	SECURITY SYSTEM - POWER SUPPLY
SCP	SECURITY SYSTEM - CONTROL PANEL
ES	SECURITY SYSTEM - ELECTRIC DOOR STRIKE
RTE	SECURITY SYSTEM - REQUEST TO EXIT MOTION DETECTOR

NOTE:
1. NOT ALL ITEMS WITHIN LEGEND MAY BE UTILIZED ON THIS PROJECT.

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WORCESTER, MARYLAND
BID SET

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Proj.No.: 0085B049.A01

LEGEND & ABBREVIATIONS ELECTRICAL

Dwg.No.:
E-002

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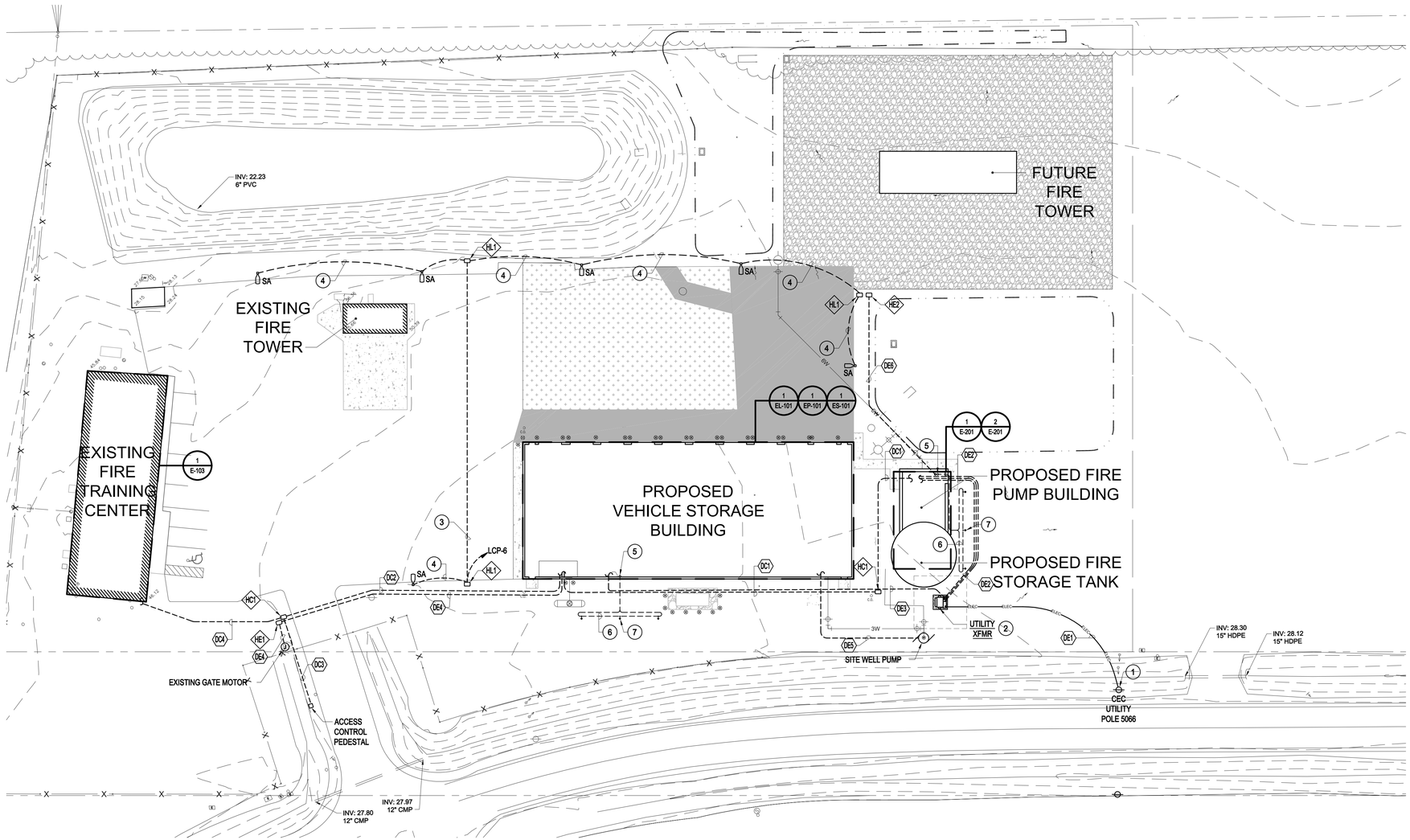
DRAWING NOTES:
(APPLY TO THIS DRAWING ONLY)

1. EXISTING CHOPTANK ELECTRIC COOPERATIVE (CEC) RISER POLE.
2. NEW CEC MEDIUM VOLTAGE TRANSFORMER. PROVIDE EQUIPMENT PAD PER DETAIL.
3. (1) 8 AWG PHASE, (1) 8 AWG NEUTRAL, (1) 8 AWG GROUNDING CONDUCTOR, AND 0-10V DIMMING CONTROLS IN 1" CONDUIT, PLUS (1) SPARE 1" CONDUIT.
4. (1) 10 AWG PHASE, (1) 10 AWG NEUTRAL, (1) 10 AWG GROUNDING CONDUCTOR, AND 0-10V DIMMING CONTROLS IN 1" CONDUIT, PLUS (1) SPARE 1" CONDUIT.
5. STUB CONDUITS FOR GROUNDING TRIAD AT EGB AT ELECTRICAL SERVICE ENTRANCE EQUIPMENT. SEE FLOOR PLAN FOR CONTINUATION.
6. GROUNDING ELECTRODE CONDUCTORS TO GROUNDING TRIAD. SEE DETAILS FOR ADDITIONAL INFORMATION.
7. GROUNDING ELECTRODE (TYPICAL).



1 E-100 SITE PLAN - ELECTRICAL

N

SCALE: 1" = 30'-0"

30 0 30 60

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SITE PLAN ELECTRICAL

Dwg.No.:

E-100

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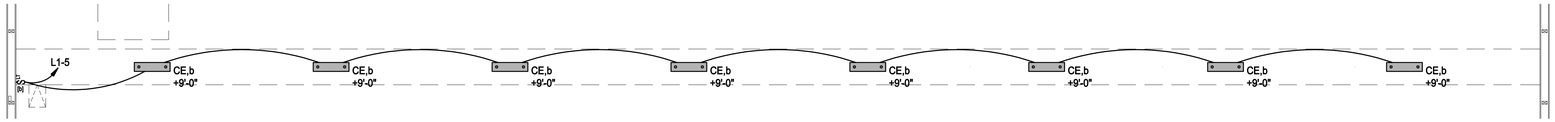
GENERAL NOTES:
(APPLY TO ALL DRAWINGS)

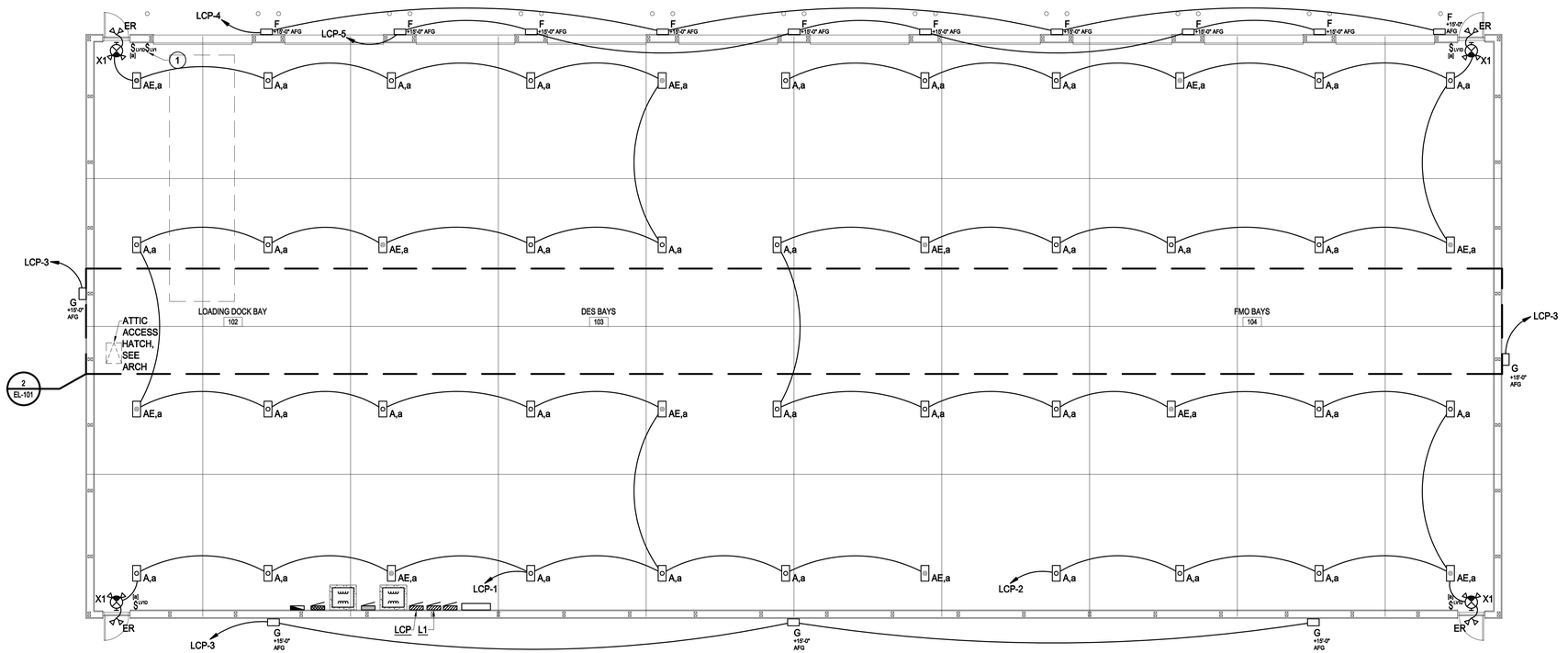
1. CONTROL WIRING FOR SWITCHES, OCCUPANCY/VACANCY SENSORS, DAYLIGHT SENSORS, AND 0-10V DIMMING RELAYS IS NOT SHOWN ON FLOOR PLANS. REFER TO DETAILS FOR TYPICAL WIRING DIAGRAMS. PROVIDE ALL CONTROL WIRING REQUIRED FOR A COMPLETE AND OPERABLE INSTALLATION PER EQUIPMENT MANUFACTURER'S REQUIREMENTS.
2. EXIT SIGNS AND EMERGENCY LIGHTING FIXTURES SHALL BE SERVED BY UNSWITCHED (HOT) PHASE CONDUCTOR FROM BRANCH CIRCUIT/RELAY SERVING THE SPACE.

DRAWING NOTES:
(APPLY TO THIS DRAWING ONLY)

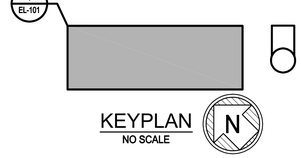
(1) NETWORK WALL SWITCH FOR EXTERIOR LIGHTING FIXTURE OVERRIDES. SEE NETWORK WALL SWITCH SCHEDULE AND SEQUENCES OF OPERATION FOR ADDITIONAL INFORMATION. PROVIDE TYPEWRITTEN LABEL TO READ "EXTERIOR."



2 EL-101 ATTIC PLAN - LIGHTING



1 EL-101 FIRST FLOOR PLAN - LIGHTING



KEYPLAN
NO SCALE

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

8 0 8 16

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FIRST FLOOR PLAN LIGHTING

Dwg.No.: **EL-101**

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DRAWING NOTES:
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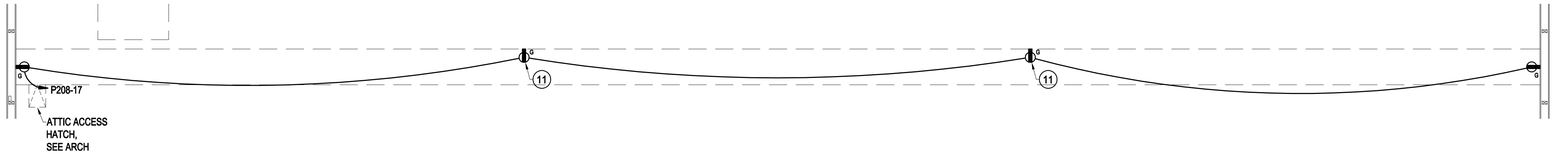
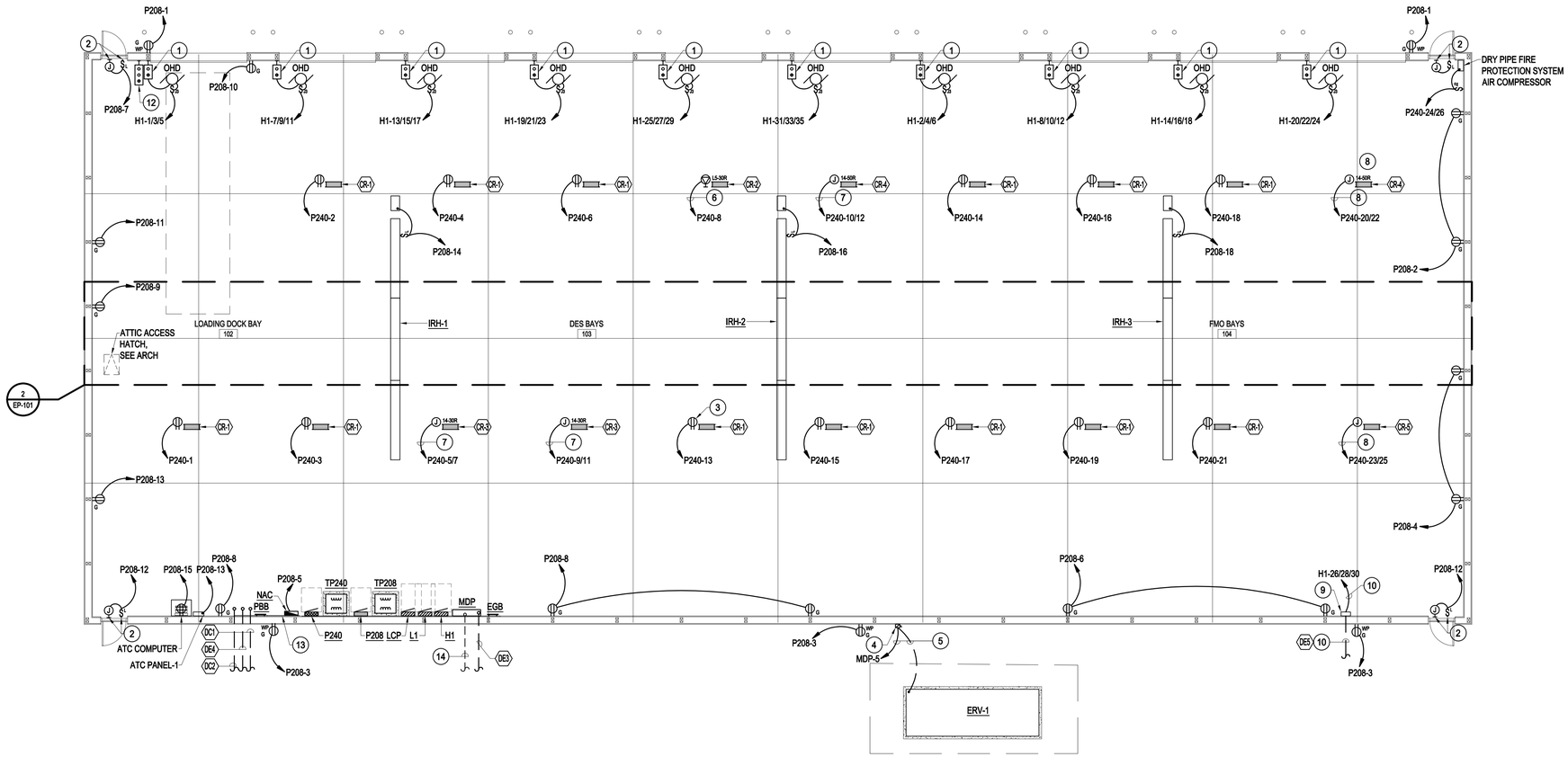
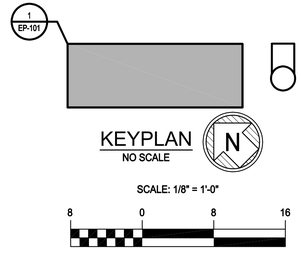
1. OVERHEAD DOOR CONTROLLER FURNISHED BY OVERHEAD DOOR MANUFACTURER, INSTALLED BY DIVISION 26 CONTRACTOR.
2. PROVIDE 120V POWER CONNECTION TO ACCESS CONTROL SYSTEM POWER SUPPLY FURNISHED UNDER DIVISION 28. FIELD COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH DIVISION 28 CONTRACTOR.
3. PROVIDE RECEPTACLE OUTLET WITH SAME NEMA CONFIGURATION AS RETRACTABLE CORD REEL, MOUNTED TO UNISTRUT FRAMING SUPPORT (TYPICAL FOR ALL CORD REELS IN THIS SPACE). REFER TO 'RETRACTABLE CORD REEL SCHEDULE' FOR RECEPTACLE OUTLET CONFIGURATIONS.
4. 60 AMPERE, 3 POLE, 600 VOLT FUSIBLE SAFETY SWITCH IN NEMA 3R ENCLOSURE. PROVIDE FUSES PER EQUIPMENT NAMEPLATE DATA.
5. PROVIDE (3) 4 AWG PHASE AND (1) 8 AWG GROUNDING CONDUCTOR IN 1" C.
6. PROVIDE (1) 10 AWG PHASE, (1) 10 AWG NEUTRAL, (1) 10 AWG GROUNDING CONDUCTOR IN 3/4" CONDUIT.
7. PROVIDE (2) 10 AWG PHASE, (1) 10 AWG NEUTRAL, (1) 10 AWG GROUNDING CONDUCTOR IN 3/4" CONDUIT.
8. PROVIDE (2) 6 AWG PHASE, (1) 6 AWG NEUTRAL, (1) 10 AWG GROUNDING CONDUCTOR IN 1" CONDUIT.
9. NEW WELL PUMP VARIABLE FREQUENCY DRIVE PROVIDED BY OWNER UNDER SEPARATE CONTRACT.
10. PROVIDE (3) 12 AWG PHASE AND (1) 12 AWG GROUNDING CONDUCTOR IN 3/4" C FROM VFD TO WELL PUMP CONTROLLER. SEE SITE PLAN ON SHEET E-100 FOR CONTINUATION.
11. MOUNT RECEPTACLE ON JOIST ABOVE ATTIC WALKWAY AS REQUIRED.
12. PROVIDE NEW 3-BUTTON MOTORIZED GATE CONTROLLER FOR EXISTING GATE OPERATOR. PROVIDE (1) 1" CONDUIT WITH PULLSTRING FROM CONTROLLER TO DUCTBANK 'DE4'.
13. PLYWOOD BACKBOARD (TYP OF 2), SEE SPECIFICATIONS.
14. GROUNDING ELECTRODE CONDUCTORS TO GROUNDING TRIAD, SEE SITE PLAN ON SHEET E-100 FOR CONTINUATION.



2 EP-101 ATTIC PLAN - POWER



1 EP-101 FIRST FLOOR PLAN - POWER



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FIRST FLOOR PLAN POWER

Dwg.No.: **EP-101**

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DRAWING NOTES:
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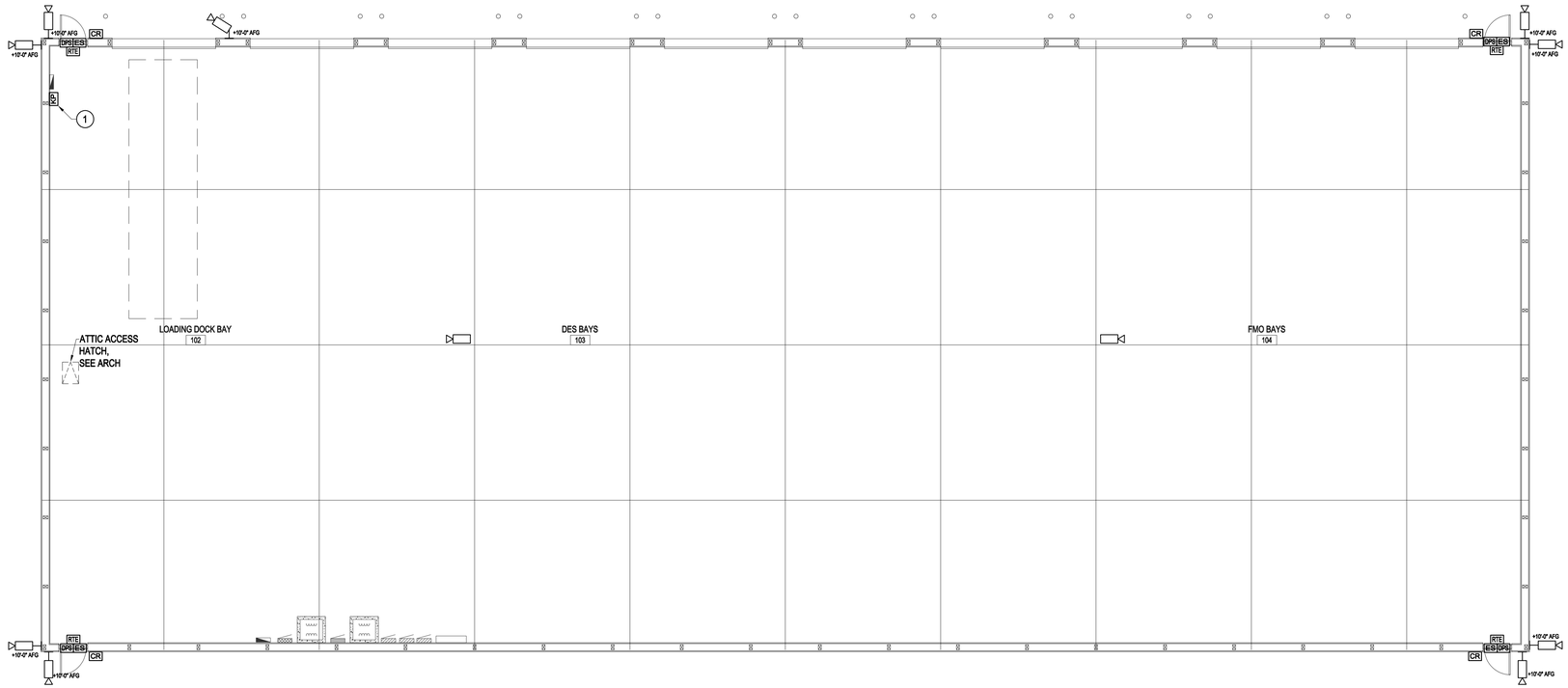
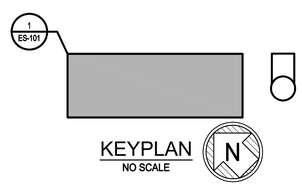
1. PROVIDE BACKBOX FOR BURGLAR ALARM KEYPAD WITH 3/4" C. BACK TO FIRE ALARM/SECURITY CONTROL PANEL. COORDINATE BACKBOX REQUIREMENTS WITH OWNER'S SECURITY VENDOR.



1 ES-101 FIRST FLOOR PLAN - SECURITY



KEYPLAN
NO SCALE

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

8 0 8 16

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FIRST FLOOR PLAN SECURITY

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ES-101

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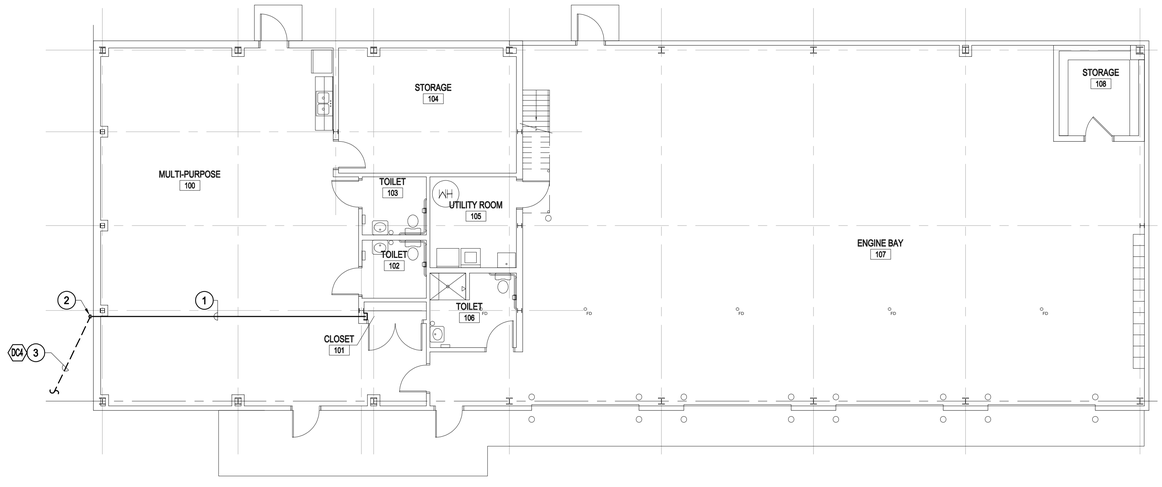
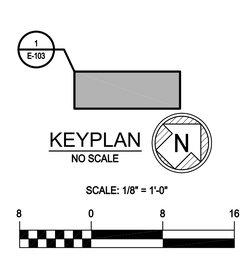
DRAWING NOTES:
(APPLY TO THIS DRAWING ONLY)

1. PROVIDE (1) 4" CONDUIT FROM SITE TO IT/ELEC CLOSET. CONDUIT SHALL BE ROUTED ABOVE CEILING. SEE SITE PLAN, E-100, FOR CONTINUATION.
2. STUB CONDUIT THROUGH WALL AND TRANSITION TO VERTICAL CONDUIT WITH LB CONDUIT BODY. SEAL PENETRATION PER DETAILS.
3. SEE SITE PLAN, DRAWING E-100, FOR CONTINUATION.



1 / E-103 EXISTING FIRE TRAINING CENTER FLOOR PLAN - ELECTRICAL



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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date:	08/08/2025
Scale:	AS NOTED
Dwn.By:	KDS
Proj.No.:	0085B049.A01

EXISTING FIRE TRAINING CENTER FLOOR PLAN ELECTRICAL

Dwg.No.:
E-103

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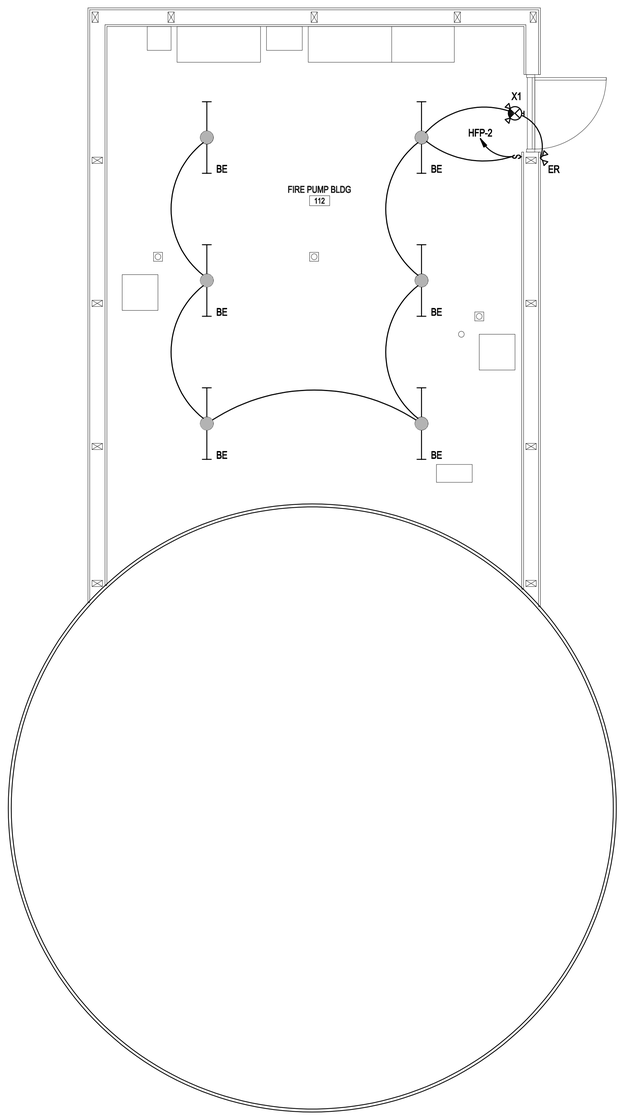
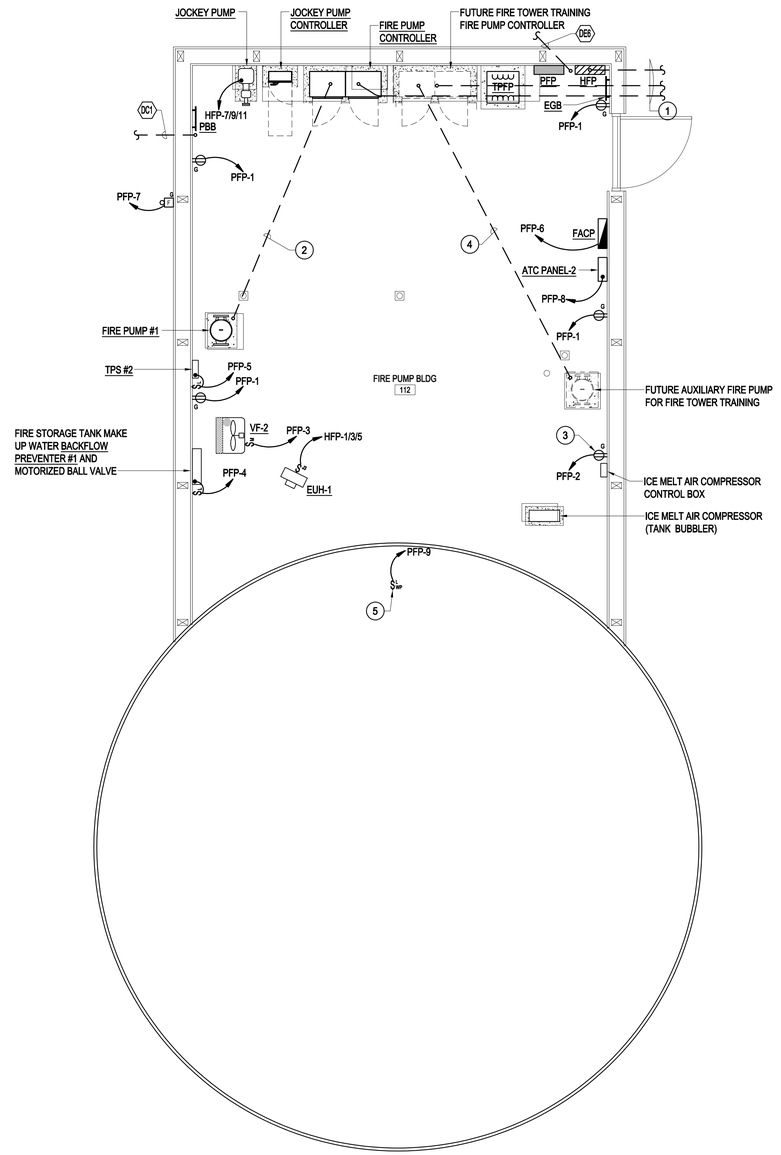
DRAWING NOTES:
(APPLY TO THIS DRAWING ONLY)

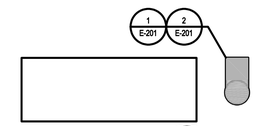
1. INCOMING SERVICE CONDUITS FROM UTILITY TRANSFORMER. SEE SITE PLAN, E-100, AND SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.
2. FIRE PUMP FEEDER BELOW SLAB. REFER TO SINGLE LINE DIAGRAM FOR FEEDER INFORMATION.
3. DEDICATED RECEPTACLE RESERVED FOR ICE MELT COMPRESSOR CONTROL BOX.
4. PROVIDE EMPTY 1" CONDUIT WITH PULL STRING BELOW SLAB FOR FUTURE FIRE PUMP.
5. INTERLOCK FIRE PROTECTION STORAGE TANK ALARMS WITH FIRE ALARM SYSTEM AS REQUIRED. PROVIDE 120V CONNECTIONS TO EQUIPMENT AS REQUIRED PER EQUIPMENT WIRING DIAGRAMS.



1 E-201 PART PLAN - LIGHTING



2 E-201 PART PLAN - POWER



KEYPLAN
NO SCALE

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

4 0 4 8

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PART PLANS ELECTRICAL

Dwg.No.:

E-201

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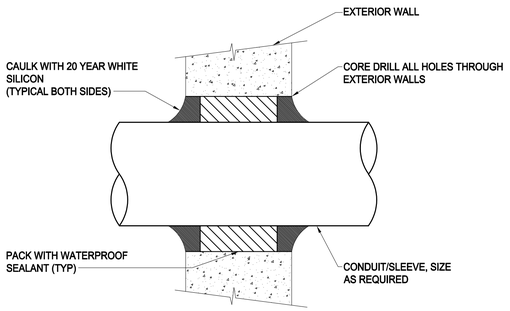
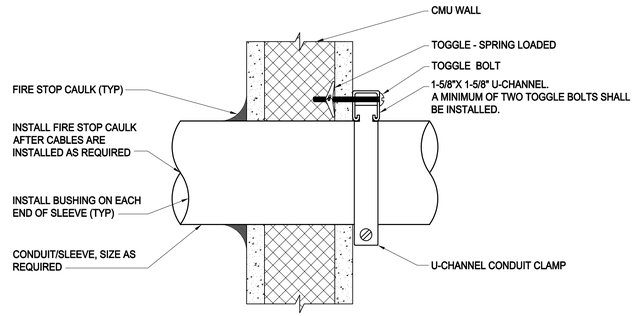
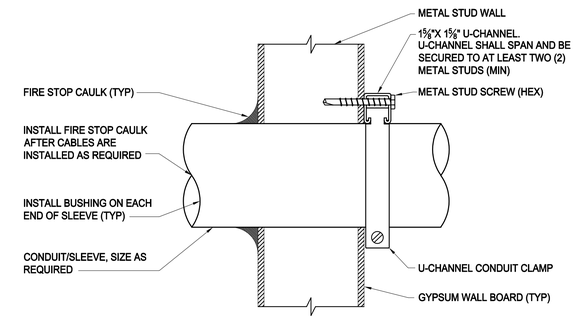


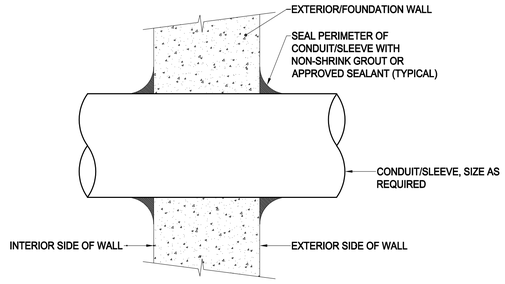
1 **DETAIL - TYPICAL CONDUIT THROUGH EXTERIOR WALL - ABOVE GRADE** NO SCALE



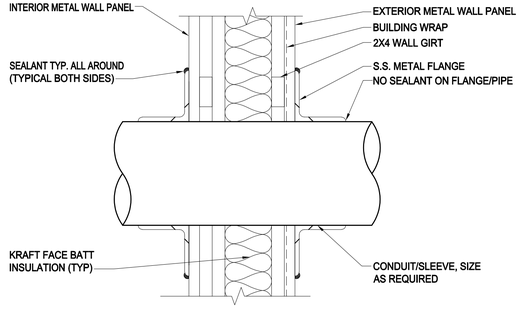
2 **DETAIL - TYPICAL CONDUIT SLEEVE THROUGH INTERIOR CMU WALL** NO SCALE



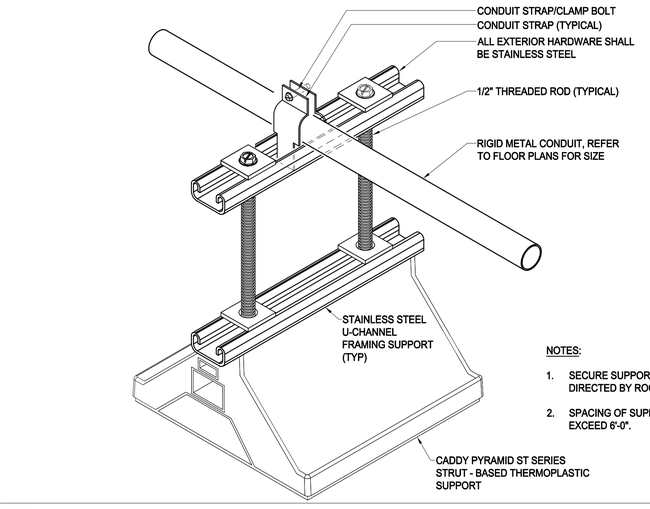
3 **DETAIL - TYPICAL CONDUIT SLEEVE THROUGH INTERIOR STUD WALL** NO SCALE



4 **DETAIL - TYPICAL CONDUIT THROUGH EXTERIOR WALL - BELOW GRADE ON BOTH SIDES** NO SCALE



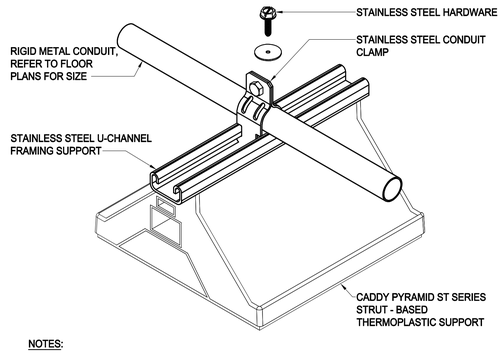
5 **DETAIL - TYPICAL CONDUIT THROUGH EXTERIOR WALL - ABOVE GRADE - METAL BUILDINGS** NO SCALE



NOTES:

1. SECURE SUPPORT FRAME TO ROOF AS DIRECTED BY ROOFING CONTRACTOR.
2. SPACING OF SUPPORTS SHALL NOT EXCEED 6'-0".

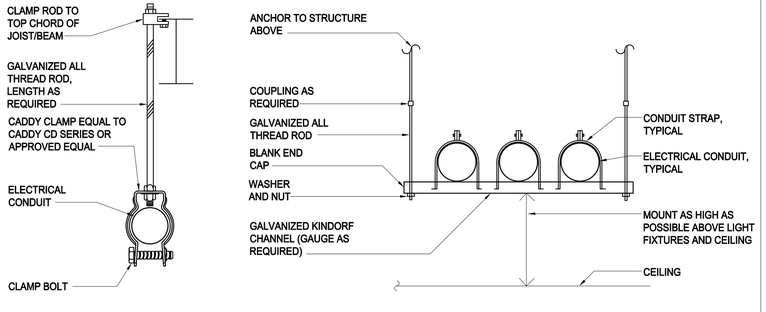
6 **DETAIL - TYPICAL CONDUIT SUPPORT - ADJUSTABLE HEIGHT** NO SCALE



NOTES:

1. SECURE SUPPORT FRAME TO ROOF AS DIRECTED BY ROOFING CONTRACTOR.
2. SPACING OF SUPPORTS SHALL NOT EXCEED 6'-0".

7 **DETAIL - TYPICAL CONDUIT SUPPORT - FIXED HEIGHT** NO SCALE

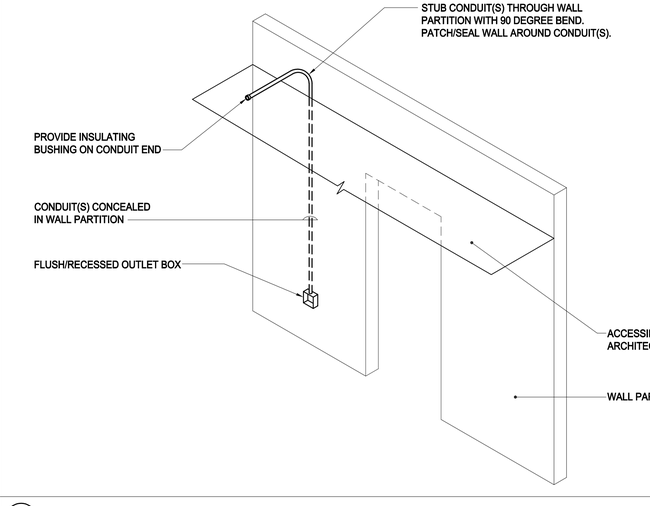


INDIVIDUAL MULTIPLE

NOTES:

1. ALL ELECTRICAL HANGERS AND SUPPORT COMPONENTS IN DRY INTERIOR LOCATIONS SHALL HAVE A NON-CORROSIVE METAL FINISH, GALV-KROM OR EQUAL.
2. ALL ELECTRICAL HANGERS AND SUPPORT COMPONENTS IN DAMP/WET LOCATIONS SHALL BE STAINLESS STEEL .
3. ALL EXPOSED CONDUIT HANGERS AND SUPPORTS SHALL BE PAINTED WITH RUST INHIBITING PAINT AS SPECIFIED, UNLESS OTHERWISE NOTED.

8 **DETAIL - TYPICAL CONDUIT SUPPORT** NO SCALE



9 **DETAIL - CONDUIT STUB ABOVE ACCESSIBLE CEILING** NO SCALE

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CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date:	08/08/2025
Scale:	AS NOTED
Dwn.By:	KDS
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DETAILS ELECTRICAL

Dwg.No.: **E-301**

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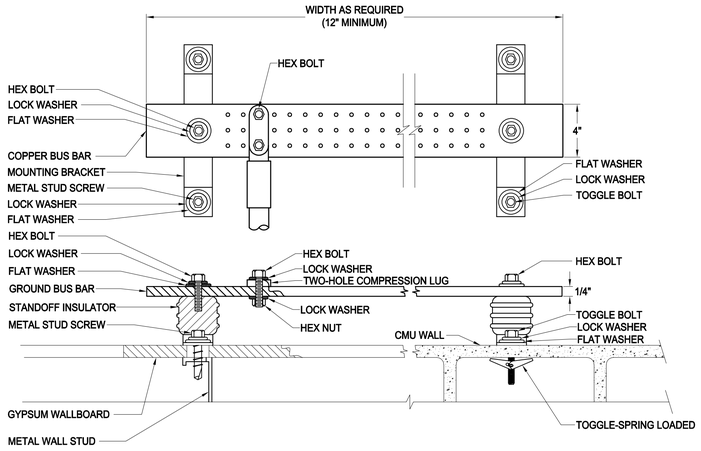
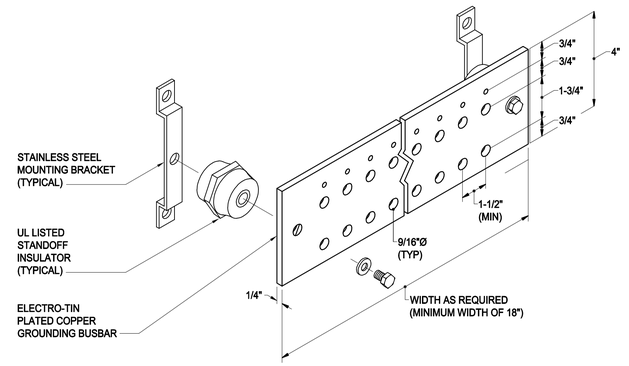


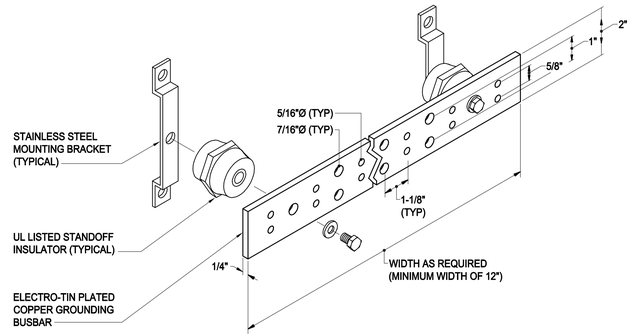
1 DETAIL - GROUND BUS BAR INSTALLATION

NO SCALE



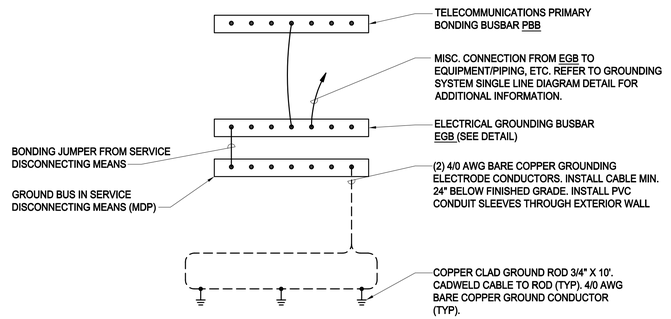
2 DETAIL - ELECTRICAL GROUNDING BUSBAR (EGB)

NO SCALE



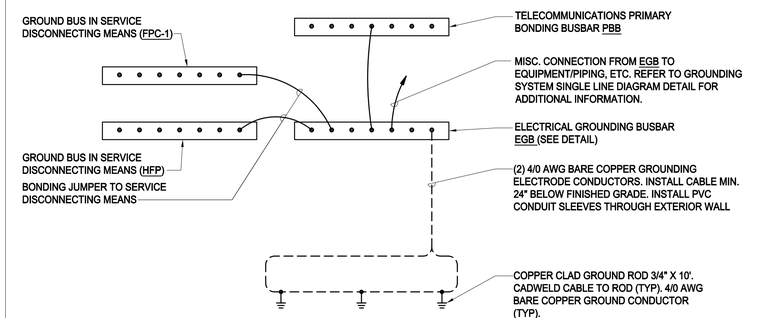
3 DETAIL - TELECOMMUNICATIONS BONDING BUSBAR (PBB)

NO SCALE



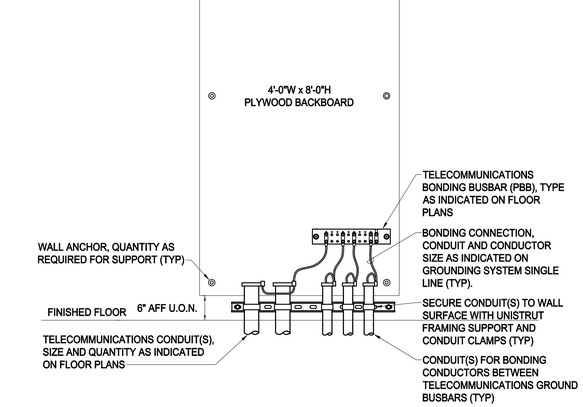
4 GROUNDING SYSTEM - SINGLE LINE DIAGRAM - OVERALL SYSTEM CONNECTIONS - VEHICLE STORAGE BUILDING

NO SCALE



5 GROUNDING SYSTEM - SINGLE LINE DIAGRAM - OVERALL SYSTEM CONNECTIONS - FIRE PUMP BUILDING

NO SCALE

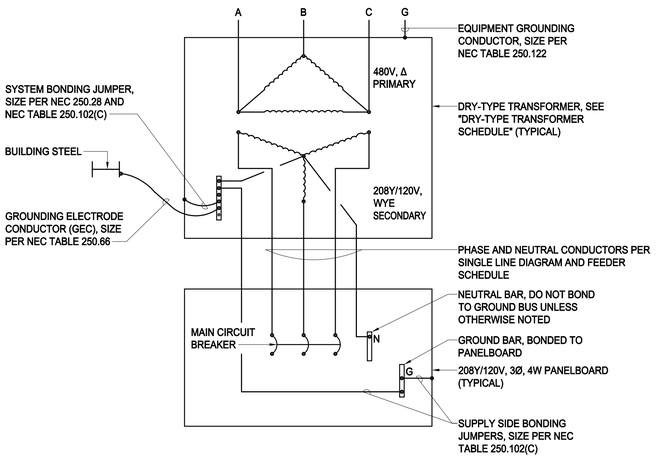


NOTES:

1. DETAIL IS TYPICAL FOR ALL TELECOMMUNICATIONS/DATA EQUIPMENT ROOMS, UNLESS OTHERWISE NOTED.
2. CONDUITS SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY. PROVIDE CONDUITS AND CONDUCTORS AS INDICATED ON FLOOR PLANS AND GROUNDING SYSTEM SINGLE LINE DIAGRAM DETAILS.
3. ALL PLYWOOD BACKBOARDS SHALL BE 3/4" THICK, TYPE "AC". PAINT ALL SIDES WITH TWO COATS OF FIRE-RETARDANT PAINT, SHERWIN WILLIAMS "FLAME CONTROL" OR APPROVED EQUAL, PER MANUFACTURER'S RECOMMENDATIONS. INSTALL "C" SIDE OF PLYWOOD AGAINST WALL.

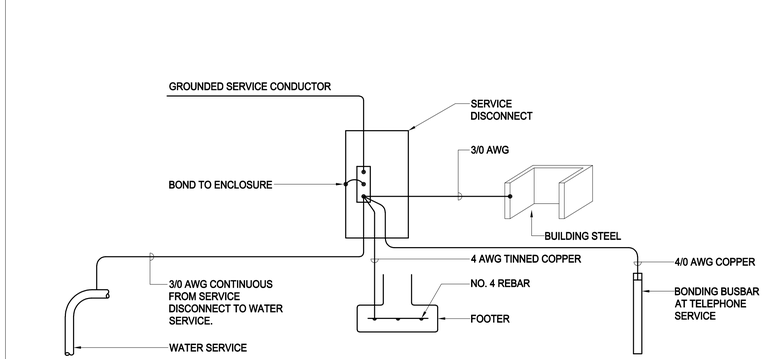
8 DETAIL - TYPICAL TELECOMMUNICATIONS ROOM GROUNDING & BONDING CONNECTIONS

NO SCALE



6 DETAIL - TYPICAL GROUNDING DETAIL - DRY TYPE TRANSFORMER

NO SCALE



7 DETAIL - SERVICE GROUNDING DETAIL

NO SCALE

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WORCESTER, MARYLAND
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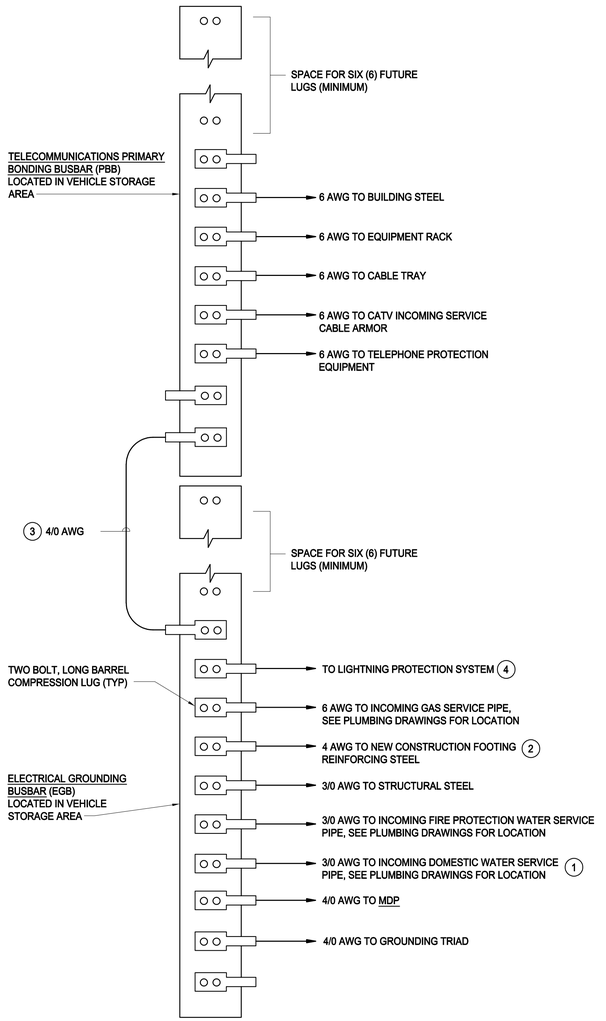
Date: 08/08/2025
Scale: AS NOTED
Dwn.By: KDS
Proj.No.: 0085B049.A01

DETAILS
ELECTRICAL

Dwg.No.:
E-302

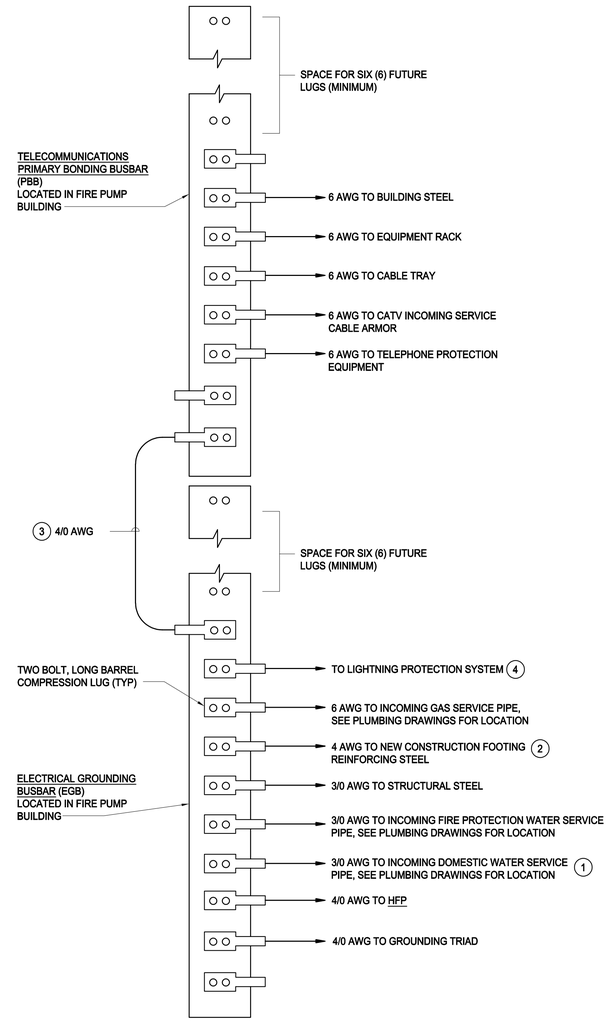


NOTES:

1. INSTALL 3/0 AWG BONDING JUMPER AROUND DOMESTIC WATER METER.
2. IF A VAPOR BARRIER IS INSTALLED BETWEEN NEW CONSTRUCTION CONCRETE FOOTING AND BARE EARTH, INSTALL AN UFER GROUND IN DIRECT CONTACT WITH THE EARTH IN ADDITION TO BONDING TO REINFORCING STEEL.
3. INSTALL INTERIOR GROUNDING CONDUCTORS IN PVC CONDUIT SYSTEM (TYPICAL).
4. COORDINATE LIGHTNING PROTECTION SYSTEM GROUNDING CONDUCTOR INSTALLATION WITH LIGHTNING PROTECTION SYSTEM CONTRACTOR. TERMINATIONS SHALL BE UL96 LISTED FOR LIGHTNING PROTECTION INSTALLATIONS.

1 GROUNDING SYSTEM - SINGLE LINE DIAGRAM - GROUNDING BUSBAR CONNECTIONS - VEHICLE STORAGE BUILDING

NO SCALE



NOTES:

1. INSTALL 3/0 AWG BONDING JUMPER AROUND DOMESTIC WATER METER.
2. IF A VAPOR BARRIER IS INSTALLED BETWEEN NEW CONSTRUCTION CONCRETE FOOTING AND BARE EARTH, INSTALL AN UFER GROUND IN DIRECT CONTACT WITH THE EARTH IN ADDITION TO BONDING TO REINFORCING STEEL.
3. INSTALL INTERIOR GROUNDING CONDUCTORS IN PVC CONDUIT SYSTEM (TYPICAL).
4. COORDINATE LIGHTNING PROTECTION SYSTEM GROUNDING CONDUCTOR INSTALLATION WITH LIGHTNING PROTECTION SYSTEM CONTRACTOR. TERMINATIONS SHALL BE UL96 LISTED FOR LIGHTNING PROTECTION INSTALLATIONS.

2 GROUNDING SYSTEM - SINGLE LINE DIAGRAM - GROUNDING BUSBAR CONNECTIONS - FIRE PUMP BUILDING

NO SCALE

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WORCESTER, MARYLAND
BID SET

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DETAILS ELECTRICAL

Dwg.No.: E-303

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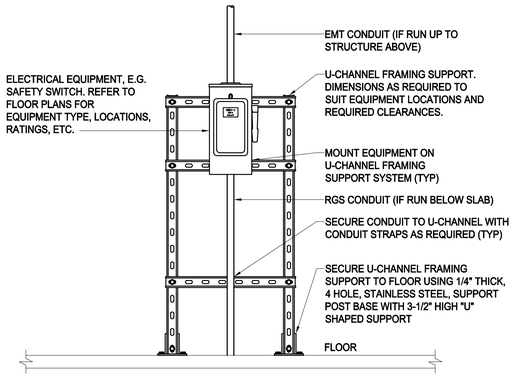
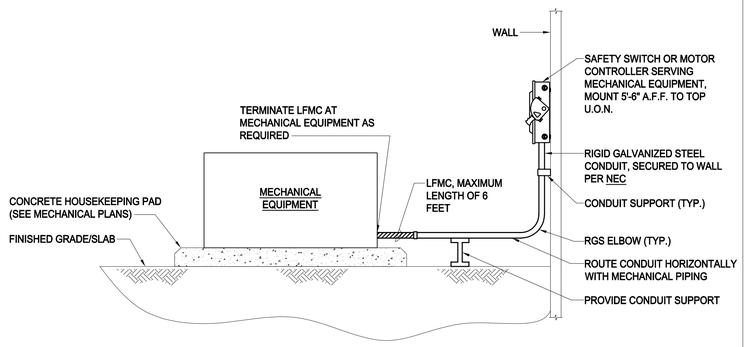


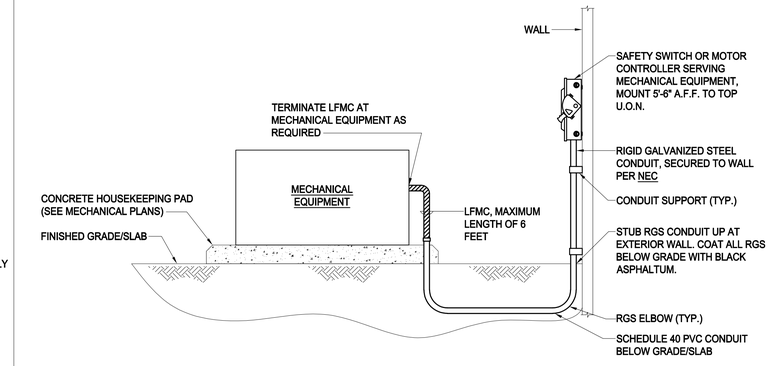
1 DETAIL - FREE-STANDING U-CHANNEL SUPPORT FOR ELECTRICAL EQUIPMENT

NO SCALE



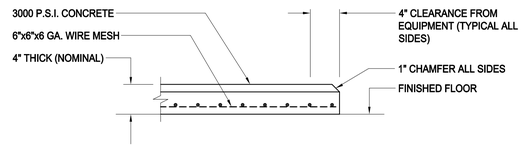
2 DETAIL - PAD-MOUNTED MECHANICAL EQUIPMENT CONNECTION - CONDUIT ABOVE SLAB

NO SCALE



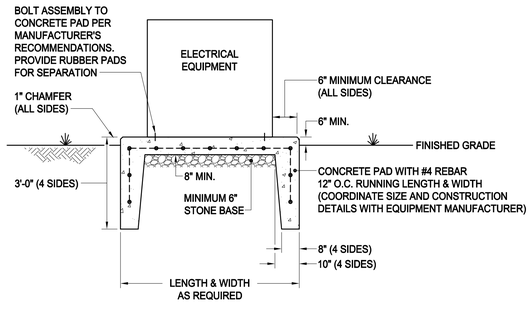
3 DETAIL - PAD-MOUNTED MECHANICAL EQUIPMENT CONNECTION - CONDUIT BELOW SLAB

NO SCALE



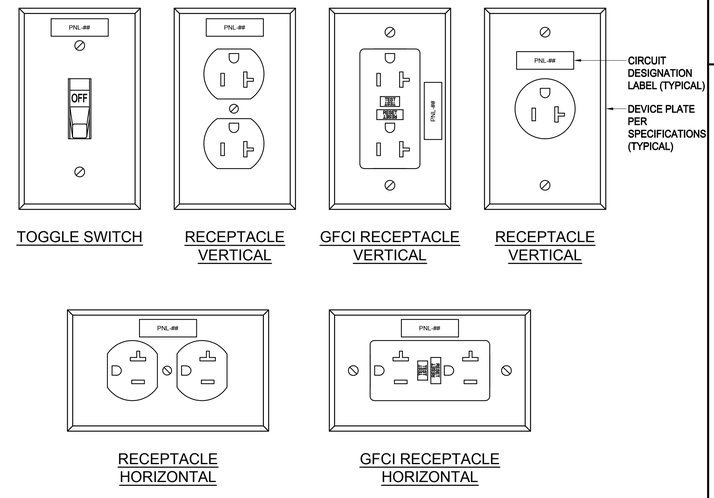
4 DETAIL - TYPICAL CONCRETE PAD INSTALLATION - INTERIOR ELECTRICAL EQUIPMENT

NO SCALE



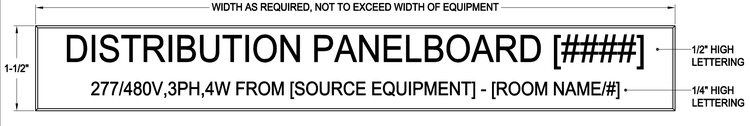
5 DETAIL - TYPICAL CONCRETE PAD INSTALLATION - EXTERIOR ELECTRICAL EQUIPMENT

NO SCALE



6 DETAIL - TYPICAL FACEPLATE LABELING - TOGGLE SWITCHES AND RECEPTACLES

NO SCALE

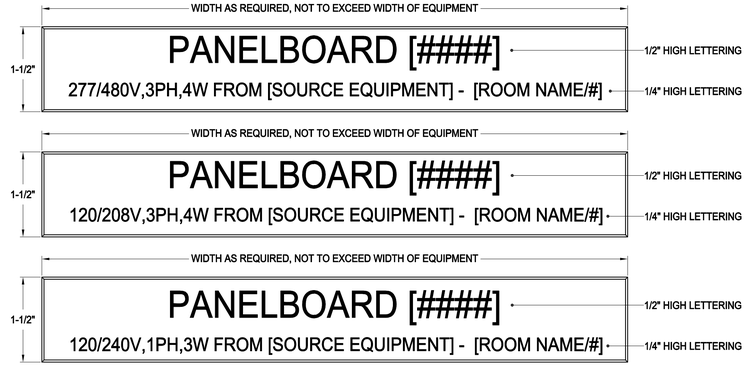


NOTES:

1. LINE #1 IDENTIFIES DISTRIBUTION PANELBOARD DESIGNATION: DISTRIBUTION PANELBOARD [DISTRIBUTION PANELBOARD DESIGNATION, E.G. MDP]
2. LINE #2 IDENTIFIES FEEDER CIRCUIT INFORMATION: [VOLTAGE], [PHASE], [# WIRES] FROM [SOURCE EQUIPMENT/CIRCUIT DESIGNATION] - [ROOM WHERE SOURCE IS LOCATED]

7 DETAIL - TYPICAL EQUIPMENT NAMEPLATE - DISTRIBUTION PANELBOARDS

NO SCALE

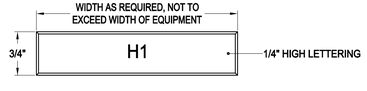


NOTES:

1. LINE #1 IDENTIFIES PANELBOARD DESIGNATION: PANELBOARD [PANELBOARD DESIGNATION, E.G. H1]
2. LINE #2 IDENTIFIES FEEDER CIRCUIT INFORMATION: [VOLTAGE], [PHASE], [# WIRES] FROM [SOURCE EQUIPMENT/CIRCUIT DESIGNATION] - [ROOM WHERE SOURCE IS LOCATED]

8 DETAIL - TYPICAL EQUIPMENT NAMEPLATE - BRANCH PANELBOARDS

NO SCALE



NOTES:

1. LINE #1 IDENTIFIES LOAD SERVED BY CIRCUIT BREAKER.
2. APPLY TO ALL CIRCUIT BREAKERS IN THE MAIN SWITCHBOARD AND EACH DISTRIBUTION PANELBOARD.

9 DETAIL - TYPICAL EQUIPMENT NAMEPLATE - CIRCUIT BREAKER IN DISTRIBUTION PANELBOARD

NO SCALE

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WORCESTER, MARYLAND
BID SET

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: KDS
Proj.No.: 0085B049.A01

DETAILS ELECTRICAL

Dwg.No.: E-304

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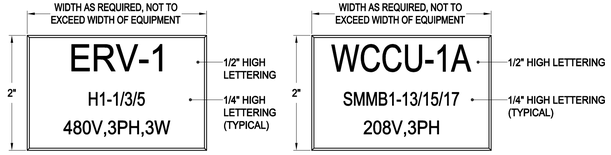
1 DETAIL - TYPICAL EQUIPMENT NAMEPLATE - LIGHTING CONTROL PANEL

NO SCALE

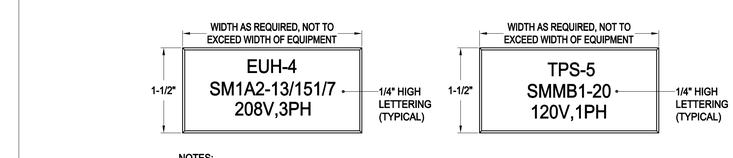


NOTES:

1. LINE #1 IDENTIFIES LOAD DESIGNATION:
   [LOAD DESIGNATION, E.G. ERV-1]
2. LINE #2 IDENTIFIES BRANCH CIRCUIT:
   [SOURCE EQUIPMENT/CIRCUIT DESIGNATION, E.G. [H1-1/3/5]
3. LINE #3 IDENTIFIES BRANCH CIRCUIT INFORMATION:
   [VOLTAGE], [PHASE], [# WIRES (NOT REQUIRED FOR SINGLE PHASE CIRCUITS)]
4. WHERE MOTOR SWITCH IS DOWNSTREAM OF THE MOTOR CONTROLLER, ADD A FOURTH LINE OF TEXT TO IDENTIFY MOTOR CONTROLLER LOCATION: [MOTOR CONTROLLER] [VFD] SERVING THIS MOTOR IS LOCATED IN [ROOM NAME] [ROOM NUMBER].
5. PROVIDE NAMEPLATES FOR ALL DISCONNECTING MEANS FOR EQUIPMENT, INCLUDING FACTORY DISCONNECTS PROVIDED INTEGRAL WITH EQUIPMENT.

2 DETAIL - TYPICAL EQUIPMENT NAMEPLATE - DISCONNECT SWITCH AND/OR COMBINATION MOTOR CONTROLLER

NO SCALE

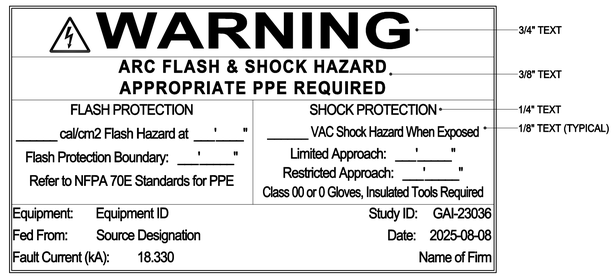


NOTES:

1. LINE #1 IDENTIFIES LOAD DESIGNATION:
   [LOAD DESIGNATION, E.G. EUH-4]
2. LINE #2 IDENTIFIES BRANCH CIRCUIT:
   [SOURCE EQUIPMENT/CIRCUIT DESIGNATION, E.G. SM1A2-13/15/17]
3. LINE #3 IDENTIFIES BRANCH CIRCUIT INFORMATION:
   [VOLTAGE], [PHASE], [# WIRES (NOT REQUIRED FOR SINGLE PHASE CIRCUITS)]
4. WHERE MOTOR SWITCH IS DOWNSTREAM OF THE MOTOR CONTROLLER, ADD A FOURTH LINE OF TEXT TO IDENTIFY MOTOR CONTROLLER LOCATION: [MOTOR CONTROLLER] [VFD] SERVING THIS MOTOR IS LOCATED IN [ROOM NAME] [ROOM NUMBER].
5. PROVIDE NAMEPLATES FOR ALL DISCONNECTING MEANS FOR EQUIPMENT, INCLUDING FACTORY DISCONNECTS PROVIDED INTEGRAL WITH EQUIPMENT.

2 DETAIL - TYPICAL EQUIPMENT NAMEPLATE - MANUAL MOTOR STARTER/CONTROL SWITCH

NO SCALE

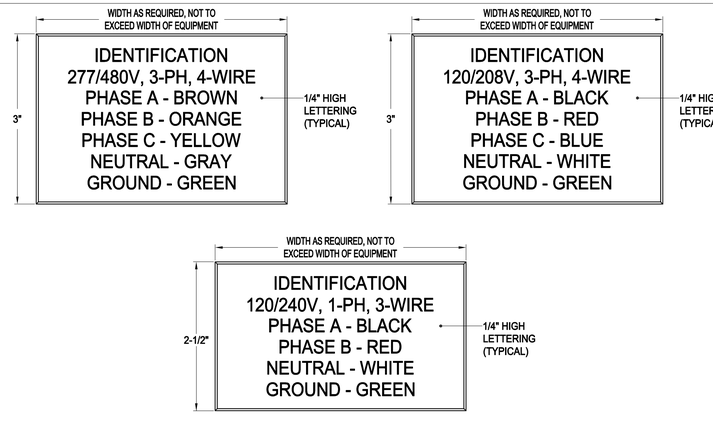


NOTES:

1. APPLY ARCH FLASH HAZARD LABELS AT EACH PIECE OF ELECTRICAL DISTRIBUTION EQUIPMENT REQUIRED BY NFPA 70 AND NFPA 70E.
2. ARC FLASH HAZARD LABELS SHALL BE SPECIFIC TO EACH PIECE OF EQUIPMENT. GENERIC LABELS SUPPLIED WITH EQUIPMENT ARE NOT ACCEPTABLE.

4 DETAIL - TYPICAL ARC FLASH HAZARD LABEL

NO SCALE

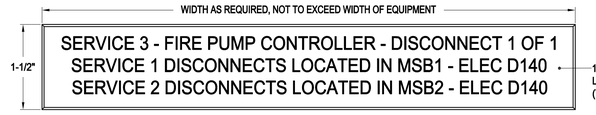


NOTES:

1. APPLY WIRING SYSTEM IDENTIFICATION LABEL AT EACH BRANCH CIRCUIT PANELBOARD IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NEC) ARTICLE 210.5(C).

5 DETAIL - WIRING SYSTEM IDENTIFICATION LABEL FOR PANELBOARDS

NO SCALE



FIRE PUMP CONTROLLER

NOTES:

1. INSTALL NAMEPLATE ADJACENT TO OR BELOW EQUIPMENT/CIRCUIT BREAKER DESIGNATION NAMEPLATE.

6 DETAIL - EQUIPMENT NAMEPLATES - SERVICE DISCONNECT - FIRE PUMP CONTROLLER

NO SCALE

7 NOT USED

8 NOT USED

9 NOT USED

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BID SET

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Proj.No.: 0085B049.A01

DETAILS ELECTRICAL

Dwg.No.: E-305

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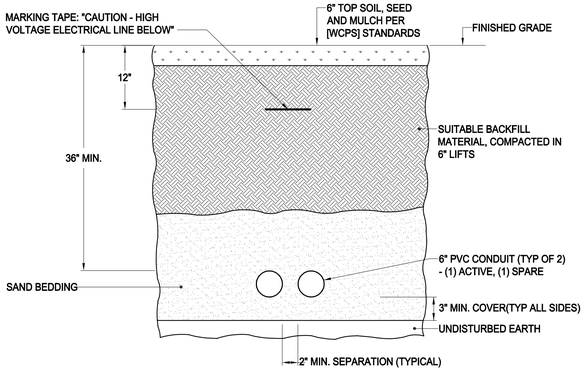


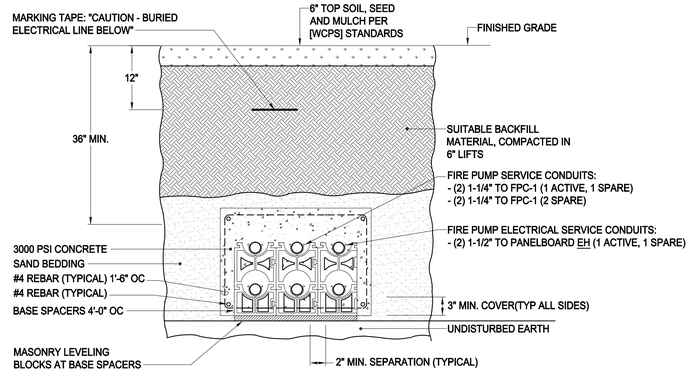
DRAWING SYMBOL: DE1

NOTES:

1. EXACT DEPTH TO BE COORDINATED WITH OTHER BURIED UTILITIES SUCH AS STORM DRAIN LINE AND ROOF LEADERS.

1 DETAIL - PRIMARY UTILITY ELECTRICAL SERVICE DUCTBANK

NO SCALE

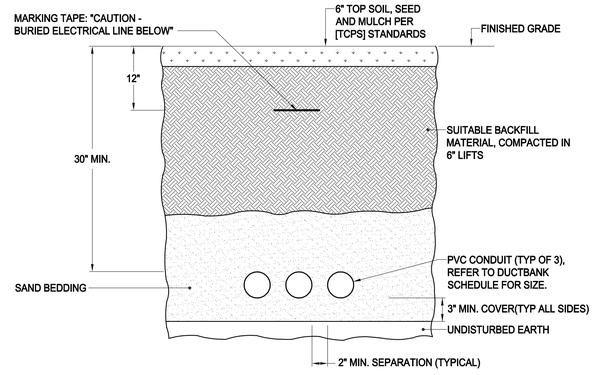


NOTES: DRAWING SYMBOL: DE2

1. EXACT DEPTH TO BE COORDINATED WITH OTHER BURIED UTILITIES SUCH AS STORM DRAIN LINE AND ROOF LEADERS.
2. REBAR ONLY REQUIRED FOR SECTION OF DUCTBANK PASSING BENEATH LARGE MASONRY WALL AT BACK OF UTILITY YARD, AND FOR 5 FT ON EITHER SIDE OF WALL.

2 DETAIL - CONCRETE ENCASED DUCTBANK - FIRE PUMP BUILDING ELECTRICAL SERVICE

NO SCALE



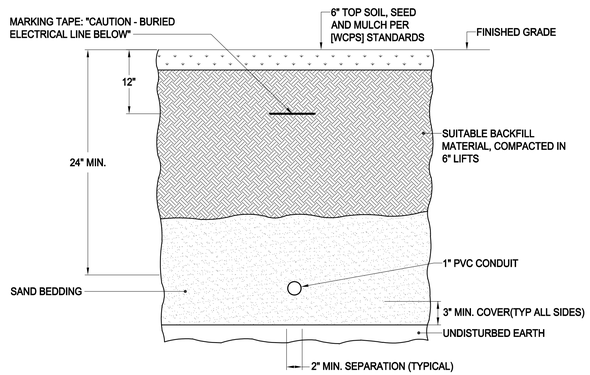
DRAWING SYMBOL: DE3

NOTES:

1. EXACT DEPTH TO BE COORDINATED WITH OTHER BURIED UTILITIES SUCH AS STORM DRAIN LINE AND ROOF LEADERS.

3 DETAIL - SECONDARY ELECTRICAL SERVICE DUCTBANK - MDP

NO SCALE



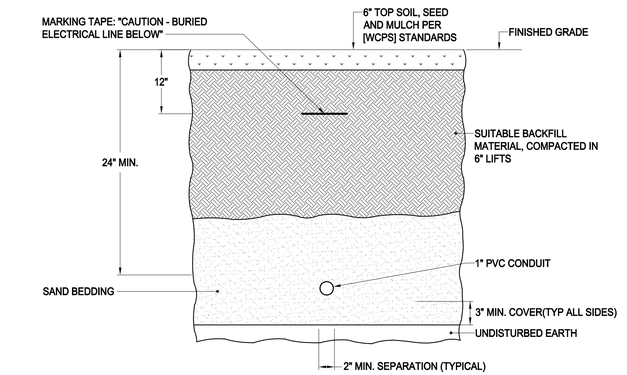
DRAWING SYMBOL: DE4

NOTES:

1. EXACT DEPTH TO BE COORDINATED WITH OTHER BURIED UTILITIES SUCH AS STORM DRAIN LINE AND ROOF LEADERS.

4 DETAIL - DIRECT BURIED CONDUIT FOR ACCESS CONTROL PROVISIONS

NO SCALE



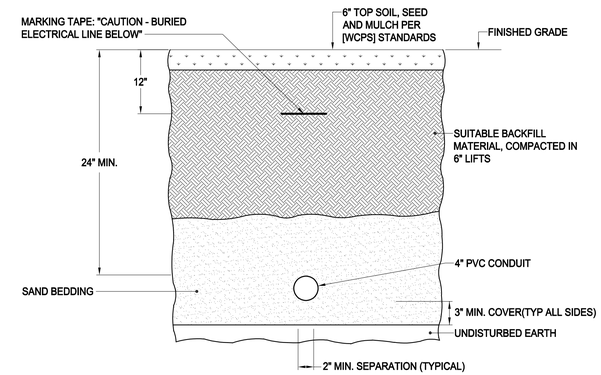
DRAWING SYMBOL: DE5

NOTES:

1. EXACT DEPTH TO BE COORDINATED WITH OTHER BURIED UTILITIES SUCH AS STORM DRAIN LINE AND ROOF LEADERS.

5 DETAIL - DIRECT BURIED CONDUIT FOR WELL PUMP ELECTRICAL SERVICE

NO SCALE



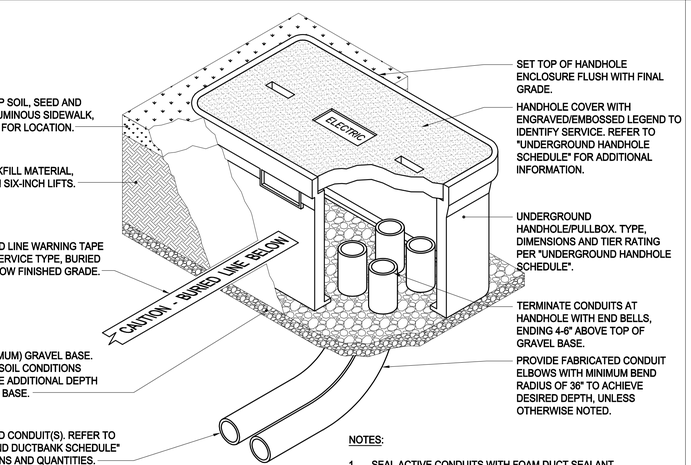
DRAWING SYMBOL: DC1

NOTES:

1. EXACT DEPTH TO BE COORDINATED WITH OTHER BURIED UTILITIES SUCH AS STORM DRAIN LINE AND ROOF LEADERS.

6 DETAIL - DIRECT BURIED CONDUIT FOR LOW VOLTAGE PROVISIONS

NO SCALE

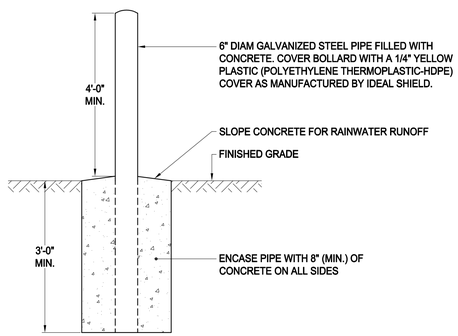


NOTES:

1. SEAL ACTIVE CONDUITS WITH FOAM DUCT SEALANT.
2. PROVIDE CAP ON SPARE CONDUITS.

7 DETAIL - TYPICAL INSTALLATION DETAIL - UNDERGROUND HANDHOLE/PULLBOX

NO SCALE



NOTES:

1. FIELD-COORDINATE EXACT LOCATION(S) OF BOLLARD(S) WITH EQUIPMENT BEING PROTECTED BY THE SAME TO ENSURE THAT BOLLARD(S) DO NOT OBSTRUCT ACCESS TO EQUIPMENT.

8 DETAIL - PROTECTIVE BOLLARD

NO SCALE

9 NOT USED

NO SCALE

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DETAILS ELECTRICAL

Dwg.No.: E-306

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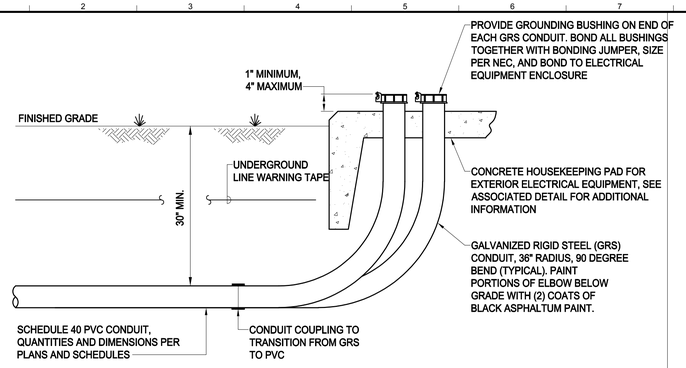
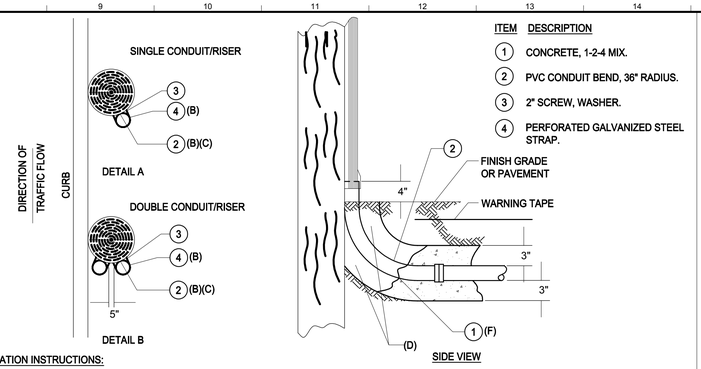


1 DETAIL - CONDUIT TURNING INTO POURED IN-PLACE ELECTRICAL EQUIPMENT PAD (TYPICAL)

NO SCALE



ITEM	DESCRIPTION
1	CONCRETE, 1-2-4 MIX.
2	PVC CONDUIT BEND, 36" RADIUS.
3	2" SCREW, WASHER.
4	PERFORATED GALVANIZED STEEL STRAP.

INSTALLATION INSTRUCTIONS:

(A) FASTEN END OF DUCT BEND(S) TO POLE WITH STRAP. SEE DETAIL "A" OR "B".

(B) LOCATE DUCT BEND(S) AWAY FROM TRAFFIC FLOW, IF POSSIBLE, AND INSIDE CURB (AS SHOWN IN DETAILS "A" OR "B").

(C) BACKFILL AROUND CONCRETE ENCASEMENT AS WELL AS ENTIRE DUCT RUN WITH CLEAN COMPACTED BACKFILL.

(D) INSTALL 4" DUCT PLUGS TO KEEP DEBRIS OUT OF DUCT.

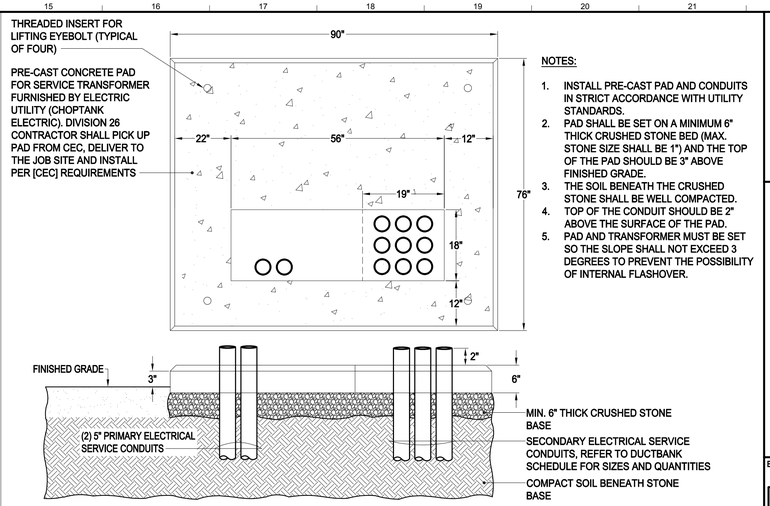
(E) MAXIMUM NO. OF DUCTS AT POLE = 2. MAXIMUM ARE OF POLE THAT CAN BE OCCUPIED BY EQUIPMENT/RISERS - 120 DEGREES.

(F) CONCRETE MUST BE INSTALLED TO ENCASE DUCT-BANKS IN ALL INSTALLATIONS UNDER THESE CIRCUMSTANCES:

- CONDUIT BENDS AT POLES/TRANSFORMER PAD (NOTE: THIS IS NECESSARY TO PREVENT CABLE FROM PULLING UP CONDUIT UNDER TENSION WHILE PULLING CABLES).
- ANY CONDUITS STACKED VERTICALLY

2 DETAIL - CONDUIT TERMINATION AT UTILITY POLE

NO SCALE

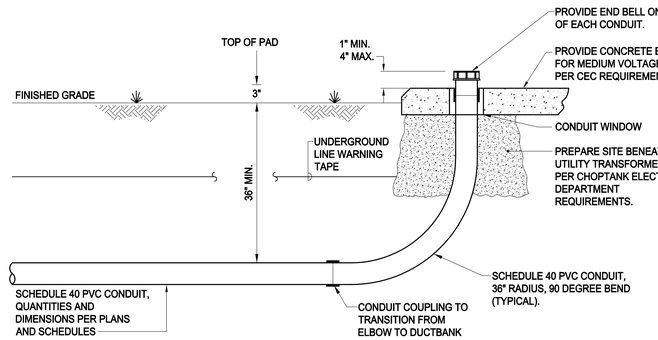


NOTES:

1. INSTALL PRE-CAST PAD AND CONDUITS IN STRICT ACCORDANCE WITH UTILITY STANDARDS.
2. PAD SHALL BE SET ON A MINIMUM 6" THICK CRUSHED STONE BED (MAX. STONE SIZE SHALL BE 1") AND THE TOP OF THE PAD SHOULD BE 3" ABOVE FINISHED GRADE.
3. THE SOIL BENEATH THE CRUSHED STONE SHALL BE WELL COMPACTED.
4. TOP OF THE CONDUIT SHOULD BE 2" ABOVE THE SURFACE OF THE PAD.
5. PAD AND TRANSFORMER MUST BE SET SO THE SLOPE SHALL NOT EXCEED 3 DEGREES TO PREVENT THE POSSIBILITY OF INTERNAL FLASHOVER.

3 DETAIL - UTILITY TRANSFORMER PAD

NO SCALE

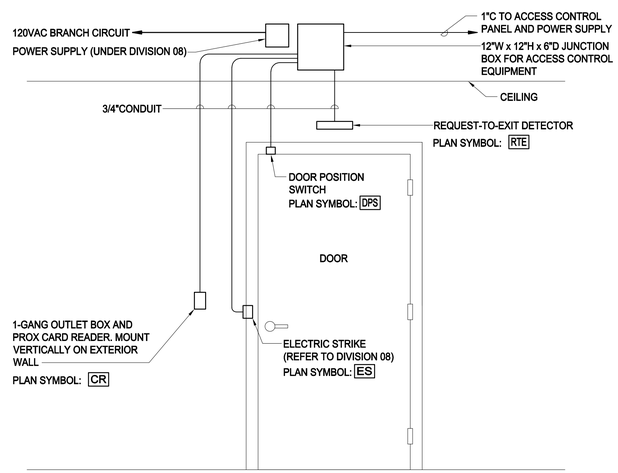


4 DETAIL - CONDUIT TURNING INTO PRECAST UTILITY TRANSFORMER PAD

NO SCALE

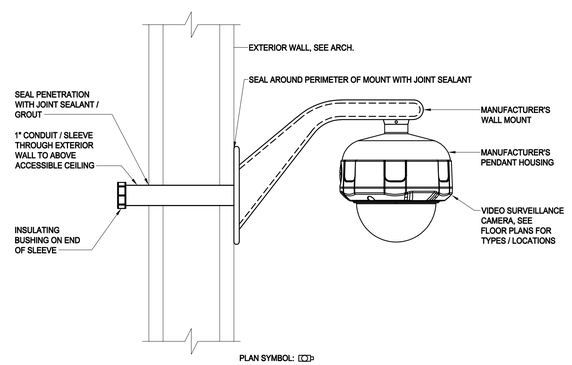
5 NOT USED

6 NOT USED



7 DETAIL - ACCESS CONTROL PATHWAYS - TYPICAL EXTERIOR DOOR

NO SCALE

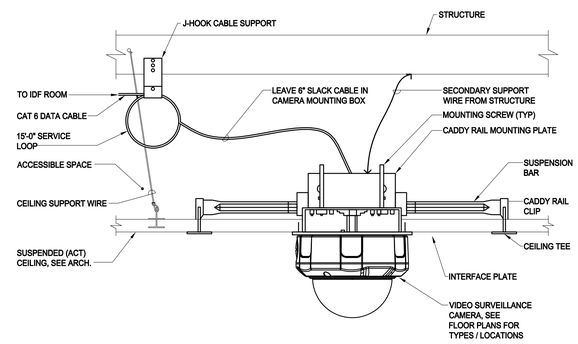


NOTES:

1. RACEWAYS AND BOXES FOR COMMUNICATIONS OUTLETS ARE PROVIDED UNDER DIVISION 26.
2. ALL DATA CABLES, DEVICE JACKS, TERMINATIONS AND FACEPLATES UNDER DIVISION 27.
3. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH OWNER.

8 DETAIL - EXTERIOR CAMERA WITH PENDANT WALL MOUNT

NO SCALE



NOTES:

1. RACEWAYS AND BOXES FOR COMMUNICATIONS OUTLETS ARE PROVIDED UNDER DIVISION 26.
2. ALL DATA CABLES, DEVICE JACKS, TERMINATIONS AND FACEPLATES UNDER DIVISION 27.
3. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH OWNER.

9 DETAIL - CAMERA INSTALLATION - ACT CEILING

NO SCALE

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DETAILS ELECTRICAL

Dwg.No.: E-307

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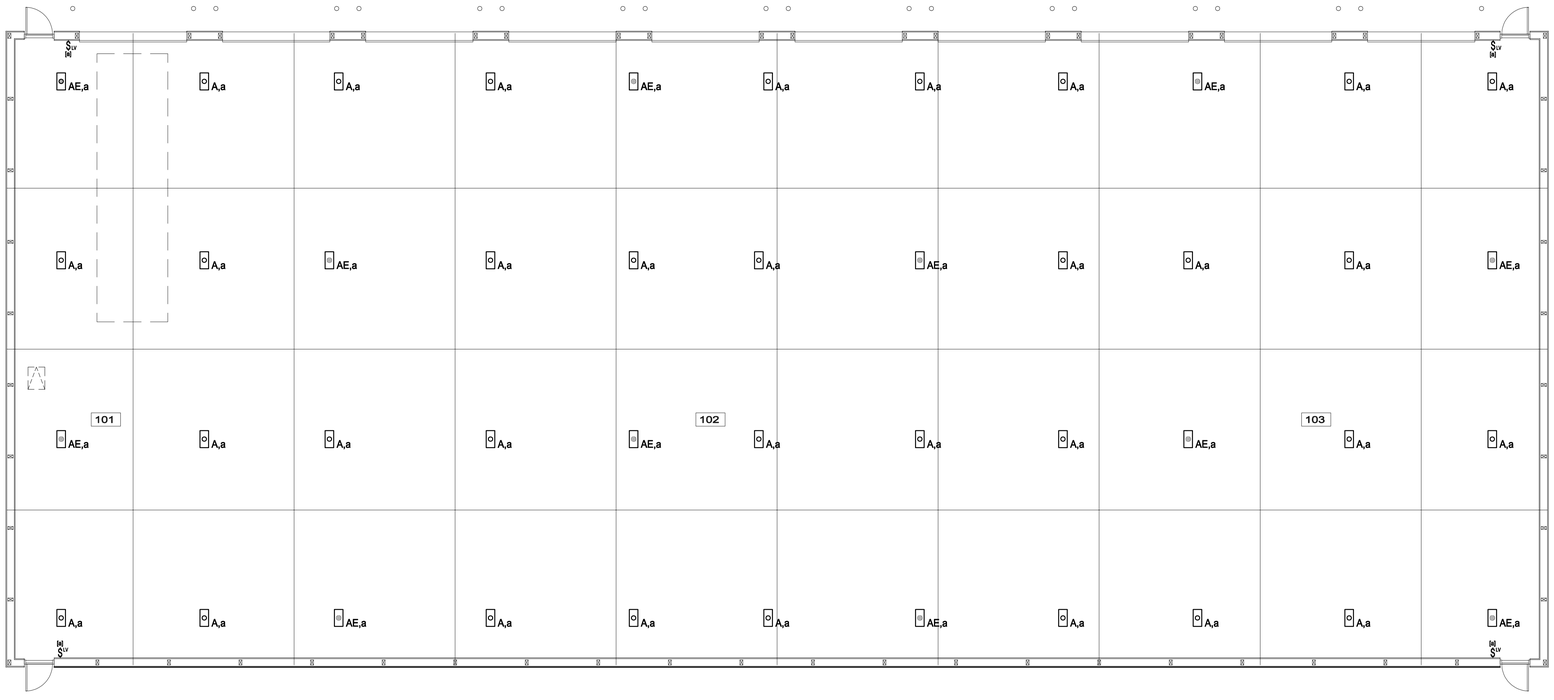


SEQUENCE OF OPERATION

GYMNASIUM

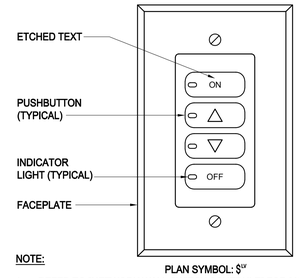
A. ALL GYMNASIUM LIGHTING FIXTURES SHALL BE HELD OFF DURING AND AFTER NORMAL OPERATING HOURS. NORMAL OPERATING HOURS TO BE CONFIRMED WITH OWNER. DURING NORMAL OPERATING HOURS, DIGITAL SWITCH(ES) WILL ALLOW FOR MANUAL OVERRIDE OF LIGHTING FIXTURES AS INDICATED BELOW. AFTER NORMAL OPERATING HOURS, DIGITAL SWITCH(ES) WILL ALLOW FOR MANUAL OVERRIDE OF LIGHTING FIXTURES AS INDICATED BELOW AND SHALL SWEEP OFF AFTER 60 MINUTES.

B. GYMNASIUM SHALL HAVE ONE SIX-BUTTON WALL STATION AT EACH ENTRY DOOR FOR MANUAL CONTROL OF LIGHTING FIXTURES AS FOLLOWS:
   1. FOUR-BUTTON WALL SWITCH:
      a. BUTTON #1 - ON/OFF - TURN ON ALL LIGHTING FIXTURES IN ZONE "A" ON. TURN ALL LIGHTING FIXTURES IN ZONE "A" OFF.
      b. BUTTON #2 - RAISE - INCREASE OUTPUT OF ALL LIGHTING FIXTURES IN ZONE "A".
      c. BUTTON #3 - LOWER - DECREASE OUTPUT OF ALL LIGHTING FIXTURES IN ZONE "A".

C. GYMNASIUM SHALL HAVE ONE OR MORE DAYLIGHT SENSORS FOR DAYLIGHT HARVESTING:
   a. DAYLIGHT SENSORS SHALL PROVIDE GRADIENT DIMMING FOR LIGHTING FIXTURES ADJACENT TO WINDOWS TO MAINTAIN 50 FOOT-CANDLES MEASURED AT THE FLOOR.

D. GYMNASIUM LIGHTING FIXTURES SHALL TURN ON TO 100% IN THE EVENT OF A SECURITY BREACH BY MEANS OF AN INTERFACE WITH THE INTRUSION DETECTION SYSTEM PROVIDED UNDER DIVISION 28, AND SHALL REMAIN ON UNTIL THE INTRUSION DETECTION SYSTEM IS RESET TO NORMAL CONDITIONS. AT THAT TIME, LIGHTING FIXTURES SHALL REVERT TO NORMALLY PROGRAMMED SETTINGS.

E. GYMNASIUM SHALL HAVE LIGHTING FIXTURE(S) TO SERVE AS EMERGENCY LIGHT(S) AS NOTED ON THE FLOOR PLANS. EMERGENCY LIGHTING FIXTURES SHALL BE WIRED THROUGH A UL924 LISTED EMERGENCY INVERTER AND SHALL NOT BE ABLE TO BE SWITCHED OFF DURING LOSS OF NORMAL POWER. UPON POWER LOSS, EMERGENCY LIGHTING FIXTURE(S) SHALL ENERGIZE TO 50% OUTPUT AND SHALL REMAIN AT 50% OUTPUT UNTIL NORMAL POWER IS RESTORED. REFER TO FLOOR PLANS AND DETAILS FOR ADDITIONAL INFORMATION.



PLAN SYMBOL: ^{LV}

NOTE:

1. REFER TO "NETWORK WALL SWITCH SCHEDULE" FOR MORE INFORMATION, I.E. BASIS OF DESIGN ETC.

WALL SWITCH DETAIL

1 **LIGHTING CONTROL SEQUENCE - VEHICLE STORAGE BUILDING**

NO SCALE

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: KDS
Proj.No.: 0085B049.A01

LIGHTING CONTROL SEQUENCES

Dwg.No.: **E-401**

VOLTAGE: 277/480 3 PHASE, 4 WIRE
AMPERES: 60 MAIN CIRCUIT BREAKER
A.I.C. RATING: 35K

PANELBOARD: **L1**

LOCATION: VEHICLE STORAGE BAY

CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C
1	1	20	LTG - PARKING BAYS - NORTH	3.83	x	x	2	1	20	LTG CNTRL PANEL - LCP	0.60	x	x
3	1	20	LTG - PARKING BAYS - SOUTH	x	3.83	x	4	1	20	EXTERIOR BLDG MOUNTED LTG	x	1.18	x
5	1	20	LTG - ATTIC WALK WAY	x	x	0.33	6	1	20	EXTERIOR PARKING LTG	x	x	1.33
7	1	20	SPARE	--	x	x	8	1	20	SPARE	--	x	x
9	1	20	SPARE	x	--	x	10	1	20	SPARE	x	--	x
11	1	20	SPARE	x	x	--	12	1	20	SPARE	x	x	--
13	1	20	SPARE	--	x	x	14	1	20	SPARE	--	x	x
15	1	20	SPARE	x	--	x	16	1	20	SPARE	x	--	x
17	1	20	SPARE	x	x	--	18	1	20	SPARE	x	x	--
19	--	--	SPACE	--	x	x	20	--	--	SPACE	--	x	x
21	--	--	SPACE	x	--	x	22	--	--	SPACE	x	--	x
23	--	--	SPACE	x	x	--	24	--	--	SPACE	x	x	--
25	--	--	SPACE	--	x	x	26	--	--	SPACE	--	x	x
27	--	--	SPACE	x	--	x	28	--	--	SPACE	x	--	x
29	--	--	SPACE	x	x	--	30	--	--	SPACE	x	x	--
			SUBTOTALS:	3.8	3.8	0.3				SUBTOTALS:	0.6	1.2	1.3

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
OPTIONS: +EQUIPMENT GROUND BAR

LOAD SUMMARY

PHASE:	A	B	C	TOTAL
TOTAL KVA:	4.4	5.0	1.7	11.1
DEMAND KVA:				11.1
TOTAL AMPERES:	16.0	18.1	6.0	13.3

NOTES:

VOLTAGE: 277/480 3 PHASE, 4 WIRE
AMPERES: 400 MAIN CIRCUIT BREAKER
A.I.C. RATING: 65K

DISTRIBUTION PANELBOARD: **MDP**

LOCATION: VEHICLE STORAGE BAY

CIRCUIT NO.	CIRCUIT BREAKER POLE	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	CIRCUIT NO.	CIRCUIT BREAKER POLE	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C
1	3	200	PANELBOARD 'H1'	19.67	x	x	2	3	60	PANELBOARD 'L1'	4.43	x	x
				x	19.67	x					x	5.01	x
				x	x	19.67					x	x	1.66
3	3	90	PANELBOARD 'P208' VIA XF-MR 'T 208'	2.78	x	x	4	2	250	PANELBOARD 'P240' VIA XF-MR 'T 240'	36.48	x	x
				x	4.14	x					x	--	x
				x	x	2.36					x	x	33.60
5	3	60	ERV-1	13.86	x	x	6	--	--	SPACE	--	x	x
				x	13.86	x					x	--	x
				x	x	13.86					x	x	--
7	--	--	SPACE	--	x	x	8	3	60	SPD DISCONNECT	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
9	--	--	SPACE	--	x	x	10	--	--	SURGE PROTECTION DEVICE (NOTE 1)	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
11	--	--	SPACE	--	x	x	12	--	--	SURGE PROTECTION DEVICE (NOTE 1)	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
			SUBTOTALS:	36.3	37.7	35.9				SUBTOTALS:	40.9	5.0	35.3

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
OPTIONS: +EQUIPMENT GROUND BAR

LOAD SUMMARY

PHASE:	A	B	C	TOTAL
TOTAL KVA:	77.2	42.7	71.1	191.0
DEMAND KVA:				191.0
TOTAL AMPERES:	278.6	154.0	256.7	229.8

NOTES:
1. SPACE RESERVED FOR INTEGRAL SURGE PROTECTION DEVICE.

VOLTAGE: 277/480 3 PHASE, 4 WIRE
AMPERES: 200 MAIN CIRCUIT BREAKER
A.I.C. RATING: 35K

PANELBOARD: **H1**

LOCATION: VEHICLE STORAGE BAY

CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C
1	3	15	OVERHEAD DOOR PWR - DOOR 1	1.66	x	x	2	3	15	OVERHEAD DOOR PWR - DOOR 7	1.66	x	x
3				x	1.66	x	4				x	1.66	x
5				x	x	1.66	6				x	x	1.66
7	3	15	OVERHEAD DOOR PWR - DOOR 2	1.66	x	x	8	3	15	OVERHEAD DOOR PWR - DOOR 8	1.66	x	x
9				x	1.66	x	10				x	1.66	x
11				x	x	1.66	12				x	x	1.66
13	3	15	OVERHEAD DOOR PWR - DOOR 3	1.66	x	x	14	3	15	OVERHEAD DOOR PWR - DOOR 9	1.66	x	x
15				x	1.66	x	16				x	1.66	x
17				x	x	1.66	18				x	x	1.66
19	3	15	OVERHEAD DOOR PWR - DOOR 4	1.66	x	x	20	3	15	OVERHEAD DOOR PWR - DOOR 10	1.66	x	x
21				x	1.66	x	22				x	1.66	x
23				x	x	1.66	24				x	x	1.66
25	3	15	OVERHEAD DOOR PWR - DOOR 5	1.66	x	x	26	3	20	VFD - WELL PUMP CONTROL	3.04	x	x
27				x	1.66	x	28				x	3.04	x
29				x	x	1.66	30				x	x	3.04
31	3	15	OVERHEAD DOOR PWR - DOOR 6	1.66	x	x	32	--	--	SPACE	--	x	x
33				x	1.66	x	34	--	--	SPACE	x	--	x
35				x	x	1.66	36	--	--	SPACE	x	x	--
37	--	--	SPACE	--	x	x	38	--	--	SPACE	--	x	x
39	--	--	SPACE	x	--	x	40	--	--	SPACE	x	--	x
41	--	--	SPACE	x	x	--	42	--	--	SPACE	x	x	--
43	--	--	SPACE	--	x	x	44	--	--	SPACE	--	x	x
45	--	--	SPACE	x	--	x	46	--	--	SPACE	x	--	x
47	--	--	SPACE	x	x	--	48	--	--	SPACE	x	x	--
49	--	--	SPACE	--	x	x	50	--	--	SPACE	--	x	x
51	--	--	SPACE	x	--	x	52	--	--	SPACE	x	--	x
53	--	--	SPACE	x	x	--	54	--	--	SPACE	x	x	--
55	--	--	SPACE	--	x	x	56	--	--	SPACE	--	x	x
57	--	--	SPACE	x	--	x	58	--	--	SPACE	x	--	x
59	--	--	SPACE	x	x	--	60	--	--	SPACE	x	x	--
			SUBTOTALS:	10.0	10.0	10.0				SUBTOTALS:	9.7	9.7	9.7

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
OPTIONS: +EQUIPMENT GROUND BAR

LOAD SUMMARY

PHASE:	A	B	C	TOTAL
TOTAL KVA:	19.7	19.7	19.7	59.0
DEMAND KVA:				59.0
TOTAL AMPERES:	71.0	71.0	71.0	71.0

NOTES:

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VEHICLE STORAGE FACILITY

CENTRAL SITE LANE
WORCESTER, MARYLAND

BID SET

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: KDS
Proj.No.: 0085B049.A01

SCHEDULES ELECTRICAL

Dwg.No.:

E-501

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P240

VOLTAGE: 120/240 1 PHASE, 3 WIRE
AMPERES: 400 MAIN CIRCUIT BREAKER
A.I.C. RATING: 10K

PANELBOARD: **P240**
LOCATION: VEHICLE STORAGE BAY

CIRCUIT NO.	CIRCUIT BREAKER POLE	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	CIRCUIT NO.	CIRCUIT BREAKER POLE	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B
1	1	20	RCPT - CORD REEL - LOADING DOCK	1.92	x	2	1	20	RCPT - CORD REEL - HAZMAT TRUCK	1.92	x
3	1	20	RCPT - CORD REEL - SPILL TRAILER	x	1.92	4	1	20	RCPT - CORD REEL - HAZMAT TRUCK	x	1.92
5	2	30	RCPT - CORD REEL - DECON TRAILER	2.88	x	6	1	20	RCPT - CORD REEL - FM SPARE VEH.	1.92	x
7				x	2.88	8	1	30	RCPT - CORD REEL - FIRE SAFE HOUSE	x	2.88
9	2	30	RCPT - CORD REEL - BOOM TRAILER	2.88	x	10	2	50	RCPT - CORD REEL - DES MOTOR HOME	4.80	x
11				x	2.88	12				x	4.80
13	1	20	RCPT - CORD REEL - DES BAYS	1.92	x	14	1	20	RCPT - CORD REEL - DES PICK UP	1.92	x
15	1	20	RCPT - CORD REEL - HVAC TRAILER	x	1.92	16	1	20	RCPT - CORD REEL - DES BOX TRUCK	x	1.92
17	1	20	RCPT - CORD REEL - SPEC OPS TRAILER	1.92	x	18	1	20	RCPT - CORD REEL - MASS CAS. TRAILER	1.92	x
19	1	20	RCPT - CORD REEL - FMO BOYS	x	1.92	20	2	50	RCPT - CORD REEL - SAT TRAILER 1	x	4.80
21	1	20	RCPT - CORD REEL - COT TRAILER	1.92	x	22				4.80	x
23	2	50	RCPT - CORD REEL - SAT TRAILER 2	x	4.80	24	2	15	RCPT - DRY PIPE AIR COMPRESSOR	x	0.96
25				4.80	x	26				0.96	x
27	1	20	SPARE	x	--	28	1	20	SPARE	x	--
29	1	20	SPARE	--	x	30	1	20	SPARE	--	x
31	1	20	SPARE	x	--	32	1	20	SPARE	x	--
33	1	20	SPARE	--	x	34	1	20	SPARE	--	x
35	--	--	SPACE	x	--	36	--	--	SPACE	x	--
37	--	--	SPACE	--	x	38	--	--	SPACE	--	x
39	--	--	SPACE	x	--	40	--	--	SPACE	x	--
41	--	--	SPACE	--	x	42	--	--	SPACE	--	x
			SUBTOTALS:	18.2	16.3				SUBTOTALS:	18.2	17.3

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
OPTIONS: + EQUIPMENT GROUND BAR

LOAD SUMMARY

PHASE:	A	B	TOTAL
TOTAL KVA:	36.5	33.6	70.1
DEMAND KVA:			42.0
TOTAL AMPERES:	304.0	280.0	292.0

NOTES:

P208

VOLTAGE: 120/208 3 PHASE, 4 WIRE
AMPERES: 150 MAIN CIRCUIT BREAKER
A.I.C. RATING: 10K

PANELBOARD: **P208**
LOCATION: VEHICLE STORAGE BAY

CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C
1	1	20	RCPT S - GEN - FRONT EXTERIOR	0.36	x	x	2	1	20	RCPT S - GEN - FMO BAYS 104	0.36	x	x
3	1	20	RCPT S - GEN - BACK EXTERIOR	x	0.54	x	4	1	20	RCPT S - GEN - FMO BAYS 104	x	0.36	x
5	1	20	NAC PNL POWER	x	x	0.36	6	1	20	RCPT S - GEN - DES BAYS 103	x	x	0.36
7	1	20	ACCESS CONTROL PWR - FRONT DOORS	0.50	x	x	8	1	20	RCPT S - GEN - DES BAYS 103	0.36	x	x
9	1	20	RCPT - AIR COMP. - LOAD DOCK 102	x	1.92	x	10	1	20	RCPT S - GEN - FRONT WALL	x	0.36	x
11	1	20	RCPT - GEN - LOAD DOCK 102	x	x	0.18	12	1	20	ACCESS CONTROL PWR - BACK DOORS	x	x	0.50
13	1	20	AT C PANEL-1	0.60	x	x	14	1	20	HEAT ER - IRH-1 - BAYS	0.60	x	x
15	1	20	RCPT - AT C COMPUT ER	x	0.36	x	16	1	20	HEAT ER - IRH-2 - BAYS	x	0.60	x
17	1	20	RCPT - AT TIC	x	x	0.36	18	1	20	HEAT ER - IRH-3 - BAYS	x	x	0.60
19	1	20	SPARE	--	x	x	20	1	20	SPARE	--	x	x
21	1	20	SPARE	x	--	x	22	1	20	SPARE	x	--	x
23	1	20	SPARE	x	x	--	24	1	20	SPARE	x	x	--
25	1	20	SPARE	--	x	x	26	1	20	SPARE	--	x	x
27	1	20	SPARE	x	--	x	28	1	20	SPARE	x	--	x
29	1	20	SPARE	x	x	--	30	1	20	SPARE	x	x	--
31	1	20	SPARE	--	x	x	32	1	20	SPARE	--	x	x
33	1	20	SPARE	x	--	x	34	1	20	SPARE	x	--	x
35	1	20	SPARE	x	x	--	36	1	20	SPARE	x	x	--
37	1	20	SPARE	--	x	x	38	1	20	SPARE	--	x	x
39	1	20	SPARE	x	--	x	40	1	20	SPARE	x	--	x
41	1	20	SPARE	x	x	--	42	1	20	SPARE	x	x	--
			SUBTOTALS:	1.5	2.8	0.9				SUBTOTALS:	1.3	1.3	1.5

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
OPTIONS: + EQUIPMENT GROUND BAR

LOAD SUMMARY

PHASE:	A	B	C	TOTAL
TOTAL KVA:	2.8	4.1	2.4	9.3
DEMAND KVA:				9.3
TOTAL AMPERES:	23.1	34.5	19.7	25.8

NOTES:
1. PROVIDE HANDLE CLAMP TO PREVENT ACCIDENTAL OPERATION.

HFP

VOLTAGE: 277/480 3 PHASE, 4 WIRE
AMPERES: 100 MAIN CIRCUIT BREAKER
A.I.C. RATING: 35K

PANELBOARD: **HFP**
LOCATION: FIRE PUMP ROOM

CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C
1	3	15	EUH-1	1.67	x	x	2	1	20	LTG - FIRE PUMP BLDG	0.16	x	x
3				x	1.67	x	4	--	--	SPACE	x	--	x
5				x	x	1.67	6	--	--	SPACE	x	x	--
7	3	15	JOCKEY PUMP	0.83	x	x	8	--	--	SPACE	--	x	x
9				x	0.83	x	10	--	--	SPACE	x	--	x
11				x	x	0.83	12	--	--	SPACE	x	x	--
13	--	--	SPACE	--	x	x	14	--	--	SPACE	--	x	x
15	--	--	SPACE	x	--	x	16	--	--	SPACE	x	--	x
17	--	--	SPACE	x	x	--	18	--	--	SPACE	x	x	--
19	--	--	SPACE	--	x	x	20	--	--	SPACE	--	x	x
21	--	--	SPACE	x	--	x	22	--	--	SPACE	x	--	x
23	--	--	SPACE	x	x	--	24	--	--	SPACE	x	x	--
25	3	60	PANELBOARD 'PFP' VIA XFMR 'T PFP'	2.18	x	x	26	--	--	SPACE	--	x	x
27				x	1.90	x	28	--	--	SPACE	x	--	x
29				x	x	1.20	30	--	--	SPACE	x	x	--
31	--	--	SPACE (NOTE 1)	--	x	x	32				--	x	x
33				x	--	x	34	3	60	SPD	x	--	x
35				x	x	--	36				x	x	--
37	--	--	SPACE (NOTE 1)	--	x	x	38	--	--	SPACE (NOTE 1)	--	x	x
39				x	--	x	40				x	--	x
41				x	x	--	42				x	x	--
			SUBTOTALS:	4.7	4.4	3.7				SUBTOTALS:	0.2	0.0	0.0

MOUNTING: SURFACE
ENCLOSURE: NEMA 3R
OPTIONS: + EQUIPMENT GROUND BAR
+ INTEGRAL SPD

LOAD SUMMARY

PHASE:	A	B	C	TOTAL
TOTAL KVA:	4.8	4.4	3.7	12.9
DEMAND KVA:				12.9
TOTAL AMPERES:	17.5	15.9	13.3	15.6

NOTES:
1. SPACE RESERVED FOR SURGE PROTECTIVE DEVICE.

PFP

VOLTAGE: 120/208 3 PHASE, 4 WIRE
AMPERES: 100 MAIN CIRCUIT BREAKER
A.I.C. RATING: 10K

PANELBOARD: **PFP**
LOCATION: FIRE PUMP ROOM

CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C
1	1	20	RCPT S - GEN - FIRE PUMP BLDG	0.72	x	x	2	1	20	RCPT - ICE MELT COMPR. CNTRL (NOTE 1)	0.50	x	x
3	1	15	VENT FAN - VF-2 - FIRE PUMP BLDG	x	0.70	x	4	1	15	BACKFLOW PREVENTER - FIRE P BLDG	x	0.60	x
5	1	15	TRAP PRIMER - TPS-2 - FIRE PUMP	x	x	0.60	6	1	20	FACP - FIRE PUMP BLDG (NOTES 1,2)	x	x	0.60
7	1	15	FIRE GONG - FIRE PUMP BLDG (NOTE 1)	0.36	x	x	8	1	20	AT C PANEL-2 - FIRE PUMP BLDG	0.60	x	x
9	1	20	FIRE TANK ALARMS - FIRE PMP BLDG	x	0.60	x	10	1	20	SPARE	x	--	x
11	1	20	SPARE	x	x	--	12	1	20	SPARE	x	x	--
13	1	20	SPARE	--	x	x	14	1	20	SPARE	--	x	x
15	1	20	SPARE	x	--	x	16	1	20	SPARE	x	--	x
17	1	20	SPARE	x	x	--	18	1	20	SPARE	x	x	--
19	--	--	SPACE	--	x	x	20	--	--	SPACE	--	x	x
21	--	--	SPACE	x	--	x	22	--	--	SPACE	x	--	x
23	--	--	SPACE	x	x	--	24	--	--	SPACE	x	x	--
25	--	--	SPACE	--	x	x	26	--	--	SPACE	--	x	x
27	--	--	SPACE	x	--	x	28	--	--	SPACE	x	--	x
29	--	--	SPACE	x	x	--	30	--	--	SPACE	x	x	--
31	--	--	SPACE (NOTE 1)	--	x	x	32				--	x	x
33				x	--	x	34	3	60	SPD	x	--	x
35				x	x	--	36				x	x	--
37	--	--	SPACE (NOTE 1)	--	x	x	38	--	--	SPACE (NOTE 1)	--	x	x
39				x	--	x	40				x	--	x
41				x	x	--	42				x	x	--
			SUBTOTALS:	1.1	1.3	0.6				SUBTOTALS:	1.1	0.6	0.6

MOUNTING: SURFACE
ENCLOSURE: NEMA 3R
OPTIONS: + EQUIPMENT GROUND BAR
+ INTEGRAL SPD

LOAD SUMMARY

PHASE:	A	B	C	TOTAL
TOTAL KVA:	2.2	1.9	1.2	5.3
DEMAND KVA:				5.3
TOTAL AMPERES:	18.2	15.8	10.0	14.6

NOTES:
1. PROVIDE HANDLE CLAMP TO PREVENT ACCIDENTAL OPERATION.
2. LABEL CIRCUIT BREAKER "FIRE ALARM" IN WHITE LETTERING ON RED LABEL.

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: KDS
Proj.No.: 0085B049.A01

SCHEDULES ELECTRICAL

Dwg.No.: **E-502**

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LOW-VOLTAGE TRANSFORMER SCHEDULE

UNIT #	KVA	TYPE	PRIMARY ELECTRICAL CHARACTERISTICS				SECONDARY ELECTRICAL CHARACTERISTICS				MINIMUM EFFICIENCY (%) (NOTE 1)	MAXIMUM NOISE LEVEL (dB)	MINIMUM IMPEDANCE (Z) (%)	ENCLOSURE		DIMENSIONS AND WEIGHTS (NOTE 3)				REMARKS (NOTE 4)
			VOLTAGE (V)	PHASE	FREQUENCY (HZ)	CONFIGURATION TYPE	VOLTAGE (V)	PHASE	FREQUENCY (HZ)	CONFIGURATION TYPE				MOUNTING (NOTE 2)	NEMA RATING	HEIGHT (INCHES)	WIDTH (INCHES)	DEPTH (INCHES)	WEIGHT (LBS)	
TP240	75	GENERAL PURPOSE	480	1	60	--	120/240	1	60	CENTER TAP	98.63	44	4.90	PAD-MOUNTED	NEMA 1	42	28.1	33	647	
TP208	45	GENERAL PURPOSE	480	3	60	DELTA	120/208	3	60	WYE	98.45	39	4.10	PAD-MOUNTED	NEMA 1	29.33	25.51	25.94	369	
TPFP	30	GENERAL PURPOSE	480	3	60	DELTA	120/208	3	60	WYE	98.28	39	3.80	PAD-MOUNTED	NEMA 1	28.31	25.51	24.69	303	

NOTES:
1. TRANSFORMERS SHALL BE LOW LOSS TYPE WITH MINIMUM EFFICIENCIES PER US DEPARTMENT OF ENERGY (DOE) 2016 STANDARDS, AS DEFINED IN THE CODE OF FEDERAL REGULATIONS, 10 CFR 431.192.
2. PROVIDE MANUFACTURER'S STANDARD WALL-MOUNTING BRACKET FOR WALL-MOUNTED TRANSFORMERS.
3. DIMENSIONS AND WEIGHTS ARE NOMINAL AND ARE BASED ON BASIS-OF-DESIGN MANUFACTURER'S EQUIPMENT AND ALUMINUM WINDINGS.
4. REFER TO DIVISION 26 SPECIFICATION SECTION "LOW-VOLTAGE TRANSFORMERS" FOR ADDITIONAL INFORMATION.

RETRACTABLE CORD REEL SCHEDULE

NO.	BASIS OF DESIGN		RECEPTACLE OUTLET DATA									CORD DATA (NOTES 1,2)			REEL DATA		REMARKS
	MANUFACTURER	SERIES	RECEPTACLE TYPE	BLADE TYPE	NEMA CONFIGURATION	VOLTAGE	CURRENT RATING (A)	POLES	WIRES	OUTLET BOX / RECEPTACLE FINISH	GFCI PROTECTION	LENGTH (FT)	WIRE SIZE (AWG)	WIRE QTY	CONNECTION TYPE	FINISH	
CR-1	HUBBELL	inREACH	SINGLE RECEPTACLE	STRAIGHT BLADE	5-20R	120V	20	1	3	BLACK	NONE	35	12	3	5 FOOT PIGTAIL WITH MATCHING PLUG	WHITE	
CR-2	HUBBELL	inREACH	SINGLE RECEPTACLE	TWIST LOCK	L5-30R	120V	30	1	3	BLACK	NONE	35	10	3	5 FOOT PIGTAIL WITH MATCHING PLUG	WHITE	
CR-3	HUBBELL	inREACH	SINGLE RECEPTACLE	TWIST LOCK	L14-30R	125/250V	30	3	4	BLACK	NONE	35	10	4	JUNCTION BOX	WHITE	
CR-4	HUBBELL	inREACH	SINGLE RECEPTACLE	STRAIGHT BLADE	14-50R	125/250V	50	3	4	BLACK	NONE	35	6	4	JUNCTION BOX	WHITE	
CR-5	HUBBELL	inREACH	SINGLE RECEPTACLE	TWIST LOCK	NON-NEMA	125/250V	50	3	4	BLACK	NONE	35	6	4	JUNCTION BOX	WHITE	NOTE 3

NOTES:
1. CORD LENGTH(S) SHALL BE FIELD-VERIFIED TO SUIT ACTUAL CONDITIONS PRIOR TO ORDERING/INSTALLATION.
2. CORD LENGTH(S) FOR DEVICES INSTALLED IN CLASS 1, DIVISION 1 LOCATIONS SHALL BE SUCH THAT DEVICE REACHES NO LOWER THAN 18 INCHES ABOVE FINISHED FLOOR ELEVATION PER NEC ARTICLE 511.
3. LOCKING CONNECTOR SHALL BE HUBBELL PART NUMBER CS6364C, OR APPROVED EQUAL.

UNDERGROUND DUCTS AND RACEWAYS SCHEDULE

DUCT BANK IDENTIFICATION NUMBER ⟨D#⟩	CONDUIT DESCRIPTION	CONDUIT INFORMATION		SOURCE	DESTINATION	DUCT BANK INFORMATION		REMARKS
		QUANTITY(IES)	SIZE(S)	FROM / SOURCE	TO / LOAD	CONDUIT ARRANGMENT	ENCASEMENT	
DE1	PRIMARY ELECTRIC SERVICE		--	UTILITY POLE	UTILITY XFMR	--	--	
DE2	SECONDARY ELECTRIC SERVICE - FP BLDG	2	1-1/4"	UTILITY XFMR	FPC-1	2 x 3	CONCRETE-ENCASED	(1) ACTIVE, (1) SPARE
		2	1-1/4"	UTILITY XFMR	FPC-2			(1) ACTIVE, (1) SPARE
		2	1-1/2"	UTILITY XFMR	PANELBOARD 'FPH'			(1) ACTIVE, (1) SPARE
DE3	SECONDARY ELECTRIC SERVICE - MDP	3	2"	UTILITY XFMR	DISTRIBUTION PANEL 'MDP'	1 x 3	DIRECT-BURIED	(2) ACTIVE, (1) SPARE
DE4	GATE CONTROL WIRING	1	1"	STORAGE BAY	EXISTING GATE CNTRL	1 x 1	DIRECT-BURIED	
DE5	ELECTRICAL SERVICE - WELL PUMP	1	1"	PANEL 'H1'	WELL PUMP ON SITE	1 x 1	DIRECT-BURIED	
DE6	FUTURE FIRE TOWER PROVISIONS	1	2"	PANEL 'PFP'	HANDHOLE - HE1	1 x 2	DIRECT-BURIED	(2) SPARE, NOTE 2
DC1	COMMUNICATIONS	1	4"	FIRE PUMP BLDG	STORAGE BAY	1 x 1	DIRECT-BURIED	NOTE 3
DC2	COMMUNICATIONS	1	1-1/2"	STORAGE BAY	HANDHOLE - HC1	1 x 2	DIRECT-BURIED	NOTE 3
		1	4"					
DC3	ACCESS CONTROL	1	1-1/2"	HANDHOLE - HC1	ACCESS CNTL PEDESTAL	1 x 1	DIRECT-BURIED	NOTE 3
DC4	COMMUNICATIONS	1	4"	STORAGE BAY	EXISTING BLDG	1 x 1	DIRECT-BURIED	NOTE 3
DF1	FIRE ALARM	1	1"	FACP	NAC PANEL	1 x 1	DIRECT-BURIED	NOTE 2

NOTES:
1. REFER TO DUCT BANK DETAIL DRAWINGS FOR DUCT BANK INSTALLATION REQUIREMENTS.
2. PROVIDE PULL TAPE IN EMPTY CONDUIT.
3. PROVIDE TEXTILE INNERDUCT PER SPECIFICATIONS.

HANDHOLE SCHEDULE

HANDHOLE IDENTIFICATION NUMBER ⟨H#⟩	HANDHOLE / PULLBOX DIMENSIONS			ENCLOSURE		ENCLOSURE COVER (NOTE 2)		MINIMUM TIER RATING (NOTE 3)	REMARKS
	WIDTH (INCHES)	LENGTH (INCHES)	DEPTH (NOTE 1)	BOX TYPE	BOTTOM	COVER TYPE	LEGEND		
HC1	24" x 36"		18"	OPEN	OPEN	DIVIDED	FIBER OPTICS	TIER 22	
HE1	17" x 30"		18"	OPEN	OPEN	SOLID	CONTROLS	TIER 22	
HE2	24" x 36"		18"	OPEN	OPEN	DIVIDED	ELECTRIC	TIER 22	
HF1	17" x 30"		18"	OPEN	OPEN	SOLID	FIRE ALARM	TIER 22	
HL1	24" x 36"		18"	OPEN	OPEN	DIVIDED	LIGHTING	TIER 22	

NOTES:
1. STACK BOXES OR PROVIDE EXTENSIONS AS REQUIRED TO ACCOMMODATE CONDUITS TERMINATING AT BOXES WITH TOP OF ENCLOSURE FLUSH WITH FINISHED GRADE ELEVATION.
2. ENCLOSURE COVERS SHALL BE HEAVY-DUTY BOLT-DOWN TYPE WITH GASKETING, UNLESS OTHERWISE NOTED.
3. TIER RATING APPLIES TO HANDHOLE ENCLOSURE AND COVER. TIER RATING SHALL BE IN DETERMINED IN COMPLIANCE WITH ANSI/SCTE 77-2007.

NETWORK WALL SWITCH SCHEDULE

SWITCH ID	BASIS OF DESIGN		CONTROLS
	MANUFACTURER	SERIES	BUTTON
S^{LV1}	HUBBELL	NXSW2-OO	2
S^{LV1D}	HUBBELL	NXSWR-ORLO	4

NOTES:
1. SEE SEQUENCES OF OPERATION FOR ADDITIONAL INFORMATION.

POWER SUPPLY: 277VAC
SUPPLY CIRCUIT: L1-2
A.I.C. RATING: 35K

LIGHTING CONTROL PANEL: **LCP**
LOCATION: VEHICLE STORAGE BLDG

RELAY NO.	POLES	AMPERES	VOLTAGE	PANELBOARD CIRCUIT	CIRCUIT DESCRIPTION	REMARKS
1	1	20	277	L1-1	INTERIOR LTG - PARKING BAYS - NORTH	--
2	1	20	277	L1-3	INTERIOR LTG - PARKING BAYS - SOUTH	--
3	1	20	277	L1-5	EXTERIOR BLDG MTD LTG - REAR & SIDES	--
4	1	20	277	L1-5	EXTERIOR BLDG MTD LTG - FRONT	--
5	1	20	277	L1-5	EXTERIOR BLDG MTD LTG - FRONT	--
6	1	20	277	L1-4	EXTERIOR SITE LTG	--
7	1	20	--	--	--	--
8	1	20	--	--	--	--
9	1	20	--	--	--	--
10	1	20	--	--	--	--
11	1	20	--	--	--	--
12	1	20	--	--	--	--
13	1	20	--	--	--	--
14	1	20	--	--	--	--
15	1	20	--	--	--	--
16	1	20	--	--	--	--

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
OPTIONS: + DIGITAL TIME CLOCK
+ ETHERNET PORT FOR REMOTE MANAGEMENT

NOTES:
1. ALL SEQUENCES OF OPERATION SHALL BE VERIFIED WITH OWNER AND ADJUSTED AS REQUIRED.
2. PROVIDE BARRIER TO SEPARATE DIFFERENT VOLTAGE CONDUCTORS.
3. PROVIDE POWER SUPPLY FOR 4 OR MORE DEVICES DAISEY CHAINED ON ONE CONTROL CIRCUIT.
4. SWEEP LIGHTS OFF EVERY HOUR, STARTING AT 11PM UNTIL 6AM.

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: KDS
Proj.No.: 0085B049.A01

SCHEDULES ELECTRICAL

Dwg.No.: E-503

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INTERIOR LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	BASIS OF DESIGN (NOTE 1)		APPROVED EQUAL(S) (NOTE 2)		LIGHT SOURCE CHARACTERISTICS/PERFORMANCE							DRIVER TYPE	EMERGENCY OPTION	INPUT VA (NOTE 3)	INPUT VOLTAGE	NOMINAL DIMENSIONS				MOUNTING	REMARKS
						TYPE	DELIVERED LUMENS (NOTE 3)	CCT	CRI (MIN)	LPW (MIN)	LUMEN MAINTENANCE (NOTE 4)						LENGTH (INCHES)	WIDTH (INCHES)	DEPTH (INCHES)	DIAMETER (INCHES)		
		MANUFACTURER	SERIES	MANUFACTURER	SERIES						L-RATING	HOURS										
A	SURFACE MOUNTED LED INDUSTRIAL HIGH BAY FIXTURE. EXTRUDED ALUMINUM HOUSING WITH GLARE CONTROL LENS. STANDARD EFFICIENCY. INTEGRAL OCCUPANCY SENSOR.	LITHONIA	CPHB	COLUMBIA METALUX WILLIAMS	CLB SPHB GS SLIM	LED	15,343	4000K	80	143	L70	100,000	ELECTRONIC LED DRIVER	NONE	102	120-277VAC	14.44	11.52	2.42	--	SURFACE, CEILING	NOTE 5
AE	SURFACE MOUNTED LED INDUSTRIAL HIGH BAY FIXTURE. EXTRUDED ALUMINUM HOUSING WITH GLARE CONTROL LENS. STANDARD EFFICIENCY. INTEGRAL OCCUPANCY SENSOR. WITH 15W EMERGENCY BATTERY PACK.	LITHONIA	CPHB	COLUMBIA METALUX WILLIAMS	CLB SPHB GS SLIM	LED	15,343	4000K	80	143	L70	100,000	ELECTRONIC LED DRIVER	INTERNAL BATTERY	102	120-277VAC	14.44	11.52	2.42	--	SURFACE, CEILING	NOTE 5
BE	4'-0" NOMINAL SUSPENDED LED STRIP LIGHT WITH CODE-GAUGE COLD-ROLLED STEEL HOUSING AND INTEGRAL 10W EMERGENCY BATTERY PACK. ARCHITECT TO SELECT FINISH.	LITHONIA	ZL1D	METALUX WILLIAMS COLUMBIA DAY-BRITE	SNX 75R MPS FSS	LED	5,541	4000K	80	135	--	--	ELECTRONIC LED DRIVER	INTERNAL BATTERY	41	120-277VAC	48	2.23	2.99	--	SUSPENDED, CHAIN HUNG	NOTES 7,11
CE	4'-0" NOMINAL SURFACE MOUNTED LED STRIP LIGHT WITH CODE-GAUGE COLD-ROLLED STEEL HOUSING AND INTEGRAL 7W EMERGENCY BATTERY PACK. ARCHITECT TO SELECT FINISH.	LITHONIA	ZL1D	METALUX WILLIAMS COLUMBIA DAY-BRITE	SNX 75R MPS FSS	LED	3,966	4000K	80	135	--	--	ELECTRONIC LED DRIVER	INTERNAL BATTERY	30	120-277VAC	48	2.23	2.99	--	SURFACE, CEILING	NOTES 7,11
ER	REMOTE EMERGENCY LIGHT WITH WARPAROUND LENS/HOUSING MADE OF UV STABILIZED, HIGH IMPACT, MOLDED POLYCARBONATE. TWO FIELD ADJUSABLE, INTERNAL LAMPS. MATTE BLACK FINISH.	KENALL	METER	DUAL-LITE MULE	DYNRD R-ASRLED-2-WP	LED	--	--	--	--	--	--	ELECTRONIC LED DRIVER	--	13	12VDC	9.12	6.5	3.98	--	SURFACE, WALL	NOTES 8,10
F	LED WALL PACK WITH CAST-ALUMINUM HOUSING, HINGED SIDE DOORS, ONE-PIECE GASKET SEALED CASTING, AND LENSED FRONT.	LITHONIA	TWR2 LED	EXO HALO WILLIAMS	WGH WXP WP1	LED	12,449	3000K	80	152	L90	50,000	ELECTRONIC LED DRIVER	--	82	120-277VAC	18.4	9.2	7.9	--	SURFACE, WALL	NOTE 6
G	FULL CUT OFF, RECTILINEAR SHAPED LED WALL PACK WITH FORWARD THROW DISTRIBUTION. ARCHITECT TO SELECT FINISH.	LITHONIA	WDGE3 LED	MCGRAW-EDISON BEACON WILLIAMS	GEKKO VPW1 WPTZ	LED	10,146	3000K	80	142	L92	100,000	ELECTRONIC LED DRIVER	--	71	120-277VAC	18	9	8	--	SURFACE, WALL	NOTE 6
X1	EXIT SIGN WITH INTEGRAL LED LAMPS AND UV-STABILIZED, HIGH IMPACT, INJECTION MOLDED CLEAR POLYCARBONATE SHIELD. 40W NICKEL CADMIUM BATTERY AND REMOTE LAMP CAPACITY. MATTE WHITE FINISH. SELF TEST/SELF DIAGNOSTIC CIRCUITRY.	KENALL	METEC	DUAL-LITE MULE	DYNC CWL	LED	--	--	--	--	--	--	ELECTRONIC LED DRIVER	INTERNAL BATTERY	13	120-277VAC	20.5	9.5	5.96	--	SURFACE, WALL	NOTES 8,9,10

NOTES:
1. ONLY BASIS OF DESIGN FIXTURE INDICATED HAS BEEN VERIFIED FOR PERFORMANCE.
2. ALTERNATE MANUFACTURERS INCLUDE, BUT ARE NOT LIMITED TO, THOSE LISTED BELOW. BEING LISTED DOES NOT GUARANTEE APPROVAL OF SUBMITTED FIXTURE(S). FIXTURE(S) MUST COMPLY WITH PROJECT REQUIREMENTS AND MEET OR EXCEED BASIS OF DESIGN FIXTURE(S) PERFORMANCE.
3. INFORMATION LISTED IS PER FOOT FOR LINEAR FIXTURES.
4. L70 RATING SHALL BE REPORTED VALUE, WHICH SHALL BE DETERMINED IN ACCORDANCE WITH IESNA STANDARDS LM-80 AND TM-21.
5. COORDINATE CEILING TYPE WITH ARCHITECTURAL REFLECTED CEILING PLAN (RCP).
6. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH ARCHITECT.
7. FIXTURE SHALL BE SUSPENDED TO HEIGHT INDICATED ON DRAWINGS. FIELD VERIFY SUSPENSION LENGTH PRIOR TO ORDERING.
8. EMERGENCY LIGHTS AND/OR EXIT SIGNS SHALL BE MOUNTED 8'-0" AFF UON. WHERE INSTALLED ABOVE DOORS, FIXTURE HEIGHT SHALL BE FIELD COORDINATED.
9. CONFIGURE MOUNTING, FACE CONFIGURATIONS AND CHEVRON INDICATORS WITH SYMBOLS ON THE FLOOR PLANS.
10. ALL EXIT SIGNS AND EMERGENCY LIGHTING FIXTURES, INCLUDING REMOTE HEADS, SHALL BE OF THE SAME MANUFACTURER AND SERIES.
11. REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS FOR FIXTURE MOUNTING HEIGHTS AND LOCATIONS.

EXTERIOR LIGHTING FIXTURE SCHEDULE
(REFER TO SPECIFICATIONS FOR DETAILS)

TYPE	DESCRIPTION	BASIS OF DESIGN (NOTE 1)		APPROVED EQUAL(S) (NOTE 2)		LIGHT SOURCE CHARACTERISTICS/PERFORMANCE								OPTICS		BALLAST / DRIVER			LUMINAIRES			INPUT VA	INPUT VOLTAGE	NOMINAL DIMENSIONS			POLE			REMARKS
						QTY.	WATTAGE	TYPE	LUMENS	CCT	CRI (MIN)	LPW (MIN)	LUMEN MAINTENANCE (NOTE 3)		DISTRIBUTION	OPTIONS	QTY.	TYPE	CURRENT (mA) (MAX)	QTY.	MOUNTING	ORIENTATION			LENGTH (INCHES)	WIDTH (INCHES)	DEPTH (INCHES)	HEIGHT (FEET)	STYLE	MATERIAL	
		MANUFACTURER	SERIES	MANUFACTURER	SERIES								L-RATING	HOURS																	
SA	POLE MOUNTED LED AREA LIGHT WITH TYPE 4 WIDE DISTRIBUTION	LITHONIA	RSX3	KIM LIGHTING EVOLVE MCGRAW-EDISON	EAP1 EALS GLEON	--	266	LED	35,809	3000K	70	135	L92	100,000	TYPE IV	--	--	LED DRIVER	--	1	6" ARM	--	266	277VAC	33.8	16.1	3	22.5	ROUND, STRAIGHT	ALUMINUM	

NOTES:
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3. L70 RATING SHALL BE REPORTED VALUE, WHICH SHALL BE DETERMINED IN ACCORDANCE WITH IESNA STANDARDS LM-80 AND TM-21.

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: KDS
Proj.No.: 0085B049.A01

SCHEDULES
ELECTRICAL

Dwg.No.:
E-504

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FIRE PUMP VOLTAGE DROP CALCULATION

	Voltage (Volts)	Current (Amps)	Conduit	Conductor Metal	Conductor Gauge (AWG)	Area (Circular Mils)	Cable Length (ft)	Number of Sets	Resistance (Ohms)	Voltage Drop (Volts)	% VD	Remarks
Starting Voltage Drop Maximum of 15% per NEC 695.7(A) 30HP, LRA=218A per NEC Table 430.251(B)	480	218	PVC	Copper	3	52620	130	1	0.25	12.27122	**2.56%**	**Calculated voltage drop is less than 15%.**
Running Voltage Drop Maximum of 5% at 115% RLA per NEC 695.7(B) 30HP, RLA=40A per NEC Table 430.250												
Transformer to Fire Pump Controller	480	40	PVC	Copper	3	52620	130	1	0.25	2.2516	0.469%	**Calculated voltage drop is less than 5%.**
Fire Pump Controller to Fire Pump Motor	480	40	Steel	Copper	8	16510	15	2	0.78	0.405288	0.084%	
Total Running Voltage Drop											**0.554%**	

Notes:
1. Calculations are based on the following design criteria: Fire Pump:30HP, 480/3/60, NEMA Locked Rotor Code G
Fire Pump Controller: Wye/Delta Reduced Voltage Start, Service Entrance Rated, 65kAIC Withstand Rating
Available Fault Current from Utility at Line Side of Fire Pump Controller: 10,464A L-L /6,677A L-N

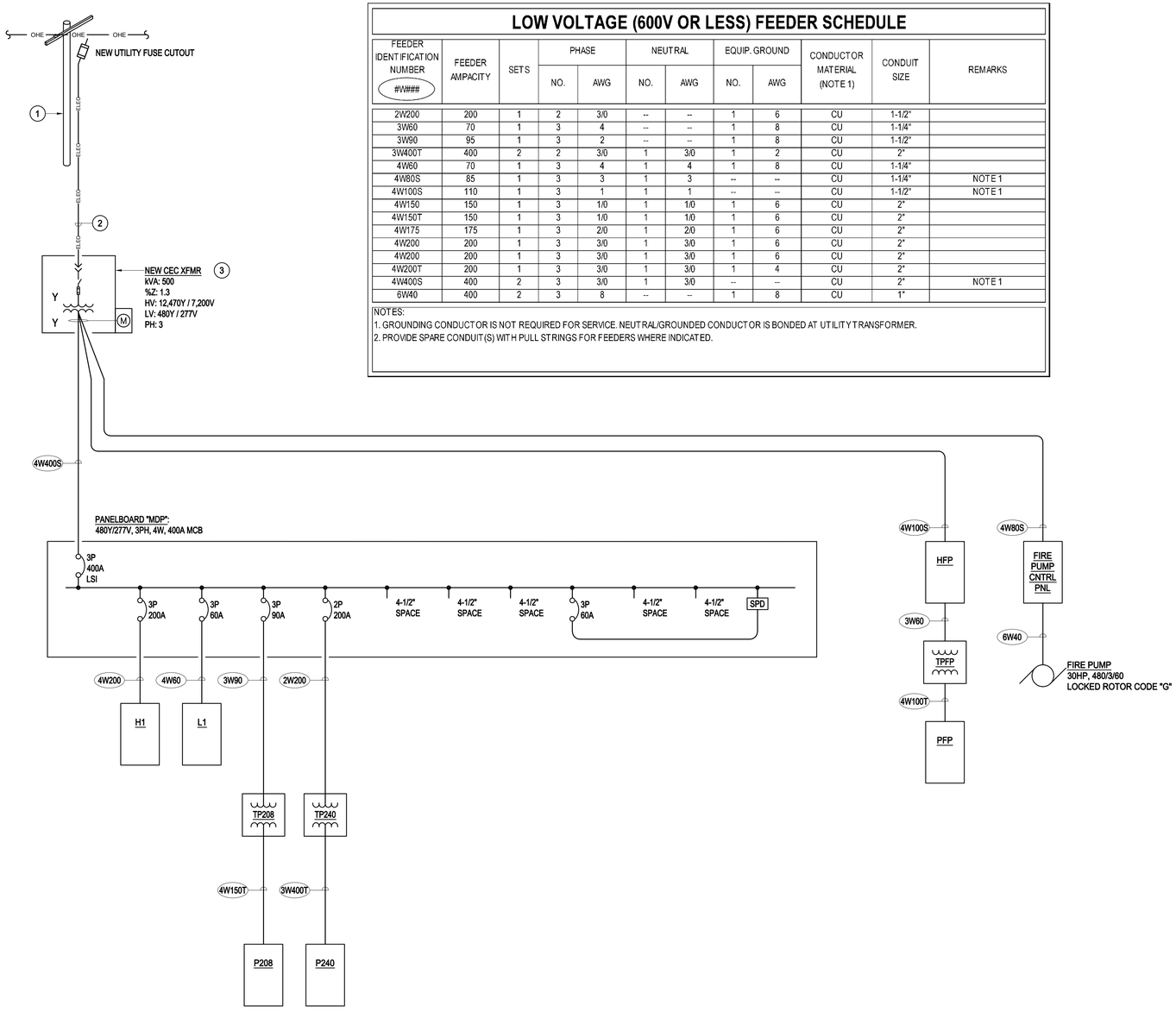
LOW VOLTAGE (600V OR LESS) FEEDER SCHEDULE

FEEDER IDENTIFICATION NUMBER (#W###)	FEEDER AMPACITY	SETS	PHASE		NEUTRAL		EQUIP. GROUND		CONDUCTOR MATERIAL (NOTE 1)	CONDUIT SIZE	REMARKS
			NO.	AWG	NO.	AWG	NO.	AWG			
2W200	200	1	2	3/0	--	--	1	6	CU	1-1/2"	
3W60	70	1	3	4	--	--	1	8	CU	1-1/4"	
3W90	95	1	3	2	--	--	1	8	CU	1-1/2"	
3W400T	400	2	2	3/0	1	3/0	1	2	CU	2"	
4W60	70	1	3	4	1	4	1	8	CU	1-1/4"	
4W80S	85	1	3	3	1	3	--	--	CU	1-1/4"	NOTE 1
4W100S	110	1	3	1	1	1	--	--	CU	1-1/2"	NOTE 1
4W150	150	1	3	1/0	1	1/0	1	6	CU	2"	
4W150T	150	1	3	1/0	1	1/0	1	6	CU	2"	
4W175	175	1	3	2/0	1	2/0	1	6	CU	2"	
4W200	200	1	3	3/0	1	3/0	1	6	CU	2"	
4W200	200	1	3	3/0	1	3/0	1	6	CU	2"	
4W200T	200	1	3	3/0	1	3/0	1	4	CU	2"	
4W400S	400	2	3	3/0	1	3/0	--	--	CU	2"	NOTE 1
6W40	400	2	3	8	--	--	1	8	CU	1"	

NOTES:
1. GROUNDING CONDUCTOR IS NOT REQUIRED FOR SERVICE. NEUTRAL/GROUNDED CONDUCTOR IS BONDED AT UTILITY TRANSFORMER.
2. PROVIDE SPARE CONDUIT(S) WITH PULL STRINGS FOR FEEDERS WHERE INDICATED.

DRAWING NOTES:
(APPLY TO THIS DRAWING ONLY)

1. NEW PRIMARY ELECTRIC SERVICE FROM CHOPTANK ELECTRIC COOPERATIVE FROM EXISTING UTILITY POLE 5066.
2. NEW 3-PHASE SERVICE IN CONDUIT. MEDIUM VOLTAGE CABLES PROVIDED BY CEC. SEE SITE PLAN.
3. NEW 3-PHASE PAD-MOUNT TRANSFORMER FOR VEHICLE STORAGE BUILDING.



1 E-601 SINGLE LINE DIAGRAM - ELECTRICAL

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VEHICLE STORAGE FACILITY
CENTRAL SITE LANE
WORCESTER, MARYLAND
BID SET

Date: 08/08/2025
Scale: AS NOTED
Dwn.By: KDS
Proj.No.: 0085B049.A01

SINGLE LINE DIAGRAM ELECTRICAL

Dwg.No.: **E-601**

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