RE-BID SET

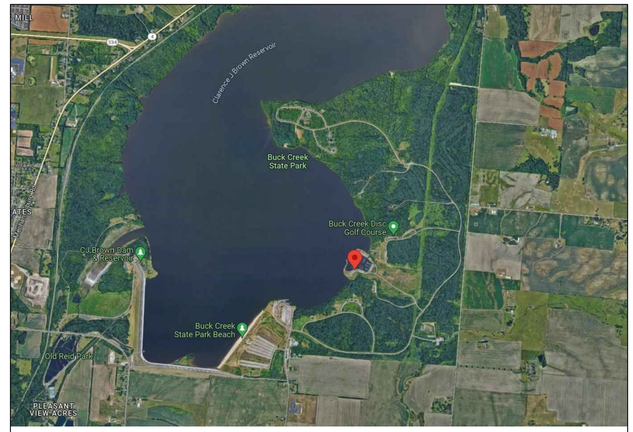
VICINITY MAP
NOT TO SCALE

DIVISION OF ENGINEERING

BUCK CREEK STATE PARK

NEW NATURE CENTER

DNR-230014.03



1 BUCK CREEK LN
2250 Buck Creek Ln
Springfield, OH 45502
Park Office: (937) 322-5284

LOCATION
NOT TO SCALE

INDEX OF SHEETS

BUCK CREEK

APPROVALS

GLEN COBB
CHIEF, Division of PARKS AND RECREATION

DATE

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

DATE

ALEKS DASKALOV, AIA
PROJECT ARCHITECT

DATE

OHIO Utilities Protection SERVICE
Call Before You Dig
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CALL TWO WORKING DAYS BEFORE YOU DIG
(NON MEMBERS MUST BE CALLED DIRECTLY)

Jezerinac Geers Structural Engineering
metro cd
FMS

FMS # 22009

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ENGINEERING
Ohio Department of Natural Resources

DESIGNED BY:	ASD
DRAWN BY:	ASD
CHECKED BY:	ASD
APPROVED BY:	DAY

NO	DATE	SUBJECT
-	2/6/2024	RE-BID DOCUMENTS

REVISION OR ISSUE

AS NOTED
SCALE

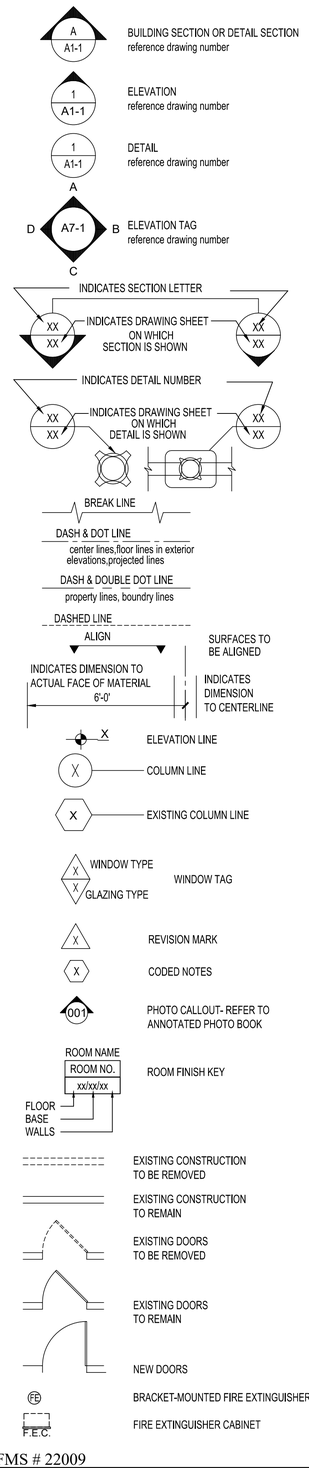
2/6/2024
DATE

BUCK CREEK STATE PARK
NEW CAMP STORE & NATURE CENTER
DNR-230014.03

BUCK CREEK TITLE SHEET

COV

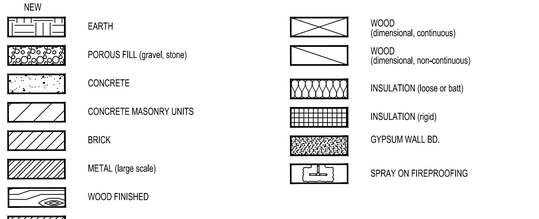
SYMBOLS



ABBREVIATIONS

ABV	ABOVE	FEC	FIRE EXTINGUISHER CABINET	PVC	POLYVINYL CHLORIDE
A.F.F.	ABOVE FINISHED FLOOR	FHC	FIRE HOSE CABINET	PCF	POUNDS PER CUBIC FOOT
ADD	ADDENDUM	FLG	FLASHING	PSF	POUNDS PER SQUARE FOOT
ADJ	ADJACENT	FLR	FLOOR(ING)	PSI	POUNDS PER SQUARE INCH
A/C	AIR CONDITIONING	FD	FLOOR DRAIN	PTD	PAPER TOWEL DISPENSER
ALT	ALTERNATE	FLUR	FLUORESCENT	QT	QUARRY TILE
ALUM	ALUMINUM	FTNG	FOOTING	RAD	RADIUS
A.B.	ANCHOR BOLT	FOUND	FOUNDATION	RWC	RAINWATER CONDUCTOR
∠	ANGLE	GA	GAGE, GUAGE	REF	REFERENCE
ANOD	ANODIZED	GALV	GALVANIZED	REFR	REFRIGERATOR
AP	ACCESS PANEL	GC	GENERAL CONTRACT(OR)	REG	REGISTER
APPROX	APPROXIMATE	GL	GLASS, GLAZING	REINF	REINFORCE (D), (ING)
ARCH	ARCHITECT(URAL)	GB	GRAB BAR	RCP	REINFORCED CONCRETE PIPE
AD	AREA DRAIN	GWB	GYPSUM WALL BOARD	RES	RESILIENT
@	AT	GYP	GYPSUM	RET	RETURN
BSMT	BASEMENT	HDWR	HARDWARE	RA	RETURN AIR
BM	BEAM	HVAC	HEATING/VENTILATING/AIR COND.	REV	REVISION (S), REVISED
B.M.	BENCH MARK	HT	HEIGHT	RH	RIGHT HAND
BVL	BEVELED	HTR	HEATER	R	RISER
BIT	BITUMINOUS	HEX	HEXAGONAL	RD	ROOF DRAIN
BLK	BLOCK	HC	HOLLOW CORE	RM	ROOM
BLKG	BLOCKING	HM	HOLLOW METAL	RO	ROUGH OPENING
BD	BOARD	HORZ	HORIZONTAL	SCH	SCHEDULE
BOT	BOTTOM	HB	HOSE BIB	SEC	SECTION
BLDG	BUILDING	HW	HOT WATER	SHTG	SHEATHING
CAB	CABINET	INCL	INCLUDE(D), (ING)	SHT	SHEET
CI	CAST IRON	ID	INSIDE DIAMETER	SIM	SIMILAR
CB	CATCH BASIN	INSUL	INSULATION	SC	SOLID CORE
CLG	CEILING	INT	INTERIOR	S	SOUTH
CM	CENTIMETER(S)	INV	INVERT	SPEC	SPECIFICATION (S)
℄	CENTER LINE	JAN	JANITOR	SQ	SQUARE
CER	CERAMIC	JT	JOINT	SS	STAINLESS STEEL
CH BD	CHALKBOARD	KIT	KITCHEN	STD	STANDARD
CHAN	CHANNEL	KO	KNOCKOUT	STL	STEEL
CIR	CIRCLE	LAB	LABORATORY	STO	STORAGE
CLR	CLEAR(ANCE)	LB	LAG BOLT	SA	SUPPLY AIR
CW	COLD WATER	LAV	LAVATORY	SUSP	SUSPENDED
COL	COLUMN	LH	LEFT HAND	SYM	SYMMETRY (ICAL)
CONC	CONCRETE	L	LENGTH	SYS	SYSTEM
CMU	CONCRETE MASONRY UNIT	LT	LIGHT	TKBD	TACKBOARD
CONST	CONSTRUCTION	LL	LIVE LOAD	TEL	TELEPHONE
CM	CONSTRUCTION MANAGER	MH	MANHOLE	TV	TELEVISION
CONT	CONTINUOUS, CONTINUE	MFGR	MANUFACTURE (ER)	THK	THICKNESS
CJ	CONTROL JOINT	MAS	MASONRY	TOL	TOLERANCE
CRS	COURSE(S)	MO	MASONRY OPENING	T&G	TONGUE AND GROOVE
CU FT	CUBIC FOOT	MAT	MATERIAL (S)	T	TREAD, TOP
CY	CUBIC YARD	MAX	MAXIMUM	TPD	TOILET PAPER DISPENSER
DET	DETAIL	MECH	MECHANIC (AL)	TYP	TYPICAL
DIAG	DIAGONAL	MED	MEDIUM	UN	UNFINISHED
DIAM(D)	DIAMETER	MTL	METAL	UR	URINAL
DIM	DIMENSION	MM	MILLIMETER (S)	VB	VAPOR BARRIER
DR	DOOR	MIN	MINIMUM	VERT	VERTICAL
DS	DOWNSPOUT	MISC	MISCELLANEOUS	WC	WATER CLOSET
DWG	DRAWING	MOD	MODULAR	WP	WATER PROOFING
DF	DRINKING FOUNTAIN	MOV	MOVABLE	WWF	WELDED WIRE FABRIC/MESH
E	EAST	NAT	NATURAL	W	WIDTH, WIDE, WEST
ELEC	ELECTRIC(AL)	NRC	NOISE REDUCTION COEFF.	W/O	WITHOUT
EC	ELECTRICAL CONTRACTOR	NOM	NOMINAL	WD	WOOD
EWC	ELECTRIC WATER COOLER	N	NORTH		
EL	ELEVATION	NIC	NOT IN CONTRACT		
ELEV	ELEVATOR	NTS	NOT TO SCALE		
EMER	EMERGENCY	OC	ON CENTER (S)		
EQ	EQUAL	OPNG	OPENING		
EQPT	EQUIPMENT	OPER	OPERABLE		
EXH	EXHAUST	OPP	OPPOSITE		
EX	EXISTING	OD	OUTSIDE DIAMETER		
EXP BT	EXPANSION BOLT	OH	OVERHEAD		
EXP JT	EXPANSION JOINT	OA	OVER ALL		
EXP	EXPOSED	PART	PARTITION		
EXT	EXTERIOR	PVMT	PAVEMENT		
FOC	FACE OF CONCRETE	PED	PEDESTAL		
FOF	FACE OF FINISH	PERF	PERFORATE (D)		
FOM	FACE OF MASONRY	PLAM	PLASTIC LAMINATE		
FOS	FACE OF STUDS	PL	PLATE, PROPERTY LINE		
FIN	FINISH(ED)	PC	PLUMBING CODE		
FA	FIRE ALARM / FRESH AIR	LBS	POUND		
FE	FIRE EXTINGUISHER				

MATERIAL INDICATIONS



GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN COMPLETE ACCORDANCE WITH ALL GOVERNING FEDERAL, STATE, AND LOCAL CODES.
2. TEXT DIMENSIONS SHALL TAKE PRECEDENCE OVER INFORMATION DETERMINED BY GRAPHIC SCALING OF THE DRAWINGS. DRAWINGS AR NOT TO BE SCALED. DIRECT ANY REQUESTS FOR DIMENSIONAL CLARIFICATION TO THE ARCHITECT.
3. THE CONTRACTOR SHALL PROVIDE A COMPLETE "TURN-KEY" PROJECT TO THE OWNER READY FOR FULL USE AND OCCUPANCY.
4. THE CONTRACTOR SHALL COORDINATE AND SECURE ADDITIONAL APPROVALS, INSPECTIONS, ETC. (BUILDING PERMIT WILL BE OBTAINED BY OWNER).
5. ALL WORK SHALL BE PERFORMED BY TRADESMEN THOROUGHLY EXPERIENCED IN THEIR RESPECTIVE TRADES.
6. ALL MANUFACTURED ITEMS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND/OR WITH THE STANDARDS OF THE INDUSTRIAL OR TRADE ORGANIZATION GOVERNING THEIR WORK.
7. ALL ELECTRICAL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE (NEC) AND OTHER APPLICABLE CODES AND IS SUBJECT TO THE APPROVAL OF THE ELECTRICAL INSPECTOR.
8. ALL HVAC WORK SHALL CONFORM TO ASHRAE STANDARDS AND SHALL BE INSTALLED IN ACCORDANCE WITH ITS UNDERWRITER APPROVAL, THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS, AND GOOD ENGINEERING PRACTICE.
9. ALL PLUMBING WORK SHALL COMPLY SHALL COMPLY WITH STATE BUILDING CODE AND OTHER CODES AND IS SUBJECT TO THE APPROVAL OF THE INSPECTOR.
10. DURING THE BIDDING PERIOD, CONFLICT OF DETAIL OR NOTING BETWEEN SPECIFICATIONS, WRITTEN NOTES, BID FORMS, AND/OR DRAWINGS SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ARCHITECT AND THE CONFLICT RESOLVED. SHOULD THE CONFLICT BE DISCOVERED AFTER THE START OF CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE HIGHEST QUALITY AND LARGEST QUANTITY CALLED FOR.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. ANY VARIATION BETWEEN ACTUAL CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY. NO MONETARY CONSIDERATION WILL BE MADE FOR DISCREPANCIES BROUGHT FORTH ONCE BIDS HAVE BEEN SUBMITTED.
12. ANY TESTING REQUIRED BY SPECIFICATIONS OR TO COMPLETE THE PROJECT SHALL BE RETAINED AND PAID BY THE CONTRACTOR.
13. G.C. TO RETURN SITE TO EXISTING CONDITION AT CONCLUSION OF THE PROJECT.

DESCRIPTION OF JOB

THE NEW NATURE CENTER IS SITED AT THE PARK'S ABANDONED MARINA STRUCTURE. THE RENOVATED BUILDING WILL HAVE EDUCATIONAL EXHIBITS CENTERER AND BATHROOMS COMPLIANT WITH ADA ACCESSIBILITY STANDARDS OPEN YEAR ROUND. THE BUILDING ALSO INCLUDES A BAIT AND TACKLE SHOP AND WILL BE WINTERIZED. THIS STRUCTURE WILL REUSE MOST OF THE PERIMETER FOUNDATION WALLS AND STRUCTURAL COLUMN, PARKING, AND PAVED CONCRETE ACCESS SHALL BE COMPLIANT WITH ADA ACCESSIBILITY STANDARDS.

THE NATURE CENTER'S FUNCTIONS ARE ZONED: THE PUBLIC EXHIBITS ARE IN THE EAST, THE ENTRY & SHOP IS SITUATED IN THE MIDDLE, AND THE SUPPORT SPACES ARE IN THE WEST. THE SHOP AND EXHIBITS ARE SEPARATED BY A PARTITION WALL BUT OPEN TO ONE ANOTHER. IF STAFF ARE NOT PRESENT, A DOOR WILL SECURE THIS OPENING, BUT THE EXHIBITS WILL HAVE A SECONDARY EXTERIOR DOOR FOR VISITORS. ALL PUBLIC SPACES ARE DIRECTLY ACCESSED FROM OUTSIDE. THE PUBLIC RESTROOMS ARE ADA COMPLIANT AND LOCATED IN SIMILAR LOCATION TO THE EXISTING RESTROOMS.

THE SITE IS DIRECTLY ADJACENT TO THE DOCKS AND THE LAKE. THE EXISTING PARKING AND PAVING CAN LARGELY REMAIN IN PLACE. HOWEVER, ENCLOSING THE OPEN AIR "ELBOW" PORTION OF THE EXISTING BUILDING WILL REQUIRE REMOVAL OF SOME PAVING AND THE ROUND CONCRETE BENCHES. TO THE WEST, THE EXISTING FUEL TANKS ARE INTENDED TO BE SCREENED WITH POLLINATOR/ SENSORY/ EDUCATION GARDENS AND AN OUTDOOR KAYAK STORAGE RACK. BENCHES AND SEATING WITH BIRD FEEDERS WOULD BE APPRECIATED. THE EXISTING MARINA SIGNAGE WILL ALSO BE REMOVED AND REPLACED WITH A POLLINATOR GARDEN.

UTILITIES SHOULD BE ABLE TO REMAIN LARGELY AS-IS. THIS PROJECT WILL PROVIDE EMPTY CONDUIT WITH PULLSTRING TO ALLOW DATA TO BE BROUGHT IN SOON AFTER COMPLETION OF THE PROJECT.

CODE SYNOPSIS/ PROJECT DATA

JOB TYPE: NEW MARINA STORE W/ SUPPORTING SPACES WILL BE WINTERIZED; NATURE CENTER, RESTROOMS, & UTILITY WILL OPEN YEAR ROUND.

LOCATION: 2250 BUCK CREEK LN - SPRINGFIELD, OHIO 45502

ZONING CLASSIFICATION: N/A- STATE PROPERTY

TYPE OF WORK: NEW STRUCTURE_____✓_____ ALTERATIONS_____

APPLICABLE CODES:

BUILDING:	2017 OHIO BUILDING CODE - 2015 IBC 2019 RESIDENTIAL CODE OF OHIO - 2018 IRC
MECHANICAL:	2017 OHIO MECHANICAL CODE - 2015 IMC
PLUMBING:	2017 OHIO PLUMBING CODE - 2015 IPC
ELECTRICAL:	2017 OHIO ELECTRICAL CODE - 2017 NFPA 70
FIRE:	2017 OHIO FIRE CODE - 2015 IFC
FUEL GAS:	2015 OHIO FUEL GAS CODE - 2015 IFGC
ENERGY:	2017 OHIO ENERGY CODE - 2012 IECC
ACCESSIBILITY:	2009 OHIO ACCESSIBILITY CODE/ 2009 ICC/ANSI A117.1

ACCESSIBILITY REQUIREMENTS:

ACCESSIBLE TO THE PHYSICALLY HANDICAPPED IN ACCORDANCE WITH 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN

NUMBER OF STORIES ABOVE GRADE: 1 STORY (TOTAL STORY OF 1)

CONSTRUCTION CLASSIFICATION: VB - NON SPRINKLED

ALLOWABLE STORIES, HEIGHT, & AREA: GROUP A & M — 1, 40 FT, & 6,000 SQFT

BUILDING STORIES, HEIGHT & AREA: 1, 23 FT, & 2,528 SQFT

BUILDING OCCUPANCY USE GROUP:

GROUP A-III - EXHIBIT GALLERY & MUSEUM	1,070 SQFT
GROUP M - CAMP STORE	1,066 SQFT
GROUP U - UTILITY	392 SQFT

OCCUPANT LOAD:

1,070 /30 =	36	ASSEMBLY - EXHIBIT GALLERY
703 /60 =	12	MERCANTILE - SALES
363 /300 =	2	MERCANTILE - OFFICE & STORAGE
262 /300 =	1	MECHANICAL EQUIPMENT ROOM
131 /300 =	1	UTILITIES
	52	TOTAL (26 MALE/26 FEMALE)

MINIMUM PLUMBING FIXTURES

CLASSIFICATION	WATER CLOSET	LAVATORIES	OTHER
ASSEMBLY - EXHIBITION HALL	MALE | FEMALE	MALE | FEMALE	
NUMBERS OF REQUIRED	1 PER 125 | 1 PER 65	1 PER 200	1 SERVICE SINK
NUMBERS OF PROVIDED	1 | 1	1 PER BATHROOM	1 SERVICE SINK

FIRE PROTECTION:

DEMISING WALL -	0 HOUR
SALES / NON-SALES WALL -	0 HOUR
SALES / NON-SALES DOOR -	0 HOUR
CEILING -	0 HOUR
COLUMNS -	0 HOUR
SERVICE CORRIDOR WALL	0 HOUR
SERVICE CORRIDOR DOOR	0 HOUR
SPRINKLERED:	NON SPRINKLERED

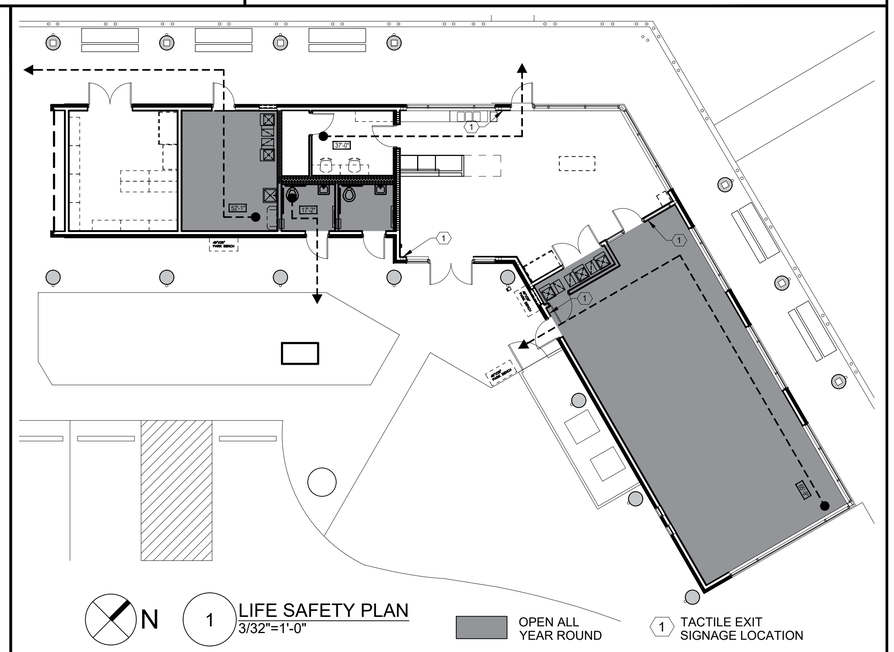
SMOKE EVACUATION SYSTEM: N/A

FLAME SPREAD REQUIREMENTS FOR GROUP 'A-III' NON SPRINKLERED
EXIT ENCLOSURES AND EXIT PASSAGEWAYS: MIN. CLASS A
CORRIDORS: MIN. CLASS A
ROOMS AND ENCLOSED SPACES: MIN. CLASS C

EGRESS REQUIREMENTS:

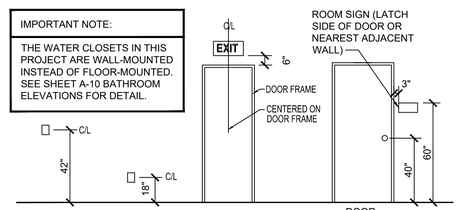
(2) EXITS REQUIRED - (3) EXITS PROVIDED) (SEE LIFE SAFETY PLAN
TRAVEL DISTANCE: 75' MAX.
EGRESS PATHWAY: 36" CLEAR

NOTE: N/A



IMPORTANT NOTE:

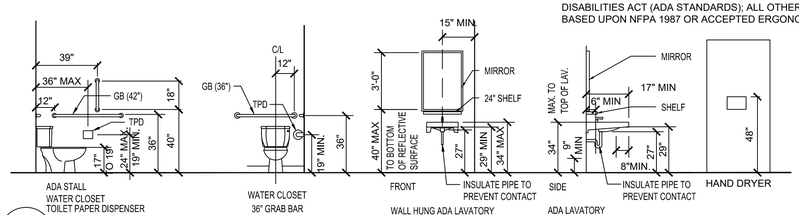
THE WATER CLOSETS IN THIS PROJECT ARE WALL-MOUNTED INSTEAD OF FLOOR-MOUNTED. SEE SHEET A-10 BATHROOM ELEVATIONS FOR DETAIL.



GENERAL NOTES:
FOR GENERAL MOUNTING HEIGHTS DIAGRAMS

1. GRAB BAR LOCATIONS ARE SHOWN ON FLOOR PLANS
2. ALL ITEMS SHOWN (EXCEPT SIGNAGE) SHALL BE ATTACHED DIRECTLY TO STUDS OR SOLID BLOCKING AS PER BUILDING CODE REQUIREMENTS
3. FOR MOUNTING HEIGHTS NOT INDICATED HERE OR ELSEWHERE IN THE DOCUMENTS, CONSULT THE ARCHITECT
4. IF CONFLICT ARISES BETWEEN THESE GENERAL MOUNTING HEIGHTS WITH MOUNTING HEIGHTS SHOWN ELSEWHERE IN THE DRAWINGS, OR WITH FIELD CONDITIONS OR OTHER INSTALLED EQUIPMENT IT SHALL BE BROUGHT TO ATTENTION OF THE ARCHITECT AND INSTALLED AS PER ARCHITECT'S DIRECTIVE
5. DIMENSIONAL PRIORITY
   A. ALIGN AS INDICATED
   B. LOCATE AS PER DIMENSION
   C. LOCATE AS PER MAX. DIMENSION
   D. LOCATED ANYWHERE BETWEEN MIN. & MAX. DIMENSION
   E. LOCATE AS PER MINIMUM DIMENSION6.
6. THE PLUMBING FIXTURE DIAGRAMS ARE SCHEMATIC ONLY. THE FIXTURE TYPES SPECIFIED/USED MAY DIFFER FROM THE DIAGRAMS
7. ACTUAL CONDITIONS MAYBE OPPOSITE HAND FROM THOSE SHOWN

NOTE: ADA MOUNTING HEIGHTS BASED UPON AMERICANS WITH DISABILITIES ACT (ADA STANDARDS); ALL OTHER MOUNTING HEIGHTS ARE BASED UPON NFPA 1987 OR ACCEPTED ERGONOMETRIC STANDARDS.



2 STANDARD MOUNTING HEIGHTS
1/4"= 1'-0"

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NEW CAMP STORE & NATURE CENTER
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LIFE SAFETY / GENERAL INFORMATION

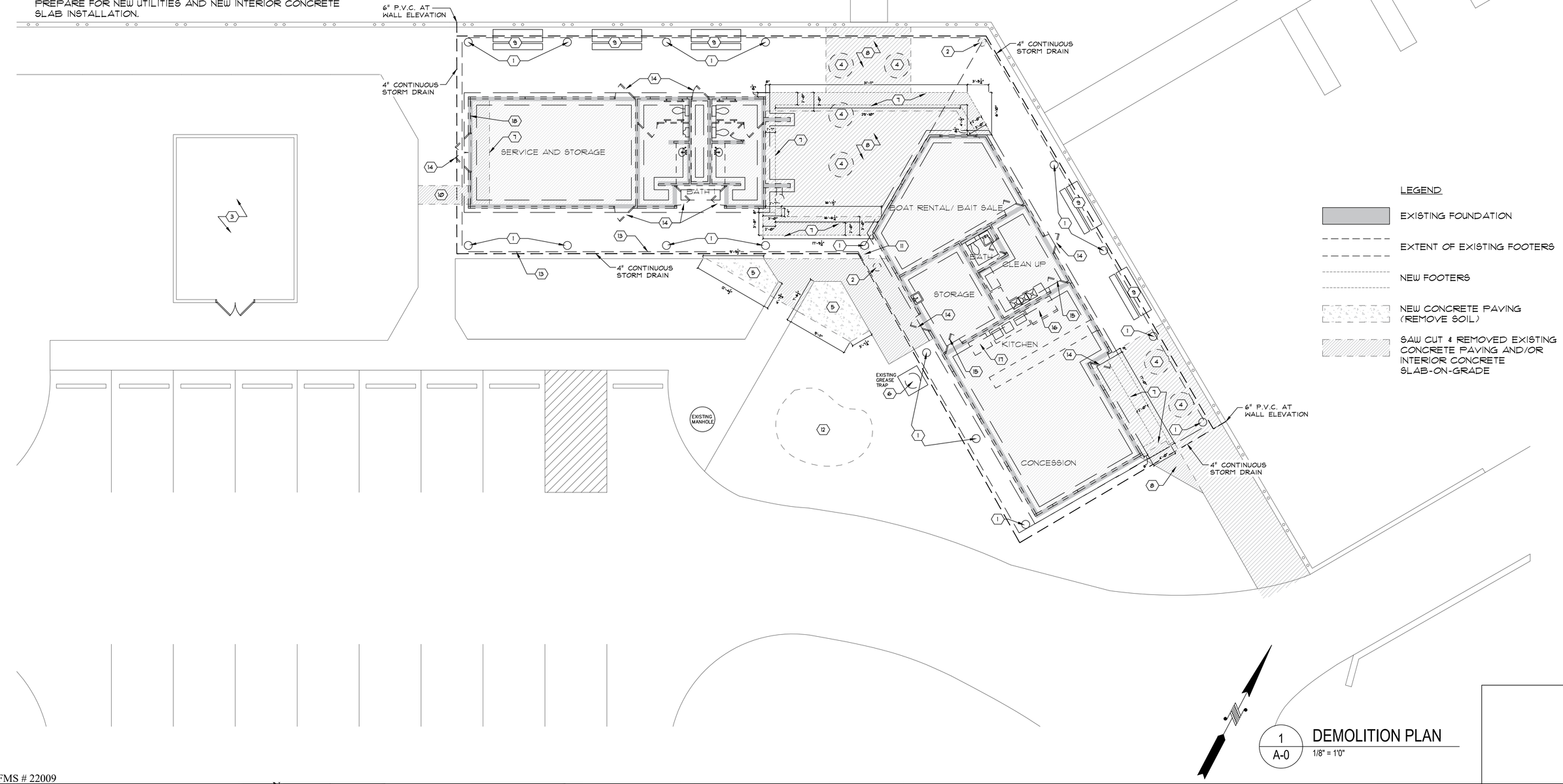
L-0

GENERAL NOTES

A. ALL EXISTING WALLS TO BE DEMOLISHED U.N.O.
B. ALL EXISTING FURNISHING AND FIXTURES TO BE DEMOLISHED AND REMOVED U.N.O.
C. ALL ROOFS TO BE REMOVED. ALL ROOF SUPPORT COLUMNS TO REMAIN U.N.O.
D. ALL EXISTING FOUNDATIONS TO REMAIN U.N.O.
E. DEMO FOUNDATION AS NEEDED FOR NEW CONCRETE FLOOR.
F. ALL PIERS, DOCKS, RAILINGS, AND ASSOCIATED WATERFRONT EQUIPMENT TO REMAIN. THERE IS TO BE NO WORK ON OR MATERIALS STORED ON THE DOCKS
G. ALL PAVING ON SITE TO REMAIN U.N.O.
H. SAW CUT JOINT PROVIDE BLOCKING AS NEEDED TO SUPPORT EXISTING CONCRETE.
I. SELECTIVELY DEMOLISH & REMOVE EXISTING CONCRETE SLAB ON GRADE WITHIN EXTENTS OF EXISTING BUILDING TO TYPICAL FOUNDATION WALLS. EXTENT OF DEMOLITION INCLUDES EXISTING EXTERIOR CONCRETE PAVING BETWEEN EXISTING BUILDINGS. PREPARE FOR NEW UTILITIES AND NEW INTERIOR CONCRETE SLAB INSTALLATION.

CODED NOTES

1. EXISTING STRUCTURAL COLUMNS AND COVERINGS TO REMAIN
2. STRUCTURAL COLUMN INCLUDING REINFORCING TO BE REMOVED TO 4" BELOW GRADE
3. EXISTING FUEL TANK AND FENCE TO REMAIN CLEAR. DO NOT STORE MATERIALS INSIDE OR AGAINST EXISTING FENCE
4. REMOVE EXISTING CONCRETE SEATS, DEMO TO 4" BELOW GRADE INCLUDING REINFORCING
5. REMOVE SOIL AS NEEDED FOR NEW PAVEMENT
6. EXISTING GREASE TRAP TO BE DEMOLISHED AND REMOVED.
7. NEW FOOTER- SEE STRUCTRUAL
8. SELECTIVELY DEMOLISH & REMOVE THE EXISTING CONCRETE PAVING FROM THE EXISTING BUILDING TO FACE OF EXISTING CONCRETE WATERWAY WALL. DEMOLITION EXTENDS FULL LENGTH TO EXISTING BOAT RAMP. PREPARE FOR NEW SLAB INSTALLATION.
9. EXISTING PICNIC TABLE TO REMAIN. REFINISH EXISTING WOOD COMPONENTS TO MATCH NEW GLULAM BEAM FINISH. PAINT EXISTING STEEL FRAME COMPONENTS TO MATCH NEW METAL ROOFING COLOR.
10. REMOVE EXISTING CONCRETE FOR REFRIGERANT PIPING.
11. REMOVE EXISTING CONCRETE AS NEEDED AROUND COLUMN TO CONNECT NEW DRAIN PIPE TO EXISTING STORM DRAIN, EXTEND STORM DRAIN AS NEEDED.
12. REMOVE EXISTING DIRT MOUND BOAT & SIGN, GRADE TO MATCH ADJACENT.
13. REMOVE & SALVAGE TWO (2) EXISTING EAVE-MOUNTED LIGHT FIXTURES. PRESENT TO ODNR.
14. REMOVE & SALVAGE EXISTING EXTERIOR DOOR & HARDWARE. PRESENT TO ODNR.
15. REMOVE & SALVAGE EXISTING INTERIOR SOLID WOOD DOOR & HARDWARE. PRESENT TO ODNR.
16. REMOVE & SALVAGE EXISTING COMMERCIAL FREEZER UNIT. PRESENT TO ODNR.
17. REMOV & SALVAGE EXISTING ANSUL SYSTEM HOOD & ROOFTOP EQUIPMENT. PRESENT TO ODNR.
18. REMOVE & SALVAGE EXISTING VEEDER-ROOT CABINET & SYSTEM. PRESENT TO ODNR.



LEGEND

- EXISTING FOUNDATION
- EXTENT OF EXISTING FOOTERS
- NEW FOOTERS
- NEW CONCRETE PAVING (REMOVE SOIL)
- SAW CUT & REMOVED EXISTING CONCRETE PAVING AND/OR INTERIOR CONCRETE SLAB-ON-GRADE

1 / A-0 DEMOLITION PLAN
1/8" = 1'0"

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BUCK CREEK STATE PARK
NEW CAMP STORE & NATURE CENTER
DNR-230014.03

DEMOLITION PLAN

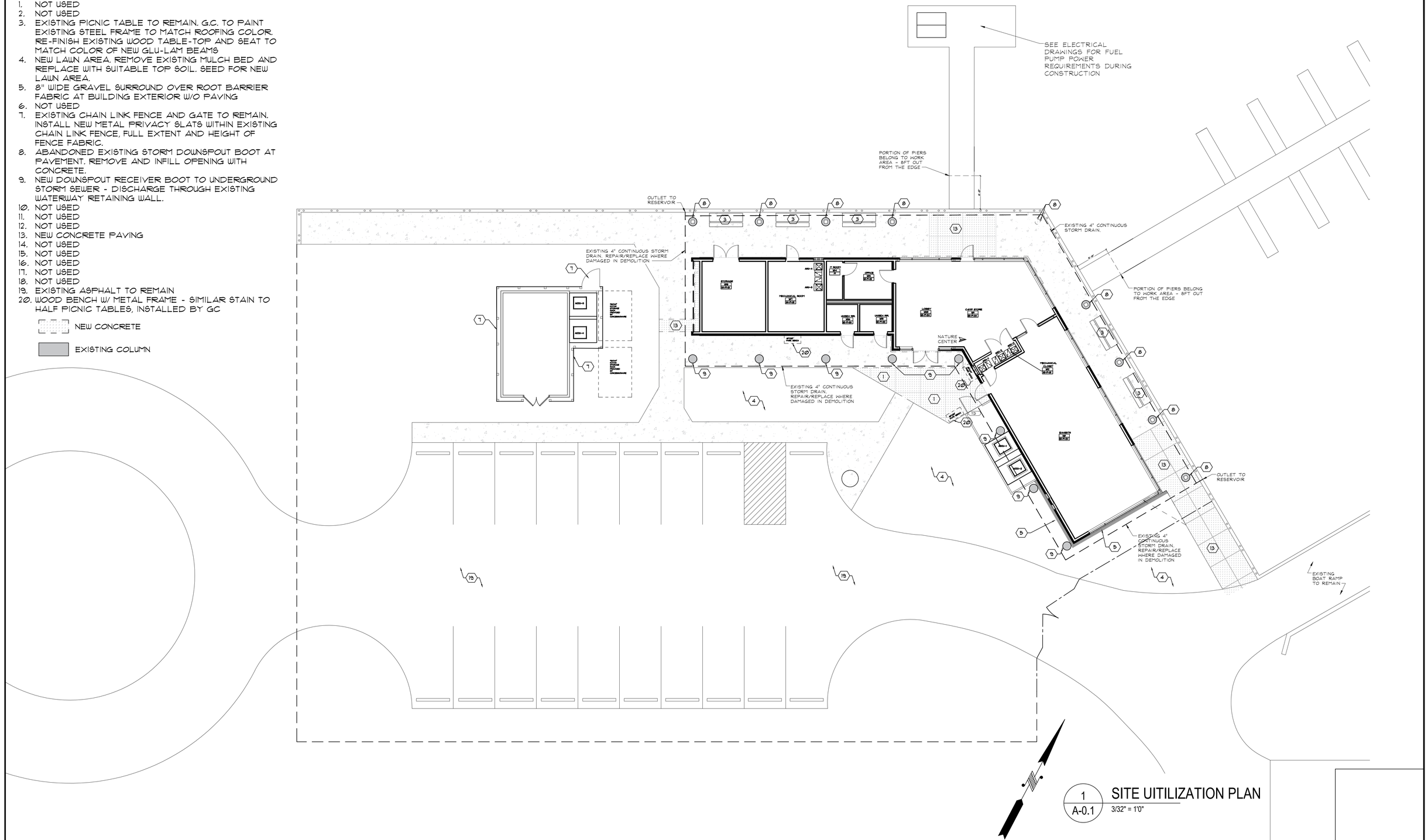
A-0

CODED NOTES

1. NOT USED
2. NOT USED
3. EXISTING PICNIC TABLE TO REMAIN. G.C. TO PAINT EXISTING STEEL FRAME TO MATCH ROOFING COLOR. RE-FINISH EXISTING WOOD TABLE-TOP AND SEAT TO MATCH COLOR OF NEW GLU-LAM BEAMS
4. NEW LAWN AREA. REMOVE EXISTING MULCH BED AND REPLACE WITH SUITABLE TOP SOIL. SEED FOR NEW LAWN AREA.
5. 8" WIDE GRAVEL SURROUND OVER ROOT BARRIER FABRIC AT BUILDING EXTERIOR W/O PAVING
6. NOT USED
7. EXISTING CHAIN LINK FENCE AND GATE TO REMAIN. INSTALL NEW METAL PRIVACY SLATS WITHIN EXISTING CHAIN LINK FENCE, FULL EXTENT AND HEIGHT OF FENCE FABRIC.
8. ABANDONED EXISTING STORM DOWNSPOUT BOOT AT PAVEMENT. REMOVE AND INFILL OPENING WITH CONCRETE.
9. NEW DOWNSPOUT RECEIVER BOOT TO UNDERGROUND STORM SEWER - DISCHARGE THROUGH EXISTING WATERWAY RETAINING WALL.
10. NOT USED
11. NOT USED
12. NOT USED
13. NEW CONCRETE PAVING
14. NOT USED
15. NOT USED
16. NOT USED
17. NOT USED
18. NOT USED
19. EXISTING ASPHALT TO REMAIN
20. WOOD BENCH W/ METAL FRAME - SIMILAR STAIN TO HALF PICNIC TABLES, INSTALLED BY GC

NEW CONCRETE

EXISTING COLUMN



1 / A-0.1 SITE UITILIZATION PLAN
3/32" = 1'0"

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BUCK CREEK STATE PARK
NEW CAMP STORE & NATURE CENTER
DNR-230014.03

SITE UTILIZATION PLAN

A-0.1

GENERAL NOTES

1. FOR DOOR TYPES & SCHEDULE, REFER TO SHEET A-13
2. FURNITURE ACCORDING TO ALTERNATE FFE SCHEDULE ON SHEET A-12
3. ALL WALLS ARE NEW

CODED NOTES

1. NEW CONCRETE PAVING
2. TRIM EXISTING CONCRETE PAVING AS REQUIRED
3. EXISTING PICNIC TABLE TO REMAIN, STAIN TO MATCH NEW GLUE-LAM
4. EXISTING MANHOLE
5. NEW SECTION OF CHAIN-LINK FENCING
6. NEW POST IN CONCRETE FOUNDATION
7. ALL CHAIN-LINK FENCING SHALL HAVE HDPE VERTICAL PRIVACY SLATS, COLOR TO BE CONFIRMED BY ARCHITECT
8. CAP EXISTING DOWNSPOUT CONNECTION AT GRADE
9. DOWNSPOUT CONNECTING TO EXISTING DRAIN PIPE
10. DOWNSPOUT CONNECT TO NEW DRAIN PIPE TO EXISTING STORM DRAIN, EXTEND STORM DRAIN AS NEEDED
11. FINAL GRADE & SEED AREA
12. DARK BRONZE ANODIZED BRAKE METAL OVER 2" POLYISOCYANURATE.
13. PEDESTAL-MOUNTED DOOR ACTIVATOR BUTTON
14. WALL-MOUNTED EGRESS DOOR OPERATOR ACTIVATION BUTTON
15. WOOD BENCH W/ METAL FRAME - SIMILAR STAIN TO HALF PICNIC TABLES, INSTALLED BY GC

NEW CONCRETE

EXISTING COLUMN

OUTLET TO RESERVOIR

EXISTING 4" CONTINUOUS STORM DRAIN, REPAIR/REPLACE WHERE DAMAGED IN DEMOLITION

EXISTING 4" CONTINUOUS STORM DRAIN.

EXISTING 4" CONTINUOUS STORM DRAIN, REPAIR/REPLACE WHERE DAMAGED IN DEMOLITION

EXISTING 4" CONTINUOUS STORM DRAIN, REPAIR/REPLACE WHERE DAMAGED IN DEMOLITION

OUTLET TO RESERVOIR

1 A-1.1 SITE PLAN

1/8" = 1'0"

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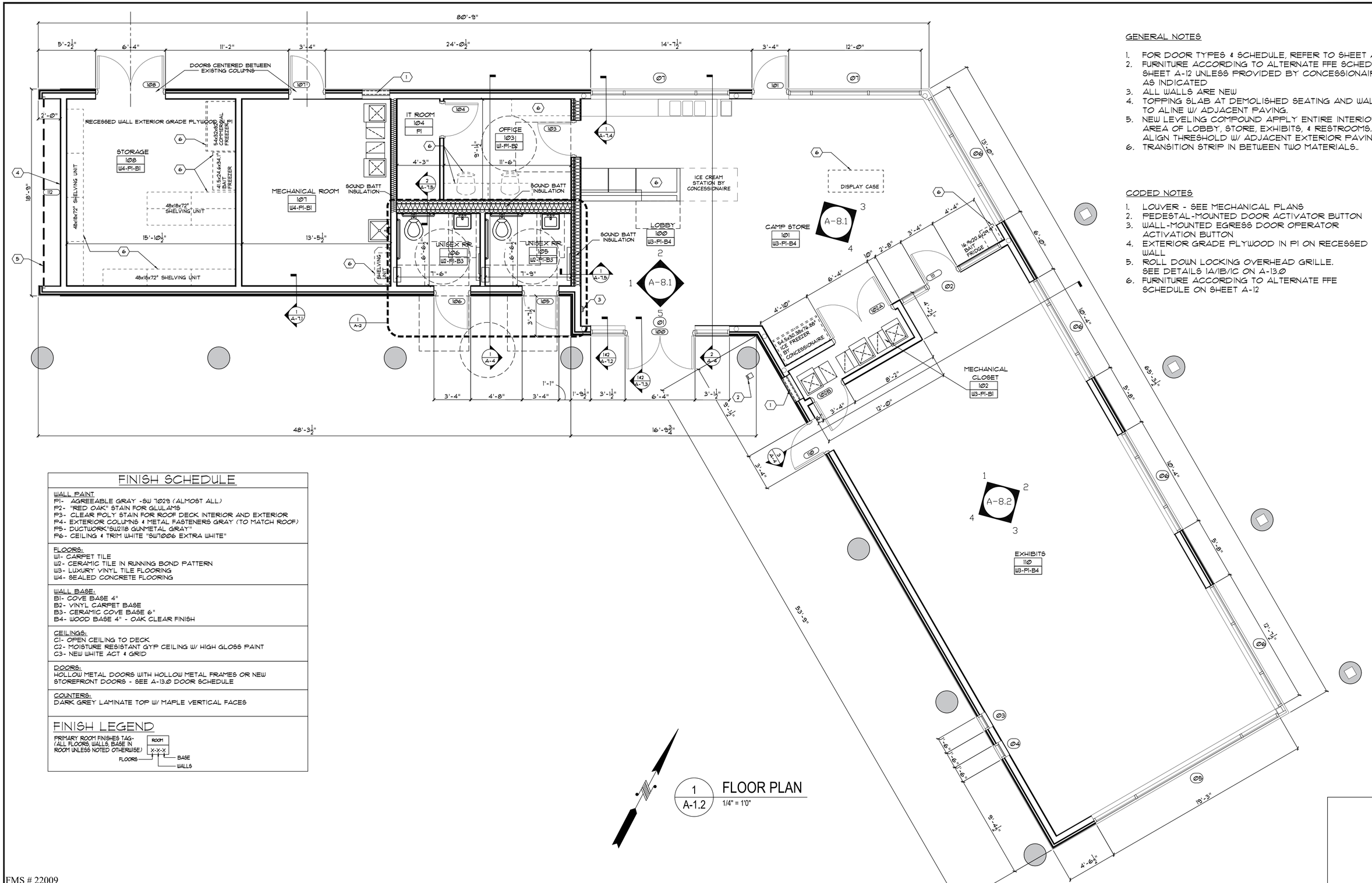
SITE PLAN

A-1.1



GENERAL NOTES

1. FOR DOOR TYPES & SCHEDULE, REFER TO SHEET A-13
2. FURNITURE ACCORDING TO ALTERNATE FFE SCHEDULE SHEET A-12 UNLESS PROVIDED BY CONCESSIONAIRE AS INDICATED
3. ALL WALLS ARE NEW
4. TOPPING SLAB AT DEMOLISHED SEATING AND WALLS TO ALINE W/ ADJACENT PAVING.
5. NEW LEVELING COMPOUND APPLY ENTIRE INTERIOR AREA OF LOBBY, STORE, EXHIBITS, & RESTROOMS. ALIGN THRESHOLD W/ ADJACENT EXTERIOR PAVING
6. TRANSITION STRIP IN BETWEEN TWO MATERIALS..

CODED NOTES

1. LOUVER - SEE MECHANICAL PLANS
2. PEDESTAL-MOUNTED DOOR ACTIVATOR BUTTON
3. WALL-MOUNTED EGRESS DOOR OPERATOR ACTIVATION BUTTON
4. EXTERIOR GRADE PLYWOOD IN P1 ON RECESSED WALL
5. ROLL DOWN LOCKING OVERHEAD GRILLE. SEE DETAILS 1A/1B/1C ON A-13.0
6. FURNITURE ACCORDING TO ALTERNATE FFE SCHEDULE ON SHEET A-12

FINISH SCHEDULE

WALL PAINT
P1- AGREEABLE GRAY -SW 7029 (ALMOST ALL)
P2- "RED OAK" STAIN FOR GLULAMS
P3- CLEAR POLY STAIN FOR ROOF DECK INTERIOR AND EXTERIOR
P4- EXTERIOR COLUMNS & METAL FASTENERS GRAY (TO MATCH ROOF)
P5- DUCTWORK"SW2118 GUNMETAL GRAY"
P6- CEILING & TRIM WHITE "SW1006 EXTRA WHITE"

FLOORS:
W1- CARPET TILE
W2- CERAMIC TILE IN RUNNING BOND PATTERN
W3- LUXURY VINYL TILE FLOORING
W4- SEALED CONCRETE FLOORING

WALL BASE:
B1- COVE BASE 4"
B2- VINYL CARPET BASE
B3- CERAMIC COVE BASE 6"
B4- WOOD BASE 4" - OAK CLEAR FINISH

CEILINGS:
C1- OPEN CEILING TO DECK
C2- MOISTURE RESISTANT GYP CEILING W/ HIGH GLOSS PAINT
C3- NEW WHITE ACT 4 GRID

DOORS:
HOLLOW METAL DOORS WITH HOLLOW METAL FRAMES OR NEW STOREFRONT DOORS - SEE A-13.0 DOOR SCHEDULE

COUNTERS:
DARK GREY LAMINATE TOP W/ MAPLE VERTICAL FACES

FINISH LEGEND

PRIMARY ROOM FINISHES TAG- (ALL FLOORS, WALLS, BASE IN ROOM UNLESS NOTED OTHERWISE)

ROOM
X-X-X
FLOORS — BASE
WALLS

1 / A-1.2 FLOOR PLAN
1/4" = 1'0"

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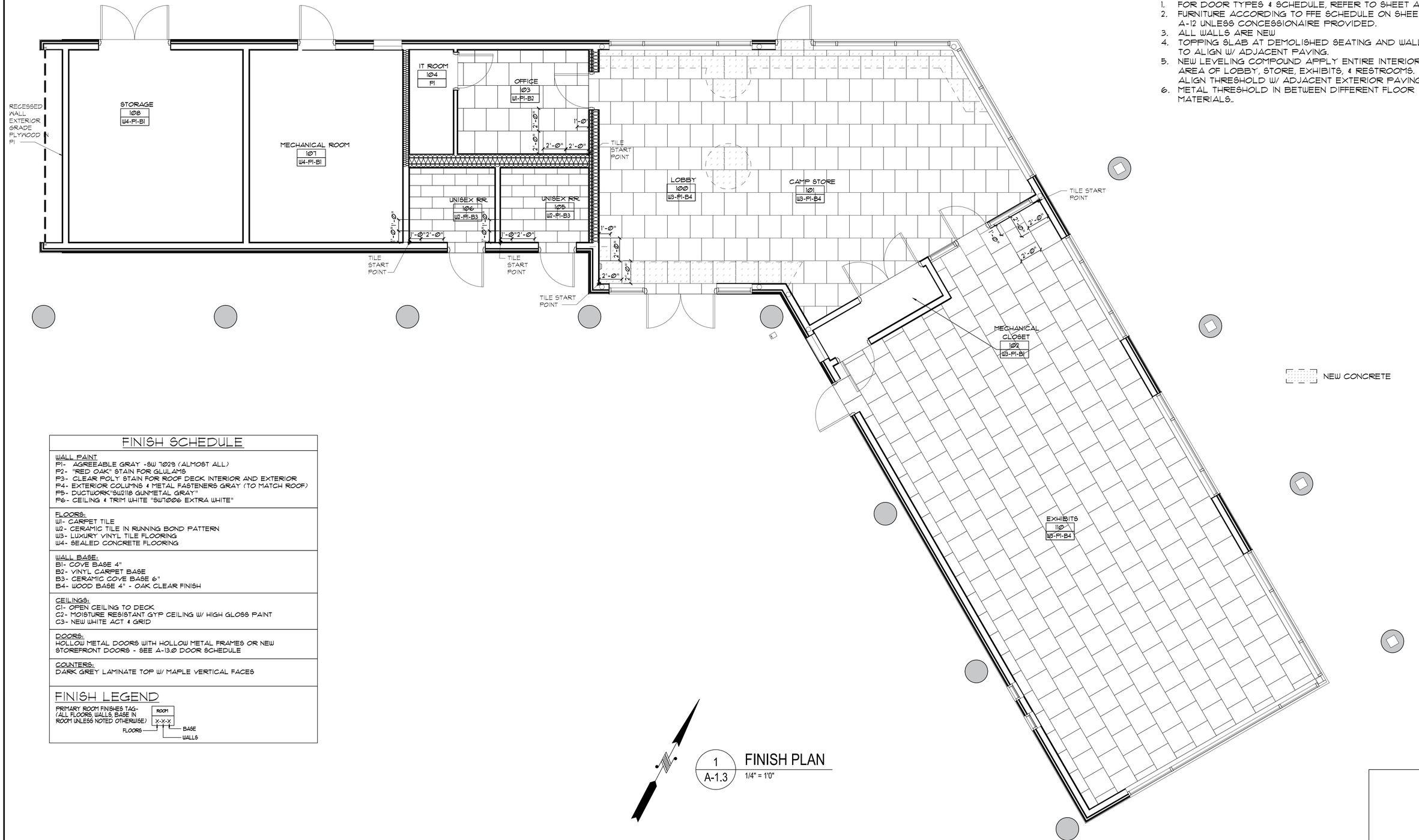
FLOOR PLAN DIMENSIONING

A-1.2



GENERAL NOTES

1. FOR DOOR TYPES & SCHEDULE, REFER TO SHEET A-13
2. FURNITURE ACCORDING TO FFE SCHEDULE ON SHEET A-12 UNLESS CONCESSIONAIRE PROVIDED.
3. ALL WALLS ARE NEW
4. TOPPING SLAB AT DEMOLISHED SEATING AND WALLS TO ALIGN W/ ADJACENT PAVING.
5. NEW LEVELING COMPOUND APPLY ENTIRE INTERIOR AREA OF LOBBY, STORE, EXHIBITS, & RESTROOMS. ALIGN THRESHOLD W/ ADJACENT EXTERIOR PAVING
6. METAL THRESHOLD IN BETWEEN DIFFERENT FLOOR MATERIALS..

FINISH SCHEDULE

WALL PAINT
P1- AGREEABLE GRAY -SW 7029 (ALMOST ALL)
P2- "RED OAK" STAIN FOR GLULAMS
P3- CLEAR POLY STAIN FOR ROOF DECK INTERIOR AND EXTERIOR
P4- EXTERIOR COLUMNS & METAL FASTENERS GRAY (TO MATCH ROOF)
P5- DUCTWORK"SW2118 GUNMETAL GRAY"
P6- CEILING & TRIM WHITE "SW7006 EXTRA WHITE"

FLOORS:
W1- CARPET TILE
W2- CERAMIC TILE IN RUNNING BOND PATTERN
W3- LUXURY VINYL TILE FLOORING
W4- SEALED CONCRETE FLOORING

WALL BASE:
B1- COVE BASE 4"
B2- VINYL CARPET BASE
B3- CERAMIC COVE BASE 6"
B4- WOOD BASE 4" - OAK CLEAR FINISH

CEILINGS:
C1- OPEN CEILING TO DECK
C2- MOISTURE RESISTANT GYP CEILING W/ HIGH GLOSS PAINT
C3- NEW WHITE ACT & GRID

DOORS:
HOLLOW METAL DOORS WITH HOLLOW METAL FRAMES OR NEW STOREFRONT DOORS - SEE A-13.0 DOOR SCHEDULE

COUNTERS:
DARK GREY LAMINATE TOP W/ MAPLE VERTICAL FACES

FINISH LEGEND

PRIMARY ROOM FINISHES TAG- (ALL FLOORS, WALLS, BASE IN ROOM UNLESS NOTED OTHERWISE)

ROOM
X-X-X
FLOORS — BASE — WALLS

1 / A-1.3 FINISH PLAN
1/4" = 1'0"

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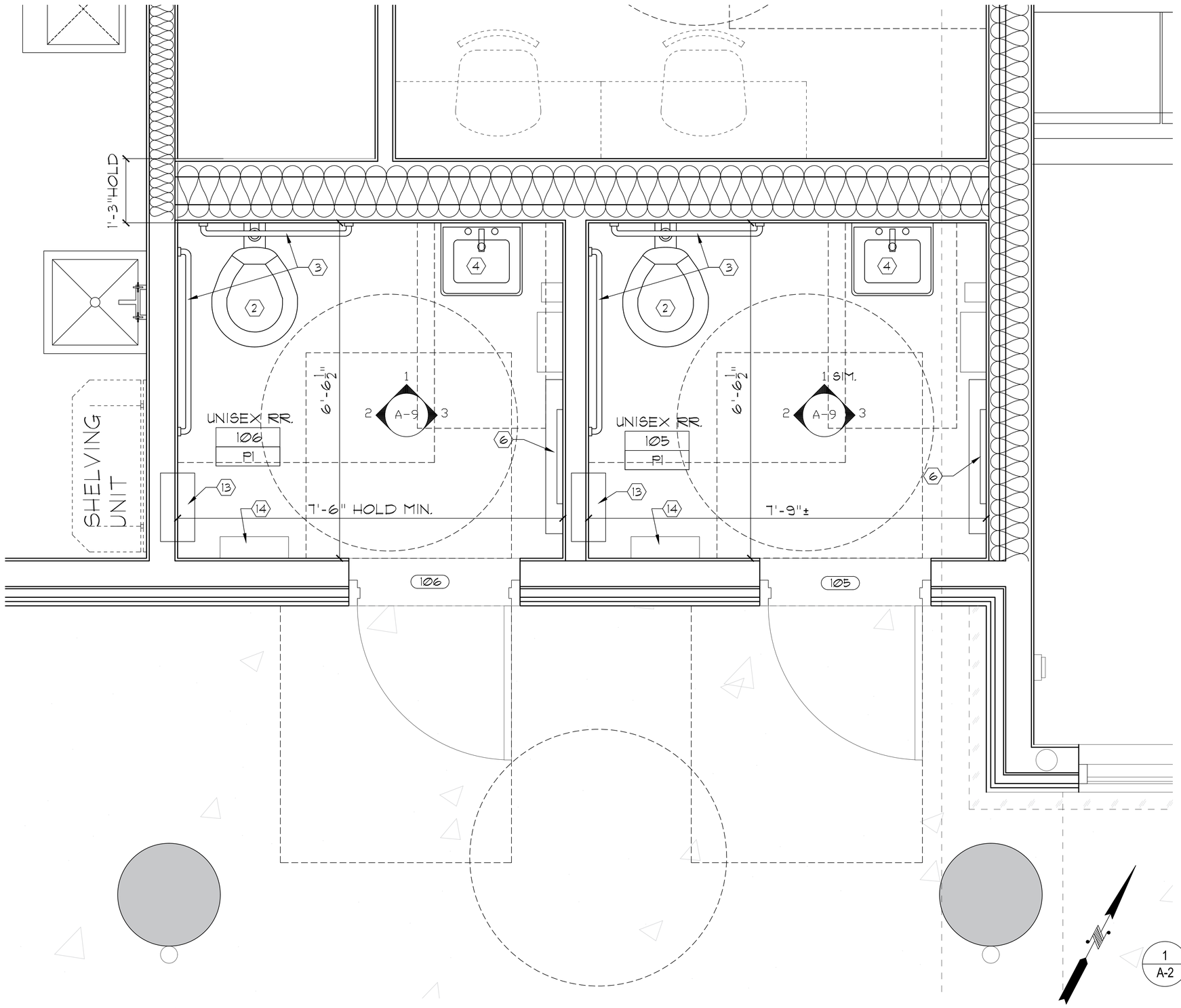
INTERIOR FLOORING FINISH PLAN

A-1.3



CODED NOTES

1. NOT USE
2. ACCESSIBLE TOILET
3. GRAB BARS - 2 HORIZONTAL, 1 VERTICAL
4. WALL HUNG SINK
5. JUMBO TOILET PAPER DISPENSER
6. BABY CHANGING TABLE
7. ELECTRIC HAND DRYER
8. MIRROR CENTERED ON SINK
9. SOAP DISPENSER
10. FLOOR DRAIN, TILE ON CONCRETE SLOPED TOWARD DRAIN
11. COAT HOOK
12. SLAB ON GRADE FLOOR
13. SEMI-RECESSED WASTE RECEPTACLE 15-3/16" WIDE X 8" DEEP W/ 4" PROJECTION INTO ROOM.
14. 16" x 5" WALL MOUNTED SHELF

BATHROOM IDENTIFICATION SIGN:
9"X6" BROWN SIGN WITH ½" MIN. HIGH RAISED WHITE LETTERING & BRAILLE LETTERING BELOW

SEE 4/A-9 FOR BATHROOM SIGN MOUNTING HEIGHT AND LOCATION

1 / A-2 BATHROOM ENLARGED PLAN
1" = 1'0"

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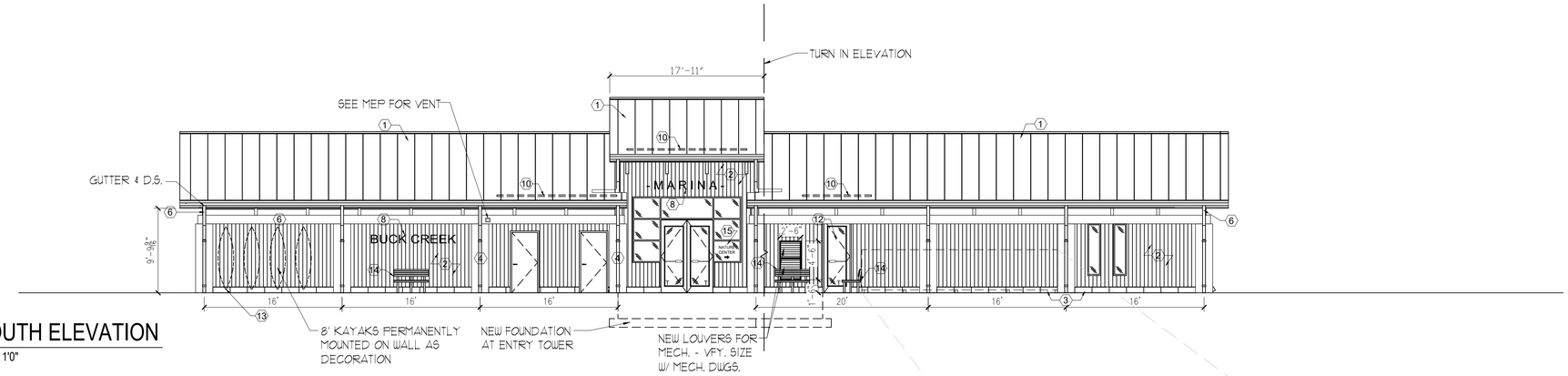
BATHROOM ENLARGED PLAN

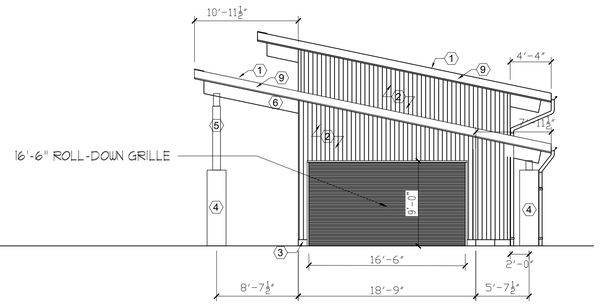
A-2

CODED NOTES:

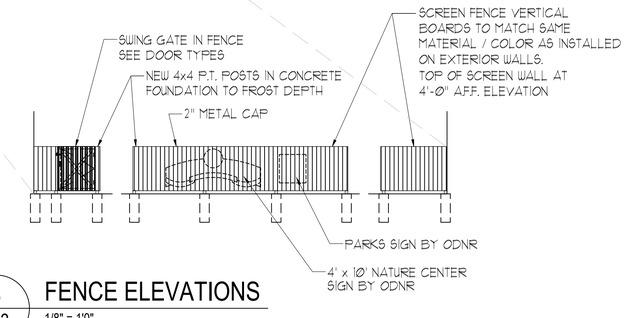
1. NEW METAL ROOFING - GRAY
2. NEW THERMALLY MODIFIED WOOD RAINSCREEN
3. NEW CAST STONE
4. EXISTING CONCRETE COLUMN, PAINTED W/ HIGH- PERFORMANCE TNEMEC COATING - GRAY
5. NEW GLULAM COLUMN
6. NEW GLULAM BEAMS
7. NEW BRAKE METAL TO MATCH STOREFRONT - DARK ANODIZED BRONZE
8. SIGNAGE / LETTERING - 12" HIGH PIN-MOUNTED DARK ANODIZED BRONZE LETTERS
9. METAL FASCIA @ ROOF FACE
10. SNOW GUARDS
11. NEW THERMALLY MODIFIED WOOD FENCING WITH 2" BOARDS
12. "NATURE CENTER" LETTERING ON DOOR
13. BASE BID: PERMANENTLY MOUNT FOUR (4) 8' KAYAKS TO NEW EXTERIOR WALL. CONFIRM KAYAK TYPE AND COLOR WITH ODNR.
14. WOOD BENCH W/ METAL FRAME - SIMILAR STAIN TO HALF PICNIC TABLES, PROVIDED & INSTALLED BY GC
15. 4" VINYL SIGNAGE, MONTSERRAT FONT



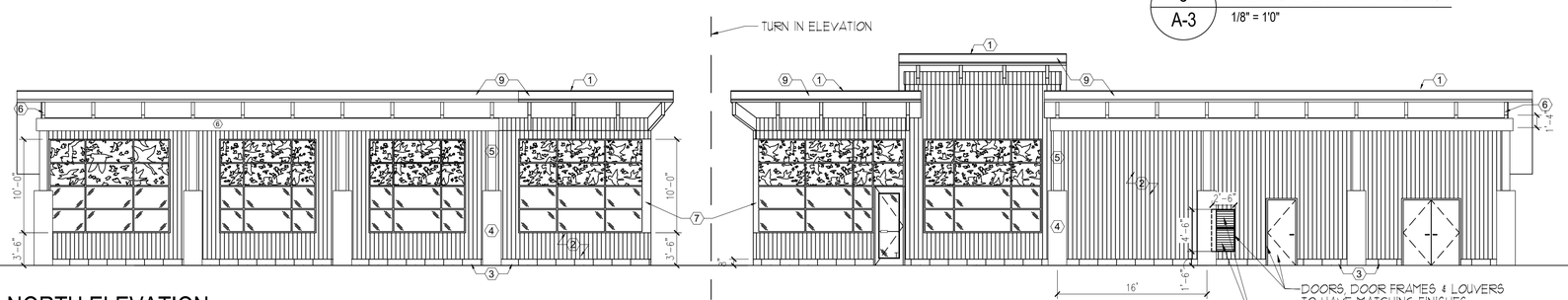
1 A-3 **SOUTH ELEVATION**
1/8" = 1'0"



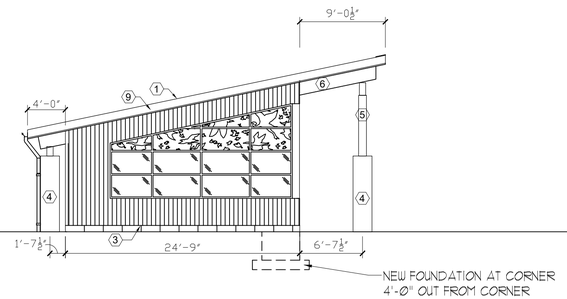
2 A-3 **WEST ELEVATION**
1/8" = 1'0"



5 A-3 **FENCE ELEVATIONS**
1/8" = 1'0"



3 A-3 **NORTH ELEVATION**
1/8" = 1'0"



4 A-3 **EAST ELEVATION**
1/8" = 1'0"

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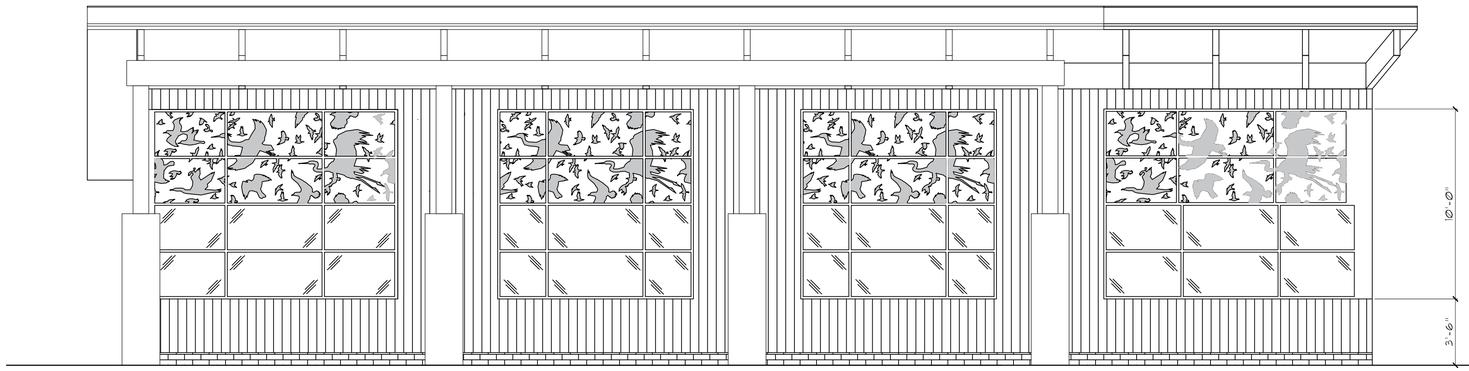
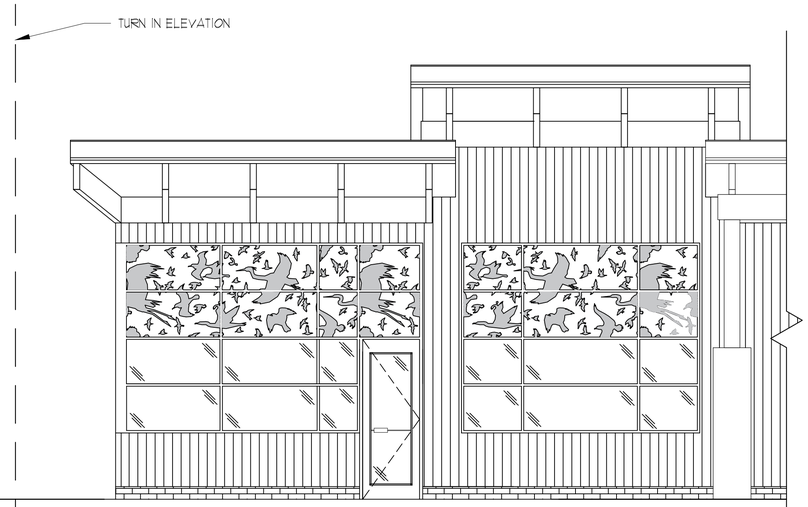
EXTERIOR ELEVATIONS

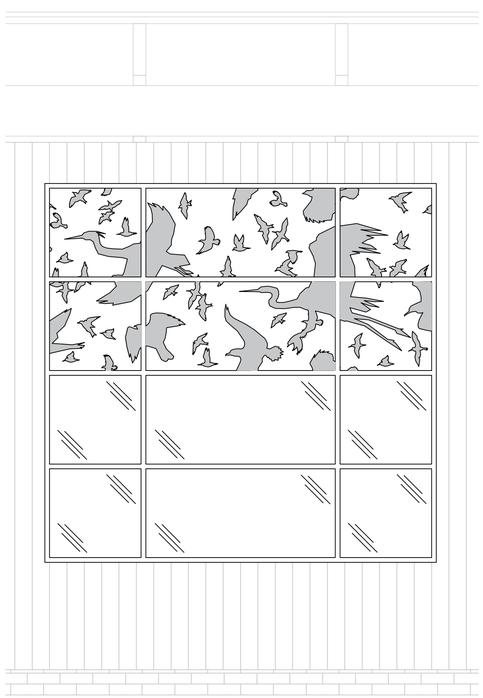
A-3



NORTHEAST

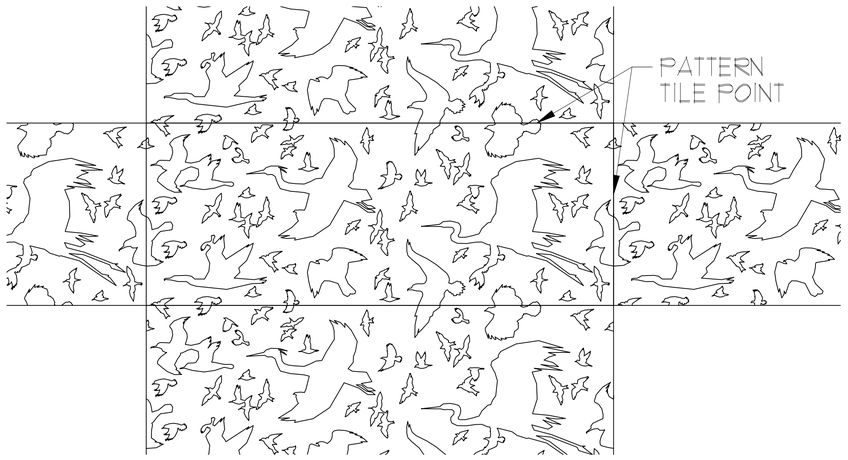


NORTH

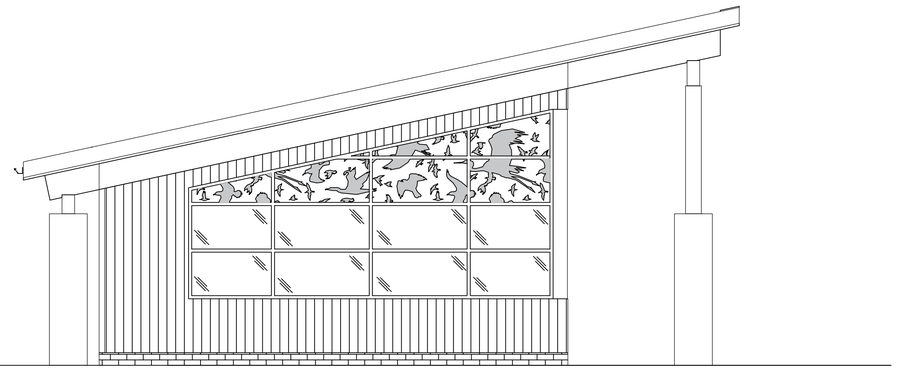


BLOW-UP OF BIRD FLIGHT PATTERN

CERAMIC FRIT PATTERN ON FACE 2 OF STOREFRONT UNITS. COORDINATE EXACT PATTERN W/ ARCHITECT, WHO WILL PROVIDE DRAWINGS TO ASSIST.



FULL TILED PATTERN DETAIL



EAST

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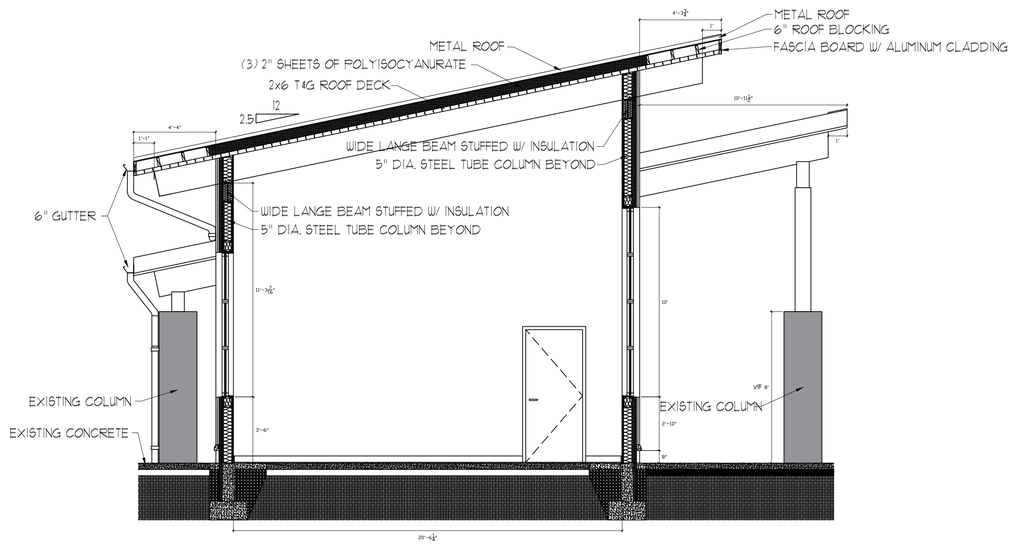
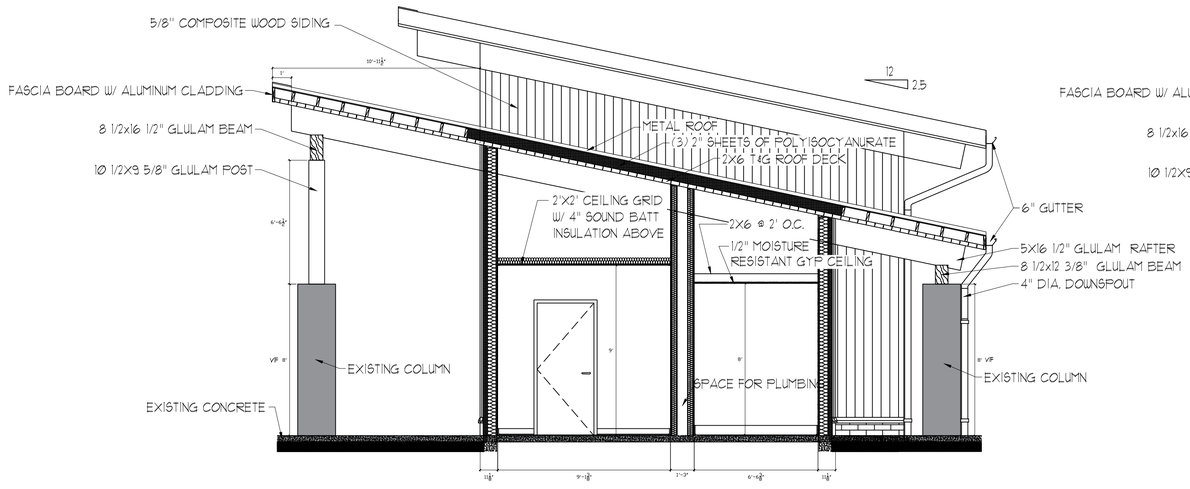
EXTERIOR ELEVATIONS
GLAZING GRAPHICS

A-3.1



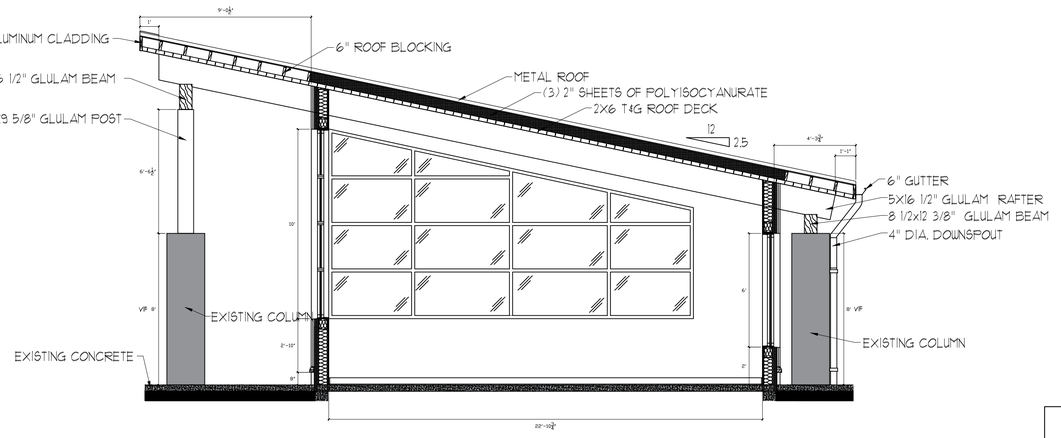
2 / A-4 SECTION B

1/4" = 1'0"



1 / A-4 SECTION A

1/4" = 1'0"



3 / A-4 SECTION C

1/4" = 1'0"

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BUILDING SECTIONS

A-4

ROOF HEIGHTS

MAIN ROOF:	SHORELINE SIDE (PEAK):	18'-9"
	PARKING LOT SIDE:	10'-10"
ENTRY ROOF:	SHORELINE SIDE (PEAK):	22'-8 1/2"
	PARKING LOT SIDE:	16'-1 1/2"

CODED NOTES

1. EXISTING STRUCTURAL COLUMNS
2. NEW STRUCTURAL COLUMN
3. NEW 6" GUTTER
4. NEW 4" DOWNSPOUT
5. NEW 4" DOWNSPOUT FROM HIGH ROOF, SPILLING ON TO LOW ROOF BELOW
6. VALLEY FLASHING BY ROOFING CONTRACTOR

1 A-5 ROOF PLAN
1/8" = 1'0"

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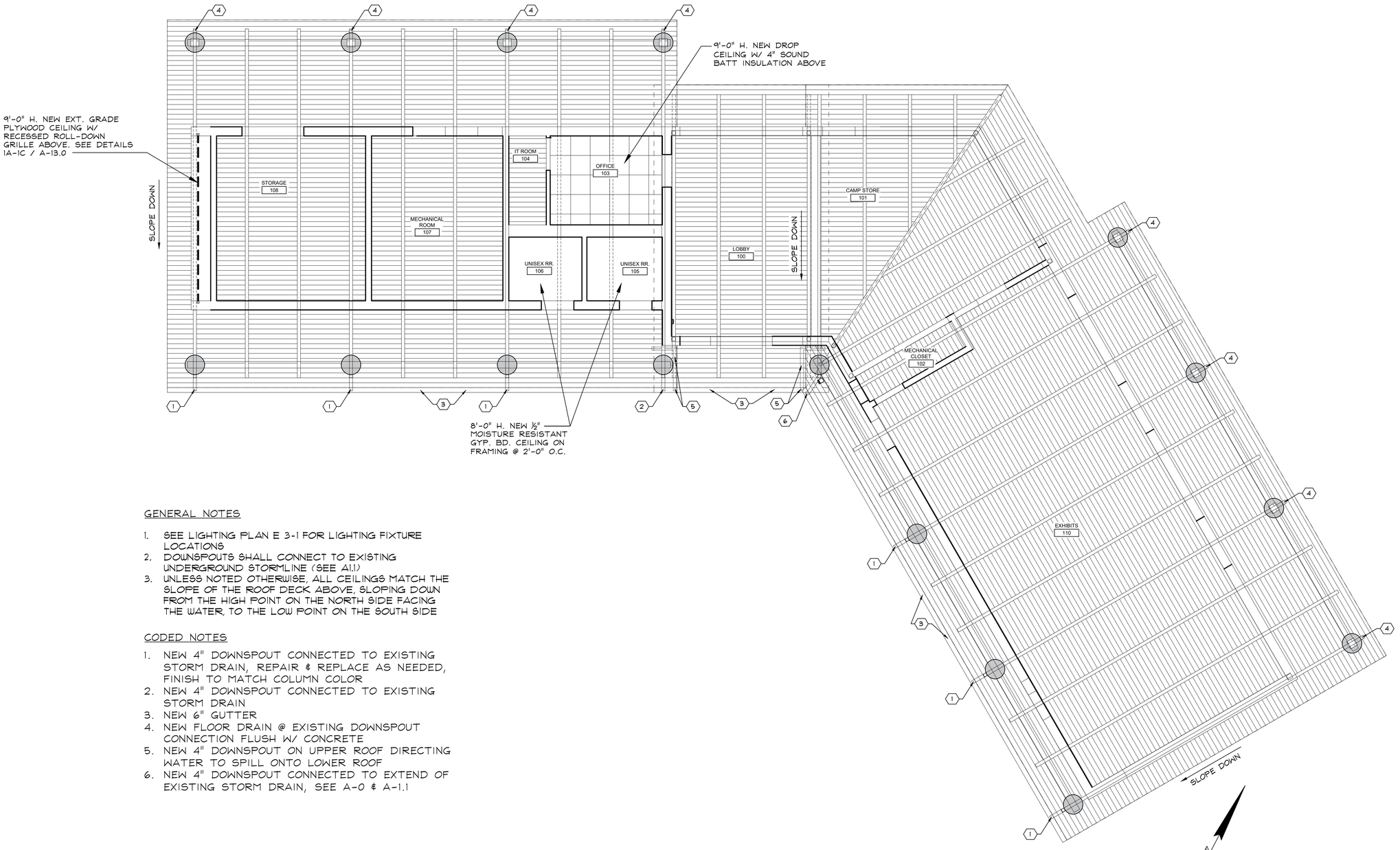
ROOF PLAN

A-5



GENERAL NOTES

1. SEE LIGHTING PLAN E 3-1 FOR LIGHTING FIXTURE LOCATIONS
2. DOWNSPOUTS SHALL CONNECT TO EXISTING UNDERGROUND STORMLINE (SEE A1.1)
3. UNLESS NOTED OTHERWISE, ALL CEILINGS MATCH THE SLOPE OF THE ROOF DECK ABOVE, SLOPING DOWN FROM THE HIGH POINT ON THE NORTH SIDE FACING THE WATER, TO THE LOW POINT ON THE SOUTH SIDE

CODED NOTES

1. NEW 4" DOWNSPOUT CONNECTED TO EXISTING STORM DRAIN, REPAIR & REPLACE AS NEEDED, FINISH TO MATCH COLUMN COLOR
2. NEW 4" DOWNSPOUT CONNECTED TO EXISTING STORM DRAIN
3. NEW 6" GUTTER
4. NEW FLOOR DRAIN @ EXISTING DOWNSPOUT CONNECTION FLUSH W/ CONCRETE
5. NEW 4" DOWNSPOUT ON UPPER ROOF DIRECTING WATER TO SPILL ONTO LOWER ROOF
6. NEW 4" DOWNSPOUT CONNECTED TO EXTEND OF EXISTING STORM DRAIN, SEE A-0 & A-1.1

1 / A-6 REFLECTED CEILING PLAN
3/16" = 1'0"

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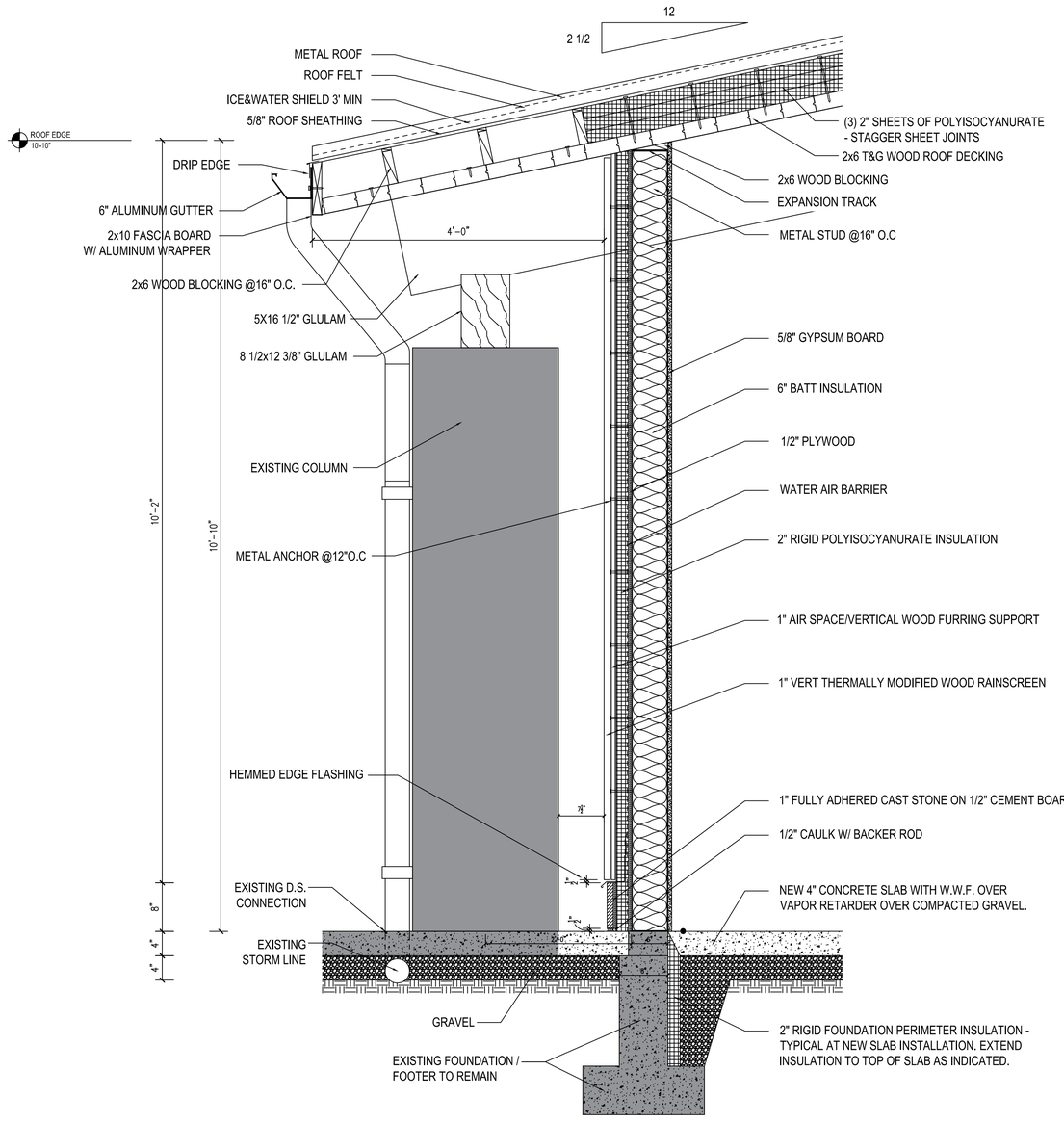
REFLECTED CEILING PLAN

A-6



1 / A-7.1 DETAIL SECTIONS

1" = 1'0"

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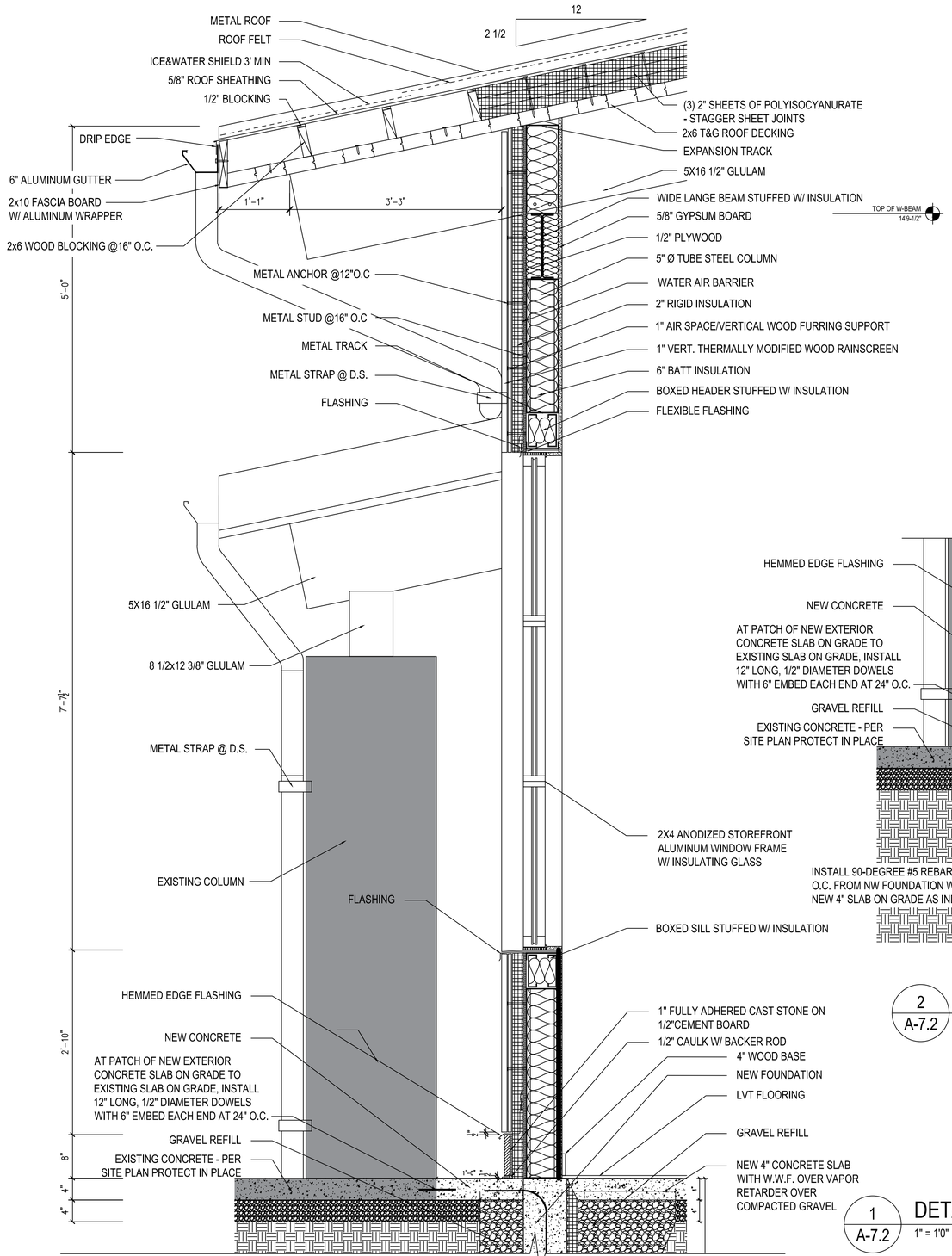
BUCK CREEK STATE PARK
NEW CAMP STORE & NATURE CENTER
DNR-230014.03

DETAIL SECTIONS

A-7.1



2 / A-7.2 DETAIL LOBBY FOUNDATION SECTIONS
1" = 1'0"

1 / A-7.2 DETAIL LOBBY SECTIONS
1" = 1'0"

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general office (614) 297-1020

ENGINEERING
Ohio Department of Natural Resources

DESIGNED BY:	ASD
DRAWN BY:	ASD
CHECKED BY:	ASD
APPROVED BY:	DAY

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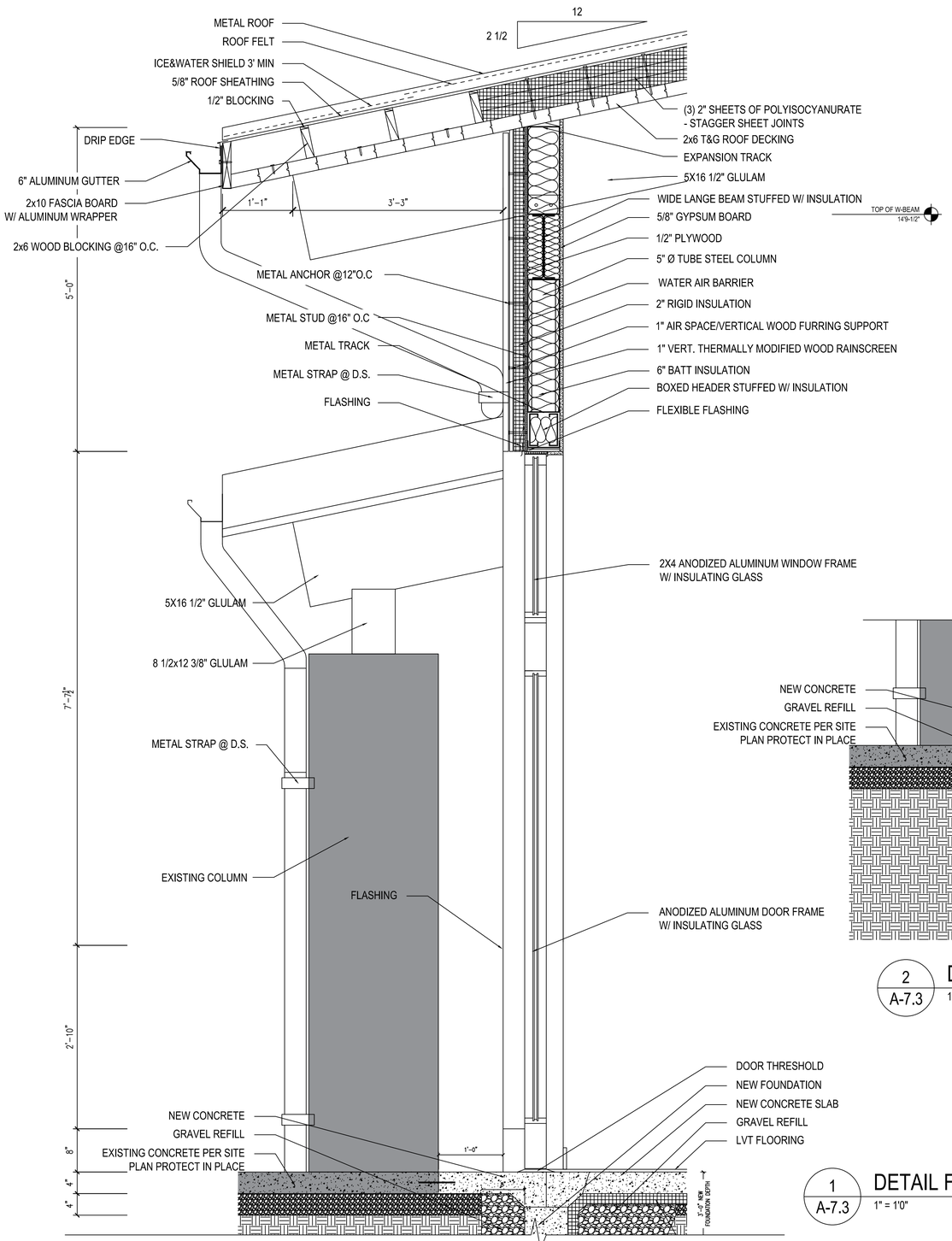
DETAIL SECTIONS

A-7.2



2 / A-7.3 DETAIL FRONT ENTRANCE FOUNDATION SECTIONS
1" = 1'0"

1 / A-7.3 DETAIL FRONT ENTRANCE SECTIONS
1" = 1'0"

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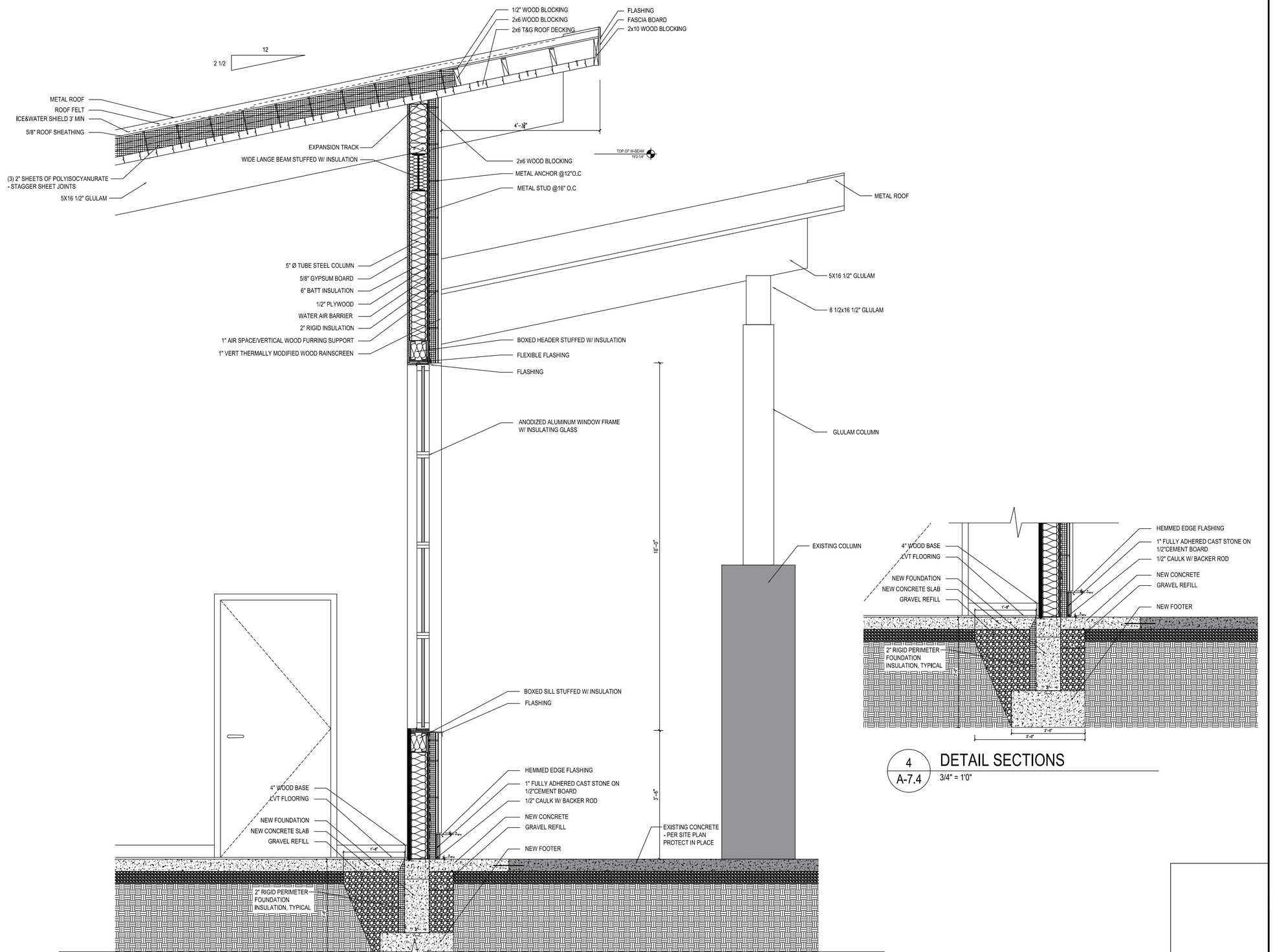
DETAIL SECTIONS

A-7.3



4 DETAIL SECTIONS
A-7.4 3/4" = 1'0"

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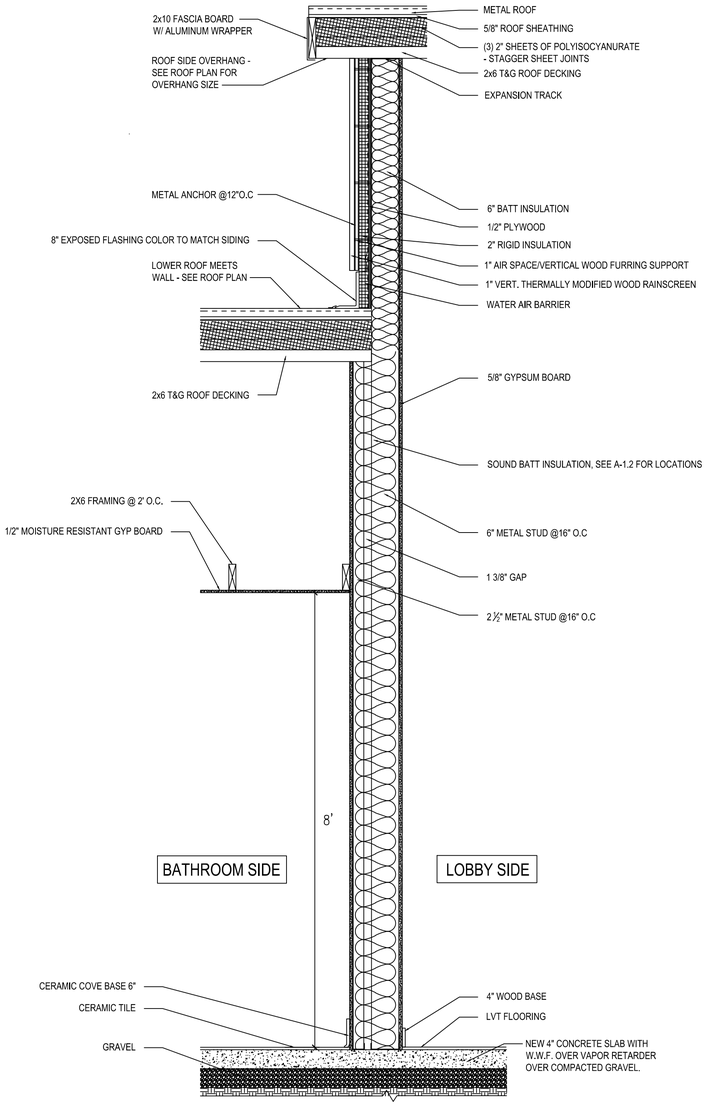
DETAIL SECTIONS

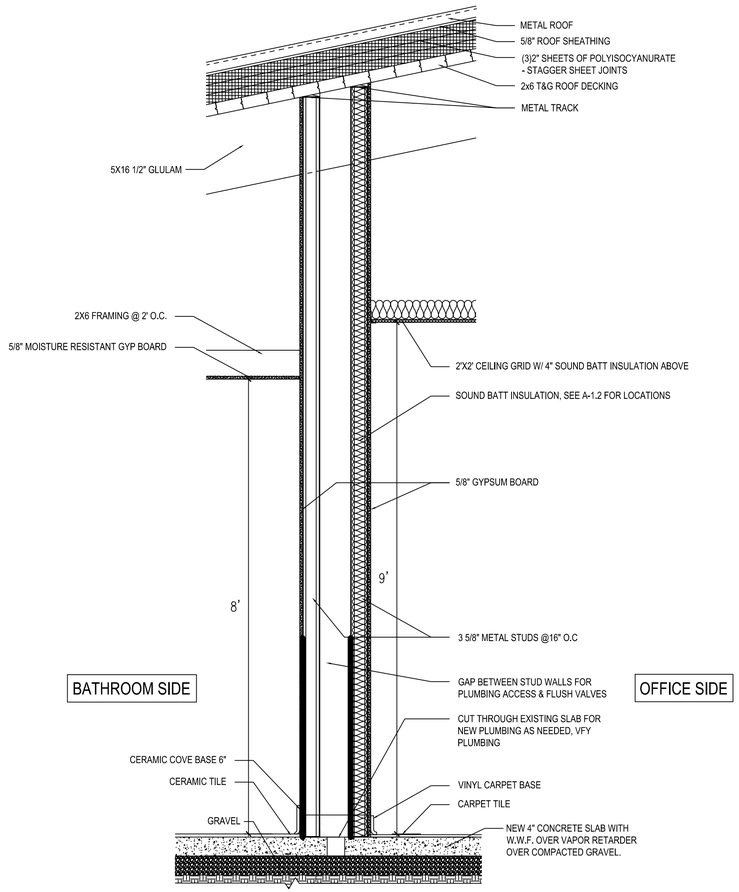
A-7.4



1 A-7.5

DETAIL SECTIONS
INTERIOR / EXTERIOR ENTRY WALL

3/4" = 1'0"



2 A-7.5

DETAIL SECTIONS
BATHROOM WALL CHASE

3/4" = 1'0"

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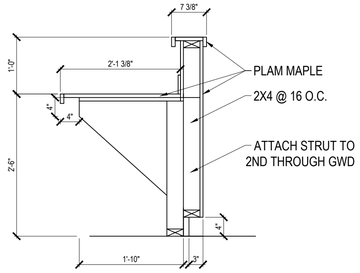
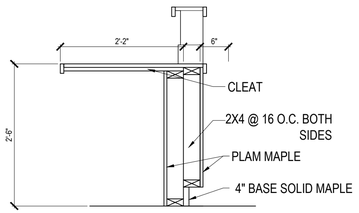
DETAIL SECTIONS

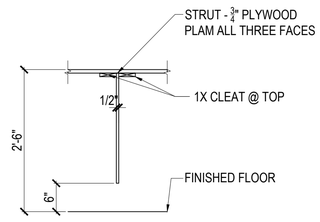
A-7.5



6 A-8.1 **SECTION @ STANDING COUNTER**
3/4" = 1'-0"

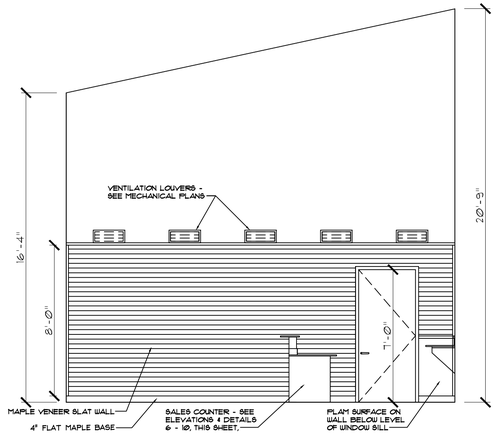


6 A-8.1 **SECTION @ ADAAG COUNTER**
3/4" = 1'-0"

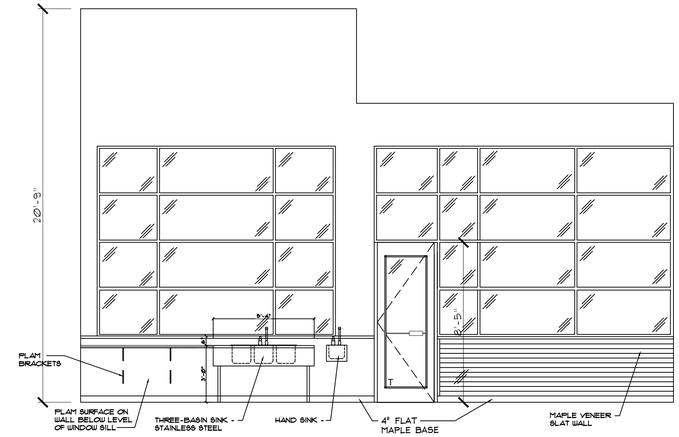


6 A-8.1 **SECTION @ SUPPORT**
3/4" = 1'-0"

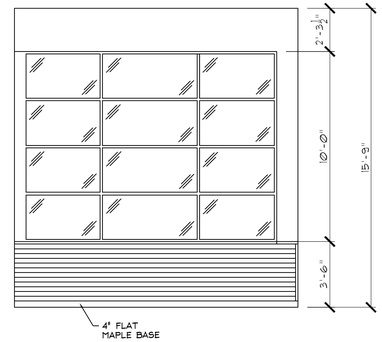
IMPORTANT NOTE - STOREFRONT WINDOW LAYOUT:
IF THERE IS A DISCREPANCY IN THE LAYOUT OR DIMENSIONS OF THE STOREFRONT, THE ROUGH OPENING WIDTH IS CONTROLLED BY THE DIMENSIONS ON A-1.2, AND THE REST OF THE STOREFRONT LAYOUT IS CONTROLLED BY DIMENSIONS ON A-13.1



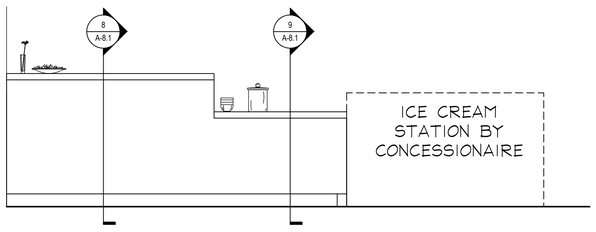
1 A-8.1 **INTERIOR ELEVATION W**
1/4" = 1'0"



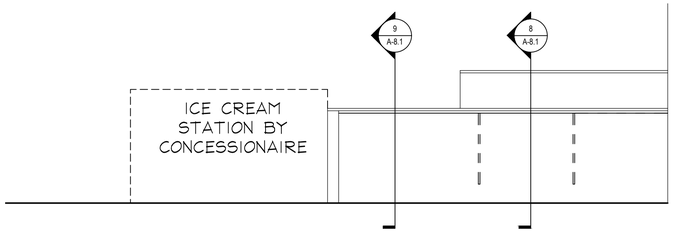
2 A-8.1 **INTERIOR ELEVATION N**
1/4" = 1'0"



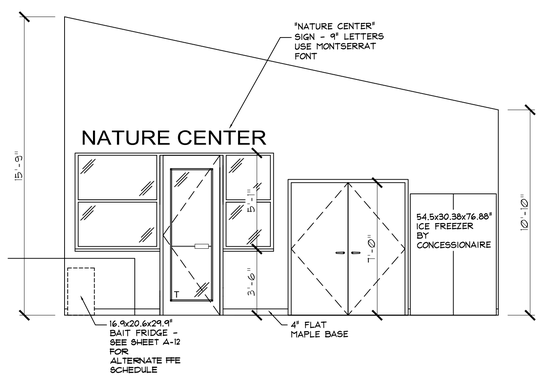
3 A-8.1 **INTERIOR ELEVATION N**
1/4" = 1'0"



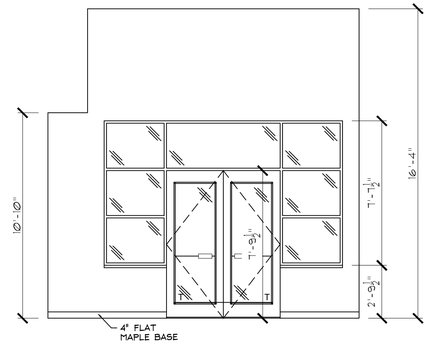
6 A-8.1 **SALES COUNTER FRONT ELEVATION**
1/2" = 1'0"



7 A-8.1 **SALES COUNTER BACK ELEVATION**
1/2" = 1'0"



4 A-8.1 **INTERIOR ELEVATION E**
1/4" = 1'0"



5 A-8.1 **INTERIOR ELEVATION S**
1/4" = 1'0"

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LOBBY INTERIOR ELEVATIONS

A-8.1

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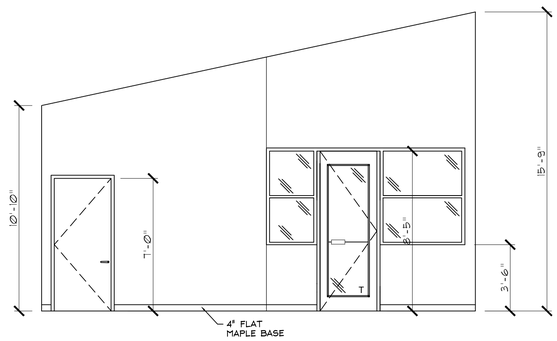
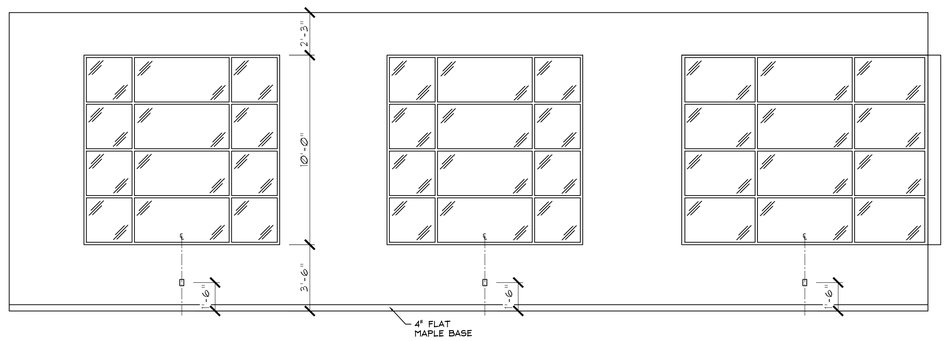
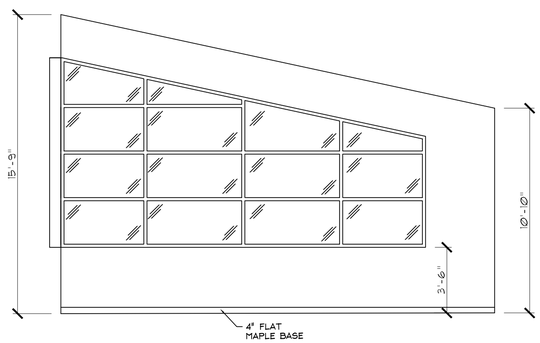
NOTE: CONTRACTOR TO COORDINATE WALL BLOCKING WITH OWNER & EXHIBIT DRAWINGS



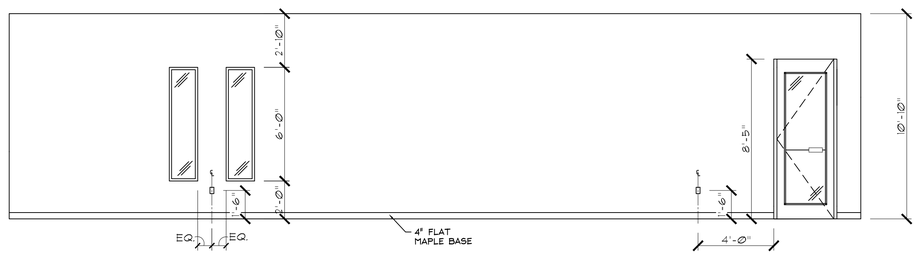
1 A-8.2 INTERIOR ELEVATION W
1/4" = 1'0"



2 A-8.2 INTERIOR ELEVATION N
1/4" = 1'0"



3 A-8.2 INTERIOR ELEVATION E
1/4" = 1'0"



4 A-8.2 INTERIOR ELEVATION S
1/4" = 1'0"

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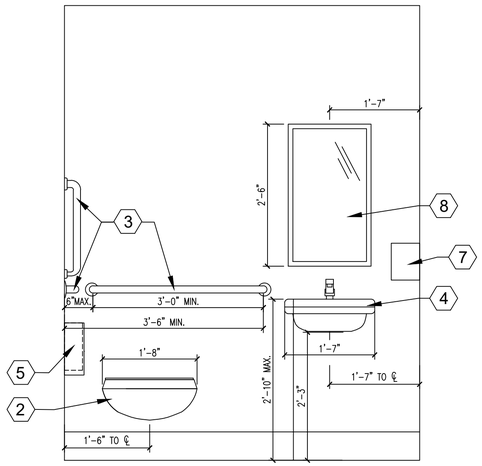
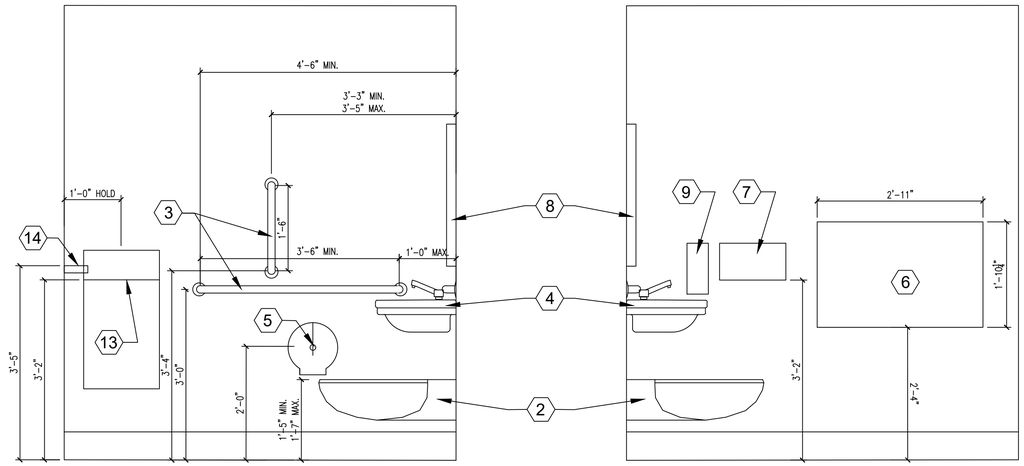
EXHIBITS ROOM
INTERIOR ELEVATIONS

A-8.2



1 / A-9 ADAAG BATHROOM ELEVATION 1

3/4"=1'



2 / A-9 ADAAG BATHROOM ELEVATION 2

3/4"=1'

3 / A-9 ADAAG BATHROOM ELEVATION 3

3/4"=1'

IMPORTANT NOTES:

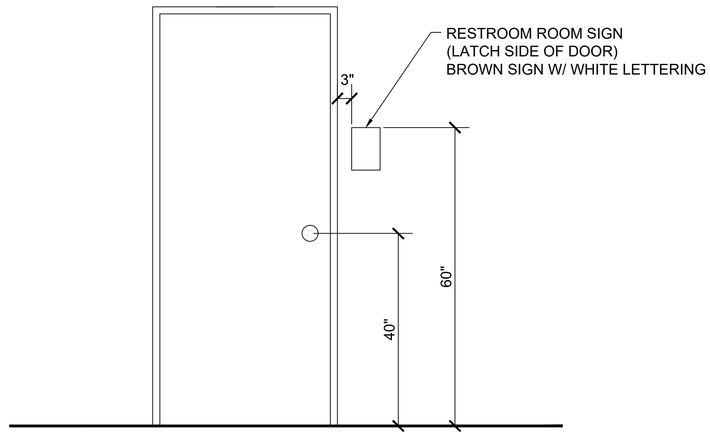
SEE PLUMBING FIXTURE SCHEDULE P-3-0 FOR PLUMBING FIXTURES

SEE SPEC SECTION 10_28_00 FOR BATHROOM ACCESSORIES

SEE SPEC SECTION 09 31 13 FOR TILE FINISHES

CODED NOTES

1. NOT USED
2. ACCESSIBLE TOILET - WALL MOUNTED
3. GRAB BARS - 2 HORIZONTAL, 1 VERTICAL
4. WALL HUNG SINK
5. 10" ROLL TOILET PAPER DISPENSER
6. BABY CHANGING TABLE
7. ELECTRIC HAND DRYER
8. MIRROR CENTERED ON SINK
9. SOAP DISPENSER
10. FLOOR DRAIN, TILED CONCRETE FLOOR SLOPED TOWARD DRAIN
11. COAT HOOK
12. SLAB ON GRADE FLOOR
13. SEMI-RECESSED WASTE RECEPTACLE W/ 38" A.F.F. AT TOP OF OPERABLE PART.
14. 16" x 5" WALL MOUNTED SHELF



DOOR SIGNAGE & HARDWARE

4 / A-9 RESTROOM SIGN MOUNTING DETAIL (EXTERIOR WALL)

3/4"=1'

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RESTROOM ELEVATIONS

A-9

ALTERNATE F.F.E. SCHEDULE

QTY. EXS'T	QTY. REQ'D	TAG	NAME / DESCRIPTION	MANUFACTURER	MODEL	REQUIRED HOOKUPS	LOCATIONS	NOTES	PROVIDED BY Owner / G.C.	INSTALLED BY Owner / G.C.
Storage Area										
0	11	01	SHELVING UNIT	Regency	18" x 48" x 74" NSF Chrome Wire 5-Shelf Kit		108 STORAGE		G.C.	G.C.
				Steelton	18" x 48" NSF Chrome 5-Shelf Kit with 72" Posts					
				HDX	6-Tier Commercial Grade Heavy Duty Steel Wire Shelving Unit in Chrome			48 in. W x 72 in. H x 18 in. D		
0	1	02	CHEST FREEZER	Amana	9-cu ft Manual Defrost Chest Freezer with Temperature Alarm (White) #AQC0902LW	Electrical	108 STORAGE		G.C.	G.C.
				Whirlpool	9-cu ft Manual Defrost Chest Freezer with Temperature Alarm (White) ENERGY STAR #WZC3209LW					
				Black Diamond	Chest Freezer 29.75"D x 40.5"W 9.6 Cubic Feet, Model # BDCF-10					
0	1	03	FREEZER	Avantco	A-49F-HC 54" Solid Door Reach-In Freezer	Electrical	108 STORAGE		G.C.	G.C.
				Koolmore	47 cu. ft. Commercial Double Door Reach In Upright Freezer			Stainless Steel		
				Cooler Depot	55 in. W 47 cu.ft Auto / Cycle Defrost Commercial Upright Freezer DXXD55F			Stainless Steel		
Lobby & Camp Store										
0	1	04	BAIT REFRIGERATOR	Hisense	23.43-in W 140-Can Capacity Stainless Steel Built-In/Freestanding Beverage Refrigerator with Glass Door, Model #HBC54D6AS	Electrical	101 CAMP STORE	23.43 in. W x 33.94 in. H x 25.5 in. D	G.C.	G.C.
				Ivation	18.7-in W 126-Can Capacity Commercial/ Stainless Steel Freestanding Beverage Refrigerator with Glass Door, Model #IVABC1260SS			18.7 in. W x 33.1 in. H x 17.3 in. D		
				EdgeStar	18.875-in W 105-Can Capacity Black Cabinet; Stainless Steel Door Freestanding Beverage Refrigerator with Glass Door, Model #BWC121SS			18.875 in. W x 33.125 in. H x 18.25 in. D		
0	2	05	MERCHANDISE DISPLAY	N/A	36" x 36" x 54" Maple Wood Quad Slatwall DISPLAY		101 CAMP STORE		G.C.	G.C.
Office										
0	2	06	OFFICE DESK	Corp Design	CD-P7230-RDS Rectangular Desk Shell		103 OFFICE	48" x 24" x 29" Finish Miele	G.C.	G.C.
				BUSH BUSINESS FURNITURE	Series A 48W Office Desk in Natural Cherry and Slate - Engineered Wood			Natural Cherry/Slate Finish 47.52"W x 26.81"D x 29.66"H		
				Uline	H-9790MAP Designer Office Desk - 48 x 24", Maple			Maple 48 x 24"x 30"		
0	2	07	OFFICE CHAIR	Uline	Mesh Task Chair H-3642		103 OFFICE		G.C.	G.C.
				National Business Furniture	Lira Ergonomic Mesh Back Task Chair #226233					
				Norwood Commercial Furniture	Mesh Back & Seat Task Chair NOR-NAI1000-SO					
0	1	08	OFFICE STORAGE SHELVING	Norwood Commercial Furniture	Heavy-Duty 2300 lb Shelving w/ Five Shelves		103 OFFICE	(72" H x 48" W x 18" D)	G.C.	G.C.
				Hirsh	Industries 17313 48" x 18" x 72" Black Heavy-Duty Five-Shelf Boltless Shelving Unit with Particleboard Decking					
				AR Shelving	2400-Lb. Capacity, 71in.H x 60in.W x 18in.D Rivet Shelving Unit #113116					

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ALTERNATE F.F.E. SCHEDULE

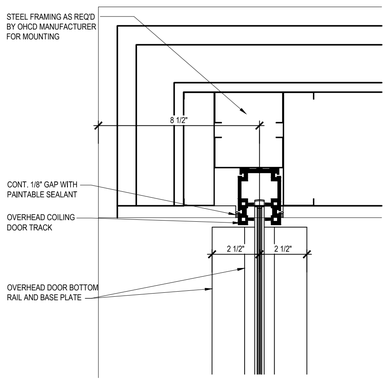
A-12

DOOR TYPES SCHEDULE - BUCK CREEK

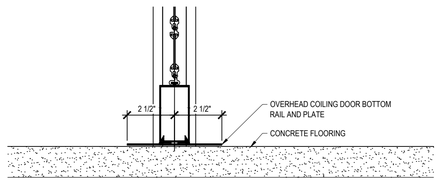
NUMBER		SIZE W	SIZE H	SIZE T	DOOR MATERIAL	DOOR FINISH	FRAME MATERIAL	FRAME FINISH	HARDWARE SET	NOTES
100	Front Double Doors	72"	7'-0"		Alum. & Glass		Aluminum		SEE SPECIFICATIONS	Door Type B
101	Storefront	36"	8'-5"		Alum. & Glass		Aluminum			Door Type B
102A	Closet Double Door - Storage	72"	7'-0"		H.M.		H.M.			Door Type A1
102B	Closet Door - Storage	36"	7'-0"		H.M.		H.M.			Door Type A
103	Office	36"	7'-0"		H.M.		H.M.			Door Type A
104	IT Closet Door	36"	7'-0"		H.M.		H.M.			Door Type A
105	Bathroom	36"	7'-0"		H.M.		H.M.			Door Type A
106	Bathroom	36"	7'-0"		H.M.		H.M.			Door Type A
107	Mechanical Room	36"	7'-0"		H.M.		H.M.			Door Type A
108	Double Door - Storage	72"	7'-0"		H.M.		H.M.			Door Type A1
110	Storefront	36"	8'-5"		Alum. & Glass		Aluminum			Door Type B
111	Storefront	36"	8'-5"		Alum. & Glass		Aluminum			Door Type B
112	Rolling Overhead Grille	16'-6"	9'-0"							See Details 1 / A-13.0
113	Exterior Gate	4'-0"	5'-0"		Wood					Door Type C
GENERAL NOTES:										

WINDOW SCHEDULE - BUCK CREEK

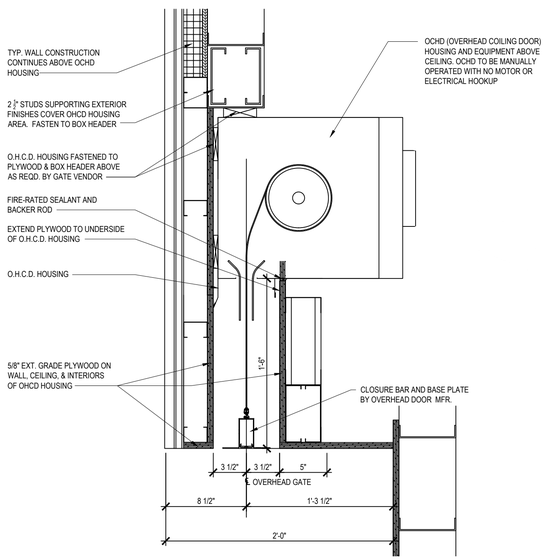
NUMBER		SIZE W	SIZE H	FRAME MATERIAL	FRAME FINISH	NOTES
01	Storefront - front door	See Detail 1 / A13.1		Aluminum	Silver	
02	Storefront - Interior between 101 & 110	See Detail 5 / A13.1		Aluminum	Silver	
03	Aluminum	1'-6"	6'-0"	Aluminum	Silver	See Detail 6 / A13.1
04	Aluminum	1'-6"	6'-0"	Aluminum	Silver	See Detail 6 / A13.1
05	Storefront - East	See Detail 4 / A13.1		Aluminum	Silver	
06	Storefront - Northeast	See Detail 2 / A13.1		Aluminum	Silver	
07	Storefront - North	See Details 2 & 3 / A13.1		Aluminum	Silver	
GENERAL NOTES:	SEE SHEET A-13.1 FOR STOREFRONTWINDOW LAYOUTS					



1A: OHCD JAMB DETAIL

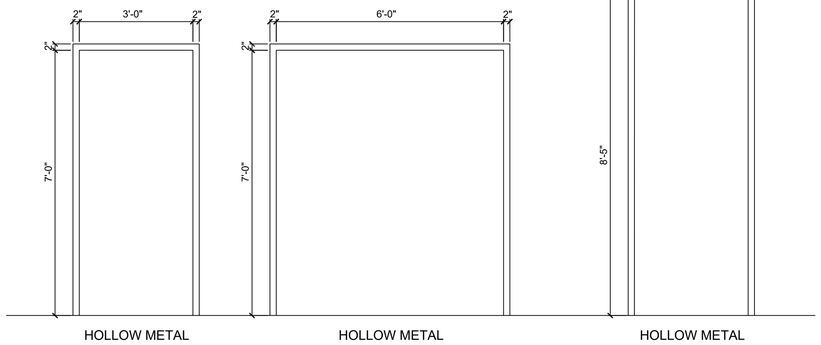


1B: OHCD FLOOR DETAIL

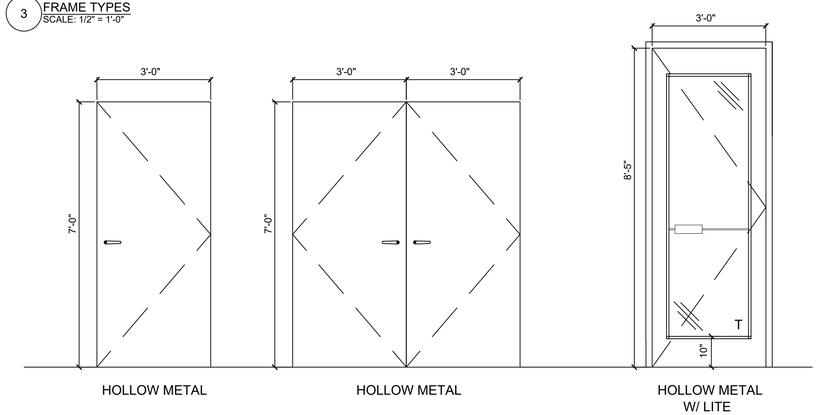


1C: OHCD HEADER DETAIL

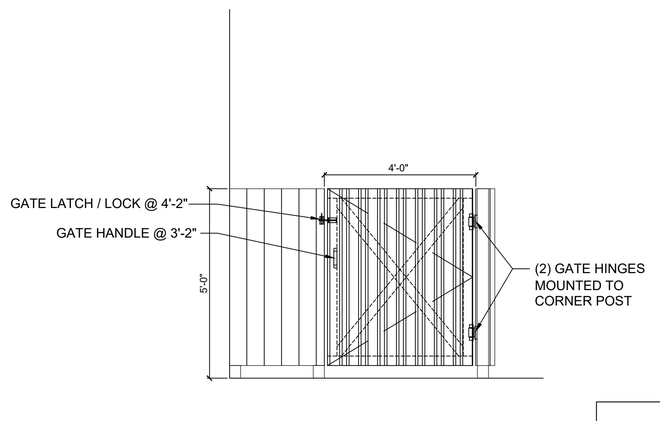
1 ROLLING OVERHEAD GRILLE DETAIL
SCALE: 1/2" = 1'-0"



3 FRAME TYPES
SCALE: 1/2" = 1'-0"



2 DOOR TYPES
SCALE: 1/2" = 1'-0"



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Ohio Department of Natural Resources

DESIGNED BY:	ASD
DRAWN BY:	ASD
CHECKED BY:	ASD
APPROVED BY:	DAY

NO.	DATE	SUBJECT
-	2/6/2024	RE-BID DOCUMENTS
REVISION OR ISSUE		

AS NOTED
SCALE

2/6/2024
DATE

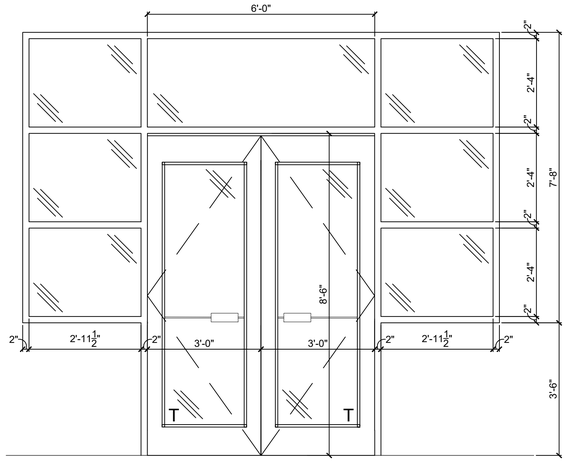
BUCK CREEK STATE PARK
NEW CAMP STORE & NATURE CENTER
DNR-230014.03

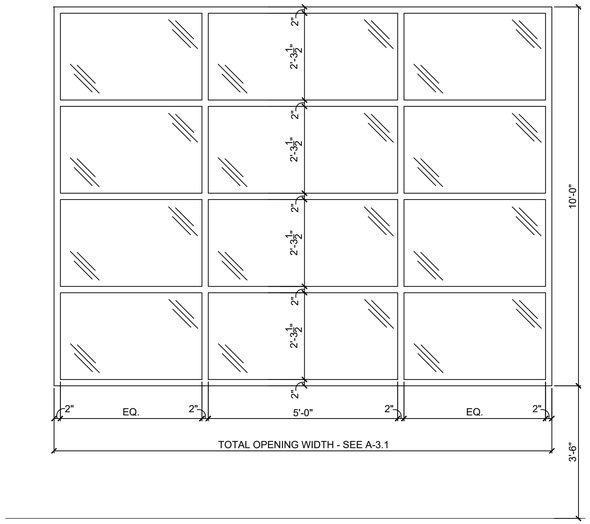
DOOR & WINDOW SCHEDULES & DOOR TYPES

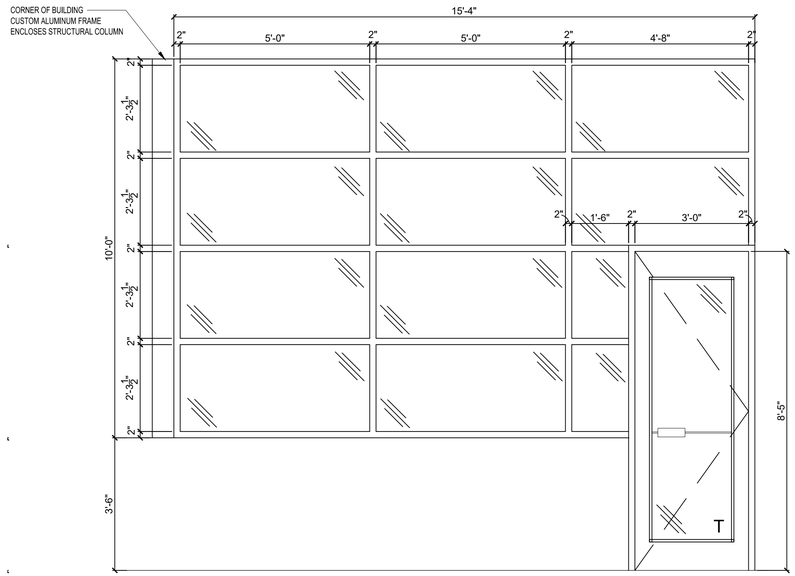
A-13.0

NOTE: ALL DOORS TO RECEIVE TEMPERED GLASS

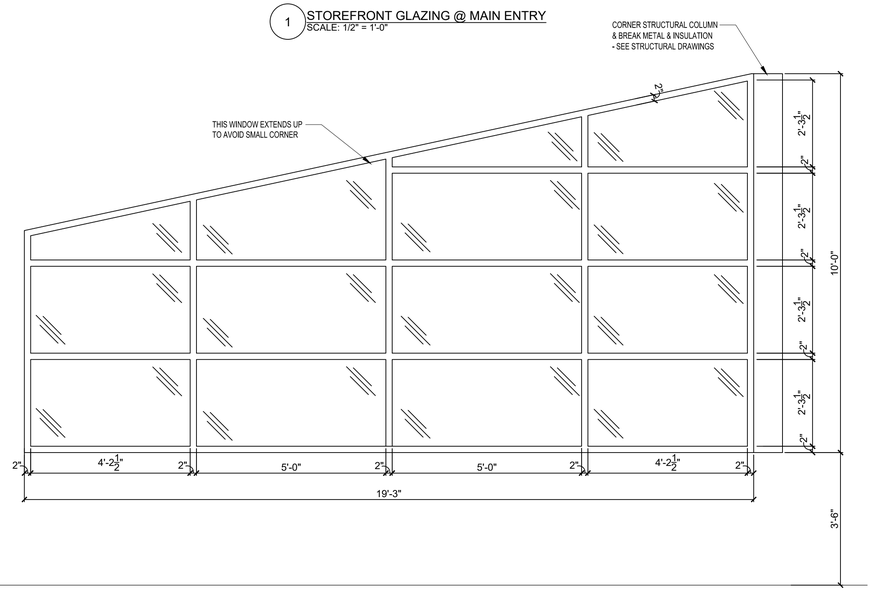
NOTE: ALL STOREFRONT IS SHOWN FROM EXTERIOR SIDE, EXCEPT DETAIL 5 WHICH IS BETWEEN TWO INTERIOR ROOMS. DETAIL 5 IS SHOWN FROM THE LOBBY SIDE.







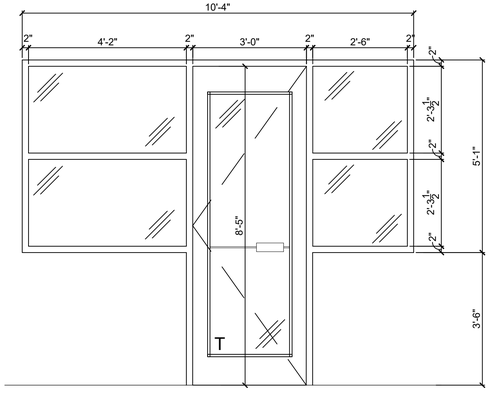
1 STOREFRONT GLAZING @ MAIN ENTRY
SCALE: 1/2" = 1'-0"



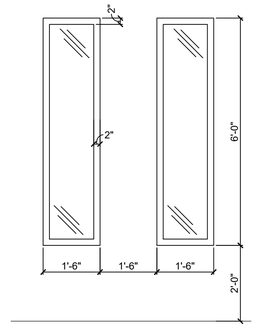
2 TYP. STOREFRONT WINDOWS
SCALE: 1/2" = 1'-0"

3 REAR STOREFRONT W/ DOOR
SCALE: 1/2" = 1'-0"

5 ANGLED SIDE STOREFRONT
SCALE: 1/2" = 1'-0"



5 INTERIOR STOREFRONT
SCALE: 1/2" = 1'-0"



6 ALUMINUM-FRAMED WINDOWS
SCALE: 1/2" = 1'-0"

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BUCK CREEK STATE PARK
NEW CAMP STORE & NATURE CENTER
DNR-230014.03

WINDOW & STOREFRONT DETAILS

A-13.1

GENERAL STRUCTURAL NOTES

GENERAL

1. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE CONSTRUCTION IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYS, OR TIEDOWNS WHICH MIGHT BE NECESSARY. SUCH MATERIAL IS TO REMAIN THE CONTRACTOR'S PROPERTY AFTER COMPLETION OF THE PROJECT.
2. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
3. MECHANICAL EQUIPMENT LOADS, OPENINGS AND STRUCTURE IN ANY WAY RELATED TO MECHANICAL REQUIREMENTS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR IS TO OBTAIN APPROVAL OF MECHANICAL AND OTHER TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. EXCESS COST RELATED TO VARIATION IN MECHANICAL REQUIREMENTS TO BE BORNE BY MECHANICAL CONTRACTOR.
4. DO NOT SCALE THE DRAWINGS WHERE DIMENSIONS ARE NOT SPECIFICALLY GIVEN. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS NOT SHOWN. COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE NOT INTENDED TO AUGMENT, NOR SUPERSEDE THOSE SHOWN ON THE ARCHITECTURAL DRAWINGS.
5. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY THE ARCHITECT IMMEDIATELY WHERE CONFLICTS EXIST WITHIN THE DRAWINGS OR BETWEEN THE DRAWINGS AND FIELD CONDITIONS.
6. THROUGHOUT THESE PLANS, THE TERM "PROVIDE" IS DEFINED AS "SUPPLY AND INSTALL".
7. SHOP DRAWINGS ARE TO BE SUBMITTED BY COMPLETE ERECTION PHASE OR SEQUENCE. LIMITS OF EACH INDIVIDUAL ERECTION PHASE OR SEQUENCE ARE TO BE CLEARLY INDICATED ON THE PLANS. INCOMPLETE OR PIECEMEAL SHOP DRAWINGS WILL BE RETURNED PRIOR TO REVIEW. RESUBMITTALS ARE TO HAVE REVISIONS CLEARLY MARKED OR IDENTIFIED. THE CONTRACTOR SHALL REVIEW AND ACCEPT FULL RESPONSIBILITY FOR DIMENSIONAL CORRECTNESS. ALL SHOP DRAWINGS MUST BEAR THE APPROVAL STAMP OF THE CONTRACTOR PRIOR TO REVIEW BY THE ARCHITECT OR ENGINEER.
8. PREFABRICATED ITEMS SHOWN ON THE STRUCTURAL DRAWINGS ARE REFERENCED FOR GENERAL COORDINATION PURPOSES ONLY, AND MAY INCLUDE BUT NOT BE LIMITED TO: STAIRS, HANDRAILS, CURTAIN WALLS, STOREFRONT SYSTEMS, AWNINGS, COLD-FORMED METAL FRAMING, AND PREFABRICATED FRAMING MEMBERS. THESE SYSTEMS SHALL BE DESIGNED, FURNISHED, AND INSTALLED AS REQUIRED BY OTHER PORTIONS OF THE CONTRACT DOCUMENTS. JEZERINAC GEERS WILL REVIEW THE DESIGN METHODOLOGY, LOADS, AND INSTALLATION DETAILS AS PART OF THE SHOP DRAWING REVIEW PROCESS, AND MAY REQUEST A SEALED CALCULATION PACKAGE FOR REVIEW.
9. SHOULD ANY OF THE DETAILED INSTRUCTIONS SHOWN ON THE PLANS CONFLICT WITH THE GENERAL STRUCTURAL NOTES, THE SPECIFICATIONS OR WITH EACH OTHER, THE STRICTEST PROVISION WILL GOVERN.
10. CODE INFORMATION

- GOVERNING CODE:	2017 OHIO BUILDING CODE
- BUILDING RISK CATEGORY:	CATEGORY II
FLOOR LIVE LOADS (WITH ALLOWABLE REDUCTIONS WERE APPLICABLE)	
- ASSEMBLY/RETAIL	100 PSF
- STORAGE (LIGHT)	125 PSF
ROOF LIVE LOADS	
- ORDINARY FLAT, PITCHED, AND CURVED ROOFS	20 PSF
- FABRIC AWNINGS AND CANOPIES	5 PSF
SNOW LOADS	
- GROUND SNOW LOAD (Pg)	20 PSF
- FLAT ROOF SNOW LOAD (Pf)	20 PSF
- SNOW EXPOSURE FACTOR (Ce)	1.0
- SNOW LOAD IMPORTANCE FACTOR (Is)	1.0
- THERMAL FACTOR (Ct)	1.0
- SNOW DRIFTING	SEE PLAN
WIND LOADS	
- WIND IMPORTANCE FACTOR	1.0
- BASIC ULTIMATE WIND SPEED (V ult)	115 MPH
- BASIC ALLOWABLE WIND SPEED (V asd)	90 PSF
- SITE EXPOSURE CATEGORY	C
- INTERNAL PRESSURE COEFFICIENT	+/- 0.18
SEISMIC LOADS:	
- SEISMIC IMPORTANCE FACTOR	1.0
- MAPPED SPECTRAL RESPONSE ACCELERATION (Ss)	0.18
- MAPPED SPECTRAL RESPONSE ACCELERATION (S1)	0.06
- SEISMIC SITE CLASS	D
- DESIGN SPECTRAL RESPONSE ACCELERATION (Sds)	0.19
- DESIGN SPECTRAL RESPONSE ACCELERATION (Sd1)	0.11
- SEISMIC DESIGN CATEGORY	B
- RESPONSE MODIFICATION COEFFICIENT (R)	6.0
- SEISMIC RESPONSE COEFFICIENT (Cs)	0.03
- SEISMIC DESIGN BASE SHEAR (V)	5.7 K
- ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
- BASIC SEISMIC FORCE-RESISTING SYSTEM:	LIGHT FRAME WALLS WITH SHEAR PANELS - WOOD SHEATHING
SPECIAL LOADS	
- INTERIOR WALLS & PARTITIONS	5 PSF HORIZONTAL
GEOTECHNICAL:	
- ASSUMED DESIGN BEARING PRESSURE:	1,500 PSF
- FOUNDATION TYPE:	SHALLOW SPREAD FOOTING

REINFORCED CONCRETE

1. SPECIFICATIONS: IN GENERAL, COMPLY WITH ACI-301-16, "SPECIFICATIONS FOR STRUCTURAL CONCRETE".
2. MATERIALS:
   A. STRUCTURAL CONCRETE:

MIX USAGE	f'c (PSI)	MAX w/cm	AIR CONTENT
LEAN CONCRETE	1,500	---	---
FOOTINGS & INTERIOR COLUMN PIERS	3,500	0.55	---
INTERIOR SLABS ON GRADE	3,500	0.50	---
INTERIOR SLABS ON GRADE WHICH RECEIVE MOISTURE-SENSITIVE FLOOR COVERINGS	4,000	0.45	---
EXTERIOR FOUNDATION STEMWALLS, EXTERIOR FOUNDATION WALLS, & EXTERIOR COLUMN PIERS	4,500	0.45	5%-7%
EXTERIOR REINFORCED SITE CONCRETE SUBJECT TO DEICERS & PARKING STRUCTURES	5,000	0.40	5%-7%

   B. ALL DEFORMED REINFORCING BARS: FY = 60,000 PSI.
   C. CEMENT: PORTLAND CEMENT, ASTM C150, TYPE 1. ALL CEMENT FOR CONCRETE EXPOSED TO VIEW IS TO BE FROM THE SAME MILL.
   D. AGGREGATES: ASTM C33, USE SIZE NO. 57 FOR ALL MIXES UNLESS NOTED OTHERWISE.
   E. ADMIXTURES:
      1. WATER-REDUCING, LOW AND MID RANGE: ASTM C494, TYPE A OR D.
      2. HIGH-RANGE WATER REDUCING, SUPERPLASTICIZER: ASTM C494, TYPE F OR G.
   F. AIR-ENTRAINING: ASTM C260.
   G. FLY-ASH: ASTM C618, TYPE C OR F.
   H. NON-CHLORIDE, NON-CORROSIVE ACCELERATOR: ASTM C494, TYPE C OR E.
3. FIELD MANUAL: PROVIDE AT LEAST ONE COPY OF THE ACI FIELD REFERENCE MANUAL, SP-15 IN THE FIELD OFFICE AT ALL TIMES.
4. SUBMITTALS:
   A. SUBMIT A MIX DESIGN FOR EACH MIXTURE USAGE REQUIRED FOR THE PROJECT. CONCRETE PROPORTIONS ARE TO BE ESTABLISHED ON THE BASIS OF PREVIOUS FIELD EXPERIENCE OR TRIAL MIXTURES.
   B. SUBMIT PLACING DRAWINGS FOR ALL REINFORCING. INDICATE STRENGTH, SIZE, AND DETAILS OF ALL BAR REINFORCING.
   C. SUBMIT PRODUCT LITERATURE FOR ADMIXTURES AND CURING COMPOUNDS PROPOSED FOR USE.
   D. SUBMIT REPORTS OF ALL REQUIRED TESTING AND INSPECTIONS.
5. CONTINGENCIES:
   A. PROVIDE 1/2 TON OF REINFORCING BARS TO BE USED AS DIRECTED BY THE ARCHITECT/ENGINEER. COLD BEND IN THE FIELD, IF REQUIRED.
   B. PROVIDE LEAN CONCRETE UNDER FOUNDATIONS FOR ACCIDENTAL OVER EXCAVATION, SOFT SPOTS, AND UTILITY TRENCHES.
6. OPENINGS:
   A. IF ANY OPENING NOT SHOWN ON THE PLANS IS REQUIRED, SECURE APPROVAL OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING.
7. FOOTINGS, PIERS, WALLS:
   A. DOWELS IN FOOTINGS TO MATCH VERTICAL WALL REINFORCING.
   B. PROVIDE CORNER BARS AT WALL AND FOOTING CORNERS TO MATCH HORIZONTAL REINFORCING. MINIMUM LENGTH OF EACH LEG - 36 BAR DIAMETERS.
8. SPLICES:
   A. LAP SPLICE REINFORCING BARS AS SCHEDULED. MINIMUM LAP = 36 DIAMETERS.
9. CONSTRUCTION JOINTS:
   A. CONSTRUCTION JOINTS PERMITTED ONLY WHERE SHOWN OR AS APPROVED BY THE STRUCTURAL ENGINEER.
10. FINISHES:
   A. PER ACI 117, SURFACES OF INTERIOR SLABS ON GRADE ARE TO BE FINISHED TO THE FOLLOWING TOLERANCES: FLOOR FLATNESS F(f)=30 AND LEVELNESS F(l)=20 UNLESS NOTED OTHERWISE IN SPECIFICATIONS.
   B. TYPICAL INTERIOR FLOOR AREAS TO RECEIVE CARPET, RESILIENT FLOOR COVERING, OR TO REMAIN EXPOSED - TROWELED FINISH.
   C. INTERIOR FLOOR AREAS TO RECEIVE QUARRY TILE OR CERAMIC TILE - FLOATED FINISH.
   D. EXTERIOR SLABS - BROOM FINISH.
11. CURING:
   A. CURING IS TO COMMENCE IMMEDIATELY AFTER CONCRETE PLACEMENT AND CONTINUE FOR AT LEAST 7 DAYS. DO NOT ALLOW CURING TO BE DELAYED OVERNIGHT.
   B. INTERIOR SLABS TO RECEIVE QUARRY TILE OR CERAMIC TILE ARE TO BE MOIST-CURED WITHOUT THE USE OF A CURING COMPOUND.
   C. ALL OTHER SLABS MAY BE EITHER MOIST-CURED OR RECEIVE AN APPLICATION OF CURING COMPOUND.
12. FIELD QUALITY CONTROL:
   A. OBTAIN CONCRETE FOR REQUIRED TESTS AT POINT OF PLACEMENT. IF CONCRETE IS PUMPED, OBTAIN CONCRETE AT DISCHARGE END.
   B. FOR EACH CLASS OF CONCRETE, OTHER THAN LEAN CONCRETE, PERFORM ONE STRENGTH TEST FOR EACH 50 YARDS, OR FRACTION THEREOF, FOR ONE DAY PLACEMENT.
   C. DETERMINE SLUMP FOR EACH STRENGTH TEST.
   D. DETERMINE AIR CONTENT FOR EACH STRENGTH TEST OF EXTERIOR EXPOSED CONCRETE.
   E. MAINTAIN RECORDS OF ALL TESTS INDICATING EXACT LOCATION OF THE STRUCTURE REPRESENTED BY EACH TEST.

STRUCTURAL STEEL

1. MATERIALS:
   A. STRUCTURAL STEEL WIDE FLANGE SHAPES: ASTM A992, Fy = 50 KSI
   B. STRUCTURAL STEEL CHANNELS, ANGLES, ETC.: ASTM A36, Fy = 36 KSI
   C. STRUCTURAL STEEL PLATES: UNLESS NOTED OTHERWISE - ASTM A36, Fy = 36 KSI; ASTM A529 OR A572, Fy = 50 KSI, WHERE NOTED
   D. HIGH STRENGTH BOLTS: ASTM A325 OR A490
   E. ANCHOR RODS: ASTM F1554, GRADE 36, UNLESS NOTED OTHERWISE
   F. ELECTRODES: SERIES E70
   G. RECTANGULAR HSS: ASTM A500, GRADE C, FY = 50 KSI
   H. ROUND HSS: ASTM A500, GRADE C, FY = 46 KSI
   I. STRUCTURAL PIPES: ASTM A53, GRADE B, FY = 35 KSI
2. SPECIFICATIONS:
   A. WELDING PERSONNEL AND PROCEDURES ARE TO BE QUALIFIED PER AWS D1.1. UNLESS SPECIFICALLY SHOWN OTHERWISE, DESIGN, FABRICATION AND ERECTION TO BE GOVERNED BY THE LATEST REVISIONS OF:
      1. AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
      2. AISC CODE OF STANDARD PRACTICE.
      3. STRUCTURAL WELDING CODE, AWS D1.1 OF THE AMERICAN WELDING SOCIETY.
      4. SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.
3. SUBMITTALS:
   A. SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL WHICH INCLUDE ERECTION PLANS, CONNECTION DETAILS, AND SHOP DETAILS INDICATING CUTS, COPES, CAMBERS, CONNECTIONS, HOLES, THREADED FASTENER TYPES AND SIZES, AND SIZES AND LENGTHS OF WELDS.
   B. INDICATE MATERIAL SPECIFICATIONS, STRENGTHS, AND FINISHES.
4. CONNECTIONS:
   A. FIELD CONNECTIONS ARE TO BE BOLTED, EXCEPT AS INDICATED OTHERWISE. SHOP CONNECTIONS MAY BE WELDED OR BOLTED.
   B. CONNECTIONS ARE TO BE DESIGNED BY THE FABRICATOR TO DEVELOP EITHER 100% OF THE FULL UNIFORM LOAD CAPACITY OF THE MEMBER, OR THE FORCES SHOWN ON THE PLANS.
5. COATINGS:
   A. DO NOT PAINT STEEL OR ANCHOR RODS WHICH WILL BE ENCASED IN CONCRETE OR MASONRY, NOR ANY STEEL WHICH IS SCHEDULED TO RECEIVE SPRAY-APPLIED OR INTUMESCENT-MASTIC FIREPROOFING.
   B. PAINT ALL INTERIOR EXPOSED STEEL (INCLUDING INTERIOR LINTELS) WITH TWO COATS OF RED-OXIDE PRIMER.
   C. HOT-DIP GALVANIZE ALL EXTERIOR STEEL (INCLUDING LINTELS AND BRICK SHELF ANGLES).
   D. PROVIDE A FIELD-APPLIED COAT OF ASPHALT-MASTIC PAINT FOR ALL BELOW-GRADE STEEL (INCLUDING ANCHOR RODS, NUTS, WASHERS, BASE PLATES, AND THE BELOW-GRADE PORTION OF COLUMNS) WHICH IS NOT FULLY ENCASED IN CONCRETE.
   E. INTERIOR NON-EXPOSED STEEL NEED NOT BE PRIME PAINTED.
6. MISCELLANEOUS:
   A. PROVIDE HOLES FOR OTHERS. IF OPENING IS NOT SHOWN ON THE STRUCTURAL DRAWINGS, OBTAIN PRIOR APPROVAL.
   B. STEEL SUPPORTING OR CONNECTING TO MECHANICAL AND OTHER EQUIPMENT AND ROOF OPENINGS AS SHOWN ON ARCHITECTURAL, MECHANICAL AND/OR ON STRUCTURAL DRAWINGS IS SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR IS TO RECONCILE EXACT SIZE AND LOCATION WITH MECHANICAL AND OTHER REQUIREMENTS BEFORE PROCEEDING WITH THIS WORK.
   C. GROUT UNDER BEARING PLATES TO BE NON-METALLIC, NON-SHRINKING TYPE.
   D. STEEL BELOW GRADE TO BE PROTECTED BY A MINIMUM OF 3" OF CONCRETE, 4" OF SOLID MASONRY, OR A FIELD-APPLIED COAT OF ASPHALT-MASTIC PAINT.
   E. PROVIDE HEAVY PLATE WASHERS AT ALL ANCHOR RODS.
   F. FINISH ENDS OF ALL COLUMNS, STIFFENERS AND ALL OTHER MEMBERS IN DIRECT BEARING.
   G. PROVIDE BOLT HOLES FOR WOOD NAILERS AND JOISTS BOLTED TO BEAMS.
   H. PROVIDE ATTACHMENT FOR JOINING EXTENDED JOIST BOTTOM CHORDS.
   I. STEEL IN CONTACT WITH PRESSURE-TREATED LUMBER IS TO BE PROTECTED FROM CORROSION FROM PRESERVATIVE CHEMICALS WITH A 20 MIL (MIN.) VAPOR BARRIER. BOLTS AND SCREWS THROUGH PRESSURE-TREATED LUMBER ARE TO BE HOT DIPPED GALVANIZED PER ASTM A153 WITH A MINIMUM G185 COATING OR STAINLESS STEEL WITH CHEMICAL COMPOSITION CONFORMING TO AISI 303/304 OR AISI 316.
   J. PROVIDE MISCELLANEOUS ANGLES OR CHANNELS TO SUPPORT DECK EDGES AROUND COLUMNS THAT EXTEND THROUGH THE DECK.
   K. SEE ARCHITECTURAL SECTIONS AND DETAILS FOR ALL MISCELLANEOUS STRUCTURAL STEEL NOT OTHERWISE INDICATED IN THE STRUCTURAL DRAWINGS.
7. FIELD QUALITY CONTROL:
   A. INSPECTION AGENCY IS TO PERFORM INSPECTION OF BOLTED CONNECTIONS PER THE REQUIREMENTS OF AISC SPECIFICATION FOR STRUCTURAL JOINTS.
8. CONTINGENCY:
   A. PROVIDE AND ERECT 1/2 TON OF STRUCTURAL AND/OR MISCELLANEOUS STEEL (STRUCTURAL SHAPES, ANGLES, PLATES, ETC.) TO BE USED AS DIRECTED BY THE ARCHITECT/ENGINEER. CONNECTIONS TO BE FIELD-WELDED IF REQUIRED.

COLD FORMED METAL FRAMING

1. MATERIALS:
   A. COLD-FORMED METAL STUDS AND JOISTS SHOWN ON THE CONTRACT DOCUMENTS ARE DESIGNATED BY "DEPTH", "SHAPE", "WIDTH", AND "THICKNESS" AS FOLLOWS:
      1. DEPTH: 362 (3-5/8"), 600 (6"), 800 (8"), ETC.
      2. SHAPE: S (C-SHAPE), T (TRACK), U (CHANNEL)
      3. WIDTH: 125 (1-1/4"), 162 (1-5/8"), 200 (2"), ETC.
      4. THICKNESS: -43 (18 GA.), -54 (16 GA.), -68 (14 GA.), -97 (12 GA.)
      EXAMPLE: 600S162-54 = 6" C-SHAPE, 1 5/8" FLANGE, 16 GA.
   B. ALL 18 GA AND LIGHTER STUDS TO BE 33 KSI MATERIAL; ALL 16 GA AND HEAVIER STUDS TO BE 50 KSI MATERIAL.
   C. ALL TRACKS AND ACCESSORIES: FY = 33 KSI MINIMUM.
2. SPECIFICATIONS:
   A. WELDING PERSONNEL AND PROCEDURES ARE TO BE QUALIFIED PER AWS. DESIGN, FABRICATION, AND ERECTION TO BE GOVERNED BY LATEST REVISIONS OF:
      1. AISI "SPECIFICATION OF THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS."
      2. STRUCTURAL WELDING CODE, AWS D1.3 OF THE AMERICAN WELDING SOCIETY.
3. SUBMITTALS:
   A. SUBMIT MANUFACTURER'S STANDARD PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR EACH TYPE OF COLD-FORMED METAL FRAMING AND ACCESSORY REQUIRED.
   B. SUBMIT FULLY DIMENSIONED ERECTION PLANS AND CONNECTION DETAILS INDICATING ALL COMPONENT AND MEMBER LOCATIONS, ORIENTATION, AND LAYOUT. PLANS TO INCLUDE MEMBER SIZES, TYPES, GAGE DESIGNATIONS, QUANTITY AND SPACING. ALSO INCLUDE DETAILS OF CONNECTIONS NOTED SCREW TYPES, QUANTITIES, LOCATIONS, WELD SIZES, LENGTHS, AND LOCATIONS, AND ADDITIONAL STRAPPING, BRACING, OR ACCESSORIES REQUIRED FOR A PROPER AND COMPLETE INSTALLATION.
4. CONNECTIONS:
   A. FIELD CONNECTIONS MAY BE EITHER WELDED OR SCREWED, EXCEPT AS SPECIFICALLY DETAILED OTHERWISE.
   B. WELD SIZE TO BE 1/8" WITH AWS TYPE 6013 OR 7014 ROD.
   C. EXCEPT AS NOTED OTHERWISE, MECHANICAL FASTENERS TO BE SELF TAPPING #10-16 SCREWS.
5. FINISH:
   A. ALL MATERIAL TO BE GALVANIZED COATED IN ACCORDANCE WITH ASTM A525 G-60.
   B. TOUCH-UP FIELD WELDS WITH ZINC RICH PAINT.
6. MISCELLANEOUS:
   A. ALL FIELD CUTTING TO BE PERFORMED WITH A SAW.
   B. TRACKS TO BE SECURELY ANCHORED TO SUPPORTING STRUCTURE WITH WELD OR SCREW AT EACH SIDE OF TRACKS.
   C. PROVIDE HORIZONTAL BRIDGING AT 6'-0" O.C. MAX. FOR ALL STUD WALLS UNLESS NOTED OTHERWISE. BRIDGING IS NOT REQUIRED FOR PORTIONS OF INTERIOR NON-LOADBEARING STUD WALLS WHERE BOTH SIDES ARE FACED WITH SHEATHING.
   D. JOISTS TO BE LOCATED DIRECTLY OVER BEARING WALL STUDS UNLESS A LOAD DISTRIBUTION MEMBER IS PROVIDED AT THE TOP TRACK.
   E. BEARING WALL STUDS ARE TO BE LOCATED DIRECTLY BELOW JOIST OR ROOF TRUSS BEARING UNLESS A LOAD DISTRIBUTION MEMBER IS PROVIDED AT THE TOP TRACK.
   F. END BLOCKING OR CONTINUOUS TRACK IS TO BE PROVIDED WHERE JOIST ENDS ARE NOT OTHERWISE RESTRAINED FROM ROTATION.
   G. WEB PUNCH-OUTS FOR BEAMS, JOISTS, AND RAFTERS ARE TO BE LOCATED A MINIMUM OF 10" AWAY FROM BEARING AND CONCENTRATED LOAD LOCATIONS. IF A PUNCH-OUT FALLS WITHIN 10" OF THESE LOCATIONS, PROVIDE REINFORCEMENT FOR THE MEMBER AS REQUIRED. ALTERNATELY, UN-PUNCHED SECTIONS MAY BE PROVIDED FOR BEAMS, JOISTS, AND RAFTERS.
   H. EACH MEMBER OF MULTIPLE MEMBER COLUMNS ARE TO BE SCREWED TOGETHER USING FULL-HEIGHT TRACKS AND #10 SCREWS AT 12" O.C. ALTERNATELY, MULTIPLE MEMBER COLUMNS MAY BE WELDED TOGETHER WITH A 1" WELD AT 18" ON CENTER, EACH SIDE, EACH PIECE, FOR THE FULL LENGTH OF THE COLUMN.

STRUCTURAL LUMBER

1. MATERIALS:
   A. STRUCTURAL LUMBER: ALL DESIGN VALUES PER 2015 NFPA NATIONAL DESIGN SPECIFICATION. ANY SUBSTITUTIONS ARE TO MEET MINIMUM DESIGN VALUES OF ABOVE MEMBERS. UNLESS NOTED OTHERWISE FRAMING MATERIALS SHALL BE:
      1) BEAMS, HEADERS, JOISTS, AND RAFTERS - SPRUCE-PINE-FIR NO.1/NO.2
      2) WALL STUDS 2x6 - SPRUCE-PINE-FIR "STUD" GRADE.
      3) MICRO=LAM (M=L) OR LAMINATED VENEER LUMBER (LVL): Fb = 2,600 PSI, Fv = 285 PSI, Fc (PERP.) = 750 PSI, E = 1,900 KSI.
      4) PARALLAM OR PARALLEL STRAND LUMBER (PSL): Fb = 2,900 PSI, Fv = 290 PSI, Fc (PERP.) = 750 PSI, E = 2,000 KSI.
      5) LAMINATED STRAND LUMBER (LSL) BEAMS: Fb = 2360 PSI, Fv = 410, Fc (PERP.) = 875 PSI, E = 1,550 KSI.
      6) PREFABRICATED WOOD I-JOIST — CAPACITIES AND DESIGN PROVISIONS SHALL BE AS ESTABLISHED AND MONITORED IN ACCORDANCE WITH ASTM D5055.
      7) ENGINEERED WOOD RIM BOARD — SHALL CONFORM TO APA PRR-410
      8) DECKING AND SHEATHING (OSB OR PLYWOOD):
         FLOORS: 3/4" NOMINAL APA RATED STURD-I-FLOOR, 48/24, EXP. 1, TONGUE AND GROOVE
         ROOFS: 19/32 (5/8" NOMINAL) APA RATED SHEATHING, 32/16, EXPOSURE 1
         WALL SHEATHING: 7/16" APA RATED SHEATHING, WALL-24, EXPOSURE 1
      9) GLUE-LAMINATED BEAMS: SOUTHERN PINE, 24F-V5.
      10) SOLID WOOD DECKING: 2x6 DOUGLAS FIR/LARCH, GRADE AND DESIGN VALUES AS REQUIRED FOR SPANS. SURFACE - SMOOTH; RANDOM LENGTH; CENTER AND END MATCHED.
      11) COMPOSITE INSULATED ROOF PANELS: 7/16" OSB SKINS EACH FACE WITH EXPANDED POLYSTYRENE FOAM INSULATED CORE. CORE THICKNESS AS DEFINED ON DOCUMENTS.
   B. ALL LUMBER IN CONTACT WITH CONCRETE, MASONRY, GROUND/SOIL, OR USED IN CONDITIONS WITH MOISTURE PRESENT, IS TO BE PRESSURE-TREATED TO RESIST DECAY. PRESERVATIVES USED FOR PRESSURE TREATMENT ARE TO BE ALKALINE COPPER QUAT, ACQ-C OR ACQ-D. OTHER PRESERVATIVES PROPOSED FOR USE ARE TO BE SUBMITTED FOR REVIEW PRIOR TO ERECTION OR INSTALLATION ON THE PROJECT.
   C. FIRE-RETARDANT-TREATED WOOD PRODUCTS — MUST CONFORM TO ASTM D5664 FOR LUMBER AND ASTM D5516 FOR PLYWOOD.
2. SPECIFICATIONS:
   A. UNLESS SPECIFICALLY SHOWN OTHERWISE, DESIGN, FABRICATION AND ERECTION ARE TO BE GOVERNED BY THE LATEST REVISIONS OF:
      1. NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION.
      2. U.S. PRODUCT STANDARD PS-1 FOR CONSTRUCTION AND INDUSTRIAL PLYWOOD.
      3. APA PS 2-18, PERFORMANCE STANDARD FOR WOOD STRUCTURAL PANELS.
      4. APA DESIGN/CONSTRUCTION GUIDE - RESIDENTIAL AND COMMERCIAL.
3. CONNECTIONS:
   A. CONNECTIONS FOR WOOD MEMBERS SHALL BE MINIMALLY FASTENED AS PRESCRIBED IN TABLE 2304.10.1 OF THE REFERENCED BUILDING CODE UNLESS DETAILED OTHERWISE. ALL NAILS ARE TO BE COMMON WIRE NAILS, UNLESS SPECIFICALLY NOTED OTHERWISE.
   B. FOUNDATION PLATES ON CONCRETE OR MASONRY WALLS SHALL BE PRESSURE TREATED LUMBER, SYP #2 GRADE MINIMUM. SILLS SHALL BE ANCHORED TO CONCRETE OR MASONRY WITH ½" DIAMETER x 12" LONG ANCHOR RODS SPACED AT 48" O.C. MAXIMUM, UNLESS NOTED OTHERWISE. THERE SHALL BE A MINIMUM OF 3 BOLTS PER SILL PIECE WITH ONE BOLT LOCATED WITHIN 12" OF EACH END OF EACH PIECE. DO NOT PROVIDE A SILL PLATE SPLICE UNDER ANY POST OR STUD. SEE SHEARWALL SCHEDULE AND DETAILS FOR ADDITIONAL REQUIREMENTS.
   C. JOISTS TO BEAMS OR JOISTS TO TRUSSES - 16 GA. STD. JOIST HANGERS, UNLESS SHOWN OTHERWISE. BEAMS TO BEAMS - 16 GA. BEAM HANGERS, UNLESS SHOWN OTHERWISE.
   D. ALL HANGERS, STRAPS, CAPS, BASES, HOLDOWNS, TIES OR OTHER CONNECTORS IN CONTACT WITH PRESSURE-TREATED LUMBER ARE TO BE BATCH/POST HOT DIPPED GALVANIZED PER ASTM A123 WITH A MINIMUM G185 COATING OR STAINLESS STEEL WITH CHEMICAL COMPOSITION CONFORMING TO AISI 303/304 OR AISI 316.
   E. ALL FASTENERS INCLUDING NAILS, ANCHOR RODS, POWDER ACTUATED FASTENERS, SCREWS, BOLTS, AND THREADED RODS, IN CONTACT WITH PRESSURE TREATED LUMBER ARE TO BE HOT DIPPED GALVANIZED PER ASTM A153 WITH A MINIMUM G185 COATING OR STAINLESS STEEL WITH CHEMICAL COMPOSITION CONFORMING TO AISI 303/304 OR AISI 316. FASTENERS AND CONNECTORS ARE TO BE OF THE SAME MATERIAL, STAINLESS STEEL OR HOT DIPPED GALVANIZED, DO NOT MIX MATERIALS.
   F. ALL MECHANICAL ANCHORS INCLUDING WEDGE ANCHORS AND SLEEVE ANCHORS IN CONTACT WITH PRESSURE TREATED LUMBER ARE TO BE STAINLESS STEEL WITH CHEMICAL COMPOSITION CONFORMING TO AISI 303/304 OR AISI 316.
   G. SHEATHING TO FRAMING:
      1. FLOORS - GLUED AND NAILED WITH ADHESIVES MEETING APA SPECIFICATIONS APG-01 AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, USE 10d COMMON NAILS AT 6" ON CENTER AT PANEL EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS (UNO).
      2. ROOFS - USE 10d NAILS AT 6" ON CENTER AT PANEL EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS (UNO).
      3. STUD WALLS - USE 8d COMMON OR GALVANIZED BOX NAILS AT 6" ON CENTER AT PANEL EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS (UNO). SEE SHEARWALL SCHEDULES FOR ADDITIONAL FASTENING REQUIREMENTS.
      4. CFMF — USE 1-5/16" LONG #10-16 PILOT POINT SCREWS WITH WINGS.
      5. GYPSUM-SHEATHED WALLS - USE 6d COOLER OR No. 6 x 1-1/4" TYPE S OR W SCREWS AT 7" ON CENTER AT PANEL EDGES AND 7" ON CENTER AT INTERMEDIATE SUPPORTS (UNO).
   H. TRUSS TO WALL OR RAFTERS TO WALL - STANDARD HURRICANE ANCHORS AT EACH BEARING POINT. ADDITIONAL ANCHORS MAY BE REQUIRED BASED UPON FINAL LAYOUT AND DESIGN BY THE TRUSS MANUFACTURER DURING THE SHOP DRAWING PROCESS.
4. MISCELLANEOUS:
   A. PROVIDE ONE LINE OF SOLID BLOCKING OR CROSS BRIDGING AT 8'-0" O/C MAX. FOR ALL FLOOR JOISTS. USE SOLID BLOCKING AT ALL JOIST AND RAFTER BEARINGS.
   B. PROVIDE SOLID BLOCKING AT MID-HEIGHT OF WALLS FOR EACH OF THE FOLLOWING CONDITIONS: EXTERIOR STUD WALLS, INTERIOR BEARING PARTITIONS, AND ALL WALL FRAMING WHICH IS NOT SHEATHED ON EACH SIDE WITH GYPSUM OR WOOD SHEATHING.
   C. USE SINGLE JACK STUDS UNDER BEAM AND HEADER BEARINGS FOR ROUGH OPENINGS UP AND INCLUDING 4'-0", AND DOUBLE JACK STUDS UNDER BEAM AND HEADER BEARINGS FOR SPANS GREATER THAN 4'-0", UNLESS SHOWN OTHERWISE.
   D. APPLY CONTINUOUS BEAD OF GLUE ON JOISTS AND GROOVE OF TONGUE-AND-GROOVE PANELS.
   E. PROVIDE TEMPORARY CONSTRUCTION EXPANSION JOINTS IN ALL WOOD STRUCTURAL PANEL FLOOR AND ROOF DIAPHRAGMS IN 80'-0" MAXIMUM INTERVALS IN ACCORDANCE WITH AMERICAN PLYWOOD ASSOCIATION'S (APA) TECHNICAL DOCUMENT U425.
   F. BEFORE APPLYING FINISH FLOORING, SET NAILS 1/8" BUT DO NOT FILL, AND LIGHTLY SAND ANY SURFACE ROUGHNESS, PARTICULARLY AT JOINTS AND AROUND NAILS.
   G. EACH MEMBER OF MULTIPLE MEMBER BEAMS AND COLUMNS ARE TO BE NAILED TOGETHER WITH 2 ROWS OF 10d NAILS AT 6" ON CENTER, STAGGERED, THE FULL LENGTH OF THE MEMBER. FOR MULTIPLE MEMBER LVL OR LSL PRODUCTS, FOLLOW MINIMUM FASTENING REQUIREMENTS OF THE MANUFACTURER.

POST-INSTALLED ANCHOR SYSTEMS

1. GENERAL:
   A. LISTED ANCHOR PRODUCTS PROVIDED BELOW ARE NOT TO BE USED AS INTERCHANGEABLE PRODUCTS. EACH ANCHOR HAS DEFINED CAPACITIES BASED UPON TESTED PERFORMANCE WITH APPLICABLE SAFETY FACTORS AND WILL VARY ACROSS MANUFACTURERS. TYPES OF ANCHORS INDICATED THROUGHOUT THE DESIGN DOCUMENTS ARE DETAILED FOR THEIR SPECIFIC PURPOSE AND CAPACITY. SUBSTITUTION OF ANCHORS FROM THOSE SPECIFIED ARE ONLY ALLOWED AFTER ENGINEER REVIEW AND APPROVAL OR AMENDMENT FROM WRITTEN REQUEST BY THE CONTRACTOR.
   B. PROVIDE ANCHORAGE MATCHING MANUFACTURER, TYPE, DIAMETER, EMBEDMENT, AND BASE MATERIAL AS INDICATED IN THE DOCUMENTS.
   C. ALL POST-INSTALLED ANCHORS TO BE HAMMER DRILLED. FOLLOW ALL HOLE CLEANING AND INSTALLATION INSTRUCTIONS AS STIPULATED BY THE ANCHOR MANUFACTURER. FOLLOW ALL OSHA GUIDELINES FOR CONCRETE DRILLING AS IT PERTAINS TO SILICA DUST.
   D. INSTALLATION OF ADHESIVE ANCHORS MUST BE PERFORMED BY PERSONNEL TRAINED TO INSTALL ADHESIVE ANCHORS THROUGH MANUFACTURER TRAINING PROGRAMS.
   E. INSTALLATION OF ADHESIVE ANCHORS IN THE HORIZONTAL OR UPWARDLY INCLINED ORIENTATION AND WHERE SUPPORTING SUSTAINED TENSION LOADS SHALL BE INSTALLED BY CERTIFIED PERSONNEL BY ACI/CRSI INSTALLATION PROGRAMS.
   F. MINIMUM CONCRETE AGE FOR POST-INSTALLED ADHESIVE ANCHORS SHALL BE NOT LESS THAN 28 DAYS.
   G. ALL ANCHORS IN CONTACT WITH PRESSURE TREATED LUMBER ARE TO BE HOT DIPPED GALVANIZED PER ASTM A153 WITH A MINIMUM G185 COATING OR STAINLESS STEEL WITH CHEMICAL COMPOSITION CONFORMING TO AISI 303/304 OR AISI 316. FASTENERS AND CONNECTORS ARE TO BE OF THE SAME MATERIAL, STAINLESS STEEL OR HOT DIPPED GALVANIZED, DO NOT MIX MATERIALS.
2. ANCHORAGE TO CONCRETE
   A. ACCEPTABLE MECHANICAL EXPANSION ANCHORAGE SYSTEMS:
      1. DEWALT POWER STUD +SDI WEDGE EXPANSION ANCHOR
      2. HILTI KWIK BOLT 3 EXPANSION ANCHOR
      3. HILTI KWIK BOLT TZ EXPANSION ANCHOR
      4. SIMPSON STRONG-BOLT 2 WEDGE EXPANSION ANCHOR
   B. ACCEPTABLE MECHANICAL SLEEVE ANCHORAGE SYSTEMS: (MAY NOT BE USED TO SECURE MAIN BUILDING FRAME COMPONENTS)
      1. DEWALT LOK-BOLT AS SLEEVE ANCHOR
      2. HILTI HLC SLEEVE ANCHOR
      3. SIMPSON SLEEVE-ALL SLEEVE ANCHOR
   C. ACCEPTABLE MECHANICAL SCREW ANCHORAGE SYSTEMS:
      1. DEWALT SCREW-BOLT+
      2. HILTI KWIK HUS-EZ SCREW ANCHOR
      3. SIMPSON TITEN HD SCREW ANCHOR
   D. ACCEPTABLE ADHESIVE ANCHORAGE SYSTEMS:
      1. DEWALT AC200+ ADHESIVE FOR REINFORCING BAR
      2. DEWALT PURE50+ ADHESIVE FOR THREADED ROD AND REINFORCING BAR
      3. DEWALT PURE110+ ADHESIVE FOR THREADED ROD AND REINFORCING BAR
      4. HILTI HIT-HY 200 ADHESIVE FOR THREADED ROD, REINFORCING BAR, AND HILTI SPECIFIC ROD AND INSERT SYSTEMS.
      5. HILTI HIT-RE 500 ADHESIVE FOR THREADED ROD AND REINFORCING BAR.
      6. HILTI HIT-RE 100 ADHESIVE FOR THREADED ROD AND REINFORCING BAR.
      7. SIMPSON AT-XP ADHESIVE FOR THREADED ROD AND REINFORCING BAR.
3. ANCHORAGE TO CONCRETE MASONRY OR BRICK MASONRY AS INDICATED:
   A. FOLLOW ALL MANUFACTURERS INSTALLATION INSTRUCTIONS IN REGARD TO LOCATION OF ANCHORS AWAY FROM HEAD JOINTS, MINIMUM EDGE DISTANCES, AND MINIMUM ANCHOR SPACING.
   B. ACCEPTABLE MECHANICAL EXPANSION ANCHORAGE SYSTEMS:
      1. DEWALT POWER STUD +SDI WEDGE EXPANSION ANCHOR IN GROUT FILLED OR SOLID CONCRETE MASONRY
      2. HILTI KWIK BOLT 3 EXPANSION ANCHOR IN GROUT FILLED OR SOLID CONCRETE MASONRY
      3. SIMPSON STRONG-BOLT 2 WEDGE EXPANSION ANCHOR IN GROUT FILLED OR SOLID CONCRETE MASONRY
   C. ACCEPTABLE MECHANICAL SLEEVE ANCHORAGE SYSTEMS: (MAY NOT BE USED TO SECURE MAIN BUILDING FRAME COMPONENTS)
      1. DEWALT LOK-BOLT AS SLEEVE ANCHOR IN GROUT FILLED, SOLID, OR HOLLOW CONCRETE MASONRY, AND SOLID BRICK MASONRY
      2. HILTI HLC SLEEVE ANCHOR IN GROUT FILLED, SOLID, OR HOLLOW CONCRETE MASONRY, AND SOLID BRICK MASONRY
      3. SIMPSON SLEEVE-ALL SLEEVE ANCHOR IN GROUT FILLED OR SOLID CONCRETE MASONRY
   D. ACCEPTABLE MECHANICAL SCREW ANCHORAGE SYSTEMS:
      1. HILTI KWIK HUS-EZ SCREW ANCHOR IN GROUT FILLED OR SOLID CONCRETE MASONRY
      2. DEWALT SCREW-BOLT+ SCREW ANCHOR IN GROUT FILLED OR SOLID CONCRETE MASONRY AND BRICK MASONRY
      3. SIMPSON TITEN HD SCREW ANCHOR IN GROUT FILLED, SOLID, OR HOLLOW CONCRETE MASONRY
   E. ACCEPTABLE ADHESIVE ANCHORAGE SYSTEMS:
      1. DEWALT AC100+ GOLD FOR THREADED ROD AND REINFORCING BAR IN GROUT FILLED MASONRY CONSTRUCTION. USE WITH SCREEN TUBES IN HOLLOW MASONRY CONSTRUCTION.
      2. HILTI HIT-HY 270 ADHESIVE FOR THREADED ROD, REINFORCING BAR, AND HILTI SPECIFIC ROD AND INSERT SYSTEMS IN GROUT FILLED OR SOLID CONCRETE MASONRY CONSTRUCTION. USE WITH SCREEN TUBES IN HOLLOW MASONRY, MULIT-WYTHE MASONRY, OR BRICK WITH HOLES CONSTRUCTION.
      3. SIMPSON SET-XP ADHESIVE FOR THREADED ROD AND REINFORCING BAR IN GROUT FILLED, SOLID, AND HOLLOW CONCRETE MASONRY.

IN ACCORDANCE WITH CHAPTER 17 OF THE REFERENCE BUILDING CODE, THE OWNER SHALL EMPLOY INSPECTION AGENCIES TO PERFORM SPECIAL INSPECTIONS DURING CONSTRUCTION INCLUDING INSPECTIONS OF SHOP-FABRICATED ITEMS WHEN APPLICABLE. ALL INSPECTION AGENCIES, INCLUDING FABRICATION FACILITIES, WHEN REQUIRED, SHALL BE QUALIFIED AND APPROVED BY THE BUILDING OFFICIAL. REFER TO OTHER DISCIPLINES FOR SPECIAL INSPECTIONS OF NON-STRUCTURAL SYSTEMS.

TABLE 1 STATEMENT OF SPECIAL INSPECTIONS FOR STRUCTURAL DISCIPLINE

REQUIRED SPECIAL INSPECTIONS AND TESTS FOR SOILS

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	---	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	---	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	---	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	---
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	---	X

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. INSPECT REINFORCEMENT AND VERIFY PLACEMENT.	---	X
2. INSPECT ANCHORS CAST IN CONCRETE.	---	X
3. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.		
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	---
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4A.	---	X
4. VERIFY USE OF REQUIRED DESIGN MIX.	---	X
5. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---
6. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X
7. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X

REQUIRED SPECIAL INSPECTIONS AND TESTS OF STRUCTURAL STEEL CONSTRUCTION

TYPE	PERFORM	OBSERVE
1. INSPECTION TASKS PRIOR TO WELDING:		
A. WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS.	---	X
B. WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE.	X	---
C. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE.	X	---
D. MATERIAL IDENTIFICATION (TYPE/GRADE)	---	X
E. WELDER IDENTIFICATION SYSTEM.	---	X
F. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY):		
• JOINT PREPARATIONS.	---	X
• DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL.	---	X
• CLEANLINESS (CONDITION OF STEEL SURFACES).	---	X
• TACKING (TACK WELD QUALITY AND LOCATION).	---	X
• BACKING TYPE AND FIT (IF APPLICABLE).	---	X
G. FIT-UP OF CJP GROOVE WELDS OF HSS T-, Y-, AND K-JOINTS WITHOUT BACKING (INCLUDING JOINT GEOMETRY):		
• JOINT PREPARATIONS.	---	X
• DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL.	---	X
• CLEANLINESS (CONDITION OF STEEL SURFACES).	---	X
• TACKING (TACK WELD QUALITY AND LOCATION).	---	X
H. CONFIGURATION AND FINISH OF ACCESS HOLES.	---	X
I. FIT-UP OF FILLET WELDS:		
• DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL.	---	X
• CLEANLINESS (CONDITION OF STEEL SURFACES).	---	X
• TACKING (TACK WELD QUALITY AND LOCATION).	---	X
2. INSPECTION TASKS AFTER WELDING:		
A. WELDS CLEANED.	---	X
B. SIZE, LENGTH, AND LOCATION OF WELDS	X	---
C. WELDS MEET VISUAL ACCEPTANCE CRITERIA:		
• CRACK PROHIBITION	X	---
• WELD /BASE-METAL FUSION	X	---
• CRATER CROSS SECTION	X	---
• WELD PROFILES	X	---
• WELD SIZE	X	---
• UNDERCUT	X	---
• POROSITY	X	---
D. ARC STRIKES.	X	---
E. K-AREA	X	---
F. WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES.	X	---
G. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED).	X	---
H. REPAIR ACTIVITIES.	X	---
I. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER.	X	---
J. NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE EOR.	---	X
K. NON-DESTRUCTIVE TESTING FOR COMPLETE-JOINT-PENETRATION (CJP) WELDS:		
• UT SHALL BE PERFORMED ON ALL CJP JOINTS IN MATERIAL 5/16" AND GREATER.	X	---
3 INSPECTION TASKS AFTER BOLTING:		
A. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS.	X	---
4 ANCHOR ROD PLACEMENT		
A. INSPECTION DURING PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS (ANCHOR DIAMETER, GRADE, TYPE, AND LENGTH OF THE ANCHOR ROD OR EMBEDED ITEM AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE) PRIOR TO PLACEMENT OF CONCRETE.	---	X
5 INSPECTION OF THE FABRICATED STEEL OR ERECTED STEEL FRAME IN COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS.	---	X

ABBREVIATIONS

AB	ANCHOR BOLT
ADD'L	ADDITIONAL
ALUM	ALUMINUM
ARCH	ARCHITECTURAL
B/ or BO	BOTTOM OF
BFB	BOTTOM FLANGE BRACE
BLDG	BUILDING
BM	BEAM
BOT	BOTTOM
CFMF	COLD-FORMED METAL FRAMING
CFMT	COLD-FORMED METAL TRUSS
CJ	CONTROL OR CONSTRUCTION JOINT
CLR	CLEAR
CM	CONSTRUCTION MANAGER
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
COORD	COORDINATE
CY	CUBIC YARD
DBL	DOUBLE
DEMO	DEMOLISH OR DEMOLITION
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
EA	EACH
EJ	EXPANSION JOINT
ENG	ENGINEER
EW	EACH WAY
EXP	EXPANSION
FDN	FOUNDATION
FIN	FINISH OR FINISHED
FLR	FLOOR
FTG	FOOTING
FRTW	FIRE-RETARDANT TREATED WOOD
FV	FIELD VERIFY
GA	GAGE
GALV	GALVANIZE
GC	GENERAL CONTRACTOR
HC	HOLLOW CORE
HORIZ	HORIZONTAL
ID	INSIDE DIMENSION
IF	INSIDE FACE
INT	INTERIOR
JST	JOIST
JT	JOINT
KB	KICKER BRACE
L	ANGLE
LGMF	LIGHT GAGE METAL FRAMING
LLBB	LONG LEG BACK-TO-BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MAS	MASONRY
MAX	MAXIMUM
MIN	MINIMUM
MTL	METAL
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OPP	OPPOSITE
OPNG	OPENING
OSB	ORIENTED STRAND BOARD
PAF	POWDER ACTUATED FASTENERS
PC	PRECAST
PEMB	PRE-ENGINEERED METAL BUILDING
PERP	PERPENDICULAR
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
REINF	REINFORCING
REQ'D	REQUIRED
SCHED	SCHEDULE
SECT	SECTION
SER	STRUCTURAL ENGINEER OF RECORD
SF	SQUARE FOOT
SL	SLOPED
SLBB	SHORT LEG BACK-TO-BACK
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
SY	SQUARE YARD
SYM	SYMMETRICAL
T/ or TO	TOP OF
T&B	TOP AND BOTTOM
TEMP	TEMPORARY OR TEMPERATURE
T&G	TONGUE AND GROOVE
TYP	TYPICAL
UN	UNLESS NOTED
UNO	UNLESS NOTED OTHERWISE
VB	VAPOR BARRIER
VERT	VERICAL
W	WIDE FLANGE
W/	WITH
W/O	WITHOUT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
YD	YARD

Jezerinac Geers
Structural Engineering

PROJECT # 23.09.117
DESIGNED BY DDC
DRAWN BY CAD
CHECKED BY DDC

DOCUMENT STATUS
☐ PROGRESS
☒ BIDDING
☐ PERMIT
☐ CONSTRUCTION

FMS #22009

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ENGINEERING
Ohio Department of Natural Resources

DESIGNED BY:	DC	-	2/6/2024	RE-BID DOCUMENTS	AS NOTED SCALE
DRAWN BY:	CAD				
CHECKED BY:	DC	NO.	DATE	SUBJECT	2/6/2024 DATE
APPROVED BY:	-	REVISION OR ISSUE			

BUCK CREEK STATE PARK
NEW CAMP STORE & NATURE CENTER
DNR-230014.03

GENERAL STRUCTURAL INFORMATION

S-0

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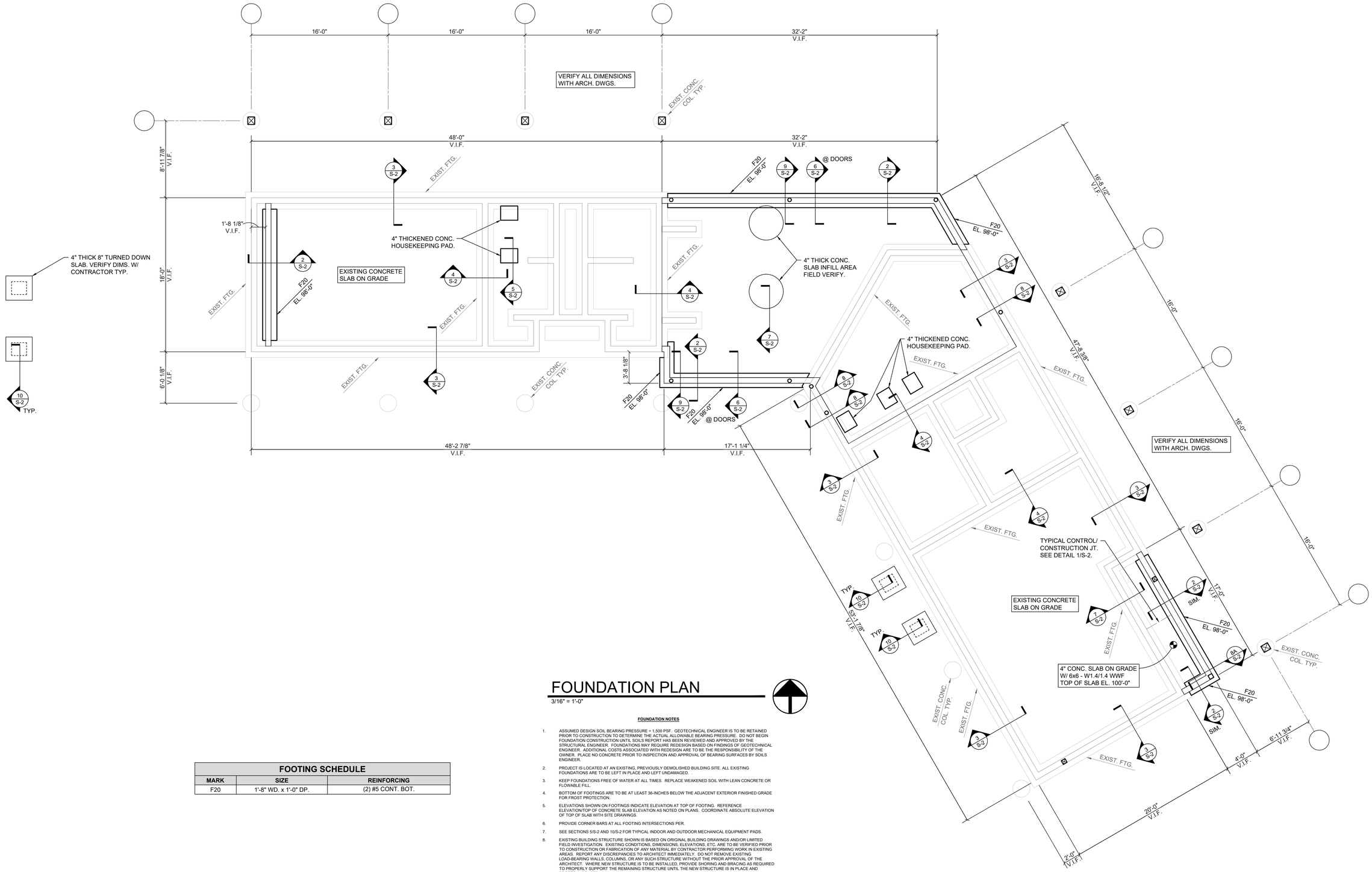

FOUNDATION PLAN

3/16" = 1'-0"

FOOTING SCHEDULE		
MARK	SIZE	REINFORCING
F20	1'-8" WD. x 1'-0" DP.	(2) #5 CONT. BOT.

FOUNDATION NOTES

1. ASSUMED DESIGN SOIL BEARING PRESSURE = 1,500 PSF. GEOTECHNICAL ENGINEER IS TO BE RETAINED PRIOR TO CONSTRUCTION TO DETERMINE THE ACTUAL ALLOWABLE BEARING PRESSURE. DO NOT BEGIN FOUNDATION CONSTRUCTION UNTIL SOILS REPORT HAS BEEN REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER. FOUNDATIONS MAY REQUIRE REDESIGN BASED ON FINDINGS OF GEOTECHNICAL ENGINEER. ADDITIONAL COSTS ASSOCIATED WITH REDESIGN ARE TO BE THE RESPONSIBILITY OF THE OWNER. PLACE NO CONCRETE PRIOR TO INSPECTION AND APPROVAL OF BEARING SURFACES BY SOILS ENGINEER.
2. PROJECT IS LOCATED AT AN EXISTING, PREVIOUSLY DEMOLISHED BUILDING SITE. ALL EXISTING FOUNDATIONS ARE TO BE LEFT IN PLACE AND LEFT UNDAMAGED. .
3. KEEP FOUNDATIONS FREE OF WATER AT ALL TIMES. REPLACE WEAKENED SOIL WITH LEAN CONCRETE OR FLOWABLE FILL.
4. BOTTOM OF FOOTINGS ARE TO BE AT LEAST 36-INCHES BELOW THE ADJACENT EXTERIOR FINISHED GRADE FOR FROST PROTECTION.
5. ELEVATIONS SHOWN ON FOOTINGS INDICATE ELEVATION AT TOP OF FOOTING. REFERENCE ELEVATION/TOP OF CONCRETE SLAB ELEVATION AS NOTED ON PLANS. COORDINATE ABSOLUTE ELEVATION OF TOP OF SLAB WITH SITE DRAWINGS.
6. PROVIDE CORNER BARS AT ALL FOOTING INTERSECTIONS PER.
7. SEE SECTIONS 5/S-2 AND 10/S-2 FOR TYPICAL INDOOR AND OUTDOOR MECHANICAL EQUIPMENT PADS.
8. EXISTING BUILDING STRUCTURE SHOWN IS BASED ON ORIGINAL BUILDING DRAWINGS AND/OR LIMITED FIELD INVESTIGATION. EXISTING CONDITIONS, DIMENSIONS, ELEVATIONS, ETC. ARE TO BE VERIFIED PRIOR TO CONSTRUCTION OR FABRICATION OF ANY MATERIAL BY CONTRACTOR PERFORMING WORK IN EXISTING AREAS. REPORT ANY DISCREPANCIES TO ARCHITECT IMMEDIATELY. DO NOT REMOVE EXISTING LOAD-BEARING WALLS, COLUMNS, OR ANY SUCH STRUCTURE WITHOUT THE PRIOR APPROVAL OF THE ARCHITECT. WHERE NEW STRUCTURE IS TO BE INSTALLED, PROVIDE SHORING AND BRACING AS REQUIRED TO PROPERLY SUPPORT THE REMAINING STRUCTURE UNTIL THE NEW STRUCTURE IS IN PLACE AND PROPERLY BRACED.
9. SEE SHEET S-0 FOR GENERAL STRUCTURAL INFORMATION.

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ENGINEERING
Ohio Department of Natural Resources

DESIGNED BY:	DC
DRAWN BY:	CAD
CHECKED BY:	DC
APPROVED BY:	-

NO.	DATE	SUBJECT
-	2/6/2024	RE-BID DOCUMENTS

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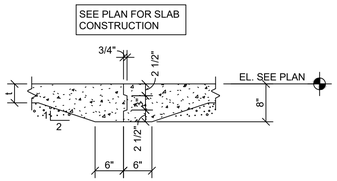
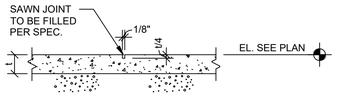
BUCK CREEK STATE PARK
NEW CAMP STORE & NATURE CENTER
DNR-230014.03

FOUNDATION PLAN

S-1

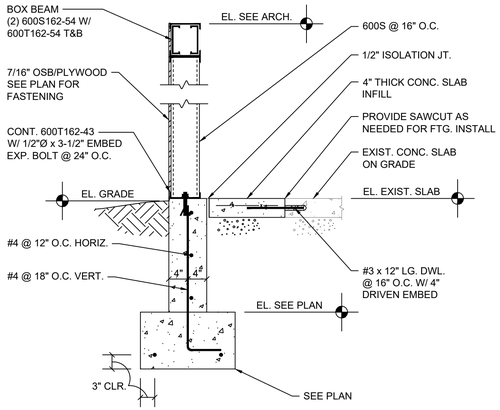


TYPICAL FLOOR CONSTRUCTION JOINT



TYPICAL FLOOR CONTROL JOINT

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



SECTION 2
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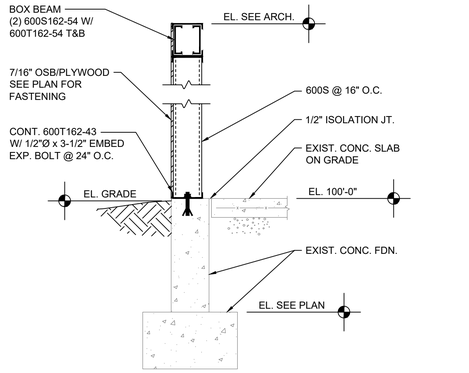
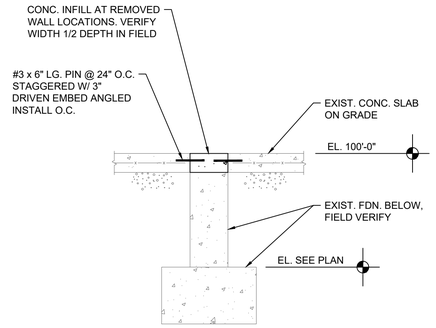
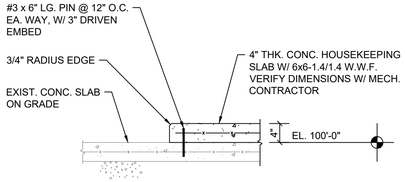


SECTION 3
3/4" = 1'-0"



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



SECTION 5
3/4" = 1'-0"

SECTION 6
3/4" = 1'-0"

SECTION 7
3/4" = 1'-0"

SECTION 8 8A
3/4" = 1'-0"

SECTION 9
3/4" = 1'-0"

SECTION 10
3/4" = 1'-0"

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NEW CAMP STORE & NATURE CENTER
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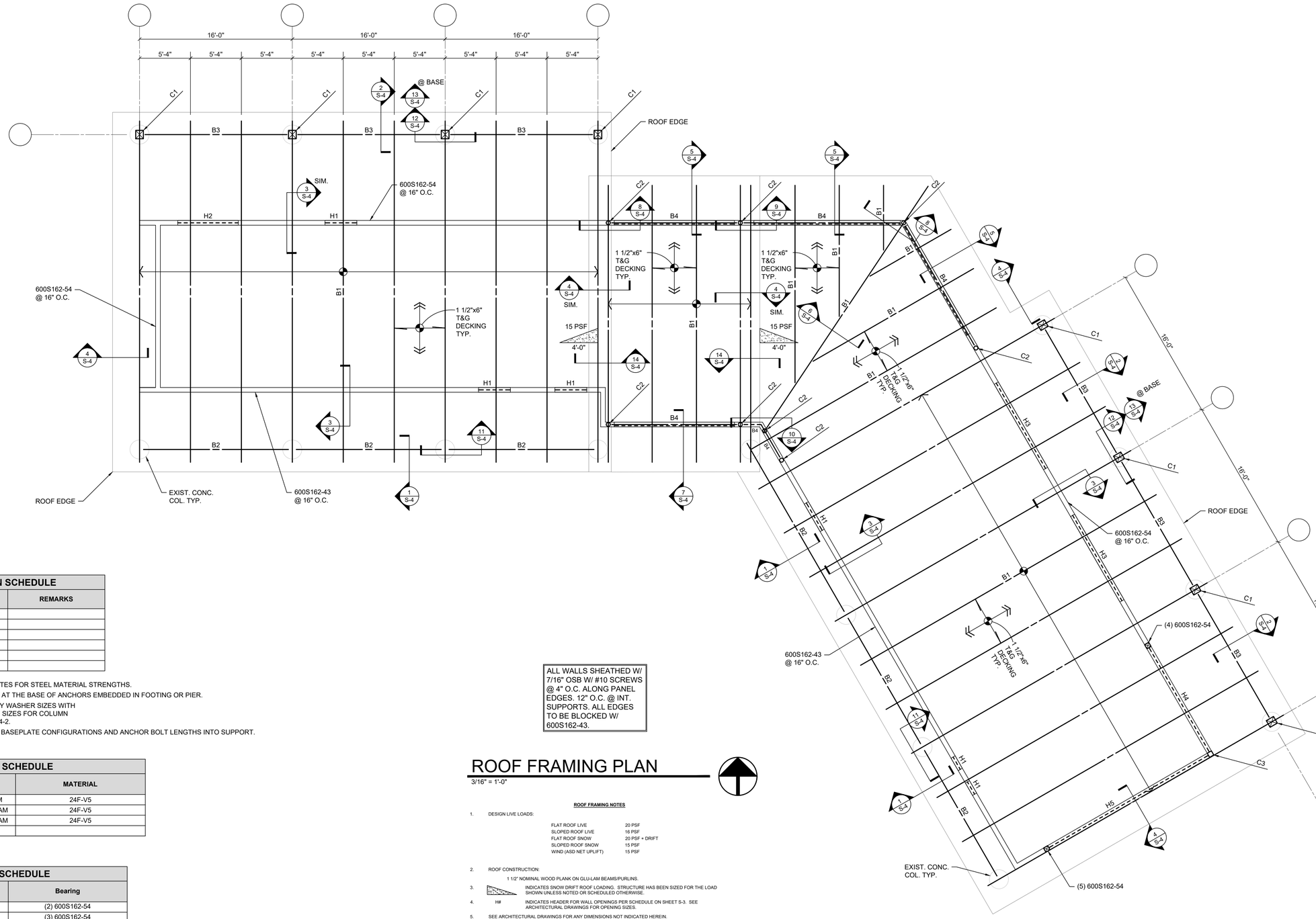
FOUNDATION DETAILS

S-2



STEEL COLUMN SCHEDULE

MARK	SIZE	REMARKS
C1	10 1/2" x 9 5/8" GLULAM	
C2	5"Ø STD. STL. PIPE	
C3	HSS6 x 6 x 3/8	
C4		
C5		
C6		

STEEL COLUMN SCHEDULE NOTES:

1. SEE GENERAL STRUCTURAL NOTES FOR STEEL MATERIAL STRENGTHS.
2. PROVIDE HEAVY, DOUBLE NUTS AT THE BASE OF ANCHORS EMBEDDED IN FOOTING OR PIER.
3. PROVIDE RECOMMENDED HEAVY WASHER SIZES WITH OVERSIZED ANCHOR ROD HOLE SIZES FOR COLUMN BASEPLATES PER AISC TABLE 14-2.
4. SEE FOUNDATION DETAILS FOR BASEPLATE CONFIGURATIONS AND ANCHOR BOLT LENGTHS INTO SUPPORT.

BEAM SCHEDULE

MARK	SIZE	MATERIAL
B1	5" x 16 1/2" GLULAM	24F-V5
B2	8 1/2" x 12 3/8" GLULAM	24F-V5
B3	8 1/2" x 16 1/2" GLULAM	24F-V5
B4	W12x19	

BEAM SCHEDULE NOTES:

HEADER SCHEDULE

MARK	SIZE	Bearing
H1	(3) 600S162-54	(2) 600S162-54
H2	(3) 800S162-54	(3) 600S162-54
H3	(3) 1000S162-68	(4) 600S162-54
H4	(3) 1200S162-68	SEE PLAN
H5	(3) 1400S162-68	SEE PLAN

HEADER SCHEDULE NOTES:

ALL WALLS SHEATHED W/ 7/16" OSB W/ #10 SCREWS @ 4" O.C. ALONG PANEL EDGES. 12" O.C. @ INT. SUPPORTS. ALL EDGES TO BE BLOCKED W/ 600S162-43.

ROOF FRAMING PLAN

3/16" = 1'-0"

ROOF FRAMING NOTES

1. DESIGN LIVE LOADS:

FLAT ROOF LIVE	20 PSF
SLOPED ROOF LIVE	16 PSF
FLAT ROOF SNOW	20 PSF + DRIFT
SLOPED ROOF SNOW	15 PSF
WIND (ASD NET UPLIFT)	15 PSF

2. ROOF CONSTRUCTION:
   1 1/2" NOMINAL WOOD PLANK ON GLU-LAM BEAMS/PURLINS.
3. INDICATES SNOW DRIFT ROOF LOADING. STRUCTURE HAS BEEN SIZED FOR THE LOAD SHOWN UNLESS NOTED OR SCHEDULED OTHERWISE.
4. H# INDICATES HEADER FOR WALL OPENINGS PER SCHEDULE ON SHEET S-3. SEE ARCHITECTURAL DRAWINGS FOR OPENING SIZES.
5. SEE ARCHITECTURAL DRAWINGS FOR ANY DIMENSIONS NOT INDICATED HEREIN.
6. EXISTING BUILDING STRUCTURE SHOWN IS BASED ON ORIGINAL BUILDING DRAWINGS AND/OR LIMITED FIELD INVESTIGATION. EXISTING CONDITIONS, DIMENSIONS, ELEVATIONS, ETC. ARE TO BE VERIFIED PRIOR TO CONSTRUCTION OR FABRICATION OF ANY MATERIAL BY CONTRACTOR PERFORMING WORK IN EXISTING AREAS. REPORT ANY DISCREPANCIES TO ARCHITECT IMMEDIATELY. DO NOT REMOVE EXISTING LOAD-BEARING WALLS, COLUMNS, OR ANY SUCH STRUCTURE WITHOUT THE PRIOR APPROVAL OF THE ARCHITECT. WHERE NEW STRUCTURE IS TO BE INSTALLED, PROVIDE SHORING AND BRACING AS REQUIRED TO PROPERLY SUPPORT THE REMAINING STRUCTURE UNTIL THE NEW STRUCTURE IS IN PLACE AND PROPERLY BRACED.
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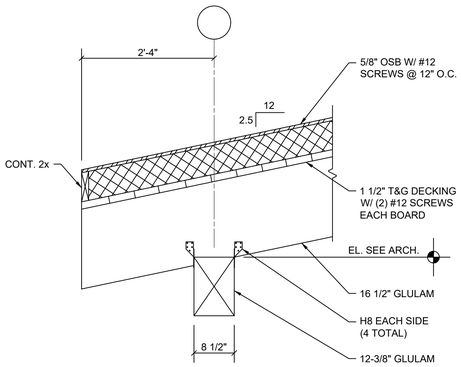
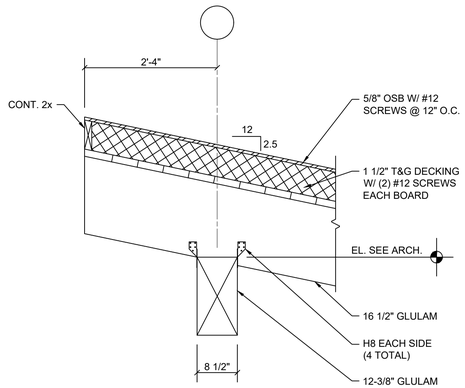
ROOF FRAMING PLAN

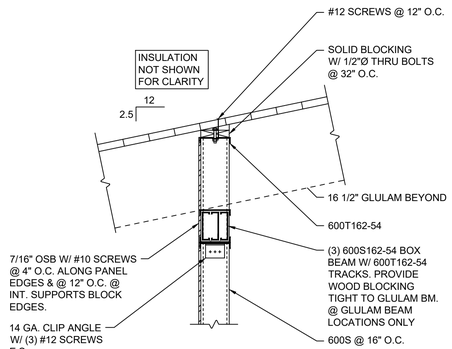
S-3



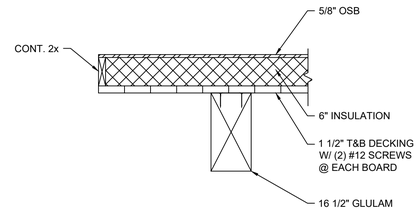
SECTION 1
3/4" = 1'-0"



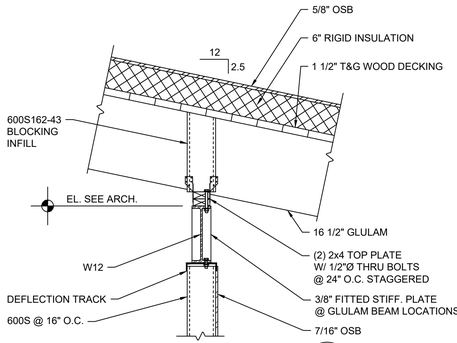
SECTION 2
3/4" = 1'-0"



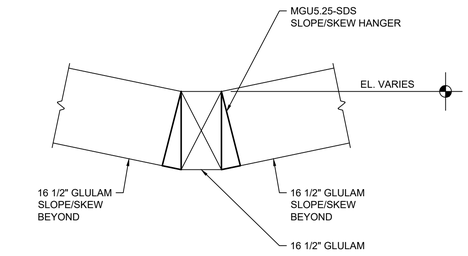
SECTION 3
3/4" = 1'-0"



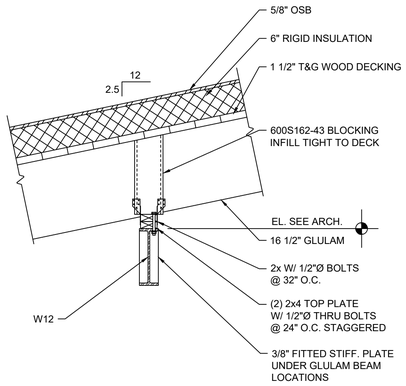
SECTION 4
3/4" = 1'-0"



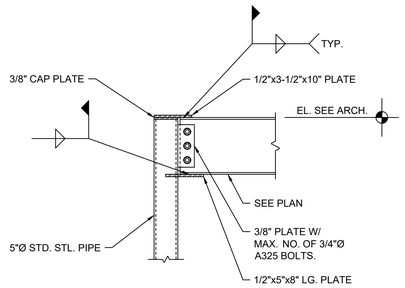
SECTION 5
3/4" = 1'-0"



SECTION 6
3/4" = 1'-0"



SECTION 7
3/4" = 1'-0"



SECTION 8
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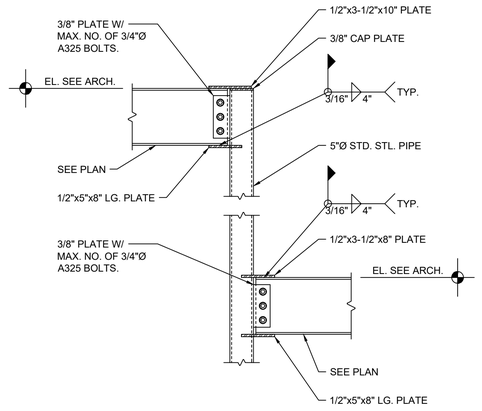
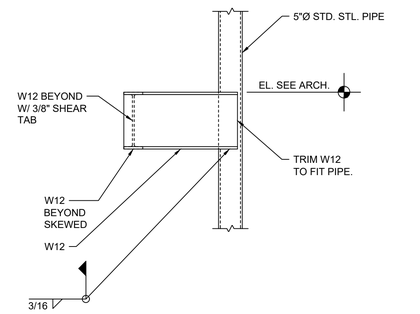
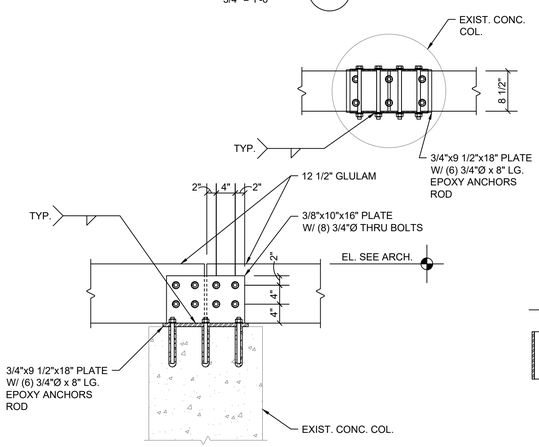


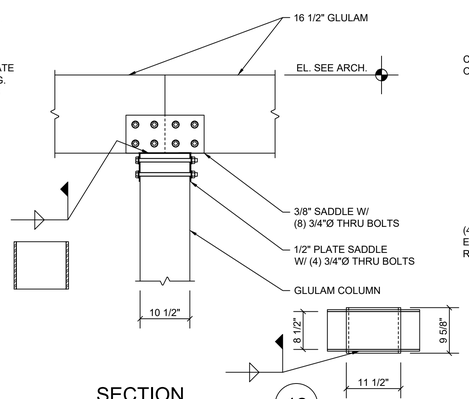
SECTION 9
3/4" = 1'-0"



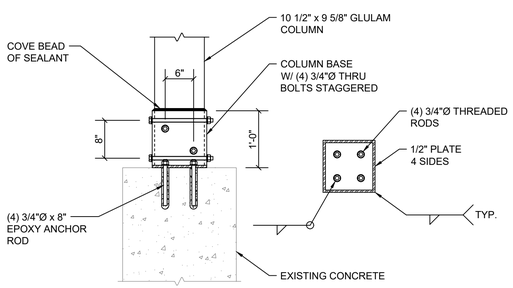
SECTION 10
3/4" = 1'-0"



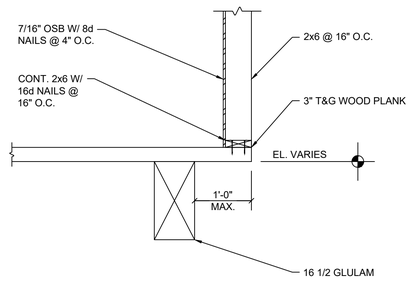
SECTION 11
3/4" = 1'-0"



SECTION 12
3/4" = 1'-0"



SECTION 13
3/4" = 1'-0"



SECTION 14
3/4" = 1'-0"

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ROOF FRAMING DETAILS

S-4

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ABBREVIATIONS

AD	ACCESS DOOR
ADA	AMERICAN DISABILITY ACT
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
CD	CEILING DIFFUSER OR CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CO	CLEANOUT
CONT	CONTINUE
CONTR	CONTRACTOR
COTG	CLEANOUT TO GRADE
CW	COLD WATER
DET	DETAIL
DF	DRINKING FOUNTAIN
DTR	DOWN THRU ROOF
EWC	ELECTRIC WATER COOLER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FOIC	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR
FPC	FIRE PROTECTION CONTRACTOR
FPS	FEET PER SECOND
FS	FLOOR SINK
G	GAS
GAL	GALLONS
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HD	HEAD
HP	HORSEPOWER
HW	HOT WATER
INV	INVERT
LAV	LAVATORY
LB	POUND
LF	LINEAL FEET
MECH	MECHANICAL
MFR	MANUFACTURER
MTD	MOUNTED
MTR	MOTOR
N.C.	NORMALLY CLOSED
N.I.C.	NOT IN CONTRACT
N.O.	NORMALLY OPEN
N/A	NOT APPLICABLE
NTS	NOT TO SCALE
P	PUMP
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
RD	ROOF DRAIN
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTION PER MINUTE
SCH	SCHEDULE
SOV	SHUT-OFF VALVE
UON	UNLESS OTHERWISE NOTED
UTR	UP THRU ROOF
VTR	VENT THRU ROOF
WC	WATER CLOSET
WCO	WALL CLEANOUT
WG	WATER GAUGE
WH	WATER HEATER
WHA	WATER HAMMER ARRESTER
WT	WEIGHT

LEGEND AND SYMBOLS

- DOMESTIC WATER PIPE
- 110° DOMESTIC HOT WATER 110°F
- 140° DOMESTIC HOT WATER 140°F
- HWR DOMESTIC HOT WATER RETURN
- SPRINKLER PIPE
- G GAS PIPE
- SANITARY PIPE
- SANITARY VENT PIPE
- STM STORM PIPE
- OF STORM OVER FLOW PIPE
- PIPE - UP
- PIPE - DOWN
- XX KITCHEN EQUIPMENT DESIGNATION, REFER TO KITCHEN EQUIPMENT CONNECTION SCHEDULE ON SHEET P2.1.
- (R) RELOCATED
- (E) EXISTING TO REMAIN
- (D) EXISTING TO BE REMOVED
- POINT OF CONNECTION
- THERMOMETER
- PRESSURE GAGE
- INLINE PUMP
- BFP BACK FLOW PREV.
- P & T RELIEF VALVE
- V ACCESS DOOR
- COMBINATION BALANCE /SHUT-OFF
- GATE VALVE
- GLOBE VALVE
- BUTTERFLY VALVE
- DRAIN VALVE
- CHECK VALVE
- UNION
- fxt PLUMBING FIXTURE
- fxt PLUMBING FIXTURE
- x FIXTURE UNITS
- x FIXTURE UNITS
- - P03.1 DETAIL MARK
- POINT OF DEMOLITION

* ALL SYMBOLS MAY NOT BE USED

PLUMBING GENERAL NOTES

1. THE CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID, INCLUDING ALL EXISTING EQUIPMENT, FIXTURES, PIPING, STUB-INS, TAPS, ETC. NO CLAIMS FOR EXTRAS DUE TO LACK OF FAMILIARITY WITH SITE CONDITIONS WILL BE APPROVED.
2. THE CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS FOR ALL DIVISIONS OF WORK AND SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL HIS SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS.
3. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND SHALL NOT BE SCALED. THE CONTRACTOR SHALL FIT THE WORK TO THE JOB, CAREFULLY INVESTIGATING STRUCTURAL, MECHANICAL, ELECTRICAL AND FINISH CONDITIONS AFFECTING THE WORK, AND SHALL FURNISH AND INSTALL ALL NECESSARY BENDS, OFFSETS, FITTINGS, JUNCTIONS, ETC. WHETHER OR NOT SPECIFICALLY SHOWN OR CALLED FOR, AND SEE THAT THERE ARE NO INTERFERENCES BETWEEN THIS WORK AND THE WORK OF OTHER TRADES.
4. PROVIDE ALL EQUIPMENT AND MATERIALS, AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PLUMBING SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS REQUIRED BY APPLICABLE CODES.
5. INSTALL ALL PLUMBING EQUIPMENT, FIXTURES, MATERIALS AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, THE CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
6. THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL PLUMBING SYSTEMS.
7. NO PLUMBING EQUIPMENT, PIPING, ETC. SHALL BE SUSPENDED FROM THE DECK, DUCTWORK, WATER PIPING, ETC. ALL ATTACHMENTS SHALL EXTEND TO THE TOP CHORD OF STRUCTURAL JOISTS, BEAMS OR AT PANEL POINT LOCATIONS.
8. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS THAT ARE NOT DIMENSIONED ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS SHALL BE BASED ON SITE CONDITIONS. INSTALL ALL EQUIPMENT AS REQUIRED TO MAINTAIN MANUFACTURER'S RECOMMENDED SERVICE CLEARANCES.
9. ALL ROOF CUTTING, PATCHING AND FLASHING REQUIRED TO INSTALL THE PLUMBING SYSTEMS SHALL BE BY AN APPROVED ROOFING CONTRACTOR AT THIS CONTRACTOR'S EXPENSE. COORDINATE ROOF PENETRATIONS WITH GENERAL CONTRACTOR.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO EXISTING BUILDING SYSTEMS. RE-USE EXISTING CONNECTION POINTS WHERE POSSIBLE.
11. NOTIFY PROJECT MANAGER IF ANY EXISTING PIPING CONNECTION POINTS ARE SMALLER THAN SIZES SHOWN ON DRAWINGS.
12. CONTRACTOR SHALL CLEAN AND SERVICE ALL EXISTING PLUMBING EQUIPMENT AND FIXTURES THAT ARE BEING RE-USED. REPAIR OR REPLACE UNIT COMPONENTS AS REQUIRED TO MAKE UNIT FULLY FUNCTIONAL.
13. EXISTING PIPING MAY BE RE-USED WHERE EXISTING PIPE SIZES AND CONDITIONS MEET OR EXCEED THOSE SHOWN AND SPECIFIED. PIPE SIZES SHOWN ON DRAWINGS ARE MINIMUM REQUIRED SIZES. CLEAN ALL RE-USED PIPING THOROUGHLY PRIOR TO CONNECTION TO NEW. INSULATE EXISTING PIPING BEING RE-USED AS REQUIRED TO MEET SPECIFICATIONS FOR NEW PIPING.
14. REMOVE ALL EXISTING PLUMBING EQUIPMENT, FIXTURES, PIPING SYSTEMS, ETC. NOT BEING RE-USED. DO NOT ABANDON IN PLACE.
15. CONTRACTOR SHALL ENSURE THAT ALL PLUMBING PIPING TO BE INSTALLED ON THE WARM SIDE OF THE INSULATION.
16. ALL PIPING INSTALLED IN EXTERIOR WALLS AND CEILING/ROOF IS TO BE INSTALLED ON THE CONDITIONED SIDE OF THE BUILDING INSULATION.

GENERAL PROJECT DESCRIPTION

THE EXISTING BUILDING STRUCTURE CONSISTS OF (2) MODULES/ BUILDINGS THAT IS CONNECTED BY A ROOF STRUCTURE. THE BUCK CREEK NATURE CENTER WILL BE RENOVATED TO CONSIST OF (1) BUILDING UNDER A NEW SLOPED ROOF. THE NEW BUILDING WILL CONSIST OF A NATURE CENTER AREA, LOBBY/SHOP AREA, AND UTILITY AREA. THE NATURE CENTER AREA HAS EXISTING PLUMBING FROM THE EXISTING CONCESSION AREAS THAT ARE TO BE REMOVED. THE EXHIBIT CONTENT WILL IDENTIFY BY OTHER AND SHALL HELP DETERMINE WHAT PLUMBING IS NEEDED FOR THE NATURE CENTER AREA. TO THE TEAM'S KNOWLEDGE, NO PLUMBING WILL BE INSTALLED FOR THE NATURE CENTER AREA. THE LOBBY/ SHOP AREA HAS EXISTING PLUMBING FROM OUTDOOR DRINKING FOUNDATION THAT IS TO BE ABANDONED IN PLACE. THE LOBBY/SHOP AREA WILL HAVE NEW PLUMBING THAT SUPPORTS A HARD SCOOP ICE CREAM STATION. THE UTILITY AREA HAS EXISTING PLUMBING FROM THE PLUMBING CHASE THAT SUPPORTED THE EXISTING BATHROOMS. THE UTILITY AREA WILL HAVE NEW PLUMBING LOCATED IN THE MECHANICAL ROOM THAT WILL SUPPORT THE NEW ADA BATHROOMS. OUR UNDERSTANDING IS THAT THE FACILITY WILL BE OPERATED SEASONALLY AND WINTERIZED DURING THE WINTER MONTHS EXCEPT FOR THE NATURE CENTER AREA. DETAILS ON WHAT PORTIONS OF THE CURRENT PLUMBING SYSTEM TO BE DEMOLISHED AND REMAIN WILL BE VERIFIED AND INCORPORATED INTO THE NEW PLUMBING DESIGN.

GENERAL DEMOLITION NOTES

1. EXISTING WORK SHOWN ON PLANS IS FROM PREVIOUS ENGINEERING DOCUMENTS AND/ OR FIELD OBSERVATION. ACTUAL CONDITIONS MAY VARY, AND THIS CONTRACTOR SHALL FIELD VERIFY EXISTING WORK PRIOR TO SUBMITTING BID AND MAKE MINOR ADJUSTMENTS AS NECESSARY TO COMPLETE NEW WORK. IF EXISTING CONDITIONS PROHIBIT NEW WORK, NOTIFY THE OWNER'S REPRESENTATIVE FOR REDIRECTION PRIOR TO DOING ANY WORK.
2. ALL REMOVED DEVICES AND APPURTENANCES TO BE DISPOSED OF IN A CODE APPROVED MANNER BY THIS CONTRACTOR UNLESS DIRECTED OTHERWISE. CONTRACTOR TO USE CAUTION WHEN REMOVING EXISTING ITEMS.
3. REMOVE THE EXISTING PIPING AND ACCESSORIES. FIELD VERIFY EXISTING LOCATIONS AND PATCH OPENING, UNLESS OTHERWISE NOTED.
4. PATCH WALLS AND/OR CEILING AS REQUIRED. COORDINATE WITH GENERAL CONTRACTOR.

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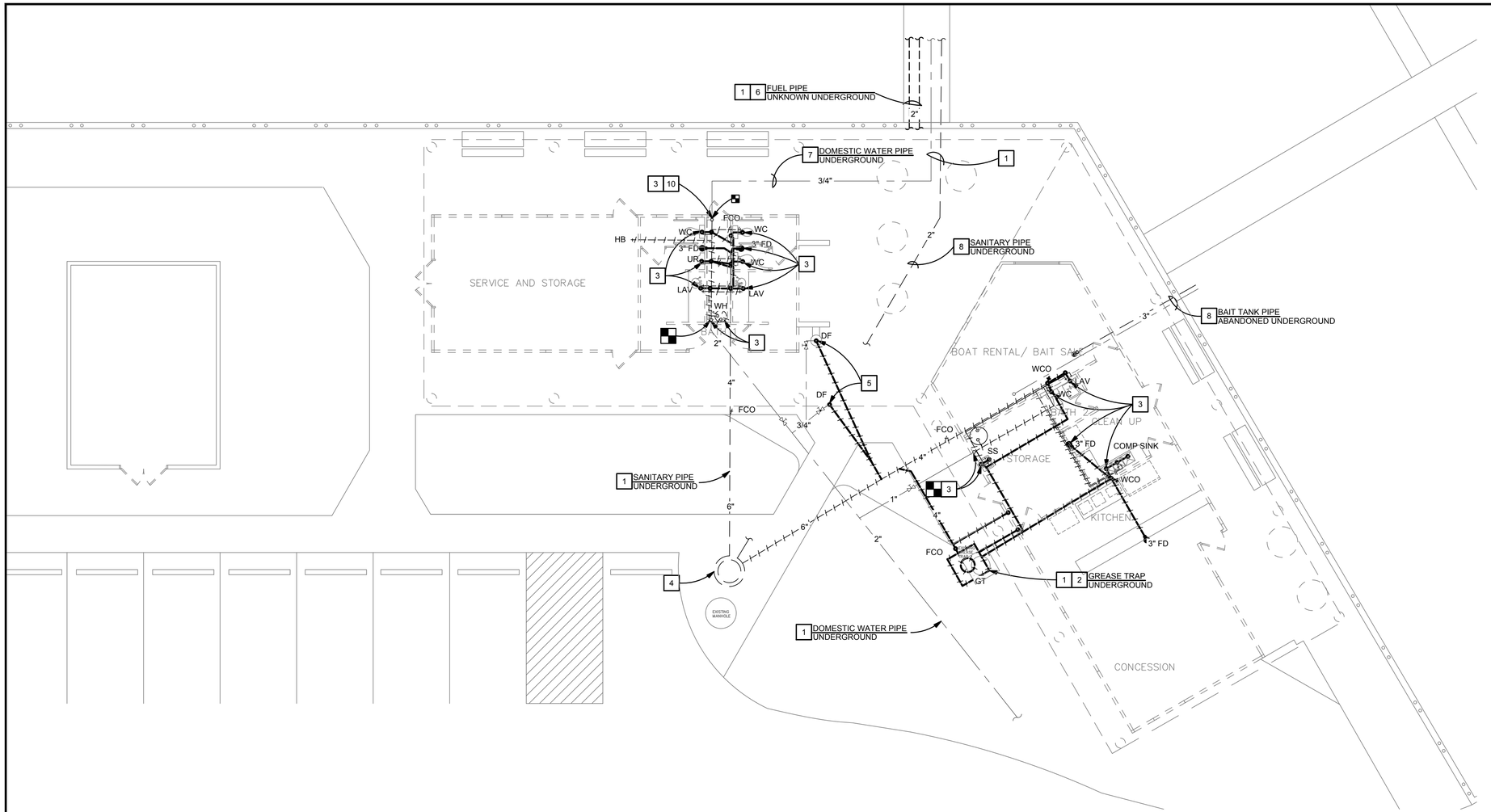
PLUMBING LEGENDS AND NOTES

P-0-0



1 / P-1-0 **GENERAL PLUMBING DEMOLITION PLAN**
1/8" = 1'-0"

SCALE: 1/8"=1' 0 4 8 16

DEMOLITION CODED NOTES

1. EXISTING UTILITIES (DUCTWORK, EQUIPMENT, PIPING, CONDUIT, ETC.) TO REMAIN. TYPE, SIZE AND ELEVATION IF KNOWN ARE AS NOTED. EXISTING WORK SHOWN ON PLANS IS FROM PREVIOUS ENGINEERING DOCUMENTS AND FIELD OBSERVATION. ACTUAL CONDITIONS MAY VARY, AND THIS CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND EXACT LOCATION OF UTILITIES.
2. EXISTING GREASE TRAP IN EXISTING LOCATION TO BE REMOVED BY MECHANICAL CONTRACTOR. LOCATION OF GREASE TRAP IS BASED ON EXISTING DOCUMENTATION. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS AND COORDINATE WITH THE GENERAL CONTRACTOR.
3. CONTRACTOR TO REMOVE EXISTING SANITARY AND DOMESTIC WATER PLUMING PIPING. REMOVE EXISTING SANITARY PIPING AND DOMESTIC WATER PIPING BACK TO LOCATION INDICATED AND SEAL FLUSH TO FLOOR. CAP BRANCHES AT MAIN. DISPOSE OF PIPING, EQUIPMENT, FITTINGS, ACCESSORIES, ETC. IN A CODE APPROVED MANNER. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS AND COORDINATE WITH THE GENERAL CONTRACTOR. NEW PLUMBING PIPING MAY BE INSTALLED IN NEW LOCATION REFER TO P-2-0 AND P-2-1 FOR FURTHER INFO.
4. EXISTING MANHOLE AND MAIN SANITARY CONNECTION TO REMAIN. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS AND COORDINATE WITH THE GENERAL CONTRACTOR.
5. EXISTING 1/2" DOMESTIC WATER PIPING AND 1-1/2" SANITARY PIPING FOR DRINKING FOUNTAINS PREVIOUSLY ABANDONED BY OTHERS. REMOVE EXISTING PIPING BACK TO LOCATION INDICATED AND SEAL FLUSH TO FLOOR. DISPOSE OF PIPING, EQUIPMENT, FITTINGS, ACCESSORIES, ETC. IN A CODE APPROVED MANNER. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS AND COORDINATE WITH THE GENERAL CONTRACTOR.
6. EXISTING 2" FUEL PIPE LINES TO EXISTING FUEL TANKS TO REMAIN. UNDERGROUND FUEL PIPE PATHWAY BETWEEN FUEL TANKS AND FUEL DISPENSER STATION ARE UNKNOWN. GENERAL CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND PROTECT EXISTING UNDERGROUND WATER LINE FROM DAMAGES DURING CONSTRUCTION.
7. EXISTING 3/4" WATER LINE FROM DOCK HYDRANT TO REMAIN. GENERAL CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND PROTECT EXISTING UNDERGROUND WATER LINE FROM DAMAGES DURING CONSTRUCTION.
8. EXISTING 2" PVC FORCE SANITARY MAIN FROM SEWAGE EJECTOR TO MANHOLE TO REMAIN. GENERAL CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND PROTECT EXISTING UNDERGROUND WATER LINE FROM DAMAGES DURING CONSTRUCTION.
9. EXISTING 3" PVC BAIT TANK PIPE DRAIN AND SUPPLY LINE PREVIOUSLY ABANDONED BY OTHERS. REMOVE EXISTING PIPING BACK TO LOCATION INDICATED AND SEAL FLUSH TO FLOOR. DISPOSE OF PIPING, EQUIPMENT, FITTINGS, ACCESSORIES, ETC. IN A CODE APPROVED MANNER. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS AND COORDINATE WITH THE GENERAL CONTRACTOR.
10. DOCK WATER SERVICE SHALL BE MAINTAINED DURING THE DURATION OF CONSTRUCTION PER ODNR REQUEST. THE CONTRACTOR MUST PROVIDE TEMPORARY WATER CONNECTION WITH BACKFLOW PREVENTOR TO DOCK WATER SERVICE.

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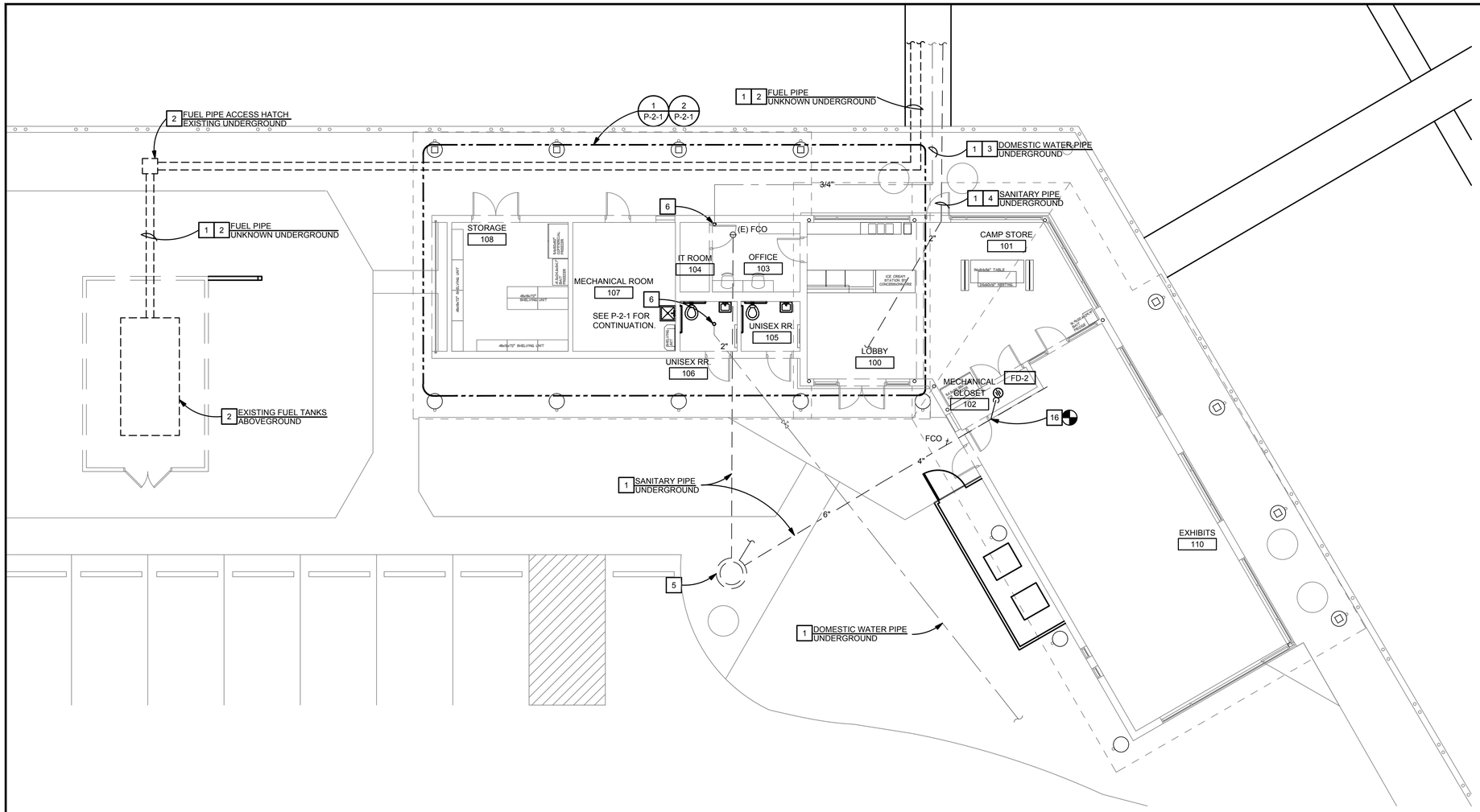
GENERAL PLUMBING DEMOLITION PLAN

P-1-0



PLUMBING CODED NOTES

1. EXISTING PIPING TO REMAIN, TYPE, SIZE AND ELEVATION ARE AS NOTED. EXISTING WORK SHOWN ON PLANS IS FROM PREVIOUS ENGINEERING DOCUMENTS AND FIELD OBSERVATION. ACTUAL CONDITIONS MAY VARY, AND THIS CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS.
2. EXISTING 2" FUEL PIPE LINES TO EXISTING FUEL TANKS TO REMAIN. UNDERGROUND FUEL PIPE PATHWAY BETWEEN FUEL TANKS AND FUEL DISPENSER STATION ARE UNKNOWN. GENERAL CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND PROTECT EXISTING UNDERGROUND WATER LINE FROM DAMAGES DURING CONSTRUCTION.
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5. EXISTING MANHOLE AND MAIN SANITARY CONNECTION TO REMAIN. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS AND COORDINATE WITH THE GENERAL CONTRACTOR.
6. EXTEND NEW DOMESTIC COLD WATER PIPE ROUTED UNDERGROUND FROM EXISTING DOMESTIC WATER PIPE TO BACKFLOW PREVENTOR IN MECHANICAL ROOM. REFER TO STACK AND RISER AND PLUMBING SPECIFICATION FOR FURTHER INFORMATION.
7. CONNECT NEW DOMESTIC WATER LINE INTO THE EXISTING DOMESTIC WATER PIPE AND EXTEND AS SHOWN. FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING DOMESTIC WATER PRIOR TO PERFORMING NEW WORK. PROVIDE WINTERIZING DRAIN VALVE IN VERTICAL WATER INLET PIPING. DRAIN TO FLOOR DRAIN.
8. FURNISH AND INSTALL WATER METER, PRESSURE REDUCING VALVE AND BACK FLOW PREVENTOR.
9. PROVIDE NEW WATER HEATER.
10. COLD WATER, HOT WATER & HOT WATER RETURN PIPES TO DROP FROM ABOVE CEILING DROP AND ROUTE TO FIXTURES WITH EXPOSED PIPE ON THE WALL/ BACK OF CABINET AND EXTEND FROM BELOW THE COUNTER TOP/SIDE BOARDS.
11. ROUTE COLD WATER, HOT WATER & HOT WATER RETURN PIPES FROM UNDERNEATH COUNTER TOP/SIDE BOARDS TO UNDER SCULLERY SINK SIDE BOARDS AND COUNTER TOP AT HAND SINK.
12. FURNISH AND INSTALL DRAIN LINE AND VALVE FOR WINTERIZATION. DISCHARGE AT FLOOR DRAIN.
13. DROP NEW DOMESTIC COLD WATER IN WALL TO BELOW SLAB AND CONNECT PIPE TO EXISTING MARINA DOCK PIPING. VERIFY IN FIELD EXACT SIZE AND LOCATION OF WATER CONNECTION.
14. ALL PLUMBING FIXTURES SHALL BE INSTALLED WITH SHUTOFF STOP VALVES TO ISOLATE EACH FIXTURE.
15. FURNISH AND INSTALL WATER HAMMER ARRESTERS IN THE DOMESTIC COLD AND HOT WATER PIPING AS SHOWN ON THE WATER RISER DIAGRAM. WATER HAMMER ARRESTERS TO BE LOCATED IN AN ACCESSIBLE LOCATION.
16. CONNECT NEW SANITARY LINE INTO THE EXISTING SANITARY PIPE AND EXTEND UNDERGROUND AS SHOWN. FIELD VERIFY EXACT LOCATION, SIZE, INVERT, AND FLOW DIRECTION OF EXISTING SANITARY PRIOR TO PERFORMING NEW WORK.
17. INSTALL AND FURNISH NEW SANITARY VENT THROUGH ROOF AS SHOWN. EXTEND VENT PIPE TO PLUMBING FIXTURES. SEE STACK DIAGRAM FOR ADDITIONAL INFORMATION.
18. GREASE INTERCEPTOR WILL NEED TO BE RECESSED. CONTRACTOR SHALL PROVIDE GREASE CONTROL VALVE WITH AIR VENT INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
19. FURNISH AND INSTALL FULL SIZE DRAIN PIPE FROM BACKFLOW PREVENTOR TO FLOOR DRAIN.
20. VENT PIPE FROM SINKS TO BE INSTALLED THROUGH WALL AND EXTEND FROM BELOW THE COUNTER TOP/SIDE BOARDS UP TO ABOVE THE CEILING.
21. VENT PIPE TO BE ROUTED UNDER COUNTER TOP/ SIDE BOARDS FROM PLUMBING FIXTURES TO WALL.
22. ROUTE 2" DRAIN PIPE FROM SCULLERY SINK AND DISCHARGE TO FLOOR SINK. INSTALL GREASE TRAP FLOW CONTROL FITTING IN PIPING. EXTEND VENT FROM FLOW CONTROL FITTING ABOVE THE FLOOD RIM OF THE FIXTURE AND VENT TO ROOM.
23. EXTEND FULL SIZE DRAIN PIPE TO FLOOR DRAIN. PIPE TO DISCHARGE TO FLOOR DRAIN WITH 2" AIR GAP.

1 P-2-0 GENERAL PLUMBING PLAN

1/8" = 1'-0"

N

SCALE: 1/8"=1'

0 4 8 16

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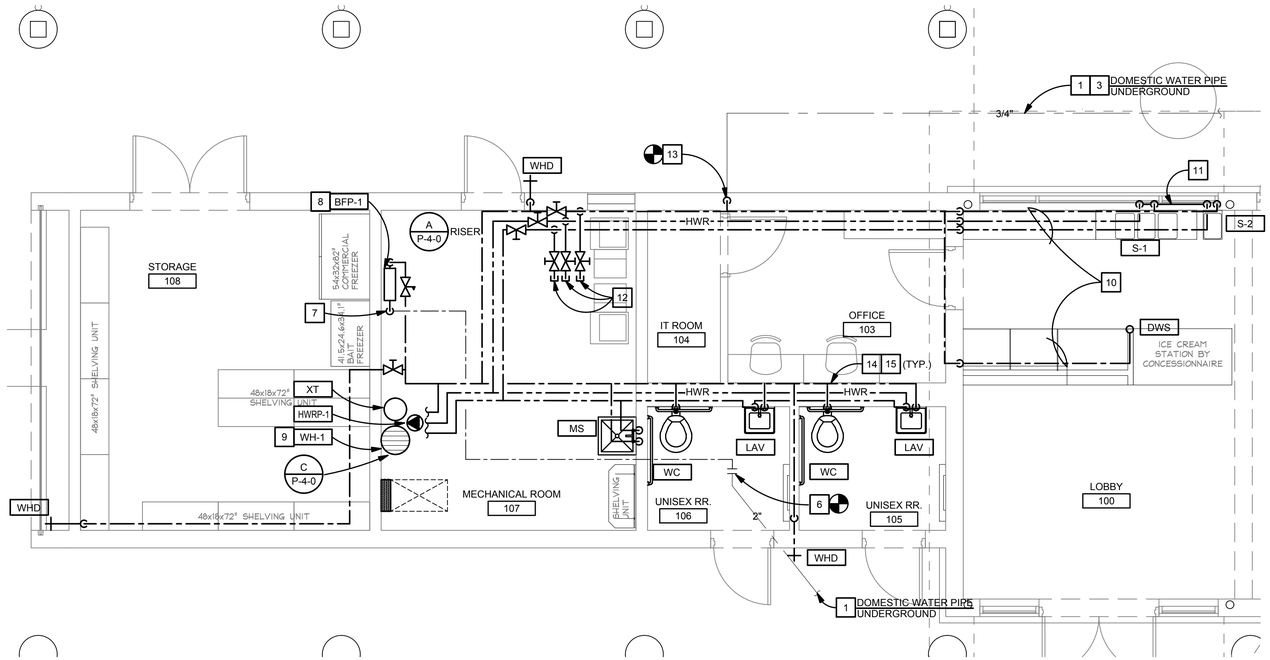
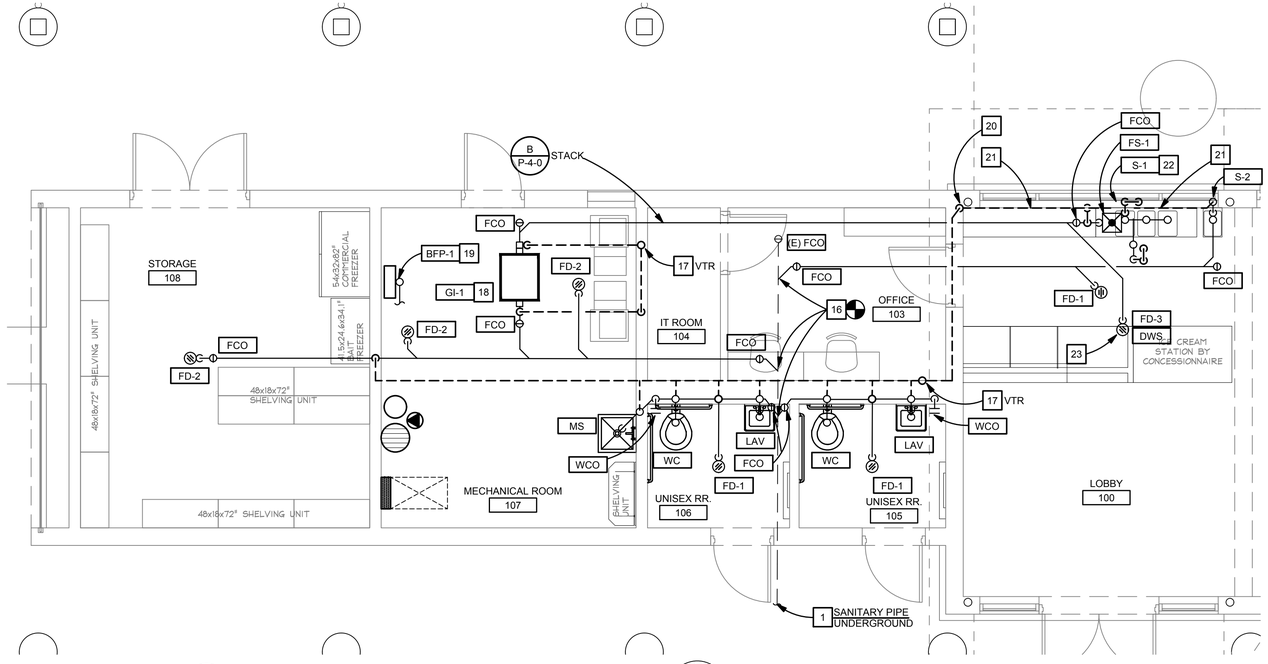
GENERAL PLUMBING PLAN

P-2-0



1 P-2-1 **ENLARGED DOMESTIC WATER PLAN**
1/4" = 1'-0"

SCALE: 1/4"=1' 0 2 4 8



1 P-2-1 **ENLARGED SANITARY PLAN**
1/4" = 1'-0"

SCALE: 1/4"=1' 0 2 4 8

PLUMBING CODED NOTES

1. EXISTING PIPING TO REMAIN, TYPE, SIZE AND ELEVATION ARE AS NOTED. EXISTING WORK SHOWN ON PLANS IS FROM PREVIOUS ENGINEERING DOCUMENTS AND FIELD OBSERVATION. ACTUAL CONDITIONS MAY VARY, AND THIS CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS.
2. EXISTING 2" FUEL PIPE LINES TO EXISTING FUEL TANKS TO REMAIN. UNDERGROUND FUEL PIPE PATHWAY BETWEEN FUEL TANKS AND FUEL DISPENSER STATION ARE UNKNOWN. GENERAL CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND PROTECT EXISTING UNDERGROUND WATER LINE FROM DAMAGES DURING CONSTRUCTION.
3. EXISTING 3/4" WATER LINE FROM DOCK HYDRANT TO REMAIN. GENERAL CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND PROTECT EXISTING UNDERGROUND WATER LINE FROM DAMAGES DURING CONSTRUCTION.
4. EXISTING 2" PVC FORCE SANITARY MAIN FROM SEWAGE EJECTOR TO MANHOLE TO REMAIN. GENERAL CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND PROTECT EXISTING UNDERGROUND WATER LINE FROM DAMAGES DURING CONSTRUCTION.
5. EXISTING MANHOLE AND MAIN SANITARY CONNECTION TO REMAIN. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS AND COORDINATE WITH THE GENERAL CONTRACTOR.
6. EXTEND NEW DOMESTIC COLD WATER PIPE ROUTED UNDERGROUND FROM EXISTING DOMESTIC WATER PIPE TO BACKFLOW PREVENTOR IN MECHANICAL ROOM. REFER TO STACK AND RISER AND PLUMBING SPECIFICATION FOR FURTHER INFORMATION.
7. CONNECT NEW DOMESTIC WATER LINE INTO THE EXISTING DOMESTIC WATER PIPE AND EXTEND AS SHOWN. FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING DOMESTIC WATER PRIOR TO PERFORMING NEW WORK. PROVIDE WINTERIZING DRAIN VALVE IN VERTICAL WATER INLET PIPING. DRAIN TO FLOOR DRAIN.
8. FURNISH AND INSTALL WATER METER, PRESSURE REDUCING VALVE AND BACK FLOW PREVENTOR.
9. PROVIDE NEW WATER HEATER.
10. COLD WATER, HOT WATER & HOT WATER RETURN PIPES TO DROP FROM ABOVE CEILING DROP AND ROUTE TO FIXTURES WITH EXPOSED PIPE ON THE WALL/ BACK OF CABINET AND EXTEND FROM BELOW THE COUNTER TOP/SIDE BOARDS.
11. ROUTE COLD WATER, HOT WATER & HOT WATER RETURN PIPES FROM UNDERNEATH COUNTER TOP/SIDE BOARDS TO UNDER SCULLERY SINK SIDE BOARDS AND COUNTER TOP AT HAND SINK.
12. FURNISH AND INSTALL DRAIN LINE AND VALVE FOR WINTERIZATION. DISCHARGE AT FLOOR DRAIN.
13. DROP NEW DOMESTIC COLD WATER IN WALL TO BELOW SLAB AND CONNECT PIPE TO EXISTING MARINA DOCK PIPING. VERIFY IN FIELD EXACT SIZE AND LOCATION OF WATER CONNECTION.
14. ALL PLUMBING FIXTURES SHALL BE INSTALLED WITH SHUTOFF STOP VALVES TO ISOLATE EACH FIXTURE.
15. FURNISH AND INSTALL WATER HAMMER ARRESTERS IN THE DOMESTIC COLD AND HOT WATER PIPING AS SHOWN ON THE WATER RISER DIAGRAM. WATER HAMMER ARRESTERS TO BE LOCATED IN AN ACCESSIBLE LOCATION.
16. CONNECT NEW SANITARY LINE INTO THE EXISTING SANITARY PIPE AND EXTEND UNDERGROUND AS SHOWN. FIELD VERIFY EXACT LOCATION, SIZE, INVERT, AND FLOW DIRECTION OF EXISTING SANITARY PRIOR TO PERFORMING NEW WORK.
17. INSTALL AND FURNISH NEW SANITARY VENT THROUGH ROOF AS SHOWN. EXTEND VENT PIPE TO PLUMBING FIXTURES. SEE STACK DIAGRAM FOR ADDITIONAL INFORMATION.
18. GREASE INTERCEPTOR WILL NEED TO BE RECESSED. CONTRACTOR SHALL PROVIDE GREASE CONTROL VALVE WITH AIR VENT INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
19. FURNISH AND INSTALL FULL SIZE DRAIN PIPE FROM BACKFLOW PREVENTOR TO FLOOR DRAIN.
20. VENT PIPE FROM SINKS TO BE INSTALLED THROUGH WALL AND EXTEND FROM BELOW THE COUNTER TOP/SIDE BOARDS UP TO ABOVE THE CEILING.
21. VENT PIPE TO BE ROUTED UNDER COUNTER TOP/ SIDE BOARDS FROM PLUMBING FIXTURES TO WALL.
22. ROUTE 2" DRAIN PIPE FROM SCULLERY SINK AND DISCHARGE TO FLOOR SINK. INSTALL GREASE TRAP FLOW CONTROL FITTING IN PIPING. EXTEND VENT FROM FLOW CONTROL FITTING ABOVE THE FLOOD RIM OF THE FIXTURE AND VENT TO ROOM.
23. EXTEND FULL SIZE DRAIN PIPE TO FLOOR DRAIN. PIPE TO DISCHARGE TO FLOOR DRAIN WITH 2" AIR GAP.

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ENLARGE PLUMBING PLANS

P-2-1

PLUMBING FIXTURE SCHEDULE

LABEL	TYPE	DESCRIPTION	MFGR	MODEL NO.	FINISH	GAL/FLUSH	GPM	ROUGH-IN PIPE CONNECTIONS				
								P-TRAP	SAN	VENT	DCW	DHW
WC	WATER CLOSET	VITREOUS CHINA, ELONGATGED, WALL MOUNTED, TOP SPUD, REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING RIM HEIGHT	AMERICAN STANDARD	AFWALL 3351.101	WHITE	---	---	INTEGRAL	4"	2"	1-1/2"	---
	FLUSH VALVE	WATER CLOSET FLUSH VALVE, SINGLE FLUSH RATE, SENSOR-OPERATED, 3 YR BATTERY	SLOAN	SOLIS 8111-1.6-OR	CHROME	1.6	---					
	CARRIER	CAST IRON CONSTRUCTION, 4" CONNECTION	ZURN	Z1201-N_4 OR Z1202-N4	---	---	---					
	SEAT	PLASTIC CONSTRUCTION, OPEN FRONT	AMERICAN STANDARD	5901.100	WHITE	---	---					
LAV	LAVATORY	VITREOUS CHINA, WALL MOUNTED	AMERICAN STANDARD	LUCERNE 0356.421	WHITE	---	---	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"
	FAUCET	SENSOR OPERATED, WITH INTEGRAL MIXING VALVE, BATTERY POWERED, CHROME FINISH FLEXIBLE SUPPIES, AND KEY STOPS	SLOAN	EAF250-ISM	CHROME	---	0.5					
	MIXING VALVE	ASSE 1070 CERTIFIED, UNDER SINK MIXING VALVE. MIN. FLOW 0.25 GPM	WATTS	LFG480	---	---	---					
	STRAINER	WITH OVERFLOW DRAIN AND TAILPIECE	ZURN	Z8743-PC	CHROME	---	---					
	P-TRAP	POLISHED CHROME, WITH ESCUTCHEON AND CLEANOUT	ZURN	Z8700-PC	CHROME	---	---					
	SUPPLY STOPS	KEY STOPS WITH ESCUTCHEONS AND CHROME PLATED FLEXIBLE SUPPLY HOSE	ZURN	Z8804-XL	CHROME	---	---					
	ADA SHIELD	P-TRAP & PLUMBING STOP INSULATION PER ADA	TRUEBRO	LAV GUARD2E-Z	CHROME	---	---					
	CARRIER	CONCEALED ARM SYSTEM FOR SUPPORT OF FIXTURE.	ZURN	Z1231	---	---	---					
MS	MOP SINK	FLOOR MOUNTED, MOLDED STONE CONSTRUCTION, 24"X24"	FIAT	MSB23X24	---	---	---	3"	3"	1-1/2"	3/4"	3/4"
	FAUCET	CHROME PLATED FAUCET WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK AND 3/4" HOSE THREAD ON SPOUT. 8" CENTERSET	FIAT	830AA	---	---	---					
	HOSE	HOSE/BRACKET COMBINATION 30" LONG, FLEXIBLE, HEAVY-DUTY 5/8" CLOTH REINFORCED, RUBBER HOSE WITH 3/4" CHROME COUPLING AND 6" X 3" STAINLESS STEEL BRACKET WITH RUBBER GRIP.	FIAT	832AA	---	---	---					
	MOP HANGER	MOP HANGER BRACKET CONSTRUCTED OF 22 GAUGE #304 STAINLESS STEEL.	FIAT	889CC	---	---	---					
	BUMPER GUARD	24" STAINLESS STEEL BUMPER GUARDS 24" STAINLESS STEEL CONSTRUCTION	FIAT	E88AA24	---	---	---					
	WALL PANEL	24" WALL GUARDONE (1) EXTRA 24" X 12" STAINLESS STEEL PANEL.	FIAT	MSG24	---	---	---					
FD-1	FLOOR DRAIN	CAST IRON CONSTRUCTION, BOTTOM OUTLET	ZURN	ZN415B	NICKEL BRONZE	---	---	3"	3"	1-1/2"	---	---
	TRAP SEAL	BARRIER TYPE DEVICE TO LIMIT EVAPORATION FROM TRAP	ZURN	Z1072	---	---	---					
FD-2	FLOOR DRAIN	CAST IRON CONSTRUCTION, BOTTOM OUTLET,	ZURN	Z415N	CAST IRON	---	---	3"	3"	1-1/2"	---	---
	TRAP SEAL	BARRIER TYPE DEVICE TO LIMIT EVAPORATION FROM TRAP	ZURN	Z1072	---	---	---					
FD-3	FLOOR DRAIN	CAST IRON CONSTRUCTION, BOTTOM OUTLET, W/FUNNEL	ZURN	ZN415E	NICKEL BRONZE	---	---	3"	3"	1-1/2"	---	---
	TRAP SEAL	BARRIER TYPE DEVICE TO LIMIT EVAPORATION FROM TRAP	ZURN	Z1072	---	---	---					
FS-1	FLOOR SINK	CAST IRON CONSTRUCTION, PORCELAIN ENAMEL INTERIOR, BOTTOM OUTLET,	ZURN	ZN1910-2	1 / 2 NICKEL BRONZE	---	---	3"	3"	1-1/2"	---	---
	TRAP SEAL	BARRIER TYPE DEVICE TO LIMIT EVAPORATION FROM TRAP	ZURN	Z1072	---	---	---					
FCO	FLOOR CLEANOUT	PVC CLEANOUT FERRULE, ADJUSTABLE NICKEL COVER, ABS CLEANOUT PLUG	ZURN	CO-2450	---	---	---	---	SEE PLAN	---	---	---
WCO	WALL CLEANOUT	PVC CLEANOUT FERRULE, POLISHED NICKEL BRONZE COVER, ABS CLEANOUT PLUG	ZURN	ZANB-1462	---	---	---	---	SEE PLAN	---	---	---
GCO	GRADE CLEANOUT	PVC CLEANOUT FERRULE, NON-ADJUSTABLE CAST IRON COVER, ABS CLEANOUT PLUG	ZURN	CO-2510	---	---	---	---	SEE PLAN	---	---	---
WHD	WALL HYDRANT	ENCASED NON-FREEZE LOW LEAD WALL HYDRANT, RECESSED, KEY-OPERATED	ZURN	Z1320-C-NB	POLISHED NICKEL-BRONZE	---	---	---	---	---	3/4"	---
HB	HOSE BIBB	TEMPERATE CLIMATE, THREADED OUTLET, VACUUM BREAKER	ZURN	Z1341XL	BRONZE	---	---	---	---	---	3/4"	---
DF	DRINKING FOUNTAIN WALL HUNG W/BOTTLE FILLER	UNIT TO BE FURNISHED WITH MOUNTING PLATE. BOTTLE FILLER IS TO BE FIELD INSTALLED WITH A SEPARATE WATER CONNECTION. BOTTLE FILLER IS TO FURNISHED WITH MOUNTING PLATE WITH COLOR CONFIRMED BY ARCHITECHT.	ELKAY	VRCTLDDWSK	---	---	---	1-1/2"	1-1/2"	1-1/2"	1/2"	---
WHA	WATER HAMMER ARRESTOR	WATER HAMMER ARRESTOR, COPPER CONSTRUCTION	PRECISION PLUMBING PRODUCTS	SC	---	---	---	---	---	---	---	---
S-1	THREE COMPARTMENT SINK	3-COMPARTMENT NSF APPROVED STAINLESS STEEL SINK (BOWL DIMS: 12" X 14" X 12") WITH STAINLESS STEEL LEGS, LEFT AND RIGHT DRAIN BOARDS.	ELKAY	3C10X14-2-12X	STAINLESS	---	---	2"	2"	1-1/2"	1/2"	1/2"
	FAUCET	FOOD SERVICE FAUCET, 8" CENTERS, 1.5 GPM, 4" WRISTBLADES	ELKAY	LK940AT10T4S	CHROME	---	---					
	DRAIN	DRAIN FITTING WITH ROTARY LEVER OPERATED WITH OVERFLOW	ELKAY	LK87RT	STAINLESS	---	---					
S-2	HAND SINK	NSF APPROVED STAINLESS STEEL SINK (BOWL DIMS: 10" X 12" X 5") WALL MOUNTED	ELKAY	EHS-14X	STAINLESS	---	---	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"
	FAUCET	SPLASH MOUNT, GOOSENECK FAUCET	ELKAY	INCLUDE W/SINK	CHROME	---	---					
	STRAINER	GRID STRAINER	ELKAY	INCLUDE W/SINK	STAINLESS	---	---					
DWS	ICE CREAM DIPPER WELL STATION	ICE CREAM SCOPE CLEANING STATION, COUNTERTOP MOUNTED	NEMCO	77316-7A	STAINLESS	---	---	---	---	---	1/2"	---
								---	---	---	---	---

WATER HEATER SCHEDULE

LABEL	FUEL	STORAGE GAL	NO. OF ELEMENTS	ELEMENT KW	MFGR	MODEL NO.	ALTERNATE MANUFACTURERS	RECOVERY GAL AT 70 DEG F	V/PH/HZ	REMARKS
WH-1	ELECTRIC	20	1	9	AO SMITH	DSE-20-9	STATE, BRADFORD WHITE	47	240/1/60	1

REMARKS

1. ADJUST WATER HEATER FOR A DISCHARGE TEMPERATURE OF 110 DEG F

EXPANSION TANK SCHEDULE

LABEL	TYPE	TANK VOLUME GAL	ACCEPTANCE VOLUME GAL	MFGR	MODEL NO.	ALTERNATE MANUFACTURERS	REMARKS
XT-1	DIAPHRAGM	2	0.9	AMTROL	ST-5C-DD	BELL AND GOSSETT, TACO	

BACKFLOW PREVENTER SCHEDULE

FIXTURE	BACKFLOW PREVENTION DEVICE
DOMESTIC WATER SERVICE ENTRANCE	BFP-1, WATTS #009, REDUCED PRESSURE PRINCIPLE, 2" , WITH STRAINER AND SHUTOFF VALVES
WATER CLOSET	FLUSH VALVE FURNISHED WITH INTEGRAL VACUUM BREAKER
SINKS/LAVATORIES	AIR GAP
SERVICE/MOP SINKS	FAUCET FURNISHED WITH INTEGRAL VACUUM BREAKER
ICE CREAM DIPPER WELL	AIR GAP
WALL HYDRANT	FAUCET FURNISHED WITH INTEGRAL VACUUM BREAKER
NOTES:	
1. CONTRACTOR SHALL FURNISH AND INSTALL BACKFLOW PREVENTION DEVICES AT THE EQUIPMENT LISTED ABOVE.	
2. DEVICES LISTED ARE MANUFACTURERS BY WATTS REGULATOR COMPANY. CONTRACTOR MAY SUBMIT AN EQUAL FROM ANOTHER MANUFACTURER FOR REVIEW.	
3. CONTRACTOR TO VERIFY REQUIREMENTS WITH LOCAL AUTHORITIES HAVING JURISDICTION.	

PUMP SCHEDULE

ITEM NO.	MANUFACTURER	MODEL	VOLTAGE	HP	GPM	FT. HD.	REMARKS
HWRP-1	TACO	#0012 -SF4	120/1/60	1/8	2.0	10	A

REMARKS:
A. FURNISH AND INSTALL WITH AQUASTAT TO CONTROL PUMP OPERATION. MANUFACTURERS: TACO, BELL & GOSSETT, GRUNDFOS OR APPROVED EQUAL

GREASE INTERCEPTOR CALCULATIONS

PLUMBING FIXTURE/ KITCHEN EQUIPMENT	INDIRECT CONN. SIZE	DIRECT CONN. SIZE	FLOW RATE BASED ON 1003.3.4.1	FLOW RATE ADJUSTMENT FACTOR	FLOW RATE
3 COMPARTMENT SINK	--	1 1/2"	40 GPM	50%	20 GPM
ICE CREAM DIPPER WELL STATION	--	1 1/2"	2.2 GPM	100%	2.2 GPM
			TOTAL FLOW THROUGH GREASE INTERCEPTOR		22.2 GPM

GREASE INTERCEPTOR SIZE IS BASED ON OPC CODE FOR HYDROMECHANICAL GREASE INTERCEPTOR. GREASE INTERCEPTOR TO BE RATED FOR 25 GPM & 50 LBS. GREASE RETENTION.

GI-1 GREASE INTERCEPTOR, ZURN MODEL #Z-1170R SIZE 600. PDI RATED 25 GPM. 50 LB CAPACITY. FULLY RECESSED CAST IRON CONSTRUCTION WITH ANTI SKID TOP. FURNISH AND INSTALL ZURN #Z1108 FLOW CONTROL AND EXTENSION RINGS AS REQUIRED.

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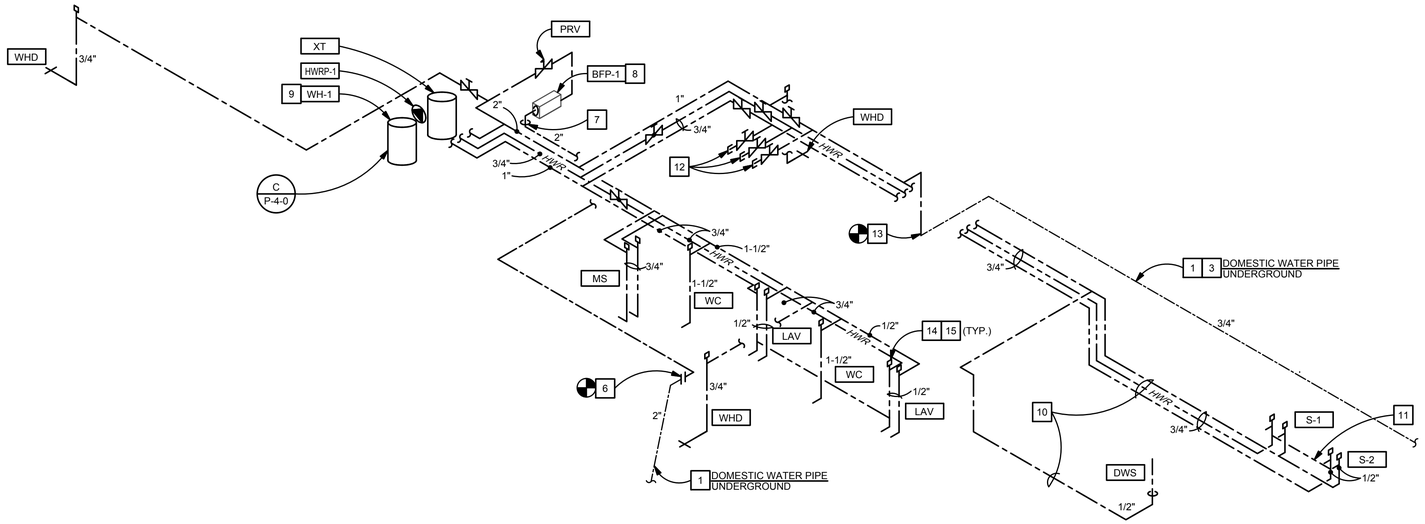
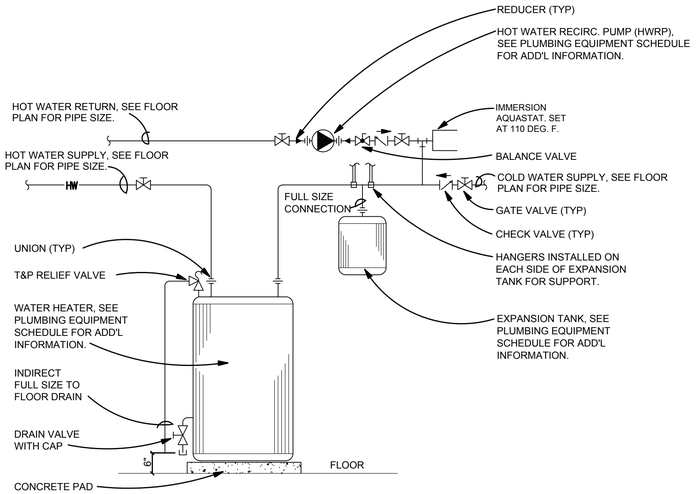
NEW CAMP STORE & NATURE CENTER
DNR-230014.03

PLUMBING SCHEDULES

P-3-0



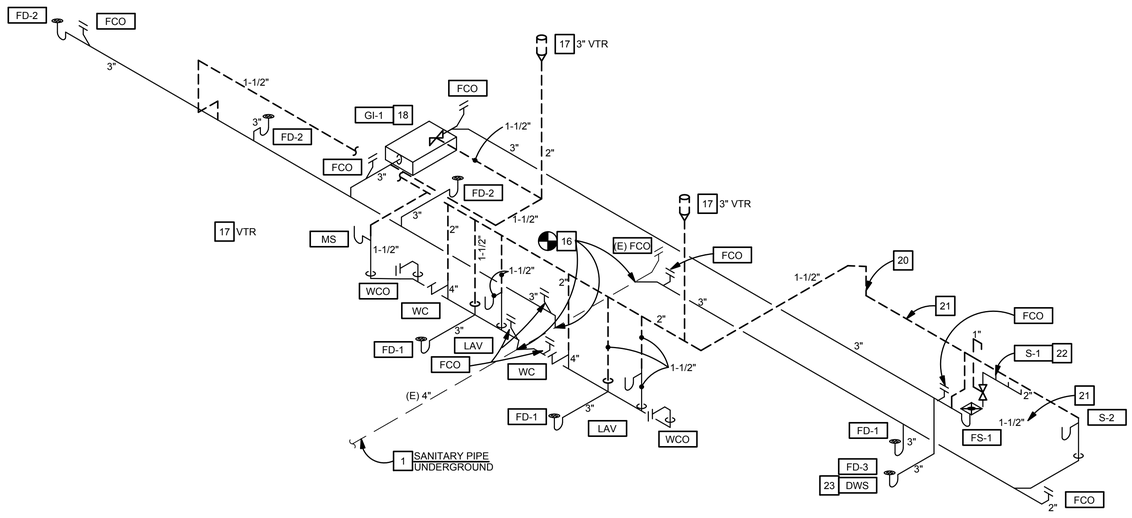
A BUCK CREEK RISER DIAGRAM
NTS



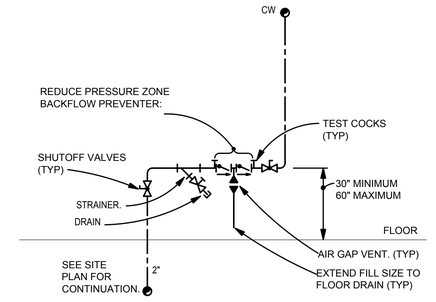
HWRP SEQUENCE OF OPERATION:
A. THE HWRP SHALL BE CONTROLLED BY A TIME CLOCK AND THE IMMERSION AQUASTAT.
B. THE TIME CLOCK SHALL ONLY ALLOW THE HWRP TO OPERATE DURING OCCUPIED HOURS.
C. DURING OCCUPIED HOURS THE IMMERSION AQUASTAT SHALL START/STOP THE HWRP BASED ON THE SET POINT TEMPERATURE. STOP AT 110 F OR ABOVE. START WHEN 100 F OR BELOW.

C WATER HEATER DETAIL
NTS

SEE SHEET P-2-0 & P-2-1 FOR CODED NOTES



B BUCK CREEK STACK DIAGRAM
NTS



D BACKFLOW PREVENTER DETAIL
NTS

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PLUMBING DETAILS, STACK & RISERS

P-4-0

ABBREVIATIONS

AABC	AMERICAN AIR BALANCE COUNCIL
A/C	AIR CONDITIONING UNIT
ABV	ABOVE
AD	ACCESS DOOR
AFD	APPROVED FIRE DAMPER
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS
BDD	BACK DRAFT DAMPERS
BEL	BELOW
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BTUH	BRITISH THERMAL UNIT PER HOUR
CAP	CAPACITY
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	CEILING, COOLING
CONN	CONNECTION OR CONNECTOR
CONT	CONTINUOUS
CONTR	CONTRACTOR
COP	COEFFICIENT OF PERFORMANCE
CSFD	COMBINATION FIRE/SMOKE DAMPER
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
DB	DRY BULB, DECIBEL
DEG	DEGREE
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DISCH	DISCHARGE
DN	DOWN
DTR	DOWN THRU ROOF
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE
ELEC	ELECTRIC
ELV	ELEVATION
ENCL	ENCLOSURE
EQUIV	EQUIVALENT
ESP	EXTERNAL STATIC PRESSURE
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
F	FAHRENHEIT
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
G	GAS
GAL	GALLONS
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HD	HEAD
HP	HORSEPOWER
HTR	HEATER
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
ID	INSIDE DIAMETER
IN	INCH
KW	KILOWATT
L	LONG
LB	POUND
LF	LINEAR FEET
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MFR	MANUFACTURER
MOCP	MAXIMUM OVER CURRENT PROTECTION
MTD	MOUNTED
MTR	MOTOR
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
N.C.A.	NORMALLY CLOSED
N.I.C.A.	NOT IN CONTRACT
N.O.D.A.	NORMALLY OPEN
N/A	NOT APPLICABLE
NTS	NOT TO SCALE
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIMENSION OR DIAMETER
OPNG	OPENING
OSA	OUTDOOR AIR
P	PUMP
PD	PRESSURE DROP
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
RA	RETURN AIR
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SCH	SCHEDULE
SENS	SENSIBLE
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SOV	SHUT-OFF VALVE
SP	STATIC PRESSURE
SQ	SQUARE
SQ FT	SQUARE FEET
SS	STAINLESS STEEL
TEMP	TEMPERATURE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TYP	TYPICAL
UC	UNDERCUT
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UTR	UP THRU ROOF
VAV	VARIABLE AIR VOLUME
VENT	VENTILATION, VENTILATOR
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THRU ROOF
W	WATT
WB	WET BULB
WG	WATER GAUGE
WT	WEIGHT

LEGEND AND SYMBOLS

- SUPPLY DIFFUSER "ALDES"
- SUPPLY DIFFUSER 4 WAY THROW
- SUPPLY DIFFUSER 3 WAY THROW
- SUPPLY DIFFUSER 2 WAY THROW
- RETURN GRILLE
- EXHAUST GRILLE
- ACCESS DOOR/PANEL
- BALANCE DAMPER
- SPIN IN FITTING
- ECCENTRIC DUCT TRANSITION
- CONCENTRIC DUCT TRANSITION
- SUPPLY DUCT - UP
- SUPPLY DUCT - DOWN
- RETURN OR EXH. DUCT - UP
- RETURN OR EXH. DUCT - DOWN
- ELBOW W/TURNING VANES
- CARBON MONOXIDE SENSOR
- NITROGEN DIOXIDE SENSOR
- (TS) EXISTING SIEMENS TEMP. SENSOR

- XX / # EQUIPMENT DESIGNATION
- FIRE DAMPER - FD
- COMBINATION FIRE/SMOKE DAMPER - CFSD
- (M) MOTOR OPERATED DAMPER - MOD
- (Z) ZONE DAMPER - ZD
- AUTOMATIC BACKDRAFT DAMPER - ABD
- FLEXIBLE DUCT
- ROUND DUCT - UP
- ROUND DUCT - DOWN
- (S) TEMPERATURE SENSOR
- (T) THERMOSTAT
- (S) DUCT MTD. SMOKE DETECTOR
- (R) UNDERCUT DOOR
- POINT OF CONNECTION
- (R) RELOCATED
- (E) EXISTING TO REMAIN
- (D) EXISTING TO BE REMOVED
- EF-PX.X EXISTING EXHAUST FAN WHERE "X" IS VARIABLE FOR EACH FAN
- AHU-PX.X "X" IS VARIABLE FOR EACH UNIT
- CO#X / CO-XX-XX EXISTING LABEL ON SENSOR WHERE "X" IS VARIABLE FOR EACH SENSOR

* ALL SYMBOLS MAY NOT BE USED

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OUTSIDE AIR REQUIRMENTS SCHEDULE

ROOM NAME/NO.	OUTDOOR AIR REQUIREMENTS BASED ON IMC - 2017										SYSTEM MARK	ACT CFM/UNIT
	VENTILATION FORMULA PARAMETERS	Az	Ra	TOTAL (Az x Ra)	Pz	Rp	TOTAL (Rz xRp)	Vbz	Ez	Voz		
	OCCUPANT CLASS	SQ. FT.	CFM PER SQ. FT.	CFM TOTAL SQ. FT.	OCCUP. LOAD	CFM PER OCCPT.	CFM TOTAL OCCPT.	CFM SF + OCCPT.	** AIR DIST EFFEC.	CFM REQD.		
Lobby/Store	Retail/Sales	910	0.12	109	14	7.5	102	212	0.80	264	AHU-1	496
Office	Office	168	0.06	10	1	5.0	4	14	0.80	18	AHU-2	120
Nature center	Museum Gallery	1,102	0.06	66	44	7.5	331	397	0.80	496	AHU-3	144
Stoage	Storage/Utility	513	0.12	62	0	0.0	0	62	0.80	77	AHU-4	95
			0.00	0	0	0.0	0	0	0.80	0		
			0.00	0	0	0.0	0	0	0.80	0		
			0.00	0	0	0.0	0	0	0.80	0		
			0.00	0	0	0.0	0	0	0.80	0		
			0.00	0	0	0.0	0	0	0.80	0		
			0.00	0	0	0.0	0	0	0.80	0		
									TOTAL	855	TOTAL	855
TOILET RM.	*** TOILETS	184	0.00	0	0	1.0	120	120	NA	120	EF-1	150
JANITOR CLST	*** CFM/SQ FT	28	0.00	0						0		
									TOTAL	120	TOTAL	150

* OCCUPANCY IS BASED OFF OF ACTUAL OCCUPIED NUMBERS AS INDICATED ON ARCHITECTURAL DRAWINGS.

** ZONE AIR DISTRIBUTION EFFECTIVENESS RATE IS BASED ON HEAT CEILING SUPPLY/CEILING RETURN FROM IMC 2017

*** EXHAUST

VENTILATION FORMULA PARAMETERS

VENTILATION FORMULAS

(Az x Ra) + (Pz x Rp) = Vbz

Vbz / Ez =Voz VENTILATION REQUIRED OUTSIDE AIR

MECHANICAL GENERAL NOTES

1. MECHANICAL CONTRACTOR SHALL VISIT JOB SITE AND BE FAMILIAR WITH EXISTING CONDITIONS AND SITE REQUIREMENTS. NO ALLOWANCE WILL BE MADE FOR EXTRAS DUE TO CONTRACTOR'S FAILURE TO VISIT THE JOB SITE AND/OR FAILURE TO PREDETERMINE ALL CONDITIONS IMPOSED BY THE AUTHORITIES.
2. THE CONTRACTOR FOR THIS DIVISION OF WORK IS REQUIRED TO READ THE SPECIFICATIONS AND REVIEW DRAWINGS FOR ALL DIVISIONS OF WORK AND IN RESPONSIBLE FOR THE COORDINATION OF THIS WORK AND THE WORK OF ALL SUBCONTRACTORS WITH ALL DIVISIONS OF WORK. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS.
3. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ANY ADDITIONAL STRUCTURAL STEEL (MEMBERS) REQUIRED TO SUPPORT ANY MECHANICAL EQUIPMENT. THIS CONTRACTOR SHALL COORDINATE LOCATIONS AND REQUIREMENTS WITH THE GENERAL CONTRACTOR PRIOR TO BID.
4. ALL 24 VOLT COMMUNICATION AND/OR SENSOR WIRING ASSOCIATED WITH THE HVAC CONTROL SYSTEM SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. ALL WIRING AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODES, AND LOCAL CODE REQUIREMENTS. MECHANICAL CONTRACTOR IS TO MAKE ALL FINAL WIRING CONNECTIONS TO THE TEMPERATURE CONTROL SYSTEM PER THE MANUFACTURER'S RECOMMENDATIONS.
5. MECHANICAL CONTRACTOR WILL PERFORM STARTUP ON ALL HVAC EQUIPMENT AND CONTROL SYSTEM. NO TEMPORARY HEATING OR COOLING FROM PROVIDED HVAC UNITS WILL BE PERMITTED WITHOUT PROPER STARTUP PROCEDURES AS OUTLINED IN THE INSTALLATION AND STARTUP BOOKLETS PROVIDED WITH THE HVAC EQUIPMENT AND APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE.
6. CONTRACTOR IS RESPONSIBLE FOR THE CONDITION OF ADJACENT STRUCTURE AND FINISHES. CONTRACTOR TO PHOTOGRAPH EXISTING ADJACENT CONDITIONS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE GENERAL CONTRACTOR OF ANY ADVERSE CONDITIONS. ANY CONDITION NOT RECORDED AND PROVIDED NOTIFICATION TO THE GENERAL CONTRACTOR WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR. CONTRACTOR SHALL REPAIR OR REPLACE ALL STRUCTURAL DAMAGED AS RESULT OF HVAC SYSTEM MODIFICATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING & COVERING EXISTING FIRE ALARM, SPRINKLER, AND VENTILATION EQUIPMENT DURING CONSTRUCTION.
8. ANY CONSTRUCTION CAUSING EXCESSIVE NOISE OR ODORS SHALL WORK "CONTRACTOR'S REQUIRED WORKING HOURS".
9. ANY CONSTRUCTION CAUSING EXCESSIVE DUST MUST INSTALL A TEMPORARY DUST ENCLOSURE TO PREVENT DAMAGE TO THE SURROUNDING STRUCTURE AND VEHICLES.

GENERAL DEMOLITION NOTES

1. EXISTING WORK SHOWN ON PLANS IS FROM PREVIOUS ENGINEERING DOCUMENTS AND FIELD OBSERVATION. ACTUAL CONDITIONS MAY VARY, AND THIS CONTRACTOR SHALL FIELD VERIFY EXISTING WORK PRIOR TO SUBMITTING BID AND MAKE MINOR ADJUSTMENTS AS NECESSARY TO COMPLETE NEW WORK. IF EXISTING CONDITIONS PROHIBIT NEW WORK, NOTIFY THE OWNER'S REPRESENTATIVE FOR REDIRECTION PRIOR TO DOING ANY WORK.
2. ALL REMOVED DEVICES AND APPURTENANCES TO BE DISPOSED OF IN A CODE APPROVED MANNER BY THIS CONTRACTOR UNLESS DIRECTED OTHERWISE. CONTRACTOR TO USE CAUTION WHEN REMOVING EXISTING ITEMS.
3. ALL PATCHING OF EXISTING PENETRATIONS THROUGH THE ROOF, INTERIOR AND EXTRIOR WALLS THAT ARE NO LONGER REQUIRED FOR THE NEW SYSTEMS BEING INSTALLATED ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. COORDINATE THESE LOCATIONS WITH THE GENERAL CONTRACTOR

GENERAL PROJECT DESCRIPTION

THE EXISTING BUILDING STRUCTURE CONSISTS OF (2) MODULES/BUILDINGS THAT IS CONNECTED BY A ROOF STRUCTURE. THE BUCK CREEK NATURE CENTER WILL BE RENOVATED TO CONSIST OF (1) BUILDING UNDER A NEW SLOPED ROOF. THE NEW BUILDING WILL CONSIST OF A NATURE CENTER AREA, LOBBY/SHOP AREA, AND UTILITY AREA.

THE NATURE CENTER AREA HAS EXISTING EXHAUST VENTILATION THROUGH THE ROOF AND WINDOW AIR CONDITIONING UNIT FROM THE EXISTING CONCESSION AREAS THAT ARE TO BE REMOVED. THE DESIGN FOR THE NATURE CENTER IS TO CONDITION THE SPACE WITH ONE 5-TON SPLIT DX HEAT PUMP HVAC SYSTEMS. THE SYSTEMS WOULD BE LOCATED IN A MECHANICAL CLOSET IN THE SOUTH EAST CORNER OF THE NATURE CENTER WITH THE EXTERIOR CONDENSING UNIT LOCATED OUTSIDE IN A SERVICE AREA. THE CONDENSING UNITS WILL BE SCREENED BY A FENCE.

THE LOBBY/ SHOP AREA DOES NOT CONTAIN ANY EXISTING HVAC EQUIPMENT THAT IS TO BE REMOVED. THE DESIGN FOR LOBBY/SHOP AREA IS TO CONDITION THE SPACE WITH TWO SPLIT DX HEAT PUMP HVAC SYSTEMS TO CONDITION THIS AREA. (1) 3-TON & (1) 2-1/2 TON. THE DUCTWORK DISTRIBUTION WOULD BE VIA EXPOSED ROUND DUCTWORK. THE 3-TON SYSTEMS WOULD BE LOCATED IN THE MECHANICAL ROOM IN THE UTILITY AREA WITH THE EXTERIOR CONDENSING UNITS LOCATED NEAR THE FUEL TANK. THE CONDENSING UNITS WILL BE SCREENED BY A FENCE. THE 2-1/2 TON SYSTEMS WOULD BE LOCATED IN A MECHANICAL CLOSET IN THE SOUTH EAST CORNER OF THE NATURE CENTER WITH THE EXTERIOR CONDENSING UNIT LOCATED OUTSIDE IN A SERVICE AREA. THE CONDENSING UNITS WILL BE SCREENED BY A FENCE.

THE UTILITY AREA HAS EXISTING EXHAUST VENTILATION THROUGH THE ROOF AND WINDOW AIR CONDITIONING UNIT FROM THE EXISTING STORAGE SHOP AREA. THE DESIGN FOR LOBBY/SHOP AREA IS TO CONDITION THE SPACE WITH ONE 2-TON SPLIT DX HEAT PUMP HVAC SYSTEMS. THE SYSTEM WOULD BE LOCATED IN THE MECHANICAL ROOM IN THE UTILITY AREA WITH THE EXTERIOR CONDENSING UNIT LOCATED NEAR THE FUEL TANK. THE CONDENSING UNITS WILL BE SCREENED BY A FENCE.

OUR UNDERSTANDING IS THAT THE FACILITY WILL BE OPERATED SEASONALLY AND WINTERIZED DURING THE WINTER MONTHS EXCEPT FOR THE NATURE CENTER AREA.

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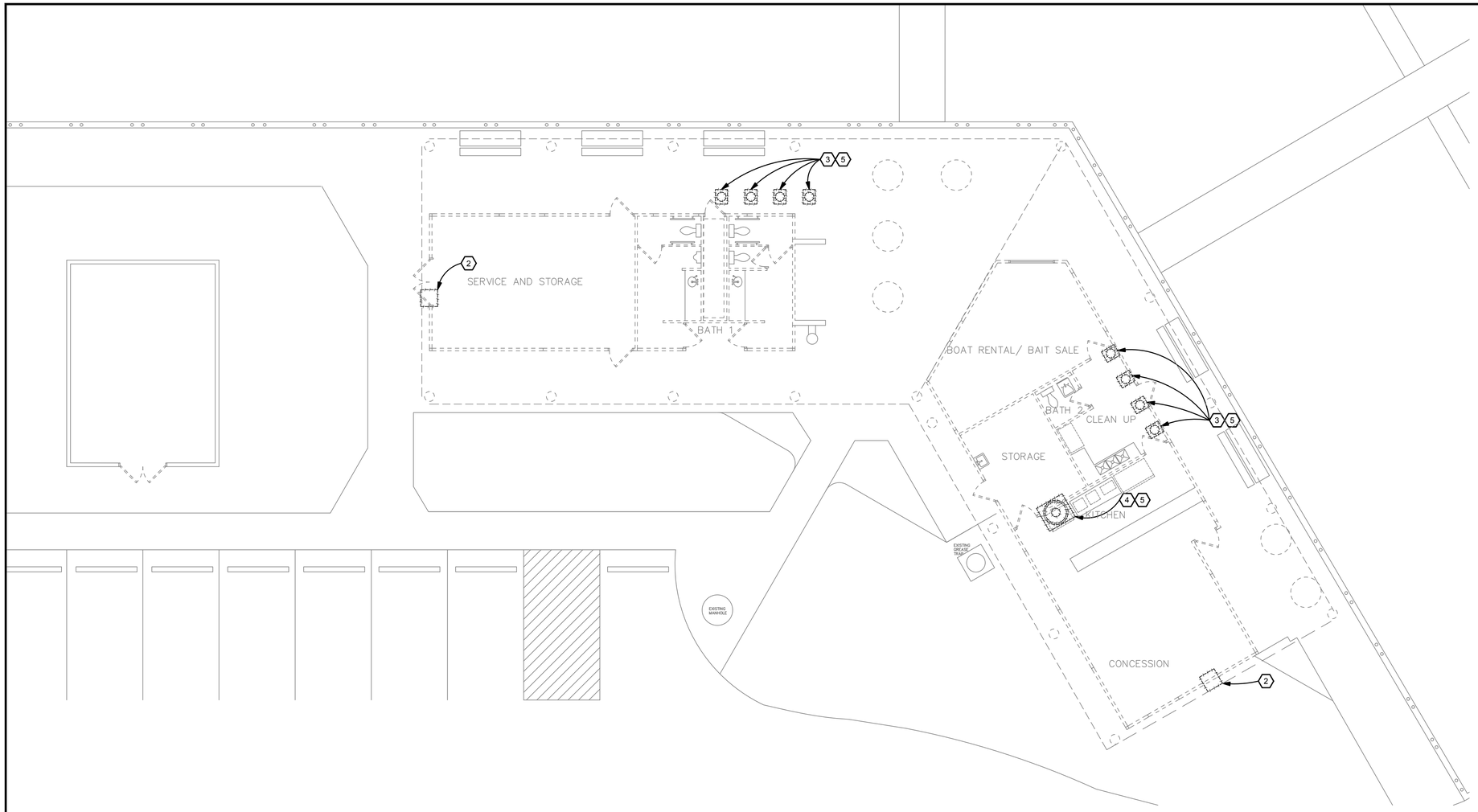
HVAC LEGENDS AND NOTES

H-0-0



DEMOLITION CODED NOTES (#)

1. EXISTING UTILITIES (DUCTWORK, EQUIPMENT, PIPING, CONDUIT, ETC.) TO REMAIN. TYPE, SIZE AND ELEVATION IF KNOWN ARE AS NOTED. EXISTING WORK SHOWN ON PLANS IS FROM PREVIOUS ENGINEERING DOCUMENTS AND FIELD OBSERVATION. ACTUAL CONDITIONS MAY VARY, AND THIS CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND EXACT LOCATION OF UTILITIES.
2. CONTRACTOR TO REMOVE ALL SUPPLY AIR DEVICES AND CORRESPONDING AND ACCESSORIES FROM WINDOW AIR CONDITIONER UNIT TO THE TERMINAL DEVICES. (I.E. AIR DEVICES, LOUVERS, ROOF CAPS ETC.)
3. CONTRACTOR TO REMOVE EXISTING ROOF VENTILATION EXHAUST FAN, EXHAUST DUCT, AIR DEVICES AND CORRESPONDING CONTROLS AND ACCESSORIES.
4. CONTRACTOR TO REMOVE EXISTING KITCHEN ROOF VENTILATION EXHAUST FAN, EXHAUST DUCT, AIR DEVICES AND CORRESPONDING CONTROLS AND ACCESSORIES.
5. ALL PATCHING OF EXISTING PENETRATIONS THROUGH THE ROOF, INTERIOR AND EXTERIOR WALLS THAT ARE NO LONGER REQUIRED FOR THE NEW SYSTEMS BEING INSTALLED ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. COORDINATE THESE LOCATIONS WITH THE GENERAL CONTRACTOR

1 / H-1-0 GENERAL HVAC DEMOLITION PLAN

1/8" = 1'-0"

SCALE: 1/8"=1' 0 4 8 16

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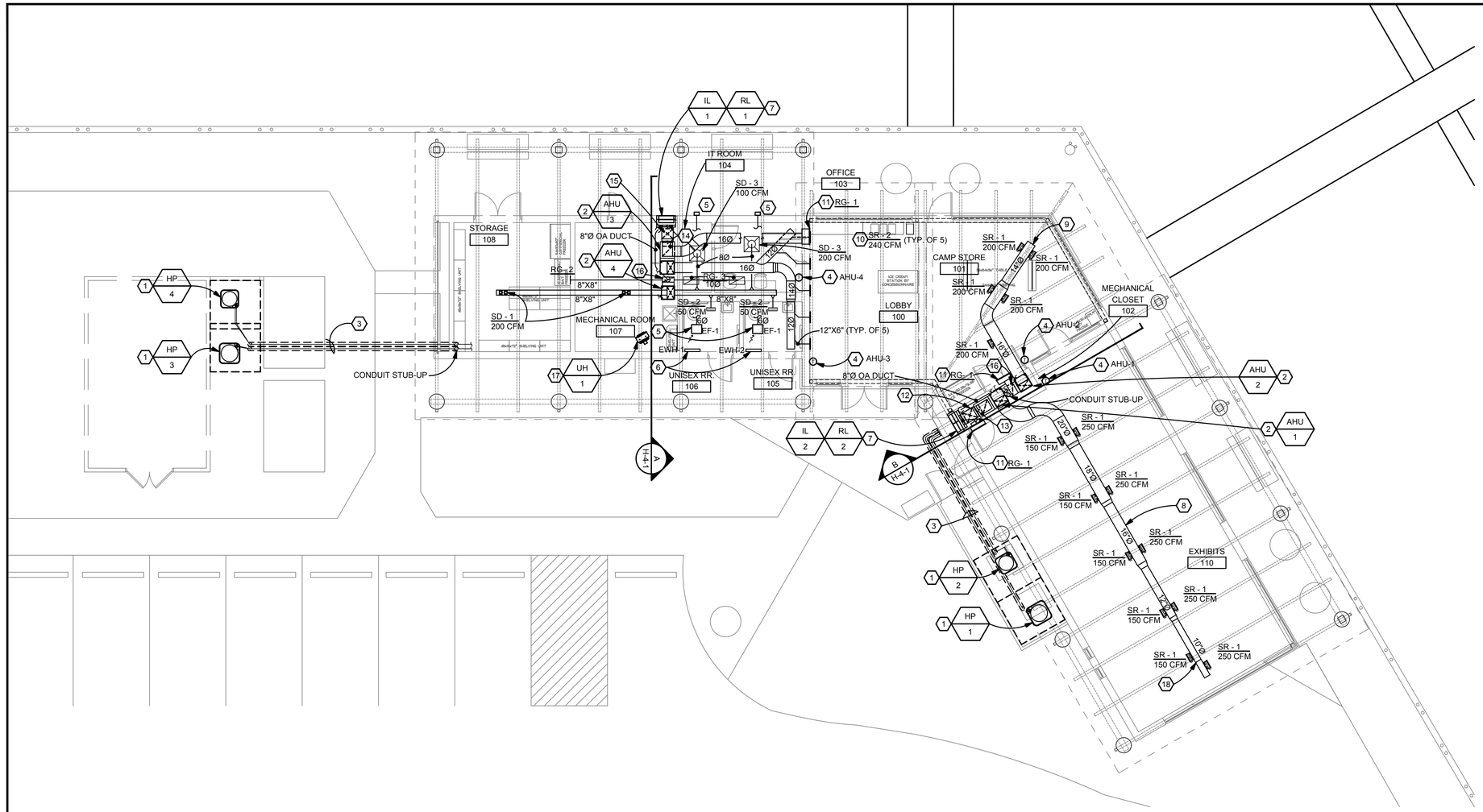
SCALE

2/6/2024
DATE

BUCK CREEK STATE PARK
NEW CAMP STORE & NATURE CENTER
DNR-230014.03

GENERAL HVAC DEMOLITION PLAN

H-1-0



HVAC CODED NOTES

1. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL AN AIR COOLED HEAT PUMP CONDENSING UNIT. CONTRACTOR IS SHALL FURNISH AND INSTALL CONCRETE HOUSE KEEPING PAD FOR UNIT. INSTALL WITH PROPER SERVICE CLEARANCE AREA AS RECOMMENDED BY MANUFACTURER. REFER TO "AHU/ HP EQUIPMENT SCHEDULE" ON SHEET H-3-0 FOR ADDITIONAL INFORMATION.
2. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL A SPLIT DX AIR HANDLER UNIT. COORDINATE INSTALLATION OF UNIT WITH PLUMBING AND ELECTRICAL EQUIPMENT IN MECHANICAL ROOM(S). INSTALL WITH PROPER SERVICE CLEARANCE AREA AS RECOMMENDED BY MANUFACTURER. REFER TO "AIR HANDLER UNIT SCHEDULE" ON SHEET H-3-0 FOR ADDITIONAL INFORMATION. CONTRACTOR SHALL FURNISH AND INSTALL ALL UNITS ON CONCRETE HOUSE KEEPING PAD AND 1-1/4" ANGLE IRON SUPPORT FRAME. DUCT CONNECTIONS TO AHU AND ASSOCIATED MIXING BOXES IS TO BE FULL SIZE. TRANSITION AS NEEDED FOR DUCT DISTRIBUTION SIZES SHOWN ON PLANS.
3. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL NEW 6"Ø PVC PIPE FROM SPLIT DX AIR HANDLER TO STUB-UP LOCATION INSIDE BUILDING AS SHOWN. CONTRACTOR SHALL FURNISH, INSTALL, AND ROUTE NEW REFRIGERANT LINES FROM THE SPLIT DX AIR HANDLER TO AIR COOLED HEAT PUMP CONDENSING UNIT AND MAKE FINAL CONNECTIONS. CONTRACTOR SHALL INSTALL REFRIGERANT PIPING PER MANUFACTURER'S REQUIREMENTS.
4. THE MECHANICAL CONTRACTOR SHALL FURNISH NEW ZONE THERMOSTAT IN LOCATION SHOWN ON PLAN FOR SPLIT DX HEAT PUMP HVAC SYSTEM TEMPERATURE CONTROL AND INSTALLED AND WIRED BY THE MECHANICAL CONTRACTOR AT 48" ABOVE FINISHED FLOOR. FURNISH WITH LOCKING COVER. VERIFY EXACT LOCATION OF THERMOSTAT WITH OWNER.
5. SUSPEND EXHAUST FAN WITH HANGER ROD FROM ROOF STRUCTURE. CONNECT AND INSTALL 6"Ø EXHAUST DUCTS INTO WALL CAP. 6"Ø EXHAUST VENT WITH WALL CAP. EXHAUST WALL CAP SHALL BE ALUMINUM CONSTRUCTION, WITH WEATHER HOOD, SPRING LOADED DAMPER, GASKET, AND BIRD SCREEN, FAMCO MODEL WVEB4 OR EQUAL.
6. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL NEW ELECTRIC WALL HEATERS IN LOCATION SHOWN ON PLAN. ELECTRIC WALL HEATER SHALL BE INSTALLED 12" AWAY FROM DOOR LATCH.
7. INTAKE LOUVER IS INSTALLED 18" ABOVE GRADE. RELIEF LOUVER IS INSTALLED AT 24" ABOVE TOP OF INTAKE LOUVER. INTAKE/RELIEF LOUVERS ARE STACKED. SEE ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION OF THE LOUVERS. RELIEF LOUVER IS TO BE INSTALLED AT THE TOP LOUVER. INSTALL FULL SIZE 12" DEEP INSULATED PLENUM AT THE HIGHEST POINT IN THE TOP LOUVER FOR RELIEF AIR. INSTALL FULL SIZE 12" DEEP INSULATED PLENUM AT THE HIGHEST POINT IN THE BOTTOM LOUVER FOR OUTSIDE AIR. PLENUMS ARE TO BE SLOPED TO DRAIN TOWARDS THE LOUVER.
8. DUCT IS TO BE INSTALLED EXPOSED TIGHT TO BOTTOM OF GLUELAM BEAMS.
9. DUCT IS TO BE INSTALLED TO THE BOTTOM OF GLUELAM BEAM AND IS TO RISE PARALLEL TO THE BEAM AS IT SLOPES UP.
10. SIDE WALL SUPPLY AIR REGISTERS ARE TO BE INSTALLED WITH THE BOTTOM AT 8'-6" ABOVE FINISHED FLOOR.
11. RETURN AIR GRILLE IS TO BE INSTALLED ON SIDE WALL AS HIGH AS POSSIBLE. RETURN GRILLE IS TO HAVE A FULL SIZE INSULATED PLENUM 12" DEEP ON THE BACK OF GRILLE. REFER TO "HVAC ELEVATIONS" ON SHEET H-4-1 FOR ADDITIONAL INFORMATION.
12. EXTEND 18"X 16" DUCT FROM OUTSIDE AIR INTAKE PLENUM AT LOUVER TO OUTSIDE AIR CONNECTION TO MIXING BOX. TRANSITION AS NEEDED TO MAKE FULL SIZE CONNECTION TO MIXING BOX.
13. EXTEND 18"X 16" DUCT FROM RETURN AIR DUCT SYSTEM TO RETURN AIR CONNECTION AT MIXING BOX. TRANSITION AS NEEDED TO MAKE FULL SIZE CONNECTION TO MIXING BOX. EXTEND 18"X16" RELIEF AIR DUCT FROM RETURN AIR DUCT TO PLENUM AT RELIEF LOUVER. RELIEF DUCT IS ROUTED ABOVE OUTSID AIR DUCT.
14. EXTEND 16"X 14" DUCT FROM OUTSIDE AIR INTAKE PLENUM AT LOUVER TO OUTSIDE AIR CONNECTION TO MIXING BOX. TRANSITION AS NEEDED TO MAKE FULL SIZE CONNECTION TO MIXING BOX.
15. EXTEND 16"X 14" DUCT FROM RETURN AIR DUCT SYSTEM TO RETURN AIR CONNECTION AT MIXING BOX. TRANSITION AS NEEDED TO MAKE FULL SIZE CONNECTION TO MIXING BOX. EXTEND 16"X14" RELIEF AIR DUCT FROM RETURN AIR DUCT TO PLENUM AT RELIEF LOUVER. RELIEF DUCT IS ROUTED ABOVE OUTSID AIR DUCT.
16. 20"X10" RETURN AIR DROP TO AHU. TRANSITION AS NEEDED TO MAKE FULL SIZE CONNECTION RETRUN AIR CONNECTION AT UNIT.
17. UNIT HEATER TO BE INSTALLED WITH BOTTOM OF UNIT 8'-0" AFF.
18. LAST AIR DEVICE ON DCUT MAIN IS TO BE INSTALLED ON IT'S OWN SECTION OF DUCT TO ALLOW THE DIRECTION OF THE AIR DISCHARGE TO BE ADJUSTED. FINAL ADJUSTMENT/ROTATION OF DUCT WILL BE COORDINATED WITH THE DISPLAYS IN THE NATURE CENTER.

The mechanical contractor is to submit a shop drawing for the refrigerant piping system to the manufacturer's equipment supplier. Refrigerant shop drawing is to include the following:

1. **Floor plan of the field determined refrigerant piping routing.**
2. **Riser diagram of the refrigerant piping with all actual pipe lengths, elbows and refrigerant pipes devices.**

As part of the submittal by the manufacturer's equipment supplier the refrigerant piping shop drawing above will be included with the equipment submittal to the engineer for approval. The refrigerant shop drawing shall include all pipe sizes and installation recommendations from the manufacturer based on the sketch provided by the contractor.

If the contractor does not provide this information, and/or installs this piping without manufacturer's recommendations and engineers' approval, then contractor shall assume all responsibility and liability for the refrigerant piping installation and warranty of the HVAC equipment.

1 / H-2-0 GENERAL HVAC PLAN
1/8" = 1'-0"

SCALE: 1/8"=1' (0, 4, 8, 16)

FMS # 22009 / MCDE# 22056

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ENGINEERING
Ohio Department of Natural Resources

DESIGNED BY:	JA/ MM
DRAWN BY:	JA/ MM
CHECKED BY:	WB
APPROVED BY:	MC

NO.	DATE	SUBJECT
-	2/6/2024	RE-BID DOCUMENTS

REVISION OR ISSUE

AS NOTED
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GENERAL HVAC PLAN

H-2-0

AHU/ HP Equipment Schedule

													SUPPLY FAN					COOLING							HEATING							ELECTRICAL							
Mark	AHRI Reference	Unit Type	Tons	Heat Pump Model	Coil Model	Orientation	SEER	SEER2	EER	EER2	HSPF	HSPF2	Supply Air Flow (cfm)	Supply Static Pressure (in.WC)	Total Static Pressure (in.WC)	Nominal Power (hp)	Required Power (hp)	Ambient (°F)	Condenser Ambient (°F)	Entering Air DB (°F)	Entering Air WB (°F)	Total (MBH)	Sens (MBH)	Leaving Air DB (°F)	Leaving Air WB (°F)	HP Design (°F)	HP Output (MBH)	Output at 47 deg F (MBH)	Output at 17 deg F (MBH)	Electric Heat Size (kW)	Leaving Air DB (°F)	Heat Rise (°F)	Condenser Voltage	Condenser MCA (amp)	Condenser MOCP (amp)	Air Handler Voltage	Air Handler MCA1 (amp)	Air Handler MOCP1 (amp)	Electric Heat Voltage	Options
AHU-1 & HP-1	210041262	HP / Air Handler	5.0	ML17XP1-060-230	CBA27UHE-060	Upflow/Horizontal	15.0	14.4	12.5	11.7	9.6	8.0	2,070 cfm	0.50	0.75	1.00	1.00	90	101	79.3	65.9	56.7	47.7	56.4	55.3	17.0	35.8	54.0	35.8	15.0	39.7	23.7	240 Volt 1 Phase	32.6	50	240 Volt 1 Phase	36	40	240 Volt 1 Phase	1, 2, 4, 6
AHU-2 & HP-2	210046917	HP / Air Handler	2.5	ML17XP1-030-230	CBA27UHE-030	Upflow/Horizontal	17.1	15.8	14.0	13.0	10.6	8.5	1,026 cfm	0.50	0.75	0.50	0.50	88.1	101	76.0	63.8	28.4	23.1	53.4	53.4	17.0	18.6	27.8	18.6	5.0	32.6	15.8	240 Volt 1 Phase	15.6	25	240 Volt 1 Phase	31	35	240 Volt 1 Phase	3, 5, 6
AHU-3 & HP-3	210048679	HP / Air Handler	3.0	ML17XP1-036-230	CBA27UHE-036	Upflow/Horizontal	16.7	16.0	13.5	13.0	10.0	8.5	1,268 cfm	0.50	0.75	0.50	0.50	88.1	101	76.0	63.8	34.1	27.9	53.3	53.3	17.0	23.2	35.0	23.2	5.0	30.1	13.2	240 Volt 1 Phase	17.8	30	240 Volt 1 Phase	31	35	240 Volt 1 Phase	1, 3, 4, 6
AHU-4 & HP-4	210040010	HP / Air Handler	2.0	ML17XP1-024-230	CBA27UHE-024	Upflow/Horizontal	17.4	16.2	14.0	13.5	10.0	8.1	884 cfm	0.50	0.75	0.50	0.50	88.1	101	80.0	67.0	23.8	19.6	55.8	55.8	17.0	13.6	21.4	13.6	5.0	34.0	19.8	240 Volt 1 Phase	15.1	25	240 Volt 1 Phase	31	35	208 Volt 1 Phase	3, 5, 6

Included System Options
1 - High Performance Economizer Field Installed
2 - 15 KW Electric Heat 208/230 1Ph with CB Field Installed
3 - 5 KW Electric Heat 208/230 1Ph with CB Field Installed
4 - Single Enthalpy Control (High Performance Economizer) Field Installed
5 - Low Ambient Control (30 Deg) Fan Cycling Field Installed
6 - iComfort M30 Smart Thermostat Field Installed

Notes
Cooling performance based on specified design altitude.
Heating performance based on sea level.

LENNOX COMPRESSOR LOCK OUT PROCEDURE

1. WHEN IN HEAT MODE AND THE OUTDOOR TEMPERATURE IS BELOW THE PROGRAMMED LOW BALANCE POINT, THEN THE HEAT PUMP HEATING COMPRESSOR WILL NOT OPERATE.
2. WHEN IN HEAT MODE AND THE OUTDOOR TEMPERATURE IS ABOVE THE PROGRAMMED HIGH BALANCE POINT, THEN THE HEAT PUMP HEATING COMPRESSOR WILL NOT OPERATE.
3. WHEN IN HEAT MODE AND THE OUTDOOR TEMPERATURE IS BETWEEN THE PROGRAMMED LOW AND HIGH BALANCE POINTS, THEN THE HEAT PUMP HEATING COMPRESSOR WILL OPERATE.
4. THE OPTIONS TO SET LOW AND HIGH BALANCE POINT CAN BE ENABLE OR DISABLED. THE DEFAULT SETTING IS THAT THIS OPTION IS DISABLED. THE CONTRACTOR WILL NEED TO ENABLE THIS OPTION AND SET THE FOLLOWING:
   - 4.1. LOW BALANCE POINT DEFAULT IS 25 DEGREES FAHRENHEIT FOR HEATING. THE CONTRACTOR SHALL PROGRAM THIS SETTING TO BE 34 DEGREES FAHRENHEIT.
   - 4.2. HIGH BALANCE POINT DEFAULT IS 50 DEGREES FAHRENHEIT FOR HEATING. THE CONTRACTOR SHALL PROGRAM THIS SETTING TO 55 DEGREES FAHRENHEIT.

AIR DEVICE SCHEDULE

TAG	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	TYPE	FACE SIZE	NECK SIZE	CFM	MATERIAL	MOUNTING	DAMPER	REMARKS
SR-1	TITUS	S300FS	SPIRAL PIPE REGISTER	12" X 8"	10"X6"	SEE PLAN	ALUMINUM	DUCT	YES	1,3
SR-2	TITUS	272RS	WALL SUPPLY REGISTER	14" X 8"	12" X 6"	SEE PLAN	ALUMINUM	SIDE WALL	YES	1,2
SD-1	TITUS	272RS	SUPPLY DIFFUSER	12" X 8"	10" X 6"	SEE PLAN	ALUMINUM	DUCT	YES	1,2
SD-2	TITUS	272RS	SUPPLY DIFFUSER	12" X 8"	10" X 6"	SEE PLAN	ALUMINUM	SIDE WALL	YES	1,2
SD-3	TITUS	TMSA-AA	SUPPLY DIFFUSER	24" X 24"	8Ø	SEE PLAN	ALUMINUM	LAY-IN	YES	1,2
RG-1	TITUS	23FL	RETURN GRILLE	24" X 24"	22" X 22"	SEE PLAN	ALUMINUM	SIDE WALL	NO	1
RG-2	TITUS	23FL	RETURN GRILLE	12" X 12"	10" X 10"	SEE PLAN	ALUMINUM	SIDE WALL	YES	1,2
RG-3	TITUS	23FL	RETURN GRILLE	24" X 12"	22" X 10"	SEE PLAN	ALUMINUM	LAY-IN	YES	1,2

REMARKS
1. WHITE FINISH. GENERAL CONTRACTOR TO PAINT IF REQUIRED BY ARCHITECT.
2. OPPOSED BLADE DAMPER
3. ADS AIR SCOOP

ELECTRIC WALL HEATER SCHEDULE

TAG	MOUNTING	SUPPLY CFM	KW	V/PH/HZ	BASIS OF DESIGN MANUFACTURER / MODEL	REMARKS
EWH-1	SURFACE	135	2	240/1/60	TRANE UHWA 021B2AT	INTEGRAL THERMOSTAT
EWH-2	SURFACE	135	2	240/1/60	TRANE UHWA 021B2AT	INTEGRAL THERMOSTAT

ELECTRIC UNIT HEATER SCHEDULE

TAG	MOUNTING	TYPE	SUPPLY CFM	KW	V/PH/HZ	BASIS OF DESIGN MFGR / MODEL	ALTERNATE MFGRS	REMARKS
UH-1	WALL	HOSE-DOWN	400	3.3	240/1/60	TRANE UHRA 031GAAT	CHROMALOX, QMARK	INTEGRAL THERMOSTAT

LOUVER SCHEDULE

LABEL	SERVICE	TYPE	MAXIMUM CFM	DIMENSIONS			BASIS OF DESIGN MANUFACTURER	MODEL	ALTERNATE MFGRS	REMARKS
				W (IN)	H (IN)	D (IN)				
SL-1	SUPPLY	FIXED	1500	30	24	6	RUSKIN	ELF6375DX	GREENHECK, AIROLITE	1, 3
SL-2	SUPPLY	FIXED	2200	30	30	6	RUSKIN	ELF6375DX	GREENHECK, AIROLITE	1, 3
RL-1	RELIEF	FIXED	1300	30	24	6	RUSKIN	ELF6375DX	GREENHECK, AIROLITE	1, 3
RL-2	RELIEF	FIXED	2000	30	30	6	RUSKIN	ELF6375DX	GREENHECK, AIROLITE	1, 3

REMARKS
1. ALUMINUM INSECT SCREEN
2. MOTORIZED DAMPERS, 24V, 2 POSITION ACTUATOR, POWER OPEN-SPRING CLOSED, WITH END SWITCH CONTACTS.
3. BLADE AND JAMB SEALS

AHU/HP SPLIT DX SEQUENCE OF OPERATION - ECONOMIZER

AHU-1/HP-1; AHU-3/HP-3

FAN CONTROL:
THE SUPPLY FAN IS TO RUN CONTINUOUSLY DURING THE OCCUPIED MODE AND WILL CYCLE ON AND OFF DURING THE UNOCCUPIED MODE BASED ON A CALL FOR HEATING OR COOLING. THE UNOCCUPIED SET POINT FOR COOLING WILL BE 80 DEGREES FAHRENHEIT AND 60 DEGREES FAHRENHEIT FOR HEATING.

THERMOSTAT:
THE ADJUSTABLE ROOM THERMOSTAT WITH AUTOMATIC HEATING/COOLING CHANGEOVER SHALL CONTROL THE SPACE TEMPERATURE BASED ON SET POINT. THE CONTROL OF THE OCCUPIED/ UNOCCUPIED SETBACK MODE SHALL BE THROUGH A SEVEN DAY 24 HOUR PROGRAMMABLE ELECTRONIC TIME CLOCK. THE OCCUPIED SET POINT FOR COOLING WILL BE 75 DEGREES FAHRENHEIT AND 70 DEGREES FAHRENHEIT FOR HEATING.

SAFETIES:
SMOKE DETECTION, THE UNIT SHALL BE TOTALLY DISABLED WHEN THE DUCT MOUNTED SMOKE DETECTOR IS ACTIVATED. PROVIDE REMOTE TEST STATION/ALARM WHEN REQUIRED BY CODE.

A FLOAT SWITCH MOUNTED IN THE AUXILIARY DRAIN PAN SHALL SHUT DOWN THE FANS UPON SENSING WATER IN THE PAN. THE SAFETY SHALL REQUIRE A MANUAL RESET.

COOLING CONTROL:
UPON A CALL FOR COOLING, THE ECONOMIZER OPERATION WILL BE ENABLED. IF OUTSIDE AIR IS NOT SUITABLE FOR COOLING THEN THE FIRST STAGE OF DX COOLING SHALL BE ENABLED AND WILL OPERATE UNTIL THE SPACE TEMPERATURE IS SATISFIED. IF THE SPACE TEMPERATURE CONTINUES TO INCREASE THAN THE SECOND STAGE OF DX COOLING SHALL BE ENABLED (IF APPLICABLE).

HEATING CONTROL:
UPON A CALL FOR HEATING, THE FIRST STAGE OF HEATING WILL BE ENABLED AND WILL OPERATE UNTIL THE SPACE TEMPERATURE IS SATISFIED. IF THE SPACE TEMPERATURE CONTINUES TO DECREASE THAN THE SECOND STAGE OF HEATING WILL BE ENABLED (IF APPLICABLE). THE UNIT IS A HEAT PUMP UNIT. THE HEATING SHALL BE WIRED SUCH THAT THE CONDENSING UNIT COMPRESSOR IS LOCKED OUT OF OPERATION WHEN THE ELECTRIC HEATING COIL IS OPERATING. THE ELECTRIC HEATING COIL WILL BE USED FOR HEATING WHEN AN ADJUSTIBLE OUTDOOR THERMOSTAT BELOW 34 DEGREES FAHRENHEIT.

VENTILATION/ECONOMIZER CONTROL:
THE OUTSIDE AIR DAMPER SHALL BE OPEN TO A MINIMUM SET POINT DURING THE OCCUPIED HEATING AND COOLING MODES FOR CODE REQUIRED MINIMUM OUTSIDE AIR VENTILATION. THE OUTSIDE AND RELIEF AIR DAMPERS SHALL BE CLOSED AND THE RETURN AIR DAMPER SHALL BE OPEN DURING THE UNOCCUPIED MODE.

THE ECONOMIZER MODE IS ENTHALPY CONTROLLED AND WILL BE OPERATIONAL WHENEVER COOLING IS REQUIRED AND THE OUTSIDE AIR ENTHALPY IS AT OR BELOW THE RETURN AIR ENTHALPY. THE OUTSIDE AND RETURN AIR DAMPERS SHALL BE POSITIONED BY THE SENSOR AND SHALL MODULATE OPPOSED TO EACH OTHER TO MAINTAIN A CONSTANT SUPPLY AIR FLOW. A DISCHARGE AIR SENSOR SHALL LIMIT THE DRY BULB DISCHARGE AIR TEMPERATURE TO A MINIMUM SETTING OF 55 DEGREES FAHRENHEIT (ADJUSTABLE). THE RELIEF AIR DAMPER SHALL MODULATE TO TRACK THE OUTSIDE AIR DAMPER POSITION.

AHU/HP SPLIT DX SEQUENCE OF OPERATION - NO ECONOMIZER

AHU-2/HP-2; AHU-4/HP-4

FAN CONTROL:
THE SUPPLY FAN IS TO RUN CONTINUOUSLY DURING THE OCCUPIED MODE AND WILL CYCLE ON AND OFF DURING THE UNOCCUPIED MODE BASED ON A CALL FOR HEATING OR COOLING. THE UNOCCUPIED SET POINT FOR COOLING WILL BE 80 DEGREES FAHRENHEIT AND 60 DEGREES FAHRENHEIT FOR HEATING.

THERMOSTAT:
THE ADJUSTABLE ROOM THERMOSTAT WITH AUTOMATIC HEATING/COOLING CHANGEOVER SHALL CONTROL THE SPACE TEMPERATURE BASED ON SET POINT. THE CONTROL OF THE OCCUPIED/ UNOCCUPIED SETBACK MODE SHALL BE THROUGH A SEVEN DAY 24 HOUR PROGRAMMABLE ELECTRONIC TIME CLOCK. THE OCCUPIED SET POINT FOR COOLING WILL BE 75 DEGREES FAHRENHEIT AND 70 DEGREES FAHRENHEIT FOR HEATING.

SAFETIES:
SMOKE DETECTION, THE UNIT SHALL BE TOTALLY DISABLED WHEN THE DUCT MOUNTED SMOKE DETECTOR IS ACTIVATED. PROVIDE REMOTE TEST STATION/ALARM WHEN REQUIRED BY CODE.

A FLOAT SWITCH MOUNTED IN THE AUXILIARY DRAIN PAN SHALL SHUT DOWN THE FANS UPON SENSING WATER IN THE PAN. THE SAFETY SHALL REQUIRE A MANUAL RESET.

COOLING CONTROL:
UPON A CALL FOR COOLING, THE FIRST STAGE OF DX COOLING SHALL BE ENABLED AND WILL OPERATE UNTIL THE SPACE TEMPERATURE IS SATISFIED. IF THE SPACE TEMPERATURE CONTINUES TO INCREASE THAN THE SECOND STAGE OF DX COOLING SHALL BE ENABLED (IF APPLICABLE).

HEATING CONTROL:
UPON A CALL FOR HEATING, THE FIRST STAGE OF HEATING WILL BE ENABLED AND WILL OPERATE UNTIL THE SPACE TEMPERATURE IS SATISFIED. IF THE SPACE TEMPERATURE CONTINUES TO DECREASE THAN THE SECOND STAGE OF HEATING WILL BE ENABLED (IF APPLICABLE). THE UNIT IS A HEAT PUMP UNIT. THE HEATING SHALL BE WIRED SUCH THAT THE CONDENSING UNIT COMPRESSOR IS LOCKED OUT OF OPERATION WHEN THE ELECTRIC HEATING COIL IS OPERATING. THE ELECTRIC HEATING COIL WILL BE USED FOR HEATING WHEN AN ADJUSTIBLE OUTDOOR THERMOSTAT BELOW 34 DEGREES FAHRENHEIT.

VENTILATION CONTROL:
THE OUTSIDE AIR DAMPER SHALL BE OPEN TO A MINIMUM SET POINT DURING THE OCCUPIED HEATING AND COOLING MODES FOR CODE REQUIRED MINIMUM OUTSIDE AIR VENTILATION. THE OUTSIDE AND RELIEF AIR DAMPERS SHALL BE CLOSED AND THE RETURN AIR DAMPER SHALL BE OPEN DURING THE UNOCCUPIED MODE.

FAN SCHEDULE

TAG	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ARRANGEMENT	FUNCTION	CFM	ESP (IN W.G.)	HP/WATTS	DRIVE	V/PH/HZ	REMARKS
EF-1	COOK	GC-168	CEILING	EXHAUST	150	0.3	52 WATTS	DIRECT	115/1/60	1, 3, 4, 5, 6, 7, 8

REMARKS
1. GRAVITY BACKDRAFT DAMPER
2. GRAY EPOXY PAINT FINISH
3. PRE-WIRED FAN SPEED CONTROLLER
4. RUBBER IN SHEER VIBRATION ISOLATORS
5. WHITE ALUMINUM INTAKE GRILLE
6. REMOVABLE POWER PLUG DISCONNECT
7. BACKDRAFT DAMPER WITH COUNTER BALANCE.
8. EXHAUST FAN IS TO BE CONTROLLED BY THE ROOM OCCUPANCY SENSOR.

FMS # 22009 / MCDE# 22056

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ENGINEERING
Ohio Department of Natural Resources

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HVAC SCHEDULES

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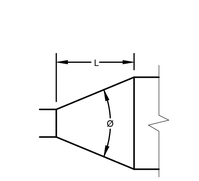
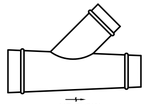
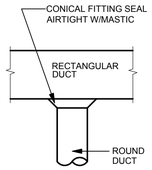


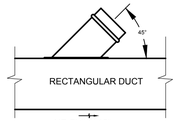
A CONCENTRIC TRANSITION
Ø - MAX. 45° DIVERGING, 60° CONVERGING



C ROUND TO ROUND



E RECTANGULAR TO ROUND



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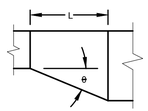
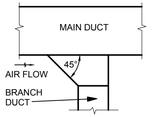
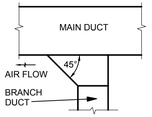


D ECCENTRIC TRANSITION

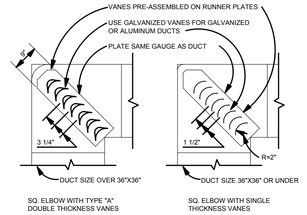


F RECTANGULAR TO RECTANGULAR
SUPPLY DUCT

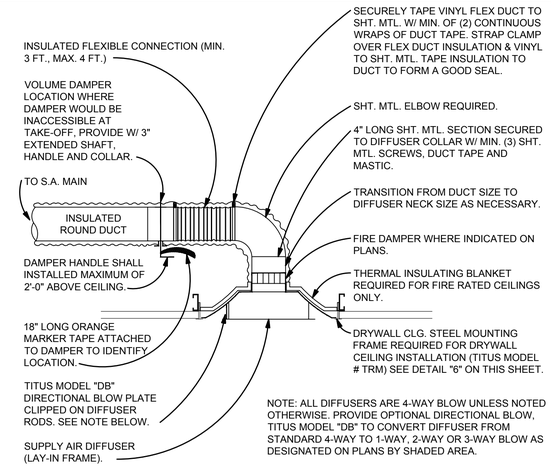


G RECTANGULAR TO RECTANGULAR
RETURN DUCT/EXHAUST DUCT

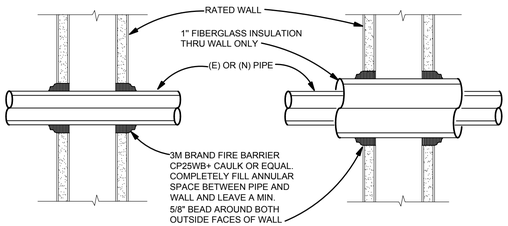
Ø - MAX. 30° (EXCEPT 45° IS PERMITTED AT ROUND TO FLAT OVAL)



H TURNING VANE DETAIL



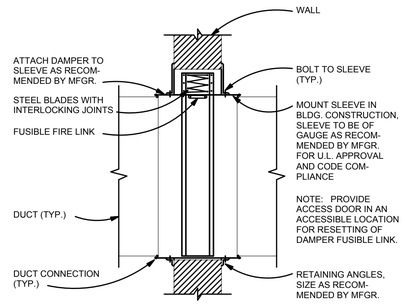
C DUCT DETAILS
NTS



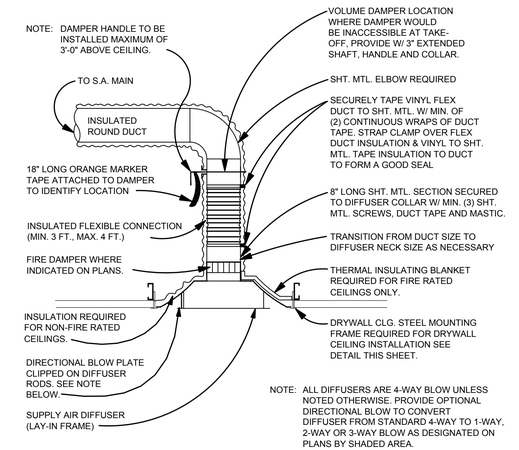
UNINSULATED - UL SYSTEM WL 1001

INSULATED - UL SYSTEM WL 5039

NOTE: INSTALLATION TO FOLLOW UL SYSTEM WL 1001 OR WL 5039 AND BE A UL TESTED ASSEMBLY.



B LOW CLEARANCE INSTALLATION

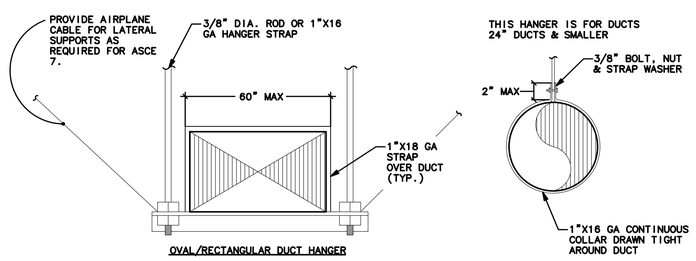


A TYPICAL INSTALLATION

F PIPE THRU FIRE WALL DTL
NTS

D FIRE DAMPER DETAIL
NTS

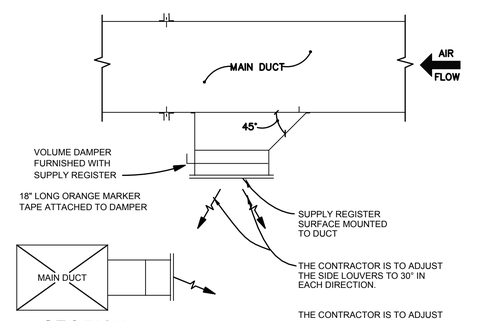
A 24"x24"/12"X12" DIFF. MTG DTL
NTS



NOTES:

1. REFER TO SPECIFICATIONS FOR HANGER SPACING.
2. FABRICATE AND ERECT ALL DUCTWORK TO SMACNA STANDARDS. THIS INCLUDES ALL DUCTS, SUPPORTS AND BRACING OF DUCTWORK.
3. ATTACHMENT TO STRUCTURE SHALL BE PER SMACNA STANDARDS.

E DUCT SUPPORT DETAIL
NTS



SECTION

B SQUARE REG. DETAIL
NTS

FMS # 22009 / MCDE# 22056

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Ohio Department of Natural Resources

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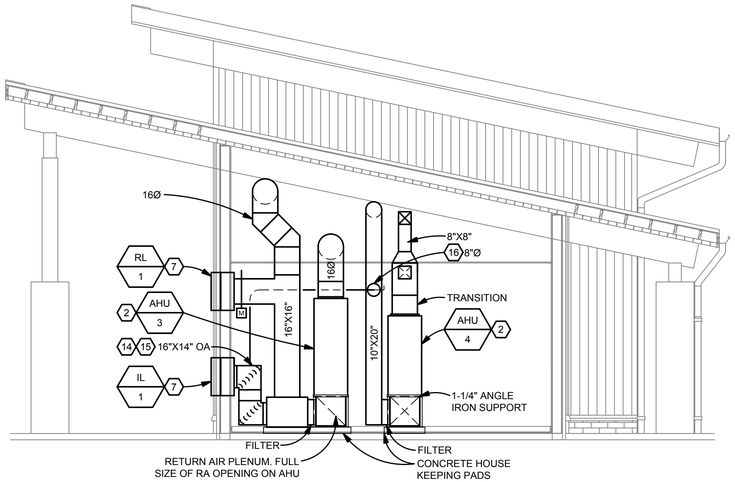
BUCK CREEK STATE PARK
NEW CAMP STORE & NATURE CENTER
DNR-230014.03

HVAC DETAILS

H-4-0

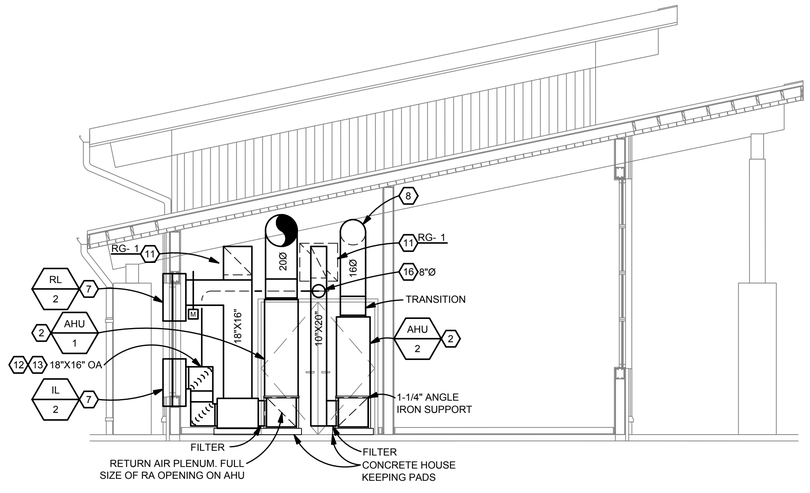
HVAC CODED NOTES

1. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL AN AIR COOLED HEAT PUMP CONDENSING UNIT. CONTRACTOR IS SHALL FURNISH AND INSTALL CONCRETE HOUSE KEEPING PAD FOR UNIT. INSTALL WITH PROPER SERVICE CLEARANCE AREA AS RECOMMENDED BY MANUFACTURER. REFER TO "AHU/ HP EQUIPMENT SCHEDULE" ON SHEET H-3-0 FOR ADDITIONAL INFORMATION.
2. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL A SPLIT DX AIR HANDLER UNIT. COORDINATE INSTALLATION OF UNIT WITH PLUMBING AND ELECTRICAL EQUIPMENT IN MECHANICAL ROOM(S). INSTALL WITH PROPER SERVICE CLEARANCE AREA AS RECOMMENDED BY MANUFACTURER. REFER TO "AIR HANDLER UNIT SCHEDULE" ON SHEET H-3-0 FOR ADDITIONAL INFORMATION. CONTRACTOR SHALL FURNISH AND INSTALL ALL UNITS ON CONCRETE HOUSE KEEPING PAD AND 1-1/4" ANGLE IRON SUPPORT FRAME. DUCT CONNECTIONS TO AHU AND ASSOCIATED MIXING BOXES IS TO BE FULL SIZE. TRANSITION AS NEEDED FOR DUCT DISTRIBUTION SIZES SHOWN ON PLANS.
3. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL NEW 6"Ø PVC PIPE FROM SPLIT DX AIR HANDLER TO AIR COOLED HEAT PUMP AS SHOWN. CONTRACTOR SHALL FURNISH AND INSTALL NEW REFRIGERANT LINES FROM THE SPLIT DX AIR HANDLER TO AIR COOLED HEAT PUMP CONDENSING UNIT AND MAKE FINAL CONNECTIONS. CONTRACTOR SHALL INSTALL REFRIGERANT PIPING PER MANUFACTURER'S REQUIREMENTS.
4. THE MECHANICAL CONTRACTOR SHALL FURNISH NEW ZONE THERMOSTAT IN LOCATION SHOWN ON PLAN FOR SPLIT DX HEAT PUMP HVAC SYSTEM TEMPERATURE CONTROL AND INSTALLED AND WIRED BY THE MECHANICAL CONTRACTOR AT 48" ABOVE FINISHED FLOOR. FURNISH WITH LOCKING COVER. VERIFY EXACT LOCATION OF THERMOSTAT WITH OWNER.
5. SUSPEND EXHAUST FAN WITH HANGER ROD FROM ROOF STRUCTURE. CONNECT AND INSTALL 6"Ø EXHAUST DUCTS INTO WALL CAP. 6"Ø EXHAUST VENT WITH WALL CAP. EXHAUST WALL CAP SHALL BE ALUMINUM CONSTRUCTION, WITH WEATHER HOOD, SPRING LOADED DAMPER, GASKET, AND BIRD SCREEN, FAMCO MODEL WVEB4 OR EQUAL.
6. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL NEW ELECTRIC WALL HEATERS IN LOCATION SHOWN ON PLAN. ELECTRIC WALL HEATER SHALL BE INSTALLED 12" AWAY FROM DOOR LATCH.
7. INTAKE LOUVER IS INSTALLED 18" ABOVE GRADE. RELIEF LOUVER IS INSTALLED AT 24" ABOVE TOP OF INTAKE LOUVER. INTAKE/RELIEF LOUVERS ARE STACKED. SEE ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION OF THE LOUVERS. RELIEF LOUVER IS TO BE INSTALLED AT THE TOP LOUVER. INSTALL FULL SIZE 12" DEEP INSULATED PLENUM AT THE HIGHEST POINT IN THE TOP LOUVER FOR RELIEF AIR. INSTALL FULL SIZE 12" DEEP INSULATED PLENUM AT THE HIGHEST POINT IN THE BOTTOM LOUVER FOR OUTSIDE AIR. PLENUMS ARE TO BE SLOPED TO DRAIN TOWARDS THE LOUVER.
8. DUCT IS TO BE INSTALLED EXPOSED TIGHT TO BOTTOM OF GLUELAM BEAMS.
9. DUCT IS TO BE INSTALLED TO THE BOTTOM OF GLUELAM BEAM AND IS TO RISE PARALLEL TO THE BEAM AS IT SLOPES UP.
10. SIDE WALL SUPPLY AIR REGISTERS ARE TO BE INSTALLED WITH THE BOTTOM AT 8'-6" ABOVE FINISHED FLOOR.
11. RETURN AIR GRILLE IS TO BE INSTALLED ON SIDE WALL AS HIGH AS POSSIBLE. RETURN GRILLE IS TO HAVE A FULL SIZE INSULATED PLENUM 12" DEEP ON THE BACK OF GRILLE. REFER TO "HVAC ELEVATIONS" ON SHEET H-4-1 FOR ADDITIONAL INFORMATION.
12. EXTEND 18"X 16" DUCT FROM OUTSIDE AIR INTAKE PLENUM AT LOUVER TO OUTSIDE AIR CONNECTION TO MIXING BOX. TRANSITION AS NEEDED TO MAKE FULL SIZE CONNECTION TO MIXING BOX.
13. EXTEND 18"X 16" DUCT FROM RETURN AIR DUCT SYSTEM TO RETURN AIR CONNECTION AT MIXING BOX. TRANSITION AS NEEDED TO MAKE FULL SIZE CONNECTION TO MIXING BOX. EXTEND 18"X16" RELIEF AIR DUCT FROM RETURN AIR DUCT TO PLENUM AT RELIEF LOUVER. RELIEF DUCT IS ROUTED ABOVE OUTSID AIR DUCT.
14. EXTEND 16"X 14" DUCT FROM OUTSIDE AIR INTAKE PLENUM AT LOUVER TO OUTSIDE AIR CONNECTION TO MIXING BOX. TRANSITION AS NEEDED TO MAKE FULL SIZE CONNECTION TO MIXING BOX.
15. EXTEND 16"X 14" DUCT FROM RETURN AIR DUCT SYSTEM TO RETURN AIR CONNECTION AT MIXING BOX. TRANSITION AS NEEDED TO MAKE FULL SIZE CONNECTION TO MIXING BOX. EXTEND 16"X14" RELIEF AIR DUCT FROM RETURN AIR DUCT TO PLENUM AT RELIEF LOUVER. RELIEF DUCT IS ROUTED ABOVE OUTSID AIR DUCT.
16. 20"X10" RETURN AIR DROP TO AHU. TRANSITION AS NEEDED TO MAKE FULL SIZE CONNECTION RETRUN AIR CONNECTION AT UNIT.
17. UNIT HEATER TO BE INSTALLED WITH BOTTOM OF UNIT 8'-0" AFF.



A H-4-1 **BUCK CREEK MECHANICAL ROOM HVAC ELEVATION**
1/4" = 1'-0"

SCALE: 1/4"=1' 0 2 4 8



B H-4-1 **BUCK CREEK EXHIBIT HVAC ELEVATION**
1/4" = 1'-0"

SCALE: 1/4"=1' 0 2 4 8

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BUCK CREEK HVAC ELEVATIONS

H-4-1

GENERAL ELECTRICAL NOTES

1. ALL WORK IS TO COMPLY WITH ALL FEDERAL REGULATIONS AND STANDARDS, 2020 NATIONAL ELECTRICAL CODE, INTERNATIONAL CODE COUNCIL (ICC), AND THE NATIONAL BOARD OF FIRE UNDERWRITERS.
2. COORDINATE AND SCHEDULE WORK WITH OTHER TRADES.
3. THIS CONTRACTOR SHALL VISIT THE SITE AND BECOME FULLY INFORMED OF EXISTING CONDITIONS PRIOR TO SUBMITTING BID AND COMMENCING CONSTRUCTION. THIS CONTRACTOR SHALL NOT SEEK ADDITIONAL COSTS ASSOCIATED WITH EXISTING CONDITIONS FOR FAILURE TO VISIT THE SITE AND BECOME FULLY INFORMED OF EXISTING CONDITIONS AFTER CONSTRUCTION HAS COMMENCED. THIS CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BETWEEN THESE DRAWINGS AND EXISTING CONDITIONS FOR CLARIFICATIONS PRIOR TO COMMENCING WORK.
4. DRAWINGS ARE DIAGRAMMATIC. DETERMINE ACTUAL CONDITIONS (INCLUDING PRECISE LOCATIONS OF EXISTING DEVICES) OF WORK AT THE SITE BY FIELD MEASUREMENT PRIOR TO BID.
5. ALL WIRING AND CABLING ROUTED THROUGH OR LOCATED WITHIN THE PLENUM SHALL BE PLENUM RATED.
6. COORDINATE AND SCHEDULE WITH THE OWNER ANY SERVICE INTERRUPTIONS AT LEAST 14 CALENDAR DAYS IN ADVANCE.
7. INSTALL UL LISTED FIRE STOP WHEN PENETRATING FIRE RATED WALLS.
8. COORDINATE COLOR/FINISH OF RECEPTACLES, SWITCHES, AND VOICE AND DATA OUTLETS WITH ARCHITECT.
9. ELECTRICAL CONTRACTOR TO VERIFY EXACT RECEPTACLE REQUIREMENTS FOR ALL EQUIPMENT WITH MANUFACTURER(S).
10. ALL RECEPTACLE HEIGHTS ARE TO BE VERIFIED BY OWNER BEFORE ROUGH-IN.
11. NO SHARED NEUTRALS - EACH CIRCUIT SHALL HAVE DEDICATED NEUTRAL CONDUCTOR.
12. RECEPTACLES SHALL BE GROUND UP CONFIGURATION. VERIFY WITH OWNER PRIOR TO ROUGH-IN.
13. INSTALL UL LISTED FIRESTOPPING WHEN PENETRATING FIRE RATED WALL(S).
14. PROVIDE ALL RODENT STOPPING OF ALL LINES PASSING THROUGH EXTERIOR WALL AS PER STATE CODE.
15. INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE, OPERATIONAL AND CODE COMPLIANT SYSTEMS INCLUDING BUT NOT LIMITED ELECTRICAL POWER, ELECTRICAL LIGHTING, EMERGENCY LIGHTING, TELE/DATA ETC.
16. ELECTRICAL CONTRACTOR TO COORDINATE WITH OWNER & GENERAL CONTRACTOR FOR ELECTRICAL REQUIREMENT OF EQUIPMENT FURNISHED BY OTHERS.
17. FURNACES & WATER HEATERS: MAKE ALL FINAL CONNECTIONS - COORDINATE EXACT OVER CURRENT PROTECTION AND CONDUCTOR SIZING WITH EQUIPMENT NAMEPLATES PRIOR TO STARTING WORK.
18. ALL EXTERIOR LIGHTING SHALL BE CONTROLLED ON/OFF VIA FIXTURE MOUNTED PHOTOCELL.
19. ALL CONDUCTORS SHALL BE RATED 600V, 75 DEG., COPPER MATERIAL UNLESS NOTED OTHERWISE.
20. BRANCH CIRCUITS CONCEALED IN CONCRETE AND BELOW SLAB-ON-GRADE: TYPE THHN-THWN IN PVC SCHEDULE 40 RACEWAY.

LIGHT FIXTURE LEGEND

X–A	RECESSED DOWN-LIGHTS / CAN LIGHTS, X IS FIXTURE TAG, A INDICATES SWITCH LEG.
FM AD	2X2 LAY-IN FLAT PANEL LED OR TROFFER PER \PER FIXTURE SCHEDULE
FM AA	2X4 LAY-IN FLAT PANEL LED OR TROFFER PER FIXTURE SCHEDULE
B	1X4 SURFACE MOUNT LED
MC	PENDANT STYLE LIGHT FIXTURE
	LED SURFACE MOUNT LINEAR
	WALL MOUNTED VAPORTIGHT
yy L	EXTERIOR WALLPACK

ELECTRICAL LEGEND NOTES:

1. MOUNTING HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE OR FIXTURE.
2. MOUNTING HEIGHTS ARE TYPICAL UNLESS NOTED OTHERWISE ON THE FLOOR PLANS.
3. REFER TO ARCHITECTURAL ELEVATIONS FOR ADDITIONAL INFORMATION ON EXACT DEVICE AND FIXTURE LOCATIONS, MOUNTING HEIGHTS AND COORDINATION WITH ARCHITECTURAL HARDWARE AND FIXTURES.
4. NOT ALL SYMBOLS APPLY.

ELECTRICAL & TECHNOLOGY ABBREVIATIONS

AC	ABOVE COUNTER, DEFAULT 42" UNO.	MAU	MAKE-UP AIR UNIT
AF	AT FLOOR, BOTTOM OF WALL, PERPENDICULAR TO FINISHED FLOOR.	MD	MOTORIZED DAMPER
A/E	ARCHITECT / ENGINEER	N	NEW DEVICE
AFF	ABOVE FINISHED FLOOR	NF	NON-FUSED
AFG	ABOVE FINISHED GRADE	NL	NIGHT-LIGHT
AHJ	AUTHORITY HAVING JURISDICTION	NX	NEW LOCATION, EXISTING RELOCATED
AHU	AIR HANDLING UNIT	PC	POWER COMPANY
BFC	BELOW FINISHED CEILING	PVC	POLYVINYL CHLORIDE CONDUIT
BT	BEAM TRANSMITTER	RCPT	RECEPTACLE
C	CONDUIT	RE	RELOCATE EXISTING
CB	CIRCUIT BREAKER	RMC	RIGID METAL CONDUIT
CKT	CIRCUIT	RR	REMOVE & REPLACE
CUH	CABINET UNIT HEATER	RTU	ROOF-TOP UNIT
D	DIMMER SWITCH	RTVB	RECESSED TV WALL BOX WITH DUPLEX POWER AND COAXIAL CABLE S-CONNECTOR
E ETR	EXISTING EXISTING TO REMAIN	SD	SMOKE DETECTOR
EC	ELECTRICAL CONTRACTOR	SM	SURFACE MOUNTED
ED	EXISTING TO BE DEMOLISHED	ST	SHUNT-TRIP
EF	EXHAUST FAN	T	TELEPHONE SERVICE
EM	EMERGENCY	TV	TELEVISION
EMT	ELECTRICAL METAL TUBING	UE	UNDERGROUND ELECTRIC
EWC	ELECTRIC WATER COOLER	UNO	UNLESS NOTED OTHERWISE
EWH	ELECTRIC WATER HEATER	UT	UNDERGROUND TELECOM
FA	FIRE ALARM	W	WIRE
FLR	FLOOR MOUNTED	WC	WATER COOLER
FMC	FLEXIBLE METALLIC TUBING	WG	WIRE GUARD
GF	GROUND FAULT INTERRUPTER	WP	WEATHERPROOF
GRD	GROUND	XFMR	TRANSFORMER
GTD	GENERATOR TRANSFER SWITCH	XX	HEIGHT, ABOVE FINISHED FLOOR
IG	ISOLATED GROUND		

1. "CONTRACTOR" OR "EC" - UNLESS SPECIFICALLY STATED OTHERWISE.
2. "SUPPLY" - TO FURNISH.
3. "INSTALL" - TO TAKE PARTS, MATERIALS AND ALL RELATED ACCESSORIES THAT HAVE BEEN FURNISHED AND ACCORDING TO THE MANUFACTURE'S RECOMMENDATIONS; ASSEMBLE, CONNECT, SECURE, TEST, AND PROVIDE ALL LABOR NECESSARY TO MAKE THE FURNISHED MATERIALS, PARTS AND ACCESSORIES OPERATIONAL.
4. "PROVIDE" - TO FURNISH, INSTALL, AND SUPPLY ALL ADDITIONAL MATERIALS AND COMPLETE ALL ADDITIONAL WORK REQUIRED TO MAKE OPERATIONAL.
5. "TIE" - CONNECT TO CIRCUIT INDICATED.

ELECTRICAL & TECHNOLOGY SYMBOL LEGEND

$PB	PUSH BUTTON WALL SWITCH, ADA COMPLIANT		208/120V, 3Ø, 4W ELECTRICAL PANEL
$3	THREE-WAY SWITCH @48" A.F.F., 20A, 125V OR 277V UNLESS NOTED OTHERWISE. (AS REQUIRED FOR VOLTAGE OF LOAD)		480/277V, 3Ø, 4W ELECTRICAL PANEL
$T	DIGITAL TIMER SWITCH FOR MECHANICAL AND UTILITY ROOMS. PRESET SHALL BE: ONE TAP:		MOTOR CONNECTION (WIRED BY E.C.) MAKE ALL CONNECTIONS AS INDICATED ON DRAWINGS
$D	LOW VOLTAGE DIMMER 125V UNLESS NOTED OTHERWISE. (AS REQUIRED)	J	JUNCTION BOX MOUNTED AS NOTED
$OS	WALL MOUNTED OCCUPANCY SENSOR		DISCONNECT SWITCH
OS	CEILING MOUNTED DUAL TECHNOLOGY PASSIVE INFRARED AND ULTRASONIC OCCUPANCY SENSOR	WP	NEMA 3R DISCONNECT SWITCH
WP	DUPLEX RECEPTACLE W/ GROUND FAULT CIRCUIT INTERRUPTER @18" A.F.F.; 20A, 125V AND WEATHERPROOF INSTALLATION		COMBINATION MOTOR STARTER DISCONNECT.
	DUPLEX RECEPTACLE @18" A.F.F, 20A, 125V UNLESS NOTED OTHERWISE		FUSED DISCONNECT
IG	ISOLATED GROUND DUPLEX RECEPTACLE @18"AFF, 20A 125V UNO. RECEPTACLE AND COVER PLATE SHALL BE ORANGE IN COLOR.		
GF	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER @18" A.F.F.; 20A, 125V UNLESS NOTED OTHERWISE		RELAY: REFERENCE DRAWING DETAILS & NOTES
	QUAD RECEPTACLE @18" A.F.F, 20A, 125V UNLESS NOTED OTHERWISE	#	DATA
	SPECIAL RECEPTACLE, COORDINATE NEMA CONFIGURATION. WITH EQUIPMENT UNLESS NOTED OTHERWISE. VERIFY MOUNTING HEIGHT.		FLOOR BOX WITH DATA PORT
TV	RECESSED T.V. WALL BOX (RTVB) AT LOCATION IDENTIFIED BY DIMENSION LINES AND INSTALLATION HEIGHT NOTATION	WAP	WIRELESS ACCESS POINT - ABOVE CEILING
	BACKUP GENERATOR TRANSFER SWITCH: ATS (AUTOMATIC TRANSFER), MTS (MANUAL TRANSFER)	HD	HAND DRYER: UNITS HAVE FACTORY DISCONNECT SWITCH / ENCLOSURE SAFETY INTERLOCK SWITCH.
	GROUND CONNECTION. REFERENCE 1-LINE FOR CONDUCTOR SIZE	LV	THERMOSTAT, LINE-VOLTAGE
CLB	PORTABLE GENERATOR QUICK CONNECT, CAM-LOCK	T	THERMOSTAT, 24V
PS	POWER SUPPLY: REFERENCE DRAWING DETAILS & NOTES		TRANSFORMER: REFERENCE DRAWING DETAILS & NOTES
TC	TIME CLOCK: REFERENCE DRAWING DETAILS & NOTES		CEILING MOUNTED COMBINATION RECEPTACLE AND DATA JACK: REFERENCE DRAWING DETAILS & NOTES

ELECTRICAL & TECHNOLOGY LEGEND NOTES:

1. MOUNTING HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE OR FIXTURE.
2. MOUNTING HEIGHTS ARE TYPICAL UNLESS NOTED OTHERWISE ON THE FLOOR PLANS.
3. REFER TO ARCHITECTURAL ELEVATIONS FOR ADDITIONAL INFORMATION ON EXACT DEVICE AND FIXTURE LOCATIONS, MOUNTING HEIGHTS, AND COORDINATION WITH ARCHITECTURAL HARDWARE AND FIXTURES.
4. NOT ALL SYMBOLS APPLY.

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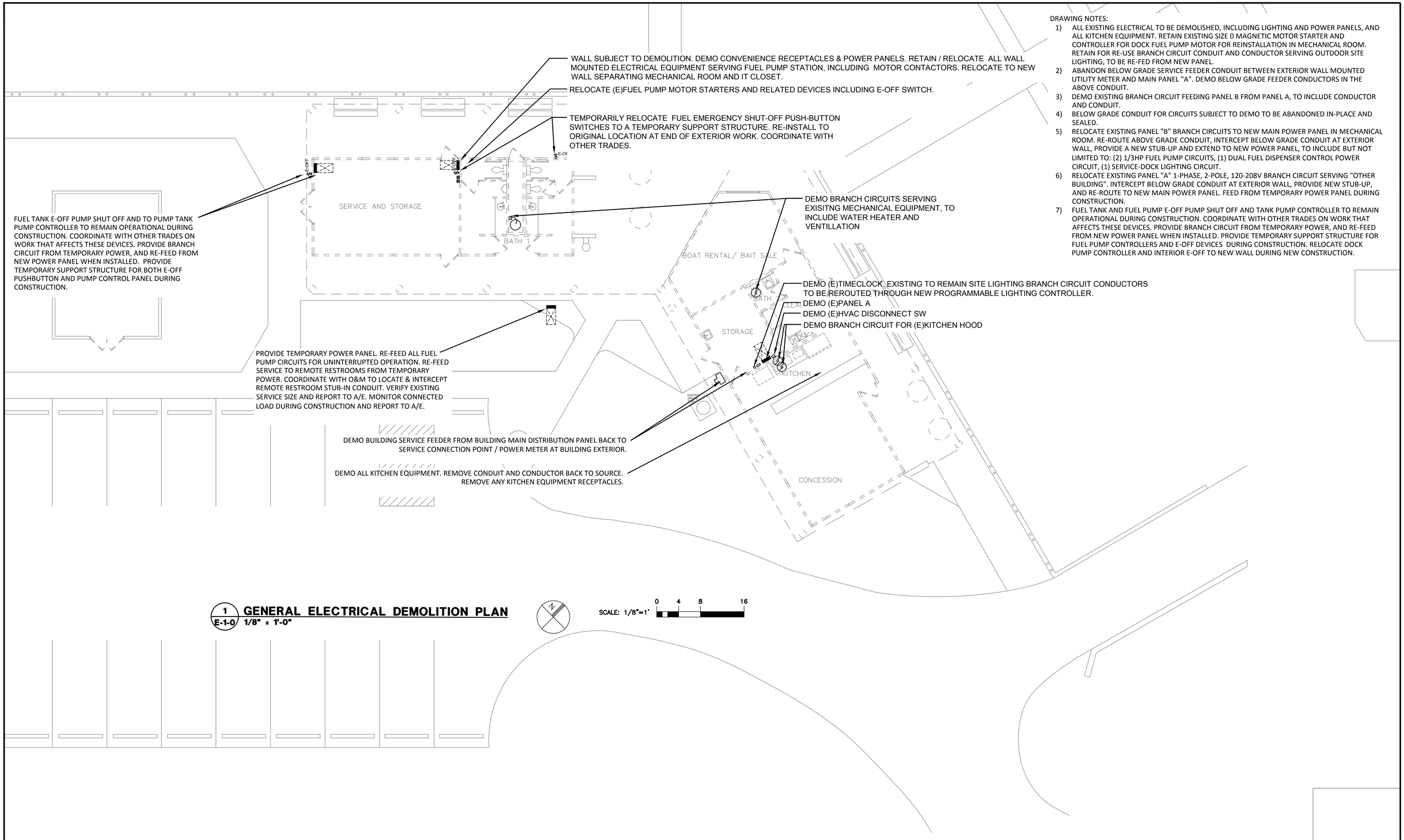
ELECTRICAL LEGENDS AND NOTES

E-0-0



DRAWING NOTES:

1) ALL EXISTING ELECTRICAL TO BE DEMOLISHED, INCLUDING LIGHTING AND POWER PANELS, AND ALL KITCHEN EQUIPMENT. RETAIN EXISTING SIZE 0 MAGNETIC MOTOR STARTER AND CONTROLLER FOR DOCK FUEL PUMP MOTOR FOR REINSTALLATION IN MECHANICAL ROOM. RETAIN FOR RE-USE BRANCH CIRCUIT CONDUIT AND CONDUCTOR SERVING OUTDOOR SITE LIGHTING, TO BE RE-FED FROM NEW PANEL.
2) ABANDON BELOW GRADE SERVICE FEEDER CONDUIT BETWEEN EXTERIOR WALL MOUNTED UTILITY METER AND MAIN PANEL "A". DEMO BELOW GRADE FEEDER CONDUCTORS IN THE ABOVE CONDUIT.
3) DEMO EXISTING BRANCH CIRCUIT FEEDING PANEL B FROM PANEL A, TO INCLUDE CONDUCTOR AND CONDUIT.
4) BELOW GRADE CONDUIT FOR CIRCUITS SUBJECT TO DEMO TO BE ABANDONED IN-PLACE AND SEALED.
5) RELOCATE EXISTING PANEL "B" BRANCH CIRCUITS TO NEW MAIN POWER PANEL IN MECHANICAL ROOM. RE-ROUTE ABOVE GRADE CONDUIT, INTERCEPT BELOW GRADE CONDUIT AT EXTERIOR WALL, PROVIDE A NEW STUB-UP AND EXTEND TO NEW POWER PANEL, TO INCLUDE BUT NOT LIMITED TO: (2) 1/3HP FUEL PUMP CIRCUITS, (1) DUAL FUEL DISPENSER CONTROL POWER CIRCUIT, (1) SERVICE-DOCK LIGHTING CIRCUIT.
6) RELOCATE EXISTING PANEL "A" 1-PHASE, 2-POLE, 120-208V BRANCH CIRCUIT SERVING "OTHER BUILDING". INTERCEPT BELOW GRADE CONDUIT AT EXTERIOR WALL, PROVIDE NEW STUB-UP, AND RE-ROUTE TO NEW MAIN POWER PANEL. FEED FROM TEMPORARY POWER PANEL DURING CONSTRUCTION.
7) FUEL TANK AND FUEL PUMP E-OFF PUMP SHUT OFF AND TANK PUMP CONTROLLER TO REMAIN OPERATIONAL DURING CONSTRUCTION. COORDINATE WITH OTHER TRADES ON WORK THAT AFFECTS THESE DEVICES. PROVIDE BRANCH CIRCUIT FROM TEMPORARY POWER, AND RE-FEED FROM NEW POWER PANEL WHEN INSTALLED. PROVIDE TEMPORARY SUPPORT STRUCTURE FOR FUEL PUMP CONTROLLERS AND E-OFF DEVICES DURING CONSTRUCTION. RELOCATE DOCK PUMP CONTROLLER AND INTERIOR E-OFF TO NEW WALL DURING NEW CONSTRUCTION.

1 / E-1-0 GENERAL ELECTRICAL DEMOLITION PLAN

1/8" = 1'-0"

SCALE: 1/8"=1' 0 4 8 16

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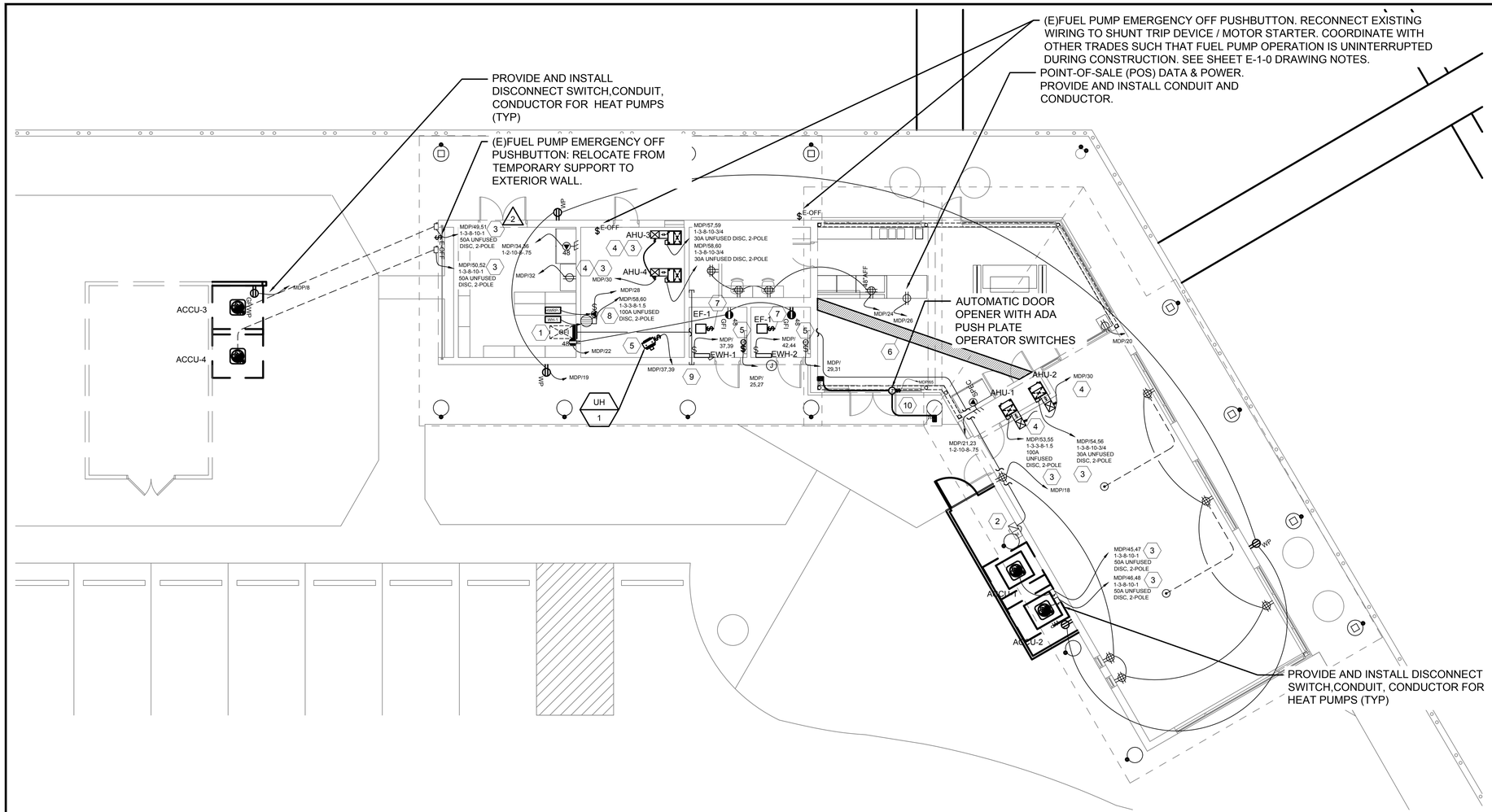
GENERAL ELECTRICAL DEMOLITION PLAN

E-1-0



1 ELECTRICAL POWER PLAN
E-2-0 1/8" = 1'-0"

SCALE: 1/8"=1' 0 4 8 16

FEEDER KEY

1 -3 -600 +2 -5"

- NO. OF SETS OF CONDUCTORS IN FEEDER.
- NO. OF POWER CONDUCTORS
- SIZE OF CONDUCTORS (AWG OR KCMIL)
- GROUND CONDUCTOR SIZE FOR EACH SET ("X" USED IF GROUND CONDUCTOR NOT USED)
- MINIMUM CONDUIT SIZE FOR EACH SET *

ALL CONDUCTOR SIZES BASED UPON 75 DEGREES C THWN/THHN FOR WET LOCATIONS USING COPPER CONDUCTORS UNLESS INDICATED OTHERWISE.

* REFER TO PLANS AND DETAILS FOR COMBINING CONDUCTORS FROM SEPARATE FEEDERS WITHIN SAME RACEWAY. MINIMUM SIZE CONDUIT SHOWN IS FOR SINGLE FEEDERS ONLY. NO SHARED NEUTRALS.

NOTE: THIS FEEDER KEY IS AN EXAMPLE. CONDUCTOR AND CONDUIT SIZES AND QUANTITIES IN THIS KEY ARE NOT INTENDED TO BE USED FOR PROJECT DESIGN.

CODED NOTES

x	
1	PROVIDE NEW POWER PANEL: MDP. PANEL TO BE SERVICE RATED AND INCLUDES MAIN 300A CIRCUIT BREAKER. REFERENCE 1-LINE ON SHEET E-5-0 FOR CONDUIT AND CONDUCTOR SIZES. RELOCATE EXISTING TO REMAIN CIRCUITS FROM EXISTING PANELS "A" & "B" TO NEW PANEL MDP.
2	PROVIDE NEW 300A FUSED UTILITY DISCONNECT SWITCH BETWEEN EXISTING ELECTRIC METER AND NEW PANEL MDP.
3	PROVIDE NEW DISCONNECT SWITCH, CONDUIT AND CONDUCTOR FOR NEW AIR HANDLER & ACCUMULATOR (BY HVAC). PROVIDE BRANCH CIRCUIT. COORDINATE WITH HVAC CONTRACTOR ON CONDUIT AND WIRING BETWEEN AIR HANDLER AND OUTDOOR ACCUMULATOR UNIT.
4	PROVIDE 24V HVAC CONTROL POWER TRANSFORMER. PROVIDE HVAC CONTROL RELAY. DEVICES TO BE MOUNTED TO 4X4 J-BOX. COORDINATE WITH HVAC CONTRACTOR TO WIRE 24V CONTROL POWER THROUGH RELAY CONTACTS AND TO INTAKE LOUVER ACTUATOR. COORDINATE WITH HVAC CONTRACTOR TO CONNECT RELAY COIL TO AIR HANDLER CONTROLLER.
5	ELECTRIC WALL HEATER: & UNIT HEATER: PROVIDE LOCAL DISCONNECT SWITCH, SIZE WIRING AS SHOWN.
6	NEW CONCRETE FLOOR TO BE BY OTHERS. PROVIDE BELOW GRADE TRENCH FOR ELECTRICAL CONDUITS SERVING NATURE CENTER AND STORE AREA EQUIPMENT. TRENCH DEPTH TO BE 12" FOR PVC CONDUIT WITH 2" CONCRETE SLAB. SURVEY FLOOR FOR ANY EXISTING BURIED PLUMBING OR ELECTRICAL BEFORE WORK.
7	EXHAUST FAN TO BE TIED TO LOCAL UCCUPANCY CONTROLLED LIGHTING SUCH THAT EXHAUST OPERATES WHILE RESTROOM IS OCCUPIED. PROVIDE LOCAL HEAVY DUTY RATED TOGGLE SWITCH TYPE DISCONNECT SWITCH AT EXHAUST UNIT.
8	PROVIDE CIRCUIT AND DISCONNECT, SIZED AS SHOWN FOR NEW WATER HEATER AND RECIRCULATION PUMP.
9	PROVIDE 4" EMPTY PVC CONDUIT. FOR FUTURE TELCO USE. INCLUDE PULL STRING ACCESSIBLE FROM EITHER END, CAP AND LABEL.
10	PROVIDE BRANCH CIRCUIT AND FIELD WIRING FOR DOOR OPENER AND CORRESPONDING ADA TYPE PUSH-PLATE SWITCHES. DOOR HARDWARE AND SWITCHES PROVIDED BY GC. INTERIOR PUSH-PLATE TO BE MULLION OR JAMB MOUNTED. ROUTE WIRING THROUGH BACKSIDE OF JAMB TO DOOR OPERATOR. EXTERIOR PUSH-PLATE TO BE PEDESTAL MOUNTED. PROVE BELOW GRADE TRENCH & CONDUIT FROM PEDESTAL TO BUILDING. REFERENCE ARCHITECTURAL PLANS AND DETAILS FOR SPECIFIC LOCATIONS. VERIFY MANUFACTURER ELECTRICAL REQUIREMENTS PRIOR TO WORK.

TEMPORARY POWER NOTES:
PRIOR TO ANY WORK:
1. CONTRACTOR PROVIDE TEMPORARY POWER / NEMA3R LOAD CENTER AT EXISTING SERVICE ENTRANCE PRIOR TO DEMO WORK.
2. RELOCATE COMBINATION MOTOR STARTER AND E-OFF TO "SERVICE AND STORAGE" EXTERIOR NW WALL,
3. INTERCEPT BRANCH CIRCUITS GOING OUT TO FUEL PIER AT EXTERIOR WALL / FLOOR PENETRATION, AND EXTEND TO RELOCATED MOTOR STARTER, E-OFF AT NEW LOCATION.
4. PROVIDE NEW CONDUIT/CONDUCTOR BETWEEN MOTOR STARTER AND DISPENSER CIRCUITS TO TEMPORARY POWER PANEL.
5. UPON COMPLETION OF INSTALL OF NEW MAIN PANEL, RE-FEED FUEL DISPENSER CIRCUITS FROM NEW MAIN PANEL.

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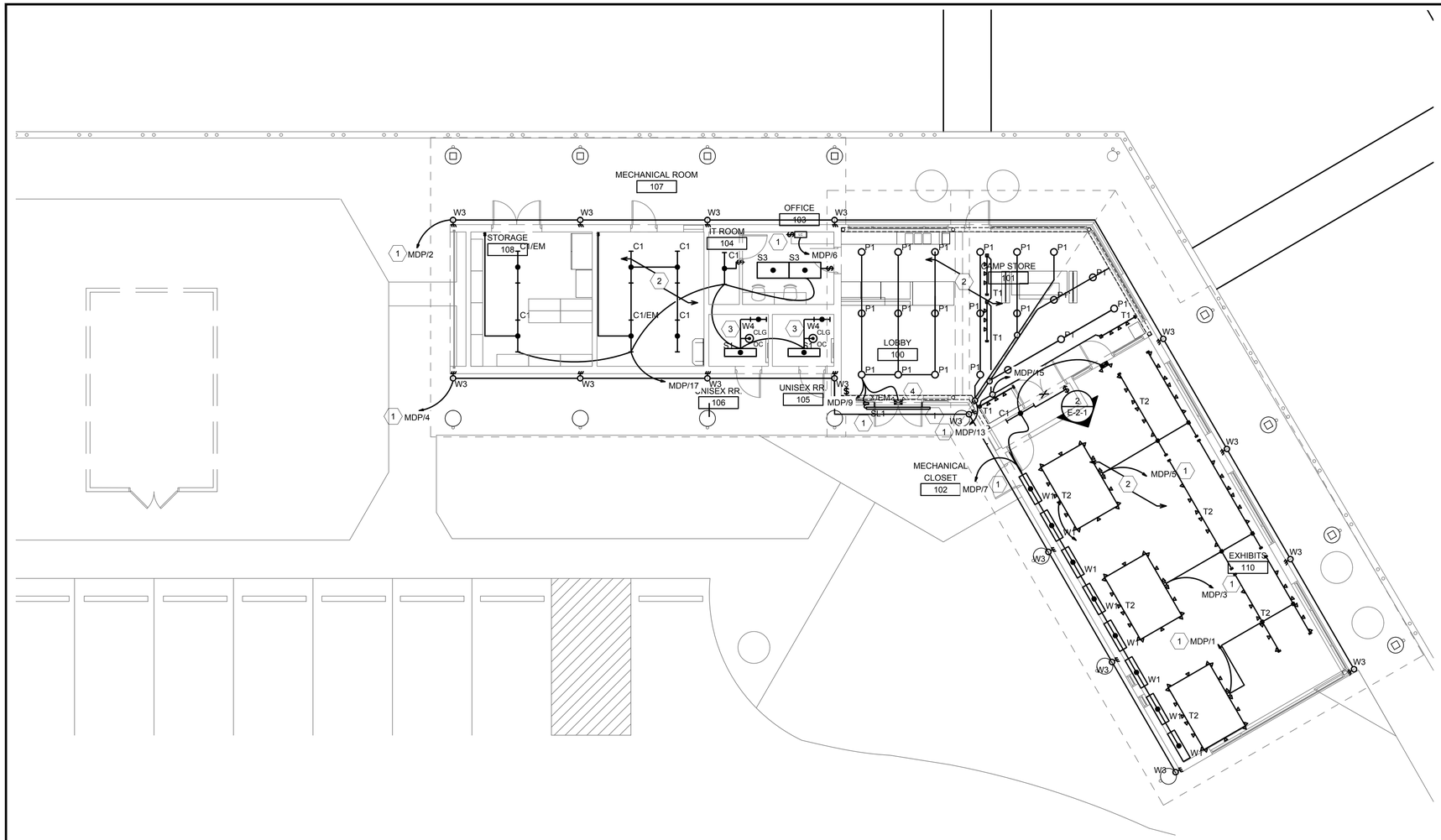
BUCK CREEK STATE PARK
NEW CAMP STORE & NATURE CENTER
DNR-230014.03

ELECTRICAL POWER PLAN

E-2-0



1 E-2-1 ELECTRICAL LIGHTING PLAN

1/8" = 1'-0"

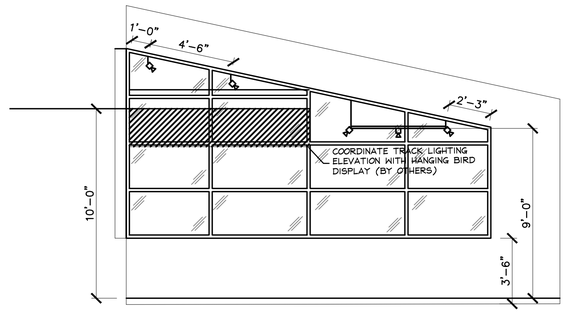
SCALE: 1/8"=1' 0 4 8 16

CODED NOTES

1	PROVIDE 24 HOUR 7 DAY PROGAMMABLE LIGHTING CONTROLLER. EXTERIOR LIGHTS WILL BE SET TO TURN ON AT DUSK AND TO TURN OFF AT DAWN. INCLUDE AN OVERRIDE SWITCH AT LIGHTING CONTROLLER TO FORCE LIGHTS ON/OFF. ROUTE EXISTING SITE LIGHTING THROUGH NEW LIGHTING CONTROLLER. INTERCEPT SITE LIGHTING CIRCUIT AT MECHANICAL TIMECLOCK / LIGHTING CONTACTOR IN EXISTING KITCHEN AREA..
2	PROVIDE ALL FIXTURES SHOWN.
3	POWER LOCAL EXHAUST TO SWITCHED OUTPUT OF OCCUPANCY SENSOR SUCH THAT LIGHTING AND EXHAUST OPERATE WHILE ROOM IS OCCUPIED .
4	WALL MOUNT EMERGENCY EGRESS EXIT SIGN ABOVE GLAZING .

GENERAL ELECTRICAL NOTES

1. ALL LIGHTING FIXTURES SHALL BE 4000K, WITH A MINIMUM CRI OF 80.
2. EMERGENCY LIGHTING AND EXIT SIGNS TO BE EQUIPPED WITH BATTERY BACK-UP.
3. CONNECT EXIT/EMERGENCY LIGHTING TO LOCAL LIGHTING CIRCUIT AHEAD OF ALL SWITCHING AND CONTROL.
4. VERIFY ACTUAL FIXTURE LOCATIONS BY REFERENCING ARCHITECT CEILING PLAN. FIXTURES MAY NOT BE MOUNTED OVER CEILING SEAMS, BUT SHOULD BE LOCATED CENTER OF ROOM.



2 E-2-1 TRACK LIGHTING ELEVATION DETAIL

1/4" = 1'-0"

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ELECTRICAL LIGHTING PLAN

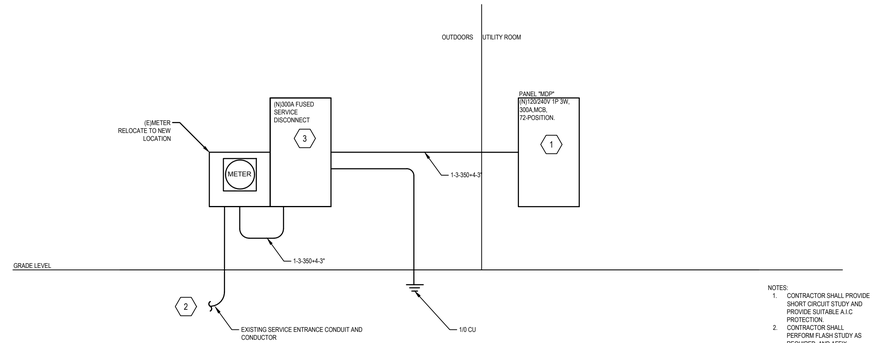
E-2-1

LIGHTING FIXTURE SCHEDULE WITH EQUIVALENT ALTERNATES

TAG	DESCRIPTION	W	MANUFACTURER	MODEL#
C1 C1/EM	4'-0" LED UTILITY WRAP, DAMP LOCATION LISTED. 4000K. SUSPENDED OR PENDANT /EM WITH 10W EMERGENCY BATTERY (MECHANICAL ROOM)	30	LITETRONICS	SFS4/AB10/EBAM/SFAM02
		31.1	DAY BRIGHT	FSSEZ-4-40L-840-UNV-DIM/EMLED
		30	METALUX	4SNX-SL3-LW-UNV-CC83-CD1-U/AYC-CHAIN/SET-U / EL1XW
C3	2X2 LED ACT GRID LAY-IN PANEL (BACK OF HOUSE-FOOD PREP)	25	LITETRONICS	PT2
		25	DAY-BRITE	2SBP3550L8CS-4-UNV-DIM
		25	METALUX	22CGTS-L3C3
P1	PENDANT TYPE, 8-10", AIRCRAFT CABLE SUSPENDED, LED (LOBBY & CAMP STORE)	30	CONTECH	CGL84030K12AFC-P
		30	BARNLIGHT	BLE-D-BRN10-X-X-X-X-NA-LED16-3500K-FL
		30	TBD	TBD
S1 S1/EM	4'-0" LED WRAP SURFACE MOUNTED. WET LOCATION LISTED. 4000K. SURFACE /EM WITH 10W EMERGENCY BATTERY (GYP CEILING, E. HALLWAY)	30	LITETRONICS	VT30US440P WITH EB10/EBCM
		30	DAY-BRIGHT	D-W-A-E-XX-840-4-UNV-EMLED
		30	METALUX	4VT2-LD5-4-DR-UNV-L840-CD1-U / EL1XW
T1	TRACK LIGHTING, MOUNT 6' FROM OUTSIDE WALLS . PROVIDE A-TYPE HEADS AS SHOWN (STORE)	(3)30	CONTECH	CTL XX XX 4C D XX
		(3)30	LIGHTOLIER	LC-X-X-940-X-TE-LLAV11-X/60-XXN-XX
		(3)30	HALO	L809
T2	TRACK LIGHTING, PROVIDE A-TYPE HEADS MOUNTED TO 6X9' OR SIMILAR, SQUARE TRACK SYSTEM, VERIFY TRACK-HEAD QUANTITY AND ORIENTATION WITH PROJECT MANAGER. (STORE)	(18)30	CONTECH	CTL XX XX 4C D XX W/LT TRACK COMPONENTS
		(18)30	LIGHTOLIER	LC-X-X-940-X-TE-LLAV11-X/60-XXN-XX CORNERS
			TBD	TBD
W1	WALL MOUNTED, LINEAR DIRECT INDIRECT, ASSYMETRICAL TOP SHIELD / DEFLECTOR, (NATURE CENTER)	30	WILLIAMS	MX2WUD 4'00 L8840U/L8840D FA R DIM UNV
		30	LEDALITE	29-2-5/6-L-940-XX-WW-XX-U-E-XX
		30	NULITE	RW2-4-B-09-L40-UNV-D-1C-FRF-XX-X'
W3	WALL MOUNTED SCONCE / DOWNLIGHT, WEATHER PROOF, EXTERIOR, SQUARE, BLACK (COLUMN MOUNTED AT ENTRANCE SUPPORT COLUMNS)	30	CONTECH	SQL6X 40K MVD W X MCLR B
		30	ALUMILITE	YSW-XX/LED-UV/XX
		30	FC LIGHTING	FCCSQ600-
W4	WALL MOUNTED 2' LINEAR, DAMP RATED, (RESTROOM SINK VANITY)	5	LITETRONICS	SFS2
		5	DAY-BRITE	SDS-2-1224L-8CST-UNV-DIM
		5	METALUX	2SNX-SL3-LW-UNV-CC83-CD1
X/EM	LED SINGLE FACE, UNIVERSAL MOUNT DIE CAST EXIT/EMERGENCY COMBO WITH 90 MINUTE BATTERY BACKUP. DAMP LOCATION LISTED.	5	EMERGILITE	L W SBX14 R 2 10 LA
		5	CHLORIDE	VLTCR3R-3.6-R-W-W
		5	EVENLITE	TDCOM-R-1-
SL1	OUTDOOR LINEAR LED SIGN LIGHT. SURFACE MOUNT WITH ADJUSTABLE CLIPS, WET LOCATION LISTED, IP66, POWDER COATED ALUMINUM. 3000K.	5	PURE EDGE	MSLO-24V-48W48-60-30K-BK: PROVIDE (4) FIXTURES (4X48"), WIRE 2 FIXTURES MAX FROM EACH 24V PS OUTPUT, 96W. PROVIDE POWER SUPPLY PSB2X96 UNI-24VDC
		5	MOFAT MW	MW-HE-30-16'- FSD-1-0-BL
		5	ALUZ A1 SERIES	A1-ZIBI-STN-45D-BK-30K-6- -SF-WET-UNV-16', INCLUDE MOUNTING BRACKETS

⬡X CODED NOTES

1. SUPPLY AND INSTALL NEW PANEL: MDP. RELOCATE ALL EXISTING TO REMAIN LOADS TO THIS PANEL.
2. INTERCEPT EXISTING FEEDER CONDUCTORS ON CUSTOMER SIDE OF ELECTRICAL METER. PROVIDE 300A 1-PHASE FUSED DISCONNECT ADJACENT TO EXISTING METER. PROVIDE CONDUIT AND CONDUCTOR TO NEW PANEL MDP AS LOCATED ON SHEET E-2-0
3.



NOTES:
1. CONTRACTOR SHALL PROVIDE SHORT CIRCUIT STUDY AND PROVIDE SUITABLE A.I.C. PROTECTION.
2. CONTRACTOR SHALL PERFORM FLASH STUDY AS REQUIRED, AND AFFIX NECESSARY LABELING.

1 / E-5-0 ELECTRICAL RISER DIAGRAM, SHOWERHOUSE

SCALE: NTS

NOTES	MOUNT:	SURFACE		120/240		1-PHASE, 3W	PANEL			A		CAPACITY:	300A					NOTES
	LOCATION:	UTILITY RM					LUGS:			MCB		DEMAND LOAD:	300A					
	CKT	LTG	REC	MOT	MISC	FH	DESCRIPTION	AMP	POLE		AMP	POLE	DESCRIPTION	LTG	REC	MOT	MISC	FH	CKT	
	1	0.84					LTG, TRACK, NC	20	1	A	20	1	LTG,EXT, N	0.45					2	
	3	0.84					LTG, TRACK, NC	20	1	B	20	1	LTG,EXT,S	0.45					4	
	5	0.84					LTG, TRACK, NC	20	1	A	20	1	LIGHTING CONTROLLER				0.25		6	
	7	0.45					LTG, STRIP, NC	20	1	B	20	1	RECEPT, MAINTENANCE		0.18				8	
	9	0.45					LTG, LOBBY, PENDANT	20	1	A	20	1	SPARE						10	
	11	0.1					(E)DOCK LIGHT	20	1	B	20	1	SPARE						12	
	13	0.55					LTG, STORE, PENDANT	20	1	A	20	1	SPARE						14	
	15	0.45					LTG, STORE, TRACK	20	1	B	20	1	SPARE						16	
	17	0.5					LTG, SW BLDG	20	1	A	20	1	RCPT, CONV, NATURE CTR		1.5				18	
	19		0.72				RECEPT, EXTERIOR	20	1	B	20	1	BAIT FRIDGE		0.25				20	
	21					0.5	ICE FREEZER	30	1	A	20	1	COVENIENCE RECEPT		1.4				22	
	23					0.5			1	B	20	1	POS & OFFICE		0.5				24	
	25					1	HAND DRYER RR	20	1	A	20	1	ICE CREAM STATION				0.5		26	
	27					1		20	1	B	20	1	HWRP-1				0.93		28	
	29					1	HAND DRYER RR	20	1	A	20	1	24V HVAC TRANSFORMER				0.25		30	
	31					1		20	1	B	20	1	BAIT FREEZER				0.25		32	
	33					4.5	WH1	40	2	A	30	2	FREEZER				0.25		34	
	35					4.5				B							0.25		36	
	37					1.7	UH1	20	2	A	20	2	SPARE						38	
	39					1.7				B									40	
	41					1	EWH1	20	2	A	20	2	EWH2					1	42	
	43					1				B								1	44	
	45					4.5	ACCU1	50	2	A	25	2	ACCU2					1.5	46	
	47					4.5				B								1.5	48	
	49					1.5	ACCU3	30	2	A	25	2	ACCU4					1.5	50	
	51					1.5				B								1.5	52	
	53					4.5	AHU1	90	2	A	30	2	AHU2					1.5	54	
	55					4.5				B								1.5	56	
	57					1.5	AHU3	30	2	A	30	2	AHU4					1.5	58	
	59					1.5				B								1.5	60	
	61				0.3		(E)SEWAGE EJEC PUMP	20	1	A	20	1	(E)FUEL DISPENSER				0.3		62	
	63				0.1		(E) RED MARINE LT	20	1	B	20						0.3		64	
	65				0.2		AUTO DOOR OPERATOR	20	1	A	20	1	(E)FUEL PUMP				0.3		66	
	67						SPARE	20	1	B	20						0.3		68	
	69						SPARE	20	1	A	20	1	SPARE						70	
	71						SPARE	20	1	B	20	1	SPARE						72	

PHASE BALANCE			LOAD TYPE	CONNECTED	DEMAND	DEMAND FORMULA	TOTAL LOAD	
			LIGHTING	5.9 KVA	5.9 KVA	100% LOAD	CONNECTED	DEMAND
	LOAD	%	RECEPTACLE	4.6 KVA	4.6 KVA	10KVA + 50% REMAINDER NEC 220.44	72.1 KVA	72.1KVA
A	37.4 KVA	52%	MOTOR	0.0 KVA	0.0 KVA	LOAD X 100% +125% LARGEST	300.4A	300.4A
B	34.7 KVA	48%	MISC	9.2 KVA	9.2 KVA	LOAD X 100% NEC 210.19 NON-CONT.		
			FH	52.4 KVA	52.4 KVA	FIXED HEATING 100% LOAD		

NOTES: SEE POWER RISER DIAGRAM E-3 FOR ADDITIONAL PANEL INFORMATION

FEEDER KEY

1 -3 -600 +2 -5"

- NO. OF SETS OF CONDUCTORS IN FEEDER.
- NO. OF POWER CONDUCTORS
- SIZE OF CONDUCTORS (AWG OR KCMIL)
- GROUND CONDUCTOR SIZE FOR EACH SET ("X" USED IF GROUND CONDUCTOR NOT USED)
- MINIMUM CONDUIT SIZE FOR EACH SET★

ALL CONDUCTOR SIZES BASED UPON 75 DEGREES C THWN/THHN FOR WET LOCATIONS USING COPPER CONDUCTORS UNLESS INDICATED OTHERWISE.

★ REFER TO PLANS AND DETAILS FOR COMBINING CONDUCTORS FROM SEPARATE FEEDERS WITHIN SAME RACEWAY. MINIMUM SIZE CONDUIT SHOWN IS FOR SINGLE FEEDERS ONLY. NO SHARED NEUTRALS.

NOTE: THIS FEEDER KEY IS AN EXAMPLE. CONDUCTOR AND CONDUIT SIZES AND QUANTITIES IN THIS KEY ARE NOT INTENDED TO BE USED FOR PROJECT DESIGN.

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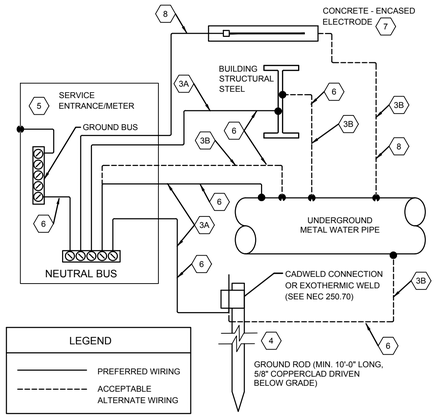
ELECTRICAL SCHEDULES & RISER DIAGRAM

E-4-0



CODED NOTES:

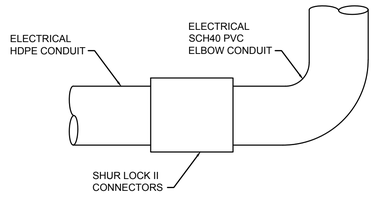
1. ALL GROUNDING AND BONDING MUST COMPLY WITH NEC ARTICLE 250 AND/ OR LOCAL ORDINANCES.
2. USE NEC TABLE 250.66 TO SIZE BONDING CONDUCTORS/JUMPERS, BONDING JUMPERS MUST BE INSTALLED IN ACCORDANCE WITH NEC ARTICLE 250.68.

3A. BOND GROUND ROD, METAL WATER PIPE, BUILDING STEEL OR METAL (WHERE EFFECTIVELY GROUNDED) AND CONCRETE-ENCASED ELECTRODE (SEE CODED NOTE 7). CONNECTION TO METAL WATER PIPE SHALL BE MADE WITHIN 5 FEET OF POINT OF ENTRANCE OF PIPE PER NEC 250.52 (A) (1).

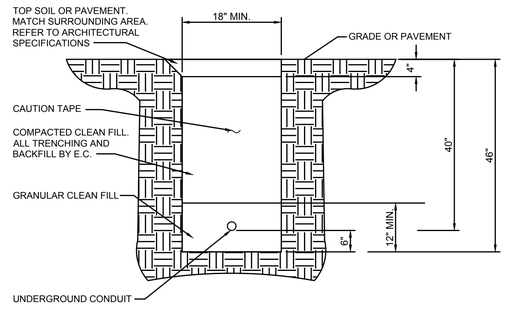
3B. ALTERNATE BONDING SCHEME: BOND GROUND ROD, BUILDING STEEL OR METAL (WHERE EFFECTIVELY GROUNDED) AND CONCRETE-ENCASED ELECTRODE (SEE CODED NOTE 7) TO METAL WATER PIPE. CONNECTIONS TO METAL WATER PIPE SHALL BE MADE WITHIN 5 FEET OF POINT OF ENTRANCE OF PIPE PER NEC 250.52 (A)

4. LOCATE GROUND ROD OUTSIDE BUILDING WALL NEAR SERVICE ENTRANCE.
5. PROTECT GROUNDING AND BONDING CONDUCTORS WHERE THEY PENETRATE CONCRETE FOUNDATIONS.
6. SIZE CONDUCTOR PER NEC TABLE 250.66 AND NEC ARTICLE 250.66.
7. CONCRETE-ENCASED ELECTRODE ENCASED WITHIN AT LEAST 2 INCHES OF CONCRETE, LOCATED WITHIN AND NEAR THE BOTTOM OF A CONCRETE FOUNDATION OR FOOTING IN DIRECT CONTACT WITH THE EARTH, MINIMUM 20 FOOT LENGTH OF ELECTRICALLY CONDUCTIVE MATERIAL. SEE NEC 250.52 (A) (3).
8. MINIMUM SIZE #4 AWG COPPER - SEE NEC 250.52 (A) (3).

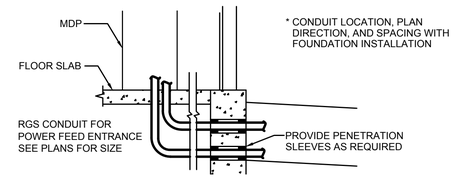
4 E-5-0 DETAIL, SERVICE GROUNDING
1/8" = 1'-0"



3 E-5-0 DETAIL, PVC COUPLING
1/8" = 1'-0"



2 E-5-0 DETAIL, ELECTRICAL TRENCH
1/8" = 1'-0"



1 E-5-0 DETAIL, FOUNDATION PENETRATION
1/8" = 1'-0"

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ELECTRICAL DETAILS

E-5-0