

BID PACKAGE NO. 9
RENOVATIONS TO:
CAMP MONROE
ST. LOUIS, MICHIGAN

CONTACTS:

ARCHITECT:

FOREST TRAIL DESIGN, PLC
4784 FOREST TRAIL
BELLAIRE, MICHIGAN 49615
PHONE: (989) 860-4382

CIVIL ENGINEER:

WILLIAM A. KIBBE AND ASSOCIATES, INC.
1475 S. WASHINGTON AVE.
SAGINAW, MICHIGAN 48601
PHONE: (989) 752-5000

STRUCTURAL ENGINEER:

SNYDER AND STALEY ENGINEERING, PLC
824 TITTABAWASSEE ROAD
SAGINAW, MICHIGAN 48604
PHONE: (989) 797-1710

MECHANICAL AND ELECTRICAL ENGINEER:

MATRIX CONSULTING ENGINEERS, LLC
1601 E. CESAR E. CHAVEZ, AVE.
LANSING, MICHIGAN 48906
PHONE: (517) 487-2511

CONSTRUCTION MANAGER:

WOLGAST CORPORATION
4835 TOWNE CENTRE RD, SUITE 203
SAGINAW, MICHIGAN 48604
PHONE: (269) 790-9120

DRAWING INDEX:

TS TITLE SHEET
TOPOGRAPHICAL SURVEY

CIVIL:

C2.0 SITE DEMOLITION PLAN
C3.0 PROPOSED SITE LAYOUT
C3.1 ENLARGED PROPOSED SITE GRADING PLAN
C4.0 SOIL EROSION AND SEDIMENTARY CONTROL PLAN
C5.0 PROPOSED SITE DETAILS

ARCHITECTURAL:

A0.1 PARTIAL SITE PLAN
A1.1 DEMOLITON PLAN
A2.1 FLOOR PLAN AND FLOOR PLAN DIMENSIONS
A3.0 SCHEDULES, DETAILS, AND REF. CEILING PLAN
A5.0 EXTERIOR ELEVATIONS, BUILDING SECTIONS, AND ROOF PLAN
A5.1 WALL SECTIONS AND DETAILS

STRUCTURAL:

S1.0 DEMO AND ROOF FRAMING PLAN
AND GENERAL NOTES

MECHANICAL:

M0.1 HVAC COVER SHEET
M1.1 PLUMBING PLANS
M1.2 MECHANICAL PLANS
M5.1 PLUMBING AND HVAC DETAILS
M6.1 PLUMBING AND HVAC SCHEDULES

ELECTRICAL:

E0.1 ELECTRICAL COVER SHEET
ED0.1 ELECTRICAL DEMOLITION FLOOR PLAN
E1.1 ELECTRICAL FLOOR PLANS
E5.1 ELECTRICAL DETAILS
E7.1 ELECTRICAL SCHEDULES
ES0.1 ELECTRICAL SITE PLAN

LIST OF ALTERNATES:

- REFER TO SPECIFICATIONS & REFERENCED DRAWINGS FOR A MORE DESCRIPTIVE EXPLANATION OF THE ALTERNATE ON THIS PROJECT

ALTERNATE CM-1:

- REPLACE EXISTING PARKING LOT SURFACE WITH ASPHALT; SEE CIVIL DRAWINGS. PROVIDE WHEEL STOPS AS SHOWN ON CIVIL DRAWINGS.

BUILDING CODE COMPLIANCE

BUILDING: CAMP MONROE

- 2021 MICHIGAN REHABILITATION CODE
 - PROPOSED ALTERATIONS IN COMPLIANCE WITH 2021 MICHIGAN REHABILITATION CODE SECTION 301.3.2 - LEVEL 2 ALTERATIONS
- 2021 MICHIGAN BUILDING CODE (MBC)
- 2023 NATIONAL AND MICHIGAN ELECTRICAL CODE
- 2021 MICHIGAN MECHANICAL CODE
- 2021 MICHIGAN PLUMBING CODE
- 2017 MICHIGAN ACCESSIBILITY CODE

CODE COMPLIANCE BUILDING DATA

USE GROUP & OCCUPANCY CLASSIFICATION:

- GROUP U - UTILITY AND MISCELLANEOUS

CONSTRUCTION TYPE:

- VB - MBC

BUILDING HEIGHT

- ONE STORY

AREA TABULATION:

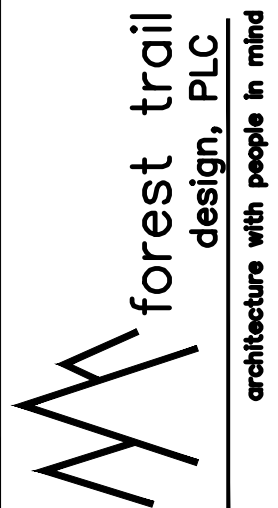
- | | |
|---|------------|
| EXISTING BUILDING: | 4,000 S.F. |
| AREA OF PROPOSED RENOVATION | 4,000 S.F. |
| PERCENTAGE PF EXISTING BUILDING RENOVATIONS | 100% |
| AREA OF PROPOSED NEW CONSTRUCTION | N/A |

OCCUPANT LOAD:

- LESS THAN 6 OCCUPANTS



FOREST TRAIL DESIGN, PLC
P.O. BOX 884
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PHONE: (989) 860-4382

forest trail
design, PLC
architecture with people in mind

NO.	REVISION	DATE

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ST. LOUIS, MICHIGAN

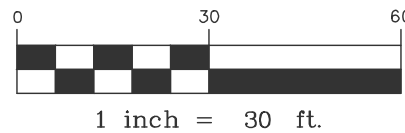
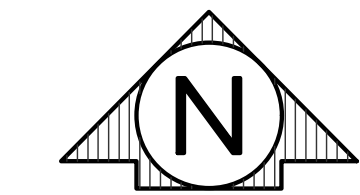
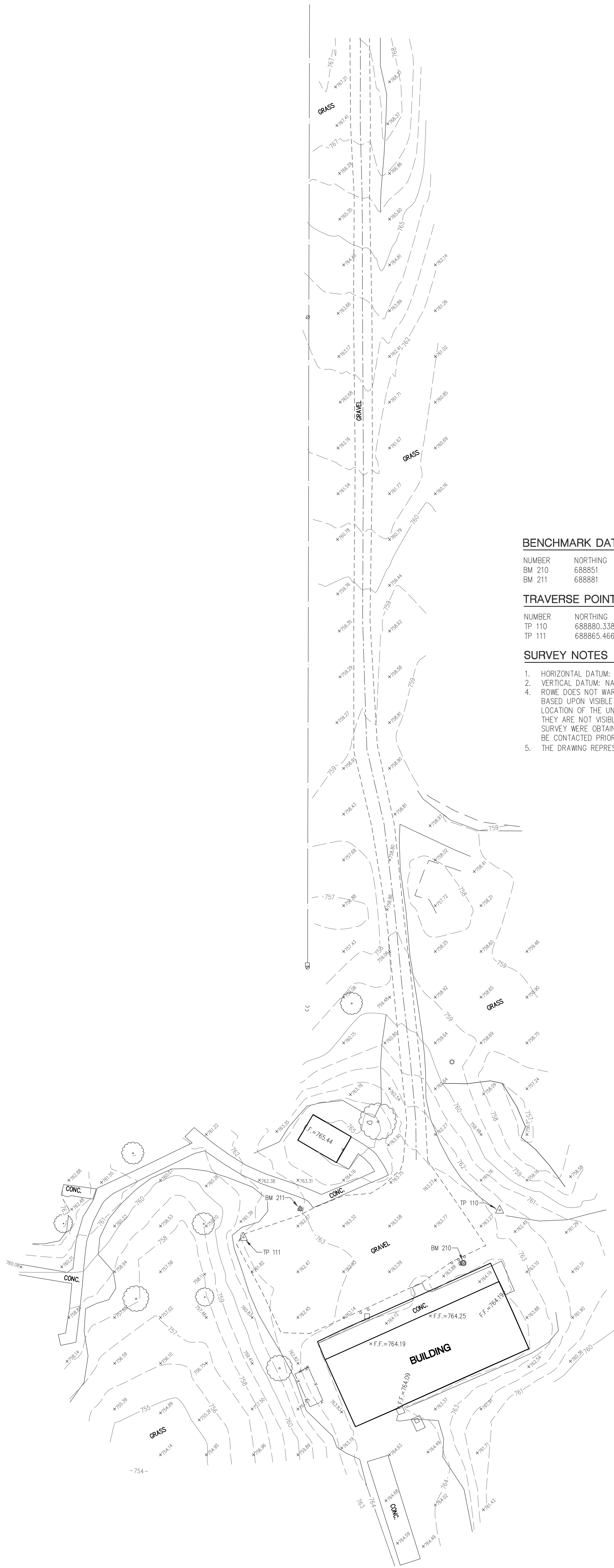
SHEET TITLE
TITLE SHEET

PROJECT NUMBER
2021003.97

PROJECT DATE
SEPTEMBER 2025

CHECKED BY
T.F.L.

SHEET NUMBER
TS



BENCHMARK DATA TABLE

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM 210	688851	13062627	765.53	TOP WELL CASING NW OF BUILDING CORNER
BM 211	688881	13062537	765.09	TOP W/LY METAL SUPPORT POST FOR LIGHT POLE

TRAVERSE POINT DATA TABLE

NUMBER	NORTHING	EASTING	DESCRIPTION
TP 110	688880.3380	13062646.1580	SET 1/2" BAR & ROWE CAP, 30'± NNE OF NE BLD. COR., 15'± E. OF E. EDGE GRAV.
TP 111	688865.4660	13062506.2860	SET 1/2" BAR & ROWE CAP, AT NW COR. GRAV. P-Lot, 30'± W. OF LIGHT POLE N. SIDE P-Lot

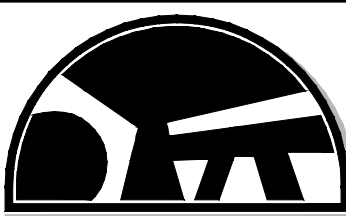
SURVEY NOTES

- HORIZONTAL DATUM: NAD83/CORS2011, MCS SOUTH ZONE, UNITS: INTERNATIONAL FEET
- VERTICAL DATUM: NAVD88, PER GPS OBSERVATION AND DIFFERENTIAL LEVELING
- ROWE DOES NOT WARRANT THE LOCATION OF ALL TOPOGRAPHICAL SITE FEATURES. THE TOPOGRAPHIC FEATURES, AS SHOWN HEREON, ARE BASED UPON VISIBLE EVIDENCE OBSERVED IN THE FIELD AND FIELD LOCATED SURFACE UTILITY STRUCTURES. WE DO NOT WARRANT THE LOCATION OF THE UNDERGROUND PORTION OF THE UTILITIES. THE UNDERGROUND IMPROVEMENTS, AS SHOWN HEREON, ARE APPROXIMATE SINCE THEY ARE NOT VISIBLE FROM THE SURFACE AND COMPLETELY ACCURATE RECORDS OF ALL UTILITIES ARE NOT AVAILABLE. RECORDS FOR THIS SURVEY WERE OBTAINED FROM PRIVATE UTILITY COMPANIES, MISSDIG TICKET #B012841162 AND OBSERVED VISIBLE EVIDENCE. MISS DIG SHOULD BE CONTACTED PRIOR TO ANY CONSTRUCTION.
- THE DRAWING REPRESENTS ALL UTILITY INFORMATION RECEIVED BY 10/15/21

SH1# 1 OF 2
JOB No: 21M0065

REV:

PREPARED FOR
**ST. LOUIS SCHOOLS
ARCHITECTURAL SURVEY**
CAMP MONROE SITE
BETHANY TOWNSHIP, GRATIOT COUNTY, MICHIGAN



**ROWE PROFESSIONAL
SERVICES COMPANY**

127 S. Main Street
Mt. Pleasant, MI 48858

O: (989) 772-2138
F: (989) 773-7757
www.rowepsc.com

PLAN DATE: OCTOBER 20, 2021
PROJECT MGR: GAS
REVIEWER: _____
SCALE: 1" = 30'



STRUCTURE SYMBOLS

	EXISTING CATCH BASIN IN CURB LINE
	EXISTING CATCH BASIN IN GREEN SPACE
	EXISTING STORM MANHOLE
	EXISTING HEADWALL
	EXISTING GATE VALVE AND BOX
	EXISTING WATER SHUT OFF (CURB BOX)
	EXISTING GATE VALVE AND WELL
	EXISTING SPRINKLER HEAD
	EXISTING WATER WELL
	EXISTING FIRE HYDRANT
	EXISTING CLEAN OUT
	EXISTING SANITARY SEWER MANHOLE
	EXISTING MONITORING WELL

EXISTING TOPOGRAPHICAL SYMBOLS

	SIGN
	STREET SIGN
	END OF PIPE
	SWAMP OR WETLAND
	DECIDUOUS TREE
	CONIFEROUS TREE
	TREE STUMP
	MAIL BOX
	SOIL BORING
	ROCK
	METAL POST
	BUMPER BLOCK
	SWINGSET
	SLIDE
	SPIRAL SLIDE
	MERRY-GO-ROUND
	CLIMBING BARS RECTANGLE
	CLIMBING BARS ROUND

TOPOGRAPHY

	EXISTING CONTOURS MAJOR
	EXISTING CONTOURS MINOR

UTILITY SYMBOLS

	UTILITY POLE
	GUY ANCHOR CABLE
	LIGHT POLE / ORNAMENTAL LIGHT
	POWER LIGHT POLE
	TELEPHONE MANHOLE
	UNDERGROUND GAS LINE MARKER
	GAS RISER
	GAS VENT
	GAS VALVE
	RAILROAD SIGNAL
	METAL LIGHT POLE
	OUTLET
	CIRCUIT BREAKER PANEL
	ELECTRICAL TRANSFORMER PAD
	ELECTRICAL TRANSFORMER RISER
	ELECTRIC METER
	TELEPHONE PEDESTAL / RISER
	TRAFFIC SIGNAL ON POLE

SURVEY SYMBOLS

	BENCHMARK
	TRAVERSE POINT
	SECTION CORNER
	FOUND SURVEY MONUMENTATION

PARCEL INFORMATION

401-069	PARCEL/TAX IDENTIFICATION NUMBER
#5324	ADDRESS/BUSINESS NAME

PLAN VIEW LINE TYPES

	EXISTING STORM SEWER
	EXISTING SANITARY SEWER
	EXISTING WATER MAIN
	SECTION LINE
	EXISTING RIGHT OF WAY
	EXISTING CENTER LINE DITCH
	EXISTING CENTER LINE ROADWAY
	PROPERTY BOUNDARY LINE
	PROPERTY SETBACK LINE
	EXISTING OVERHEAD UTILITIES
	UNDERGROUND ELECTRICAL LINE
	GAS LINE OR PETROLEUM PIPELINE
	UNDERGROUND TELEPHONE LINE
	UNDERGROUND CABLE TV LINE
	UNDERGROUND FIBER OPTIC
	TREE LINE
	BRUSH LINE
	EXISTING FENCE
	EXISTING GUARD RAIL

PAVEMENT IDENTIFICATION

	EXISTING CURB AND GUTTER
--	--------------------------



Know what's **below.**
Call before you dig.

SURVEY NOTES

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- THE DRAWING REPRESENTS ALL UTILITY INFORMATION RECEIVED BY 10/20/21
- ITEMS ON "MISS-DIG" LAYERS ARE APPROXIMATE LOCATION, SHOWN PER INFORMATION PROVIDED BY MISSDIG TICKET AND WERE NOT VISIBLE IN THE FIELD.



PLAN DATE:	OCTOBER 20, 2021
PROJECT MGR:	GAS
REVIEWER:	GAS
SCALE:	N/A

ROWE PROFESSIONAL
SERVICES COMPANY



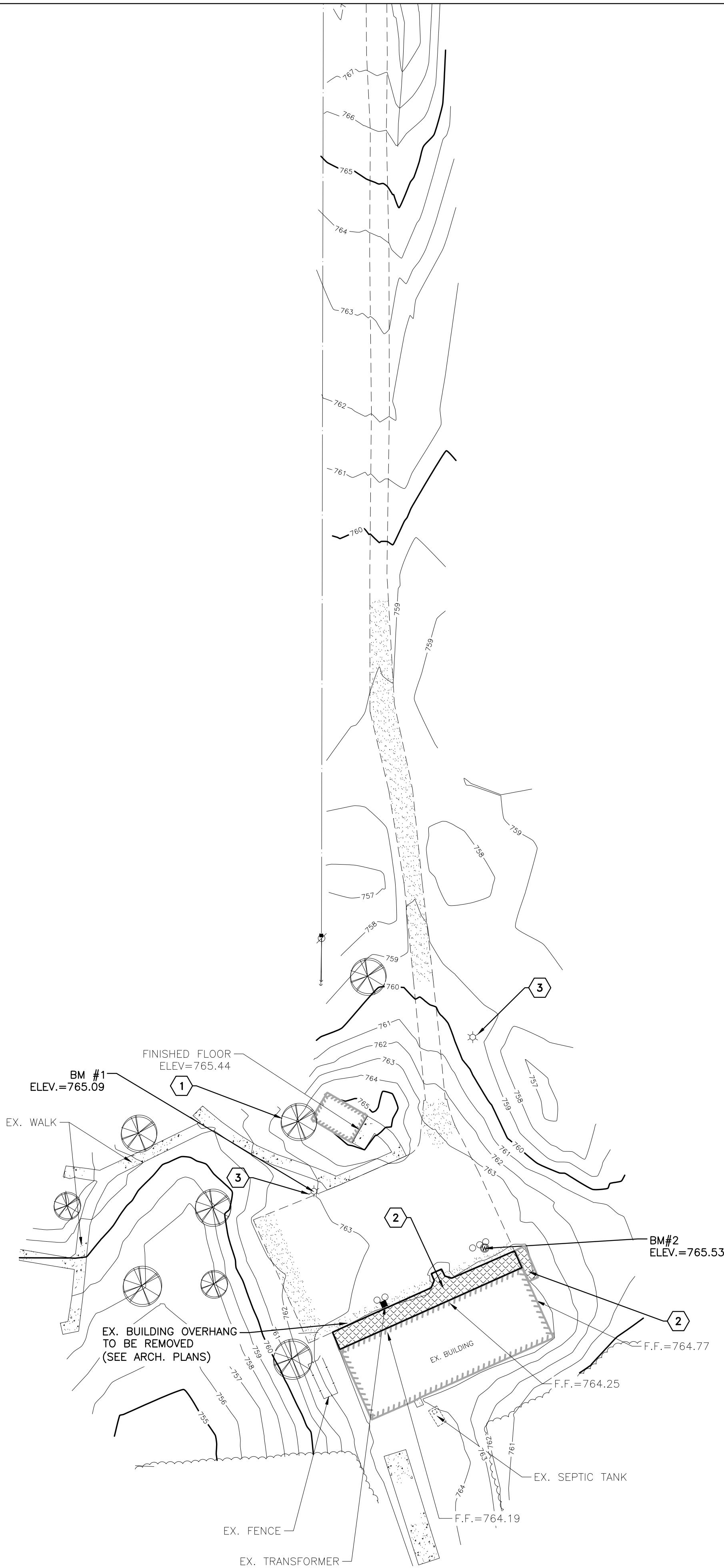
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PREPARED FOR
ST. LOUIS SCHOOLS
ARCHITECTURAL SURVEY

LEGEND SHEET

REV:

SHT# 2 OF 2
JOB No: 21M0065



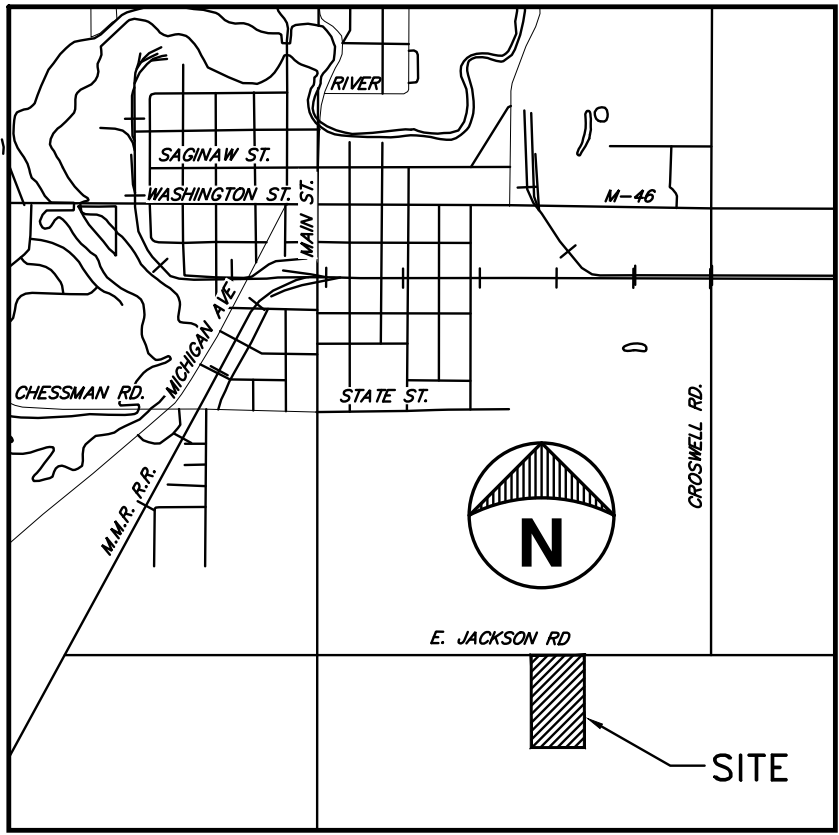
SITE DEMOLITION PLAN
SCALE: 1" = 40'

DEMOLITION KEYED NOTES:

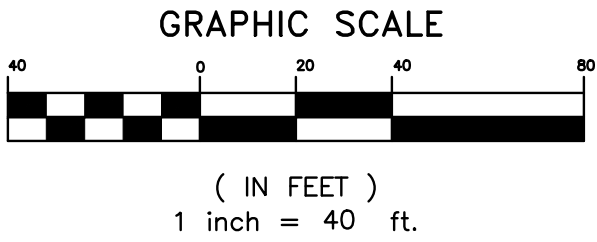
- 1 REMOVE EXISTING TREE AND STUMP
- 2 REMOVE EXISTING CONCRETE SURFACE TO FULL DEPTH. SAWCUT PER PLAN OR NEAREST JOINT
AREA REPRESENTED BY: [Hatched Pattern]
- 3 REMOVE EXISTING LIGHT POLES

DEMOLITION NOTES:

- 1.) ALL DEMOLITION WORK SHALL CONFORM TO ALL LOCAL CODES AND ORDINANCES. ALL DEMOLITION OPERATIONS SHALL COMPLY WITH MIOSHA REGULATIONS INSOFAR AS THEY APPLY TO THE REQUIRED WORK. A SOIL EROSION CONTROL PLAN WILL BE REQUIRED PRIOR TO DEMOLITION.
- 2.) THE CONTRACTOR SHALL REMOVE AND CLEAR ALL TREES, BRUSH, FENCES, BUILDINGS, CURB AND PAVEMENT AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- 3.) ALL DEMOLITION MATERIAL SHALL BE PROPERLY REMOVED FROM THE SITE AND DISPOSED OF IN A LEGALLY DESIGNATED DISPOSAL AREA. NO ON-SITE BURNING WILL BE PERMITTED. PERMITS AND FEES FOR DISPOSAL OF DEMOLITION MATERIAL SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR.
- 4.) BACKFILL EXCAVATED AREAS WITH MDOT CL II SAND COMPACTED TO 95% DENSITY IN 12" LIFTS.
- 5.) AT THE CONCLUSION OF THE DEMOLITION OPERATIONS, THE ENTIRE WORK AREA SHALL BE LEFT IN A CLEAN CONDITION WITH ANY PROTECTIVE DEVICES AND BARRIERS REMOVED. ALL EXPOSED AREAS SHALL BE SUITABLE TOPSOILED, SEEDED AND MULCHED.
- 6.) CONTRACTOR TO VERIFY ALL UTILITIES WITHIN CONSTRUCTION INFLUENCE. NOTIFY ENGINEER OF ANY CONFLICTS.
- 7.) CONTRACTOR SHALL COORDINATE WITH ALL LOCAL UTILITY OWNERS, IE: AT&T, CONSUMERS ENERGY, CHARTER COMM., THE LOCAL MUNICIPALITY AND ALL OTHERS THAT WOULD APPLY TO THE DISTURBED AREA OF CONSTRUCTION.
- 8.) CONTRACTOR SHALL VERIFY CONSTRUCTION SCHEDULING AND NOTES ON EACH SHEET PRIOR TO DEMOLITION. DEMOLITION TO BE SCHEDULED WITH OWNER AND ENGINEER.



LOCATION MAP
NOT TO SCALE



LEGEND

- | | |
|----------|-------------------------------------|
| [Symbol] | EX. SPOT GRADE |
| [Symbol] | EX. MINOR CONTOUR |
| [Symbol] | EX. MAJOR CONTOUR |
| [Symbol] | EX. CENTERLINE DITCH |
| [Symbol] | EX. SANITARY SEWER W/MANHOLE |
| [Symbol] | EX. STORM SEWER |
| [Symbol] | EX. WATERMAIN |
| [Symbol] | EX. ELECTRIC LINES |
| [Symbol] | EX. CHAINLINK FENCE |
| [Symbol] | EX. WOOD FENCE |
| [Symbol] | EX. GAS LINES |
| [Symbol] | EX. COMMUNICATION LINES |
| [Symbol] | EX. OVERHEAD UTILITY WIRES |
| [Symbol] | EX. SIGN WITH POST |
| [Symbol] | EX. BUILDINGS |
| [Symbol] | EX. BITUMINOUS PAVEMENT |
| [Symbol] | EX. CONCRETE PAVEMENT (C. OR CONC.) |
| [Symbol] | EX. GRAVEL PAVEMENT |
| [Symbol] | EX. STEEL POST |
| [Symbol] | EX. STORM CURB INLET |
| [Symbol] | EX. STORM CATCH BASIN/MANHOLE |
| [Symbol] | EX. HYDRANT |
| [Symbol] | EX. WATER OR GAS VALVE |
| [Symbol] | EX. UTILITY POLE |
| [Symbol] | EX. SEWER CLEANOUT |
| [Symbol] | EX. WATER WELL |
| [Symbol] | EX. LIGHT POLE |
| [Symbol] | EX. UTILITY RISER |
| [Symbol] | EX. MAILBOX |

SURVEY NOTE

TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY ROWE PROFESSIONAL SERVICES COMPANY, JOB NO. 21M0065

BENCHMARKS

NO.1 - TOP WESTERLY METAL SUPPORT POST FOR LIGHT POLE
ELEVATION = 765.09 (NAVD 88 DATUM)

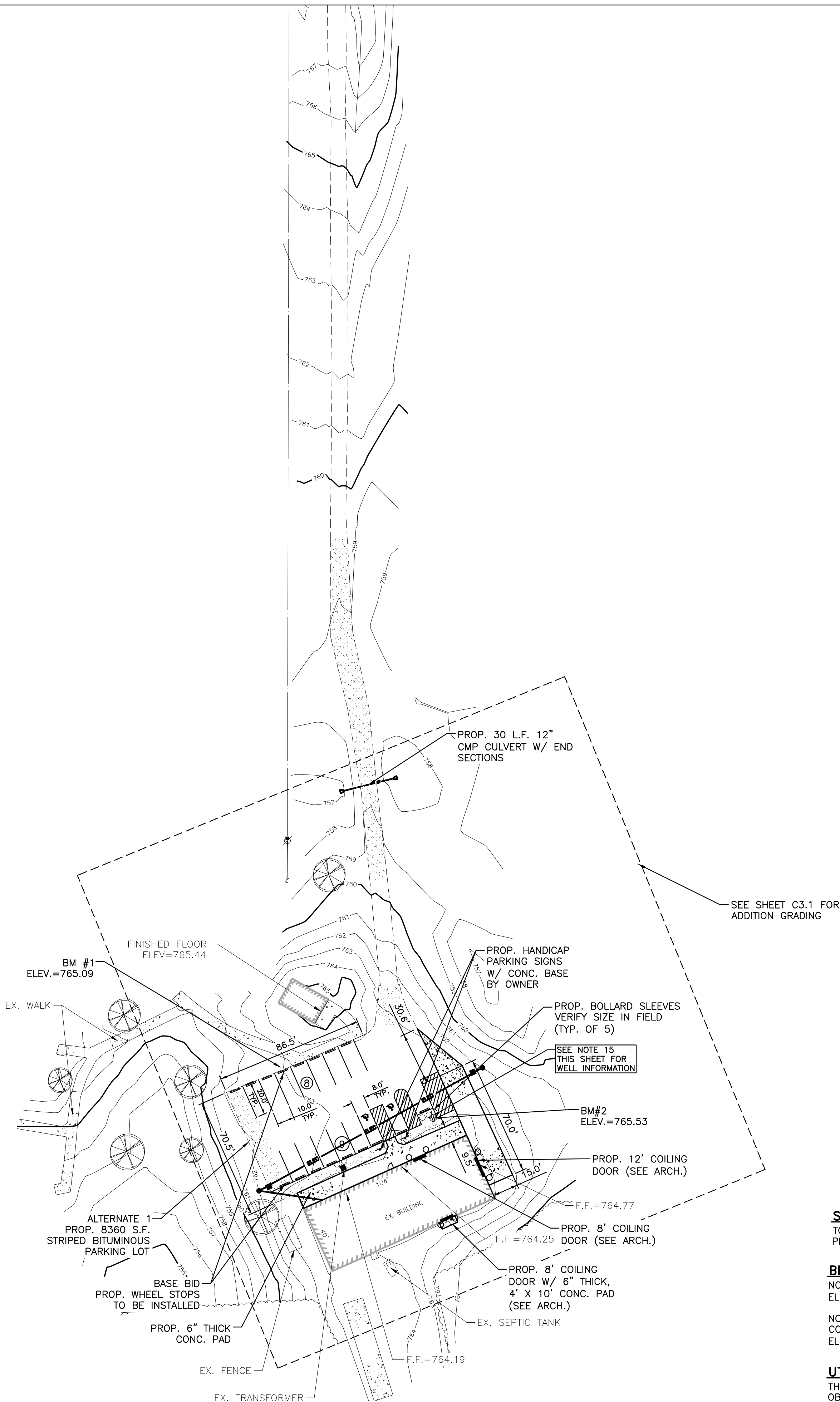
NO.2 - TOP WELL CASTING NORTHWEST OF THE NORTHWEST
CORNER OF EXISTING BUILDING
ELEVATION = 765.53 (NAVD 88 DATUM)

UTILITY NOTE

THE UTILITY LOCATIONS AS HEREIN SHOWN ARE BASED ON FIELD OBSERVATIONS AND A CAREFUL REVIEW OF MUNICIPAL AND UTILITY RECORDS. HOWEVER, IT IS NOT POSSIBLE TO DETERMINE THE PRECISE SIZE, LOCATION, DEPTH, PRESSURE, OR ANY OTHER CHARACTERISTICS OF UNDERGROUND UTILITIES, TANKS OR SEPTIC FIELDS WITHOUT EXCAVATION. THEREFORE, WE CANNOT GUARANTEE THE ACCURACY OF COMPLETENESS OF THE BURIED UTILITY INFORMATION HEREIN SHOWN. THE CONTRACTOR SHALL CALL "MISS DIG" AT (811) A MINIMUM OF THREE WORKING DAYS PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THESE LOCATIONS PRIOR TO CONSTRUCTION AND MAKE EVERY EFFORT TO PROTECT AND/OR RELOCATE THEM AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF DESIGN AS SOON AS POSSIBLE IN THE EVENT A DISCREPANCY IS FOUND.

GENERAL SITE NOTES:

1. THE CONTRACTOR SHALL CALL "MISS DIG" (811) 3 WORKING DAYS BEFORE DIGGING ON THE PROJECT TO VERIFY EXISTING UNDERGROUND UTILITIES.
2. THE EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN DRAWN IN ACCORDANCE TO THE INFORMATION PROVIDED. UTILITIES SHALL BE FIELD LOCATED BY THE CONTRACTOR PRIOR TO CROSSING. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. DURING THE LIFE OF THE PROJECT, THE CONTRACTOR SHALL CONFORM TO ACT No. 451, PUBLIC ACTS OF 1994, RELATIVE TO THE SOIL EROSION AND SEDIMENTATION CONTROL ACT.
4. CLEANUP SHALL INCLUDE DEBRIS REMOVAL, ROUGH GRADING, MINIMUM 4" TOPSOIL PLACEMENT, SEEDING, AND FERTILIZING OVER ANY AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS.
5. CONTRACTOR TO SUPPLY MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.
6. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION. COSTS FOR LOCATING, REMOVING, REPLACING OR RELOCATING THESE UTILITIES SHALL BE INCIDENTAL TO CONSTRUCTION. UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED WITH LIKE MATERIAL AT NO ADDITIONAL COST TO THE OWNER.
7. CONTRACTOR SHALL NOTIFY PROPER GOVERNMENTAL INSPECTION AGENCY AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
8. THE CONTRACTOR SHALL BE REQUIRED TO COMPLETE WORK IN AN EXPEDITIOUS MANNER AND SHALL NOT STOP CONSTRUCTION FOR EXTENDED PERIODS ONCE CONSTRUCTION HAS BEGUN.
9. THE CONTRACTOR SHALL MAINTAIN IN SERVICE, EXISTING SANITARY SEWER, WATER OR STORM SEWER SERVICE CONNECTIONS WHENEVER POSSIBLE. COORDINATE WITH LOCAL UTILITY COMPANY AND OWNER BEFORE UTILITIES SHALL BE OUT OF SERVICE FOR A PERIOD OF TIME.
10. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING AND/OR GRADING OPERATIONS.
11. STORM DRAINAGE SHALL CONFORM TO THE LATEST STANDARDS OF THE GRATIOT COUNTY DRAIN COMMISSION
12. MATCH EXISTING BIT. PAVEMENT ALONG NEW WALKS AND PROPOSED NEW BIT. PAVEMENT AREAS WHERE APPLICABLE.
13. ALL UTILITY WORK SHALL CONFORM TO THE LATEST LOCAL MUNICIPALITY'S STANDARD SPECIFICATIONS AND DETAILS.
14. ALL WATER SERVICES SHALL BE TYPE 'K' COPPER.
15. CONTRACTOR TO INSTALL 1 HORSE POWER FRANKLIN ELECTRIC 20 GALLON PER MINUTE SUBMERSIBLE PUMP, 100 LINEAR FEET OF 1-1/4" SCHEDULE 80 DROP PIPE, AND 105 LINEAR FEET OF TWISTED 12-2 SUBMERSIBLE PUMP CABLE, ALONG WITH THE REQUIRED SPLICE KIT, TEES, GAUGES, PRESSURE SWITCH, VALVES, TAPS, FITTINGS, AND ELECTRICAL COMPONENTS.
16. SAND FILL UNDER FLOOR SLABS SHALL BE MDOT CL.II GRANULAR BACKFILL. SAND SHALL BE SPREAD IN UNIFORM LAYERS NOT TO EXCEED 6" THICK BEFORE COMPACTION. EACH LAYER SHALL BE THOROUGHLY COMPACTED WITH A VIBRATING COMPACTOR AFTER EACH LAYER IS PLACED. FILL SAND SHALL NOT HAVE A MOISTURE CONTENT GREATER THAN 15%. COMPACTION SHALL MEET 95% OF MAXIMUM UNIT WEIGHT AS DETERMINED BY THE MODIFIED PROCTOR TEST.
17. THE SITE EXCAVATION CONTRACTOR SHALL VERIFY THE EXISTING SANITARY SEWER LEAD DEPTH PRIOR TO ANY FOOTING EXCAVATION.
18. REMOVE EXISTING TOP SOIL FROM AREAS TO BE PAVED AND REPLACE WITH SUITABLE COMPACTED FILL. FILL MATERIAL SHALL BE COMPACTED SAND BACKFILL CLASS II GRANULAR.
19. BACKFILL ALL TRENCHES UNDER SLABS, WALKS AND PAVED AREAS WITH COMPACTED SAND BACKFILL MDOT CL.II. COMPACTION SHALL BE 95% MAXIMUM UNIT WEIGHT AS DETERMINED BY MODIFIED PROCTOR.
20. ALL ON SITE WATER SERVICES SHALL MEET THE REQUIREMENTS OF THE STANDARD DETAILS OF LOCAL MUNICIPALITY.
21. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL REGULATIONS FOR WORK AT THE SITE. THIS SHALL INCLUDE MIOSHA REGULATIONS.
22. THE CONTRACTOR/DEVELOPER SHALL PAY FOR AND OBTAIN ALL BUILDING PERMITS, LOCAL PERMITS AND PAY ALL CHARGES FOR ANY INSPECTION AND TESTING.
23. THE CONTRACTOR SHALL CONTROL NOISE, CARRY OUT A PROGRAM OF DUST CONTROL AND SHALL ALLOW NO ON-SITE BURNING.
24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP THE PREMISES AND UPON COMPLETION OF THE PROJECT LEAVE THE SITE IN AN ACCEPTABLE CONDITION AS DETERMINED BY THE ENGINEER OR THE OWNER.



SURVEY NOTE

TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY ROWE PROFESSIONAL SERVICES COMPANY, JOB NO. 21M0065

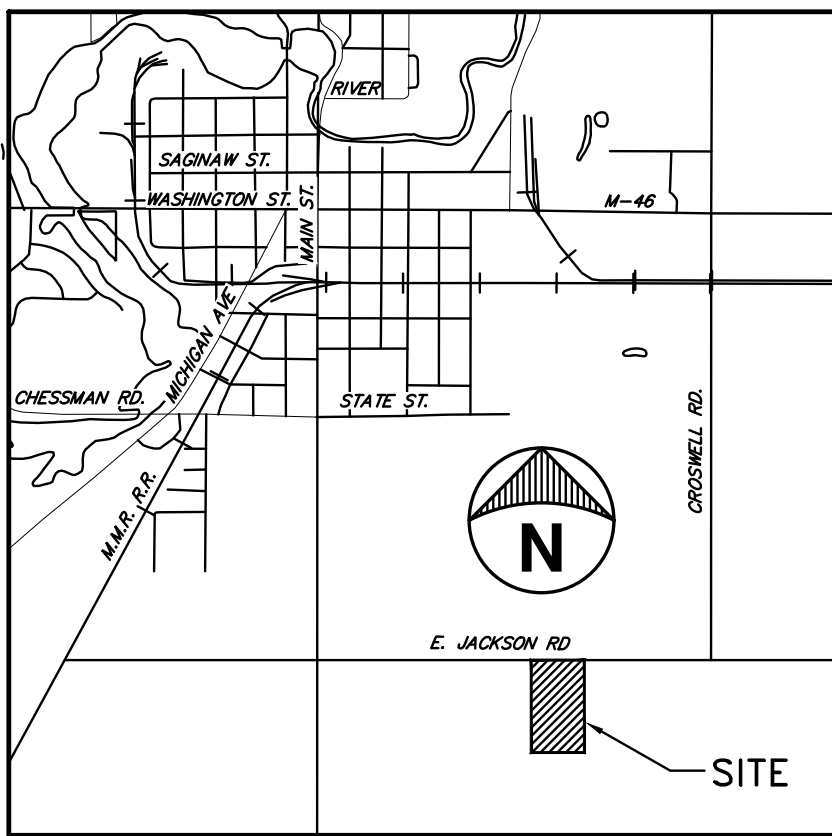
BENCHMARKS

NO.1 - TOP WESTERLY METAL SUPPORT POST FOR LIGHT POLE ELEVATION = 765.09 (NAVD 88 DATUM)

NO.2 - TOP WELL CASTING NORTHWEST OF THE NORTHWEST CORNER OF EXISTING BUILDING ELEVATION = 765.53 (NAVD 88 DATUM)

UTILITY NOTE

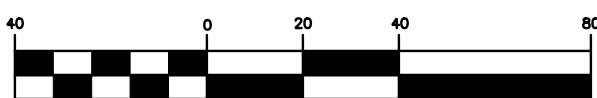
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LOCATION MAP

NOT TO SCALE

GRAPHIC SCALE



LEGEND

EX. SPOT GRADE	EX. MINOR CONTOUR
EX. MAJOR CONTOUR	EX. CENTERLINE DITCH
EX. SANITARY SEWER W/MANHOLE	EX. STORM SEWER
EX. WATERMAIN	EX. ELECTRIC LINES
EX. CHAINLINK FENCE	EX. WOOD FENCE
EX. GAS LINES	EX. COMMUNICATION LINES
EX. OVERHEAD UTILITY WIRES	EX. SIGN WITH POST
EX. BUILDINGS	EX. BITUMINOUS PAVEMENT
EX. CONCRETE PAVEMENT (C. OR CONC.)	EX. GRAVEL PAVEMENT
EX. STEEL POST	EX. STORM CURB INLET
EX. STORM CATCH BASIN/MANHOLE	EX. HYDRANT
EX. WATER OR GAS VALVE	EX. UTILITY POLE
EX. SEWER CLEANOUT	EX. WATER WELL
EX. LIGHT POLE	EX. UTILITY RISER
EX. MAILBOX	PROP. BITUMINOUS PAVEMENT
PROP. CONCRETE PAVEMENT	PROP. GRAVEL SURFACE
PROP. DRAINAGE FLOW	MATCH EXISTING TOP OF GRAVEL



PROPOSED SITE LAYOUT AND GRADING PLAN

SCALE: 1" = 40'



FOREST TRAIL DESIGN, PLC
P.O. BOX 864
BELLARE, MICHIGAN 49615
PHONE: (989) 860-4382



NO.	REVISION	DATE

BID PACKAGE NO. 9
RENOVATIONS TO:
CAMP MONROE
ST. LOUIS, MICHIGAN

SHEET TITLE
PROPOSED SITE LAYOUT

PROJECT NUMBER
2021003.97

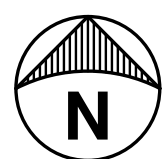
PROJECT DATE
SEPTEMBER 2025

CHECKED BY
JCW

DRAWN BY
MNH

DESIGNED BY
MNH

SHEET NUMBER
C3.0
WAK JOB #: 21-2707-0008



ENLARGED PROPOSED SITE GRADING PLAN

SCALE: 1" = 20'

GENERAL SITE NOTES:

1. THE CONTRACTOR SHALL CALL "MISS DIG" (811) 3 WORKING DAYS BEFORE DIGGING ON THE PROJECT TO VERIFY EXISTING UNDERGROUND UTILITIES.
2. THE EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN DRAWN IN ACCORDANCE TO THE INFORMATION PROVIDED. UTILITIES SHALL BE FIELD LOCATED BY THE CONTRACTOR PRIOR TO CROSSING. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. DURING THE LIFE OF THE PROJECT, THE CONTRACTOR SHALL CONFORM TO ACT No. 451, PUBLIC ACTS OF 1994, RELATIVE TO THE SOIL EROSION AND SEDIMENTATION CONTROL ACT.
4. CLEANUP SHALL INCLUDE DEBRIS REMOVAL, ROUGH GRADING, MINIMUM 4" TOPSOIL PLACEMENT, SEEDING, AND FERTILIZING OVER ANY AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS.
5. CONTRACTOR TO SUPPLY MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.
6. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION. COSTS FOR LOCATING, REMOVING, REPLACING OR RELOCATING THESE UTILITIES SHALL BE INCIDENTAL TO CONSTRUCTION. UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED WITH LIKE MATERIAL AT NO ADDITIONAL COST TO THE OWNER.
7. CONTRACTOR SHALL NOTIFY PROPER GOVERNMENTAL INSPECTION AGENCY AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
8. THE CONTRACTOR SHALL BE REQUIRED TO COMPLETE WORK IN AN EXPEDITIOUS MANNER AND SHALL NOT STOP CONSTRUCTION FOR EXTENDED PERIODS ONCE CONSTRUCTION HAS BEGUN.
9. THE CONTRACTOR SHALL MAINTAIN IN SERVICE, EXISTING SANITARY SEWER, WATER OR STORM SEWER SERVICE CONNECTIONS WHENEVER POSSIBLE. COORDINATE WITH LOCAL UTILITY COMPANY AND OWNER BEFORE UTILITIES SHALL BE OUT OF SERVICE FOR A PERIOD OF TIME.
10. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING AND/OR GRADING OPERATIONS.
11. STORM DRAINAGE SHALL CONFORM TO THE LATEST STANDARDS OF THE GRATIOT COUNTY DRAIN COMMISSION
12. MATCH EXISTING BIT. PAVEMENT ALONG NEW WALKS AND PROPOSED NEW BIT. PAVEMENT AREAS WHERE APPLICABLE.
13. ALL UTILITY WORK SHALL CONFORM TO THE LATEST LOCAL MUNICIPALITY'S STANDARD SPECIFICATIONS AND DETAILS.
14. ALL WATER SERVICES SHALL BE TYPE "K" COPPER.
15. SAND FILL UNDER FLOOR SLABS SHALL BE MDOT CL.II GRANULAR BACKFILL. SAND SHALL BE SPREAD IN UNIFORM LAYERS NOT TO EXCEED 6" THICK BEFORE COMPACTION. EACH LAYER SHALL BE THOROUGHLY COMPACTED WITH A VIBRATING COMPACTOR AFTER EACH LAYER IS PLACED. FILL SAND SHALL NOT HAVE A MOISTURE CONTENT GREATER THAN 15%. COMPACTION SHALL MEET 95% OF MAXIMUM UNIT WEIGHT AS DETERMINED BY THE MODIFIED PROCTOR TEST.
16. THE SITE EXCAVATION CONTRACTOR SHALL VERIFY THE EXISTING SANITARY SEWER LEAD DEPTH PRIOR TO ANY FOOTING EXCAVATION.
17. REMOVE EXISTING TOP SOIL FROM AREAS TO BE PAVED AND REPLACE WITH SUITABLE COMPACTED FILL. FILL MATERIAL SHALL BE COMPACTED SAND BACKFILL CLASS II GRANULAR.
18. BACKFILL ALL TRENCHES UNDER SLABS, WALKS AND PAVED AREAS WITH COMPACTED SAND BACKFILL MDOT CL.II. COMPACTION SHALL BE 95% MAXIMUM UNIT WEIGHT AS DETERMINED BY MODIFIED PROCTOR.
19. ALL ON SITE WATER SERVICES SHALL MEET THE REQUIREMENTS OF THE STANDARD DETAILS OF LOCAL MUNICIPALITY.
20. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL REGULATIONS FOR WORK AT THE SITE. THIS SHALL INCLUDE MIOSHA REGULATIONS.
21. THE CONTRACTOR/DEVELOPER SHALL PAY FOR AND OBTAIN ALL BUILDING PERMITS, LOCAL PERMITS AND PAY ALL CHARGES FOR ANY INSPECTION AND TESTING.
22. THE CONTRACTOR SHALL CONTROL NOISE, CARRY OUT A PROGRAM OF DUST CONTROL AND SHALL ALLOW NO ON-SITE BURNING.
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP THE PREMISES AND UPON COMPLETION OF THE PROJECT LEAVE THE SITE IN AN ACCEPTABLE CONDITION AS DETERMINED BY THE ENGINEER OR THE OWNER.

UTILITY NOTE

THE UTILITY LOCATIONS AS HEREIN SHOWN ARE BASED ON FIELD OBSERVATIONS AND A CAREFUL REVIEW OF MUNICIPAL AND UTILITY RECORDS. HOWEVER, IT IS NOT POSSIBLE TO DETERMINE THE PRECISE SIZE, LOCATION, DEPTH, PRESSURE, OR ANY OTHER CHARACTERISTICS OF UNDERGROUND UTILITIES, TANKS OR SEPTIC FIELDS WITHOUT EXCAVATION. THEREFORE, WE CANNOT GUARANTEE THE ACCURACY OF COMPLETENESS OF THE BURIED UTILITY INFORMATION HEREIN SHOWN. THE CONTRACTOR SHALL CALL "MISS DIG" AT (811) A MINIMUM OF THREE WORKING DAYS PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THESE LOCATIONS PRIOR TO CONSTRUCTION AND MAKE EVERY EFFORT TO PROTECT AND/OR RELOCATE THEM AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF DESIGN AS SOON AS POSSIBLE IN THE EVENT A DISCREPANCY IS FOUND.

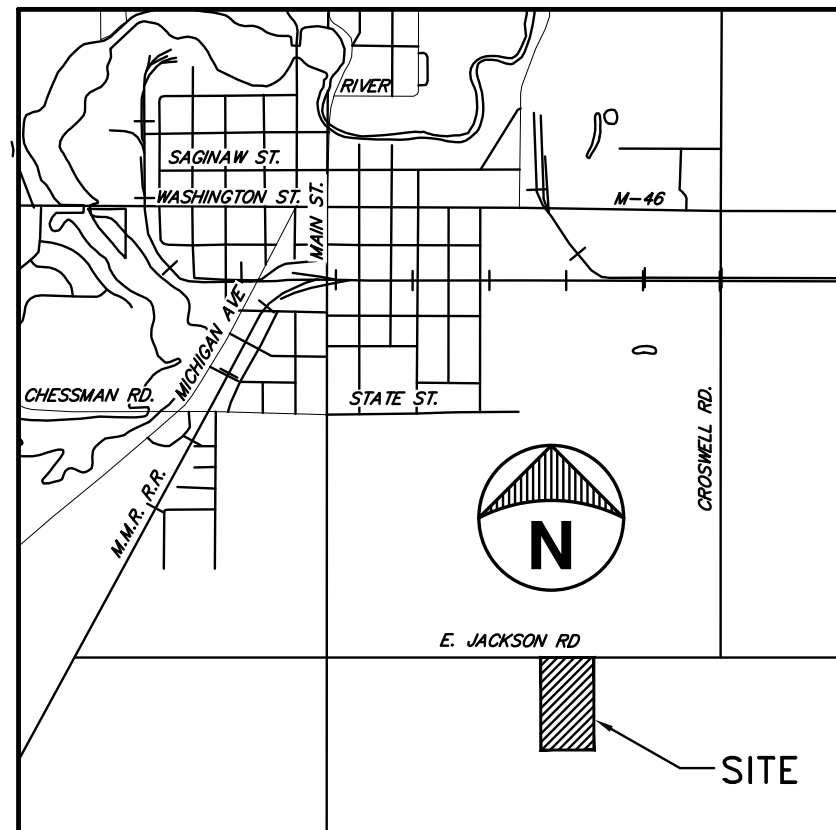
SURVEY NOTE

TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY ROWE PROFESSIONAL SERVICES COMPANY, JOB NO. 21M0065

BENCHMARKS

NO.1 - TOP WESTERLY METAL SUPPORT POST FOR LIGHT POLE
ELEVATION = 765.09 (NAVD 88 DATUM)

NO.2 - TOP WELL CASTING NORTHWEST OF THE NORTHWEST
CORNER OF EXISTING BUILDING
ELEVATION = 765.53 (NAVD 88 DATUM)



LOCATION MAP

NOT TO SCALE

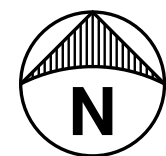
GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

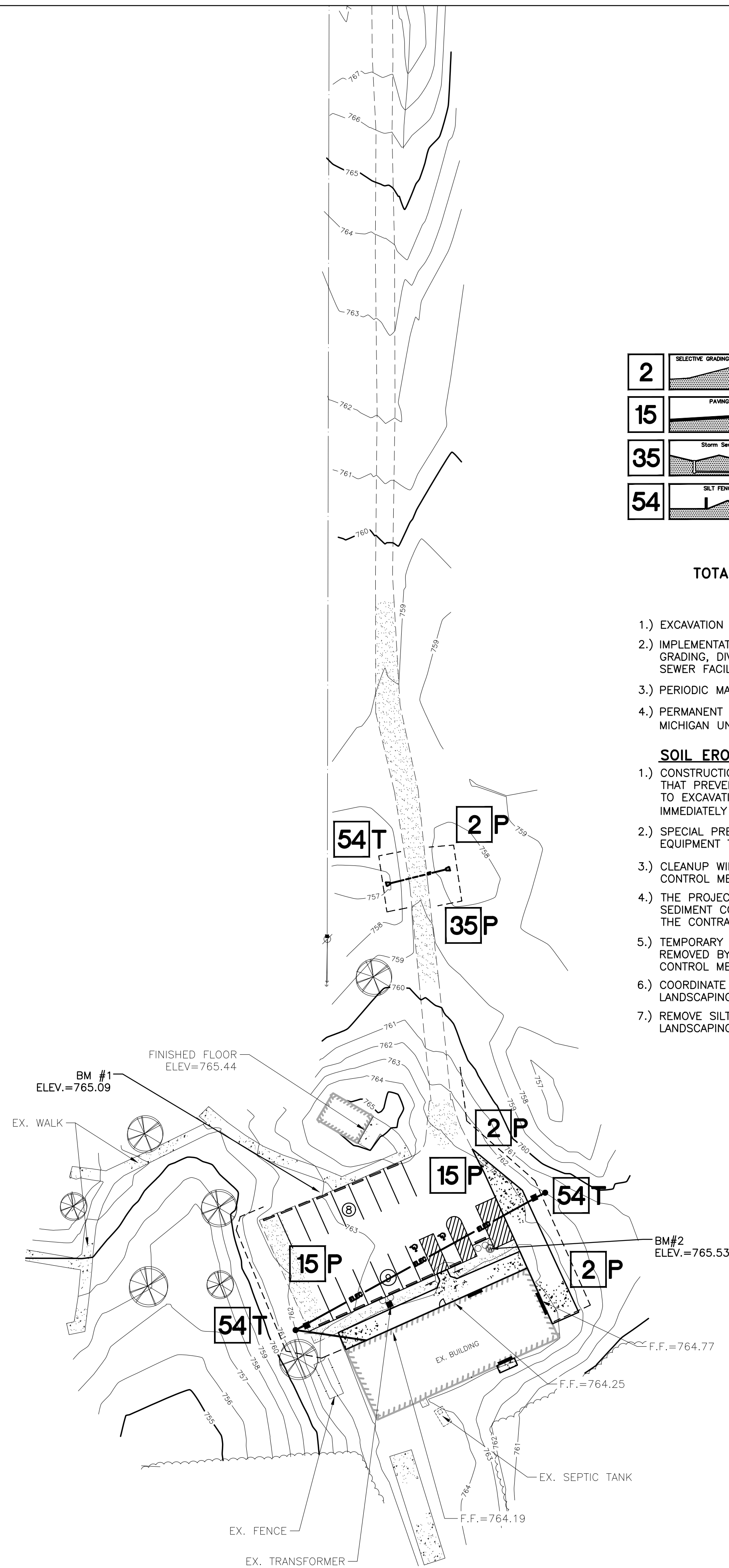
LEGEND

	EX. SPOT GRADE
	EX. MINOR CONTOUR
	EX. MAJOR CONTOUR
	EX. CENTERLINE DITCH
	EX. SANITARY SEWER W/MANHOLE
	EX. STORM SEWER
	EX. WATERMAIN
	EX. ELECTRIC LINES
	EX. CHAINLINK FENCE
	EX. WOOD FENCE
	EX. GAS LINES
	EX. COMMUNICATION LINES
	EX. OVERHEAD UTILITY WIRES
	EX. SIGN WITH POST
	EX. BUILDINGS
	EX. BITUMINOUS PAVEMENT
	EX. CONCRETE PAVEMENT (C. OR CONC.)
	EX. GRAVEL PAVEMENT
	EX. STEEL POST
	EX. STORM CURB INLET
	EX. STORM CATCH BASIN/MANHOLE
	EX. HYDRANT
	EX. WATER OR GAS VALVE
	EX. UTILITY POLE
	EX. SEWER CLEANOUT
	EX. WATER WELL
	EX. LIGHT POLE
	EX. UTILITY RISER
	EX. MAILBOX
	TOP OF GRAVEL
	TOP OF SLAB
	MATCH EXISTING
	PROP. SPOT ELEVATION
	PROP. BITUMINOUS PAVEMENT
	PROP. CONCRETE PAVEMENT



SOIL EROSION AND SEDIMENTATION CONTROL PLAN

SCALE: 1" = 40'



KEYED DETAILS

2		WATER CAN BE DIVERTED TO MINIMIZE EROSION. FLATTER SLOPES EASE EROSION PROBLEMS.
15		PROTECTS AREAS WHICH CANNOT OTHERWISE BE PROTECTED BUT INCREASES RUNOFF VOLUME AND VELOCITY. IRREGULAR SURFACE WILL HELP SLOW VELOCITY.
35		SYSTEM REMOVES COLLECTED RUNOFF FROM SITE, PARTICULARLY FROM PAVED AREAS. CAN ACCEPT LARGE CONCENTRATIONS OF RUNOFF. CONDUITS RUNOFF TO MUNICIPAL SEWER SYSTEM OR STABILIZED OUTFALL LOCATION. USE CATCH BASINS TO COLLECT SEDIMENT.
54		FILTERS AND DETAINS RUNOFF.

P=PERMANENT MEASURE

T=TEMPORARY MEASURE

TOTAL DISTURBED AREA = 0.45 ACRES

CONSTRUCTION SEQUENCE

- EXCAVATION AND STOCKPILING OF SOIL.
- IMPLEMENTATION OF TEMPORARY EROSION CONTROL MEASURES; SELECTIVE GRADING, DIVERSIONS AS REQUIRED IN FIELD, PROTECTION OF STORM SEWER FACILITIES.
- PERIODIC MAINTENANCE OF AFFECTED EROSION CONTROL MEASURES.
- PERMANENT MEASURES; FINAL GRADING, SEEDING AND MULCHING. (SEE MICHIGAN UNIFIED KEYING SYSTEM FOR EROSION CONTROL KEY NUMBERS)

SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

- CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING AND/OR GRADING OPERATIONS.
- SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
- CLEANUP WILL BE DONE IN A MANNER TO INSURE THAT EROSION CONTROL MEASURES ARE NOT DISTURBED.
- THE PROJECT WILL CONTINUALLY BE INSPECTED FOR SOIL EROSION AND SEDIMENT CONTROL COMPLIANCE. DEFICIENCIES WILL BE CORRECTED BY THE CONTRACTOR WITHIN 24 HOURS.
- TEMPORARY EROSION CONTROL MEASURES SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR UPON ESTABLISHMENT OF PERMANENT CONTROL MEASURES.
- COORDINATE WITH LANDSCAPING PLAN FOR AREAS OF NEW GRASS, LANDSCAPING AND MULCH DESIGNATIONS.
- REMOVE SILT FENCING PRIOR TO INSTALLING DECORATIVE FENCING AND LANDSCAPING MATERIAL.

SURVEY NOTE

TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY ROWE PROFESSIONAL SERVICES COMPANY, JOB NO. 21M0065

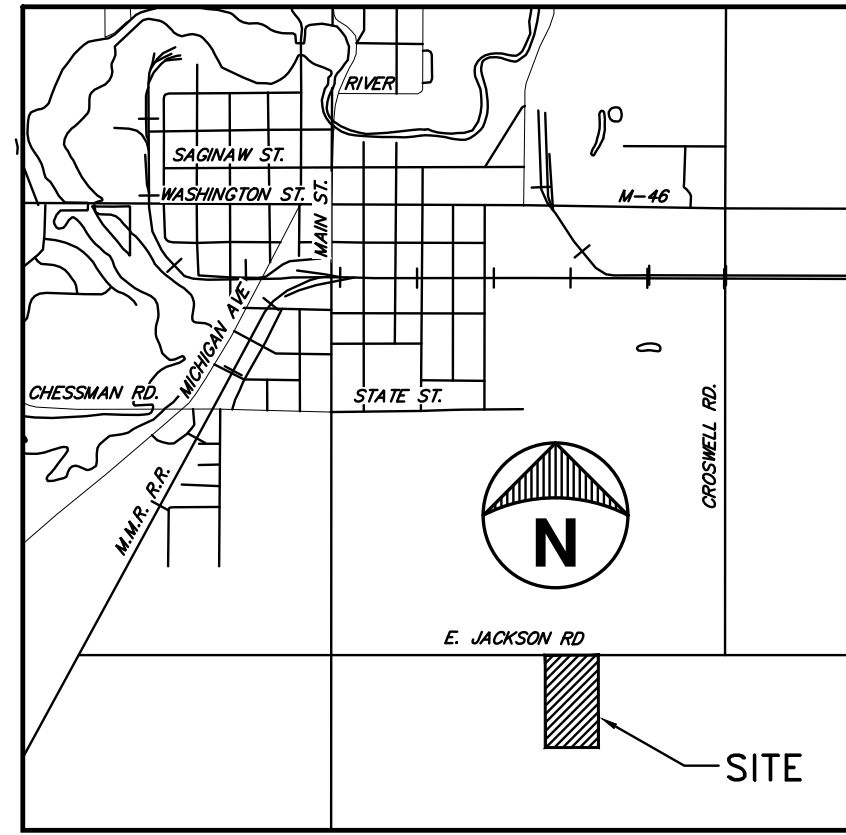
BENCHMARKS

NO.1 - TOP WESTERLY METAL SUPPORT POST FOR LIGHT POLE ELEVATION = 765.09 (NAVD 88 DATUM)

NO.2 - TOP WELL CASTING NORTHWEST OF THE NORTHWEST CORNER OF EXISTING BUILDING ELEVATION = 765.53 (NAVD 88 DATUM)

UTILITY NOTE

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LOCATION MAP

NOT TO SCALE

GRAPHIC SCALE

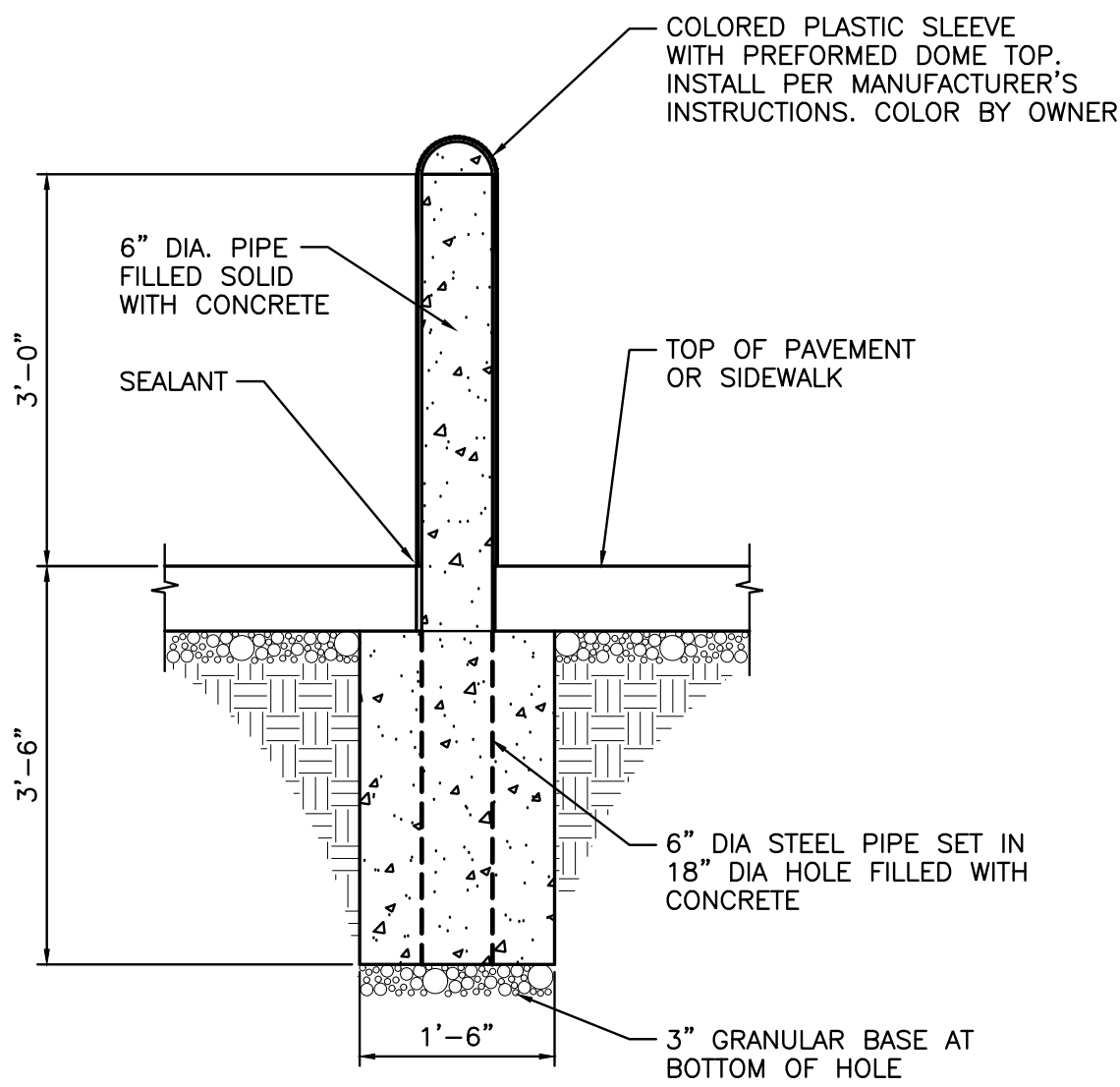


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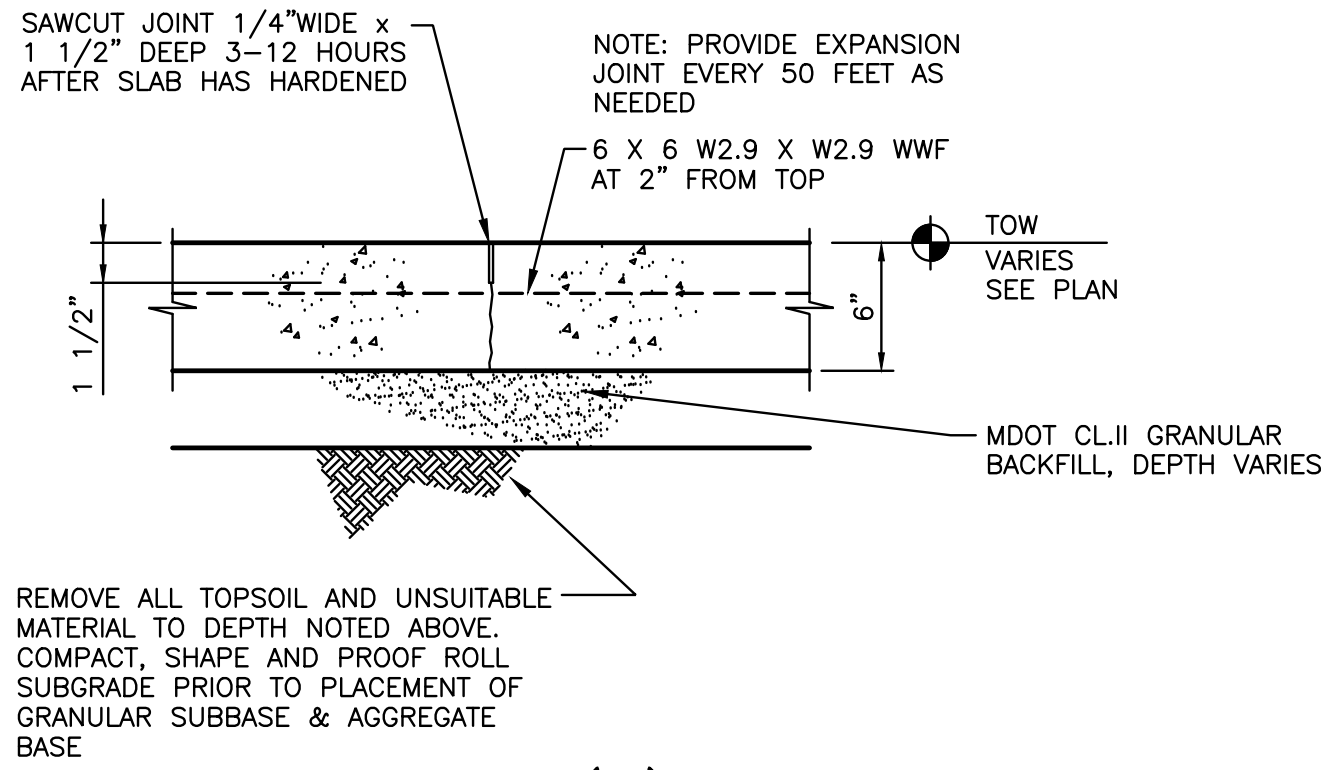
1 inch = 40 ft.

LEGEND

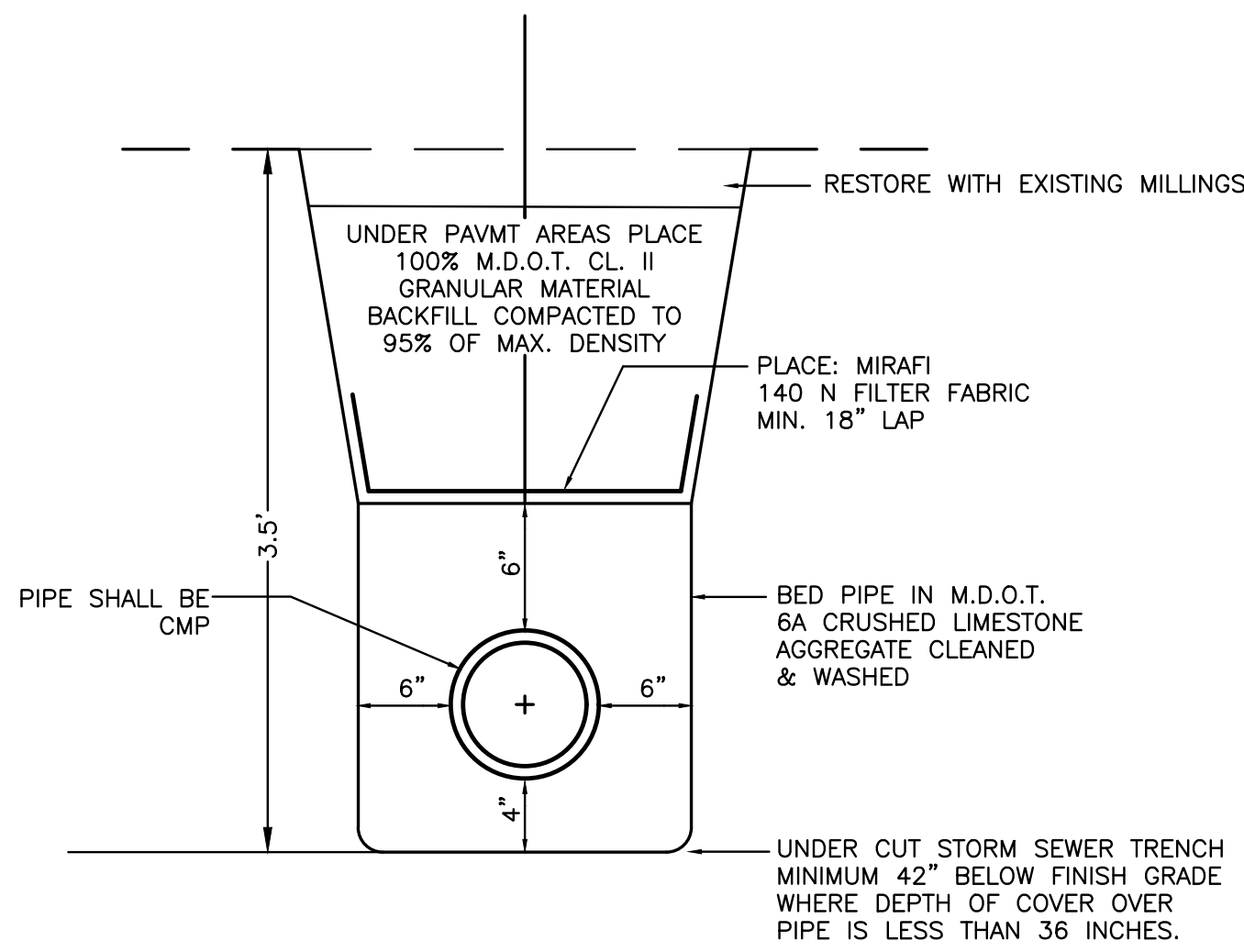
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	EX. MINOR CONTOUR
	EX. MAJOR CONTOUR
	EX. CENTERLINE DITCH
	EX. SANITARY SEWER W/MANHOLE
	EX. STORM SEWER
	EX. WATERMAIN
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	EX. OVERHEAD UTILITY WIRES
	EX. SIGN WITH POST
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	EX. BITUMINOUS PAVEMENT
	EX. CONCRETE PAVEMENT (C. OR CONC.)
	EX. GRAVEL PAVEMENT
	EX. STEEL POST
	EX. STORM CURB INLET
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	EX. HYDRANT
	EX. WATER OR GAS VALVE
	EX. UTILITY POLE
	EX. SEWER CLEANOUT
	EX. WATER WELL
	EX. LIGHT POLE
	EX. UTILITY RISER
	EX. MAILBOX
	PROP. BITUMINOUS PAVEMENT
	PROP. CONCRETE PAVEMENT
	PROP. GRAVEL SURFACE



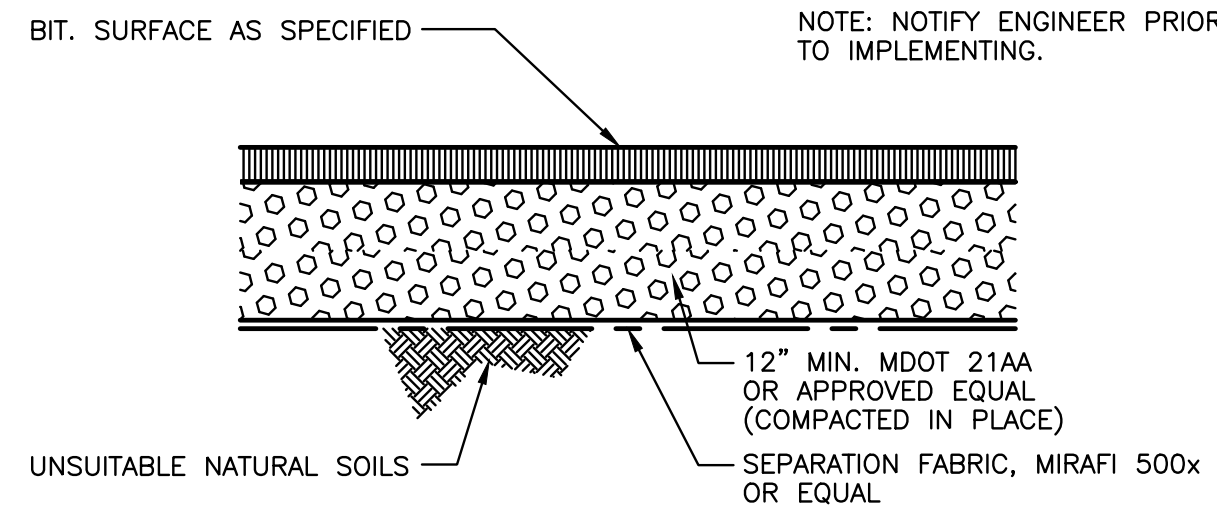
1
C5.0 NOT TO SCALE
TYPICAL PIPE BOLLARD DETAIL



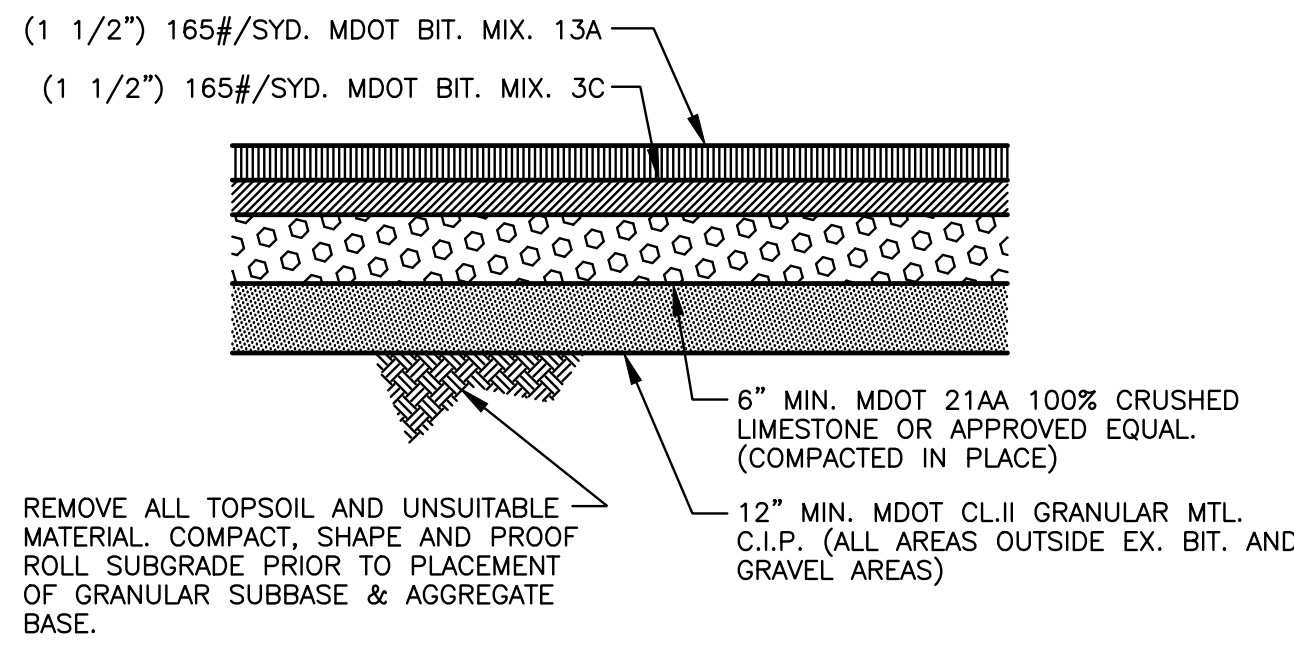
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TYPICAL 6" THICK CONCRETE DETAIL



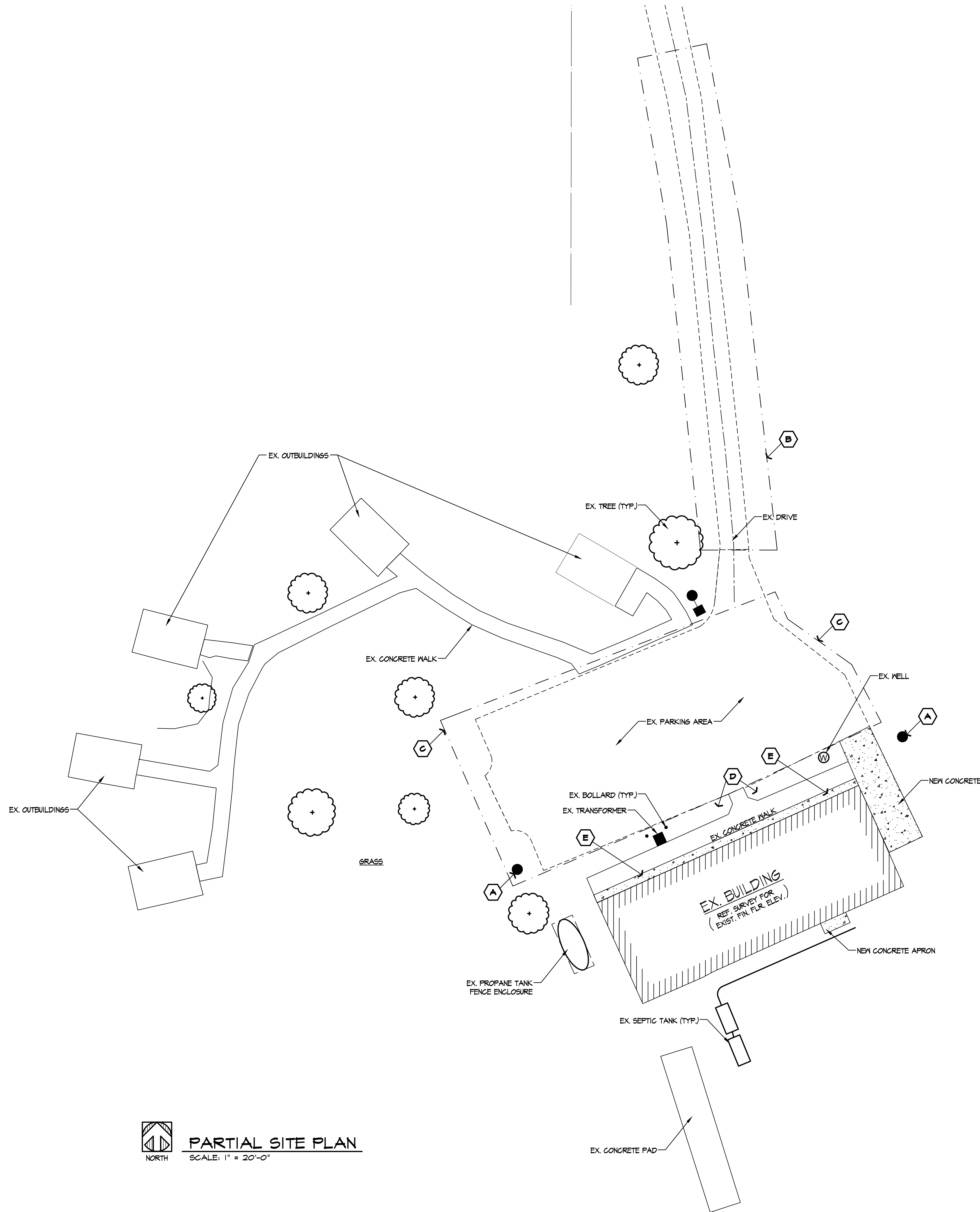
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C5.0 NOT TO SCALE
STORM SEWER & DRAIN TRENCH DETAIL



4
C5.0 NOT TO SCALE
UNSTABLE SUBGRADE ALTERNATE PAVEMENT SECTION (IF REQUIRED)



5
C5.0 NOT TO SCALE
ALTERNATE 1 TYPICAL PAVEMENT SECTION



- DRAWING KEYNOTES**
- A NEW LIGHT POLE & LIGHT. SEE CIVIL DRAWINGS & ELECTRICAL DRAWINGS FOR MORE INFORMATION.
 - B SEE CIVIL DRAWINGS FOR WORK AT EXISTING DRIVE.
 - C SEE CIVIL DRAWINGS FOR WORK AT EXISTING PARKING AREA. ALSO, REFERENCE ALTERNATES FOR ALTERNATE WORK AT PARKING AREA.
 - D SEE CIVIL DRAWINGS FOR PAVING OF THIS AREA.
 - E NEW CONCRETE, 4" THICK; AT AREA OF REMOVED CONCRETE FOR "RAT-WALL" CONSTRUCTION. COORDINATE AREA W/ DEMOLITION OPERATIONS. FIELD VERIFY EXISTING CONDITIONS.

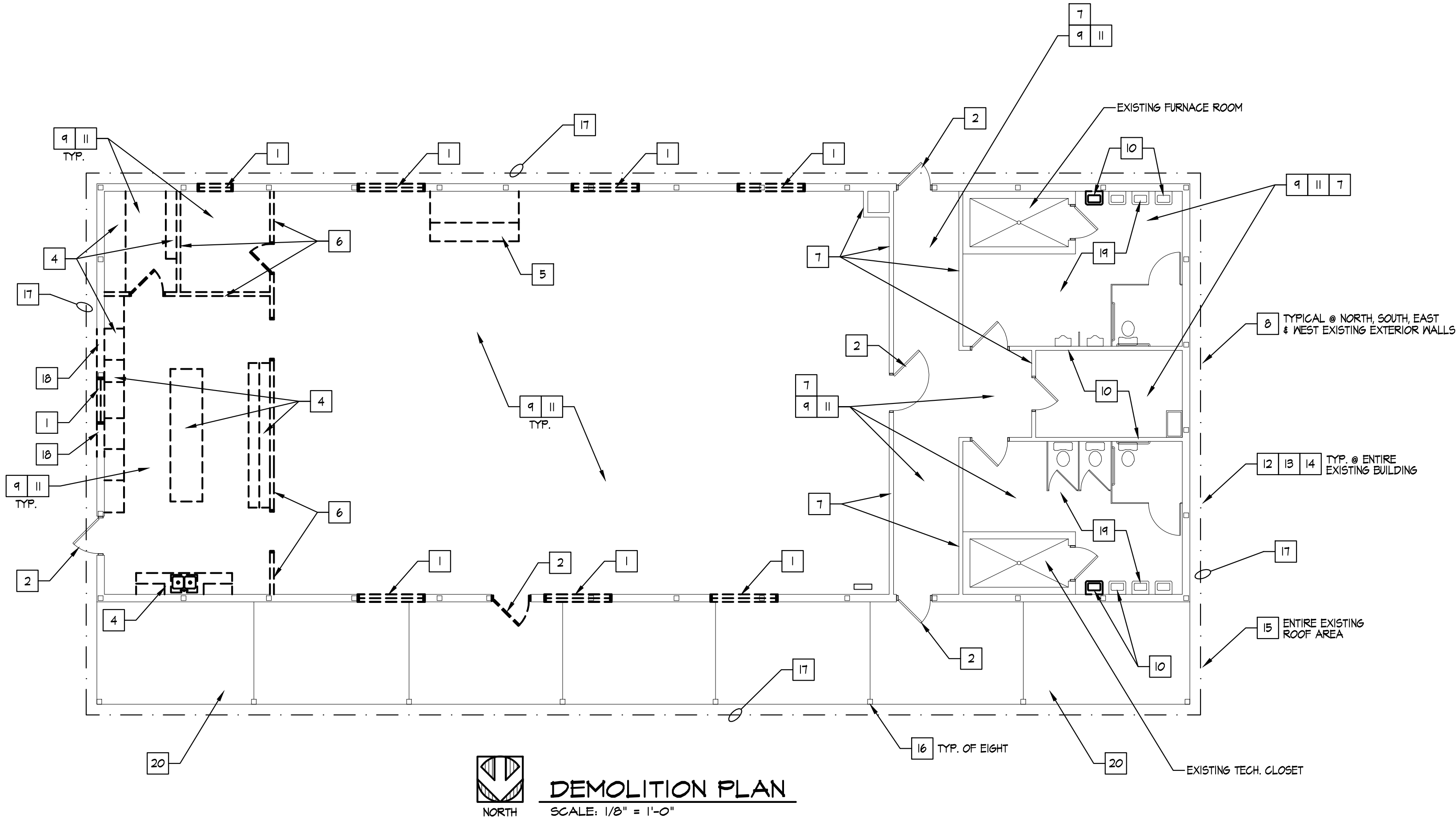
 **PARTIAL SITE PLAN**
SCALE: 1" = 20'-0"

DEMOLITION PLAN KEYNOTES

NOTE:
THE WORK DESCRIBED IN THE FOLLOWING KEYNOTES IS FOR DEMOLITION WORK AT CAMP MONROE ONLY. PLEASE READ THE LIST CAREFULLY. THE DEMOLITION KEYNOTES DESCRIBE PRIMARILY ARCHITECTURAL DEMOLITION WORK BUT REFERENCE THE CIVIL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIREMENTS FOR THIS PROJECT.

- 1
- DEMOLITION: REMOVE EXISTING WINDOW ASSEMBLIES AND ALL RELATE HARDWARE.
- 2
- DEMOLITION: REMOVE EXISTING DOOR/FRAME ASSEMBLY AND RELATED DOOR HARDWARE.
- 3
- NOT USED
- 4
- DEMOLITION: REMOVE EXISTING CASEWORK INCLUDING BASE & UPPER CABINETS AND EXISTING SHELVING UNITS.
- 5
- DEMOLITION: REMOVE EXISTING BRICK FIREPLACE CONSTRUCTION INCLUDING THE FLUE THROUGH THE ROOF. REMOVE EXISTING FIREPLACE CONSTRUCTION TO A MINIMUM DEPTH OF 8-INCHES BELOW THE EXISTING FLOOR LINE. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
- 6
- DEMOLITION: REMOVE EXISTING WALL CONSTRUCTION. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
- 7
- DEMOLITION: EXISTING WALL CONSTRUCTION TO REMAIN. REMOVE EXISTING DRYWALL, FULL WALL HEIGHT, FROM BOTH SIDES OF EXISTING WALL TO REMAIN.
- 8
- DEMOLITION: REMOVE EXISTING METAL SIDING & ACCESSORIES, 2X4 WALL GIRTS, INTERIOR DRYWALL & INSULATION, FULL HEIGHT OF WALL, AT ALL EXTERIOR WALLS. EXISTING 6X6 POSTS AND 2X TRUSS BEARING HEADERS TO REMAIN. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.

- 9
- DEMOLITION: REMOVE EXISTING VCT FLOORING AND TILE MASTIC, PER MANUFACTURER'S RECOMMENDATIONS, TO ALLOW FOR THE EXISTING CONCRETE FLOOR TO BE SEALED AND/OR NEW FLOORING INSTALLED. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
- 10
- DEMOLITION: REFERENCE MECHANICAL AND/OR PLUMBING DRAWINGS FOR REMOVAL OF EXISTING PLUMBING FIXTURES. NOTE, SOME PLUMBING FIXTURES ARE TO BE REPLACED.
- 11
- DEMOLITION: REMOVE THE EXISTING SUSPENDED CEILING SYSTEM ASSEMBLY INCLUDING CEILING GRID AND ALL WALL TRIM. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
- 12
- REFERENCE MECHANICAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS FOR EXISTING MECHANICAL EQUIPMENT AND DUCTWORK.
- 13
- REFERENCE PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS FOR EXISTING PLUMBING EQUIPMENT AND PIPING.
- 14
- REFERENCE ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS FOR EXISTING ELECTRICAL EQUIPMENT, LIGHT FIXTURES SWITCHES AND CONTROLS.
- 15
- DEMOLITION: REMOVE EXISTING ROOF CONSTRUCTION INCLUDING EXISTING ROOF TRUSSES, ROOF COVERING, FASCIA & METAL ROOF EDGE, SOFFIT ASSEMBLY & TRIM AND OVERHANGS CONSTRUCTION ON THE NORTH SIDE OF EXISTING BUILDING. REFERENCE STRUCTURAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
- 16
- DEMOLITION: REMOVE EXISTING WOOD POSTS SUPPORTING THE EXISTING OVERHANGS CONSTRUCTION ON THE NORTH SIDE OF THE EXISTING BUILDING. REFERENCED STRUCTURAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
- 17
- REMOVE A PORTION OF EXISTING CONCRETE SURFACE AROUND ENTIRE EXISTING BUILDING PERIMETER TO ALLOW FOR INSTALLATION OF CONCRETE "RAT-WALL". FIELD VERIFY EXISTING CONDITIONS.
- 18
- REMOVE EXISTING 6X6 POST TO ALLOW FOR THE INSTALLATION AT THE NEW 12-FOOT WIDE COILING DOOR. SEE STRUCTURAL FOR MORE INFORMATION. REMOVE A PORTION OF EXISTING CONCRETE SLAB TO ALLOW FOR REMOVAL & INSTALLATION OF NEW POSTS. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
- 19
- REMOVE & SALVAGE FOR RE-INSTALLATION THE EXISTING TOILET PARTITIONS & RELATED TOILET RM ACCESSORIES.
- 20
- REMOVE EXISTING CONCRETE WALKING SURFACE AT NORTH SIDE OF EXISTING BUILDING. SEE CIVIL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS AND REPLACEMENT OF EXISTING SLAB WITH NEW CONCRETE SLAB.

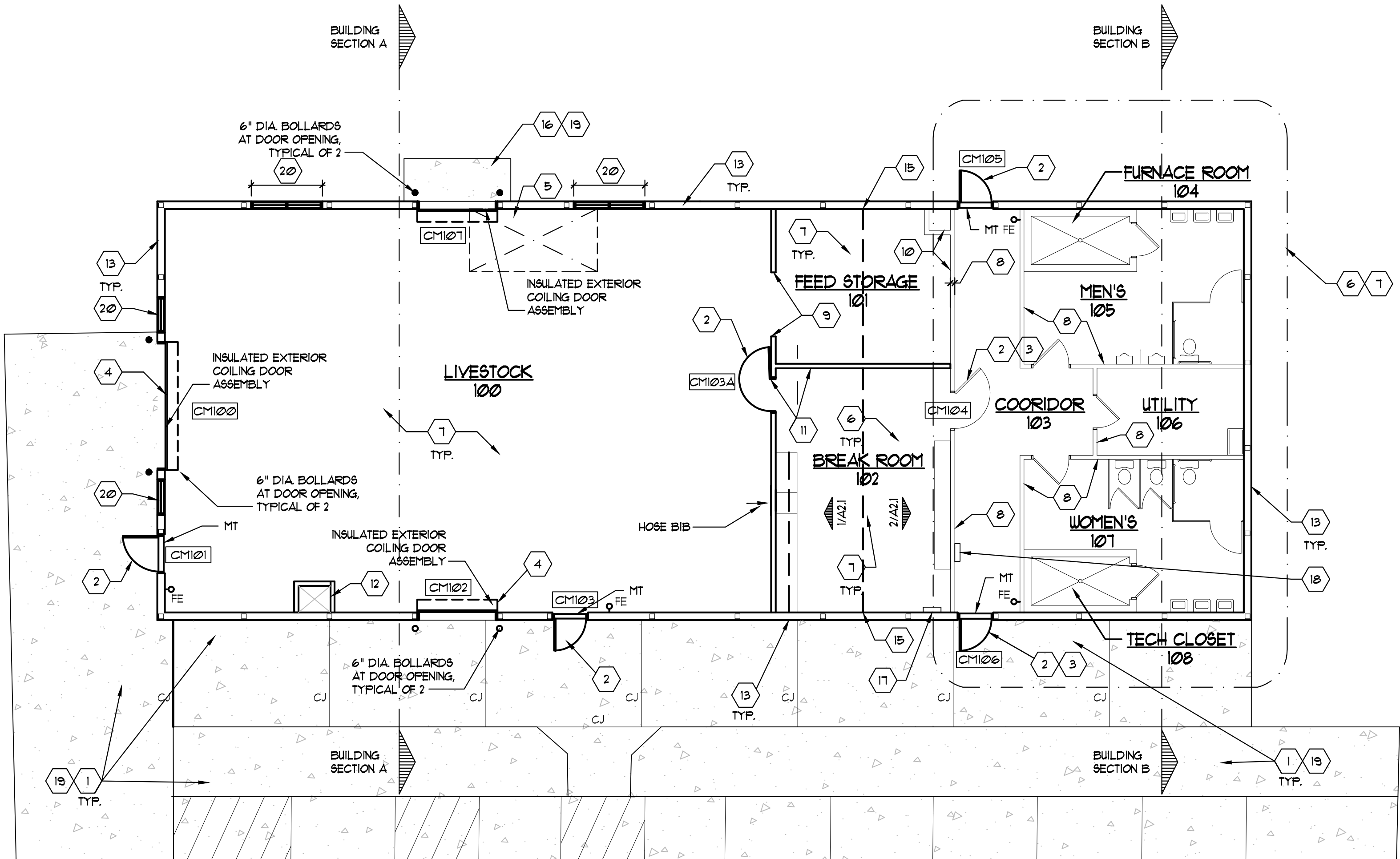


GENERAL NOTES:

1.
- REMOVE EXISTING HORIZONTAL GIRTS AT PROPOSED COILING DOOR LOCATIONS & PROPOSED NEW DOOR OPENINGS IN ORDER FOR NEW ASSEMBLIES TO BE INSTALLED. FIELD COORDINATE EXACT LOCATIONS.
2.
- EXISTING CMU WALLS AT EXISTING FURNACE ROOM & TECH CLOSET TO REMAIN.
3.
- DOOR/FRAME ASSEMBLY TO FURNACE ROOM 104, MEN'S 105, UTILITY 106, WOMEN'S 107 & TECH CLOSET ARE TO REMAIN.

CAMP MONROE GENERAL NOTES

- 1. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
- 2. REFERENCE CIVIL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL WORK REQUIREMENTS FOR THIS PROJECT.
- 3. REFERENCE ROOF PLAN FOR NEW ROOF ASSEMBLY ON ENTIRE ROOF AREA.
- 4. REFERENCE ROOM FINISH SCHEDULE FOR SCHEDULED FINISHES THROUGH OUT THE BUILDING.
- 5. REFERENCE DEMOLITION PLAN FOR ADDITIONAL DEMOLITION REQUIREMENTS FOR THIS PROJECT.
- 6. PROVIDE AND INSTALL ONE LAYER OF 5/8" TYPE-X GYPSUM BOARD ON BOTTOM OF NEW ROOF TRUSSES THROUGH OUT THE ENTIRE BUILDING. REFERENCE STRUCTURAL DRAWINGS AND WALL DETAILS.
- 7. REFERENCE DETAIL 3/A5.1 FOR CONCRETE WORK HORIZONTALLY & VERTICALLY AROUND THE PERIMETER OF THE ENTIRE BUILDING.



FLOOR PLAN

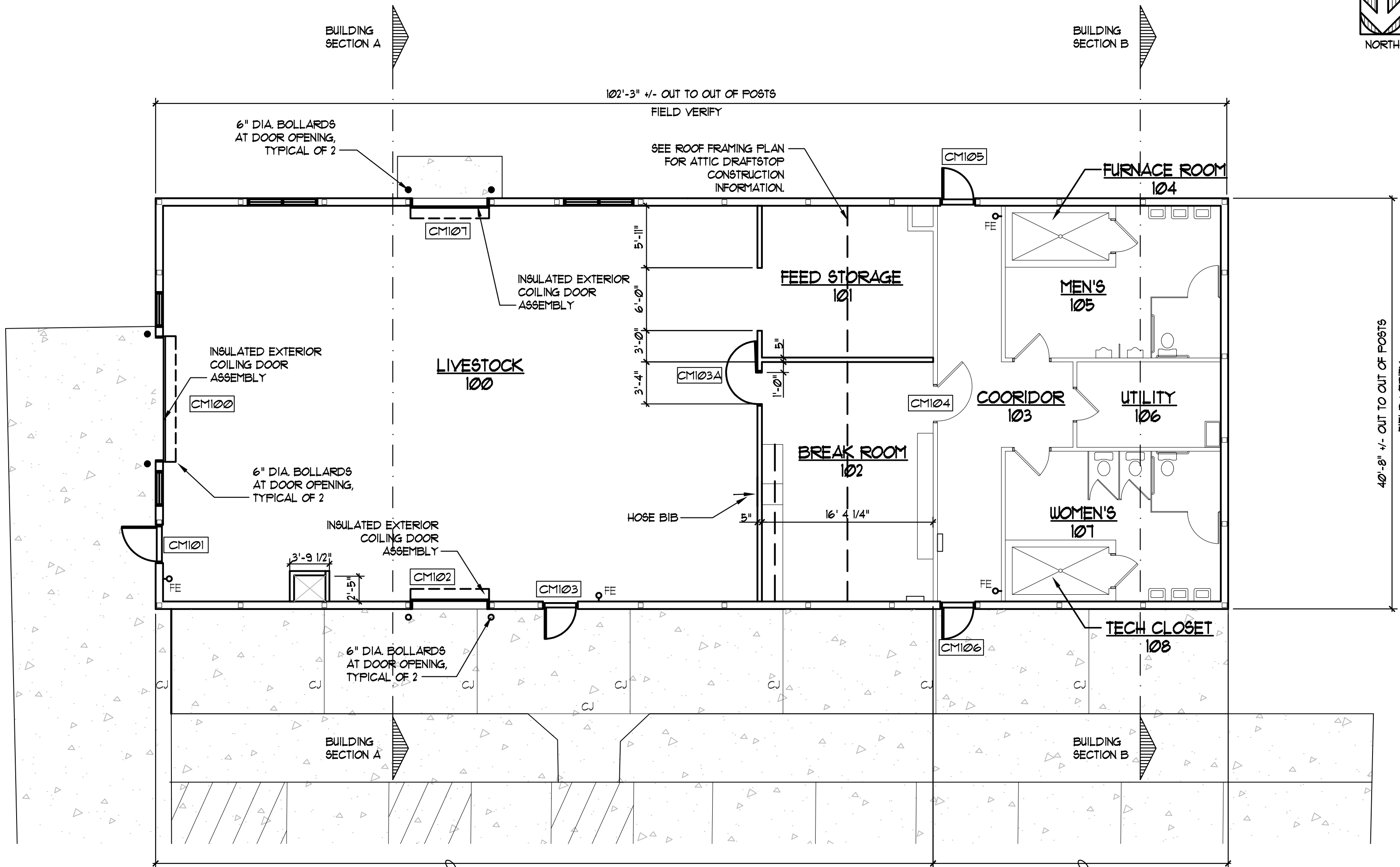
SCALE: 1/8" = 1'-0"

CONSTRUCTION KEYNOTES

- 1. REFERENCE CIVIL DRAWINGS FOR PROPOSED CONCRETE WALKS AND/OR SURFACES. REMOVE EXISTING OVERHANG POSTS (4 BY 4). FIELD VERIFY QUANTITY, SIZES, AND FIELD CONDITIONS.
- 2. PROVIDE AND INSTALL A NEW DOOR & FRAME ASSEMBLY ALONG WITH RELATED DOOR HARDWARE. SEE DOOR / FRAME SCHEDULE AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
- 3. PROVIDE AND INSTALL ACCESS CONTROL AT THIS DOOR LOCATION. SEE DOOR/FRAME SCHEDULE AND SPECIFICATIONS.
- 4. PROVIDE AND INSTALL A NEW EXTERIOR INSULATED COILING DOOR ASSEMBLY. SEE DOOR / FRAME SCHEDULE AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. PROVIDE AND INSTALL CONCRETE FILLED STEEL BOLLARDS AT DOOR OPENING. SEE FLOOR PLAN FOR QUANTITY. REFERENCE STRUCTURAL DRAWINGS FOR MODIFICATIONS TO EXISTING EXTERIOR WALL POSTS TO ALLOW FOR THE NEW COILING DOOR OPENING.
- 5. INSTALL A MINIMUM OF 4-INCH THICK CONCRETE AT EXISTING MASONRY FIRE PLACE REMOVAL AREA, TO MATCH EXISTING ADJACENT CONCRETE FLOOR THICKNESS REMAINING. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
- 6. PROVIDE AND INSTALL A NEW SUSPENDED CEILING SYSTEM IN AREAS NOTED IN THE ROOM FINISH SCHEDULE. REFERENCE ROOM FINISH SCHEDULE, REFLECTIVE CEILING PLAN FOR SUSPENDED GRID LAYOUT AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
- 7. REFERENCE MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR WORK REQUIRED IN THESE AREAS OF THE BUILDING.
- 8. PROVIDE AND INSTALL 5/8" TYPE-X GYPSUM BOARD BOTH SIDES OF WALL FRAMING. EXTEND WALL FRAMING AND GYPSUM BOARD TO BOTTOM OF ROOF TRUSSES.
- 9. INTERIOR WALL CONSTRUCTION TYPE AT FEED STORAGE 101 IS TO BE 2 X 4 FRAMING @ 16" O.C. WITH 1/2" O.S.B. SHEATHING COVERED WITH 26-GAGE METAL "R-PANEL" SIDING FULL HEIGHT OF WALL TO BOTTOM OF TRUSSES. METAL SIDING TO BE PRE-FINISHED WITH EXPOSED FASTENERS AND TRIM ACCESSORIES AS RECOMMENDED BY SIDING MANUFACTURER.
- 10. PROVIDE AND INSTALL 1/2" O.S.B. SHEATHING AND 26-GAUGE METAL "R-PANEL" SIDING OVER WALL CONSTRUCTION NOTED IN CONSTRUCTION KEY NOTE 9. EXTEND O.S.B. SHEATHING AND 26-GAUGE METAL "R-PANEL" SIDING TO BOTTOM OF TRUSSES. DO NOT EXTEND O.S.B. AND METAL "R-PANEL" SIDING INTO ATTIC SPACE. METAL "R-PANEL" SIDING TO BE PRE-FINISHED WITH EXPOSED FASTENERS AND TRIM ACCESSORIES RECOMMENDED BY SIDING MANUFACTURER.
- 11. INTERIOR WALL CONSTRUCTION TYPE AT BREAK ROOM 102 IS TO BE 2 BY 4 FRAMING AT 16" O.C. WITH 1/2" O.S.B. SHEATHING AND 26-GAUGE METAL "R-PANEL" SIDING ON LIVESTOCK 100 & FEED STORAGE 101 SIDE OF WALL. FULL HEIGHT TO BOTTOM OF TRUSSES. BREAK ROOM SIDE OF WALL TO BE 5/8" TYPE-X GYPSUM BOARD FULL HEIGHT TO BOTTOM OF TRUSSES. METAL SIDING TO BE PRE-FINISHED WITH EXPOSED FASTENERS AND TRIM AS RECOMMENDED BY SIDING MANUFACTURER.
- 12. PROVIDE 2 BY 4 FRAMING AROUND EXISTING WELL WATER SERVICE PUMP ASSEMBLY. PROVIDE 1/2" O.S.B. SHEATHING AND 26-GAUGE METAL "R-PANEL" FULL HEIGHT OF WALL TO BOTTOM OF TRUSSES. METAL "R-PANELS" TO BE PRE-FINISHED WITH EXPOSED FASTENERS AND TRIM ACCESSORIES PER RECOMMENDATIONS FROM SIDING MANUFACTURER. FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
- 13. EXTERIOR WALL CONSTRUCTION TYPE TO CONSIST OF THE FOLLOWING:

INTERIOR SIDE OF WALL IS TO BE 2 BY 4 GIRTS AT 24" O.C. WITH 1/2" O.S.B. SHEATHING AND METAL "R-PANELS" FULL HEIGHT OF WALL TO BOTTOM OF TRUSSES.

EXTERIOR SIDE OF WALL TO BE 2X4 GIRTS AT 24" O.C. +/- (UNO.) WITH 1 1/2" RIGID INSULATION BOARD, 1/2" O.S.B. BUILDING WRAP AND 26 GA. METAL "R-PANELS" FULL HEIGHT OF EXTERIOR WALL. METAL WALL TO BE PRE-FINISHED WITH EXPOSED FASTENERS AND TRIM ACCESSORIES PER METAL PANEL MFG. RECOMMENDATIONS. PROVIDE 6" FACED BATT INSULATION BETWEEN INTERIOR AND EXTERIOR GIRTS. SEE A5.1 FOR WALL SECTIONS.
- 14. SEE STRUCTURAL DRAWINGS FOR TRUSS INFORMATION IN THIS AREA.
- 15. SEE ROOF FRAMING PLAN FOR ATTIC DRAFTSTOP CONSTRUCTION INFORMATION.
- 16. CONCRETE APRON; APPROX. 4-FOOT X 10-FOOT X 6" THK; SEE CIVIL FOR INFORMATION.
- 17. SEE ELECTRICAL FOR NEW PANELBOARD.
- 18. SEE ELECTRICAL FOR NEW FIRE ALARM CONTROL PANEL.
- 19. PROPOSED CONCRETE SLABS, 6" THK; SEE CIVIL DRAWINGS FOR MORE INFORMATION.
- 20. SEE WINDOW DETAILS ON A5.1.



FLOOR PLAN - FOR DIMENSIONS

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

NO.	REVISION	DATE

DOOR & FRAME SCHEDULE														
DOOR						FRAME		DETAIL			FIRE RATING		REMARKS	HARDWARE SET
NO.	WIDTH	HEIGHT	THK	MAT'L	TYPE	MAT'L	TYPE	HEAD	JAMB	SILL	LABEL	MIN.		
CM100	12'-0"	8'-0"	-	STEEL	B	STEEL	-	-	-	-	-	-	①	CM-02
CM101	3'-0"	7'-0"	1 3/4"	HM	A	HM	I	-	-	-	-	-	③	CM-01
CM102	1'-6"	7'-2"	-	STEEL	B	STEEL	-	-	-	-	-	-	①	CM-02
CM103	3'-0"	7'-0"	1 3/4"	HM	A	HM	I	-	-	-	-	-	③	CM-01
CM103A	3'-0"	7'-0"	1 3/4"	HM	A	HM	I	-	-	-	-	-	④	CM-03
CM104	3'-0"	7'-0"	1 3/4"	HM	A	HM	I	-	-	-	-	-	② ④	CM-03
CM105	3'-0"	7'-0"	1 3/4"	HM	A	HM	I	-	-	-	-	-	③	CM-05
CM106	3'-0"	7'-0"	1 3/4"	HM	A	HM	I	-	-	-	-	-	③ ④	CM-04
CM107	1'-6"	7'-2"	-	STEEL	B	STEEL	-	-	-	-	-	-	① ③	CM-02

DOOR & FRAME SCHEDULE REMARKS

- EXTERIOR COILING DOOR ASSEMBLY W/ ELECTRIC OPERATORS.
- NEW DOOR/FRAME ASSEMBLY, SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- EXTERIOR DOOR/FRAME ASSEMBLY, SEE SPECIFICATIONS FOR MORE INFORMATION.
- DOOR/FRAME ASSEMBLY IS TO HAVE ACCESS CONTROL CAPABILITIES & BE PUT ON DISTRICT'S ACCESS CONTROL SYSTEM. DOOR ACCESS CONTROL HARDWARE & INSTALLATION BY OWNER.

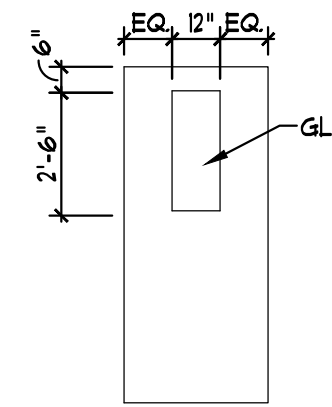
WINDOW SCHEDULE				
MARK	SIZE (NOMINAL)	TYPE	MFG. NUMBER	REMARKS
A	12" H. X 3'-4" W.	FIXED PICTURE WINDOW	BLVFLD 4012	①②④⑤
B	(2) 12" H. X 3'-4" W.	FIXED PICTURE WINDOW	BLVFLD 4012	①②③④⑤

WINDOW SCHEDULE REMARKS

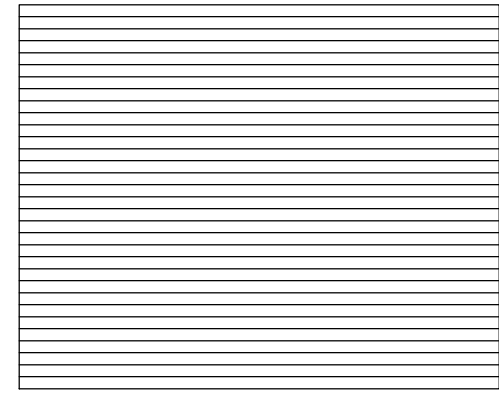
- BASIS OF DESIGN MFG: JELD-WIN, INC.
- WINDOW ASSEMBLY FINISH: MFG STANDARD VINYL COLOR FOR INTERIOR & EXTERIOR FINISHES.
- MULL THE TWO UNITS TOGETHER PER MFG. RECOMMENDATIONS.
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- SEE WINDOW DETAILS 4/A51

DOOR & FRAME SCHEDULE ABBREVIATIONS

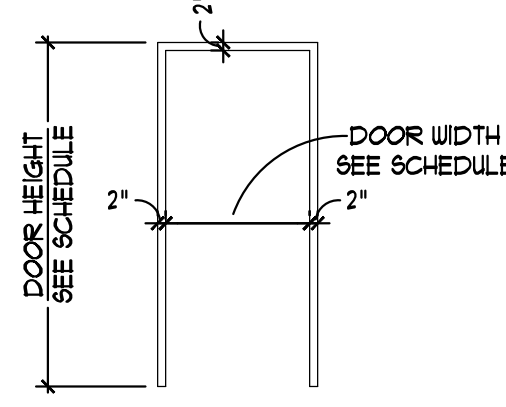
EX EXISTING
HM HOLLOW METAL



A
DOOR TYPES
SCALE: 1/4" = 1'-0"



B



C
FRAME TYPES
SCALE: 1/4" = 1'-0"

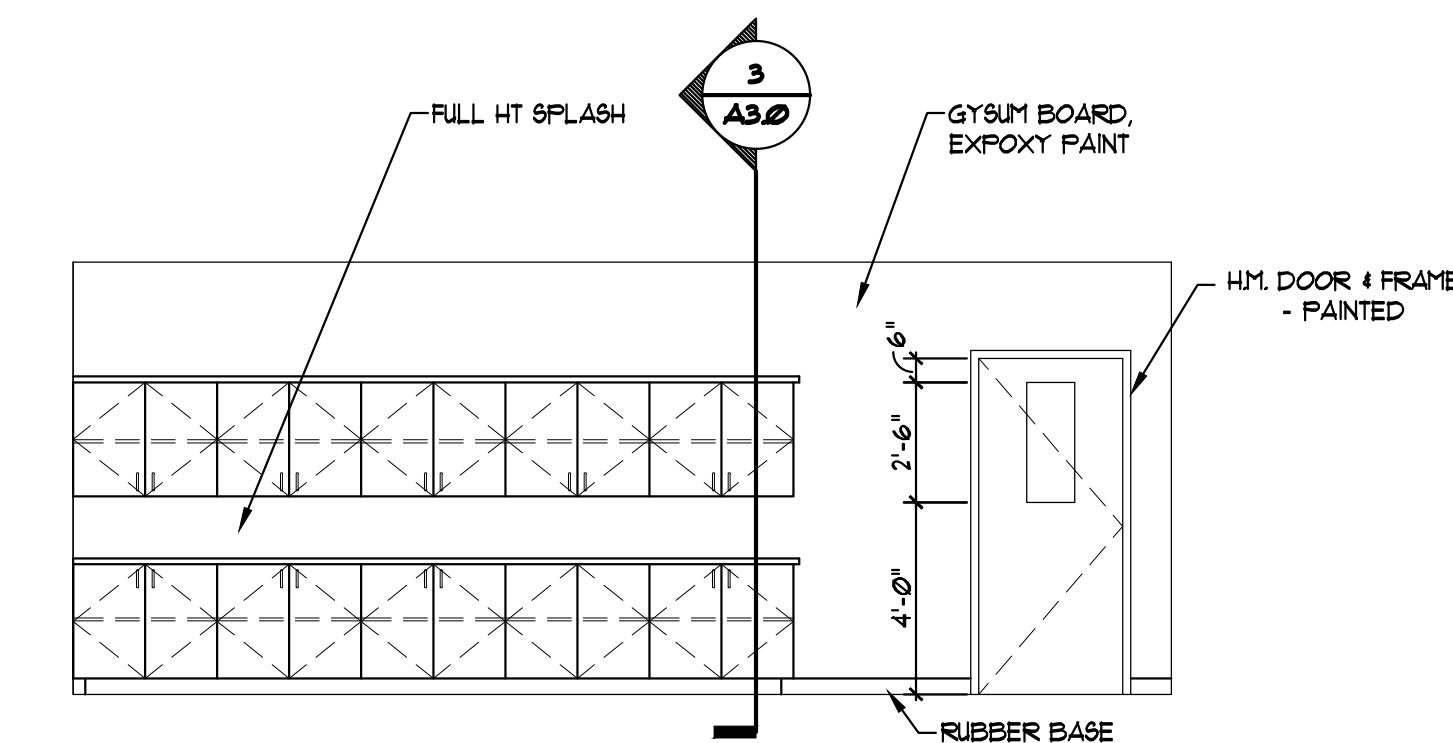
ROOM FINISH SCHEDULE															
ROOM NO.	NAME	FLOOR	BASE	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CLG.		REMARKS	
				MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	MAT.	FINISH		
100	LIVESTOCK	EX. CONC. W/ SEALER	-	STEEL	PRE-FIN.	STEEL	PRE-FIN.	STEEL	PRE-FIN.	STEEL	PRE-FIN.	STEEL	PRE-FIN.	VARIABLES	①②③⑤⑥
101	FEED STORAGE	EX. CONC. W/ SEALER	-	STEEL	PRE-FIN.	STEEL	PRE-FIN.	STEEL	PRE-FIN.	STEEL	PRE-FIN.	STEEL	PRE-FIN.	VARIABLES	①②③⑤⑥
102	BREAK ROOM	VCT	RUBBER	GB	E. PT.	GB	E. PT.	GB	E. PT.	GB	E. PT.	SAT	-	8'-8" ±	①
103	CORRIDOR	VCT	RUBBER	GB	E. PT.	GB	E. PT.	GB	E. PT.	GB	E. PT.	SAT	-	8'-8" ±	①
104	FURNACE ROOM	EXISTING	EXIST.	EX.	-	EX.	-	EX.	-	EX.	-	GB	E. PT.	8'-8" ±	①④⑥
105	MEN'S	VCT	RUBBER	GB	E. PT.	GB	E. PT.	GB	E. PT.	GB	E. PT.	SAT-A	-	8'-8" ±	①⑦⑨
106	UTILITY	VCT	RUBBER	GB	E. PT.	GB	E. PT.	GB	E. PT.	GB	E. PT.	SAT	-	8'-8" ±	①
107	WOMEN'S	VCT	RUBBER	GB	E. PT.	GB	E. PT.	GB	E. PT.	GB	E. PT.	SAT-A	-	8'-8" ±	①⑦⑨
108	TECH CLOSET	EXISTING	EXIST.	EX.	-	EX.	-	EX.	-	EX.	-	GB	E. PT.	8'-8" ±	①④⑥

ROOM FINISH SCHEDULE REMARKS

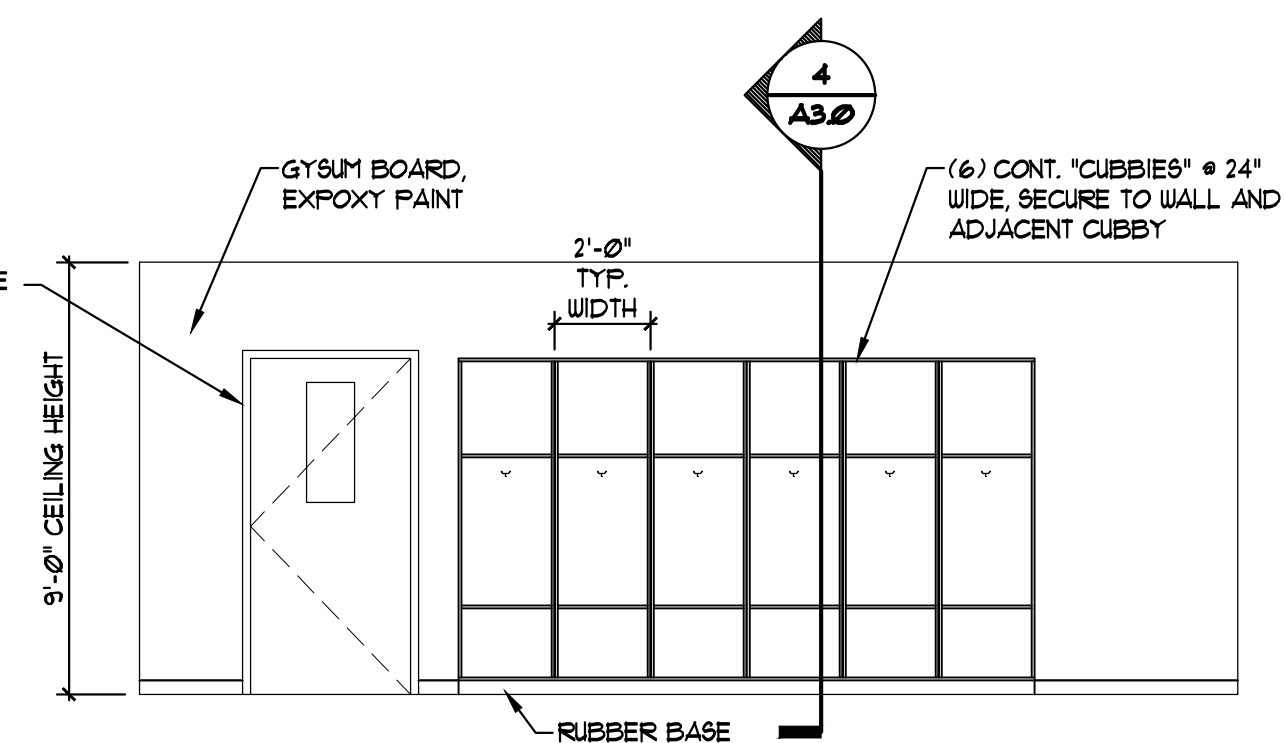
- PAINT EXISTING AND/OR NEW DOOR & FRAME ASSEMBLY.
- STEEL WALL & CEILING PANELS & 26-GAUGE AT CEILING AND 22-GAUGE AT WALLS. PROVIDE R-PANEL PROFILE W/ A PRE-FINISHED KYNAR 500 PAINTED FINISH. COLOR TO BE SELECTED BY OWNER.
- PREP. EXISTING FLOOR PER MFG. RECOMMENDATIONS TO RECEIVE A FLOOR SEALER W/ GRIT ADDITIVE.
- CLEAN EXISTING FLOOR TILE AND WALL BASE.
- SCARIFY EXISTING CONCRETE SURFACE TO PROVIDE A ROUGH PROFILE, PRIOR TO APPLYING SEALER W/ A GRIT ADDITIVE.
- PROVIDE A MEDIUM TO HEAVY BROOM FINISH TO NEW CONCRETE, PRIOR TO APPLYING SEALER W/ GRIT ADDITIVE.
- RE-INSTALL EXISTING TOILET PARTITIONS & TOILET ROOM ACCESSORIES.
- EXISTING FLOORING, WALL BASE, & CMU WALLS TO REMAIN. PROVIDE & INSTALL A NEW GYP. BD. CEILING (5/8" TYPE-X GYP. BD.) PAINT CEILING.
- THERE IS SOME EXISTING CMU IN THIS ROOM WHICH IS TO REMAIN. PAINT EXPOSED EXISTING CMU WALL WITH EPOXY PAINT. FIELD VERIFY.

ROOM FINISH SCHEDULE ABBREVIATIONS

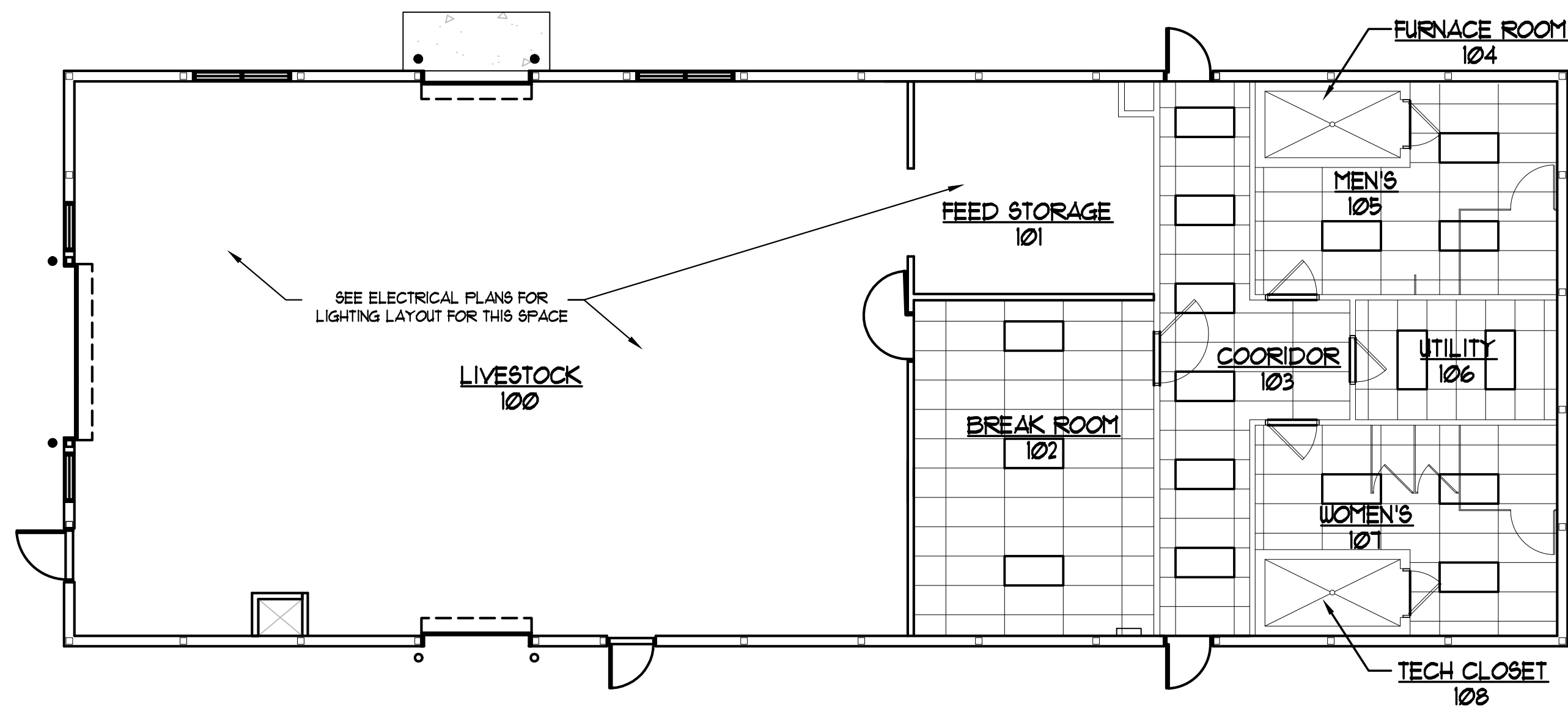
EX EXISTING
E. PT. EPOXY PAINT
SAT SUSPENDED ACOUSTIC TILE
GB GYPSUM BOARD
VCT VINYL COMPOSITION TILE
CONC. CONCRETE
W/ WITH
PRE-FIN. PRE-FINISHED



1/A3.0
BREAK ROOM EAST WALL
SCALE: 1/4" = 1'-0"



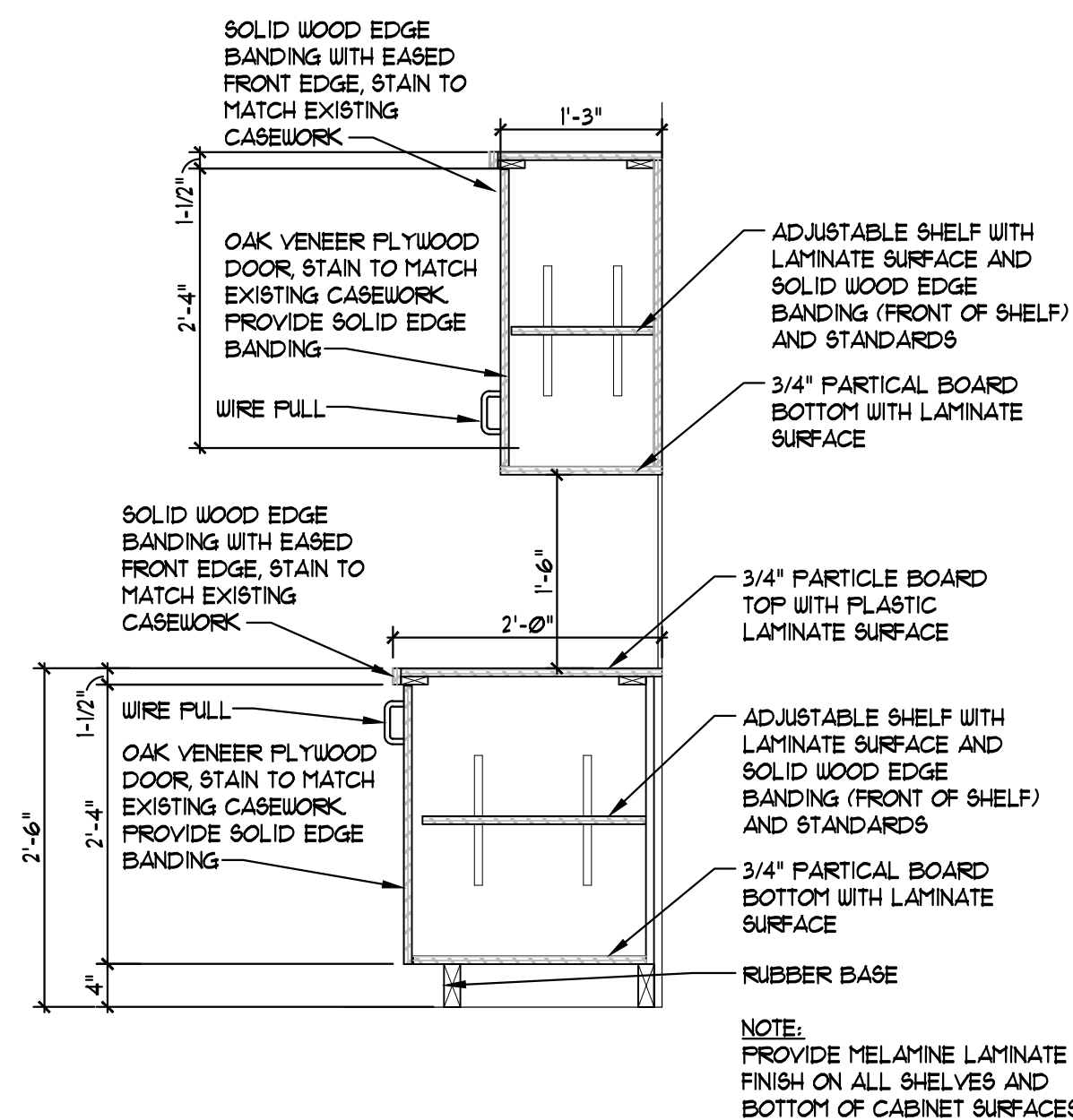
2/A3.0
BREAK ROOM WEST WALL
SCALE: 1/4" = 1'-0"



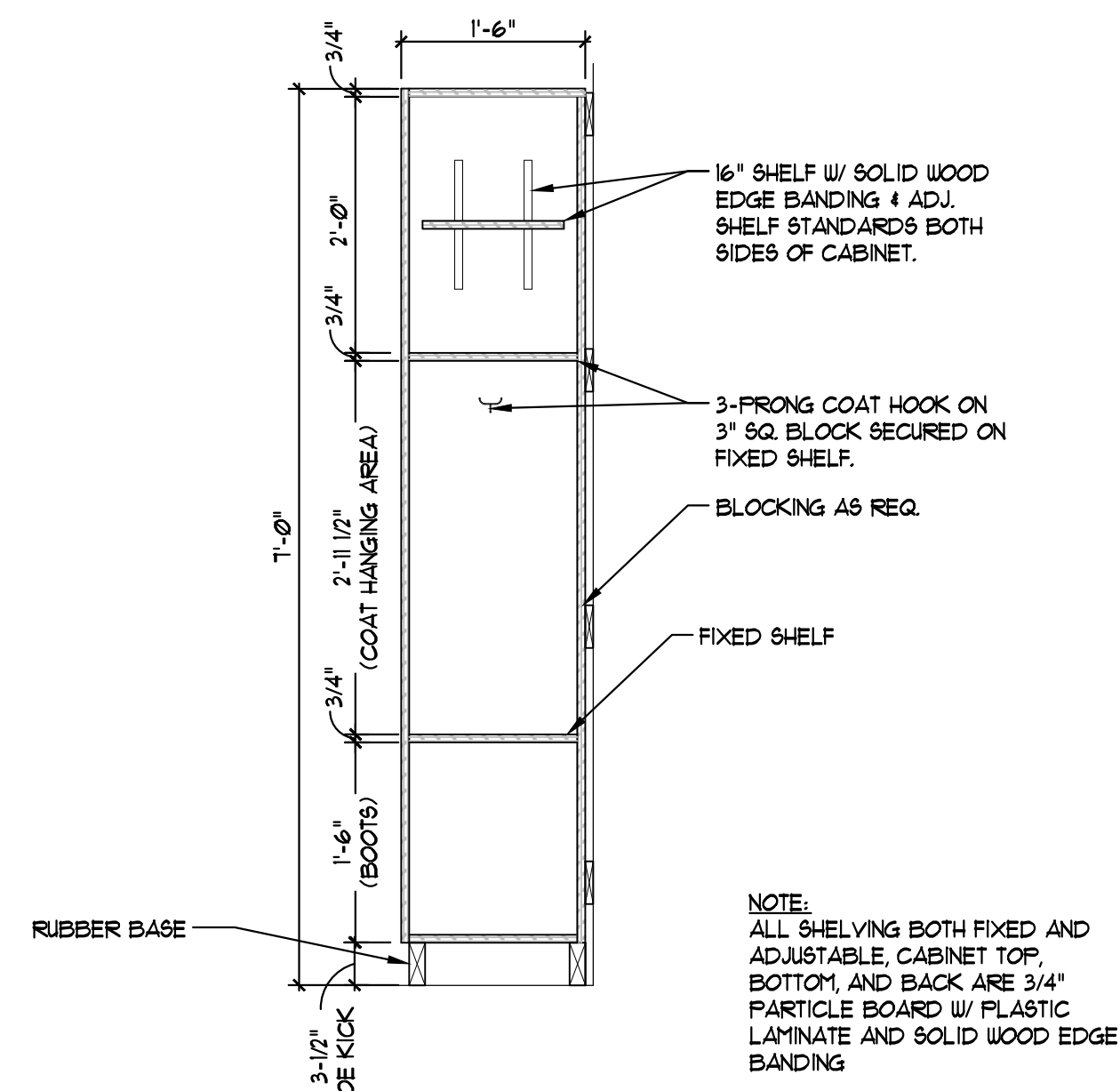
NOTE:
SEE ROOF FRAMING PLAN FOR
ATTIC DRAFTSTOP CONSTRUCTION
INFORMATION.



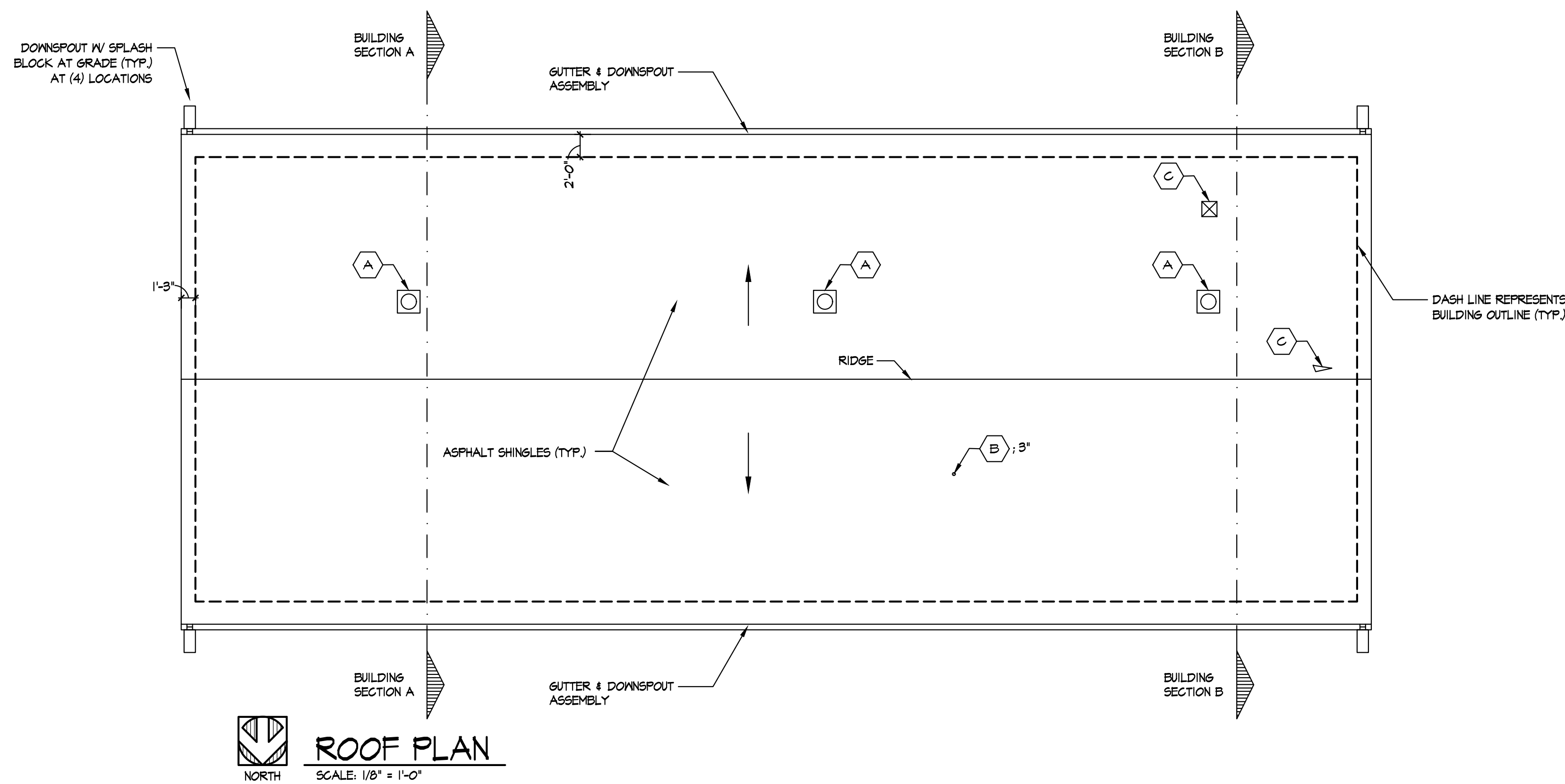
REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"



3
A3.0
BASE & UPPER CABINETS
SCALE: 3/4" = 1'-0"

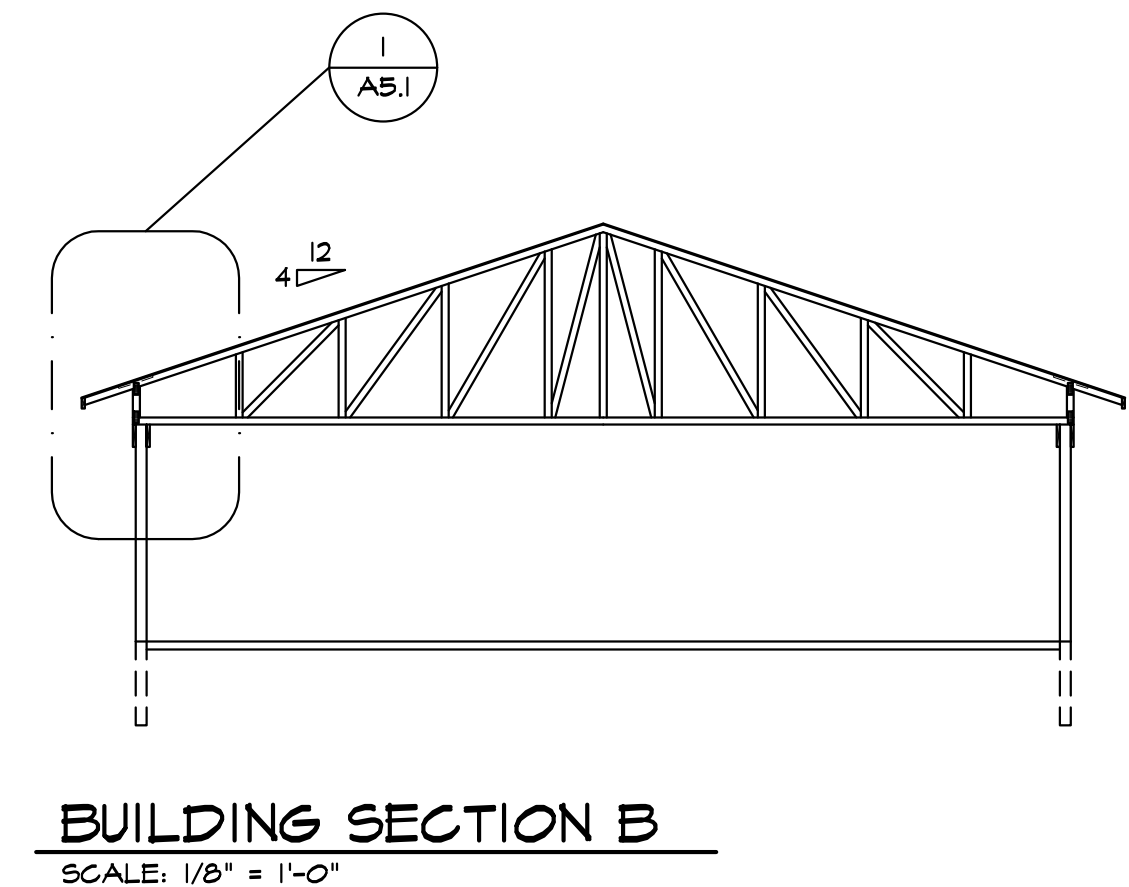
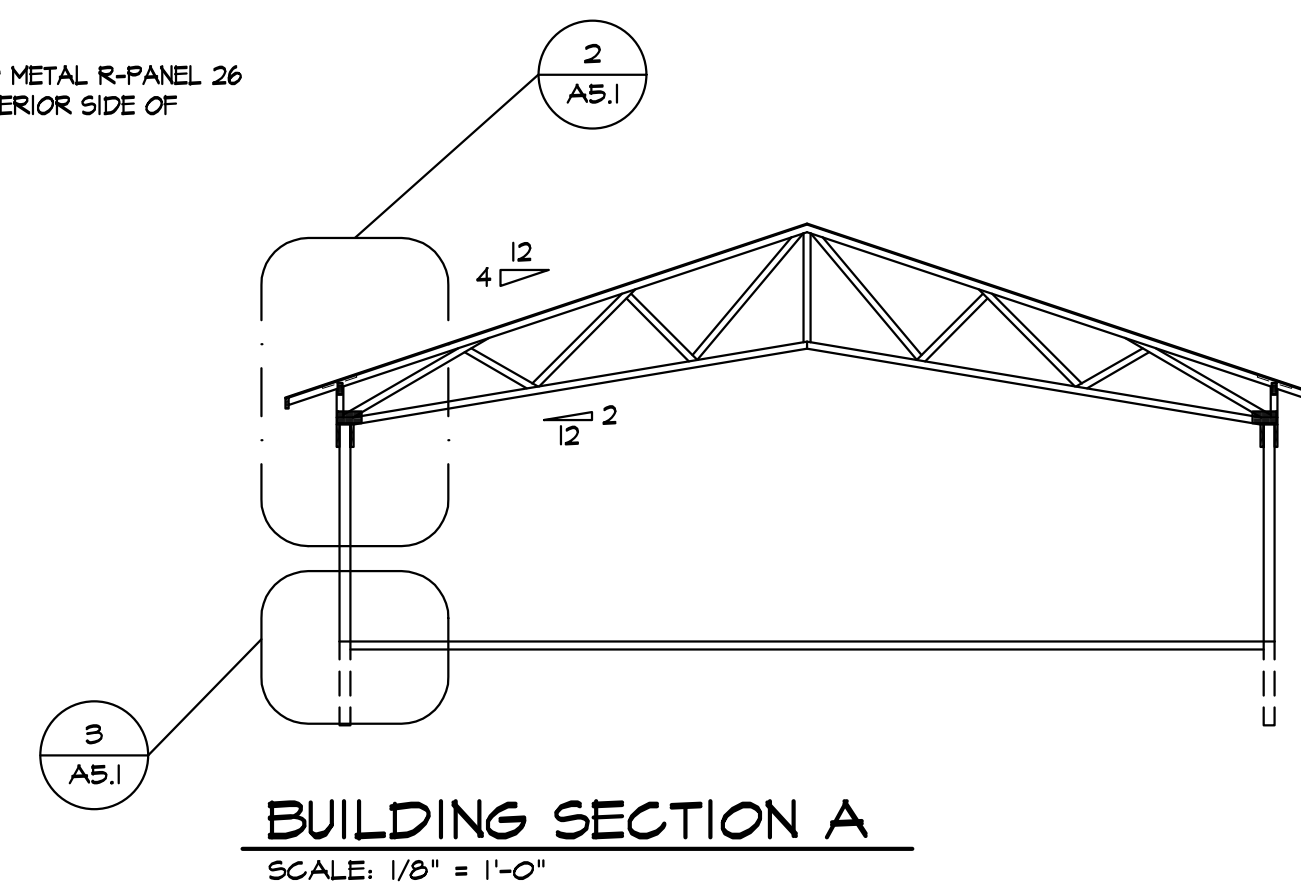
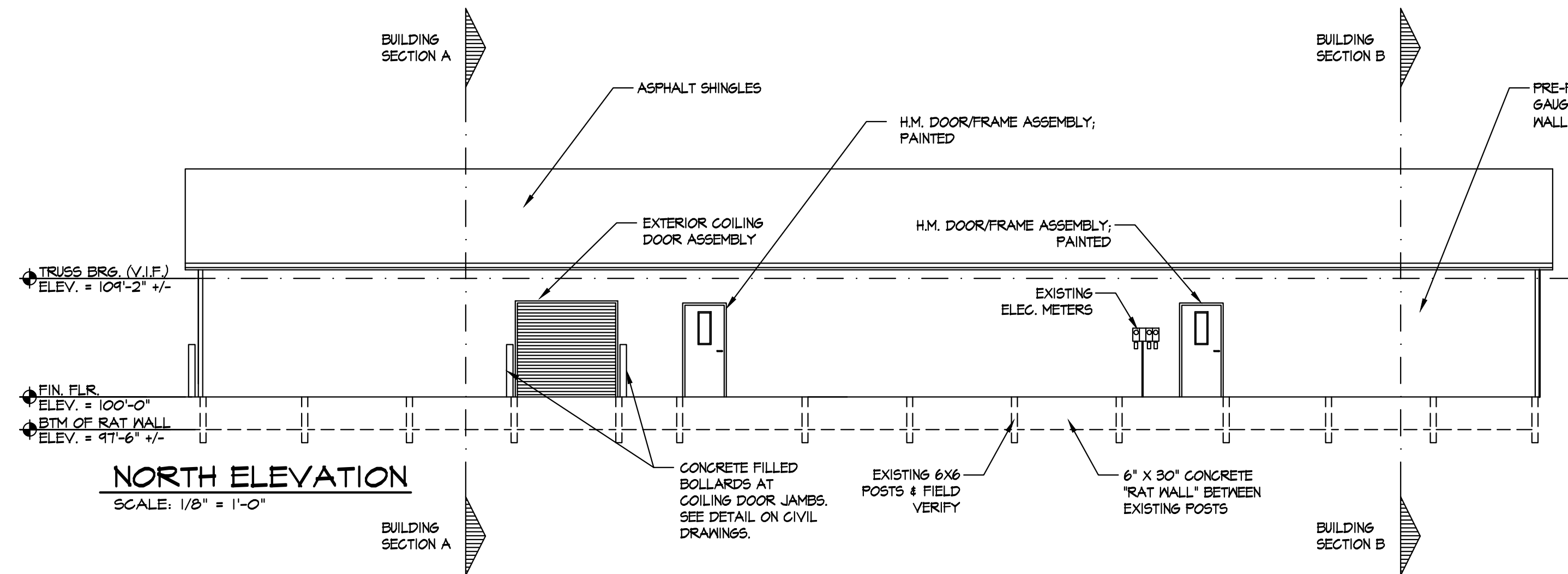


3
A3.0
COAT "CUBBIE" DETAIL
SCALE: 3/4" = 1'-0"

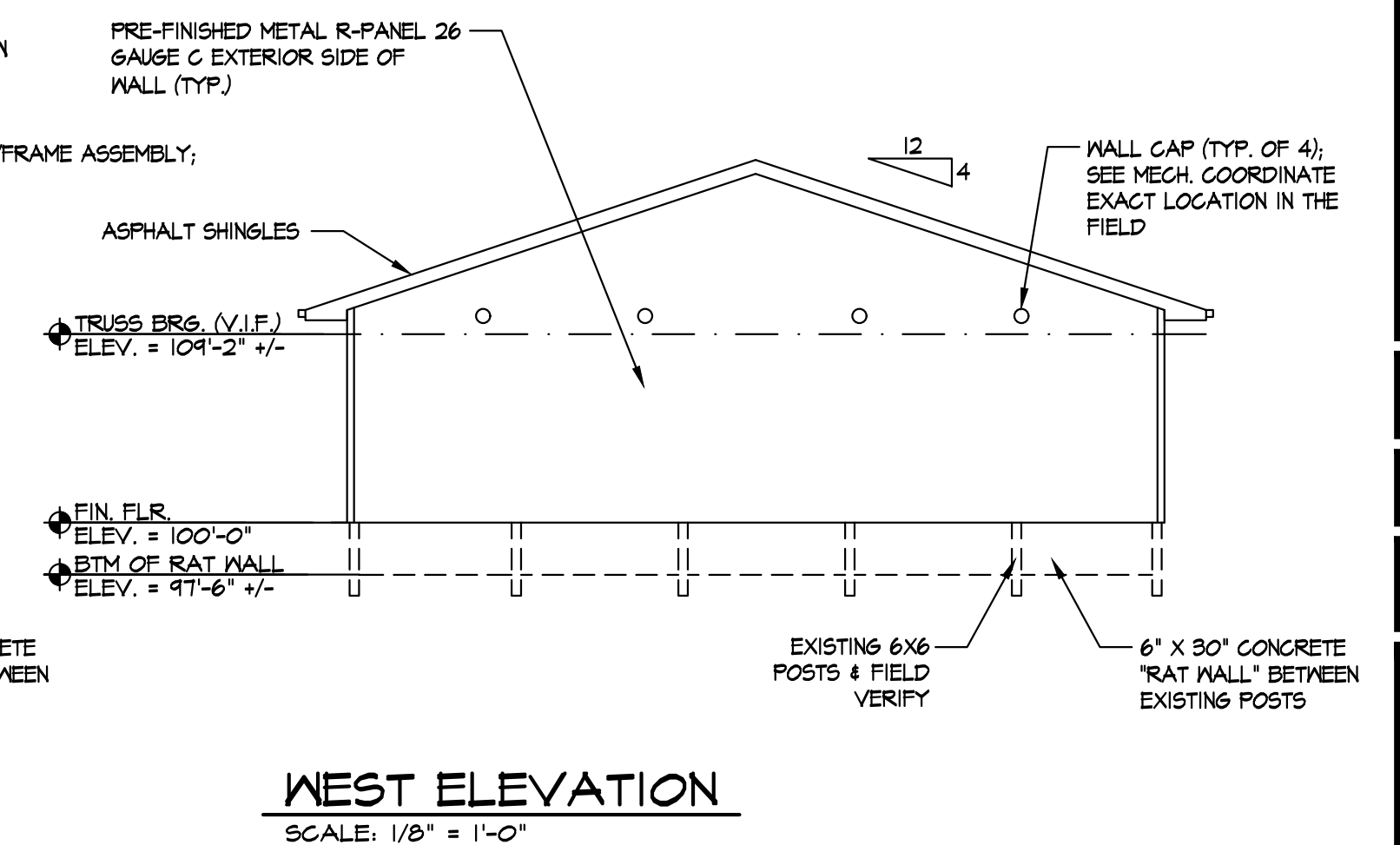
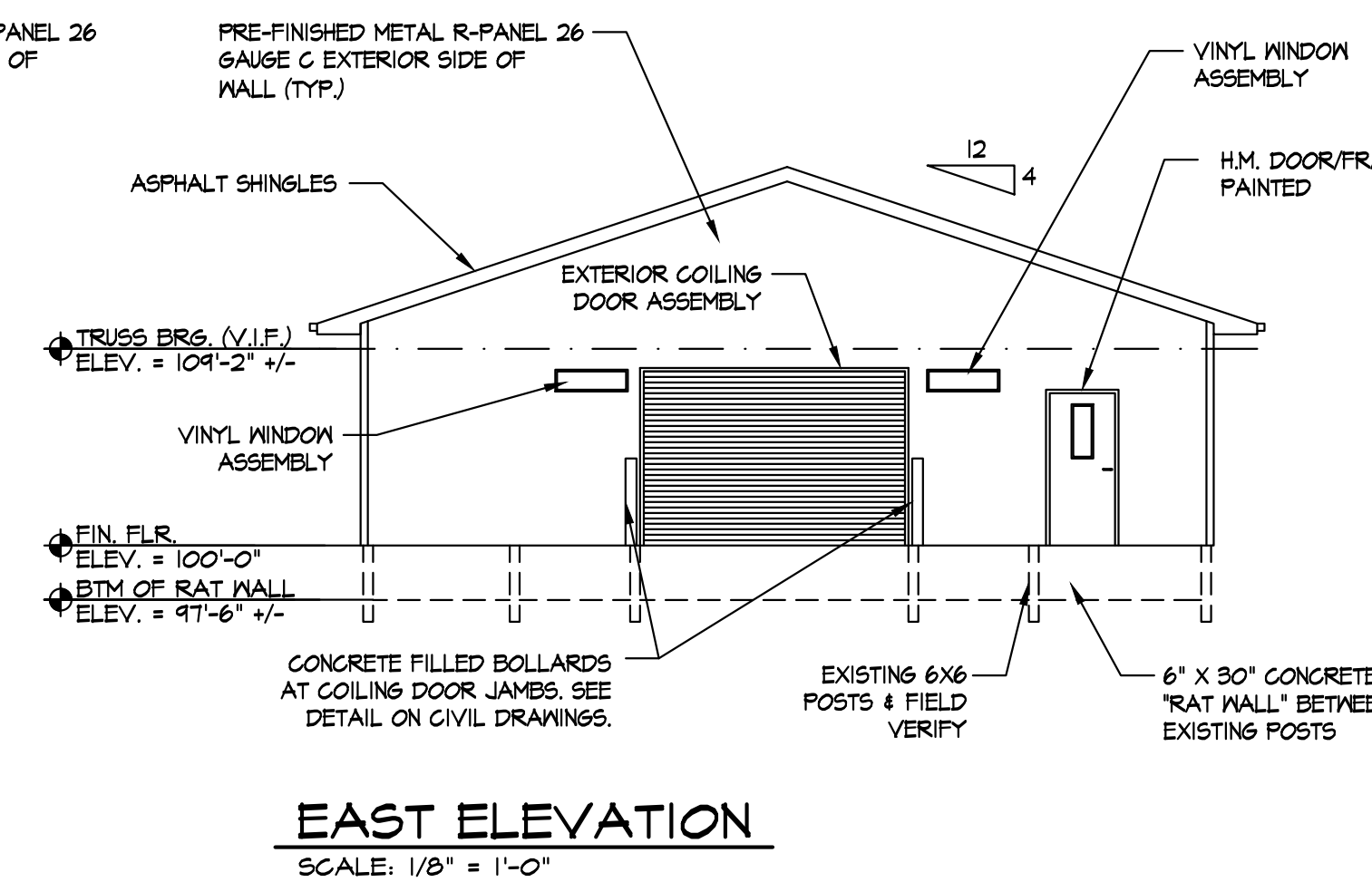
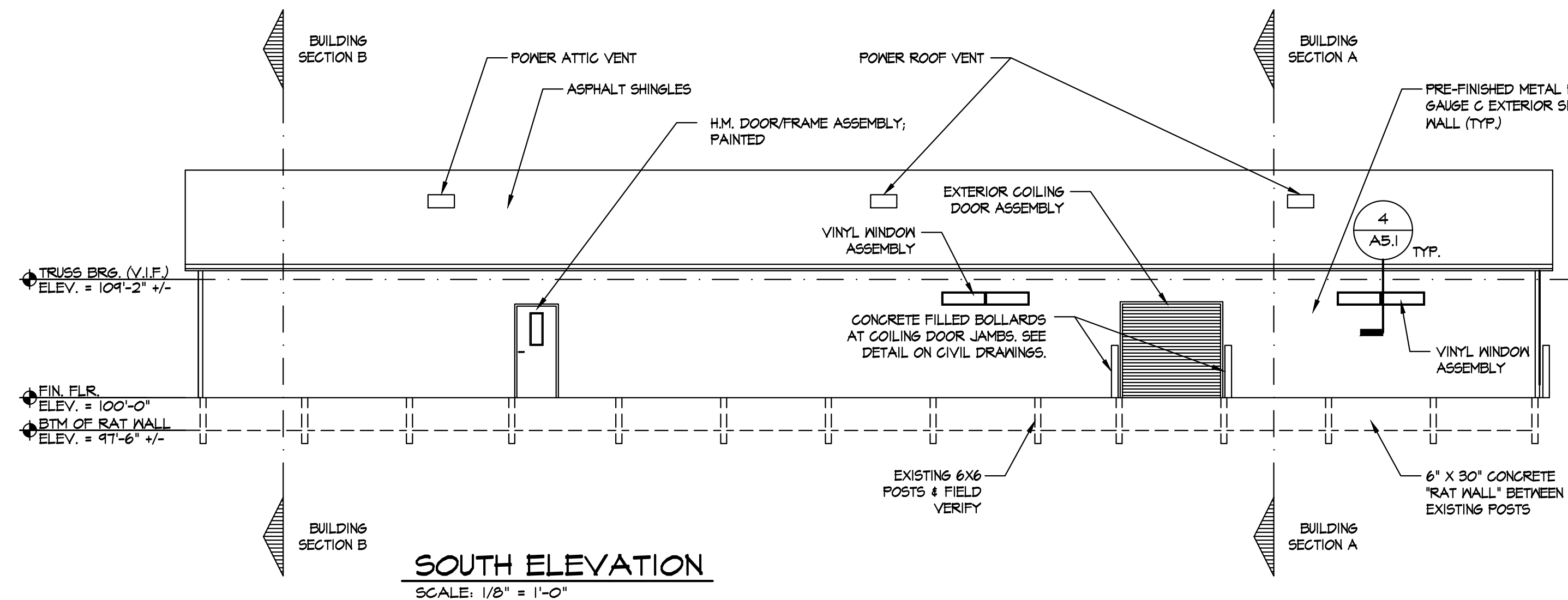


ROOF NOTES

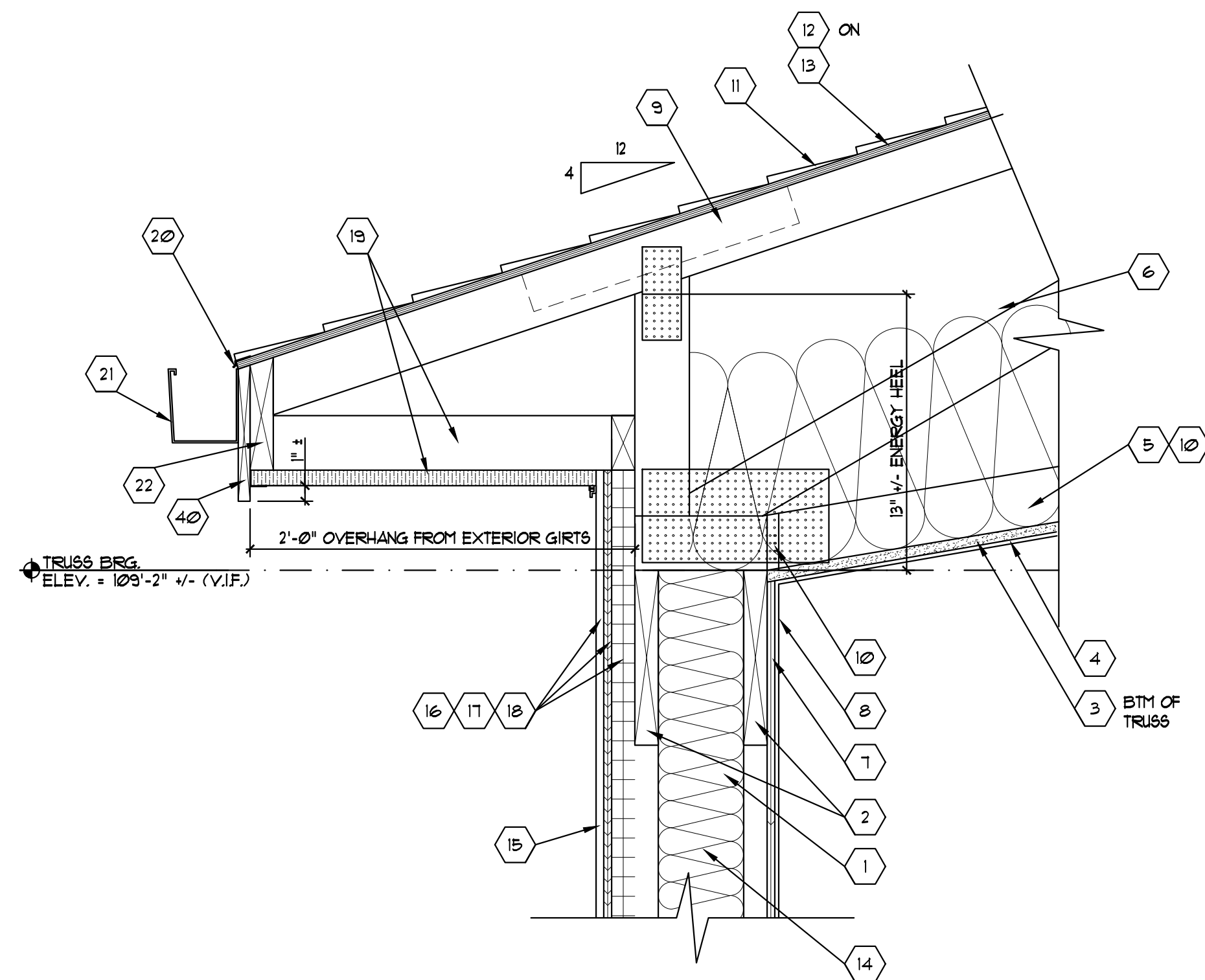
- (A) POWER ROOF MOUNTED ATTIC VENT; 24" X 24" GALVANIZED STEEL. COLOR TO MATCH SHINGLING.
- (B) NEW VENT THROUGH ROOF; SEE MECH. DRAWINGS.
- (C) EXISTING ROOF PENETRATIONS; EXTEND TO ACCOMMODATE NEW ROOF HEIGHT; FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.



NOTE:
EXISTING INTERIOR PARTITIONS TO REMAIN ARE NOT SHOWN IN THIS BUILDING SECTION.

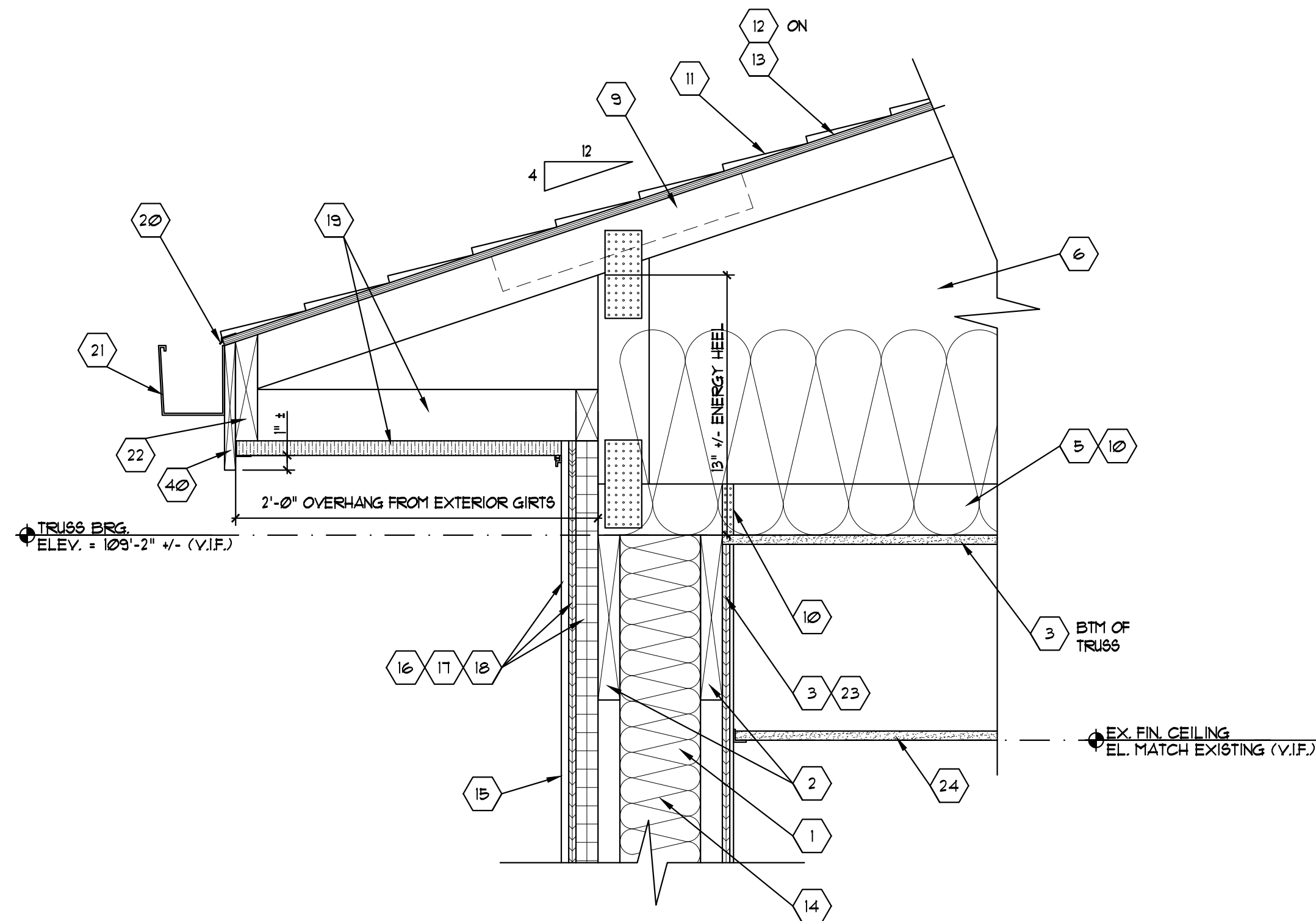


NO.	REVISION	DATE



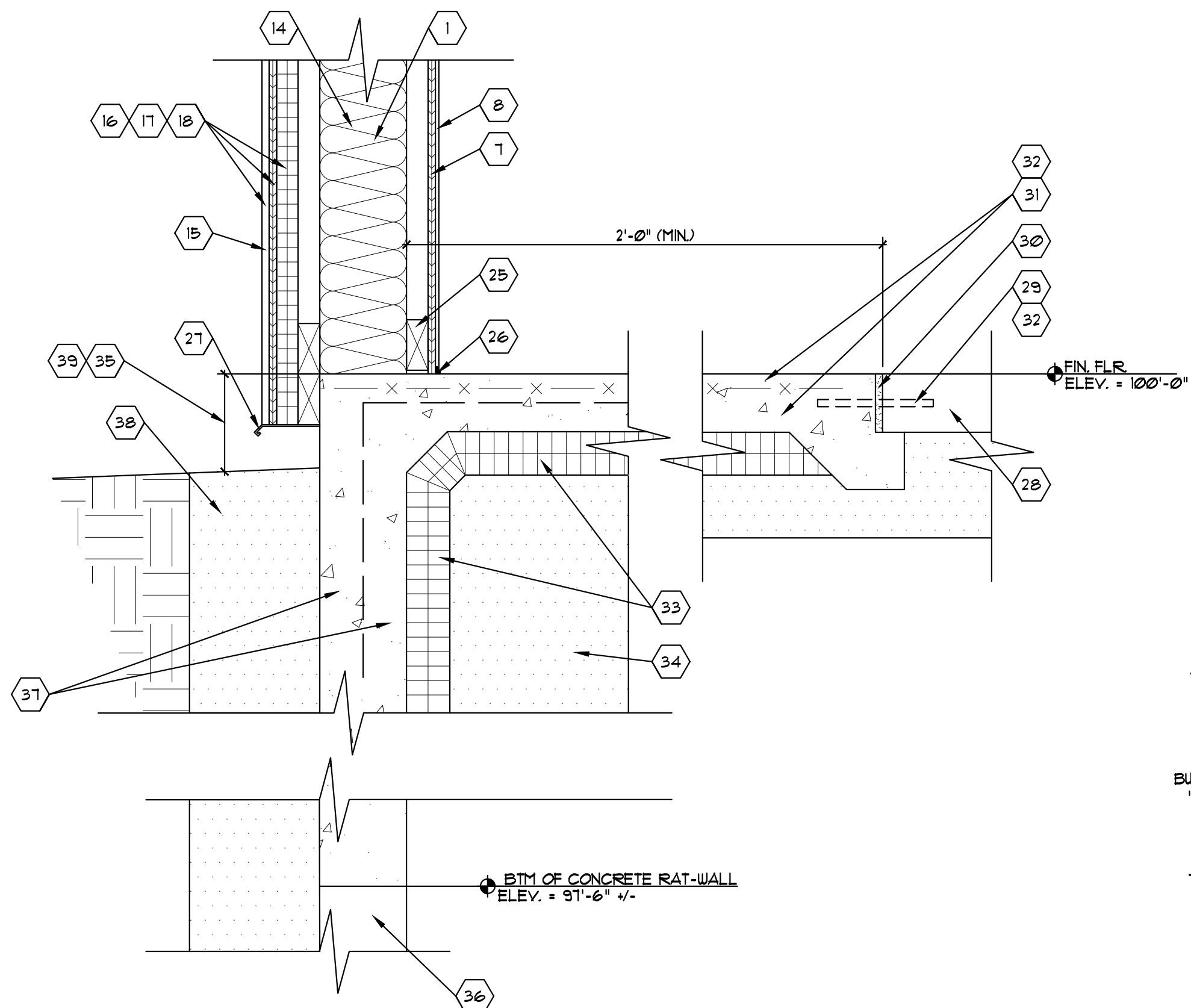
2 ROOF EAVE DETAIL
SCALE: 1/2" = 1'-0"

NOTE:
PROVIDE & INSTALL METAL SIDING TRIM PIECES PER
MFG. RECOMMENDATIONS, INCLUDING CLOSURE PIECES,
STARTER STRIP, INSIDE & OUTSIDE PIECES, ETC.



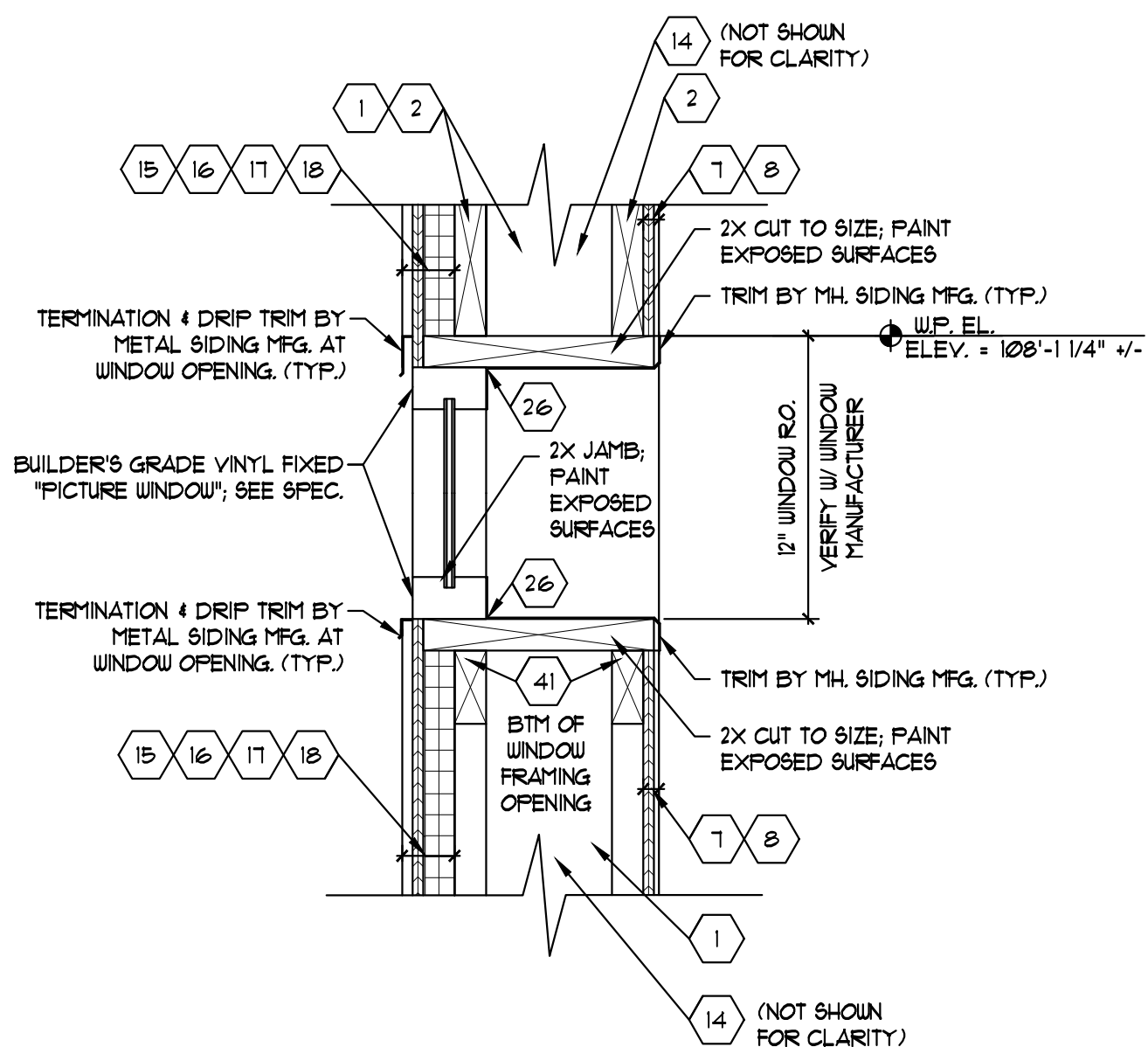
1 ROOF EAVE DETAIL
SCALE: 1/2" = 1'-0"

NOTE:
PROVIDE & INSTALL METAL SIDING TRIM PIECES PER
MFG. RECOMMENDATIONS, INCLUDING CLOSURE PIECES,
STARTER STRIP, INSIDE & OUTSIDE PIECES, ETC.

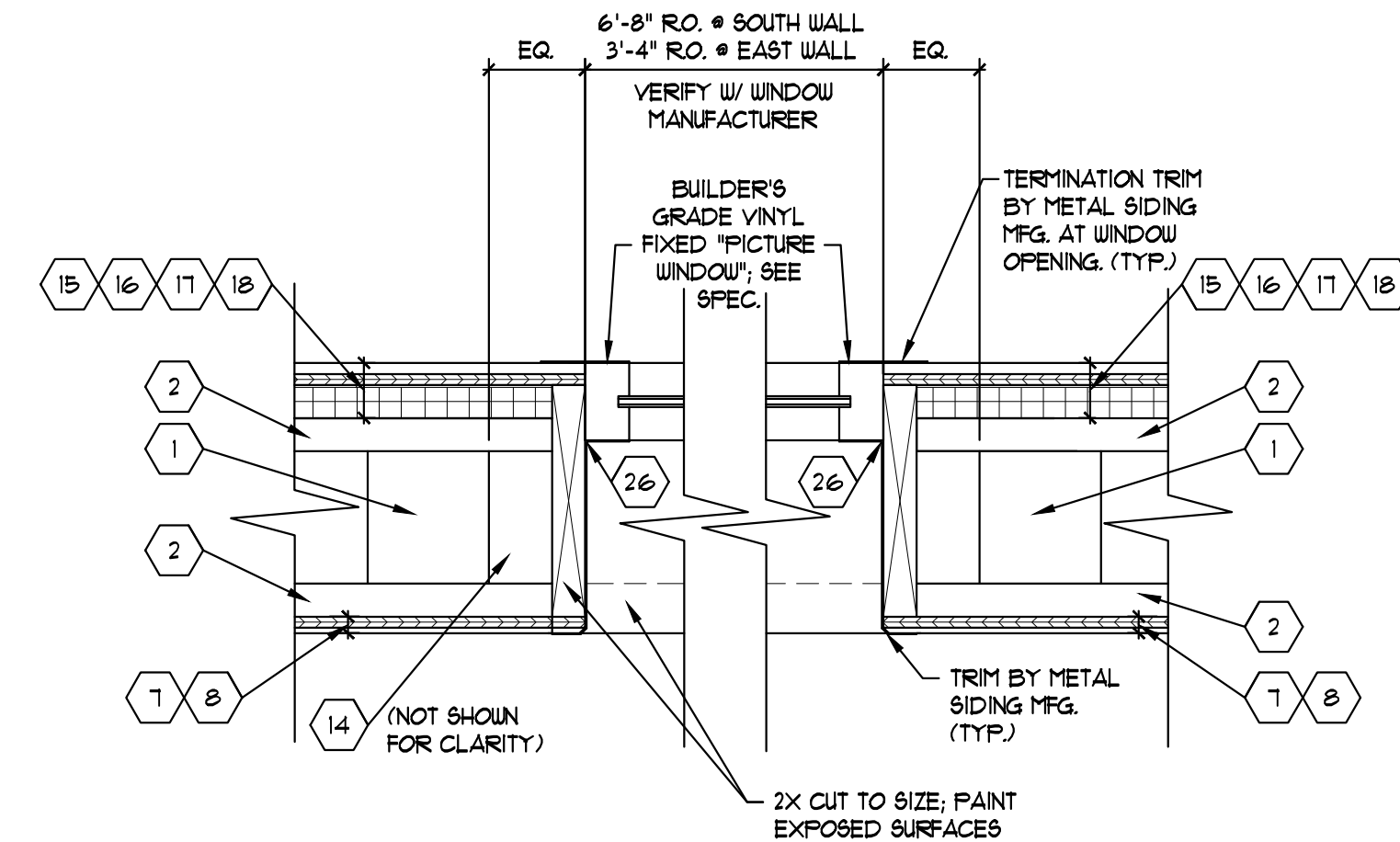


3 WALL/FLOOR DETAIL
SCALE: 1/2" = 1'-0"

NOTE:
PROVIDE & INSTALL METAL SIDING TRIM PIECES PER
MFG. RECOMMENDATIONS, INCLUDING CLOSURE PIECES,
STARTER STRIP, INSIDE & OUTSIDE PIECES, ETC.



HEAD - SILL



JAMB

4 WINDOW DETAILS
SCALE: 1/2" = 1'-0"

CONSTRUCTION MATERIAL KEYNOTES

- 1 EXISTING 6X6 POST; TO REMAIN
- 2 EXISTING 2X HEADER; TO REMAIN
- 3 5/8" TYPE-X GYP. BD.
- 4 PRE-FINISHED, 26-GAUGE METAL "R-PANEL" WITH EXPOSED FASTENERS AT INTERIOR CEILING APPLICATION ONLY. COLOR SELECTED BY OWNER.
- 5 PRE-ENGINEERED WOOD TRUSS; SEE STRUCTURAL.
- 6 14" (R-41) FACED BATT INSULATION; PLACED BETWEEN TRUSSES; SEE STRUCTURAL.
- 7 1/2" O.S.B. SHEATHING SECURED TO HORIZONTAL GIRTS.
- 8 PRE-FINISHED, 22-GAUGE METAL "R-PANEL" WITH EXPOSED FASTENERS AT INTERIOR WALL APPLICATION ONLY. COLOR SELECTED BY OWNER.
- 9 VENTILATION BAFFLE AT EACH TRUSS SPACE.
- 10 HURRICANE ANCHOR AT EACH TRUSS; SEE STRUCTURAL.
- 11 ASPHALT SHINGLES; SEE SPEC.
- 12 ICE & WATER SHIELD
- 13 1/2" ROOF SHEATHING; SEE STRUCTURAL.
- 14 6" (R-14) FACED BATT INSULATION; PLACE BETWEEN EXISTING 6X6 WD. POSTS AND SECURED TO GIRTS.
- 15 PRE-FINISHED, 26-GAUGE METAL "R-PANEL" WITH EXPOSED FASTENERS AT EXTERIOR WALL APPLICATION. COLOR SELECTED BY OWNER.
- 16 BUILDING WRAP ON EXTERIOR SHEATHING.
- 17 1/2" EXTERIOR SHEATHING SECURED TO GIRTS.
- 18 1 1/2" (R15) EXTRUDED POLYSTYRENE RIGID INSULATION CONTINUOUS OVER EXTERIOR WALL SURFACE. SECURE RIGID INSULATION TO GIRTS.
- 19 ALUMINUM VENTED SOFFIT SYSTEM ON BOTTOM OF 2X4 FRAMING.
- 20 METAL DRIP EDGE
- 21 GUTTER & DOWNSPOUT ASSEMBLY. PROVIDE A SPLASH BLOCK AT ALL DOWNSPOUT LOCATIONS.
- 22 2X8 SUB-FASCIA
- 23 PAINT; REF. ROOM FINISH SCHEDULE
- 24 EXISTING SUSPENDED CEILING SYSTEM. FIELD VERIFY EXISTING ELEVATION AND FIELD CONDITIONS.
- 25 2X4 GIRT; HOLD UP FROM CONCRETE FLOOR 1/4".
- 26 CAULK
- 27 4X4 ALUMINUM ANGLE WITH DRIP EDGE.
- 28 EXISTING CONCRETE FLOOR; FIELD VERIFY THICKNESS.
- 29 DOWEL NEW & EXISTING CONCRETE SLAB WITH 12" DOWEL. EPOXY DOWEL TO CONCRETE SLABS.
- 30 BOND BREAK
- 31 CONCRETE SLAB WITH 6X6 WWF OVER 6 MIL VAPOR BARRIER. MATCH EXISTING CONCRETE SLAB THICKNESS, BELIEVED TO BE 4" THICK (V.I.F.).
- 32 CONCRETE SEALER WITH SLIP RESISTANCE ADDITIVE.
- 33 3" PERIMETER INSULATION; EXTEND 2'-0" (MIN) UNDER FLOOR SLAB AND TO BOTTOM OF CONCRETE "RAT-WALL".
- 34 COMPACTED FILL
- 35 GRADE 4" TO 6" BELOW FIN. FLOOR; VERIFY IN THE FIELD.
- 36 EXISTING 6X6 POST BEYOND.
- 37 6" THICK X 2'-6" DEEP CONCRETE "RAT-WALL" WITH #4 BENT BAR @ 24" O.C. PROVIDE PROTECTIVE WRAP AROUND EXISTING POST TO PROTECT POST FROM CONCRETE.
- 38 RESTORE EXISTING GRADE AROUND BUILDING PERIMETER FROM EXCAVATION FOR CONCRETE "RAT-WALL".
- 39 SLOPE GRADE AWAY FROM BUILDING WHERE EXISTING CONDITIONS ALLOW FOR IT.
- 40 1X10 FASCIA BOARD WRAPPED WITH ALUMINUM.
- 41 2X4 GIRTS, 24" O.C. (TYP) FOR HEIGHT OF WALL; UNLESS NOTED OTHERWISE.

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BELLARE, MICHIGAN 49815
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forest trail
design, PLLC
architecture with people in mind

NO.	REVISION	DATE

BID PACKAGE NO. 9
RENOVATIONS TO:
CAMP MONROE
ST. LOUIS, MICHIGAN

SHEET TITLE
WALL SECTIONS & DETAILS

PROJECT NUMBER
2021003.97

PROJECT DATE
SEPTEMBER 2025

CHECKED BY
T.F.L.

SHEET NUMBER

A5.1

GENERAL

1. THIS BUILDING HAS BEEN DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MICHIGAN BUILDING CODE, 2015 EDITION
- A. DESIGN LOADS:

A. ROOF LIVE LOAD = 20 PSF (MBC 1607.12)

B. SNOW LOADS (MBC 1608)

a. GROUND SNOW LOAD, $P_g = 35$ PSF

b. SNOW EXPOSURE FACTOR, $C_e = 1.0$ (ASCE 7-10 TABLE 7.3.1)

c. THERMAL FACTOR, $C_t = 1.2$ (ASCE7-10 TABLE 7-3)

d. BUILDING CATEGORY II

e. IMPORTANCE FACTOR, $I_s = 1.0$ (ASCE7-10 TABLE 1.5.2)

f. FLAT ROOF SNOW LOAD, $P_f = 28$ PSF + DRIFTING (ASCE7-10 7.3)

g. DRIFTING CALCULATED PER ASCE 7-10

C. WIND LOADS (MBC 1609)

a. BASIC WIND SPEED $V = 115$ MPH (3-SECOND GUST) (ASCE7-10 SECTION 26.5.1)

b. BUILDING CATEGORY II

c. IMPORTANCE FACTOR, $I_w = 1.0$ (ASCE7-10 TABLE 1.5.2)

d. EXPOSURE CATEGORY C

e. INTERNAL PRESSURE COEFFICIENT ± 0.18

f. COMPONENTS AND CLADDING LOAD PRESSURE:

1. ROOF (50°F) -22, 24 PSF (ZONE 1)

2. ROOF (50°F) -22, 24 PSF (ZONE 2)

3. ROOF (50°F) -22, 24 PSF (ZONE 3)

D. EARTHQUAKE LOADS

a. SEISMIC RISK CATEGORY II

b. SEISMIC IMPORTANCE FACTOR, $I_e = 1.0$ (ASCE7-10 FIG. 1.5-2)

c. $S_s = .057$ (ASCE7-10 FIG. 22-1); $S_1 = 0.039$ (ASCE7-10 FIG. 22-2)

d. SITE CLASS = D (ASCE 7-10 TABLE 20.3-1)

e. $F_a = 1.6$; $F_v = 2.4$

f. $S_{ms} = F_a S_s = .091$; $S_{m1} = F_v S_1 = .093$

g. $S_{ds} = (2/3) S_{ms} = 0.061$; $S_{d1} = (2/3) S_{m1} = .062$

h. SEISMIC DESIGN CATEGORY = A

i. SEISMIC RESISTING SYSTEM: CANTILEVERED COLUMN SYSTEM (ASCE7-10 TABLE 12.14-1)

j. DESIGN BASE SHEAR = $0.041W$ (ASCE7-10 SECTION 12.8.1)

k. SEISMIC RESPONSE COEFFICIENT, $C_s = 0.041$ (ASCE7-10 SECTION 12.8.1.1)

l. RESPONSE MODIFICATION FACTOR, $R = 1.5$ (ASCE7-10 TABLE 12.2.1)

m. EARTHQUAKE LOADS CALCULATED PER SECTION 1813.3.2 "SIMPLIFIED ANALYSIS PROCEDURE FOR SEISMIC DESIGN OF BUILDINGS"

n. DEFLECTION AMPLIFICATION FACTOR, $C_d = 1.5$ (ASCE7-10 TABLE 12.2.1)

2. THE STRUCTURE SHALL BE CONSIDERED TO BE IN AN UNSTABLE CONDITION UNTIL ALL WALL AND ROOF STRUCTURES ARE COMPLETED. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR STABILITY AND TO RESIST LATERAL LOADS DURING ERECTION.

WOOD FRAMING

1. ROOF SHEATHING SHALL BE 1/2 INCH APA RATED WITH A PANEL SPAN RATING OF 32/16 AND SHALL BE EXTERIOR GRADE.
2. NAIL ROOF DECK TO SUPPORTS WITH 8d NAILS SPACED AT 6 INCHES O.C. AT SUPPORTED EDGES AND AT 12 INCHES O.C. AT INTERMEDIATE SUPPORTS.
3. ALL NAILS FOR NAILING OF STRUCTURAL LUMBER SHALL BE COMMON NAILS. ALL NAILING SHALL COMPLY WITH THE RECOMMENDED NAILING SCHEDULE "TABLE 2304.10.1. OF MBC 2015"
4. ALL FRAMING SHALL BE ERECTED TRUE LEVEL AND/OR PLUMB. MEMBERS SHALL BE SECURELY NAILED OR BOLTED IN PLACE AS DETAILED AT THE PROPER LOCATIONS OR SPACINGS INDICATED. ALL FRAMING MEMBERS SHALL BE OF FULL LENGTH WITHOUT PIECES ADDED OR SPLICED. FURRING, BLOCKING, NAILERS, ETC. SHALL BE SECURELY ANCHORED IN PLACE.
5. COMPLY WITH THE RECOMMENDATIONS AND PRACTICES OF THE AITC, NFPA AND AWC FOR THE INSTALLATION OF ALL WOOD FRAMING.
6. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE TREATED.
7. ALL WOOD PROVIDED SHALL BE SEASONED WITH A MAXIMUM MOISTURE CONTENT OF 19% AT THE TIME OF DRESSING.

PREFABRICATED WOOD TRUSSES

1. ALL WOOD TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING LOADS:

TOP CHORD DEAD LOAD -5 PSF + WEIGHT OF TRUSS

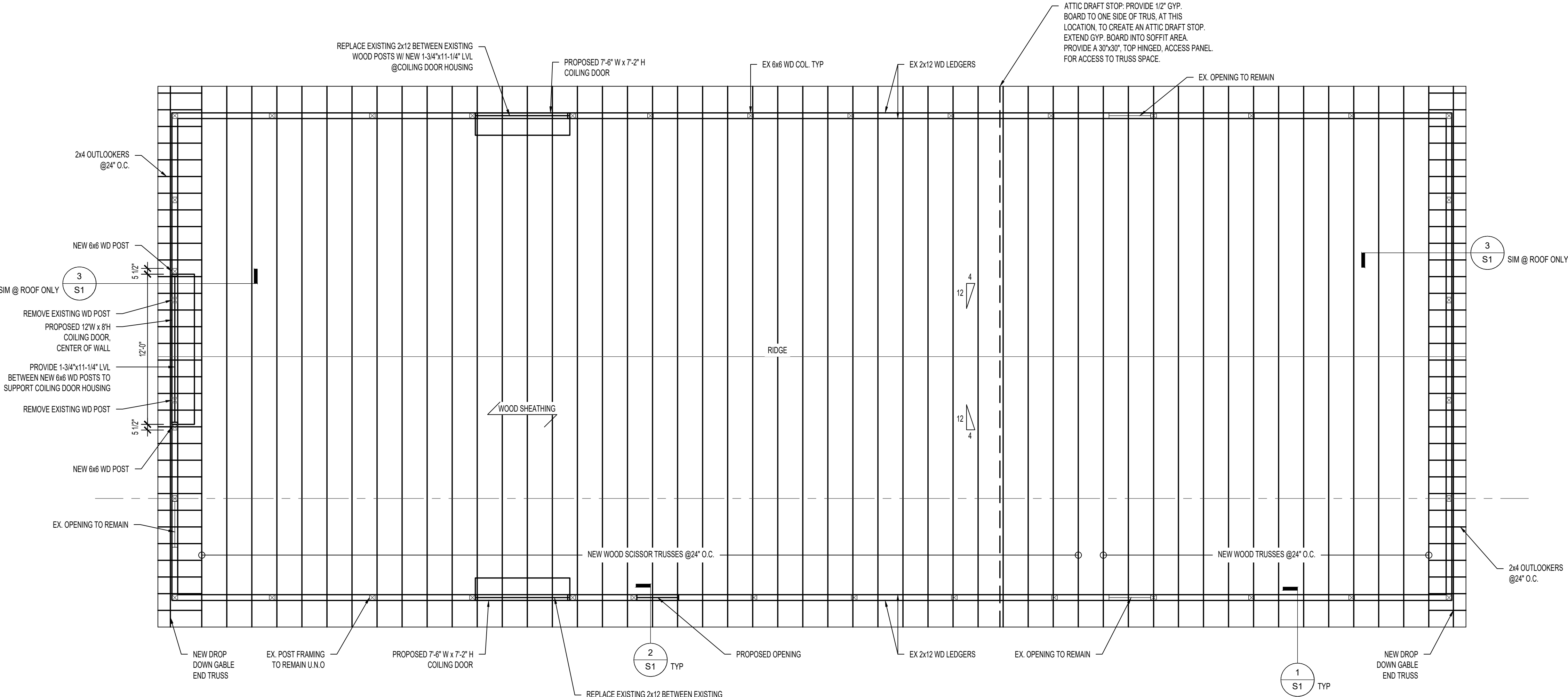
BOTTOM CHORD DEAD LOAD -5 PSF + WEIGHT OF TRUSS

TOP CHORD LIVE LOAD -28 PSF + UNBALANCED SNOW
2. THE EXTENT OF ROOF TRUSSES SHOWN ON THE PLANS IS FOR REFERENCE ONLY. THE FABRICATOR SHALL VERIFY ALL DIMENSIONS, TRUSS LAYOUT, CONFIGURATION, NUMBER OF EACH TYPE OF TRUSS REQUIRED, LOADING AND DETAILS.
3. WOOD TRUSSES SHALL BE DESIGNED, FABRICATED AND INSTALLED PER TRUSS PLATE INSTITUTE, INC. SPECIFICATIONS AND NFPA NATIONAL, INC. SPECIFICATIONS AND NFPA NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION.
4. ALL TRUSSES SHALL BE ANCHORED TO SUPPORTS AS INDICATED AND IF NOT INDICATED, PER MANUFACTURERS RECOMMENDATIONS.
5. DEFLECTION OF TRUSSES SHALL BE LIMITED TO MAXIMUM LIVE LOAD DEFLECTION OF SPAN/360.
6. SUBMITTALS:

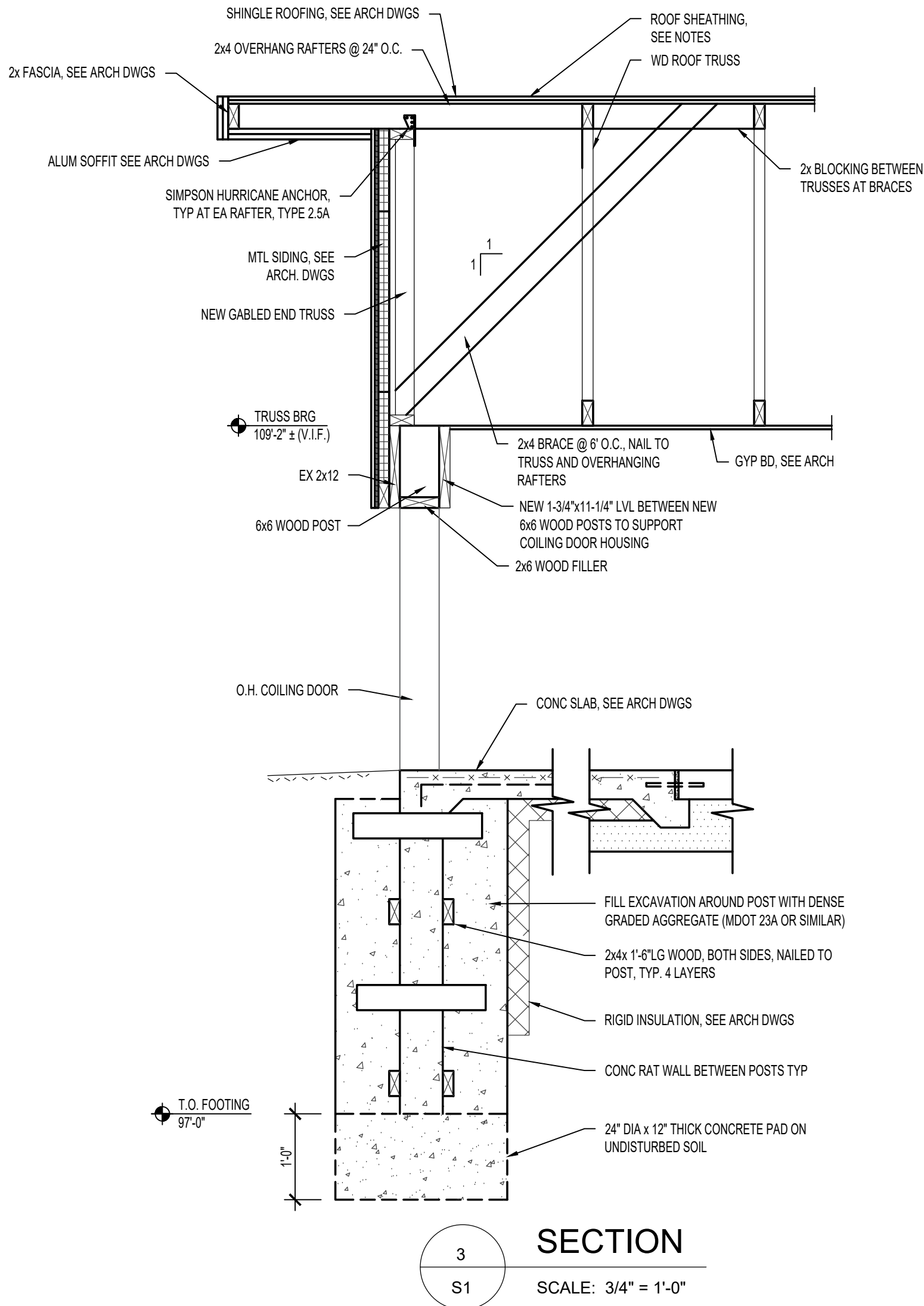
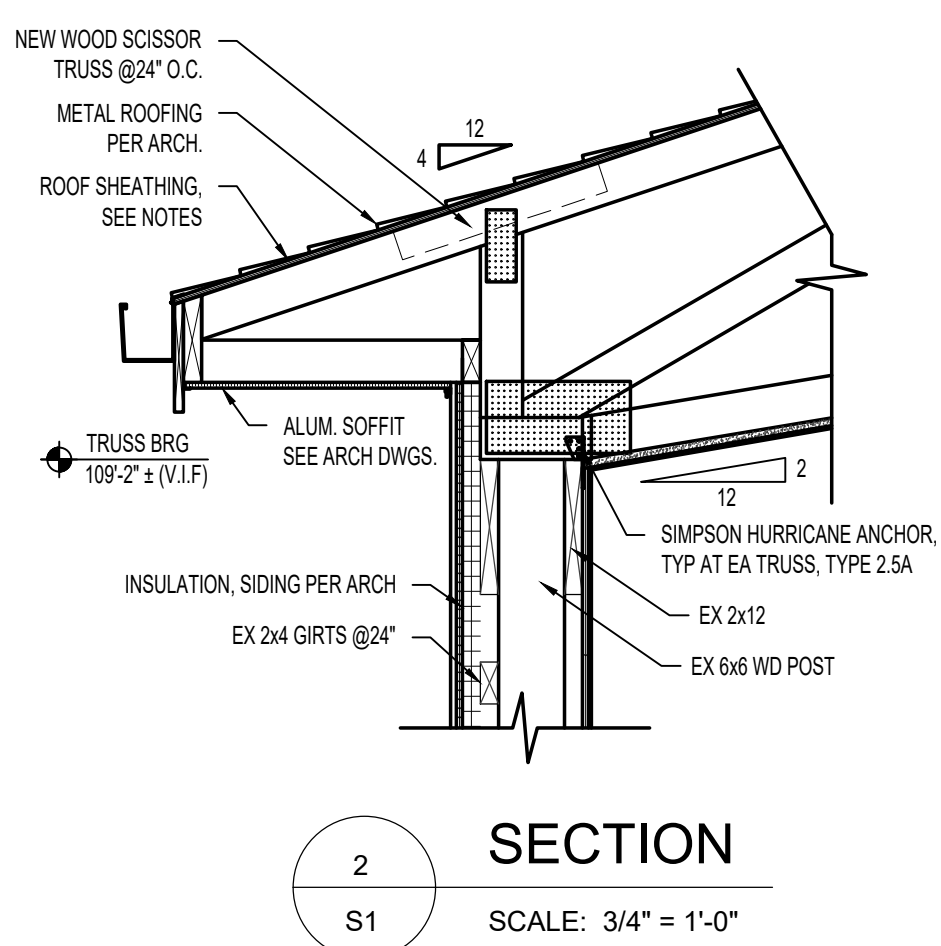
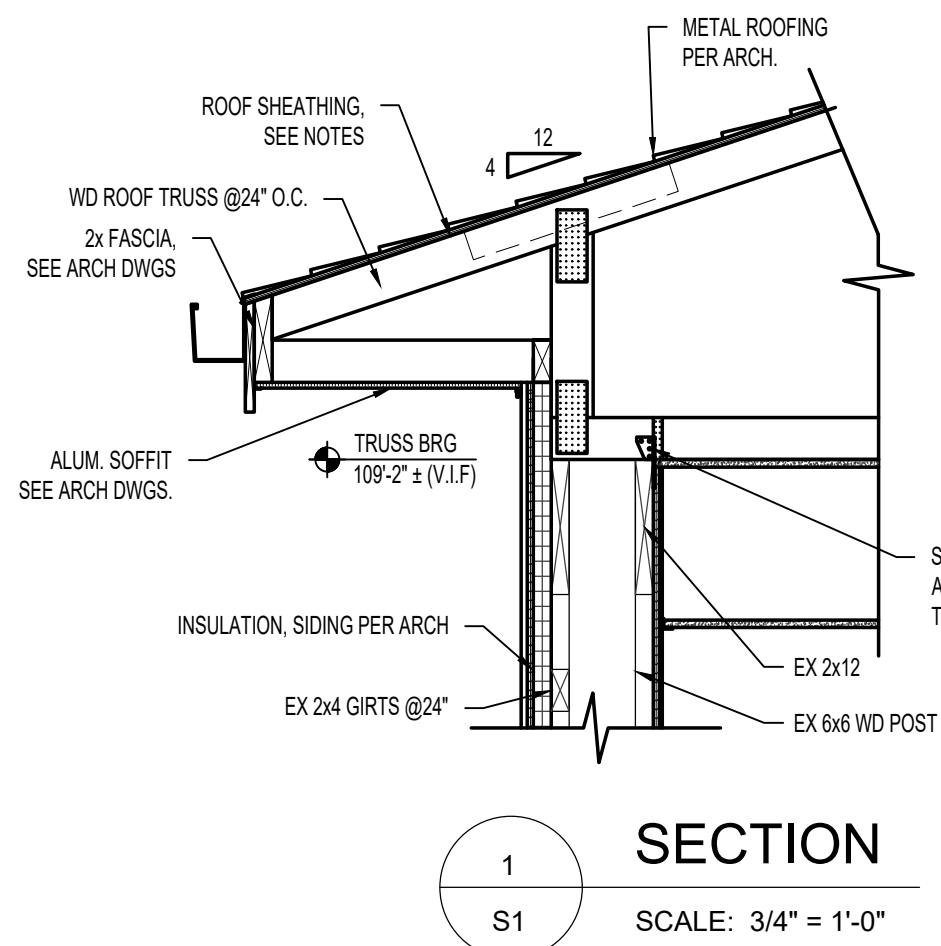
A. SHOP DRAWINGS SHOWING SIZES, DESIGN VALUES, MATERIALS, AND DIMENSIONAL RELATIONSHIPS OF COMPONENTS AS WELL AS BEARING AND ANCHORAGE DETAILS.

B. TO EXTENT ENGINEERING DESIGN CONSIDERATIONS ARE FABRICATOR'S RESPONSIBILITY, SUBMIT DESIGN ANALYSIS AND TEST REPORTS INDICATING TRUSS PERFORMANCE CHARACTERISTICS. COMPLY WITH REQUIREMENTS.

C. PROVIDE SHOP DRAWINGS WHICH HAVE BEEN SIGNED AND STAMPED BY AN ENGINEER LICENSED TO PRACTICE IN THE STATE OF MICHIGAN.
7. DESIGN AND SPECIFICATION OF TEMPORARY AND PERMANENT WOOD TRUSS BRACING BY TRUSS MANUFACTURER AND SHOWN ON SHOP DRAWINGS. TRUSS INSTALLER SHALL PROVIDE AND INSTALL BRACING PER SHOP DRAWINGS.



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



DUCT INSULATION SCHEDULE						
TYPE	DENSITY (LBS / FT³)	THICKNESS (IN)	INSTALLED R-VALUE	THERMAL COND. k (AT 75°F) BTU-IN H-FT²·°F	FACING	DUCT TYPE AND LOCATION
DUCT WRAP	0.75	1-1/2"	4.2	0.29	FSK	A1, A2
DUCT WRAP	1.0	2"	6.0	0.29	FSK	--
DUCT WRAP	0.75	3"	8.4	0.29	FSK	--
FIBERGLASS BOARD	3.0	1"	4.3	0.23	FSK	--
FIBERGLASS BOARD	3.0	1-1/2"	6.5	0.23	FSK	--
FIBERGLASS BOARD	6.0	1"	4.4	0.22	FSK	--
FIBERGLASS BOARD	6.0	1-1/2"	6.7	0.22	FSK	--
CLOSED CELL	3.0 - 6.0	1"	4.2	0.25	N.A.	--
CLOSED CELL	3.0 - 6.0	1-1/2"	6.0	0.25	N.A.	--
CLOSED CELL	3.0 - 6.0	2"	8.0	0.25	N.A.	--
ACOUSTIC LINER						A3, B3, D3, E3
FIRE BARRIER WRAP	6.0	1-1/2"	6.38	N.A.	FSK	F1 - (2) LAYERS
FIBERGLASS INSULATION BASED ON KNAUF (ACCEPTABLE: KNAUF, OWENS CORNING, CERTAIN TEED, JOHNS MANVILLE). CLOSED CELL INSULATION BASED ON ARMACELL (ACCEPTABLE: ARMACELL, AEROFLEX).						
NOTE: WHEN MULTIPLE INSULATION TYPES ARE LISTED FOR THE SAME DUCT TYPE & LOCATION, MECHANICAL CONTRACTOR HAS OPTION TO SELECT INSULATION TYPE UNLESS SPECIFICALLY NOTED ON PLANS OR DETAILS OR IN THE SPECIFICATIONS.						
DUCT TYPES: A. SUPPLY AIR (HEAT & COOL) B. RETURN AIR (HEAT & COOL) C. OUTSIDE AIR D. EXHAUST AIR (NO ERV) E. EXHAUST AIR (UPSTREAM & DOWNSTREAM OF ERV) F. TYPE 1 GREASE EXHAUST AIR (KITCHEN HOOD)						
DUCT LOCATIONS: 1. CONCEALED ABOVE CEILING 2. EXPOSED IN FINISHED SPACE 3. WITHIN 20' OF FAN UNIT (RTU, EF, FURNACE, ETC)						
JACKET: a. NONE b. ALUMINUM c.						

PIPE INSULATION SCHEDULE

FLUID OPERATING TEMP RANGE, °F	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE, INCHES					NOTE
	CONDUCTIVITY RANGE BTU-IN/HR-FT²·°F	MEAN TEMP RATING, °F	<1	1 TO <1.5	1.5 TO <4	4 TO <8	>8	
			INSULATION THICKNESS, INCHES					
141° TO 200°	0.25 - 0.29	125°	1.5 ^a	1.5 ^a	2.0 ^a	2.0 ^a	2.0 ^a	3
105° TO 140°	0.22 - 0.28	100°	1.0 ^a	1.0 ^a	1.5 ^a	1.5 ^a	1.5 ^a	3
105°+ (DOM. HW)	0.22 - 0.28	100°	0.5 ^a	0.5 ^a	1.0 ^a	1.0 ^a	1.0 ^a	2
DOM. HW W/ HWR	0.27	100°	1.0 ^c	1.0 ^c	1.0 ^{a,c}	1.0 ^{a,c}	1.0 ^{a,c}	2
40° TO 60°	0.21 - 0.27	75°	1.5 ^{b,d}	1.5 ^{b,d}	1.5 ^{b,d}	1.5 ^{b,d}	1.5 ^{b,d}	1
> 40°	0.20 - 0.26	50°	1.5 ^{b,d}	1.5 ^{b,d}	1.5 ^{b,d}	1.5 ^{b,d}	1.5 ^{b,d}	1
DOMESTIC CW	0.21 - 0.27	75°	1.0	1.0	1.0	1.0	1.0	1
COND. DRAIN	0.21 - 0.27	75°	0.5	0.5	0.5	0.5	0.5	1
STORM / RWC	0.21 - 0.27	75°	0.5	0.5	0.5	0.5	0.5	1,4

BASED ON THE MICHIGAN UNIFORM ENERGY CODE (BASED ON ASHRAE 90.1-2013), 2015 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) (AS REFERENCED BY 2021 MICHIGAN MECHANICAL CODE), & 2021 MICHIGAN PLUMBING CODE (MPC). THE MORE STRINGENT REQUIREMENTS ARE USED AS LISTED BELOW.

CODE REFERENCES:
a. FROM ASHRAE 90.1, TABLE 6.8.3-1 "MINIMUM PIPING INSULATION THICKNESS" FOR "HEATING AND HOT WATER SYSTEMS (STEAM, STEAM CONDENSATE, HOT WATER HEATING AND DOMESTIC WATER SYSTEMS)"
b. FROM ASHRAE 90.1, TABLE 6.8.3-2 "MINIMUM PIPING INSULATION THICKNESS" FOR "COOLING SYSTEMS (CHILLED WATER, BRINE, AND REFRIGERANT)"
c. FROM IECC, SECTION C404 "SERVICE WATER HEATING (MANDATORY)" PARAGRAPH C404.4 "INSULATION OF PIPING."
d. FROM IECC, TABLE C403.2.10 "MINIMUM PIPE INSULATION THICKNESS."

NOTES:
1. PROVIDE WITH VAPOR BARRIER. HANGERS/SUPPORTS SHALL BE INSTALLED OUTSIDE OF INSULATION.
2. THE FOLLOWING DOMESTIC/SERVICE HOT WATER PIPING SHALL BE INSULATED AS INDICATED:
a. RECIRCULATING SYSTEM PIPING, INCL THE SUPPLY AND RETURN PIPING OF A CIRCULATING TANK TYPE WATER HEATER
b. THE FIRST 8 FT. OF OUTLET PIPING FOR A CONSTANT TEMPERATURE NONRECIRCULATING STORAGE SYSTEM.
c. THE INLET PIPE BETWEEN THE STORAGE TANK AND A HEAT TRAP IN A NONRECIRCULATING STORAGE SYSTEM.
d. PIPES THAT ARE EXTERNALLY HEATED (SUCH AS HEAT TRACE OR IMPEDANCE HEATING).
3. PIPING INSULATION IS NOT REQUIRED BETWEEN THE CONTROL VALVE AND COIL ON RUN-OUTS WHEN THE CONTROL VALVE IS LOCATED WITHIN 4 FT. OF THE COIL AND THE PIPE SIZE IS 1" OR LESS.
4. INSTALL (2) LAYERS OF 1" CLOSED CELL INSULATION ADHERED TO THE UNDERSIDE OF ROOF SUMPS.

GENERAL ABBREVIATIONS

ATC	ARCHITECTURAL TRADES CONTRACTOR
AFF	ABOVE FINISHED FLOOR
BFS	BELOW FLOOR SLAB
BTU	BRITISH THERMAL UNIT
ETC	ELECTRICAL TRADES CONTRACTOR
FT.PD	FEET OF PRESSURE DROP (FEET OF WATER COLUMN)
G	GAS (NATURAL)
G (2-PSI)	NATURAL GAS (2-PSI)
G (5-PSI)	NATURAL GAS (5-PSI)
GPM	GALLONS PER MINUTE
HP	HORSE POWER
HVAC	HEATING/VENTILATION/AIR CONDITIONING
MTC	MECHANICAL TRADES CONTRACTOR
MBH	BTU PER HOUR (THOUSAND)
PSI	POUNDS PER SQUARE INCH
TYP	TYPICAL
X-	EXISTING

NOTE:
ALL ABBREVIATIONS AND SYMBOLS SHOWN ON THIS SHEET MAY NOT BE USED ON THIS PROJECT.

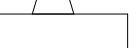
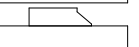
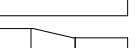
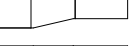
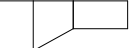
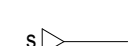
PLUMBING ABBREVIATIONS

CA	COMPRESSED AIR
CD	CONDENSATE DRAIN
CO	CLEAN OUT
COTG	CLEAN OUT TO GRADE
CW	COLD WATER
DF	DRINKING FOUNTAIN
DIA/Ø	DIAMETER
DWH	DOMESTIC WATER HEATER
EWC	ELECTRIC WATER COOLER
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
HB	HOSE BIBB
HWR	HOT WATER RETURN
HW	HOT WATER
INV OR I.E.	INVERT ELEVATION
LAV	LAVATORY
MS	MOP SINK
ORC	OVER-FLOW RAIN CONDUCTOR
ORD	OVER-FLOW ROOF DRAIN
PVC	POLYVINYL CHLORIDE
RC	RAIN CONDUCTOR
RD	ROOF DRAIN
SAN	SANITARY
SH	SHOWER
SK	SINK
SS	SOIL STACK
ST	STORM
UR	URINAL
VAC	VACUUM
VB	VACUUM BREAKER
V	VENT
VS	VENT STACK
VTR	VENT THRU ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WS	WASTE STACK

HVAC ABBREVIATIONS

AC	AIR CONDITIONING(ER)
AHU	AIR HANDLING UNIT
AMB	AMBIENT
BDD	BACKDRAFT DAMPER
B.O.D.	BOTTOM OF DUCT
B.P.W.P	BREAK POINT OF WATER PENETRATION
CA	COMBUSTION AIR
CONV	CONVECTOR
CFM	CUBIC FEET PER MINUTE
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
CU	CONDENSING UNIT
DB	DRY BULB TEMPERATURE
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EBB	ELECTRIC BASEBOARD
EC	ELECTRONICALLY COMMUTATED (MOTOR)
ECUH	ELECTRIC CABINET UNIT HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EUH	ELECTRIC UNIT HEATER
EXH	EXHAUST
F	FURNACE
F/SD	COMBINATION FIRE/SMOKE DAMPER
HR	HEATING HOT WATER RETURN
HS	HEATING HOT WATER SUPPLY
LAT	LEAVING AIR TEMPERATURE
MAX	MAXIMUM
MTC	MECHANICAL TRADES CONTRACTOR
MBH	BTU PER HOUR (THOUSAND)
MFR	MANUFACTURER
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
P	PUMP
PRV	PRESSURE REDUCING VALVE
RA	RETURN AIR
RG	RETURN GRILLE
RL	REFRIGERANT LIQUID
RP	RADIANT PANEL
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SD	SUPPLY DIFFUSER
SG	SUPPLY GRILLE
SP	STATIC PRESSURE
TG	TRANSFER GRILLE
TXV	THERMAL EXPANSION VALVE
UH	UNIT HEATER
VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB TEMPERATURE
<u>SD-1</u> 200 TYP 2	TAG (DIFFUSERS AND GRILLES) AIR FLOW (CFM) COMMENTS

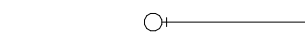
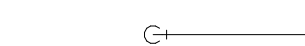
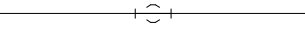
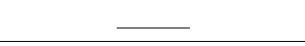
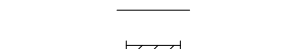
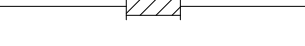
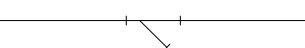
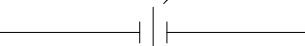
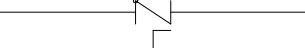
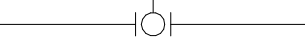
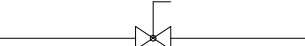
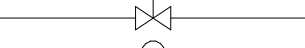
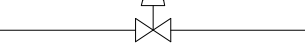
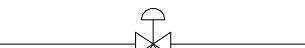
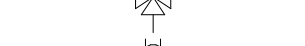
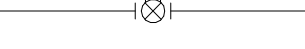
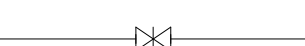
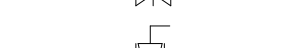
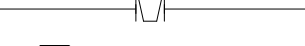
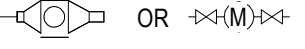
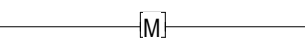
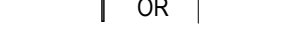
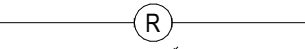
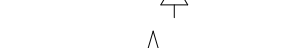
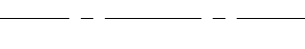
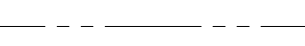
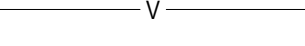
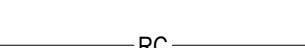
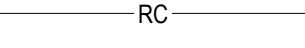
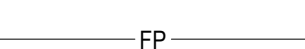
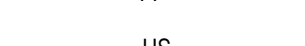
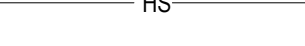
SHEET METAL SYMBOLS

	SUPPLY AIR DUCT
	RETURN AIR DUCT
	EXHAUST AIR DUCT
	BALANCE DAMPER
	CONICAL TEE
	90° TEE WITH 45° APPROACH
	TRANSITION CONCENTRIC
	TRANSITION ECCENTRIC
	VERTICAL FIRE DAMPER
	HORIZONTAL FIRE DAMPER
	VERTICAL COMBINATION FIRE SMOKE DAMPER
	HORIZONTAL COMBINATION FIRE SMOKE DAMPER
	VERTICAL SMOKE DAMPER
	HORIZONTAL SMOKE DAMPER
	MOTORIZED DAMPER
	AIR FLOW DIRECTION

GENERAL SYMBOLS

	KEY NOTE
	CONNECTION POINT, NEW TO EXISTING
	DEMOLITION END POINT

PLUMBING & PIPING SYMBOLS

	PIPE TURNED UP
	PIPE TURNED DOWN
	PIPE OUT OF TOP
	PIPE OUT OF BOTTOM
	PIPE ANCHOR
	PIPE ALIGNMENT GUIDE
	PIPE EXPANSION JOINT
	STRAINER
	UNION
	SHUT-OFF VALVE
	CHECK VALVE
	BALL VALVE
	GLOBE VALVE
	MOTOR OPERATED VALVE
	SOLENOID OPERATED VALVE
	2-WAY TEMPERATURE CONTROL VALVE
	3-WAY TEMPERATURE CONTROL VALVE
	CIRCUIT BALANCE VALVE
	FLOW DIRECTION
	GATE VALVE
	GAS COCK
	WATER METER
	GAS METER
	STRAINER
	HOSE BIBB/WALL HYDRANT
	GAS REGULATOR
	RELIEF VALVE
	SHOWER HEAD
	COLD WATER
	HOT WATER
	HOT WATER RETURN
	VENT PIPE
	SANITARY
	SANITARY BELOW FLOOR SLAB
	RAIN CONDUCTOR
	RAIN CONDUCTOR BELOW FLOOR SLAB
	OVERFLOW RAIN CONDUCTOR
	FIRE PROTECTION
	HEATING HOT WATER SUPPLY
	HEATING HOT WATER RETURN
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	REFRIGERANT LIQUID
	REFRIGERANT SUCTION
	CONDENSATE DRAIN
	COMPRESSED AIR
	GAS PIPE - LOW PRESSURE
	GAS - HIGH PRESSURE
	GAS - MEDIUM PRESSURE
	GAS METER

CONTROL SYMBOLS

	THERMOSTAT
	TEMPERATURE SENSOR
	CARBON MONOXIDE / NITROGEN DIOXIDE SENSOR

GENERAL PLUMBING NOTES

- A. PIPING LAYOUT IS SCHEMATIC. EXACT LOCATION OF PIPING AND EQUIPMENT SHALL BE COORDINATED WITH BUILDING STRUCTURE, EQUIPMENT FURNISHED, ARCHITECTURAL DRAWINGS AND ALL OTHER TRADES PRIOR TO INSTALLATION. ANY CONTRACTOR INSTALLING WORK WITHOUT PRIOR COORDINATION SHALL RELOCATE HIS WORK AT HIS EXPENSE TO ALLOW PROPER INSTALLATION OF ANY AND ALL TRADES' WORK.
- B. ALL WORK SHALL COMPLY WITH THE MICHIGAN PLUMBING CODE AND ALL APPLICABLE LOCAL CODES.
- C. ALL INVERTS, STATED OR NOT, NEW OR EXISTING, SHALL BE COORDINATED IN THE FIELD, VERIFY EXISTING INVERTS PRIOR TO STARTING WORK.
- D. UNLESS OTHERWISE NOTED, ALL PIPING SHALL BE CONCEALED WHEREVER POSSIBLE. PROVIDE CHROME ESCUTCHEON AT EACH PENETRATION OF A FINISHED SURFACE.
- E. PLUMBING UTILITY PIPING SHALL NOT BE RUN ABOVE ELECTRICAL GEAR OR IN THE SERVICE SPACE REQUIRED BY THE NATIONAL ELECTRICAL CODE.
- F. PROVIDE SHOCK ABSORBER IN THE DOMESTIC COLD AND HOT WATER PIPING. SHOCK ABSORBERS TO BE LOCATED IN AN ACCESSIBLE LOCATION.
- G. ALL WALL AND SLAB PENETRATIONS OF MASONRY OR CONCRETE CONSTRUCTION SHALL BE SLEEVED.
- H. PROVIDE ISOLATION SEPARATORS FOR COPPER PIPING RUNNING THROUGH METAL STUDS.
- I. ALL FLOOR DRAINS ARE TO HAVE AN APPROVED TRAP SEAL DEVICE.
- J. ALL FIXTURES SHALL HAVE SHUTOFF STOP VALVES IN AN ACCESSIBLE LOCATION. PIPING BEYOND THE STOP VALVES AND EXPOSED IN OCCUPIED SPACES SHALL BE CHROME-PLATED. ANY NOTED SHUTOFF VALVES ARE IN ADDITION TO THIS REQUIREMENT.
- K. PROVIDE FIRE STOPPING AT ALL PENETRATIONS OF FIRE RATED ENCLOSURES.

GENERAL HVAC NOTES

- A. PERFORM WORK IN ACCORDANCE WITH THE LATEST EDITIONS, REVISIONS, AMENDMENTS, OR SUPPLEMENTS OF APPLICABLE STATUTES, ORDINANCES, CODES OR REGULATIONS OF FEDERAL, STATE, AND LOCAL AUTHORITIES HAVING JURISDICTION IN EFFECT ON THE DATE BIDS ARE RECEIVED.
- B. WHERE APPROVED STANDARDS HAVE BEEN ESTABLISHED BY OSHA, UNDERWRITERS LABORATORIES, AMERICAN CODES, ASA, ASHRAE, ARI, NEC, STATE FIRE INSURANCE REGULATION BODY, NFPA OR OTHERS, THESE STANDARDS SHALL BE FOLLOWED WHETHER OR NOT INDICATED ON THE DRAWING AND SPECIFICATIONS.
- C. ALL WORK SHALL COMPLY WITH THE MICHIGAN MECHANICAL CODE AND ALL APPLICABLE LOCAL CODES.
- D. ALL DUCT TO BE OF 1" PRESSURE CLASS, UNLESS NOTED OTHERWISE.
- E. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT LOCATION OF ROOF TOP EQUIPMENT.
- F. DUCTWORK SHALL BE ACOUSTICALLY LINED WITHIN 20 FT OF THE INTAKE AND/OR DISCHARGE OF A FAN.
- G. INSTALL VOLUME DAMPERS IN ALL BRANCH DUCTS SERVING A SINGLE GRILLE, REGISTER, OR DIFFUSER.
- H. INSTALL FLEXIBLE DUCT CONNECTIONS AT THE INLET AND DISCHARGE OF ALL FANS.
- I. MAXIMUM LENGTH OF FLEXIBLE DUCT TO AIR TERMINAL DEVICES SHALL NOT EXCEED 5'-0" IN LENGTH WITH A MAXIMUM OF ONE 90° TURN AND SHALL BE INSULATED. ELBOWS SHALL BE MIN. 1.5 RADIUS. CONNECTIONS TO TERMINAL DEVICES SHALL BE BANNED AND TAPED.
- J. UNDERGROUND GAS SERVICE BY UTILITY COMPANY. REFER TO CIVIL DRAWINGS. COORDINATE SERVICE, METER, ETC. LOCATIONS WITH UTILITY COMPANY.
- K. DUCT/PIPING LAYOUT IS SCHEMATIC. EXACT LOCATION OF DUCT/PIPING AND EQUIPMENT SHALL BE COORDINATED WITH BUILDING STRUCTURE, EQUIPMENT FURNISHED, ARCHITECTURAL DRAWINGS AND ALL OTHER TRADES PRIOR TO INSTALLATION. ANY CONTRACTOR INSTALLING WORK WITHOUT PRIOR COORDINATION SHALL RELOCATE HIS WORK AT HIS EXPENSE TO ALLOW PROPER INSTALLATION OF ANY AND ALL TRADES' WORK.
- L. UNLESS OTHERWISE NOTED, ALL DUCT/PIPING SHALL BE CONCEALED WHEREVER POSSIBLE. PROVIDE CHROME ESCUTCHEON OR ALUMINUM DUCT COLLAR AT EACH PENETRATION OF A FINISHED SURFACE.
- M. DUCT/PIPING SHALL NOT BE RUN ABOVE ELECTRICAL GEAR OR IN THE SERVICE SPACE REQUIRED BY THE NATIONAL ELECTRICAL CODE.
- N. DUCT SIZES SHOWN ARE NET INSIDE CLEAR DIMENSIONS.
- O. ANY ADDITIONAL LOW VOLTAGE CONTROL WIRING THAT IS REQUIRED SHALL BE PROVIDED BY THE HVAC CONTRACTOR. CONTROL WIRING SHALL BE RUN IN CONDUIT IF REQUIRED BY LOCAL CODES. FIELD VERIFY PRIOR TO BID. POWER WIRING SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- P. PROVIDE TRAP FOR CONDENSATION DRAIN LINES.
- Q. PROVIDE VIBRATION ISOLATION AT EACH CONNECTION TO A MOTORIZED PIECE OF EQUIPMENT BY THE HVAC CONTRACTOR.
- R. MOUNT THERMOSTAT/SENSORS AT 48" AFF UNLESS NOTED OTHERWISE.
- S. THE HVAC CONTRACTOR SHALL CLOSELY COORDINATE AIR DEVICE AND DUCTWORK LOCATIONS WITH REFLECTED CEILING AND STRUCTURAL PLANS.
- T. COORDINATE SENSOR AND THERMOSTAT LOCATION WITH ARCHITECT.

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DATE				
REVISION				
NO.				

PROJECT TITLE
Bid Package No. 9
**Renovations to:
Camp Monroe**
ST. LOUIS, MICHIGAN

SHEET TITLE
HVAC COVER SHEET

PROJECT NUMBER
2021003.97

PROJECT DATE
SEPT. 2025

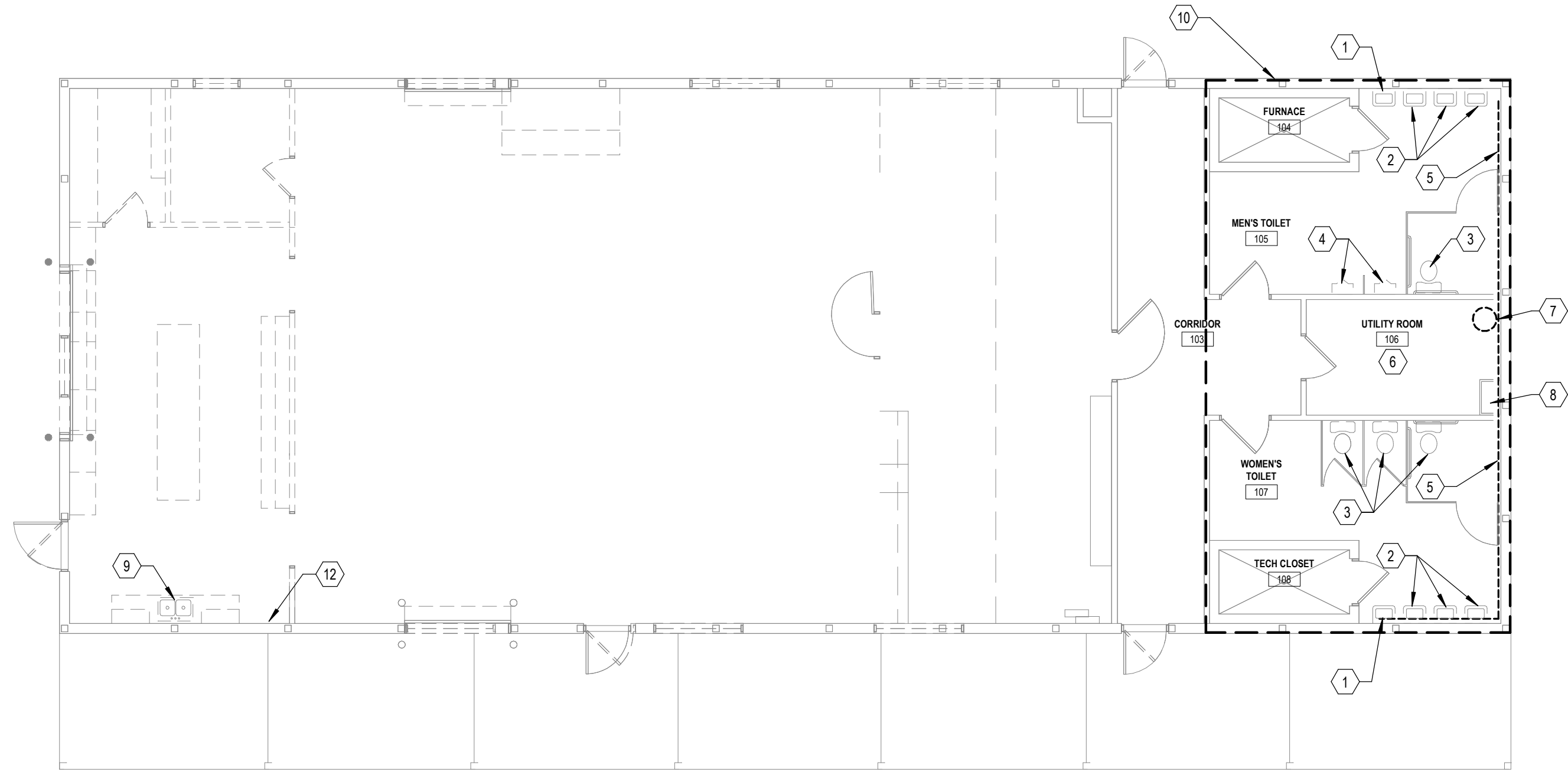
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SHEET NUMBER

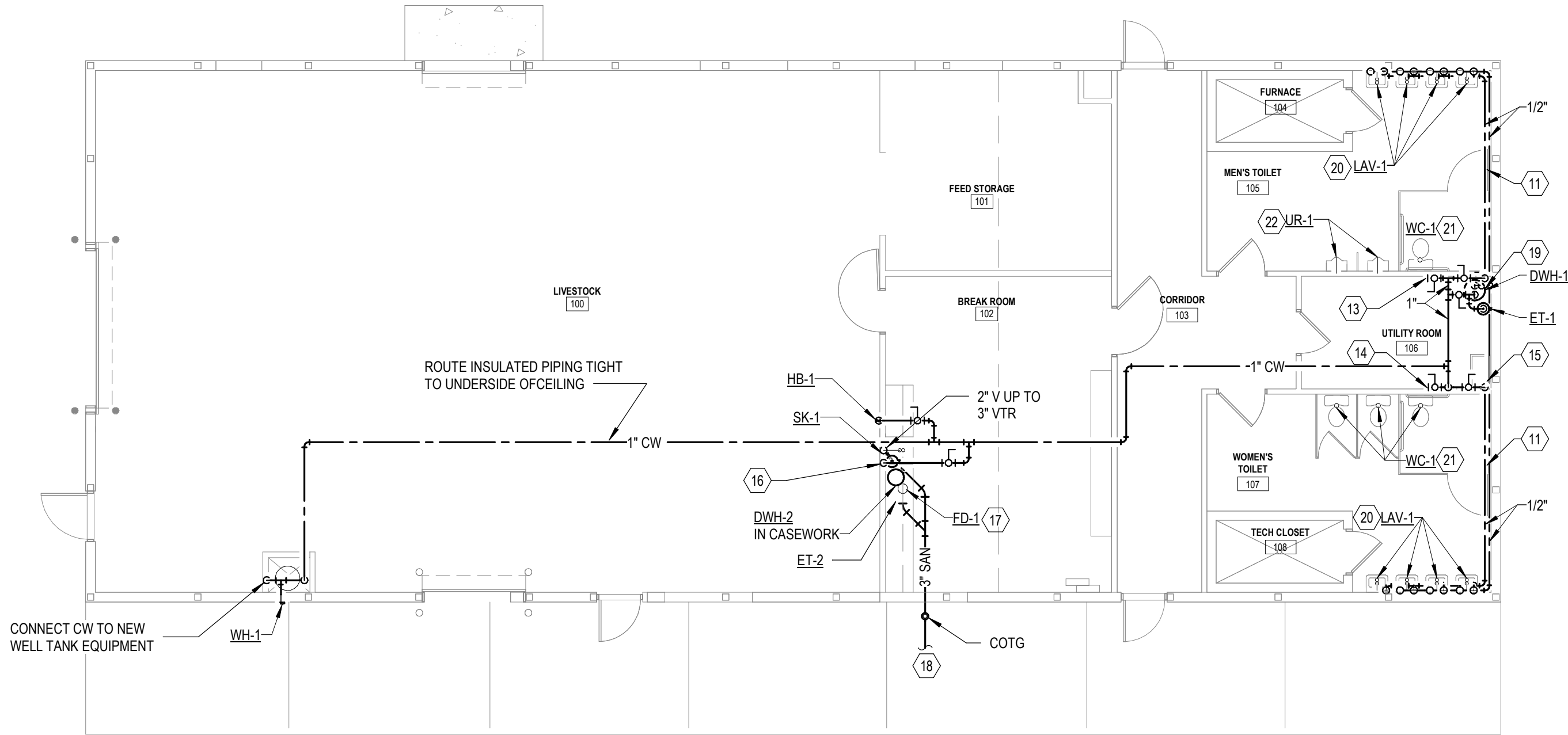


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M0.1



DEMOLITION FLOOR PLAN - PLUMBING ABOVE FLOOR
SCALE: 1/8" = 1'-0"



FLOOR PLAN - PLUMBING ABOVE FLOOR
SCALE: 1/8" = 1'-0"

- # KEYNOTES:
- 1 REMOVE EXISTING LAV. CAP CW & HW NEAR BRANCH TEES. CAP SAN IN WALL.
 - 2 DISCONNECT, DEMOLISH, AND REMOVE EXISTING LAV. PREPARE EXISTING SANITARY AND VENT FOR NEW CONNECTIONS. INTERIOR WALL FINISH TO BE REMOVED AND REPLACED BY OTHER TRADES. REPLACE FAUCET AND TRIM. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
 - 3 DISCONNECT, DEMOLISH, AND REMOVE EXISTING WATER CLOSET. PREPARE EXISTING SANITARY AND DOMESTIC COLD WATER FOR NEW CONNECTION.
 - 4 DISCONNECT, DEMOLISH, AND REMOVE EXISTING URINAL. PREPARE EXISTING SANITARY AND DOMESTIC COLD WATER FOR NEW CONNECTION.
 - 5 REMOVE & REPLACE EXISTING CW & HW PIPING ALONG WALL FROM UTILITY ROOM TO LAVS.
 - 6 REMOVE EXISTING CW PIPING IN CORRIDOR AND UTILITY ROOM. BRANCH PIPING ALONG NORTH AND SOUTH WALLS SUPPLYING WATER CLOSETS AND URINALS TO REMAIN.
 - 7 REMOVE EXISTING DOMESTIC WATER HEATER. REMOVE ALL EXISTING HW PIPING IN UTILITY ROOM, MEN'S TOILET, AND WOMEN'S TOILET.
 - 8 EXISTING MOP SINK AND FAUCET TO REMAIN.
 - 9 DEMO EXISTING SINK AND ALL RELATED PLUMBING SERVICES. DEMO SANITARY BACK TO BELOW FLOOR AND CAP AND ABANDON. DEMO ALL DOMESTIC COLD WATER BACK TO NEAREST ISOLATION VALVE AND CAP AT THE MAIN. DEMO DOMESTIC HOT WATER BACK TO SOURCE.
 - 10 EXTEND EXISTING VENT THROUGH THE ROOF SERVING THE EXISTING RESTROOMS UP THROUGH NEW ROOF. CONTRACTOR TO COORDINATE ACTIVITIES IN THE FIELD AND FIELD VERIFY EXACT LOCATION, SIZE, AND FINAL ELEVATION OF VENT THROUGH ROOF TERMINATION.
 - 11 INSTALL NEW CW & HW PIPING FROM UTILITY ROOM TO LAVS LOW ALONG WALL.
 - 12 EXISTING WELL SYSTEM TO REMAIN FOR DOMESTIC WATER SERVICE. CONTRACTOR TO COORDINATE TESTING AND RE-CERTIFICATION OF THE WELL (ALL SERVICES REQUIRED TO BE INCLUDED IN THE BASE BID).
 - 13 CONNECT NEW CW PIPING TO EXISTING CW BRANCH FOR WATER CLOSET & URINALS.
 - 14 CONNECT NEW CW PIPING TO EXISTING CW BRANCH FOR WATER CLOSETS.
 - 15 CONNECT EXISTING MOP SINK FAUCET TO NEW CW & HW PIPING.
 - 16 EXTEND 3/4" COLD WATER DOWN TO BASE CABINET AND CONNECT TO SINK COLD WATER FEED AND COLD WATER INLET OF DOMESTIC WATER HEATER. EXTEND HOT WATER OUTLET FROM DOMESTIC WATER HEATER TO SINK FOR FINAL CONNECTIONS. PROVIDE EXPANSION TANK "ET-2" ON COLD WATER INLET TO DOMESTIC WATER HEATER. SEE SCHEDULES FOR DETAILS AND COORDINATE TANK LOCATIONS BELOW CASEWORK WITH OTHER TRADES.
 - 17 PROVIDE FLOOR DRAIN IN READILY ACCESSIBLE LOCATION BELOW BASE CABINET FOR WATER HEATER PRESSURE RELIEF DRAIN. COORDINATE WITH CASEWORK VENDOR AND FIELD CONDITIONS FOR EXACT LOCATION OF FLOOR DRAIN.
 - 18 EXTEND NEW 3" SANITARY AND WYE CONNECT INTO EXISTING SEPTIC DRAINAGE MAIN BEHIND BUILDING. CONFIRM EXACT LOCATION, DEPTH, AND SIZE OF EXISTING DRAINAGE PIPING PRIOR TO MAKING TIE-IN. FINAL CONNECTION POINT SHALL BE DETERMINED IN THE FIELD.
 - 19 INSTALL DWH-1 ON A CONCRETE HOUSEKEEPING PAD.
 - 20 MODIFY VENT AND SANITARY AS NEEDED TO INSTALL NEW LAVS.
 - 21 MODIFY SANITARY AND DOMESTIC COLD WATER AS NEEDED TO INSTALL NEW WATER CLOSETS.
 - 22 MODIFY SANITARY AND DOMESTIC COLD WATER AS NEEDED TO INSTALL NEW URINALS.

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NO.	REVISION	DATE

PROJECT TITLE
Bid Package No. 9
**Renovations to:
Camp Monroe**
ST. LOUIS, MICHIGAN

SHEET TITLE
PLUMBING PLANS

PROJECT NUMBER
2021003.97

PROJECT DATE
SEPT. 2025

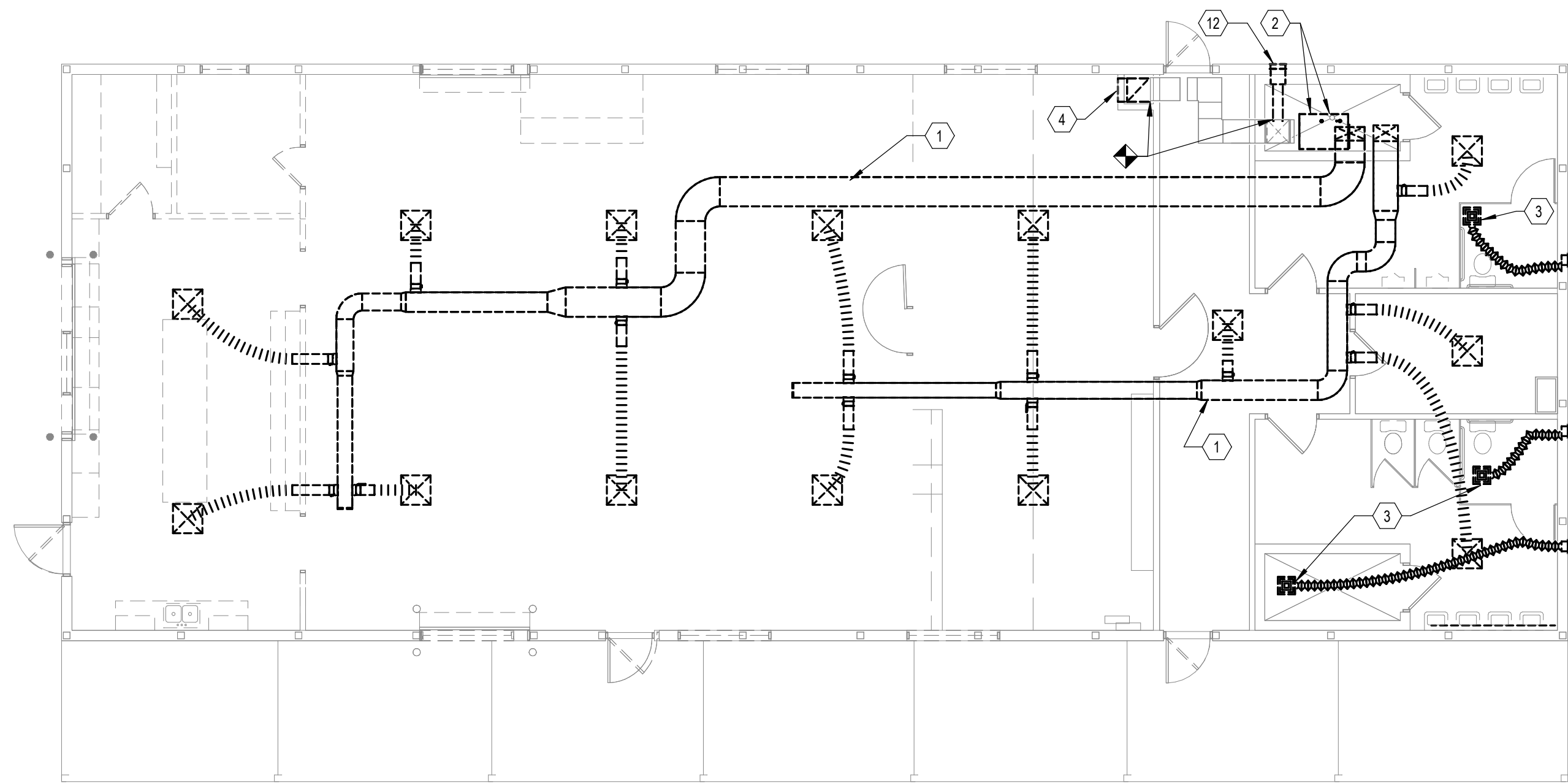
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SHEET NUMBER

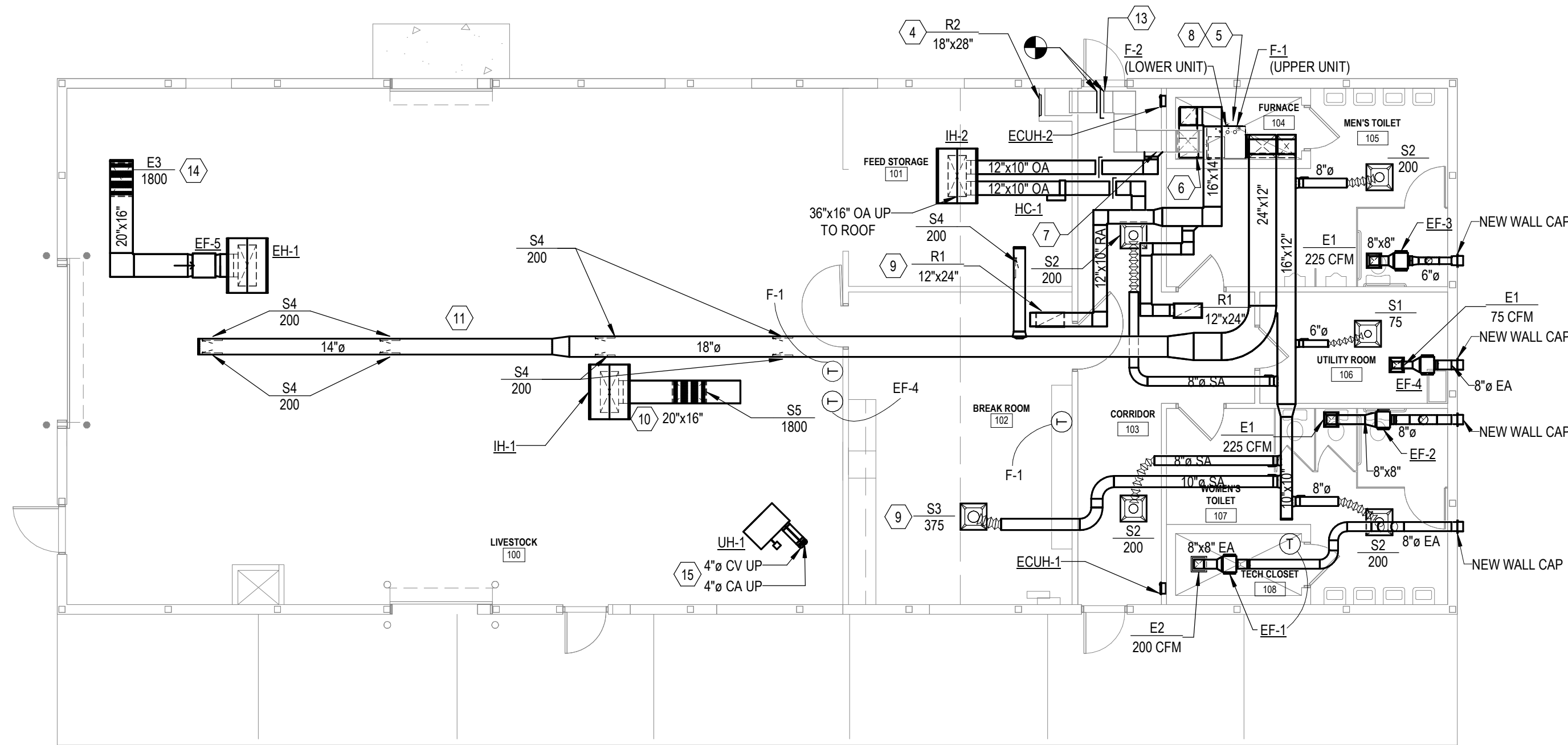
M1.1

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DEMOLITION PLAN - HVAC
SCALE: 1/8" = 1'-0"



FLOOR PLAN - HVAC
SCALE: 1/8" = 1'-0"

- # KEYNOTES:
- 1 REMOVE EXISTING DUCTWORK, FLEX DUCT, DIFFUSERS COMPLETELY.
 - 2 REMOVE EXISTING FURNACES (STACKED HORIZONTAL), VENTING, AND DUCTWORK. REMOVE GAS PIPING FROM FURNACES TO ROOM ENTRANCE TO ALLOW CONNECTING NEW FURNACES.
 - 3 REMOVE AND REPLACE X-EF AND DUCTWORK.
 - 4 REVISE DUCTWORK AS REQUIRED TO INSTALL NEW GRILLE.
 - 5 ROUTE VENTING FOR NEW FURNACES THROUGH EXISTING VENT OPENINGS FROM REMOVED FURNACES. USE CONCENTRIC VENT KITS FOR COMBUSTION AIR AND FLUES.
 - 6 CONNECT F-1 TO EXISTING RETURN AND OUTSIDE AIR DUCTWORK.
 - 7 CLEAN EXISTING RETURN DUCTWORK AND GRILLE.
 - 8 EXTEND LP GAS PIPING FROM EXISTING PIPE AT EXTERIOR WALL TO NEW FURNACES. ROUTE PIPING OVERHEAD TO PROVIDE SERVICE CLEARANCE. COMMON PIPING TO FURNACES SHALL BE 3/4" BRANCH PIPE TO EACH FURNACE SHALL BE 1/2". PROVIDE SHUT-OFF VALVE, UNION, AND DIRT LEG FOR EACH BRANCH.
 - 9 CONFIRM AND COORDINATE EXACT LOCATION OF CEILING GRILLE OR DIFFUSER WITH LIGHTING AND CEILING PLANS.
 - 10 MOUNT INTAKE HOOD ON ROOF AND COORDINATE DUCT POSITION WITH RAFTERS. ENSURE GRILLE IS INSTALLED TO SERVE THE LIVESTOCK AREA. MAINTAIN 10' CLEARANCE FROM THE EDGE OF THE ROOF. ROUTE HORIZONTAL DUCT BELOW AND TIGHT TO THE CEILING.
 - 11 INSTALL SUPPLY DUCT TIGHT TO THE BOTTOM OF THE RAFTERS.
 - 12 REMOVE EXISTING OUTSIDE AIR DUCT, AND ACCESSORIES. COVER LOUVER AND INSULATE.
 - 13 INSTALL BALANCE DAMPER IN RETURN AIR DUCT AS SHOWN.
 - 14 INSTALL EH-4 ON THE ROOF AND COORDINATE DUCT POSITION WITH RAFTERS. MAINTAIN 10' CLEARANCE FROM THE EDGE OF THE ROOF. ROUTE HORIZONTAL DUCT BELOW BUT TIGHT TO THE CEILING.
 - 15 COMBUSTION VENT AND COMBUSTION AIR TO TERMINATE THROUGH THE ROOF WITH A CONCENTRIC VENT.

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forest trail
design,
architecture w/ a people in mind

NO.	REVISION	DATE

PROJECT TITLE
Bid Package No. 9
Renovations to:
Camp Monroe
ST. LOUIS, MICHIGAN

SHEET TITLE
MECHANICAL PLANS

PROJECT NUMBER
2021003.97

PROJECT DATE
SEPT. 2025

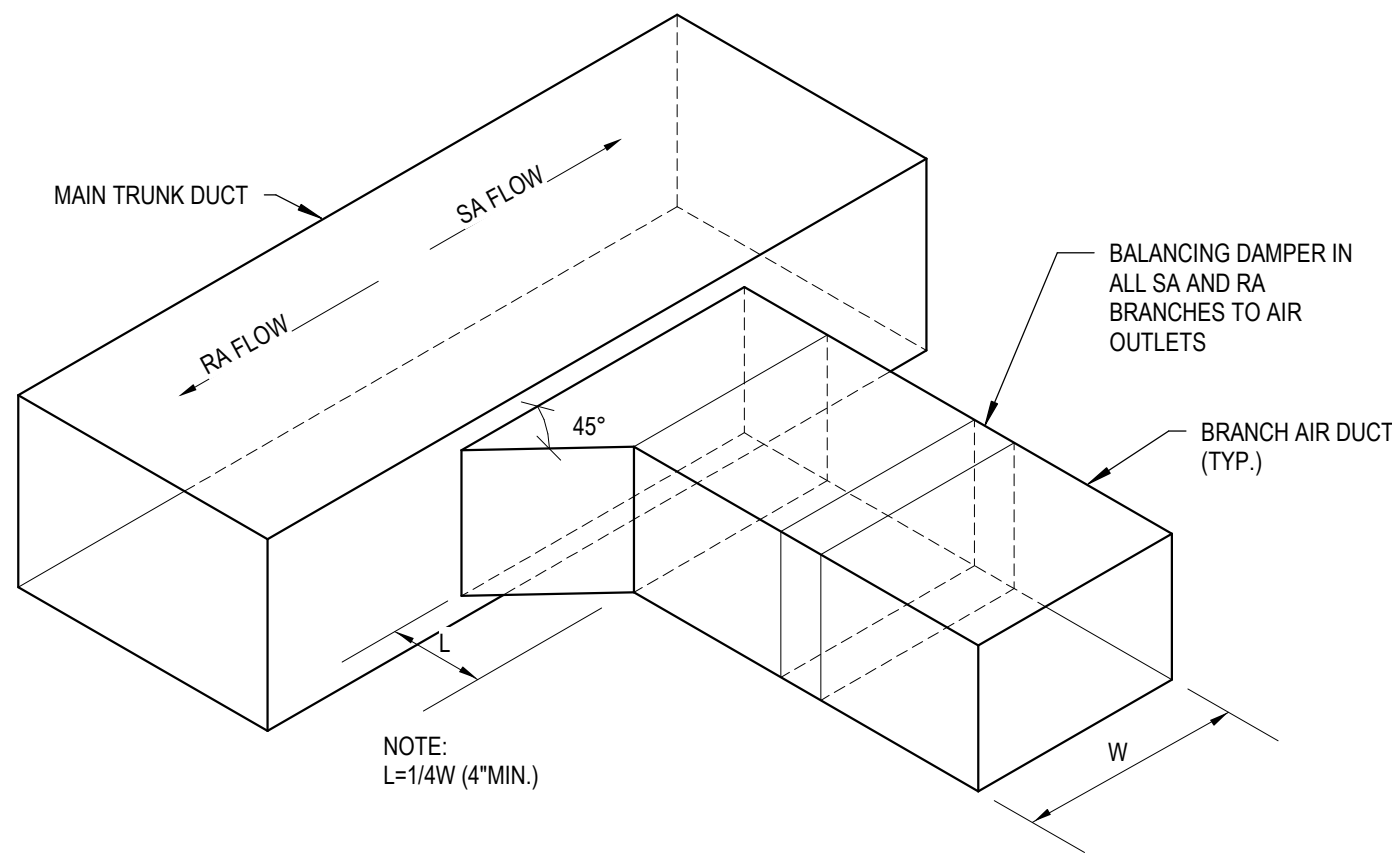
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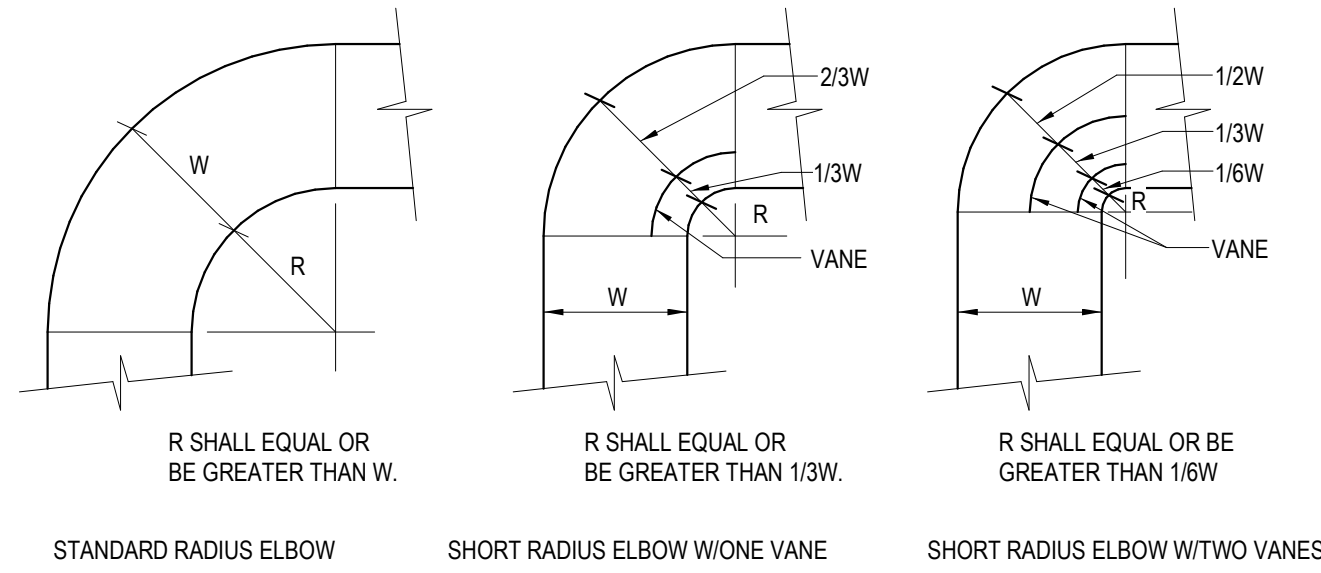
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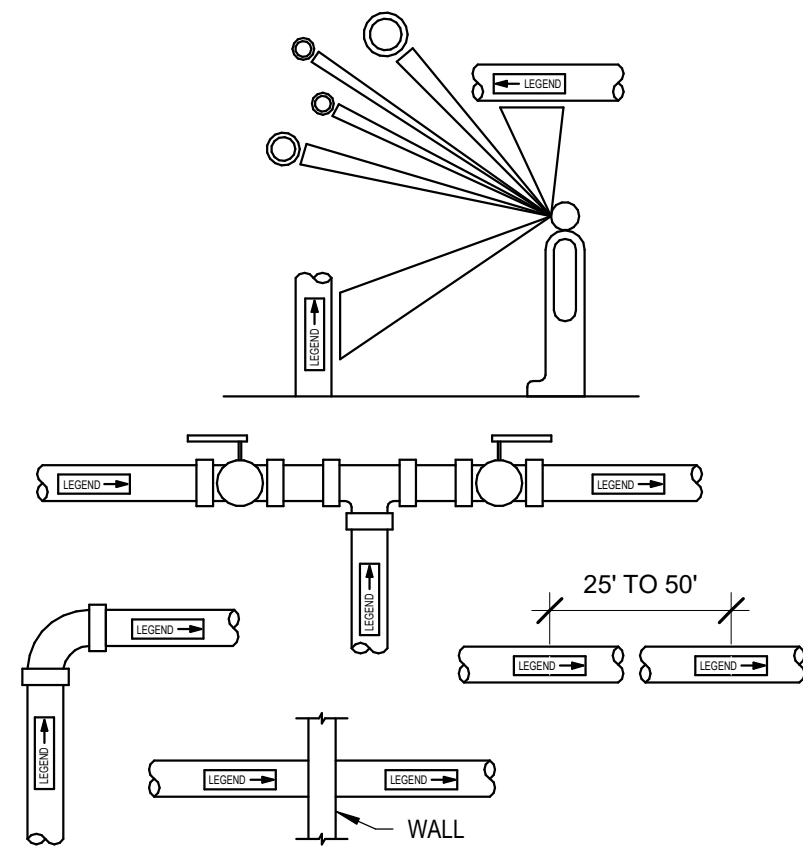


1
M5.1
SA/RA DUCT CONNECTION DETAIL
NOT TO SCALE



- NOTES:
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
 2. ALL STANDARD RADIUS ELBOWS SHOWN ON PLANS MAY BE MADE SHORT RADIUS ELBOWS.
 3. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

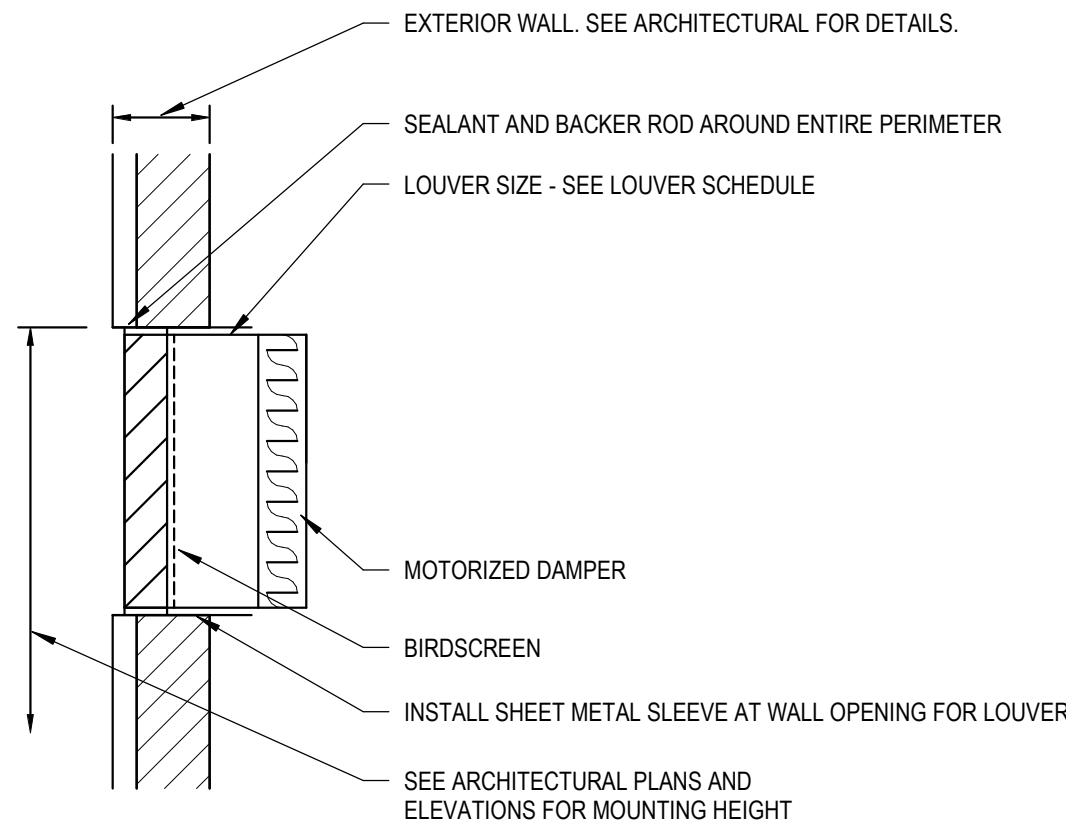
2
M5.1
DUCT FITTING DETAIL - TYPICAL DUCT RADIUS
NOT TO SCALE



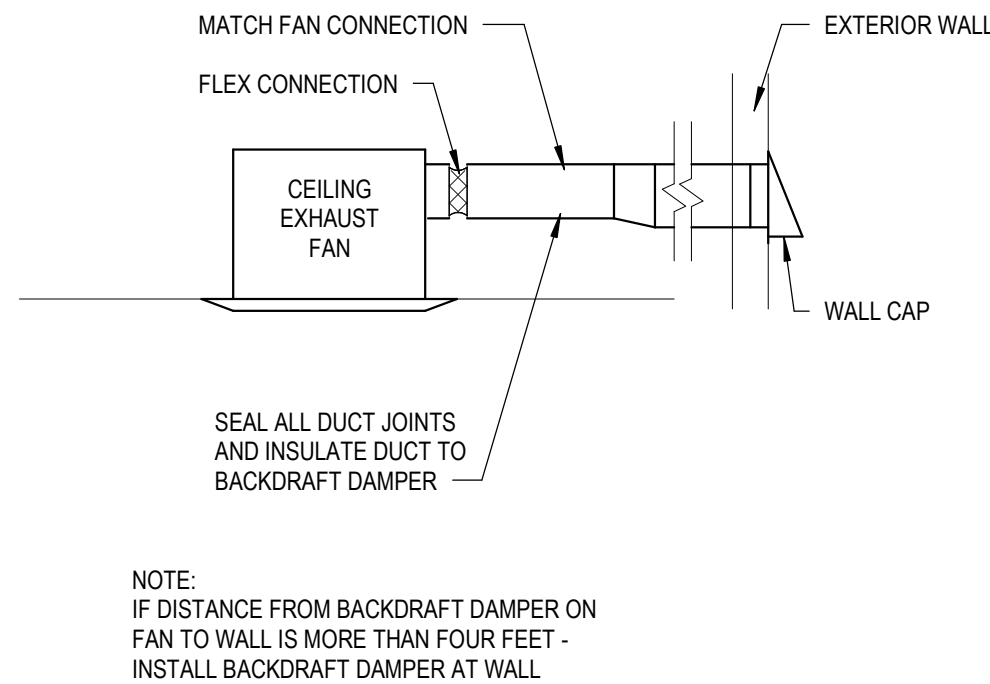
PIPE COVERING O.D. (IN.)	SIZE OF LEGEND LABELS	
	LENGTH OF COLOR FIELD (IN.)	HEIGHT OF LETTERS (IN.)
3/4" TO 1-1/4"	8"	1/2"
1-1/2" TO 2"	8"	3/4"
2-1/2" TO 6"	12"	1-1/4"
8" TO 10"	24"	2-1/2"
OVER 10"	32"	3-1/2"

COLOR OF LEGEND LABELS		
SERVICE	BACKGROUND COLOR	LETTERS
DOMESTIC COLD WATER	SAFETY GREEN	WHITE
DOMESTIC HOT WATER	SAFETY GREEN	WHITE
DOM. HOT WATER RETURN	SAFETY GREEN	WHITE
HEATING WATER SUPPLY	SAFETY GREEN	WHITE
HEATING WATER RETURN	SAFETY GREEN	WHITE
CHILLED WATER SUPPLY	SAFETY GREEN	WHITE
CHILLED WATER RETURN	SAFETY GREEN	WHITE
GEOTHERMAL WATER SUPPLY	SAFETY GREEN	WHITE
GEOTHERMAL WATER RETURN	SAFETY GREEN	WHITE
CONDENSATE DRAIN	SAFETY GREEN	WHITE
SANITARY DRAIN	SAFETY GREEN	WHITE
NATURAL GAS	SAFETY YELLOW	BLACK
STEAM - PSI	SAFETY YELLOW	BLACK
CONDENSATE RETURN	SAFETY YELLOW	BLACK
FIRE PROTECTION	SAFETY RED	WHITE

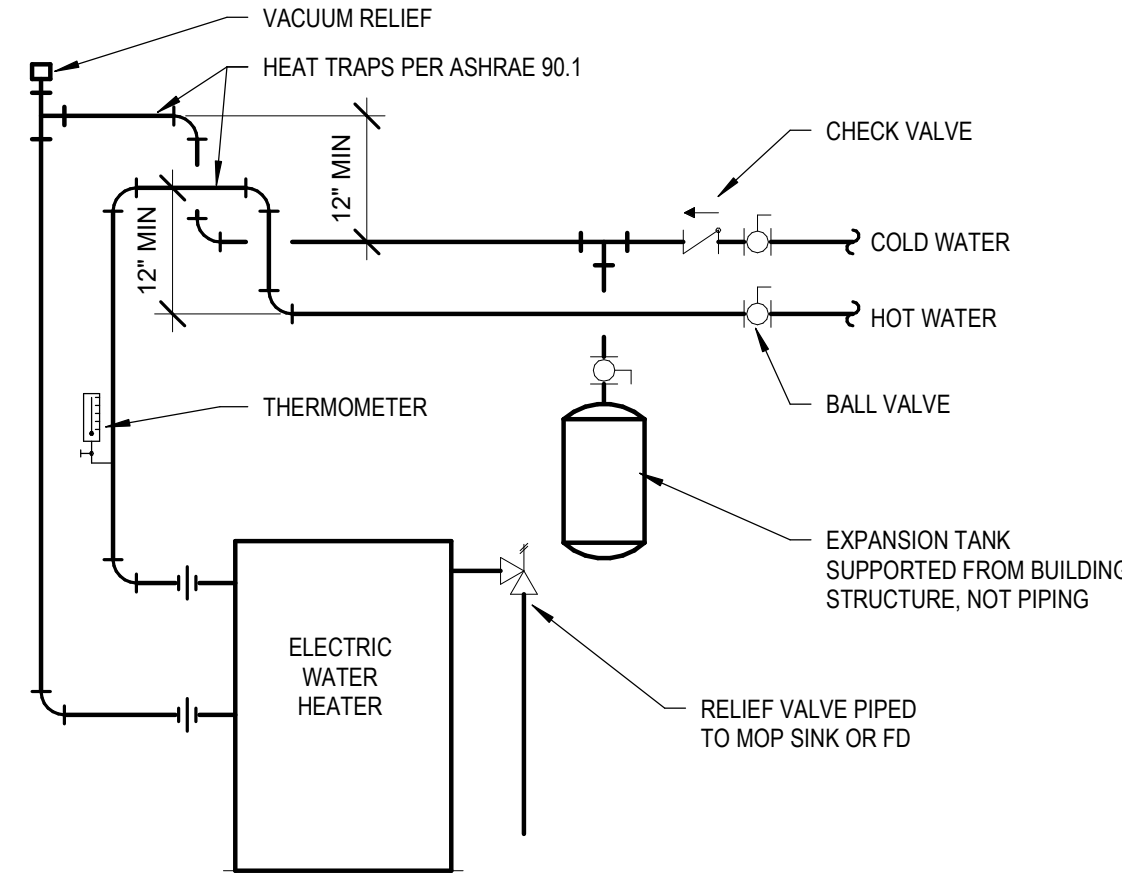
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PIPE MARKING DETAIL
NOT TO SCALE



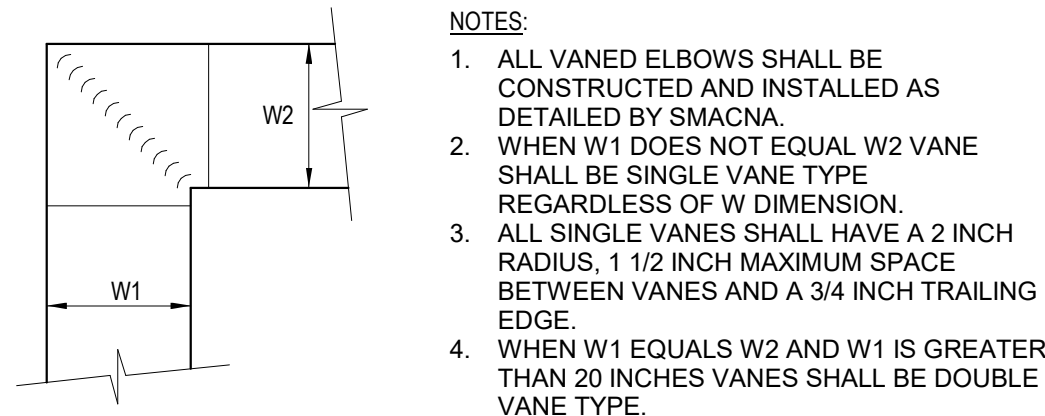
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M5.1
LOUVER DETAIL
NOT TO SCALE



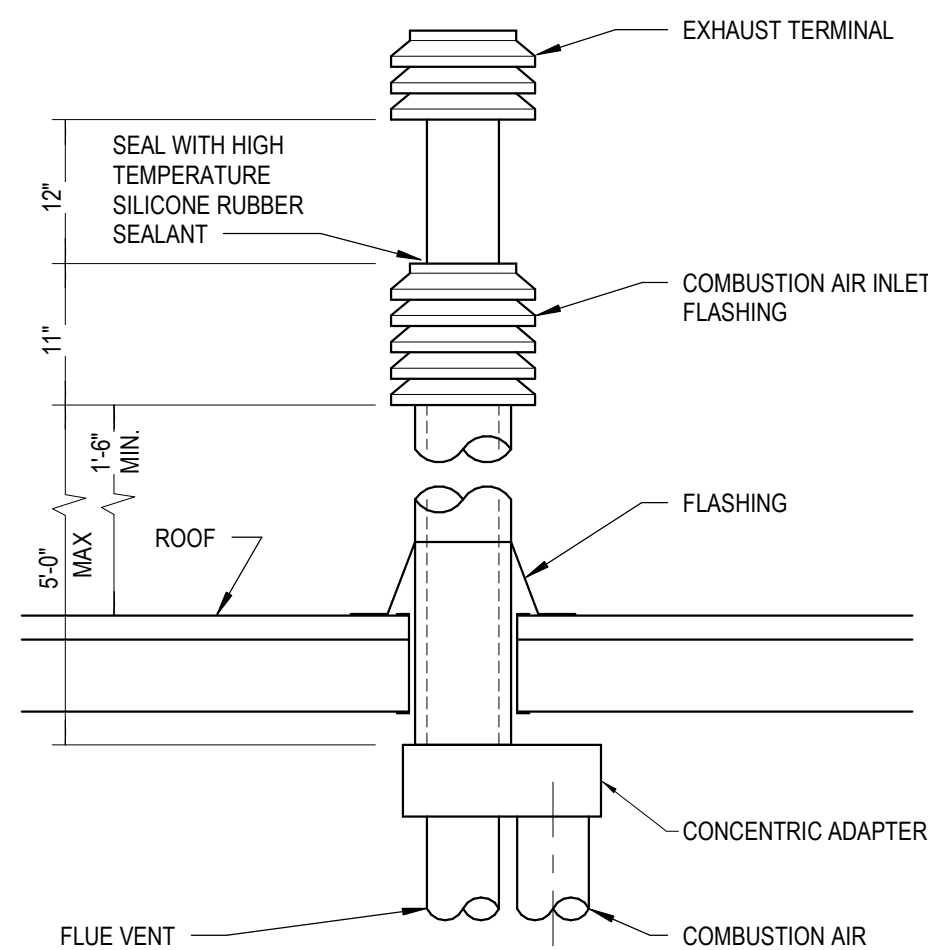
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CEILING EXHAUST FAN DETAIL
NOT TO SCALE



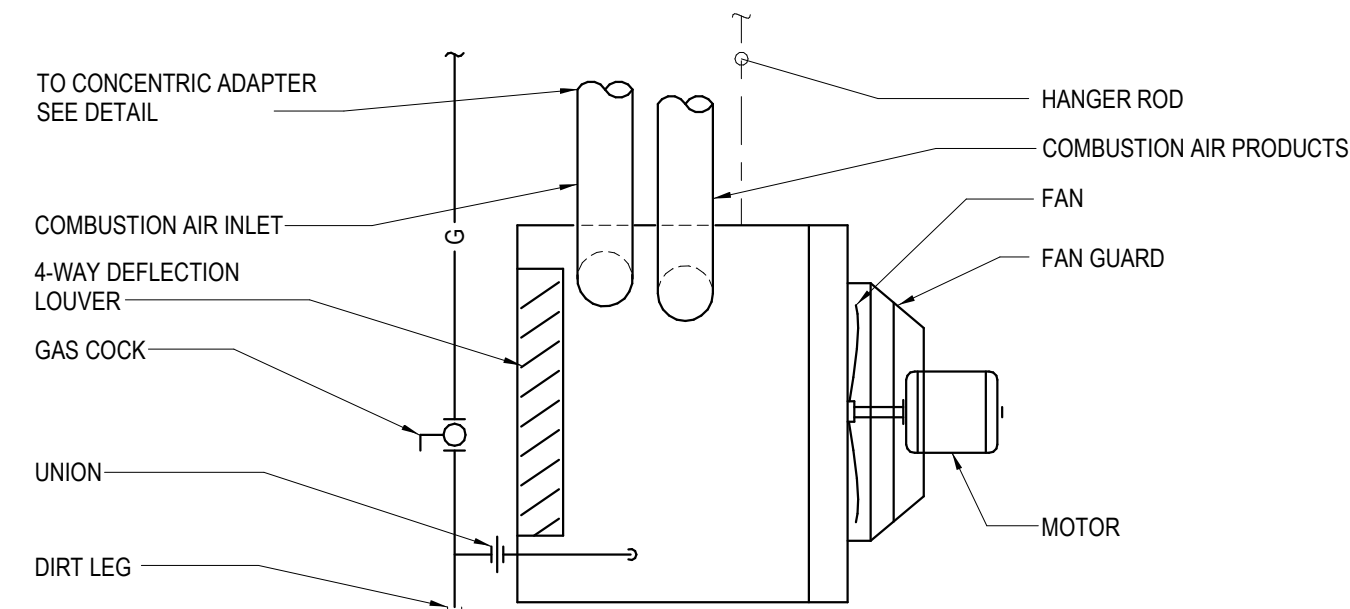
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M5.1
DOMESTIC WATER HEATER PIPING SCHEMATIC
NOT TO SCALE



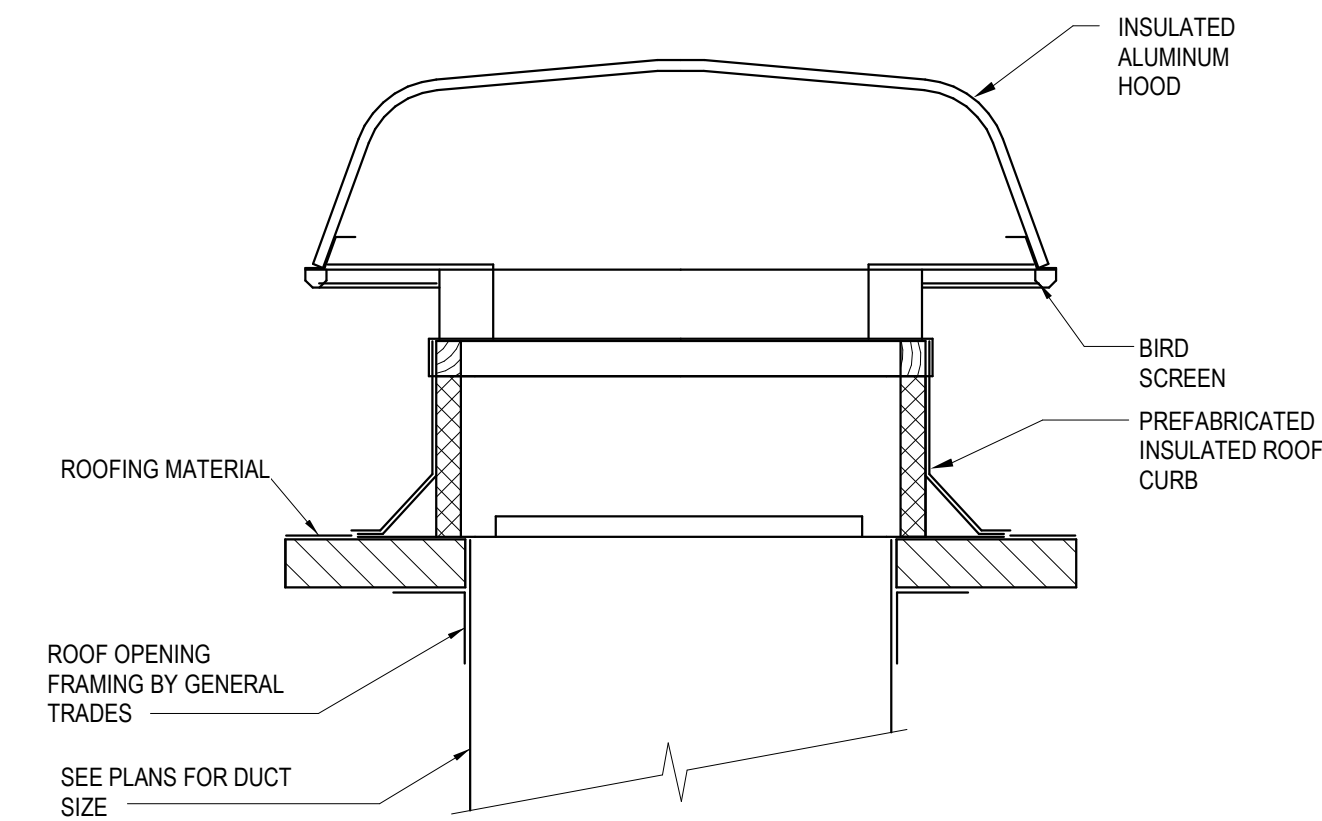
7
M5.1
**SQUARE VANED ELBOWS
DUCT FITTING DETAIL - TYPICAL SQUARE
VANED DUCT**
NOT TO SCALE



8
M5.1
CONCENTRIC UNIT HEATER VENT DETAIL
NOT TO SCALE



9
M5.1
GAS UNIT HEATER DETAIL
NOT TO SCALE



10
M5.1
GRAVITY INTAKE/RELIEF HOOD DETAIL
NOT TO SCALE

PLUMBING FIXTURE AND PIPE CONNECTION SCHEDULE

TAG	BASIS OF DESIGN		DESCRIPTION	FAUCETS, FITTINGS, AND ACCESSORIES			PIPE CONNECTION DATA				ELECTRICAL DATA		COMMENTS
	MANUFACTURER	MODEL OR SERIES		MANUFACTURER	MODEL No.	ACCESSORIES DESCRIPTION	COLD WATER	HOT WATER	VENT	SAN	FLA	VOLTAGE	
FD-1	WATTS	FD-100-A	FLOOR DRAIN - 6" ROUND NICKEL STRAINER	SURESEAL	TRAPSEAL	TRAP SEAL DEVICE INSERT. SIZE TO MATCH FLOOR DRAIN.	-	-	-	3"	-	-	
HB-1	PRIER	P-156	EXPOSED PIPE ANGLE SILL FAUCET TOP AND BOTTOM INLET PIPE CONNECTIONS. POWDER COATED ALUMINUM HANDLE. INCLUDE WITH INLINE VACUUM BREAKER BACKFLOW CHECK VALVE.	-	-	-	3/4"	-	-	-	-	-	
LAV-1	EXISTING		REUSE EXISTING WALL-HUNG BASIN. THOROUGHLY CLEAN FIXTURE PRIOR TO INSTALLATION OF NEW FAUCET AND FITTINGS.	AMERICAN STANDARD	RELIANT 7385.003	FAUCET: SINK FAUCET FOR HOT AND COLD WATER, DECK-MOUNTED WITH 4" FIXED CENTERS, CHROME PLATED. SINGLE CONTROL LAVATORY FITTING SHALL FEATURE AN ALL METAL BODY WITH METAL LEVER HANDLE. SHALL FEATURE A CAST BRASS WATERWAY WITH FLEXIBLE HOSE CONNECTIONS. SHALL ALSO FEATURE A WASHERLESS CERAMIC DISC VALVE CARTRIDGE WITH INTEGRAL HOT LIMIT SAFETY STOP. 1.2 GPM MAX FLOW RATE. ACCEPTABLE: AMERICAN STANDARD OR EQUAL BY CHICAGO FAUCETS, KOHLER, OR ZURN. TEMPERING VALVE: THE POINT OF USE MIXING VALVE SHALL BE A MECHANICAL MIXING VALVE WITH A HIGH TEMPERATURE LIMIT STOP WITH AUTOMATIC RESET. THE MIXING VALVE SHALL HAVE COMPRESSION FITTINGS AND A MEANS TO ADJUST OUTLET TEMPERATURE. VALVE CONSTRUCTION WILL INCLUDE A BRONZE BODY AND INTEGRAL BACK FLOW CHECKS. WATER SUPPLY PRESSURE(STATIC): 125 PSI MAX. FLOW RATE @ 45 PSI: ≥ 1.1 GAL/MINUTE MIN. MINIMUM FLOW RATE: 0.35 GAL/MINUTE. SHUT OFF TEMPERATURE: 118°F ± 3°F. MIN. OPERATING PRESSURE: 5 PSI. INTEGRAL RUBBER DUCK-BILL BACK FLOW CHECKS. AUTOMATICALLY SHUTS DOWN FLOW OF WATER WHEN TEMPERATURE REACHES 120°F. OFFERS CHOICE OF TEMPERATURE SETTINGS FROM FULL COLD THROUGH 115°F. ACCEPTABLE: LAWLER MODEL TMM-1070T.	1/2"	1/2"	1-1/4"	1-1/2"	-	-	
SK-1	ELKAY	DLR332210	SINK - DOUBLE-COMPARTMENT, STAINLESS STEEL, DROP-IN INSTALLATION METHOD.	CHICAGO FAUCETS	2300-8ABCP	SINK FAUCET FOR HOT AND COLD WATER, SINGLE LEVER, DECK-MOUNTED WITH 8" FIXED CENTERS, CHROME PLATED. INTEGRAL, CAST BRASS, SWING SPOUT, 10" CENTER-TO-CENTER. 2.2 GPM PRESSURE COMPENSATING SOFTFLO AERATOR. 4-5/8" METAL LEVER HANDLE WITH BLUE-AND-RED TEMPERATURE INDICATOR. CERAMIC QUARTER-TURN CARTRIDGE. FEATURES SQUARE, TAPERED STEM, FLEXIBLE STAINLESS STEEL SUPPLY HOSES WITH 3/8" COMPRESSION FITTING. ECAST® CONSTRUCTION WITH LESS THAN 0.25% LEAD CONTENT BY WEIGHTED AVERAGE. THIS PRODUCT MEETS ADA ANSI/ICC A117.1 REQUIREMENTS AND IS TESTED AND CERTIFIED TO INDUSTRY STANDARDS: ASME A112.18.1/CSA B125.1, CALIFORNIA HEALTH AND SAFETY CODE 116875 (AB1953-2006), VERMONT BILL S.152, AND NSF/ANSI 372 LOW LEAD CONTENT. ACCEPTABLE: CHICAGO FAUCETS OR APPROVED EQUAL BY AMERICAN STANDARD, KOHLER, OR ZURN.	1/2"	1/2"	1-1/4"	1-1/2"	-	-	
UR-1	AMERICAN STANDARD	6590.001EC (WASBROOK)	WALL-HUNG URINAL	AMERICAN STANDARD	6045.051.002	MANUAL-OPERATED FLUSH VALVE	3/4"	-	-	2"	-	-	
WC-1	AMERICAN STANDARD	215FC.104 (CADET PRO)	FLOOR MOUNTED, FLUSH TANK, ELONGATED TOILET	-	-	-	1"	-	-	4"	-	-	
WH-1	PRIER	C-634	HYDRANT SHALL BE SURFACE MOUNT AND INSTALLED THROUGH 1-3/8" ROUND OPENING. HYDRANT SHALL HAVE AUTOMATIC DRAINING CAPABILITIES WITH INTEGRAL VACUUM BREAKER/DOUBLE BACKFLOW PREVENTOR. HYDRANT SHALL FLOW 16 GALLONS PER MINUTE MINIMUM AT 25 PSI DIFFERENTIAL AND BE AT FULL FLOW IN 2 HANDLE ROTATIONS. HYDRANT SHAFT SHALL BE BRASS WITH CONNECTIONS. HYDRANT SHALL HAVE 3/4" HOSE CONNECTION WITH FREEZELESS WATER FLOW AND SELF-DRAINING FUNCTIONS. ONE PIECE VALVE PLUNGER, SATIN NICKEL FINISH. BRASS OPERATING ROD WITH POSITIVE TRIPLE SEAL SHUTOFF MECHANISM. HYDRANT SHALL BE APPROVED UNDER ASSE 1052 STANDARD. OPERATING KEY & WALL CLAMPING RING TO BE FURNISHED WITH EACH HYDRANT. ACCEPTABLE: PRIER, WOODFORD, OR PRE-APPROVED EQUAL.	-	-	-	3/4"	-	-	-	-	-	INSTALL BALL VALVE UPSTREAM OF HYDRANT INSIDE BUILDING.

DIFFUSERS, REGISTERS AND GRILLES SCHEDULE

DIFFUSERS, REGISTERS AND GRILLES SCHEDULE

COMMENTS:
1. WHITE FINISH.
2. FRONT BLADES PARALLEL TO SHORT DIMENSION.
3. MILL FINISH.
4. PROVIDE WITH AIR SCOOP.

COMMENTS:
1. CEILING DIFFUSER MOUNTED TO EXPOSED DUCT. RIGIDLY MOUNT DIFFUSER TO END OF DUCT.
2. PROVIDE WITH PRICE "RETURN AIR CANOPY" FOR SOUND TRANSFER BETWEEN SPACES AND PLENUM.

TAG	BASIS OF DESIGN		DESCRIPTION	NECK SIZE	BORDER TYPE	MATERIAL	SYSTEM TYPE	COMMENTS
	MANUFACTURER	MODEL						
S1	PRICE INDUSTRIES	SCD	24X24 SQUARE CONE DIFFUSER	6"ø	31 - LAY-IN	STEEL	SUPPLY	1
S2	PRICE INDUSTRIES	SCD	24X24 SQUARE CONE DIFFUSER	8"ø	31 - LAY-IN	STEEL	SUPPLY	1
S3	PRICE INDUSTRIES	SCD	24X24 SQUARE CONE DIFFUSER	10"ø	31 - LAY-IN	STEEL	SUPPLY	1
S4	PRICE INDUSTRIES	SDG	DOUBLE DEFLECTION, SPIRAL DUCT GRILLE	18"x6"	DUCT-MOUNTED	STEEL	SUPPLY	2, 3, 4
S5	PRICE INDUSTRIES	500 SERIES	LOUVERED GRILLE	18"x28"	DUCT-MOUNTED	STEEL	SUPPLY	1,2
R1	PRICE INDUSTRIES	80 SERIES	EGG CRATE FACE RETURN	12"x24"	31 - LAY-IN	STEEL	RETURN	-
R2	PRICE INDUSTRIES	500 SERIES	LOUVERED GRILLE	18"x28"	DUCT-MOUNTED	STEEL	RETURN	1,2
E1	PRICE INDUSTRIES	80 SERIES	EGG CRATE FACE RETURN	12"x12"	31-LAY - IN	STEEL	EXHAUST	1
E2	PRICE INDUSTRIES	80 SERIES	EGG CRATE FACE RETURN	12"x12"	SURFACE MOUNTED	STEEL	EXHAUST	1
E3	PRICE INDUSTRIES	500 SERIES	LOUVERED GRILLE	18"x28"	DUCT-MOUNTED	STEEL	EXHAUST	1,2

DOMESTIC WATER HEATER SCHEDULE

MARK	BASIS OF DESIGN		DESCRIPTION	PEAK DEMAND (GPH)	STORAGE (GALLONS)	EWT DEG. F.	LWT DEG. F.	ELECTRICAL DATA		RISE OF RECOVERY °F	COMMENTS
	MANUFACTURER	MODEL						KW	VOLTAGE		
DWH-1	Bradford White	LE230S3-3	Commercial Upright Electric Water Heater	43	30	40	120	4.5	240V / 1Ø	100	
DWH-2	Bradford White	LE16U3-1	Commercial Utility Electric Water Heater	6	6	40	120	1.5	120V / 1Ø	100	

FURNACE SCHEDULE

FURNACE SCHEDULE

COMMENTS:
1. 1" MERV 8 FILTER.
2. NO COOLING.
3. PROVIDE WITH STAINLESS STEEL HEAT EXCHANGER.

MARK	BASIS OF DESIGN		SUPPLY FAN DATA			COOLING COIL DATA	HEATING DATA				ELECTRICAL DATA				DISCONNECT DATA		COMMENTS
	MANUFACTURER	MODEL No.	SUPPLY AIR	OUTSIDE AIR	E.S.P.	NOM. TONS	INPUT BTU/H		OUTPUT BTU/H		H.P.	AMPS	MOC	VOLTAGE	E.T.C.	M.T.C.	
							MAX	MIN	MAX	MIN							
F-1	Trane	SV2D120U5PSB	1800 CFM	550 CFM	0.5	N.A.	120,000	78,000	116,400	75,660	1	13.9	15	120V / 1Ø	Yes		1, 2, 3
F-2	Trane	SV2B080U4PSB	1250 CFM	600 CFM	0.3	N.A.	80,000	52,000	77,600	50,440	0.75	10.8	15	120V / 1Ø	Yes		1, 2, 3

EXHAUST FAN SCHEDULE

COMMENTS: 1. PROVIDE WITH MOTORIZED DAMPER, BIRDSCREEN. MOTORIZED DAMPER SHALL OPEN WHEN FAN IS ENERGIZED. FAN SHALL NOT RUN UNTIL DAMPER IS PROVEN OPEN WITH END SWITCH. DAMPER SHALL CLOSE WHEN FAN IS OFF. 2. PROVIDE WITH UNIT MOUNTED DISCONNECT. 3. PROVIDE WITH ELECTRONICALLY COMMUTATED (EC) MOTOR AND UNIT MOUNTED SPEED CONTROLLER FOR BALANCING.																
TAG	BASIS OF DESIGN		AREA SERVED	CFM	E.S.P. (in-wg)	FAN SPEED (RPM) DESIGN	DRIVE TYPE	SONES	ELECTRICAL DATA		DISCONNECT BY		VFD	CONTROL		COMMENTS
	MANUFACTURER	MODEL NO.							MOTOR POWER	VOLTAGE	M.T.C.	E.T.C.				
EF-1	GREENHECK	CSP-A250	TECH CLOSET	200 CFM	.25	929	DIRECT	1.5	49 WATTS	120V / 1Ø	Yes		No		THERMOSTAT	2, 3
EF-2	GREENHECK	CSP-A390	WOMEN'S TOILET	225 CFM	.25	919	DIRECT	1.2	42 WATTS	120V / 1Ø	Yes		No		SWITCH WITH LIGHTS	2, 3
EF-3	GREENHECK	CSP-A390	MEN'S TOILET	225 CFM	.25	919	DIRECT	1.2	42 WATTS	120V / 1Ø	Yes		No		SWITCH WITH LIGHTS	2, 3
EF-4	GREENHECK	CSP-A200	UTILITY ROOM	75 CFM	.5	825	DIRECT	2.5	.66 HP	120V / 1Ø	Yes		No		CONTINUOUS OPERATION	2,3
EF-5	GREENHECK	SQ-12	LIVESTOCK	1950 CFM	.5	1750	DIRECT	14.7	.36 HP	120V / 1Ø	Yes				CONTINUOUS OPERATION	2,3

RELIEF HOOD SCHEDULE

COMMENTS:										
MARK	BASIS OF DESIGN		DESCRIPTION	CFM	THROAT VELOCITY	THROAT WIDTH	THROAT LENGTH	THROAT AREA (ft2)	COMMENTS	
	MANUFACTURER	MODEL								
EH-1	GREENHECK	FGR - 16X36	EXHAUST HOOD	1950 CFM	490 FPM	16"	36"	4		

VENTILATION/EXHAUST LOAD ANALYSIS

ROOM NUMBER	ROOM INFO	SPACE TYPE	AREA (S.F.)	OCCUPANCY	OA RATE CFM/PERSON	OA RATE CFM/S.F.	VENTILATION BY OCCUPANCY CFM	VENTILATION BY AREA CFM	TOTAL VENTILATION CFM	CORRECTED OA CFM (DIV. BY 0.8)	HVAC UNIT SERVING SPACE	AIRFLOW TO SPACE CFM	% OA	OA FROM RTU'S CFM	COMPLIES WITH CODE	EXHAUST AIRFLOW CFM	REQUIRED EXHAUST AIRFLOW CFM	NOTES
100	LIVESTOCK	WAREHOUSE / ANIMAL STORAGE	2146	0	0	0.12	0	258	258	323	F-1 / EF-4 / L-1	1280	30%	384	YES	1950	-	EXHAUST TO OPERATE CONTINUOUSLY
101	FEED STORAGE	WAREHOUSE	231	2	0	0.12	0	28	28	35	F-1 / EF-4 / L-1	200	30%	60	YES	-	-	
102	BREAK ROOM	BREAK ROOM	376	6	5	0.06	30	23	53	67	F-1	375	48%	180	YES	-	-	
103	CORRIDOR	CORRIDORS	287	0	0	0.06	0	18	18	23	F-2	400	48%	192	YES	-	-	
105	MEN'S TOILET	TOILET ROOMS - PUBLIC	237	3	-	-	-	-	-	-	F-2	200	48%	96	YES	225	210	EXHAUST TO OPERATE INTERMITTENTLY
106	UTILITY ROOM	CUSTODIAL	112	0	-	-	-	-	-	-	F-2	75	48%	36	YES	75	75	EXHAUST TO OPERATE INTERMITTENTLY
107	WOMEN'S TLT	TOILET ROOMS - PUBLIC	233	3	-	-	-	-	-	-	F-2	200	48%	96	YES	225	210	EXHAUST TO OPERATE INTERMITTENTLY
108	TECH CLOSET	MECH ROOM	42	0	-	-	-	-	-	-	EF-1	-	-	-	YES	200	-	EXHAUSTED VIA REVERSE-ACTING THERMOSTAT

ELECTRIC COIL DUCT HEATER SCHEDULE

TAG	MODEL NO.	DUCT SIZE W x L	SYSTEM	CFM	E.A.T.	L.A.T.	MIN. BTUH	ELECTRIC			COMMENTS
								VOLTS	PHASE	Kw	
HC-1	IDHE	12x10	OA SUPPLY	600	-10	30	27,290	240	1	8	1,2,3,4
NOTES: 1. GREENHECK 2. DISCONNECT BY EC 3. DUCT THERMOSTAT OUTPUT TEMPTATURE CONTROL (SET TO 30 DEGREES F)											
4. 4 STAGES											

UNIT HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	DESCRIPTION	HEATING BTUH INPUT	HEATING BTUH OUTPUT	ELECTRICAL DATA		COMMENTS
						FLA	VOLT/PH/Hz	
UH-1	MODINE	PTX-150	GAS FIRED UNIT HEATER	150000.0 Btu/h	123500.0 Btu/h	5.05	120V/1PH	INCLUDE COMBUSTION AIR INTAKE

FOREST TRAIL DESIGN, PLLC
P.O. BOX 864
BELL LAURE, MICHIGAN 49615
PHONE: (989) 866-4382



DATE				
REVISION				
NO.				

PROJECT TITLE
Bid Package No. 9
**Renovations to:
Camp Monroe**
ST. LOUIS, MICHIGAN

SHEET TITLE
PLUMBING & HVAC SCHEDULES

PROJECT NUMBER
2021003.97

PROJECT DATE
SEPT. 2025

CHECKED BY
JJS

SHEET NUMBER

M6.1



544 CHERBOURG DRIVE
LANSING, MI 48917
PHONE: (517) 487-2511
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MATRIX PROJECT NO. 21070.00

9/10/2025 2:18:11 PM \\MCE-LAND\CS9101\CT-R-DATAS\Shared Data\J088\2021070 - St.Louis School Bond - Camp Monroe - MEP - R26.rvt

ABBREVIATIONS

A, AMP	AMPERES
AF	AMP FUSE OR AMP FRAME
AFC	AVAILABLE FAULT CURRENT (SYMMETRICAL)
A.F.C.	ABOVE FINISHED FLOOR
A.I.C.	AMPERE INTERRUPTING CAPACITY
AM.	AMMETER
ASYM.	ASYMMETRICAL
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CAP.	CAPACITY OR CAPACITOR
CATV	COMMUNITY ANTENNA TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT., CCT	CIRCUIT
C.O.	CONDUIT ONLY
CONN.	CONNECT OR CONNECTION
CU	COPPER
DA	DURESS ALARM
DB	DOOR BELL
DISC.	DISCONNECT
DPST	DOUBLE POLE SINGLE THROW
EC	ELECTRICAL CONTRACTOR
EWC	ELECTRIC WATER COOLER (COORDINATE ACCESSIBILITY OF GFCI)
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATION OR ELEVATOR
EMERG. EM	EMERGENCY
EPO	EMERGENCY POWER OFF
EMT	ELECTRICAL METAL TUBING
FIXT.	FIXTURE
FLA	FULL LOAD AMPERES
FLUOR.	FLUORESCENT
GRC, GCR	GALVANIZED RIGID CONDUIT
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GRD, GND, G	GROUND
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HZ	HERTZ
IMC	INTERMEDIATE METAL CONDUIT
I.G.	ISOLATED GROUND
INCAND.	INCANDESCENT
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KVA	KILOVOLT AMPERES
KW	KILOWATT
KWH	KILOWATT HOUR
LTG	LIGHTING
LV	LOW VOLTAGE
MATV	MASTER ANTENNA TELEVISION
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MH	MANHOLE, METAL HALIDE OR MOUNTING HEIGHT
MLO	MAIN LUGS ONLY
N.C.	NORMALLY CLOSED
N.E.C.	NATIONAL ELECTRICAL CODE
N.I.C.	NOT IN CONTRACT
NF	NON FUSIBLE
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
OL	OVERLOADS
P	POLE
PB	PULLBOX
PH OR Ø	PHASE
PNL	PANEL
PR	PAIR
PVC	POLYVINYL CHLORIDE
PWR.	POWER
REC	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
SOL	SOLENOID
SPDT	SINGLE POLE DOUBLE THROW
SPKR	SPEAKER
SPST	SINGLE POLE SINGLE THROW
SW.	SWITCH
SWBD	SWITCHBOARD
SYM	SYMMETRICAL
TEL	TELEPHONE
XFMR	TRANSFORMER
TTB	TELEPHONE TERMINAL BACKBOARD
TV	TELEVISION
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT AMPERES
VD	VOLTAGE DROP
VM	VOLT METER
W	WATTS OR WIRE
WI	WITH
W/O	WITHOUT
WP	WEATHERPROOF
XP	EXPLOSION PROOF

GENERAL

MOUNTING HEIGHTS TO BE AS INDICATED, UON. MOUNTING HEIGHTS ARE TO CENTER OF DEVICE FROM FINISHED FLOOR OR GRADE, UON. SEE SPECIFICATION DIV 26 FOR ADDITIONAL REQUIREMENTS.

KEY NOTE REFERENCE SYMBOL. DENOTES *SEE KEY NOTE NO. 2*
FOOT ON DEVICE INDICATES WALL MOUNTED

DEMOLITION AND REMODEL

EXISTING ELECTRICAL ITEM TO BE REMOVED, UON.

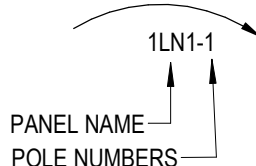
EXISTING ELECTRICAL ITEM TO REMAIN

EXISTING ELECTRICAL ITEM TO BE REMOVED AND PROVIDED WITH A BLANK COVERPLATE

EXISTING ELECTRICAL CIRCUIT TO BE REMOVED SHOWN ONLY WHERE CLARIFICATION BETWEEN EXISTING TO REMAIN AND REMOVED ITEMS IS REQUIRED

SEE PLANS AND NOTES FOR DEVICES INTEND FOR REUSE AND / OR REPURPOSING.

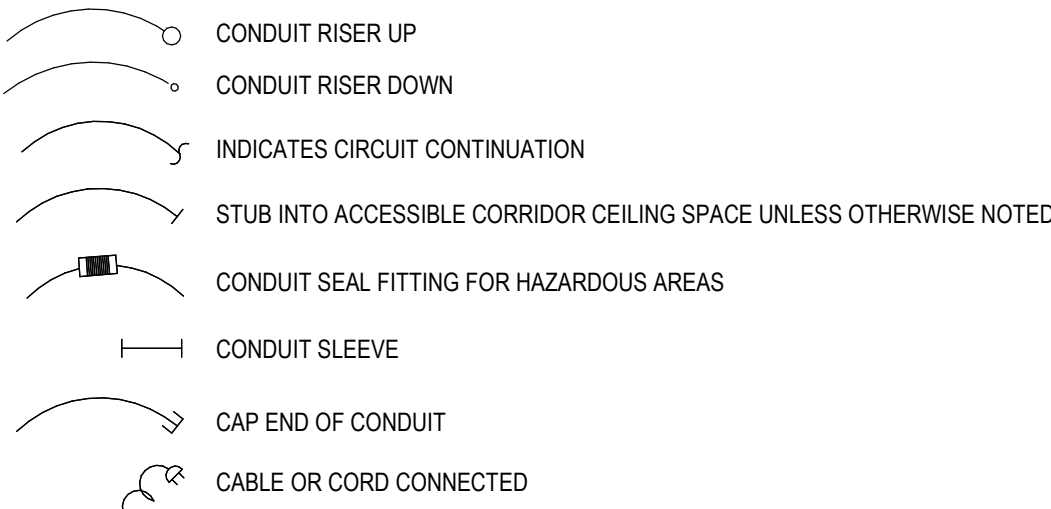
CIRCUIT DESIGNATIONS



BRANCH CIRCUIT HOMERUN, PROVIDE PHASE, NEUTRAL AND GROUND CONDUCTORS FOR EACH INDICATED CIRCUIT OR MULTI WIRE BRANCH AS REQUIRED. PROVIDE SWITCH LEGS FOR SWITCH CIRCUITING AS REQUIRED. PROVIDE EQUIPMENT GROUND WIRE IN ALL BRANCH CIRCUIT RACEWAYS/CIRCUITS. PROVIDE SEPARATE ISOLATED GROUND WIRE TO ALL ISOLATED GROUND DEVICES.

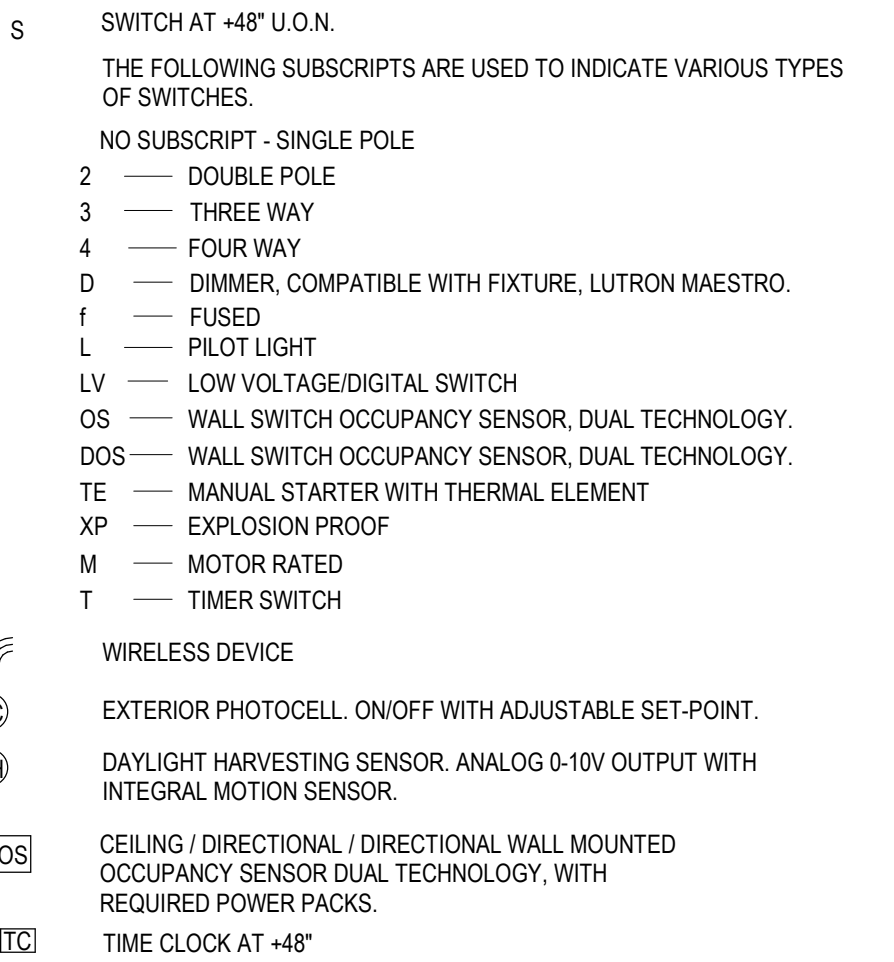
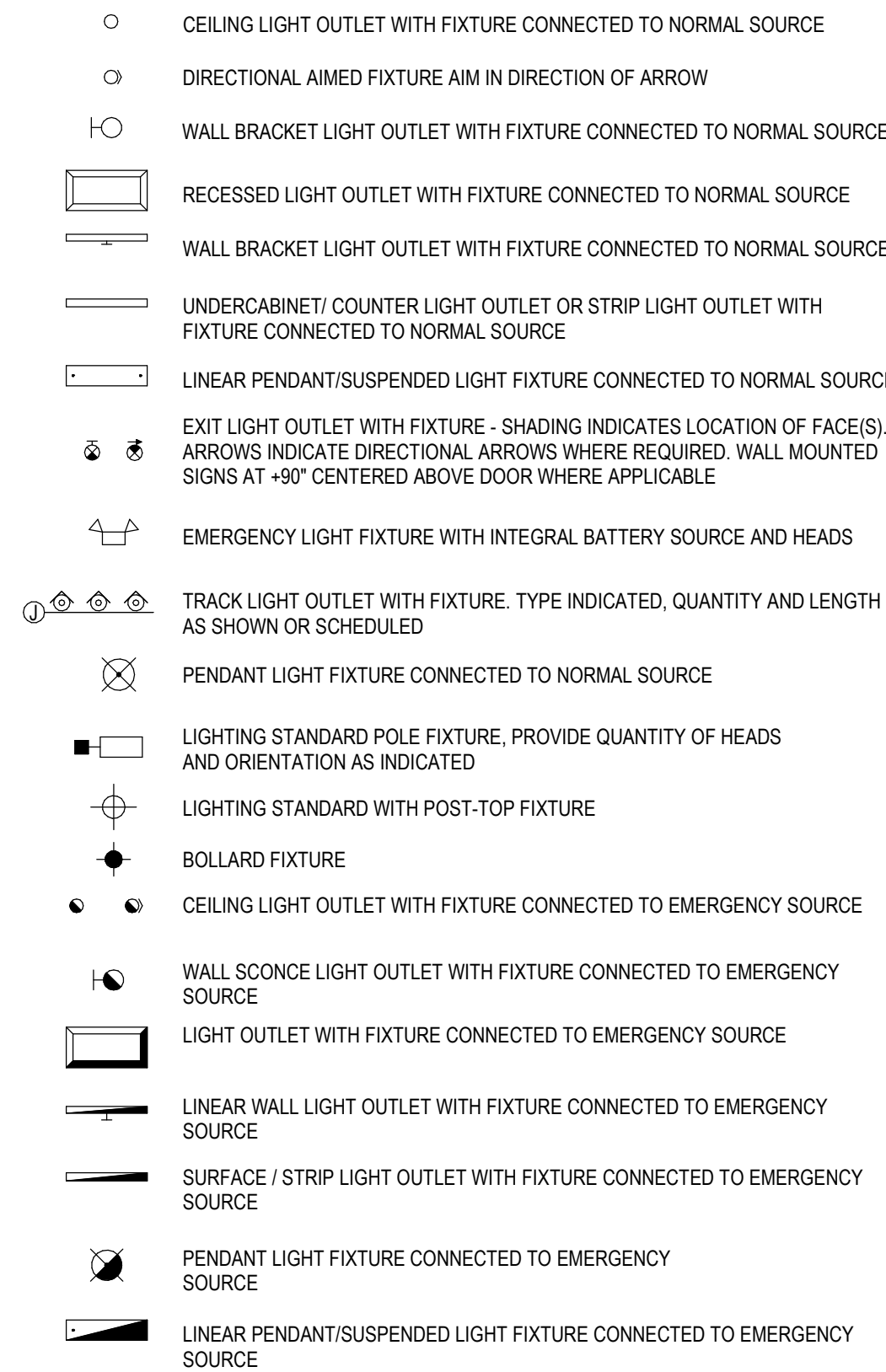
CONDUIT SIZE	MAX QUANTITY OF CONDUCTORS PER CONDUIT			
	CONDUCTOR SIZE			
	12	10	8	
1/2 INCH	1 TO 4	1 TO 4	NA	
3/4 INCH	5 TO 6	5 TO 6	1 TO 3	
1 INCH	9 TO 13	7 TO 11	4 TO 5	

SEE SPECIFICATIONS FOR LIMITATIONS ON QUANTITY OF CURRENT CARRYING CONDUCTORS PER CONDUIT



LIGHTING

NOTE A: UPPER CASE ALPHANUMERIC SUBSCRIPT DENOTES FIXTURE TYPE. SEE SCHEDULE(S)
NOTE B: LOWER CASE LETTER SUBSCRIPT PROVIDED ADJACENT TO SWITCHING DEVICE AND ASSOCIATED LIGHT FIXTURE(S) WHERE REQUIRED FOR CLARIFICATION.



POWER AND DIAGRAMS

- NOTE:
- A. OUTLETS IN FINISHED OR SHELL SPACES SHALL BE MOUNTED AT +18° UON.
 - B. OUTLETS IN GARAGE, MECHANICAL, AND ELECTRICAL SPACES SHALL BE MOUNTED AT +8° UON.
 - C. OUTLETS SHALL BE TAMPER PROOF, WHERE REQUIRED PER CODE.
 - D. OUTLETS SHALL HAVE AFCI PROTECTION, WHERE REQUIRED PER CODE.
 - E. OUTLETS SHALL HAVE GFCI PROTECTION, WHERE REQUIRED PER CODE.

THE FOLLOWING SUBSCRIPTS ARE USED TO INDICATE DIFFERENT TYPES OF RECEPTACLES

- WP — WEATHERPROOF, EXTRA DUTY, WITH STEEL IN-USE COVER.
CL — CLOCK MOUNTED AT +84°, REGRESSED SINGLE RECEPTACLE, WITH CLOCK HANGER.
H — HORIZONTAL MOUNTING
U — DUAL USB INCLUDED WITH RECEPTACLE TYPE SHOWN.

TYPICAL SYMBOLLOGY:



SURFACE RECEPTACLE STRIP. TYPE AND LENGTH AS INDICATED.

- JUNCTION BOX. 4" SQUARE, UON. WALL AND CEILING MOUNTED.

- 208 VOLT PANELBOARD AT +72° TO TOP
- 480 VOLT PANELBOARD AT +72° TO TOP

ELECTRIC METER

CABLE TRAY OR WIREWAY

SAFETY SWITCH AT +54°. CHARACTERISTICS AS INDICATED BY FRAME/POLES.

FUSED SAFETY SWITCH AT +54°. CHARACTERISTICS AS INDICATED BY FRAME/FUSE/SIZE/POLES.

MAGNETIC MOTOR STARTER AT +54°. CHARACTERISTICS AS INDICATED BY FRAME SIZE/POLES/NEMA SIZE.

COMBINATION MAGNETIC MOTOR STARTER WITH DISCONNECT AT +54°. CHARACTERISTICS AS INDICATED BY FRAME/FUSE/POLES/NEMA SIZE

ADJUSTABLE FREQUENCY DRIVE WITH INTEGRAL CIRCUIT BREAKER DISCONNECT

MAGNETIC CONTACTOR AT +54°. AMPS/POLES/CONTACT VOLTS/ COIL VOLTS AS INDICATED.

SEPARATELY MOUNTED, ENCLOSED MOLDED CASE CIRCUIT BREAKER AT +48°. FLUSH MOUNTED IN FINISHED AREAS. AMP/POLES AS INDICATED.

CIRCUIT BREAKER. AMP/POLES AS INDICATED

FUSE. SIZE AS INDICATED

FUSIBLE SWITCH. AMP/POLES/FUSE SIZE AS INDICATED

AUTOMATIC TRANSFER SWITCH +72° TO TOP OR FLOOR MOUNTED.

DISCONNECT STABS FOR DRAWOUT TYPE EQUIPMENT

TRANSFORMER

GROUND CONNECTION

MOTOR CONNECTION, HP AS INDICATED

GENERATOR

START-STOP PUSHBUTTON STATION AT +48°

GROUND BUS ON STANDOFFS

CONTROL PANEL:

EQUIPMENT OR TERMINAL CABINET AT +72° TO TOP

POWER SUPPLY

PUSHBUTTON STATION AT +48°

FIRE DETECTION AND ALARM

CONTROL PANEL AT +72° TO TOP

FIRE ALARM ANNUNCIATOR PANEL AT +72° TO TOP

MANUAL STATION AT +48°

FIRE SUPPRESSION SYSTEM ABORT SWITCH STATION AT +48°

COMBINATION CARBON MONOXIDE / SMOKE DETECTOR WITH ANNUNCIATION

SMOKE DETECTOR - PHOTO ELECTRIC AREA BEAM

DUCT SMOKE DETECTOR

FIRE/ SMOKE DAMPER

AUTOMATIC HEAT DETECTOR

THE FOLLOWING SUBSCRIPTS ARE USED TO INDICATE THE VARIOUS TYPE OF HEAT DETECTORS

NO SUBSCRIPT - FIXED TEMPERATURE (155 DEGREE U O N)

R/F — COMBINATION RATE OF RISE FIXED TEMPERATURE (135 DEGREE U O N)

XP — EXPLOSION PROOF, FIXED TEMPERATURE (135 DEGREE U O N) CLASS 1, GROUP C

NOTE: WALL MOUNT VISUAL AND COMBINATION AUDIO/VISUAL NOTIFICATION APPLIANCES AT +80° AFF TO BOTTOM OF FACE PLATE U O N.

VISUAL NOTIFICATION APPLIANCE

WALL MOUNTED AUDIBLE NOTIFICATION APPLIANCE

WALL MOUNTED COMBINATION AUDIBLE/VISUAL NOTIFICATION APPLIANCE

CEILING MOUNTED VISUAL NOTIFICATION APPLIANCE

CEILING MOUNTED AUDIBLE NOTIFICATION APPLIANCE

CEILING MOUNTED COMBINATION AUDIBLE/VISUAL NOTIFICATION APPLIANCE

MAGNETIC DOOR HOLDER. COORDINATE MOUNTING HEIGHT WITH DOOR MANUFACTURER

ELECTROMECHANICAL DOOR RELEASE. COORDINATE WITH DOOR MANUFACTURER.

SPRINKLER OR STANDPIPE FLOW ALARM SWITCH CONNECTION

VALVE TAMPER SWITCH

AIR PRESSURE MONITOR SWITCH FOR PRE-ACTION OR DRY PIPE SPRINKLER SYSTEM

TELECOMMUNICATION

GENERAL NOTES

NOTE A: OUTLETS IN FINISHED OR SHELL SPACES SHALL BE MOUNTED AT +18° UON.
NOTE B: OUTLETS LOCATED AT COUNTERS SHALL BE LOCATED 18" AFF IN KNEE SPACE IF PROVIDED OR 4" ABOVE COUNTER OR BACK SPLASH AS APPLICABLE IF NO KNEE SPACE IS PROVIDED UON.

NOTE C: WHERE ASTERISK (*) IS INDICATED NEXT TO OUTLET AT WORK COUNTER, OUTLET SHALL BE LOCATED ABOVE COUNTER RATHER THAN IN KNEE SPACE

STANDARD TELECOMMUNICATIONS OUTLET - PROVIDE EXTRA DEEP DOUBLE GANG BOX WITH SINGLE GANG MUD RING AND (1) 1-1/4" CONDUITS TO ABOVE FINISHED CEILING, MOUNTED AT 18" AFF, UON. PROVIDE PLASTIC BUSHING AT THE ENDS OF THE CONDUITS. DATA DEVICES AND WIRING PROVIDED BY OTHERS. UON.

THE FOLLOWING SUBSCRIPTS ARE USED TO INDICATE THE VARIOUS (NON-STANDARD) TYPES OF OUTLETS

FLOOR MOUNTED.

CEILING MOUNTED.

MOUNTED 48" AFF, UON.

MOUNTED 72" AFF, UON.

TELEPHONE AT 44" AFF, UON.

TELEVISION, MOUNTED AT NOTED HEIGHT.

B — BLANK (ROUGH-IN TO ACCESSABLE CEILING SPACE) WITH BLANK COVERPLATE
F — FIBER

— THE FIRST NUMBER INDICATES THE NUMBER OF CAT6 CABLES.
THE SECOND NUMBER INDICATES THE QUANTITY OF JACK LOCATIONS.

CLOCK - SEE SPECIFICATIONS FOR REQUIREMENTS.

SPEAKER FOR PA SYSTEM.

ADA DOOR CONTROL OPENER, COORDINATE WITH DOOR REQUIREMENTS

DOOR CONTROLS, COORDINATE WITH SECURITY, AUTO AND MANUAL CONTROLS

SECURITY

FIXED VIDEO SURVEILLANCE CAMERA

DOOR POSITION SWITCH

CONNECTION TO ELECTRIC OR PNEUMATIC DOOR LOCK

CARD READER AT +48°

NOTE:
SYMBOLS SHOWN ARE FOR REFERENCE ONLY
AND DO NOT CONSTITUTE A CHECK LIST OF
DEVICES REQUIRED BY THE CONTRACT

GENERAL DEMOLITION NOTES:

- DEMOLITION NOTES ARE BASED UPON FIELD OBSERVATION AND EXISTING RECORD DOCUMENTS. THE ELECTRICAL CONTRACTOR SHALL VERIFY EXACT CONDITIONS AT SITE AND REPORT DISCREPANCIES TO THE ARCHITECT/ENGINEER BEFORE DISTURBING THE INSTALLATION.
- THE SCOPE OF REQUIRED DEMOLITION IS NOT LIMITED TO ITEMS OR WORK INDICATED ON THE CONTRACT DOCUMENTS. THE ELECTRICAL CONTRACTOR SHALL DETERMINE THE NATURE AND EXTENT OF WORK REQUIRED. THE CONTRACTOR ACCEPTS EXISTING SITE CONDITIONS AT THE START OF DEMOLITION.
- WHERE ELECTRICAL COMPONENT ARE SHOWN TO BE REMOVED, THE ELECTRICAL CONTRACTOR SHALL RECONNECT REMAINING COMPONENTS TO EXISTING CIRCUIT(S).
- WHERE THE DRAWINGS SHOW DEVICES OR EQUIPMENT TO BE PERMANENTLY REMOVED, THE ELECTRICAL CONTRACTOR SHALL REMOVE CONDUCTORS BACK TO SOURCE. TURN BREAKER OFF AND LABEL THE BREAKER AS "SPARE" ON NEWLY PRINTED PANEL DIRECTORY.
- THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL ABANDONED CONDUIT. THE ELECTRICAL CONTRACTOR SHALL CUT CONDUIT FLUSH WITH WALLS AND FLOORS. UON. PATCH ALL SURFACES AND PROVIDE FIRESTOP WHERE REQUIRED.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF DAMAGE TO ALL ADJACENT CONSTRUCTION AND FINISHES. REPAIRS SHALL BE MADE TO RETURN SPACE TO ORIGINAL CONDITION PRIOR TO COMPLETION OF PROJECT.
- EQUIPMENT AND DEVICES SHOWN AS DASHED ON THE DRAWING ARE TO BE REMOVED. LIGHT FIXTURES SHALL BE TURNED OVER TO THE OWNER UNLESS OTHERWISE NOTED OR DECLINE BY OWNER TO RECEIVE THEM.
- THE ELECTRICAL CONTRACTOR SHALL DISCONNECT ALL ELECTRICAL SYSTEMS IN WALLS, FLOORS AND CEILINGS SCHEDULED FOR REMOVAL, INCLUDING SPECIAL SYSTEMS.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN OPERATION OF EXISTING SYSTEMS DURING CONSTRUCTION. CONDITIONS SHALL BE RETURNED TO NORMAL AT THE CLOSE OF THE PROJECT.
- CONTRACTOR SHALL MAINTAIN ALL POWER AND DATA CONDUIT AND WIRING SERVING AREAS NOT INCLUDED IN THE SCOPE OF WORK. UON. NOTIFY ARCHITECT/ ENGINEER IF THESE DEVICES WILL IMPEDE UPON SCOPE OF WORK DURING RENOVATION TO RECEIVED DIRECTION ON RESOLUTION.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE BLANK COVERS ON ALL JUNCTION BOXES WHERE DEVICE HAS BEEN REMOVED AND THE JUNCTION BOX IS TO REMAIN FOR FUTURE USE.
- THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE DISPOSAL OF ALL LAMPS AS REQUIRED AND DIRECTED IN THE LATEST STATE LAWS.
- THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE DISPOSAL OF ALL EQUIPMENT AND DEVICES REMOVED THAT ARE NOT TO BE TURNED OVER TO THE OWNER.
- ALL DISRUPTIONS OF SERVICE SHALL BE COORDINATED AND APPROVED BY OWNER.

GENERAL NOTES:

- ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST ACCEPTED EDITION OF THE NATIONAL ELECTRICAL CODE, NEC, AND ALL STATE AND LOCAL CODES.
- COORDINATE THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT AND CONNECTIONS WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL AND EQUIPMENT DRAWINGS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL POWER, CONDUITS, CABLETRAY, AND OTHER COMPONENTS AS SHOWN ON THE EQUIPMENT PROVIDER DRAWINGS FOR INSTALLATION OF SYSTEM.
- "BACK TO BACK" OR THROUGH THE WALL BOXES SHALL NOT BE USED.
- INSTALL HANDLE LOCK-ON, ON ALL CIRCUIT BREAKERS CONTROLLING NIGHT LIGHT, EMERGENCY LIGHT AND EXIT LIGHT CIRCUITS.
- ALL RECEPTACLES SHALL BE HARD USE, SPECIFICATION GRADE.
- PROVIDE TAMPER RESISTANT RECEPTACLES WHERE REQUIRED BY APPLICABLE CODES.
- RECEPTACLES INDICATED AS GROUND FAULT CIRCUIT INTERRUPTER TYPE SHALL BE MOUNTED IN AN ACCESSIBLE LOCATION, PER CODE OR PROVIDED WITH A GFCI BREAKER.
- ALL CONDUCTORS SHALL BE COPPER. ALUMINUM WIRES SHALL NOT BE USED.
- MINIMUM CONDUIT SIZE SHALL BE 1/2" FOR POWER FEEDS AND 1" FOR DATA FEEDS.
- FINAL CONNECTION TO ITEMS SUBJECT TO VIBRATION SHALL BE MADE WITH LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT.
- 120/240VAC CIRCUIT WIRING FOR ANY ROOM OR AREA MAY BE GROUPED INTO RACEWAYS UNLESS SEPARATE RACEWAYS ARE REQUIRED BY THE NEC. COMPLY WITH NEC REQUIREMENTS FOR CONDUCTOR DERATING.
- PROVIDE EQUIPMENT GROUNDING CONDUCTORS FOR ALL POWER AND LIGHTING CIRCUITS.
- ALL LIGHTING AND POWER CONDUCTORS SHALL BE 12 AWG MINIMUM. ALL CONTROL CONDUCTORS SHALL BE 14 AWG MINIMUM OR AS SPECIFIED BY MANUFACTURER.
- DEDICATED NEUTRAL SHALL BE PROVIDED FOR ALL CIRCUITS. SHARED NEUTRALS ARE NOT ALLOWED.
- BASIS OF DESIGN IS FOR A COMPLETE ELECTRICAL SYSTEM, INSTALLED PER CODE REQUIREMENTS.
- PROVIDE AN UNSWITCHED HOT TO ALL EMERGENCY BATTERY PACKS. LIGHTING INVERTERS AND EMERGENCY LIGHTING UNITS AHEAD OF AN LIGHTING CONTROLS FROM THE BRANCH CIRCUIT SERVING LIGHTING IN THE SURROUNDING AREA.

MATRIX
CONSULTING ENGINEERS, INC

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LANSING, MI 48917
PHONE: (517) 487-2511
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MATRIX PROJECT NO. 21070.00

E0.1

PROJECT TITLE
Bid Package No. 9
**Renovations to:
Camp Monroe**
ST. LOUIS, MICHIGAN

SHEET TITLE
ELECTRICAL COVER SHEET

PROJECT NUMBER
2021003.97

PROJECT DATE
SEPT. 2025

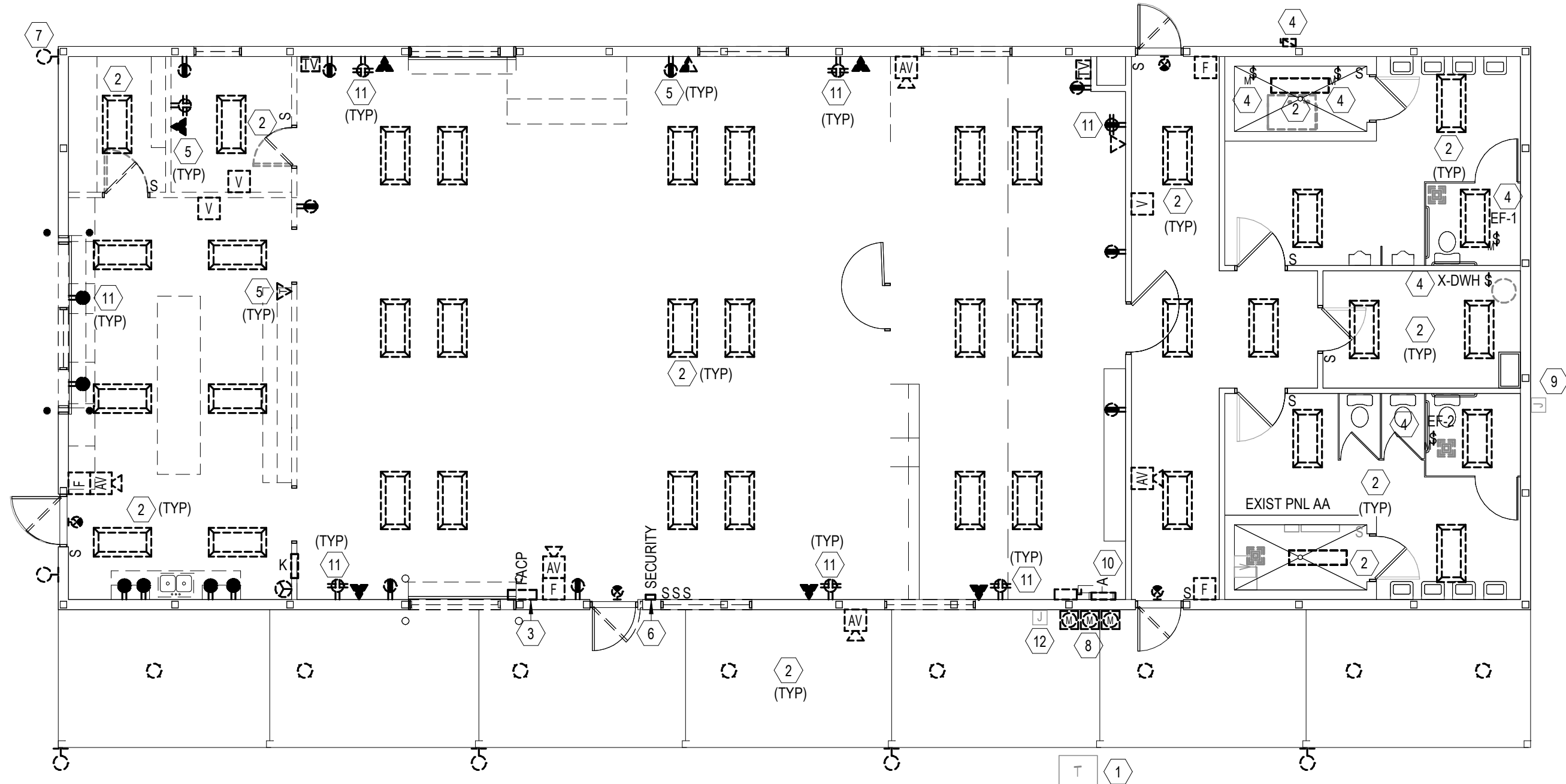
CHECKED BY
RCH

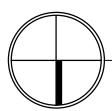
SHEET NUMBER

forest trail
design.
architecture w/ a little bit of mind

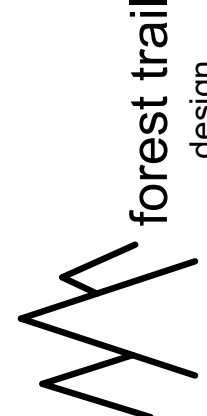
DATE				
REVISION				
NO.				

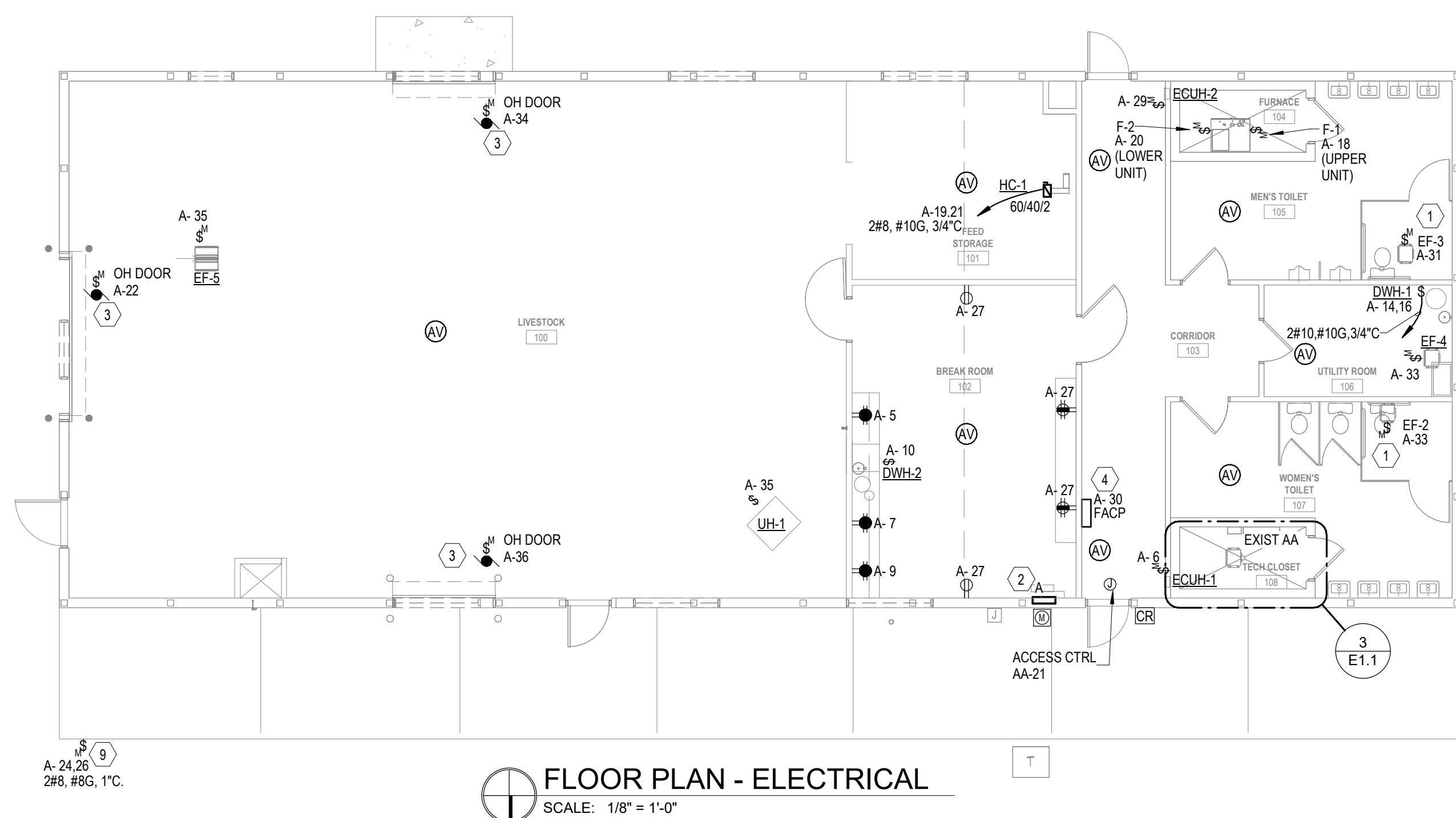
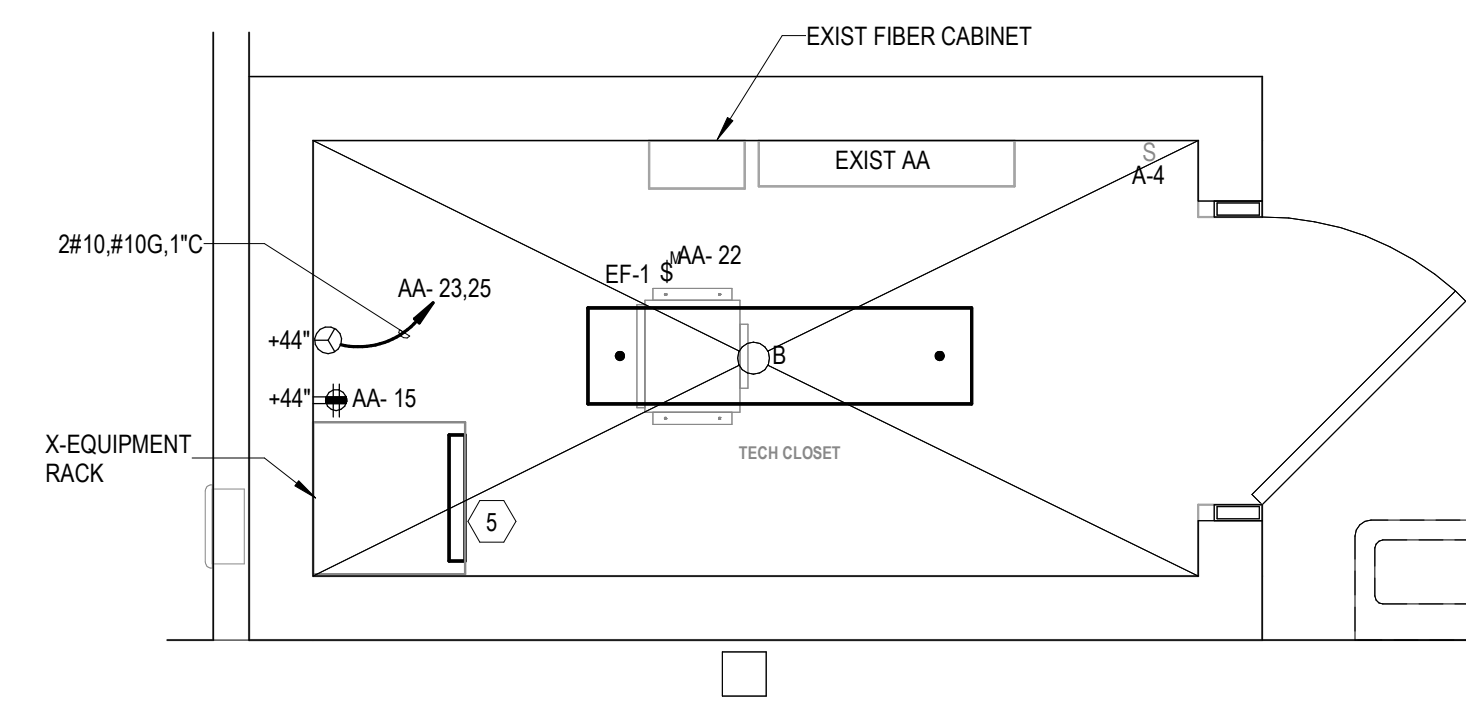
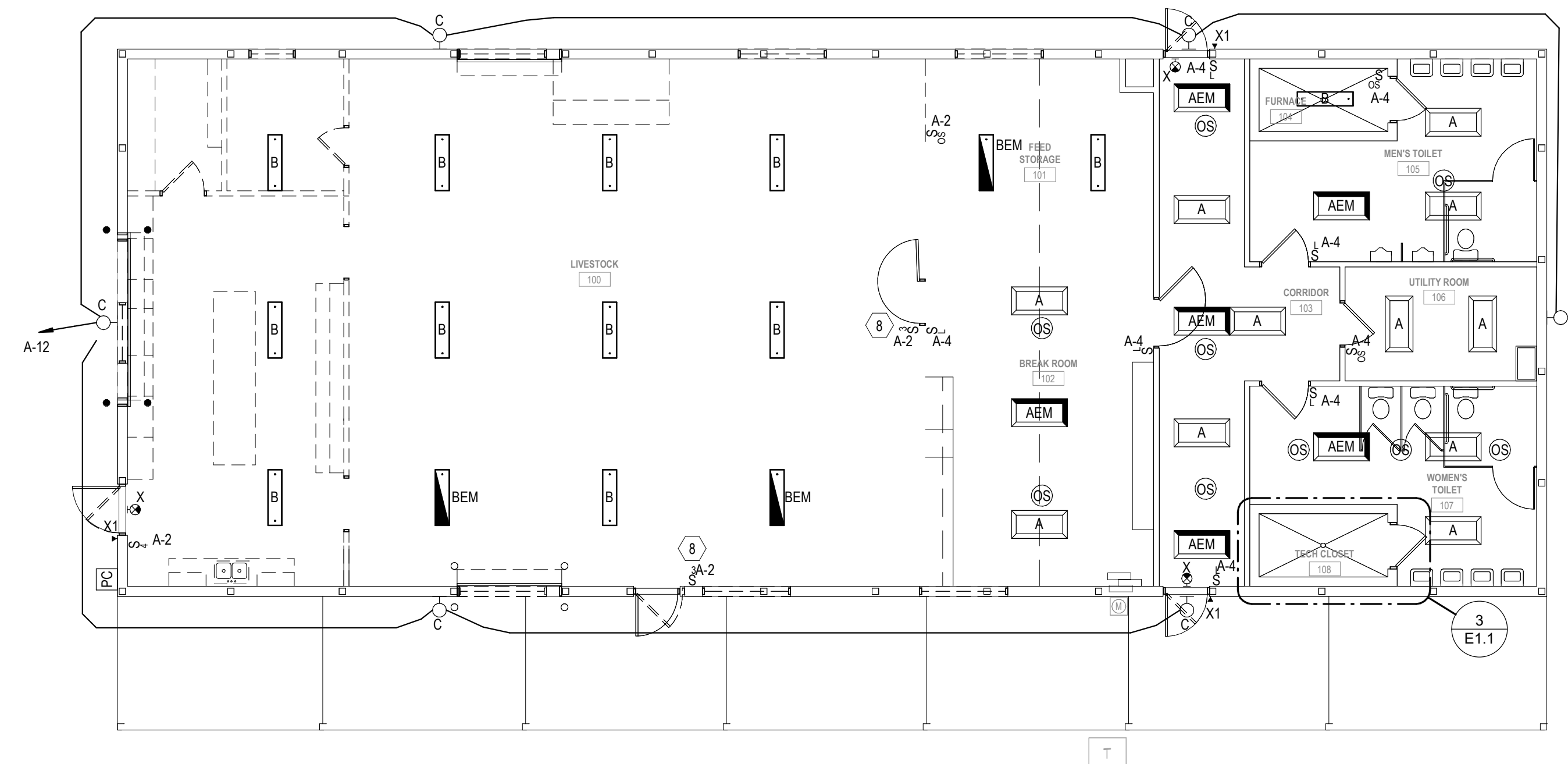
FOREST TRAIL DESIGN, PLLC
P.O. BOX 864
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 **ELECTRICAL DEMOLITION FLOOR PLAN**
SCALE: 1/8" = 1'-0"

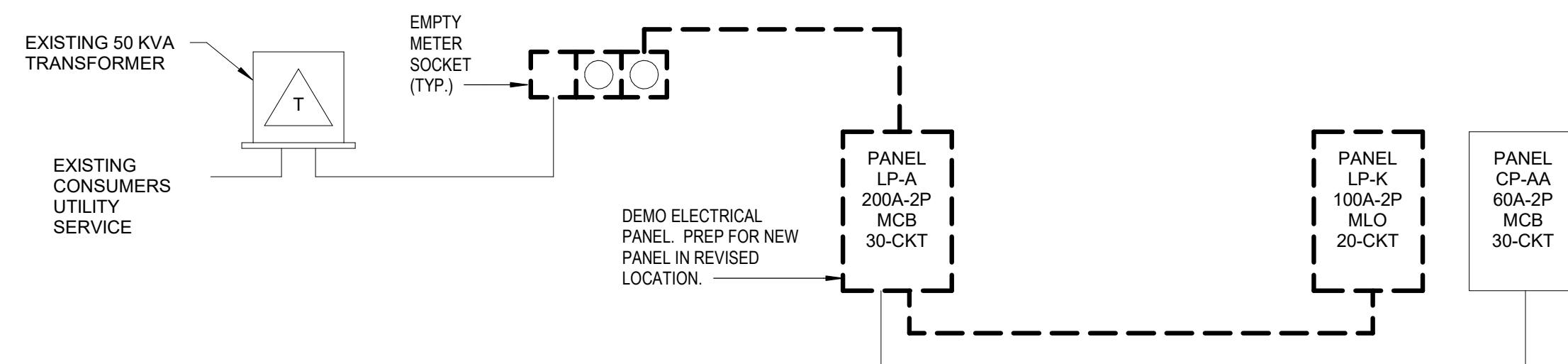
- # **KEYNOTES:**
- 1 EXISTING TO REMAIN.
 - 2 DEMOLISH LIGHT FIXTURE AND SWITCHES. REMOVE CONDUIT AND WIRE TO SOURCE.
 - 3 REMOVE EXISTING FACP. DISCONNECT AND REMOVE ALL EXISTING FIRE ALARM THROUGHOUT BUILDING.
 - 4 DEMOLISH DISCONNECT SWITCH. DEMOLISH CONDUIT AND WIRE TO SOURCE.
 - 5 DEMOLISH DEVICE. DEMOLISH CONDUIT AND WIRE TO SOURCE.
 - 6 DISCONNECT AND REMOVE EXISTING SECURITY PANEL. REMOVE ALL COMPONENTS TO SOURCE.
 - 7 REMOVE ROOF MOUNTED FIXTURE. REMOVE CONDUIT AND WIRE TO SOURCE.
 - 8 REMOVE EXISTING METER CENTER FOR INSTALLATION OF NEW SIDING AND INSULATION. EXISTING FEEDER FROM TRANSFORMER MAY REMAIN FOR REUSE.
 - 9 EXISTING LOW VOLTAGE CONDUIT AND WIRE TO REMAIN. CONTRACTOR SHALL REWORK CONDUIT AND BOX AS REQUIRED TO ADJUST FOR NEW SIDING AND INSULATION.
 - 10 DEMOLISH ELECTRICAL PANEL. MAINTAIN BRANCH CIRCUITS REMAINING FROM DEMOLITION AND EXTEND CIRCUITS TO REVISED LOCATION.
 - 11 DEMOLISH OUTLET. REMOVE CONDUIT AND WIRE TO SOURCE.
 - 12 EXISTING FEEDER TO BARN TO REMAIN. REWORK AND TERMINATE TO NEW PANEL.

FOREST TRAIL DESIGN, PLLC P.O. BOX 864 BELLAIRES, MICHIGAN 49615 PHONE: (989) 864-4382		
 forest trail design. architecture with people in mind		
NO.	REVISION	DATE
PROJECT TITLE Bid Package No. 9 Renovations to: Camp Monroe ST. LOUIS, MICHIGAN		
SHEET TITLE ELECTRICAL DEMOLITION FLOOR PLAN		
PROJECT NUMBER 2021003.97		
PROJECT DATE SEPT. 2025		
CHECKED BY RCH		
SHEET NUMBER ED0.1		



- ## # KEYNOTES:
- 1 ROUTE CONTROL OF EF THROUGH ROOM LIGHTING CONTROL.
 - 2 NEW PANEL/BOARD 'A' ALL EXISTING CIRCUITS REMAINING FROM DEMOLITION SHALL BE REWORKED AND RE-TERMINATED TO NEW PANEL/BOARD.
 - 3 OVERHEAD DOOR PROVIDED BY DOOR INSTALLER, WIRING BY ELECTRICAL CONTRACTOR. FOLLOW MANUFACTURER INSTRUCTIONS. PROVIDE CONNECTION TO REMOTE PUSHBUTTON. PROVIDE ALL REQUIRED WIRING FOR COMPLETE INSTALLATION.
 - 4 PROVIDE NEW FIRE ALARM CONTROL PANEL.
 - 5 WIRELESS WAVEFORM, FIBER CONVERTER AND ANTENNA EXTENDER FOR WIRELESS COMMUNICATION TO SITE LIGHT FIXTURE TERMINATIONS BY IT PERSONNEL.
 - 6 ROUTE ALL EXTERIOR BUILDINGS MOUNTED LIGHTING THROUGH PHOTOCELL FOR CONTROL.
 - 7 PROVIDE DIGITAL THREE WAY PROGRAMMABLE SWITCH WITH MANUAL OVERRIDE FOR CONTROL OF LIGHTING. LEVITON VP124 OR EQUAL.
 - 8 CONTRACTOR SHALL PROVIDE 30A FEEDLINE TO NEW WELL PUMP. FIELD COORDINATE ACTUAL PUMP LOCATION WITH WELL INSTALLER.

[illegible]

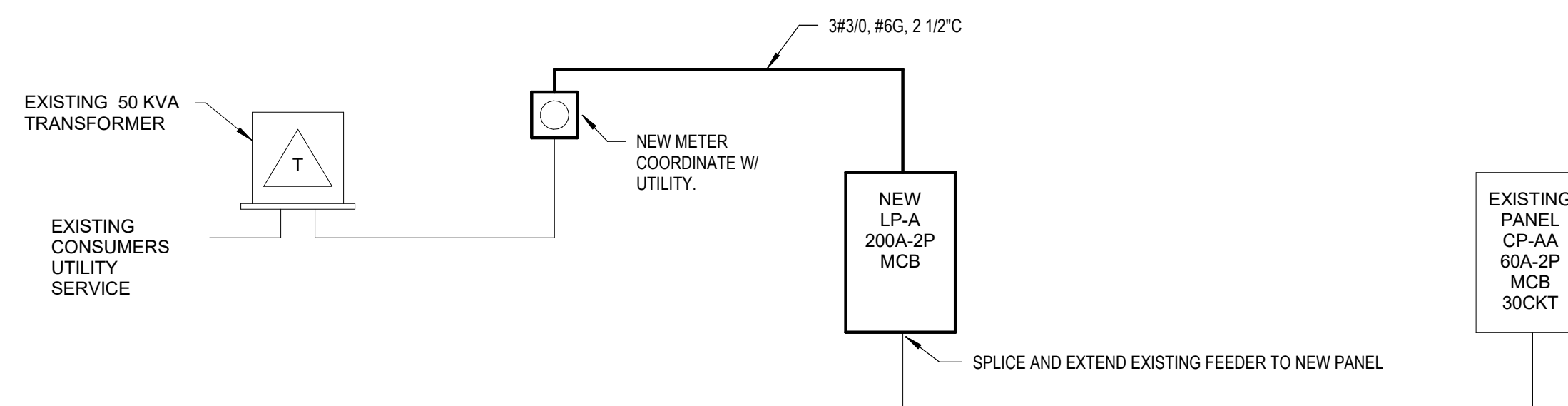


- - - - - REMOVE/RELOCATE OR DEMOLITION, UON
 _____ EXISTING TO REMAIN AS-IS

1
E5.1

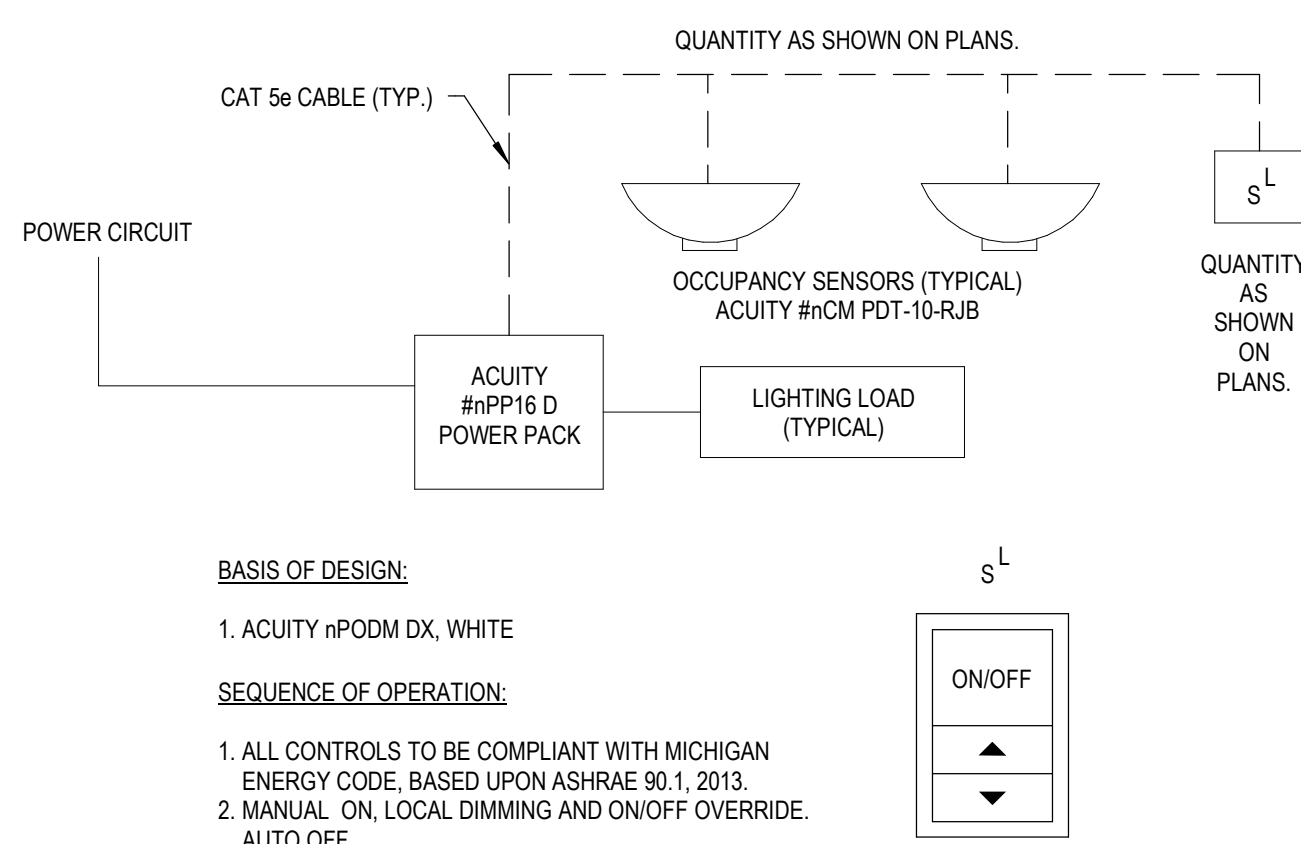
DEMOLITION ONE-LINE

NOT TO SCALE

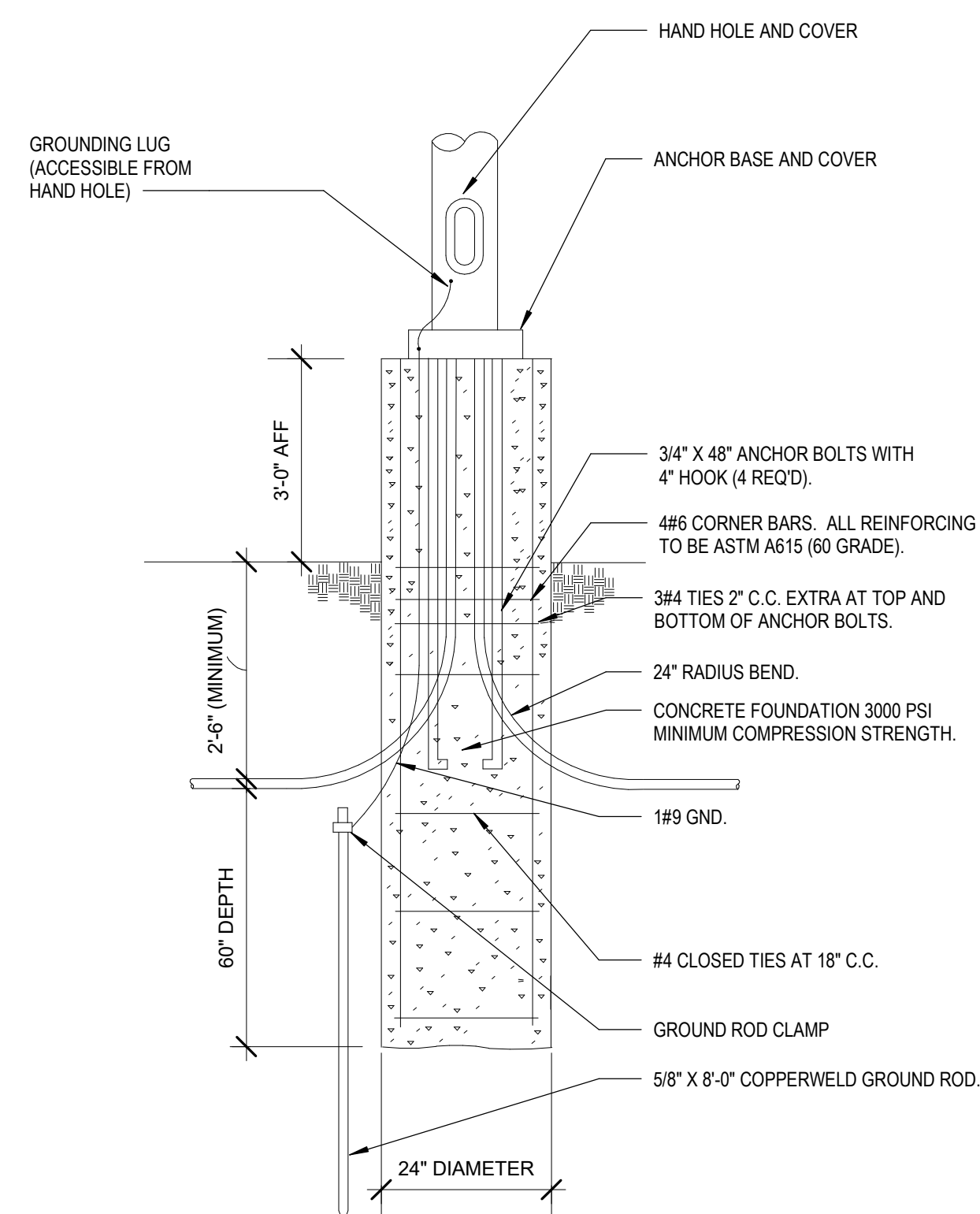


_____ NEW WORK, UON
 _____ EXISTING TO REMAIN AS-IS

NEW ONE-LINE DIAGRAM



3 LIGHTING CONTROL - DIMMER (TYPICAL)
E5.1 NOT TO SCALE



4 **LIGHT POLE FOUNDATION**
E5.1 NOT TO SCALE

NO.	REVISION	DATE

ID	MANUFACTURER	MODEL NO.	VOLTAGE	REQUIRED LAMPS			DESCRIPTION	NOTES
				QTY	WATT	TYPE		
A	COOPER	24FP4735C	MVOLT	1	41 W	LED, 3500K, 4600LM	2X4' ARCH TROFFER, 0-10V DIMMING	
AEM	COOPER	24FP4735C-EL14W	MVOLT	1	46 W	LED, 3500K, 4800LM	2X4' ARCH TROFFER, 0-10V DIMMING W/ 1400LM EMERG BATTERY	
B	COOPER	4VT2.LD5-6-DR-UNV-L835-CD1-VT2-SS-MBK	MVOLT	1	51 W	LED, 3500K, 6000LM	4" VAPOR-TITE FIXTURE, UNIVERSAL MOUNT.	
BEM	COOPER	4VT2.LD5-6-DR-UNV-L835-CD1-VT2-SS-MBK-EL10W	MVOLT	1	51 W	LED, 3500K, 6000LM	4" VAPOR-TITE FIXTURE, UNIVERSAL MOUNT. WITH BATTERY BACKUP.	
C	COOPER	LD-WP-GL-3B-120V-WG/WPGL	MVOLT	1	27 W	LED, 4000K, 2000LM	LED WALL PACK	
SA	LITHONIA	DSX2LED-P1-40K-80CRJ-T4M-MVOLT-SPA-NLTAIR2-PIRHN-DOBXD	MVOLT	1	72 W	LED, 4000K, 10000LM	ARCH AREA LIGHT, 18000 LUMENS. ONBOARD LIGHTING CONTROL. PROVIDE 4" SQUARE ALUMINUM 20' POLE. PROVIDE POLE WITH HANDHOLE AND CAMERA MOUNTING BOX AT 16' AFF.	
X	COOPER	LPXC25R3 / SRP	UNV	1	3 W	LED	COMBINATION EXIT/EMERGENCY SIGN WITH WEATHERPROOF REMOTE HEAD. INTEGRAL BATTERY.	
X1	COOPER	SRM REMOTE HEAD POWERED FROM EXIT SIGN 'X'	MVOLT	1	6 W	LED	REMOTE HEAD	

Panel: A Location: Space 109 Supply From: X-UTILITY Mounting: RECESSED Enclosure: TYPE 1 Series: PANELBOARD Volts: 120/240 Single Phases: 1 Wires: 3 A.I.C. Rating: 10kAIC Mains Type: MCB Mains Rating: 200 A Bus Rating: 200 A Neutral Buss: Yes Ground Buss: Yes Sub-Feed Lugs: No											
Notes:											
CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	X-PANEL AA	60	2	2.01	0.71			1	20	LTG ROOM 110, 111	2
3	--	--	--			1.77	0.88	1	20	LTG ROOM 108, 109, 103, 105, 107, 106	4
5	OTHER SPACE 109	20	1	0.36	1.30			1	20	ECUH-1	6
7	OTHER SPACE 109	20	1			0.36	0.00	1	20	SPARE	8
9	OTHER SPACE 109	20	1	0.36	1.50			1	20	DWH-2 KITCHEN	10
11	X-RECEPT WOMEN'S	20	1			0.00	0.03	1	20	X-LTG OVERHANG, LTG OH DOOR	12
13	X-RECEPT MEN'S	20	1	0.00	2.25			2	25	DWH-1 UTILITY ROOM	14
15	X-LTG / RECEPT CABINS	30	2			0.00	2.25	--	--	--	16
17	--	--	--	0.00	1.67			1	20	F-1 (UPPER) FURNACE	18
19	HC-1	40	2			4.00	1.30	1	20	F-2 (LOWER) FURNACE	20
21	--	--	--	4.00	1.00			1	20	OH DOOR FEED STORAGE	22
23	X-HAND DRYER MEN'S	20	1			0.00	1.25	2	30	WELL PUMP	24
25	X-HAND DRYER WOMEN'S	20	1	0.00	1.25			--	--	--	26
27	OTHER SPACE 109	20	1			1.08	0.14	1	20	SITE LIGHTING	28
29	ECUH-2	20	1	1.30	0.50			1	20	FACP	30
31	EF-3 MEN'S TOILET	20	1			0.05	0.00	1	20	SPARE	32
33	EF-2 WOMEN'S TOILET	20	1	0.10	1.00			1	20	MOTOR SPACE 110	34
35	EF-4 LIVESTOCK	20	1			2.68	1.00	1	20	MOTOR SPACE 110	36
37	SPARE	20	1	0.00	0.00			1	20	SPARE	38
39	SPARE	20	1			0.00	0.00	1	20	SPARE	40
41	SPARE	20	1	0.00	0.00			1	20	SPARE	42
				Total Load:		19 kW					
				Total Amps:		161 A					
Load Classification		Connected Load		Demand Factor		Estimated Demand		Panel Totals			
LTG		1767 VA		125.00%		2209 VA					
Motor		27882 VA		107.17%		29882 VA		Total Load: 36.08 kW			
Other		4270 VA		100.00%		4270 VA		Demand Load: 38.52 kW			
RECEPT		2160 VA		100.00%		2160 VA		Connected Amps: 150 A			
								Demand Amps: 161 A			
Notes:											

Panel: AA Location: TECH CLOSET 108 Supply From: A Mounting: SURFACE Enclosure: TYPE 1 Series: PANELBOARD Volts: 120/240 Single Phases: 1 Wires: 3 A.I.C. Rating: 10kAIC Mains Type: MLO Mains Rating: 60 A Bus Rating: 100 A Neutral Buss: Yes Ground Buss: Yes Sub-Feed Lugs: No											
Notes:											
* PROVIDE 20A-1P CIRCUIT BREAKER.											
** PROVIDE 30A-2P CIRCUIT BREAKER.											
CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	SPARE	20	1	0.00	0.00			1	20	SPARE	2
3	SPARE	20	1			0.00	0.00	1	20	SPARE	4
5	SPARE	20	1	0.00	0.00			1	20	SPARE	6
7	SPARE	20	1			0.00	0.00	1	20	SPARE	8
9	SPARE	20	1	0.00	0.00			1	20	SPARE	10
11	X-RECEPT TECH CLOSET	20	1			0.00	0.00	1	20	SPARE	12
13	X-RECEPT TECH CLOSET	20	1	0.00	0.00			1	20	SPARE	14
15	RECEPT TECH CLOSET	20	1			0.36	0.00	1	20	SPARE	16
17	X-TVSS TECH CLOSET	20	2	0.00	0.00			1	20	X-LTG TECH CLOSET	18
19	--	--	--			0.00	0.00	1	20	SPARE	20
21	ACCESS CONTROL CORRIDOR	20	1	0.60	0.00			1	20	* EF-1 TECH CLOSET	22
23	** NEMA L6-30R TECH CLOSET	30	2			1.41	--	1	--	X-SPACE	24
25	--	--	--	1.41	--			1	--	X-SPACE	26
27	X-MAIN BREAKER	60	2			0.00	--	1	--	X-SPACE	28
29	--	--	--	0.00	--			1	--	X-SPACE	30
				Total Load:		2 kW					
				Total Amps:		17 A					
Load Classification		Connected Load		Demand Factor		Estimated Demand		Panel Totals			
Motor		0 VA		0.00%		0 VA					
Other		3410 VA		100.00%		3410 VA		Total Load: 3.77 kW			
RECEPT		360 VA		100.00%		360 VA		Demand Load: 3.77 kW			
								Connected Amps: 16 A			
								Demand Amps: 16 A			
Notes:											

DATE					
REVISION					
NO.					

KEYNOTES:

- 1 DEMOLISH FIXTURE, POLE, POLE BASE, CONDUIT, AND WIRE TO SOURCE.
- 2 EXISTING TO REMAIN.
- 3 NEW LIGHT FIXTURE, POLE, AND POLE FOUNDATION. CONNECT TO CIRCUIT SHOWN AND EXTEND NEW WIRING AND CONDUIT TO FIXTURE. SEE E7.1 FOR FIXTURE SCHEDULE AND 4IES.1 FOR FOUNDATION DETAIL. ROUTE 1" 1/2" C TO POLE BASE FOR CAMERA FEEDER.