

TOWN OF MONTAGUE NEW DPW FACILITY

LOCUS MAP:



TS-001	TITLE SHEET	FP-101	FIRST FLOOR FIRE PROTECTION PLAN
R-101	FIRST FLOOR CODE PLAN	FP-101	MEZZANINE FIRE PROTECTION PLAN
R-102	MEZZANINE CODE PLAN	FP-201	FIRE PROTECTION NOTES & DETAILS
C-101	EXISTING CONDITIONS PLAN	P-100	FIRST FLOOR BELOW GRADE PLUMBING PLAN
C-111	SITE PREPARATION PLAN	P-101	FIRST FLOOR ABOVE GRADE PLUMBING PLAN
C-121	LAYOUT, MATERIALS & PLANTING PLAN	P-102	MEZZANINE FLOOR PLUMBING PLAN
C-131	GRADING & UTILITIES PLAN	P-201	PLUMBING DETAILS, NOTES & SCHEDULES
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C-502	DETAILS II	H-101	FIRST FLOOR HVAC DUCTWORK PLAN
C-503	DETAILS III	H-102	MEZZANINE HVAC DUCTWORK PLAN
C-504	DETAILS IV	H-201	FIRST FLOOR HVAC PIPING PLAN
		H-202	MEZZANINE HVAC PIPING PLAN BASE BID
A-001	GENERAL NOTES ABBREVIATIONS AND SYMBOLS LIST	H-203	MEZZANINE HVAC PIPING PLAN ALTERNATE #3
A-002	PARTITION TYPES	H-301	RADIANT HEAT PIPING PLAN
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A-004	HANDICAP ACCESSIBILITY DIMENSION REFERENCES	H-401	HVAC DETAILS
A-101	FIRST FLOOR PLAN	H-402	HVAC NOTES & SCHEDULES
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A-103 A-104	ENLARGED FIRST FLOOR PLAN	E-101	ELECTRICAL LEGEND ELECTRICAL FIRST FLOOR POWER PLAN
A-104 A-105	SALT STORAGE STRUCTURE	E-101 E-102	ELECTRICAL PIRST PLOOR POWER PLAN ELECTRICAL MEZZANINE FLOOR POWER PLAN
A-103 A-201	FIRST FLOOR REFLECTED CEILING PLAN	E-201	ELECTRICAL FIRST FLOOR LIGHTING PLAN
A-202	MEZZANINE REFLECTED CEILING PLAN	E-202	ELECTRICAL MEZZANINE FLOOR LIGHTING PLAN
A-301	EXTERIOR ELEVATIONS SHEET 1	E-300	ELECTRICAL PART PLANS
A-302	EXTERIOR ELEVATIONS SHEET 2	E-301	ELECTRICAL SCHEDULES
A-401	BUILDING SECTION	E-302	ELECTRICAL RISER DIAGRAMS
A-402	WALL SECTIONS SHEET 1	E-303	ELECTRICAL DETAILS
A-403	WALL SECTIONS SHEET 2	FA-101	ELECTRICAL FIRST FLOOR FIRE ALARM PLAN
A-404	WALL SECTIONS SHEET 3	FA-102	ELECTRICAL MEZZANINE FLOOR FIRE ALARM PLA
A-405	BRIDGE CRANE SECTIONS	ES-101	ELECTRICAL SITE PLAN
A-501	ROOF DETAILS	ES-102	ELECTRICAL SITE DETAILS
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A-503	DOOR AND WINDOW DETAILS SHEET 2		
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A-505	ENLARGED STAIR PLANS AND FRAMING PLANS		
A-506	STAIR SECTIONS		
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A-509	INTERIOR DETAILS		
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INTERIOR ELEVATIONS SHEET 1
INTERIOR ELEVATIONS SHEET 2

INTERIOR ELEVATIONS SHEET 3

DOOR SCHEDULE TYPES FRAMES AND DETAILS

INTERIOR ELEVATIONS SHEET 4 FIRST FLOOR SIGNAGE PLAN

MEZZANINE FRAMING PLAN

GENERAL NOTES AND DETAILS

FOUNDATION SECTIONS AND DETAILS

SIGNAGE TYPES

FOUNDATION PLAN

A-802 ROOF FRAMING PLAN



TOWN OF MONTAGUE

NEW DPW FACILITY

OWNER:
TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:



Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:

SEAMAN ENGINEERING CORP.

22 WEST STREET, UNIT C

MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL

CONSTRUCTION AND ENGINEERING, INC.

379 LIBERTY STREET

ROCKLAND, MA 02370

CTAMD

REV DATE DESCRIPTION

DATE 5/15/19

SCALE NONE

DRAWN BY MTV

CHECKED BY GKY

PROJECT NO. 19001

BUILDING:

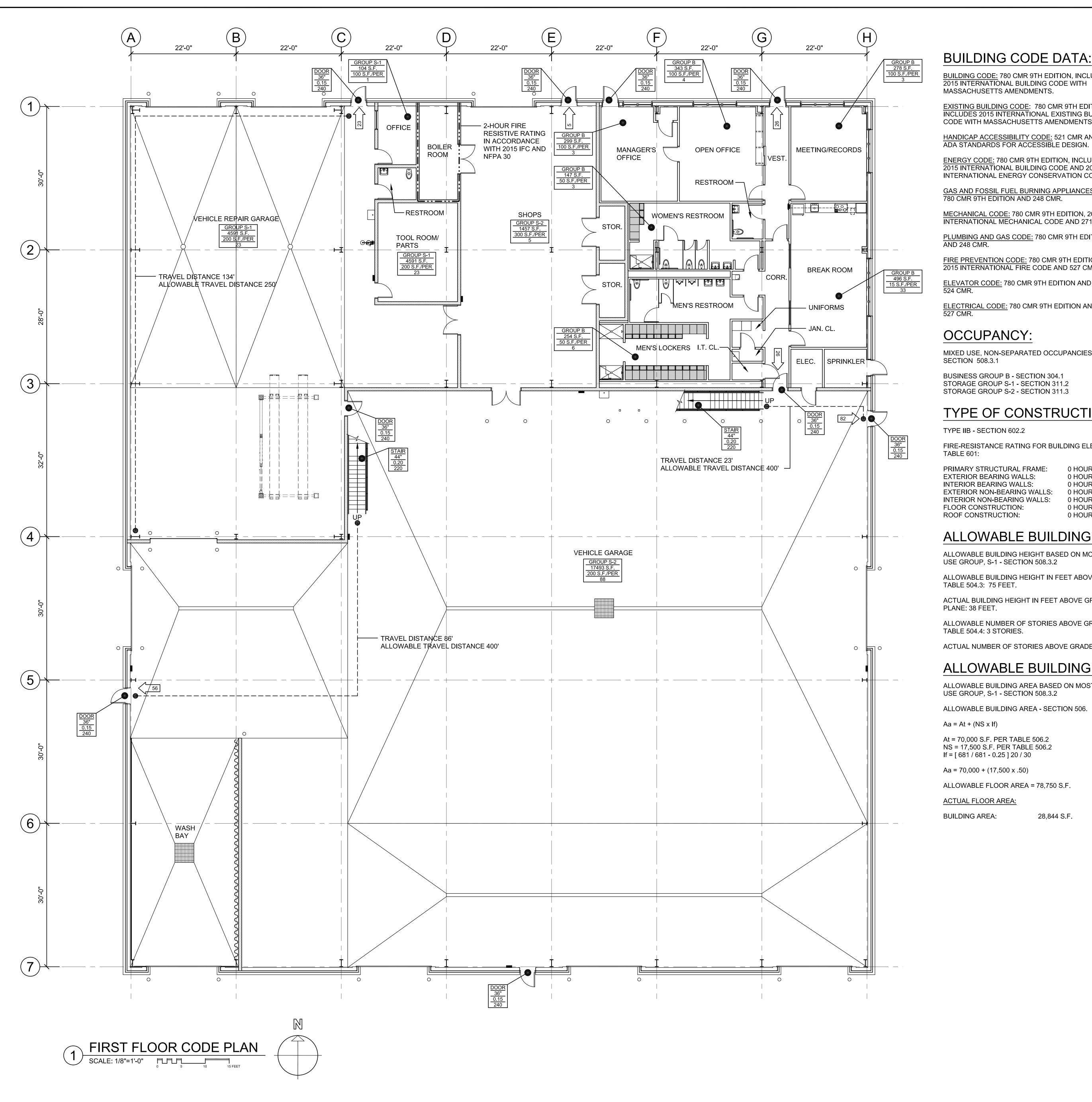
SHEET TITLE:

TITLE SHEET

DRAWING NO.

WING NO.

TS-001



BUILDING CODE DATA:

BUILDING CODE: 780 CMR 9TH EDITION, INCLUDES 2015 INTERNATIONAL BUILDING CODE WITH MASSACHUSETTS AMENDMENTS.

EXISTING BUILDING CODE: 780 CMR 9TH EDITION, INCLUDES 2015 INTERNATIONAL EXISTING BUILDING CODE WITH MASSACHUSETTS AMENDMENTS.

HANDICAP ACCESSIBILITY CODE: 521 CMR AND ADA STANDARDS FOR ACCESSIBLE DESIGN.

ENERGY CODE: 780 CMR 9TH EDITION, INCLUDES 2015 INTERNATIONAL BUILDING CODE AND 2015 INTERNATIONAL ENERGY CONSERVATION CODE.

GAS AND FOSSIL FUEL BURNING APPLIANCES: 780 CMR 9TH EDITION AND 248 CMR.

MECHANICAL CODE: 780 CMR 9TH EDITION, 2015 INTERNATIONAL MECHANICAL CODE AND 271 CMR.

PLUMBING AND GAS CODE: 780 CMR 9TH EDITION

FIRE PREVENTION CODE: 780 CMR 9TH EDITION, 2015 INTERNATIONAL FIRE CODE AND 527 CMR.

ELECTRICAL CODE: 780 CMR 9TH EDITION AND 527 CMR.

OCCUPANCY:

MIXED USE, NON-SEPARATED OCCUPANCIES -SECTION 508.3.1

BUSINESS GROUP B - SECTION 304.1 STORAGE GROUP S-1 - SECTION 311.2 STORAGE GROUP S-2 - SECTION 311.3

TYPE OF CONSTRUCTION:

TYPE IIB - SECTION 602.2

FIRE-RESISTANCE RATING FOR BUILDING ELEMENTS

PRIMARY STRUCTURAL FRAME:	0 HOUR
EXTERIOR BEARING WALLS:	0 HOUR
INTERIOR BEARING WALLS:	0 HOUR
EXTERIOR NON-BEARING WALLS:	0 HOUR
INTERIOR NON-BEARING WALLS:	0 HOUR
FLOOR CONSTRUCTION:	0 HOUR
ROOF CONSTRUCTION:	0 HOUR

ALLOWABLE BUILDING HEIGHT:

ALLOWABLE BUILDING HEIGHT BASED ON MOST RESTRICTIVE USE GROUP, S-1 - SECTION 508.3.2

ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE, TABLE 504.3: 75 FEET.

ACTUAL BUILDING HEIGHT IN FEET ABOVE GRADE

PLANE: 38 FEET.

ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE,

TABLE 504.4: 3 STORIES.

ACTUAL NUMBER OF STORIES ABOVE GRADE PLANE: 1 STORY.

ALLOWABLE BUILDING AREA

ALLOWABLE BUILDING AREA BASED ON MOST RESTRICTIVE USE GROUP, S-1 - SECTION 508.3.2

ALLOWABLE BUILDING AREA - SECTION 506.

 $Aa = At + (NS \times If)$

At = 70,000 S.F. PER TABLE 506.2 NS = 17,500 S.F. PER TABLE 506.2 If = [681 / 681 - 0.25] 20 / 30

 $Aa = 70,000 + (17,500 \times .50)$

ALLOWABLE FLOOR AREA = 78,750 S.F.

ACTUAL FLOOR AREA:

28,844 S.F.

BUILDING EGRESS:

NUMBER OF EXITS: NUMBER OF EXITS PER FLOOR - 2 (TABLE 1006.3.1).

ACCESSIBLE MEANS OF EGRESS:

REQUIRED PER SECTION 1007.1

EXIT ACCESS TRAVEL DISTANCE IS NOT TO EXCEED 250 AND 400 FEET AS REQUIRED IN SECTION 1017 AND TABLE

PORTABLE FIRE EXTINGUISHERS:

FIRE CLASSIFICATIONS A, B AND C - 906.3.

MODERATE HAZARD, 3,000 S.F. PER EXTINGUISHER, MAX. TRAVEL DISTANCE 75 FEET - TABLE 906.3(1).

FIRE EXTINGUISHERS SHALL BE INSTALLED ON BRACKETS OR IN CABINETS - 906.7 AND 906.8.

FIRE EXTINGUISHERS SHALL BE IDENTIFIED WITH SIGNAGE -

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TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376



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ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

LEGEND

EGRESS COMPONENT SYMBOL X — EGRESS COMPONENT — CLEAR WIDTH — EGRESS CAPACITY FACTOR 0 — EGRESS CAPACITY

OCCUPANCY COMPONENT SYMBOL X USE GROUP 0 AREA S.F.
0 OCCUPANT LOAD FACTOR
0 OCCUPANT LOAD

● - - - - - EGRESS TRAVEL DISTANCE

OCCUPANT FLOW AND NUMBER ---- 1-HOUR FIRE RATING

---- 2-HOUR FIRE RATING

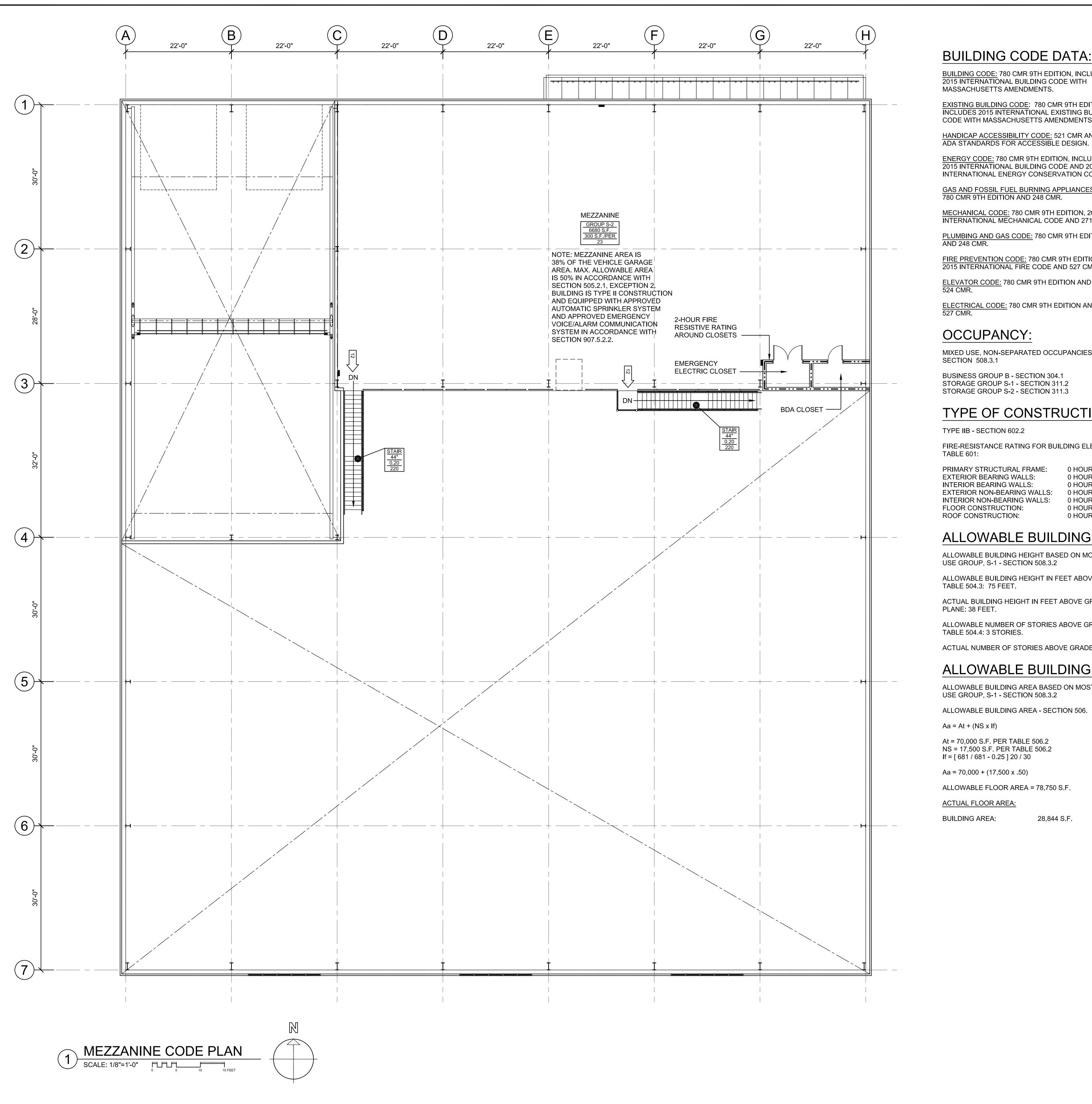
REV DATE DESCRIPTION 5/15/19 1/8" = 1'-0"

CHECKED BY PROJECT NO. 19001 BUILDING:

FIRST FLOOR CODE PLAN

DRAWING NO.

R-101



BUILDING CODE DATA:

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FIRE-RESISTANCE RATING FOR BUILDING ELEMENTS TABLE 601:

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INTERIOR BEARING WALLS:	0 HOUR
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INTERIOR NON-BEARING WALLS:	0 HOUR
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LEGEND

EGRESS COMPONENT SYMBOL X EGRESS COMPONENT
O CLEAR WIDTH
O EGRESS CAPACITY FACTOR

OCCUPANCY COMPONENT SYMBOL X USE GROUP
O AREA S.F.
OCCUPANT LOAD FACTOR
OCCUPANT LOAD

0 — EGRESS CAPACITY

● - - - - - EGRESS TRAVEL DISTANCE OCCUPANT FLOW AND NUMBER

---- 1-HOUR FIRE RATING ---- 2-HOUR FIRE RATING

MEZZANINE

PROJECT NO. 19001

CHECKED BY

BUILDING:

REV DATE DESCRIPTION

5/15/19

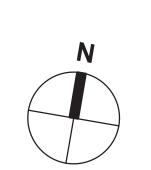
1/8" = 1'-0"

CODE PLAN

DRAWING NO. R-102



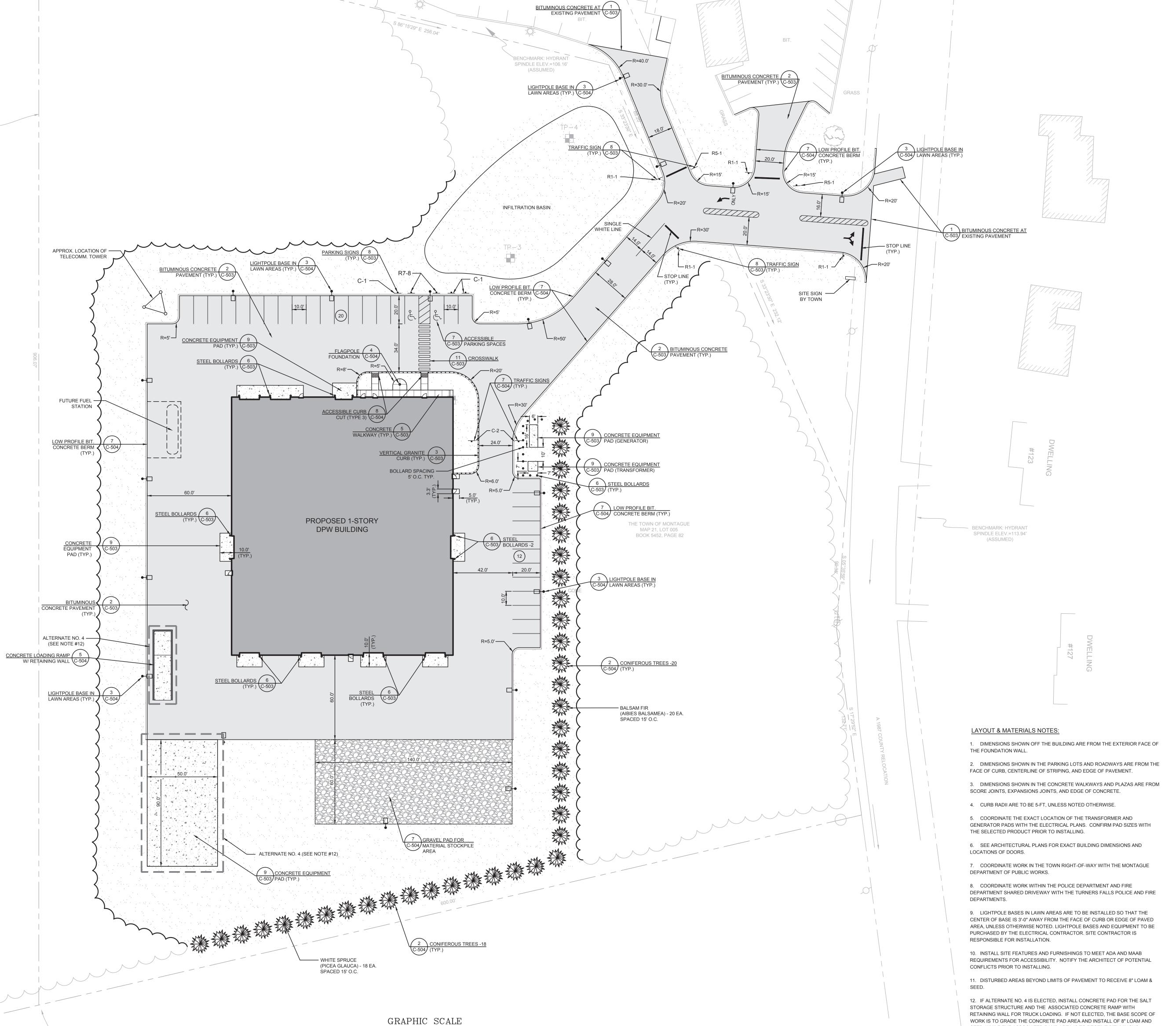




PROPOSED NEW PROPERTY LINE _____

	LEGEND					
o	· · · · BOLLARD					
•	· · · · SIGN					
□→	· · · · LIGHTPOLE BASE					
	· · · · · VERTICAL GRANITE CURB					
	· · · · · LOW PROFILE BITUMINOUS BERM					
	· · · · · · ACCESSIBLE CURB CUT W/ TRANSITION CURB					
گ	· · · · · HANDICAP PARKING					
	· · · · · CONCRETE WALK W/ SCORE JOINTS					
(14)	· · · · · PARKING COUNTS					
	· · · · · HEAVY-DUTY BITUMINOUS PAVEMENT					
	· · · · · CONCRETE PAD					
	· · · · · BUILDING					
7	· · · · · 8" LOAM & SEED					
	· · · · · WOOD GUARDRAIL					
	· · · · · TREE LINE					
and the same of th	· · · · · TREE PLANTING					

PA	RKI	NG	AN	D TRAFFIC SIGNS			
SIGN	SIGN SIZE OF SIGN NUMBER WIDTH HEIGH		F SIGN HEIGHT	DESCRIPTION	MOUNT HEIGHT (TO BOTTOM)	MOUNT TYPE	QUANTITY
RESERVED PARKING	R7-8	12"	18"	BLUE & GREEN ON WHITE	5'-9"	SQUARE POST	2
VAN	R7-8A	18"	9"	GREEN ON WHITE	5'-0"	SQUARE POST	1
DPW VISITOR PARKING	C-1	12"	18"	BLACK ON WHITE	5'-6"	SQUARE POST	3
AUTHORIZED VEHICLES ONLY	C-2	18"	18"	BLACK ON WHITE	5'-6"	SQUARE POST	2
STOP	R1-1	30"	30"	WHITE ON RED	7'-0"	CHANNEL	4
DO NOT	R5-1	30"	30"	WHITE ON RED	7'-0"	CHANNEL	2



(IN FEET) 1 inch = 30 ft.

THE TOWN OF MONTAGUE MONTAGUE POLICE STATION BOOK 5452, PAGE 82 (PORTION) SEE; PLAN BOOK 126, PAGE 25 PARCÉL

SEE: PLAN BOOK 126, PAGE 25 BOOK 1383, PAGE 184 (REMAINDER) THE TURNERS FALLS FIRE DISTRICT



TOWN OF MONTAGUE

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ARCHITECT:

★ HELENE • KARL

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ELECTRICAL ENGINEER:

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STAMP

SEED, WHILE THE ASSOCIATED RAMP AREA IS TO RECEIVE BITUMINOUS

SHEET TITLE:

PROJECT NO. 19001

DRAWN BY

CHECKED BY

BUILDING:

REV DATE DESCRIPTION

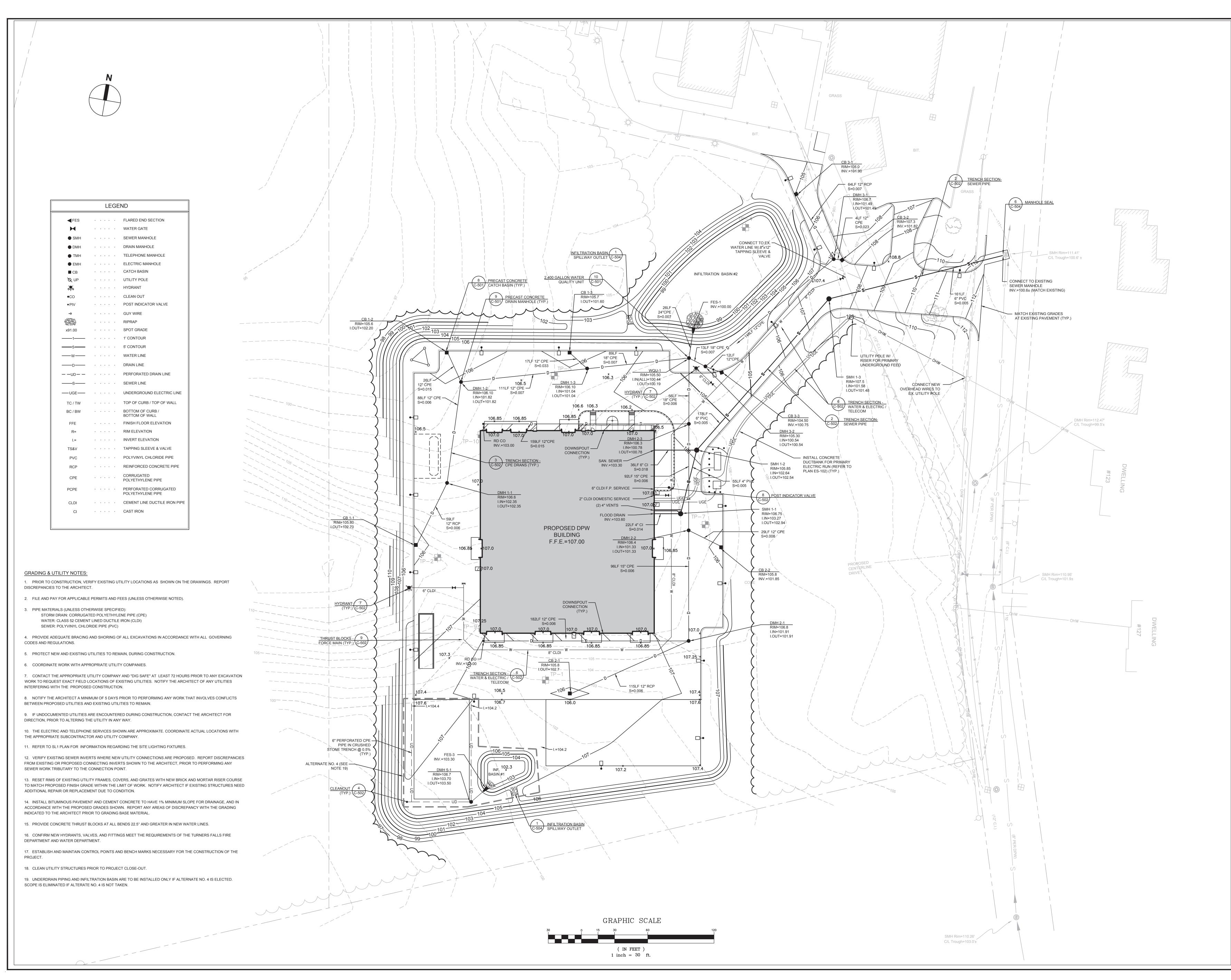
LAYOUT, MATERIALS, & PLANTING PLAN

5/15/19

1"=30'

CJR

DRAWING NO.





TOWN OF MONTAGUE

NEW DPW FACILITY

OWNER:

TOWN OF MONTAGUE

ONE AVENUE A

TURNERS FALLS, MA 01376

ARCHITECT:

HELENE · KARL

Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

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379 LIBERTY STREET

ROCKLAND, MA 02370

STAMP

REV DATE DESCRIPTION

DATE 5/15/19

SCALE 1"=30'

DRAWN BY CJR

CHECKED BY PSG

PROJECT NO. 19001

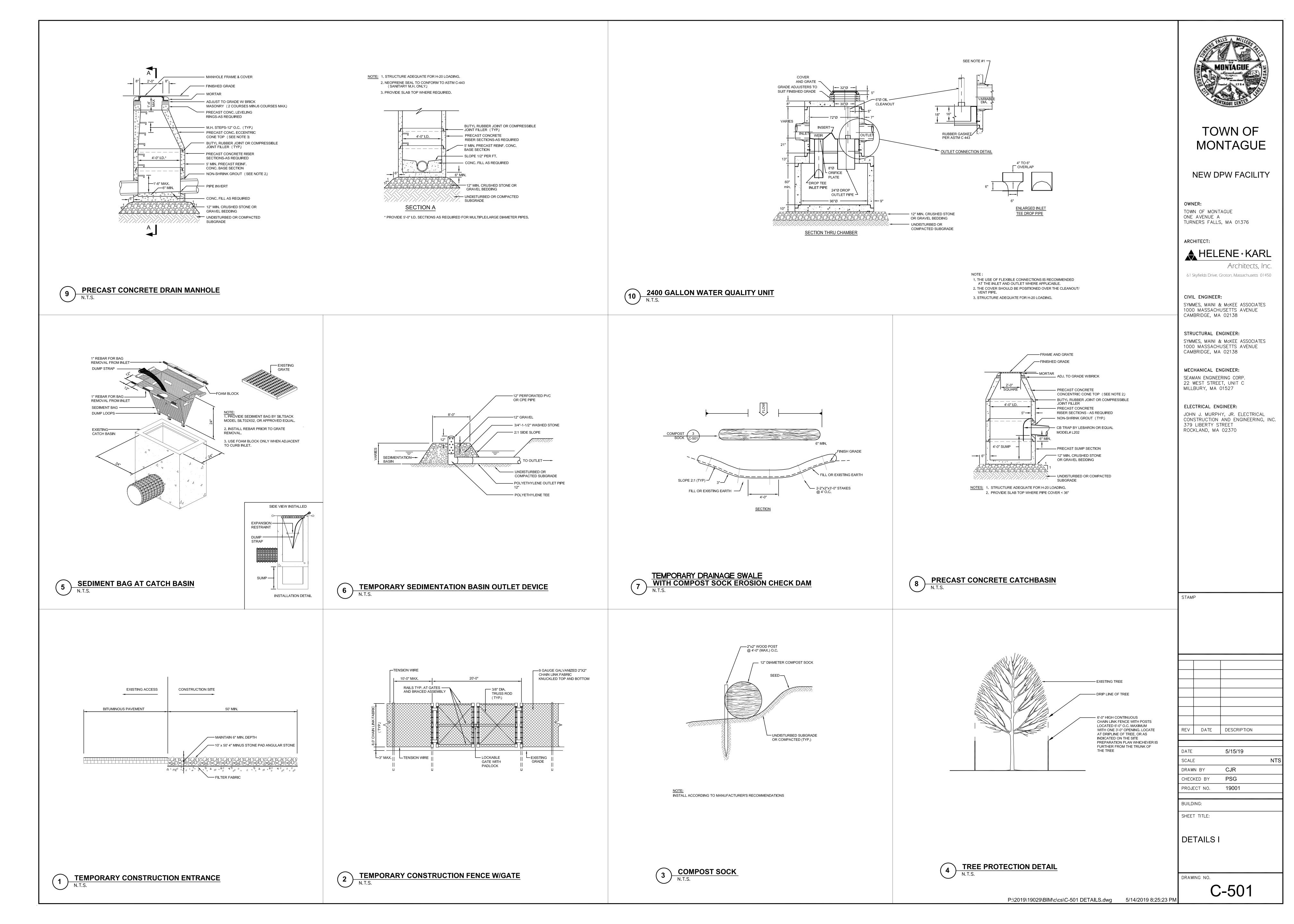
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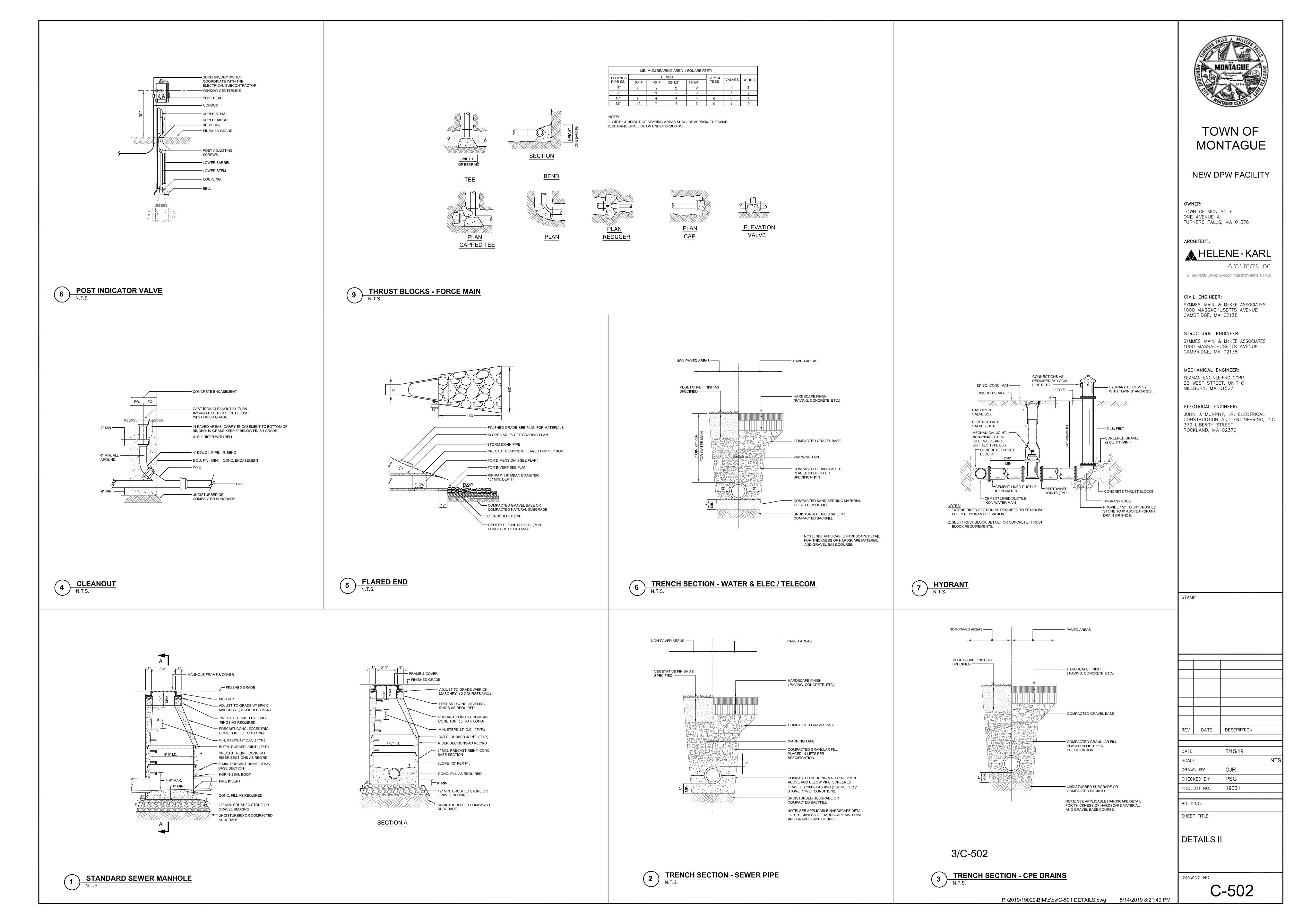
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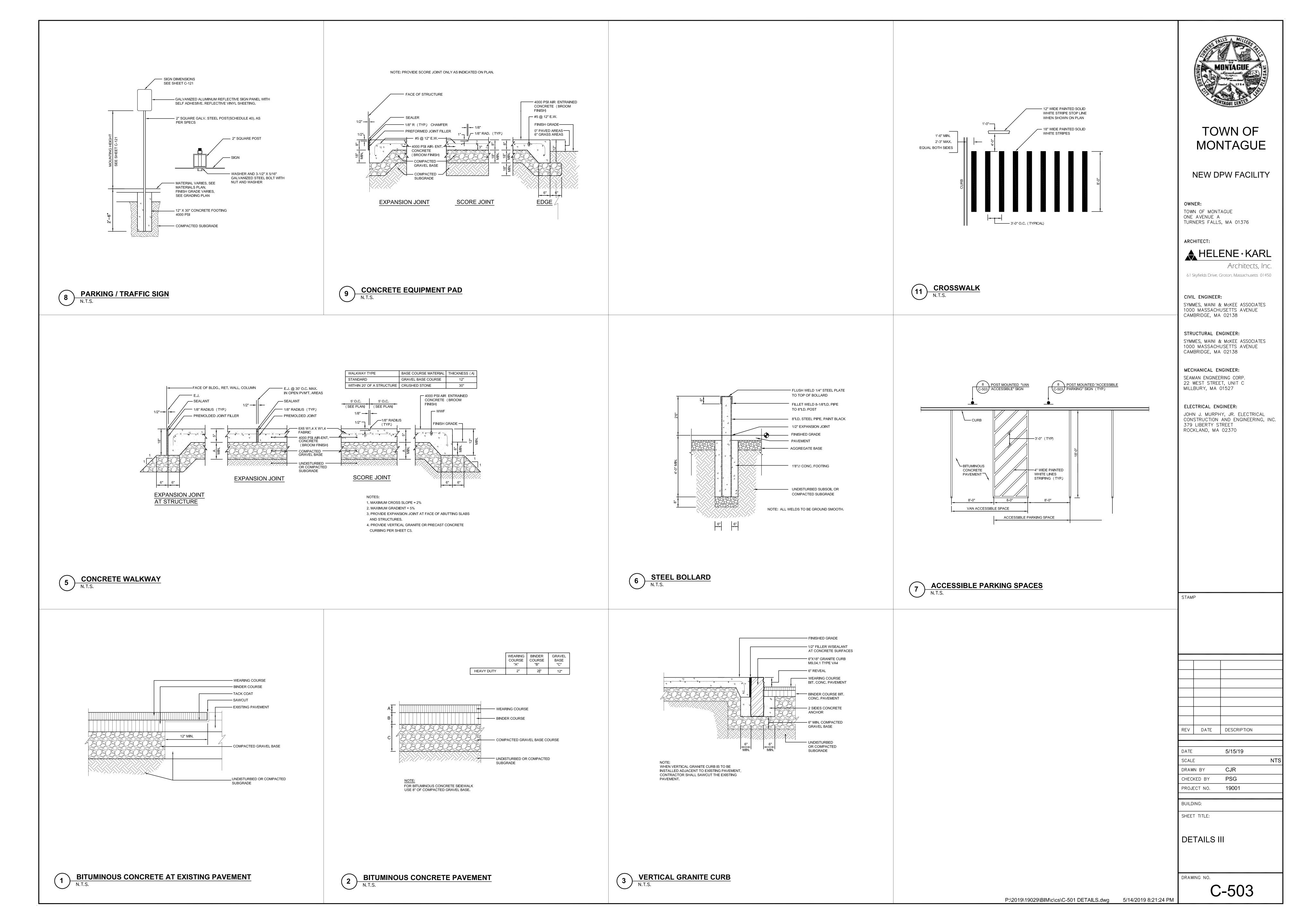
GRADING & UTILITIES PLAN

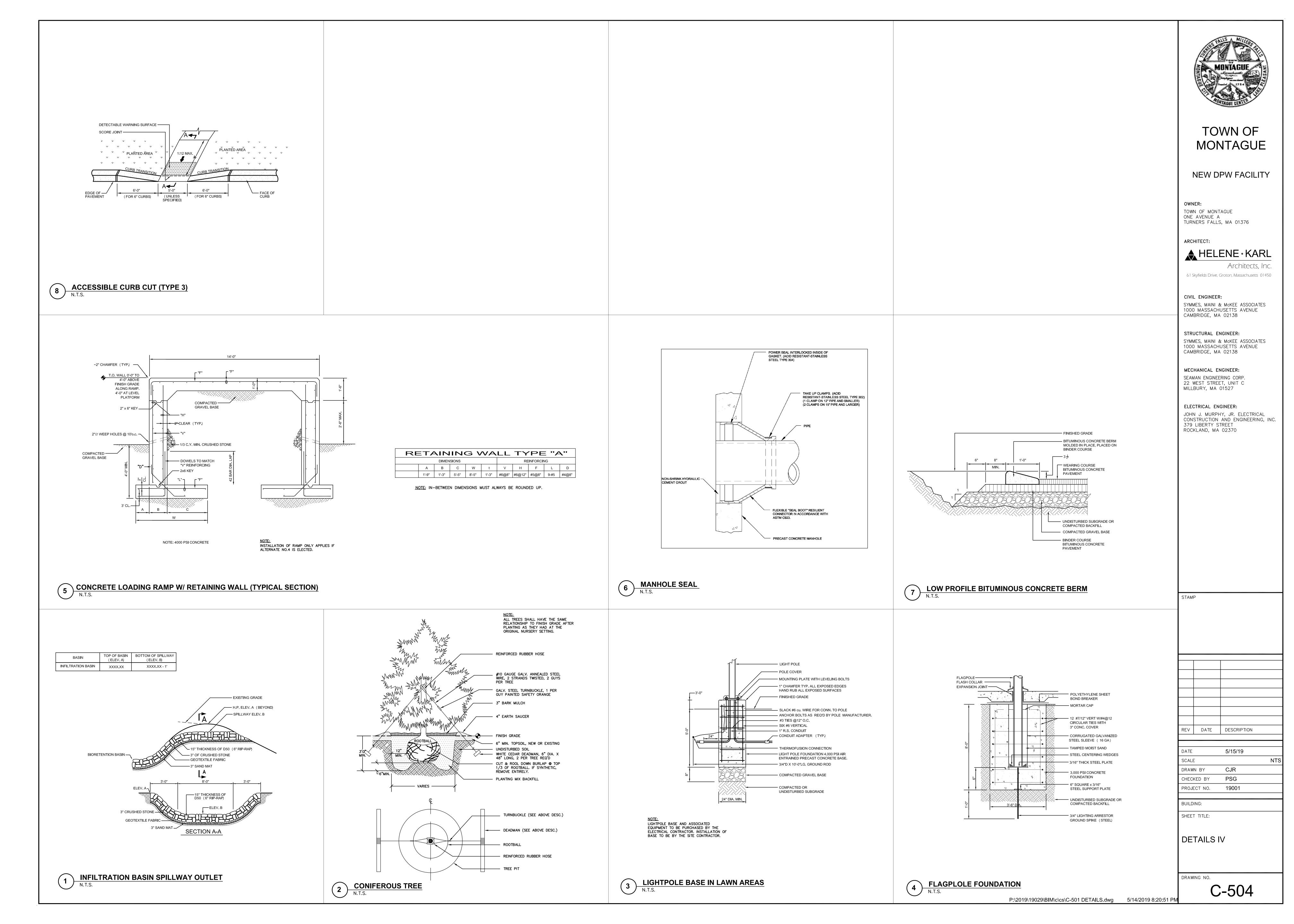
DRAWING NO.

C-131









GENERAL NOTES:

- CONSTRUCTION SHALL COMPLY WITH THE MASSACHUSETTS STATE BUILDING CODE (780 CMR 9TH EDITION), STATE AND LOCAL BUILDING REGULATIONS AND THE MASSACHUSETTS ARCHITECTURAL ACCESS BARRIERS REGULATIONS (521 CMR) AND THE AMERICANS WITH DISABILITIES ACT (ADA).
- 2. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES IN THE CONTRACT DOCUMENTS.
- 3. USE OF THE OWNER'S DUMPSTERS IS STRICTLY PROHIBITED.
- 4. CONTRACTOR SHALL DISPOSE OF ALL DEMOLISHED MATERIALS OFF-SITE AND IN ACCORDANCE WITH THE COMMONWEALTH OF MASSACHUSETTS REGULATIONS.
- 5. ALL UTILITY SHUTDOWNS SHALL BE COORDINATED IN ADVANCE WITH THE OWNER AND ARCHITECT.
- 6. CONTRACTOR SHALL FIELD CUT ALL NEW PENETRATIONS THROUGH FLOOR AND CEILING AS CLOSE AS PRACTICALLY POSSIBLE TO EXISTING WALLS AND ADJACENT PENETRATIONS. CORED HOLES AND PENETRATIONS SHALL BE NO MORE THAN 1" DIAMETER GREATER THAN THE PIPE OR CONDUIT THAT IS TO PASS THROUGH THE HOLE. CORES 2" AND LESS SHALL BE DONE BY THE SUBCONTRACTORS. CORES GREATER THAN 2" SHALL BE DONE BY THE CONTRACTOR.
- 7. THE CONTRACTOR SHALL BROOM CLEAN THE PROJECT AREA AT THE END OF EACH WORK DAY AND MAINTAIN AREAS ADJACENT TO THE PROJECT IN A CLEAN AND UNOBSTRUCTED MANNER.
- 8. CONTRACTOR IS RESPONSIBLE FOR SECURITY IN THE PROJECT AREA.
- 9. MECHANICAL AND ELECTRICAL CONTRACTORS ARE RESPONSIBLE FOR CUTTING, CAPPING AND/OR VALVING OF THE RESPECTIVE SERVICES TO MAKE THE PROJECT AREA SAFE DURING DEMOLITION. ALL TEMPORARY SHUTDOWNS FOR ESTABLISHING THE NECESSARY CROSS CONNECTIONS OR TIE-INS SHALL BE FULLY COORDINATED WITH THE OWNER AND ARCHITECT IN ADVANCE. SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- 10. ALL WORK IS "NEW" UNLESS OTHERWISE NOTED.
- 11. DIMENSIONS ARE SHOWN FROM FACE OF FINISH UNLESS OTHERWISE NOTED.
- 12. ALL WORK IS TO BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS INDICATED. OTHERWISE, WORK IS TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS OR GENERALLY ACCEPTED INDUSTRY STANDARDS, METHODS AND PROCEDURES.
- 13. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED.
- 14. CONTRACTOR SHALL COORDINATE ALL FLOOR PENETRATIONS WITH RADIANT HEAT SYSTEM. PENETRATIONS SHALL INCLUDE BUT NOT BE LIMITED TO REBAR, ANCHOR BOLTS, PLUMBING, FIRE PROTECTION, ELECTRICAL CONDUIT, AND FASTENERS FOR EQUIPMENT. CONTRACTOR SHALL ENSURE THAT ANY PENETRATIONS DO NOT DAMAGE THE RADIANT HEAT SYSTEM.
- 15. ALL WORK INDICATED TO BE PAINTED SHALL BE DONE BY SECTION 09 90 10. ALL SPRINKLER PIPING TO BE PAINTED, REFER TO SECTIONS 09 90 10 AND 21 00 01.

SYMBOL LEGEND

DOOR TYPE

ROOM NUMBER

WALL TYPE

DETAIL REFERENCE

SECTION REFERENCE

ELEVATION REFERENCE

CURTAINWALL/STOREFRONT TYPE

INTERIOR ELEVATION REFERENCE

16. ALL SEALANTS AND CAULKING SHALL BE DONE BY SECTION 07 90 00.

ABBREVIATION LIST

ACOUSTICAL CEILING TILE ACOUST. ACOUSTICAL AFF ABOVE FINISH FLOOR APPROX. APPROXIMATELY C.J. **CONTROL JOINT** CLG. CEILING CMU CONCRETE MASONRY BLOCK COL. COLUMN CONC. CONCRETE CONT. CONTINUOUS DEMO DEMOLITION DIM. DIMENSION DWG DRAWING EA. EACH ELEC. ELECTRICAL EQ.

DEMOLITION
DIMENSION
DRAWING
EACH
ELECTRICAL
EQUAL
EQUIPMENT
EXISTING
EXPANSION

FLR FLOOR
GA. GAUGE
GALV. GALVANIZED
GWB GYPSUM WALL BOARD
HM. HOLLOW METAL

FINISH

HT. HEIGHT
HVAC HEATING/VENTILATING/AIR CONDITIONING
INSUL. INSULATED
JT. JOINT

EQUIP.

EXIST.

EXP.

MIN.

MTL.

N.I.C.

LAM. LAMINATE
MAX. MAXIMUM
MDO MEDIUM DENSITY OVERLAY
MECH. MECHANICAL

NOT IN CONTRACT

RAIN LEADER REQUIRED

MINIMUM

METAL

N.T.S. NOT TO SCALE
O.C. ON CENTER
PLY. PLYWOOD
P.T. PRESSURE TREATED
PTD. PAINTED
REF. REFERENCE

R.O. ROUGH OPENING
SCH SCHEDULE
SEC. SECTION
SHT. SHEET
SIM. SIMILAR
SPEC. SPECIFICATION
STD STANDARD
STL. STEEL
STRUCT. STRUCTURAL
SUSP. SUSPENDED

SUSP.
T.O.C.
TOP OF CURB
TYP.
TYPICAL
VAT
VINYL ASBESTOS TILE
VCT
VINYL COMPOSITION TILE
VERT.
VERTICAL
V.I.F.
VERIFY IN FIELD

VERT. VERTICAL
V.I.F. VERIFY IN
WD WOOD
WDW WINDOW
W/ WITH

NOTE: NOTIFY THE ARCHITECT IMMEDIATELY IF CLARIFICATION IS NEEDED WITH AN ABBREVIATION NOT LISTED ABOVE (TYP.)



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TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:



Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMP

REV DATE DESCRIPTION

DATE 5/15/19

SCALE NONE

DRAWN BY MTV

CHECKED BY GKY

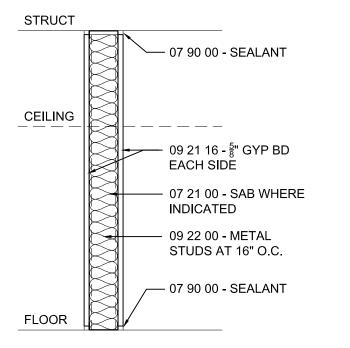
PROJECT NO. 19001

BUILDING:

SHEET TITLE:

GENERAL NOTES, ABBREVIATIONS AND SYMBOLS LIST

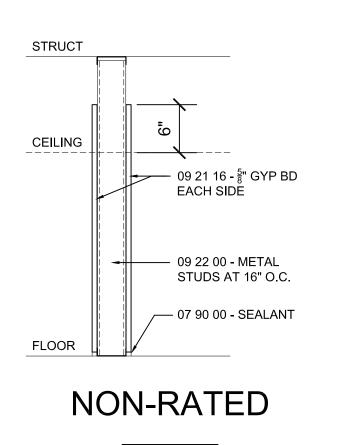
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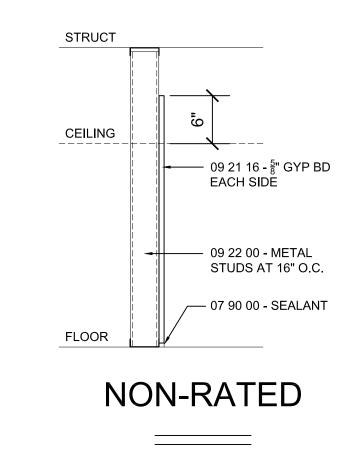




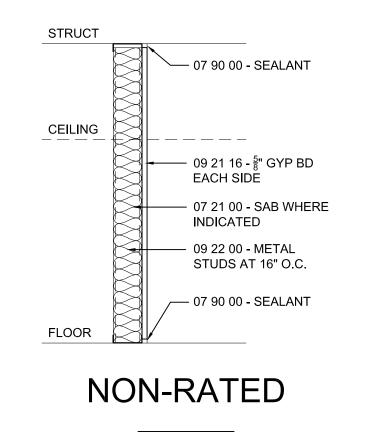
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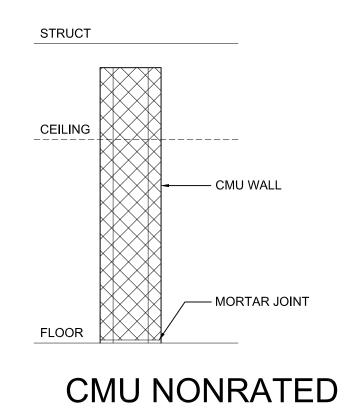
STC 36 (46 W/ 3" SAB)





NON-RATED





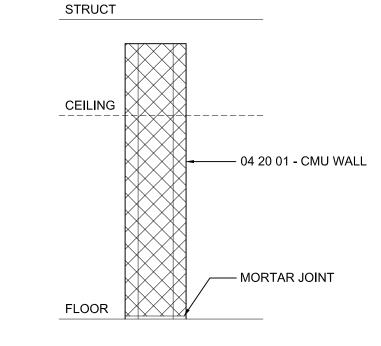
NONRATED

SUFFIX NOMINAL WIDTH ACTUAL WIDTH

3 5/8"

5 5/8"

7 5/8"



2HR FIRE RATED CMU

2 HOUR FIRE RATED UL DESIGN U905

SUFFIX NOMINAL WIDTH ACTUAL WIDTH

8"

10"

12"

3 5/8"

5 5/8"

7 5/8"

9 5/8"

11 5/8"

FOR $\frac{5}{8}$ " GYPSUM BOARD IN SHOWERS (TYP.)	
5. SUBSTITUTE $\frac{5}{8}$ " ABUSE RESISTANT GYPSUM BOARD FOR $\frac{5}{8}$ " GYPSUM BOARD IN GARAGE SPACES, SHOPS, ETC. (TYP.)	NEW DPW FACILITY
6. LINE OF "STRUCTURE" SHOWN ON PARTITION TYPES IS DIAGRAMMATIC ONLY AND DOES NOT INDICATE EXACT CONSTRUCTION CONDITIONS. OFFSET PARTITION CONSTRUCTION AS NECESSARY	OWNER: TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT:

CIVIL ENGINEER:

TOWN OF

MONTAGUE

HELENE · KARL

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TO EXTEND WALL TO DECK ABOVE AND SEAL AS SHOWN (TYP.)
7. PROVIDE DEFLECTION TRACKS OR CLIPS FOR ALL PARTITIONS ABUTTING STRUCTURE ABOVE

PARTITION NOTES:

DIRECTORY - LATEST EDITION (TYP.)

SEALANTS AT HEAD, SILL, THROUGH

DISSIMILAR MATERIALS (TYP.)

MATERIALS (TYP.)

(TYP.)

1. U.L. DESIGN NUMBERS REFER TO THE

UNDERWRITERS LABORATORIES FIRE RESISTANCE

2. FIRE RATED PARTITIONS SHALL HAVE FIRESTOP

PENETRATIONS, OPENINGS AND JUNCTURES WITH

3. NON-RATED PARTITIONS SHALL HAVE SEALANTS

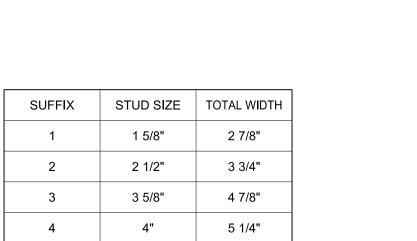
4. SUBSTITUTE $\frac{5}{8}$ " MOLD RESISTANT GYPSUM BOARD

AT THE HEAD, SILL, THROUGH PENETRATIONS,

OPENINGS AND JUNCTURES WITH DISSIMILAR

8. ALL GYPSUM BOARD SHALL BE PREPED, PRIMED
AND PAINTED IN ACCORDANCE WITH SECTION
09 90 10 (TYP.)

9. REFER TO DRAWING A-003 FOR PARTITION DETAILS (TYP.)



—— 07 21 00 - SAB WHERE

EACH SIDE

INDICATED

---- 09 22 00 - METAL

STUDS AT 16" O.C.

___ 07 90 00 - SEALANT

2HR FIRE RATED

2 HOUR FIRE RATED UL DESIGN U411 STC 36 (46 W/ 3" SAB)

SUFFIX STUD SIZE TOTAL WIDTH

SUFFIX	STUD SIZE	TOTAL WIDTH
1	1 5/8"	2 7/8"
2	2 1/2"	3 3/4"
3	3 5/8"	4 7/8"
4	4"	5 1/4"
6	6"	7 1/4"
8	8"	9 1/4"

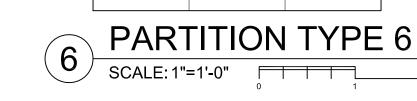
NON-RATED

	SUFFIX	STUD SIZE	TOTAL WIDTH
	1	1 5/8"	2 1/4"
	2	2 1/2"	3 1/8"
	3	3 5/8"	4 1/4"
	4	4"	4 5/8"
	6	6"	6 5/8"
	8	8"	8 5/8"
!			TVDE

SUFFIX	STUD SIZE	TOTAL WIDTH	
1	1 5/8"	2 1/4"	
2	2 1/2"	3 1/8"	
3	3 5/8"	4 1/4"	
4	4"	4 5/8"	
6	6"	6 5/8"	
8	8"	8 5/8"	
	LITION	TVDE	

NON-RATED

PAR1	ΓITION	TYPE	5
12	12"	11 5/8"	
10	10"	9 5/8"	



	- PARTITION NUMBER
	- SUFFIX NUMBER
	- SAB INDICATION
0.08 00'	WALL HEIGHT A.F.F.

7 1/4"

STRUCT

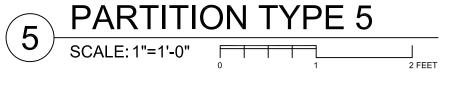
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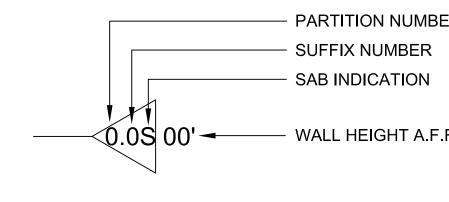
FLOOR

SUFFIX	STUDSIZE	TOTAL WIDTH
1	1 5/8"	2 7/8"
2	2 1/2"	3 3/4"
3	3 5/8"	4 7/8"
4	4"	5 1/4"
6	6"	7 1/4"
8	8"	9 1/4"

"	9 1/4"			8	8"	8 5/8
ON	TYPE	2	(2)	PAR1	ΓΙΤΙΟΝ	ITY
			(3)	SCALE: 1"	=1'-0"	

	PARTITION TYPE 4			
4	SCALE: 1"=1'-0"	0 1	2 FEE	





JOHN J. MURPHY, JR. ELECTRICAL

CONSTRUCTION AND ENGINEERING, INC.

6 1/8" 6 1/2" 8 1/2" 10 1/2" 8"

7	PARTITION TYPE 7		
	SCALE: 1"=1'-0"	0 1	

STAM	Þ	

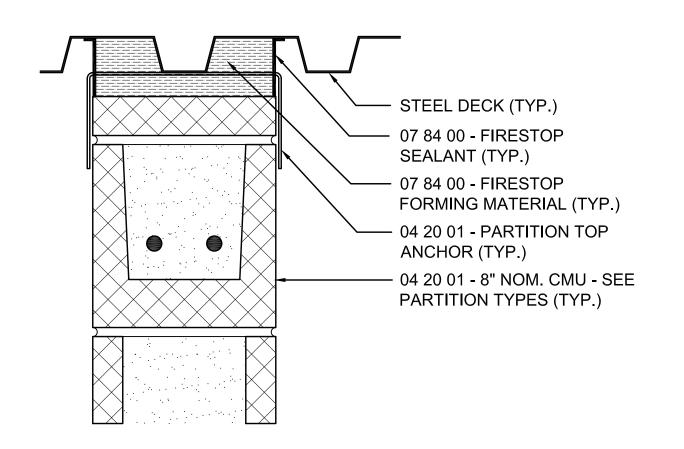
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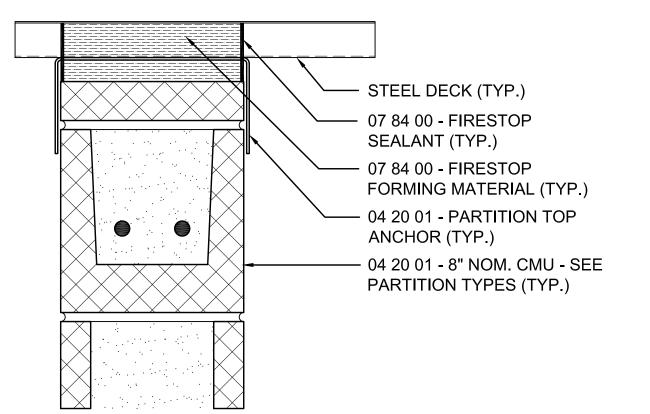
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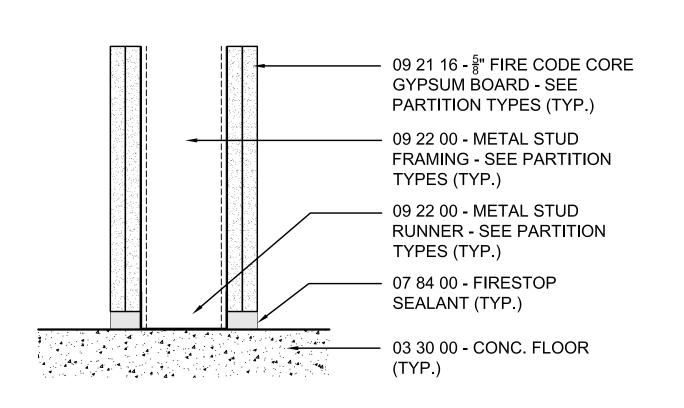
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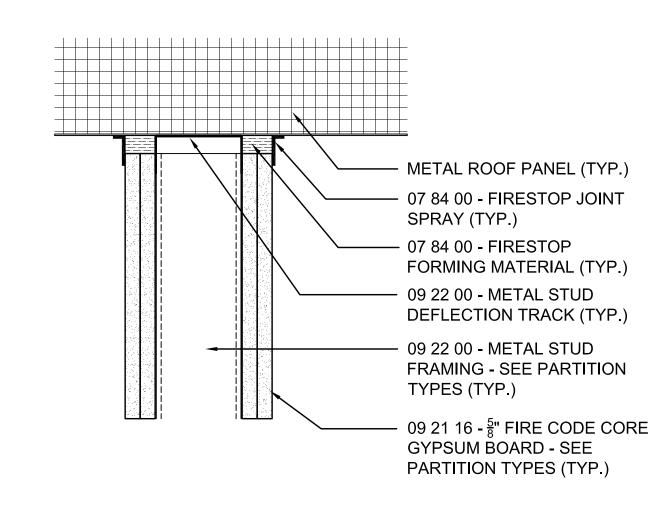
PARTITION TYPES

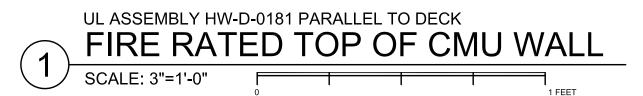
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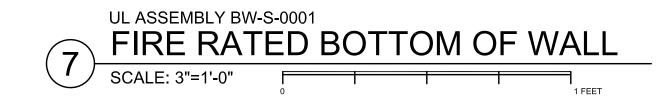




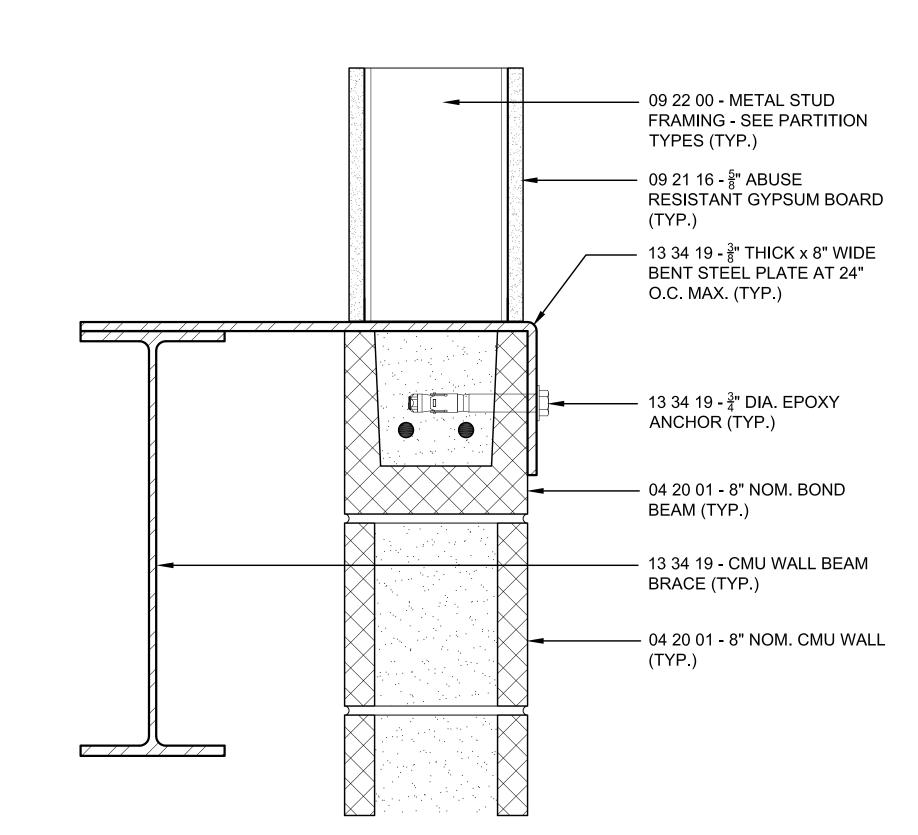


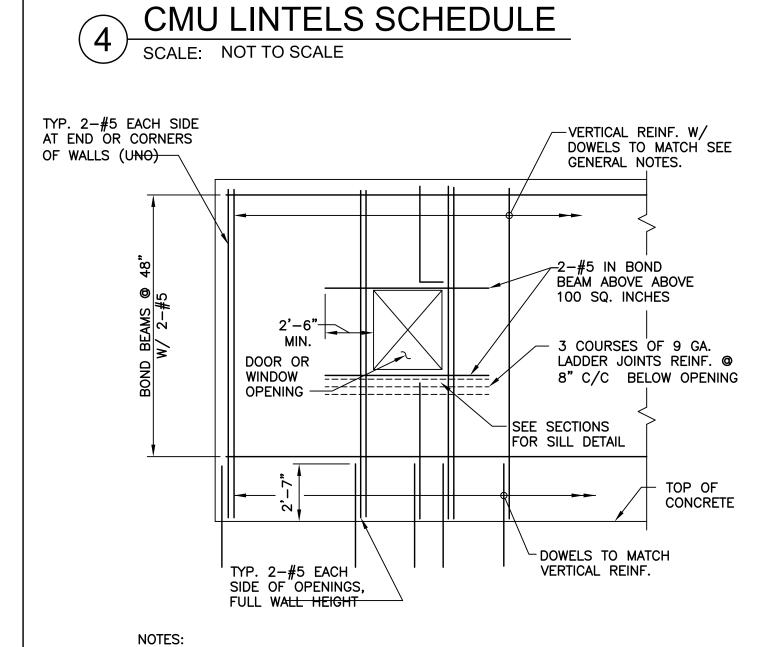












REINFORCING IN LINTELS

BARS

2-#5

> 4'-0"

16"

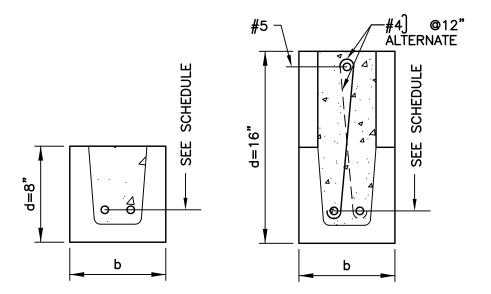
BARS

CLEAR SPAN

8" BLOCK

 ADDITIONAL REINFORCING BARS ARE NOT REQUIRED FOR OPENINGS LESS THAN 100 SQ. INCHES & LESS THAN 12" IN ANY DIRECTION.
 OPENINGS GREATER THAN 100 SQ. INCHES SHALL BE REINFORCED AS SHOWN.
 PROVIDE TYP. CONT. BOND BEAMS AT THE TOP & BOTTOM OF WALL.

5 ELEVATION CMU WALL
SCALE: NOT TO SCALE



NOTES:

1. LINTELS SHALL HAVE A MINIMUM END BEARING OF 8".

2. SEE CMU LINTELS SCHEDULE ABOVE FOR DIMENSION AND REINFORCING.

REINFORCED CMU LINTELS FOR MASONRY WALLS

SCALE: NOT TO SCALE

REINFORCED MASONRY

- F1 CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530)" AND THE "SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1)".
- F2 MASONRY BLOCK WALLS ON THIS PROJECT SHALL BE GROUTED AND REINFORCED AS FOLLOWS, UNLESS NOTED OTHERWISE: ALL 8" WALLS #5@24" VERTICAL, 9GA. LADDER TYPE @ 16" HORIZ. AND W/ GROUTED BOND BEAMS AS SHOWN W/ 2-#5 CONT.
- F3 REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60.
- F4 REINF. BAR LAP SHALL BE 31" FOR #5. LAP FOR HORIZONTAL LADDER TYPE REINF. SHALL BE 12".
- F5 PROVIDE DOWELS TO MATCH VERT. REINF.F6 MASONRY BLOCK SHALL BE TYPE N1 AND HAVE A NET COMPRESSIVE STRENGTH
- OF 2500 PSI.
- F7 MORTAR SHALL BE TYPE S WITH 28 DAY COMPRESSIVE STRENGTH OF 1800 PSI.
 F8 GROUT SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 2500 PSI.
- F9 PROVIDE 2#5 ADDITIONAL VERTICAL BARS AT CORNER OF WALLS AND AT OPENINGS,
- UNLESS NOTED OTHERWISE.
 F10 MASONRY ERECTION SHALL HAVE FULL INSPECTION.
- F11 CONTROL JOINT SHALL BE PROVIDED AT ALL INTERIOR MASONRY PARTITION AND BEARING/EXTERIOR WALL INTERSECTION. INTERRUPT HORIZONTAL REINFORCING AT CONTROL JOINT.
- F12 PROVIDE TOP AND BOTTOM ANCHORAGE FOR INTERIOR NON-LOAD BEARING MASONRY WALLS.
- F13 FOR MASONRY WALL TYPES AND LOCATIONS SEE ARCHITECTURAL DRAWINGS.

NOTE: SEE STRUCTURAL DRAWINGS FOR BASE OF WALL DETAILS AND CONNECTIONS (TYP.)



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HELENE · KARL

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ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET

379 LIBERTY STREET ROCKLAND, MA 02370

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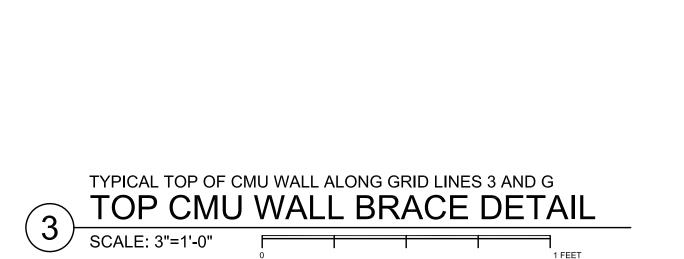
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CHECKED BY	GKY
PROJECT NO.	19001

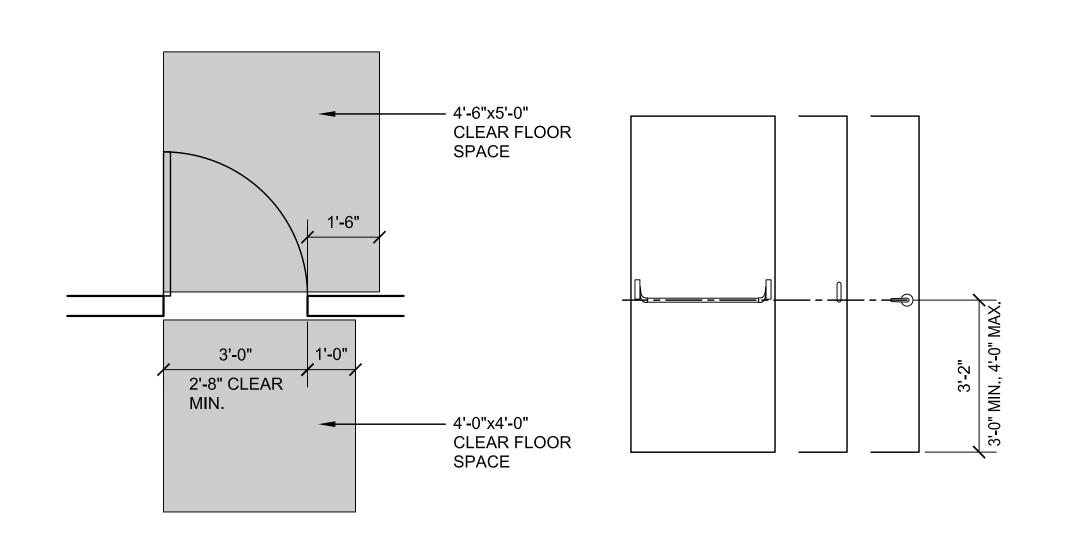
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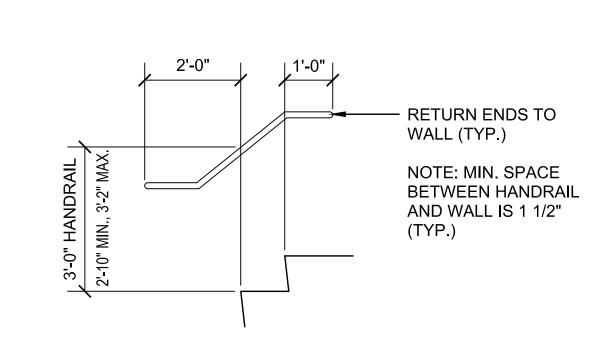
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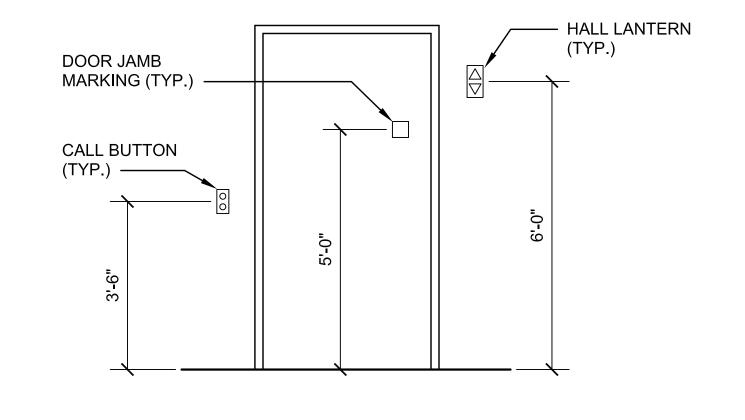
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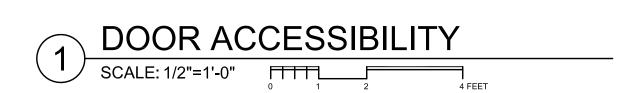
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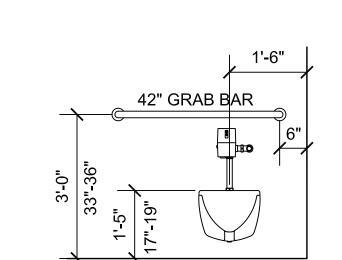


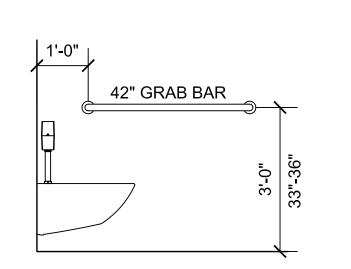


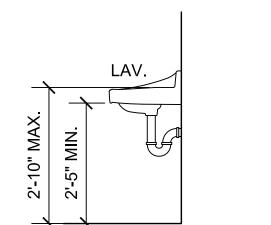


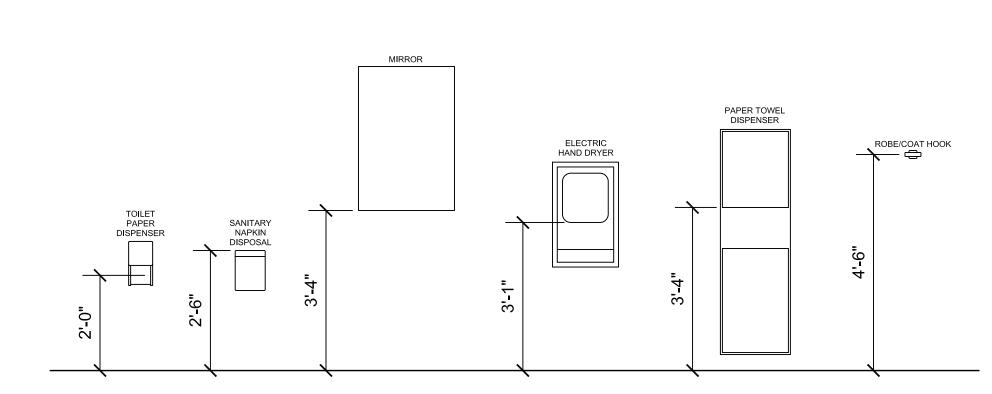


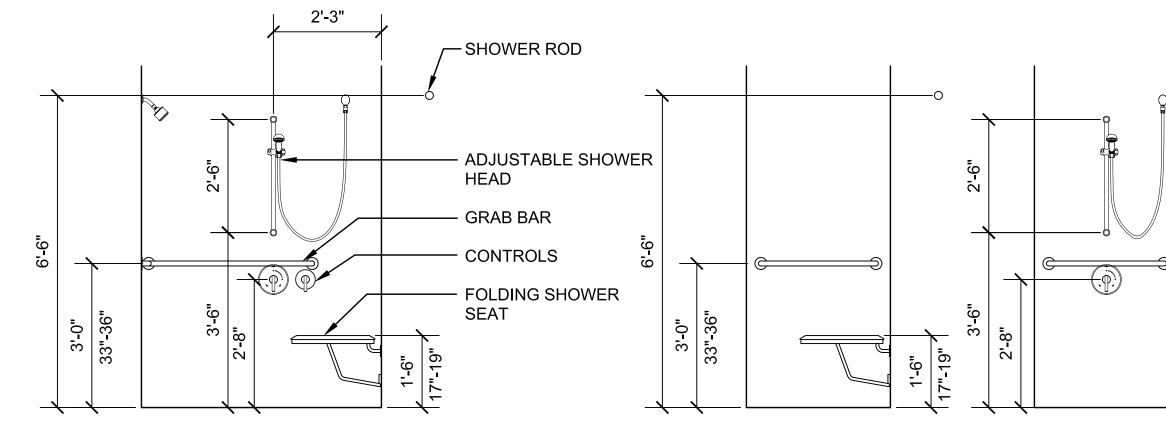








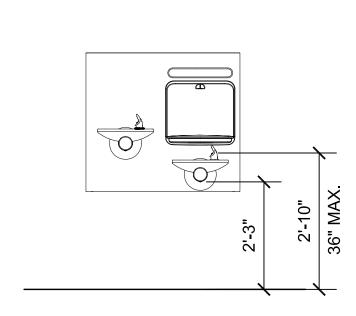


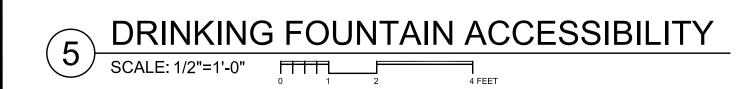


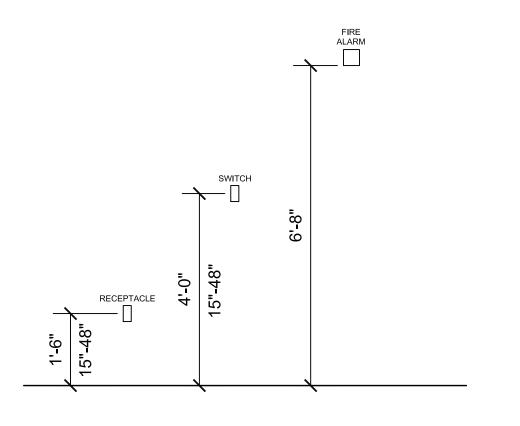
RESTROOM ACCESSIBILITY

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1 2 4 FEET



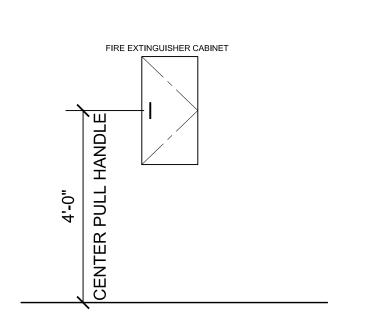




6 DEVICES ACCESSIBILITY

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

1 2 4 FEET



FIRE EXTINGUISHER ACCESSIBILITY

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

1 2 4 FEET



TOWN OF MONTAGUE

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SCALE AS NOTED

DRAWN BY MTV

CHECKED BY GKY

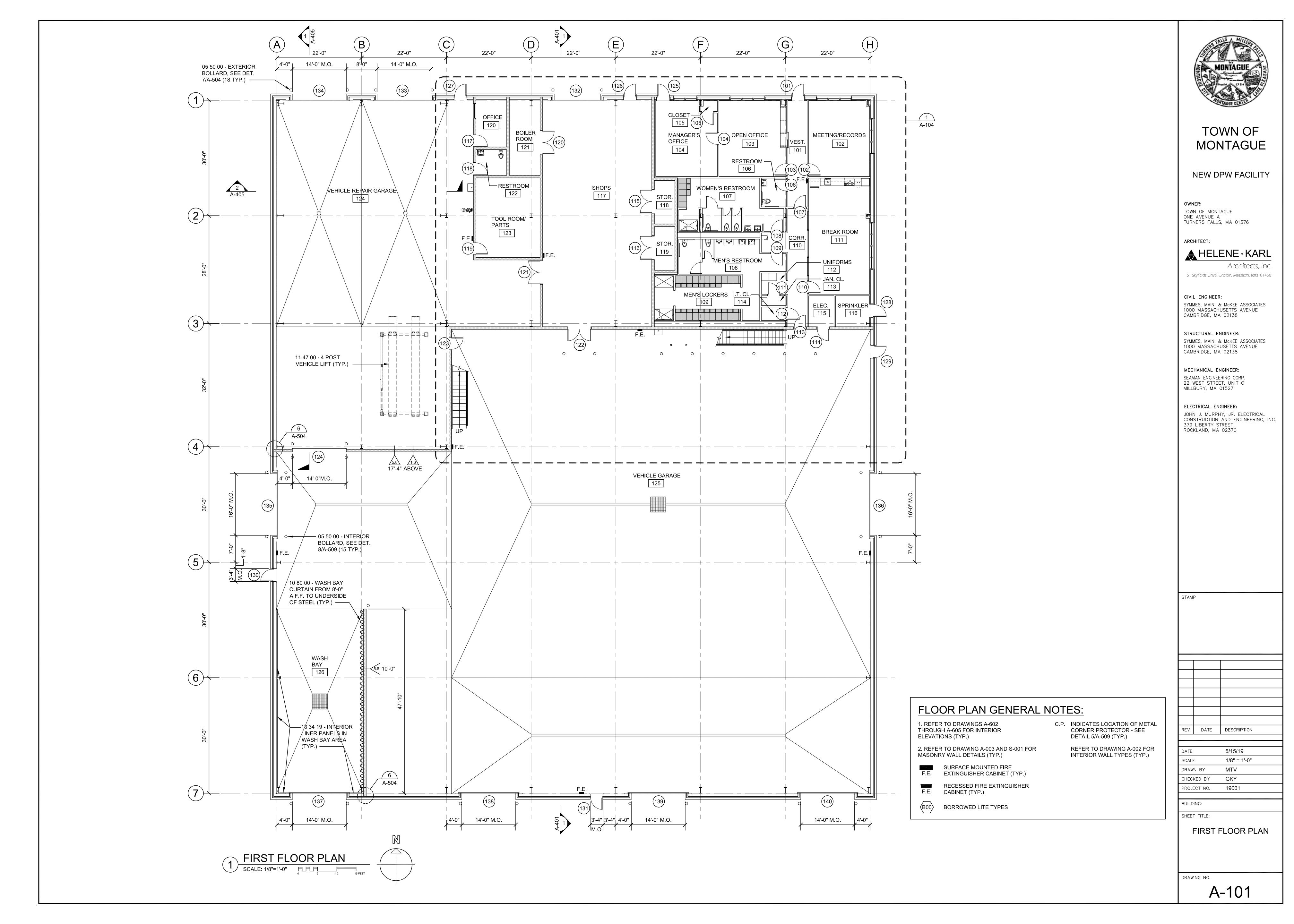
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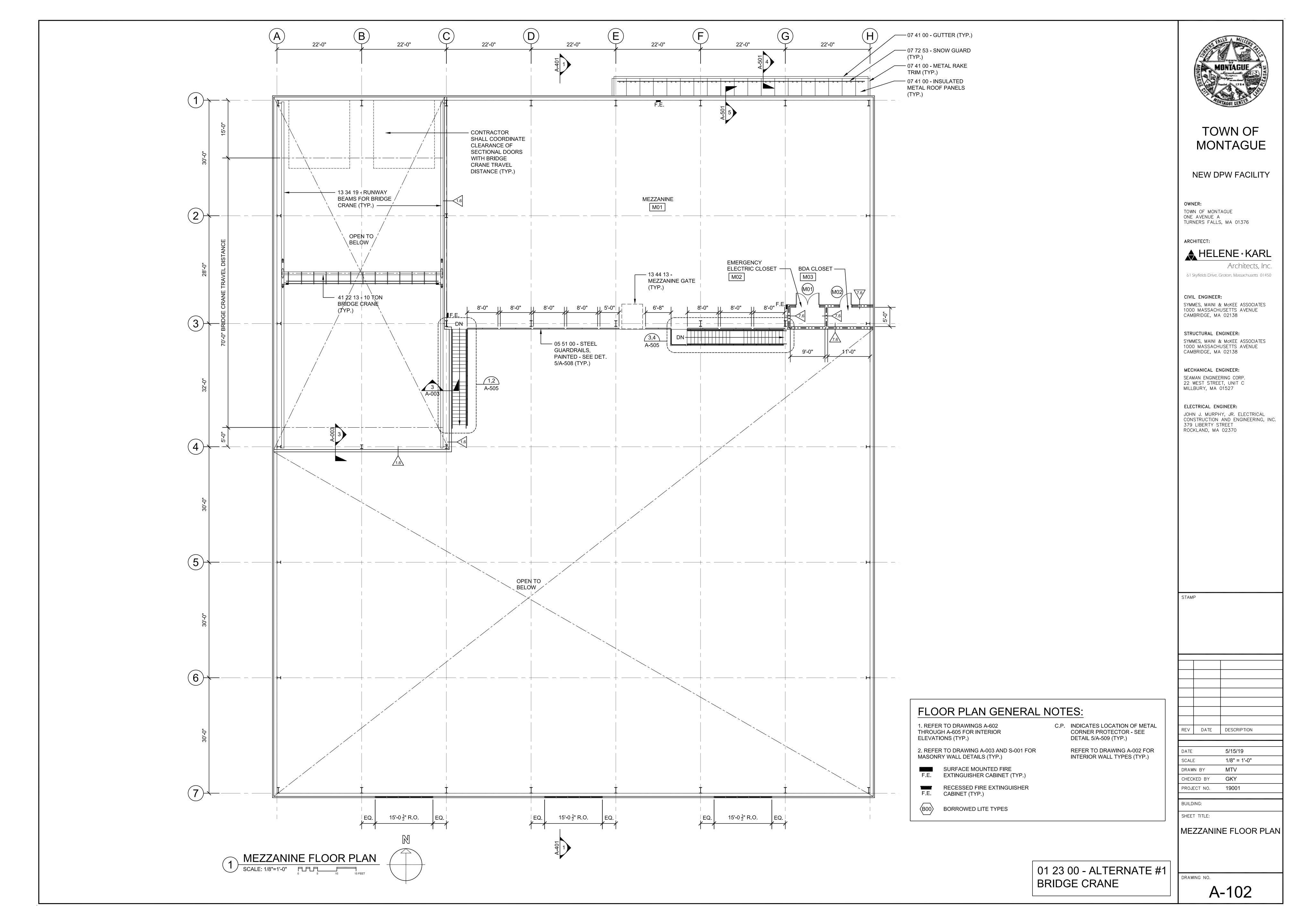
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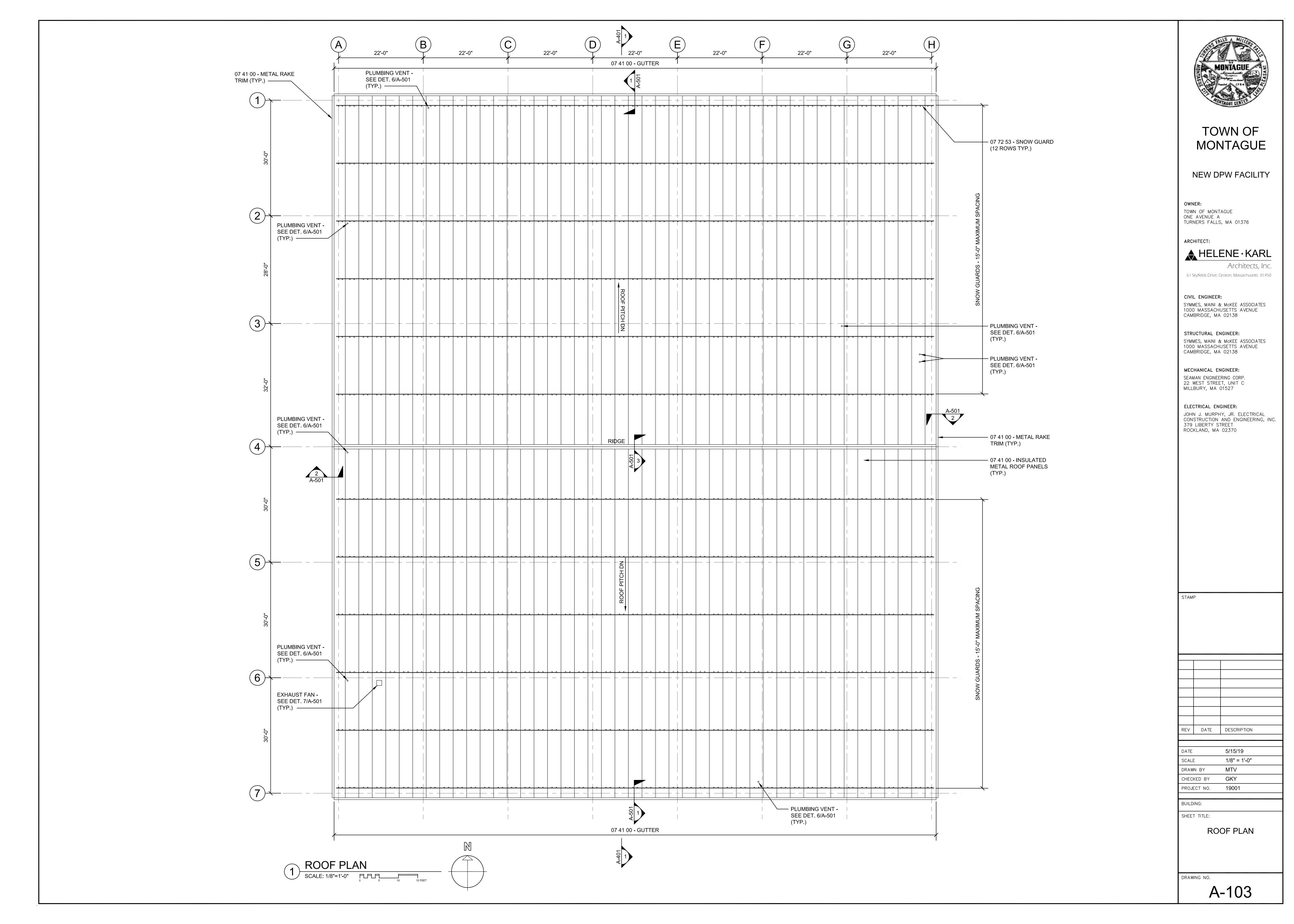
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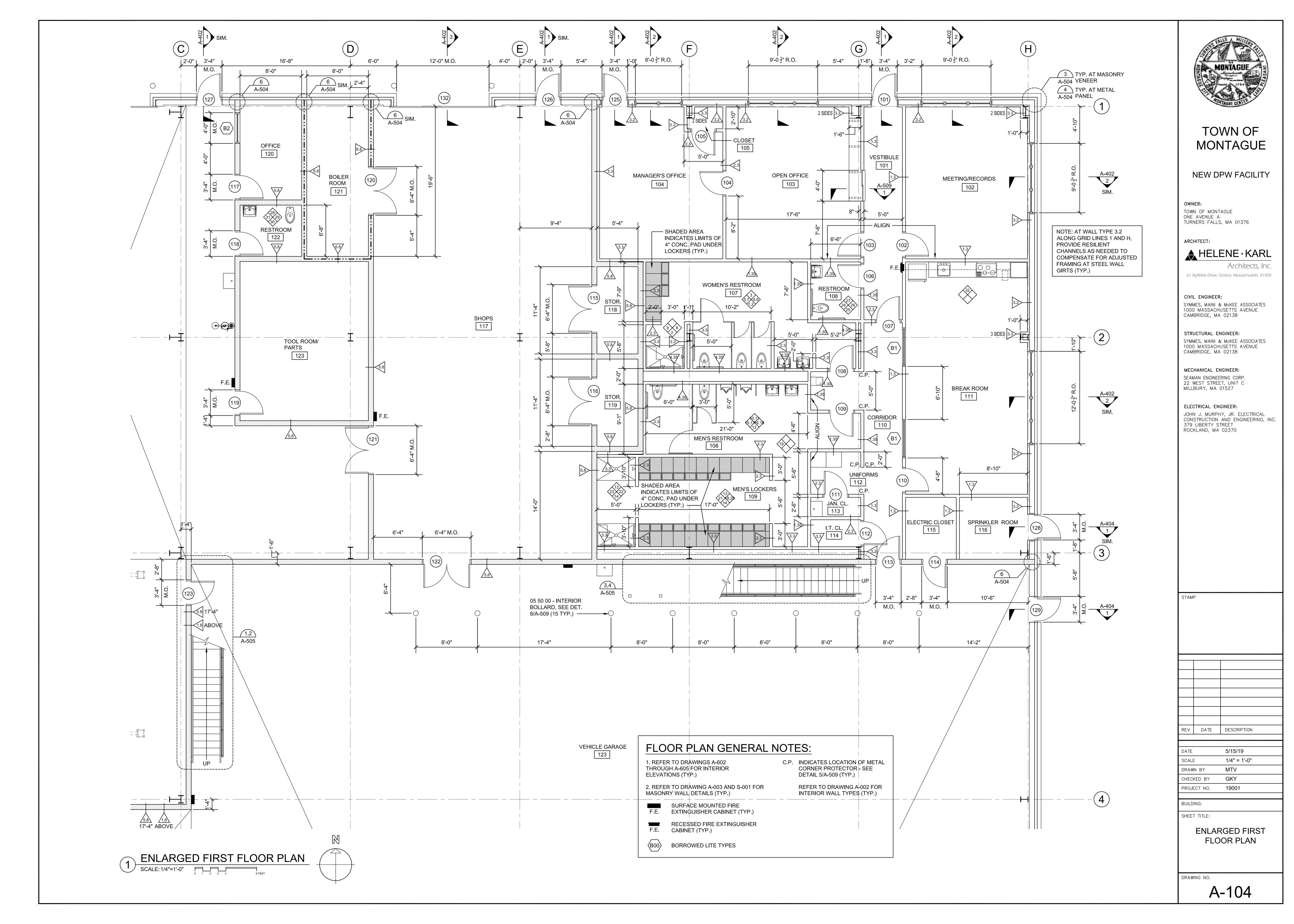
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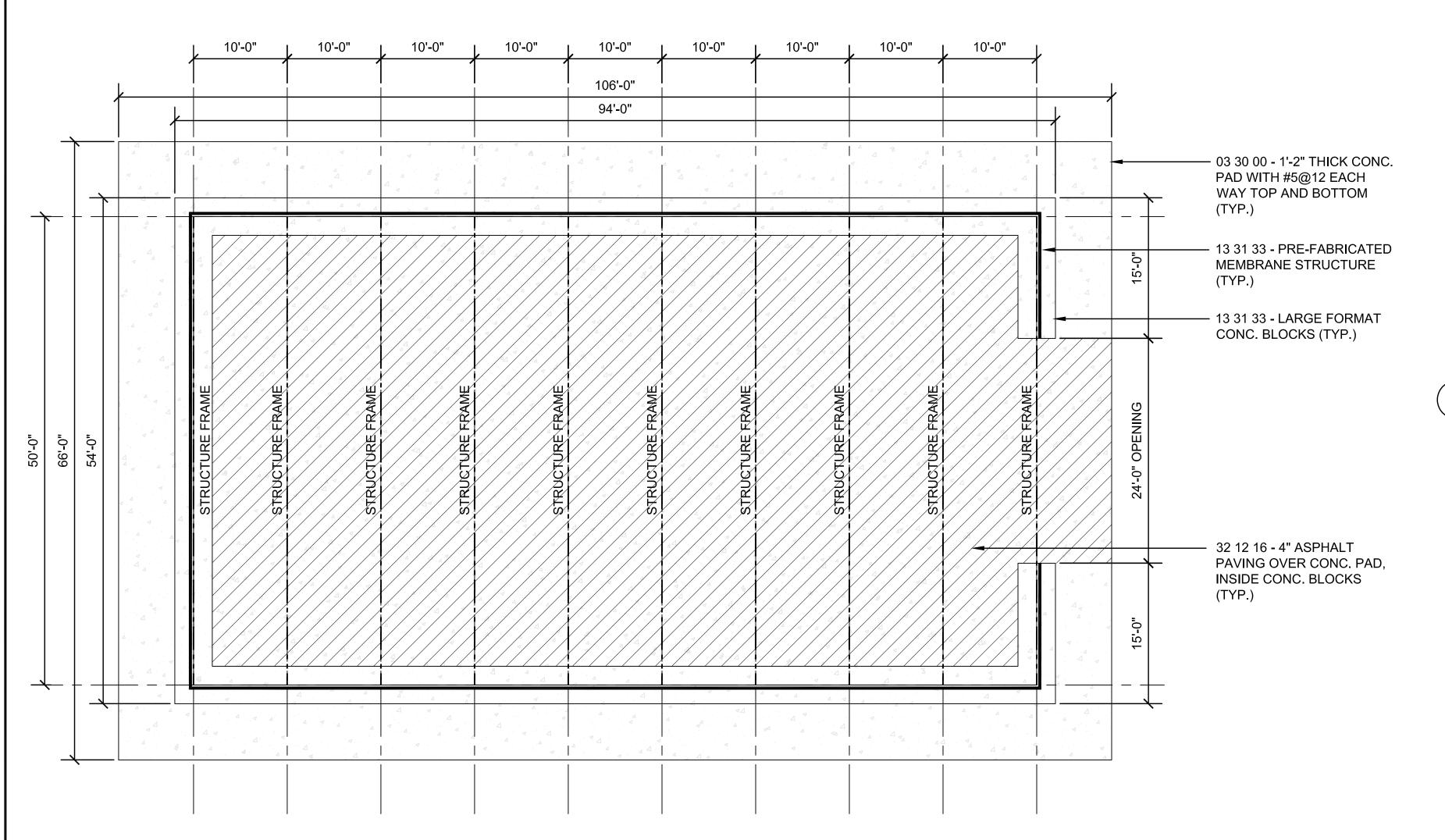
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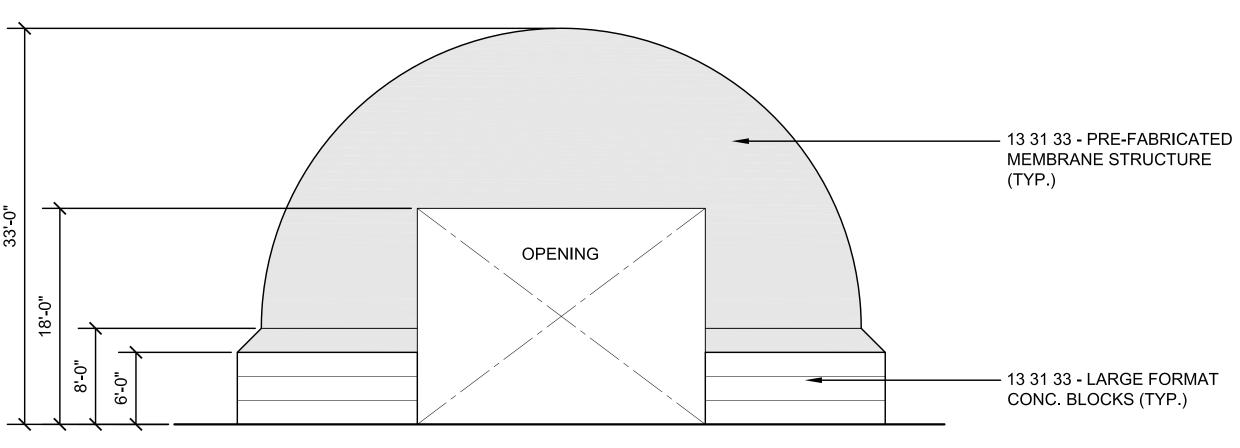






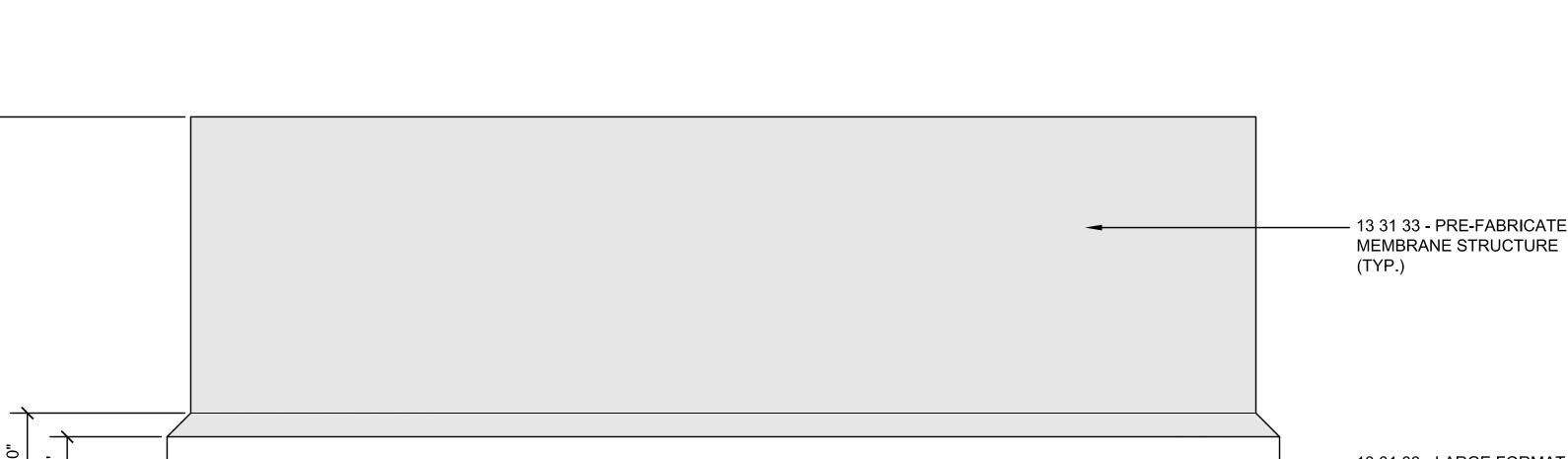








SALT STORAGE EAST AND WEST ELEVATIONS SALT STORAGE EAS I AIT SCALE: 1/8"=1'-0" FLORE 10 15 FEET



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1/8" = 1'-0" GKY CHECKED BY PROJECT NO. 19001

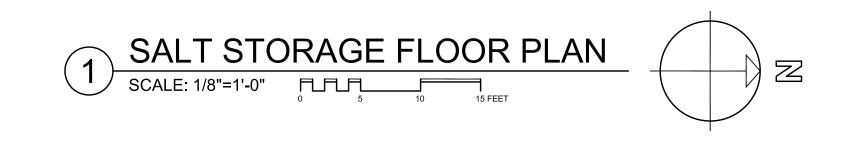
SALT STORAGE STRUCTURE

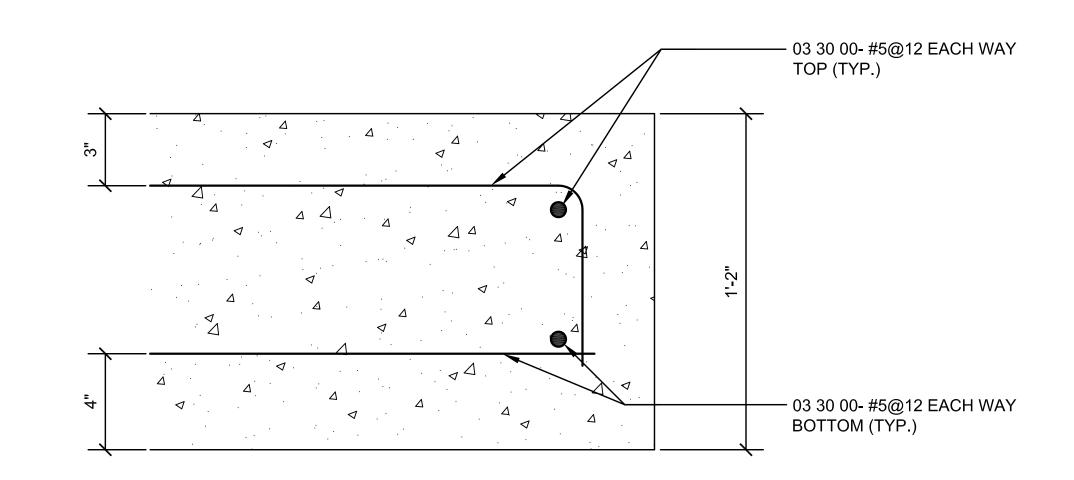
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01 23 00 - ALTERNATE #4

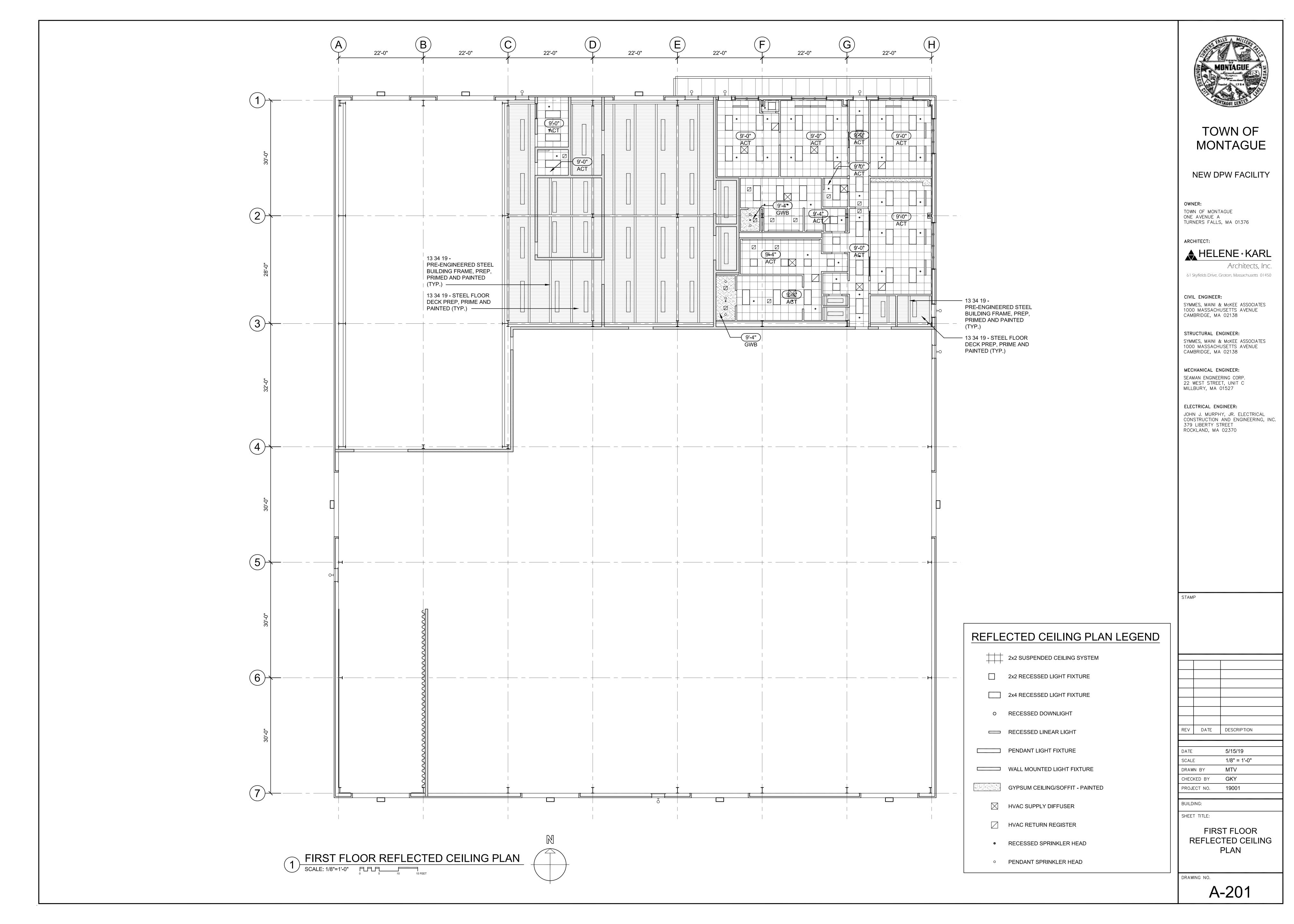
SALT STORAGE

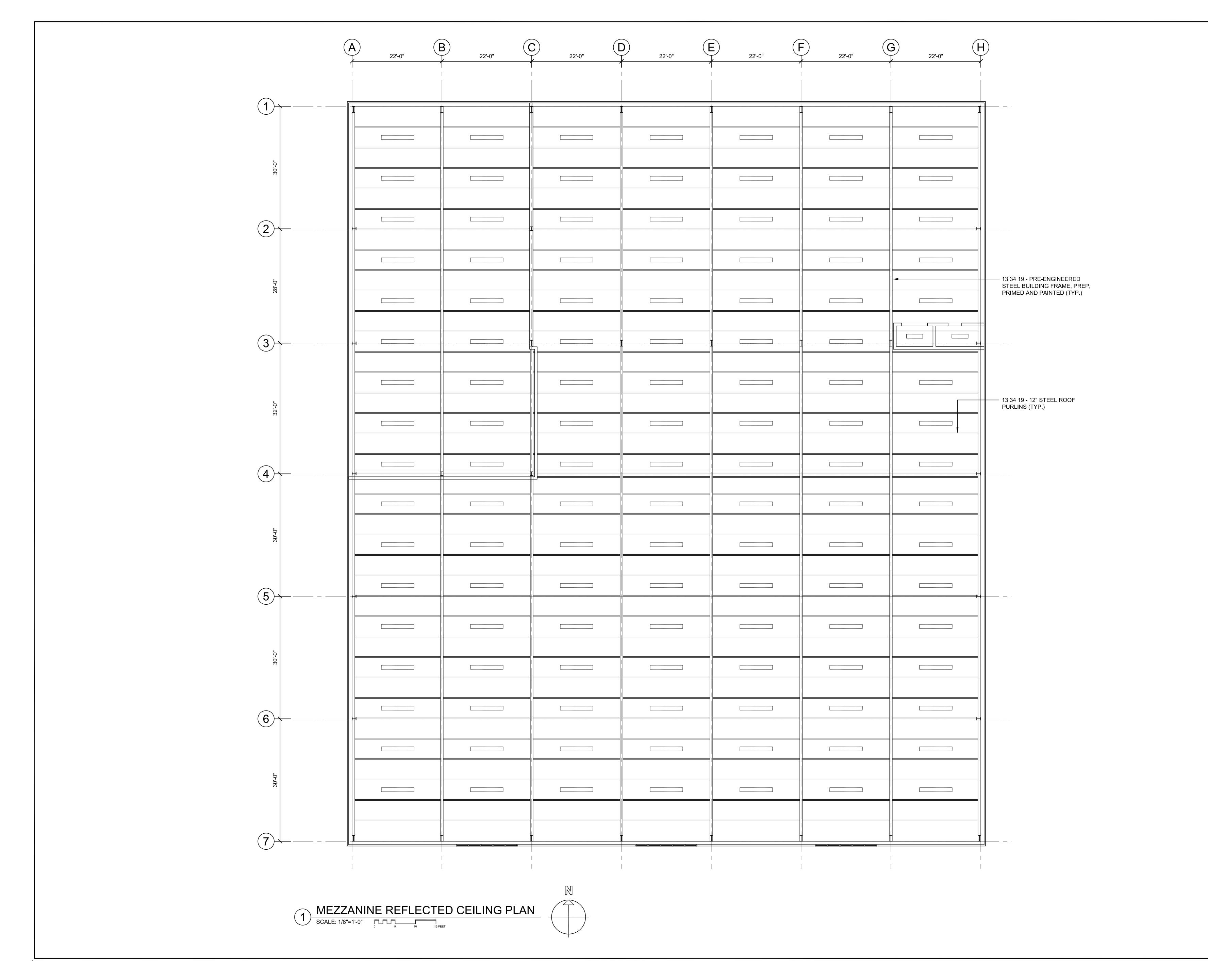
STRUCTURE













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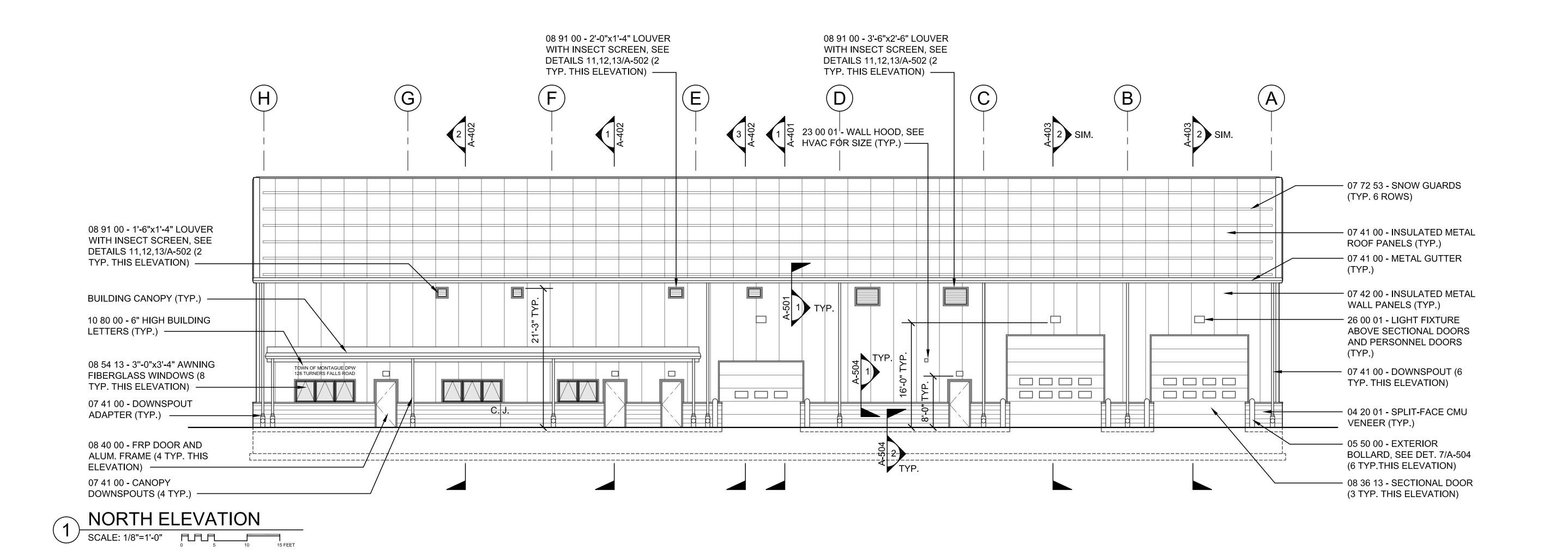
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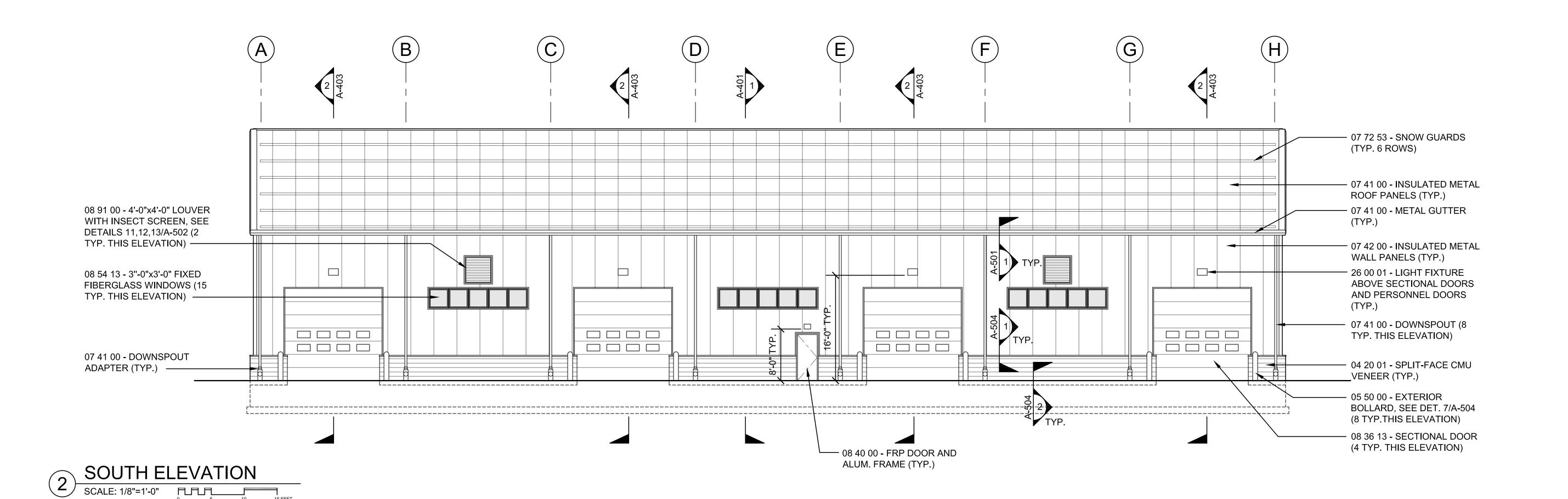
BUILDING:

SHFFT TITLE:

MEZZANINE REFLECTED
CEILING PLAN

DRAWING NO.





MONTAGUE SENTEN

TOWN OF MONTAGUE

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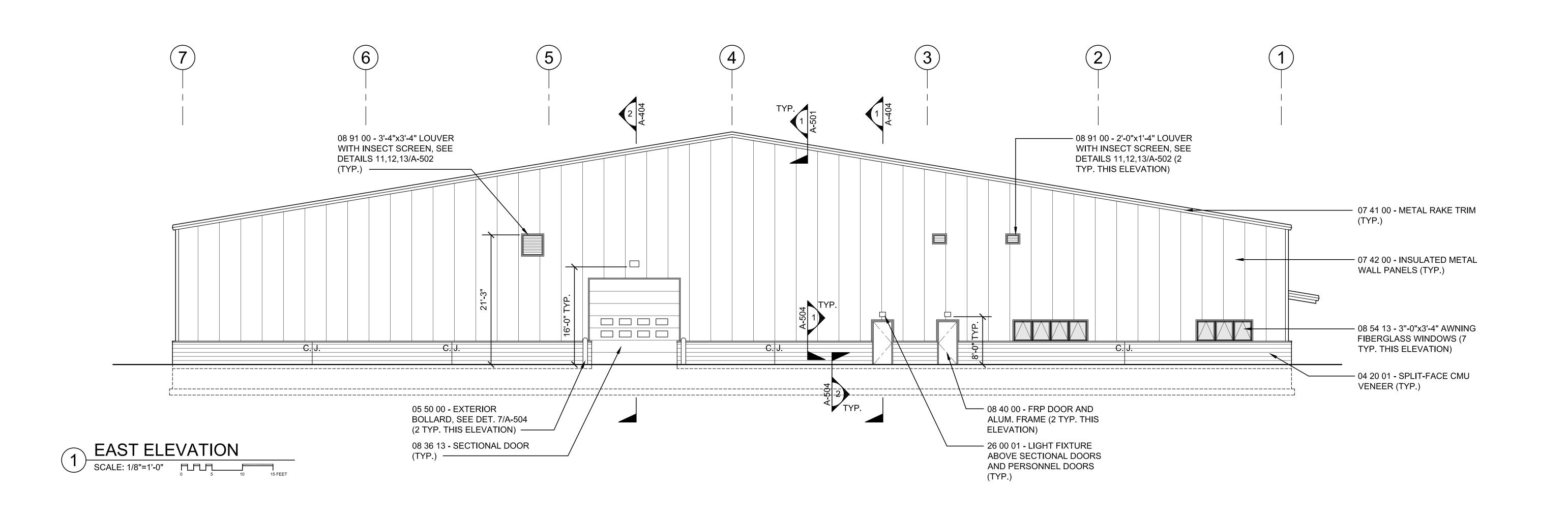
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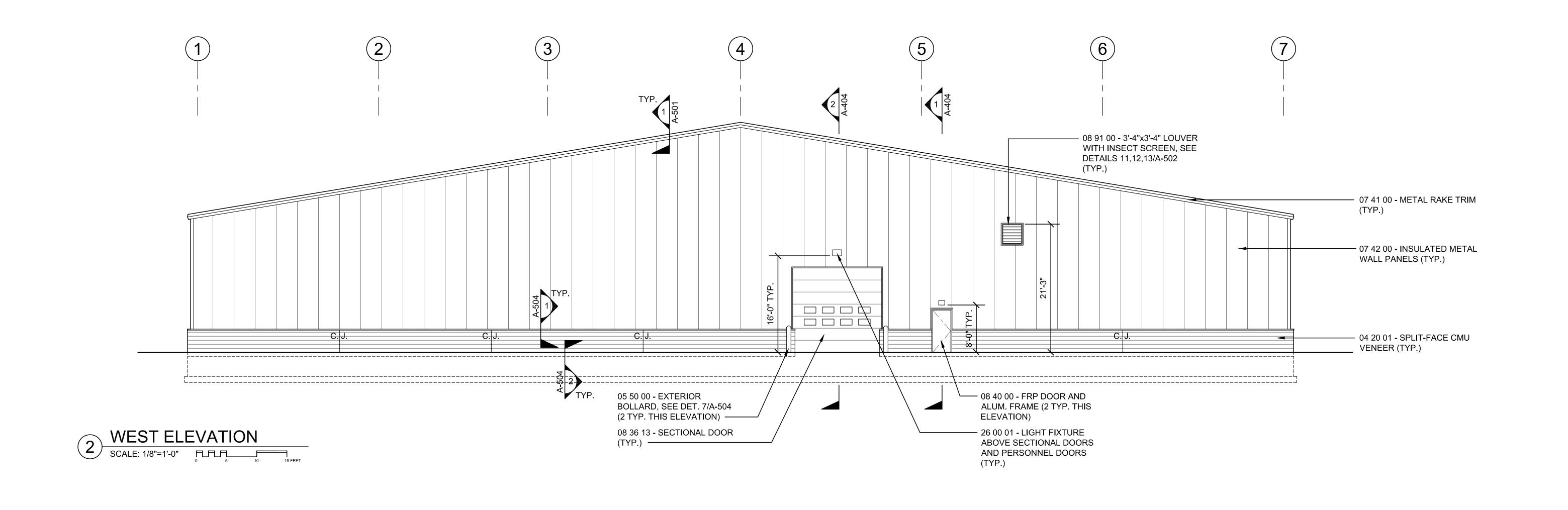
BUILDING:

SHEET TITLE:

EXTERIOR ELEVATIONS
SHEET 1

DRAWING NO.







TOWN OF MONTAGUE

NEW DPW FACILITY

OWNER: TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT:

HELENE · KARL

Architects, Inc. 61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

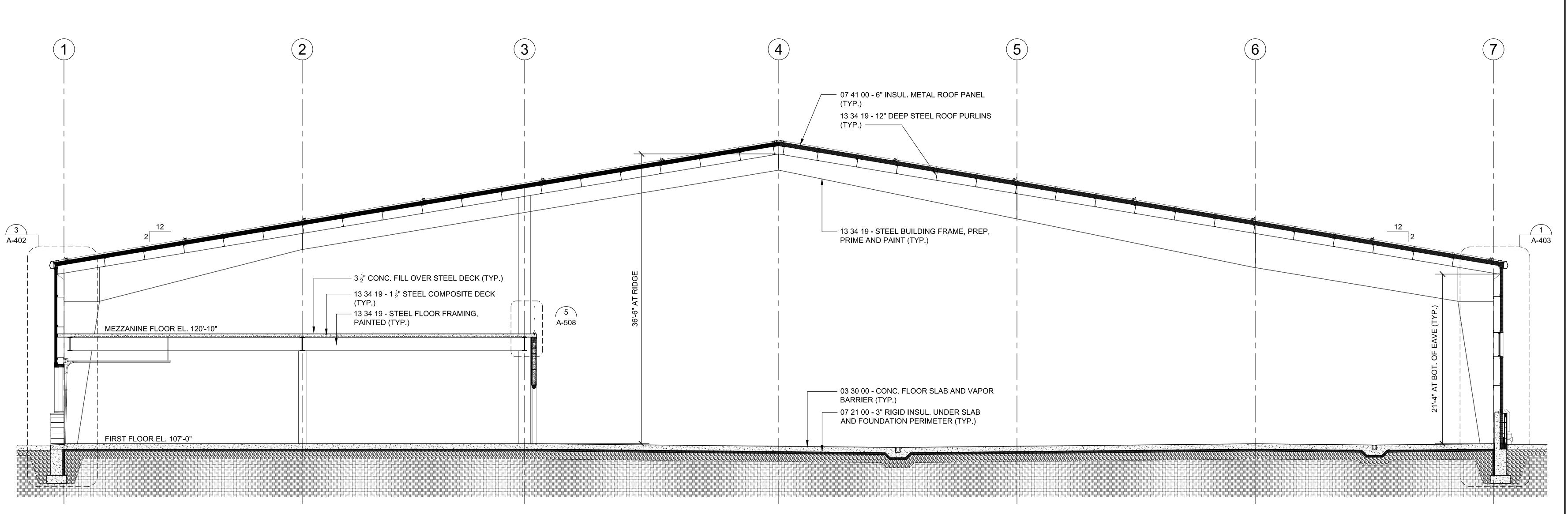
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REV DATE DESCRIPTION 5/15/19

1/8" = 1'-0" CHECKED BY GKY PROJECT NO. 19001

EXTERIOR ELEVATIONS SHEET 2

DRAWING NO.



BUILDING SECTION

SCALE: 3/16"=1'-0"

5

10

15 FEET



TOWN OF MONTAGUE

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CONSTRUCTION AND ENGINEERING, INC.

379 LIBERTY STREET

ROCKLAND, MA 02370

STAMP

REV DATE DESCRIPTION

5/15/19

DATE DESCRIPTION

SCALE 3/16" = 1'-0"

DRAWN BY MTV

CHECKED BY GKY

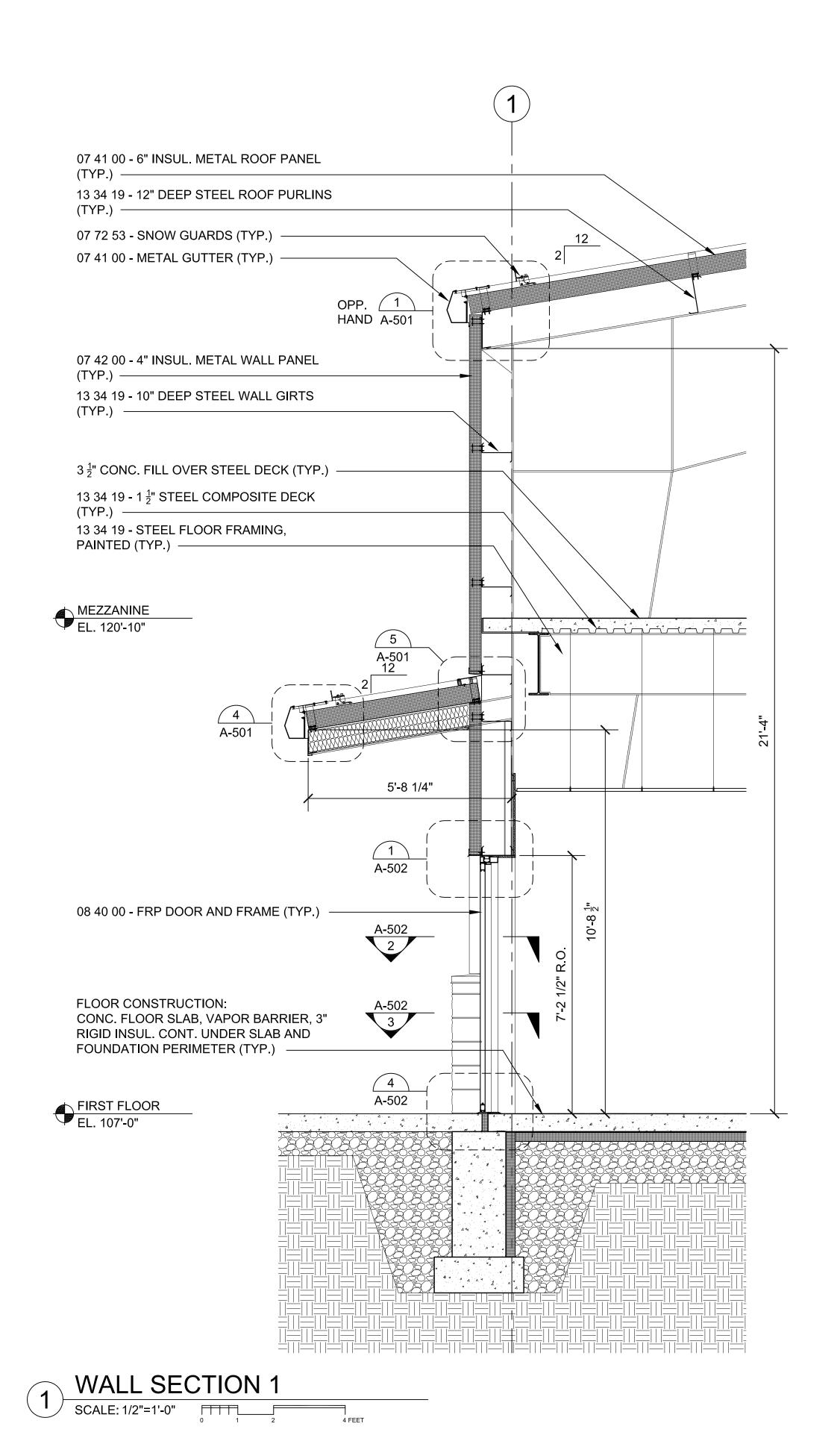
PROJECT NO. 19001

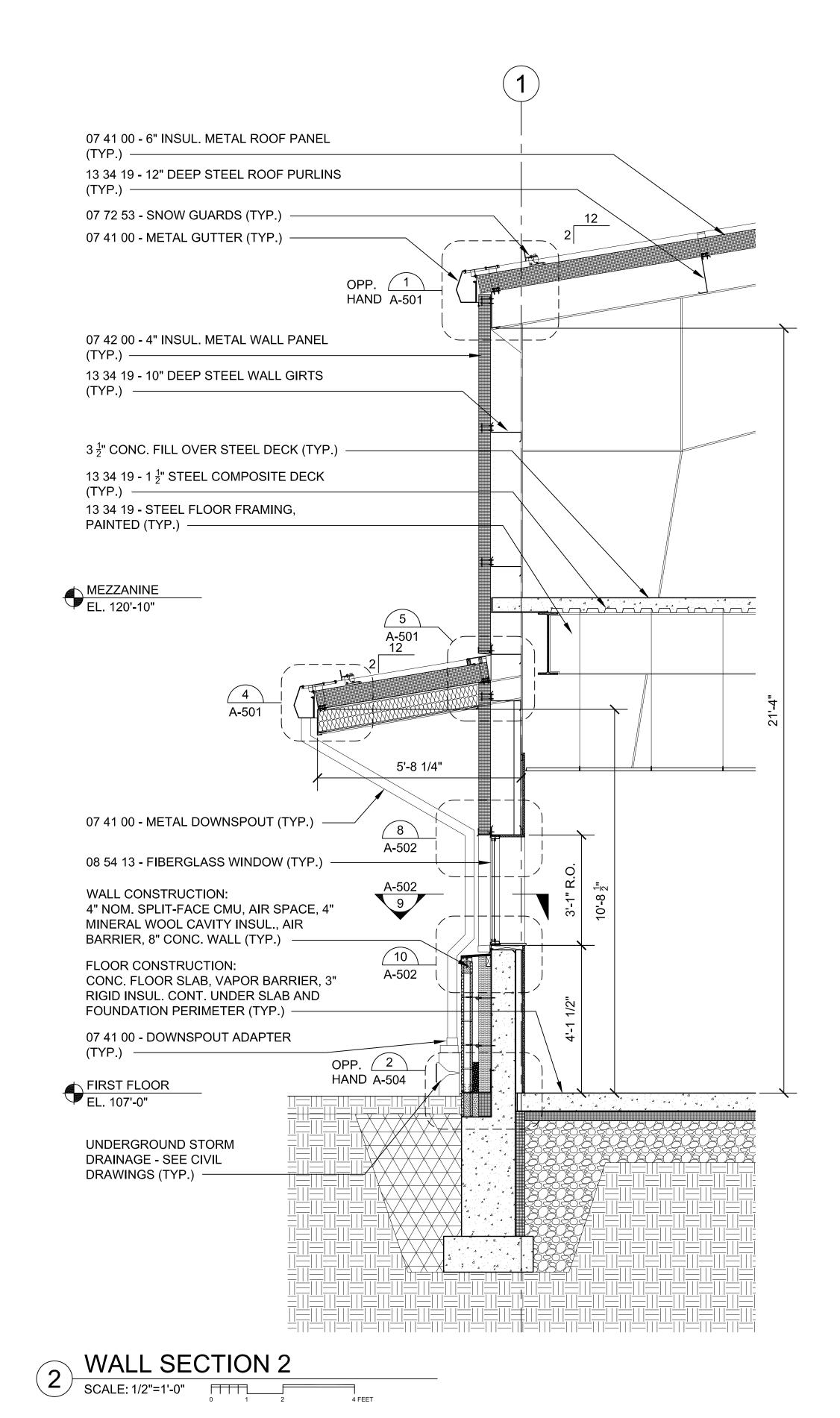
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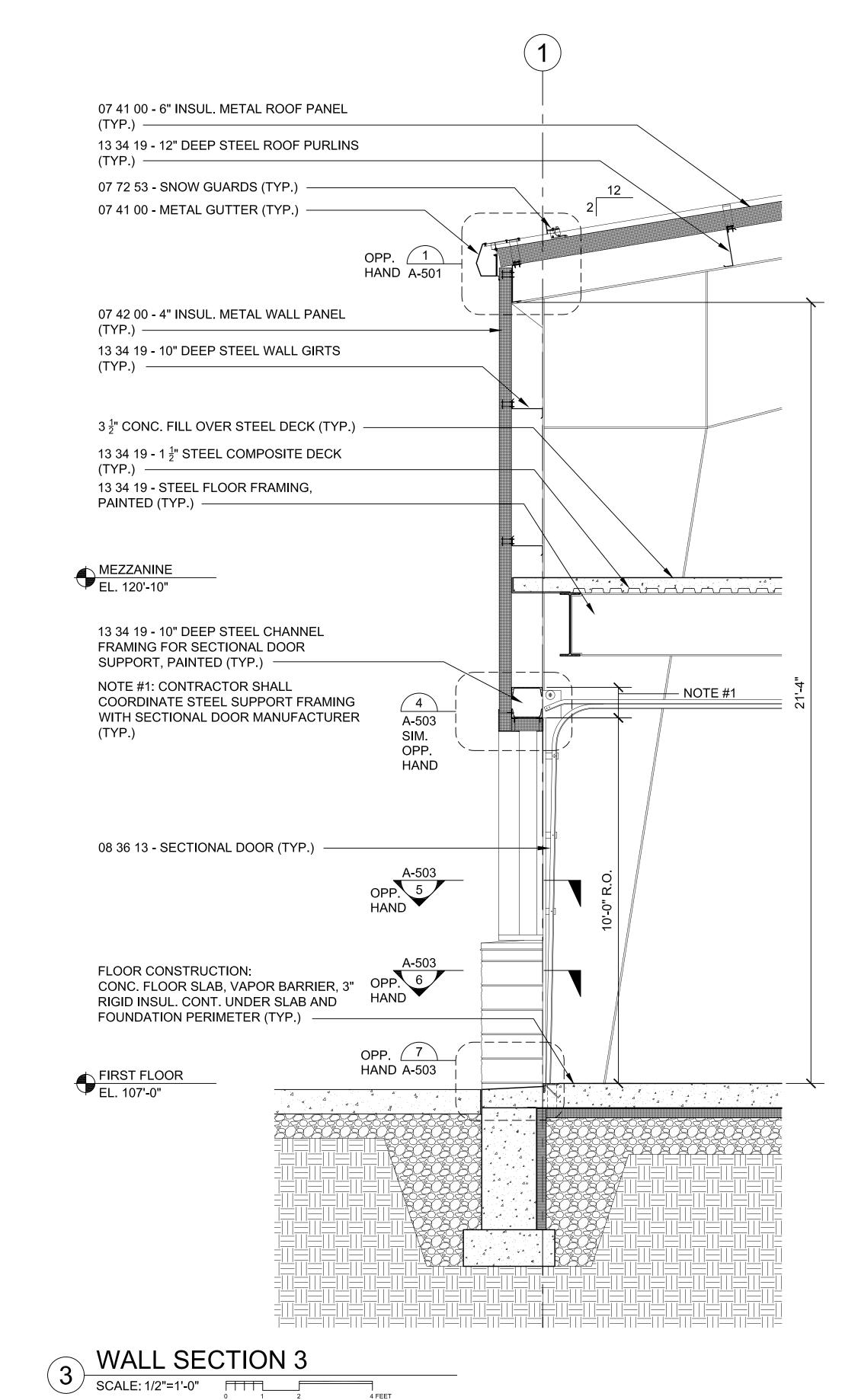
SHEET TITLE:

BUILDING SECTION

DRAWING NO.







NOTE: REFER TO STRUCTURAL DRAWINGS FOR FOUNDATION WALL AND FLOOR SLAB SIZE AND CONFIGURATION (TYP.)



TOWN OF MONTAGUE

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REV DATE DESCRIPTION

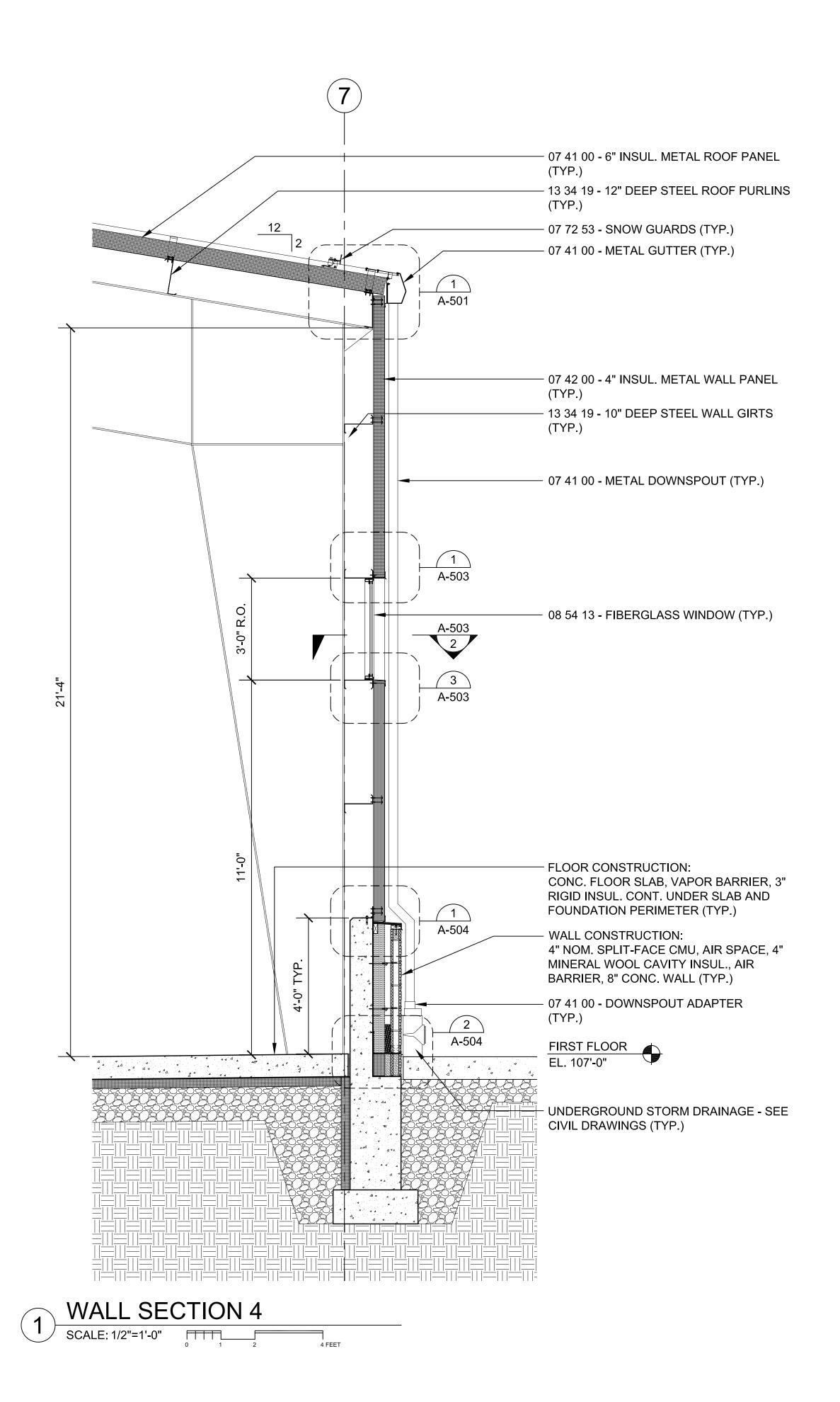
5/15/19 1/2" = 1'-0" CHECKED BY GKY PROJECT NO. 19001

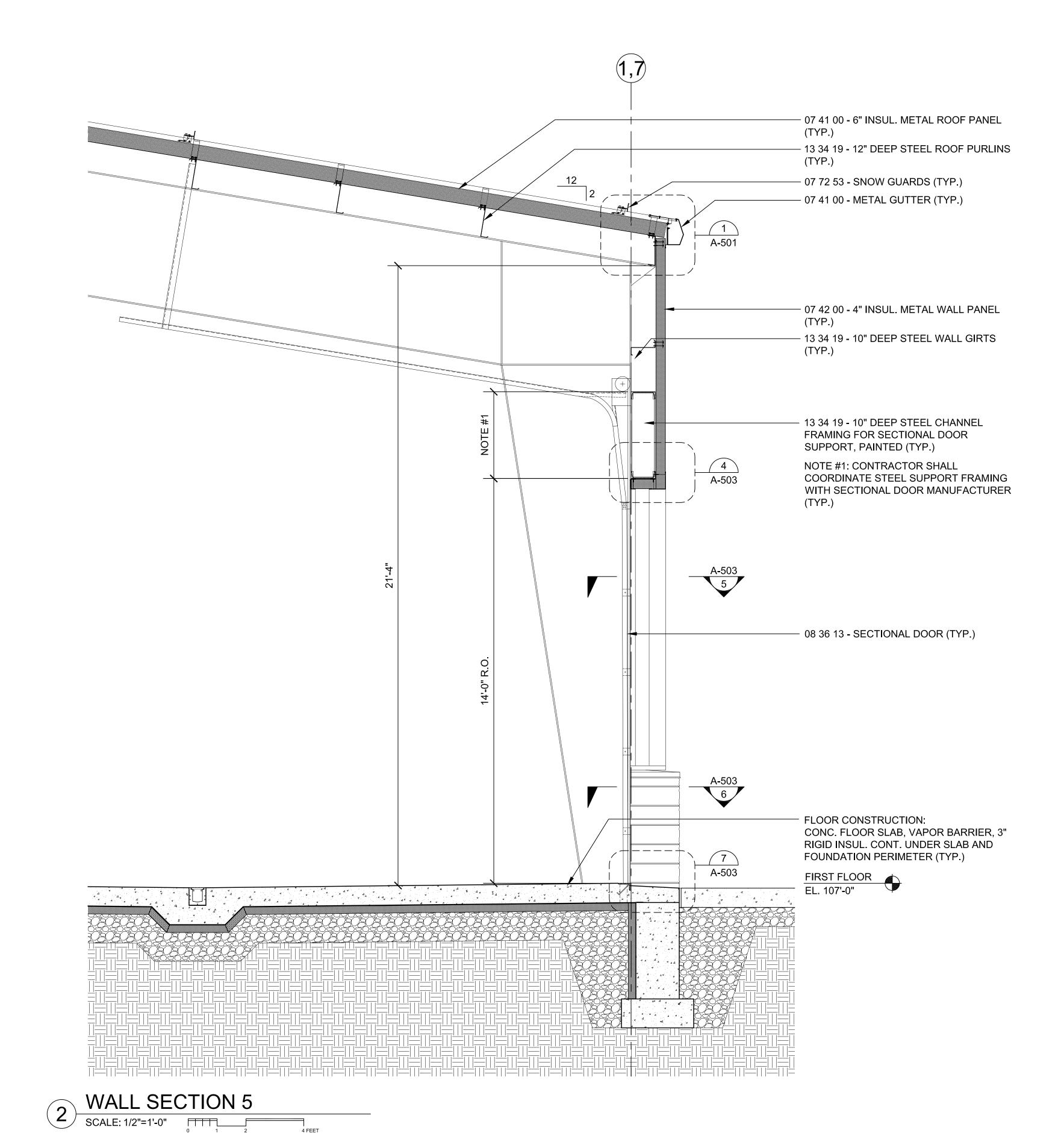
BUILDING:

SHEET TITLE:

WALL SECTIONS SHEET 1

DRAWING NO.





NOTE: REFER TO STRUCTURAL DRAWINGS FOR FOUNDATION WALL AND FLOOR SLAB SIZE AND CONFIGURATION (TYP.)



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REV DATE DESCRIPTION

DATE 5/15/19

SCALE 1/2" = 1'-0"

DRAWN BY MTV

CHECKED BY GKY

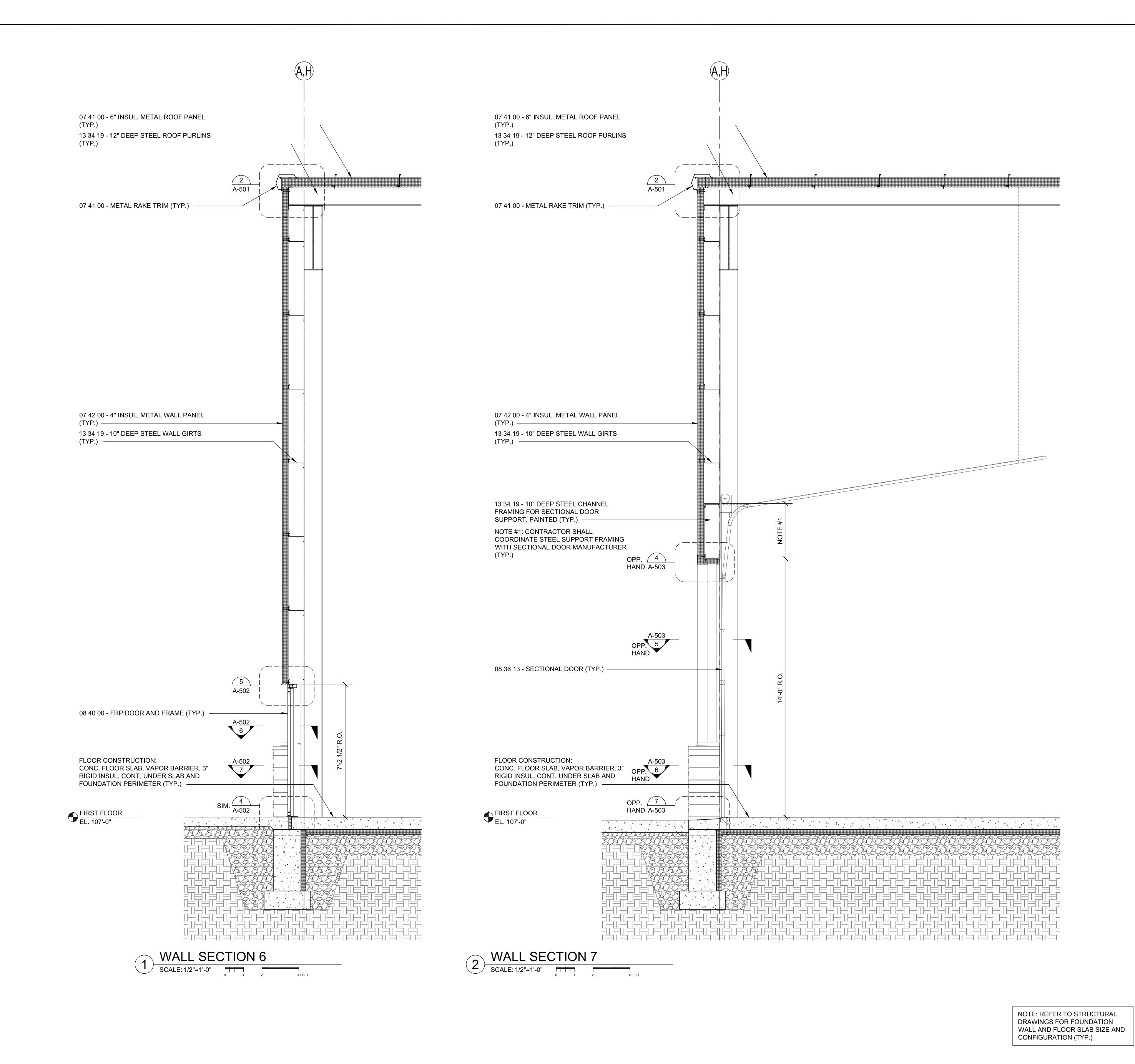
PROJECT NO. 19001

BUILDING:

SHEET TITLE:

WALL SECTIONS SHEET 2

DRAWING NO.



MONTAGUE GENTER

TOWN OF MONTAGUE

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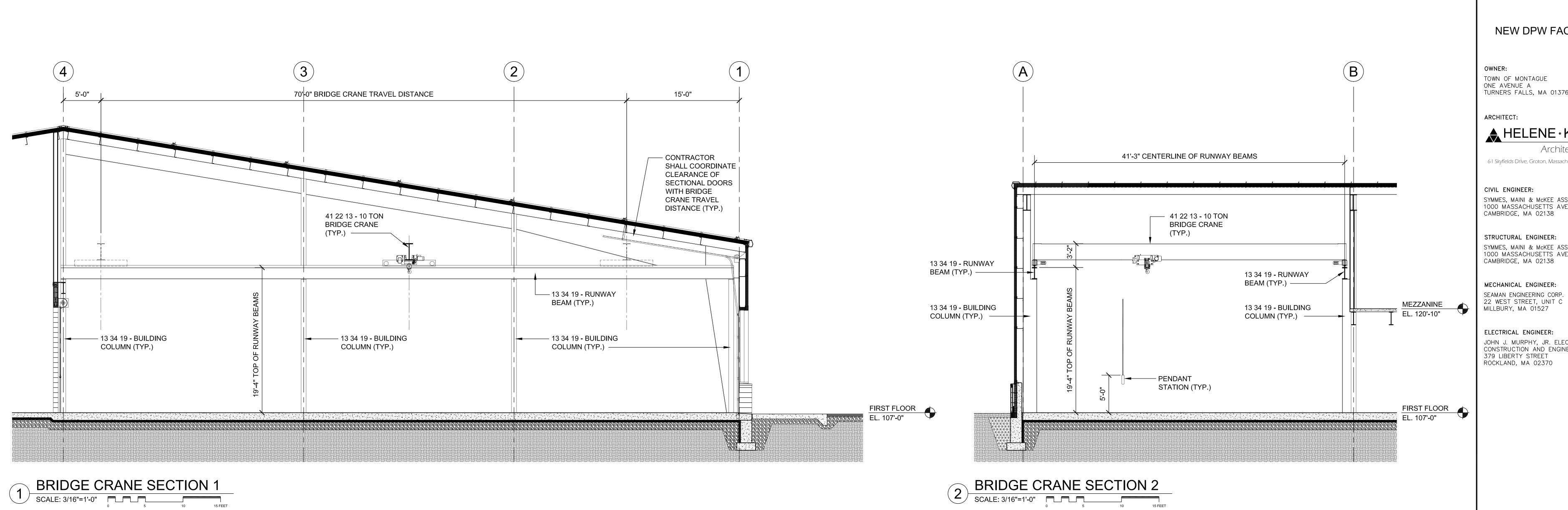
PROJECT NO. 19001

BUILDING:

SHFFT TITLE:

WALL SECTIONS SHEET 3

DRAWING NO.



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5/15/19 3/16" = 1'-0" CHECKED BY PROJECT NO. 19001

BUILDING:

NOTE: REFER TO STRUCTURAL DRAWINGS FOR FOUNDATION

CONFIGURATION (TYP.)

01 23 00 - ALTERNATE #1

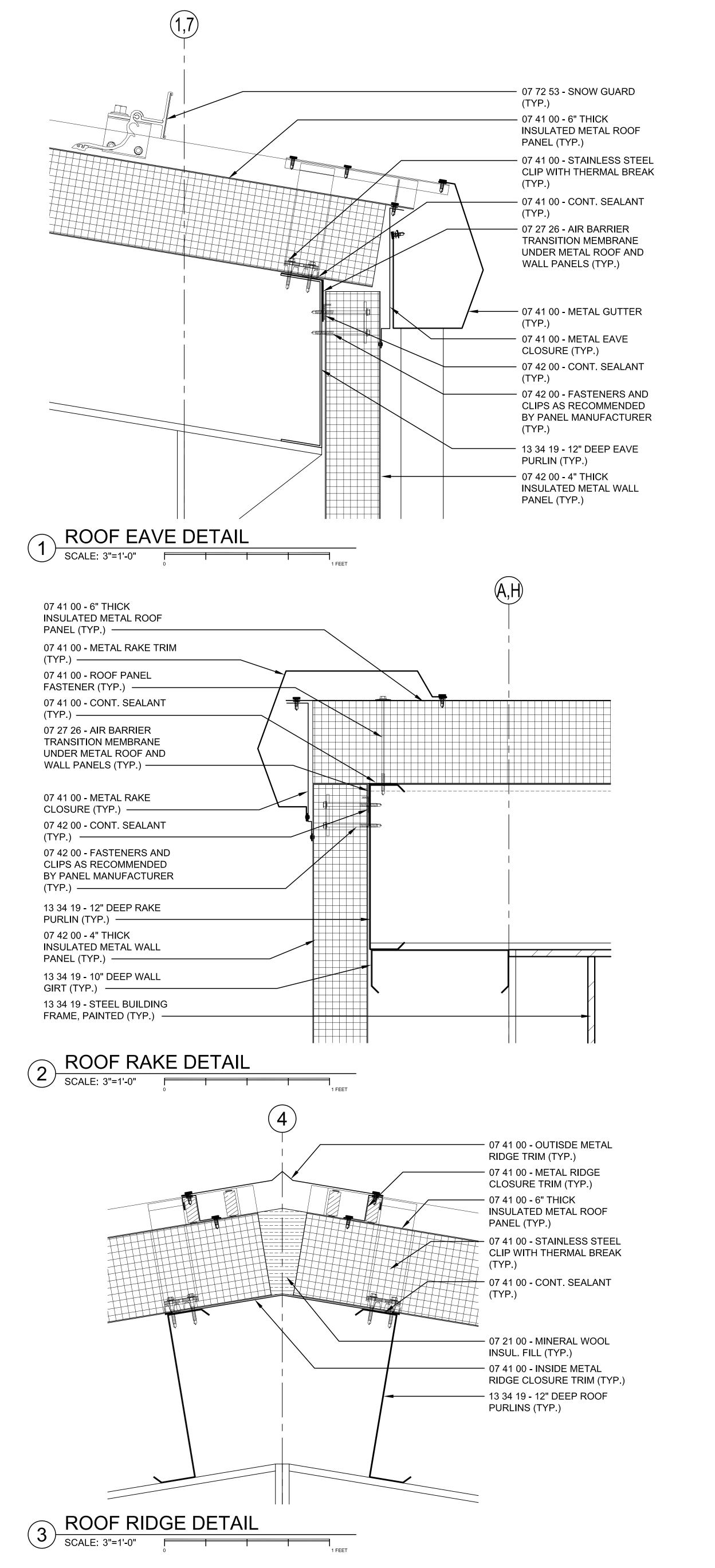
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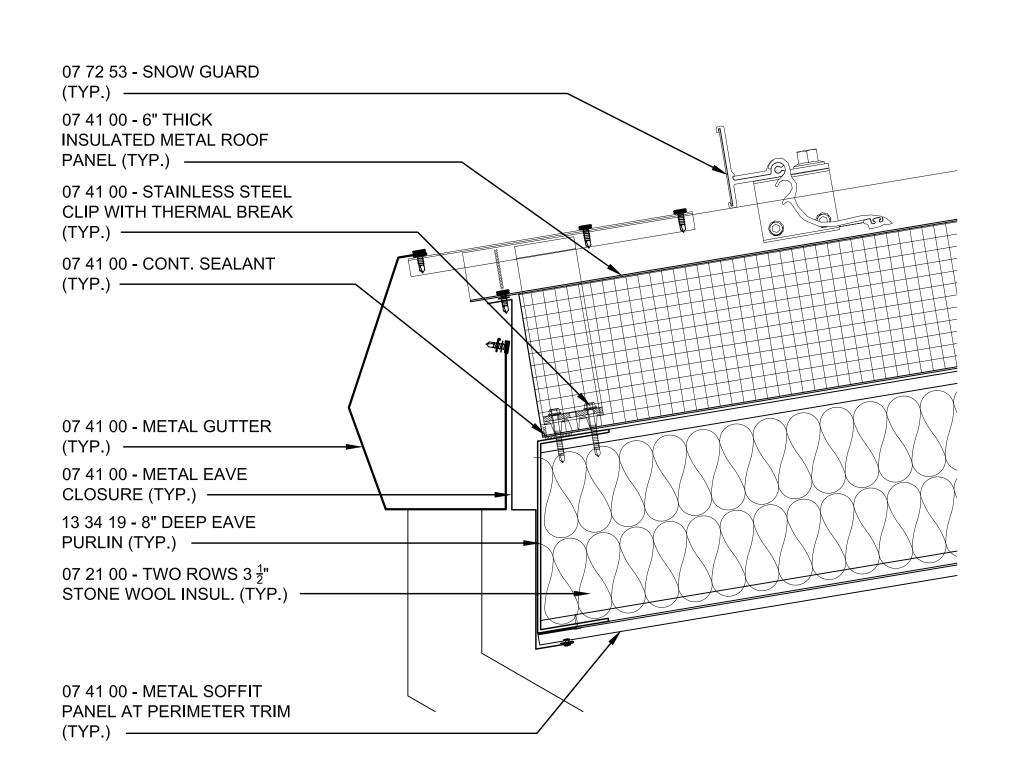
WALL AND FLOOR SLAB SIZE AND

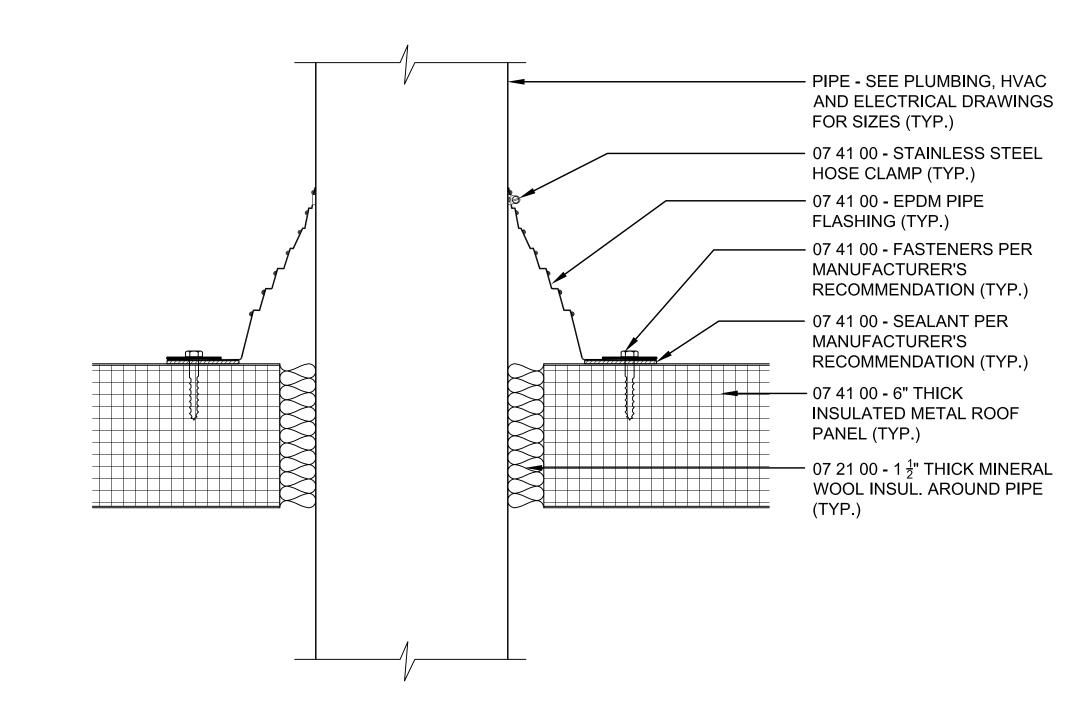
BRIDGE CRANE

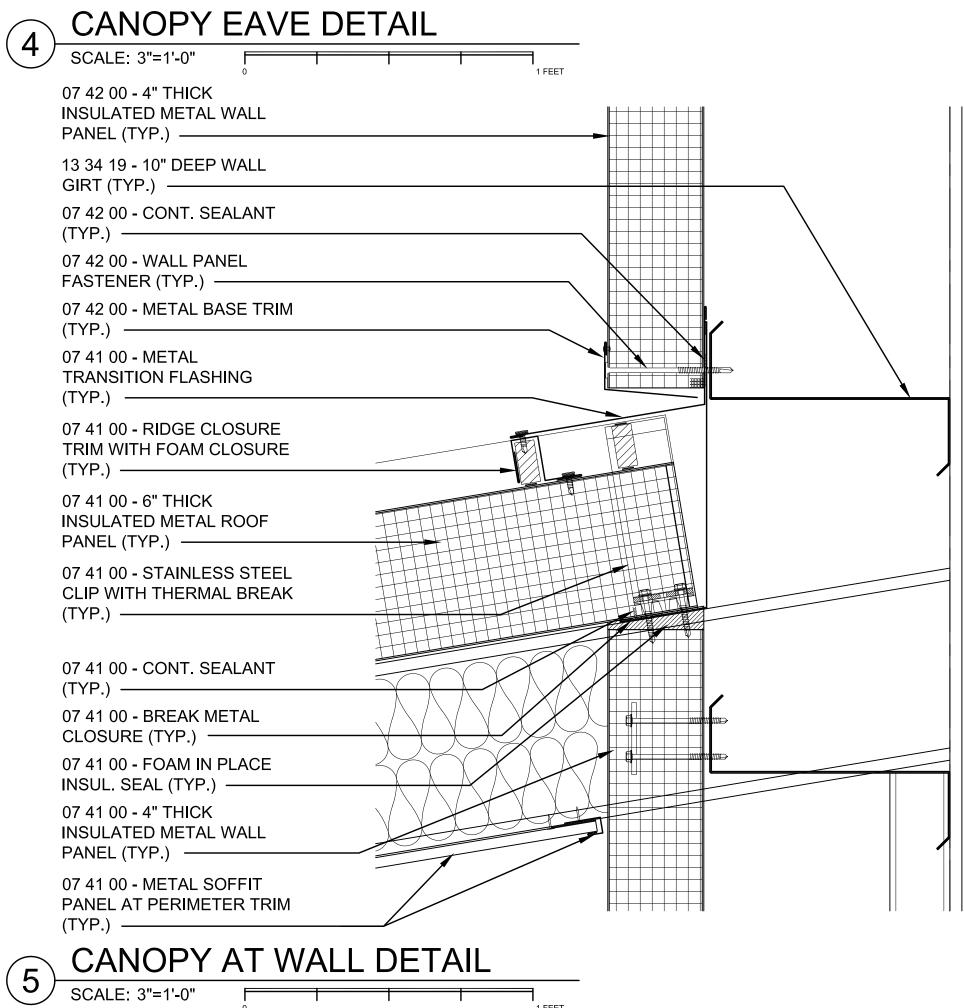
SECTIONS

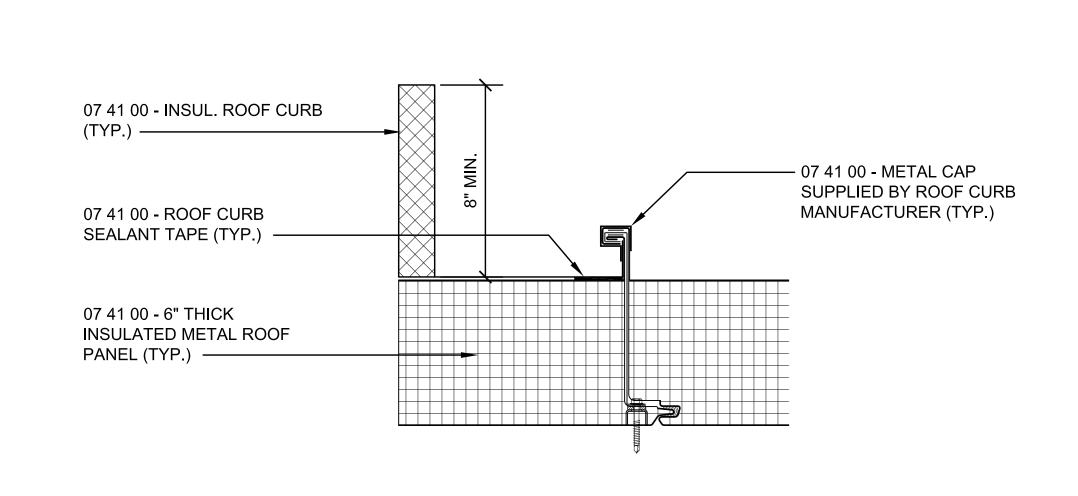
DRAWING NO.













6 TYPICAL PIPE FLASHING DETAIL

SCALE: 3"=1'-0"



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STAMP

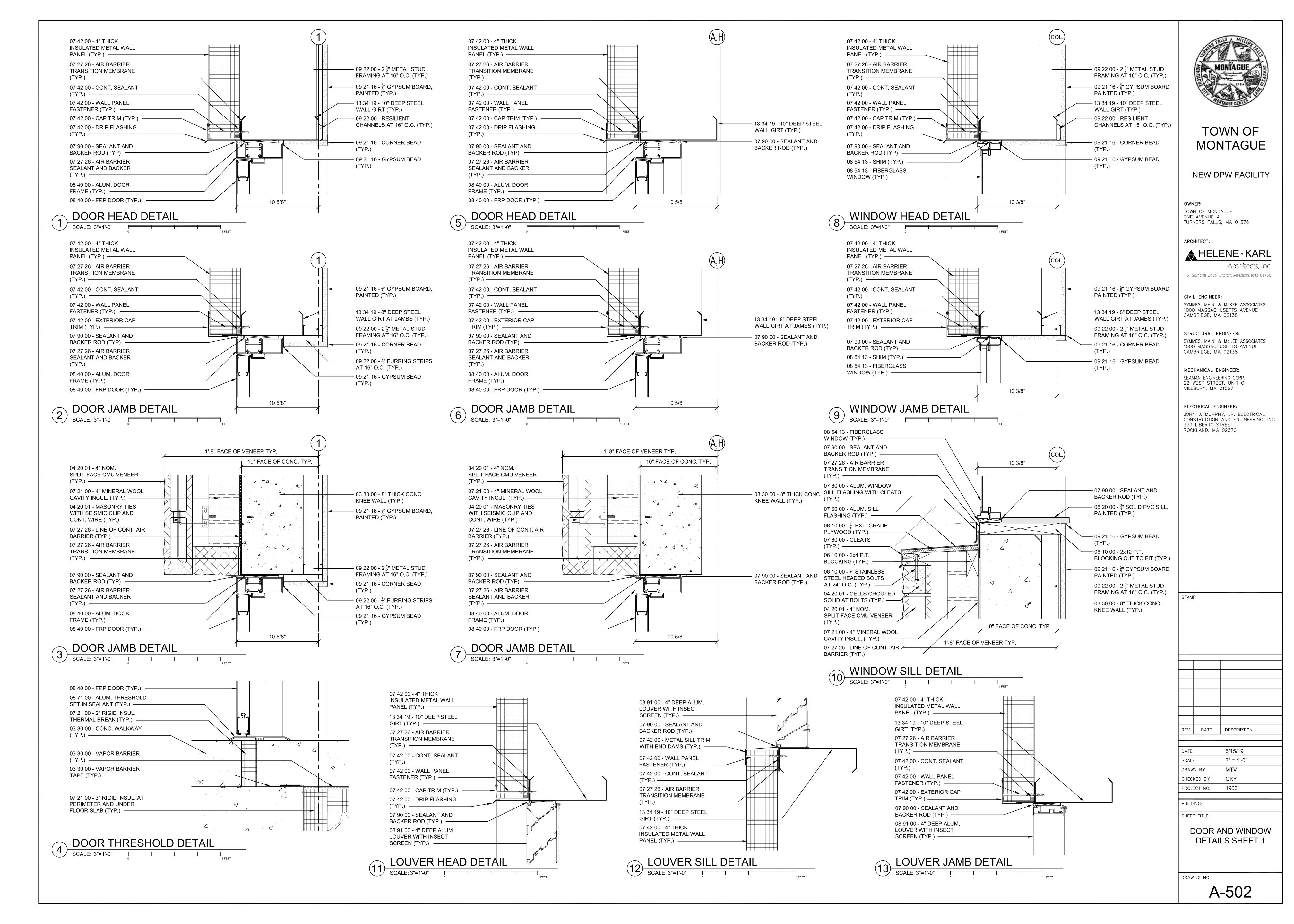
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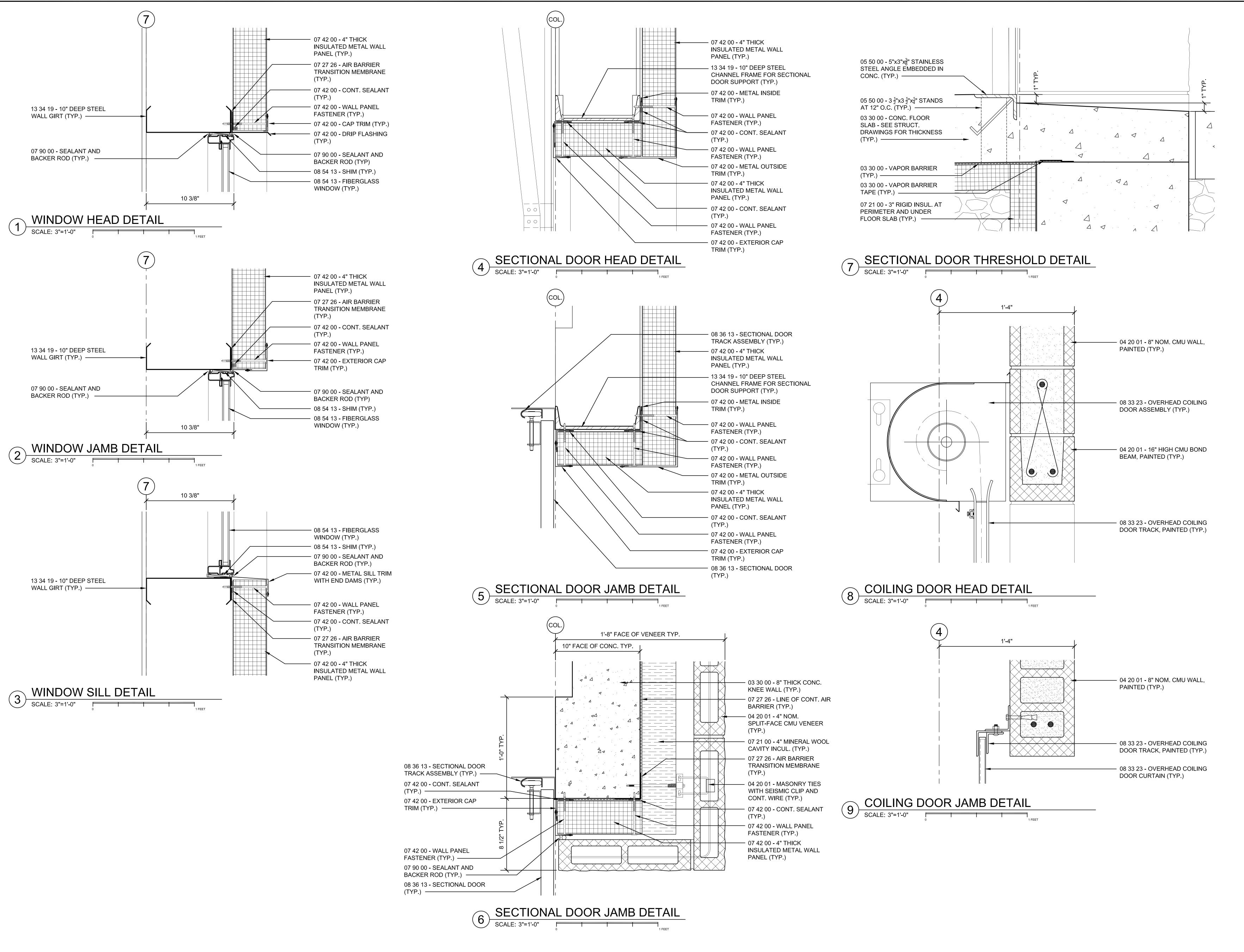
5/15/19 3" = 1'-0" CHECKED BY GKY PROJECT NO. 19001

BUILDING:

ROOF DETAILS

DRAWING NO.







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379 LIBERTY STREET

ROCKLAND, MA 02370

REV DATE DESCRIPTION

 DATE
 5/15/19

 SCALE
 3" = 1'-0"

 DRAWN BY
 MTV

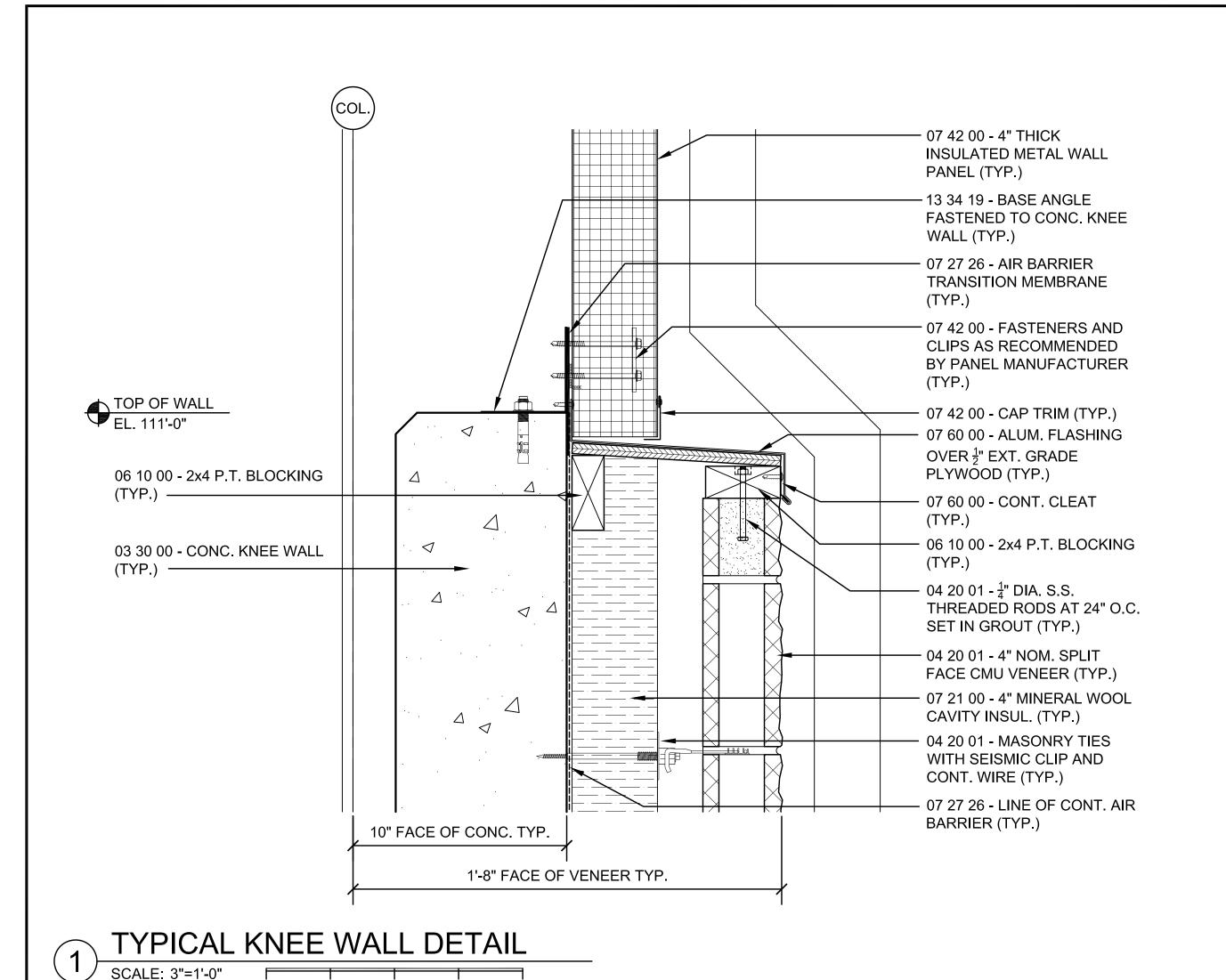
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 GKY

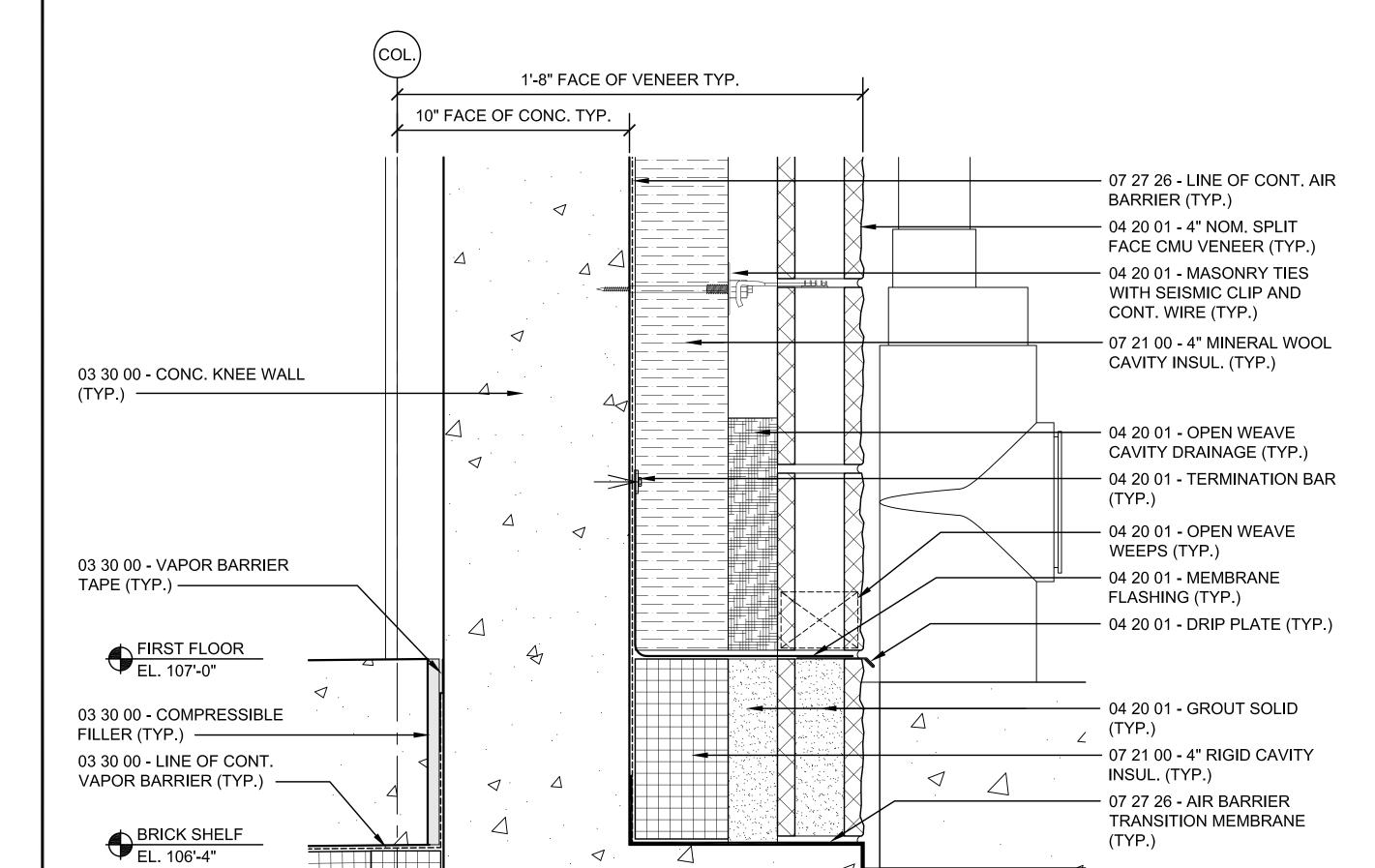
 PROJECT NO.
 19001

BUILDING:
SHEET TITLE:

DOOR AND WINDOW DETAILS SHEET 2

DRAWING NO.

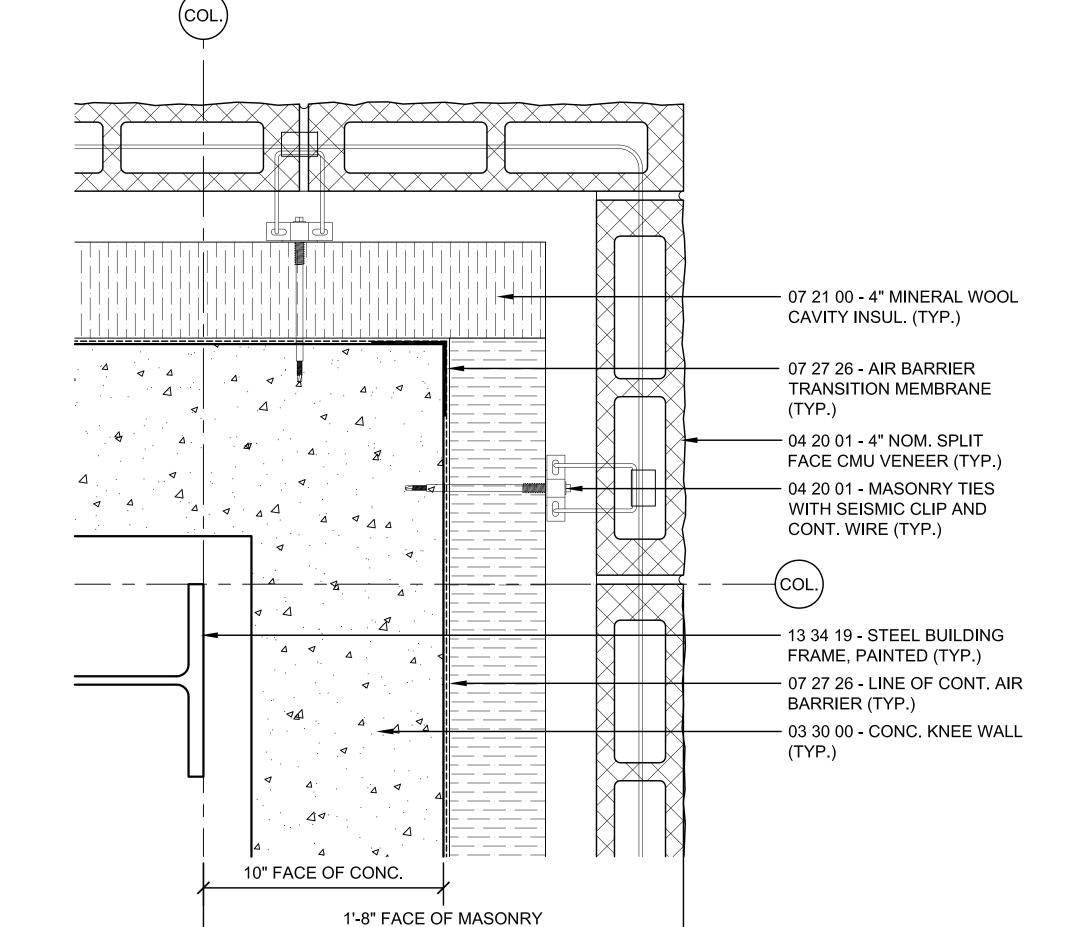






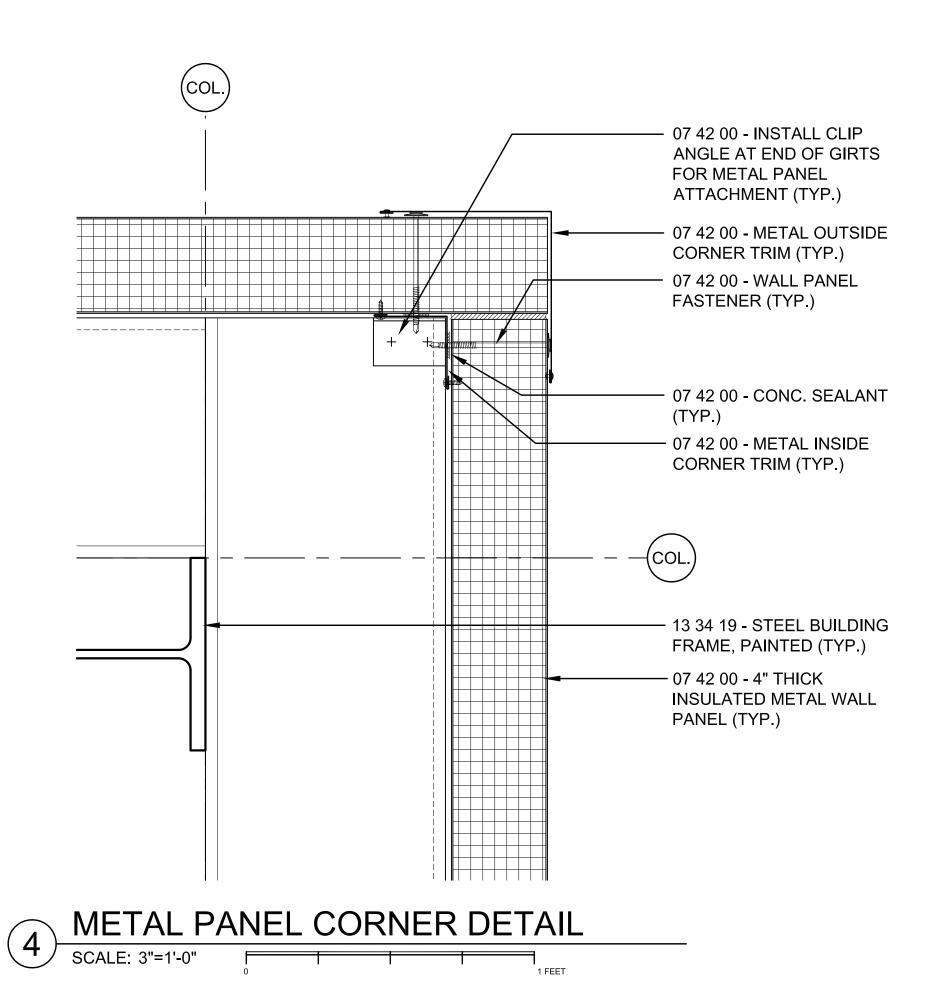
07 21 00 - CONT. 3" RIGID

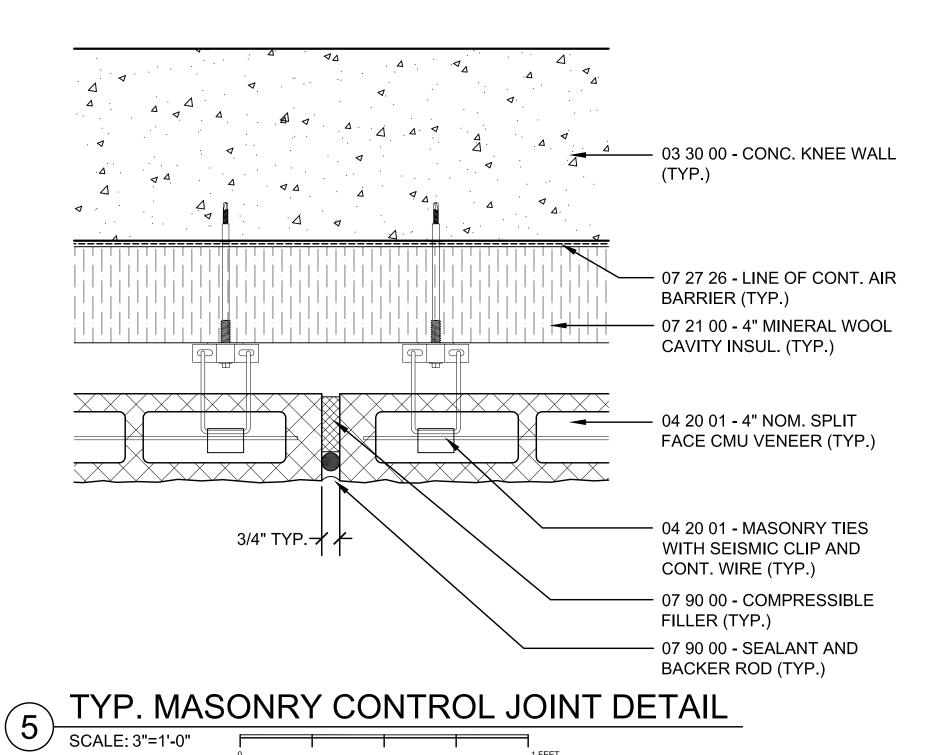
INSUL. (TYP.) —

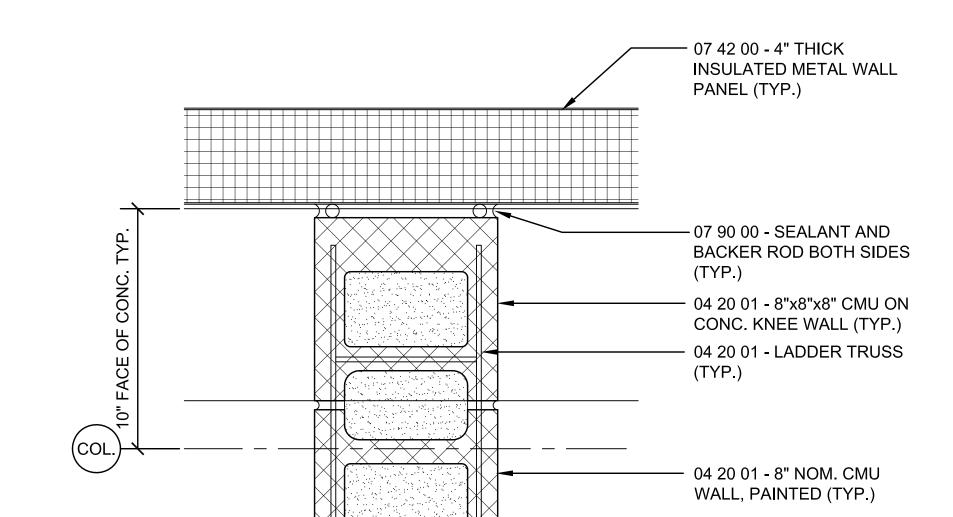


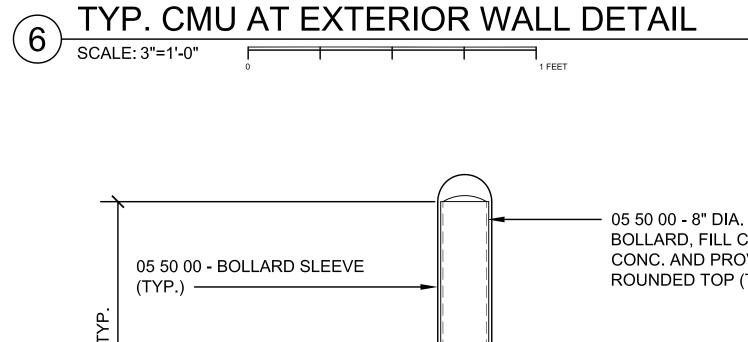
MASONRY VENEER CORNER DETAIL

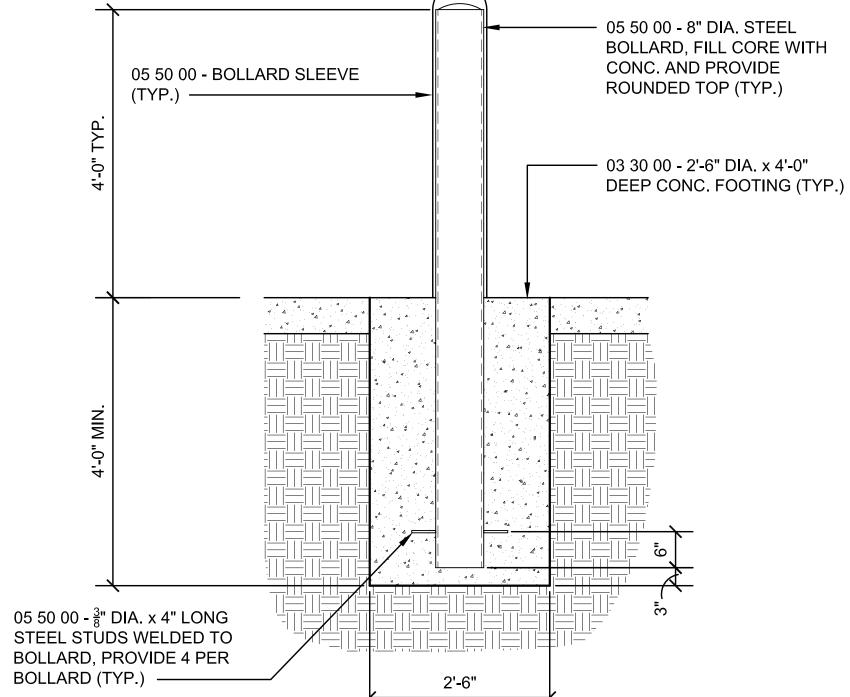
SCALE: 3"=1'-0"











7 TYPICAL EXTERIOR BOLLARD DETAIL
SCALE: 3/4"=1'-0"

1 1 2 3 4 FEET



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379 LIBERTY STREET

ROCKLAND, MA 02370

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REV DATE DESCRIPTION

DATE 5/15/19

SCALE 3" = 1'-0"

DRAWN BY MTV

CHECKED BY GKY

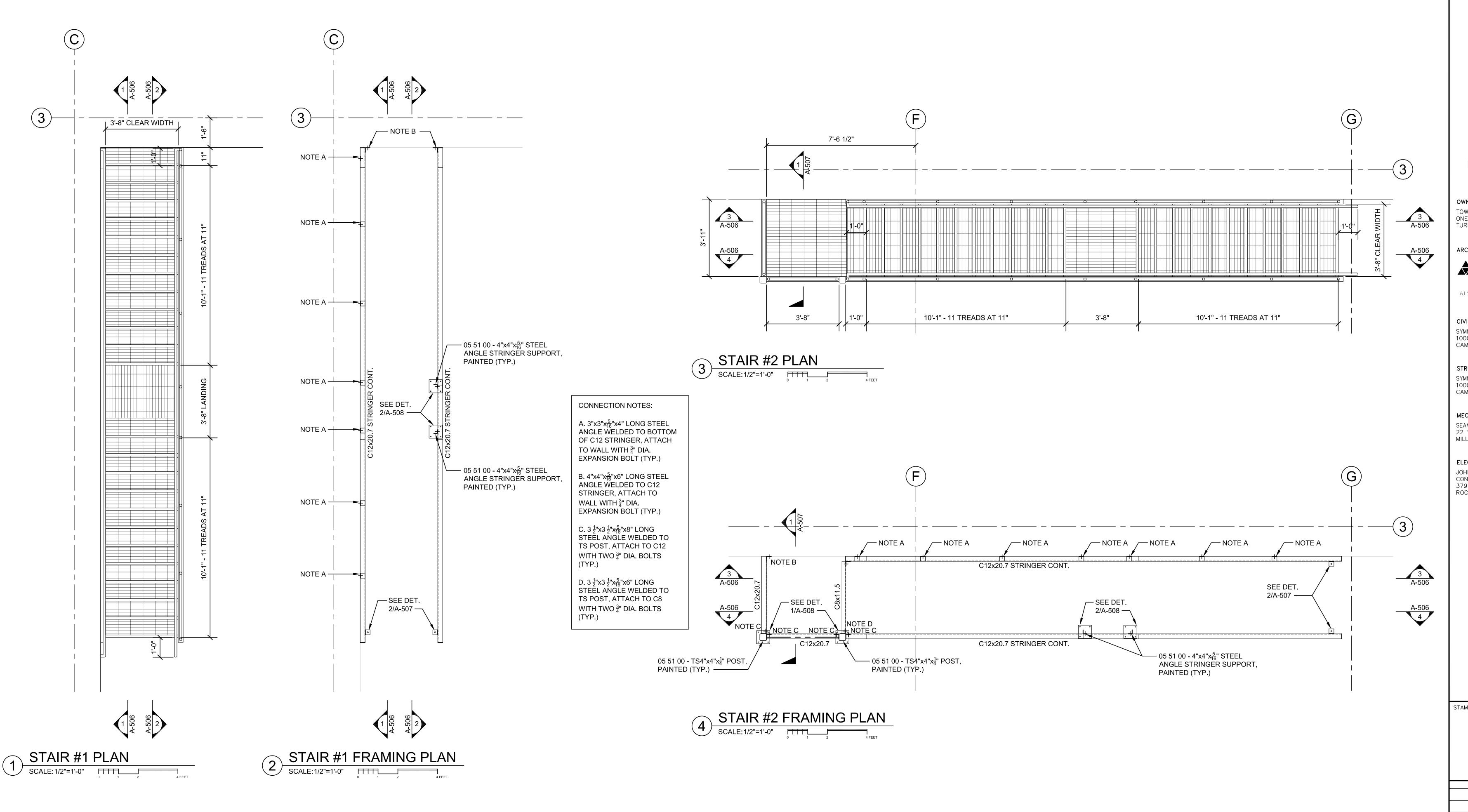
BUILDING:

PROJECT NO. 19001

SHFFT TITLE:

EXTERIOR DETAILS

DRAWING NO.



STAIR NOTES:

1. ALL STEEL, CONNECTORS, STAIRS ARE PART OF SECTION 05 51 00 (TYP.)

2. ALL HANDRAILS AND **GUARDRAILS AND WALL** BRACKETS FOR STAIRS ARE PART OF SECTION 05 51 00

3. ALL STEEL SHALL RECEIVE 1 COAT OF PRIMER IN SHOP AND FIELD PAINTED AS PART OF SECTION 09 90 01 (TYP.)

4. "CONT." INDICATES STRINGERS TO HAVE SLOPED AND LEVEL PIECES WELDED TOGETHER TO CREATE ONE CONTINUOUS STRINGER (TYP.)



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FASTENERS, PAN, ETC. FOR

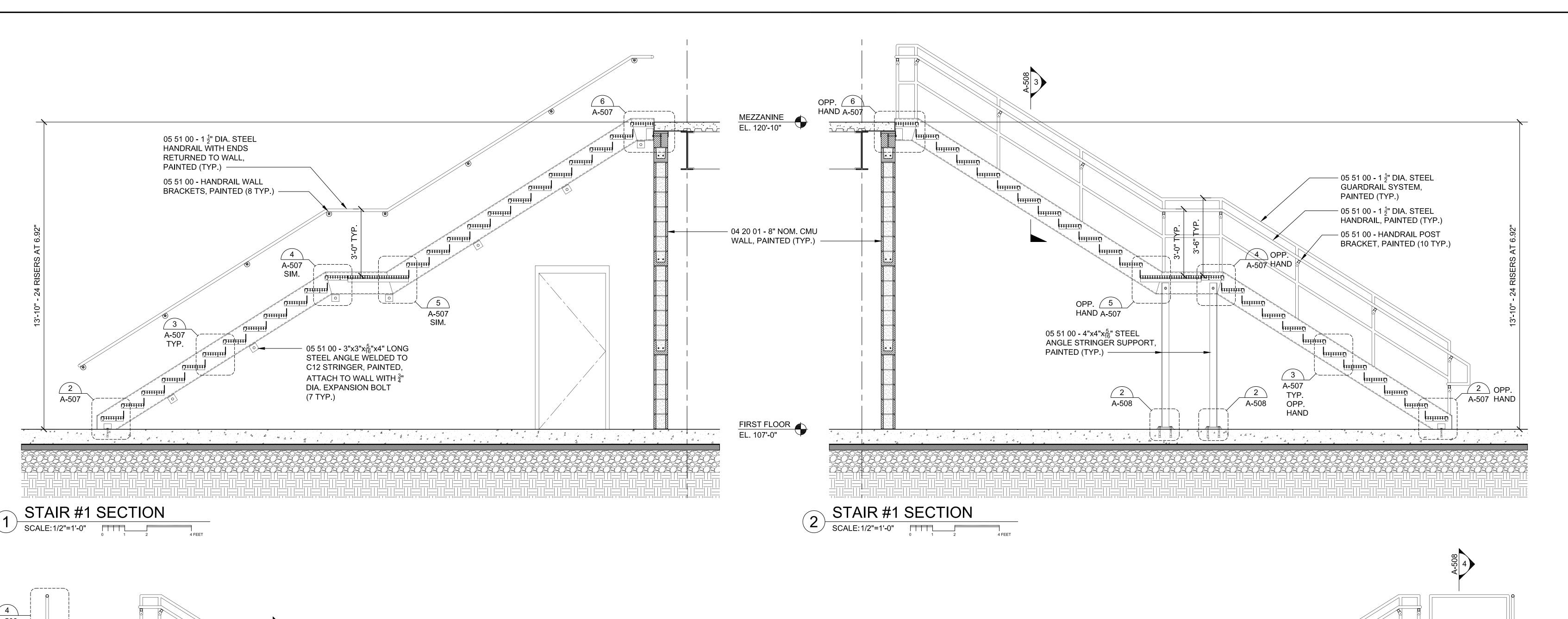
(TYP.)

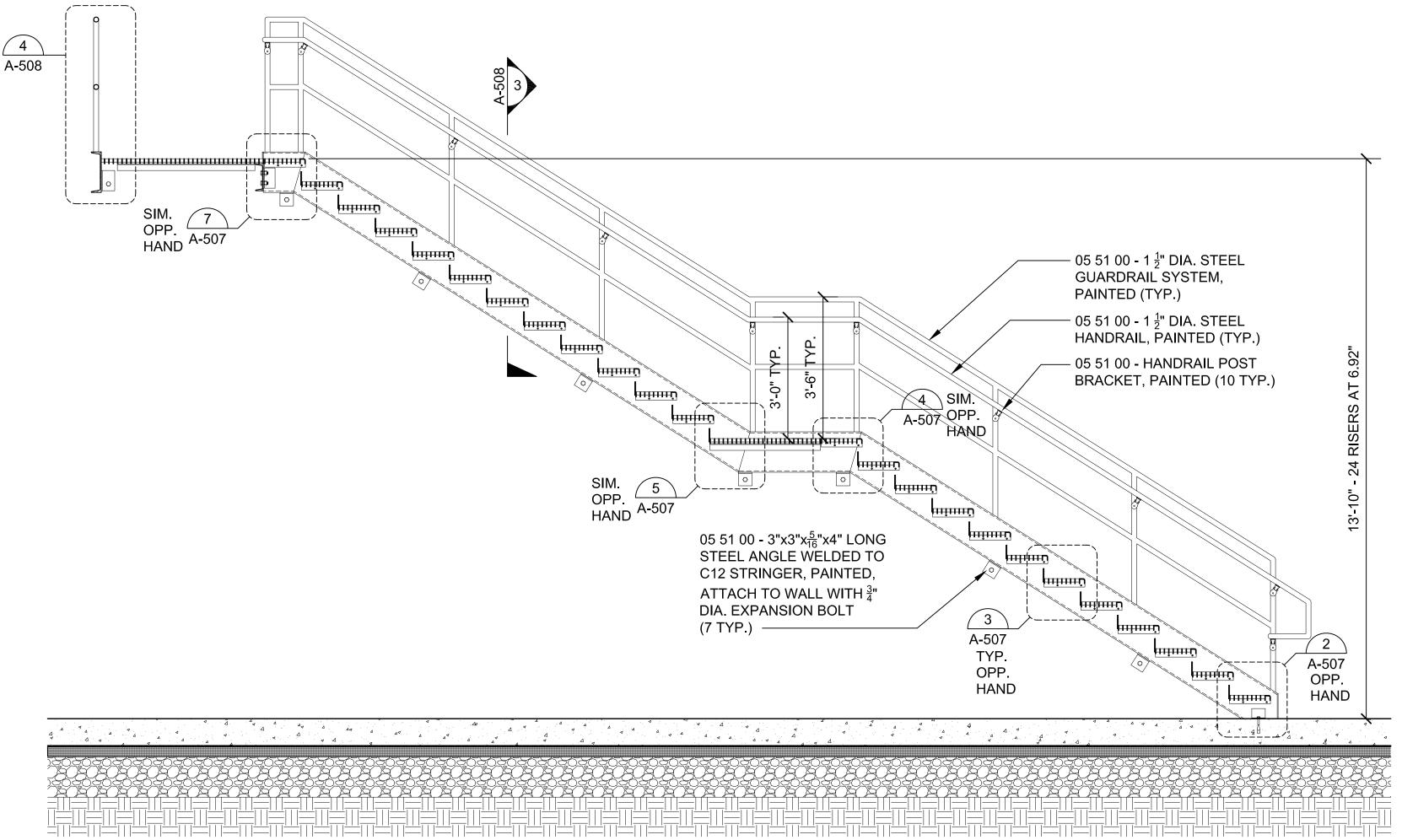
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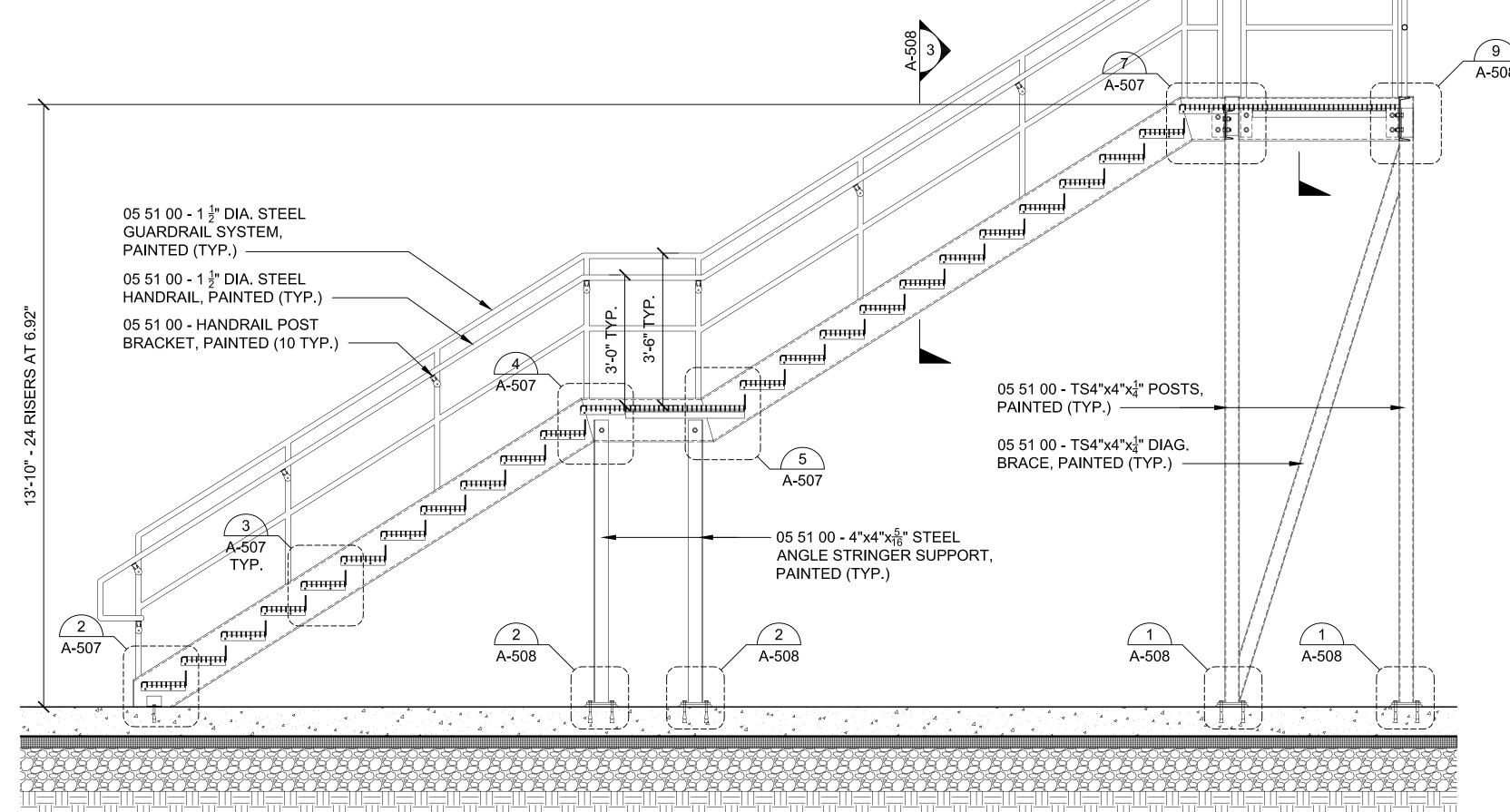
ENLARGED STAIR PLANS AND FRAMING PLANS

DRAWING NO.

SHEET TITLE:







STAIR NOTES:

1. ALL STEEL, CONNECTORS, FASTENERS, PAN, ETC. FOR STAIRS ARE PART OF

SECTION 05 51 00 (TYP.)

2. ALL HANDRAILS AND GUARDRAILS AND WALL BRACKETS FOR STAIRS ARE PART OF SECTION 05 51 00 (TYP.)

IN SHOP AND FIELD PAINTED AS PART OF SECTION 09 90 01 (TYP.) 4. "CONT." INDICATES STRINGERS TO HAVE SLOPED AND LEVEL PIECES

RECEIVE 1 COAT OF PRIMER

3. ALL STEEL SHALL

WELDED TOGETHER TO CREATE ONE CONTINUOUS STRINGER (TYP.)



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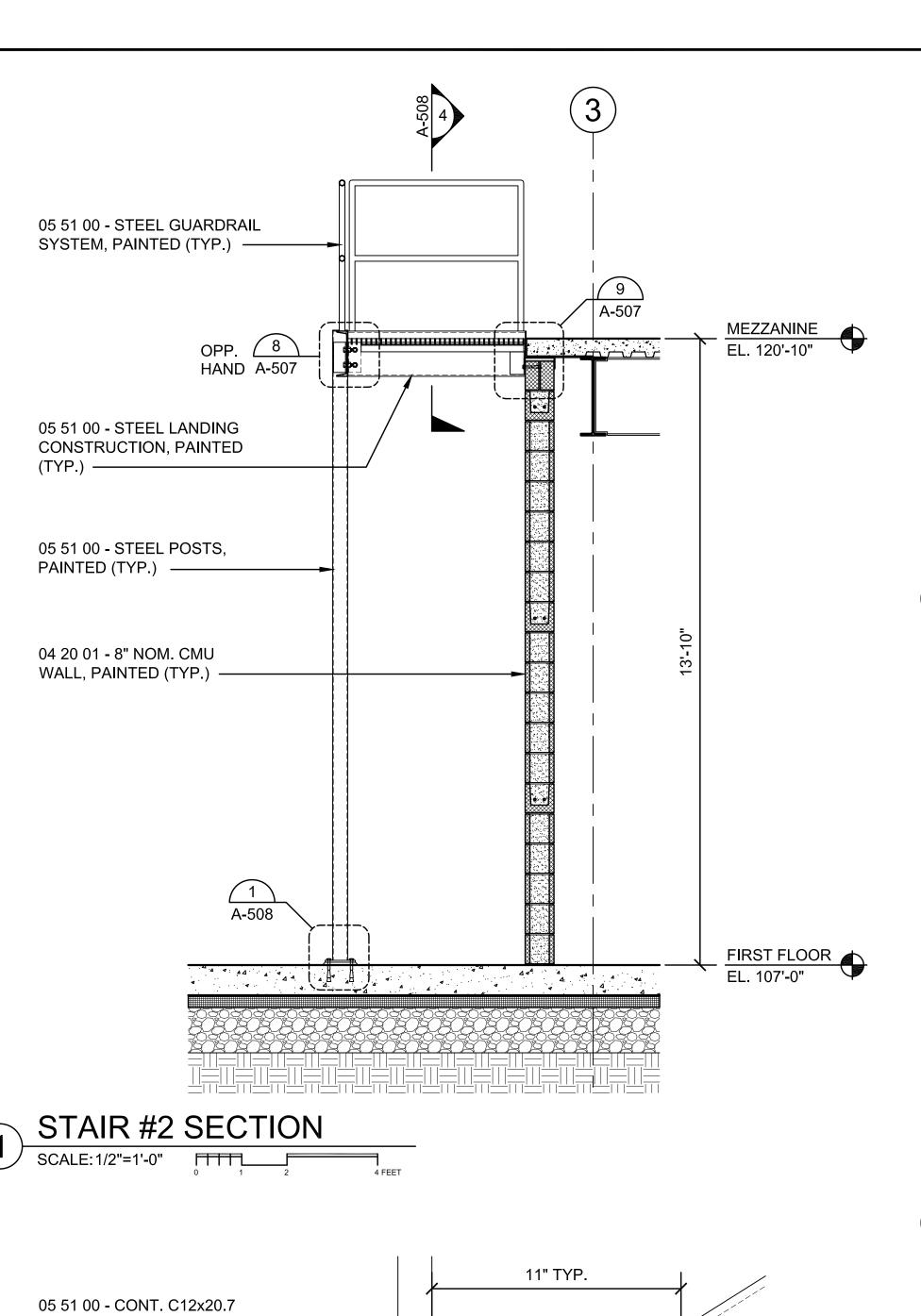
5/15/19 1/2" = 1'-0" MTV RAWN BY CHECKED BY GKY PROJECT NO. 19001

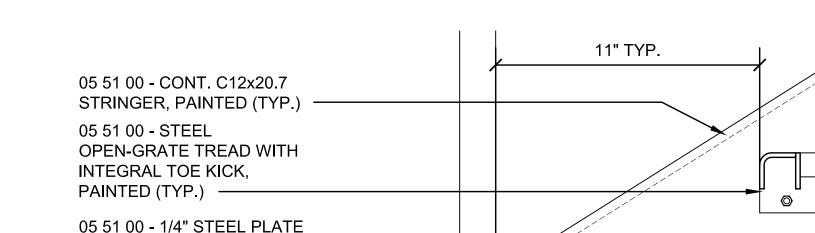
BUILDING:

SHEET TITLE:

STAIR SECTIONS

DRAWING NO.





05 51 00 - 1/4" STEEL PLATE
TOE KICK WELDED TO
TREAD (TYP.)

05 51 00 - 1/4" DIA. STEEL
BOLT, 4 PER TREAD (TYP.)

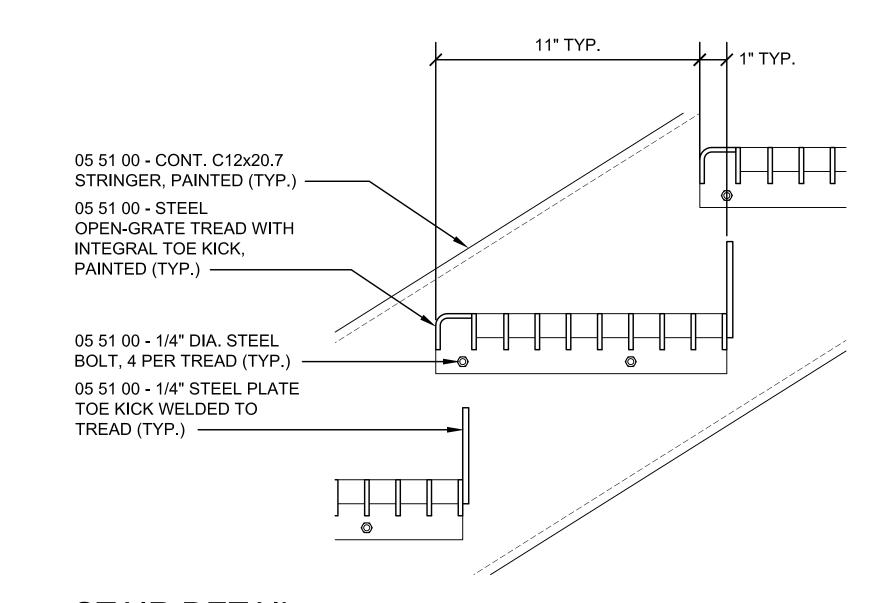
05 51 00 - 1/4" STEEL
CLOSURE PLATE, PAINTED
(TYP.)

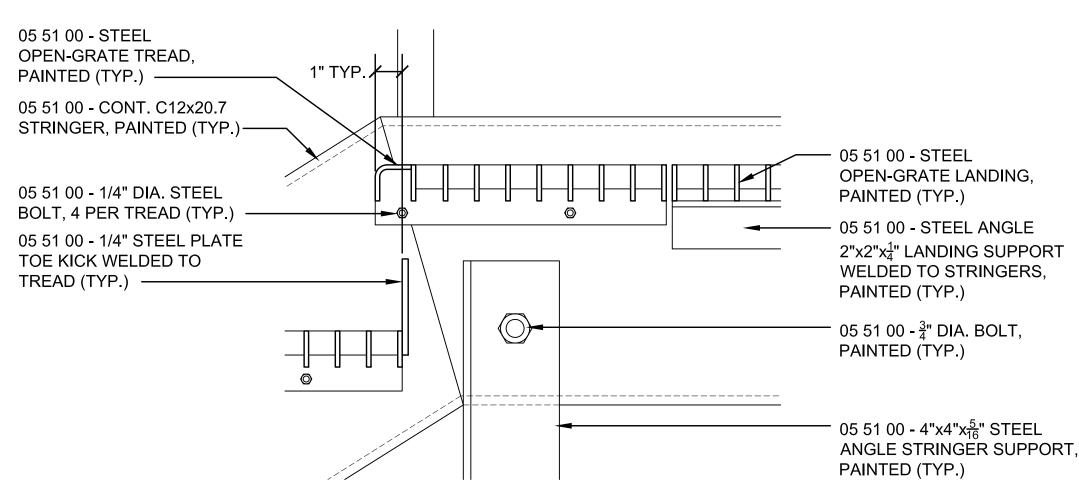
05 51 00 - 3"x3"x4" STEEL
ANGLE BASE PLATE WELDED
TO STRINGER AND
ATTACHED TO FLOOR WITH

STAIR DETAIL

¹/₂" DIA. EXPANSION BOLT

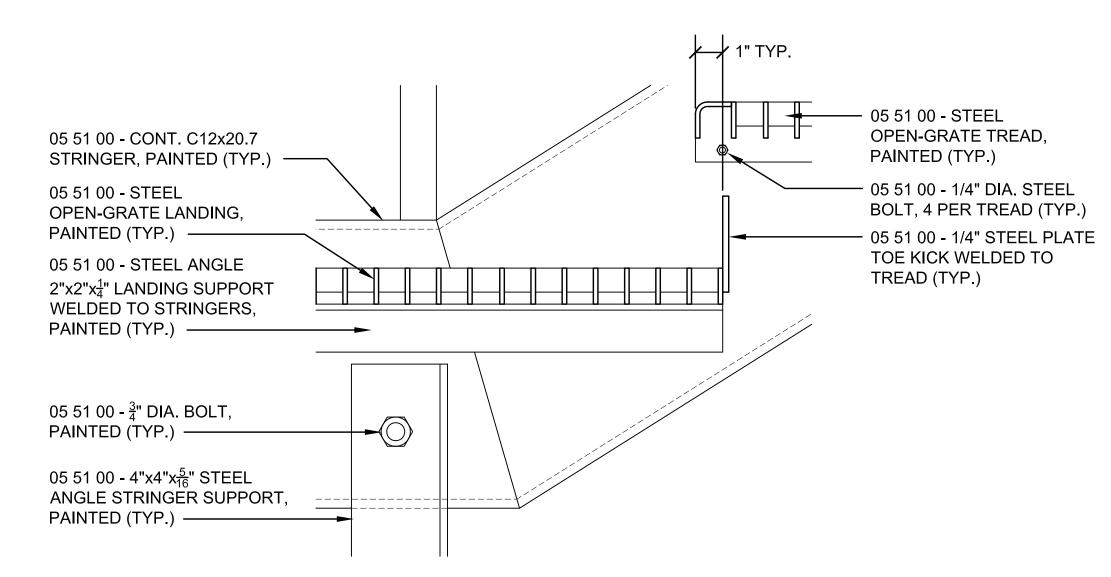
PAINTED (TYP.) -





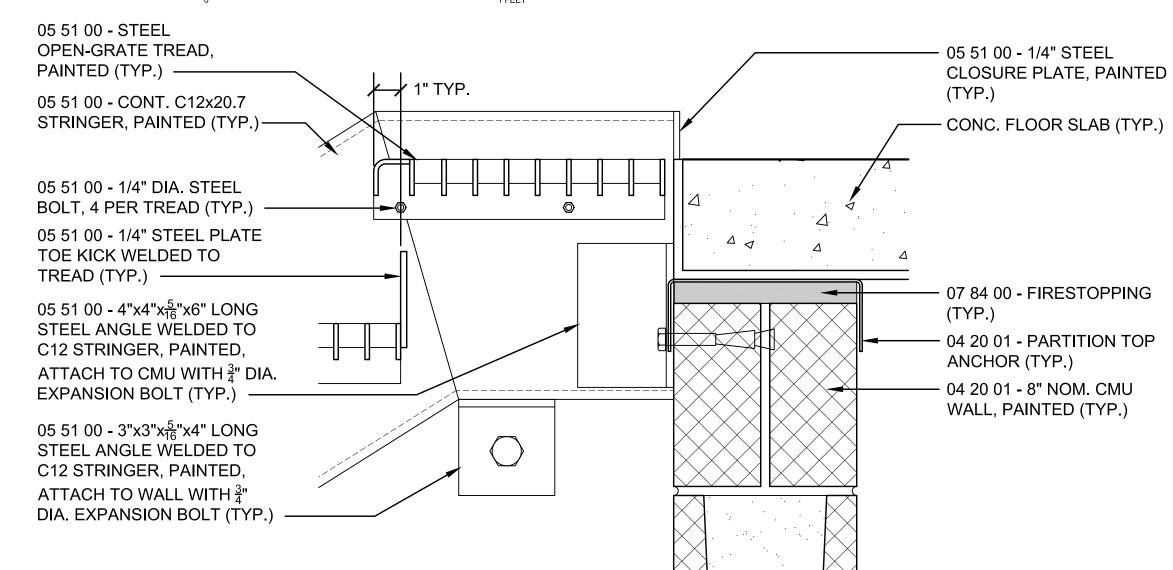
STAIR DETAIL

SCALE: 3"=1'-0"

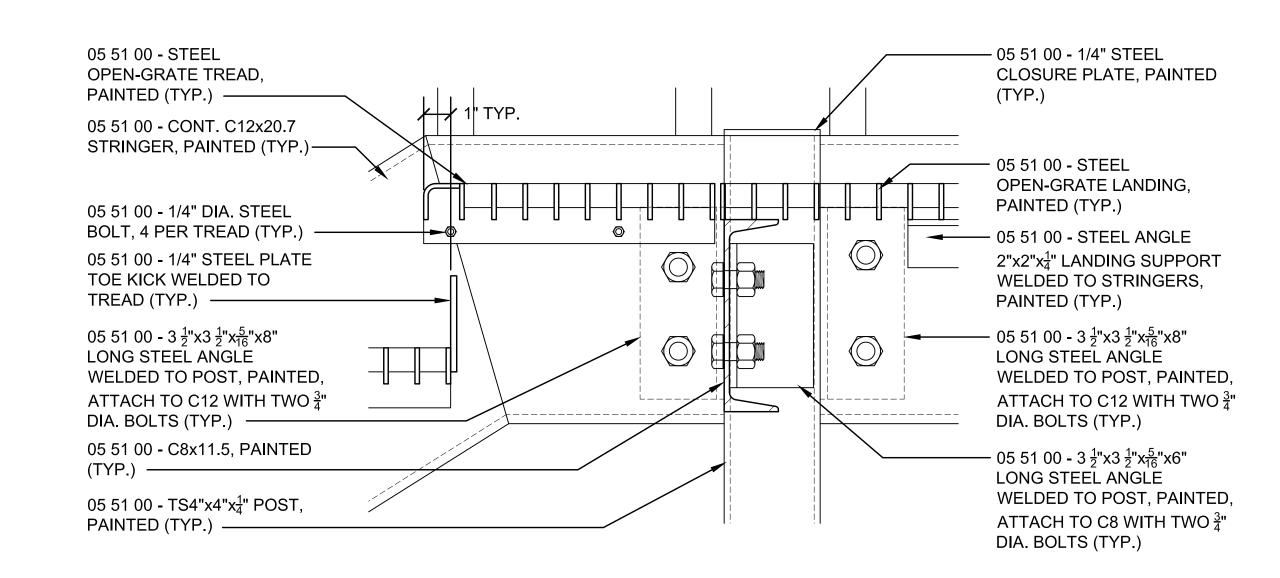


STAIR DETAIL

SCALE: 3"=1'-0"



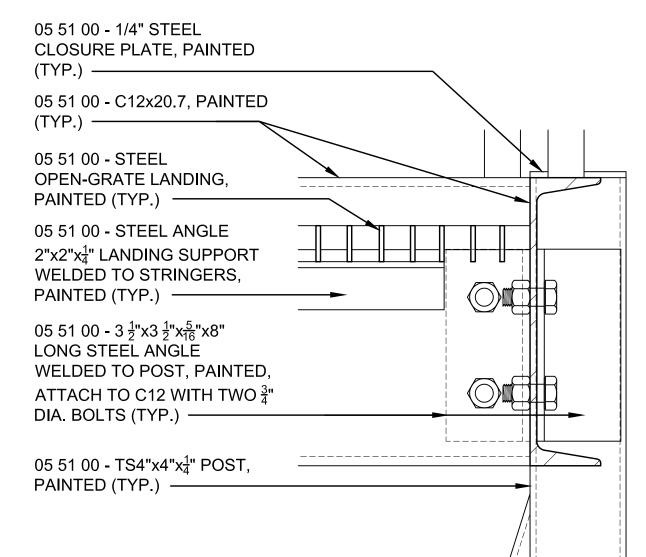
STAIR DETAIL



STAIR DETAIL

SCALE: 3"=1'-0"

1 FEET



05 51 00 - 1/4" STEEL CLOSURE PLATE, PAINTED 05 51 00 - STEEL (TYP.) OPEN-GRATE LANDING, - CONC. FLOOR SLAB (TYP.) PAINTED (TYP.) 05 51 00 - STEEL ANGLE 2"x2"x4" LANDING SUPPORT WELDED TO STRINGERS, PAINTED (TYP.) — 05 51 00 - 4"x4"x⁵/₁₆"x6" LONG STEEL ANGLE WELDED TO 07 84 00 - FIRESTOPPING C12 STRINGER, PAINTED, (TYP.) ATTACH TO CMU WITH $\frac{3}{4}$ " DIA. 04 20 01 - PARTITION TOP EXPANSION BOLT (TYP.) ANCHOR (TYP.) · 04 20 01 - 8" NOM, CMU WALL, PAINTED (TYP.) 05 51 00 - C12x20.7, PAINTED

9 STAIR DETAIL

SCALE: 3"=1'-0"

1 FEET

(TYP.) ——

STAIR NOTES:

1. ALL STEEL, CONNECTORS, FASTENERS, PAN, ETC. FOR STAIRS ARE PART OF SECTION 05 51 00 (TYP.)

2. ALL HANDRAILS AND GUARDRAILS AND WALL BRACKETS FOR STAIRS ARE PART OF SECTION 05 51 00 (TYP.)

3. ALL STEEL SHALL RECEIVE 1 COAT OF PRIMER IN SHOP AND FIELD PAINTED AS PART OF SECTION 09 90 01 (TYP.)

4. "CONT." INDICATES
STRINGERS TO HAVE
SLOPED AND LEVEL PIECES
WELDED TOGETHER TO
CREATE ONE CONTINUOUS
STRINGER (TYP.)



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REV	DATE	DESCRIPTION	
DATE		5/15/19	
SCAL		AS NOTED	

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PROJECT NO. 19001

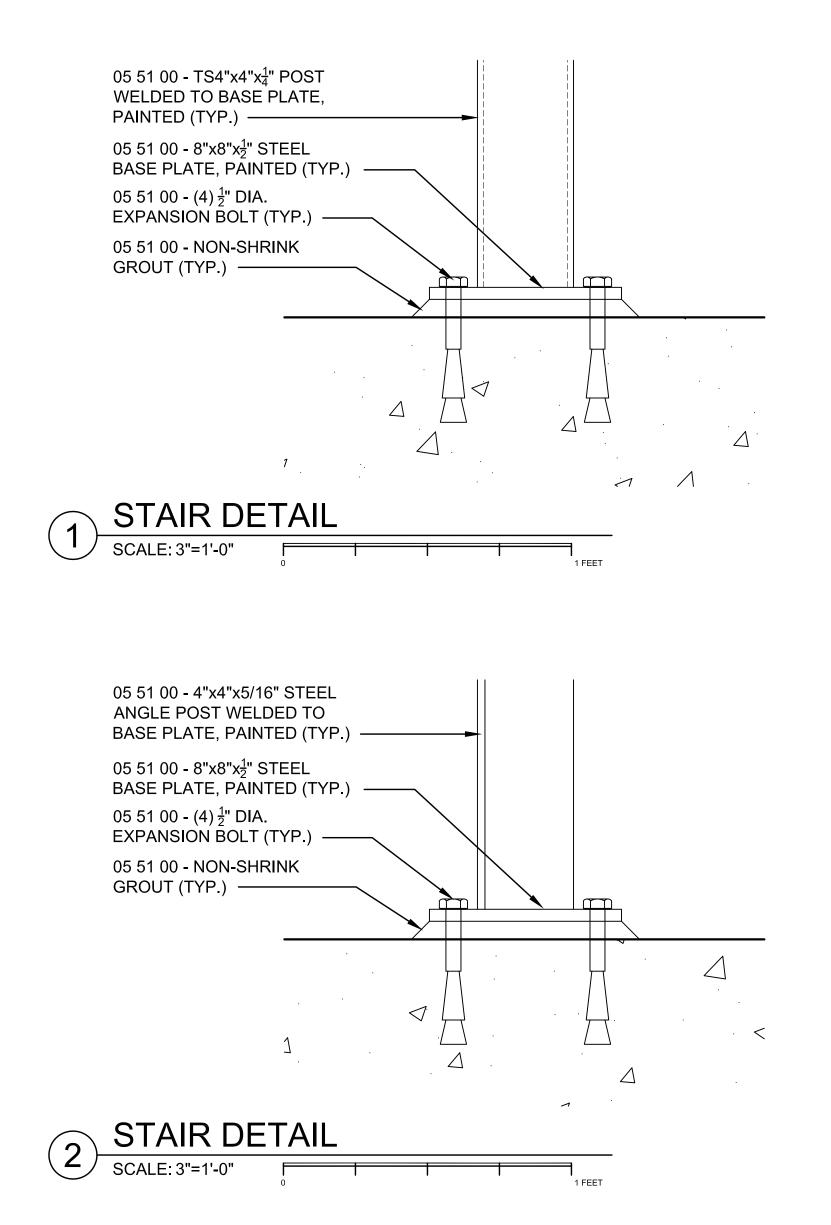
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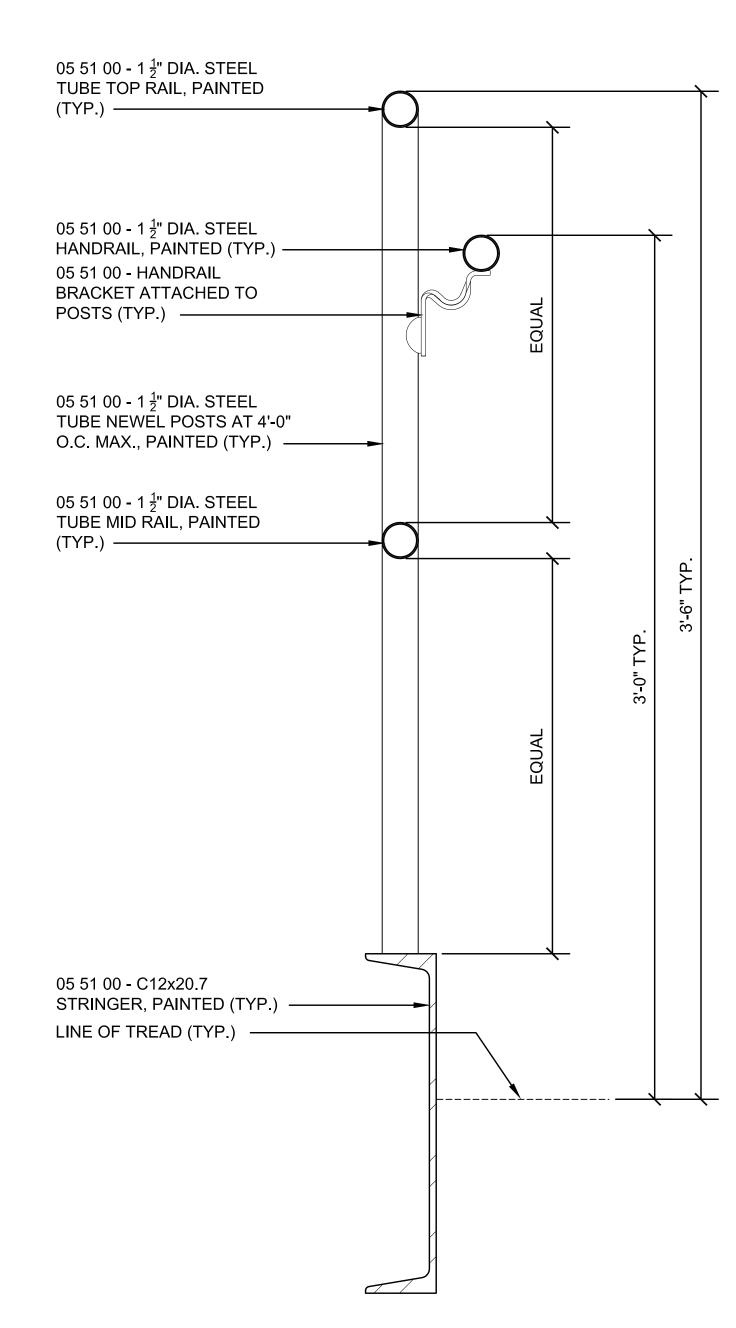
BUILDING:

SHEET TITLE:

STAIR SECTION AND DETAILS

DRAWING NO.

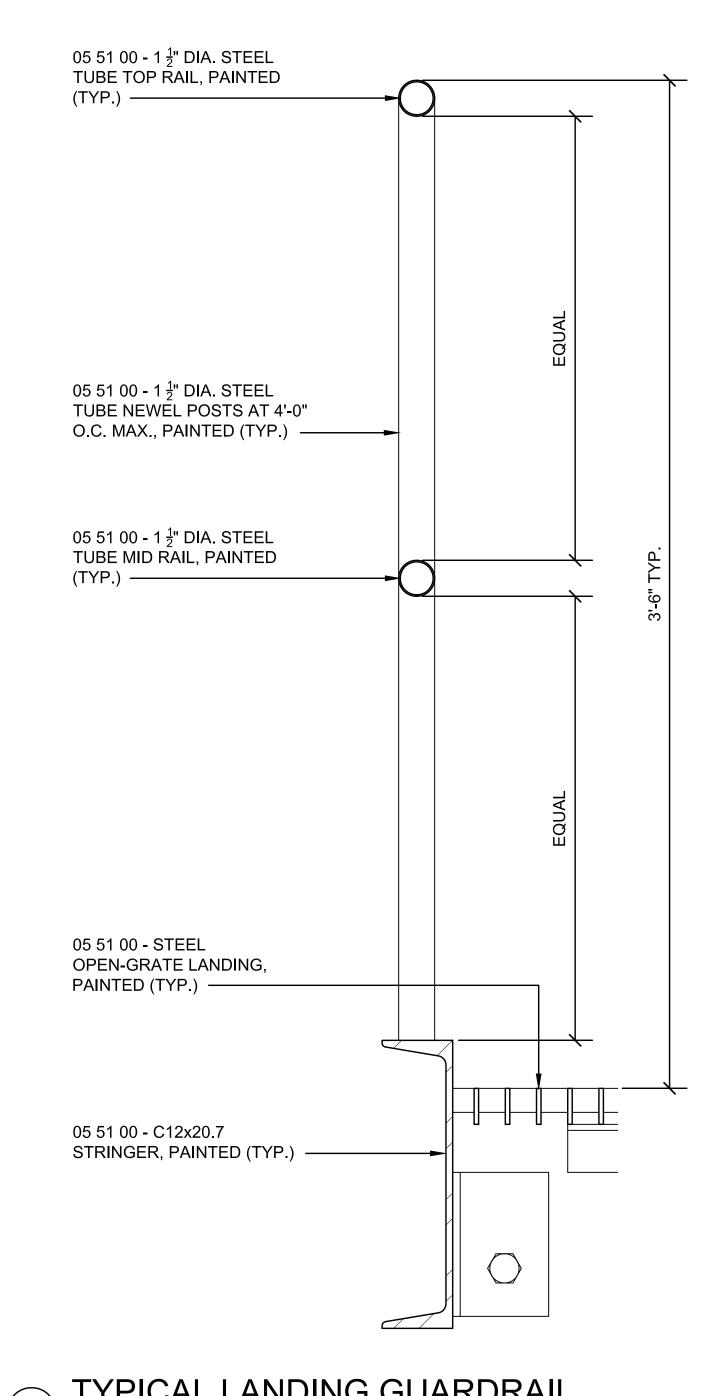


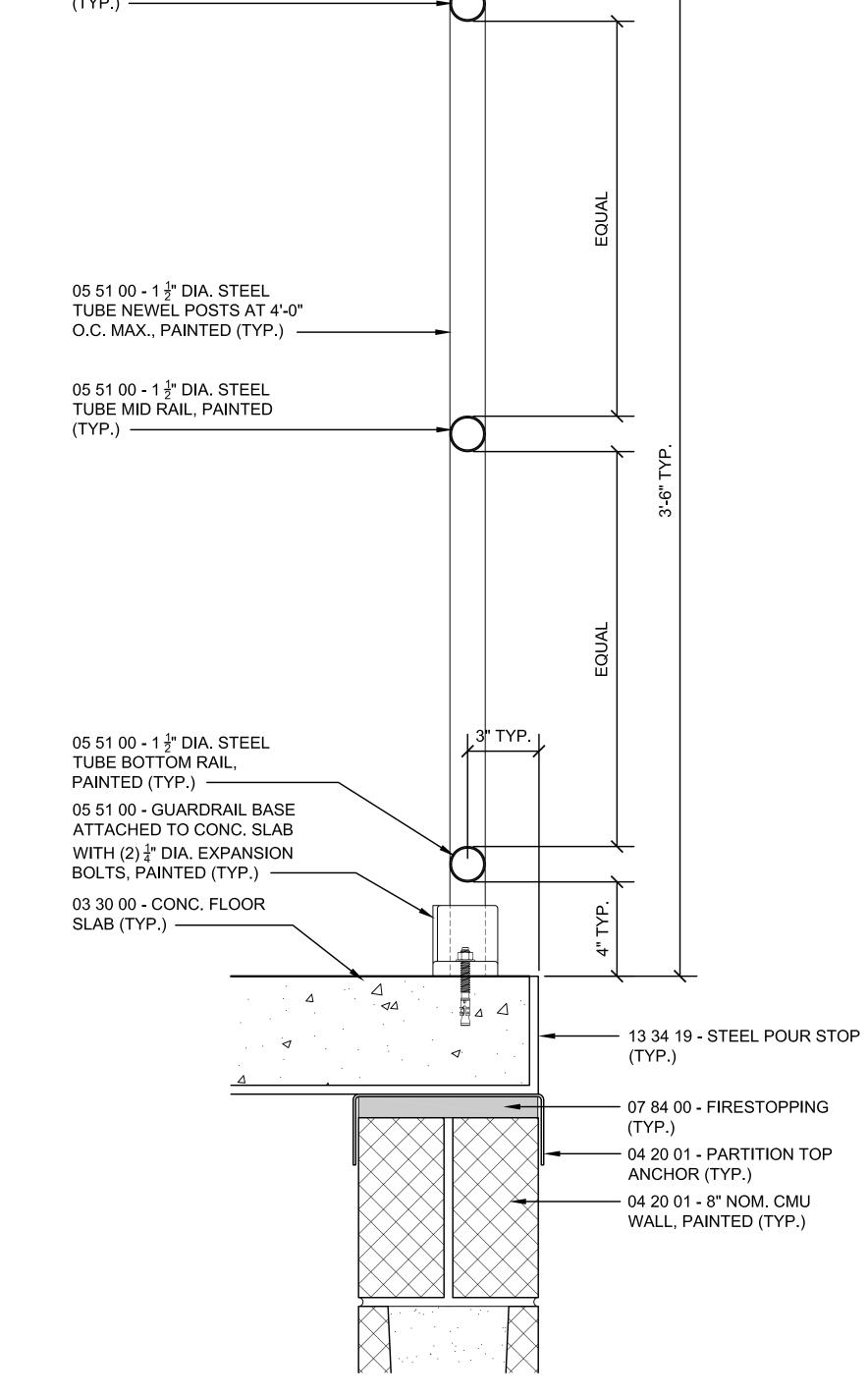


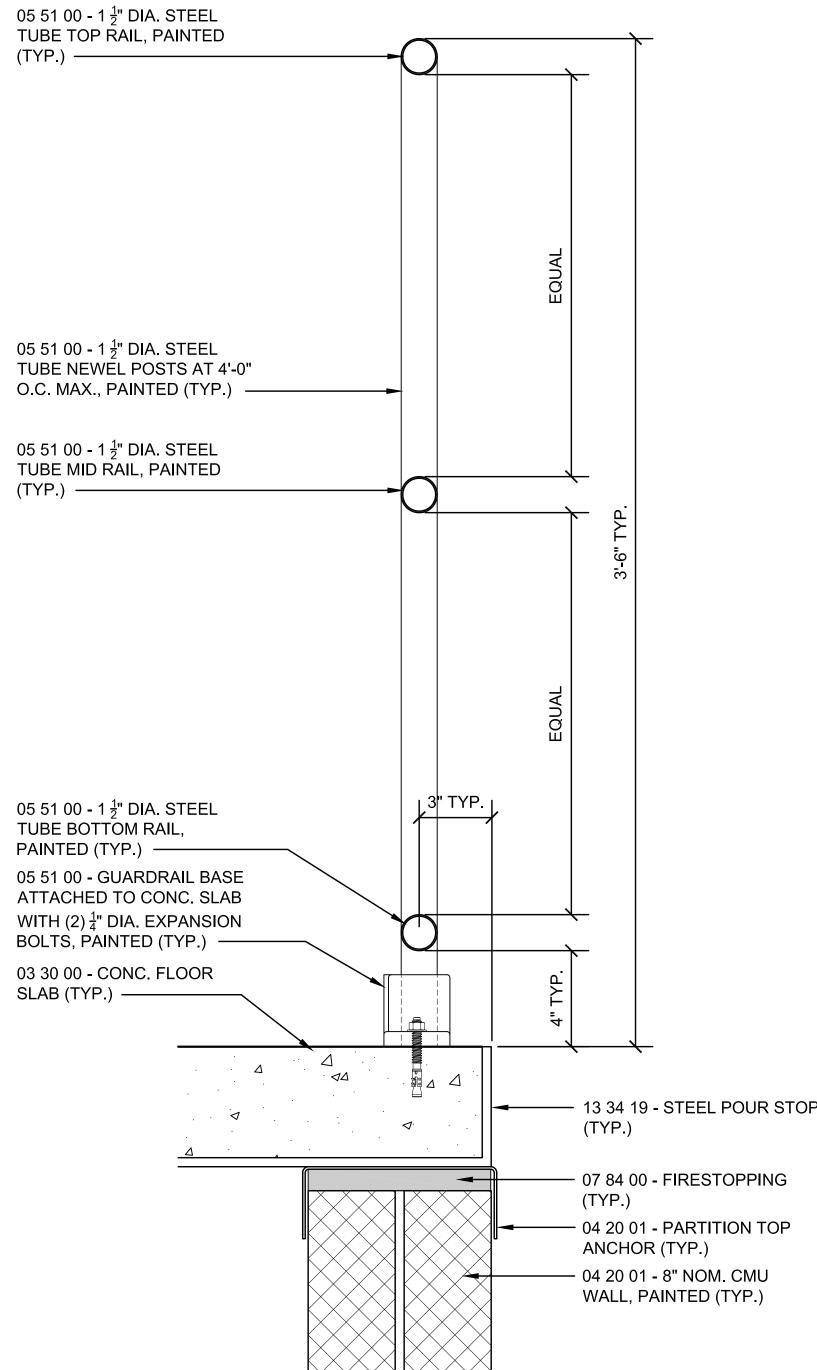
TYPICAL STRINGER GUARDRAIL

SCALE: 3"=1'-0"

1 FEET









2. ALL HANDRAILS AND **GUARDRAILS AND WALL** (TYP.)

3. ALL STEEL SHALL AS PART OF SECTION 09 90 01 (TYP.)

4. "CONT." INDICATES STRINGERS TO HAVE SLOPED AND LEVEL PIECES WELDED TOGETHER TO CREATE ONE CONTINUOUS



NEW DPW FACILITY

OWNER: TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT:

HELENE · KARL

Architects, Inc. 61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ROCKLAND, MA 02370

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET

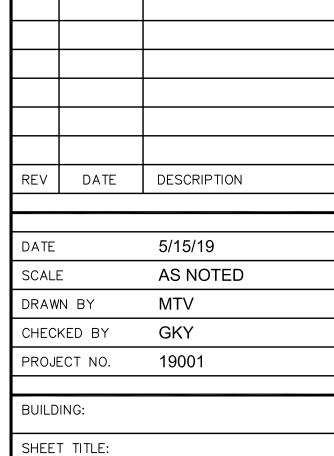
STAIR NOTES:

1. ALL STEEL, CONNECTORS, FASTENERS, PAN, ETC. FOR STAIRS ARE PART OF SECTION 05 51 00 (TYP.)

BRACKETS FOR STAIRS ARE PART OF SECTION 05 51 00

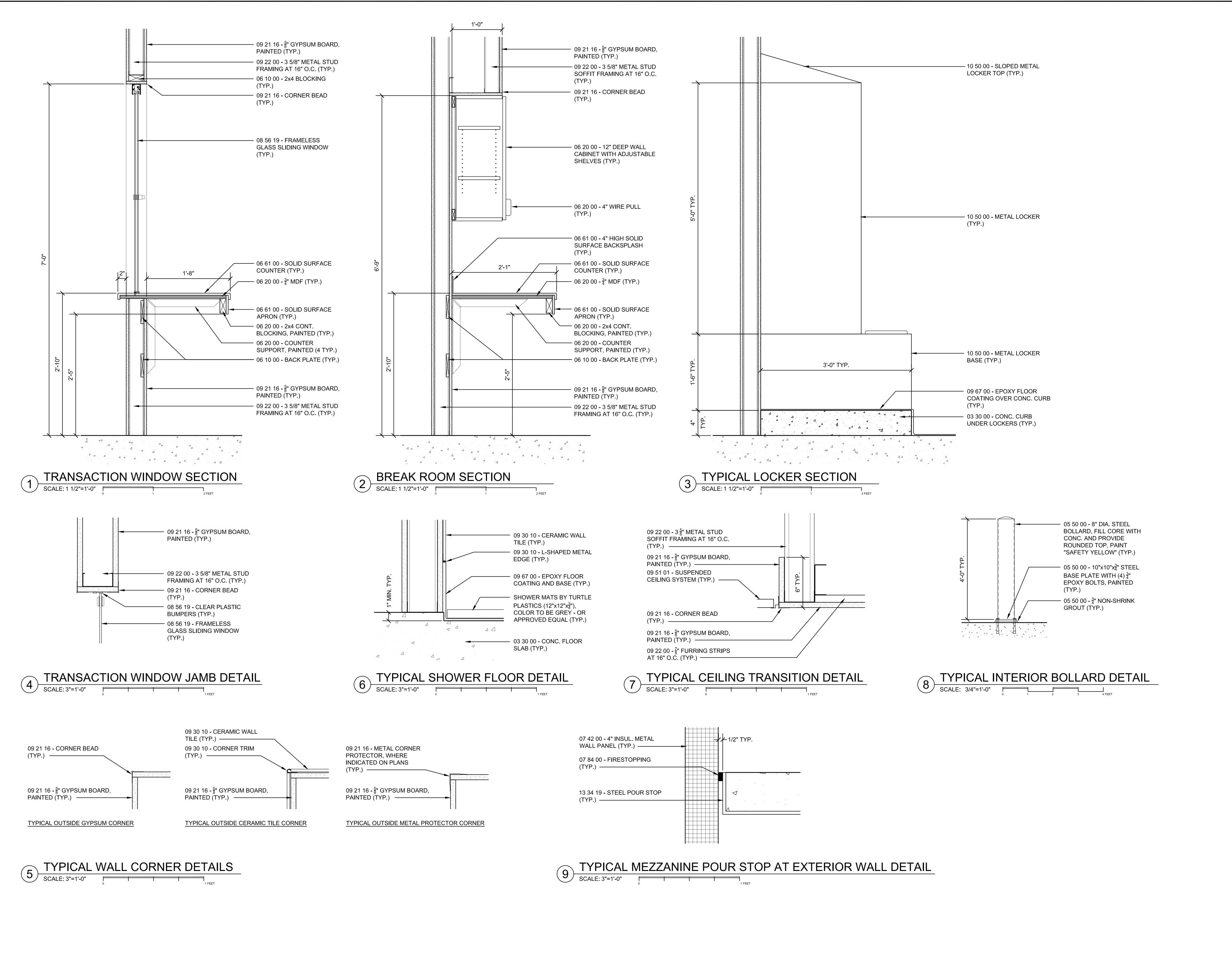
RECEIVE 1 COAT OF PRIMER IN SHOP AND FIELD PAINTED

STRINGER (TYP.)



DRAWING NO. A-508

STAIR DETAILS





NEW DPW FACILITY

OWNER:

TOWN OF MONTAGUE

ONE AVENUE A

TURNERS FALLS, MA 01376

ARCHITECT:

HELENE · KARL

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STRUCTURAL ENGINEER:

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1000 MASSACHUSETTS AVENUE

CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:

SEAMAN ENGINEERING CORP.

22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMD

REV DATE DESCRIPTION

ATE 5/15/19

SCALE AS NOTED

DRAWN BY MTV

CHECKED BY GKY

PROJECT NO. 19001

BUILDING:

HFFT TITLE:

INTERIOR DETAILS

DRAWING NO.

FIRST FLOOR FINISH SCHEDULE

ROOM	ROOM	FLOORS		BASE		WALLS		CEILING			COMMENTS	
NO.	NAME	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT		
101	VESTIBULE	CONC.	EPOXY	GYP.	EPOXY	GYP.	PAINT	ACT		9'-0"	4" EPOXY BASE	
102	MEETING/RECORDS	CONC.	EPOXY	GYP.	EPOXY	GYP.	PAINT	ACT		9'-0"	4" EPOXY BASE	
103	OPEN OFFICE	CONC.	EPOXY	GYP.	EPOXY	GYP.	PAINT	ACT		9'-0"	4" EPOXY BASE	
104	MANAGER'S OFFICE	CONC.	EPOXY	GYP.	EPOXY	GYP.	PAINT	ACT		9'-0"	4" EPOXY BASE	
105	CLOSET	CONC.	EPOXY	GYP.	EPOXY	GYP.	PAINT	ACT		9'-0"	4" EPOXY BASE	
106	RESTROOM	CONC.	EPOXY	GYP.	EPOXY	GYP.	PAINT/C.T.	ACT		9'-0"	4" EPOXY BASE	
107	WOMEN'S RESTROOM	CONC.	EPOXY	GYP.	EPOXY	GYP.	C.T.	ACT		9'-4"	4" EPOXY BASE	
108	MEN'S RESTROOM	CONC.	EPOXY	GYP.	EPOXY	GYP.	C.T.	ACT		9'-4"	4" EPOXY BASE	
109	MEN'S LOCKERS	CONC.	EPOXY	GYP.	EPOXY	GYP.	C.T.	ACT		9'-4"	4" EPOXY BASE	
110	CORRIDOR	CONC.	EPOXY	GYP.	EPOXY	GYP.	PAINT	ACT		9'-0"	4" EPOXY BASE	
111	BREAK ROOM	CONC.	EPOXY	GYP.	EPOXY	GYP.	PAINT	ACT		9'-0"	4" EPOXY BASE	
112	UNIFORMS	CONC.	EPOXY	GYP.	EPOXY	GYP.	PAINT	ACT		9'-0"	4" EPOXY BASE	
113	JANITOR'S CLOSET	CONC.	EPOXY	GYP.	EPOXY	GYP.	FRP	ACT		9'-0"	4" EPOXY BASE	
114	I.T. CLOSET	CONC.	EPOXY	GYP.	EPOXY	GYP.	PAINT	ACT		9'-0"	4" EPOXY BASE	
115	ELECTRIC CLOSET	CONC.	SEALED	GYP./CMU	PAINT	GYP./CMU	PAINT	STEEL	PAINT			
116	SPRINKLER CLOSET	CONC.	SEALED	GYP./CMU	PAINT	GYP./CMU	PAINT	STEEL	PAINT			
117	SHOPS	CONC.	SEALED	CMU	PAINT	CMU	PAINT	STEEL	PAINT			
118	STORAGE	CONC.	SEALED	CMU	PAINT	CMU	PAINT	STEEL	PAINT			
119	STORAGE	CONC.	SEALED	CMU	PAINT	CMU	PAINT	STEEL	PAINT			
120	OFFICE	CONC.	SEALED	CMU	PAINT	CMU	PAINT	ACT		9'-0"		
121	BOILER ROOM	CONC.	SEALED	CMU	PAINT	CMU	PAINT	STEEL	PAINT			
122	RESTROOM	CONC.	EPOXY	CMU	EPOXY	CMU	PAINT	ACT		9'-0"	4" EPOXY BASE	
123	TOOL ROOM/PARTS	CONC.	SEALED	CMU	PAINT	CMU	PAINT	STEEL	PAINT			
124	VEHICLE REPAIR GARAGE	CONC.	SEALED	CMU	PAINT	CMU	PAINT	STEEL	PAINT			
125	VEHICLE GARAGE	CONC.	SEALED	CMU	PAINT	CMU	PAINT	STEEL	PAINT			
126	WASH BAY	CONC.	SEALED	CMU	PAINT	CMU	PAINT	STEEL	PAINT			

1. ALL AREAS DESIGNATED TO BE PAINT SHALL MEAN WALLS, CEILINGS, DOORS, WINDOWS, TRIM, RAILINGS, ETC. UNLESS OTHERWISE NOTED.

MEZZANINE FINISH SCHEDULE

ROOM	ROOM	FLOORS		BASE		WALLS		CEILING			COMMENTS
NO.	NAME	MATERIAL FINISH		MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL FINISH HE		HEIGHT	
M01	MEZZANINE	CONC.	SEALED	METAL PANEL		METAL PANEL		STEEL	PAINT		
M02	EMER. ELEC. CL.	CONC.	SEALED	GYP.	PAINT	GYP.	PAINT	STEEL	PAINT		
M03	BDA CLOSET	CONC. SEALED		GYP.	PAINT	GYP.	PAINT	STEEL	PAINT		

1. ALL AREAS DESIGNATED TO BE PAINT SHALL MEAN WALLS, CEILINGS, DOORS, WINDOWS, TRIM, RAILINGS, ETC. UNLESS OTHERWISE NOTED.



TOWN OF MONTAGUE

NEW DPW FACILITY

OWNER:

TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:



Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & MCKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:

SYMMES, MAINI & MCKEE ASSOCIATES

1000 MASSACHUSETTS AVENUE

CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:

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22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAM

REV DATE DESCRIPTION

DATE 5/15/19

SCALE NONE

DRAWN BY MTV

CHECKED BY GKY

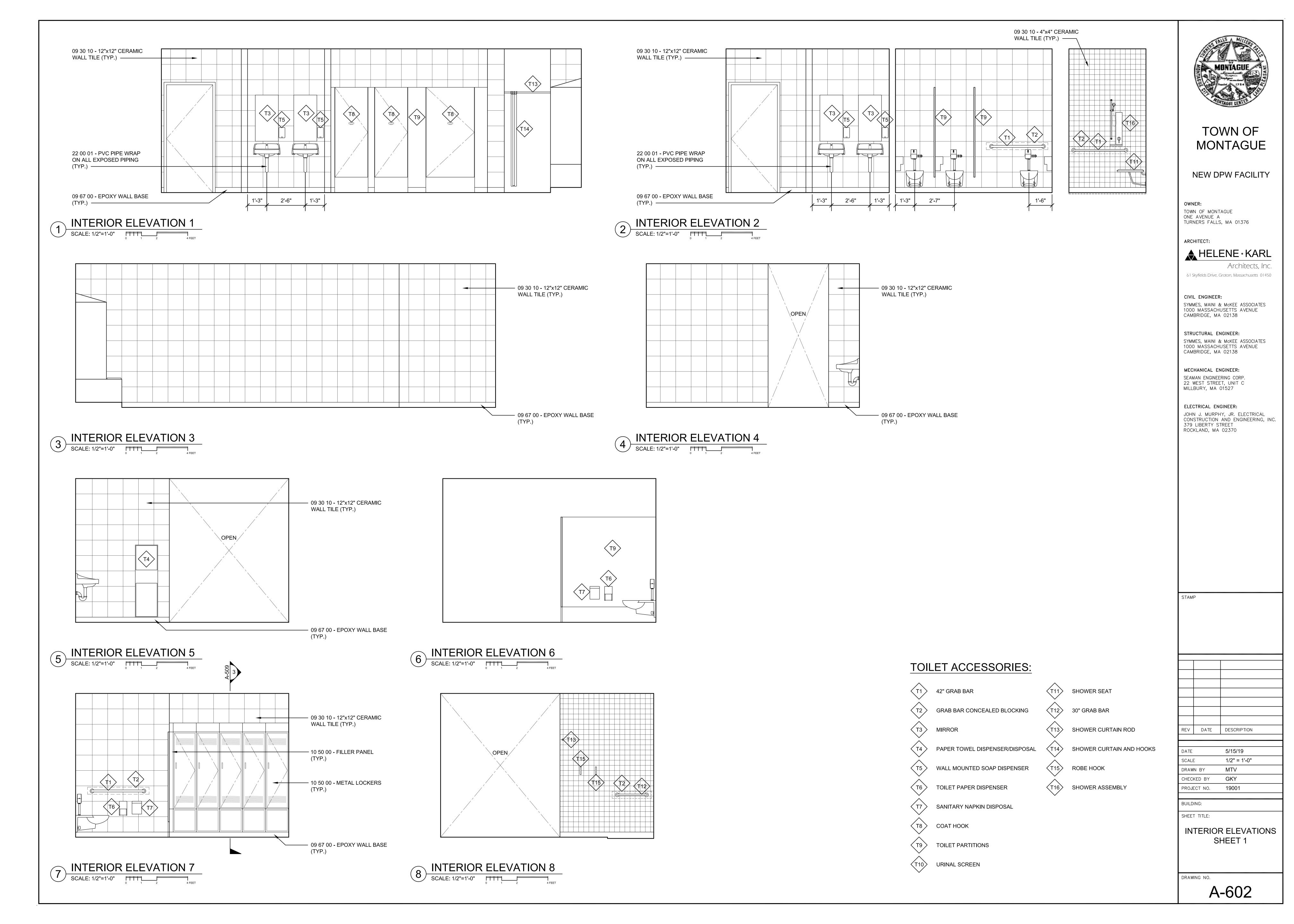
PROJECT NO. 19001

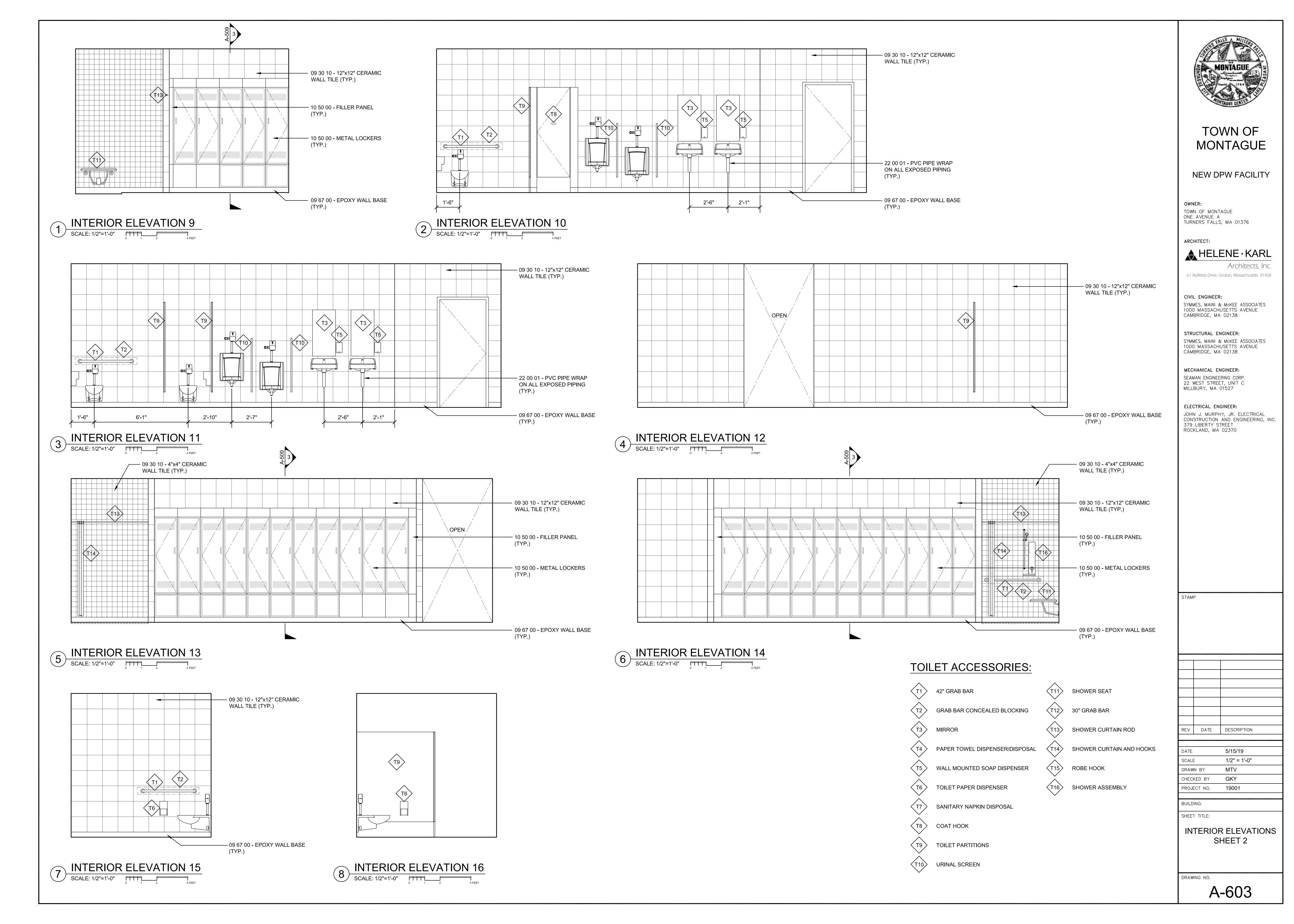
BUILDING:

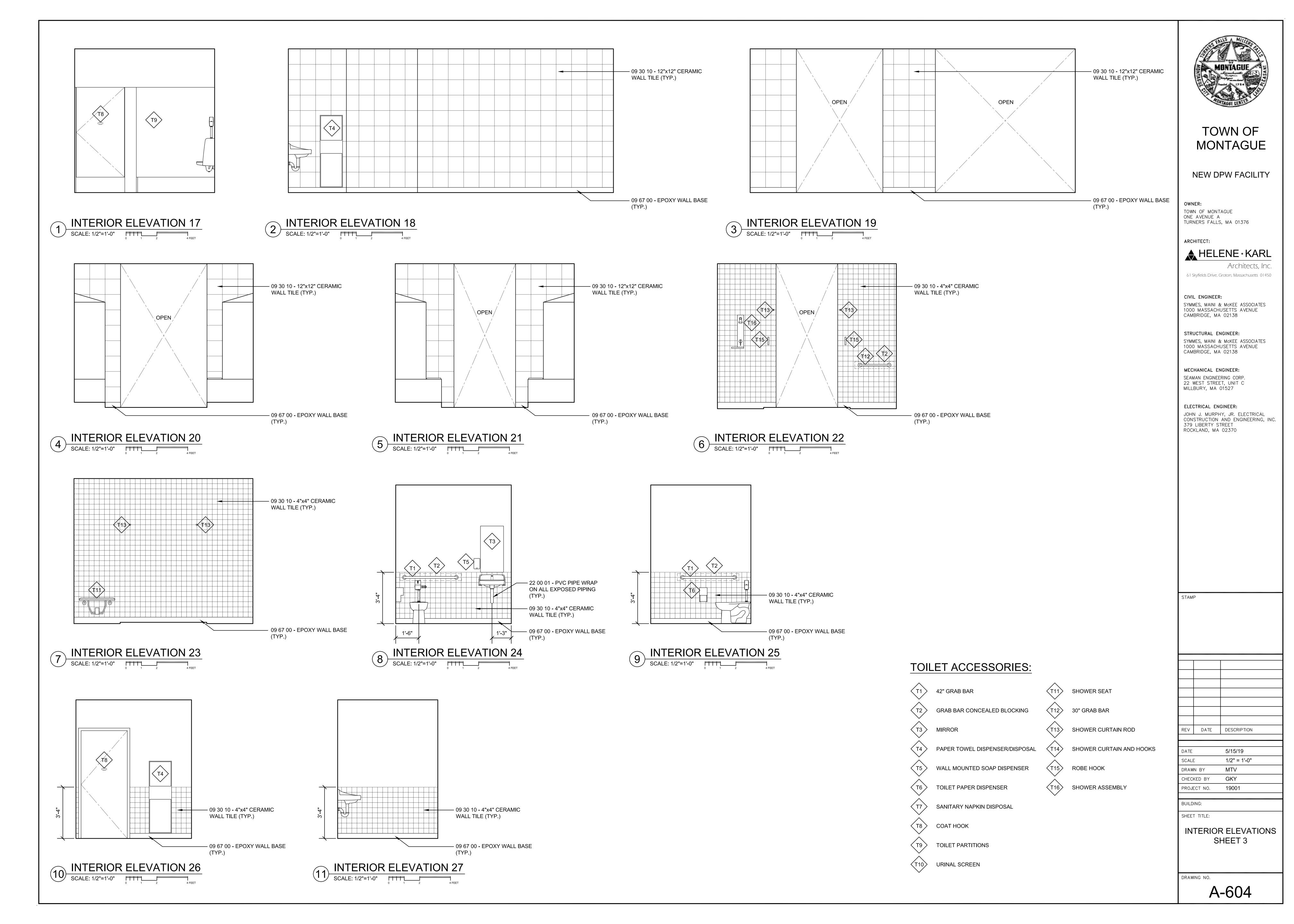
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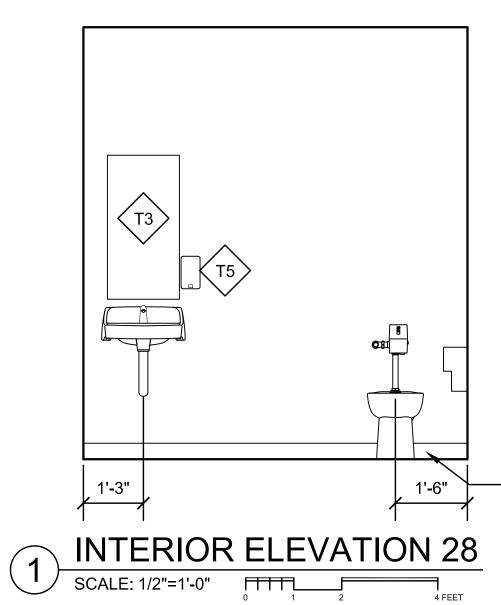
ROOM FINISH SCHEDULE

DRAWING NO.

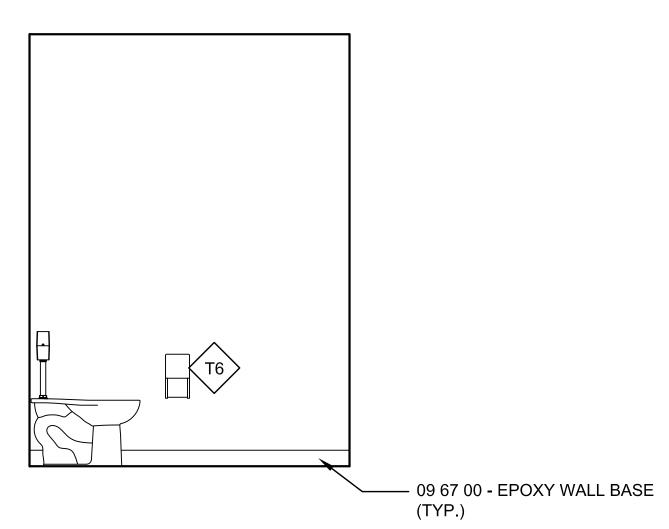


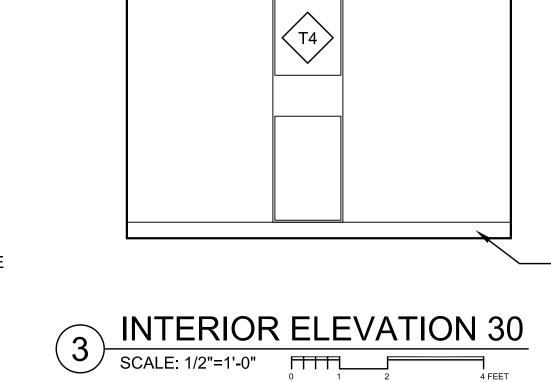




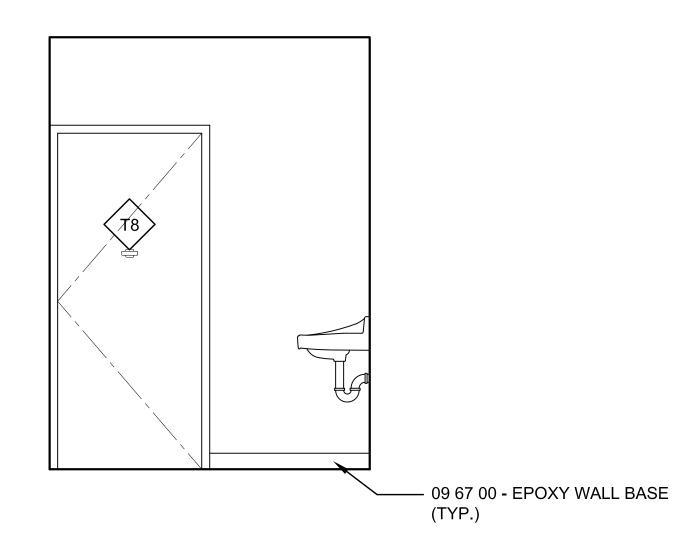


—— 09 67 00 - EPOXY WALL BASE (TYP.)



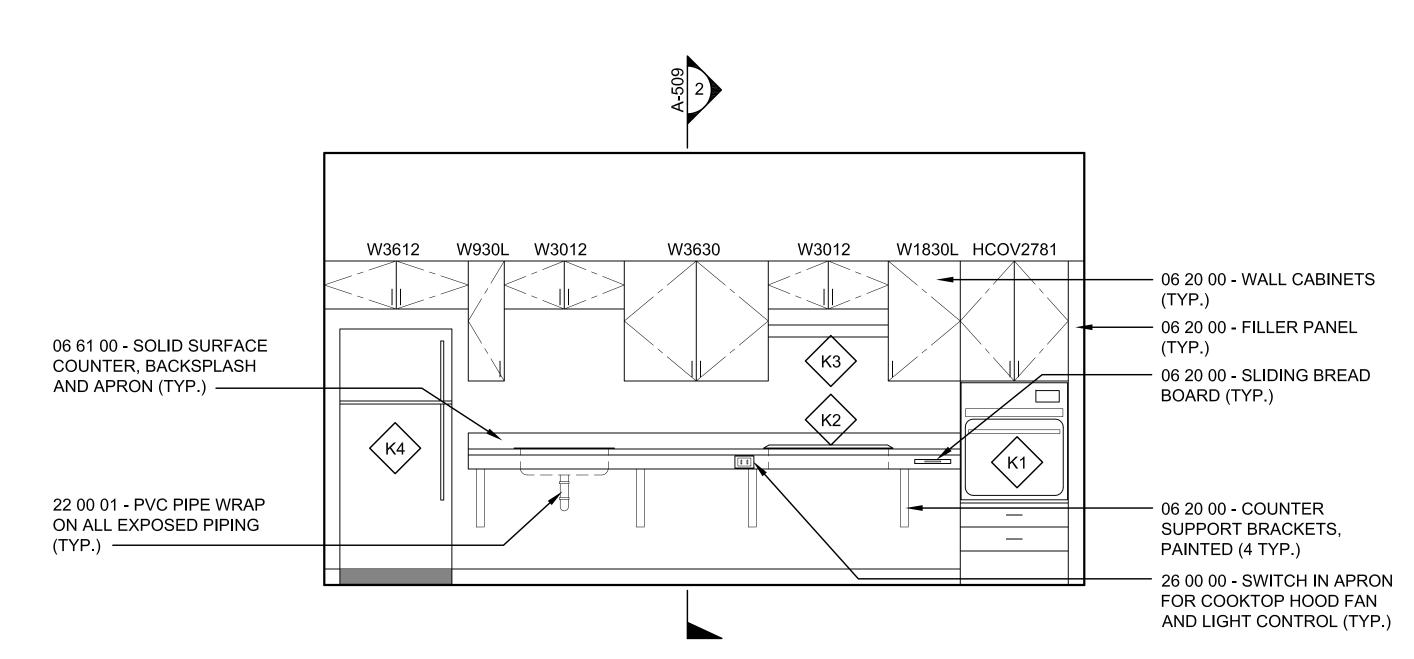


— 09 67 00 - EPOXY WALL BASE (TYP.)



4 INTERIOR ELEVATION 31

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

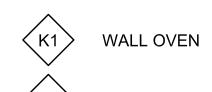


5 INTERIOR ELEVATION 32

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

1 2 4 FEET

KITCHEN APPLIANCES:



K2 COOKTOP

K3 COOKTOP HOOD

K4 REFRIGERATOR

TOILET ACCESSORIES:

T1 42" GRAB BAR

T2 GRAB BAR CONCEALED BLOCKING

T3 MIRROR

T4 PAPER TOWEL DISPENSER/DISPOSA

T5 WALL MOUNTED SOAP DISPENSER

T6 TOILET PAPER DISPENSER T16

<T16> SHOWER

SANITARY NAPKIN DISPOSAL

COAT HOOK

T9 TOILET PARTITIONS

T10 LIDINAL SCREE

DOINILO.

_		
	T11	SHOWER SEAT
	T12	30" GRAB BAR
	T13	SHOWER CURTAIN ROD
SAL	T14	SHOWER CURTAIN AND HOOKS
	T15	ROBE HOOK
	T16	SHOWER ASSEMBLY

BUILDING: SHEET TITLE:

INTERIOR ELEVATIONS
SHEET 4

CHECKED BY GKY

PROJECT NO. 19001

REV DATE DESCRIPTION

5/15/19

1/2" = 1'-0"

DRAWING NO.

A-605

TOWN OF

MONTAGUE

NEW DPW FACILITY

HELENE · KARL

61 Skyfields Drive, Groton, Massachusetts 01450

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

JOHN J. MURPHY, JR. ELECTRICAL

CONSTRUCTION AND ENGINEERING, INC.

Architects, Inc.

TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT:

CIVIL ENGINEER:

STRUCTURAL ENGINEER:

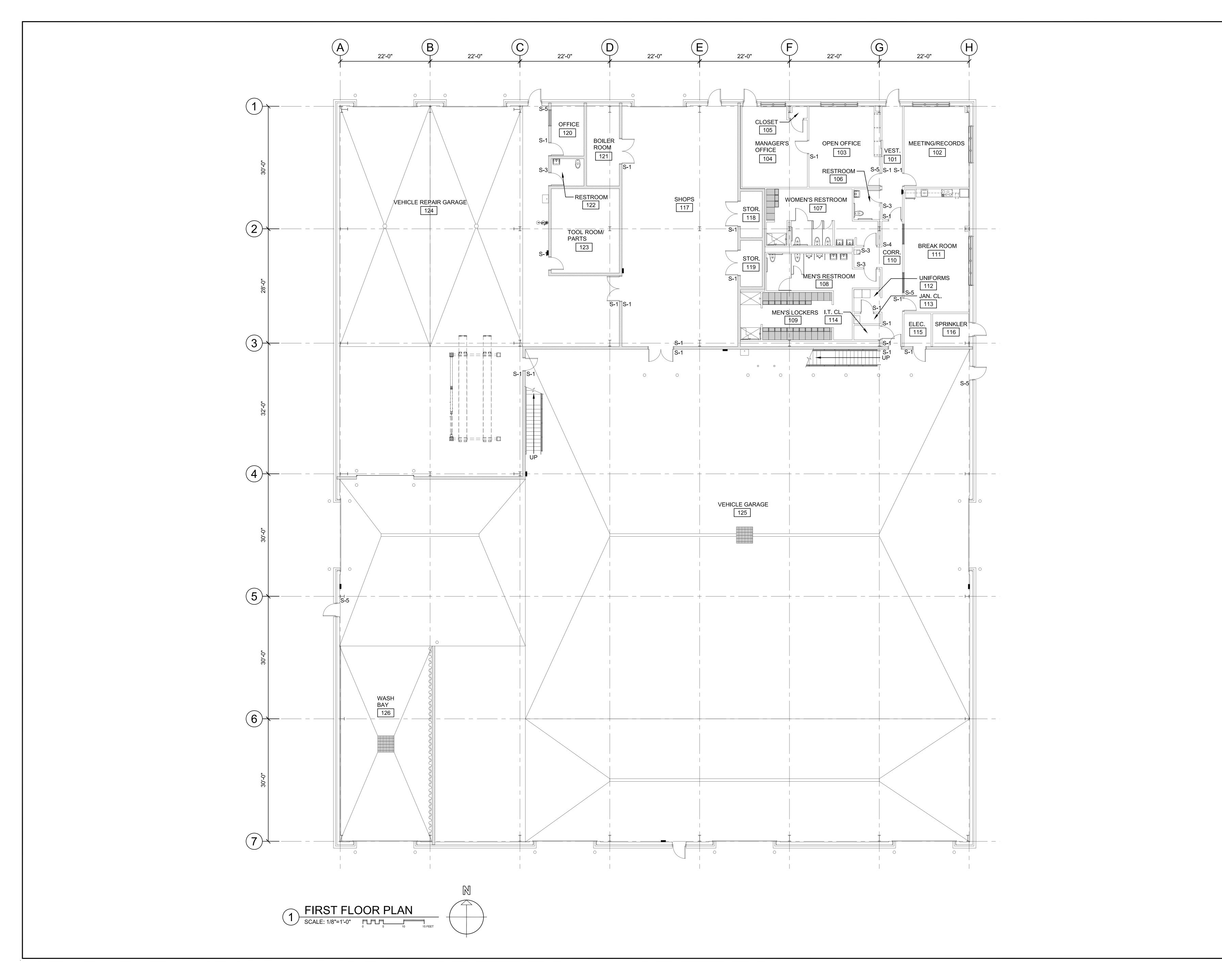
MECHANICAL ENGINEER:

SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C

MILLBURY, MA 01527

ELECTRICAL ENGINEER:

379 LIBERTY STREET ROCKLAND, MA 02370





NEW DPW FACILITY

OWNER:
TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:

♣ HELENE · KARL

Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

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STRUCTURAL ENGINEER:

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CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL

CONSTRUCTION AND ENGINEERING, INC.

379 LIBERTY STREET

ROCKLAND, MA 02370

STAMD

REV DATE DESCRIPTION

TE 5/15/19

SCALE 1/8" = 1'-0"

DRAWN BY MTV

CHECKED BY GKY

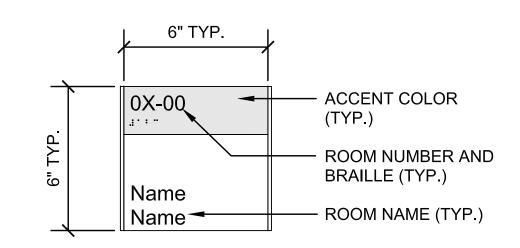
PROJECT NO. 19001

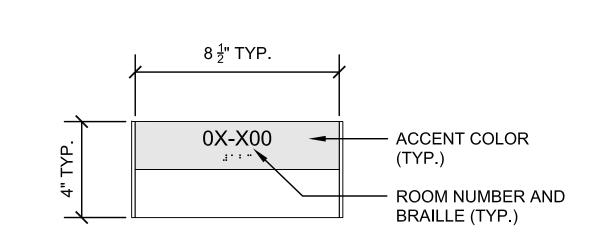
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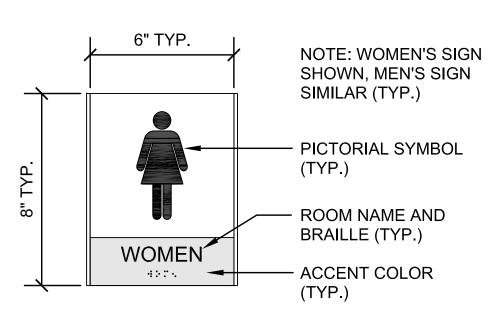
SHFFT TITI

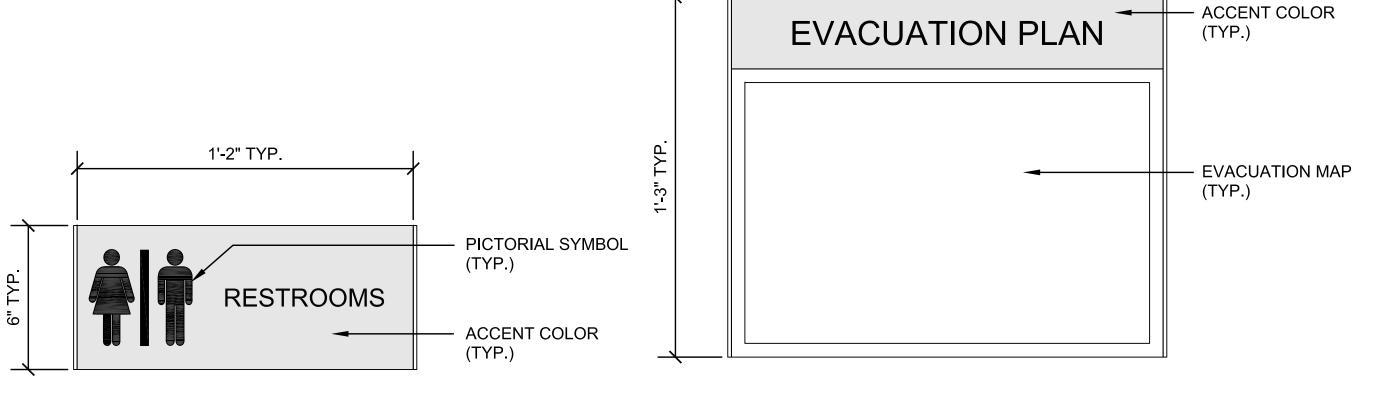
FIRST FLOOR SIGNAGE PLAN

DRAWING NO.

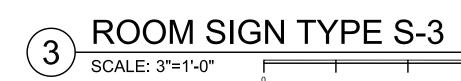


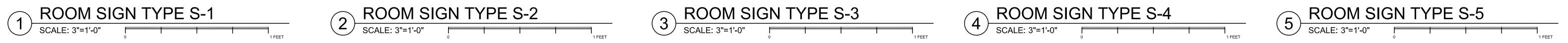






1'-6" TYP.







TOWN OF MONTAGUE

NEW DPW FACILITY

TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT:



CIVIL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

61 Skyfields Drive, Groton, Massachusetts 01450

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ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

REV DATE DESCRIPTION

5/15/19

3" = 1'-0" DRAWN BY MTV
CHECKED BY GKY PROJECT NO. 19001

SHEET TITLE:

SIGNAGE TYPES

DRAWING NO.

SEE SCHEDULE SEE SCHEDULE DOOR SCHEDULE DOOR/CASED OPENING DOOR NO. DETAILS LABEL HDWR REMARKS YPE | MATERIAL TYPE | MATERIAL | FINISH THICKNESS | FINISH HEAD | JAMB | SILL 1 3/4" FRP 3'-0"x7'-0" KYNAR KYNAR 1/A-502 | 2,3/A-502 | 4/A-502 HW-1 - 3"x33" TEMPERED 102 STEEL 3'-0"x7'-0" 1 3/4" PAINT STEEL PAINT 4/A-701 | 4/A-701 HW-2 **GLASS VISION** 103 STEEL 3'-0"x7'-0" PAINT STEEL PAINT 4/A-701 | 4/A-701 HW-2 PANEL (TYP.) 104 HW-3 STEEL 3'-0"x7'-0" 1 3/4" PAINT STEEL PAINT 4/A-701 | 4/A-701 105 HW-4 STEEL 3'-0"x7'-0" PAINT STEEL PAINT 4/A-701 | 4/A-701 106 HW-5 STEEL 3'-0"x7'-0" 1 3/4" PAINT STEEL PAINT 4/A-701 | 4/A-701 STEEL 3'-0"x7'-0" PAINT STEEL PAINT 4/A-701 | 4/A-701 HW-6 108 STEEL 3'-0"x7'-0" PAINT STEEL PAINT 4/A-701 | 4/A-701 HW-6 109 STEEL 3'-0"x7'-0" PAINT STEEL PAINT 4/A-701 | 4/A-701 HW-6 STEEL 3'-0"x7'-0" 1 3/4" PAINT STEEL PAINT 4/A-701 | 4/A-701 HW-6 STEEL 3'-0"x7'-0" PAINT STEEL PAINT 4/A-701 | 4/A-701 112 STEEL 3'-0"x7'-0" PAINT STEEL PAINT 4/A-701 | 4/A-701 HW-7 113 HW-6 STEEL 3'-0"x7'-0" 1 3/4" PAINT STEEL PAINT 5/A-701 | 6/A-701 114 HW-7 STEEL 3'-0"x7'-0" PAINT STEEL PAINT 5/A-701 | 6/A-701 SEE SCHEDULE 115 STEEL (2)3'-0"x7'-0" PAINT STEEL PAINT 5/A-701 | 6/A-701 HW-8 **DOOR TYPE A** DOOR TYPE B 116 STEEL (2)3'-0"x7'-0" PAINT STEEL PAINT 5/A-701 | 6/A-701 HW-8 117 STEEL 3'-0"x7'-0" PAINT STEEL PAINT 5/A-701 | 6/A-701 HW-3 118 HW-5 STEEL 3'-0"x7'-0" 1 3/4" PAINT STEEL PAINT 5/A-701 | 6/A-701 SEE SCHEDULE 119 STEEL 3'-0"x7'-0" PAINT STEEL PAINT 5/A-701 | 6/A-701 120 HW-9 STEEL (2)3'-0"x7'-0" PAINT STEEL PAINT 5/A-701 | 6/A-701 121 STEEL (2)3'-0"x7'-0" PAINT STEEL PAINT 5/A-701 | 6/A-701 HW-10 122 STEEL (2)3'-0"x7'-0" PAINT STEEL PAINT 5/A-701 | 6/A-701 HW-10 123 STEEL 3'-0"x7'-0" PAINT STEEL PAINT 5/A-701 | 6/A-701 124 STEEL 14'-0"x14'-0" STEEL PAINT 8/A-503 | 9/A-503 OVERHEAD COILING DOOR 125 3'-0"x7'-0" 1 3/4" KYNAR ALUM. KYNAR 1/A-502 | 2,3/A-502 | 4/A-502 126 FRP 3'-0"x7'-0" 1 3/4" KYNAR ALUM. KYNAR 5/A-502 | 6,73/A-502 | 4/A-502 — VISION PANELS 127 3'-0"x7'-0" KYNAR ALUM. KYNAR 5/A-502 | 6,73/A-502 | 4/A-502 (TYP.) 128 FRP 3'-0"x7'-0" KYNAR ALUM. KYNAR 5/A-502 | 6,73/A-502 | 4/A-502 HW-1 129 FRP 3'-0"x7'-0" KYNAR ALUM. KYNAR 5/A-502 | 6,73/A-502 | 4/A-502 HW-1 130 FRP 3'-0"x7'-0" KYNAR ALUM. KYNAR 5/A-502 | 6,73/A-502 | 4/A-502 HW-1 131 FRP 3'-0"x7'-0" KYNAR KYNAR 5/A-502 | 6,73/A-502 | 4/A-502 ALUM. 132 STEEL 13'-5"x10'-0" STEEL 4/A-503 | 5,6/A-503 | 7/A-503 OVERHEAD SECTIONAL DOOR 133 STEEL 15'-5"x14'-0" STEEL 4/A-503 | 5,6/A-503 | 7/A-503 OVERHEAD SECTIONAL DOOR 134 4/A-503 | 5,6/A-503 | 7/A-503 STEEL 15'-5"x14'-0" STEEL OVERHEAD SECTIONAL DOOR 135 STEEL 17'-5"x14'-0" STEEL 4/A-503 | 5,6/A-503 | 7/A-503 **OVERHEAD SECTIONAL DOOR** 136 STEEL 17'-5"x14'-0" STEEL 4/A-503 | 5,6/A-503 | 7/A-503 OVERHEAD SECTIONAL DOOR 137 STEEL 15'-5"x14'-0" STEEL PAINT 4/A-503 | 5,6/A-503 | 7/A-503 **OVERHEAD SECTIONAL DOOR** 138 STEEL 15'-5"x14'-0" STEEL 4/A-503 | 5,6/A-503 | 7/A-503 OVERHEAD SECTIONAL DOOR 139 STEEL 15'-5"x14'-0" STEEL 4/A-503 | 5,6/A-503 | 7/A-503 OVERHEAD SECTIONAL DOOR 140 4/A-503 | 5,6/A-503 | 7/A-503 | OVERHEAD SECTIONAL DOOR 15'-5"x14'-0" M01 4/A-701 | 4/A-701 (2)3'-0"x7'-0" | 1 3/4" PAINT STEEL PAINT HW-9 M01 STEEL 3'-0"x7'-0" 4/A-701 | 4/A-701 1 3/4" PAINT STEEL PAINT M02 DOOR TYPE C DOOR TYPE D DOOR TYPES SCALE: 1/2"=1'-0" 1 2 4 FEET - 04 20 01 - CMU WALL PAINTED, SEE PARTITION SCHEDULE (TYP.) — 04 20 01 - CMU WALL — 09 21 16 - GYPSUM BOARD PAINTED, SEE PARTITION PAINTED, SEE PARTITION SCHEDULE (TYP.) SCHEDULE (TYP.) - 07 90 00 - SEALANT AND SEE SCHEDULE SEE SCHEDULE BACKER ROD BOTH SIDES - 09 22 00 - METAL STUD - 07 90 00 - SEALANT AND FRAMING, SEE PARTITION → 4" FRAME HEAD (TYP) BACKER ROD BOTH SIDES SCHEDULE (TYP.) - 08 11 00 - STEEL DOOR FRAME, PAINTED (TYP.) - 08 11 00 - STEEL DOOR - 08 11 00 - STEEL DOOR FRAME, PAINTED (TYP.) - 04 20 01 - GROUT SOLID FRAME, PAINTED (TYP.) → 08 11 00 - STEEL DOOR → 08 11 00 - STEEL DOOR - 04 20 01 - GROUT SOLID - 08 11 00 - GLASS STOP FRAME, PAINTED (TYP.) FRAME, PAINTED (TYP.) DOOR (TYP.) (TYP.) - 08 81 00 - 3" TEMPERED - DOOR (TYP.) GLASS (TYP.) DOOR HEAD/JAMB GYPSUM BOARD WALL SCALE: 3"=1'-0" DOOR JAMB CMU WALL SCALE: 3"=1'-0" SCA FRAME TYPE 2 FRAME TYPE 1 — 09 21 16 - GYPSUM BOARD PAINTED, SEE PARTITION — 04 20 01 - BOND BEAM SCHEDULE (TYP.) PAINTED, SEE PARTITION - 09 22 00 - METAL STUD SCHEDULE (TYP.) FRAMING, SEE PARTITION SCHEDULE (TYP.) 5'-0" — 07 90 00 - SEALANT AND - 08 11 00 - STEEL DOOR BACKER ROD BOTH SIDES TOP OF FRAME FRAME, PAINTED (TYP.) TOP OF FRAME 7'-4" A.F.F. 7'-2" A.F.F. ---- 08 11 00 - STEEL DOOR - 08 11 00 - GLASS STOP FRAME, PAINTED (TYP.) $-088100 - \frac{3}{8}$ " TEMPERED - 08 81 00 - $\frac{3}{8}$ " TEMPERED —— 04 20 01 - GROUT SOLID GLASS (TYP.) --- 08 81 00 - $\frac{3}{8}$ " TEMPERED GLASS (TYP.) GLASS (TYP.) → 08 11 00 - STEEL FRAME, **→** 08 11 00 - STEEL FRAME, PAINTED (TYP.) DOOR (TYP.) PAINTED (TYP.) 5 DOOR HEAD CMU WALL SCALE: 3"=1'-0" BORROWED LIGHT HEAD/JAMB GYPSUM WALL SCALE: 3"=1'-0" SCALE: 3"=1'-0" SCALE: 3"=1'-0" TYPE B2 TYPE B1 BORROWED LITE TYPES SCALE: 1/2"=1'-0" 1 2 4 FEET

MONTAGUE SENTER

TOWN OF MONTAGUE

NEW DPW FACILITY

OWNER:

TOWN OF MONTAGUE

ONE AVENUE A

TURNERS FALLS, MA 01376

ARCHITECT:

ARCHITECT:

A HELENE · KARL

Architects, Inc. 61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

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STRUCTURAL ENGINEER:

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1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL

CONSTRUCTION AND ENGINEERING, INC.

379 LIBERTY STREET

ROCKLAND, MA 02370

STAMP

REV DATE DESCRIPTION

SCALE AS NOTED

DRAWN BY MTV

CHECKED BY GKY

PROJECT NO. 19001

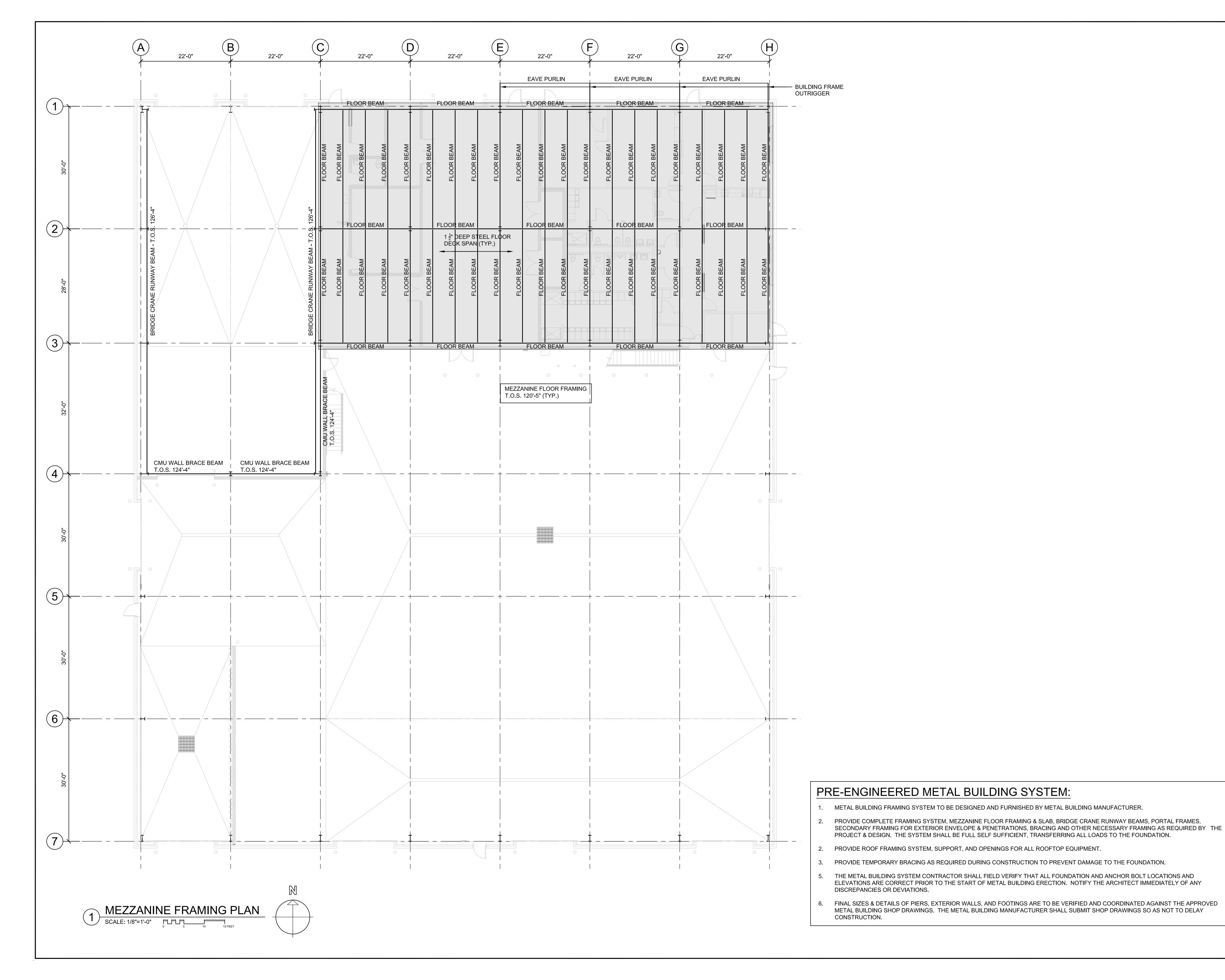
5/15/19

BUILDING:

SHFFT TITLE:

DOOR SCHEDULE, TYPES, FRAMES AND DETAILS

DRAWING NO.





NEW DPW FACILITY

OWNER:
TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:

HELENE · KARL

Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:

SEAMAN ENGINEERING CORP.

22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL

CONSTRUCTION AND ENGINEERING, INC.

379 LIBERTY STREET

ROCKLAND, MA 02370

STAIMI

REV DATE DESCRIPTION

DATE 5/15/19

SCALE 1/8" = 1'-0"

DRAWN BY MTV

CHECKED BY GKY

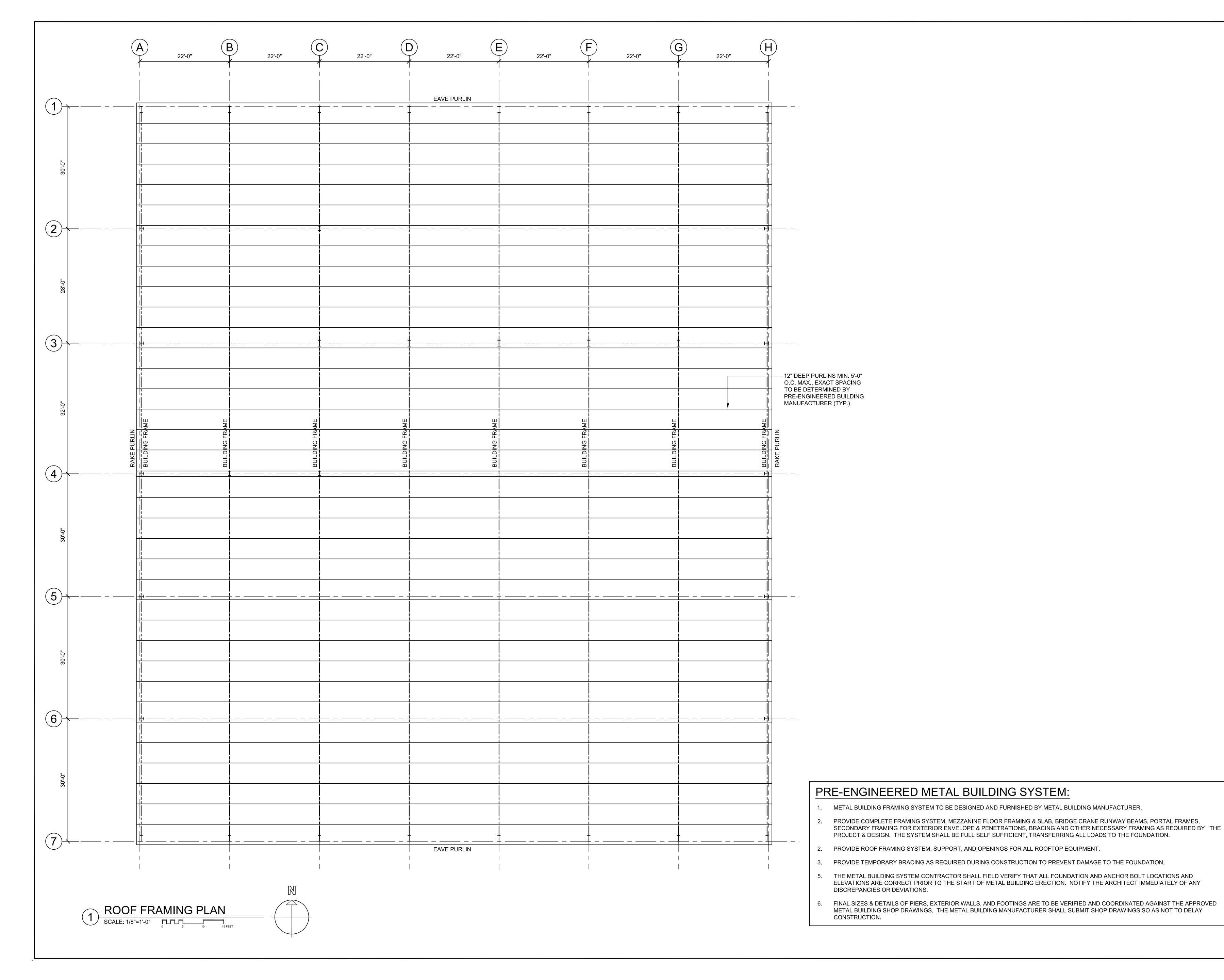
PROJECT NO. 19001

BUILDING:

SHEET TITLE:

MEZZANINE FRAMING PLAN

DRAWING NO.





NEW DPW FACILITY

OWNER:

TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:

♣ HELENE · KARL

Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

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SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:

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1000 MASSACHUSETTS AVENUE
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MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

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DATE 5/15/19

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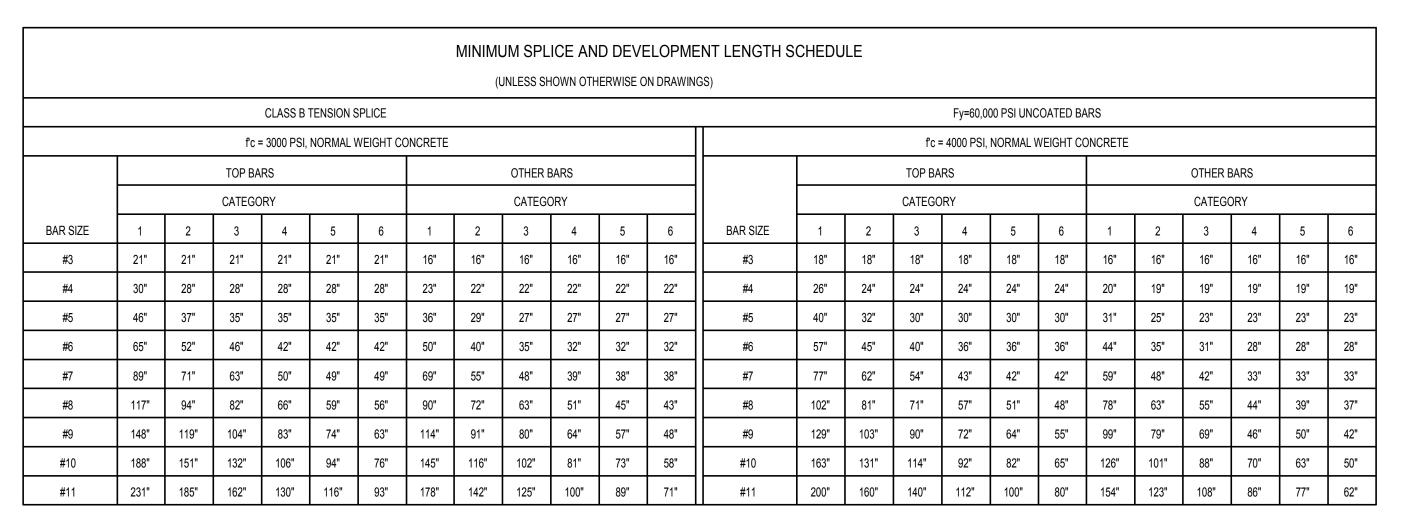
PROJECT NO. 19001

BUILDING:

SHEET TITLE:

ROOF FRAMING PLAN

DRAWING NO.



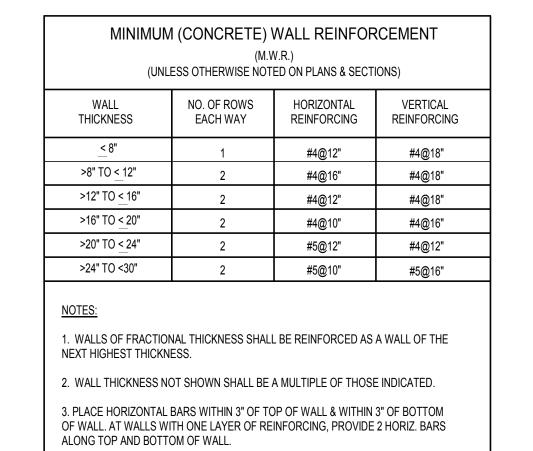
	CATEGO	ORY							
STRUCTURAL ELEMENT	CONCRETE COVER	CATEGORY ACCORDING TO CENTER-TO-CENTER BAR SPACING							
		≤3d _b	>3d _b <4d _b	≥4d _b <6d _b	<u>></u> 6d _b				
BEAMS, COLUMNS AND INNER LAYER	≤d _b	1	1	1	2				
OF WALLS OR SLABS	>d _b	1	3	5	6				
	<u>≤</u> d _b	1	1	1	2				
ALL OTHERS	>d _b <2d _b	1	3	3	4				
	<u>≥</u> 2d₀	1	3	5	6				
	TYPICAL ABBRE	EVIATIONS							
d _b = NOMINAL BAR DIAMETER		< = LESS	THAN						
> = GREATER THAN		≤ = EQUA	L TO OR LESS TH	AN					
≥ = EQUAL TO OR GREATER THAN									

EPOXY COATED BARS											
INCREASE SPLICE LENGTHS GIVEN IN SCHEDULE ABOVE BY THE FOLLOWING FACTORS:											
BAR COVER AND SPACING	TOP BARS	OTHER BARS									
COVER <3d OR CL TO CL < 6d♭	1.50	1.50									
COVER ≥3d OR CL TO CL > 6d₀	1.20	1.20									

1. AVOID SPLICES IN REGIONS OF MAXIMUM MOMENT. IF THIS IS NOT POSSIBLE STAGGER SPLICES SO THAT NO MORE THAN 50% OF THE BARS ARE SPLICED WITHIN A REQUIRED SPLICE LENGTH, OTHERWISE INCREASE SPLICE LENGTH BY 30%.
2. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST IN THE MEMBER BELOW THE

REINFORCEMENT. WALL REINF. IS CLASSIFIED AS OTHER BARS.

NOTES:



FOOTING SCHEDULE (4000 PSF ALLOWABLE BEARING)											
MARK	SIZE	REINFORCING	CAPACITY								
F6	6'-0"x6'-0"x16" DP.	8-#5 BOT. EACH WAY	144K								
F8	8'-0"x8'-0"x22" DP.	9-#6 BOT. EACH WAY	256K								
F9-5	9'-0"x5'-0"x26" DP.	11-#6 T&B LONG WAY 11-#6 T&B SHORT WAY	100K								
F11-7	11'-0"x7'-0"x30" DP.	10-#8 T&B LONG WAY 10-#8 T&B SHORT WAY	196K								

VAPOR BARRIER (ON

TOP OF INSULATION)

PROVIDE 12" MIN. LAYER OF

COMPACTED GRAVEL BASE

COURSE BELOW INSULATION.

SEE SPECS FOR REQUIRED

LEVELNESS OF THE SURFACE

RIGID INSULATION SEE

ARCH. DWGS (TYP)

SLAB THICKNESS

SEE PLAN

PROVIDE 12" MIN. LAYER OF

COMPACTED GRAVEL BASE

SEE SPECS FOR REQ'D

COURSE BELOW INSULATION.

LEVELNESS OF THE SURFACE

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

SAWCUT 1/8" WIDE x 1/4 SLAB THICKNESS OR SOFF-CUT

SLAB THICKNESS SEE PLAN

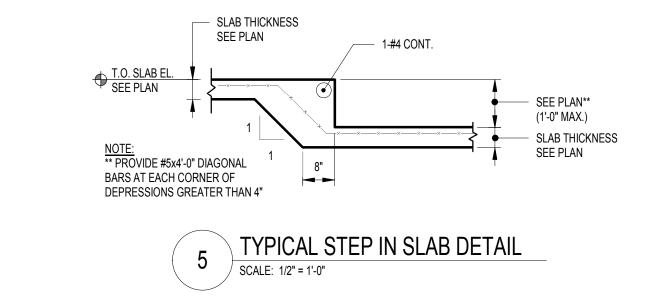
CONTRACTION JOINT

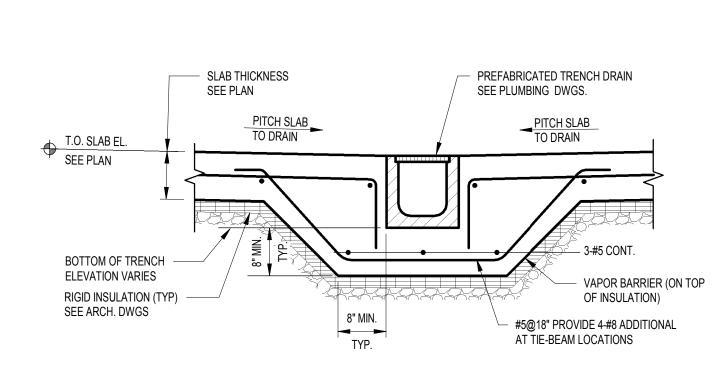
TYPICAL SLAB ON GRADE DETAILS

1/8" WIDE x 1/5 SLAB THICKNESS, PROVIDE WIDER

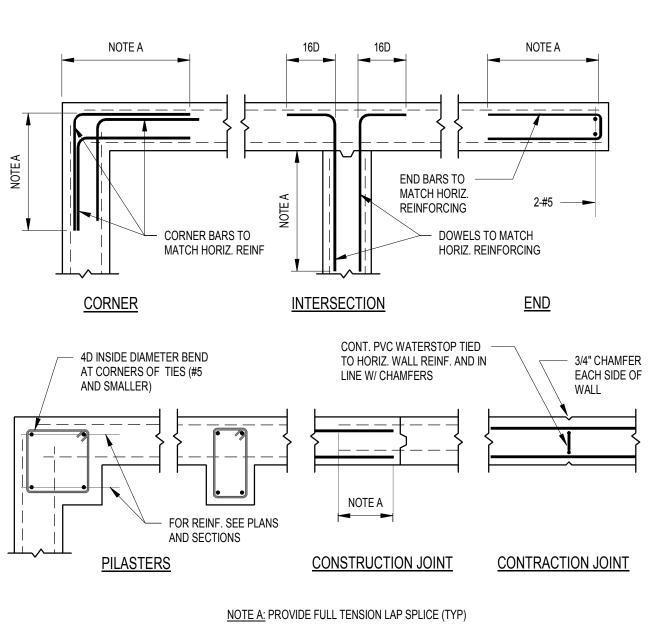
PREPARED SUBGRADE

JOINTS WHERE REQUIRED FOR JOINT FILLER MATERIAL

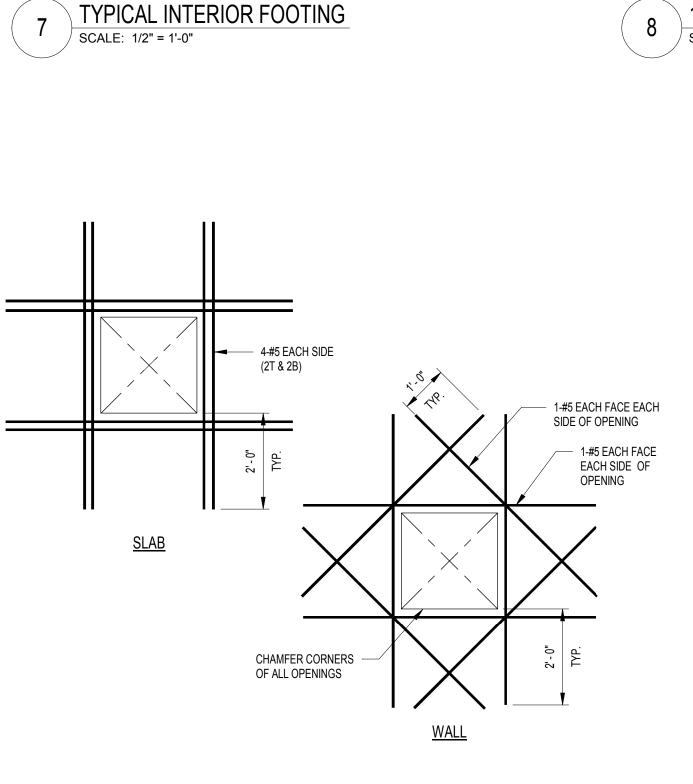












AT CAST IN PLACE WALLS

TYPICAL STEP IN WALL FOOTING

SLAB THICKNESS SEE PLAN

VAPOR BARRIER (ON TOP OF INSULATION)

RIGID INSULATION (TYP) SEE ARCH. DWGS

GRAVEL BASE COURSE BELOW INSULATION.

SEE SPECS FOR REQUIRED LEVELNESS OF

THE SURFACE

- STEEL COLUMN ON 1"

SHIMS AND GROUT

SLAB THICKNESS

- 4-#8 TIE-BEAM REINFORCING W/

90° HOOKS INTO FOOTING

SEE PLAN

SEE SCHEDULE FOR FOOTING

SIZE AND REINFORCING

PROVIDE 12" MIN. LAYER OF COMPACTED

BARS TO MATCH CONT.

FOOTING REINF. (TYP.)

PROVIDE 1-#5 E.F. AT RE-

ENTRANT CORNERS

SLAB REINFORCING AT

MID-DEPTH, SEE PLAN

2' - 6"

►

T.O. FTG. EL.

SEE PLAN

TOP OF SLAB EL

4-#8 CONT. PROVIDE 90° -

HOOKS INTO PIERS, PIT

WALLS AND FOOTINGS

SONOTUBE BLOCKOUT.

GROUT & ANCHOR BOLTS

HAVE BEEN INSPECTED

COAT COLUMN W/

ELEVATION (TYP.)

MASTIC BELOW SLAB

DOWELS TO MATCH

HEADED ANCHOR BOLTS

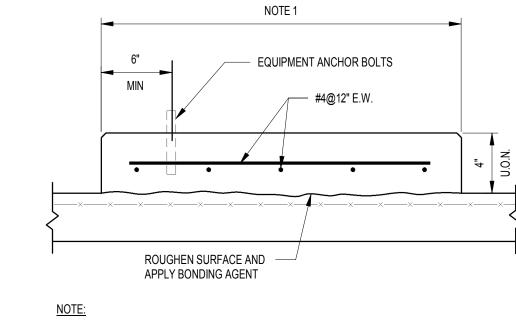
SEE COLUMN SCHEDULE

TIE-BEAM

REINFORCING

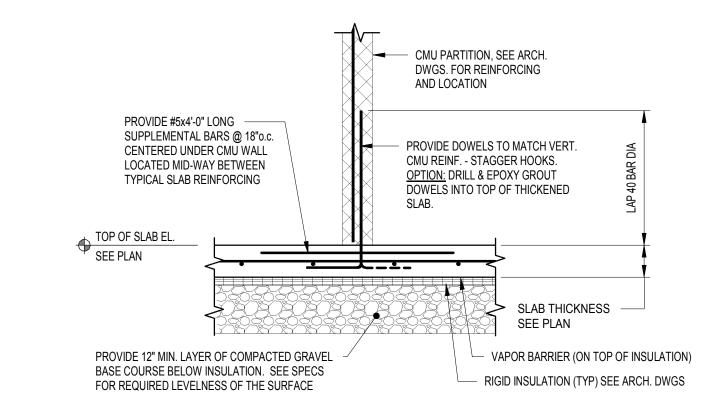
FILL WITH CONCRETE AFTER BASE PLATE,



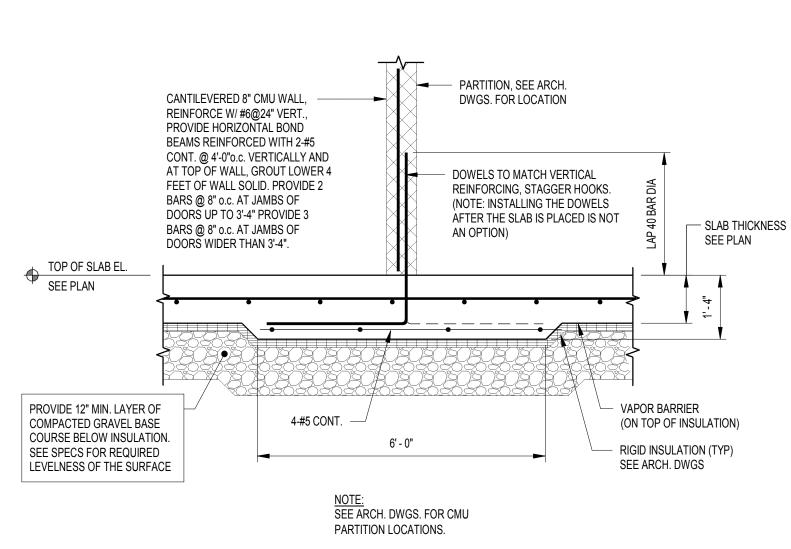


1. SEE MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR EQUIPMENT REQUIRING HOUSEKEEPING PADS AND PAD SIZES. IF NO DIMENSIONS ARE SHOWN PROVIDE RECTANGULAR PADS 6" BEYOND EQUIPMENT, ALL AROUND. 3. PROVIDE STEEL TROWELED FINISH.

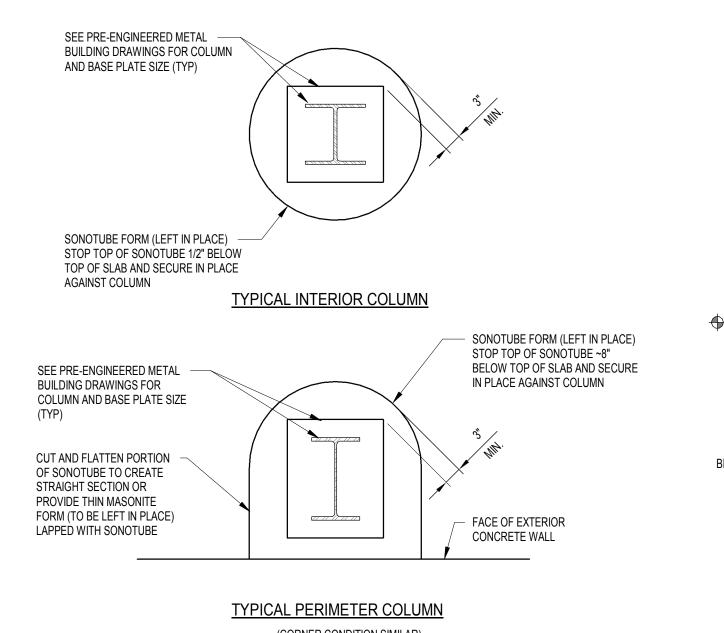
TYPICAL HOUSEKEEPING PAD DETAIL



NOTE.
SEE ARCH. DWGS. FOR CMU PARTITION LOCATIONS. TYPICAL NON-LOAD BEARING CMU PARTITION SUPPORT



10' HIGH (MAX) CANTILEVERED NON-LOAD BEARING CMU PARTITION SUPPORT SCALE: 1/2" = 1'-0"



(CORNER CONDITION SIMILAR) COLUMN ISOLATION JOINT DETAILS

GENERAL

STRUCTURAL FOUNDATION DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, STRUCTURAL DRAWINGS FOR THE PRE-ENGINEERED METAL BUILDING SUPERSTRUCTURE (INCLUDING THE MEZZANINE SLAB AND FRAMING), MECHANICAL, ELECTRICAL, PLUMBING AND SHOP DRAWINGS AND

ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD, AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH THE AFFECTED PORTION

SHOP DRAWINGS FOR REINFORCING STEEL (INCLUDING ACCESSORIES) SHALL BE SUBMITED TO THE ARCHITECT, AND A STAMPED APPROVAL RECEIVED BEFORE FABRICATION CAN PROCEED. ERECTION SHALL BE EXECUTED FROM APPROVED SHOP DRAWINGS ONLY.

A COMPLETE CONCRETE PLACEMENT SCHEDULE INCLUDING SLAB CONSTRUCTION JOINTS SHALL BE SUBMITTED TO THE ARCHITECT AND A STAMPED ACCEPTANCE RECEIVED BEFORE ANY CONCRETE PLACEMENT CAN BE MADE.

UNLESS OTHERWISE NOTED, DETAILS SHOWN ON ANY DRAWINGS ARE TO BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.

MASSACHUSETTS STATE BUILDING CODE

DESIGN LOADS LIVE LOADS:

GROUND FLOOR SLAB ON GRADE:

SNOW, WIND AND SEISMIC LOADS:

SEE STRUCTURAL DRAWINGS FOR THE PRE-ENGINEERED METAL BUILDING SUPERSTRUCTURE SEE STRUCTURAL DRAWINGS FOR THE PRE-ENGINEERED METAL BUILDING SUPERSTRUCTURE

FOUNDATIONS

FOUNDATIONS CONSIST OF CONTINUOUS AND SPREAD FOOTINGS BEARING ON UNDISTURBED NATURAL SOIL OR COMPACTED STRUCTURAL FILL, HAVING AN ALLOWABLE BEARING PRESSURE OF 2 TONS PER SQUARE FOOT, REFER TO THE GEOTECHNICAL REPORT BY GEOTECHNICAL CONSULTANTS, INC. DATED APRIL 18, 2019 FOR ADDITIONAL SUBSURFACE INFORMATION AND RECOMMENDATIONS.

UNLESS OTHERWISE NOTED, FOUNDATIONS SHALL BE CENTERED UNDER SUPPORTED MEMBERS.

THE BOTTOM PERIMETER FOUNDATIONS SHALL BE AT LEAST 4'-0" BELOW FINISHED GRADE.

THE BOTTOM 3 INCHES OF FOOTING EXCAVATIONS SHALL BE FINISHED BY HAND SHOVEL. BOTTOM OF EXCAVATIONS SHALL BE INSPECTED BY THE OWNER'S SPECIAL INSPECTION AGENCY PRIOR TO THE PLACEMENT OF CONCRETE.

PLACE BACK-FILL SIMULTANEOUSLY ON BOTH SIDES OF WALLS TO THE GRADES INDICATED.

FOR LOCATION OF PIPES AND UNDERSLAB CONDUIT, SEE SITE, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS. PROVIDE CAULKED STEEL SLEEVES FOR ALL PIPE PENETRATIONS AT THE

PROVIDE FORMWORK FOR ALL FOOTINGS, WALLS, AND PIERS. EARTH FORMED FOUNDATIONS ARE NOT ALLOWED.

CONCRETE

CONCRETE SHALL BE A MIX DESIGNED FOR ULTIMATE STRENGTH CONCRETE IN ACCORDANCE WITH ACI 211.1 TO ACHIEVE THE FOLLOWING 28-DAY COMPRESSIVE STRENGTHS:

4000 PSI, NORMAL WEIGHT. FOUNDATION WALLS AND FOOTINGS 4000 PSI, NORMAL WEIGHT. RETAINING WALLS (INCLUDING FOOTINGS)

4000 PSI, NORMAL WEIGHT. SLAB ON GRADE 4000 PSI, NORMAL WEIGHT. OUTDOOR LANDING SLABS HOUSEKEEPING PADS 4000 PSI, NORMAL WEIGHT.

SEE PRE-ENGINEERED METAL BUILDING SUPERSTRUCTURE DRAWINGS FOR ELEVATED CONCRETE SLABS AND ASSOCIATED REINFORCING.

CONCRETE SHALL NOT BE CAST IN WATER OR ON FROZEN GROUND.

TOP OF FOUNDATION WALLS SHALL BE SMOOTH AND LEVEL.

NO PIPE SHALL PASS THROUGH CONCRETE WITHOUT PERMISSION OF THE ARCHITECT. STEEL PIPE SLEEVES SHALL BE PROVIDED AND SPACED A MINIMUM OF THREE DIAMETERS APART.

KEYS SHALL BE 2" X 4", WITH BEVELED SIDES, UNLESS OTHERWISE NOTED.

HORIZONTAL CONSTRUCTION JOINTS SHALL BE AS INDICATED ON THE DRAWINGS. VERTICAL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE ARCHITECT. CONSTRUCTION JOINTS SHALL BE FORMED WITH A KEY, AND REINFORCING SHALL BE LAPPED TO DEVELOP THE FULL TENSION CAPACITY OF THE (SMALLER) BAR. CONCRETE WALLS SHALL HAVE CONTRACTION OR CONSTRUCTION JOINTS SPACED NO MORE THAN 60'-0" ON CENTER. FOUNDATION WALL CONTRACTION JOINTS SHALL LINE UP WITH MASONRY WALL CONTROL JOINTS. SEE ARCHITECTURAL DRAWINGS.

COLUMN AND PIER DOWELS SHALL BE SET BY TEMPLATE.

EXPOSED CONCRETE SHALL BE RUBBED IMMEDIATELY AFTER REMOVAL OF FORMS.

OPENINGS IN CONCRETE WALLS SHALL BE LOCATED, SIZED AND REINFORCED (WITH THE EXCEPTION OF SMALL OPENINGS AND/OR SLEEVES OF A SIZE THAT WILL NOT DISPLACE OR INTERRUPT THE CONTINUITY OF THE REINFORCING) AS SHOWN ON RESPECTIVE DETAILS. ANY ALTERATIONS REQUIRE APPROVAL OF THE ARCHITECT.

REINFORCING STEEL

REINFORCING STEEL SHALL BE DEFORMED BARS, FREE FROM LOOSE RUST AND SCALE, AND CONFORMING TO ASTM A615, GRADE 60.

WELDED WIRE FABRIC SHALL CONFORM TO ASTM-A185. LAP TWO SQUARES AT JOINTS AND TIE AT 3'-0" O.C. FURNISH WWF IN FLAT SHEETS.

CLEAR CONCRETE COVER OVER BARS SHALL BE AS FOLLOWS (SEE ACI 318 FOR CONDITIONS NOT NOTED): 3 INCHES (BOTTOM), 2 INCHES (TOP AND SIDE)

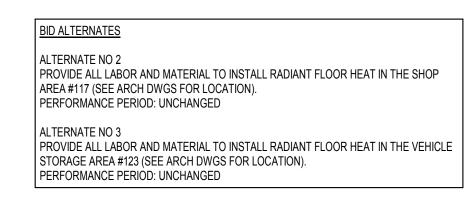
SLAB ON GRADE 2 INCHES (TOP), 3" (BOTTOM) U.O.N. 2 INCHES (SIDE)

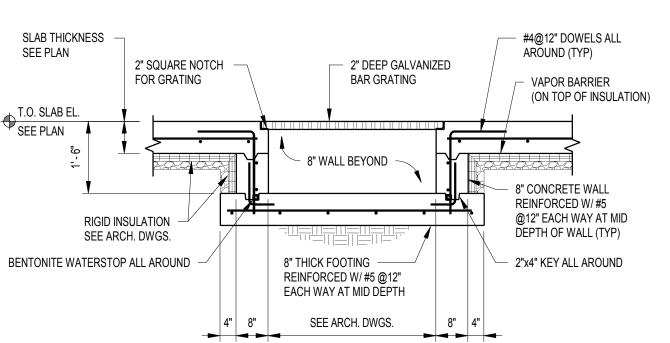
ACCESSORIES SHALL HAVE UPTURNED LEGS AND BE PLASTIC-DIPPED AFTER FABRICATION. ACCESSORIES FOR REINFORCING SHALL BE IN ACCORDANCE WITH ACI CURRENT EDITION.

LAP REINFORCING TO DEVELOP THE FULL TENSION CAPACITY OF THE (SMALLER) BAR.

NO BARS SHALL BE CUT OR OMITTED IN THE FIELD BECAUSE OF SLEEVES, DUCT OPENINGS OR RECESSES. BARS MAY BE MOVED ASIDE WITHOUT CHANGE IN LEVEL WITH THE PRIOR APPROVAL OF THE ARCHITECT.

NOTE: COLUMN FOOTING SIZES ARE BASED ON ESTIMATED BUILDING LOADS AND NEED TO BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COMPARE THE ACTUAL BUILDING COLUMN LOADS, AS SUPPLIED BY THE PRE-ENGINEERED BUILDING CONTRACTOR, WITH THE FOOTING CAPACITIES INDICATED IN THE FOOTING SCHEDULE AND NOTIFY THE ARCHITECT IMMEDIATELY IF THE COLUMN LOADS EXCEED THE FOOTING CAPACITIES.





DRAIN PIT DETAIL SCALE: 1/2" = 1'-0"



TOWN OF MONTAGUE

NEW DPW FACILITY

OWNER:

TOWN OF MONTAGUE ONE AVENUE A THUNDER FALLS, MA 01376

ARCHITECT:

61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER: SYMMES, MAINI & MCKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

FOUNDATION STRUCTURAL ENGINEER: SYMMES, MAINI & MCKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: 22 WEST STREET, UNIT (MILLBURY, MA 01527

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING. INC. 379 LIBERTY STREET ROCKLAND, MA 02370

STAMP

100% SUBMISSION REV DATE DESCRIPTION

5/15/2019 SCALE As indicated

DRAWN BY RMC CHECKED BY 19029 PROJECT NO.

BUILDING:

SHEET TITLE:

GENERAL NOTES AND DETAILS

S-001

DRAWING NO.

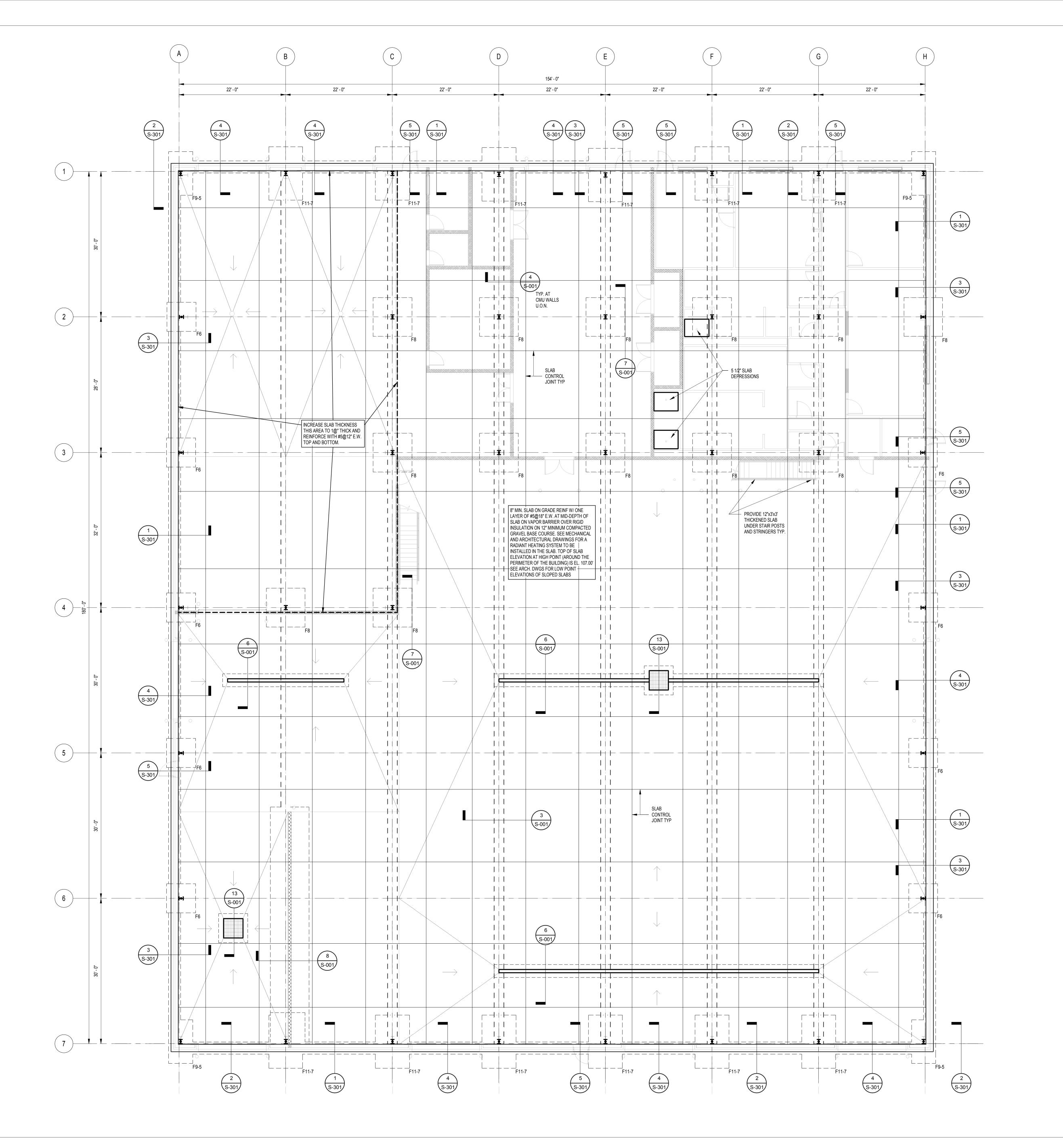
VAPOR BARRIER (ON TOP OF INSULATION) - CONTINUE REINF. ACROSS JOINT OR PROVIDE 1/2"∅ x 12" LONG SMOOTH DOWELS @ 24"o.c. **CONSTRUCTION JOINT**

RIGID INSULATION (TYP)

SEE ARCH. DWGS

TYPICAL CONCRETE WALL DETAILS







NEW DPW FACILITY

TOWN OF MONTAGUE ONE AVENUE A THUNDER FALLS, MA 01376

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MECHANICAL ENGINEER: 22 WEST STREET, UNIT C MILLBURY, MA 01527

CAMBRIDGE, MA 02138

NOTES:

1. [00' - 0"] INDICATES TOP OF FOOTING ELEVATION

2. "F4" INDICATES FOOTING SIZES. SEE SCHEDULE ON S-001.

6. FASTEN BOLLARDS TO FOOTINGS WHERE APPLICABLE

3. BOTTOM OF NEW PERIMETER FOUNDATIONS TO BE 4' - 0" MIN. BELOW EXISTING GRADE.

4. SEE FOUNDATION NOTES ON DRAWING S-001 FOR ADDITIONAL FOUNDATION REQUIREMENTS.

7. REFER TO CIVIL AND ARCHITECTURAL DRAWINGS FOR CONCRETE LANDINGS AND APRONS.

8. S —— S INDICATES LOCATION OF STEPPED FOOTING. SEE 1/S-001 FOR TIP. DETAIL.

5. PIER SIZES TO BE COORDINATED AND APPROVED WITH PRE-ENGINEERED METAL BUILDING MANUFACTURER. ADJUST AS NECESSARY

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

5/15/19 100% SUBMISSION

5/15/2019 1/8" = 1'-0"

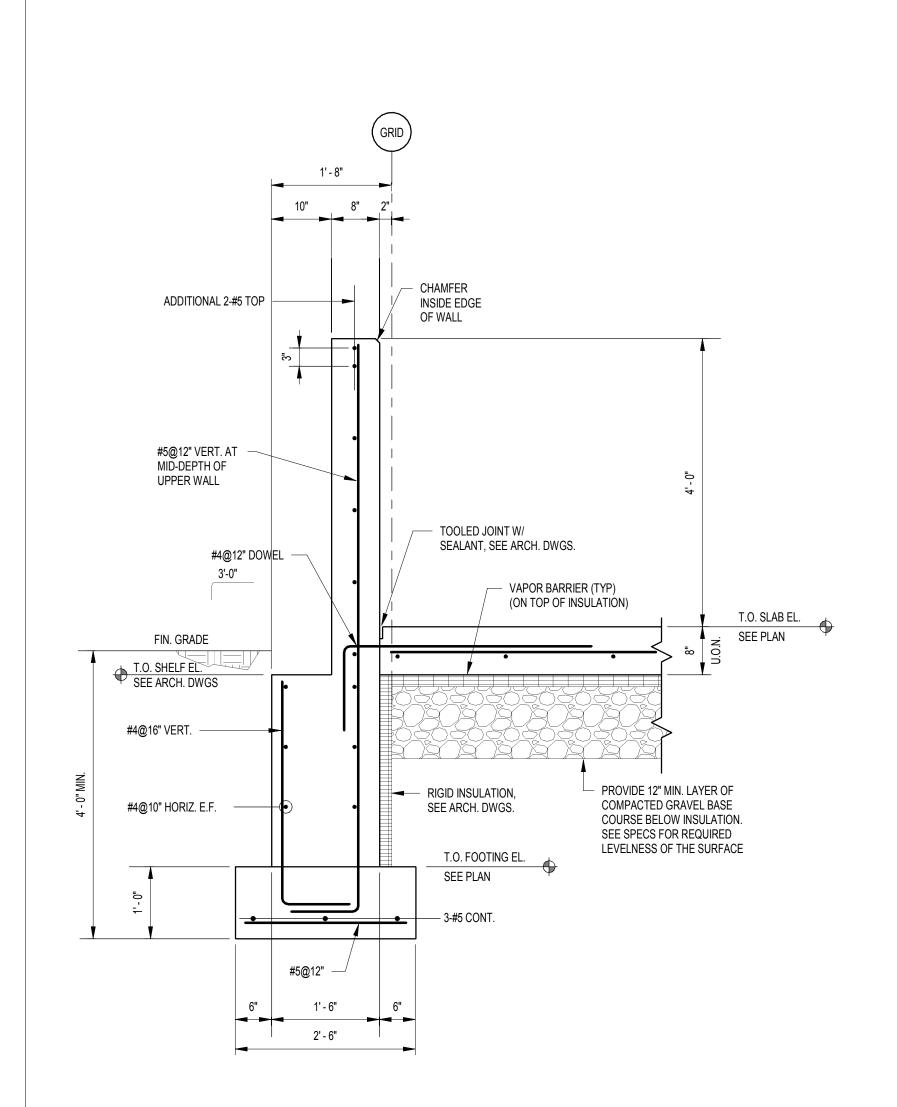
REV DATE DESCRIPTION

BUILDING:

FOUNDATION PLAN

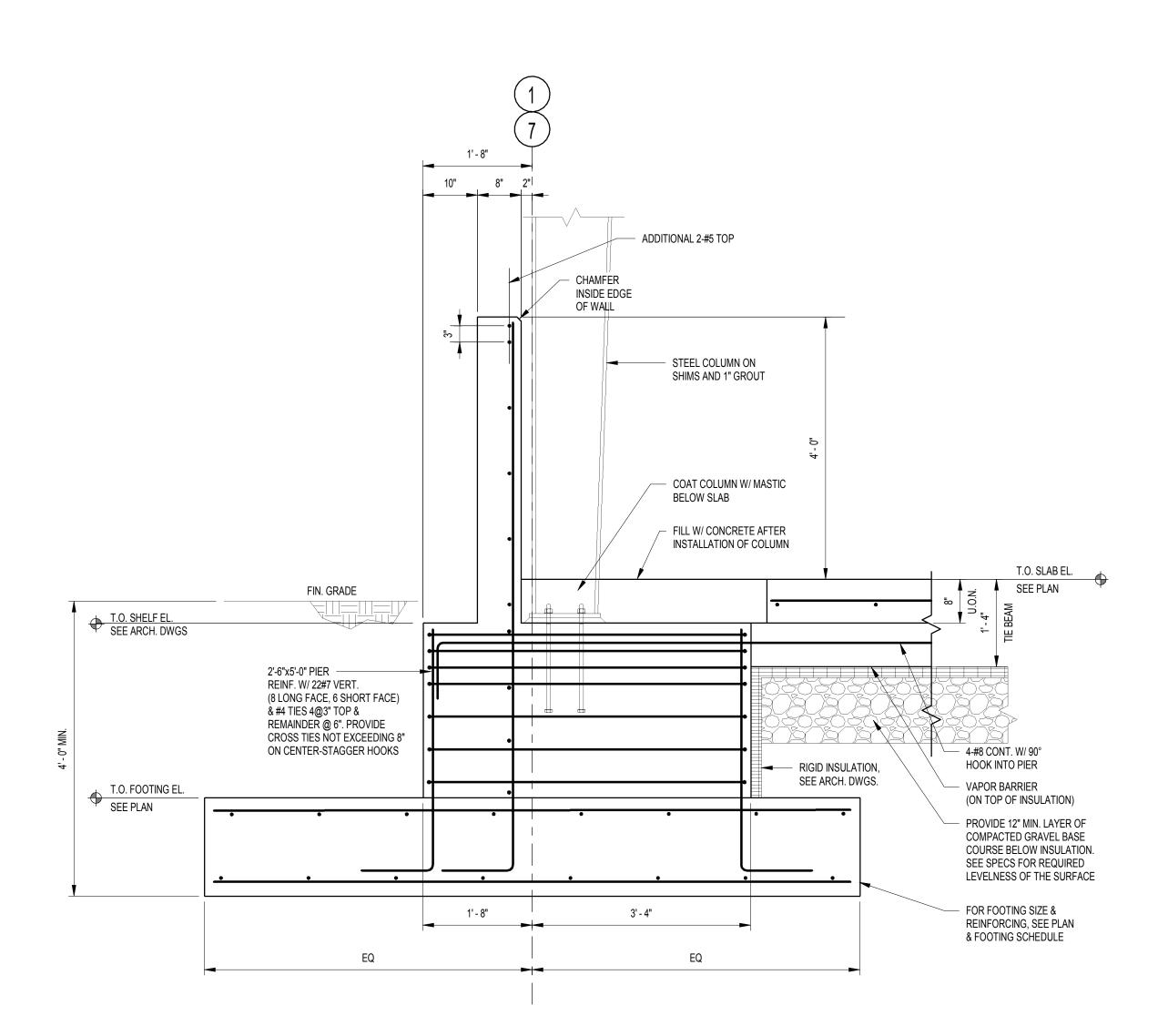
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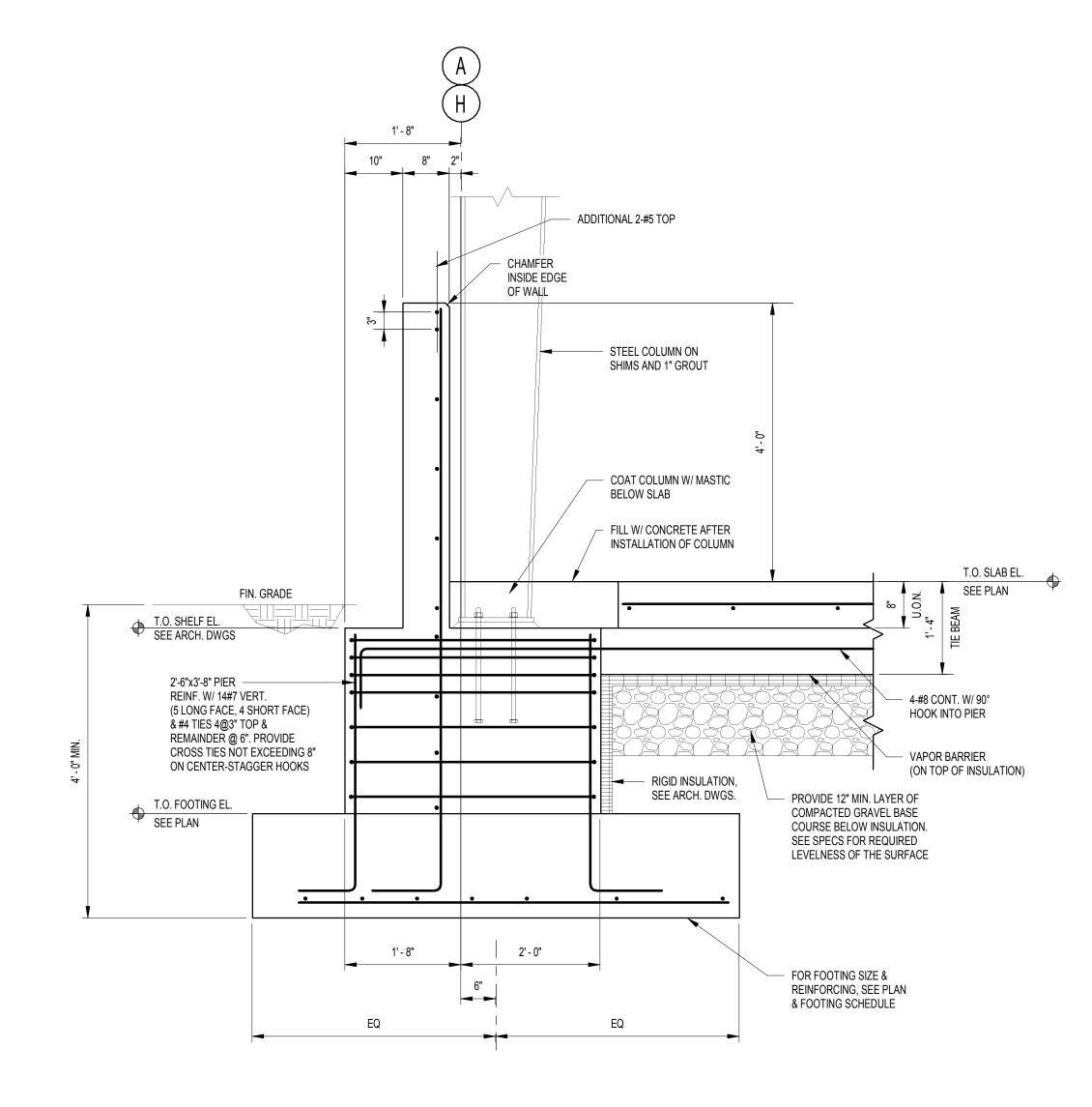
S-101



TYPICAL FOUNDATION WALL SECTION

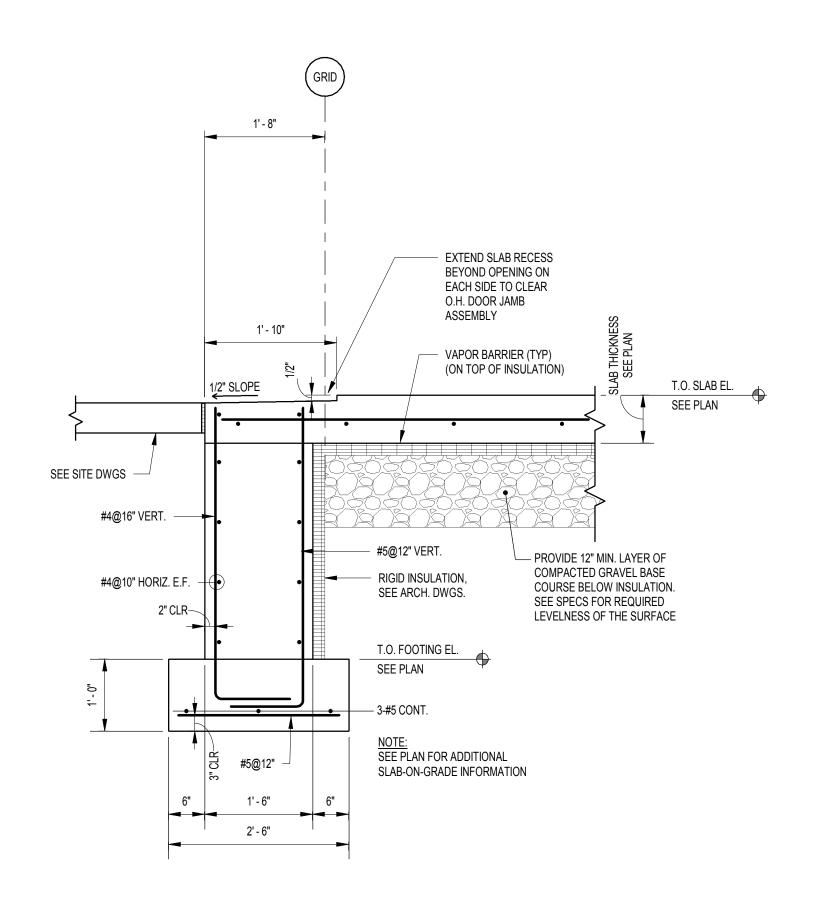
SCALE: 3/4" = 1'-0"





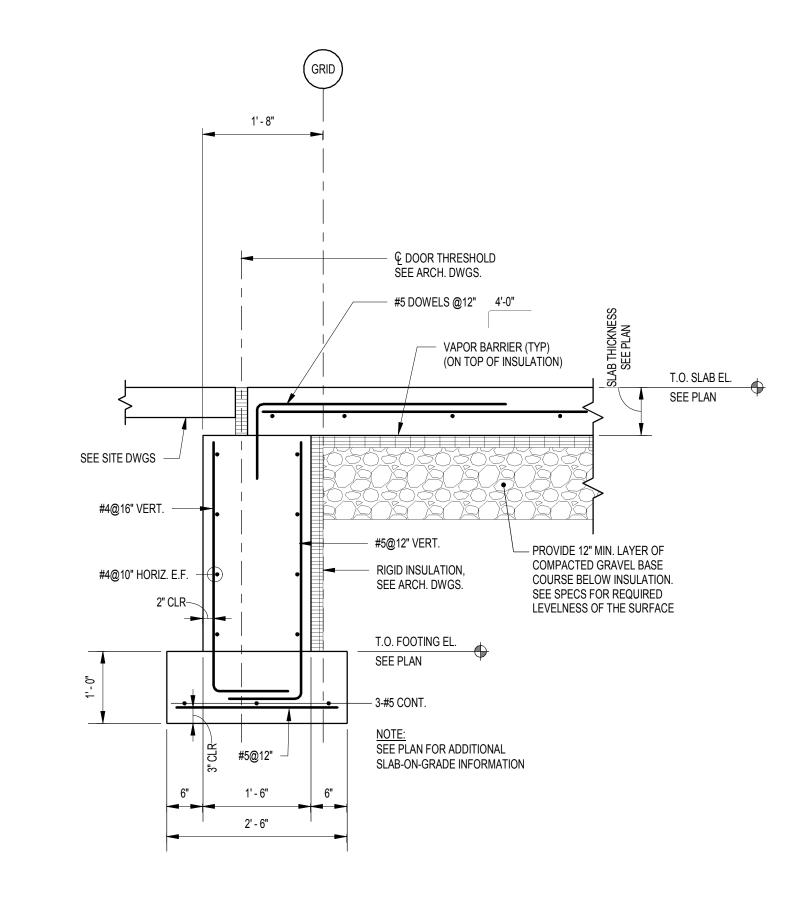
2 TYPICAL FOUNDATION WALL SECTION AT MAIN BENT SCALE: 3/4" = 1'-0"

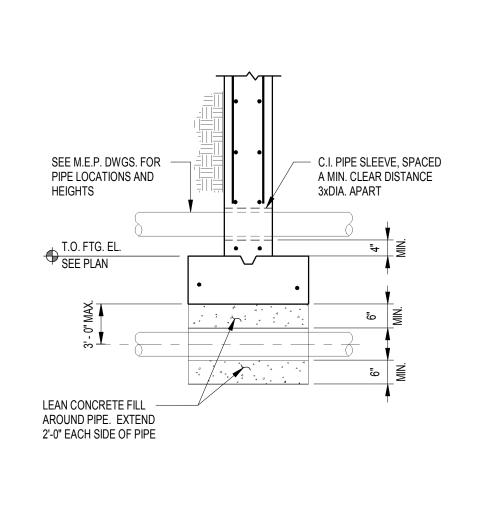
3 TYPICAL FOUNDATION WALL SECTION AT SIDE BENT SCALE: 3/4" = 1'-0"

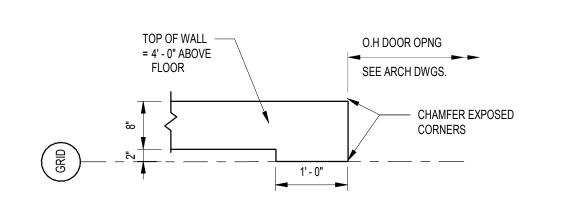


FOUNDATION SECTION AT OVERHEAD DOOR

SCALE: 3/4" = 1'-0"







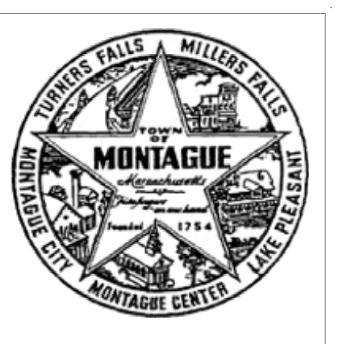
5 FOUNDATION SECTION AT OVERHEAD DOOR

SCALE: 3/4" = 1'-0"

6 PIPE SLEEVE AT FOUNDATION WALL DETAIL
SCALE: 1/2" = 1'-0"

7 PLAN VIEW - KNEE WALL RETURN AT O.H. DOORS

SCALE: 3/4" = 1'-0"



TOWN OF MONTAGUE

NEW DPW FACILITY

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ARCHITECT:

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FOUNDATION STRUCTURAL ENGINEER: SYMMES, MAINI & MCKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

STAMP

5/15/19 100% SUBMISSION REV DATE DESCRIPTION

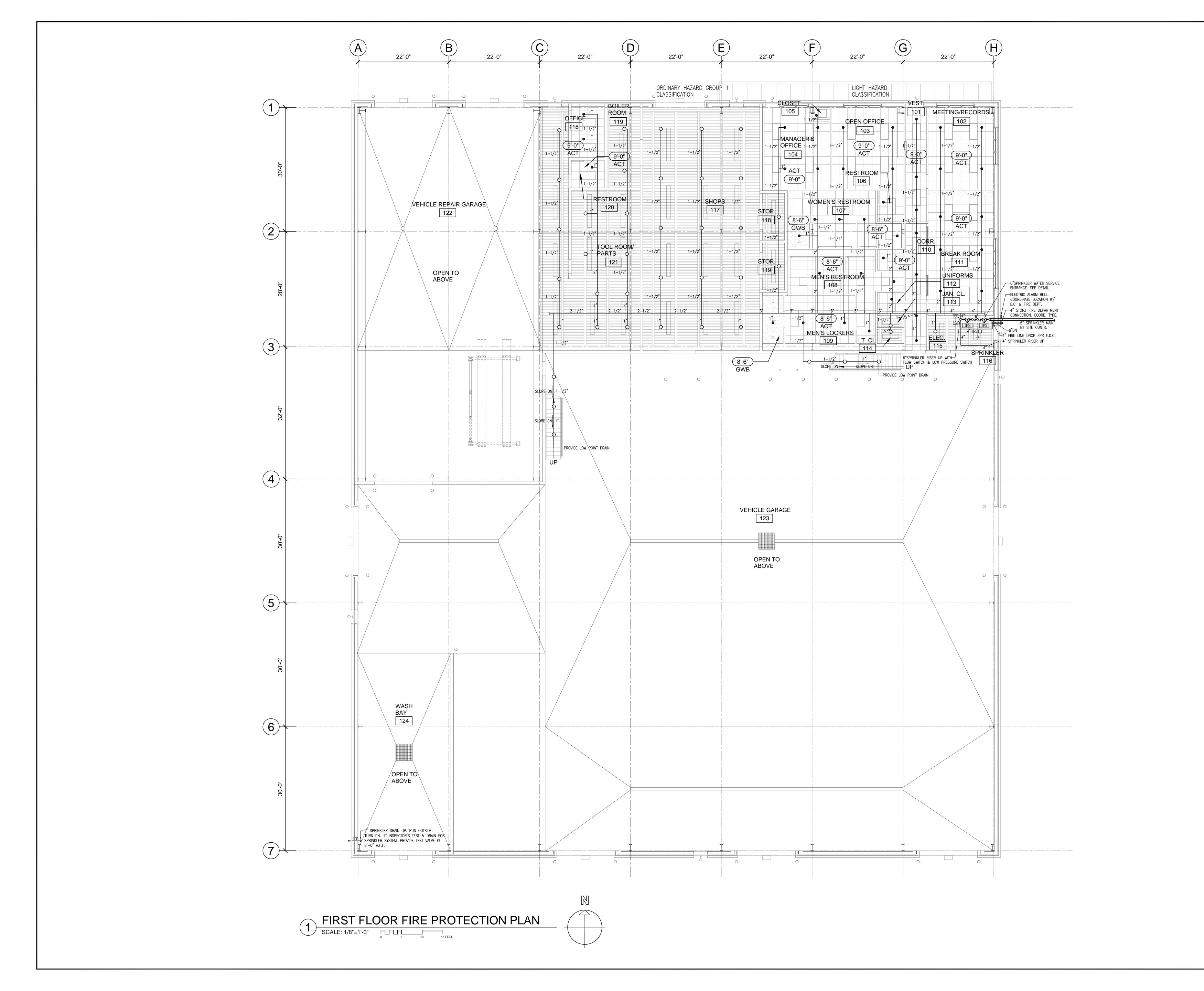
5/15/2019 As indicated CHECKED BY PROJECT NO.

BUILDING:

FOUNDATION SECTIONS AND **DETAILS**

DRAWING NO.

S-301





NEW DPW FACILITY

OWNER:

TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:

HELENE · KARL

Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

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STRUCTURAL ENGINEER:

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CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

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CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

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REV DATE DESCRIPTION

DATE 5/15/19

SCALE 1/8" = 1'-0"

DRAWN BY CDR

CHECKED BY KRS

PROJECT NO. 19001

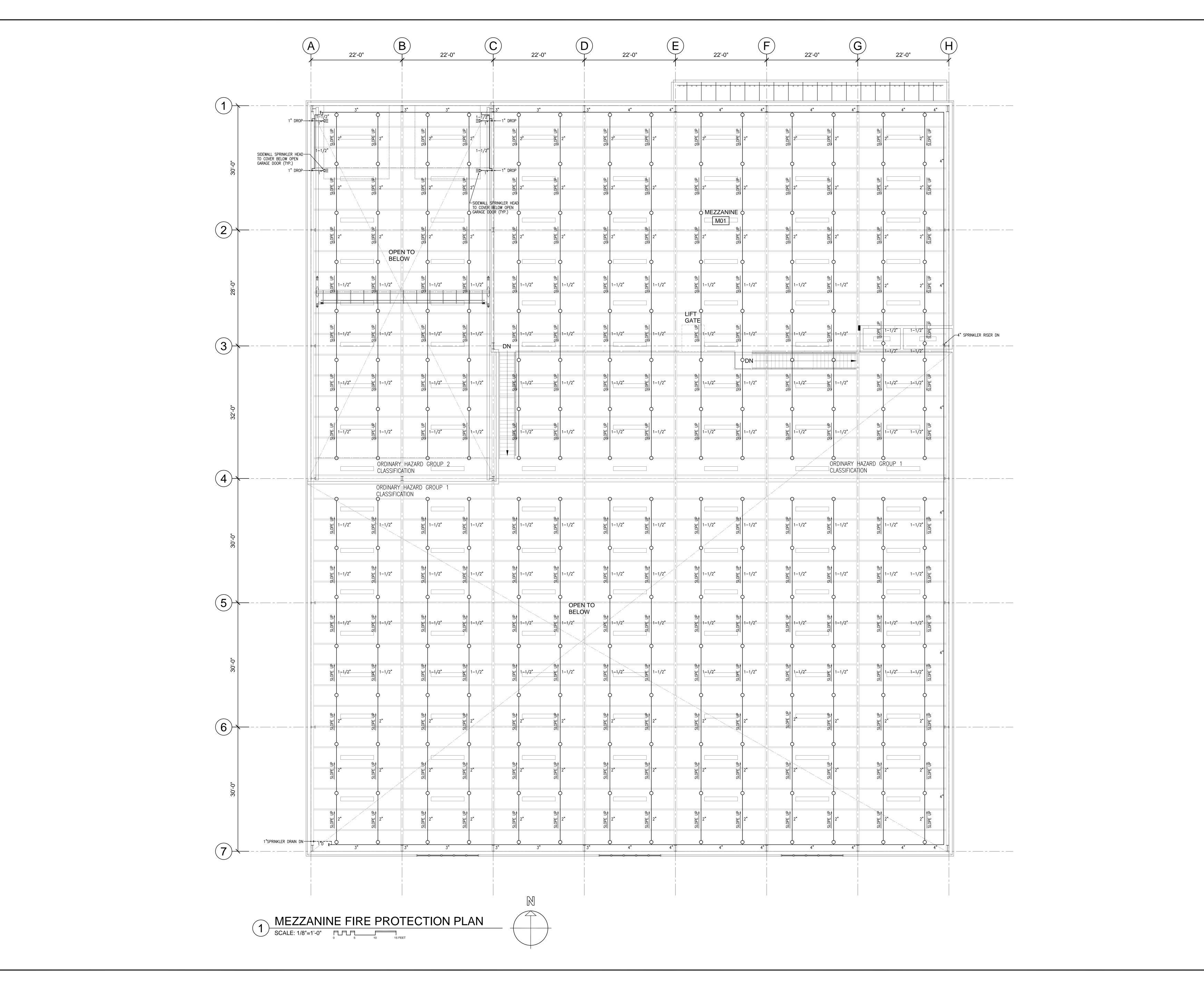
BUILDING:

SHEET TITLE:

FIRST FLOOR FIRE PROTECTION PLAN

DRAWING NO.

FP-101





NEW DPW FACILITY

OWNER:
TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:

HELENE·KARL

Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL

CONSTRUCTION AND ENGINEERING, INC.

379 LIBERTY STREET

ROCKLAND, MA 02370

STAMP

REV DATE DESCRIPTION

DATE 5/15/19

SCALE 1/8" = 1'-0"

CHECKED BY KRS
PROJECT NO. 19001

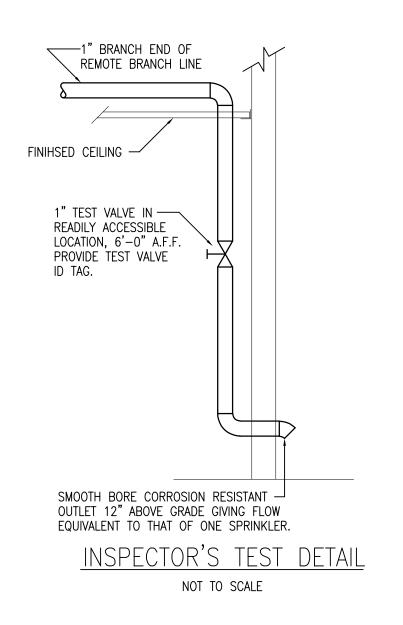
BUILDING:

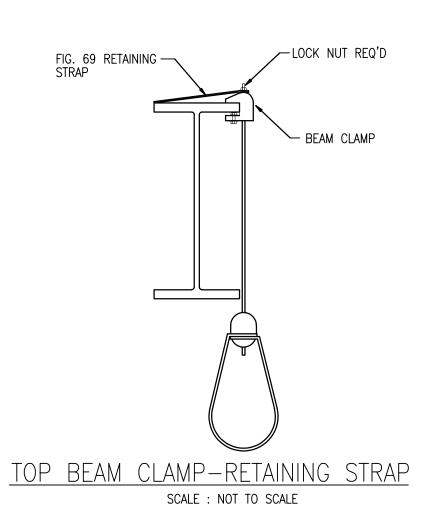
SHEET TITLE:

MEZZANINE FIRE PROTECTION PLAN

DRAWING NO.

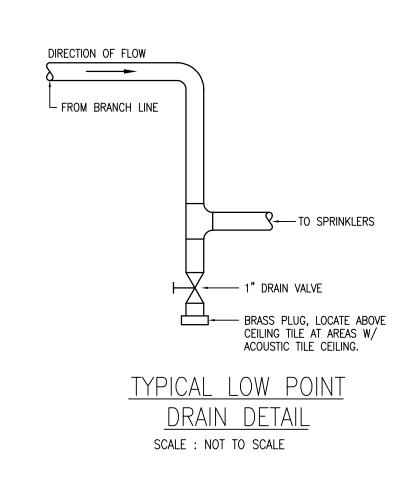
FP-102

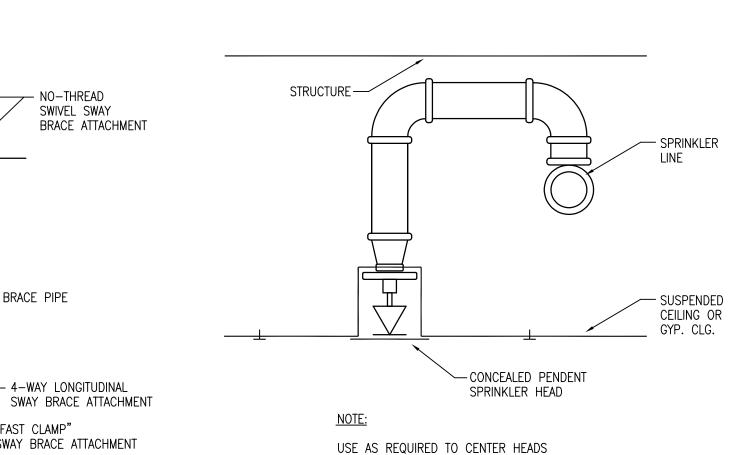




NO-THREAD SWIVEL SWAY

- 4-WAY LONGITUDINAL





IN LAY-IN ACOUSTICAL CEILING SYSTEM.

RETURN BEND PIPING DETAIL

NOT TO SCALE



NO-THREAD -

SWIVEL SWAY

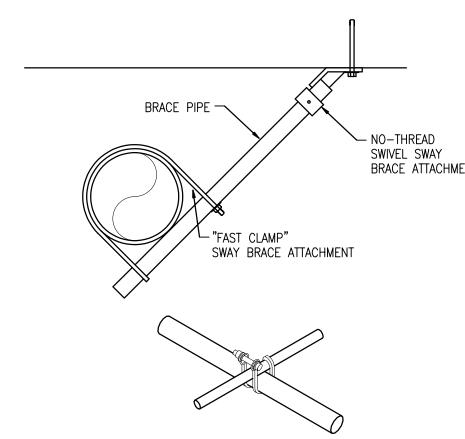
PIPE CLAMP ----

FOR SWAY BRACE

LONGITUDINAL SEISMIC BRACE

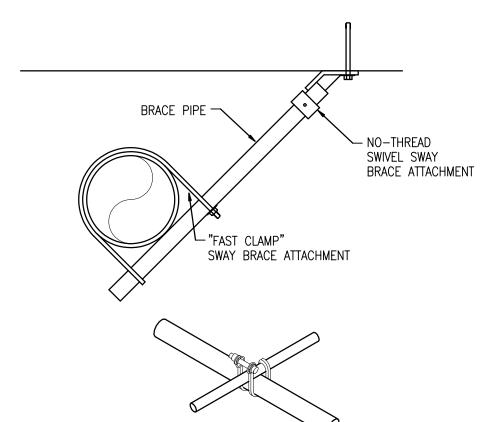
SCALE: NOT TO SCALE

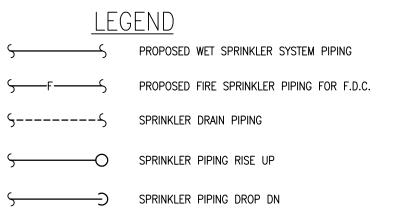
BRACE ATTACHMENT



LATERAL SEISMIC BRACE

SCALE: NOT TO SCALE



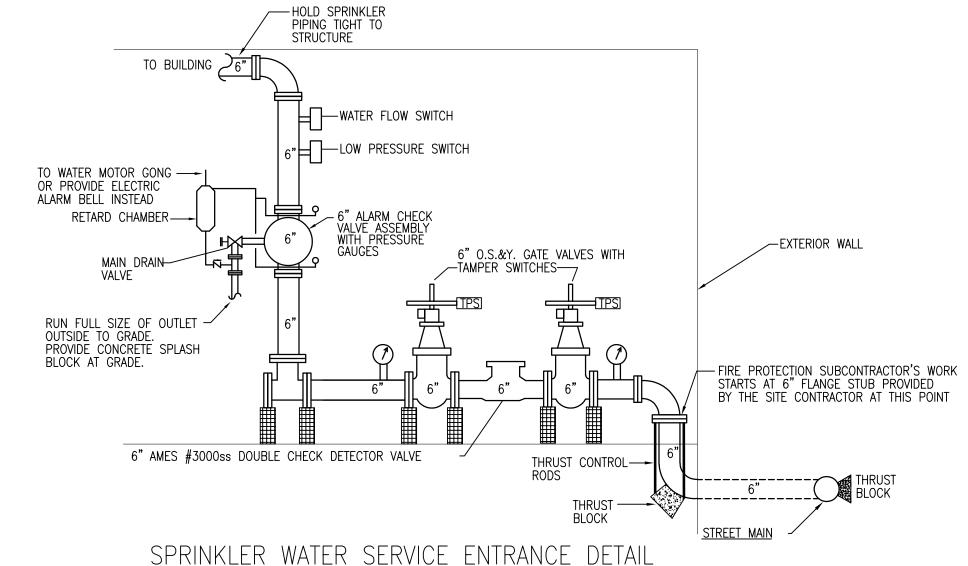


TAMPER SWITCH FLOW SWITCH LOW PRESSURE SWITCH OS&Y GATE VALVE

SWING CHECK VALVE UPRIGHT SPRINKLER HEAD CONCEALED PENDENT SPRINKLER HEAD HORIZONTAL SIDEWALL SPRINKLER HEAD VERIFY IN FIELD

L.O.W. LIMIT OF WORK ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AUTHORITY HAVING JURISDICTION RISER NIPPLE ELECTRICAL CONTRACTOR

FIRE DEPARTMENT CONNECTION



NOT TO SCALE



- CONTRACTOR RESPONSIBLE FOR PROVIDING ALL MATERIAL, LABOR, SUPERVISION AND TRANSPORTATION REQUIRED TO COMPLETE THE WORK DESCRIBED ON THESE DRAWINGS UNLESS STATED OTHERWISE.
- CONTRACTOR TO VERIFY ALL DIMENSIONS AND LOCATION IN FIELD.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS. A PERMIT IS REQUIRED FOR THE BACKFLOW DEVICE.
- 4. ALL PIPING TO BE INSTALLED PER LOCAL, STATE AND FEDERAL CODES.
- 5. CONTRACTOR RESPONSIBLE FOR ALL OFFSETS & MODIFICATIONS AS REQUIRED TO CLEAR BUILDING STRUCTURES. THE SPRINKLER WORK SHALL CONSIST OF THE INSTALLATION OF A COMPLETE WET-TYPE SPRINKLER SYSTEM AS INDICATED ON THIS DRAWING, INCLUDING PIPING, HEADS, ESCUTCHEONS, HANGERS, ETC., CONNECTING TO

EXISTING WATER SERVICE. ALL WORK SHALL BE IN COMPLIANCE WITH MA BUILDING CODE 9TH EDITION,

- NFPA #13 AND THE TOWN OF MONTAGUE BUILDING AND FIRE DEPARTMENT REQUIREMENTS. THE SPRINKLER LAYOUT SHOWN ON THIS DRAWING IS CONCEPTUAL IN DESIGN ONLY. THE USE OF STANDARD AND EXTENDED COVERAGE SPRINKLER HEADS IS THE RESPONSIBILITY OF THE DESIGN ENGINEER. PLAN DOES NOT INDICATE ANY INTERFERENCES. PIPING SHALL BE LOCATED TO AVOID
- ALL LIGHTS, DIFFUSERS, SPEAKERS, DUCTS, ETC... PREPARE FULLY DESIGNED INSTALLATION DRAWINGS AND HYDRAULIC CALCULATIONS WITH ALL REQUIRED INFORMATION FOR SUBMITTAL TO THE TOWN OF MONTAGUE FIRE DEPARTMENT AND THE OWNER'S FIRE UNDERWRITER. THE OCCUPANCY CLASSIFICATION SHALL BE DETERMINED AS PER NFPA #13. OBTAIN ALL

WATÉR SERVICE ENTRANCE UP TO THE ALARM VALVE SHALL BE SCHËDULE 40.

- APPROVALS. THE DESIGN SHALL COMPLY WITH ALL STATE AND LOCAL CODES AND NFPÄ #13. PIPING 1-1/2" AND LARGER MAY BE SCHEDULE 10 WITH ROLLED GROOVE FITTINGS. PIPING SMALLER THAN 1-1/2" SHALL BE SCHEDULE 40 THREADED BLACK STEEL WITH 175# CAST IRON FITTINGS. PIPING AT THE
- SPRINKLER HEADS IN SUSPENDED CEILINGS SHALL BE CONCEALED PENDENT TYPE W/ WHITE COVER, 165'F. 1/2" ORIFICE. SPRINKLER HEADS ON EXPOSED PIPING TO BE UPRIGHT, BRASS, 165'F, AND 1/2" ORIFICE; UNLESS OTHERWISE NOTED. SPRINKLER HEADS SHALL BE CENTERED IN CEILING TILES.
- 11. ALL PIPING SHALL BE SUPPORTED IN CONFORMANCE WITH NFPA #13. ALL PIPING SHALL BE SEISMICALLY
- SUPPORTED AS REQUIRED BY MA CODE AND IN ACCORDANCE WITH NFPA. PIPING WORK SHALL BE TESTED IN ACCORDANCE WITH NFPA #13. REPAIR ALL LEAKS AND RETEST UNTIL
- 13. PREPARE CUTS OF ALL EQUIPMENT AND SUBMIT OT THE ARCHITECT FOR APPROVAL. ALL EQUIPMENT SHALL

TIGHT. NOTIFY THE TOWN OF MONTAGUE FIRE DEPARTMENT AND THE OWNER'S UNDERWRITER PRIOR TO

- BEAR THE SEAL OF A NATIONALLY RECOGNIZED TESTING AGENCY. 14. ALL LOW POINTS AND TRAPPED SECTIONS OF PIPE SHALL BE EQUIPPED WITH PLUGGED DRAIN VALVES.
- 15. THERE IS NO CURRENT FLOW TEST DATA. THE CONTRACTOR WILL NEED TO SCHEDULE A FLOW TEST WITH THE MONTAGUE DPW.
- 16. WHEN REFERRING TO CONTRACTOR IN THESE NOTES, THIS MEAN FIRE PROTECTION CONTRACTOR.

TOWN OF MONTAGUE

NEW DPW FACILITY

OWNER: TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT:



61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

STAMP

REV DATE DESCRIPTION

5/15/19

SCALE NO SCALE DRAWN BY CDR CHECKED BY KRS PROJECT NO. 19001

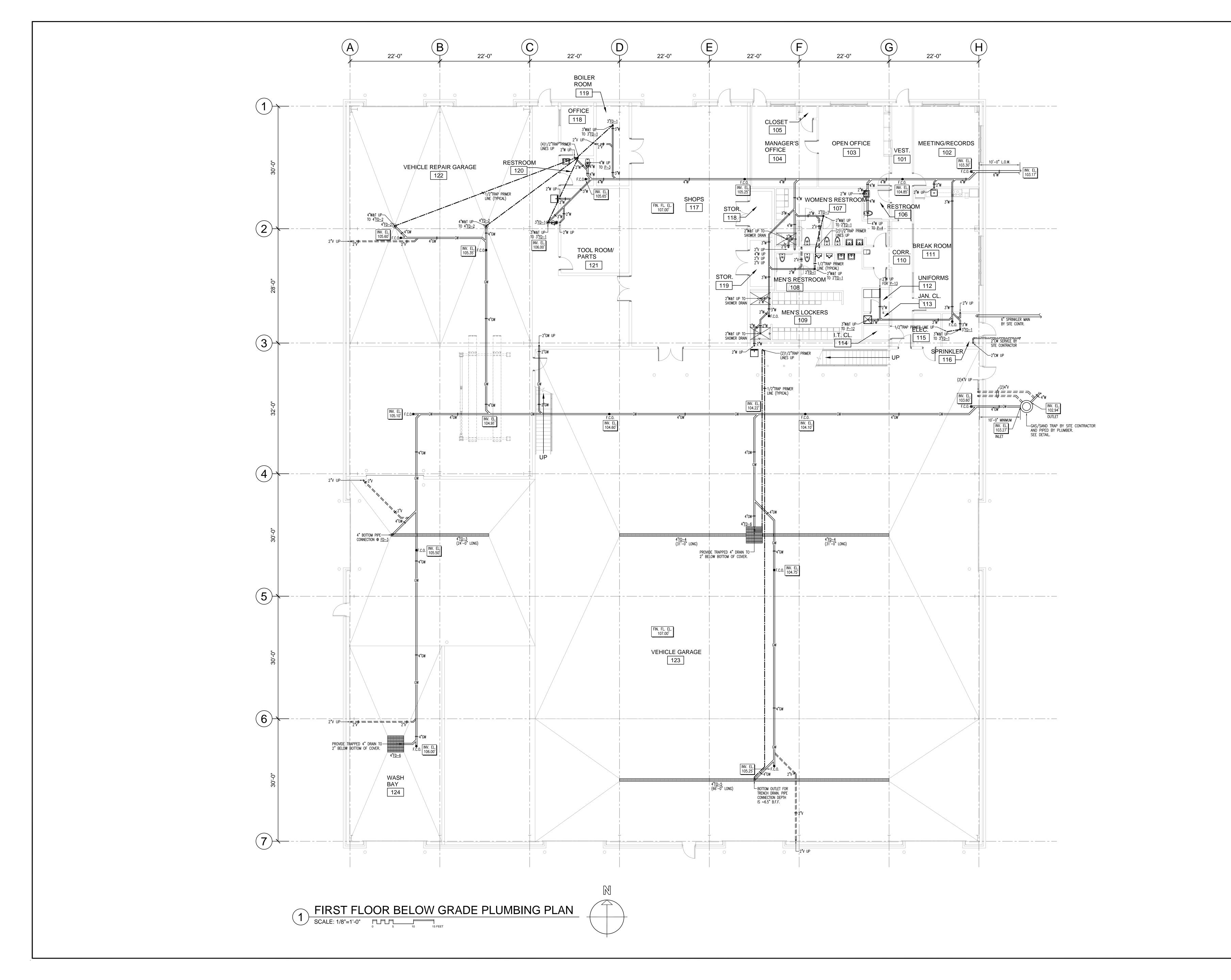
BUILDING:

SHEET TITLE:

FIRE PROTECTION **NOTES & DETAILS**

DRAWING NO.

FP-201





NEW DPW FACILITY

OWNER:
TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:

HELENE·KARL Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

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CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMD

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DRAWN BY CDR

CHECKED BY KRS

PROJECT NO. 19001

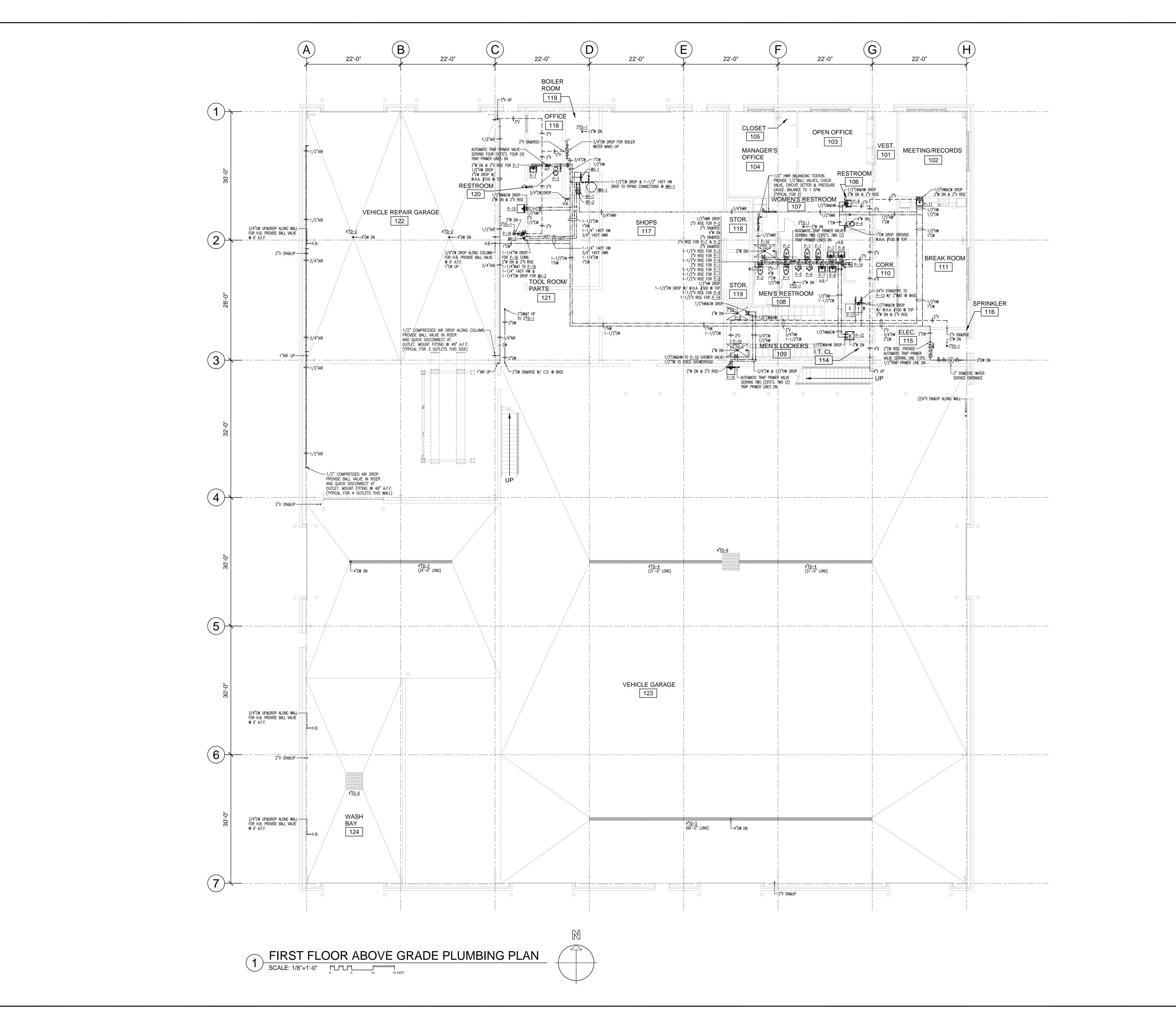
BUILDING:

SHFFT TITLE:

FIRST FLOOR BELOW
GRADE PLUMBING PLAN

DRAWING NO.

P-100





NEW DPW FACILITY

OWNER:

TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:

HELENE · KARL Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

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CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

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DATE 5/15/19

SCALE 1/8" = 1'-0"

DRAWN BY CDR

CHECKED BY KRS

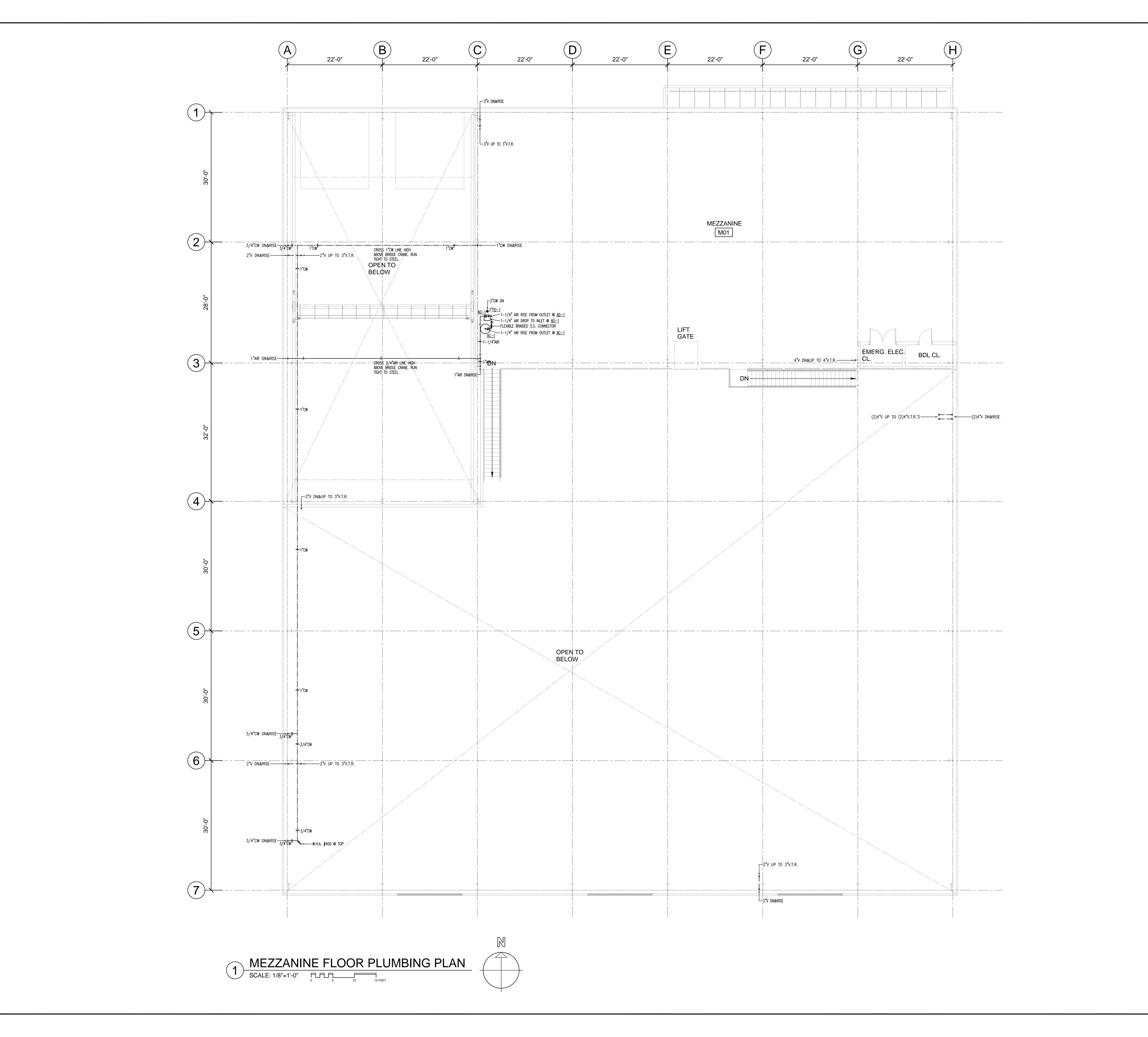
BUILDING:

SHFFT TITI

FIRST FLOOR ABOVE GRADE PLUMBING PLAN

DRAWING NO.

P-101





NEW DPW FACILITY

OWNER:
TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:

HELENE · KARL

Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

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STRUCTURAL ENGINEER:
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1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL

CONSTRUCTION AND ENGINEERING, INC.

379 LIBERTY STREET

ROCKLAND, MA 02370

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1/8" = 1'-0"

DATE 5/15/19

DRAWN BY CDR
CHECKED BY KRS
PROJECT NO. 19001

BUILDING:

SHEET TITLE:

MEZZANINE FLOOR PLUMBING PLAN

DRAWING NO.

P-102

									PLUME	BING FIXT	URE SCHED	 ULE					
KEY		P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8	P-9	P-10	P-11	P-12	P-13	P-14	P-15	P-16
FIXTURE		WALL HUNG WATER CLOSET	WALL HUNG HC WATER CLOSET	FLOOR MOUNT WATER CLOSET	FLOOR MOUNT HC WATER CLOSET	WALL HUNG URINAL	WALL HUNG HC URINAL	WALL HUNG LAVATORY	WALL HUNG LAVATORY (HANDICAP)	SHOWER VALVE	SHOWER VALVE (HANDICAP)	HC SINGLE COMPARTMENT SINK	MOP SINK	CLOTHES WASHER HOOK-UP	WATER COOLER (HANDICAP)	UTILITY SINK	EMERGENCY SHOWER & FACE/EYE WASH UNIT
P	TRAP						_	1-1/2"	1-1/2"			1-1/2"	3"	2"	1-1/2"	2"	1-1/4"
N G	WASTE	4"	4"	4"	4"	2"	2"	1-1/2"	1-1/2"			1-1/2"	3"	2"	1-1/2"	2"	1-1/4"
COZZ	VENT	2"	2"	2"	2"	1-1/2"	1-1/2"	1-1/4"	1-1/4"			1-1/2"	2"	2"	1-1/2"	2"	1-1/4"
NECTI	CWS	1"	1"	1"	1"	3/4"	3/4"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	
O N S	HWS							3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	1/2"		1/2"	1-1/4" THW
HEI	INTING GHT TO RIM	15"	17"	15"	16-1/2"	24"	17"	30" OR PER ARCH.	34" PER ADA AND ARCH.	34" PER ADA AND ARCH.	42" TO € OF CONTROL	34" COUNTER COORD W/ ARCH.	PER MFR.	PER MFR.	36" MAX. TO SPOUT	PER MFR.	36" TO OUTLET PER ADA
MAT	ERIAL	VITREOUS CHINA	VITREOUS CHINA	VITREOUS CHINA	VITREOUS CHINA	VITREOUS CHINA	VITREOUS CHINA	VITREOUS CHINA	VITREOUS CHINA			STAINLESS STEEL	MOLDED STONE		STAINLESS STEEL	MOLDED STONE	STAINLESS STEEL
FIΠ	INGS	HIGH EFFICIENCY 1.28 GPF SLOAN ROYAL FLUSH VALVE #111-1.28 OPEN FRONT ELONGATED SEAT	HIGH EFFICIENCY 1.28 GPF SLOAN ROYAL FLUSH VALVE #111-1.28 OPEN FRONT ELONGATED SEAT	HIGH EFFICIENCY 1.28 GPF SLOAN ROYAL FLUSH VALVE #111-1.28 OPEN FRONT ELONGATED SEAT	HIGH EFFICIENCY 1.28 GPF SLOAN ROYAL FLUSH VALVE #111-1.28 OPEN FRONT ELONGATED SEAT	HIGH EFFICIENCY 0.5 GPF SLOAN ROYAL FLUSH VALVE #186-0.5	HIGH EFFICIENCY 0.5 GPF SLOAN ROYAL FLUSH VALVE #186-0.5	SYMMONS SCOT METERING LAVATORY FAUCET #SLC-6000 GRID DRAIN	SYMMONS SCOT METERING LAVATORY FAUCET #SLC-6000 OFF. GRID DRAIN	SYMMONS SAFETYMIIX SHOWER VALVE, SHOWER HEAD, ARM & FLANGE #1-100-X-1.5 1.5 GPM F.R.	HAND SHOWER HEAD, WALL SHOWER HEAD,	DECK MOUNTED SINGLE LEVER SYMMONS ORIGINS FAUCET #S-23-IPS-VP CUP STRAINER	FIAT SERVICE FAUCET 830—AA HOSE&BRACKET 832—AA MOP HANGER 889—CC		P-TRAP & AIR GAP	FIAT LAUNDRY TUB FAUCET #A-1 SEE NOTE 6	
	MANUF.	AMERICAN STANDARD	AMERICAN STANDARD	AMERICAN STANDARD	AMERICAN STANDARD	AMERICAN STANDARD	AMERICAN STANDARD	AMERICAN STANDARD	AMERICAN STANDARD			ELKAY	FIAT	SYMMONS	ELKAY	FIAT	HAWS CORPORATION
	MODEL	AFWALL MILLENIUM FLOWISE 3351.101	AFWALL MILLENIUM FLOWISE 3351.101	MADERA FLOWISE 2234.001	MADERA FLOWISE 3461.001	WASHBROOK FLOWISE 6590.001	WASHBROOK FLOWISE 6590.001	MURRO UNIVERSAL 0954.004	MURRO UNIVERSAL 0954.004			GECR-2521	MSBID-2424	W-602-X	VRCGRN8	FL-1	8300-8309

SLEEVE 3" ABOVE FINISHED FLOOR.

WHEN CORE DRILL IS USED THE PIPE SLEEVE

& WATER STOP/LEAK PLATE ARE NOT REQUIRED.

NO SCALE

- 1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- 2. ALL DIMENSIONS ARE AS IS UNLESS NOTED OTHERWISE ON DRAWINGS.
- 3. VERIFY ALL MOUNTING HEIGHTS WITH ARCHITECTURAL PLANS AND ALL APPLICABLE CODES BEFORE INSTALLATION.
- 4. PROVIDE WHEELCHAIR LAVATORY STRAINERS ON ALL HANDICAP LAVATORIES. INSTALL PVC COATED INSULATION ON ALL PIPING BELOW HANDICAP LAVATORIES UNLESS PIPING IS ENCLOSED.
- 5. PIPE INSULATION UNDER FIXTURES $\underline{P-2}$ AND $\underline{P-4}$ SHALL BE TRUEBRO LAV GUARD MODEL #103,
- IF NOT ENCLOSED BY ARCHITECTURAL SHROUD. 6. UTILITY SINKS ARE FOR HAND WASHING ONLY. NO VEHICLE FLUIDS WILL BE POURED DOWN THE DRAIN.

PLUMBING NOTES:

- CONTRACTOR RESPONSIBLE FOR PROVIDING ALL MATERIAL, LABOR, SUPERVISION AND TRANSPORTATION REQUIRED TO COMPLETE THE WORK DESCRIBED ON THESE DRAWINGS AND IN THE SPECIFICATIONS UNLESS NOTED OTHERWISE.
- CONTRACTOR TO VERIFY ALL DIMENSIONS AND LOCATION IN THE FIELD.
- . CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
- . ALL PIPING TO BE INSTALLED PER LOCAL, STATE, AND FEDERAL CODES.
- . CONTRACTOR IS RESPONSIBLE FOR ALL OFFSETS & MODIFICATIONS AS REQUIRED TO CLEAR BUILDING STRUCTURES.
- . THERE IS CURRENTLY NO GAS PIPING FOR THIS PROJECT.
- ALL PIPING TO BE PRESSURE TESTED BEFORE INSULATION. LEAVE VALVES OPEN, READY FOR OPERATION.
- INSULATE ALL COLD AND HOT WATER LINES INSTALLED. WITH FIBERGLASS PIPE INSULATION, SEE SPEC.
- REPAIR OF ANY DAMAGE TO THE NEW CONSTRUCTION DURING THE EXECUTION OF THIS WORK SHALL
- BE THE RESPONSIBILITY OF THIS CONTRACTOR.
- 10. ALL EXPOSED PIPING/FITTINGS TO BE CHOME PLATED COPPER/BRASS.
- 1. ALL WATER SUPPLY PIPING TO BE RIGID TYPE L COPPER UNLESS STATED OTHERWISE. 12. ALL WASTE AND VENT PIPING TO BE CAST IRON OR DWV COPPER AS ALLOWED BY THE MA PLUMBING CODE.
- 13. ALL WASTE PIPING 4" AND UNDER TO HAVE A CLEANOUT EVERY 50 FT AND
- AT EACH CHANGE IN PIPE SIZE. NOT ALL CLEANOUTS SHOWN ON DRAWINGS. CLEANOUTS SHALL BE EVERY 100 FT PER PIPING OVER 4" IN SIZE.

18" GRATE. END OUTLET LOCATION AS SHOWN ON PLAN.

LEGEND

- 14. PIPING RUNS ARE SHOWN AS REPRESENTATIVE OF REQUIRED SIZES. ROUTING MAY BE CHANGED BY CONTRACTOR AS NECESSITATED BY STRUCTURAL CONSIDERATIONS.
- 5. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND ELEVATION OF PLUMBING FIXTURES. 16. A WATER HAMMER ARRESTOR (MECHANICAL DEVICE) SHALL BE ISNTALLED ON EACH SUPPLY LINE
- (HOT AND COLD) AT ALL SINK'S AND RESTROOMS (METERING FAUCETS). 7. ALL DOMESTIC AND WASTE PIPING IS DIAGRAMMATIC. CONTRACTOR IS RESPONSIBLE TO PROVIDE
- COMPLETE AND WORKING FIXTURES.
- 18. <u>FD-1</u> FLOOR DRAINS SHALL BE SIMILAR TO ZURN MODEL #ZN415-5B-P ROUND TOP OR EQUAL, DURA-COATED CAST IRON BODY FLOOR DRAIN WITH FLASHING COLLAR AND ADJUSTABLE STRAINER HEAD, 5" ROUND NICKEL BRONZE STRAINER HEAD, 2" BOTTOM OUTLET, VANDAL PROOF SCREWS, CAULK OUTLET, 1/2" TRAP PRIMER CONN..

FOR HEAVY DUTY DEEP FLANGE SLOTTED GRATE, 4" BOTTOM OUTLET, 1/2" TRAP PRIMER CONNECTION.

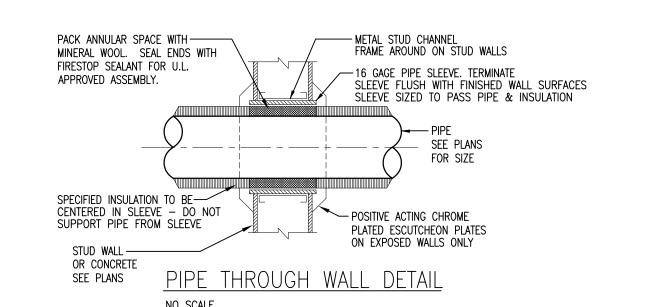
- 19. <u>FD-2</u> FLOOR DRAINS SHALL BE SIMILAR TO ZURN MODEL #ZN507-P-Y 12" DIAMETER TOP OR EQUAL, DURA-COATED CAST IRON BODY FLOOR DRAIN WITH SEEPAGE PAN AND COMBINATION MEMBRANE FLASHING CLAMP AND FRAME
- 20. <u>FD-3</u>, <u>FD-4</u>, <u>FD-5</u> ZURN MODEL #Z886-HDS-U2-RFSC TRENCH DRAIN, LENGTH AS NOTED ON PLANS; EACH PRECAST POLYESTER POLYMER CONCRETE ONE METER UNIT SHALL HAVE A 0.6% BUILT-IN SLOPE AND A PERMANENTLY CAST-IN INTEGRAL GALVANIZED STEEL RAIL WITH A MAXIMUM EDGE THICKNESS OF 0.1". THE INTEGRAL CAST-IN METAL RAIL SHALL PROVIDE MECHANICAL SUPPORT AS A ONE-PART UNIT WHICH CAN SUPPORT A 10 TON HARD RUBBER WHEEL LOAD AND 60 TON GROSS VEHICLE WEIGHT. ALL METAL MATERIAL USED IN GRATE AND RAIL CONSTRUCTION SHALL BE A MINIMUM OF 0.1" THICK. CHANNEL PROFILE SHALL INCLUDE POSITIVE INTERLOCKING TONGUE AND GROOVE CONNECTIONS WHICH CAN BE WATER SEALED TO PROVIDE WATER TIGHT CONNECTIONS. LOCKING DEVICE RECESSES ARE FORMED INTO THE REINFORCED CHANNEL WALLS. ALL LOCKING DEVICE RECESS MATERIAL CONSTRUCTION SHALL BE POLYMER CONCRETE. GRATE SYSTEM SHALL BE DUCTILE IRON SLOTTED GRATE WITH STAINLESS STEEL LOCKING BOLTS (2 PER GRATE) AND ANGLE IRON FRAME, OPEN AREA = 36.00 SI PER

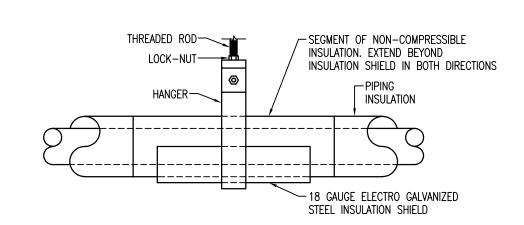
	AIR COMPRESSOR SCHEDULE														
KEY	WHOLESALER	MODEL #	MAX. DISCHARGE (PSIG)	11 12 F R A I INII - I	@175	RECEIVER SIZE (GALLONS)	CIZE	VOLTS	ELECT PH	RICAL HZ	DATA BHP	HP	F.L.A.	WEIGHT (LBS)	REMARKS
AC-1	INGERSOLL RAND	2475N7.5-P	175	125	24.2	80	3/4" NPT	208	3	60	7.8	7.5	22	660	1

(1) COMMERCIAL GRADE, TWO STAGE AIR COMPRESSOR. VERTICAL AIR RECEIVER FULLY PACKAGED SYSTEM. BALL VALVE @ PIPING CONNECTION

REFRIGERATED AIR DRYER SCHEDULE															
KEY	MANUFACTURER	MODEL #	PEEDIC	MAX. PRESSURE	AIR INLET TEMP	SCEM	AIR PRESSURE	OUTLET		ELECT	RICAL	DATA			REMARKS
KEY	MANUFACTURER	WODEL #	REFRIG.	(PSIG)	(°F)	301 101	DROP	SIZE	VOLTS	PH	HZ	kW	HP	MCA/MOCP	L
	INGERSOLL RAND NIRVANA REFRIG. DRYER	D41EC	R-134A	200	100	24.2	1.22 PSI	1/2" FPT	115	1	60	0.45	1/5	5.77/7.50	1)

(1) PROVIDE REFRIGERATED AIR DRYER CAPABLE OF REDUCING 50 SCFM OF MOISTURE SATURATED AIR AT 100 PSIG WITH AN AIR INLET TEMPERATURE OF 100°F TO A NFPA CLASS H PRESSURE DEWPOINT WHEN OPERATING IN A 100°F AMBIENT TEMPERATURE, AND REMOVING THE CONDENSED LIQUIDS WITH AN INTEGRAL CENTRIFUGAL MOISTURE SEPARATOR AND SELF ACTUATING DRAIN VALVE.

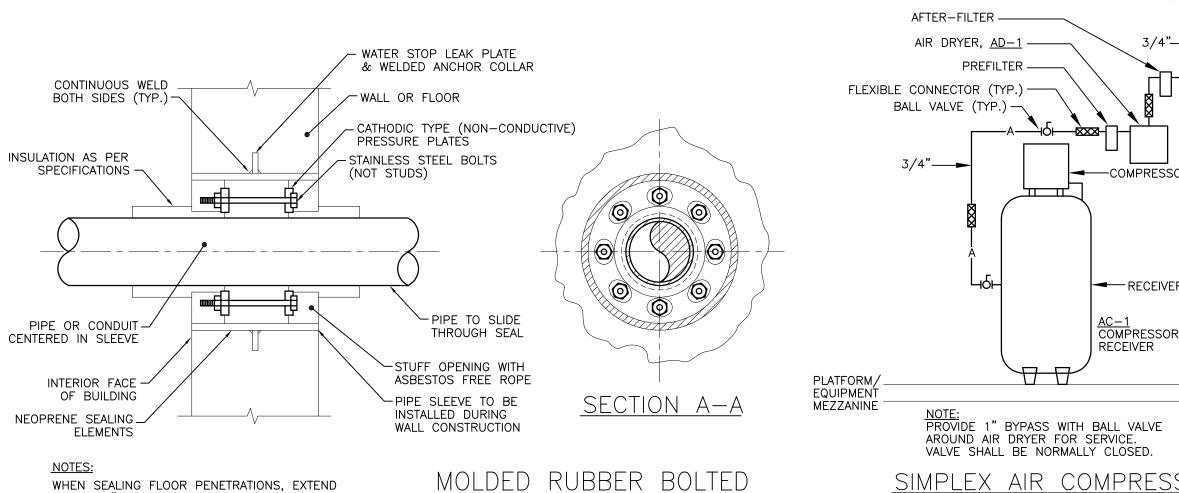




NOTES:

1. HANGER SHIELD IS TYPICAL FOR INSULATED PIPING 2. ALL HANGERS HARDWARE AND RODS SHALL BE ELECTRIC GALVANIZED PIPE HANGERS AND SHIELD

NOT TO SCALE



SFAL ASSEMBL`

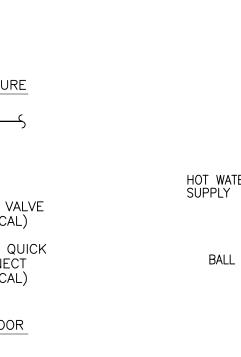
NOT TO SCALE

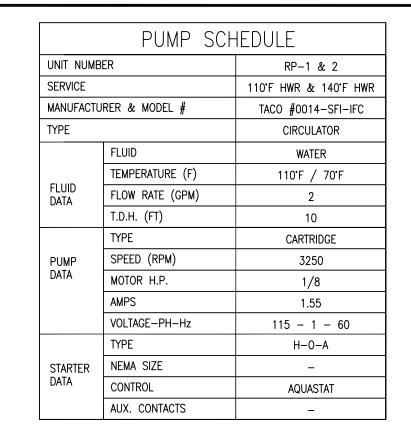
		TO SYSTE	ΞM
	AFTER-FILTER ———	-_\	
	AIR DRYER, AD-1	<u> 3/4"</u> →	
	PREFILTER ——	_ \ []	
FI FXIBI	LE CONNECTOR (TYP.)		
	BALL VALVE (TYP.)		
	3/4"——A——————————————————————————————————	1 1 T	
		COMPRESSOR	
	ЦбН	⊸ RECEIVER	
		AC-1 COMPRESSOR AND RECEIVER	
PLATFORM/_	T	T	
EQUIPMENT			
MEZZANINE -	NOTE: PROVIDE 1" BYPASS AROUND AIR DRYER VALVE SHALL BE NO	FOR SERVICE.	
	SIMPLEX AIR	COMPRESSOR	

PIPING DETAIL

NO SCALE

STEEL OFFSET WALL BRACKET U-BOLTS JU-BOLTS TURNBUCKLE ANGLE	
WELDED STEEL WALL BRACKET U-BOLTS ANGLE WOOD JOIST BEAM CLAMPS TURNBUCKLE BOLTS	
THRU—BOLT THRU—BOLT THREADED ROD CLEVIS HANGER OR ELECTRIC GALVANIZED CARBON STEEL SWIVEL RING STRAP HANGER ADJUSTABLE PIPE STAND	
cinch anchors TYPICAL PIPE SUPPORT DETAIL	





- PUMP IS STAINLESS STEEL FOR DOMESTIC HOT WATER USE. - EQUAL MFR'S ARE ARMSTRONG, GRUNDFOS AND PACO PUMPS - PROVIDE TWO PUMPS WITH ONE AS A SPARE TO BE DELIVERED TO THE OWNER.

MIXING	VALVE SCHEDULE	
UNIT NUMBER	MV-1	MV-2
MANUFACTURER	HONEYWELL SPARCOMIX	LEONARD
MODEL	AM101C-LF-UT-1	TM-850-LF
SERVICE	110°F DOMESTIC HW	80°F EMERGENCY TW
TYPE	ADJ. THERMOSTATIC	ADJ. THERMOSTATIC
MIXED WATER TEMPERATURE ('F)	120	80
MIN. FLOW RATE (GPM)	0.5	3.0
MAX. FLOW RATE (GPM)	12 GPM @ 22 PSI P.D.	64 GPM @ 20 PSI P.D.
INLET PIPE SIZE (IN)	3/4" NPT	1-1/4" NPT
OUTLET PIPE SIZE (IN)	3/4" NPT	1-1/4" NPT
REMARKS	1) 2)	

1) PROVIDE INLET CHECK VALVES SIMILAR TO SPARCO AQUAMIX MODEL #AMCV 100, 1" NOMINAL SIZE

ALTERNATE CONNECTION IS UNION SWEAT.

② UNION NPT (FEMALE) CONNECTION SPECIFIED.

HEATING COIL PRESSURE DROP (F

FIRST HOUR RATING (@180°F EWT)

BOILER INPUT TO COIL SIZE (BTUH)

LOCKINVAR, BOCK OR BRADFORD WHITE.

TANK WATER TEMPERATURE

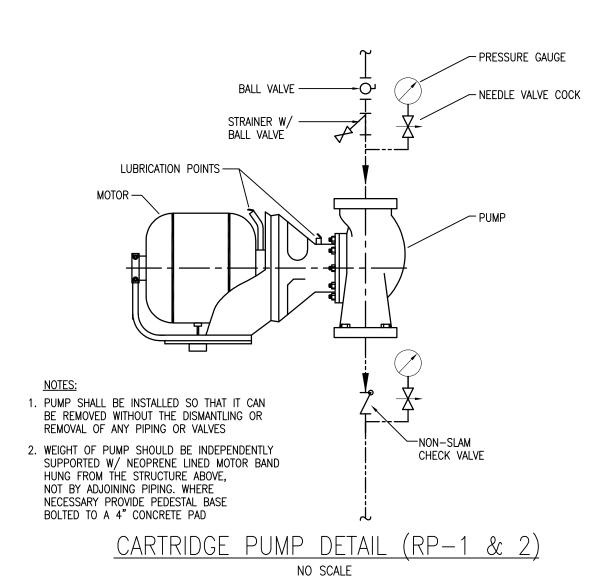
INDIRECT FIRED WATER	HEATER SCHEDULE
UNIT NUMBER	IWH-1
MANUFACTURER	HEAT TRANSFER PRODUCTS
MANUFACTURER PRODUCT LINE	SUPER-STOR
MODEL	#SSU-119C
TYPE	VERTICAL
MAX. WORKING PRESSURE (PSI)	150
CAPACITY (GALLONS)	119
DHWS&DHWR CONNECTIONS (BOILER)	1" NPT MALE
CW&HW CONNECTIONS (DOMESTIC)	1-1/2" SWEAT MALE
DIMENSIONS	74"TALL X 27"ø
HEATING SURFACE (SF)	68
HEATING COIL FLOW RATE (GPM)	28.0

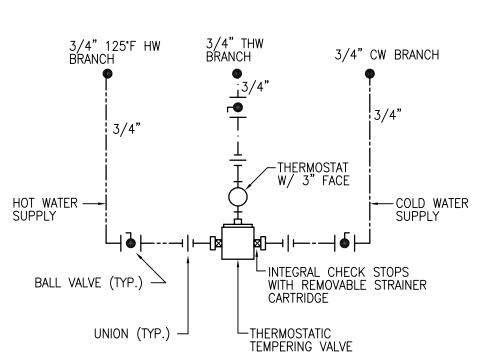
- TWO COIL CONNECTIONS @ FRONT OF WATER HEATER
- ASME RATED PER MA PLUMBING PRODUCT APPROVAL - ALTERNATE MFR'S INCLUDE TURBOMAX BY THERMO 2000 INC.,

637 GALLONS

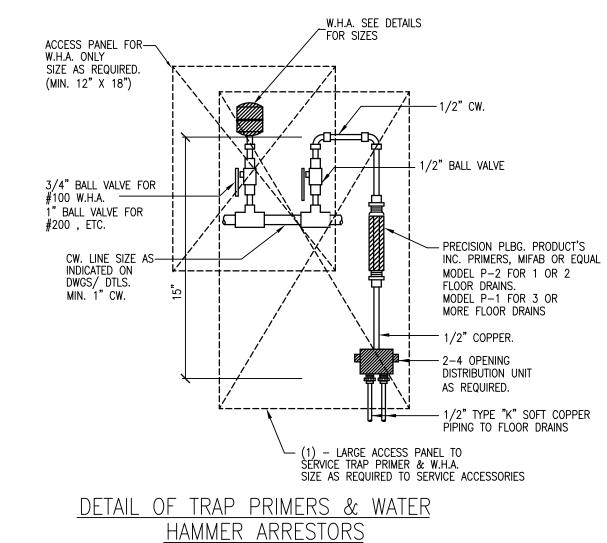
140°F

425,000

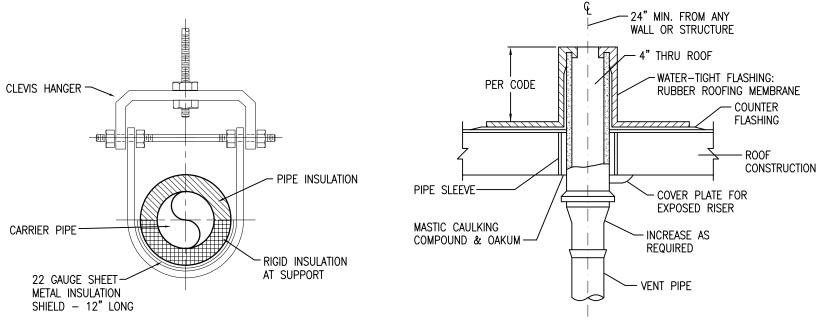








NOT TO SCALE

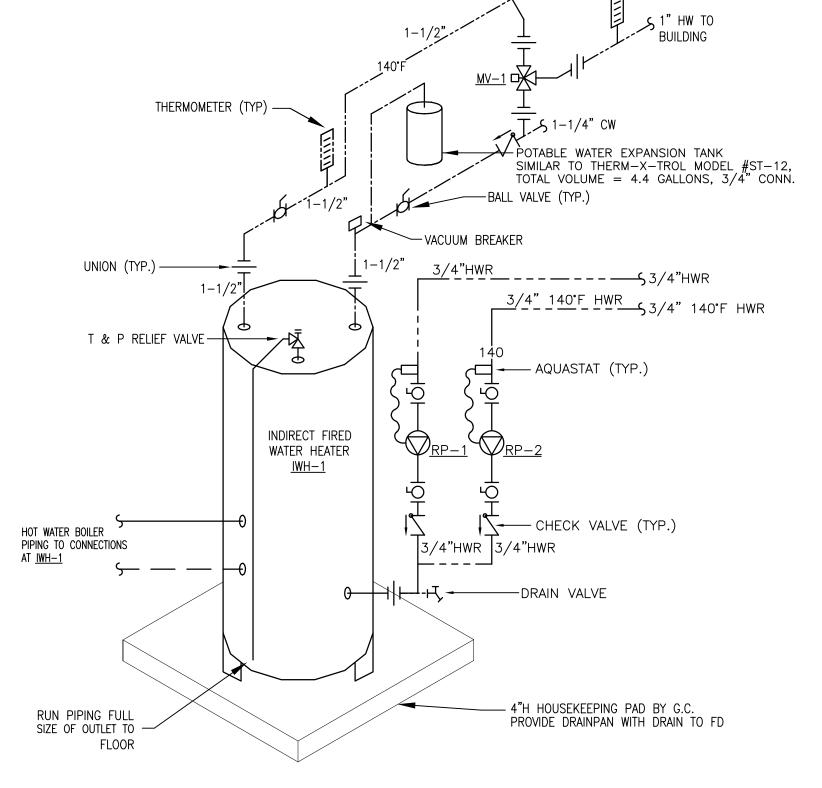


PIPE HANGER DETAIL FOR ALL INSULATED PIPING NO SCALE

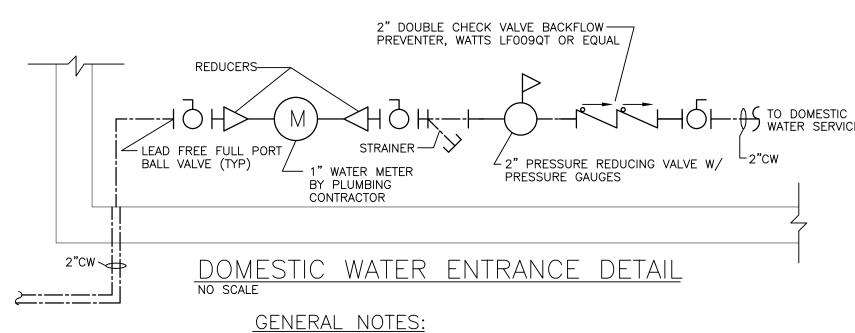
VENT THRU ROOF DETAIL

ς 1-1/4" 140°F HW

TO FIXTURE <u>P-16</u>



INDIRECT FIRED WATER HEATER PIPING DETAIL



REDUCING VALVE ASSEMBLY.

- 1. OBTAIN PROPER SIZE AND TYPE WATER METERS FROM WATER DEPARTMENT. VERIFY WATER SERVICE CONFIGURATION WITH
- LOCAL WATER DEPARTMENT PRIOR TO INSTALLATION. 2. SECURELY SUPPORT SERVICES WITH COPPER CLAD HANGERS
- AND SUPPORTS. 3. PROVIDE PRESSURE GUAGES AT EACH SIDE OF PRESSURE
- 4. VERIFY STATIC PRESSURE AT SITE. IF UNDER 80 PSI, THEN PRESSURE REDUCING VALVE ASSEMBLY NOT REQUIRED.



TOWN OF MONTAGUE

NEW DPW FACILITY

TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT:



61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

STAMP

REV DATE DESCRIPTION

5/15/19 AS NOTED SCALE CDR DRAWN BY KRS CHECKED BY 19001 PROJECT NO.

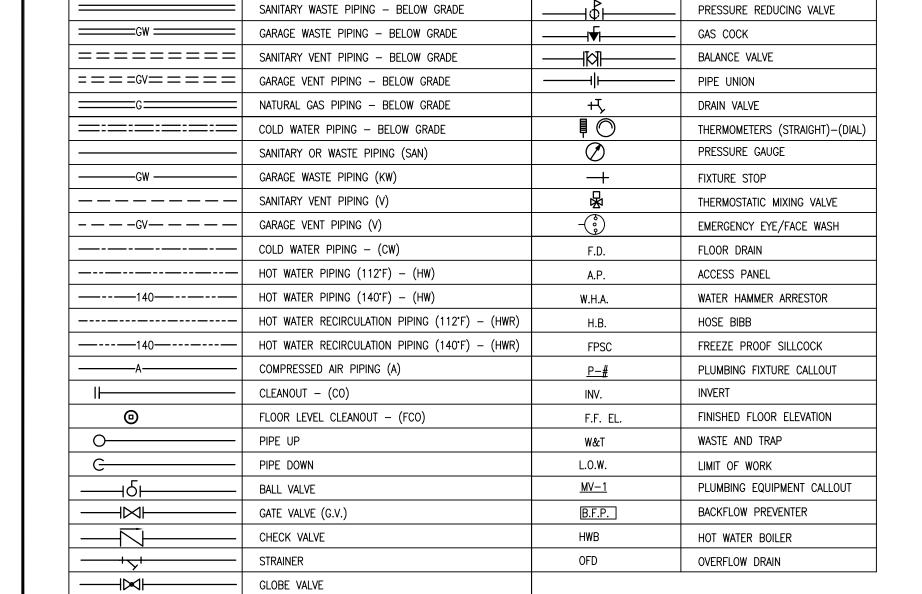
BUILDING:

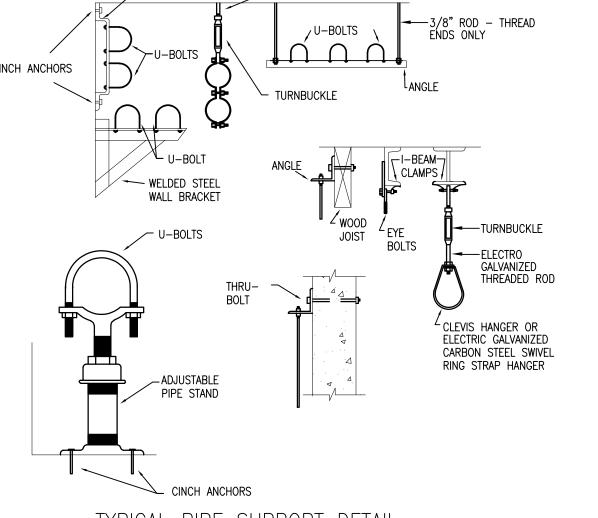
SHEET TITLE:

PLUMBING DETAILS, NOTES & SCHEDULES

DRAWING NO.

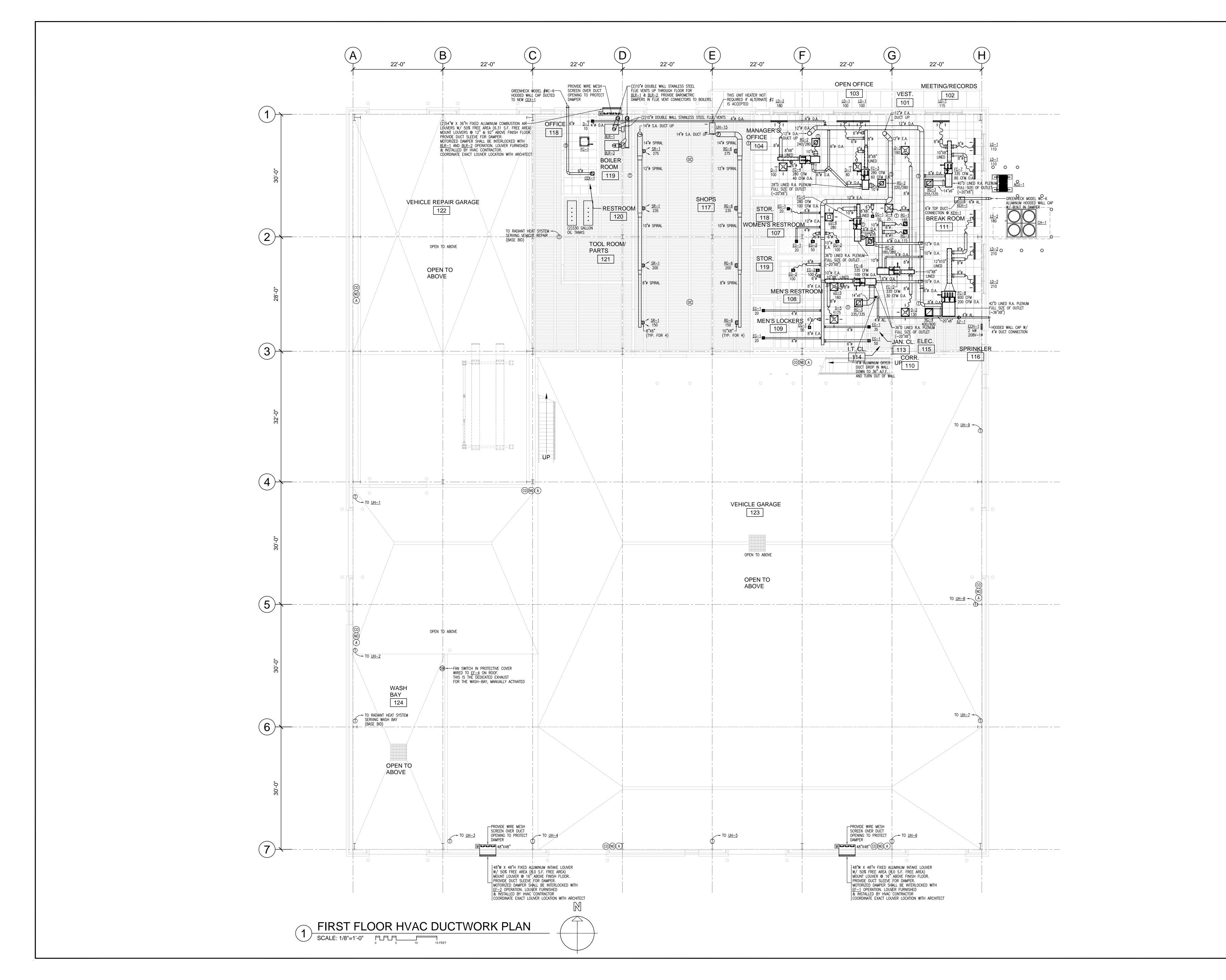
P-201





ROOF OR STRUCTURE AIR PIPING MAIN (TYPICAL) 3/8" QUICK - CONNECT (TYPICAL) 4'-0" A.F.I

COMPRESSED AIR PIPING DETAIL TYPICAL FOR NEW DROPS TO OUTLETS WHERE SHOWN





NEW DPW FACILITY

OWNER:
TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:

HELENE · KARL

Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMP

REV DATE DESCRIPTION

TE 5/15/19

SCALE 1/8" = 1'-0"

DRAWN BY CDR

CHECKED BY KRS

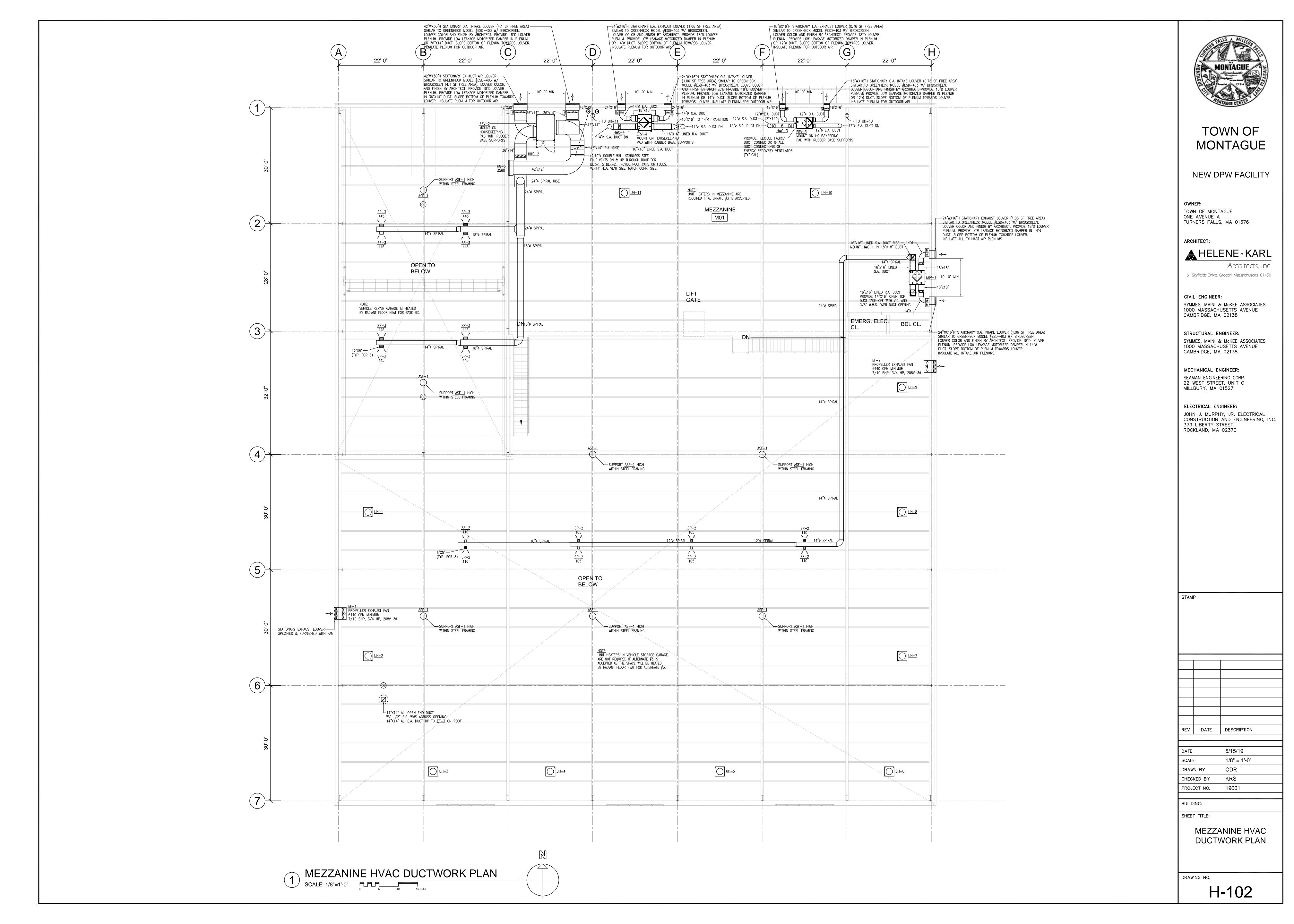
PROJECT NO. 19001

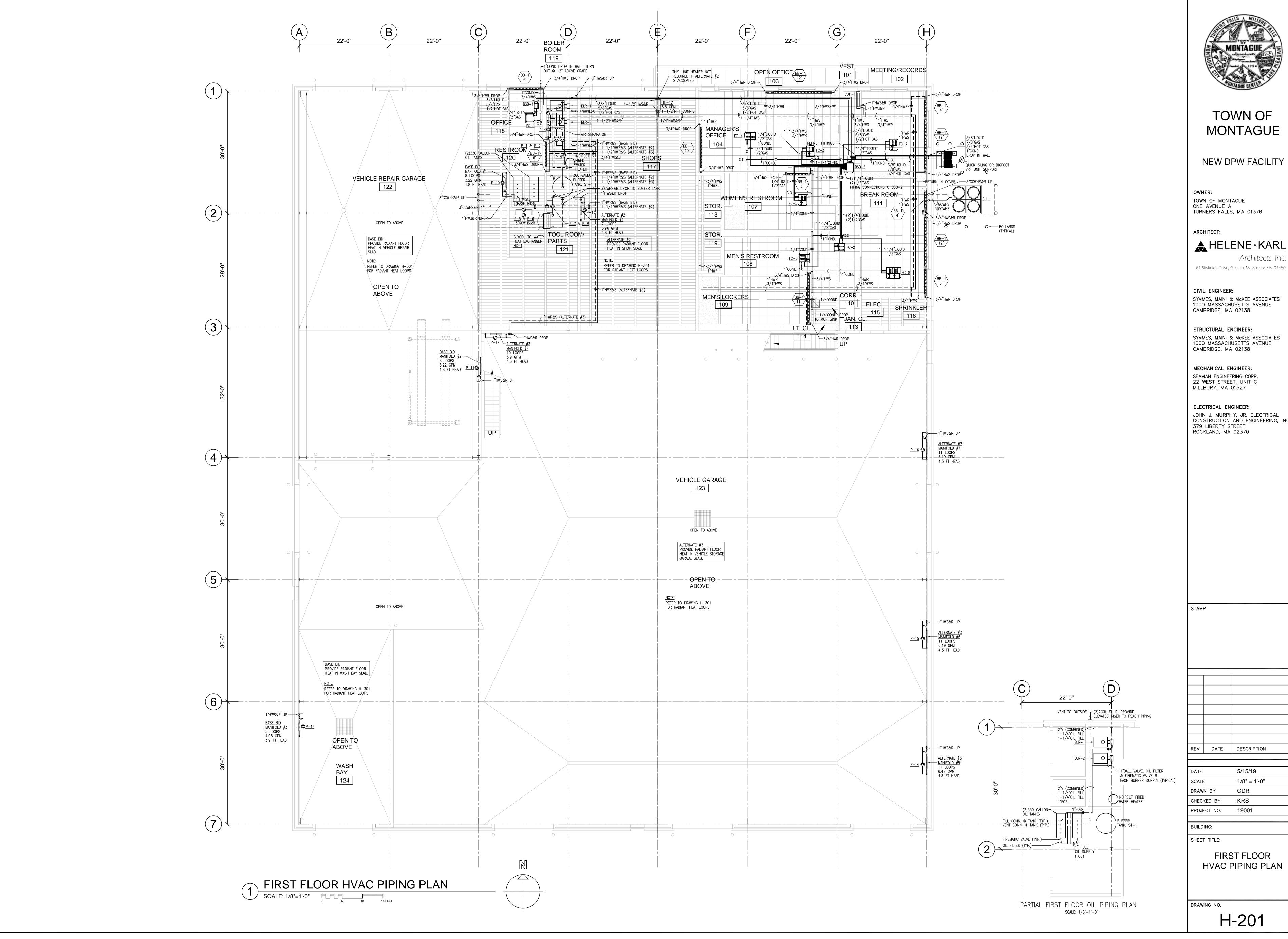
BUILDING:

SHEET TITLE:

FIRST FLOOR HVAC DUCTWORK PLAN

DRAWING NO.







NEW DPW FACILITY

TOWN OF MONTAGUE

HELENE · KARL Architects, Inc.

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

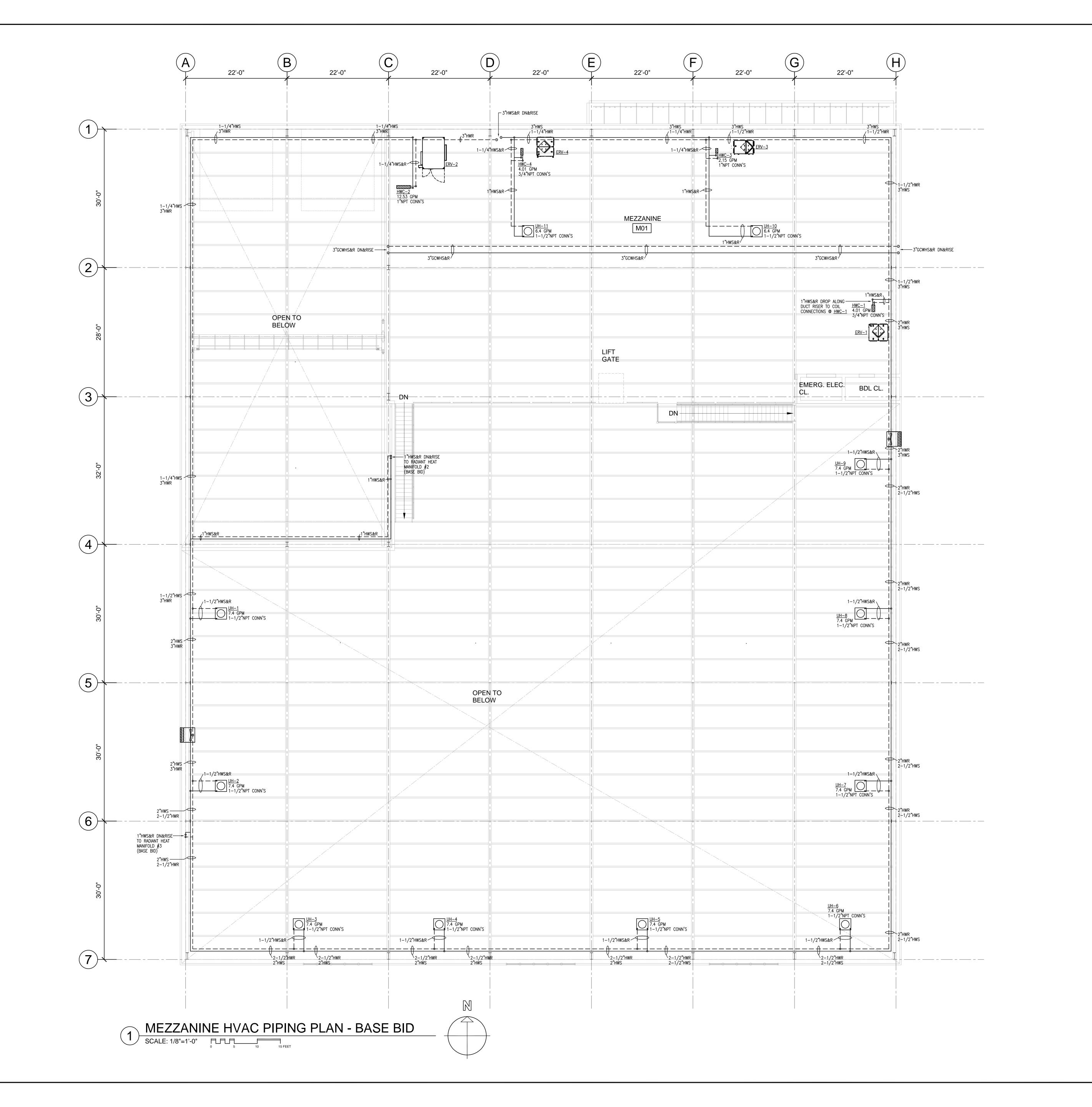
SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C

JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

REV DATE DESCRIPTION 5/15/19

1/8" = 1'-0"

FIRST FLOOR **HVAC PIPING PLAN**





NEW DPW FACILITY

TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT:

♣ HELENE · KARL Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

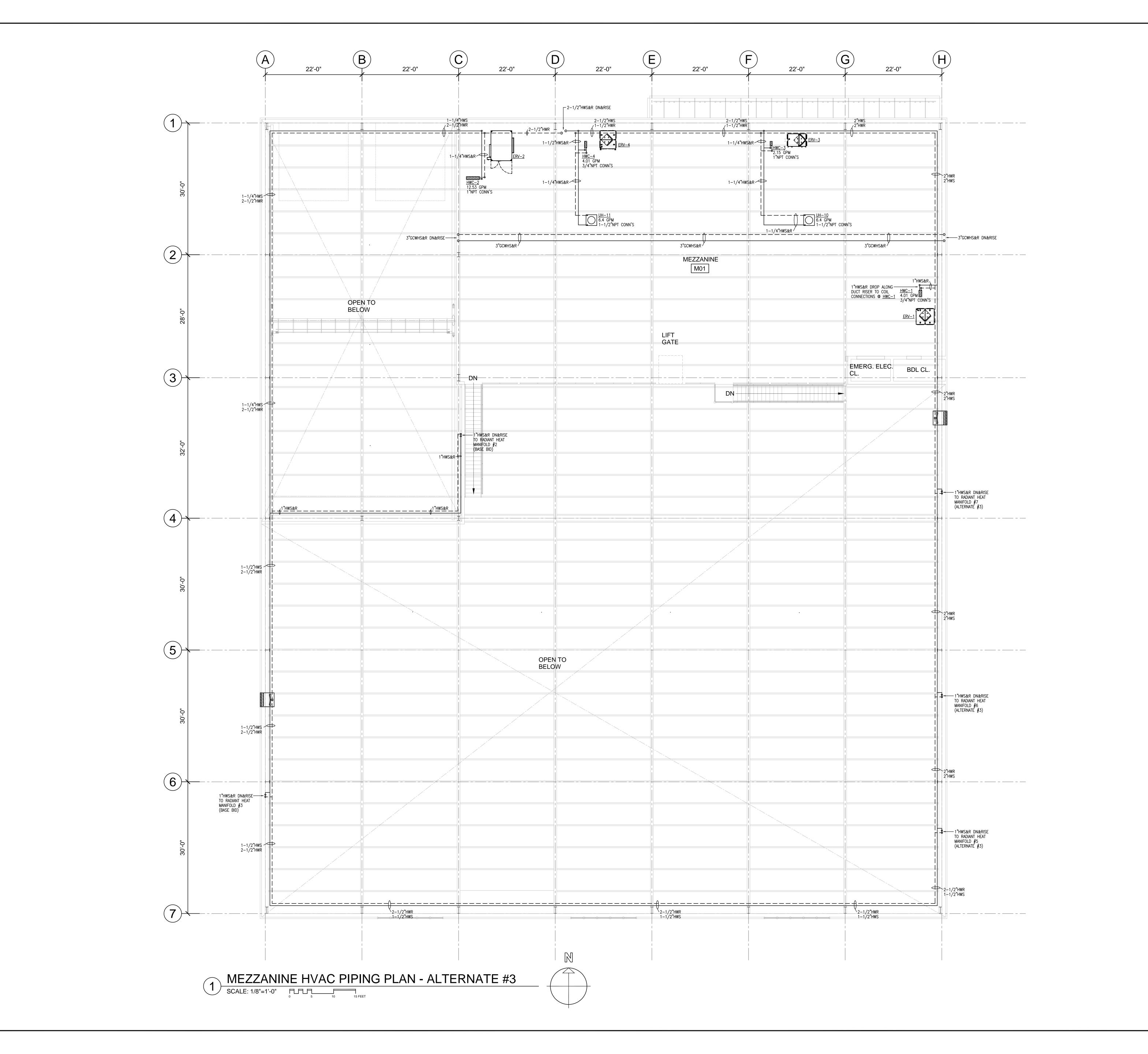
REV DATE DESCRIPTION

5/15/19 1/8" = 1'-0" CHECKED BY PROJECT NO. 19001

BUILDING:

MEZZANINE HVAC PIPING PLAN BASE BID

DRAWING NO.





NEW DPW FACILITY

OWNER:
TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:

HELENE · KARL

Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMP

REV DATE DESCRIPTION

DATE 5/15/19

SCALE 1/8" = 1'-0"

DRAWN BY CDR

CHECKED BY KRS

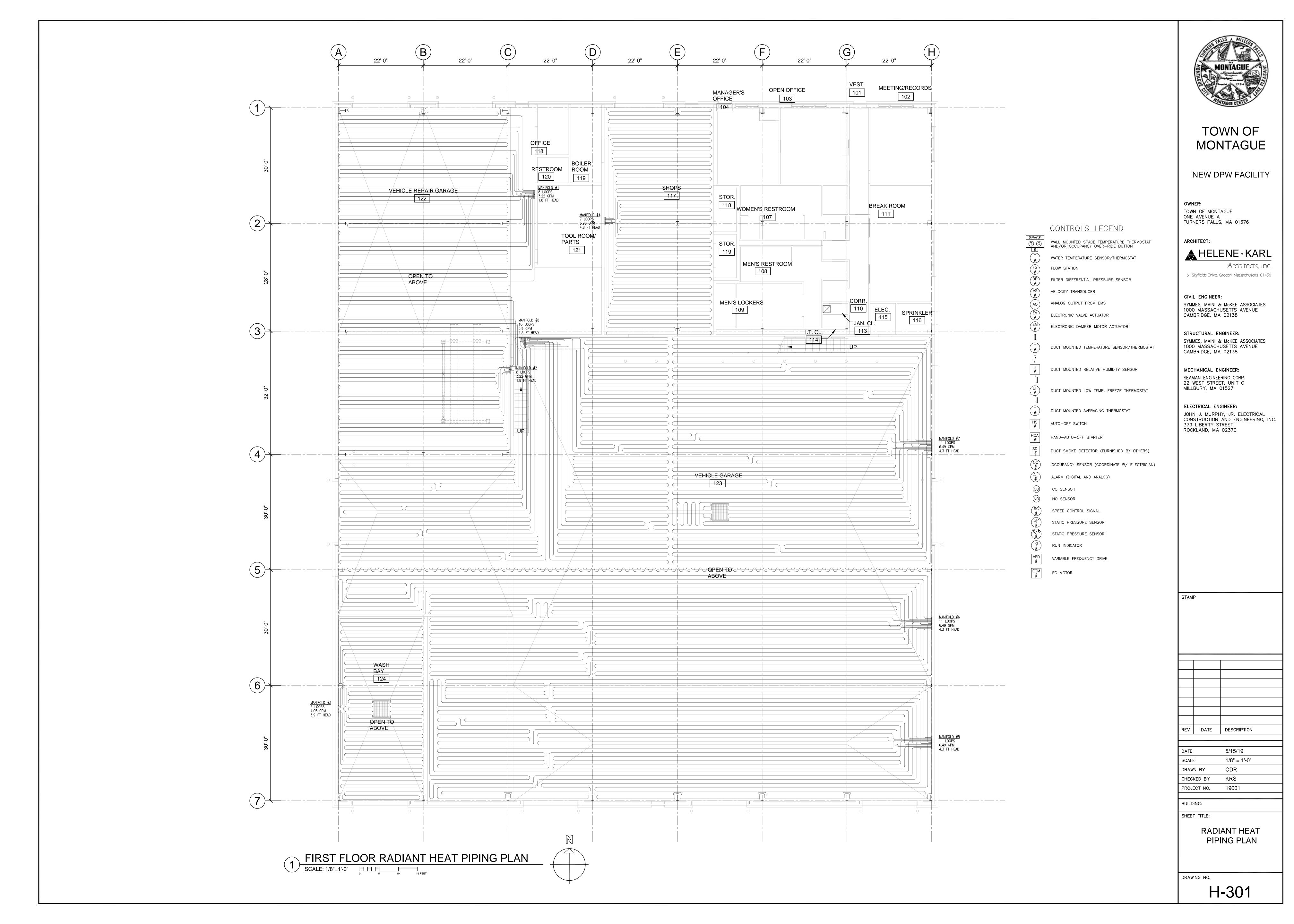
PROJECT NO. 19001

BUILDING:

SHFFT TITLE:

MEZZANINE HVAC PIPING PLAN ALTERNATE #3

DRAWING NO.



	1	MANIFOLD #1 8				NOTE: THESE	MANIFO		PART O		BID WORK
MANIFOLD #	CIRCUIT #	ROOM SERVED	TOTAL LENGTH (FT)	TUBE SPACING	AREA COVERED SF	TUBING	FLOW RATE (GPM)	HEAD ① LOSS (FT)	TEMP. DROP (*F)	LOAD (BTUH)	ACTUATOR
1	B-1	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
1	B-2	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
1	B-3	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
1	B-4	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
1	B-5	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
1	B-6	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
1	B-7	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
1	B-8	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
2	B-9	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
2	B-10	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
2	B-11	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
2	B-12	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
2	B-13	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
2	B-14	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
2	B-15	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
2	B-16	VEHICLE REPAIR 122	295	12"	255	hePEX 5/8"	0.40	1.1	20	3,054	NO
	TOTAL		4,712		4,072		6.44	1.1		48,864	

	N	MANIFOLD	#3 S	UMMARY 3	NOTE: TH	IS MANIF	OLD IS F	PART OF	BASE E	BID WORK
CIRCUIT #	ROOM SERVED	TOTAL LENGTH (FT)	TUBE SPACING	AREA COVERED SF	TUBING	FLOW RATE (GPM)	HEAD ① LOSS (FT)	DESIGN TEMP. DROP (*F)	LOAD ^② (BTUH)	ACTUATOR
B-17	WASH BAY 124	264	12"	224	hePEX 5/8"	0.81	2.9	20	8,064	NO
B-18	WASH BAY 124	264	12"	224	hePEX 5/8"	0.81	2.9	20	8,064	NO
B-19	WASH BAY 124	264	12"	224	hePEX 5/8"	0.81	2.9	20	8,064	NO
B-20	WASH BAY 124	264	12"	224	hePEX 5/8"	0.81	2.9	20	8,064	NO
B-21	WASH BAY 124	264	12"	224	hePEX 5/8"	0.81	2.9	20	8,064	NO
TOTAL		1,320		1,120		4.05	2.9		40,320	

1 HEAD LOSS FOR CIRCUIT TUBING ONLY ② LOAD INCLUDES PANEL BACK LOSSES

3 121°F, STAINLESS STEEL, 1-1/4" WIH FLOW METER, B&I, BALL VALVE, 5 CIRCUITS

	N	MANIFOLD	#4 S	UMMARY ③) NOTE: THI	IS MANIF				TE #2
CIRCUIT #	ROOM SERVED	TOTAL LENGTH (FT)	TUBE SPACING	AREA COVERED SF	TUBING	FLOW RATE (GPM)	HEAD ① LOSS (FT)	DESIGN TEMP. DROP ('F)	LOAD ^② (BTUH)	ACTUATOR
B-22	SHOPS 117	276	12"	236	hePEX 5/8"	0.85	3.3	20	8,486	NO
B-23	SHOPS 117	276	12"	236	hePEX 5/8"	0.85	3.3	20	8,486	NO
B-24	SHOPS 117	276	12"	236	hePEX 5/8"	0.85	3.3	20	8,486	NO
B-25	SHOPS 117	276	12"	236	hePEX 5/8"	0.85	3.3	20	8,486	NO
B-26	SHOPS 117	276	12"	236	hePEX 5/8"	0.85	3.3	20	8,486	NO
B-27	SHOPS 117	276	12"	236	hePEX 5/8"	0.85	3.3	20	8,486	NO
B-28	SHOPS 117	276	12"	236	hePEX 5/8"	0.85	3.3	20	8,486	NO
										·

_	SS FOR CIF CLUDES PAN TAINLESS S'	IEL BA	ACK LOSS	SES	V METER,	B&I, BALL	. VALVE, 7	CIRC	UITS	·	·			_	
		A NIIE	OLD #	 5 #6	#7 g, #	40 SIIM	IMADV @	`							
	IVI	AINIF	OLD #	J, #O,		1	IMARY ③	, 	NOTE	E: THE	SE MANI				RNATE #3
MANIFOLD #	CIRCUIT #	R	OOM SEF	RVED	TOTAL LENGTH (FT)	TUBE SPACING	AREA COVERED	SF	TUBIN	٧G	FLOW RATE (GPM)	HEAD ① LOSS (FT)	TEMP. DROP (°F)	LOAD (BTUH)	ACTUATOR
5	B-29	VEHI	CLE GAR	AGE 123	393	12"	373	h	ePEX	5/8"	0.59	2.8	20	4,480	NO
5	B-30	VEHI	CLE GAR	AGE 123	393	12"	373	h	ePEX	5/8"	0.59	2.8	20	4,480	NO
5	B-31	VEHI	CLE GAR	AGE 123	393	12"	373	h	ePEX	5/8"	0.59	2.8	20	4,480	NO
5	B-32	VEHI	CLE GAR	AGE 123	393	12"	373		ePEX		0.59	2.8	20	4,480	NO
5	B-33	VEHI	CLE GAR	AGE 123	393	12"	373	h	ePEX	5/8"	0.59	2.8	20	4,480	NO
5	B-34	VEHI	CLE GAR	AGE 123	393	12"	373		ePEX		0.59	2.8	20	4,480	NO
5	B-35		CLE GAR		393	12"	373		ePEX		0.59	2.8	20	4,480	NO
5	B-36		CLE GAR		393	12"	373		ePEX		0.59	2.8	20	4,480	NO
5	B-37		CLE GAR		393	12"	373		ePEX		0.59	2.8	20	4,480	NO
5	B-38		CLE GAR		393	12"	373		ePEX		0.59	2.8	20	4,480	NO
5	B-39		CLE GAR		393	12"	373		ePEX		0.59	2.8	20	4,480	NO
6	B-40		CLE GAR		393	12"	373		ePEX		0.59	2.8	20	4,480	NO
6	B-41		CLE GAR		393	12"	373		ePEX		0.59	2.8	20	4,480	NO
6	B-42		CLE GAR		393	12"	373		ePEX	-	0.59	2.8	20	4,480	NO
6	B-43		CLE GAR		393	12"	373			5/8"	0.59	2.8	20	4,480	NO
6	B-44		CLE GAR		393	12"	373			5/8"	0.59	2.8	20	4,480	NO
6	B-45	VEHI	CLE GAR	AGE 123	393	12"	373			5/8"	0.59	2.8	20	4,480	NO
6	B-46		CLE GAR		393	12"	373	_	ePEX		0.59	2.8	20	4,480	NO
6	B-47			AGE 123	393	12"	373			5/8"	0.59	2.8	20	4,480	NO
6	B-48		CLE GAR		393	12"	373		ePEX		0.59	2.8	20	4,480	NO
6	B-49			AGE 123	393	12"	373			5/8"	0.59	2.8	20	4,480	NO
6	B-50		CLE GAR		393	12"	373	-		5/8"	0.59	2.8	20	4,480	NO
7	B-51			AGE 123	393	12"	373		ePEX		0.59	2.8	20	4,480	NO
7	B-52			AGE 123	393	12"	373			5/8"	0.59	2.8	20	4,480	NO
7	B-53		CLE GAR		393	12"	373			5/8"	0.59	2.8	20	4,480	NO
7	B-54			AGE 123	393	12"	373		ePEX		0.59	2.8	20	4,480	NO
7	B-55			AGE 123	393	12"	373			5/8"	0.59	2.8	20	4,480	NO
7	B-56			AGE 123	393	12"	373		ePEX		0.59	2.8	20	4,480	NO NO
7	B-57		CLE GAR		393	12"	373		ePEX		0.59	2.8	20	4,480	NO NO
7	B-58			AGE 123	393	12"	373			5/8"	0.59	2.8	20	4,480	NO NO
7	B-59			AGE 123	393	12"	373		ePEX		0.59	2.8	20	4,480	NO NO
7	B-60		CLE GAR		393	12"	373		ePEX		0.59	2.8	20	4,480	NO NO
7	B-61			AGE 123	393	12"	373			5/8"	0.59	2.8	20	4,480	NO NO
<u>8</u> 8	B-62		CLE GAR		393	12" 12"	373		ePEX		0.59	2.8	20	4,480	NO NO
	B-63			AGE 123	393	12"	373		ePEX		0.59	2.8	20	4,480	
<u>8</u> 8	B-64 B-65		CLE GARA	AGE 123	393 393	12"	373 373	_	ePEX ePEX	5/8" 5/8"	0.59 0.59	2.8 2.8	20 20	4,480 4,480	NO NO
 8	B-65 B-66			AGE 123	393 393	12"	373		ePEX ePEX		0.59	2.8	20	4,480	NO NO
8	B-66 B-67			AGE 123 AGE 123	393	12"	373			5/8 5/8"	0.59	2.8	20	4,480	NO NO
<u>8</u>	B-67 B-68		CLE GARA		393 393	12"	373		ePEX ePEX		0.59	2.8	20	4,480	NO NO
 8	B-68 B-69		CLE GARA		393 393	12"	373		ePEX ePEX		0.59	2.8	20	4,480	NO
 8	B-69 B-70			AGE 123	393	12"	373			5/8"		2.8	20	4,480	NO
 8	B-70 B-71		CLE GAR		393	12"	373			5/8"	0.59	2.8	20	4,480	NO NO
<u> </u>	TOTAL	v = 111	OLL GAIN	OL IZU	16,914	'-	16,054		<u>υ, </u>	5/0	25.44	2.8		192,648	
	I.					I	1 , 5,554						<u> </u>	1.52,540	
1) HEAD LO	SS FOR CIF														

INDIRECT WATER

HEATER

PLUMBER

OUTDOOR AIR

	RADIANT HEAT ZONE HEATING SUMMARY											
ZON	NE #	GROSS AREA, SF	CONSTRUCTION	HEATING TYPES	RH ① CIRCUITS	TOTAL TUBING, FT	MANIFOLDS	FLOW RATE (GPM)	HEAD LOSS (FT)	RH ② LOAD, BTUH		
1	(BASE BID)	4,072	EMBEDDED SLAB	RH	16	4,712	(2) 8-LOOP	6.45	1.1	48,864		
2	(BASE BID)	1,120	EMBEDDED SLAB	RH	5	1,320	(1) 5-LOOP	4.05	2.9	40,320		
3	(ALTERNATE #2)	1,650	EMBEDDED SLAB	RH	7	1,930	(1) 7-LOOP	5.96	3.3	59,400		
4	(ALTERNATE #3)	16,054	EMBEDDED SLAB	RH	43	16,914	(4) 12-LOOP	25.44	2.8	192,648		

1 COMPLETE CIRCUITS ASSIGNED TO THIS ZONE

② TOTAL	RADIANT	HEATING	LOAD	FOR	ROOMS	IN	ZONE,	INCLUDING	ALL	PANEL	BACK	LOSS

				RO	OOM HEATING	3 SUM	MARY			
ZONE #	ROOM NAME		HEATING TYPES	FLOOR AREA, SF	MANIFOLD #	TUBE SIZE	RH ① CIRCUITS	IOIAL	REQUIRED TEMP. (*F)	RH ② LOAD, BTU
1	VEHICLE REPAIR	(BASE BID)	RH	4,072	MANIFOLD 1,2	5/8"	16	12"	90	48,864
2	WASH BAY	(BASE BID)	RH	1,120	MANIFOLD 3	5/8"	5	12"	121	40,320
3	SHOPS	(ALTERNATE #2)	RH	1,650	MANIFOLD 4	5/8"	7	12"	121	59,400
4	VEHICLE GARAGE	(ALTERNATE #3)	RH	16,054	MANIFOLD 5-8	5/8"	43	12"	90	192,648
_										

① COMPLETE CIRCUITS ASSIGNED TO THIS ZONE ② TOTAL RADIANT HEATING LOAD FOR ROOMS IN ZONE, INCLUDING ALL PANEL BACK LOSS

		MA	NIFOI D	SUMM	ARY				
MANIFOLD #	# ZONES	# OF RH CIRCUITS	TOTAL FLOW RATE (GPM)			SUPPLY TEMP. (°F)	TEMP. DROP (°F)	MANIFOLD TYPE	CONTROL TYPE
MANIFOLD 1 (BASE BID)	1	8	3.22	1.8	90	90	20	2	MANIFOLD
MANIFOLD 2 (BASE BID)	1	8	3.22	1.8	90	90	20	2	MANIFOLD
MANIFOLD 3 (BASE BID)	1	5	4.05	3.9	121	121	20	2	MANIFOLD
MANIFOLD 4 (ALTERNATE #2)	1	7	5.96	4.8	121	121	20	@	MANIFOLD
MANIFOLD 5 (ALTERNATE #3)	1	11	6.49	4.3	90	90	20	2	MANIFOLD
MANIFOLD 6 (ALTERNATE #3)	1	11	6.49	4.3	90	90	20	2	MANIFOLD
MANIFOLD 7 (ALTERNATE #3)	1	11	6.49	4.3	90	90	20	2	MANIFOLD
MANIFOLD 8 (ALTERNATE #3)	1	10	5.9	4.3	90	90	20	2	MANIFOLD
TOTAL	-	71	41.90	4.8	121	-	-		_

---NOT TO SCALE

--OUTSIDE DIAMETER

--PHASE (ELECTRICAL)

---OPPOSED BLADE DAMPER

----POUNDS PER SQUARE INCH

-- PRESSURE DROP OR DIFFERENCE

-OUTSIDE AIR

(1) TOTAL HEAD LOSS INCLUDES MANIFOLD, CIRCUITS AND SUPPLY/RETURN PIPING IF SPECIFIED.

② STAINLESS STEEL, 1-1/4" FLOW METER, B&I, BALL VALVE

--- DIAMETER

----DOWN

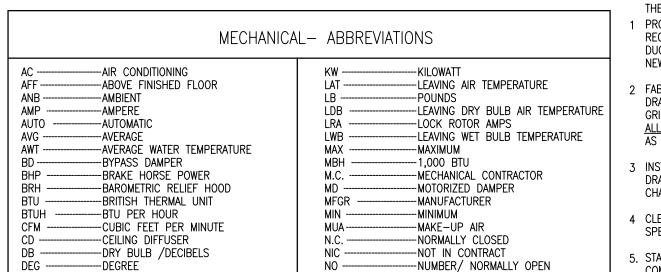
----DIMENSION

----EFFICIENCY

---ENTERING AIR TEMPERATURE

----ELECTRIC HEATING COIL

---ENTERING DRY BULB TEMPERATURE

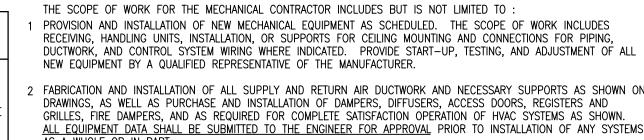


ALL EQUIPMENT DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION OF ANY SYSTEMS INSTALLATION OF EQUIPMENT AND DUCTWORK AS SPECIFIED HEREIN FOR SYSTEMS SHOWN ON MECHANICAL DRAWINGS AND IN ACCORDANCE WITH MASSACHUSETTS ENERGY CONSERVATION CODE

CHAPTER 13 OF 780 CMR-EIGHTH EDITION OR IECC CURRENT EDITION). 4 CLEANING, FLUSHING, SANITATION, AND PRESSURE TESTING OF PIPING SYSTEMS, AND CHARGING OF SAME SYSTEMS AS

. START UP OF EQUIPMENT AND CONTROL SYSTEMS AND GENERAL COMMISSIONING AS SPECIFIED HEREIN SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR. TESTING, ADJUSTING, AND BALANCING OR AIR AND WATER SYSTEMS, SHALL BE COMPLETED BY AN INDEPENDENT THIRD PARTY UNDER THE MECHANICAL CONTRACT.

6 PROVISIONS OF SHOP DRAWINGS, EQUIPMENT SUBMITTALS, AND AS BUILT DRAWINGS FOR THE PROJECT.



SCOPE OF WORK

SHALL BE DETERMINED BY THE MECHANICAL CONTRACTOR (M.C.). THE M.C. SHALL FIELD VERIFY AND COORDINATE ALL EQUIPMENT LOCATIONS WITH ALL OTHER TRADES. THE M.C. SHALL SUBMIT SHOP DRAWINGS OF EQUIPMENT AND DUCTWORK LAYOUTS AS WELL AS EQUIPMENT CUTS AND PERFORMANCE DATA TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR INSTALLATION OF ANY SYSTEMS. THE M.C. SHALL MAINTAIN A CLEAR MARKED-UP SET OF PRINTS AT THE SITE TO SHOW AS-BUILT CONDITIONS, CHANGES, AND ANY CRITICAL DIMENSIONS. THE M.C. SHALL ALSO PROVIDE AS-BUILT DRAWINGS TO THE OWNER AT THE COMPLETION OF THE PROJECT. INSTALLATION AND FABRICATION OF EQUIPMENT, DUCTWORK AND PIPING SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF NFPA, SMACNA, AND ALL STATE AND LOCAL BUILDING CODES. THE M.C. SHALL OBTAIN ALL PERMITS AND

1. THE M.C. SHALL COORDINATE WITH ALL CONTRACTORS ASSOCIATED WITH THIS PROJECT THROUGH THE CONSTRUCTION

MANAGER. ELECTRICAL, PLUMBING, AND FIRE PROTECTION IS SPECIFIED ELSEWHERE FOR COMPLETION BY OTHERS.

WIRED BY THE ATC CONTRACTOR AND/OR THE ELECTRICAL CONTRACTOR, AND SHALL COORDINATE THE START UP.

2. ALL DUCTWORK AND PIPING ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATION OF EQUIPMENT, DUCTWORK AND PIPING,

THE MECHANICAL CONTRACTOR SHALL INSTALL DAMPERS, AND DEVICES WHICH MAY BE FURNISHED AND

TESTING AND BALANCING OF AIR. CONTROL SYSTEMS SHALL BE DONE BY AND INDEPENDENT THIRD PARTY

DETAIL B

1-1/4" MANIFOLD

AIR VENT

PURGE VALVE TYP.

(15023, SOLD SEPARATELY)

VALVED RETURN —

BALANCING VALVE FOR

MANIFOLD (INCL.

EACH CIRCUIT)

FRONT VIEW

-PEXTRON TUBING 5/8"

OF ALL LOOPS IN MANIFOLD.

LOOP TYPICAL

RADIANT LOOP MANIFOLD PIPING DETAIL - TYP OF EIGHT (8)

SEE SCHEDULE

INSPECTIONS REQUIRED FOR HIS SCOPE OF WORK, AND SHALL PROVIDE CERTIFIED TEST REPORTS AS SPECIFIED BELOW, ALL DUCTWORK SHALL BE RATED FOR LOW PRESSURE APPLICATIONS. CONSTRUCTION, SEAL, AND LEAKAGE, CLASSES SHALL BE RATED FOR A MINIMUM OF 2". DUCT CONSTRUCTION DOCUMENTS SHALL BE SUBMITTED FOR REVIEW PRIOR TO

<u>DUCTWORK REQUIREMENTS</u>

UNDER THE MECHANICAL CONTRACT.

DETAIL A

BASE MIXING STATION

BOILER SUPPLY→

DIVERTING VALVE

BOILER RETURN → ☐ ♠ ☐ H

TEMPERATURE

CIRCULATOR

MOUNTING

BRACKET

CIRCUIT SETTER

1. ALL NEW SUPPLY, RETURN, FRESH AIR, AND TRANSFER AIR PLENUMS SHALL BE FABRICATED USING HOT—DIPPED GALV. SHEET METAL OF LOCK FORMING QUALITY WITH G90 COMMERCIAL COATING CONFORMING TO ASTM 527. ALL DUCTWORK SHALL MEET THE STANDARDS FOR THE \pm 1" STATIC PRESSURE CLASS, SEAL CLASS B, EXCEPT THAT THE MINIMUM THICKNESS FOR ALL DUCTWORK SHALL BE 24 GAUGE.

CONCRETE POUR BRASS RETURN MANIFOLD WITH COMPACT 1½" OVER TUBING SHUT OFF VALVES (BLUE CAPS) GRAVEL PLASTIC ZIP TIES VIEGAPEX VAPOR BARRIER BARRIER INSULATION CRUSHED \ TUBING WIRE MESH → RETURN OUTLET MOUNTING BRACKET —SUPPLY INLET SVC CONNECTIONS BRASS SUPPLY MANIFOLD WITH MANIFOLD ACCESSORY SET BALANCING VALVES (RED CAPS)

-SPACE TEMP SENSOR

 \longrightarrow $(\frac{1}{\#})$ \longrightarrow $(\frac{1}{\#})$ SLAB TEMP SENSOR

LVALVED SUPPLY MANIFOLD

REQUIRED BY THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

WITH MANUAL VOLUME DAMPERS FOR BALANCING.

4. M.C. SHALL MAKE CONNECTIONS ENERGY RECOVERY UNITS, FAN COIL UNITS, FANS, ETC. WITH FLEXIBLE CONNECTIONS, USING NEOPRENE-COATED FIRE-RETARDANT FABRIC AT FAN CONNECTIONS, AND FLEXIBLE DUCTWORK AT TERMINAL CONNECTIONS.

ALL DUCTS SHALL BE GROUNDED ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER GROUNDING STRAPS.

. PROVIDE MANUAL ADJUSTABLE VOLUME DAMPERS AT EACH BRANCH DUCT OR DIFFUSER TAKE-OFF, AND AS OTHERWISE

SHOWN ON THE DRAWINGS. DAMPERS OVER 12" HIGH SHALL BE OPPOSED MULTI-BLADE TYPE. INCLUDE EXTENDED

6. ACCESS PANELS WHERE SHOWN ON DRAWINGS AND WHERE REQUIRED BY NFPA 90A. FOR DUCTS THAT PENETRATE FIRE

WALLS, FLOORS, AND PARTITIONS, PROVIDE SLEEVES WHERE PENETRATIONS ARE NOT PERPENDICULAR TO THE SURFACE

. PROVIDE PROPER PRESSURE AND LEAKAGE-RATED DUCT-MOUNTED ACCESS PANEL AT EACH FIRE DAMPER, FIRE & SMOKE

DAMPER, COIL, PIECE OF MECHANICALLY CONCEALED EQUIPMENT, OR AUTOMATIC CONTROL DAMPER LOCATION, SIZED TO

PENETRATED. ENCLOSE PENETRATIONS IN A 10 GA. STEEL SLEEVE. APPLY FIREPROOFING SEALANT AT PENETRATIONS.

8. PROVIDE AND INSTALL CEILING DIFFUSERS, GRILLES, AND REGISTERS FOR SUPPLY, RETURN, AND TRANSFER AIR AS

SPECIFIED IN THE DIFFUSER SCHEDULE, AND LOCATED AS SHOWN IN THE MECHANICAL LAYOUT. ALL DIFFUSERS SHALL

9. THE SUPPLY AIR DISTRIBUTION SYSTEMS FOR ALL AREAS SHALL BE BALANCED TO PROVIDE THE AIR FLOW VALUES SHOWN

OF THE AIR BALANCE REPORTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL ALL AIR FLOWS SHALL BE

ON THE PLANS, INCLUDING THE MINIMUM FRESH AIR FLOW RATE INDICATED FOR ALL AREAS SERVED. ALL WORK SHALL

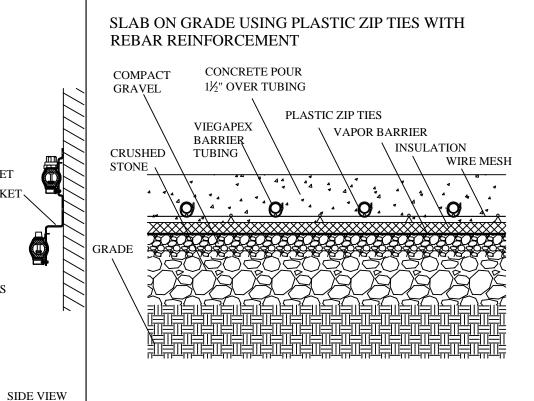
ADJUSTED TO ± 5% OF THE SPECIFIED VALUES. THE MOTOR CURRENT SHALL BE CHECKED FOR FAN AT STARTUP, AND

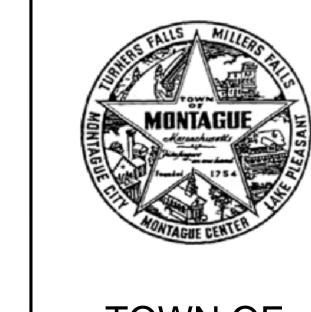
BE PERFORMED BY A QUALIFIED (AABC OR NEBB CERTIFIED) THIRD PARTY AIR BALANCE CONTRACTOR, AND SIX (6) SETS

INCLUDE INTEGRAL OPPOSED BLADE FACE DAMPERS UNLESS OTHERWISE SPECIFIED. ALL TAKE-OFFS SHALL BE FURNISHED

SHAFT AND LOCKING QUADRANT LEVER FOR ALL MANUAL DAMPERS. FOR DUCTWORK RATED SEAL CLASS A, USE SEALED

DETAIL C





TOWN OF

NEW DPW FACILITY

TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT:

🔔 HELENE · KARL Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C

MILLBURY, MA 01527

ROCKLAND, MA 02370

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET

STAMP

REV DATE DESCRIPTION

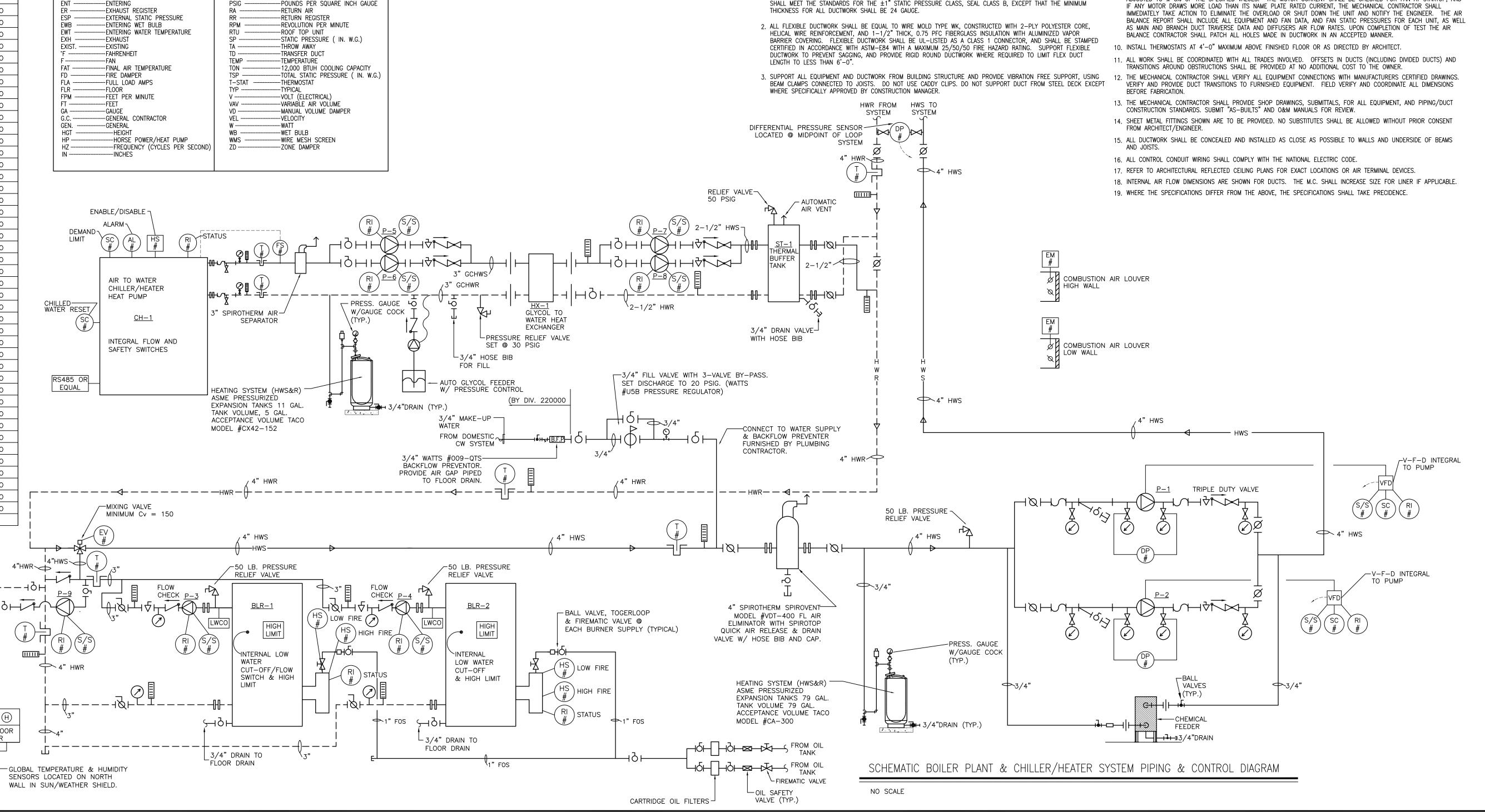
5/15/19 1/8" = 1'-0" CDR RAWN BY KRS CHECKED BY 19001 PROJECT NO.

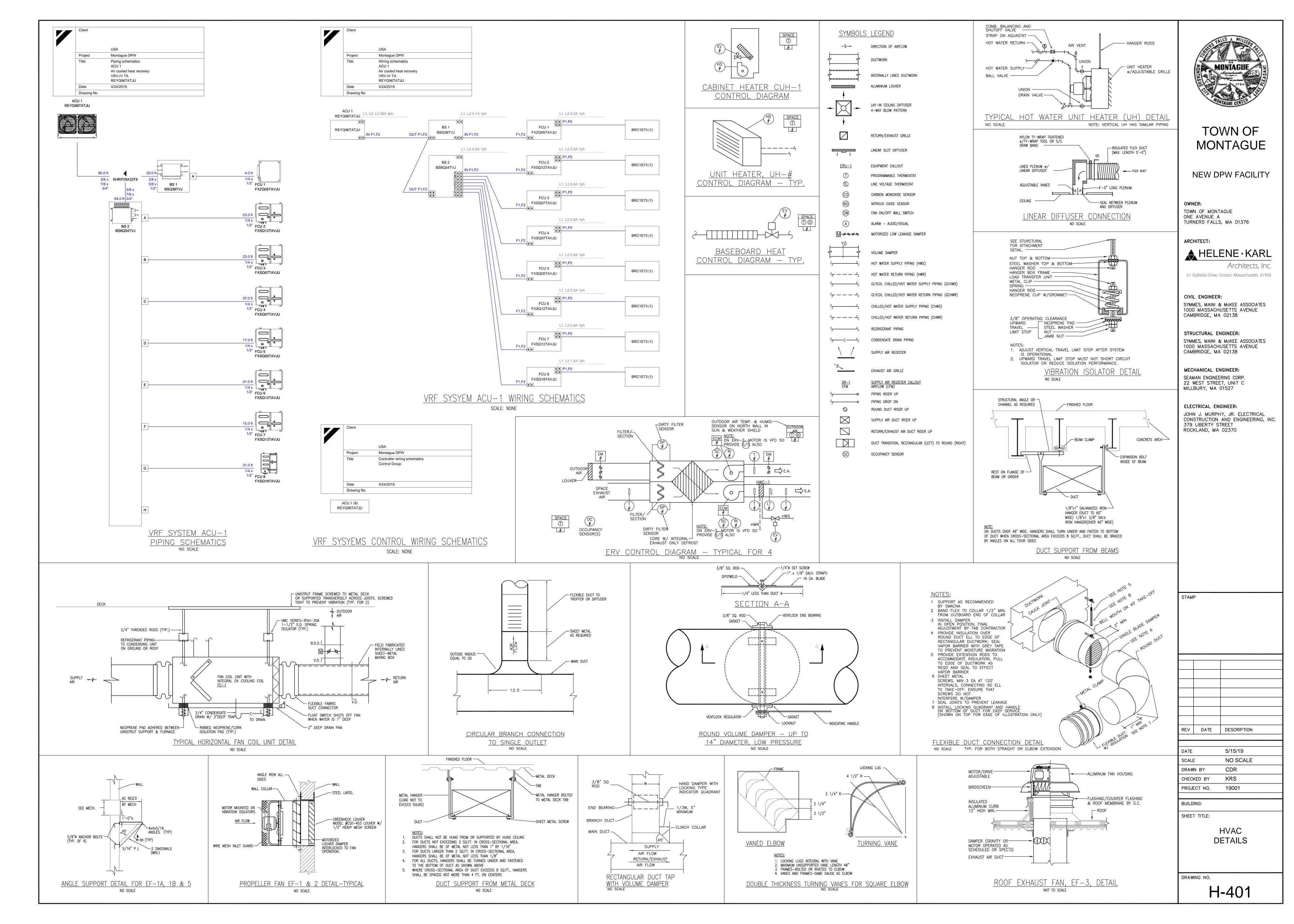
BUILDING:

SHEET TITLE:

RADIANT HEAT **DETAILS AND** SCHEDULES

DRAWING NO.





OIL FIRE	BOILER SCH	HEDULE				
UNIT NUMBER		HWB-1 & 2				
SERVICE		BUILDING				
MANUFACTURER		WEIL-MCLAIN				
MODEL #		780				
INPUT LIGHT OIL	(MBH)	910				
GROSS OUTPUT (I	мвн)	753				
NET I.B.R. RATING	(MBH)	655				
COMBUSTION EFF.	/ THERMAL EFF.	84.7% / 83.7%				
MAX. WORKING PF	RESSURE (PSI)	15				
BOILER H.P.		22.5				
I.B.R. BURNER CA	PACITY (GPH)	6.5				
FLUE VENT SIZE		10"ø				
BOILER WATER CO	NTENT (GALLONS)	83.5				
WEIGHT (LBS)		2434				
	VOLTAGE	120V-1ø				
	STARTER	INTEGRAL				
ELECTRICAL DATA	FUSE SIZE					
	CONTROL	INTEGRAL				
	BURNER H.P.	1/3				

- PROVIDE WITH PRE-ASSEMBLED CAST IRON WET BASE HEAT EXCHANGER, INSULATED JACKET, FLAME RETENTION OIL BURNER WITH NOZZLE AND CADMIUM FLAME DETECTOR, AUTO RESET HIGH LIMIT CONTROL, PRIMARY BURNER CONTROL, MODULE & SYSTEM PRESSURE & TEMPERATURE GAUGES. 30 PSI MODULE PRESSURE RELIF VALVE, DRAFT REGULATOR MODULE DRAIN COCK, CONTROL HEADER, & VENT DAMPER.
- PROVIDE MICROPROCESSOR BASED LEAD—LAG OUTDOOR RESET STAGING CONTROL WITH ALL ASSOCIATED CONTROLS, SENSORS & WELLS.

2) PROVIDE OPTIONAL VARIABLE SPEED ECM DIRECT DRIVE MOTORS FOR UNITS

③ PROVIDE TWO (2) SETS OF SPARE MERV 8 FILTERS FOR UNITS

	REVERSE CYCLE	HEAT PUMP
	CHILLER/HEATER	SCHEDULE
UNIT NUME	BER	CH-1
SERVICE		BLDG. HOT WATER
MANUFACTU	JRER	CLIMA COOL
MODEL		UCA050BFASARMOS
SHIPPING/	OPERATING WEIGHT (LBS)	3,880 / 4,125
	FLUID	35% PROPYLENE GLYCOL
	FLOW RATE (GPM)	108.4
	TEMP. ENTERING (F)	54
	TEMP. LEAVING (F)	44
COOLING MODE	PRESS. DROP (FT. HD.))	12.2
DATA	NOMINAL (TONS)	40.4
	REFRIGERANT	R-410A
	POWER	50.0 KW
	EER @ 100% / IPLV	9.7 / 13.69
	FLUID	35% PROPYLENE GLYCOL
	FLOW RATE (GPM)	48.5
	TEMP. ENTERING (F)	100
	TEMP. LEAVING (F)	120
HEATING MODE	PRESS. DROP (FT. HD.))	1.1
DATA	CAPACITY (MBH)	425
	REFRIGERANT	R-410A
	POWER	51.6 KW
	COP @ 100%	2.412
	VOLTAGE-PH-HZ	208-3-60
	MCA / MOCP	227 / 300
ELECTRICAL	UNIT RLA	203
DATA	CONTROL	INTEGRAL/DDC

- DISCONNECT SWITCH - STANDARD CONTROLS WITH BAS INTERFACE
- LOW AMBIENT TO O°F
- SPRING VIBRATION ISOLATORS
- 60 MESH, 3" Y FLANGED STRAINER, 200 PSIG RATED

			FAN SCI	HEDULE		
	UNIT NUMBE	ER	EF-1 & EF-2	EF-3	CEX-1	ILF-1
	SERVICE		VEHICLE STORAGE GARAGE	WASHBAY	RESTROOM 120	DRYER BOOSTER FAN
	MANUFACTU	RER	GREENHECK	GREENHECK	GREENHECK	FANTECH
	MODEL #		SBE-3H30-10	CUBE-141-4	SP-A90	DBF110
F	C.F.M.		6,440	1275	100	120
A N	EXTERNAL/T	OTAL STATIC PRESS. (IN WG)	0.25" / 0.407"	0.25"	0.19"	0.5"
S	FAN RPM		871	869	900	2761
	FAN BHP		0.88	0.16	_	_
	FAN SONES,	, INLET	21	7.2	1.6	_
	DRIVE TYPE		BELT DRIVE	BELT DRIVE	DIRECT DRIVE	DIRECT DRIVE
М		TYPE	ODP	ODP	ODP	ODP
0 T		POWER (H.P. OR WATTS)	1.0	1/4	29 W	78 W
0 R	MOTOR	R.P.M	1725	1725	1725	_
.\ &c		VOLTAGE/PHASE	208V-1ø	115V-1ø	115-1ø	115-1ø
S		AMPS	8.8	5.8	0.34	_
Ť		TYPE	CO/NO DETECTOR PANEL	START/STOP SWITCH	INTEGRAL	INTEGRAL
R	STARTER	NEMA SIZE	_	-	-	_
T E	JIANIEN	CONTROL	START/STOP	START/STOP	MOTION SENSOR	AUTOMATIC
R		AUX. CONTACTS	_	_		
	REMARKS		1	2	3	4

- PROVIDE FLUSH EXTERIOR LOUVER. REFER TO DETAIL ON THIS SHEET FOR FURTHER REQUIREMENTS
- (2) PROVIDE PREMIUM EFFICIENT MOTOR. NEMA 3R WEATHER PROOF DISCONNECT SWITCH, AND MOTORIZED BACKDRAFT DAMPER. PROVIDE INSULATED SLOPED ROOF CURB.
- (3) PROVIDE VIBRATION ISOLATING HANGERS, DUCTED CONNECTIONS & BACKDRAFT DAMPERS, WALL MOUNTED SPEED CONTROL & DISCONNECT_SWITCH PROVIDE GRILLE MOUNTED MOTION DETECTOR W/ TIME DELAY OFF
- (3) PROVIDE DRYER RATED FAN W/ INTEGRAL PRESSURE SWITCH & TIMER CONTROL

						ENERGY	RECOVER'	/ VENTILA	TOR UNI	T SCHEDUL	.E						
U	NIT NUMBER		ER'	V - 1			ER\	/-2			ER\	/-3			ER	V-4	
М	ANUFACTURER		RENE	WAIRE			RENE	WAIRE			RENE	WAIRE			RENE	WAIRE	
М	ODEL NUMBER		HE1.	5XINH			HE4	XINH			HE1	XINH			HE3	BXINH	
Al	REA SERVICING		VEHICLE STO	RAGE GARAGE			VEHICLE REI	PAIR GARAGE			OFF	FICE			SH	IOPS	
s	ERVICE	OUTDOO	R AIR	EXHAU	ST AIR	OUTDOO	R AIR	EXHAU	ST AIR	OUTDOO	R AIR	EXHAU	ST AIR	OUTDOO	R AIR	EXHAL	JST AIR
s	EASON	SUMMER	WINTER	SUMMER	WINTER	SUMMER	WINTER	SUMMER	WINTER	SUMMER	WINTER	SUMMER	WINTER	SUMMER	WINTER	SUMMER	WINTER
	FLOW RATE (CFM)	8	60	86	60	3,5	560	3,5	60	6	10	6	10	86	60	8	60
AIR	TEMP. ENTERING (DB/WB)	87.1/70.0	-2.3°F	90°F/-°F	50°F	87.1/70.0	-2.3°F	90°F/-°F	60°F	87.1/70.0	-2.3°F	78°F/-°F	70°F/-°F	87.1/70.0	-2.3°F	78°F/65.1°F	60°F/45.8°F
	TEMP. LEAVING (DB/WB)	_	23.8°F	_	_	_	28.9°F	_	-	_	33.9°F	_	_	_	28.8 ° F	_	_
	EXT. STATIC PRESS.	1.	.0"	1.)"	1.	0"	1.	0"	1.	.0"	1.	0"	1.	0"	1.	.0"
TOTA	L EXCHANGER EFFICIENCY	59%	69%	59%	69%	50%	61%	50%	61%	58%	68%	58%	68%	59%	69%	59%	69%
FAN	HP	1	HP	1	HP	5	HP	5	HP	3/4	4 HP	3/4	HP	1	HP	1	HP
FAN	HP MOTOR CONTROL	E	СМ	EC	M	V	FD	Vi	-D	E	СМ	EC	CM	EC	CM	E	СМ
FAN	F.L.A.	2	2.2	2	2	14	1.5	14	5	1	.7	1.	.7	2	.2	2	2.2
MCA			5	.0			32	2.6			5	.2			5	5.0	
МОР	D (A)		1	5			4	.5			1	5				15	
VOLT	S-PH-HZ		208V-3	8ø−60Hz			208V-3	ø-60Hz			208V-3	60Hz			208V-3	3ø-60Hz	
UNIT	WEIGHT (LBS)		5	71			10	00			3.	25			5	571	
NOTE		- ME	RV 8 PLEATED	2" INTAKE F	LTERS	- ME	RV 8 PLEATED	2" INTAKE F	ILTERS	— ME	RV 8 PLEATED	2" INTAKE F	ILTERS	- MEF	RV 8 PLEATEI	D 2" INTAKE F	FILTERS
NOIL			(1)			(1)			(1)			(D)	

WA	TER TO WATER HEAT	EXCHANGER SCHEDULE
UNIT NUMB	ER	HX-1
MANUFACTU	IRER & MODEL #	BELL & GOSSETT
MANUFACTU	IRER & MODEL #	BP 432-66
LOCATION		TOOL ROOM PARTS 121
SYSTEM SE	RVED	CHILLER/HEATER HEAT PUMP
	FLUID	30% PROPYLENE GLYCOL
	GPM	45
	PRESSURE DROP (PSI)	1.2
HOT SIDE	E.W.T. (°F)	120
	L.W.T. (*F)	100
	FLUID	WATER
	GPM	42.12
	E.W.T. (°F)	95
COLD SIDE	L.W.T. (*F)	115
	FOULING FACTOR	-
	PRESSURE DROP (PSI)	0.86
	MBTUH	418.529
NUMBER O	F PLATES	66
NUMBER OF	PASSES/CHANNELS	1/33
INLET CON	NECTION	3"-300# ANSI STUDDED PORT
OUTLET CON	NECTION	3"-300# ANSI STUDDED PORT
SHIPPING WE	EIGHT (LBS)	295
REMARKS:	PLATE & FRAME TYP	E

- MODEL & DATA BASED ON BELL & GOSSET BP SERIES OR EUQAL BY ALFA LAVAL, SONDOX, GEA OR APPROVED EQUAL

					PUMP SCH	HEDULE						
UNIT NUM	IBER	P-1 & P-2	P-1 & P-2	P-3 & P-4	P-5 & P-6	P-7 & P-8	P-9	P-10 & P-11	P-12	P-13	P-14, P-15, P-16	P-17
SERVICE		HEATING SYSTEM PUMPS (BASE BID)	HEATING SYSTEM PUMPS (ALTERNATE #3)	BOILER PRIMARY PUMPS (BASE BID)	CHILLER/HEATER PIUMPS (BASE BID)	HEAT EXCHANGER PUMPS (BASE BID)	IWH-1 (BASE BID)	MANIFOLD #1 & #2 (BASE BID)	MANIFOLD #3 (BASE BID)	MANIFOLD #4 (ALTERNATE #2)	MANIFOLD #5, #6, #7 (ALTERNATE #3)	MANIFOLD #8 (ALTERNATE #3)
MANUFACT	URER	GRUNDFOS	GRUNDFOS	GRUNDFOS	GRUNDFOS	GRUNDFOS	GRUNDFOS	GRUNDFOS	GRUNDFOS	GRUNDFOS	GRUNDFOS	GRUNDFOS
MODEL #		CRE-32-1_208-230V	CRE-32-1_208-230V	MAGNA 40-180 F	MAGNA 40-180 F	MAGNA 40-180 F	MAGNA 40-120 F	ALPHA 15-55F	ALPHA 15-55F	ALPHA 15-55F	ALPHA 15-55F	ALPHA 15-55F
PRODUCT	#	99392710	99392710	98126837	98126837	98126837	98126833	99163903	99163903	99163903	99163903	99163903
MFR SPEC	C. TYPE	MULTI-STAGE IN-LINE	MULTI-STAGE IN-LINE	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR
	FLUID	WATER	WATER	WATER	35% GLYCOL	WATER	WATER	WATER	WATER	WATER	WATER	WATER
	TEMPERATURE (F)	180°F	180°F	130°F	120°F	115°F	180°F	130°F	130°F	130°F	130°F	130°F
FLUID DATA	FLOW RATE (GPM)	157	116	75	45	42.12	28	3.22	4.05	5.96	6.49	5.9
D/ (I/ (T.D.H. (FT)	40'	40'	20'	25'	20'	20'	2'	4'	5'	4.5'	4.5'
	MAX. PRESS. (PSI)	50	50	125	125	125	125	30	30	30	30	30
	TYPE	END-SUCTION	END-SUCTION	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR	CANNED ROTOR
PUMP	SPEED (RPM)	3005	1750	1750	1750	1750	1750	_	_	_	_	_
DATA	MOTOR HP/WATTS	5 HP / 2.41 BHP	5 HP / 1.64 BHP	425W	425W	425W	375W	45W	45W	45W	45W	45W
	MOTOR AMPS	12.7	12.7	2.0	2.0	2.0	1.8	0.65	0.65	0.65	0.65	0.65
	VOLTAGE-PH-Hz	208 / 3 / 60	208 / 3 / 60	208 / 1 / 60	208 / 1 / 60	208 / 1 / 60	208 / 1 / 60	115 / 1 / 60	115 / 1 / 60	115 / 1 / 60	115 / 1 / 60	115 / 1 / 60
	TYPE	V-F-D	V-F-D	RELAY	RELAY	RELAY	RELAY	RELAY	RELAY	RELAY	RELAY	RELAY
FLUID	NEMA SIZE	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED
DATA	CONTROL	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	AUX. CONTACTS						<u>(1)</u>		<u> </u>	$\widetilde{\mathbb{I}}$	$\widetilde{\Box}$	<u>(1)</u>

AS REQUIRED FOR CONTROL INTERFACE

						DIFFUSER,	, REGISTE	ER & GRILL	LE SCHEDU	LE										
KEY	D-1	D-2	D-3	D-4	D-5	D-6	D-7	LD-1	LD-2	SR-1	SR-2	SR-3	RG-1	RG-2	RG-3	RG-4	RG-5	RG-6	EG-1	EG-2
MANUFACTURER	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
MODEL	SMDA	SMDA	SMDA	SMDA	SMDA	SMDA	SMDA	SDS50 W/ SDBI50	SDS75 W/ SDBI75	520D	520D	520D	530D	530D	530D	530D	530	530	630	630
NECK SIZE	9"x9"-6"ø	9"x9"-8"ø	9"x9"-8"ø	6"x6"-5"ø	9"x9"-8"ø	12"x12"-10"ø	6"x6"-5"ø	6"ø INLET	7"ø INLET	8"x6"	6"x5"	12"x8"	10"x10"x8"ø	12"x12"x10"ø	12"x12"	18"x18"	48"x20"	10"x8"	6"X6"	8"x6"
MODULE SIZE	24"x24"	24"x24"	24"x24"	24"x24"	24"x24"	24"x24"	12"x12"	(2)1/2" SLOT, 48"L	(2)3/4" SLOT, 48"L					24"x24"	24"x24"	24"x24"			_	-
BORDER (2)	LAY-IN	LAY-IN	LAY-IN	LAY-IN	LAY-IN	LAY-IN	SURFACE	T-BAR MOUNT	T-BAR MOUNT	SURFACE	SURFACE	SURFACE	SURFACE	LAY-IN	LAY-IN	LAY-IN	SURFACE	SURFACE	SURFACE	SURFACE
FINISH	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE 3	SEE NOTE
THROW PATTERN	4-WAY	3-WAY	2-WAY OPPOSITE	1-WAY	4-WAY	4-WAY	1-WAY	_	-	-	-	_	_	_	_	_	_	_	_	-
DAMPER	OBD	OBD	OBD	OBD	OBD	OBD	OBD	NONE	NONE	STEEL DAMPER	STEEL DAMPER	STEEL DAMPER	STEEL DAMPER	STEEL DAMPER	STEEL DAMPER	STEEL DAMPER	STEEL DAMPER	STEEL DAMPER	NONE	NONE
NOTES	(4)	(4)	(4)	(4)	(4)	(4)	(4) (5)	(1)	(1)				(4) (5)	(4)					(5)	(5)

- 1) PROVIDE NUMBER AND SIZE OF SLOTS FOR LINEAR DIFFUSERS AS LISTED. MOUNTING STYLE IS CRITICAL. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN FOR FINAL LOCATION & BORDER TYPE (STANDARD T-BAR LAY-IN OR NARROW TEE OR SURFACE)
- SUBMIT COLOR CHART TO ARCHITECT FOR COLOR SELECTION.
- TRANSITION FROM DIFFUSER/REGISTER/GRILLE CONNECTION SIZE THE ROUND DUCT SIZE (SQAURE TO ROUND TRANSITION) (5) PROVIDE HEAVY GAUGE SHEETMETAL ANGLES TO SUPPORT REGISTER/GRILLE FROM T-BAR AND NOT TILE.

EQUIPMENT NOTES:

- ECH−1 QMARK MODEL #AWH−4408 ELECTRIC CABINET HEATER; 1000 WATTS @ 208 VOLT, 1 PHASE, 4.8 AMPS; 3,413 BTUH HEAT OUTPUT; RECESSED STYLE; INTEGRAL ADJUSTABLE TAMPERPROOF THERMOSTAT AND FAN SWITCH; COLOR SELECTION BY ARCHITECT.
- KEH-1 BROAN "ALLURE I" RANGE HOOD MODEL #QS130WW, 30"Wx20"L, TWO-SPEED, 3-WAY CONVERTIBLE RANGE HOOD; 220 CFM, 5.0 SONES (HIGH), 120V-1ø, 1.8 AMPS, 7"ø TOP DUCT CONNECTION; PROVIDE HALOGEN LIGHTS AS RECOMMENDED BY THE MANUFACTURER (2 PER HOOD). PROVIDE POWER CORD.
- AIRIUS THERMAL EQUALIZER FAN, AIR PEAR SERIES MODEL #A-45-EC-STD 208 VOLT-1 PHASE, 0-170 WATTS, 0-2850 RPM, 0-1180 CFM. PROVIDE ELECTRICALLY COMMUTATED 92% EFFICIENT MOTOR PROVIDE 0-10 VDC CONTROL FOR DDC INTEGRATION. PROVIDE WHITE COLOR

						HOT	WAT	ER UNI	T HEA	TER SCHI	EDULE								
UNIT	Al	R	WA	TER T	ЕМР.			FA	N DATA	4	EL	.ECTRIC	CAL DATA				STYLE	MANUFACTURER	REMARKS
NO.	ENT.	LVG.	ENT.	LVG.	мвн	GPM	WPD	THROW	CFM	VELOCITY	RPM	HP	V/PH	FLA	MCA	MOP	SIILE	& MODEL #	REMARKS
UH-1 TO UH-9	50	73.8	130	110	74.4	7.4	0.4	_	2900	_	_	1/4	115V/1ø	2.75A	-	_	VERTICAL	RITTLING RV-161	1 2
UH-10 TO UH-11	50	73.8	130	110	64.2	6.4	0.3	_	2500	_	ı	1/4	115V/1ø	2.75A	-	_	VERTICAL	RITTLING RV-139	1 3
UH-12	60	83.6	130	110	65.4	6.5	0.6	_	2500	_	ı	1/4	115V/1ø	2.65A	-	-	HORIZONTAL	RITTLING RS-165	1 4

(1) PROVIDE CEILING HANGER KIT & DISCONNECT SWITCH

2 THESE UNIT HEATERS WOULD NOT BE REQUIRED IF ALTERNATE #3 IS ACCEPTED, BUT ARE REQUIRED FOR THE BASE BID AND ALTERNATES #1 & #2 (3) THESE UNIT HEATER WOULD BE REQUIRED FOR THE BASE BID AND ALL ATERNATES.

4) THIS UNIT HEATER WOULD NOT BE REQUIRED IF ALTERNATE #2 IS ACCEPTED, BUT ARE REQUIRED FOR THE BASE BID AND ALTERNATE #1

						HOT	WATER BASEBOA	RD RA	ADIATIO	ON SCI	HEDUL	E				
UNIT NO.	WATER ENT.	TEMP.		PE SIZE	FINS/FT		NS SIZE	ROWS HIGH	BTUH PER FT.	LENGTH	TOTAL MBH	FLOW GPM	CO\ TYPE	/ER G.A.	MANUFACTURER & MODEL #	REMARKS
BB-1	130	~110	CU	3/4"	40	AL	4-1/4"x4-1/4"	2	705	SEE DWG'S	SEE DWG'S	1.0	STEEL	16	RITTLING FS5	_

						Н	OT W	ATER C	ABINE	T UNIT H	HEATER	SCHE	DULE				
UNIT NO.	Al	R		WATER	DATA	_		FA	N DATA	\	# OF		ELECT	RICAL [DATA	MANUFACTURER	REMARKS
	ENT.	LVG.	ENT.	LVG.	МВН	GPM	P.D.	THROW	CFM	SPEED	ROWS	HP	VOLT.	PH.	AMPS	& MODEL #	I LIVIAIN S
CUH-1	65	96.8	130	115.8	10.6	1.5	0.2	_	310	MEDIUM	1	1/25	115	1	0.68	RITTLING RF-200-04 STANDARD	_

	LINUT NI	LIMPED	LIMO 1	HWC-2	1100 7	111110 4
	UNIT N		HWC-1		HWC-3	HWC-4
	SERVICI		ERV-1	ERV-2	ERV-3	ERV-4
		ACTURER	USA COIL & AIR			
	MODEL		HW58CBG018018	HW58CBL0360135	HW58CBJ012012	HW58CBG018018
	FINNED	LENGTH	18"	36"	12"	18"
	FINNED	HEIGHT	18"	13.5"	12"	18"
	TUBE/F	IN MATERIAL	CU/AL	CU/AL	CU/AL	CU/AL
	AIRFLO\	N (CFM)	860	3560	610	860
	DRY CO	DIL WEIGHT (LBS)	39	31.9	12.3	39
	PIPE C	ONNECTION SIZE (IN)	3/4"	1"	1"	3/4"
н	FACE V	/ELOCIY (FPM)	382	1055	610	382
E	AIR	TEMP. ENTERING (°F)	25	34	38.4	25
Г	DATA	TEMP. LEAVING (°F)	68.6	66.7	71.5	68.6
N	DATA	PRESS. DROP (IN WG)	0.09"	0.64"	0.23"	0.09"
3		EWT / LWT (°F)	130 / 109.8	130 / 109.9	130 / 109.9	130 / 109.8
	WATER	GPM	4.01	12.53	2.15	4.01
	DATA	CAPACITY (MBH)	40.7	126.8	21.78	40.7
		PRESS. DROP (FT. HD)	9.82	17.96	1.95	9.82
- [ROWS / FINS PER INCH	2/7	2/11	2/9	2/7
		CIRCUITING	_	_	_	_

		OUTDOOR VRF H	EAT PUN	1P
		UNIT SCHEDULE		
	UNIT	NUMBER	ACU	J – 1
	SERVI	CE	VRF FAN (COIL UNITS
	MANUF	FACTURER	DAI	KIN
	MODEL	NUMBER	REYQ9	6TATJU
	POWER	R SOURCE	208V-3	ø−60Hz
	FLA /	MCA / MOCP	27.4 / 3	38 / 45
F	TYPE		PROPELLER	R FAN x 2
A N	AIRFLO	OW RATE (CFM)	5,8	27
''	мотоя	R OUTPUT (kW)	_	-
	EXTER	NAL STATIC PRESSURE	0" \	W.G.
С	TYPE		INVERTER SCR	OLL HERMETIC
0 M	OPERA	ATING RANGE	11% TC	100%
Р	MOTOR	R OUTPUT (kW)	_	-
C D		SERVICE	COOL	HEAT
PT	AIR	CAPACITY (BTUH)	96,000	100.000
A A		CORRECTED CAPACITY (BTUH)	91,550	73,633
l T	 DATA	OPERATING TEMPERATURE RANGE 'F	23 TO 122	-13 TO 60
Ϋ́	5/1//	AHRI RATINGS: EER/IEER	14.2 /	29.3
		HEATING COP @ 47°F / 17°F	4.3 /	
		MAX. TOTAL REFRIGERANT LENGTH (FT)	540	0
	UNIT	OVERALL DIMENSIONS (WxHxD)	48.9" x 66.	.7" x 30.2"
	INFO.	NEW WEIGHT (LBS)	703	3.3
		REF. GAS LOW PRESSURE (BRAZED)	7/	8"
		REF. LIQUID HIGH PRESSURE (BRAZED)	·	′8 "
		REF. H/L PRESSURE (BRAZED)	3/	4"
		REFRIGERANT	R4	10A
		SOUND PRESSURE LEVEL (H)(dBA)	_	:1
	REMAR	RKS	1,2,3	3,4,5
NOTES	: 1)	NOMINAL COOLING CAPACITIES ARE BASE	D ON INDOOR CO	OIL EAT OF 80°F/

		VRF HEAT RECOVER	Y BRANCH CIRCUIT C	ONTROLLER
	UNIT	NUMBER	BSB-1	BSB-2
	SERVI	CE	FC-1	FC-2 THOUGH FC-8
	M-NE	T ADDRESS	_	-
	TYPE	(DOUBLE/MAIN/SUB)	-	-
	MANU	FACTURER	DAIKIN	DAIKIN
	MODE	L NUMBER	BSQ36TVJ	BS8Q54TVJ
	NUMB	ER OF BRANCHES/PORTS	1	8
	POWE	R SOURCE	208V-1ø-60Hz	208V-1ø-60Hz
	MCA ,	/ MOCP	0.1A / 15A	0.8A / 15A
	UNIT	OVERALL DIMENSIONS (HxWxD)	8-1/8" x 15-1/4" x 12-13/16"	11-3/4" x 22-13/16" x 18-15/16"
	INFO.	NEW UNIT WEIGHT (LBS)	27 LBS	73 LBS
		MAXIMUM CAPACITY (PER PORT)	36,000 BTUH	290,000 BTUH
		CONNECTED CAPACITY TO BC	6,500 BTUH	84,600 BTUH
		REFRIGERANT PIPING CONNECTIONS	5/8"GAS / 3/8" LIQUID	1-1/8"GAS / 1/2" LIQUID
		OPERATING SOUND PRESSURE (dBA)	35	39
		SOUND PRESSURE (dBA)	40	47
NOTEC	. 4\	DDOVIDE DALL VALVES TO ISSUATE INDIV	ADUAL DOANGUEC	

NOTES: 1) PROVIDE BALL VALVES TO ISOLATE INDIVIDUAL BRANCHES BV—SERIES, 700 PSIG WORKING PRESSURE, FULL PORT, R—410A RATED FOR ALL PORTS — USED AND UNUSED.

NOTES: 1) NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80°F/67°F, OUTDOOR OF = 95°F NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70°F, OUTDOOR OF = 43°F

2) PROVIDE SNOW HOODS, AND HAIL GUARDS MOUNT UNITS 24" ABOVE ROOF ON SNOW STANDS WITH OPEN BASE — QUICKSLING, BIGFOOT OR EQUAL

5) PROVIDE TOUCH SCREEN CENTRAL CONTROLLER WITH OPTIONAL MASTER LICENSE FOR BACnetIP INTEGRATION

				VRF	SYSTEM	I FAN CO)IL UNIT	SCHEDUI	LE			
	UNIT NU	IMBER	FC	- 1	FC-2	, 6, 7	FC-	3, 4	FC	-5	FC	:-8
İ	SERVICE		OFFIC	E 118	SEE	PLANS	SEE	PLANS	WOMENS	RESTROOM	BREAK	ROOM
	STYLE		2X2 CEILIN	G CASSETTE	DUCTED, (CONCEALED	DUCTED, (CONCEALED	DUCTED, C	CONCEALED	DUCTED, C	CONCEALED
	MANUFA	CTURER	DAI	KIN	DA	KIN	DA	IKIN	DAI	KIN	DAI	IKIN
	MODEL	NUMBER	FXZQ0	5TAVJU	FXSQ1	2TAVJU	FXSQ0	7TAVJU	FXSQ0	5TAVJU	FXSQ1	8TAVJU
F	AIRFLOW	(C.F.M.)	300 / 2·	47 / 229	335 / 2	83 / 247	281 / 2	65 / 230	281 / 20	65 / 230	600 / 5	12 / 406
A N	MOTOR OUVOLTS -	/ FAN E.S.P. (in. w.g.)	-	-	0.	6"	0.	6"	0.	6"	0.	.6"
S	MOTOR	OUTPUT (WATTS)	-	-		_		_	-	-	-	_
	VOLTS -	- PH — Hz	208V-1	ø−60Hz	208V-1	ø−60Hz	208V-1	ø−60Hz	208V-1	ø−60Hz	208V-1	ø−60Hz
	POWER	CONSUMPTION (COOLING/HEATING) (W)	43 ,	/ 40	111 ,	/ 110	104 ,	/ 100	170 /	/ 150	110	/ 90
	CURREN	T (COOLING/HEATING) (AMPS)	- ,	/ –	- ,	/ –	- ,	/ –	- ,	/ –	- /	/ –
	MCA / I	MOCP (AMPS)	0.3	/ 15	0.8	/ 15	0.8	/ 15	0.8	/ 15	1.6	/ 15
C D O A		SERVICE	COOL	HEAT	COOL	HEAT	COOL	HEAT	COOL	HEAT	COOL	HEAT
1 T	AIR	NOMINAL CAPACITY (BTUH)	5,800	6,500	12,000	13,500	7,500	8,500	5,800	6,500	18,000	20,00
LA	DATA	CORRECTED CAPACITY (BTUH)	5,800	4,300	12,000	13,500	7,500	8,500	5,800	6,500	18,000	20,00
	DAIA	TEMP. ENTERING (DB/WB)	_	-		_	-	_	_	-	-	_
		TEMP. LEAVING (DB/WB)	-	-	ı	_	-	_	_	_	-	_
	UNIT	EXTERNAL DIMENSIONS (HxWxD)	10-1/4" x 22-	5/8" x 22-5/8"	9.7" × 21.	7" x 31.5"	9.7" x 21.	7" x 31.5"	9.7" x 21.	7" x 31.5"	9.7" x 39.	4" x 31.5"
	INFO.	NEW WEIGHT (LBS)	34	l.2	5	5	5	55	5	5	7	7
		REF. LOW PRESSURE (GAS)	1/	2"	1/	′2"	1/	′2"	1/	2"	1/	′2"
		REF. HIGH PRESSURE (LIQUID)	1/	/4"	,	/4"	1,	/4"	1/	′4"	1/	/4"
		DRAIN PIPE DIMENSIONS	OD	1"	OD	1"	OD	1"	OD	1"	OD	1"
		SOUND PRESSURE LEVELS (dB(A))		19		52		51	_	51	_	52
	REMARK:	S	1,2,3	,4,5,6	1,2,3	,4,5,6	1,2,3	,4,5,6	1,2,3	,4,5,6	1,2,3	,4,5,6

NOTES: 1) REFER TO MANUFACTURER'S DATA FOR ADDITIONAL OPTIONS AND CONTROL INFORMATION.

- 2) INSTALLER MUST BE DAIKIN CERTIFIED BEFORE INSTALLING ANY EQUIPMENT.
- 3) PROVIDE TWO (2) SPARE AIR FILTERS (POLYPROPYLENE HONEYCOMB) FOR EACH FAN COIL. 4) NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80°F / 67°F, OUTDOOR AIR @ 95°F.
- NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70 F, OUTDOOR AIR @ 43 F. SEE OUTDOOR UNIT SCHEDULE FOR OUTDOOR AMBIENT CONDITIONS, CONNECTED CAPACITY, AND OTHER
- FACTORS ASSOCIATED WITH CORRECTED CAPACITIES. 5) PROVIDE MODEL REMOTE CONTROLLER

6) PROVIDE MODEL TEMPERATURE SENSORS



TOWN OF

NEW DPW FACILITY

TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT:

♣ HELENE · KARL

Architects, Inc. 61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & MCKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

REV DATE DESCRIPTION

5/15/19 SCALE NO SCALE DRAWN BY CDR CHECKED BY PROJECT NO. 19001

BUILDING: SHEET TITLE:

> HVAC NOTES & **SCHEDULES**

DRAWING NO.



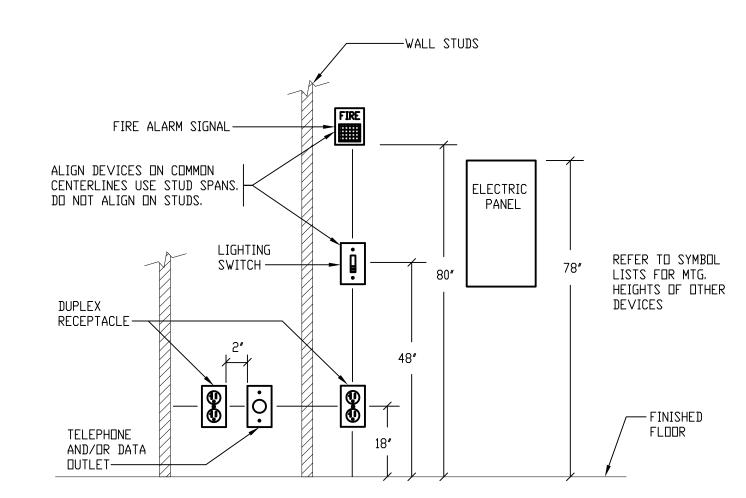
			LIC	HTIN	J FIX	TURE	E SC	HED	ULE	_	
		ALL FIX LAMPS, HA			FURNISHE						
TYPE	MANUFACTURER	CATALOG NO.	MTG.	MTG.	VOLTAGE	INPUT	LUMENS		LAMPS		REMARKS
				HEIGHT		WATTS		No،	WATAGE	TYPE	
F2	XTRALIGHT	LPR22-3000L-35K-DIM	R		120	26.5	2,907			LED	
F4	XTRALIGHT	LPR24-5000L-35K-DIM	R		120	44.4	4,672			LED	
F4A	XTRALIGHT	LPR24-4000L-35K-DIM	S		120	34.4	3,959			LED	
D1	XTRALIGHT	VTH4-12000L-35K-DIM- SFA-FSP3	S		120	99.4	12,704			LED	WITH MOTION SENSOR
D2	XTRALIGHT	VTH4-17267L-35K-DIM- SFA-F3P3	S		120	146.6	17,267			LED	WITH MOTION SENSOR
DЗ											
D4	XTRALIGHT	VTH4-12000L-35K-DIM- SFA-WCS	S		120	99.4	12,704			LED	WET LOCATION MOTION SENSOR
F	XTRALIGHT	SPSS4-7000L-35K-DIM- RD	S		120	100.0	6,625			LED	WITH MOTION SENSOR
RC1	PEACH TREE	68LRDFS-18-35K-80-PG- 120	R		120	12.5	1,258			LED	WET RATED
W3	LEDALITE	7408-L-B-G-Q-N-03-1	S		120	42	3243			LED	
W4	LEDALITE	7408-L-B-G-Q-N-04-1 120-E-W	S		120	42	3243			LED	
W8	LEDALITE	7408-L-B-G-Q-N-08-1 120-E-W	S		120	84	3243			LED	
W20	LEDALITE	7408-L-B-G-Q-N-20-1 120-E-W	S		120	210	3243			LED	
SL1	VISIONAIRE	VSC-1-T3-16LC-3-4- UNV-WM-BK	S		120	18.0	2,355			LED	
SL2	VISIONAIRE	VSC-1-T3-32LC-3-4- UNV-WM-BK	S		120	37	4,743			LED	
SL3	VISIONAIRE	VMX-1-T3-5-4K-UNV-AM BK	Р		120	107	14,354			LED	
SL4	VISIONAIRE	VMX-1-T4-5-4K-UNV-AM	Р		120	107	13,860			LED	
SL5	LUMASCAPE	LS363LED-16W4-G-I-82-	R		120	16				LED	FLAG POLE LIGHT
44	EMERGI-LITE	EF-12	S		3.6			2	1.5		WET RATED
Ø	EMERGI-LITE	DXN-R-N	S		120	2.6				LED	
√P ⊠	EMERGI-LITE	WW-TXN-1/2-R	S		120	1.0				LED	DAMP RATED
EB	EMERGI-LITE	12JSC30-2-L15	S		120	1.0	200	2	15	LED	OFFICE AREAS ONLY
EB	EMERGI-LITE	EL-250L-R-AD	S		120/12	1.0				LED	DAMP RATED WITH WIRE GUARD

LIGHTING FIXTURE GENERAL NOTES:

- 1. ALL BALLASTS SHALL BE OF THE ENERGY SAVINGS, HIGH POWER FACTOR TYPE, AND THD LESS THAN 10%.
- 2. FURNISH FIXTURES WITH ALL REQUIRED MOUNTING HARDWARE. WHERE RECESSED LIGHTING FIXTURES ARE TO BE INSTALLED IN PLASTER, ACOUSTIC TILE OR GYPSUM BOARD, PLASTER FRAMES, FINISH TRIM, FITTINGS AND SUPPORTS SHALL BE FURNISHED AND INSTALLED TO MEET THE ARCHITECTURAL AND STRUCTURAL CONDITIONS AT EACH LOCATION.
- 3. ALL LIGHTING FIXTURES SHALL BE PROVIDED WITH THE REQUIRED LAMPS AND SHALL BE RATED 120-VOLTS UNLESS OTHERWISE NOTED. LAMPS SHALL BE SP35 (3500K) UNLESS OTHERWISE NOTED.
- 4. SINGLE OR DOUBLE FACE AS REQUIRED, REFER TO FLOOR PLANS. MOUNT ON CEILING UNLESS OTHERWISE NOTED.
- 5. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.

6. ALL SHOWER FIXTURES ARE TO BE WIRED THRU GFI RECEPTACLE.

- 7. PROVIDE WIRE GUARDS FOR ALL EBU'S IN ALL AREAS, EXCEPT THE OFFICE AREAS.



TYPICAL DEVICE MOUNTING DETAIL SCALE: NTS

1. MOUNTING HEIGHTS CONFORM TO THE AMERICAN DISABILITIES ACT (ADA). FAILURE TO MEET THESE MINIMUM HEIGHTS SHALL RESULT IN

REINSTALLATION OF DEVICES, BOXES, AND WIRING.

2. ALL MOUNTING HEIGHTS FOR HANDICAP ACCESS SHALL NOT EXCEED THAT FOR FORWARD REACH FROM A WHEELCHAIR (48"A.F.F.) THIS APPLIES TO ALL

NO NORMALLY OPEN OR NUMBER

POS PROVIDED UNDER OTHER SECTIONS

RIGID METAL CONDUIT

ROOT MEAN SQUARED

ROOF TOP UNIT

RIGID NON-METALLIC CONDUIT

TELECOMMUNICATIONS BONDING

TELECOMMUNICATIONS ROOM

UNLESS NOTED OTHERWISE

VOLTAGE TRANSFORMER

VARIABLE FEQUENCY DRIVE

UNDERWRITERS LABORATORIES

PVC POLYVINYL CHLORIDE

RECESSED

REQUIRED

SURFACE

SYMMETRICAL

BACKB□NE TIME CLOCK

TELEPHONE

UNDERGROUND

WIRE OR WALL

WATER HEATER WIRE MOLD

WEATHER PROOF

ZONE DAMPER PHASE

WITH

SPARE SWITCH

NTS NOT TO SCALE

P POLE PB PUSHBUTTON PC POWER CONTACTOR

PH PHASE PNL PANEL

REQ'D

RMS

RTU

MYS

- SWITCHES, AREA OF RESCUE PHONES, INTERCOMS (521CMR,6.5).
- 3. ALL DUTLETS SHALL BE PLACED A MINIMUM DF 18" AWAY FROM INSIDE CORNERS (521CMR,9.5.6).

<u>ABBREVIATIONS</u>

EXISTING EQUIPMENT

EXISTING EQUIPMENT TO BE REMOVED AND

EXISTING EQUIPMENT TO BE REMOVED AND

NEW LOCATION OF RELOCATED EXISTING

SITE SYMBOLS

POLE MOUNTED LIGHTING FIXTURE-

POLE MOUNTED LIGHTING FIXTURE-

SECURITY SYSTEM

MISCELLANEOUS

APARTMENT INTERCOM VESTIBULE PANEL.

PLASTER RING AND 3/4"C TO NEAREST

CATV (SEE SPEC'S).SINGLE GANG JB WITH

ACCESSIBLE HUNG CEILING. PROVIDE FIBER

MAGNETIC DOOR STRIKE

BUSHING ON EITHER END.

CLOSED CIRCUIT TV CAMERA

SURFACE MOUNTED WALL SPEAKER

FLUSH WALL MOUNTED SPEAKERS.

FLUSH MOUNTED CEILING SPEAKER

SOUND SYSTEM HORN SPEAKER

SOUND SYSTEM AMPLIFIER

ELECTRIC DOOR STRIKE

REQUEST TO EXIT

MOTION DETECTOR

UP/DOWN/STOP.

OVERHEAD DOOR CONTROLLER

INDUSTRIAL PADDLE FAN

POWER SUPPLY

PUSH PLATE

CARD READER

EXISTING EQUIPMENT TO BE REMOVED AND

NEW EQUIPMENT TO BE INSTALLED IN SAME

CIRCUIT PULLED BACK TO NEXT ACTIVE

OUTLET/BACK TO PANEL.

XM EXISTING EQUIPMENT TO REMAIN.

RELOCATED.

EQUIPMENT.

LOCATION.

SINGLE HEAD

DOUBLE HEAD

ELECTRIC MANHOLE

TELEPHONE MANHOLE

HAND HOLE

KEY PAD

DOOR CONTACT

MOTION DETECTOR

AUDIBLE SIREN

DOTTED DENOTES EXISTING EQUIPMENT.

Α	AMPERES	F&I	FURNISHED AND INSTALLED
ADA	AMERICANS WITH DISABILITIES ACT	FA	FIRE ALARM
AFF	ABOVE FINISH FLOOR	FD	FIRE DEPARTMENT
AFG	ABOVE FINISH GRADE	FLA	FULL LOAD AMPERES
AHJ		FMC	FLEXIBLE METAL CONDUIT
AIC		FPC	FIRE PROTECTION CONTRACTOR
ARCH	ARCHITECT	FT	FEET
ATS	AUTOMATIC TRANSFER SWITCH	GC	GENERAL CONTRACTOR
ATC	AUTOMATIC TEMPERTURE CONTROL	GFI	GROUND FAULT INTERRUPTER
AWG	AMERICAN WIRE GAUGE	GND,G	GROUND OR GROUNDING
BC	BOND CONDUCTOR	GRMC	GALVANIZED RIGID METALLIC CONDUIT
BFG	BELOW FINISH GRADE	H.C.	HANDI-CAP
BLDG	BUILDING	H&L	HDRN/LIGHT
С	CONDUIT	H□A	HAND, OFF, AUTOMATIC SWITCH
CAT	CATALOG	HVAC	HEATING, VENTILATION, AND AIR
CATV	CABLE TELEVISION		CONDITIONING CONTRACTOR
СВ	CIRCUIT BREAKER	IEEE	INSTITUTE OF ELECTRICAL AND
CCTV	CLOSED CIRCUIT TV		ELECTRONIC ENGINEERS
CKT	CIRCUIT	IMC	INTERMEDIATE METAL CONDUIT
E	CENTERLINE	INT	INTERLOCK
CLG	CEILING	KAIC	THOUSAND AMPERE INTERRUPTING
C.0	CARBON MONOXIDE		CURRENT
CDL	COLUMN	KCMIL	THOUSAND CIRCULAR MILS
COOR	COORDINATE	KΠ	KNOCK OUTS
CU	COPPER	KVA	KILOVOLT AMPERES
DWG	DRAWING	KW	KILDWATTS
E.C.	ELECTRICAL CONTRACTOR	LF	LDW FREQUENCY
EF	EXHAUST FAN	LTG	LIGHTING
EM	EMERGENCY	MC	METAL CLAD CABLE
EMP	EMPTY CONDUIT, FURNISH AND	MCB	MAIN CIRCUIT BREAKER
	INSTALL PULL WIRE	MH	MDUNTING HEIGHT
EMT	ELECTRICAL METALLIC TUBING	MISC	MISCELLANEOUS
EPO	EMERGENCY POWER OFF	MLO	MAIN LUGS ONLY
ER	EQUIPMENT ROOM	NEC	NATIONAL ELECTRIC CODE
EWC	ELECTRIC WATER COOLER	NEMA	NATIONAL ELECTRICAL
EWH	ELECTRIC WATER HEATER,		MANUFACTURES ASSOCIATION
	COORDINATE OVERCURRENT DEVICE	NFPA	NATIONAL FIRE PROTECTION
	AND WIRE SIZE W/ MECHANICAL		ASSOCIATION
	EQUIPMENT NAME-PLACE DATA.	NIC	NOT IN CONTRACT
EX	EXISTING	NL	NIGHT LIGHT
F	FUSE	NM	NDN-METALLIC CABLE



TOWN OF MONTAGUE

NEW DPW FACILITY

TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT:

Architects, Inc. 61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES

1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP 22 WEST STREET, UNIT O MILLBURY, MA 01527

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

STAMP	

REV DATE DESCRIPTION

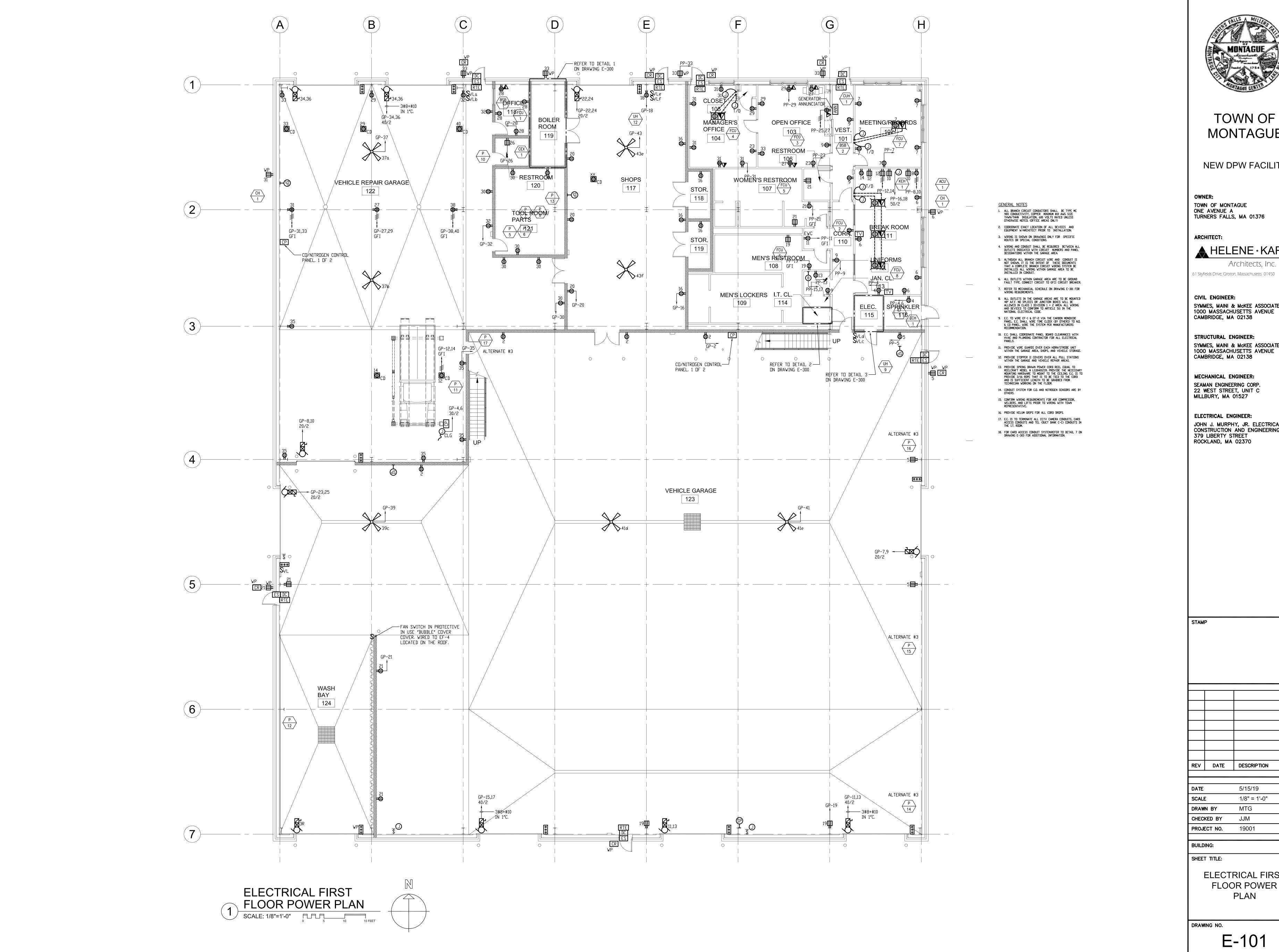
5/15/19 NTS SCALE DRAWN BY MTG CHECKED BY JJM **PROJECT NO.** 19001

BUILDING:

SHEET TITLE:

ELECTRICAL LEGEND

DRAWING NO.





NEW DPW FACILITY

TOWN OF MONTAGUE ONE AVENUE A

HELENE · KARL

Architects, Inc. 1 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE

STRUCTURAL ENGINEER: SYMMES, MAINI & MCKEE ASSOCIATES

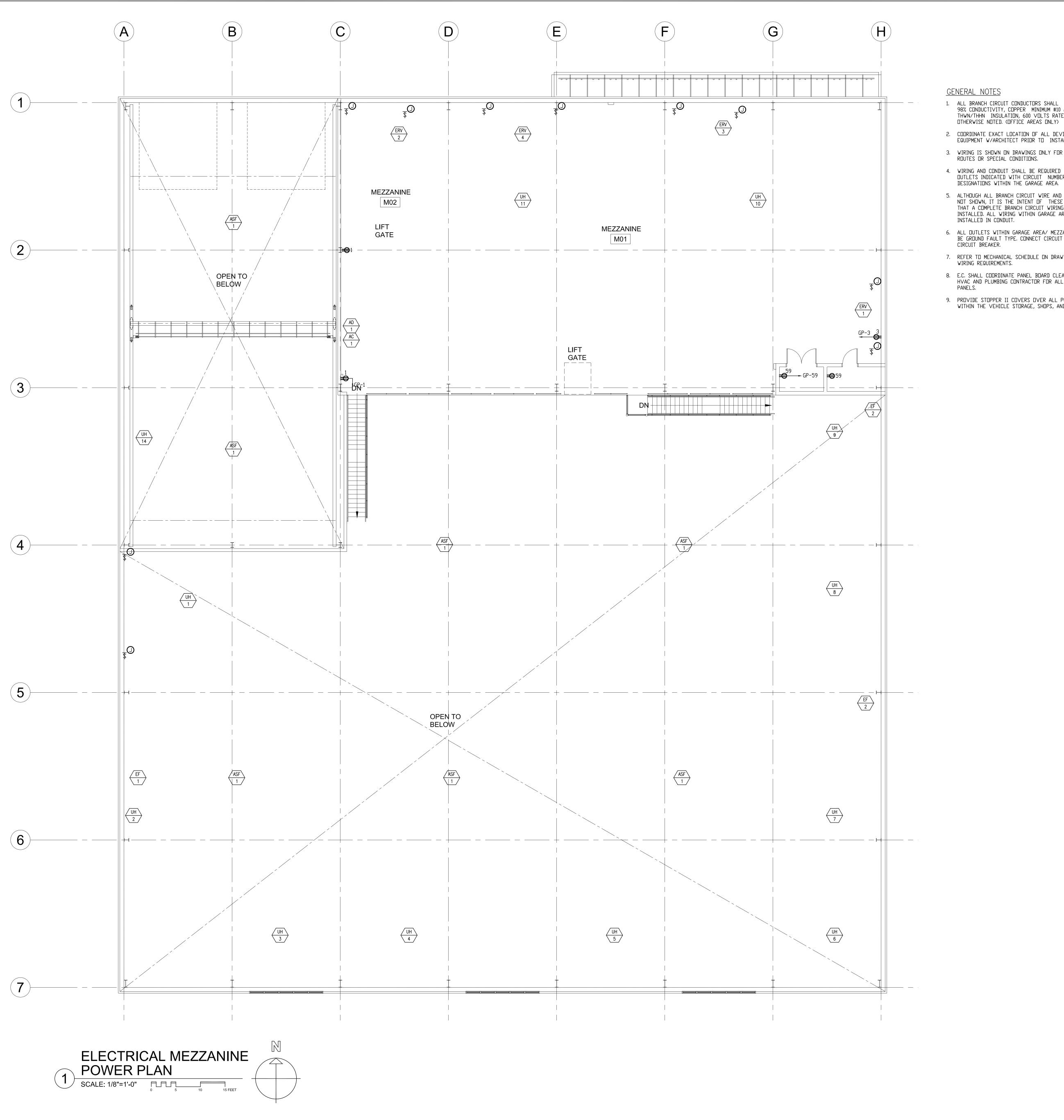
MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP.

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

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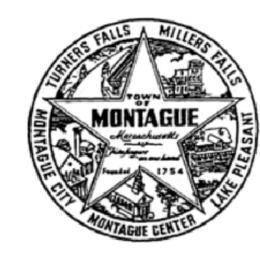
5/15/19 1/8" = 1'-0" CHECKED BY JJM

ELECTRICAL FIRST FLOOR POWER PLAN





- 1. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE TYPE MC 98% CONDUCTIVITY, COPPER MINIMUM #10 AWG SIZE THWN/THHN INSULATION, 600 VOLTS RATED UNLESS OTHERWISE NOTED. (OFFICE AREAS ONLY)
- 2. COORDINATE EXACT LOCATION OF ALL DEVICES AND EQUIPMENT W/ARCHITECT PRIOR TO INSTALLATION.
- 3. WIRING IS SHOWN ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL CONDITIONS.
- 4. WIRING AND CONDUIT SHALL BE REQUIRED BETWEEN ALL DUTLETS INDICATED WITH CIRCUIT NUMBERS AND PANEL
- 5. ALTHOUGH ALL BRANCH CIRCUIT WIRE AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED, ALL WIRING WITHIN GARAGE AREA TO BE INSTALLED IN CONDUIT.
- 6. ALL DUTLETS WITHIN GARAGE AREA/ MEZZANINE ARE TO BE GROUND FAULT TYPE. CONNECT CIRCUIT TO GFCI CIRCUIT BREAKER.
- 7. REFER TO MECHANICAL SCHEDULE ON DRAWING E-301 FOR WIRING REQUIREMENTS.
- 8. E.C. SHALL COORDINATE PANEL BOARD CLEARANCES WITH HVAC AND PLUMBING CONTRACTOR FOR ALL ELECTRICAL PANELS.
- 9. PROVIDE STOPPER II COVERS OVER ALL PULL STATIONS WITHIN THE VEHICLE STORAGE, SHOPS, AND GARAGE AREAS.



NEW DPW FACILITY

OWNER: TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT: HELENE · KARL

Architects, Inc. 61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER: SYMMES, MAINI & MCKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

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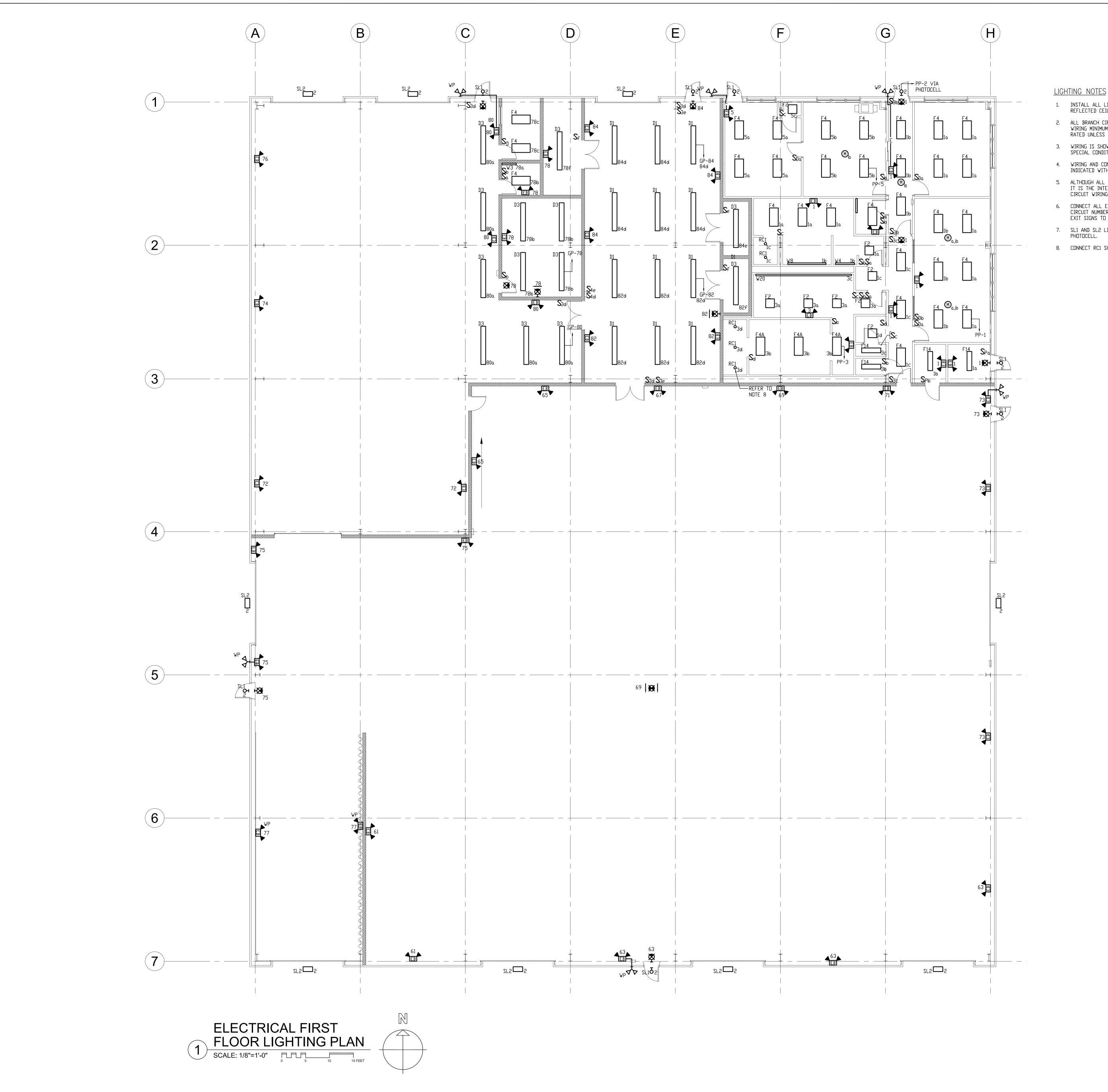
5/15/19 1/8" = 1'-0" CHECKED BY **PROJECT NO.** 19001

BUILDING:

SHEET TITLE:

ELECTRICAL **MEZZANINE FLOOR** POWER PLAN

DRAWING NO.





- INSTALL ALL LIGHTING FIXTURES IN ACCORDANCE WITH ARCHITECT'S REFLECTED CEILING PLANS.
- 2. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE IN EMT WITH COPPER WIRING MINIMUM #10 AWG SIZE, THWN/THHN INSULATION, 600 VOLTS RATED UNLESS OTHERWISE NOTED.
- 3. WIRING IS SHOWN ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL CONDITIONS.
- 4. WIRING AND CONDUIT SHALL BE REQUIRED BETWEEN ALL FIXTURES INDICATED WITH CIRCUIT NUMBERS AND PANEL DESIGNATIONS.
- 5. ALTHOUGH ALL BRANCH CIRCUIT WIRE AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED.
- 6. CONNECT ALL EMERGENCY BATTERY UNITS (EB) AND EXIT SIGNS TO CIRCUIT NUMBERS AS SHOWN ON DRAWING, CONNECT ALL EB'S AND EXIT SIGNS TO NON-SWITCHED CIRCUIT (CONSTANT ON).
- 7. SL1 AND SL2 LIGHT FIXTURES ARE TO BE CONTROLLED VIA PHOTOCELL.
- 8. CONNECT RC1 SHOWER LIGHT FIXTURES TO BATHROOM GFI DUTLET.



NEW DPW FACILITY

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ARCHITECT: HELENE · KARL

61 Skyfields Drive, Groton, Massachusetts 01450

Architects, Inc.

CIVIL ENGINEER:

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STRUCTURAL ENGINEER: SYMMES, MAINI & MCKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

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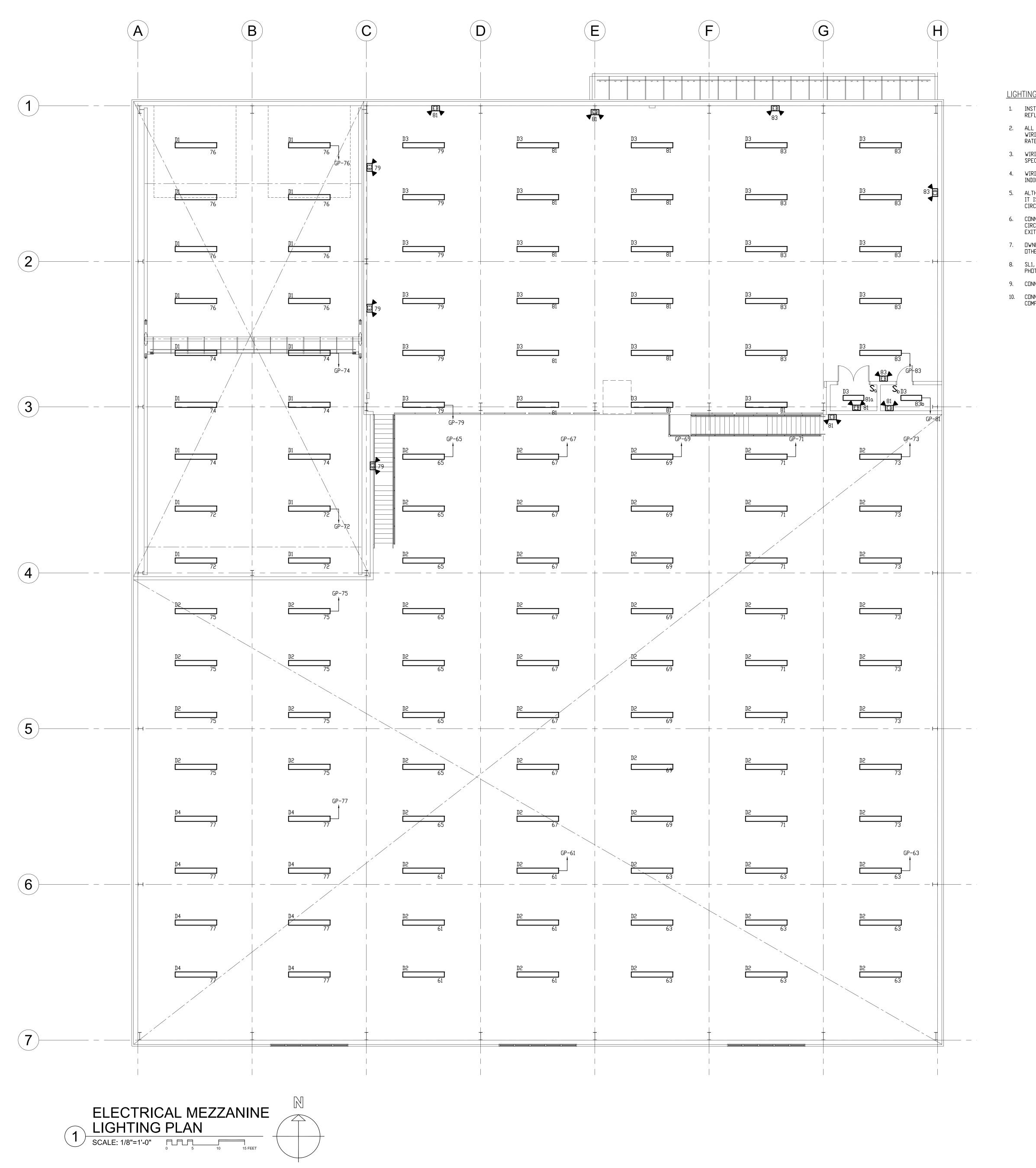
5/15/19 1/8" = 1'-0" CHECKED BY JJM **PROJECT NO.** 19001

BUILDING:

SHEET TITLE:

ELECTRICAL FIRST FLOOR LIGHTING PLAN

DRAWING NO.





- 1. INSTALL ALL LIGHTING FIXTURES IN ACCORDANCE WITH ARCHITECT'S REFLECTED CEILING PLANS.
- 2. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE IN EMT WITH COPPER WIRING MINIMUM #10 AWG SIZE, THWN/THHN INSULATION, 600 VOLTS RATED UNLESS OTHERWISE NOTED.
- 3. WIRING IS SHOWN ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL CONDITIONS.
- 4. WIRING AND CONDUIT SHALL BE REQUIRED BETWEEN ALL FIXTURES INDICATED WITH CIRCUIT NUMBERS AND PANEL DESIGNATIONS.
- 5. ALTHOUGH ALL BRANCH CIRCUIT WIRE AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED.
- 6. CONNECT ALL EMERGENCY BATTERY UNITS (EB) AND EXIT SIGNS TO CIRCUIT NUMBERS AS SHOWN ON DRAWING, CONNECT ALL EB'S AND EXIT SIGNS TO NON-SWITCHED CIRCUIT (CONSTANT ON).
- 7. DWNER IS GDING FOR NET ZERO, ALL WIRING SHALL BE #10 UNLESS OTHERWISE STATED.
- 8. SL1, SL2 AND SL3 LIGHT FIXTURES ARE TO BE CONTROLLED VIA PHOTOCELL.
- 9. CONNECT RC2 SHOWER LIGHT FIXTURES TO BATHROOM GFI DUTLET.
- 10. CONNECT W8 LIGHT FIXTURES WITH EMT WITH RAIN TIGHT COMPRESSION CONNECTION AND LIQUID TIGHT FLEXIBLE CONDUIT.



NEW DPW FACILITY

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ARCHITECT: HELENE · KARL

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CIVIL ENGINEER:

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STRUCTURAL ENGINEER: SYMMES, MAINI & MCKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP. 22 WEST STREET, UNIT C MILLBURY, MA 01527

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

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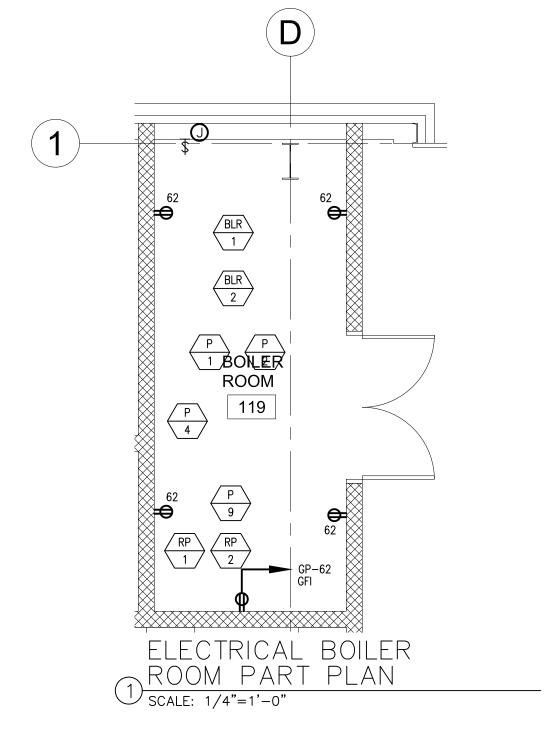
5/15/19 1/8" = 1'-0" CHECKED BY **PROJECT NO.** 19001

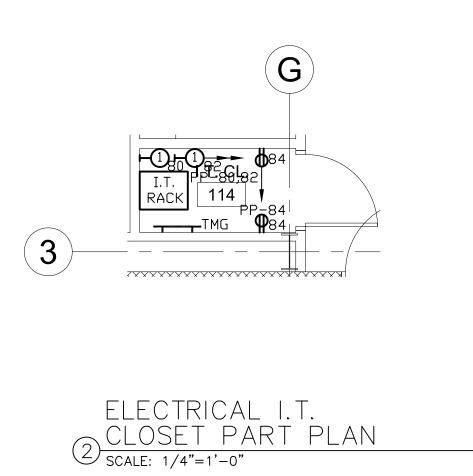
BUILDING:

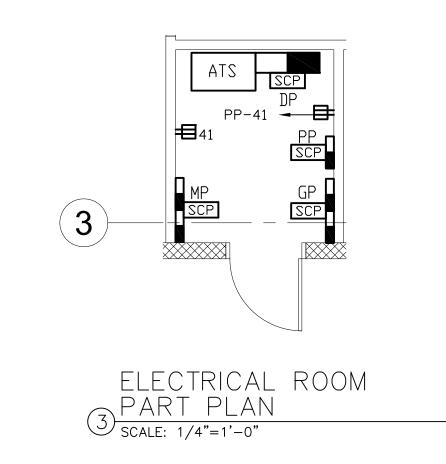
SHEET TITLE:

ELECTRICAL **MEZZANINE FLOOR** LIGHTING PLAN

DRAWING NO.









NEW DPW FACILITY

OWNER:
TOWN OF MONTAGUE
ONE AVENUE A
TURNERS FALLS, MA 01376

ARCHITECT:

HELENE • KARL

Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

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STRUCTURAL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:

SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMP

REV DATE DESCRIPTION

DATE 5/15/19
SCALE AS NOTED

DRAWN BY MTG

CHECKED BY JJM

PROJECT NO. 19001

BUILDING:

SHEET TITLE:

ELECTRICAL PART PLANS

DRAWING NO.

					MF	CHAN	 	41 F	EQUIPMEN	<u> </u>].H	FDULF					
EQUIP. TAG	EQUIPMENT	CHARACTERISTICS	VOLTS	MCA	PH.	PANEL	CKT. BRK.	FUSE	FEEDER		C(ONNE	CTION	тс Ілгі) qw (DUCT	C.C	
AC 1	AIR COMPRESSOR		208	27.5	3	MP- 54,56,58	50/3	-	3#8 & #10 G, 1" EMT	*		X	X	1	X	~ N E		
ACU 1	OUTDOOR VRF		208	38	3	DP-6	45/3	_	3#8 & #10 G, 1" EMT		;	x	X		X			
AD 1	AIR FRYER		120	7.21	1	MP-52	20/1	15	2#12 & #12 G, 1/2" EMT		;	x	X		X			
ASF 1	AIR THERMAL EQUALIZER FAN	170 WATTS	208	1.02	1	MP-1,3	20/2	15	3#12 & #12 G,		;	x	X					TYPICAL FOR 7 UNITS, REFER TO FLOOR PLAN FOR LOCATION
BSB 1	VRF HEAT RECOVERY BRANCH CONTROLLER		208	0.1	1	MP-5,7	20/2	15	3#12 & #12 G, 1/2" EMT		;	x	X					15 (255)((211) (15) (25)
BSB 2	VRF HEAT RECOVERY BRANCH CONTROLLER		208	0.8	1	MP-5,7	20/2	15	12/2 MC		;	x	X					
CEX 1	EXHAUST FAN	29 WATTS	120	.34	1		20/1		12/2 MC	Х			X					CONNECT TO BATHROOM LIGHT CIRCUIT (UNSWITCHED).
CH 1	CHILLER		208	227	3	DP-4	300/3		300		,	x	X		X			CINCOIT (ONSWITCHED).
CUH	CABINET HEATER		120	.85	1	MP-9	20/1		12/2 MC		,	x	X					
ECH ECH	ELECTRIC CABINET	1 KW	208	3.84	1	MP-11,13	20/2		12/2 MC			x	X					
1 / EF	HEATER EXHAUST FAN	1.0 HP	208	8.8	1	MP-2,4	20/2	15	2#12 & #12 G,			x	X					
1 EF 2	EXHAUST FAN	1.0 HP	208	8.8	1	MP-8,10	20/2	15	1/2" EMT 2#12 & #12 G,			x	X					
2 Ef 3	EXHAUST FAN	1/4 HP	120	8.8	1	MP-14	20/1	15	1/2" EMT 3#12 & #12 G,	X		^	X					
3 / ERV	ENERGY RECOVERY		208		1			15	1/2" EMT			<u> </u>						
1 /ERV	VENTILATOR ENERGY RECOVERY			5.0		MP-15,17,19		15	12/3 MC			X	X					
2 /ERV	VENTILATOR ENERGY RECOVERY		208	32.6	3	DP-4	45/3	15	3#12 & #12 G,			X	X					
3 ERV	VENTILATOR ENERGY RECOVERY		208	5.2	3	21,23,25 MP	20/3	15	1/2" EMT			X	X					
4 FC	VENTILATOR FAN COIL		208	5.0	3	27,29,31	20/3	15	12/3 MC			X	X					
1/	FAN COIL		208	.3	1	MP-33,35		15	12/3 MC			X	X					
FC 2	FAN COIL		208	.8	1	MP-33,35		15	12/3 MC			X	X					
FC 3	FAN COIL		208	.8	1	MP-33,35		15	12/3 MC			x	X					
FC 4	FAN COIL		208	.8	1	MP-33,35	20/2	15	12/3 MC		;	X	X					
5			208	.8	1	MP-33,35	20/2	15	12/3 MC		;	X	X					
FC 6	FAN COIL		208	.8	1	MP-33,35	20/2	15	12/3 MC		;	x	X					
FC 7	FAN COIL		208	.8	1	MP-33,35	20/2	15	12/3 MC		;	X	X					
FC 8	FAN COIL		208	1.6	1	MP-33,35	20/2	15	12/3 MC		;	x	X					
HWB 1	OIL FIRE BOILER		120		1	MP-16	20/1		2#12 & #12 G, 1/2" EMT	Х			X					5
HWB 2	OIL FIRE BOILER		120		1	MP-18	20/1		3#12 & #12 G, 1/2" EMT	Х			Х					5
ILF 1	IN LINE FAN	78 WATTS	120		1	MP-20	20/1		12/2 MC	Х			X					
KEH 1	KITCHEN EXHAUST FAN		120	2.25	1	MP-20	20/1		12/2 MC	Х			X					
P 1	PUMP		208	15.87	3	MP 22,24,26	35/3	25	3#0 & #10 G, 1/2" EMT		;	x	X	Х				PART OF BASE BID AND ALTERNATE 3
P 2	PUMP		208	15.87	3	MP 28,30,32	35/3	25	3#10 & #10 G, 1/2" EMT		;	x	X	Х				PART OF BASE BID AND ALTERNATE 3
P 3	PUMP		208	2.0	1	MP-48,50	20/2		3#12 & #12 G, 1/2" EMT	Х			Х					
P 4	PUMP		208	2.0	1	MP-48,50	20/2		3#12 & #12 G, 1/2" EMT	х			х					
P 5	PUMP		208	2.0	1	MP-36,38	20/2		3#12 & #12 G, 1/2" EMT	х			X					
P 6	PUMP		208	2.0	1	MP-40,42	20/2		3#12 & #12 G, 1/2" EMT	X			X					
P 7	PUMP		208	2.0	1	MP-40,42	20/2		3#12 & #12 G, 1/2" EMT	X			X					
P 8	PUMP		208	2.0	1	MP-40,42	20/2		3#12 & #12 G, 1/2" EMT	x			X					
P 9	PUMP		208	1.8	1	MP-40,42	20/2		3#12 & #12 G, 1/2" EMT	х			Х					
P 10	PUMP		120	.65	1	MP-44	20/1		3#12 & #12 G, 1/2" EMT	х			Х					
P 11	PUMP		120	.65	1	MP-44	20/1		3#12 & #12 G, 1/2" EMT	х			X					
P 12	PUMP		120	.65	1	MP-46	20/1		3#12 & #12 G, 1/2" EMT	Х			X					
P 13	PUMP		208	.65	1	MP-46	20/1		3#12 & #12 G, 1/2" EMT	Х			X					ALTERNATE # 2
P 14	PUMP		208	.65	1	MP-53	20/1		2#12 & #12 G, 1/2" EMT	Х			X					ALTERNATE # 3
P 15	PUMP		208	,65	1	MP-53	20/1		2#12 & #12 G, 1/2" EMT	Х			X					ALTERNATE # 3
P 16	PUMP		208	.65	1	MP-53	20/1		2#12 & #12 G, 1/2" EMT	Х			X					ALTERNATE # 3
P 17	PUMP		208	.65	1	MP-53	20/1		2#12 & #12 G, 1/2" EMT	X			X					ALTERNATE # 3
RP X	REMOTE PUMP		120	1.55	1	MP-44,46	20/2		3#12 & #12 G, 1/2" EMT	X			X					TYPICAL OF 2
X / UH / 1	UNIT HEATER	1/4 HP	120	2.75	1	MP-39	20/1		2#12 & #12 G,	X			X					PART OF BASE BID AND ALTERNATES 1 & 2
UH 2	UNIT HEATER	1/4 HP	120	2.75	1	MP-39	20/1		2#12 & #12 G, 1/2" EMT	X			X					PART OF BASE BID AND ALTERNATES 1 & 2
2 UH 3	UNIT HEATER	1/4 HP	120	2.75	1	MP-41	20/1		2#12 & #12 G,	Х			X		+ +			PART OF BASE BID AND ALTERNATES 1 & 2
UH	UNIT HEATER	1/4 HP	120	2.75	1	MP-41			1/2" EMT 2#12 & #12 G,	X			X					PART OF BASE BID AND
4 UH 5	UNIT HEATER	1/4 HP	120	2.75	1	MP-43	20/1		1/2" EMT 2#12 & #12 G,	X			X					PART OF BASE BID AND
5 UH 6	UNIT HEATER	1/4 HP	120	2.75	1	MP-43	20/1		1/2" EMT 2#12 & #12 G,	x			X					PART OF BASE BID AND
	UNIT HEATER	1/4 HP			1				1/2" EMT 2#12 & #12 G,									PART OF BASE BID AND
UH 7	UNIT HEATER	1/4 HP	120	2.75	1	MP-45	20/1		1/2" EMT 2#12 & #12 G,	X			X					ALTERNATES 1 & 2 PART OF BASE BID AND
UH 8 UH	UNIT HEATER	1/4 HP	120	2.75	1	MP-45	20/1		1/2" EMT 2#12 & #12 G,	X			X					ALTERNATES 1 & 2 PART OF BASE BID AND
UH 9 UH	UNIT HEATER	1/4 HP	120	2.75	1	MP-47	20/1		1/2" EMT 2#12 & #12 G,	X			X					ALTERNATES 1 & 2 PART OF BASE BID AND
10 / / UH \	UNIT HEATER	1/4 HP	120	2.75	1	MP-47	20/1		1/2" EMT	X			X					ALTERNATES 1, 2 AND 3 PART OF BASE BID AND
0H 11 UH 12			120	2.75	1	MP-49	20/1		2#12 & #12 G, 1/2" EMT	X			X					ALTERNATES 1, 2 AND 3
. un \	UNIT HEATER	3/4 HP	208	2.65	3	MP 51,53,55	20/3		3#12 & #12 G, 1/2" EMT		;	x	x					PART OF BASE BID AND ALTERNATES 1 & 2

120/208\	v, 3ø, 4W					P4	4NE	EL S	СН	ΕD	UL	Ε																			
PANEL NO.	LOCATION	MTG	MAIN BUS	MAIN CB	KAIC RATING	BF	RANCI	H CKT B	REAK	•		•	1 TIGRD	POLE FAULT	1 POI ARC/(E GFI			2 1	POL	 E			3	POL					TOTAL POLES	OTHERS
NO.			AMPS			15	20	30 40	50		1				l I	- 1	15	20	30	40	50	60	15 2	.0 3	0 4	0 5	50	60	100	1 OLLS	
GP	MAIN ELECTRIC ROOM	2	200	200	42		84																							84	
MP	MAIN ELECTRIC ROOM	2	400	250	42		46											7					,	5			1			84	2-35/3
PP	MAIN ELECTRIC ROOM	S	200	200	42		42																							42	

1,000	O AMP,	120/208V,	30, 4W, 42 KAIC DISTRIBUTI	ON PANEL (DP)	SCHEDI	JLE			
OV	ER CUI		CIRCUIT	FEEDER SIZE	COND.	REMARKS			
No.	TRIP	FRAME	CINCOTT	I LEDEIX SIZE	SIZE	NLIMINNO			
1	100	100	PP	(100N)					
2	200	200	MP	(200N)					
3	200	200	GP	(200N)					
4	300	400	CH-1	300					
5	100	100	CRANE	(100N)		VERIFY PRIOR TO INSTALLING			
6	45	100	ACU-1	60					
7	45	100	ERV-2	60					
8	Х	200	SPACE	X	Х	X			
9	Х	200	SPACE	X	Х	X			
10	Х	100	SPACE	Х	Х	X			
11	Х	200	FUTURE SOLAR	Х	Х	RESERVED FOR FUTURE SOLAR PANELS			

	SP	ECIAL PURPOSE RECE	PTACLE SC	HEDULE
SYMBOL	NEMA	DESCRIPTION	CIRCUIT BREAKER	BRANCH CIRCUIT
<u>1</u>	5-20R	20A - 125V, 2P, 3W	20A-1P	2#12 & 1#12G., - 1/2°C.
@ _	5-30R	30A - 125V, 2P, 3W	30A-1P	2#10 & 1#10G., - 1/2°C.
③⊣	5-50R	50A - 125V, 2P, 3W	50A-1P	2#6 & 1#10G., - 3/4"C.
4-	6-20R	20A - 250V, 2P, 3W	20A-2P	2#12 & 1#12G., - 1/2°C.
⑤-1	6-30R	30A - 250V, 2P, 3W	30A-2P	2#10 & 1#10G., - 1/2°C.
6 -1	6-50R	50A - 250V, 2P, 3W	50A-2P	2#6 & 1#10G., - 3/4"C.
7 -1	14-20R	20A - 125/250V, 3P, 4W	20A-2P	3#12 & 1#12G., - 1/2°C.
	14-30R	30A - 125/250V, 3P, 4W	30A-2P	3#10 & 1#10G., - 1/2°C.
9-1	14-50R	50A - 125/250V, 3P, 4W	50A-2P	3#6 & 1#10G., - 3/4"C.
10-1	14-60R	60A - 125/250V, 3P, 4W	60A-2P	3#6 & 1#10G., - 3/4"C.
11)-1	15-20R	20A - 250V, 3Ø 3P, 4W	20A-3P	3#12 & 1#12G., - 1/2°C.
(12) -	15-30R	30A - 250V, 3Ø 3P, 4W	30A-3P	3#10 & 1#10G., - 1/2 * C.
(3)⊣	15-50R	50A - 250V, 3Ø 3P, 4W	50A-3P	3#6 & 1#10G., - 3/4"C.
(14)- -1	15-60R	60A - 250V, 3ø 3P, 4W	60A-3P	3#6 & 1#10G., - 3/4"C.
(15)-1	L5-20R	20A - 125V, 2P, 3W, TWIST LOCK	20A-1P	2#12 & 1#12G., - 1/2°C.
(16) →	L5-30R	30A - 125V, 2P, 3W, TWIST LOCK	30A-1P	2#10 & 1#10G., - 1/2°C.
① ⊣	L6-15R	15A - 250V, 2P, 3W, TWIST LOCK	15A-2P	2#12 & 1#12G., - 1/2"C.
® ⊣	L6-20R	20A - 250V, 2P, 3W, TWIST LOCK	20A-2P	2#12 & 1#12G., - 1/2°C.
⊚ ¬	L6-30R	30A - 250V, 2P, 3W, TWIST LOCK	30A-2P	2#10 & 1#10G., - 1/2°C.

<u>NOTI</u>	<u>ES:</u>															
1.	ALL	120	VOLT	15	AMPERE	AND	20	AMPERE	OUTLETS	SHALL	BE	TAMPER	RESITANT	PER	NEC	406.11

r ee dek	SIZE SCHEDULE	(COPPER CO	INDUCTORS:
FEEDER SYMBOL	CONDUCTORS (3 PHASE, 3 WIRE) WITH GROUND	RACEWAY SIZE CONDUIT	N□MINA AMPERE RATINO
60	3#4 & 1#10G.	1"	60
(60N)	4#4 & 1#10G.	1 1/4"	60
\(70 \)	3#4 & 1#8G.	1"	70
(70N)	4#4 & 1#8G.	1 1/4"	70
(100)	3#1 & 1#8G.	1 1/2"	100
(100N)	4#1 & 1#8G.	1 1/2"	100
(125)	3#1/0 & 1#6G.	1 1/2"	105
(125N)	4#1/0 & 1#6G.	2"	125
(150)	3#1/0 & 1#6G.	1 1/2"	.=.
(150N)	4#1/0 & 1#6G.	2"	150
(175)	3#2/0 & 1#6G.	2"	
(175N)	4#2/0 & 1#6G.	2"	175
200	3#3/0 & 1#6G.	2"	20-
(200N)	4#3/0 & 1#6G.	2"	200
225	3#4/0 & 1#4G.	2"	22-
(225N)	4#4/0 & 1#4G.	2 1/2"	225
250	3#250KCMIL & 1#4G.	2 1/2"	
(250N)	4#250KCMIL & 1#4G.	3"	250
(300)	3#350KCMIL & 1#4G.	3"	000
(300N)	4#350KCMIL & 1#4G.	3"	300
(350)	3#500KCMIL & 1#3G.	3 1/2"	055
(350N)	4#500KCMIL & 1#3G.	4"	350
400	3#600KCMIL & 1#3G.	3 1/2"	100
(400N)	4#600KCMIL & 1#3G.	4"	400
(500)	6#250KCMIL & 2#2G.	2-2 1/2"	F00
(500N)	6#250KCMIL & 2#2G.	2-3"	500
600	6#350KCMIL & 2#1G.	2-3"	
(600N)	8#350KCMIL & 2#1G.	2-3"	600
(800)	6#600KCMIL & 2#1/0G.	2-3 1/2"	000
(800N)	8#600KCMIL & 2#1/0G.	2-4"	800
(1000)	9#400KCMIL & 3#2/0G.	3-3"	1000
(1000N)	12#400KCMIL & 3#2/0G.	3-3"	1000



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ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMP			
REV	DATE	DESCRIPTION	
DATE		5/15/19	
SCALE		NTS	
DRAWN	N BY	MTG	

SHEET TITLE:

BUILDING:

CHECKED BY JJM

PROJECT NO. 19001

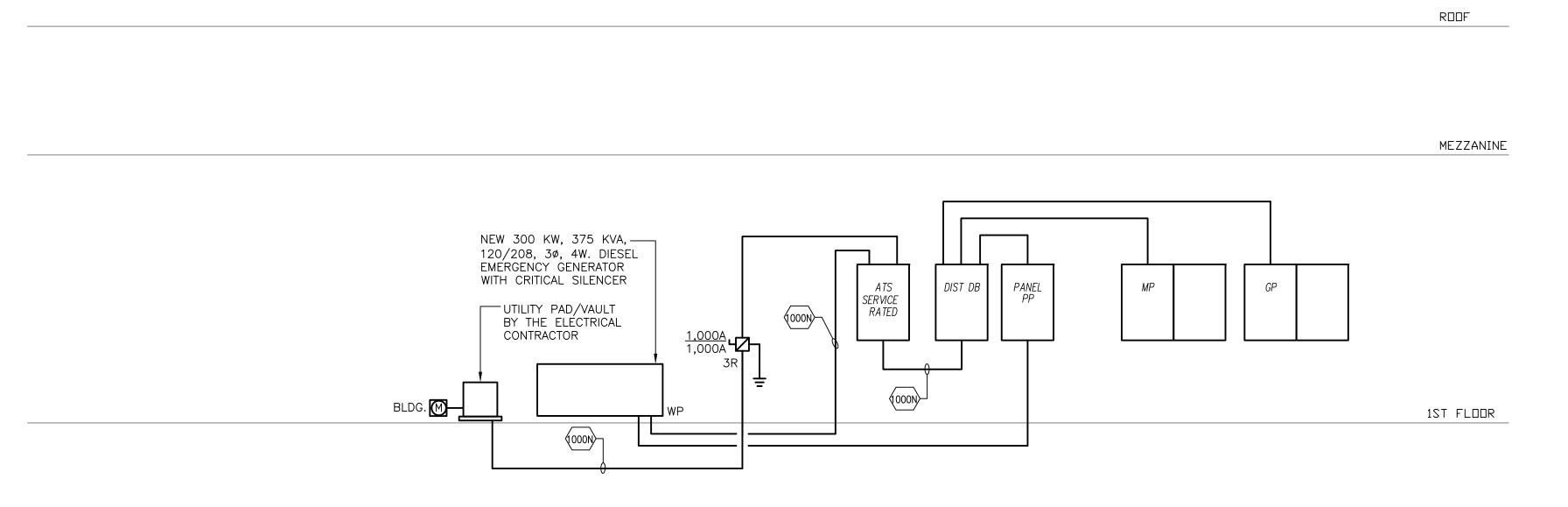
ELECTRICAL SCHEDULES

DRAWING NO.

E-301

MECHANICAL EQUIPMENT SCHEDULE NOTES:

- 1. STARTERS (FVNR, VFD, RVNR, ETC..) SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTORS AND WIRED BY ELECTRICAL CONTRACTOR. FOR EXACT LOCATIONS REFER TO MECHANICAL DRAWINGS.
- 2. E.C. SHALL COORDINATE FUSE SIZE AND OVERCURRENT PROTECTION FOR ALL MECHANICAL EQUIPMENT W/ MANUFACTURER'S RECOMMENDATIONS.
- 3. CONNECT TO LOW VOLTAGE TRANSFORMER PROVIDED BY HVAC CONTRACTOR WIRED BY E.C.
- 4. DISCONNECT PROVIDED BY ELECTRICAL CONTRACTOR AND WIRED BY E.C.
- 5. FIRE-O-MATIC (FOM) THERMAL CUT OFF DEVICE PROVIDED BY ELECTRICIAN. WIRE FIRE-O-MATIC IN SERIES WITH EMERGENCY OFF SWITCH. LOCATE FIRE-O-MATIC (FOM) DIRECTLY OVER BOILER. WIRE PER MANUFACTURERS RECOMMENDATIONS.



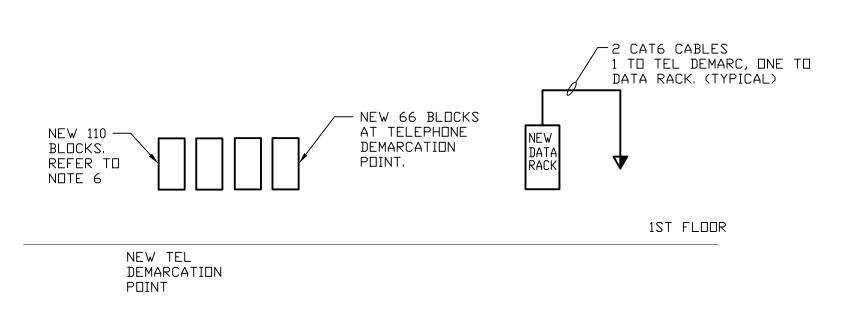
RISER DIAGRAM SCALE: NTS

- NOTES:

 1. E.C. TO PROVIDE ARC FLASH LABEL IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) SECTION 110.16
- 2. COORDINATE SHORT CIRCUIT RATING OF ELECTRICAL EQUIPMENT WITH LOCAL UTILITY.
- 3. PROVIDE LABEL ON ELECTRICAL SERVICE PANEL OF AVAILABLE FAULT CURRENT. PER ARTICLE 110.24 IN THE 2017 NATIONAL ELECTRICAL CODE. COORDINATE THIS WITH LOCAL UTILITY COMPANY.
- 4. PROVIDE SURGE SUPPRESSORS FOR ALL ELECTRIC PANELS. WIRE PER MANUFACTURERS RECOMMENDATIONS.
- 5. E.C. IS TO VERIFY HOT OR COLD METER SEQUENCE WITH THE UTILITY.

 6. NOT SHOWN IS POWER CONNECTION TO GENERATOR BATTERY CHARGER, BLOCK HEATER AND BATTERY HEATER. INSTALL 8#10 & #10 G IN 3/4" SCHEDULE 40 PVC CONDUIT FROM PANEL MP 67, 69 (20/2) AND MP-71 (BATTERY CHARGER TO GENERATOR ENCLOSURE.
- 7. E.C. IS TO INSTALL TWO (2) 3/4" X 10 FOOT GROUND RODS. CONNECT TO BUS BAR IN MAIN ELECTRICAL ROOM. CONNECT WITH #6 COPPER WIRE.
- 8. PROVIDE GROUND ROD NEAR GENERATOR PAD. CONNECT TO GENERATOR PER MANUFACTURES RECOMMENDATIONS.

- 9. LOCATE EMERGENCY POWER OFF BUTTON ON THE GENERATOR ENCLOSURE.
- 10. INSTALL A 1,000/3 (100% RATED) CIRCUIT BREAKER IN THE GENERATOR ENCLOSURE AND PROVIDE 1,000 AMP SERVICE RATED TRANSFER SWITCH.
- 11. REFER TO DISTRIBUTION SCHEDULE ON DRAWING E-301 FOR WIRE AND CONDUIT SIZES.
- 12. NOT SHOWN IS THE START CONTACTS FROM THE ATS TO THE GENERATOR PAD. INSTALL IN 1/2" SCH. 40 VC CONDUIT FROM THE ATS TO THE GENERATOR ENCLOSURE.

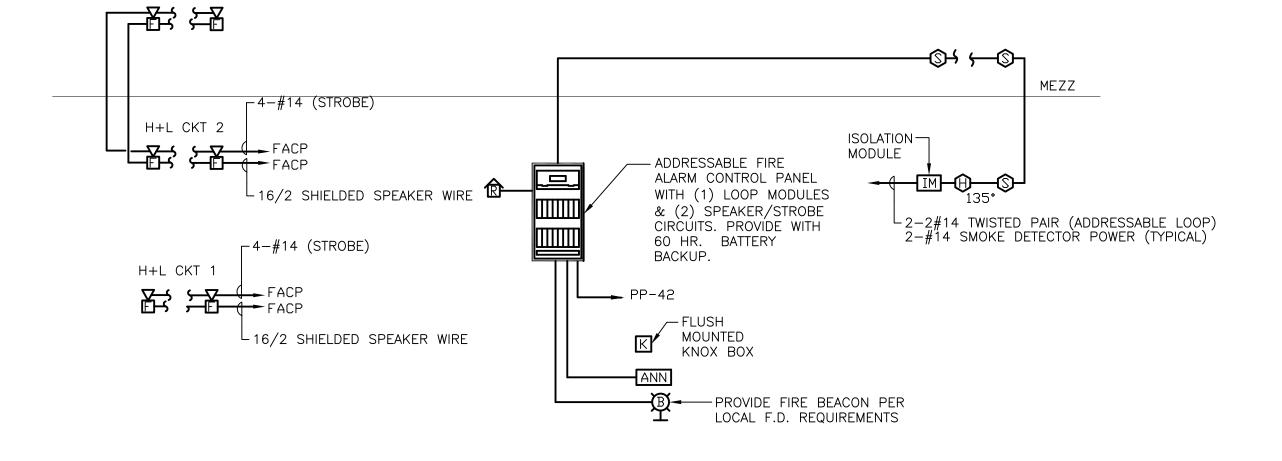


PARTIAL TELEPHONE/ DATA RISER DIAGRAM

scale: nts

- NOTES:

 1. E.C. SHALL INSTALL CAT 6 CABLE FOR ALL TELEPHONE AND DATA CABELING. WIRING TO CONFORM TO LATEST EIA/TIA-568
- 2. PROVIDE CROSS CONNECT WIRING FOR TELEPHONE CABLES. COORDINATE WITH OWNER.
- 3, CONNECT (1) 4 PAIR CAT 3 CABLE TO P.A. SYSTEM
- 4.E.C. IS TO BOND IT RACK WITH #6 COPPER IN 3/4" EMT TO GROUND BAR WITHIN TEL/DATA ROOM...



FIRE ALARM RISER DIAGRAM

NDTES:

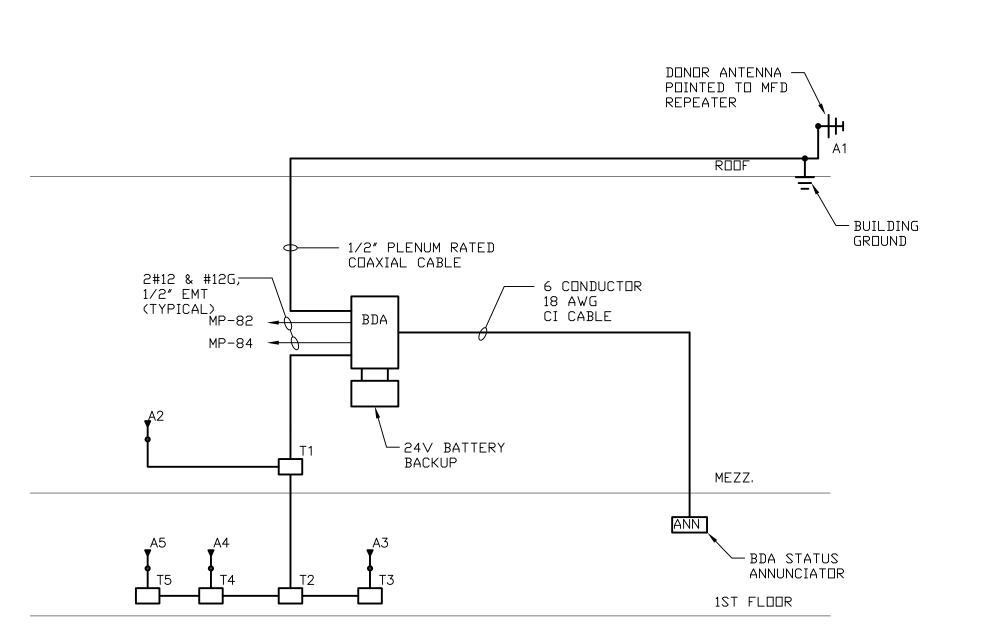
1. E.C. SHALL REFER TO SPECIFICATIONS AND DRAWINGS FOR QUANTITY OF DEVICES, SPARE CAPACITY, PARTS, ETC. RISER DEPICTS BASIC SYSTEM

DETECTORS FURNISHED AND WIRED BY E.C.; INSTALLED BY HVAC.

- 2. E.C. SHALL REFER TO HVAC DRAWINGS FOR EXACT LOCATION OF UNITS AND FOR LOCATIONS OF DUCT MOUNTED SMOKE DETECTORS. DUCT
- 3. TYPICALLY FIRE ALARM SYSTEM CONDUCTORS SHALL BE #14 AWG, TYPE THHN SOLID. ALL WIRING SHALL BE INSTALLED IN CONDUIT.
- 4. TYPICALLY ALL HORN/STROBE UNITS SHALL BE WIRED IN A FASHION THAT THE HORN CAN BE SILENCED AND THE STROBE SHALL REMAIN FLASHING.
- 5. ALL SPEAKER/STROBE WIRING SHALL BE CIRCUIT INTEGRITY (CI) CABLES FROM FACP TO THE FIRST HORN/STROBE DEVICE.
- 6. E.C. IS TO PROVIDE A CIRCUIT BREAKER LOCK, EQUAL TO SPACE AGE ELOCK-FA.
- 7. E.C. IS TO HIRE A TESTING COMPANY TO SEE IF A BI-DRECTIONAL AMPLIFIER IS REQUIRED FOR THE PROJECT. FORWARD SAID REPORT TO ENGINEER OF RECORD.

1ST FLOOR

- 8. E.C. IS TO INTERFACE FACP WITH CARD ACCESS SYSTEM.
- 9. PROVIDE AN ISOLATION MODULE FOR EVERY 20 INITIATING DEVICES.
- 10. WIRING FROM FACP TO THE ANNUNCIATOR SHALL BE CIRCUIT INTEGRITY (CI) CABLE.
- 11. THE SYSTEM MUST BE A VOICE EVACUATION FACP, PER THE MGL



4 BDA RISER DIAGRAM

NOTES:

- PROVIDE #6 GROUND WIRE TO BDA ANTENNA. CONNECT TO ELECTRIC SERVICE GROUND.
- 2. ALL EMT FITTINGS WITHIN THE BDA ROOM SHALL BE RAIN TIGHT RATED. NO SET SCREW TYPE CONNECTORS WILL BE
- 3. PROVIDE AN UNIT PRICE FOR THE INSTALLATION OF THE BDA PANEL, WIRING AND TESTING.

WIRING, AND THE BONDING CONDUCTOR.

4. AS A MIN. THE E.C. IS TO INSTALL THE BDA WIRING (I.E. ANTENNA WIRING, BRANCH CIRCUITS, DONOR ANTENNA



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JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET

STAMP

REV DATE DESCRIPTION

DATE 5/15/19

SCALE NTS

DRAWN BY MTG

CHECKED BY JJM

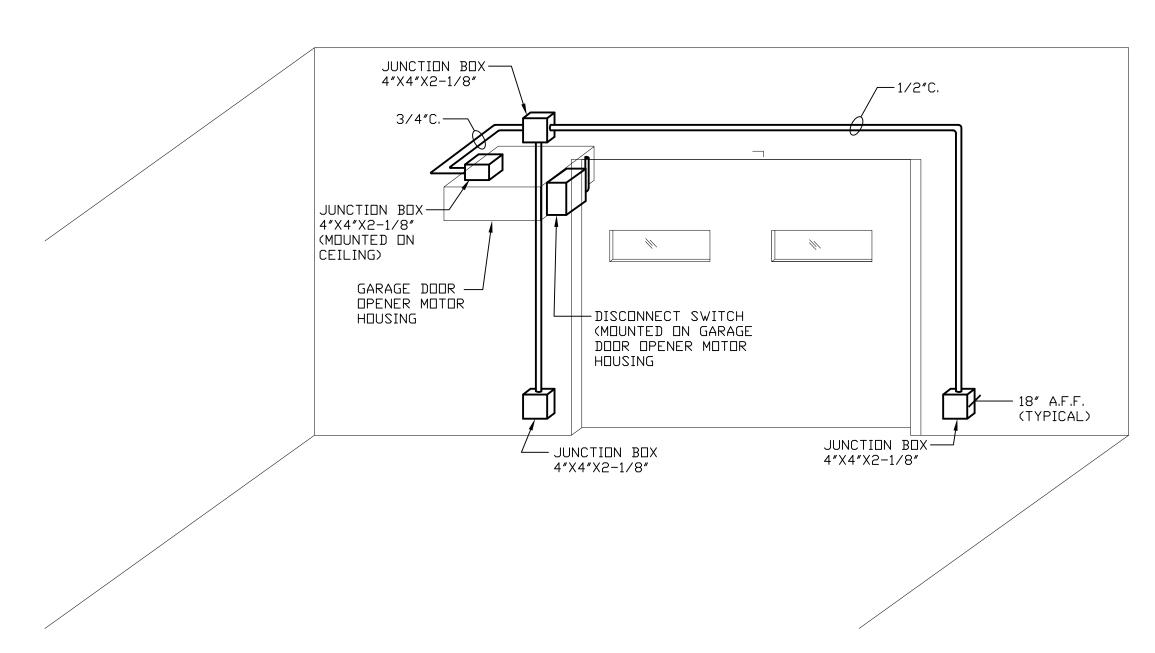
PROJECT NO. 19001

BUILDING:

SHEET TITLE:

ELECTRICAL RISER DIAGRAMS

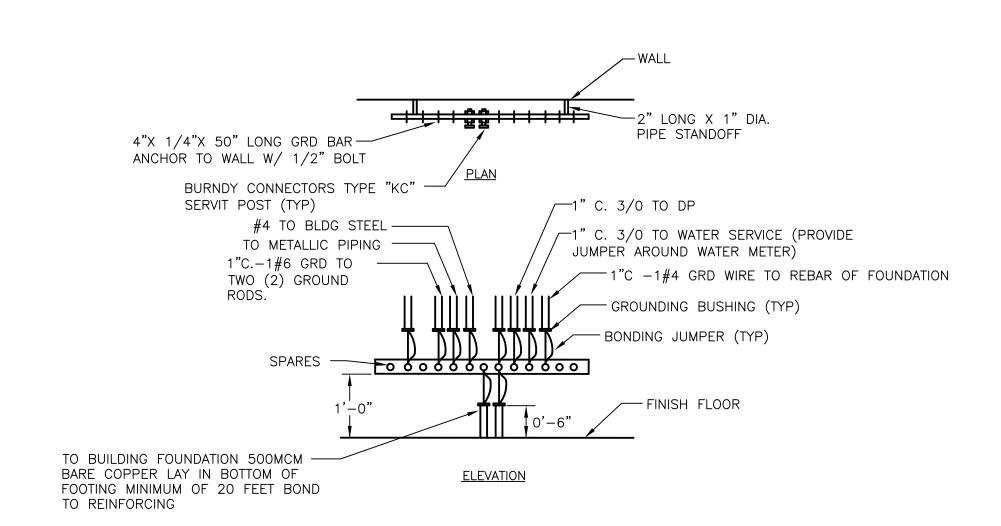
DRAWING NO.



OVERHEAD DOOR TYPICAL ELECTRICAL CONNECTION

NEW BUILDING ONLY

SCALE: NTS

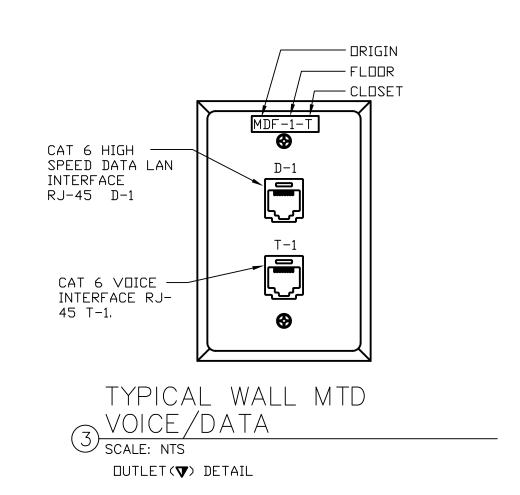


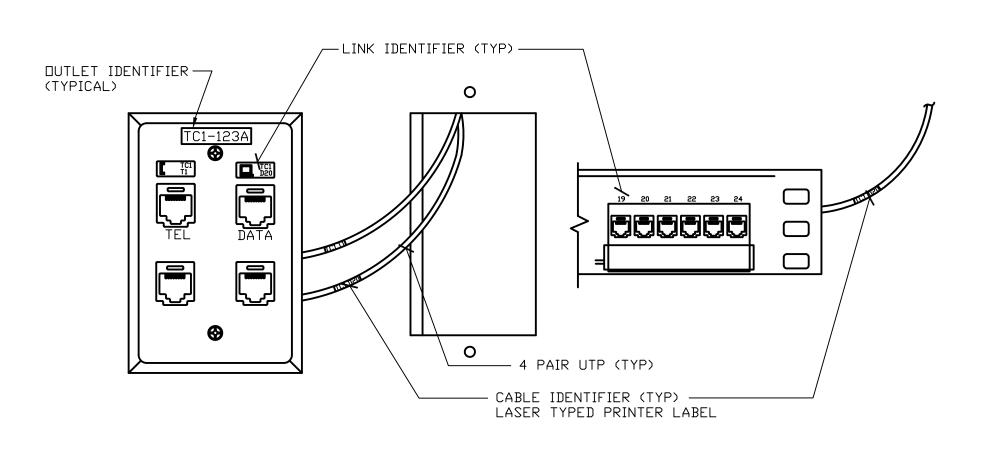
© GROUND BAR DETAIL SCALE: NTS

1. ALL GROUNDING, BONDING AND JUMPERS TO BE

- 2. ALL GROUNDING CABLES TO BE COPPER SIZED PER
- ARTICLE 250-81.

 3. ALL CONCEALED CONNECTIONS TO BE CAD WELDED.
- 4. ALL CONNECTIONS AT SWITCHBOARD GROUND BUS ARE TO BE BOLTED.
- 5. NOT ALL WIRES ARE SHOWN.
- 6. E.C. IS TO BOND NEW BUILDING WITH #6 TO THE BUILDING STEEL, PP2 AND #6 TWO GROUND RODS



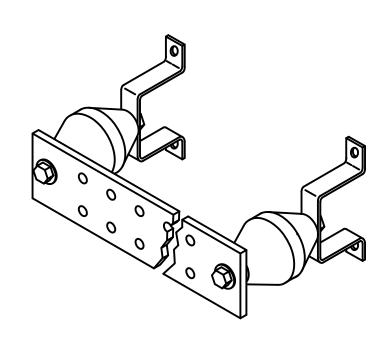


LABELING STANDARD DETAIL scale: NTS

DUTLET(V) DETAIL

NOTES:

1. THIS INDUSTRY STANDARD DETAIL
IS A GUIDE. CONTRACTOR SHAL
VERIFY EXACT LABELING STANDARD
WITH OWNER AND SUBMIT LABELING
SCHEME FOR APPROVAL. LABELING
SHALL BE IN ACCORDANCE WITH
ANSI/EIA/TIA-606 STANDARD.



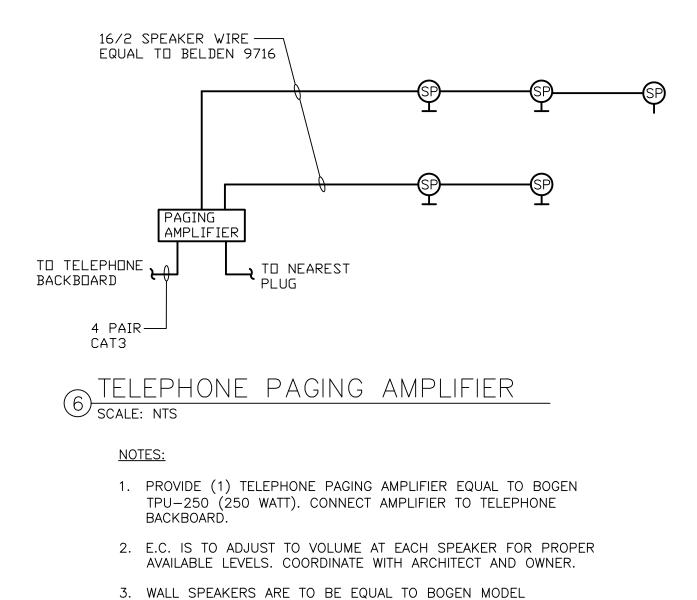
TELECOMMUNICATIONS

GROUNDING BAR DETAIL (TGB)

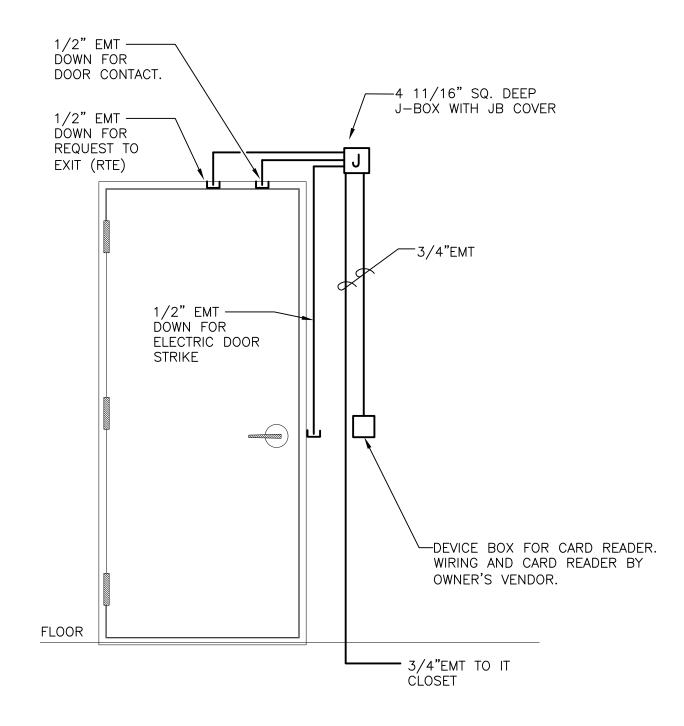
SCALE: NTS

NOTES:

- 1. SHALL BE EQUAL TO ERICO MODEL #EGBA14424GG (4"X24").
- 2. INSTALL #6(CU) WIRE FROM TGB TO MAIN SERVICE.



SUG1(W/VOLUME KNOB), GARAGE AREAS TO BE EQUAL TO BOGEN



CARD ACCESS CONDUIT DETAIL

7 SCALE: NTS

DOOR WIRING NOTES: 1. COORDINATE BOX TYPE, SIZES, AND LOCATION WITH GENERAL CONTRACTOR, ARCHITECT AND OWNERS VENDOR.

2. E.C. DWNS ALL CONDUITS FOR TYPICAL CARD ACCESS LOCATIONS. PROVIDE THE CONDUITS AS SHOWN AND COORDINATE INSTALLATION WITH THE TOWNS INSTALLER. ALL CONDUIT ARE TO HAVE PULL STRINGS IN EACH OF THE CONDUITS SHOWN.



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REV	DATE	DESCRIPTION	
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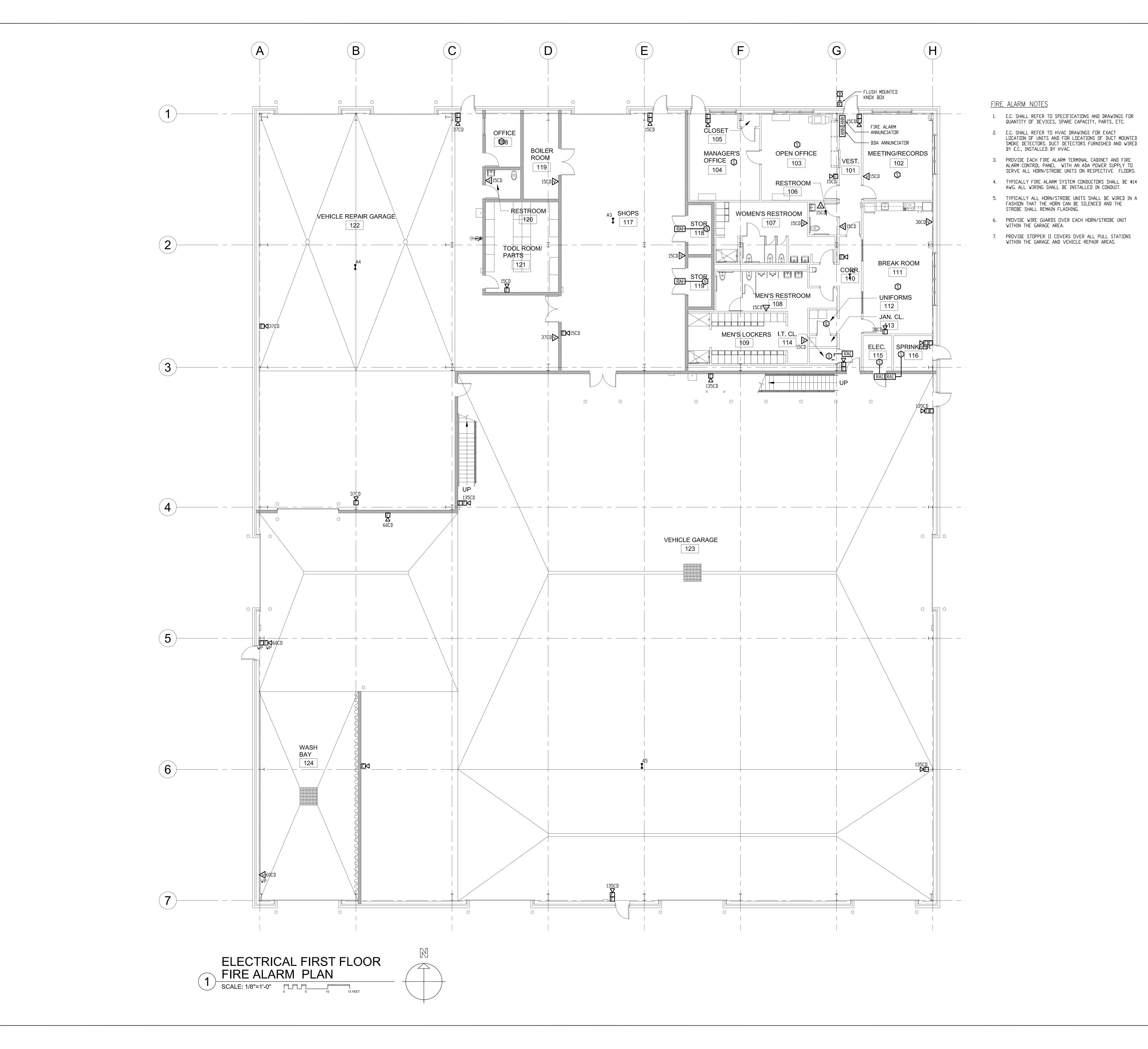
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MTG
JJM
19001
-

SHEET TITLE:

BUILDING:

ELECTRICAL DETAILS

DRAWING NO.





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 DATE
 5/15/19

 SCALE
 1/8" = 1'-0"

 DRAWN BY
 MTG

 CHECKED BY
 JJM

 PROJECT NO.
 19001

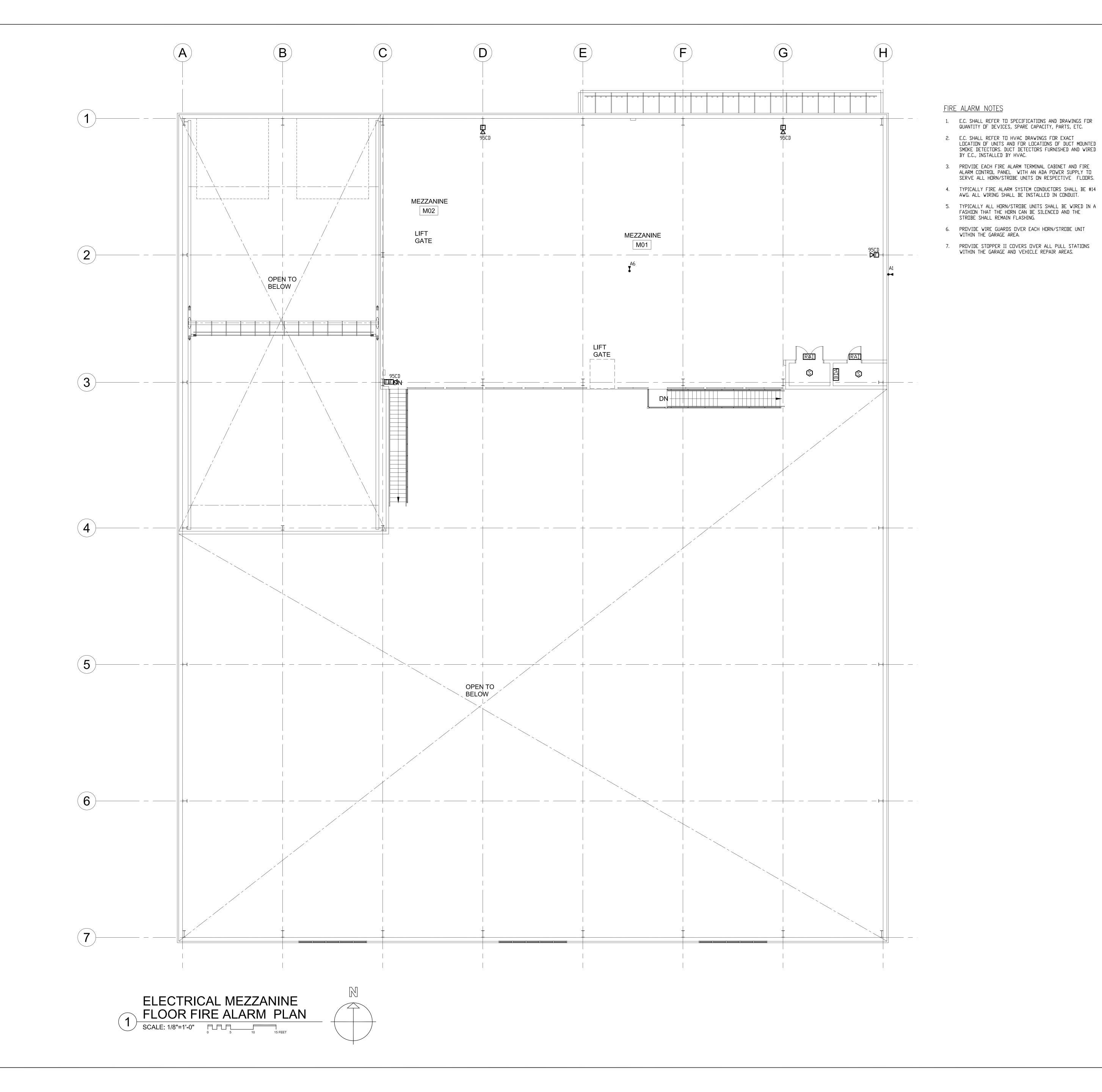
BUILDING:

SHEET TITLE:

ELECTRICAL FIRST FLOOR FIRE ALARM PLAN

DRAWING NO.

FA-101





NEW DPW FACILITY

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 5/15/19

 SCALE
 1/8" = 1'-0"

 DRAWN BY
 MTG

 CHECKED BY
 JJM

 PROJECT NO.
 19001

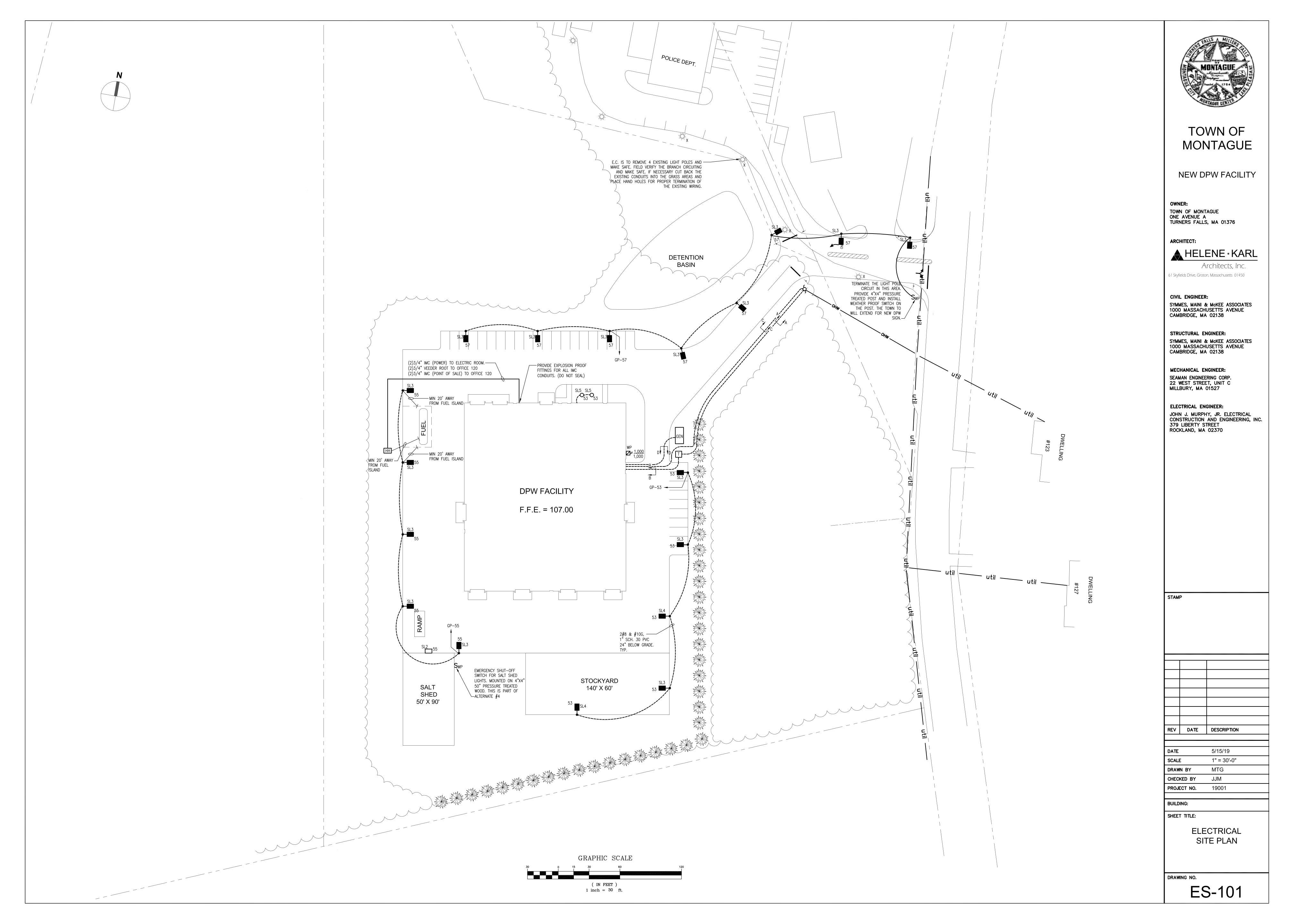
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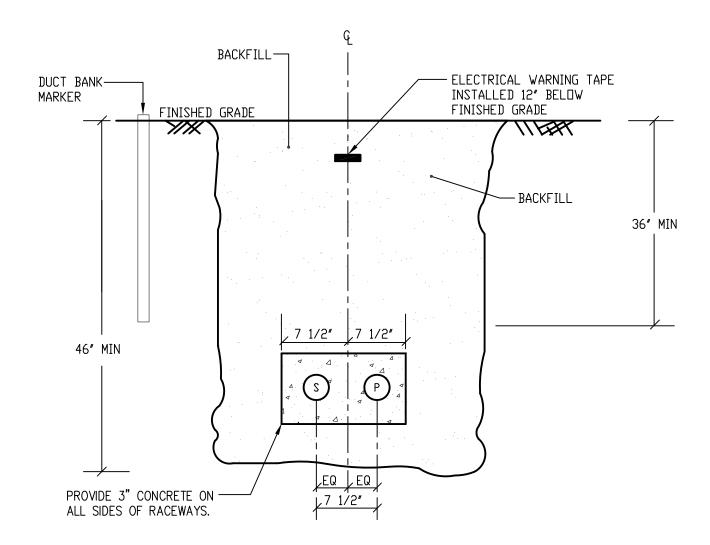
SHEET TITLE:

ELECTRICAL MEZZANINE FLOOR FIRE ALARM PLAN

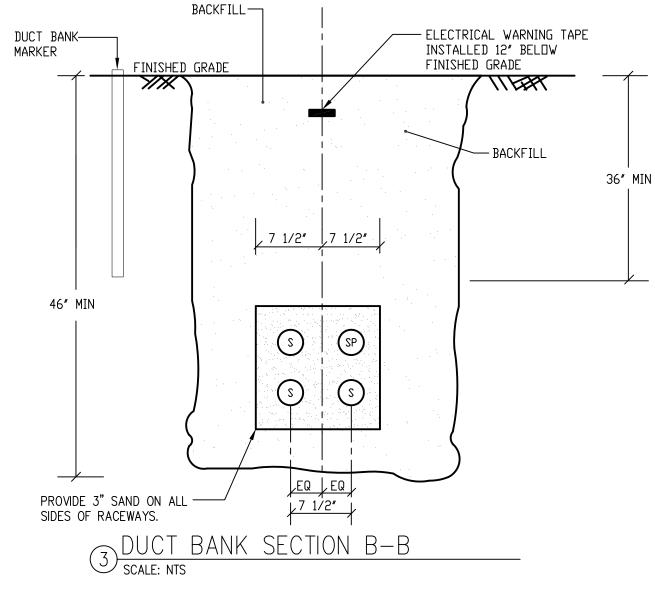
DRAWING NO.

FA-102

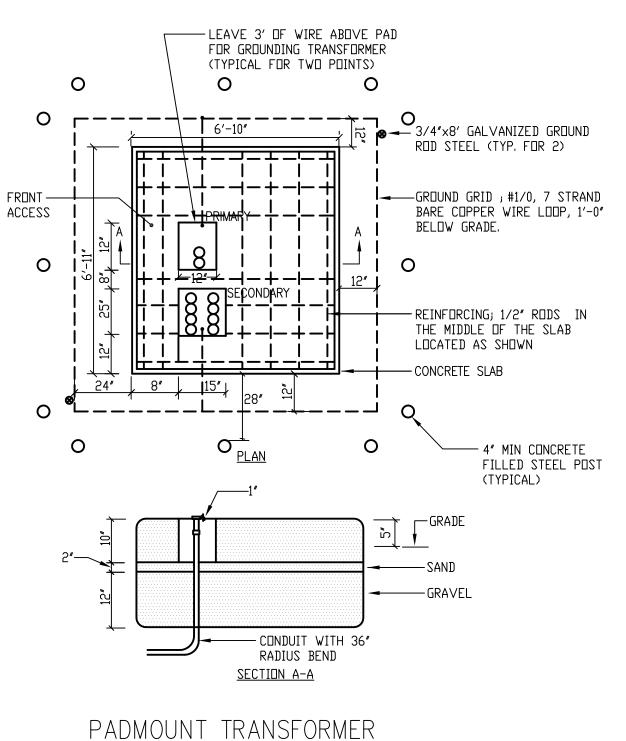


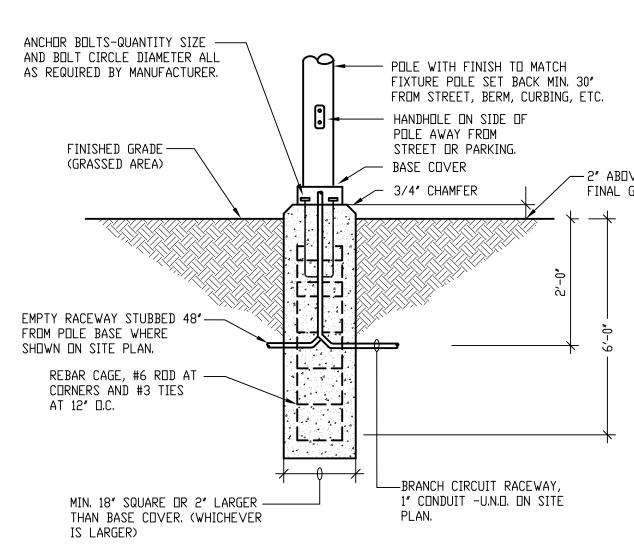


- P 4" PRIM. ELEC. SCHED 40 PVC
- S 4" SPARE SCHED 40 PVC



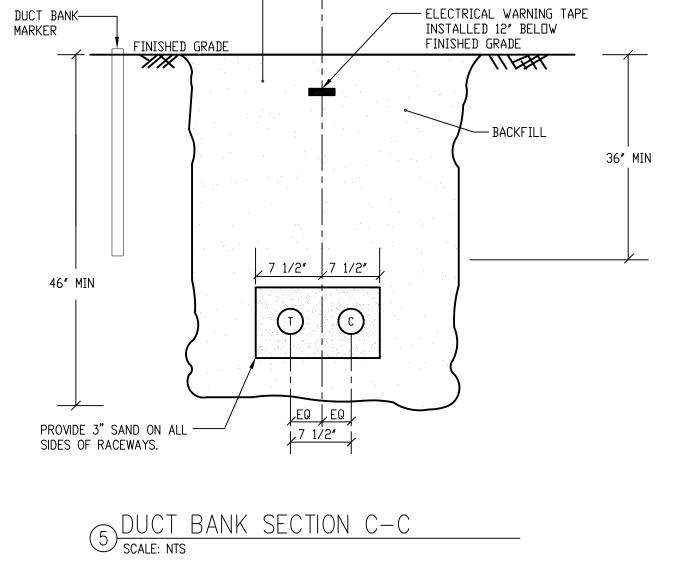
- s 4" SECONDARY SCHED 40 PVC
- SP 4" SPARE SCHED 40 PVC





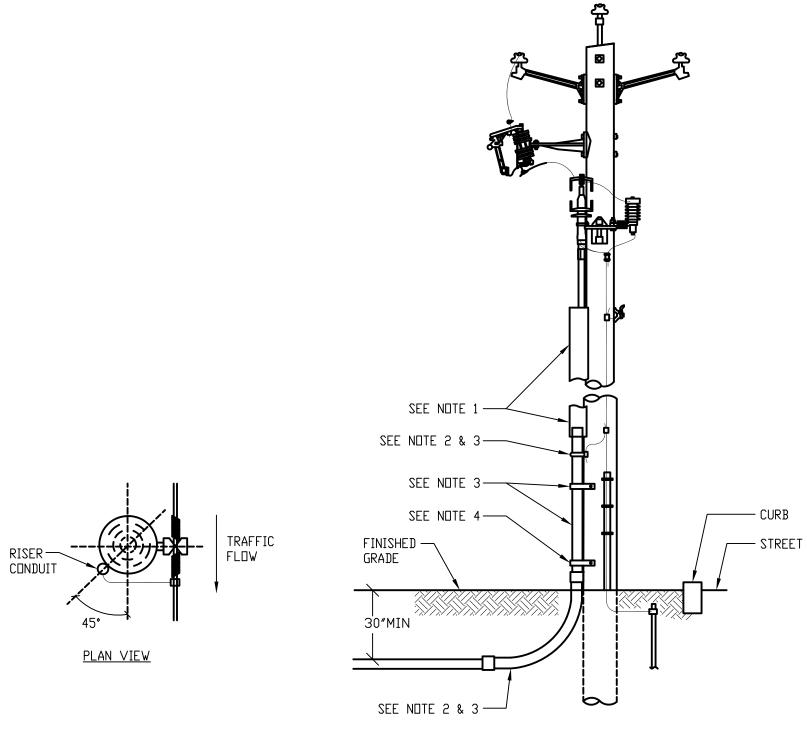
LIGHTING POLE BASE DETAIL NOTES:

1. LIGHT POLE BASE BY E.C. THE LIGHT POLE IS TO BE PLACED IN THE POLE LOCATION BY THE GENERAL CONTRACTOR, COORDINATE THIS WORK WITH THE



- P 4" TELEPHONE SCHED 40 PVC
- S 4" CABLE SCHED 40 PVC

BACKFILL —

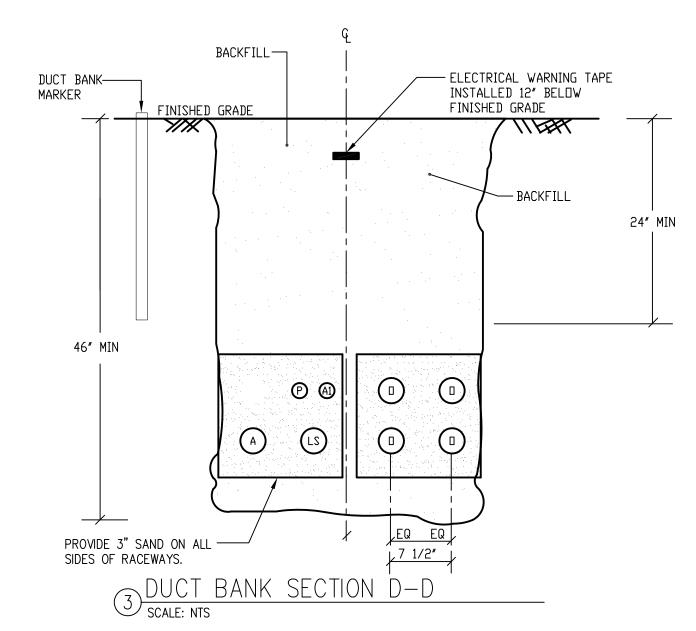


PRIMARY CONDUIT INSTALLATION ON RISER POLES

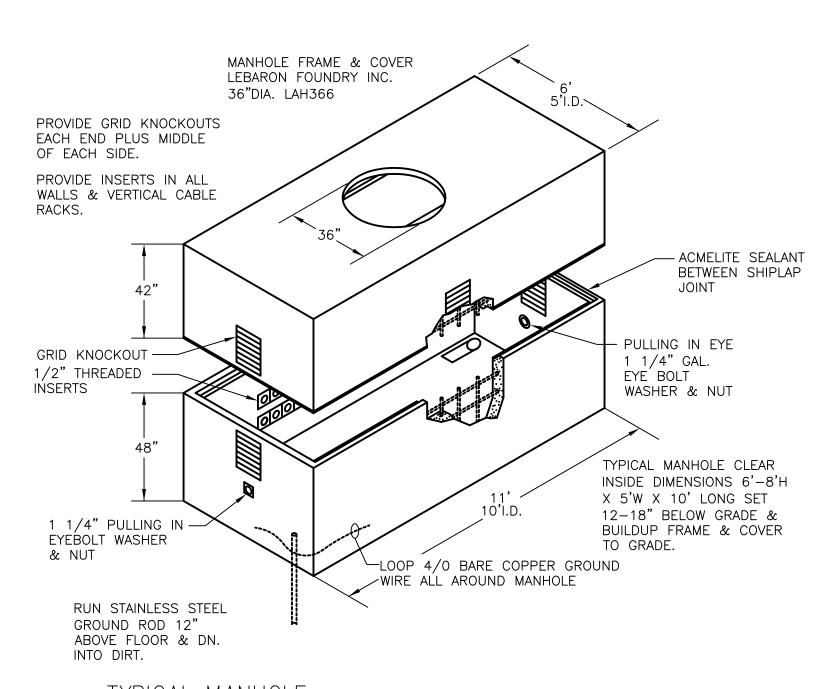
NOTES:

SCALE: NTS

- 1. U-GUARD
- 2. GALVANIZED STEEL CONDUIT AND BEND ARE TO BE USED, THEY SHALL BE GROUNDED BY BONDING TO AN APPROVED U-BOLT TYPE GROUND CLAMP 6"(150MM) ROM TOP OF THE CONDUIT. A 24" CONDUCTOR SHALL BE PROVIDED TO EXTEND TO THE COMPANY GROUNDING CONDUCTOR. THE CONDUCTOR SHALL BE SIZED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. ARTICLE 250, BUT IN NO CASE SHALL IT BE SMALLER THEN #4 AWG COPPER. RECOMMENDED USE OF CORROSION RESISTANT BEND IN LOCATIONS SUBJECT TO HIGHWAY SALTING.
- 3. GALVANIZED STEEL CONDUIT, GALVANIZED STEEL SWEEP, ATTACHMENT CLAMPS, GROUNDING CLAMP AND 24" GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED BY E.C., NORMALLY, THE CONDUIT SHALL RISE ON THE SIDE OF THE POLE AWAY FROM TRAFFIC UP TO 8' TO 11'. CONSULT EVERSOURCE FOR PROPER LOCATION ON POLE.
- 4. PIPE STRAPS, INSTALL AT NOT MORE THAN 30" INTERVALS.



- (I) 4" OPTIONAL SCHED 40 PVC
- LS) 1-1/2" LIFE SAFETY SCHED 40 PVC
- A 1/2" AUTOMATIC TRANSFER SWITCH WIRING SCHED 40 PVC
- 4" OPTIONAL SCHED 40 PVC
- P 1" ANNUNCIATOR SCHED 40 PVC
- (A) 3/4" POWER SCHED 40 PVC



6 TYPICAL MANHOLE SCALE: NTS

- 1. ALL CABLES ENTERING MANHOLE ARE TO MAKE A COMPLETE LOOP AROUND INTERIOR PRIOR TO EXITING.
- 2. ALL MANHOLES TO HAVE CONNECTORS TO DRAINAGE SYSTEM BY G.C.
- 3. THIS APPLICATION AND NOTES APPLY TO BOTH TELEPHONE & HIGH TENSION.



TOWN OF MONTAGUE

NEW DPW FACILITY

OWNER: TOWN OF MONTAGUE ONE AVENUE A TURNERS FALLS, MA 01376

ARCHITECT:



Architects, Inc. 61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER: SYMMES, MAINI & McKEE ASSOCIATES 1000 MASSACHUSETTS AVENUE CAMBRIDGE, MA 02138

MECHANICAL ENGINEER: SEAMAN ENGINEERING CORP 22 WEST STREET, UNIT O MILLBURY, MA 01527

ELECTRICAL ENGINEER: JOHN J. MURPHY, JR. ELECTRICAL CONSTRUCTION AND ENGINEERING, INC. 379 LIBERTY STREET ROCKLAND, MA 02370

STAMP

REV DATE DESCRIPTION

5/15/19 NTS SCALE DRAWN BY MTG
CHECKED BY JJM **PROJECT NO.** 19001

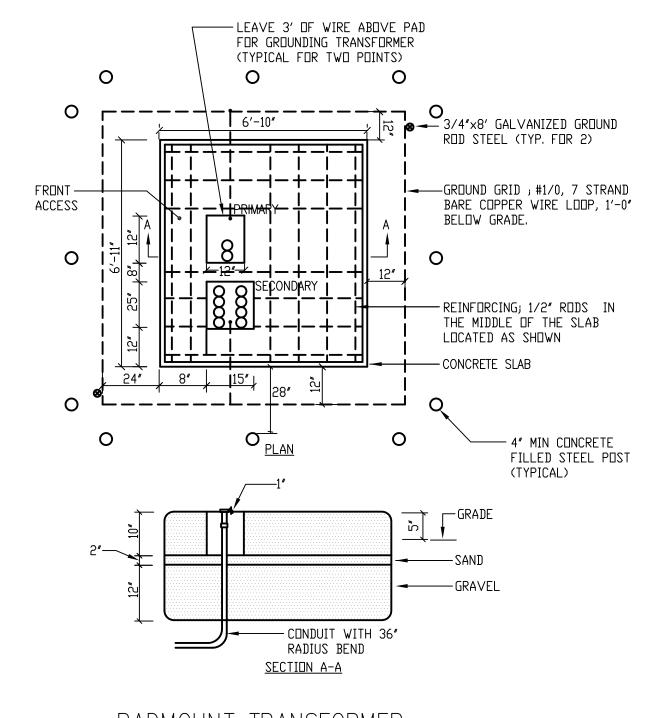
BUILDING:

SHEET TITLE:

ELECTRICAL SITE DETAILS

DRAWING NO.

ES-102



2 FOUNDATION DETAIL SCALE: NTS

