GENERAL NOTES

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE NEW JERSEY UNIFORM CONSTRUCTION CODE (NJAC 5:23) AND ALL APPLICABLE MODEL BUILDING SUBCODES, INCLUDING BUT NOT LIMITED TO:
NEW JERSEY INTERNATIONAL BUILDING CODE, 2018
ICC/ANSI 117.1, 2009 ACCESSIBLE AND USABLE BUILDING AND FACILITIES
INTERNATIONAL MECHANICAL CODE, 2018
NATIONAL ELECTRICAL CODE, 2017
NATIONAL STANDARD PLUMBING CODE, 2018

ALL WORK SHALL BE PERFORMED DURING NORMAL WORK HOURS, AS SET FORTH IN THE MUNICIPAL ORDINANCE WHICH HOLDS JURISDICTION OVER THE AREA OF WORK, UNLESS SPECIFICALLY PROVIDED OTHERWISE IN THESE CONTRACT DOCUMENTS, SPECIFICATIONS, OR OTHER WRITTEN AGREEMENTS BETWEEN OWNER AND CONTRACTOR.

THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF WORK AND NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES.

THE CONTRACTOR SHALL MAINTAIN A CLEAN WORK-SITE AND PROTECT ALL BUILDING MATERIALS FROM THE ELEMENTS AND FROM ON-GOING CONSTRUCTION WORK AS NECESSARY TO MAINTAIN THE MATERIAL INTEGRITY.

THE AREA OF WORK SHALL BE SEPARATED FROM ALL OTHER OCCUPIED AREAS BY MINIMUM 6 MIL POLY ETHYLENE DUST CURTAIN. WHERE AREAS OF WORK ARE ADJACENT TO PUBLIC AREAS TO BE OCCUPIED AND CONSTRUCTION PARTITIONS ARE NOT SPECIFIED IN OTHER AREAS OF THESE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, THE AREA OF WORK SHALL BE SEPARATED BY A UL DESIGN U465 ONE HOUR CONSTRUCTION PARTITION FROM FLOOR TO CEILING ABOVE THE MIN. 5/8" G.W.B. EACH SIDE OF 3-5/8" METAL STUD FRAMING AT 16" O.C. AND 3" S.A.F.B. IN THE STUD CAVITY. ALL CONSTRUCTION PARTITION REQUIREMENTS SHALL COMPLY WITH NJAC 5:23-9.6(C) IN ALL CASES.

WHEN NOT SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS, ALL SITE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE MUNICIPALITY HAVING JURISDICTION OVER THE PROJECT AREA AND ICC/ANSI 117.1, 2003

ALL LANDSCAPING SHALL BE INSTALLED AT SUCH TIME SO AS TO BE IN HEALTHY CONDITION AT THE TIME OF SUBSTANTIAL COMPLETION. ANY LANDSCAPE MATERIALS NOT IN SUCH CONDITION AT THE TIME OF SUBSTANTIAL COMPLETION SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER, GROWING SEASON, AND CONSTRUCTION SCHEDULE IN SCHEDULING INSTALLATIONS AFTER SUBSTANTIAL COMPLETION.

ALL BEARING SOIL SHALL BE UNDISTURBED OR 100% COMPACTED SOIL TO ACCOMMODATE THE INSTALLATION OF FOOTINGS, FOUNDATION WALLS, PILINGS, ETC. WHEN NOT INDICATED OTHERWISE IN THESE CONTRACT DOCUMENTS AND SPECIFICATIONS VIA SOIL REPORT, BEARING CAPACITY OF THE SOIL IN THE AREA OF WORK SHALL BE CONSIDERED TO BE 3,000 PSI WITHOUT DETRIMENTAL SETTLEMENT. IN SUCH CASES, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TESTING TO VERIFY THIS CONDITION PRIOR TO COMMENCEMENT OF WORK.

FOOTINGS SHALL BE LOCATED A MINIMUM OF 30" BELOW GRADE, UNLESS OTHERWISE INDICATED IN THESE DOCUMENTS.

IN PERFORMING ANY EARTHWORK, ALL EXCAVATED AREAS SHALL BE PROVIDED WITH TEMPORARY SUPPORTS AND/OR SHARING TO PREVENT ANY COLLAPSE. EXCAVATED SOILS, FILL, ETC. SHALL BE STORED SO AS NOT TO EXCEED THE ANGLE OF REPOSE FOR EACH TYPE. ALL BEARING SOIL, WHEN EXCAVATED AND STORED SHALL BE PROPERLY PROTECTED FROM THE ELEMENTS UNTIL BACKFILLING.

BACKFILLING SHALL BE PERFORMED IN MAX. 6" LIFTS UNLESS OTHERWISE INDICATED IN THESE DOCUMENTS. EACH LIFT SHALL BE TAMPED PRIOR TO CONTINUING WORK.

ALL MISCELLANEOUS WOOD SHALL BE MIN. NO. 1 OR BETTER DOUGLASS FIR. WOOD NAILERS, BLOCKING, ETC. IN FOUNDATION CONSTRUCTION SHALL BE TREATED TO RESIST DECAY.

ALL CRAWL SPACES AND SLAB ON-GRAD CONDITIONS SHALL BE PROVIDED WITH 6 MIL. POLYETHYLENE VAPOR BARRIER FOR THE ENTIRE FOOTPRINT AND MIN. 24" WIDE 2" RIGID INSULATION AT THE ENTIRE PERIMETER OF THE BUILDING FOOTPRINT.

ALL CONCRETE TO BE PROVIDED SHALL BE MIN. 4,000 PSI IN 28 DAYS UNLESS INDICATED OTHERWISE IN THESE DOCUMENTS.

ALL CONCRETE MASONRY UNITS WHEN LOAD-BEARING SHALL CONFORM TO ASTM C34-84. IN NON-LOAD-BEARING APPLICATIONS MASONRY UNITS SHALL COMPLY WITH C56-81.

ALL DOORS AND WINDOWS AT EXTERIOR WALLS SHALL BE PROVIDED WITH ALUM. SILL FLASHING UNDER THE ENTIRE WIDTH OF THE OPENING. AT WINDOW AREAS, FLASHING SHALL HAVE UPTURNED EDGES WITH SOLDERED CORNERS AND PITCH TO THE EXTERIOR. ALL WINDOWS AND DOORS SHALL BE PROVIDED WITH SHIM SPACES AT THE PERIMETER TO ENSURE A PLUMB AND TRUE INSTALLATION.

ALL GLAZING IN HAZARDOUS AREAS AS DEFINED IN 2406.2 SHALL BE TEMPERED GLAZED SAFETY GLASS AND SHALL BE IMPACT-RESISTANT GLAZED OPENINGS.

ALL GYPSUM WALL BOARD TO BE 5/8" FIRECODE 'C' UNLESS INDICATED OTHERWISE IN THE DOCUMENTS.

ALL BATHROOM AND KITCHEN AREAS SHALL BE PROVIDED WITH WATER-RESISTANT G.W.B., TYPICAL. ALL TILE AREAS SHALL BE PROVIDED WITH CEMENTITIOUS BOARD BACK-UP UNLESS INDICATED OTHERWISE.

IN ALL PAINTED WALL AREAS, G.W.B. SHALL BE TAPED AND SPACKLED TO MIN. LEVEL 4 FINISH.

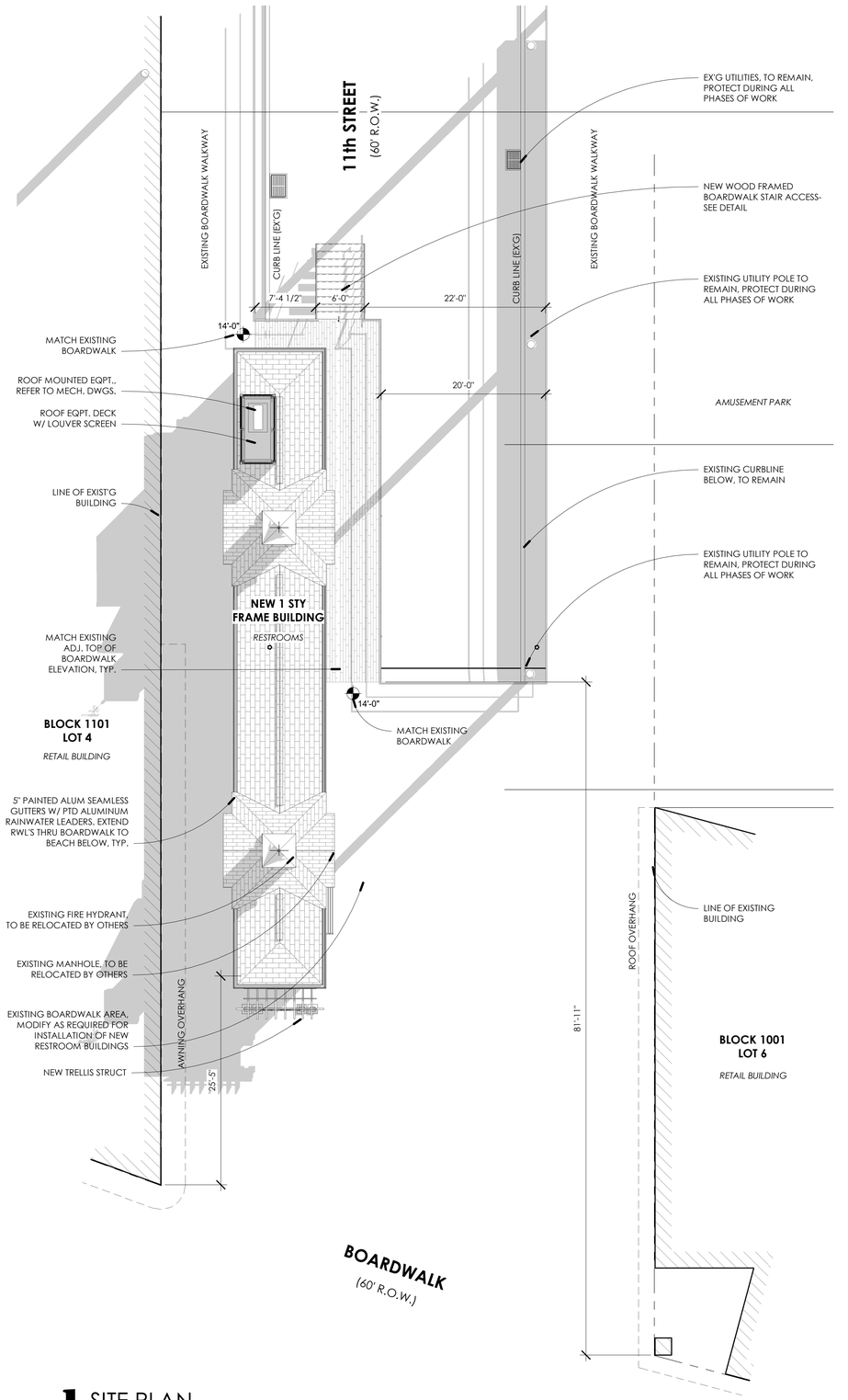
IN ALL WALL-COVERED AREAS, G.W.B. SHALL BE TAPED AND SPACKLED TO MIN. LEVEL 4, FINISH.

SHOP DRAWINGS SHALL BE REQUIRED FOR ALL MILLWORK.

ALL THRESHOLDS AND OTHER FLOORING TRANSITIONS SHALL COMPLY WITH THE FLOOR LEVEL CHANGES CONSTITUTED IN ICC/ANSI 117.1, 2003.

ALL SPECIALTIES, ACCESSORIES, OR OTHER WALL-MOUNTED EQUIPMENT, FIXTURES, ETC. SHALL BE PROVIDED WITH NON-COMBUSTIBLE BLOCKING IN THE WALL CAVITY FOR SUPPORT UNLESS SPECIFICALLY NOTED OTHERWISE.

ALL ELEVATOR PITS (WHERE APPLICABLE) SHALL BE PROVIDED WITH SUMP PUMP CONNECTED TO THE BUILDING STORM WATER SYSTEM. THE PIT SHALL BE PROVIDE WITH A GALV. STEEL ACCESS LADDER MOUNTED IN AN OSHA COMPLIANT LOCATION WITH WORK LIGHT AND SWITCH ACCESSIBLE FROM THE POINT OF ENTRY. ALL ELEVATOR DOORS SHALL BE PROVIDED WITH STRUCTURAL STEEL SILL ANGLES AS REQUIRED BY THE MANUFACTURER.



1 SITE PLAN
1/8" = 1'-0"

PROPOSED NEW RESTROOMS:
CITY OF OCEAN CITY
11TH STREET & BOARDWALK
OCEAN CITY, NJ 08226

OWNER:	CITY OF OCEAN CITY 861 ASBURY AVENUE OCEAN CITY, NJ 08226
ARCHITECT:	WILLIAM McLEES ARCHITECTURE 5 MACARTHUR BOULEVARD SOMERS POINT, NJ 08244 CONTACT: WILLIAM McLEES, AIA 609.927.0888
ENGINEER:	CONCORD ENGINEERING 2311 ATLANTIC AVENUE ATLANTIC CITY, NJ 08401 CONTACT: ANTHONY CAUCCI, PE 609.272.9620

BUILDING CODE ANALYSIS

This work is governed by the New Jersey Uniform Construction Code, New Jersey Edition of the 2018 International Building Code and all other applicable subcodes as adopted therein. This work shall qualify as NEW CONSTRUCTION under the requirements and definitions of the New Jersey U.C.C.

	Enclosed
Total Building Areas:	624 S.F.
Building Footprint:	624 S.F.
Use Group:	U
Construction Class:	V-B

DRAWING LIST

SHEET NUMBER	SHEET NAME	ISSUE DATE	CURRENT REVISION	REVISION DATE
A1	PROJECT INFORMATION, SITE PLAN	01.06.21		
A2	FLOOR & CEILING PLANS and TYPICAL INTERIOR ELEVATIONS	01.06.21		
A3	REFLECTED CEILING PLAN, ROOF FRAMING PLAN & ROOF PLAN	01.06.21		
A4	EXTERIOR ELEVATIONS, SECTIONS and PARTITION DETAILS	01.06.21		
A5	EXTERIOR ELEVATIONS, BUILDING SECTIONS and DETAILS	01.06.21		
A6	DOOR & WINDOW SCHEDULES, FINISH SCHEDULE and DETAILS	01.06.21		
S1	STRUCTURAL FOUNDATION PLAN	12.30.20		
S2	STRUCTURAL NOTES, DETAILS	12.30.20		
M0	MECHANICAL LEAD SHEET & SPEC	12.11.20		
M1	MECH SPECIFICATIONS	12.11.20		
M2	MECH FLOOR PLAN	12.11.20		
M3	MECH DETAILS	12.11.20		
M4	MECH DETAILS	12.11.20		
P1	PLUMBING LEAD SHEET	12.11.20		
P2	PLUMBING SPECS	12.11.20		
P3	PLUMBING SCHED & DIAGRAMS	12.11.20		
P4	PLUMBING DETAILS	12.11.20		
P5	PLUMBING DETAILS	12.11.20		
P6	PLUMBING FLOOR PLANS	12.11.20		
E1	ELECTRICAL COVER	12.11.20		
E2	ELECT SINGLE LINE & DETAIL	12.11.20		
E3	ELECT SITE PLAN	12.11.20		
E4	ELECT LIGHTING & POWER PLANS	12.11.20		
E5	ELECT HEAT TRACE DETAILS	12.11.20		

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New Jersey State Certificate of Authorization # 21AC00055500

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11TH STREET
BOARDWALK
RESTROOMS
11TH STREET & BOARDWALK
OCEAN CITY, NJ 08226

No.	Description	Date

PROJECT INFORMATION, SITE PLAN

Scale	As indicated
Drawn by	Author
Date	01.06.21

A1

Comission no. 20031O

1/5/2021 1:34:29 PM

ROOM SCHEDULE

ROOM			FLOOR		BASE		WALL				CLG			
NO.	NAME	AREA	MAT'L	FINISH	MAT'L	FINISH	N	E	S	W	MAT'L	FINISH	HEIGHT	NOTE
1	FAMILY RM	45 SF	RS01	NS	RS01		FRP01	FRP01	FRP01	FRP01			9'-0"	
2	ACCESSIBLE	45 SF	"	"	"		"	"	"	"			"	
3	UNISEX	39 SF	"	"	"		"	"	"	"			"	
4	UNISEX	39 SF	"	"	"		"	"	"	"			"	
5	UNISEX	39 SF	"	"	"		"	"	"	"			"	
6	UNISEX	39 SF	"	"	"		"	"	"	"			"	
7	UNISEX	39 SF	"	"	"		"	"	"	"			"	
8	UNISEX	39 SF	"	"	"		"	"	"	"			"	
9	UNISEX	39 SF	"	"	"		"	"	"	"			"	
10	UNISEX	39 SF	"	"	"		"	"	"	"			"	
11	STORAGE/UTIL	46 SF	"	"	"		"	"	"	"			8'-0"	Verify ceiling height in field

LIST OF FINISHES

FRP01 FIBERGLASS REINFORCED PANEL BY MARLITE OR EQUAL, COLOR BY ARCHITECT.

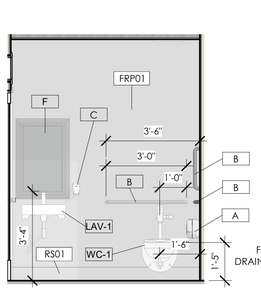
PC01 POLISHED CONCRETE, (2) COATS CLEAR WATERPROOF SEALER FINISH.

PT01 SHERMAN WILLIAMS SW7005 "PURE WHITE" LATEX PAINTED FINISH. PRIME & (2) COATS. EG-SHEL FINISH.

RS01 RESINOUS FLOORING WITH INTEGRAL 4" COVE BASE, COLOR BY ARCHITECT. NON-SLIP FINISH.

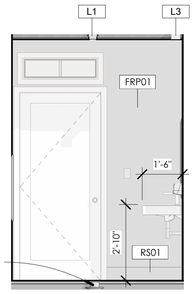
RESTROOM ACCESSORIES SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL	DIMENSIONS	MOUNTING HEIGHT	NOTES
A	TOILET TISSUE	OWNER PROVIDED, GC INSTALL		T.B.D.	15" A.F.F.	TO BOTTOM
B	GRAB BARS - TOILET	BOBRICK		1-1/2" X 42"	34" A.F.F.	TO CENTER
				1-1/2" X 36"	34" A.F.F.	TO CENTER
				1-1/2" X 18"	39" A.F.F.	TO BOTTOM
C	SOAP DISPENSER	OWNER PROVIDED, GC INSTALL			46" A.F.F. MAX	TO CENTER
D	TOWEL/TRASH	OWNER PROVIDED, GC INSTALL			42" A.F.F. MAX	TO CENTER
E	SAN. NAPKIN DISP.	OWNER PROVIDED, GC INSTALL				
F	MIRROR	GC PROVIDED, GC INSTALL		24" X 36"	40" A.F.F. MAX	TO REFLECTING SURFACE
G	BABY CHANGER	KOALA CARE				

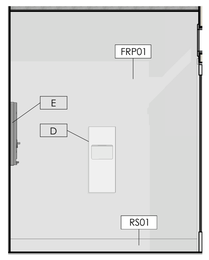


PROVIDE PIPE INSULATION PER ICC/ANSI 117.1

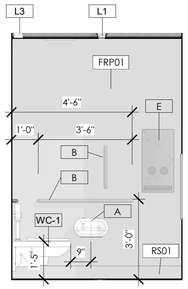
8 INT. ELEVATION
3/8" = 1'-0"



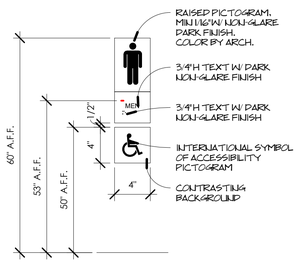
7 INT. ELEVATION
3/8" = 1'-0"



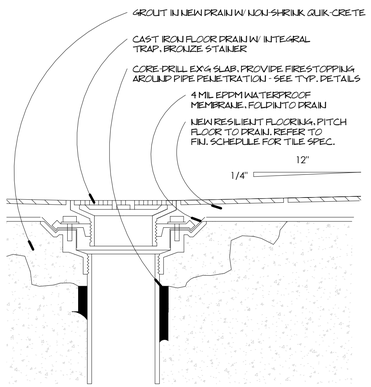
6 INT. ELEVATION
3/8" = 1'-0"



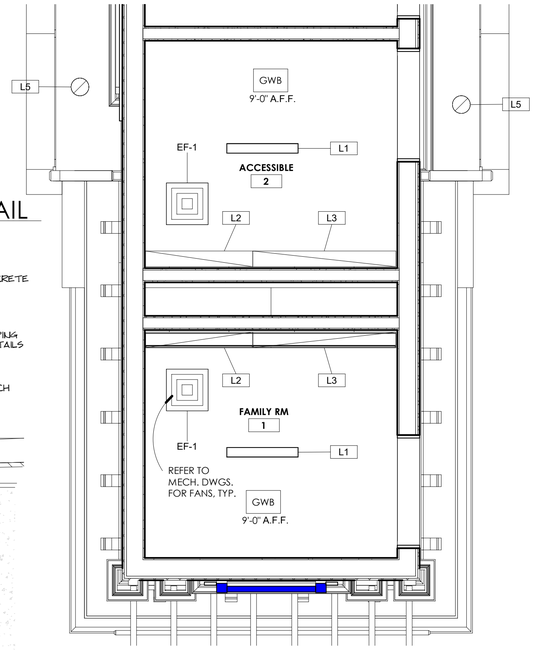
5 INT. ELEVATION
3/8" = 1'-0"



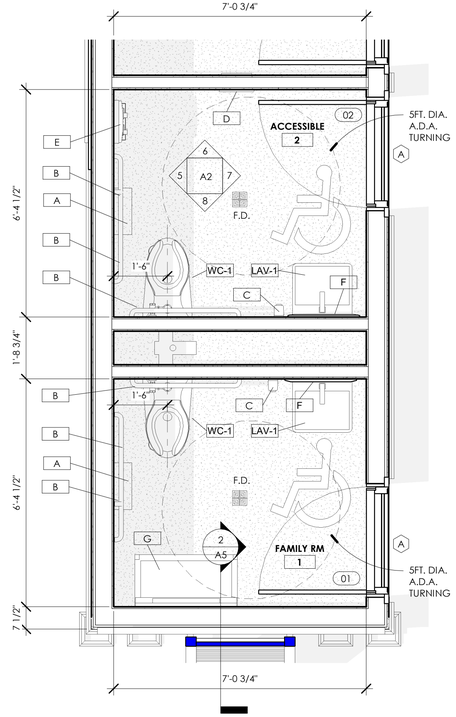
4 RESTROOM SIGNAGE DETAIL
1 1/2" = 1'-0"



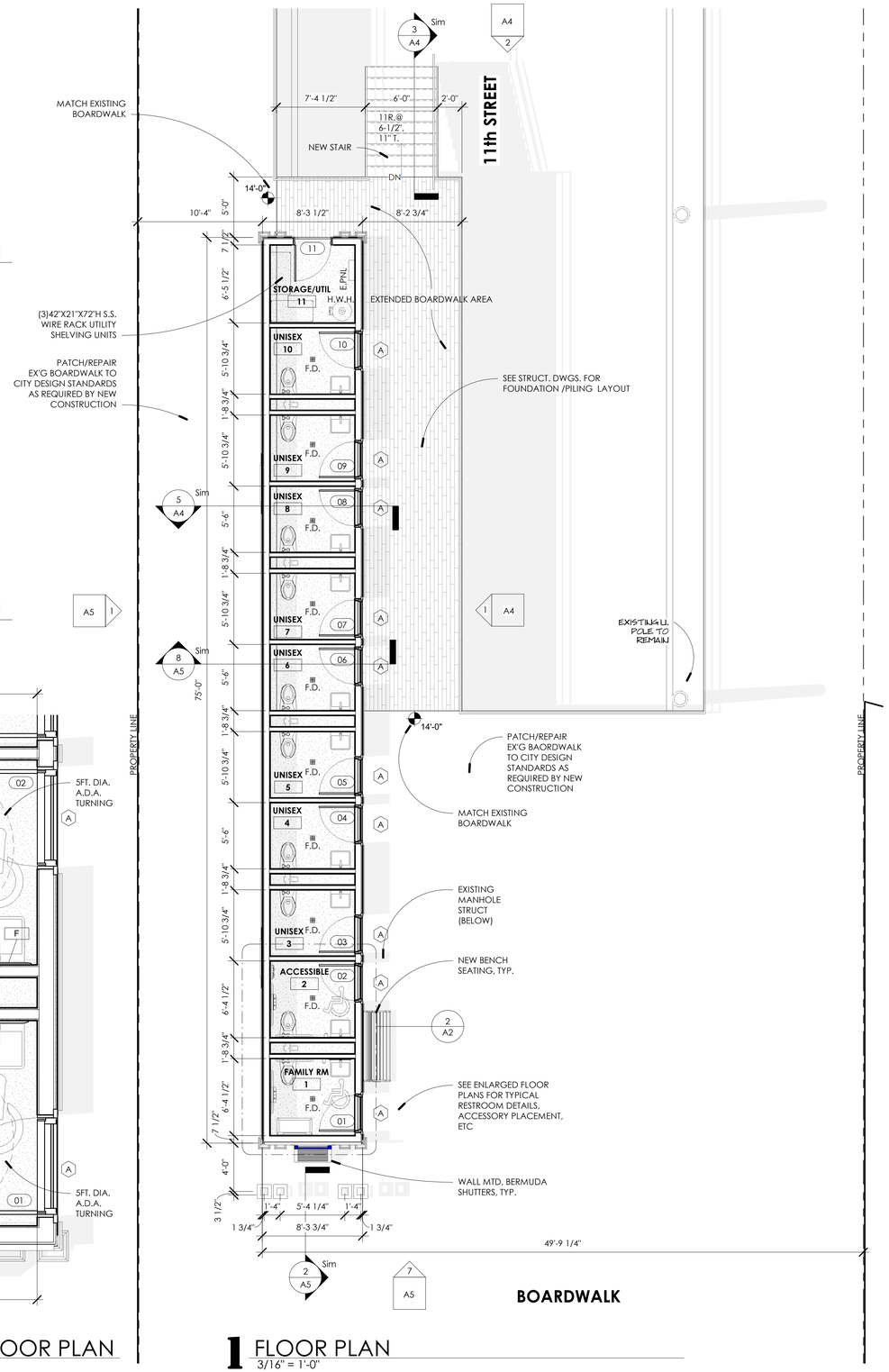
10 FLOOR DRAIN DETAIL
3" = 1'-0"



3 ENL. PART. CEILING PLAN
1/2" = 1'-0"



2 ENLARGED PARTIAL FLOOR PLAN
1/2" = 1'-0"



1 FLOOR PLAN
3/16" = 1'-0"

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11TH STREET BOARDWALK RESTROOMS
11TH STREET & BOARDWALK
OCEAN CITY, NJ 08226

No.	Description	Date

FLOOR & CEILING PLANS and TYPICAL INTERIOR ELEVATIONS

Scale	As indicated
Drawn by	Author
Date	01.06.21

A2

Comission no. 200310

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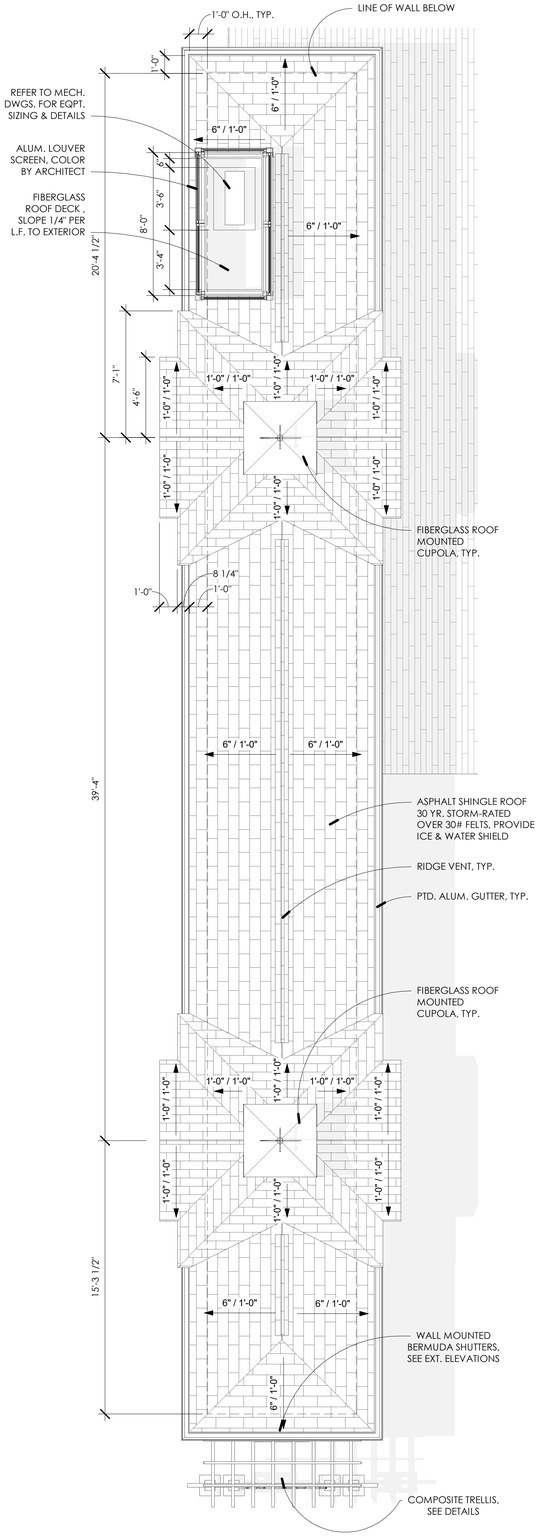
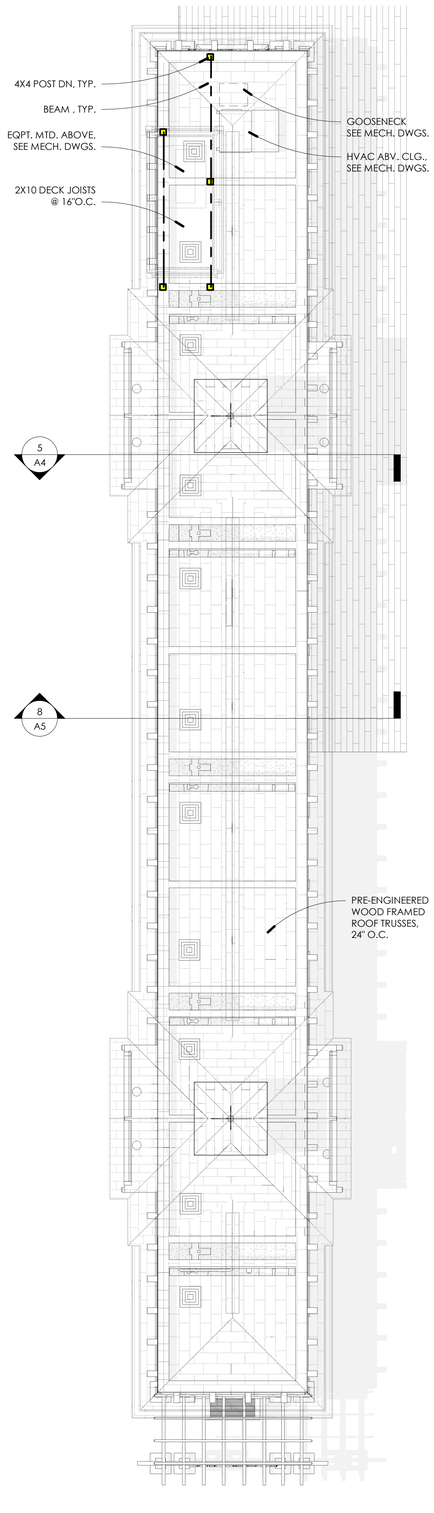


3 ROOF PLAN
1/4" = 1'-0"



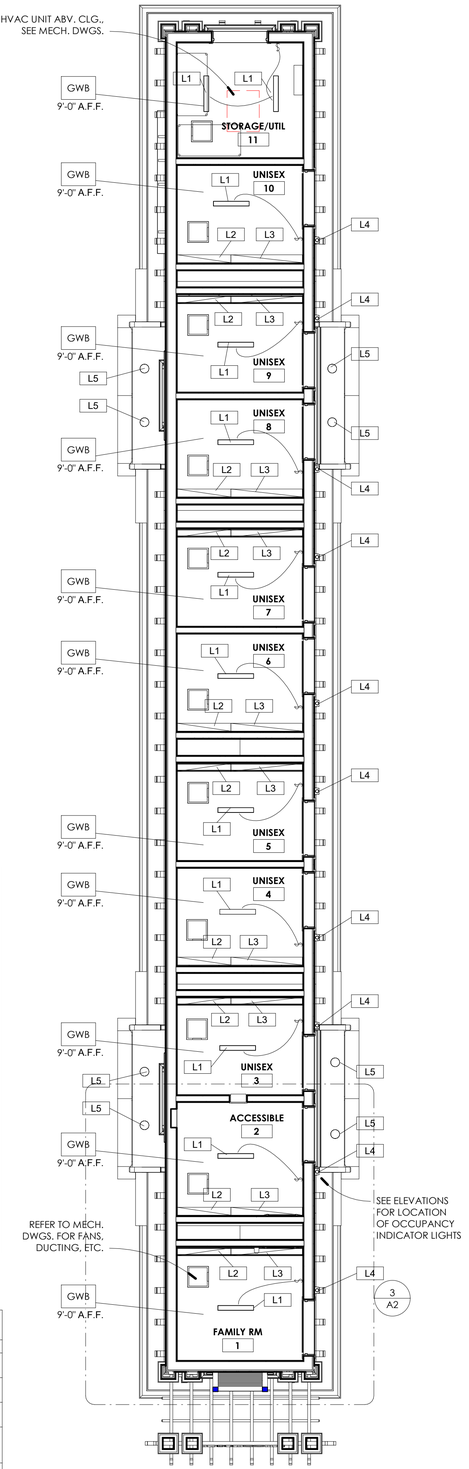
2 ROOF FRAMING PLAN
1/4" = 1'-0"

REFLECTED CEILING LEGEND

$	SINGLE POLE SWITCH
$3	3-WAY TOGGLE SWITCH
SD	SMOKE DETECTOR
	EXIT SIGN
	FIRE SPRINKLER
	EMERGENCY LIGHTING
S	SPEAKER
P	PULL STATION
	FIRE ALARM HORN / STROBE
"X"	LIGHTING FIXTURE TYPE 'X' (SEE SCHEDULE)
9'-0" / GWB	CEILING TAG: CEILING FINISH MATERIAL / CEILING HT. A.F.F.

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUF.	MODEL NUMBER	VOLTAGE	WATTS	MTG	NOTES
L1	SLOT RECESSED LINEAR LOW PROFILE	ACUITY	SL4L-4-RLP-80CRI-35K-600LMF	120	6	C	
L2	RECESSED PERIMETER WALL WASH	ACUITY	SPRLED-3FT-RLP-80-35K-400LMF-120	120	3.4	C	
L3	RECESSED PERIMETER WALL WASH	ACUITY	SPRLED-4FT-RLP-80-35K-600LMF-120	120	5.8	C	
L4	OCCUPANCY INDICATOR LIGHT	TOOSH	STANDARD CLEAR LENS RED/GREEN TYP., BLUE FOR A.D.A. RESTROOM, VANDAL -RESISTANT			W	PAIR WITH SCHLAGE B571 DEADBOLT INCL. TRANSMITTER MODULE, POWERED BY (2) AA BATTERIES
L5	6" ROUND DOWNLIGHT	NSL	LVLDL-06-CCT-WH-R-L3	120	12	C	



1 REFLECTED CEILING PLAN
1/4" = 1'-0"

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11TH STREET BOARDWALK RESTROOMS
11TH STREET & BOARDWALK
OCEAN CITY, NJ 08226

No.	Description	Date

REFLECTED CEILING PLAN, ROOF FRAMING PLAN & ROOF PLAN

Scale	1/4" = 1'-0"
Drawn by	Author
Date	01.06.21

A3

Comission no. 20031O

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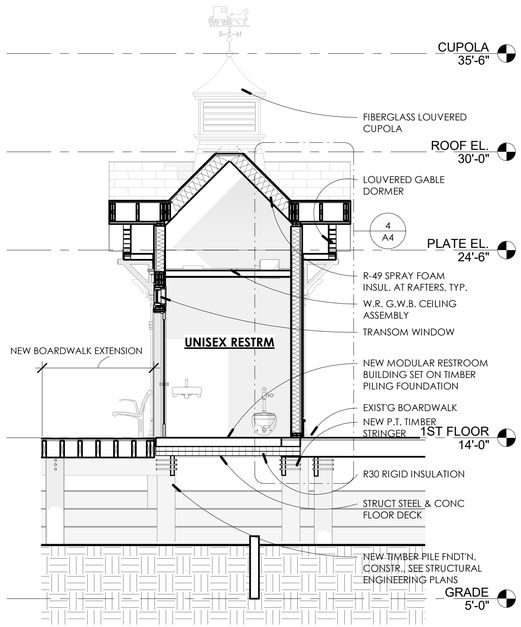
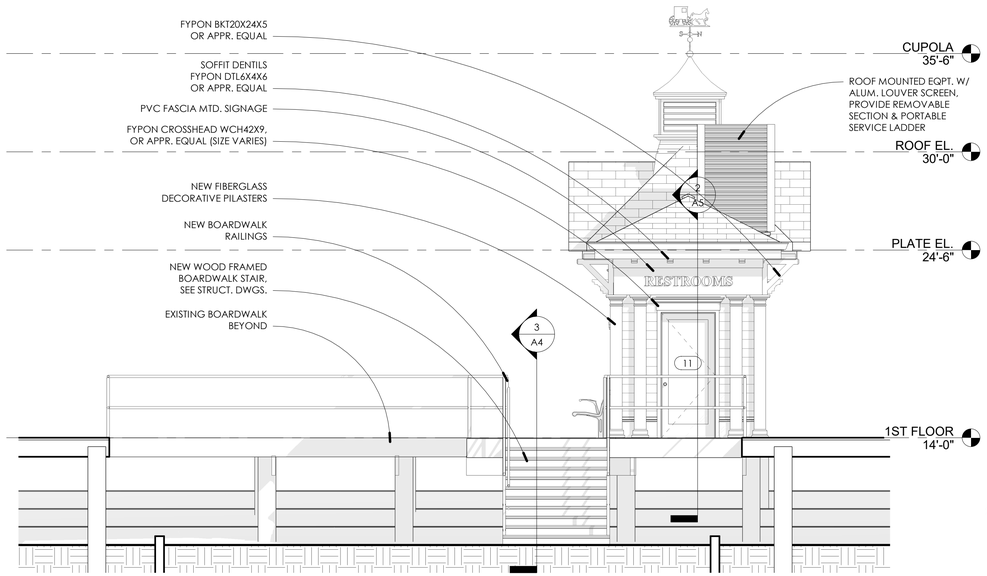


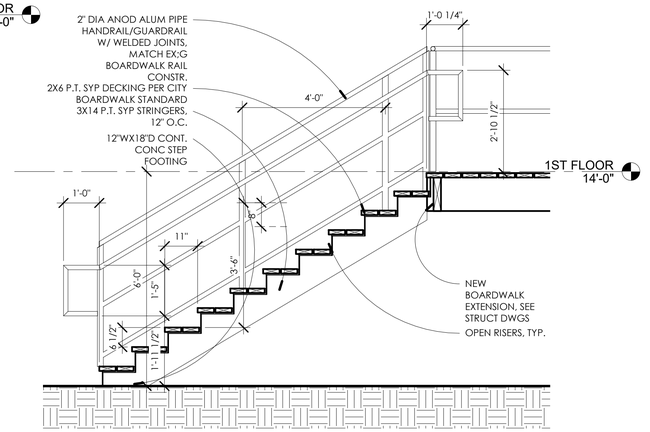
5 BUILDING SECTION
1/4" = 1'-0"



2 WEST ELEVATION
1/4" = 1'-0"

EXTERIOR NOTES

KEY TAG	DESCRIPTION
CP1	FIBERGLASS CUPOLA
DR1	FRP INSULATED DOOR, PT90 FINISH
LT1	EXTERIOR-RATED OCCUPANCY INDICATOR SCONCE
MD1	FIBERGLASS DECORATIVE COLUMN ENCLOSURE
MD2	P.U. DECORATIVE SOFFIT DENTIL BY FYPON OR APPROVED EQ.
MD3	COMPOSITE WATERTABLE MOLDING BY VERSATEX OR APRPOVED EQ.
MD4	9" P.U. CROSSHEAD BY FYPON OR APPROVED EQ.
MD5	24" P.U. DECORATIVE WALL BRACKET BY FYPON OR APPROVED EQ.
RA1	NEW STEEL PIPE BOARDWALK GUARDRAIL TO MATCH EXISTING ADJACENT. MATCH CITY DESIGN STANDARDS
RF1	NEW 30 YR. STORM-RATED HIGH-DEFINITION ASPHALT ROOF SHINGLES, TIMBERLINE BY GAF OR APPROVED EQ.
SD1	6" CEMENTITIOUS CLAPBOARD PLANK SIDING WITH KNITTED CORNERS, BY JAMES HARDIE OR APPROVED EQ. COLOR BY ARCH
SF1	BENCH
SG1	COMPOSITE CHANNEL LETTER SIGNAGE, 12"
SH1	COMPOSITE BERMUDA SHUTTER, WALL MOUNTED, BY ATLANTIC SHUTTER OR APPROVED EQ., WHITE
TL1	COMPOSITE TRELLIS CONSTRUCTION, BY INTEX OR APPROVED EQ.
TR1	COMPOSITE RUNNING TRIM BY VERSATEX OR APPROVED EQ.
WN1	ALUM CLAD WOOD TRANSOM WINDOW W/ 1" CLEAR LOW-E INSULATING TEMP GLASS, ANDERSON 400 SERIES OR APPROVED EQ.
WN2	PAINTED ALUM STORM-RATED TRIPLE VANE ARCHITECTURAL WALL LOUVERS



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

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

1 INSIDE ELEVATION
1/4" = 1'-0"

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11TH STREET BOARDWALK RESTROOMS
11TH STREET & BOARDWALK
OCEAN CITY, NJ 08226

No.	Description	Date

EXTERIOR ELEVATIONS, SECTIONS and PARTITION DETAILS

Scale	As indicated
Drawn by	Author
Date	01.06.21

A4

Comission no. 20031O

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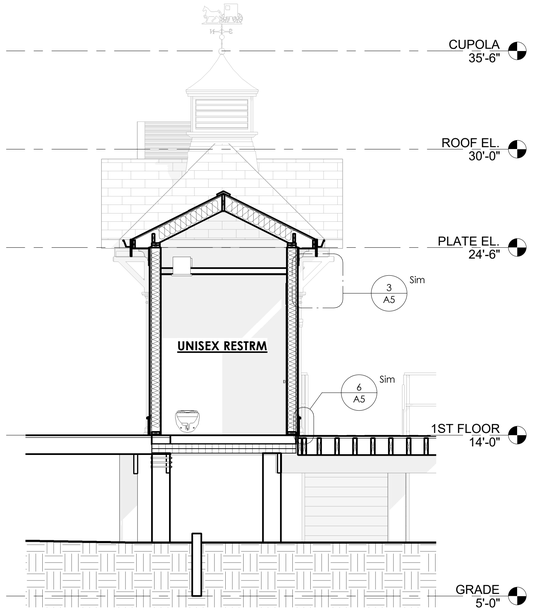
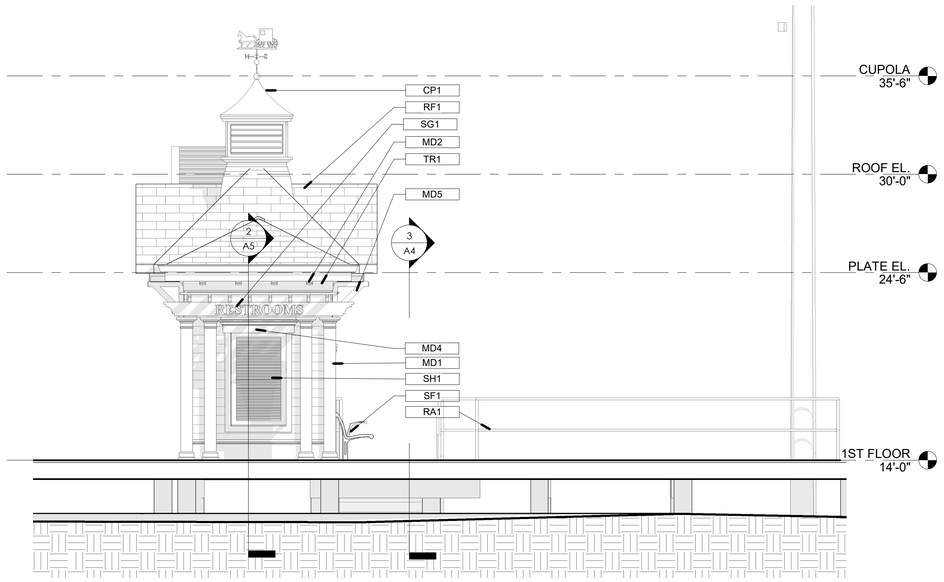


8 BUILDING SECTION
1/4" = 1'-0"



7 EAST ELEVATION
1/4" = 1'-0"

EXTERIOR NOTES	
KEY TAG	DESCRIPTION
CP1	FIBERGLASS CUPOLA
DR1	FRP INSULATED DOOR, PT90 FINISH
LT1	EXTERIOR-RATED OCCUPANCY INDICATOR SCONCE
MD1	FIBERGLASS DECORATIVE COLUMN ENCLOSURE
MD2	P.U. DECORATIVE SOFFIT DENTIL BY FYPON OR APPROVED EQ.
MD3	COMPOSITE WATERTABLE MOLDING BY VERSATEX OR APRPOVED EQ.
MD4	9" P.U. CROSSHEAD BY FYPON OR APPROVED EQ.
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SF1	BENCH
SG1	COMPOSITE CHANNEL LETTER SIGNAGE, 12"
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TL1	COMPOSITE TRELLIS CONSTRUCTION, BY INTEX OR APPROVED EQ.
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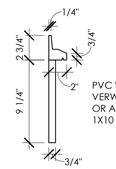
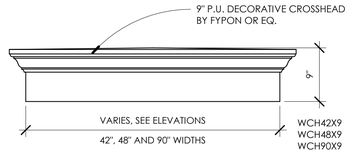
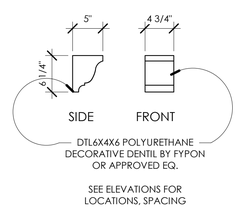
WN1	ALUM CLAD WOOD TRANSOM WINDOW W/ 1" CLEAR LOW-E INSULATING TEMP GLASS, ANDERSON 400 SERIES OR APPROVED EQ.
WN2	PAINTED ALUM STORM-RATED TRIPLE VANE ARCHITECTURAL WALL LOUVERS



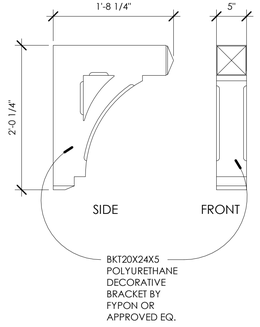
6 WATER TABLE SILL
1 1/2" = 1'-0"



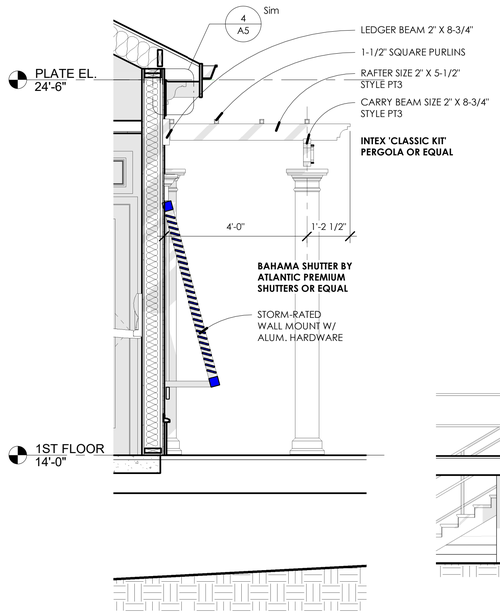
5 CROSSHEAD
1" = 1'-0"



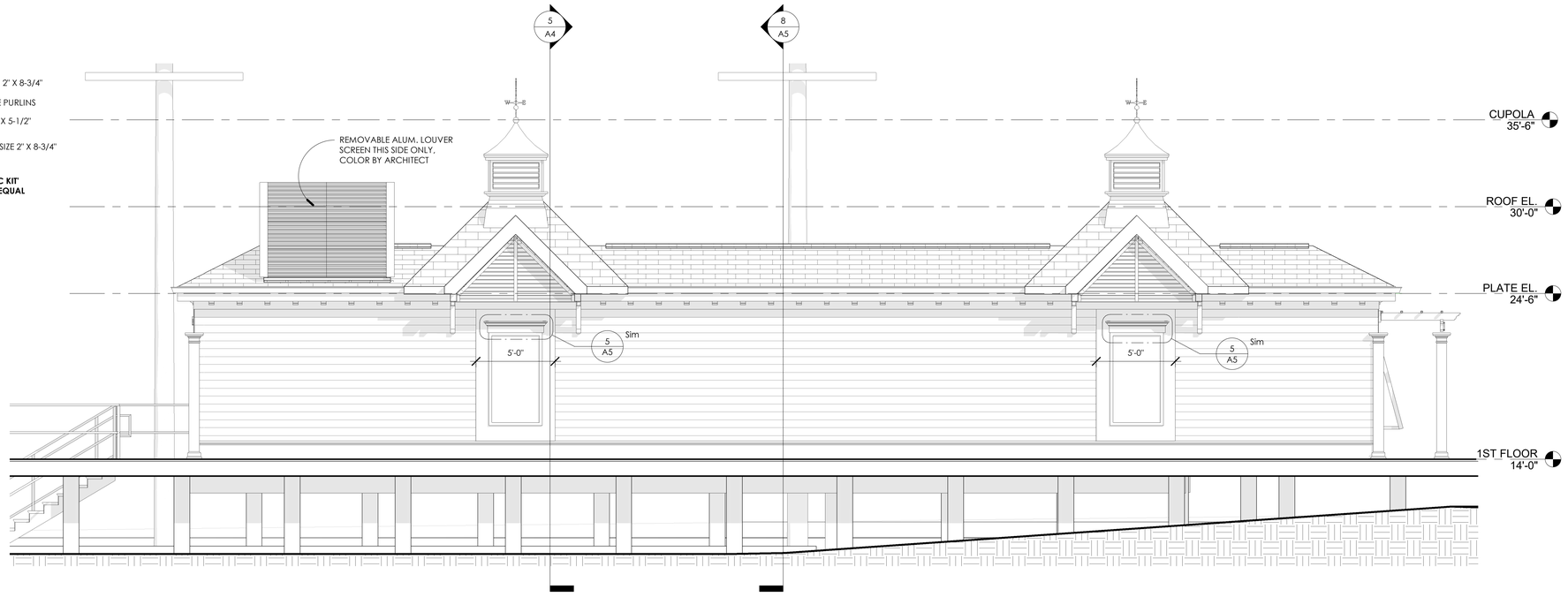
4 DENTIL
1" = 1'-0"



3 BRACKET
1" = 1'-0"



2 TRELLIS SECTION
1/2" = 1'-0"



1 SOUTH ELEVATION
1/4" = 1'-0"

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11TH STREET BOARDWALK RESTROOMS
11TH STREET & BOARDWALK
OCEAN CITY, NJ 08226

No.	Description	Date

EXTERIOR ELEVATIONS, BUILDING SECTIONS and DETAILS

Scale	As indicated
Drawn by	Author
Date	01.06.21

A5

Comission no. 20031O

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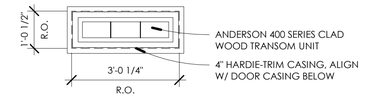
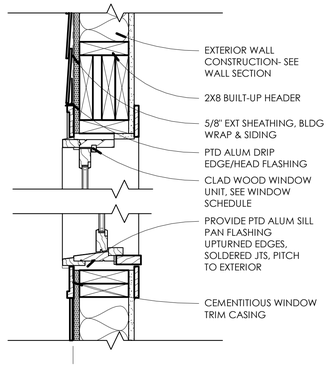
WINDOW SCHEDULE

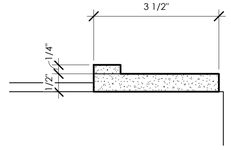
TAG	R.O.W.	R.O.H.	MANUFACTURER	MODEL	OEPRATION	GLAZING	HEAT XFER VALUE (U)	S.H.G.C.	COMMENTS
A	3'-0 1/2"	1'-0 1/2"	Andersen Corporation	CTR3010		Glass □ Andersen - Low-E4 SmartSun	0.2800 BTU/(h·ft²·°F)	0.21	



'A'

WINDOW TYPES





12 CASING DETAIL
6" = 1'-0"

2 WINDOW HEAD SILL
1 1/2" = 1'-0"

DOOR SCHEDULE

NUMBER	WIDTH	HEIGHT	DOOR MATERIAL	DOOR TYPE	FRAME MATERIAL	RATING	HARDWARE	NOTES
01	3'-0"	7'-0"	FRP	A			2	
02	3'-0"	7'-0"	FRP	A			2	
03	3'-0"	7'-0"	FRP	A			2	
04	3'-0"	7'-0"	FRP	A			2	
05	3'-0"	7'-0"	FRP	A			2	
06	3'-0"	7'-0"	FRP	A			2	
07	3'-0"	7'-0"	FRP	A			2	
08	3'-0"	7'-0"	FRP	A			2	
09	3'-0"	7'-0"	FRP	A			2	
10	3'-0"	7'-0"	FRP	A			2	
11	3'-0"	7'-0"	FRP	A			1	

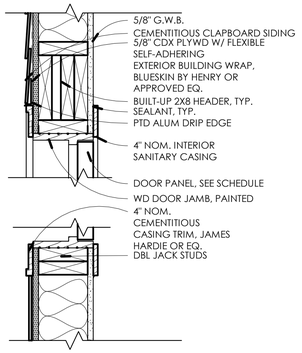
HARDWARE SCHEDULE

TYPE 1 - SECURE

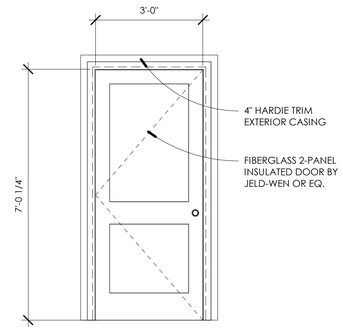
LOCKSET:	CORBIN RUSSWIN, FULL MORTISE STOREROOM FUNCTION W/ ADA 'REGIS' LEVER HANDLE
HINGES:	5-KNUCKLE MORTISED BALL BEARING HINGES
CLOSER:	NONE
WEATHERSTRIPPING:	NONE
SWEEP:	NONE
STOP:	IVES FLOOR MOUNTED
SILENCERS:	(1) SET

TYPE 2 - RESTROOM

LOCKSET:	CORBIN RUSSWIN, FULL MORTISE PRIVACY FUNCTION W/ ADA 'REGIS' LEVER HANDLE
HINGES:	5-KNUCKLE MORTISED BALL BEARING HINGES
CLOSER:	NONE
WEATHERSTRIPPING:	NONE
SWEEP:	NONE
STOP:	IVES FLOOR MOUNTED
SILENCERS:	(1) SET



1 DOOR HEAD-JAMB
1 1/2" = 1'-0"



'A'

DOOR TYPES

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11TH STREET BOARDWALK RESTROOMS

11TH STREET & BOARDWALK
OCEAN CITY, NJ 08226

No.	Description	Date

DOOR & WINDOW SCHEDULES, FINISH SCHEDULE and DETAILS

Scale	As indicated
Drawn by	Author
Date	01.06.21

A6

Comission no. 20031O

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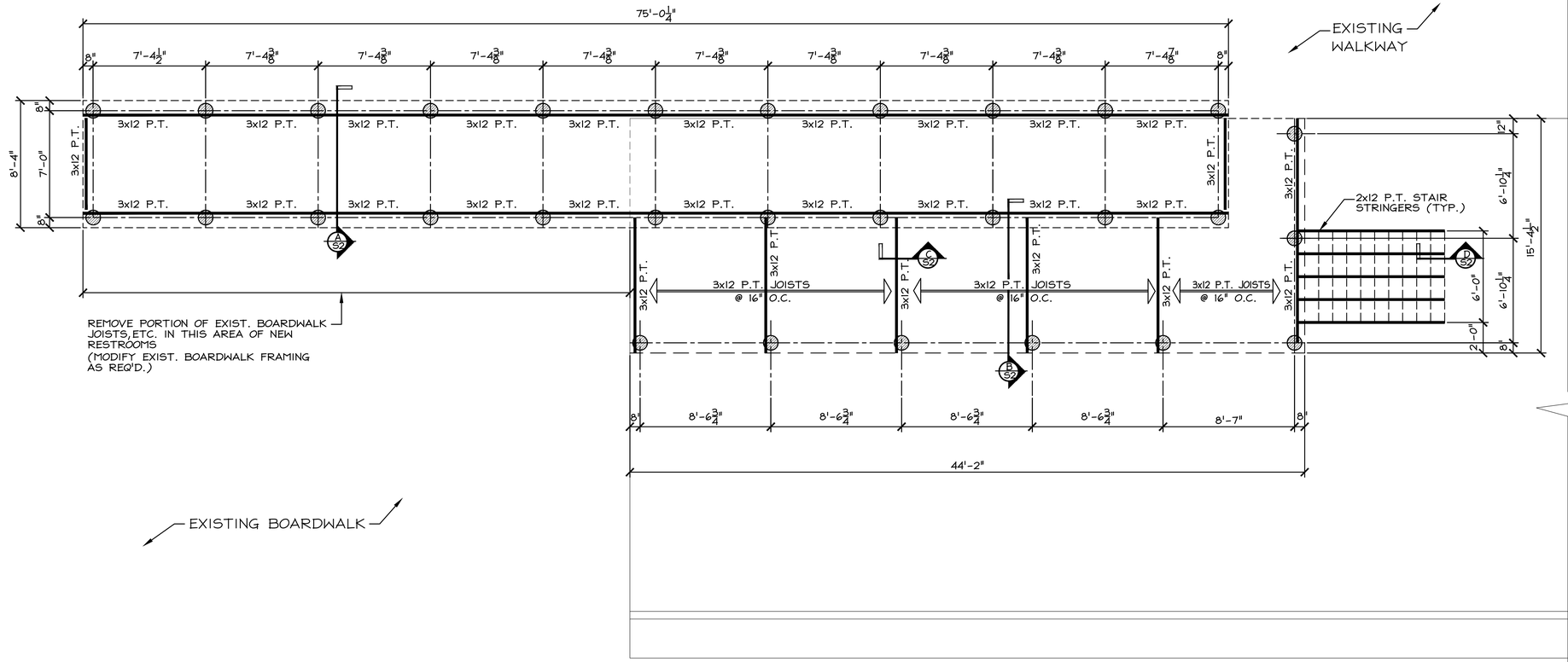

RESTROOM/BOARDWALK FRAMING

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

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11TH STREET BOARDWALK RESTROOMS

11TH STREET & BOARDWALK
OCEAN CITY, NJ 08226

No.	Description	Date

RESTROOM FRAMING and DETAILS

Scale	As indicated
Drawn by	ACE
Date	12.30.20

S1

Comission no. 20031O

NOTES

GENERAL

1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND DIMENSIONS AND SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS PRIOR TO BIDDING. WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND THE SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING NOTES:
2. THE OWNER AND CONTRACTOR SHALL INDEMNIFY, INSURE AND HOLD HARMLESS THE ENGINEER AND EACH OF HIS DIRECTORS, OFFICERS, EMPLOYEES, ATTORNEYS, AGENTS, SUBCONSULTANTS, HEIRS AND ASSIGNS, AGAINST, AND HOLD EACH OF THEM HARMLESS FROM, ANY LOSS, LIABILITIES, DAMAGES, CLAIMS, CAUSES OF ACTION, COSTS AND EXPENSES, INCLUDING REASONABLE ATTORNEY'S FEES AND DISBURSEMENTS, SUFFERED OR INCURRED BY ANY OF THEM ARISING OUT OF, RESULTING FROM, ATTRIBUTABLE TO, OR IN ANY MANNER CONNECTED WITH THE CONTRACTOR'S PERFORMANCE, NONPERFORMANCE, NEGLIGENT PERFORMANCE, OR BREACH OF THE CONTRACT AWARDED.
3. CONTRACTOR MUST NOTIFY THE OWNER AND ENGINEER OF ANY OMISSIONS, CONTRADICTIONS OR CONFLICTS SEVEN DAYS BEFORE THE BID DATE. ENGINEER WILL PROVIDE THE NECESSARY CORRECTIONS OR ADDITIONS TO PLANS. IF HE DOES NOT NOTIFY THE OWNER AND ENGINEER OF ANY SUCH CONDITION, IT WILL BE ASSUMED HE HAS INCLUDED THE NECESSARY ITEMS IN HIS BID.
4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL AND STATE REGULATIONS, BUILDING CODES, ORDINANCES AND GOOD CONSTRUCTION PRACTICES. IF THE CONTRACTOR FEELS A CONFLICT EXISTS BETWEEN WHAT IS CONSIDERED GOOD CONSTRUCTION PRACTICE AND THESE PLANS, HE SHALL STATE IN WRITING ALL OBJECTIONS PRIOR TO SUBMITTING QUOTATIONS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STABILITY AND INTEGRITY OF EXISTING STRUCTURES AND THE PROTECTION OF ADJACENT PROPERTY AND PUBLIC UNTIL COMPLETION OF THE WORK.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY DURING THE COURSE OF THE WORK, TO BRING TO THE ATTENTION OF THE OWNER AND ENGINEER ANY DELETERIOUS CONDITIONS DISCOVERED WHERE NOT PREVIOUSLY IDENTIFIED.
7. CONTRACTOR SHALL SUBMIT ALL ALTERNATE MATERIALS, METHODS OR CONSTRUCTION DETAILS TO THE OWNER AND ENGINEER FOR APPROVAL, PRIOR SUBMITTING QUOTATIONS.
8. CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR THE ACCURACY OF ALL MEASUREMENTS, ESTIMATES OF MATERIAL QUANTITIES AND SIZES, AND SITE CONDITIONS THAT WILL AFFECT WORK.
9. REFER TO THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR INFORMATION NOT SHOWN HEREIN.
10. CZAR ENGINEERING'S SERVICES LIMITED TO WORK AS DESCRIBED HEREIN ONLY. NO OTHER STRUCTURE WAS REVIEWED AND WE DEFER TO THE BUILDING CONTRACT DOCUMENTS FOR ALL OTHER DESIGN INFORMATION. IF THE CLIENT, OWNER, CONTRACTOR, OR ANY OTHER INTERESTED PARTY ARE AWARE OF DEFICIENCIES IN THE BALANCE OF THE STRUCTURE, IT IS INCUMBENT UPON THEM TO NOTIFY CZAR ENGINEERING, IN WRITING, AND ADDITIONAL SERVICES WOULD FOLLOW UNDER SEPARATE CONTRACT. OTHERWISE, CZAR ENGINEERING AND /OR LAMONT H. CZAR, P.E. CANNOT AND WILL NOT ACCEPT LIABILITY FOR DEFICIENCIES IN THE BALANCE OF THE STRUCTURE.

GENERAL REQUIREMENTS & CONDITIONS

1. WHERE A SECTION OR DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY TO ALL LIKE CONDITIONS EVEN THOUGH NOT SPECIFICALLY MARKED ON THE PLANS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF THE STRUCTURE DURING CONSTRUCTION AGAINST EARTH PRESSURE, WIND, AND OTHER FORCES UNTIL PERMANENT SUPPORTS ARE IN PLACE.
3. WHERE NO SPECIFIC INFORMATION IS GIVEN, CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE ARCHITECTURAL PLANS OR THE PRESCRIPTIVE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE.

PILING/FOUNDATION

1. PILES SHOULD SUPPORT A SAFE LOAD OF 12 TONS PER PILE AS DETERMINED BY THE ENGINEERING NEWS RECORD FORMULA FOR PILING CAPACITY.
2. PILING CONTRACTOR SHALL CONFIRM BY TEST PILE THE LENGTH AND DIMENSION OF THE PILING AS REQUIRED TO OBTAIN THE STATED CAPACITY, BUT IN NO CASE LESS THAN THE FOLLOWING:

A. 8" MINIMUM TIP DIAMETER
B. MINIMUM EMBEDMENT BELOW EXISTING GRADE (10.00' MSL)

3. ALL PILING SHALL BE PRESSURE TREATED WITH CHROMATED COPPER ARSENATE, TYPE C (CCA C) RATED FOR SEVERE EXPOSURE TO A MINIMUM NET RETENTION OF 1.0 PCF IN ACCORDANCE WITH AWPB SPECIFICATION MP4.
4. MINIMUM ALLOWABLE FIBER BENDING STRESS OF THE TIMBER SHALL BE 1200 PSI.

WOOD FRAMING

1. ALL LUMBER SHALL BE HEM-FIR #2, DOUGLAS FIR-LARCH #2, OR SOUTHERN PINE #2 OR BETTER.
2. LUMBER DESIGN IS BASED ON THE FOLLOWING:

EXTREME FIBER BENDING = 1,000 PSI=1,150 PSI (REPETITIVE USES)
MODULUS OF ELASTICITY = 1,400,000 PSI
HORIZONTAL SHEAR = 75 PSI
COMPRESSION PERP.
TO THE GRAIN= 405 PS

3. ALL TIMBER DESIGNATED AS SUCH SHALL BE PRESSURE TREATED (P.T.) WITH ALKALINE COPPER QUATERNARY (ACQ) PER AMERICAN WOOD PRESERVERS ASSOCIATION STANDARDS WITH MINIMUM NET RETENTION DEPENDENT ON THE FOLLOWING APPLICATIONS:

A. ABOVE GROUND (0.25)
B. GROUND CONTACT (0.40)
C. SALT WATER CONTACT (0.40)

15. FASTENERS FOR PRESSURE TREATED LUMBER SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED PER ASTM A153, CLASS D.

DESIGN LOAD SCHEDULE

GOVERNING CODE: 2016 NJIBC, ASCE 7-10 AND ATC COUNCIL WEB APP FOR WIND SPEED MAPPING.

1. DEAD LOAD: WEIGHT OF ALL BUILDING COMPONENTS.
2. LIVE LOADS: OFFICE = 50 PSF

3. ROOF LOADS: LIVE = 20 PSF
   GROUND SNOW = 30 PSF
   ROOF EXPOSURE FACTOR = 0.7
   SNOW IMPORTANCE FACTOR = 1.0
4. WIND LOADS: 138 MPH
   EXPOSURE CLASSIFICATION D
   RISK CATEGORY III
5. SEISMIC: AV = AA = 0.06
   HAZARD EXPOSURE GROUP II
   SOIL PROFILE TYPE S4 - COEFFICIENT = 2.0
   PERFORMANCE CATEGORY B
   RESPONSE MODIFICATION FACTOR R = 4.5
   DEFLECTION AMPLIFICATION FACTOR CD = 4.0

CODES AND STANDARDS

1. THE STATE OF NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS, CONSTRUCTION CODE ELEMENTS "UNIFORM CONSTRUCTION CODE";
2. INTERNATIONAL BUILDING CODE COUNCIL, AINTERNATIONAL BUILDING CODE 2016", NEW JERSEY EDITION
3. ASCE 7-10 ASTANDARD FOR MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
4. AMERICAN CONCRETE INSTITUTE, ABUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-05/ASCE 5-05/TMS 402-05),
5. AMERICAN CONCRETE INSTITUTE, ABUILDING REQUIREMENTS FOR STRUCTURAL CONCRETE (318-05).
6. AMERICAN INSTITUTE OF STEEL CONSTRUCTION, "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS--ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN", AISC 360-05
7. AMERICAN WELDING SOCIETY, ASTRUCTURAL WELDING CODE (DI.1-04)
8. AMERICAN INSTITUTE OF TIMBER CONSTRUCTION ATIMBER CONSTRUCTION MANUAL, 5TH EDITION.

DESIGN LOAD SCHEDULE

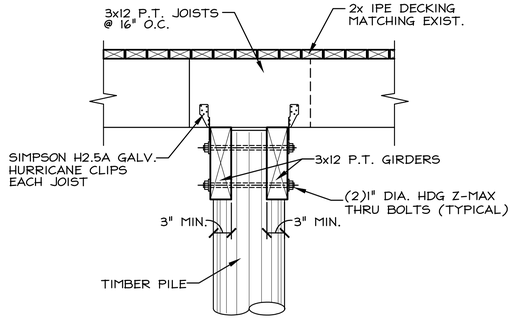
GOVERNING CODE: 2018 NJIBC, ASCE 7-16 AND ATC COUNCIL WEB APP FOR WIND SPEED MAPPING.

1. DEAD LOAD: WEIGHT OF ALL BUILDING COMPONENTS.
2. LIVE LOADS: DECK = 40 PSF

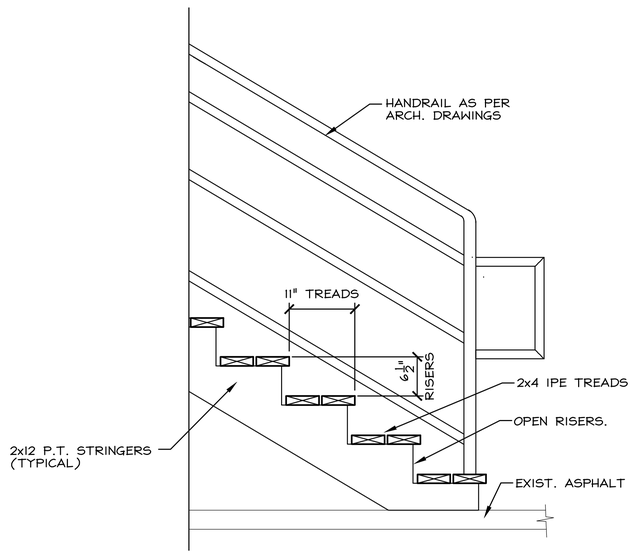
3. ROOF LOADS: LIVE = 20 PSF
   GROUND SNOW = 20 PSF
   ROOF EXPOSURE FACTOR = 0.7
   SNOW IMPORTANCE FACTOR = 1.0
4. WIND LOADS: 125 MPH
   EXPOSURE CLASSIFICATION D
   RISK CATEGORY II
5. SEISMIC: AV = AA = 0.06
   HAZARD EXPOSURE GROUP II
   SOIL PROFILE TYPE S4 - COEFFICIENT = 2.0
   PERFORMANCE CATEGORY B
   RESPONSE MODIFICATION FACTOR R = 4.5
   DEFLECTION AMPLIFICATION FACTOR CD = 4.0

CODES AND STANDARDS

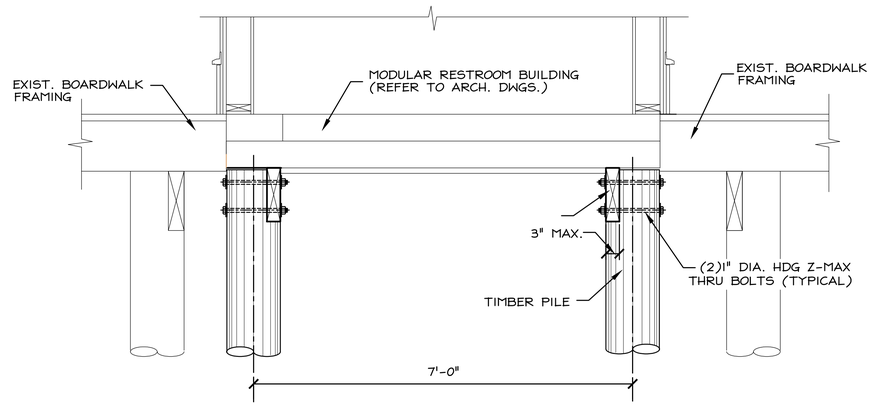
1. THE STATE OF NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS, CONSTRUCTION CODE ELEMENTS "UNIFORM CONSTRUCTION CODE";
2. INTERNATIONAL BUILDING CODE COUNCIL, INTERNATIONAL BUILDING CODE 2018", NEW JERSEY EDITION
3. AMERICAN INSTITUTE OF TIMBER CONSTRUCTION TIMBER CONSTRUCTION MANUAL, 5TH EDITION.



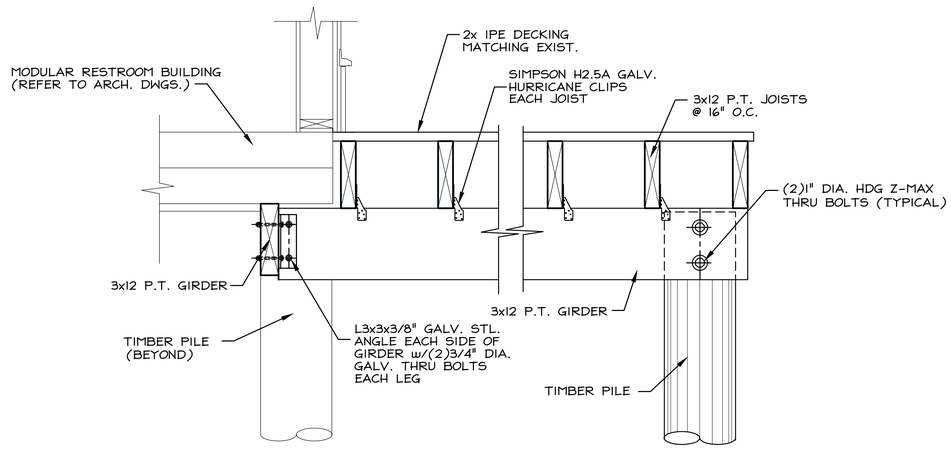
C FRAMING SECTION
SCALE-1"=1'-0"



D STAIR SECTION
SCALE-1"=1'-0"



A SECTION @ RESTROOM
SCALE-3/4"=1'-0"



B BOARDWALK SECTION
SCALE-1"=1'-0"

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11TH STREET BOARDWALK RESTROOMS
11TH STREET & BOARDWALK
OCEAN CITY, NJ 08226

No.	Description	Date

SECTIONS and DETAILS

Scale	As indicated
Drawn by	ACE
Date	12.30.20

S2

Comission no. 20031O

ABBREVIATIONS

AC	AIR CONDITIONING UNIT
CD	CEILING DIFFUSER
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
COND	CONDENSATE
CU	CONDENSING UNIT
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRC.
HW	HOT WATER
HWR	HOT WATER RECIRC.
HHWS	HEATING HOT WATER SUPPLY
HHWR	HEATING HOT WATER RETURN
RA	RETURN AIR
SA	SUPPLY AIR
TG	TRANSFER GRILLE
(E)	EXISTING
(N)	NEW
(R)	REMOVE

CONTROLS

SYM. SYM. AUTOMATIC CONTROL DAMPER SYMBOLS:
OA = OUTSIDE AIR SA = SUPPLY AIR
RA = RETURN AIR SD = SMOKE DAMPER
EA = EXHAUST AIR FS = FIRE/SMOKE
RE = RELIEF AIR
BD = BACKDRAFT DAMPER

T THERMOSTAT – DUCT MOUNTED

T THERMOSTAT – WALL MOUNTED

MISC. DWG. SYMBOLS

POINT OF CONNECTION

POINT OF DISCONNECT

POINT OF CONNECTION FOR FUTURE WORK

EQUIPMENT SYMBOL
EQUIPMENT NUMBER OR FLOW (GPM,CFM,ETC.)

DETAIL NUMBER
DETAIL DRAWING NUMBER

SECTION LETTER
SECTION DRAWING NUMBER

PLAN NUMBER
PLAN DRAWING NUMBER

KEYED DEMOLITION & NEW WORK NOTE

PIPING SYMBOLS

SYMBOL	DESCRIPTION
	MANUAL BALANCING VALVE WITH PRESSURE TAPS
	BALL VALVE
	GATE VALVE
	GLOBE VALVE
	BUTTERFLY VALVE
	PLUG VALVE
	VACUUM BREAKER
	CHECK VALVE
	ANGLE SHUTOFF VALVE
	ANGLE BALANCING/SHUTOFF VALVE
	TRIPLE DUTY VALVE
	COMBINATION BALANCING/SHUTOFF VALVE W/PRESSURE TAPS
	PRESSURE REDUCING VALVE
	SAFETY/RELIEF VALVE – PLAN AND ELEVATION
	PUMP – GENERIC
	PUMP – END SUCTION
B	BASKET STRAINER – ELEVATION AND PLAN
	Y-STRAINER WITH PLUG
	Y-STRAINER WITH DRAIN VALVE
	PRESSURE GAUGE WITH GAUGE COCK
	PRESSURE GAUGE WITH GAUGE COCK AND BOURDON TUBE
	THERMOMETER
P/T	PRESSURE/TEMPERATURE TEST FITTING
FM	FLOW METER
	PIPE UP AND DOWN
	TEE CONNECTION – STRAIGHT, DOWN, AND UP
	UNION
	END CAP
	BLIND FLANGE
	PIPE BELLOWS
	PIPE ANCHOR
	PIPE GUIDE (SLIDING)
	PIPE GUIDE (MOMENT)
	ELECTRICALLY HEAT TRACED PIPING
	AIR VENT – (MANUAL)
	AUTOMATIC AIR VENT
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER

DUCTWORK SYMBOLS

SYMBOL	DESCRIPTION
	SUPPLY/OUTSIDE AIR DUCT
	RETURN/EXHAUST AIR DUCT
	45° ENTRY TAKEOFF, RECTANGULAR TO RECTANGULAR
	90° TAKEOFF, RECTANGULAR TO ROUND, STRAIGHT
	90° TAKEOFF, RECTANGULAR TO ROUND BELLMOUTH W/ MANUAL VOLUME DAMPER
	90° TAKEOFF, ROUND TO ROUND, STRAIGHT
	90° CONICAL TAKEOFF, ROUND TO ROUND
	45° CONICAL LATERAL, ROUND TO ROUND
	45° LATERAL, ROUND TO ROUND
	45° WYE, ROUND TO ROUND
	END OF DUCT (CAPPED)
	SIDEWALL AIR TERMINAL W/VD (ARROWS DENOTE THROW DIRECTION)
	LINEAR DIFFUSER
FD	FIRE DAMPER – VERTICAL POSITION
	FIRE DAMPER – HORIZONTAL POSITION
	FLEXIBLE CONNECTION
	MANUAL VOLUME DAMPER
MOD	MOTOR OPERATED DAMPER
SD	SMOKE DETECTOR (DUCT-MOUNTED)
	RETURN/EXHAUST AIR DESIGNATION
	SUPPLY AIR DESIGNATION
	SQUARE VANED ELBOW – 90 (NOT REQD IN TRANSFER DUCT)
	SQUARE NON-VANED ELBOW – 90
	RADIUS ELBOW – 90
	TRANSITION – CONCENTRIC
	TRANSITION – ECCENTRIC
	TRANSITION – RECTANGULAR TO ROUND
	SUPPLY AIR TERMINAL, CEILING OR DUCT MOUNTED, SQUARE & RECTANGULAR (SHADED AREA(S) DENOTE # & DIRECTION OF BLANKED OFF SECTION(S))
	RETURN/EXHAUST REGISTER, CEILING OR DUCT MOUNTED
	SIDEWALL AIR TERMINAL W/VD (ARROWS DENOTE THROW DIRECTION)

APPLICABLE CODES

THE FOLLOWING APPLICABLE CODES SHALL BE ADHERED TO FOR THIS PROJECT:

1. BUILDING SUBCODE: INTERNATIONAL BUILDING CODE 2018
2. MECHANICAL SUBCODE: INTERNATIONAL MECHANICAL CODE 2018
3. FUEL GAS SUBCODE: INTERNATIONAL FUEL GAS CODE 2018
4. PLUMBING SUBCODE: NATIONAL STANDARD PLUMBING CODE 2018
5. ELECTRICAL SUBCODE: NATIONAL ELECTRICAL CODE (NFPA 70) 2017
6. ENERGY SUBCODE: ASHRAE 90.1–2016

SCOPE OF WORK

PROJECT SCOPE OF WORK:

1. CONTRACTOR SHALL EXECUTE SCOPE OF WORK AS NOTED ON THE CONTRACT DOCUMENTS IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS.
2. ALL WORK CONTAINED WITHIN THE DRAWINGS AND SPECIFICATIONS IS THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED. REFER TO INDIVIDUAL DRAWING SHEETS FOR FURTHER REQUIREMENTS.
3. CONTRACTOR IS REQUIRED TO APPLY AND PAY FOR ALL APPLICABLE PERMITS.
4. CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND MAINTAIN ALL REQUIRED CLEARANCES; NO EXCEPTIONS.
5. ALL WORK SHALL BE COORDINATED WITH THE OWNER AND ANY WORK BEING COMPLETED BY OTHER TRADES.

MECHANICAL SPECIFICATIONS

GENERAL MECHANICAL REQUIREMENTS

1. GENERAL NOTES, SYMBOL LISTS AND DETAILS ARE APPLICABLE TO ALL MECHANICAL DRAWINGS LABELED "M".
2. NOT ALL SYMBOLS, ABBREVIATIONS AND LINE DESIGNATIONS ARE NECESSARILY USED ON THIS PROJECT.
3. ALL HVAC EQUIPMENT, DUCTWORK, PIPING, SUPPORTS AND ACCESSORY LOCATIONS AND ROUTING SHALL BE COORDINATED WITH ALL OTHER TRADES AND FIELD VERIFIED PRIOR TO INSTALLATION TO PROVIDE REQUIRED CLEARANCES FOR ALL OTHER SYSTEMS.
4. ALL PIPING/DUCTWORK/CONTROLS PENETRATING FIRE RATED PARTITIONS, WALLS AND CEILINGS SHALL BE SEALED ON BOTH SIDES USING AN APPROVED, UL LISTED FIRE SEALANT TO MATCH EXISTING WALL FIRE RATING. WHERE A PIPE/DUCT/CONTROL CONDUIT HAS BEEN REMOVED THAT PREVIOUSLY PENETRATED A FIRE RATED PARTITION, WALL OR CEILING, THE CONTRACTOR SHALL PATCH AND SEAL THE PENETRATION ON BOTH SIDES USING AN APPROVED, UL LISTED FIRE SEALANT TO MATCH EXISTING WALL FIRE RATING.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS AND LABOR TO PROVIDE COMPLETE AND WORKING MECHANICAL SYSTEMS WHETHER SPECIFIED OR IMPLIED.
6. THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO THE LOCAL CODE, STATE LAWS, AGA, BOCA, NBFU, NFPA, NSPC, ASME AND ALL OTHER APPLICABLE CODES. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTIONS AND APPROVALS AS REQUIRED.
7. DO NOT SCALE THE DRAWINGS FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, DIMENSIONS, ETC. AT THE JOB SITE.
8. CONTRACTOR SHALL GUARANTEE THE COMPLETE INSTALLATION AGAINST DEFECTS IN THE WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE. THIS GUARANTEE SHALL BE BINDING REGARDLESS OF THE MANUFACTURER'S GUARANTEE AND THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ALL DEFECTIVE MATERIAL AND PARTS REGARDLESS OF CAUSE (EXCLUDING DEFECTS TRACEABLE TO IMPROPER MAINTENANCE OR MALICIOUS DESTRUCTION OR ACTS OF GOD AFTER THE SYSTEM HAS BEEN ACCEPTED BY THE OWNER).
9. THE CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES TO PREVENT INTERFERENCE BETWEEN BEAMS, STRUCTURES, PIPING, LIGHTING FIXTURES, EXISTING SYSTEMS AND UTILITIES, ETC.
10. ALL MATERIALS USED IN CONSTRUCTION SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS, A SMOKE DEVELOPMENT RATING OF 50 OR LESS, AND A FUEL CONTRIBUTED RATING OF 25 OR LESS. ALL MATERIALS SHALL BE "SELF-EXTINGUISHING".
11. ALL PIPING, CONDUIT AND DUCT PENETRATIONS OF "FIRE RATED BUILDING CONSTRUCTION" SHALL BE SLEEVED AND SEALED WITH A UL APPROVED FIRE BARRIER SYSTEM.
12. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS.
13. CONTRACTOR SHALL PROVIDE THREE (3) COMPLETE SETS OF BOUND OPERATING AND MAINTENANCE INSTRUCTIONS. CONTRACTOR SHALL INSTRUCT THE OWNER OR HIS AGENT WITH REGARD TO THE PROPER USE OF THE SYSTEM UNTIL SUCH INSTRUCTION IS COMPLETE TO THE OWNER'S SATISFACTION. OPERATION AND MAINTENANCE MANUAL SHALL INCLUDE A VALVE SCHEDULE IF VALVES ARE INSTALLED AS PART OF THE NEW WORK.
14. MECHANICAL CONTRACTOR SHALL LABEL ALL NEW MECHANICAL EQUIPMENT, PIPING AND VALVES (INDOORS AND OUTDOORS) IN A PERMANENT MANNER. MECHANICAL PIPING SHALL BE LABELED WITH SELF-ADHESIVE PIPE MARKERS EQUAL TO MARKING SERVICES INC. (MSI) SERIES MS-900 MARKERS. COMPLY WITH ASME A13.1 FOR LETTERING SIZE, LENGTH OF COLOR FIELD, COLORS, AND VIEWING ANGLES OF IDENTIFICATION. DIRECTION OF FLOW SHALL BE IDENTIFIED WITH MS-900 FLOW DIRECTIONAL ARROW TAPE. VALVES SHALL BE IDENTIFIED WITH BRASS VALVE TAGS, ATTACHED WITH SOLID BRASS CHAINS AND "S" HOOKS. VALVE TAGS SHALL BE COORDINATED WITH VALVE SCHEDULE PROVIDED IN OPERATION AND MAINTENANCE MANUAL. MECHANICAL EQUIPMENT SHALL BE LABELED WITH ENGRAVED PLASTIC TAGS WITH MOUNTING HOLES AND STAINLESS STEEL SCREWS. ALL LABELING SHALL HAVE HIGH CONTRAST BETWEEN LETTER AND BACKGROUND COLORS AND SHALL BE LOCATED FOR EASY VISIBILITY.
15. ALL MECHANICAL EQUIPMENT AND APPLIANCES INSTALLED SHALL BEAR THE LABEL OF AN APPROVED AGENCY.
16. THE ENTIRE MECHANICAL INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE 2018 INTERNATIONAL MECHANICAL CODE AND ANY SUPPLEMENTS, INCLUDING THE INTERNATIONAL BUILDING CODE – 2018 AND ITS SUPPLEMENTS.
17. PROVIDE VIBRATION ISOLATION MOUNTINGS FOR ALL MOTOR OPERATED EQUIPMENT.
18. ALL EXTERIOR WALL AND ROOF OPENINGS SHALL BE SLEEVED, CAULKED AND SEALED WITH A HIGH QUALITY SEALANT TO PREVENT INFILTRATION OF MOISTURE AND OUTSIDE AIR.
19. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED CALCULATIONS (SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE OF NEW JERSEY) AND INSTALLATION INFORMATION TO SHOW COMPLIANCE WITH SEISMIC AND WIND FORCES IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2018. INFORMATION SHALL BE MADE AVAILABLE TO ENGINEER FOR REVIEW AND ALSO, MADE AVAILABLE UPON REQUEST FOR SUBMISSION TO CODE ENFORCEMENT. PROVIDE ALL SUPPORT SYSTEMS, SUPPLEMENTAL STEEL, ANCHORS, PIPE HANGERS AND ENGINEERING DOCUMENTATION NECESSARY TO PROVIDE A COMPLETE CODE COMPLIANT SYSTEM.
20. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR WHO SHALL PROVIDE POWER WIRING TO ALL MECHANICAL EQUIPMENT. MECHANICAL CONTRACTOR SHALL FURNISH LOOSE MOTOR STARTERS AND DISCONNECT SWITCHES FOR INSTALLATION AND WIRING BY THE ELECTRICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL PROVIDE ALL CONTROL AND INTERLOCK WIRING AND ALL THERMOSTATS AND ACCESSORIES.
21. PROVIDE BALANCING OF ALL AIR SYSTEMS PER AABC OR NEBB STANDARDS. SUBMIT TEST DATA AND DEMONSTRATE IN FIELD.
22. SUBMIT 3/8" SCALE PIPING & SHEET METAL SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION AND INSTALLATION. COORDINATE WITH ALL TRADES.
23. SUBMIT FOR REVIEW, DUPLICATE SPECIFICATION SHEETS OF ALL EQUIPMENT SUPPLIED OR INSTALLED, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
    - 23.1. EXHAUST FANS.
    - 23.2. FAN-COIL UNITS.
    - 23.3. AIR-COOLED HEAT PUMP CONDENSING UNITS.
    - 23.4. UNIT HEATER & CABINET UNIT HEATER.
    - 23.5. VENTING & COMBUSTION AIR PRODUCT DATA.
    - 23.6. DUCTWORK AND DUCTWORK ACCESSORIES.
    - 23.7. REFRIGERANT PIPING.
    - 23.8. CONDENSATE PIPING.
    - 23.9. HVAC CONTROLS.

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11TH STREET
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RESTROOMS
11TH STREET & BOARDWALK
OCEAN CITY , NJ 08226

No.	Description	Date
	PREFAB COORDINATION	12/11/20

MECHANICAL LEAD SHEET AND SPECIFICATIONS

CEG PROJECT: 8C20379.00

Scale	AS NOTED
Drawn by	JHB
Date	12/11/2020

M-0

Commission no. 200310

MECHANICAL SPECIFICATIONS

SPLIT SYSTEM AIR CONDITIONING UNITS – SYMBOL: VRF/CU

1. PROVIDE SPLIT SYSTEM HEAT PUMP AIR CONDITIONING UNIT (EVAPORATOR AND REMOTE CONDENSING UNIT) AND ACCESSORIES CAPABLE OF CONDITIONING 100% OUTSIDE AIR CONTROLLED TO A FIXED DISCHARGE TEMPERATURE AS SPECIFIED ON THE CONTRACT DOCUMENTS.
2. SUBMITTALS: SUBMIT PRODUCT DATA, PERFORMANCE DATA AND WIRING DIAGRAMS.
3. REFERENCE CODES AND STANDARDS: UL LISTED, ASHRAE 90.1 COMPLIANT.
4. WARRANTY: MANUFACTURER'S STANDARD.
5. INDOOR EVAPORATOR FAN COIL TYPE: CABINET SHALL BE CONSTRUCTED OF GALVANIZED STEEL WITH REMOVABLE PANELS AND INTERNALLY INSULATED WITH SOUND ABSORBING MATERIAL. THE UNIT SHALL BE EQUIPPED WITH A DISCHARGE AIR THERMISTOR. THE FAN SHALL BE DIRECT–DRIVE TYPE FAN WITH STATICALLY AND DYNAMICALLY BALANCED IMPELLER. THE FAN MOTOR SHALL BE THERMALLY PROTECTED. THE REFRIGERANT COIL SHALL BE DIRECT EXPANSION TYPE, R–410A RATED AND CONSTRUCTED FROM COPPER TUBES AND EXPANDED ALUMINUM FINS. THE COIL SHALL BE A 3 ROW CROSS FIN COPPER EVAPORATOR COIL WITH 12 FPI DESIGN COMPLETELY FACTORY TESTED. A THERMISTOR SHALL BE LOCATED ON THE LIQUID AND GAS LINE..
6. AIR COOLED CONDENSING UNIT: THE CONDENSING UNIT SHALL BE COMPLETELY WEATHERPROOF AND CORROSION RESISTANT. THE UNIT SHALL BE CONSTRUCTED FROM RUST–PROOFED GALVANIZED STEEL PANELS COATED WITH A BAKED ENAMEL FINISH. THE CONDENSING UNIT SHALL CONSIST OF ONE OR MORE PROPELLER TYPE, DIRECT–DRIVE 350 OR 750 W FAN MOTORS THAT HAVE MULTIPLE SPEED OPERATION VIA A DC (DIGITALLY COMMUTATING) INVERTER. NOMINAL SOUND PRESSURE LEVEL SHALL BE 58 dBA. THE CONDENSER COIL SHALL BE COPPER TUBES WITH EXPANDED ALUMINUM FINS. THE HEAT EXCHANGER SHALL BE OF A WAFFLE LOUVER FIN AND RIFLED BORE DESIGN MANUFACTURED OF HI–X SEAMLESS COPPER TUBE WITH N–SHAPE INTERNAL GROOVES AND ALUMINUM FINS. FIND SHALL BE COATED WITH ANTI–CORROSION HYDROPHILIC BLUE COATING. OUTDOOR COIL SHALL BE THREE–CIRCUIT HX DESIGN. LOWER PART OF COIL SHALL BE USED FOR INVERTER COOLING AND BE ON OR OFF DURING HEATING OPERATION. CONDENSER COIL GUARDS SHALL BE PROVIDED ON ALL SIDES. COMPRESSOR SHALL BE INVERTER SCROLL. CAPACITY CONTROL SHALL BE 10% TO 100%. COMPRESSOR SHALL BE MOUNTED ON RUBBER VIBRATION ISOLATORS. THE REFRIGERATION CIRCUIT OF THE CONDENSING UNIT SHALL CONSIST OF INVERTER SCROLL COMPRESSORS, MOTORS, FANS, CONDENSER COIL, ELECTRONIC EXPANSION VALVES, SOLENOID VALVES, 4–WAY VALVE, DISTRIBUTION HEADERS, CAPILLARIES, FILTERS, SHUT OFF VALVES, OIL SEPARATORS, SERVICE PORTS AND REFRIGERANT ACCUMULATOR. THE SYSTEM WILL AUTOMATICALLY RESTART OPERATION AFTER A POWER FAILURE AND WILL NOT CAUSE ANY SETTINGS TO BE LOST, THUS ELIMINATING THE NEED FOR REPROGRAMMING. E FOLLOWING SAFETY DEVICES SHALL BE INCLUDED ON THE CONDENSING UNIT; HIGH PRESSURE SENSOR AND SWITCH, LOW PRESSURE SWITCH, CONTROL CIRCUIT FUSES, CRANKCASE HEATERS, FUSIBLE PLUG, OVERLOAD RELAY, INVERTER OVERLOAD PROTECTOR, THERMAL PROTECTORS FOR COMPRESSOR AND FAN MOTORS, OVER CURRENT PROTECTION FOR THE INVERTER AND ANTI–RECYCLING TIMERS. ENSURE THE LIQUID REFRIGERANT DOES NOT FLASH WHEN SUPPLYING TO THE VARIOUS INDOOR UNITS, THE CIRCUIT SHALL BE PROVIDED WITH A SUB–COOLING FEATURE. OIL RECOVERY CYCLE SHALL BE AUTOMATIC OCCURRING 2 HOURS AFTER START OF OPERATION AND THEN EVERY 8 HOURS OF OPERATION. THE CONDENSING UNIT SHALL BE CAPABLE OF HEATING OPERATION AT 0°F (–18°C) DRY BULB AMBIENT TEMPERATURE WITHOUT ADDITIONAL LOW AMBIENT CONTROLS OR AN AUXILIARY HEAT SOURCE.
7. ACCESSORIES:
   - 7.1. FACTORY MOUNTED CONTROLS CAPABLE OF REQUIRED SEQUENCES.
   - 7.2. BACNET CARD.
   - 7.3. MULTI–ZONE CONTROLLER.
   - 7.4. LOW TEMPERATURE OPERATION FOR HEATING.
   - 7.5. AUTOMATIC RESET TIMER TO PREVENT RAPID CYCLING OF THE COMPRESSOR.
8. APPROVED MANUFACTURERS: DAIKIN OR APPROVED EQUIVALENT.

INLINE, CEILING MOUNTED EXHAUST FANS – SYMBOL: EF

1. PROVIDE EXHAUST FANS AND ACCESSORIES AS SPECIFIED ON THE CONTRACT DOCUMENTS.
2. SUBMITTALS: SUBMIT PRODUCT DATA, PERFORMANCE DATA AND WIRING DIAGRAMS.
3. REFERENCE CODES AND STANDARDS: FAN SHALL BE MANUFACTURED AT AN ISO 9001 CERTIFIED FACILITY. FAN SHALL BE LISTED BY UL 705. FAN SHALL BEAR THE AMCA CERTIFIED SEAL.
4. WARRANTY: MANUFACTURER'S STANDARD.
5. CONSTRUCTION: THE FAN WHEEL HOUSING AND INTEGRAL OUTLET DUCT SHALL BE INJECTION MOLDED FROM A SPECIALLY ENGINEERED RESIN EXCEEDING UL REQUIREMENTS FOR SMOKE AND HEAT GENERATION. THE OUTLET DUCT SHALL HAVE PROVISION FOR AN ALUMINUM BACKDRAFT DAMPER WITH CONTINUOUS ALUMINUM HINGE ROD. THE INLET BOX SHALL BE MINIMUM 22 GAUGE GALVANIZED STEEL. MOTOR SHALL BE ISOLATION MOUNTED TO A ONE PIECE GALVANIZED STAMPED STEEL INTEGRAL MOTOR MOUNT/INLET. A FIELD WIRING COMPARTMENT WITH DISCONNECT RECEPTACLE SHALL BE STANDARD. TO ACCOMMODATE DIFFERENT CEILING THICKNESS, AN ADJUSTABLE PREPUNCHED MOUNTING BRACKET SHALL BE PROVIDED. A WHITE, NON–YELLOWING, HIGH IMPACT STYRENE INJECTION MOLDED GRILL SHALL BE PROVIDED AS STANDARD. UNIT SHALL BE DESIGNED WITH PROVISION FOR FIELD CONVERSION FROM CEILING TO IN–LINE. UNIT SHALL BE SHIPPED IN ISTA CERTIFIED TRANSIT TESTED PACKAGING.
6. WHEEL: WHEEL SHALL BE CENTRIFUGAL FORWARD CURVED TYPE, INJECTION MOLDED POLYPROPYLENE RESIN. WHEEL SHALL BE BALANCED IN ACCORDANCE WITH AMCA STANDARD 204–96, BALANCE QUALITY AND VIBRATION LEVELS FOR FANS.
7. MOTOR: MOTOR SHALL BE OPEN DRIP PROOF TYPE WITH PERMANENTLY LUBRICATED BEARINGS AND INCLUDE IMPEDANCE OR THERMAL OVERLOAD PROTECTION AND DISCONNECT PLUG.
8. ELECTRICAL: SINGLE POINT CONNECTION.
9. ACCESSORIES:
   - 9.1. WHITE PLASTIC GRILLE.
   - 9.2. FAN SPEED CONTROLLER.
   - 9.3. WALL CAP.
   - 9.4. BACKDRAFT DAMPER.
   - 9.5. VIBRATION ISOLATION KIT.
10. APPROVED MANUFACTURERS: GREENHECK, LOREN COOK OR APPROVED EQUIVALENT.

UNIT HEATER, ELECTRIC – SYMBOL: UH

1. PROVIDE ELECTRIC UNIT HEATER AND ACCESSORIES AS SPECIFIED ON THE CONTRACT DOCUMENTS.
2. SUBMITTALS: SUBMIT PRODUCT DATA, PERFORMANCE DATA AND WIRING DIAGRAMS.
3. REFERENCE CODES AND STANDARDS: UL 2021, UL 823, NFPA 70, ARTICLE 100 FOR ELECTRICAL COMPONENTS.
4. WARRANTY: MANUFACTURER'S STANDARD.
5. STANDARD CONSTRUCTION: 18 –GAGE STEEL WITH POWDER COAT FINISH IN MFG'S STANDARD COLOR.
6. FAN MOTOR: TEFC, DIRECT DRIVE WITH THERMAL OVERLOAD PROTECTION.
7. HEATING ELEMENT: 80/20 NICHROME WIRE ENCASED IN REFRACTORY MATERIAL (MGO) WITH COPPER CLAD STEEL SHEATH AND ALUMINUM FINS.
8. HEATING SAFETY:
   - 8.1. AUTOMATIC RESET THERMAL OVERHEAT PROTECTION.
   - 8.2. HEAT BANK SHALL HAVE PROTECTIVE AIR INLET LOUVERS.
9. CONTROLS:
   - 9.1. 24V CONTROL TRANSFORMER FOR UNITS WITH REMOTE THERMOSTATS.
   - 9.2. INTEGRAL OR REMOTE THERMOSTAT. REFER TO SCHEDULES.
   - 9.3. MANUAL HIGH LIMIT.
10. MOUNTING: HORIZONTAL OR CEILING MOUNTING WITH MFG SUPPLIED BRACKETS OR ACCESSORIES. REFER TO EQUIPMENT SCHEDULES. FOR RECESSED CEILING MOUNT, PROVIDE MANUFACTURER'S STANDARD FINISHED GRILLE FOR MOUNTING IN SPECIFIC CEILING TYPE AS INDICATED ON THE ARCHITECTURAL PLANS.
11. ELECTRICAL: SINGLE POINT CONNECTION WITH DISCONNECT SWITCH.
12. APPROVED MANUFACTURERS: BERKO, REZNOR OR APPROVED EQUIVALENT.

REFRIGERANT PIPING

1. PROVIDE PIPE, VALVES, FITTINGS AND OTHER MATERIALS AND EQUIPMENT AS SPECIFIED AND SHOWN FOR AIR CONDITIONING REFRIGERANT PIPING SYSTEMS.
2. APPROVED MANUFACTURERS: SPORLAN, MUELLER, STREAMLINE, DANFOSS OR APPROVED EQUIVALENT.
3. LINE TEST PRESSURE FOR R–410A: LIQUID AND SUCTION LINES, 535 PSIG.
4. COPPER TUBE AND FITTINGS: DRAWN–TEMPER COPPER TUBE, ASTM B280, TYPE ACR. WROUGHT–COPPER FITTINGS, ASME B16.22.
5. SERVICE VALVES: 500–PSIG PRESSURE RATING; FORGED–BRASS BODY WITH COPPER STUBS, BRASS CAPS, REMOVABLE VALVE CORE, INTEGRAL BALL CHECK VALVE, AND WITH SOLDER–END CONNECTIONS.
6. SOLENOID VALVES: COMPLY WITH ARI 760; 250 DEG F TEMPERATURE RATING AND 400–PSIG WORKING PRESSURE; FORGED BRASS, WITH POLYTETRAFLUOROETHYLENE VALVE SEAT, 2–WAY, STRAIGHT–THROUGH PATTERN, AND SOLDER–END CONNECTIONS; MANUAL OPERATOR; FITTED WITH SUITABLE NEMA 250 ENCLOSURE OF TYPE REQUIRED BY LOCATION, WITH 1/2–INCH CONDUIT ADAPTER AND 24–V, NORMALLY CLOSED HOLDING COIL.
7. PRESSURE–REGULATING VALVES: COMPLY WITH ARI 770; PILOT OPERATED, FORGED BRASS OR CAST BRONZE, STAINLESS–STEEL BOTTOM SPRING, PRESSURE–GAGE TAPPINGS, 24–V DC STANDARD COIL, AND WROUGHT–COPPER FITTINGS FOR SOLDER–END CONNECTIONS; SUITABLE FOR REFRIGERANT SPECIFIED.
8. THERMOSTATIC EXPANSION VALVES: COMPLY WITH ARI 750; BRASS BODY WITH STAINLESS–STEEL PARTS; THERMOSTATIC–ADJUSTABLE, MODULATING TYPE; SIZE AND OPERATING CHARACTERISTICS AS RECOMMENDED BY MANUFACTURER OF EVAPORATOR, AND FACTORY SET FOR SUPERHEAT REQUIREMENTS; SOLDER–END CONNECTIONS; WITH SENSING BULB, DISTRIBUTOR HAVING SIDE CONNECTION FOR HOT–GAS BYPASS LINE, AND EXTERNAL EQUALIZER LINE.
9. HOT–GAS BYPASS VALVE: PULSATING–DAMPENING DESIGN, STAINLESS–STEEL BELLOWS AND POLYTETRAFLUOROETHYLENE VALVE SEAT; ADJUSTABLE; SIZED FOR CAPACITY EQUAL TO LAST STEP OF COMPRESSOR UNLOADING; WITH SOLDER–END CONNECTIONS.
10. STRAIGHT– OR ANGLE–TYPE STRAINERS: 500–PSIG WORKING PRESSURE; FORGED–BRASS OR STEEL BODY WITH STAINLESS–STEEL WIRE OR BRASS–REINFORCED MONEL SCREEN OF 80 TO 100 MESH IN LIQUID LINES UP TO 1–1/8 INCHES, 60 MESH IN LARGER LIQUID LINES, AND 40 MESH IN SUCTION LINES; WITH SCREWED CLEANOUT PLUG AND SOLDER–END CONNECTIONS.
11. MOISTURE/LIQUID INDICATORS: 500–PSIG MAXIMUM WORKING PRESSURE AND 200 DEG F OPERATING TEMPERATURE; ALL–BRASS BODY WITH REPLACEABLE, POLISHED, OPTICAL VIEWING WINDOW WITH COLOR–CODED MOISTURE INDICATOR; WITH SOLDER–END CONNECTIONS.
12. REPLACEABLE–CORE FILTER–DRYERS: 500–PSIG MAXIMUM WORKING PRESSURE; HEAVY GAGE PROTECTED WITH CORROSION–RESISTANT–PAINTED STEEL SHELL, FLANGED RING AND SPRING, DUCTILE–IRON COVER PLATE WITH STEEL CAP SCREWS; WROUGHT–COPPER FITTINGS FOR SOLDER–END CONNECTIONS; WITH REPLACEABLE–CORE KIT, INCLUDING GASKETS AND THE FOLLOWING:
    - 12.1. FILTER–DRYER CARTRIDGE: PLEATED MEDIA WITH SOLID–CORE SIEVE WITH ACTIVATED ALUMINA, ARI 730 RATED FOR CAPACITY.
13. PERMANENT FILTER–DRYER: 350–PSIG MAXIMUM OPERATING PRESSURE AND 225 DEG F MAXIMUM OPERATING TEMPERATURE; STEEL SHELL AND WROUGHT–COPPER FITTINGS FOR SOLDER–END CONNECTIONS; MOLDED–FELT CORE SURROUNDED BY DESICCANT.
14. MUFFLERS: 500–PSIG OPERATING PRESSURE, WELDED–STEEL CONSTRUCTION WITH FUSIBLE PLUG; SIZED FOR REFRIGERATION CAPACITY.

DESCRIPTION	COND DRAIN	REFRIG PIPE (RL&RS)
FLUID TEMPERATURE RANGE (F)	35–75	35–150
INSULATION TYPE	FIBERGLASS	FIBERGLASS
INSULATION THICKNESS FOR INDOOR PIPE LOCATIONS	COND DRAIN	RL&RS
1" OR LESS	3/4"	3/4"
2" OR LESS	3/4"	3/4"
INSULATION THICKNESS FOR OUTDOOR PIPE LOCATIONS	COND DRAIN	RL&RS
1" OR LESS	3/4"	3/4"
2" OR LESS	3/4"	3/4"

NOTES:

1. INSULATION THICKNESS FOR PIPING IN UNCONDITIONED SPACES, SUCH AS MECHANICAL ROOMS, ETC., SHALL BE AS NOTED FOR OUTDOOR PIPING.
2. ALL EXTERIOR PIPING SHALL BE COATED WITH WB ARMAFLEX PAINT PER MFG'S INSTRUCTIONS.

HVAC TESTING AND BALANCING REQUIREMENTS

1. PROVIDE COMPLETELY TESTED, BALANCED AND CERTIFIED AIR AND WATER SYSTEMS AS DEFINED BY THESE SPECIFICATIONS.
2. ALL INSTRUMENTS AND EQUIPMENT REQUIRED FOR TESTING AND BALANCING SHALL BE PROVIDED BY THIS CONTRACTOR.
3. THE TESTING AND BALANCING CONTRACTOR SHALL BE CERTIFIED BY THE ASSOCIATED AIR BALANCE COUNCIL (AABC) AND/OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB).
4. THE WORK SHALL BE PERFORMED BY REGULAR EMPLOYEES OF THE TESTING AND BALANCING CONTRACTOR SPECIFICALLY TRAINED IN THE TOTAL BALANCING OF AIR AND WATER SYSTEMS. THE WORK SHALL BE CONTINUOUSLY CONDUCTED UNDER THE DIRECT SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER.
5. PERFORM THE WORK, USING METHODS AND TEST FORMS PUBLISHED BY AABC NATIONAL STANDARDS FOR FIELD MEASUREMENTS AND INSTRUMENTATION, LATEST EDITION, OR EQUIVALENT NEBB METHODS AND FORMS.
6. DO NOT START TESTING AND BALANCING UNTIL EACH SYSTEM HAS BEEN CERTIFIED BY THE INSTALLING CONTRACTOR TO BE COMPLETE AND HAS BEEN TESTED AND REVIEWED.
7. THE OWNER'S REPRESENTATIVE SHALL, AT HIS DISCRETION, WITNESS FINAL BALANCING OF ALL SYSTEMS. THE TESTING AND BALANCING CONTRACTOR SHALL PROVIDE MINIMUM OF 10 WORKING DAYS PRIOR NOTICE TO THE OWNER'S REPRESENTATIVE FOR EACH SYSTEM TO BE BALANCED.
8. BALANCING SHALL ACHIEVE TOTAL DESIGN AIR FLOW RATE WITHIN A TOLERANCE OF ±5% – AND OBTAIN SYSTEM ACTUAL OPERATING STATIC PRESSURE/HEAD AND PLOT THE SYSTEM CURVE ON THE CERTIFIED FAN/PUMP CURVE. ALL WATER FLOWS SHALL BE CHECKED AND ADJUSTED TO WITHIN ±10% – OF THE GPM REQUIREMENTS SHOWN ON THE CONTRACT DRAWINGS.
9. VERIFY THAT ALL THERMOSTATS AND THE DEVICES THEY CONTROL (SUCH AS VALVES AND DAMPERS) OPERATE AS THEY ARE INTENDED.

AIR CONDITIONING CONDENSATE DRAIN PIPING

1. PROVIDE PIPE, VALVES, FITTINGS AND OTHER MATERIALS AND EQUIPMENT AS SPECIFIED AND SHOWN FOR AIR CONDITIONING CONDENSATE DRAIN SYSTEMS.
2. APPROVED MANUFACTURERS: COPPER – NIBCO, APOLLO, WATTS OR EQUIVALVENT. PLASTIC – NIBCO, WATTS, HAYWARD OR APPROVED EQUIVALENT.
3. PIPE: 2 INCHES AND SMALLER – COPPER TUBING, SEAMLESS TYPE L, ASTM B88, SOLDERED ENDS OR SCHEDULE 40 PVC PIPE, PLENUM RATED WITH SOLVENT–WELDED JOINTS.
4. FITTINGS: 2 INCHES AND SMALLER, WROUGHT COPPER, PRESSURE FITTINGS, SOLDER TYPE, ANSI B16.22, ASTM B75 FOR COPPER PIPING OR PVC, SCH 40 WITH SOCKET–TYPE FITTINGS, ASTM D 2466 WITH PLENUM RATING.
5. SHUTOFF VALVES: 2 INCHES AND SMALLER – COPPER: 400 WOG / 150 SWP, BRONZE BALL VALVES ONE PIECE OR TWO PIECE SERVICEABLE IN LINE, FULL PORT, BRONZE TRIM, CHROME PLATED BRASS BALL, BLOW–OUT PROOF STEM, PTFE SEALS, SOLDERED OR THREADED ENDS FOR COPPER PIPING. PVC: 150 SWP, PLASTIC BALL VALVES ONE PIECE, FULL PORT, PVC BALL, PTFE SEAL, SOCKET WELD OR THREADED ENDS FOR PVC PIPING.
6. CHECK VALVES: 2 INCHES AND SMALLER – COPPER: 400 WOG / 200 SWP BRONZE SWING CHECK VALVES WITH REGRINDABLE BRONZE DISC, SCREW–IN CAP, SOLDERED ENDS FOR COPPER PIPING. PVC: 50 SWP, PVC SWING CHECK WITH SOCKET WELD ENDS FOR PVC PIPING.

INSULATION FOR MECHANICAL PIPING SYSTEMS

1. PROVIDE PIPE INSULATION, JACKETS AND INSULATION ACCESSORIES FOR MECHANICAL PIPING SYSTEMS
2. SUBMIT MANUFACTURER'S PRODUCT DATA SPECIFIED FOR REVIEW. SUBMIT SAMPLES OF PRODUCTS, LABELED AND IDENTIFIED, IF REQUESTED.
3. THE FOLLOWING PRODUCTS AND MANUFACTURERS ARE APPROVED FOR USE. NO SUBSTITUTIONS. FIBERGLASS – JOHNS–MANVILLE, KNAUF, OWENS–CORNING. ELASTOMERIC – RUBATEX R–180–FS OR EQUAL BY ARMSTRONG AND IMCOA. JACKETS AND ACCESSORIES – FOSTER, CHILDERS, EXPOLUX, ARMSTRONG, JOHNS–MANVILLE, OWENS–CORNING, PITTSBURGH–CORNING, GENERAL ALUMINUM SUPPLY CORPORATION, PIPE SHIELDS INC., ZESTON 300 AND 2000.
4. INSULATING MATERIALS AND ACCESSORIES SHALL HAVE A COMPOSITE FIRE AND SMOKE RATING AS TESTED UNDER ASTM E 84, NFPA 255 AND UL 723 PROCEDURES NOT TO EXCEED FLAME SPREAD – 25, SMOKE DEVELOPED – 50 (UNLESS NOTED OTHERWISE) AND FUEL CONTRIBUTED – 50.
5. FIBERGLASS INSULATION – 4 PCF DENSITY, MAXIMUM THERMAL CONDUCTIVITY "K" (BTUIN./HR.FT2 F) OF 0.23 AT 75 F MEAN TEMPERATURE, WITH FACTORY–APPLIED ALL PURPOSE FOIL–KRAFT BONDED JACKET HAVING A VAPOR–PROOF PRESSURE–SENSITIVE 1.5 INCH WIDE LAP FOR LONGITUDINAL SEAL. EACH CYLINDRICAL PIECE SHALL BE HINGED CONSTRUCTION. PROVIDE 3–INCH WIDE VAPOR–PROOF PRESSURE–SENSITIVE SEALING TAPE WITH RELEASE PAPER FOR CIRCUMFERENTIAL JOINTS. MICRO–LOK WITH AP–T JACKET BY JOHNS–MANVILLE.
6. ELASTOMERIC INSULATION
   - 6.1. INSULATION MATERIAL SHALL BE FLEXIBLE, CELLULAR ELASTOMERIC, MOLDED, OZONE RESISTANT, 6 PCF DENSITY, AND SHALL COMPLY WITH ASTM C534. THERMAL CONDUCTIVITY "K" (BTUIN./HR.FT2 F) SHALL BE 0.28 AT 75 F, ASTM C177 OR C518. MINIMUM SERVICE TEMPERATURE SHALL BE –40 F. MAXIMUM SERVICE TEMPERATURE SHALL BE 220 F.
   - 6.2. MAXIMUM MOISTURE ABSORPTION SHALL BE 1.0 PERCENT BY VOLUME, ASTM D1056. MOISTURE VAPOR TRANSMISSION SHALL BE 0.20 PERM INCHES, ASTM E96.
   - 6.3. MAXIMUM FLAME SPREAD SHALL BE 25 PER ASTM E84. MAXIMUM SMOKE DEVELOPED SHALL BE 50 (3/4" AND BELOW) AND 100 (1" AND ABOVE) PER ASTM E84.
   - 6.4. FOR ALL EXTERIOR PIPING AND FOR PIPING EXPOSED TO ULTRAVIOLET RADIATION, PROVIDE A PROTECTIVE INSULATION COATING, RUBATEX 374 OR EQUAL. APPLY WITH WATERPROOF VAPOR BARRIER ADHESIVE.
   - 6.5. ELASTOMERIC INSULATION SHALL BE RUBATEX R–180–FS OR EQUIVALENT.
7. JACKETS
   - 7.1. ALL SERVICE JACKET – AP–T BY JOHNS–MANVILLE CORPORATION, SUPPLIED INTEGRAL WITH MICRO–LOK INSULATION. JACKET SHALL INCLUDE BONDED VAPOR–PROOF ALUMINUM FOIL–KRAFT AND 1.5 INCH WIDE LONGITUDINAL VAPOR–PROOF PRESSURE SENSITIVE CLOSURE SEAL WITH RELEASE PAPER.
   - 7.2. METAL JACKET STAINLESS STEEL 0.010 INCH THICK HAVING Z LOCK JOINT LONGITUDINAL SEAM, LINED WITH FACTORY–LAMINATED MOISTURE BARRIER. INCLUDE 0.016 INCH THICK X 2 INCH WIDE PREFORMED ALUMINUM SPRING SNAPS CONTAINING PERMANENT PLASTIC SEALING COMPOUND AND 0.015 INCH THICK X 0.5 INCH WIDE STAINLESS STEEL BANKS.
8. ACCESSORIES
   - 8.1. PRE–MOLDED FITTINGS – POLY–VINYL CHLORIDE (PVC), 20 MILS THICK FOR INDOOR USE, 30 MILS THICK FOR OUTDOOR USE, CONFORMING TO FS L–P–535E. PROVIDE 2–LAYER PRE–CUT INSULATION INSERTS MATCHED TO PIPE INSULATION, VAPOR BARRIER, MASTIC ADHESIVES AND TAPES. PVC COVERS SHALL BE "ZESTON" BY JOHNS–MANVILLE.
9. CONTRACTOR SHALL INSULATE ALL NEW PIPING IN TYPE AND THICKNESS AS NOTED IN THE INSULATION SCHEDULE WITHIN THIS SECTION. IN ADDITION, CONTRACTOR SHALL RE–INSULATE ALL EXISTING PIPING WITHIN CONTRACT AREA AS SPECIFIED HEREIN FOR ALL PIPING WHOSE INSULATION HAS BEEN REMOVED OR DAMAGED BASED ON THE INSULATION SCHEDULE THICKNESSES.

INSULATION FOR MECHANICAL PIPING SYSTEMS CONT'D

DESCRIPTION	COND DRAIN	REFRIG PIPE (RL&RS)
FLUID TEMPERATURE RANGE (°F)	35–75	35–150
INSULATION TYPE	FIBERGLASS OR ELASTOMER	FIBERGLASS OR ELASTOMER
INSULATION THICKNESS FOR INDOOR PIPE LOCATIONS	COND DRAIN	RL&RS
1" OR LESS	3/4"	3/4"
2" OR LESS	3/4"	3/4"
4" OR LESS	3/4"	3/4"
6" OR LESS	3/4"	3/4"
8" OR GREATER	3/4"	3/4"
INSULATION THICKNESS FOR OUTDOOR PIPE LOCATIONS	COND DRAIN	RL&RS
1" OR LESS	N/A	3/4"
2" OR LESS	N/A	1"
4" OR LESS	N/A	1"
6" OR LESS	N/A	1"
8" OR GREATER	N/A	1"

NOTES:

1. REFER TO SECTIONS BELOW FOR "JACKETING" AND/OR "FINISH" REQUIREMENTS FOR OUTDOOR PIPING.

DUCTWORK INSULATION

1. PROVIDE EXTERNAL INSULATION, JACKETS AND INSULATING ACCESSORIES FOR SHEET METAL DUCTWORK UNLESS OTHERWISE NOTED AS RECEIVING INTERNAL ACOUSTIC LINING ON THE PLANS. IN THE CASE OF EXTERIOR DUCTWORK REQUIRING ACOUSTICAL LINING, THE CONTRACTOR SHALL PROVIDE INTERNAL AND EXTERNAL INSULATION WITH JACKETING AS REQUIRED TO MEET THE INSULATION VALUES NOTED FOR DUCTWORK LOCATED OUTDOORS THAT IS UNLINED.
2. SUBMIT FOR REVIEW, MANUFACTURER'S PRODUCT DATA FOR ALL PRODUCTS SPECIFIED. SUBMIT SAMPLES OF PRODUCTS, LABELED AND IDENTIFIED, IF REQUESTED.
3. APPROVED MANUFACTURERS – THE FOLLOWING PRODUCTS AND MANUFACTURERS ARE APPROVED FOR USE. NO SUBSTITUTIONS.
   - 3.1. FIBERGLASS INSULATION – JOHNS–MANVILLE, CERTAINTEED, OWENS–CORNING, KNAUF.
   - 3.2. ELASTOMERIC – RUBATEX, ARMSTRONG.
   - 3.3. JACKETS, ADHESIVES, MASTICS, AND SEALING TAPES – JOHNS–MANVILLE, ARMSTRONG, FOSTER, CHILDERS, EPOLUX, CONSOLIDATED KINETICS CORPORATION.
4. INSULATING MATERIALS AND ACCESSORIES SHALL HAVE A COMPOSITE FIRE AND SMOKE RATING, WHEN TESTED IN ACCORDANCE WITH ASTM E 84, NFPA 255 AND UL 723, NOT TO EXCEED FLAME SPREAD OF 25, SMOKE DEVELOPED OF 50 (UNLESS OTHERWISE NOTED) AND FUEL CONTRIBUTED OF 50.
5. FIBERGLASS BOARD TYPE (FG BOARD)
   - 5.1. FLAT, RIGID PREFORMED FIBERGLASS BOARD, 3 PCF DENSITY (INDOOR), 6 PCF (OUTDOOR) , WITH FACTORY–APPLIED VAPOR BARRIER FACING. MAXIMUM OPERATING TEMPERATURE SHALL BE 450 F.
   - 5.2. VAPOR BARRIER FACING SHALL BE FSK (FOIL–SCRIM–KRAFT) ALUMINUM FOIL REINFORCED WITH FIBERGLASS YARN MESH LAMINATED TO FIRE–RESISTANT TREATED KRAFT PAPER. FACING SHALL HAVE A MAXIMUM PERMEABILITY RATING OF 0.02 PERMS AND EMMITANCE OF 0.20.
   - 5.3. INSULATION SHALL HAVE A MAXIMUM THERMAL CONDUCTIVITY "K" (BTUIN./HR.FT2 F) OF 0.23 AT 75 F MEAN TEMPERATURE.
   - 5.4. SERIES 700 BY OWENS–CORNING, SERIES 800 BY JOHNS–MANVILLE.
6. DUCT WRAP TYPE
   - 6.1. DUCT WRAP SOFTR DUCT WRAP FRK BY OWENS–CORNING, MICROLITE XG TYPE 100 BY JOHNS–MANVILLE.
   - 6.2. RESILIENT FIBERGLASS BLANKET WITH FACTORY APPLIED VAPOR BARRIER FACING.
   - 6.3. VAPOR BARRIER FACING SHALL BE ALUMINUM FOIL REINFORCED WITH FIBERGLASS YARN MESS LAMINATED TO 40 POUND FIRE–RESISTANT TREATED KRAFT PAPER. FACING SHALL HAVE A MAXIMUM PERMEANCE OF 0.02 PERMS. DENSITY SHALL BE 1.0 LB./CU. FT. MAXIMUM OPERATING TEMPERATURE SHALL BE 250 F.
   - 6.4. INSULATION SHALL HAVE A MAXIMUM THERMAL CONDUCTIVITY "K" (BTUIN./HR.FT2 F) OF 0.27 AND THERMAL RESISTANCE "R" AT 75 F MEAN TEMPERATURE OF 7.4.

DESCRIPTION	SUPPLY AIR DUCT & PLENUM	OUTSIDE AIR DUCT & PLENUM	RETURN AIR DUCT & PLENUM	JACKETING
ROUND, INDOOR, CONDITIONED, CONCEALED	2" DUCT WRAP	2" DUCT WRAP	2" DUCT WRAP	FSK
ROUND, INDOOR, CONDITIONED, EXPOSED	N/R	N/R	N/R	N/R
ROUND, OUTDOOR EXPOSED	2" DUCT WRAP	2" DUCT WRAP	2" DUCT WRAP	SEE "OUTDOOR JACKETING"
RECTANGULAR, INDOOR, CONDITIONED, CONCEALED	2" DUCT WRAP	2" DUCT WRAP	2" DUCT WRAP	FSK
RECTANGULAR, INDOOR, CONDITIONED, EXPOSED	2" DUCT BOARD	2" DUCT BOARD	2" DUCT BOARD	FSK
RECTANGULAR, OUTDOOR, CONDITIONED, EXPOSED	2" DUCT BOARD	2" DUCT BOARD	2" DUCT BOARD	SEE "OUTDOOR JACKETING"

NOTES:

ALL DUCTWORK IN UNCONDITIONED SPACES SHALL BE THE SAME AS THAT USED FOR CONCEALED SPACES. RETURN CEILING PLENUMS ARE CONSIDERED UNCONDITIONED.

CONDITIONED – SPACES WHICH ARE BOTH HEATED AND COOLED.

UNCONDITIONED – SPACES WHICH ARE NOT COOLED BUT MAY BE HEATED, SUCH AS MECHANICAL ROOMS, OR SPACES WHICH ARE NEITHER HEATED NOR COOLED.

CONCEALED – LOCATED BEHIND CONSTRUCTION SUCH AS WALLS, SHAFTS, CEILINGS, ETC. EXPOSED – NOT LOCATED BEHIND CONSTRUCTION SUCH AS WALLS, SHAFTS, CEILINGS, ETC. AND WHICH IS 8' – 0" OR LESS FROM FINISHED FLOORS.

OUTDOOR JACKETING – PROVIDE 60–MIL THICK, LAMINATED VAPOR BARRIER AND WATERPROOFING MEMBRANE FOR INSTALLATION OVER INSULATION LOCATED ABOVE–GROUND OUTDOORS; CONSISTING OF A RUBBERIZED BITUMINOUS RESIN ON A CROSS–LAMINATED POLYETHYLENE FILM COVERED WITH WHITE ALUMINUM–FOIL FACING. APPROVED MANUFACTURERS: POLYGUARD; ALUMAGUARD 60 OR APPROVED EQUIVALENT.

AUTOMATIC TEMPERATURE CONTROLS

1. SCOPE OF WORK

A. THE ATC SYSTEM SPECIFICATION IS A PERFORMANCE SPECIFICATION AND IS EXPECTED TO BE DESIGNED/ENGINEERED BY THE ATC CONTRACTOR TO MEET THE INTENT OF THE SPECIFICATIONS. ONLY QUALIFIED FIRMS SHALL PROPOSE ON THIS WORK; NO EXCEPTIONS.

B. HVAC CONTROLS BASIC SCOPE: WORK INCLUDES THE INSTALLATION AND PROGRAMMING REQUIRED TO EXECUTE THE SEQUENCE OF OPERATIONS AS NOTED BELOW. THE INTENT IS FOR THE EQUIPMENT TO FUNCTION VIA BASIC CONTROL DEVICES AND HARD–WIRE INTERLOCKS.. THE INTENT IS FOR THE ATC CONTRACTOR TO PROVIDE A BASIC CONTROL PANEL WITH CONTROLLER CAPABLE OF TIME–CLOCK OPERATION FOR OCCUPIED / UNOCCUPIED SCHEDULING, OUTSIDE AMBIENT ENABLE/DISABLE, ROOM TEMPERATURE AVERAGING AND ALARM WITH A BASIC LCD FOR DISPLAY OF SYSTEM PARAMETERS AND ALARMS. CONTROLLER SHALL HAVE CAPABILITY OF BEING MONITORED VIA A WEB–BASED PLATFORM. CONTROL PANEL SHALL BE LOCATED IN THE STORAGE ROOM. SYSTEM INSTALLATION SHALL BE COORDINATED WITH ALL TRADES.

C. THE FOLLOWING EQUIPMENT IS TO BE CONTROLLED:
1. VARIABLE REFRIGERANT FLOW SYSTEM (AHU AND CONDENSING UNIT) WITH OUTDOOR AMBIENT AND AVERAGING SENSORS.
2. EXHAUST FANS.
3. ELECTRIC UNIT HEATERS.

G. AUTOMATIC CONTROLS FOR NEW EQUIPMENT SHALL BE CAPABLE OF INDEPENDENT, STAND–ALONE OPERATION. FURNISH AND INSTALL ALL THERMOSTATS, CONTROLLERS, SENSORS, VALVE AND DAMPER MOTORS, WIRING, ETC. AS REQUIRED FOR A COMPLETE INSTALLATION.

H. THE SYSTEM SHALL BE COMPLETE IN ALL RESPECTS INCLUDING ALL LABOR, MATERIALS, EQUIPMENT AND SERVICE AS REQUIRED. THE SYSTEM SHALL BE DESIGNED AND INSTALLED BY AN APPROVED CONTRACTOR HAVING AT LEAST TEN (10) YEARS EXPERIENCE IN THE DESIGN AND INSTALLATION OF HVAC AUTOMATIC CONTROLS AND RELATED WORK WHO SHALL ALSO PROVIDE START–UP, OPERATING INSTRUCTION AND NECESSARY MAINTENANCE AND REPAIRS TO THE SYSTEM THROUGH THE GUARANTEE PERIOD.

2. ELECTRICAL

A. ALL ELECTRICAL WORK REQUIRED FOR THE OPERATION OF THE CONTROL SYSTEMS SHALL BE PROVIDED UNDER THIS SECTION OF THE SPECIFICATION BY THE CONTROL SYSTEMS CONTRACTOR, EXCEPT AS SPECIFICALLY NOTED, AND SHALL BE IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL AUTHORITIES HAVING JURISDICTION.

B. ALL ELECTRICAL CONTROL AND SWITCHES SHALL BE SUITABLE FOR 120 VOLTS, 60 HERTZ. UPON COMPLETION OF THE WORK, AN ELECTRICAL CERTIFICATE FROM THE LOCAL JURISDICTION INSPECTION AGENCY SHALL BE PROVIDED.

C. ALL ELECTRICAL WIRING SHALL BE INSTALLED IN THIN–WALL EMT.

D. SINGLE OR MULTIPLE CONDUCTOR CABLES USED IN THE ATC WIRING SYSTEMS SHALL MEET THE REQUIREMENTS OF THE NEC TO INCLUDE ARTICLE 725 FOR CLASS 2 OR 3 WIRING AND ARTICLE 760 FOR FIRE PROTECTIVE SIGNALING SYSTEMS.

E. INSTALLATION SHALL COMPLY WITH NEC. RUNS OF SINGLE OR MULTIPLE CABLE SHALL BE SECURELY FASTENED IN A NEAT, WORKMAN–LIKE MANNER. SPLICES SHALL NOT BE MADE IN INACCESSIBLE LOCATIONS.

G. THERMOSTAT WIRING (24V) SHALL BE MINIMUM 18/2 STRANDED, SHIELDED, TWISTED PAIR, PLENUM RATED.

H. COMM WIRING SHALL BE CAT–6 DATA CABLE, 24 AWG, 4X2 PR, PLENUM RATED.

3. SERVICE AND GUARANTEE

A. THE ATC CONTRACTOR SHALL GUARANTEE THE CONTROL SYSTEM IS FREE FROM DEFECTS IN WORKMANSHIP AND MATERIAL FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. ANY ITEMS PROVEN TO BE DEFECTIVE WITHIN THE GUARANTEE PERIOD SHALL BE REPAIRED OR REPLACED FREE OF CHARGE. AFTER COMPLETION OF THE INSTALLATION, ALL EQUIPMENT PROVIDED UNDER THIS SPECIFICATION SHALL BE ADJUSTED AND CALIBRATED FOR PROPER OPERATION.

B. THE ATC CONTRACTOR SHALL PROVIDE MINIMUM 2 HOURS OF TRAINING TO THE OWNER FOR ATC SYSTEM OPERATION AND MAINTENANCE.

4. HVAC SEQUENCE OF OPERATION

A. VARIABLE REFRIGERANT FLOW SYSTEM (AHU AND CONDENSING UNITS) <VRF/HP, EF>

1. GENERAL: 100% OA, VRF FAN COIL UNIT AND ASSOCIATED HEAT PUMP CONDENSING UNIT SHALL OPERATE UTILIZING MANUFACTURER'S ON–BOARD CONTROLLER IN CONJUNCTION WITH THE MAIN ATC CONTROL PANEL CONTROLLER. THE ATC CONTROL PANEL CONTROLLER SHALL SET OCCUPIED (6AM TO 12AM; ADJ.) AND UNOCCUPIED (1AM TO 5 AM) MODES INCLUDING TIMEFRAME AND DATE WITH OA AMBIENT ENABLE/DISABLE FOR THE HEATING AND COOLING MODES OF THE VRF SYSTEM TO MAINTAIN THE AVERAGE ROOM AIR TEMPERATURE. AVERAGE ROOM AMBIENT TEMPERATURE WILL OVERRIDE THE OA AMBIENT ENABLE/DISABLE AS A SAFETY. THE ELECTRIC PRE–HEAT COIL SHALL BE ENABLED WHEN THE OA AMBIENT IS LESS THAN 30 DEG F (ADJ.) AND WILL RAISE THE EAT TO MEET THE VRF MFG'S REQUIREMENTS. THE OA AMBIENT ENABLE/DISABLE AND ROOM AMBIENT SET–POINTS SHALL BE AS FOLLOWS:

   1.1. IF OA AMBIENT GREATER THAN 75 DEG F AND ROOM TEMP AVERAGE IS GREATER THAN 80 DEG F, THEN ENABLE COOLING MODE TO COOL UNTIL ROOM TEMP AVERAGE REACHES 75 DEG F (ADJ.)
   1.2. IF OA AMBIENT LESS THAN 55 DEG F AND ROOM TEMP AVERAGE IS LESS 65 DEG F, THEN ENABLE HEATING MODE TO HEAT ROOM UNTIL ROOM TEMP AVERAGE REACHES 70 DEG F (ADJ.).
   1.3. IF ANY ROOM TEMP SENSOR READS LESS THAN 40 DEG F, THEN HEATING MODE SHALL BE ENABLED REGARDLESS OF MODE OF OPERATION AND CONTINUE TO OPERATE UNTIL ROOM TEMPERATURE AVERAGE REACHES 65 DEG F (ADJ.)

2. UNOCCUPIED MODE: UNOCCUPIED MODE SHALL HAVE THERMOSTAT SETBACK TO 45 DEG F (ADJ.) IN HEATING AND 90 DEG F (ADJ.) IN COOLING.

B. TOILET ROOM EXHAUST FANS <EF>

1. GENERAL: TOILET ROOM EXHAUST FANS SHALL BE CONTROLLED VIA LIGHT SWITCH WITH OCCUPANCY SENSOR IN THE INDIVIDUAL TOILET ROOM. FANS SHALL BE SET TO RUN FOR 15 MINUTES POST OCCUPANCY.
2. VENTILATION MODE: FAN SHALL RUN CONTINUOUSLY IN OCCUPIED MODE UPON ACTIVATION OF THE LIGHT SWITCH AND HAVE A 15 MINUTE TIMER.

B. STORAGE ROOM EXHAUST FANS <EF>

1. GENERAL: STORAGE ROOM EXHAUST FAN SHALL BE CONTROLLED VIA THERMOSTAT IN THE ROOM SET AT 85 DEG F.
2. VENTILATION MODE: FAN SHALL RUN TO MAINTAIN SET–POINT TEMPERATURE OF 85 DEG F (ADJ.). AND SHALL DE–ENERGIZE UPON THE TEMPERATURE BEING SATISFIED.

C. ELECTRIC UNIT HEATERS <EUH, UH>

1. GENERAL: UNIT HEATERS SHALL BE STAND–ALONE OPERATION UTILIZING MANUFACTURER'S ONBOARD CONTROLLER AND INTEGRAL THERMOSTAT.
2. HEATING MODE: UNIT SHALL OPERATE TO MAINTAIN SET–POINT TEMPERATURE OF 68 DEG F (ADJ.)

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11TH STREET BOARDWALK RESTROOMS
11TH STREET & BOARDWALK
OCEAN CITY , NJ 08226

No.	Description	Date
	PREFAB COORDINATION	12/11/20

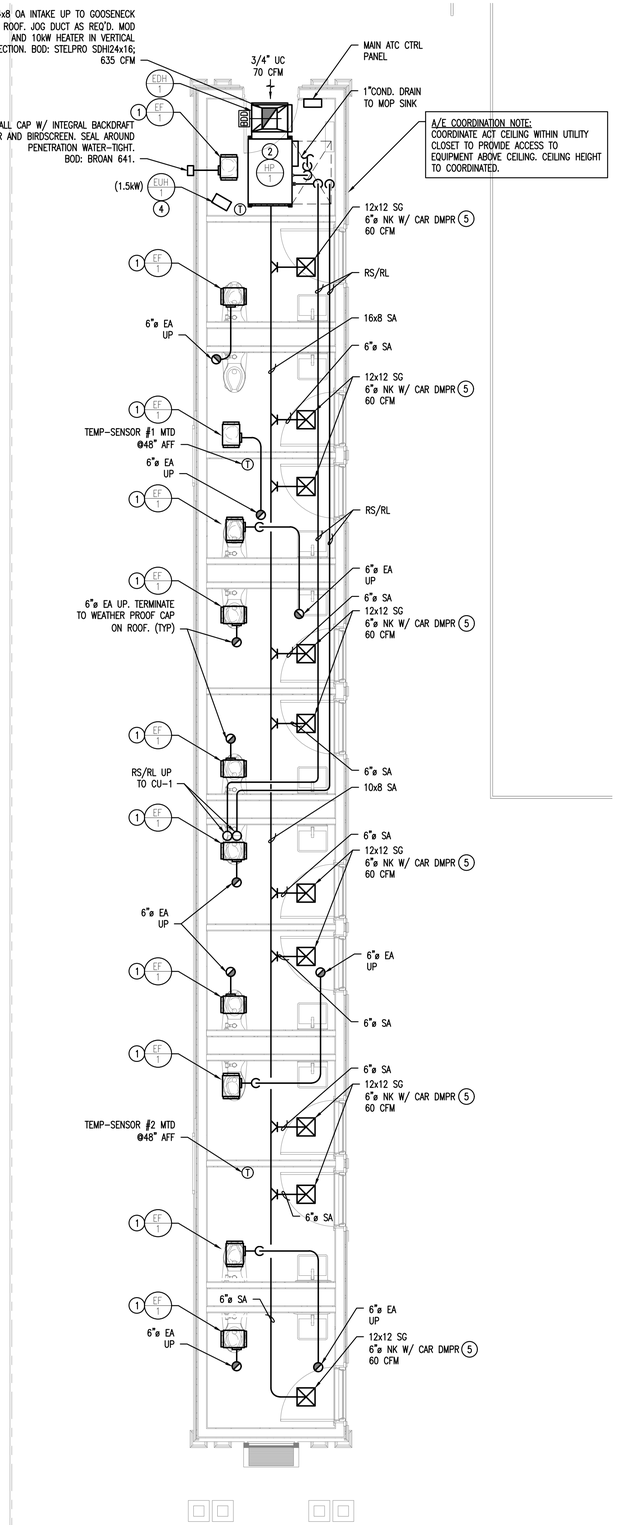
MECHANICAL SPECIFICATIONS

CEG PROJECT: 8C20379.00

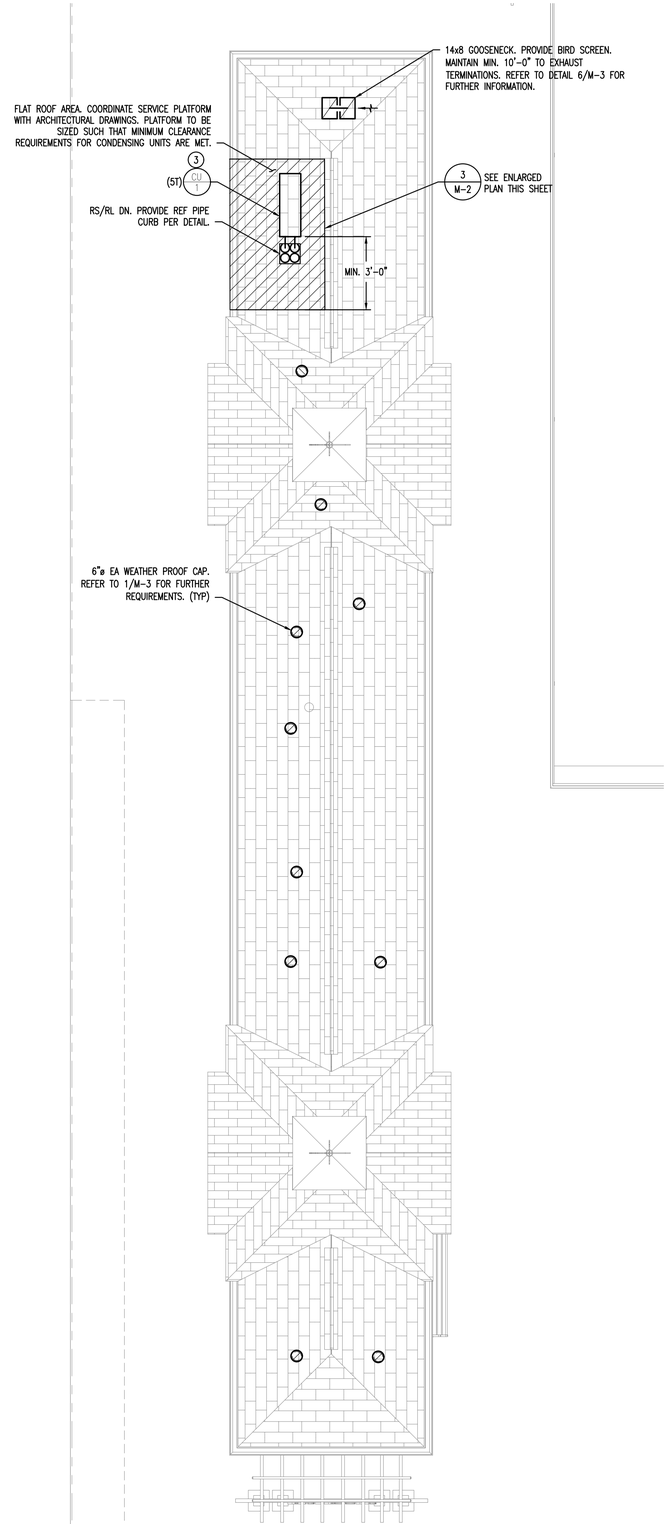
Scale	AS NOTED
Drawn by	JHB
Date	12/11/2020

M-1

Commission no. 200310



1 M-2 **MECHANICAL FLOOR PLAN**
SCALE: 1/4"=1'-0"
SCALE BAR: 1/4"=1'-0"



2 M-2 **MECHANICAL ROOF PLAN**
SCALE: 1/4"=1'-0"
SCALE BAR: 1/4"=1'-0"

MECHANICAL SYSTEM NOTES:

1. GENERAL NOTES:

A. REFER TO MECHANICAL M-0 & M-1 FOR NOTES AND SPECIFICATIONS THAT PERTAIN TO THE SCOPE OF THIS PROJECT.

B. REFER TO DWG M-3 & M-4 FOR MECHANICAL DETAILS AND SCHEDULES PERTAINING TO THIS PROJECT.

C. CONTRACTOR SHALL PROVIDE ALL REQUIRED DUCTWORK, PIPING, VALVES & APPURTENANCES TO PROVIDE A COMPLETE WORKING SYSTEM.

D. CONTRACTOR SHALL INSTALL ALL (N)EQUIPMENT IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.

2. GENERAL ROOF NOTES:

A. EXHAUST PENETRATIONS SHALL TERMINATE A MINIMUM OF 3'-0" FROM THE PROPERTY LINE AND FROM THE ROOF EDGE. TYPICAL FOR ALL EXHAUST PENETRATIONS.

B. ALL EXHAUST PENETRATIONS SHALL TERMINATE A MINIMUM OF 10'-0" FROM THE ANY OUTSIDE AIR INTAKES.

C. ALL ROOF PENETRATIONS MUST BE SEALED WATERTIGHT AND MUST BE DONE SUCH THAT THE WARRANTY OF THE ROOF IS MAINTAINED. COORDINATE ALL PENETRATIONS WITH THE ARCHITECT.

MECHANICAL SYSTEM NOTES (CONTINUED):

3. NEW WORK KEYED NOTES:

GENERAL: NEW WORK NOTES ARE INDICATED WITH THE FOLLOWING SYMBOL (—) AND ARE NUMBERED AS FOLLOWS:

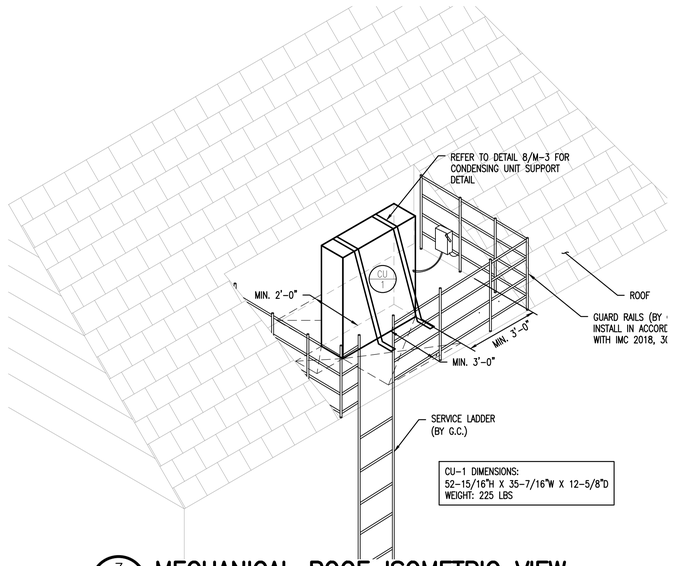
(1) FURNISH AND INSTALL NEW CEILING EXHAUST FAN WITH INTEGRAL BACKDRAFT DAMPER IN THE LOCATION SHOWN ON PLAN WITH THE PERFORMANCE AS INDICATED ON THE EQUIPMENT SCHEDULES. INTERLOCK FAN WITH THE LIGHT SWITCH. PROVIDE DUCTWORK UP THRU ROOF, TERMINATE TO WEATHER-PROOF EXHAUST CAP ON ROOF. REFER TO DETAIL 1/M-3 FOR FURTHER REQUIREMENTS.

(2) FURNISH AND INSTALL NEW 100% OA DUCTED VRF FAN COIL UNIT IN THE LOCATION AS SHOWN ON PLAN WITH THE CAPACITIES AS LISTED IN THE EQUIPMENT SCHEDULE. PROVIDE ALL REQUIRED UNISTRUT, THREADED ROD, AND RUBBER VIBRATION ISOLATORS TO MOUNT THE UNIT ABOVE THE CEILING. THE MAIN THERMOSTAT IS TO BE LOCATED WITHIN THE UTILITY CLOSET WITH SPACE TEMPERATURE SENSORS LOCATED AS SHOWN ON PLAN. INTEGRATE SPACE TEMPERATURE SENSORS INTO THE MAIN THERMOSTAT TO READ THE AVERAGE TEMPERATURE. PROVIDE CODE REQUIRED ACCESS TO THE UNIT FOR MAINTENANCE, INSPECTION, AND REPAIRS. PROVIDE P-TRAP AND SLOPE CONDENSATE MINIMUM 1/8" PER FOOT TO MOP SINK WITHIN JANITORS CLOSET. ROUTE REFRIGERANT PIPING FROM INDOOR UNIT TO OUTDOOR UNIT. FINAL REFRIGERANT PIPE SIZES TO BE BY MFR.

(3) FURNISH AND INSTALL NEW CONDENSING UNIT AS SHOWN ON PLAN IN THE CAPACITIES LISTED IN THE EQUIPMENT SCHEDULE. PROVIDE NON-PENETRABLE EQUIPMENT SUPPORT PLATFORM MINIMUM 12" ABV. ROOF WITH EQUIPMENT ATTACHEMENTS TO STRUCTURE SUITABLE FOR 120 MPH WIND. CONTRACTOR/VENDOR SHALL PROVIDE REQUIRED CALCULATIONS AND ATTACHMENT DETAILS AS DELEGATED DESIGN PER NOTE 19 ON M-0. REFER TO DETAIL 8/M-3 FOR REPRESENTATIVE REQUIREMENTS. COORDINATE REFRIGERANT PIPE ROUTING THRU ROOF TO THE INDOOR UNIT. MAINTAIN ALL MANUFACTURER'S MINIMUM CLEARANCES FOR SERVICE AND MAINTENANCE. COORDINATE FINAL PLATFORM DIMENSIONS AS REQUIRED.

(4) FURNISH AND INSTALL NEW ELECTRIC UNIT HEATER IN THE LOCATION SHOWN ON PLAN WITH THE CAPACITIES LISTED IN THE EQUIPMENT SCHEDULE. PROVIDE ALL MOUNTING BRACKETS TO MOUNT UNIT FROM THE BUILDING STRUCTURE. COORDINATE ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR. PROVIDE INTEGRAL THERMOSTAT WITH CONTROL TRANSFORMER AS REQUIRED.

(5) CEILING MOUNTED SUPPLY GRILLE WITH CONSTANT AIRFLOW REGULATOR. BOD: KRUEGER 5880 / POTTORFF CAR DAMPER COORDINATE MOUNTING FRAME WITH THE CEILING TYPE. PROVIDE ALL TRANSITIONS REQUIRED. CONFIRM FINISH COLOR WITH OWNER/ARCHITECT PRIOR TO PURCHASING. CONSTANT AIRFLOW REGULATOR TO BE SIZED PER THE NECK SIZE SHOWN ON PLAN.



3 M-2 **MECHANICAL ROOF ISOMETRIC VIEW**
SCALE: N.T.S.

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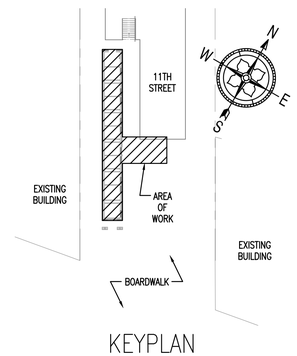


KEYPLAN

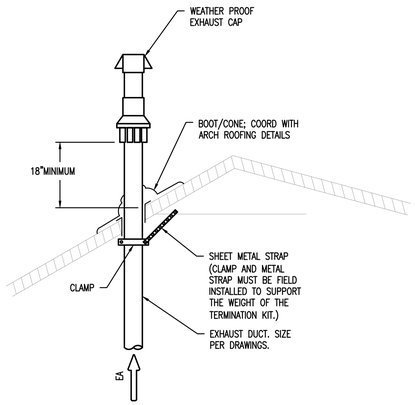
MECHANICAL FLOOR PLAN

CEG PROJECT: 8C20379.00

Scale	AS NOTED
Drawn by	JHB
Date	12/11/2020

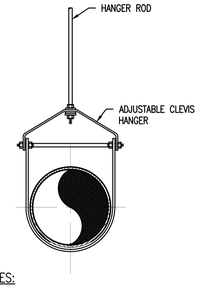
M-2

Commission no. 200310



1 M-3 EXHAUST PENETRATION THRU ROOF DETAIL

SCALE: N.T.S.

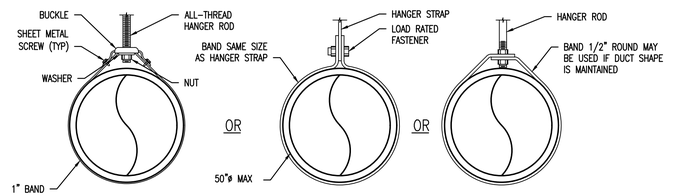


NOTES:

1. SIZE CLEVIS TO ADEQUATELY SUPPORT LOAD.

2 M-3 PIPE SUPPORT DETAIL

SCALE: N.T.S.

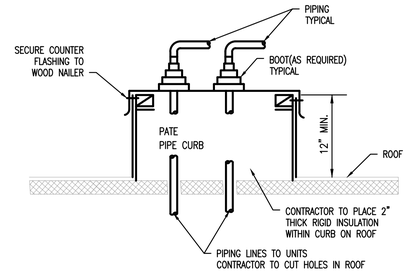


NOTE:

HANGERS MUST NOT DEFORM DUCT SHAPE

3 M-3 ROUND DUCT HANGER DETAIL

SCALE: N.T.S.

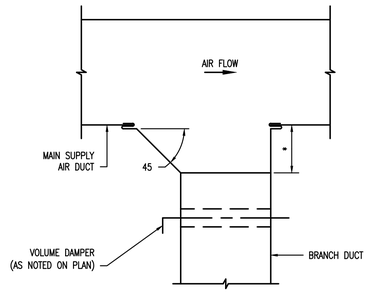


4 M-3 PIPE CURB INSTALLATION DETAIL

SCALE: N.T.S.

NOTES:

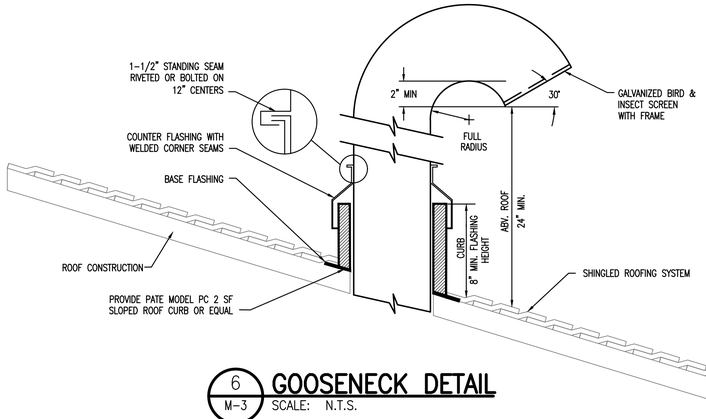
1. FINAL FINISH AND SEALING OF PIPE CURBS SHALL BE IN ACCORDANCE WITH METHODS APPROVED BY ROOFING MANUFACTURER OF SELECTED ROOFING SYSTEM.
2. PIPE CURBS TO BE UTILIZED FOR BOTH MECHANICAL AND ELECTRICAL SERVICES.



* EQUALS 1/4 WIDTH OF BRANCH DUCT MINIMUM 4".

5 M-3 TYPICAL LOW PRESSURE RECTANGULAR DUCT TAKE-OFF DETAIL

SCALE: N.T.S.

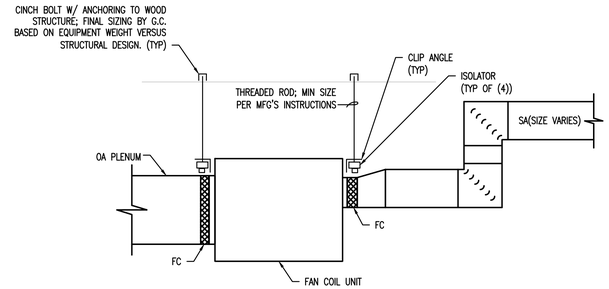


6 M-3 GOOSENECK DETAIL

SCALE: N.T.S.

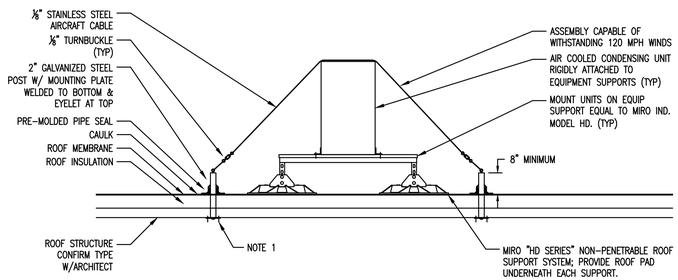
NOTES:

1. DIRECT EXHAUST AWAY FROM AIR INTAKES.
2. SEAL BASE FLASHING TO ROOF WITH ROOFING CAULK AND SECURE FLASHING TO DECK WITH 4 GALVANIZED ROOFING NAILS



7 M-3 SUSPENDED UNIT SUPPORT DETAIL

SCALE: N.T.S.



8 M-3 EQUIPMENT TIE DOWN DETAIL

SCALE: N.T.S.

NOTE:

1. CONTRACTOR TO VERIFY IN FIELD THAT BUILDING STRUCTURE IS BUILT SUCH THAT IT SUPPORTS THE MOUNTING PLATES FOR THE TIE-DOWN STRAPS. ADDITIONAL CROSS BRACING MAY BE REQUIRED IN ORDER TO PROPERLY SECURE THE PLATES TO THE BUILDING STRUCTURE.

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M-3

Commission no. 200310

OCEAN CITY 11th STREET RESTROOMS VENTILATION SCHEDULE

ROOM NUMBER	ROOM NAME	BREATHING ZONE OA A_Z FLOOR AREA (SF)	EXHAUST RATE CALCULATION			DESIGN AIRFLOWS			NOTES
			NO. OF FIXTURES (QTY)	REQUIRED EXHAUST RATE (CFM/FIXTURE) OR (CFM/SF)	REQUIRED EXHAUST AIRFLOW (CFM)	SUPPLY AIRFLOW (CFM)	EXHAUST AIRFLOW (CFM)	TRANSFER AIRFLOW (CFM)	
1	FAMILY ROOM	45	1	70	70	60	70	10	
2	ACCESSIBLE	45	1	70	70	60	70	10	
3	UNISEX	39	1	70	70	60	70	10	
4	UNISEX	39	1	70	70	60	70	10	
5	UNISEX	39	1	70	70	60	70	10	
6	UNISEX	39	1	70	70	60	70	10	
7	UNISEX	39	1	70	70	60	70	10	
8	UNISEX	39	1	70	70	60	70	10	
9	UNISEX	39	1	70	70	60	70	10	
10	UNISEX	39	1	70	70	60	70	10	
11	STORAGE/UTILITY	46	-	1	46	-	70	70	
		448	10			Total Exhaust CFM Provided		770	

NOTE: VENTILATION AIR QUANTITIES ARE TAKEN FROM ASHRAE 62.1–2013 AND THE INTERNATIONAL MECHANICAL CODE 2018, TABLE 403.3

EXHAUST FAN SCHEDULE

SYMBOL	SERVICE	LOCATION	CFM	ESP	MOTOR HP	FAN RPM	MOTOR FLA	ELECTRICAL V/PH/HZ	CONTROLLED BY	OPER WEIGHT (LBS)	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL NUMBER
EF-1	RESTROOM	CEILING	70	0.25	6 WATTS	935	0.1	115/1/60	LIGHT SWITCH	12	GREENHECK	SP-80-VG

NOTES:
1. PROVIDE PREMIUM EFFICIENCY MOTOR
2. PROVIDE MOUNTING HARDWARE WITH VIBRATION ISOLATION FOR ALL SUSPENDED EF'S
3. ALL FANS TO BE PROVIDED WITH INTEGRAL BACKDRAFT DAMPERS
4. PROVIDE DISCONNECT FOR ALL EF'S
5. ALL FANS ARE TO BE INTERLOCKED WITH THE LIGHT SWITCH FOR THE ROOM. REFER TO ELECTRICAL DRAWINGS.

VRF SYSTEM - INDOOR UNITS

SYMBOL	LOCATION	SERVICE	TYPE	REFRIG TYPE	FAN CFM	FAN ESP (IN WG)	NOM CAP (TONS)	NOM CLG CAP (MBH)	NOM HTG CAP (MBH)	ELECTRICAL V/PH/HZ	ELECTRICAL MCA	ELECTRICAL MOCP	OPER WEIGHT (LBS)	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL NUMBER
HP-1	UTILITY CL	TLT RMS	HORIZONTAL DUCTED	R-410A	635	0.88	4	48	30	208-230/1-60	2.1	15	200	DAIKIN	FXMQ48

NOTES:
1. PROVIDE ALL REQUIRED MOUNTING HARDWARE
2. PROVIDE PROGRAMMABLE UNIT MOUNTED CONTROLLER WITH BACNET CARD. PROVIDE REMOTE TEMPERATURE SENSORS LOCATED AS SHOWN ON PLAN.
3. RS/RL RUNS SHALL NOT EXCEED 540 FT ONE WAY FROM OUTDOOR UNIT TO FURTHEST INDOOR UNIT
4. PROVIDE CONDENSATE PUMP IF MFG. RECOMMENDED SLOPE TO CONDENSATE RISER CANNOT BE ACHIEVED.
5. CONDENSATE PUMP BASIS OF DESIGN SHALL BE LITTLE GIANT VCMA-20UL: 1/30 HP, ABS 1/2 GALLON TANK, THERMAL OVERLOAD PROTECTION, TUBING, SAFETY SWITCH, 80 GPH, 1' LIFT, 6' CORD, CHECK VALVE, 120V/1PH/60HZ
6. PROVIDE DISCONNECT.
7. PROVIDE MERV 8 FILTER RACK. PROVIDE OWNER WITH SPARE FILTER.
8. PROVIDE SECONDARY DRAIN PAN WITH OVERFLOW SWITCH TO SHUT DOWN UNIT UPON DETECTING CONDENSATE WITHIN DRAIN PAN.

VRF SYSTEM - AIR COOLED CONDENSING UNIT SCHEDULE

SYMBOL	LOCATION	SERVICE	REFRIG TYPE	EER	SEER	NOM CAP (TONS)	NOM CLG CAP (MBH)	NOM HTG CAP (MBH)	ELECTRICAL V/PH/HZ	ELECTRICAL MCA	ELECTRICAL MOCP	OPER WEIGHT (LBS)	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL NUMBER
CU-1	ROOF	TLT ROOMS	R-410A	9.2	16	5	57.5	57	208-230/1/60	29.1	35	225	DAIKIN	RXTQ60TAVJUA

NOTES:
1. PROVIDE HIGH PRESSURE SWITCH, INVERTER OVER-CURRENT AND OVER-HEAT PROTECTION, COMPRESSOR OVER-HEAT PROTECTION, PCB OVER-CURRENT PROTECTION
2. RS/RL RUNS SHALL NOT EXCEED 540 FT ONE WAY FROM OUTDOOR UNIT TO FURTHEST INDOOR UNIT
3. PROVIDE DISCONNECT.
4. CONTRACTOR SHALL FURNISH AND INSTALL ROOF EQUIPMENT SUPPORTS FOR CONDENSING UNITS WITH POSITIVE ATTACHMENT TO THE STRUCTURE AND POSITIVE ATTACHMENT TO THE EQUIPMENT IN ACCORDANCE WITH THE IBC 2018 WIND REQUIREMENTS. CONTRACTOR SHALL PROVIDE SIGNED AND SEALED CALCULATIONS AND INSTALLATION DETAILS BY A THIRD PARTY STRUCTURAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY INDICATING COMPLIANCE
5. PROVIDE SEACOAST CONSTRUCTION ON COILS AND CASING

ELECTRIC UNIT HEATER SCHEDULE

SYMBOL	LOCATION	CFM	ELECTRIC COIL dT (°F)	ELECTRIC COIL KW	ELECTRIC COIL V/PH/HZ	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL NUMBER
EUH-1	VARIES	50	45	1.5	120/1/60	MARLEY	GFR1500F

1. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR
2. PROVIDE WITH INTEGRAL T-STAT W/ CONTROL TRANSFORMER
3. PROVIDE WITH WALL MOUNTING BRACKET

ELECTRIC HEATING COIL SCHEDULE

SYMBOL	LOCATION	EQUIPMENT SERVED	SERVICE	MBH	CFM	EAT	MAX. FACE VEL (FPM)	ELECTRICAL KW	ELECTRICAL NO. STEPS	ELECTRICAL V/PH/HZ	ELECTRICAL FLA	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL NUMBER
EDH-1	UTILITY CLOSET	HP-1	PHC	34	680	0-30	400	10	MODULATING	208/1/60	48	STELPRO	SDHI24X18-10K

NOTES:
1. COORDINATE TRANSITIONS ON INLET AND OUTLET OF ELECTRIC DUCT HEATER.
2. PROVIDE TEMPERATURE SENSOR ON INLET OF UNIT. UNIT TO POWER ON WHEN INLET TEMPERATURE READS 30 DEG F OR BELOW.
3. PROVIDE SCR CONTROL.
4. PROVIDE AIRFLOW SWITCH.

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ABBREVIATIONS

ABV	ABOVE
ACCOM	ACCOMMODATE
AD	ACCESS DOOR
ATMOS	ATMOSPHERE
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ANT	ACID NEUTRALIZATION TANK
AP	ACCESS PANEL
APPROX	APPROXIMATE
ARRG	ARRANGEMENT
ATP	AUTOMATIC TRAP PRIMER
BLDG	BUILDING
BLW	BELOW
BTU	BRITISH THERMAL UNIT
BV	BUTTERFLY VALVE
C	COMMON
CAB	CABINET
CAP	CAPACITY
CFH	CUBIC FEET PER HOUR
℄	CENTER LINE
CLG	CEILING
CO	CLEAN OUT
COL	COLUMN
CON	CONCENTRIC
CONC	CONCRETE
CD	CONDENSATE DRAIN
CONN	CONNECTION
CONT	CONTINUATION
CONTR	CONTRACTOR
CU	CUBIC
CW	COLD WATER
DEPT	DEPARTMENT
DFU	DRAINAGE FIXTURE UNIT
DIA	DIAMETER
DIAG	DIAGRAM
DISCH	DISCHARGE
DN	DOWN
DWG	DRAWING
(E)	EXISTING TO REMAIN
EA	EACH
EC	ELECTRICAL CONTRACTOR
EEW/SH	EMERGENCY EYEWASH/SHOWER
EL	ELEVATION
ELEC	ELECTRIC
ELEV	ELEVATOR
EQUIP	EQUIPMENT
ESP	ELEVATOR SUMP PUMP
EWC	ELECTRIC WATER COOLER
EXPAN	EXPANSION
F	DEGREES FAHRENHEIT
FAI	FRESH AIR INLET
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FIN	FINISHED
FLR	FLOOR
FP	FIRE PROTECTION
FS	FLOOR SINK
G	GUIDE/S
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GCO	GRADE CLEANOUT
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H	HEIGHT
HB	HOSE BIBB
HD	HEAD
HP	HORSEPOWER
HR	HOUR
HTR	HEATER
HW	HOT WATER
HZ	HERTZ
ID	INTERNAL DIAMETER
IDW	INDIRECT WASTE
IN	INCHES
INV	INVERT
KW	KILOWATT
LAV	LAVATORY
LVG	LEAVING
LW	LAB WASTE
MAX	MAXIMUM
MBH	THOUSANDS OF BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MED	MEDIUM
MFR	MANUFACTURER
MIN	MINIMUM
MS	MOP SINK
MTD	MOUNTED
(N)	NEW
NIC	NOT IN CONTRACT
No	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OD	OVERFLOW DRAIN
OWF	OUTDOOR WATER FOUNTAIN
PC	PLUMBING CONTRACTOR
PERF	PERFORATED
PEX	PEX PIPING
PEX-MF	PEX PIPING MANIFOLD
PH	PHASE
PRESS	PRESSURE
PSI	POUNDS PER SQUARE INCH
QUAN	QUANTITY
UR	URINAL
(R)	REMOVE EXISTING
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
(RE)	RELOCATE EXISTING
REQ	REQUIRED
RET	RETURN
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RV	RADON VENT
SAN	SANITARY
SCH	SCHEDULE
SCHEM	SCHEMATIC
SFU	SUPPLY FIXTURE UNIT
SH	SHOWER
SK	SINK
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ	SQUARE
SS	SERVICE SINK
ST.STL.	STAINLESS STEEL
ST	STORM
STK	STORAGE TANK HOT WATER
STL	STEEL
TBV	TEMPERATURE BALANCING VALVE
TEMP	TEMPERATURE
TP	TOTAL PRESSURE
TYP	TYPICAL
V	VENT
VCO	VERTICAL CLEANOUT
VEL	VELOCITY
VOLT	VOLTAGE
VTR	VENT THRU ROOF
W	WIDTH
W/	WITH/WIDE
W/O	WITHOUT
WC	WATER COLUMN OR WATER CLOSET
WCO	WALL CLEANOUT
WG	WATER GAUGE

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
	MANUAL BALANCING VALVE WITH PRESSURE TAPS
	BALL VALVE
	GATE VALVE
	GLOBE VALVE
	BUTTERFLY VALVE
	PLUG VALVE
	COMBINATION BALANCING/SHUTOFF VALVE W/PRESSURE TAPS
	PRESSURE REDUCING VALVE
	SAFETY/RELIEF VALVE
	PUMP - GENERIC
	Y-STRAINER WITH PLUG
	Y-STRAINER WITH DRAIN VALVE
	PRESSURE GAUGE WITH GAUGE COCK
	PRESSURE GAUGE WITH GAUGE COCK AND BOURDON TUBE
	THERMOMETER
P/T	PRESSURE/TEMPERATURE TEST FITTING
	PIPE UP AND DOWN
	TEE CONNECTION - STRAIGHT, DN, AND UP
	UNION
	END CAP
	BLIND FLANGE
	PIPE BELLOWS
	PIPE ANCHOR
	PIPE GUIDE (SLIDING)
	PIPE GUIDE (MOMENT)
	AIR VENT - (MANUAL)
	AUTOMATIC AIR VENT
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
P R	PITCH OF PIPE, RISE (R) DROP (D)
W H	EXPANSION LOOP AND SIZE
	BALL VALVE (GAS RATED)
	PLUG VALVE (GAS RATED)
	NATURAL GAS METER
	NATURAL GAS REGULATOR
	DOUBLE CHECK VALVE ASSEMBLY
WHA	WATER HAMMER ARRESTER
FD FD	FLOOR DRAIN
FLOOR WALL FCO CO WCO	CLEANOUT
	THERMOSTATIC MIXING VALVE
TP	TEMPERATURE & PRESSURE RELIEF VALVE
GA	GAUGE WITH GAUGE COCK & SNUBBER
	SOLENOID VALVE

PIPING SYMBOLS

	VENT LINE
G	NATURAL GAS
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER (110°F)
	DOMESTIC HOT WATER RECIRCULATING
	DIRECTION OF FLOW ARROW
	SANITARY LINE (ABOVE SLAB/ABOVE FIN. CLG.)

SCOPE OF WORK NOTES

1. PROJECT GENERAL NOTES
   - A. ALL WORK CONTAINED WITHIN THE DRAWINGS AND SPECIFICATIONS IS THE RESPONSIBILITY OF THE SINGLE PRIME CONTRACTOR
   - B. REFER TO SCOPE OF WORK DOCUMENTS AND FRONT END SPECIFICATIONS FOR RESPONSIBILITIES, PROJECT SCHEDULE AND MILESTONE REQUIREMENTS.
   - C. REFER TO ARCHITECTURAL DRAWINGS FOR GENERAL CONSTRUCTION REQUIREMENTS.
   - D. REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL REQUIREMENTS.
   - E. REFER TO STRUCTURAL DRAWINGS FOR STRUCTURAL REQUIREMENTS.
   - F. REFER TO P-1 FOR GENERAL NOTES, SYMBOLS, ABBREVIATIONS AND PROJECT SCOPE DESCRIPTIONS FOR DEMOLITION AND NEW WORK.
   - G. REFER TO PROJECT DETAIL SHEETS AND PROJECT SCHEDULE SHEETS FOR SPECIFIC PROJECT INSTALLATION REQUIREMENTS.
2. GENERAL DEMOLITION AND NEW WORK NOTES
   - A. CONTRACTOR SHALL COORDINATE THE REMOVAL AND INSTALLATION OF EQUIPMENT AND ASSOCIATED APPURTENANCES WITH OTHER TRADES SO AS NOT TO AFFECT THE OPERATION OF EXISTING OR NEW SYSTEMS. PARTICULAR ATTENTION SHALL BE GIVE TO UTILITY SERVICES (ELECTRIC, WATER, NATURAL GAS, BUILDING UTILITIES).
   - B. CONTRACTOR SHALL INSTALL NEW EQUIPMENT, DISTRIBUTION SYSTEMS AND APPURTENANCES AS INDICATED ON THE PLANS.
   - C. CONTRACTOR SHALL INSTALL NEW EQUIPMENT IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SHALL MAINTAIN ALL REQUIRED CLEARANCES AND AS INDICATED ON THE PLANS.
   - D. REFER TO DRAWING SPECIFICATIONS P-2 FOR PROJECT DETAILS AND EXECUTION REQUIREMENTS.
   - E. CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPING, VALVES AND APPURTENANCES FOR A COMPLETE WORKING SYSTEM.
   - F. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND MAKE ADJUSTMENTS TO EQUIPMENT PLACEMENT AND PIPE ROUTING AS REQUIRED.
   - G. COORDINATE ALL NEW CONTROLS/SENSORS INSTALLATION AND CONNECTIONS WITH THE GENERAL AND ELECTRICAL CONTRACTORS.
   - H. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING AS INDICATED ON PLAN. CONTRACTOR SHALL INSULATE PIPING PER SPECIFICATIONS. CONTRACTOR SHALL FURNISH AND INSTALL NEW INSULATION IN ACCORDANCE WITH THE SPECIFICATIONS AND PROVIDE A CONTINUOUS VAPOR BARRIER AND JACKET FROM THE EXISTING INSULATION TO THE NEW INSULATION.

APPLICABLE CODES AND STANDARDS

UNIFORM CONSTRUCTION CODE: STATE OF NEW JERSEY, LATEST EDITION AND ALL OF ITS SUBCODES AND AMENDMENTS
INTERNATIONAL BUILDING CODE / 2018
INTERNATIONAL MECHANICAL CODE / 2018
INTERNATIONAL FUEL GAS CODE / 2018
NATIONAL STANDARD PLUMBING CODE / 2018
NFPA 70: NATIONAL ELECTRICAL CODE 2014
NFPA 110: STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS

MISC. DWG. SYMBOLS

	POINT OF CONNECTION
	POINT OF DISCONNECT
	POINT OF CONNECTION FOR FUTURE WORK
	EQUIPMENT SYMBOL
	EQUIPMENT NUMBER OR FLOW (GPM,CFM,ETC.)
	DETAIL NUMBER
	DETAIL DRAWING NUMBER
	SECTION LETTER
	SECTION DRAWING NUMBER
	PLAN NUMBER
	PLAN DRAWING NUMBER
-	KEYED DEMOLITION NOTE
-	KEYED NEW WORK NOTE

PLUMBING PROJECT NOTES

1. THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO THE NATIONAL STANDARD PLUMBING CODE 2018 EDITION ,INTERNATIONAL FUEL GAS CODE "2018" EDITION, AND LOCAL AUTHORITIES HAVING JURISDICTION AND THE CITY OF OCEAN CITY. NOTIFY CITY BUILDING CODE ENFORCEMENT FOR ALL REQUIRED INSPECTIONS.
2. PRIOR TO STARTING CONSTRUCTION, DETERMINE EXACT INVERT ELEVATION, SIZE, DEPTH AND LOCATION OF NEW UTILITIES WHERE CONNECTIONS ARE TO BE MADE OR INTERSECTIONS OCCUR. NOTIFY ARCHITECT OR ENGINEER OF ANY DISCREPANCY BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS. WORK BACK TOWARD BUILDING FROM UTILITY CONNECTION FOR ALL PIPING SYSTEMS.
3. VERIFY WITH OWNER, PRIOR TO STARTING CONSTRUCTION, THE LOCATION OF ALL ON-SITE UNDERGROUND UTILITIES THAT WILL BE AFFECTED BY THIS WORK.
4. EXCEPT WHERE OTHERWISE NOTED TERMINATE UTILITY PIPING, 5'-0" FROM BUILDING LINE.
5. INSTALL ALL WATER HAMMER ARRESTORS IN ACCORDANCE WITH THE LATEST "PLUMBING AND DRAINAGE INSTITUTE STANDARDS" FOR WATER HAMMER ARRESTORS.
8. PROVIDE AND LOCATE ACCESS PANELS IN NON ACCESSIBLE CEILINGS AND WALLS FOR ALL VALVES, WATER HAMMER ARRESTORS, CLEANOUTS AND ALL OTHER ITEMS THAT REQUIRE ACCESS TO PROPERLY MAINTAIN OR SERVICE THE BUILDING.
9. COORDINATE PLUMBING WORK WITH ALL OTHER TRADES FOR CLEARANCES, ACCESS AND STRUCTURAL INTERFERENCES PRIOR TO INSTALLATION OF ANY SYSTEMS.
10. ALL VENT PIPING TO BE SLOPED BACK TO THE FIXTURES THEY SERVE.
11. ALL DRAINAGE PIPING SHALL BE SLOPED MIN. 1/4" PER FOOT FOR 3" AND SMALLER PIPING AND A MIN. OF 1/8" PER FOOT FOR 4" AND LARGER PIPING.
12. THE LOCATION AND ELEVATION OF ALL UNDERGROUND PIPING SHALL BE COORDINATED AND VERIFIED IN FIELD WITH EXISTING FOOTING AND FOUNDATIONS. SUITABLE OFFSETS IN UNDERGROUND PIPING SHALL BE PROVIDED WHERE PIPING MUST CLEAR EXISTING STRUCTURES TO MEET EXISTING UTILITY INVERTS.
13. PIPING AND EQUIPMENT SHOWN AS WORK BY PLUMBING CONTRACTOR BEYOND 5'-0" FROM EXTERIOR OF THE BUILDING SHALL BE EXCAVATED AND BACKFILLED BY THE GENERAL CONTRACTOR. PIPE COMPACTION SHALL BE BY THE PLUMBING CONTRACTOR.
14. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. ROUTING IS DIAGRAMMATIC AND APPROXIMATE. ALL REQUIRED OFFSETS, RISE AND DROPS ARE NOT NECCESSARILY SHOWN. SUBMISSION BY THE PLUMBING CONTRACTOR SHALL BE CONSTRUED AS EVIDENCE THAT THE P.C. HAS INCLUDED IN HIS OR HER BID PRICE, INSTALLATION OF ALL PLUMBING SYSTEMS COORDINATED WITH G.C. AND ALL TRADES.
15. THE PLUMBING CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL DWGS. & G.C. FOR EXACT LOCATION OF ALL PROPOSED PLUMBING FIXTURES AND ASSOCIATED EQUIPMENT, CONTROLS AND PIPING PRIOR TO ALL FINAL ROUGH-INS AND CONNECTIONS.
16. ALL PLUMBING PIPING AND EQUIPMENT SHALL BE SEISMICALLY SUPPORTED AND COMPLY WITH THE NEW JERSEY INTERNATIONAL BUILDING CODE SEISMIC FACTORS FOR THE BUILDING'S LOCATION. REFER TO SPECIFICATION SECTION 220548 "MECHANICAL VIBRATION CONTROLS AND SEISMIC RESTRAINTS".
17. PROVIDE BALL VALVES FOR EACH BRANCH CW AND/OR HW LINES FROM MAINS IN CORRIDORS SERVING ALL TOILET ROOMS, AND PLUMBING FIXTURES.
18. THE CONTRACTOR SHALL REFER TO PLANS FOR TAKE-OFFS FOR PIPING LENGTH OF DOMESTIC WATER PIPING TO ALL PLUMBING FIXTURES FROM CORRIDOR AND RISER MAINS. REFER TO RISER DIAGRAMS FOR BRANCH PIPING SIZES TO FIXTURES FROM MAINS SHOWN ON PLANS.
19. PROVIDE ALL REQUIRED APPURTENCES FOR ALL EQUIPMENT AND FIXTURES AS NEEDED FOR A FULLY OPERATIONAL PLUMBING SYSTEM.
20. PROVIDE ALL REQUIRED LOW VOLTAGE WIRING TO ALL EQUIPMENT OR FIXTURE AS PER MANUFACTURER'S RECOMMENDATIONS.
21. ALL GAS PIPING SHALL BE SCHEDULE 4 BLACK STEEL. 4" AND LARGER SHALL BE WELDED; LESS THAN 4" - SCREWED FITTINGS. ALL WORK SHALL COMPLY WITH INTERNATIONAL FUEL GAS CODE "2018" EDITION AND WITH GAS COMPANY REQUIREMENTS.

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11TH STREET BOARDWALK RESTROOMS

11TH STREET & BOARDWALK
OCEAN CITY , NJ 08226

No.	Description	Date
	PREFAB COORDINATION	12/11/20

PLUMBING LEAD SHEET

CEG PROJECT: 8C20379.00

Scale	AS NOTED
Drawn by	DHB
Date	12/11/2020

P-1

Commission no. 200310

GENERAL DEMOLITION REQUIREMENTS

1. IT IS THE INTENT THAT ALL EXISTING PIPING, FIXTURES AND OTHER EQUIPMENT AND MATERIALS THAT INTERFERE WITH THE ALTERED EXISTING BUILDING ARRANGEMENTS AND NEW SYSTEMS BE REMOVED, RELOCATED, REROUTED OR ABANDONED. THE DRAWINGS GENERALLY INDICATE MAJOR ITEMS OF EXISTING MATERIALS AND EQUIPMENT THAT ARE TO BE REMOVED, RELOCATED, REROUTED OR ABANDONED BY EACH TRADE. IT IS NOT POSSIBLE TO INDICATE ALL RELATED ACCESSORIES, SPECIALTIES AND OTHER MINOR ITEMS. HOWEVER, THEIR REMOVAL, RELOCATIONS, REROUTING OR ABANDONMENT SHALL ALSO BE INCLUDED IN THIS CONTRACT AND SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
2. EXISTING CONCEALED AND EXPOSED EQUIPMENT AND MATERIALS THAT WILL BECOME ABANDONED DUE TO NEW WORK SHALL BE REMOVED BACK TO ACTIVE RISER AND MAIN AND PROPERLY PLUGGED OR CAPPED BEHIND FINISHED SURFACES.
3. EXISTING EQUIPMENT AND MATERIALS THAT ARE TO REMAIN, BUT BECOME EXPOSED DUE TO NEW WORK, SHALL BE RELOCATED AND RECONNECTED AS DIRECTED BY ARCHITECT.
4. ALL WORK INVOLVING ALTERATIONS TO EXISTING SYSTEMS, EQUIPMENT AND MATERIALS SHALL BE REVIEWED WITH ARCHITECT AND OWNER BEFORE BEGINNING WORK.
5. REMOVED EQUIPMENT AND MATERIALS NOT DESIRED BY OWNER SHALL BECOME PROPERTY OF CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM SITE. EQUIPMENT AND MATERIALS DESIRED BY OWNER SHALL BE DELIVERED BY CONTRACTOR TO AN ON-SITE STORAGE LOCATION DESIGNATED BY OWNER.
6. CONTRACTOR SHALL PROVIDE AND PAY ALL FEES AND PERMITS.
7. THE DRAWINGS ARE INTENDED TO SHOW APPROXIMATE AND RELATIVE LOCATIONS OF MATERIALS AND EQUIPMENT. DRAWINGS SHALL NOT BE SCALED TO DETERMINE EXACT POSITIONS AND CLEARANCES. BECAUSE OF DIAGRAMMATIC LAYOUT AND SMALL SCALE OF DRAWINGS, NOT ALL RISES, DROPS, OFFSETS, VENTS, TRAPS AND RELATED SPECIALTIES ARE INDICATED. PROVIDE ALL SUCH PIPING, FITTINGS, VALVES AND SPECIALTIES REQUIRED IN SUCH CASES TO INSURE A COMPLETE AND PROPERLY OPERATING INSTALLATION IN ACCORDANCE WITH CODES AND WITHOUT EXTRA COST TO OWNER.
8. WORK SHALL BE PERFORMED BY MECHANICS SKILLED IN PARTICULAR TRADE INVOLVED, THAT IS, PLUMBING WORK SHALL BE PERFORMED BY PLUMBERS, ELECTRICAL WORK SHALL BE PERFORMED BY ELECTRICIANS, MECHANICAL WORKED PERFORMED BY STEAM FITTERS AND SHEET METAL MECHANICS.
9. ALL WORK SHALL BE INSPECTED, TESTED AND APPROVED BY THE PROPER AUTHORITIES HAVING JURISDICTION. CERTIFIED COPIES OF THESE APPROVALS SHALL BE DELIVERED TO THE OWNER BEFORE FINAL PAYMENT.
10. IF CONFLICT ARISES BETWEEN ITEMS SHOWN ON DRAWINGS AND ITEMS SPECIFIED, THE MOST STRINGENT ITEM SHALL BE USED.
11. IN THE REMOVAL OF ANY PART OF A DRAINAGE OR WATER SYSTEM, DEAD ENDS SHALL BE AVOIDED EXCEPT WHERE NECESSARY TO EXTEND TO A CLEANOUT SO AS TO BE ACCESSIBLE.

GENERAL SUBMITTAL REQUIREMENTS

1. CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL PIPING, VALVES, EQUIPMENT, ETC IN ACCORDANCE WITH ARCHITECTURAL SPECIFICATIONS. NO WORK SHALL BEGIN UNTIL APPROVAL HAS BEEN OBTAINED FROM ARCHITECT/ENGINEER.
2. CONTRACTOR SHALL SUBMIT COORDINATION DRAWINGS 1/4" SCALE MINIMUM FOR REVIEW AND APPROVAL AS STATED IN NOTE 1 ABOVE.

GENERAL AS-BUILT REQUIREMENTS

1. CONTRACTOR SHALL PROVIDE (1) SET OF "AS-BUILT" DRAWINGS ON DISC IN PDF FORMAT TO ARCHITECT AND OWNER AT THE COMPLETION OF PROJECT.
2. TWO (2) SETS OF "AS-BUILT" DRAWINGS ON BLACKLINE PRINTS SHALL BE SUPPLIED TO THE ARCHITECT FOR THE ARCHITECT'S AND ENGINEER'S USE AT THE PROJECT COMPLETION.

GENERAL PLUMBING REQUIREMENTS

1. ALL PLUMBING SHALL COMPLY WITH THE 2018 EDITION OF THE NATIONAL STANDARD PLUMBING CODE AS AMENDED BY THE NEW JERSEY UNIFORM CONSTRUCTION CODE.
2. CONTRACTOR SHALL PROVIDE AND PAY ALL FEES AND PERMITS.
3. THE DRAWINGS ARE INTENDED TO SHOW APPROXIMATE AND RELATIVE LOCATIONS OF MATERIALS AND EQUIPMENT. DRAWINGS SHALL NOT BE SCALED TO DETERMINE EXACT POSITIONS AND CLEARANCES. BECAUSE OF DIAGRAMMATIC LAYOUT AND SMALL SCALE OF DRAWINGS, NOT ALL RISES, DROPS, OFFSETS, VENTS, TRAPS AND RELATED SPECIALTIES ARE INDICATED. PROVIDE ALL SUCH PIPING, FITTINGS, VALVES AND SPECIALTIES REQUIRED IN SUCH CASES TO INSURE A COMPLETE AND PROPERLY OPERATING INSTALLATION IN ACCORDANCE WITH CODES AND WITHOUT EXTRA COST TO OWNER.
4. WORK SHALL BE PERFORMED BY MECHANICS SKILLED IN PARTICULAR TRADE INVOLVED, THAT IS, PLUMBING WORK SHALL BE PERFORMED BY PLUMBERS, ELECTRICAL WORK SHALL BE PERFORMED BY ELECTRICIANS, MECHANICAL WORKED PERFORMED BY STEAM FITTERS AND SHEET METAL MECHANICS.
5. ALL WORK SHALL BE INSPECTED, TESTED AND APPROVED BY THE PROPER AUTHORITIES HAVING JURISDICTION. CERTIFIED COPIES OF THESE APPROVALS SHALL BE DELIVERED TO THE OWNER BEFORE FINAL PAYMENT.
6. SLEEVES SHALL BE INSTALLED THROUGH FLOORS AND WALLS. SLEEVES SHALL BE 2 PIPE SIZES LARGER THAN PIPE PASSING THRU AND SHALL BE SCHEDULE 40 STEEL PIPE. PROVIDE FIRE PROOF SEAL BETWEEN PIPES AND SLEEVES WHEN PASSING THRU FIRE RATED WALLS/FLOORS. SLEEVES PASSING THRU FLOORS SHALL BE EXTENDED 4" ABOVE FLOOR.
7. ESCUTCHEON PLATES SHALL BE PROVIDED ON ALL PIPE WHICH PASS THROUGH WALL PARTITIONS, FLOORS OR CEILINGS. PLATES SHALL BE ONE PIECE, CHROME FINISHED BRONZE.
8. COREDRILLING SHALL BE ACCOMPLISHED BY MECHANICAL MEANS IN A MANNER THAT WILL NOT AFFECT THE INTEGRITY OF THE STRUCTURE. AFTER INSTALLATION OF PIPING THRU THE COREDRILL, PACK THE ANNULAR SPACE WITH OAKUM OR FIBROUS GLASS, LEAVING A MINIMUM OF TWO INCHES AT EACH END TO BE FILLED AND FINISHED WITH A "FIRE BARRIER" MATERIAL EQUAL TO 3M "PENETRATION SEALING SYSTEMS" SUCH AS "CP-25 CAULK", "303 PUTTY" OR "FS-195 WRAP". APPLICATION OF "FIRE BARRIER" MATERIAL SHALL BE IN ACORDANCE WITH MANUFACTURER'S STANDARDS AND APPLICABLE CODES.
9. PROVIDE COPIES OF ALL TEST REPORTS TO OWNER.
10. FLUSH VALVE/TANK HANDLES FOR HANDICAPPED WATER CLOSETS SHALL FACE WIDE SIDE OF STALL/ROOM.
11. COORDINATE LOCATION OF ALL ABOVE CEILING PIPING WITH ELECTRICAL AND GENERAL CONTRACTORS PRIOR TO INSTALLATION.
12. IF CONFLICT ARISES BETWEEN ITEMS SHOWN ON DRAWINGS AND ITEMS SPECIFIED, THE MOST STRINGENT ITEM SHALL BE USED.
13. THE INSTALLATION OF ALL INSULATION SHALL BE PERFORMED BY AN EXPERIENCED CRAFTSMAN IN A NEAT WORKMAN-LIKE MANNER AND SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS FOR SERVICE INTENDED.
14. ALL NEW PLUMBING FIXTURES SHALL MEET THE APPROPRIATE "ANSI" STANDARDS LISTED IN THE PLUMBING SUBCODE. USE OF SUBSTANDARD AND NON-CONFORMING FOREIGN MADE PRODUCTS IS PROHIBITED.
15. ALL PLUMBING SYSTEMS AND VALVES SHALL BE LABELED FOR PROPER IDENTIFICATION. NAMEPLATES, METAL TAGS, PLASTIC PIPE MARKERS IN ACCORDANCE WITH BRIMAR IDENTIFICATION & SAFETY PRODUCTS, BRIMAR INDUSTRIES, INC.
16. INSULATE EXPOSED WASTE & WATER PIPING BELOW HANDICAPPED LAVATORIES WITH TRUBRO LAV GUARD 2 FORM FIT INSULATING COVERS.
17. HANDICAPPED FIXTURE HEIGHTS SHALL BE IN ACCORDANCE WITH ICC/ANSI A-117.1.
18. ALL PLUMBING FIXTURES SHALL BE PROVIDED WITH CHROME PLATED SHUT OFF VALVES (ANGLE STOPS), CHROME PLATED SUPPLIES AND P-TRAPS.

SANITARY AND VENT PIPING REQUIREMENTS

1. SANITARY WASTE PIPE, VENT PIPE & ASSOCIATED FITTINGS SHALL BE PVC WITH DWV FITTINGS PER ASTM 2665 FOR ALL SANITARY PIPING. SOLVENT PRIMER SHALL BE IN ACCORDANCE WITH ASTM F656, SOLVENT CEMENT IN ACCORDANCE WITH ASTM D2564.
2. ALL PIPING SYSTEMS SHALL BE AIR TESTED TO NOT LESS THAN 5 PSIG PRESSURE IN THE SYSTEM. PIPING SYSTEM SHALL SUSTAIN A CONSTANT PRESSURE FOR NOT LESS THAN 15 MINUTES. IF LEAKS OCCUR DURING SYSTEM TESTING, REPAIRS SHALL BE MADE AND SYSTEM RETESTED UNTIL NO EVIDENCE OF LEAKS EXIST FOR THE DURATION OF THE TEST. DRAIN & VENT PIPING LOCATED ABOVE AREAS WHERE FOOD IS STORED, PREPARED OR DISPLAYED SHALL BE AIR TESTED TO NOT LESS THAN 10 PSIG.
3. CLEANOUTS SHALL BE AS NOTED AND SCHEDULED. CLEANOUTS SHALL BE INSTALLED AS NOTED ON PLAN AND AT THE BASE OF EACH RISER, AT EACH CHANGE OF DIRECTION OF HORIZONTAL RUN MORE THAN 45°, AND EVERY 75' OF HORIZONTAL RUN (FOR 4"DIA) AND EVERY 100' OF HORIZONTAL RUN(FOR 5"DIA & LARGER).
4. HORIZONTAL DRAIN PIPING SHALL BE INSTALLED AT UNIFORM SLOPE NOT LESS THAN 1/4" PER FOOT FOR 2" AND SMALLER AND NOT LESS THAN 1/8" PER FOOT FOR 3" AND LARGER. LESSER SLOPE MAY BE PERMITTED AS APPROVED BY LOCAL ADMINISTRATIVE AUTHORITY.
5. VENTS THROUGH ROOF SHALL TERMINATE NOT LESS THAN 6" ABOVE THE ROOF MEASURED FROM THE HIGHEST POINT WHERE THE VENT INTERSECTS THE ROOF. VENT TERMINALS SHALL BE MADE WATERTIGHT WITH THE ROOF BY PROPER FLASHING. WHERE VENTS ARE CLOSER THAN TEN FEET FROM ANY VENTILATING OPENINGS THEY SHALL BE EXTENDED TO TWO FEET ABOVE SUCH OPENINGS.
6. IN THE REMOVAL OF ANY PART OF A DRAINAGE SYSTEM, DEAD ENDS SHALL BE AVOIDED EXCEPT WHERE NECESSARY TO EXTEND TO A CLEANOUT SO AS TO BE ACCESSIBLE.

DOMESTIC WATER PIPING REQUIREMENTS

1. ALL HOT & COLD WATER DISTRIBUTION PIPING SHALL BE ASTM B88 TYPE "L" SEAMLESS COPPER TUBE WITH SOLDER JOINT FITTINGS USING 95-5 SOLDER PER ASTM B32. CONTRACTOR MAY SUBSTITUTE PROPRESS FITINGS AND JOINING METHODS.

   OR WITH AHJ AND OWNER APPROVAL

   CPVC SCHEDULE 40 IN ACCORDANCE WITH ASTM D1784 AND F-441. ALL PIPING SHALL HAVE NSF SEAL FOR POTABLE WATER. HOT & COLD WATER DISTRIBUTION PIPE MAY BE 2"AND SMALLER HOT & COLD WATER DISTRIBUTION PIPING FOR ABOVE GROUND USE MAY BE UPONOR AQUAPEX "PEX-A" ASTM F876/F877, WITH "PROPEX" FITTINGS PER ASTM F1960. PIPE SOCKETS FOR FITTINGS SHALL BE DONE WITH USE OF TOOLS PER MANUFACTURER REQUIREMENTS. ALL PERSONNEL PERFORMING INSTALLATION OF "PEX-A" PIPING SHALL BE CERTIFIED BY MANUFACTURER.
2. ALL DOMESTIC WATER SYSTEMS PIPING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND LOCAL CODES. ALL WATER SERVICE PIPING SHALL BE WATER RATED FOR NOT LESS THAN 200 PSI @ 73°F. ALL WATER DISTRIBUTION PIPING SHALL BE WATER RATED FOR NOT LESS THAN 100PSI @ 180°F.
3. ALL PIPING INSTALLED IN PLENUM SPACES SHALL BE ASTM B88 TYPE "L" SEAMLESS COPPER TUBE WITH SOLDER JOINT FITTINGS USING 95-5 SOLDER PER ASTM B32 OR HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPMENT RATING OF 50 OR LESS. PIPING MATERIALS FOR USE ON DOMESTIC WATER SYSTEMS INCLUDING FIXTURES & VALVES SHALL NOT CONTAIN MORE THAN 0.2 PERCENT LEAD.
4. PRIOR TO DISINFECTION, POTABLE WATER PIPING SHALL BE FLUSHED WITH WATER UNTIL NO DIRTY WATER APPEARS AT THE POINTS OF OUTLETS.
5. POTABLE WATER PIPING SHALL BE DISINFECTED PRIOR TO USE PER NATIONAL STANDARD PLUMBING CODE. THE PIPING SHALL BE FILLED WITH A WATER CHLORINE SOLUTION CONTAINING AT LEAST 50 PARTS PER MILLION OF CHLORINE AND SHALL BE VALVED OFF FOR 24 HOURS OR FILLED WITH A WATER CHLORINE SOLUTION CONTAINING AT LEAST 200 PARTS PER MILLION OF CHLORINE AND ALLOWED TO STAND FOR AT LEAST 3 HOURS. FOLLOWING THE ALLOWED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH POTABLE WATER UNTIL NO CHLORINE REMAINS IN THE SYSTEM. PROVIDE RESULTS OF DISINFECTION TO OWNER WHEN COMPLETE. STERILIZATION WORK SHALL COMPLY WITH NSPC 2018 SECTION 10.9.2, PARAGRAPHS A1 TO A9.
6. DOMESTIC WATER PIPE SHALL CONSIST OF A HYDROSTATIC PRESSURE TEST OF 25 PSIG ABOVE THE WORKING PRESSURE UNDER WHICH IT IS OPERATED FOR NOT LESS THAN 60 MINUTES.
7. IF LEAKS OCCUR DURING TESTING, REPAIRS SHALL BE MADE AND SYSTEM RETESTED UNTIL NO EVIDENCE OF LEAKS EXIST FOR THE DURATION OF THE TEST.
8. DOMESTIC WATER PIPE SHALL BE INSULATED WITH 1" THICK FIBERGLASS PREFORMED INSULATION WITH VAPOR JACKET AND SELF SEALING TAPE, EQUAL TO OWENS-CORNING ASJ/SSL-2. PIPING IN EXTERIOR WALLS SHALL HAVE 2"THICK INSULATION. DOMESTIC WATER PIPE MAY BE INSULATED WITH AP/ARMAFLEX SS (SELFSEAL) FLEXIBLE ELASTOMERIC THERMAL INSULATION, 1/2" THICKNESS, OR APPROVED EQUAL. PIPING IN EXTERIOR WALLS SHALL HAVE 1" THICK ELASTOMERIC INSULATION.
9. GATE VALVES FOR DOMESTIC WATER SHALL BE IRON BODY, FLANGED, OUTSIDE STEM & YOKE, 200# WOG, NIBCO MODEL F-617-ON FOR PIPING LARGER THAN 4" PER AWWA C500.
10. BALL VALVES SHALL BE EQUAL TO APOLLO LEAD FREE SERIES 77CLF-100, 77CLF-200, 70LF-100 OR 70LF-200 RATED FOR 150 PSIG W.O.G. FOR 4" AND SMALLER PER MSS SP-110. BALL VALVES MAY BE TRUE UNION TYPE, CPVC TYPE IV IN ACCORDANCE WITH ASTM D1784. ALL VALVES SHALL BE RATED MINIMUM 150 PSIG.

PIPING HANGER REQUIREMENTS

1. HANGERS AND ANCHORS SHALL BE SECURELY ATTACHED TO BUILDING CONSTRUCTION AT SUFFICIENTLY CLOSE INTERVALS TO SUPPORT PIPING AND ITS CONTENTS.
2. VERTICAL PIPING FOR CAST IRON SHALL BE SUPPORTED AT BASE AND AT EACH STORY HEIGHT.
3. VERTICAL PIPING FOR COPPER SHALL BE SUPPORTED AT EACH STORY HEIGHT BUT NOT MORE THAN 10 FOOT INTERVALS.
4. HORIZONTAL PIPING FOR COPPER SHALL BE SUPPORTED AT 6 FOOT INTERVALS FOR PIPE SIZES 1 1/4" AND SMALLER AND AT 10 FOOT INTERVALS FOR PIPE SIZES 1 1/2" AND LARGER. WHERE PIPE IS SUSPENDED BY NON-RIGID HANGERS MORE THAN 18" LONG PROVIDE LATERAL SUPPORT.
5. PLASTIC PIPING SHALL BE SUPPORTED AT INTERVALS OF NOT MORE THAN 4 FEET, AT END OF BRANCHES, AND AT CHANGES OF DIRECTION OR ELEVATION. SUPPORTS SHALL ALLOW FREE MOVEMENT. VERTICAL PIPING SHALL BE MAINTAINED IN STRAIGHT ALIGNMENT. TRAP ARMS IN EXCESS OF 3 FEET SHALL BE SUPPORTED AS CLOSE AS POSSIBLE TO TRAP. HANGERS & TRAPS SHALL NOT COMPRESS, DISTURB, CUT OR ABRADE THE PIPING AND SHALL ALLOW FREE MOVEMENT OF PIPE. RESTRAINING JOINTS AND EXPANSION JOINTS SHALL BE INSTALLED AS REQUIRED.
6. ALL SUPPORTS IN CONTACT WITH COPPER PIPING SHALL BE PLASTIC COATED.
7. INSTALL METAL SHIELDS ON HANGERS SUPPORTING INSULATED PIPE.
8. PROVIDE HANGERS THAT ARE U.L. LISTED AND LABELED.
9. ALL DOMESTIC WATER AND SANITARY WASTE PIPE SUPPORTS SHALL BE IN ACCORDANCE WITH NSPC CHAPTER 8, MSS SP-58, 69 & 89.
10. PLUMBING SYSTEMS SHALL BE INSTALLED SO AS TO PREVENT STRAINS & STRESSES WHICH WILL EXCEED STRUCTURAL STRENGTH OF PIPE. PROVISIONS SHALL BE MADE FOR EXPANSION & CONTRACTION OF PIPING.
11. HANGERS, ANCHORS AND SUPPORTS SHALL BE OF METAL. OTHER MATERIAL OF SUFFICIENT STRENGTH TO SUPPORT THE PIPING AND ITS CONTENTS IS ACCEPTABLE. ALL SUPPORTS AND FASTENERS LOCATED OUTSIDE OR IN CORROSIVE AREAS SHALL BE GALVANIZED.
12. MINIMUM ROD DIAMETER FOR SINGLE RIGID SUPPORTS SHALL BE AS FOLLOWS:
    - 12.1. FOR 1/4" THRU 2" PIPE: 3/8"DIAMETER
    - 12.2. FOR 2 1/2" AND 3" PIPE: 1/2"DIAMETER
    - 12.3. FOR 4" AND 5" PIPE: 5/8"DIAMETER
    - 12.4. FOR 6" PIPE: 3/4" DIAMETER
    - 12.5. FOR 8" THRU 12" PIPE: 7/8" DIAMETER
    - 12.6. FOR 14" THRU 18"PIPE: 1"DIAMETER
    - 12.7. RODS MAY BE REDUCED ONE SIZE FOR DOUBLE ROD HANGERS(3/8"DIA MIN)
13. FOR ABOVE GROUND WASTE PIPING OVER 4" IN DIAMETER USING NO-HUB COUPLINGS, COUPLINGS SHALL BE RESTRAINED WITH BRACES, BLOCKS, RODDING OR OTHER SUITABLE METHODS AS RECOMMENDED BY THE COUPLING MANUFACTURER OR ENGINEER.

NATURAL GAS PIPING REQUIREMENTS

1. GAS PIPING SHALL BE SIZED & INSTALLED AS PER 2018 INTERNATIONAL FUEL GAS CODE (IFGC) CHAPTER 4.
2. GAS PIPING 2" & SMALLER SHALL BE ASTM A53 SCH 40 BLACK STEEL PIPE WITH THREADED JOINTS IN ACCORDANCE WITH ANSI/ASME B1.20.1. THREAD JOINT COMPOUND SHALL BE RESISTANT TO THE ACTION OF NATURAL GAS. GAS PIPING 2 1/2" & LARGER SHALL BE ASTM A53 SCH 40 BLACK STEEL PIPE WITH WELDED JOINTS IN ACCORDANCE WITH AWS B2.1, OR FLANGED JOINTS IN ACCORDANCE WITH ASTM B16.1. EXTERIOR ABOVE GROUND PIPING 2" & SMALLER SHALL BE GALVANIZED. EXTERIOR ABOVE GROUND PIPING 2 1/2" & LARGER SHALL BE PAINTED. ALL PIPING TO BE IDENTIFIED IN ACCORDANCE WITH ASME A13.2. EXTERIOR UNDERGROUND PIPE AND FITTINGS SHALL BE PLASTIC IN ACCORDANCE WITH ASTM D2513. PIPING SHALL BE MARKED "GAS ASTM D2513". EXTERIOR UNDERGROUND PIPING SHALL HAVE A BURY DEPTH OF 18"MIN. AN ELECTRICALLY CONTINUOUS CORROSION RESISTANT WIRE (MIN AWG 14) SHALL BE BURIED WITH THE PLASTIC PIPE TO FACILITATE LOCATING.
3. GAS PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH IFGC 2015 SECTION 407 & ANSI/MSS SP-58. HANGER SPACING SHALL BE IN ACCORDANCE WITH IFGC 2015 SECTION 415.
4. DRIP LEGS SHALL BE INSTALLED AT ANY POINT WHERE CONDENSATE COULD COLLECT AND AS REQUIRED BY AUTHORITY HAVING JURISDICTION. PIPING SHALL BE SLOPED NOT LESS THAN 1/4" IN 15 FEET TO PREVENT TRAPS.
5. PRIOR TO ACCEPTANCE & INITIAL OPERATION, ALL PIPING SHALL BE INSPECTED AND TESTED TO DETERMINE THAT THE INSTALLATION COMPLIES WITH THE REQUIREMENTS OF IFGC 2018 SECTION 406.
6. GAS SHUT OFF VALVES 1" & SMALLER SHALL BE APOLLO VALVE SERIES 6B-10 GAS BALL VALVE. VALVES 1 1/4" TO 2 1/2" SHALL BE APOLLO VALVE SERIES 50 GAS COCK. VALVES 3" & LARGER SHALL BE APOLLO VALVE SERIES 88L-200 FULL PORT FLANGED BALL VALVE. VALVES SHALL NOT BE INSTALLED IN CONCEALED ABOVE CEILING LOCATIONS. VALVES SHALL CONFORM TO IFGC 2018 SECTION 409.
7. GAS PRESSURE REGULATORS SHALL BE MAXITROL SERIES RV, R, RS, OR 325 AS REQUIRED AND AS RECOMMENDED BY GAS APPLIANCE MANUFACTURERS. ALL REGULATORS SHALL BE PROPERLY VENTED OR PROVIDED WITH LABELED & APPROVED VENT LIMITING DEVICES IN ACCORDANCE WITH IFGC 2018 SECTION 410.
8. GAS SOLENOID VALVE FOR EMERGENCY GAS SHUTDOWN OF GAS FIRED EQUIPMENT SHALL BE FURNISHED BY PLUMBING CONTRACTOR. INSTALL VALVE WHERE SHOWN ON DRAWING AND COORDINATE CONNECTION TO EPO BY ELECTRICAL CONTRACTOR.

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11TH STREET BOARDWALK RESTROOMS

11TH STREET & BOARDWALK
OCEAN CITY , NJ 08226

No.	Description	Date
	PREFAB COORDINATION	12/11/20

PLUMBING SPECIFICATIONS

CEG PROJECT: 8C20379.00

Scale	AS NOTED
Drawn by	DHB
Date	12/11/2020

P-2

Commission no. 200310

PLUMBING FIXTURE SCHEDULE

TAG	FIXTURE	BASIS OF DESIGN MANUFACTURER AND MODEL	APPLICABLE STANDARD	MATERIAL	MOUNTING AND OUTLET	DIMENSIONS	RIM HEIGHT	FAUCETS, FITTINGS AND ACCESSORIES	BASIS
WC-1	WALL-MOUNTED ELONGATED WATER CLOSET	KOHLER - KINGSTON K-4325	ASME A112.19.2M ADA	VITREOUS CHINA	WALL-MOUNTED BACK-OUTLET	26" X 14" X 15"	15" ADA: 17-19"	1. FLUSH VALVE: SLOAN SOLIS MODEL 8111-1.28 2. SEATS: "OLSONITE" , "BEMIS", OR "CHURCH" OPEN FRONT, LESS COVER, COMMERCIAL GRADE W/CHECK HINGE. 3. SUPPLY: CHROME PLATED BRASS, 1-1/2"TOP INLET SPUD. 4. CARRIER: J.R. SMITH (BACK-TO-BACK)	DESIGN CONSUMPTION: 1.28 GPF PRESSURE RANGE 25 PSI FLUSHING, 80 PSI STATIC. COLOR: WHITE BOLT CAPS
LAV-1	LAVATORY	SLOAN - SS-3103	ASME A112.19.2M FAUCET ASME A11218.1M	VITREOUS CHINA	WALL MOUNTED ADA	18" X 21" X 12"	34"	1. FAUCET: SLOAN OPTIMA, BATTERY POWERED, SENSOR OPERATED MODEL EBF-750 2. DRAIN: GRID DRAIN 3. TRAP TYPE: "MCGUIRE" P-TRAP CHROME PLATED CAST BRASS BODY WITH CLEANOUT AND 17" GAUGE TUBULAR WALL BEND. 4. SUPPLY KITS: "MCGUIRE" MODEL 170	0.5 GPM FLOW RATE COLOR: WHITE FLOOR MOUNT CONCEALED ARM CARRIER
MR-1	MOP RECEPTOR	FIAT PRODUCT MODEL MSB 2424	–	PRECAST TERRAZZO	FLOOR MOUNTED	24" X 24" X 12"	–	1. FAUCET: "FIAT PRODUCT" MODELS 830 AA WALL MOUNTED, CHROME PLATED, W/ VACUUM BREAKER, INTEGAL STOPS. SPOUT W/PAIL HOOK, WALL BRACE AND 3/4" HOSE THREAD 2. DRAIN: STAINLESS STEEL GRID-TYPE, POLISHED CHROME, VANDAL RESISTANT 3. RIM GUARD: STAINLESS STEEL 4. MOP HANGER NO: 889-CC-24" 5. HOSE & HOSE BRACKET NO: 832-AA-30" LONG 6. STRAINER NO: 1453-BB 16 GAUGE #302 STAINLESS STEEL ATTACHED WITH FLAT HEAD SLOTTED MACHINE SCREWS 7. SEALANT: SILICONE #833-AA 8. SS WALL GUARD MSG 2424	SPRAY OUTLET W/ 2.5 GPM FLOW RATE
WH-1	WALL HYDRANT	J.R. SMITH - 5509QT	–	BRONZE	WALL MOUNTED	10" X 10" X 8"	-	1. HYDRANT: BRONZE QUARTER TURN, FREEZE-PROOF WITH HOSE CONNECTION & INTEGRAL VACUUM BREAKER 2. BOX: BRONZE WITH CHROME PLATED FACE. 3. LOCK: "T" HANDLE KEY.	
WH-2	WALL HYDRANT	J.R. SMITH - 5518	–	BRONZE	WALL MOUNTED	5" X 10" X 4"	–	1. HYDRANT: BRONZE QUARTER TURN, WITH HOSE CONNECTION & INTEGRAL VACUUM BREAKER 2. BOX: BRONZE WITH CHROME PLATED FACE. 3. LOCK: "T" HANDLE KEY.	

PLUMBING SPECIALTIES SCHEDULE

TAG	FIXTURE	BASIS OF DESIGN MANUFACTURER AND MODEL	APPLICABLE STANDARD	BODY MATERIAL	COLOR/FINISH	OVERALL SIZE	ACCESSORIES AND REMARKS	OPTIONS
FD-1	FLOOR DRAIN	J.R. SMITH MODEL 2005	ASME A112.21.1M	CAST-IRON	NICKEL BRONZE STRAINER HEAD	6" DIA STRAINER	FLASHING COLLAR AND ADJUSTABLE STRAINER HEAD	VANDAL PROOF SCREWS
CO	CLEANOUT	CHARLOTTE PIPE	ASTM D-3311	PVC	WHITE	-	DWV FITTING WITH CLEANOUT ADAPTER AND PLUG	-
BFP-1	REDUCED PRESSURE ZONE BACKFLOW PREVENTER	WATTS LF909-QT-S	ASSE-1013	CAST COPPER	-	26" X 12"	QUARTER TURN SHUT-OFFS STRAINER FIXED AIR GAP FITTING	-
WHA	WATER HAMMER ARRESTOR	J.R. SMITH MODEL 5005, 5010, 5020, 5030, 5040, 5050 MEET STANDARD PDI-WH201	ASSE-1010	STAINLESS STEEL	STAINLESS STEEL	-	BELLOWS TYPE WITH PRESSURIZED CUSHIONING CHAMBER TEMPERATURE RANGE: 100°F TO 300°F MAX OPERATING PRESSURE: 125 PSI MAX STATIC PRESSURE: 250 PSI	-

GAS-FIRED DOMESTIC WATER HEATER SCHEDULE

SYMBOL	TYPE	LOCATION	INPUT (BTUH)	CAPACITY (GALLONS)	WATER ENT (°F)	WATER LVG (°F)	FLOW RATE (GPM)	RECOVERY (GPH)	GAS PRESSURE (IN. W.C.)	ELECTRICAL		OPER WEIGHT (LBS)	BASIS OF DESIGN	
										V/PH/HZ	FLA		MANUFACTURER	MODEL NUMBER
GWH-1	TANKLESS	UTILITY CLO.	199,900	N/A	50	120	5.6	336	3.5" - 10.5"	120/1/60	2.0	82	NAVIEN	NPE-240A

NOTES:
1. PROVIDE WITH CONDENSATE NEUTRALIZATION KIT.
2. PROVIDE WITH PRESSURE RELIEF VALVE.
3. PROVIDE WITH ALL FITTINGS, ACCESSORIES, AND OTHER APPURENANCES AS REQUIRED FOR A FULLY FUNCTIONAL INSTALLATION.

PIPE INSULATION SCHEDULE

SERVICE	MANUFACTURER	TYPE	VAPOR BARRIER	INSULATION THICKNESS	REMARKS
DOMESTIC WATER COLD & HOT	OWENS CORNING	FIBERGLASS	YES	1" : FOR ALL SIZES 2" : FOR PIPING IN EXTERIOR WALLS & CHASES AND IN CEILINGS	ALL FITTINGS VALVES AND SPECIALITIES SHALL BE INSULATED

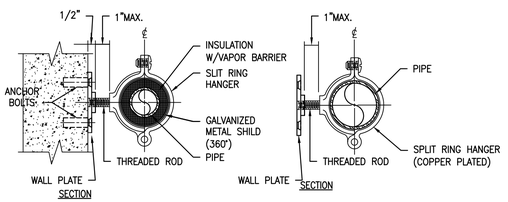
DOMESTIC WATER MIXING VALVE SCHEDULE

SYMBOL	SERVICE	LOCATION	TYPE	GPM	PD	MAX TEMP	MIN FLOW	FLANGE SIZE		BASIS OF DESIGN	
								INLET	OUTLET	MANUFACTURER	MODEL NUMBER
MV-1	DOM. HOT WATER SUPPLY	JANITORS CLOSET	THERMOSTATIC	5	<5	105	.5	3/4"	3/4"	WATTS	LFMM431

NOTES:
1. NSF CERTIFIED FOR POTABLE USE.

SAND INTERCEPTOR SCHEDULE

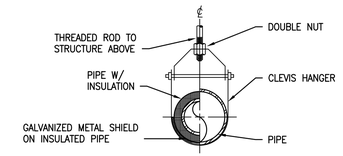
SYMBOL	GPM FLOW RATE	FLOW CONTROL	SAN CAP (CU.FT.)	BASIS OF DESIGN		REMARKS
				MANUFACTURER	MODEL NUMBER	
SI-1	50	-	2.95	MIFAB	LIL-50-SA	LID WITH 350LB LOAD CAPACITY



PIPE SUPPORT SCHEDULE

COPPER TUBING DIA.	ROD DIA.	SUPPORT SPACING	MAXIMUM RECOM. LOAD LBS.
1/2"	3/8"	5'-0"	180
3/4"	↓	5'-0"	↓
1"		6'-0"	
1 1/4"		7'-0"	
1 1/2"		8'-0"	
2"	↓	8'-0"	
2 1/2"	1/2"	9'-0"	↓
3"	1/2"	10'-0"	180

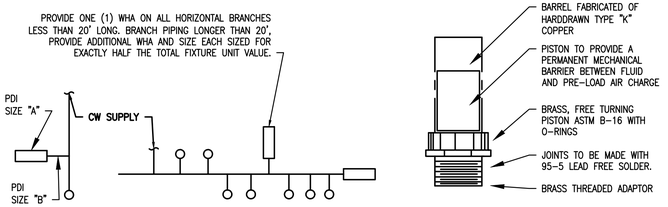
2 P-3 PIPE SUPPORT SCHEDULE
SCALE: NTS



PIPE HANGER SCHEDULE

PIPE DIAMETER	SHIELD LENGTH	SHIELD THICKNESS	MAXIMUM PIPE SUPPORT SPACING					
			STEEL PIPE		CAST IRON PIPE		COPPER PIPE	
			ROD DIA	SUPPORT SPACING	ROD DIA	SUPPORT SPACING	ROD DIA	SUPPORT SPACING
1/2"	12"	18 USSG	3/8"	5'-0"	—	———	3/8"	5'-0"
3/4"				6'-0"	—	———		5'-0"
1"				7'-0"	—	———		6'-0"
1-1/4"				8'-0"	—	———		7'-0"
1-1/2"				9'-0"	3/8"	5'-0"		8'-0"
2"				10'-0"	1/2"	5'-0"		8'-0"
2-1/2"			1/2"	11'-0"		5'-0"	1/2"	9'-0"
3"			1/2"	12'-0"		5'-0"		10'-0"
4"		14 USSG	5/8"			5'-0"		12'-0"
5"	18"		5/8"		5/8"	5'-0"		13'-0"
6"	18"		3/4"		3/4"	5'-0"	—	———
8"	18"		7/8"		7/8"	5'-0"	—	———

1 P-3 CLEVIS PIPE HANGER SCHEDULE
SCALE: NTS



SINGLE FIXTURE MULTIPLE FIXTURES WATER HAMMER ARRESTOR

P.D.I. SYMBOL	MAX FIXTURE UNIT RATINGS	A SIZE	B SIZE
A	1 – 11	5"	1/2"
B	12 – 32	5"	3/4"
C	33 – 60	7"	1"
D	61 – 113	7"	1-1/4"
E	114 – 154	9"	1-1/2"
F	155 – 330	9"	2"

NOTE:
INSTALL PER PDI STANDARDS AND MANUFACTURERS INSTRUCTIONS. REFER TO PLANS FOR LOCATIONS OF WATER HAMMER ARRESTORS. FURNISH WITH ACCESS PANELS WHERE REQUIRED. INSTALL WHA IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. SIZE WHA'S PER THE TABLES INDICATED.

3 P-3 WATER HAMMER ARRESTOR SCHEDULE
SCALE: NTS

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11TH STREET BOARDWALK RESTROOMS
11TH STREET & BOARDWALK
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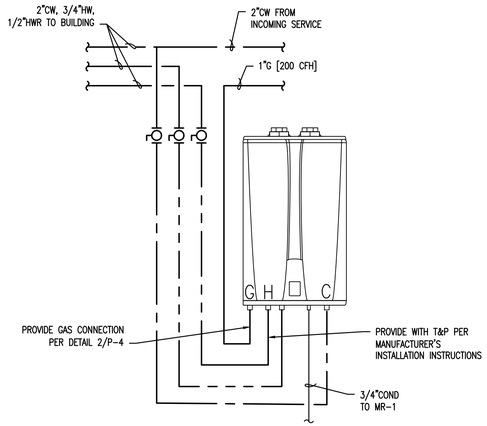
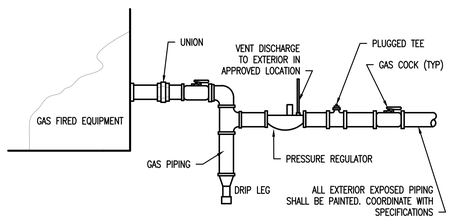
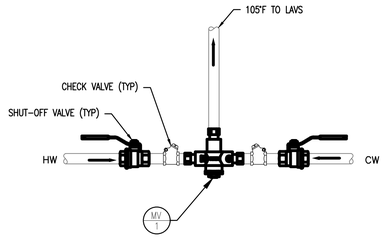
Commission no. 200310



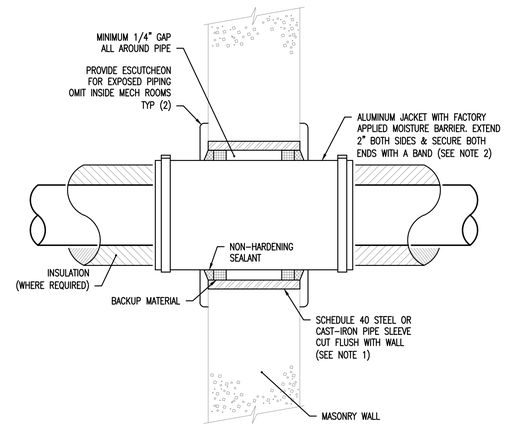
1 P-4 **DETAIL – GAS FIRED WATER HEATER**
SCALE: NTS



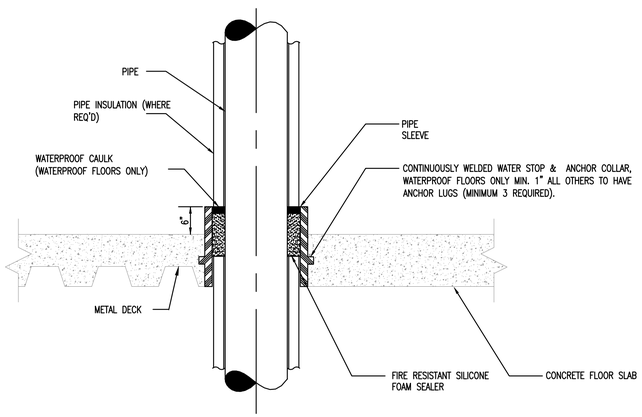
2 P-4 **DETAIL – GAS CONNECTION**
SCALE: NTS



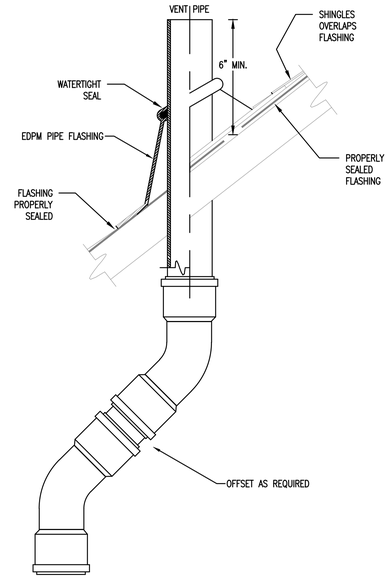
3 P-4 **DETAIL – MIXING VALVE**
SCALE: NTS



4 P-4 **DETAIL – WALL PENETRATION**
SCALE: NTS



5 P-4 **DETAIL – FLOOR PENETRATION**
SCALE: NTS



6 P-4 **DETAIL – VENT THROUGH ROOF**
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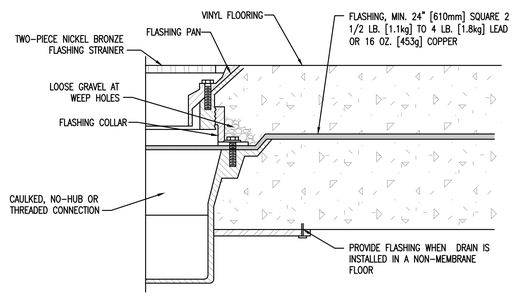

7 P-4 **DETAIL – FLOOR DRAIN**
SCALE: NTS

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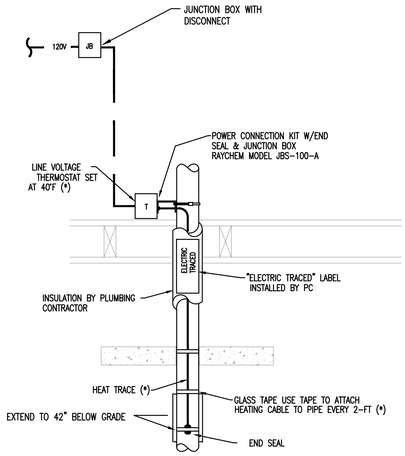
Commission no. 200310

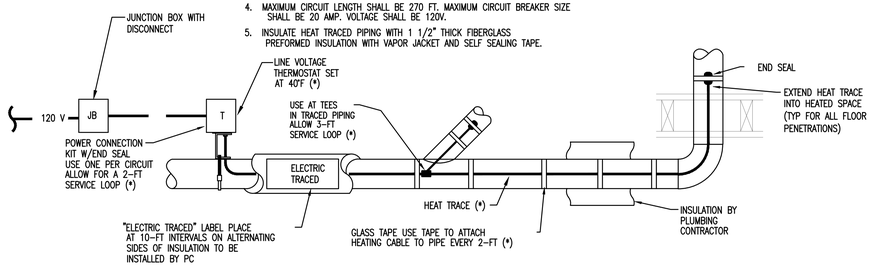
NOTES

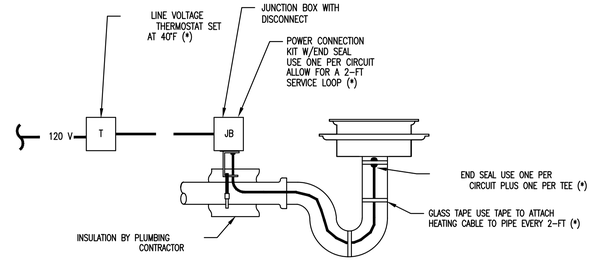
1. ALL CONDUIT, WIRE, JUNCTION BOXES, ETC. TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. ALL ITEMS MARKED BY AN ASTERISK (*) ARE FURNISHED BY PLUMBING CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.
3. HEAT TRACING FOR ALL PIPING TO BE RAYCHEM MODEL SBTV1-CT @ 5 W/FT WITH POWER CONNECTION KITS, SPLICE KITS AND GLASS TAPE AS REQUIRED. HEAT TRACE TO BE FM APPROVED.
4. MAXIMUM CIRCUIT LENGTH SHALL BE 270 FT. MAXIMUM CIRCUIT BREAKER SIZE SHALL BE 20 AMP. VOLTAGE SHALL BE 120V.
5. INSULATE HEAT TRACED PIPING WITH 2" THICK FIBERGLASS PREFORMED INSULATION WITH VAPOR JACKET AND SELF SEALING TAPE.



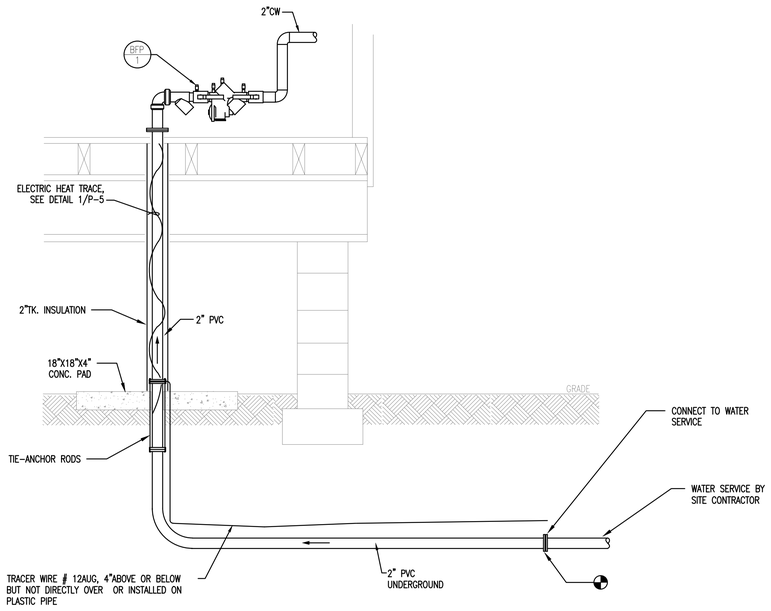
NOTES

1. ALL CONDUIT, WIRE, JUNCTION BOXES, ETC. TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. ALL ITEMS MARKED BY AN ASTERISK (*) ARE FURNISHED BY PLUMBING CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. SEE ELECTRICAL HEAT TRACE INSTALLATION DRAWINGS FOR EXACT QUANTITIES OF END CONNECTION & POWER SEAL KITS, SPLICE KITS, TEE KITS, THERMOSTATS AND TEMEPRATURE CONTROLS, POWER CONNECTION KIT, MOUNTING BRACKETS ETC.
3. HEAT TRACING FOR ALL PIPING TO BE RAYCHEM MODEL SBTV1-CR @ 5 W/FT WITH POWER CONNECTION KITS, SPLICE KITS AND GLASS TAPE AS REQUIRED. HEAT TRACE TO BE FM APPROVED.
4. MAXIMUM CIRCUIT LENGTH SHALL BE 270 FT. MAXIMUM CIRCUIT BREAKER SIZE SHALL BE 20 AMP. VOLTAGE SHALL BE 120V.
5. INSULATE HEAT TRACED PIPING WITH 1 1/2" THICK FIBERGLASS PREFORMED INSULATION WITH VAPOR JACKET AND SELF SEALING TAPE.

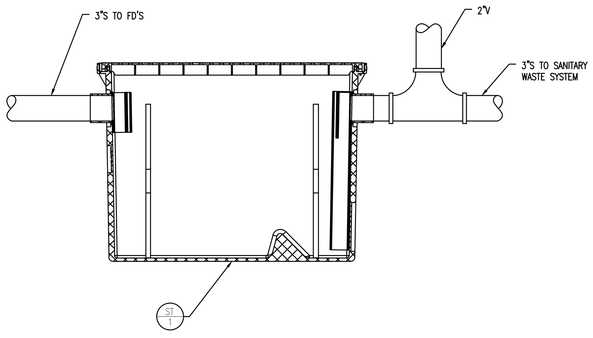




1 / P-5 **DETAIL – HEAT TRACING SCHEMATICS**
SCALE: NTS



2 / P-5 **DETAIL – SERVICE ENTRANCE**
SCALE: NTS



3 / P-5 **DETAIL – SAND INTERCEPTOR**
SCALE: NTS

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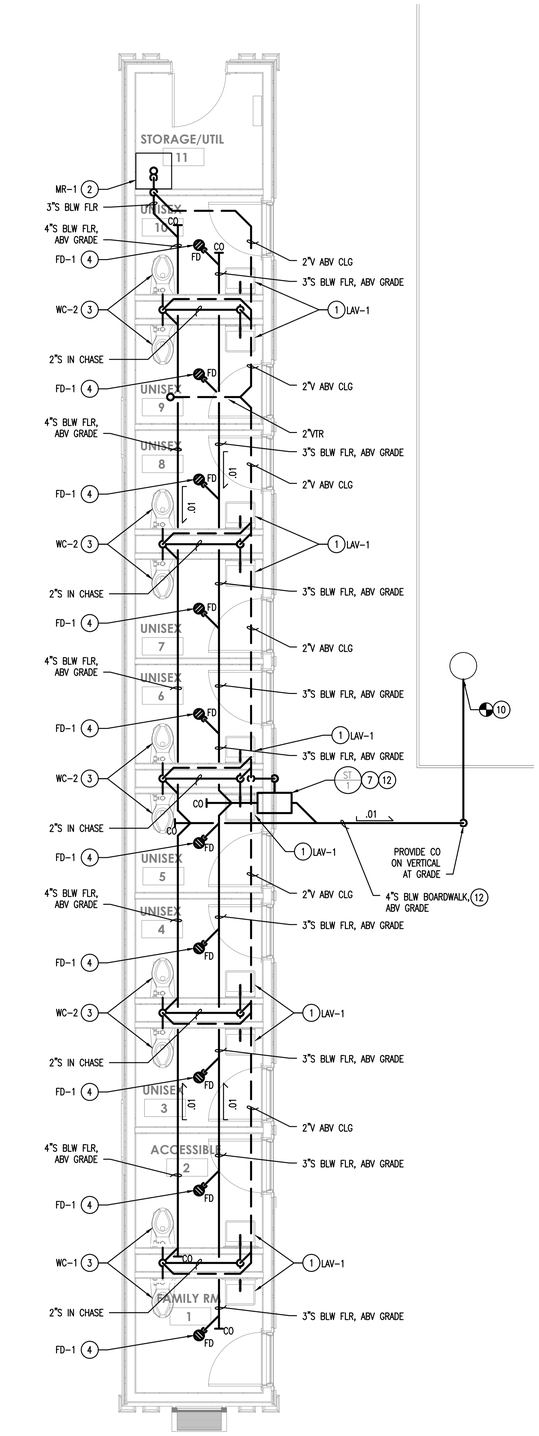
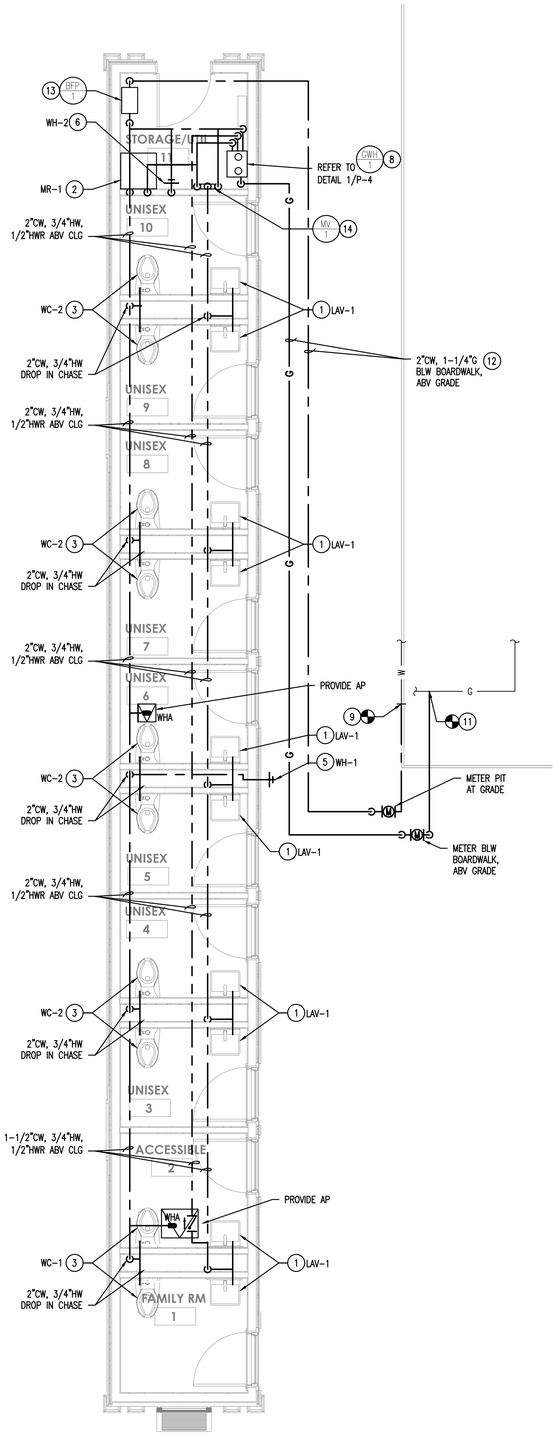


1 P–6 **PLUMBING FLOOR PLAN – SANITARY**
SCALE: 1/4"=1'–0"

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



2 P–6 **PLUMBING FLOOR PLAN – DOMESTIC WATER**
SCALE: 1/4"=1'–0"

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

GENERAL NOTES:

1. REFER TO PLUMBING LEAD SHEET, P–1 FOR "NOTES" THAT PERTAIN TO THE SCOPE OF THIS PROJECT.
2. REFER TO DRAWING P–2 FOR PROJECT SPECIFICATION AND EXECUTION REQUIREMENTS.
3. REFER TO DRAWING P–3, P–4, & P–5 FOR ADDITIONAL PROJECT REQUIREMENTS.
4. ALL DOMESTIC WATER PIPING NOTED AS ABV CLG SHALL BE INSTALLED WITHIN THE BUILDINGS HEATED ENVELOPE. PIPING ABOVE CEILING AND IN EXTERIOR WALLS/CHASES SHALL BE INSULATED WITH 2" INSULATION.
5. ALL WATER AND SANITARY PIPING ABOVE GROUND AND WITHIN THE BUILDING SHALL BE HEAT TRACED WITH 5W/FT. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.

NEW WORK KEYED NOTES:

GENERAL: NEW WORK KEYED NOTES ARE INDICATED WITH THE FOLLOWING SYMBOL (#) AND ARE NUMBERED AS FOLLOWS:

(1) 1–1/4"S TO 1–1/4"S DROP (TO WC CARRIER) & 1–1/4"V UP FROM LAV–1. 1/2"HW (103°–105°F) IN CHASE TO LAV–2.

(2) 3"S DN & 2"V UP FROM MR–1. 3/4"CW&HW DN IN WALL TO MR–1.

(3) 4"S DN & 2"V RISE FROM CARRIER. 1–1/4"CW IN CHASE TO WC–1/2. MOUNT WC–1 FIXTURE AT ADA HEIGHT.

(4) 3"S (SAND) DN LESS TRAP FROM FD–1.

(5) 1"CW IN CHASE TO WH–1.

(6) 1"CW DN IN WALL TO WH–2.

(7) FURNISH AND INSTALL SAND TRAP ST–1 NEAR AREA INDICATED IN CAPACITY AS SCHEDULED AND IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. ST–1 SHALL BE HUNG EXPOSED BELOW BUILDING AND ABOVE GRADE. CONTRACTOR SHALL ADJUST FINAL PLACEMENT TO ALLOW FOR SERVICE AND/OR CLEANING FROM BELOW BUILDING. 3"S (SAND) TO AND 3"S FROM ST–1.

(8) INSTALL NEW WALL HUNG GAS FIRED INSTANTANEOUS DOMESTIC HOT WATER HEATER (GWH–1) IN/NEAR LOCATION AS INDICATED ON PLAN. FURNISH EQUIPMENT AND FIXTURES IN CAPACITY AS SCHEDULED. INSTALLATION OF GWH–1 AND ALL ASSOCIATED APPURTENANCES SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. GWH–1 T&P AND 3/4"COND SHALL BE PIPED TO DOWN TO MR–1. 3/4"CW&HW & 3/4"HWR TO/FROM GWH–1. FURNISH AND INSTALL 2" PVC COMBUSTION AIR AND EXHAUST THROUGH ROOF. TERMINATE PER MANUFACTURER'S REQUIREMENTS.

(9) V.I.F. EXISTING CW MAIN NEAR AREA INDICATED. EXTEND AND CONNECT NEW 2"CW TO EXISTING. PROVIDE AND COORDINATE INSTALLATION OF NEW WATER METER PIT WITH NJ AMERICAN WATER COMPANY AND LOCAL AHJ. PROVIDE HEAT TRACING FOR ENTIRE EXPOSED RUN OF PIPING.

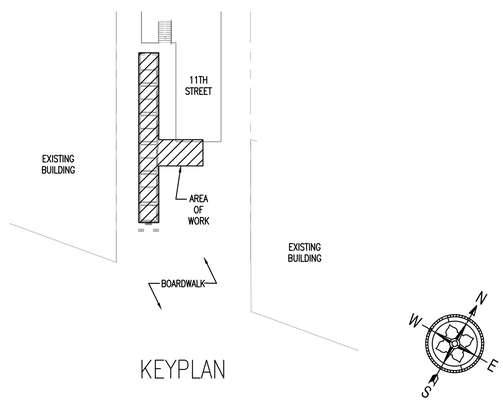
(10) V.I.F. EXISTING SANITARY MANHOLE NEAR AREA INDICATED. EXTEND AND CONNECT NEW 4"S TO EXISTING MANHOLE. COORDINATE CONNECTION TO EXISTING SANITARY SYSTEM WITH NJ AMERICAN WATER COMPANY AND LOCAL AHJ. PROVIDE HEAT TRACING FOR ENTIRE EXPOSED RUN OF PIPING.

(11) V.I.F. EXISTING GAS MAIN NEAR AREA INDICATED. EXTEND AND CONNECT NEW 1–1/4"G TO EXISTING MAIN. PROVIDE AND COORDINATE INSTALLATION OF NEW GAS METER WITH SOUTH JERSEY GAS AND LOCAL AHJ.

(12) COORDINATE INSTALLATION OF ALL PIPING, EQUIPMENT, & FIXTURES HUNG BELOW THE BOARDWALK STRUCTURE, ABOVE GRADE WITH OCEAN CITY REQUIREMENTS. ALL PIPE HANGING MATERIALS SHALL BE APPROVED BY OCEAN CITY PRIOR TO INSTALLATION.

(13) FURNISH AND INSTALL NEW BACKFLOW PREVENTER IN/NEAR LOCATION AS INDICATED ON PLAN. FURNISH EQUIPMENT AND FIXTURES IN SIZE/CAPACITY AS SCHEDULED. PROVIDE FIXED AIR GAP OR FUNNEL FITTING PIPED TO MR–1 FOR FLOW FROM RELIEF VALVE.

(14) FURNISH AND INSTALL MV–1 (SET TO 105°F) IN/NEAR LOCATION AS INDICATED ON PLAN. FURNISH EQUIPMENT AND FIXTURES IN CAPACITY AS SCHEDULED. INSTALLATION OF MV–1 AND ALL ASSOCIATED APPURTENANCES SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. REFER TO DETAIL 3/P–4 FOR ADDITIONAL REQUIREMENTS.



KEYPLAN

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11TH STREET BOARDWALK RESTROOMS

11TH STREET & BOARDWALK
OCEAN CITY , NJ 08226

No.	Description	Date
	PREFAB COORDINATION	12/11/20

PLUMBING FLOOR PLANS

CEG PROJECT: 8C20379.00

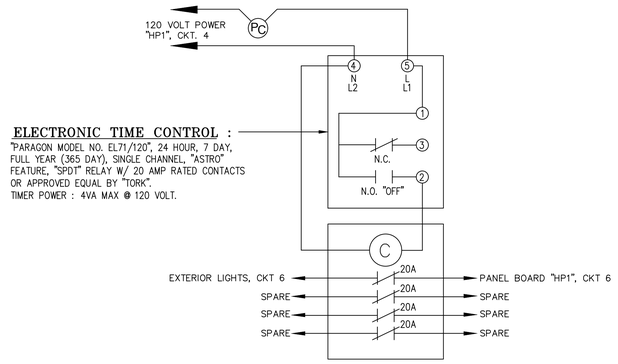
Scale	AS NOTED
Drawn by	DHB
Date	12/11/2020

P-6

Commission no. 200310

ELECTRICAL GENERAL NOTES

1. ALL ELECTRICAL WORK TO BE INSTALLED IN ACCORDANCE WITH THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE ADOPTED BY THE UNIFORM CONSTRUCTION CODE - STATE OF NEW JERSEY AND ANY OTHER PARTY HAVING JURISDICTION.
2. ALL ELECTRICAL MATERIALS AND EQUIPMENT FOR THE PROJECT SHALL BE NEW AND APPROVED BY UNDERWRITERS LABORATORY (U.L.) OR ANY OTHER NATIONALLY RECOGNIZED TESTING AGENCY UNLESS NOTED OTHERWISE ON DRAWINGS.
3. ALL NECESSARY PERMITS, INSPECTIONS, AND LICENSES SHALL BE PROCURED AND ALL FEES PAID BY THE CONTRACTOR. SUBMIT TO THE OWNER DUPLICATE CERTIFICATES OF INSPECTION FROM THE APPROVED INSPECTION AGENCY.
4. UPON COMPLETION OF THE WORK, THE ENTIRE WIRING SYSTEM SHALL BE FREE FROM GROUNDS, SHORT CIRCUITS, OPENS, OVERLOADS AND IMPROPER VOLTAGES.
5. PRIOR TO FINAL ACCEPTANCE OF THE WORK, A WRITTEN STATEMENT SHALL BE SUBMITTED TO THE OWNER GUARANTEEING ALL EQUIPMENT AND SYSTEMS AGAINST DEFECTIVE MATERIAL AND WORKMANSHIP FOR ONE (1) YEAR FROM THE DATE OF ACCEPTANCE. UPON NOTICE ALL DEFECTIVE EQUIPMENT, MATERIALS AND SYSTEMS SHALL BE PROMPTLY REPAIRED AT NO EXPENSE TO THE OWNER.
6. THIS SET OF DRAWINGS IS DIAGRAMMATIC IN NATURE AND INDICATES THE GENERAL ARRANGEMENT OF THE VARIOUS SYSTEMS AND APPROXIMATE LOCATIONS OF THE EQUIPMENT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THAT THERE IS ADEQUATE SPACE AT THE LOCATIONS INDICATED FOR ALL EQUIPMENT PRIOR TO INSTALLATION OF SAME. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL DIMENSIONS IN THE FIELD, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
7. ELECTRICAL CONTRACTOR SHALL SECURE SHOP DRAWINGS FROM OTHER CONTRACTORS AND VERIFY EXACT ELECTRICAL CHARACTERISTICS OF EQUIPMENT TO BE WIRED PRIOR TO ROUGH-IN. IF DISCREPANCIES ARE NOTED BETWEEN THE ELECTRICAL CONTRACT DRAWINGS AND OTHER CONTRACTOR SHOP DRAWINGS, ELECTRICAL CONTRACTOR IS TO NOTIFY ENGINEER AT ONCE. FAILURE TO PERFORM THIS DUTY WILL NOT RELIEVE THE ELECTRICAL CONTRACTOR OF THE RESPONSIBILITY TO CORRECT WIRING DEFICIENCIES AT NO EXPENSE TO THE OWNER.
8. ALL DEVICES OR EQUIPMENT SHOWN IN SYMBOL FORM SHALL BE WIRED TO ITS RESPECTIVE PANEL.
9. FEEDER AND BRANCH CIRCUIT WIRING SHALL BE COPPER, 600 VOLT CONDUCTOR INSULATION TYPE THHN. THE MINIMUM SIZE 600 VOLT CONDUCTOR SHALL BE #12 AWG FOR POWER AND LIGHTING BRANCH CIRCUIT WIRING. THE MINIMUM SIZE CONDUIT SHALL BE 3/4". ALL CIRCUIT WIRING SIZES LARGER THAN #10 AWG SHALL BE STRANDED AND SMALLER CONDUCTORS SHALL BE SOLID. BRANCH CIRCUITS 100 TO 200 FEET IN LENGTH UTILIZING #12 AWG WIRE SHALL BE INCREASED TO #10 AWG TO THE CENTER OF THE CIRCUIT LOAD AND #12 WIRE TO THE REMAINING DEVICES BEYOND THE LOAD CENTER.
10. ALL INTERIOR WIRING SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING OR METAL CLAD CABLE AND CONCEALED IN WALLS OR IN HUNG CEILING SPACE. WHERE WIRING CANNOT BE CONCEALED IN FINISHED AREAS, IT SHALL BE RUN EXPOSED IN A NEAT MANNER VIA SURFACE RACEWAY. MINIMUM CONDUIT SIZE SHALL BE 3/4" UNLESS NOTED OTHERWISE.
11. ALL WIRING, CONNECTIONS AND DEVICES SHALL BE PROVIDED TO COMPLY WITH THE GROUNDING REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND THE DRAWINGS UNLESS NOTED OTHERWISE. ALL EXPOSED NON-CURRENT CARRYING ELECTRICAL EQUIPMENT METALLIC PARTS, RACEWAY SYSTEMS AND WIRING SYSTEM GROUNDING CONDUCTORS SYSTEM SHALL BE GROUNDED.
12. PROVIDE A SEPARATE, GREEN-COLORED, INSULATED EQUIPMENT GROUNDING CONDUCTOR WITHIN EACH FEEDER AND BRANCH CIRCUIT RACEWAY. THIS CONDUCTOR SHALL BE SEPARATE FROM THE ELECTRICAL SYSTEM NEUTRAL CONDUCTOR. TERMINATE EACH END OF THIS GROUNDING CONDUCTOR ON A U.L. LISTED LUG, BUS OR BUSHING. THE GROUNDING CONDUCTOR SIZE SHALL BE IN ACCORDANCE WITH NEC, TABLE 250.122.
13. THE ELECTRICAL CONTRACTOR SHALL LABEL WITH PERMANENT MARKER ALL JUNCTION BOXES AND RECEPTACLE OUTLET BOXES WITH CIRCUIT NUMBER AND PANEL IDENTIFICATION.
14. ALL CUTTING AND PATCHING REQUIRED FOR THE ELECTRICAL WORK SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
15. PANEL BOARD DIRECTORIES SHALL BE TYPED, AND UPDATED INDICATING NEW CIRCUITING AND DEVICE DESCRIPTION AS SHOWN ON DRAWINGS.
16. ALL HOLES OR VOIDS CREATED TO ROUTE CONDUIT OR METAL CLAD CABLE THROUGH FIRE-RATED FLOORS, CEILINGS, AND WALLS SHALL BE PROTECTED WITH A 3-HOUR RATED, APPROVED FIRESTOP SYSTEM EQUAL TO 3M FIRE BARRIER CAULK, PUTTY, STRIP AND SHEET FORM, CAPABLE OF EXPANDING UP TO 8 TO 10 TIMES WHEN EXPOSED TO A TEMPERATURE OF 250 DEGREES FAHRENHEIT AND ABOVE. FIRESTOP SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH ASME E814 (U.L. 1479) AND 2017 NEC ARTICLE 300.21.
17. A COMPLETE SET OF "AS-BUILT" DRAWINGS, (1) SET IN HARD COPY REPRODUCIBLE AND (1) SET OF ELECTRONIC FILES PRODUCED IN AUTOCAD FORMAT 2004 (MIN.) SHALL BE FURNISHED TO THE OWNER AND ENGINEER UPON PROJECT COMPLETION.
18. ALL EQUIPMENT, DEVICES AND CIRCUITS SHALL BE LABELED ACCORDING TO OWNER REQUIREMENTS.
19. TWO OR THREE POLE CIRCUIT BREAKERS SHALL BE COMMON TRIP TYPE. SINGLE POLE BREAKERS WITH YOKED HANDLE WILL NOT BE PERMITTED.
20. THE ELECTRICAL CONTRACTOR SHALL NOT UTILIZE A "COMMON NEUTRAL" ON MULTIPLE BRANCH CIRCUITS. EACH SUCH CIRCUIT SHALL BE RUN WITH ITS OWN DEDICATED NEUTRAL WIRE.
21. ALL SYSTEM CABLE SHALL BE PLENUM RATED OR RUN IN CONDUIT. SYSTEM CABLE EXPOSED TO PHYSICAL DAMAGE SHALL BE RUN IN CONDUIT. SYSTEM CABLE LOCATED ABOVE ACCESSIBLE CEILINGS SHALL BE INDEPENDENTLY SUPPORTED FROM THE STRUCTURE. CABLES SHALL NOT BE LAID ON CEILING TILES.
22. ALL WIRING AND EQUIPMENT INSTALLED IN DUCTS, PLENUMS AND OTHER AIR HANDLING SPACES TO CONFORM TO NEC, ARTICLE 300.22.
23. THE ELECTRICAL CONTRACTOR SHALL ASSURE THAT ANY ELECTRICAL DEVICE OR PRODUCT WHICH IS TO BE RELOCATED OR REUSED IS IN PROPER WORKING CONDITION IN ACCORDANCE WITH INSTRUCTIONS INCLUDED IN ITS LISTING OR LABELING. ANY DEVICE OR PRODUCT FOUND TO BE DEFECTIVE OR DAMAGED SHALL BE REPLACED WITH NEW.
24. SITE VISIT PRIOR TO BID SUBMISSION:
    A. PRIOR TO BID SUBMISSION, THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS. BIDS AS SUBMITTED WILL BE INTERPRETED TO INCLUDE ALL COSTS AND CHARGES MADE NECESSARY BY EXISTING CONDITIONS.
    B. ELECTRICAL CONTRACTOR SHALL VERIFY THE SIZE, LOCATION AND ELEVATION OF ALL SERVICES IN THE FIELD AFFECTED BY THIS WORK BEFORE PROCEEDING WITH CONSTRUCTION. NOTIFY THE CONSTRUCTION MANAGER IMMEDIATELY IN THE EVENT OF EXISTING UTILITIES VARY APPRECIABLY FROM THOSE SHOWN ON DRAWINGS.
25. THERMAL OVERLOAD PROTECTION SHALL BE IN COMPLIANCE WITH MOTOR MANUFACTURER'S SPECIFICATIONS.
26. WHERE CIRCUIT BREAKERS OR FUSES ARE APPLIED IN COMPLIANCE WITH THE SERIES COMBINATION RATINGS MARKED ON THE EQUIPMENT BY THE MANUFACTURER, THE EQUIPMENT ENCLOSURE(S) SHALL BE LEGIBLY MARKED IN THE FIELD TO INDICATE THE EQUIPMENT HAS BEEN APPLIED WITH A SERIES COMBINATION DEVICE RATING. THE MARKING SHALL BE READILY VISIBLE AND CONFORM TO ARTICLE 110.22 OF THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE.
27. GROUNDING CONTINUITY SHALL BE VERIFIED ON ALL ISOLATED GROUND RECEPTACLES.
28. THE PLACEMENT OF LIGHTING FIXTURES, RECEPTACLES, ETC. IN MECHANICAL EQUIPMENT ROOMS SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT.
29. PROVIDE NECESSARY COMMON GROUNDS BETWEEN THE ELECTRICAL SERVICE, TELEPHONE SERVICE, UNDERGROUND METALLIC PIPING, CONDUIT, AND FOUNDATION/FOOTING REBAR PER NEC ARTICLES 250.50 & 250.52
30. ALL DUCT MOUNTED SMOKE OR HEAT DETECTORS SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE WIRING OF ALL DUCT MOUNTED DETECTORS TO INSURE A COMPLETE OPERATING SYSTEM. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE MECHANICAL DRAWINGS FOR THE LOCATIONS OF ALL DUCT MOUNTED DETECTORS. ALL DUCT MOUNTED DETECTORS AND THEIR ASSOCIATED WIRING SHALL CONFORM TO ARTICLE 300.22 OF THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE.
31. CONTRACTOR TO PROVIDE RECEPTACLES TO MATCH PLUGS FURNISHED WITH EQUIPMENT.
32. LIGHTING AND POWER BRANCH CIRCUIT PANEL BOARDS FOR 120/240 VOLTS SERVICE SHALL BE BOLT-ON CIRCUIT BREAKER TYPE EQUIPPED WITH QUICK-MAKE, QUICK-BREAK, TRIP INDICATING, MOLDED CASE, THERMAL- MAGNETIC CIRCUIT BREAKERS.
33. ALL LIGHTING AND POWER PANELS SHALL HAVE THEIR TOPS AT 6'-6" ABOVE FINISHED FLOOR.
34. PANEL BOARDS SHALL BE DEAD-FRONT, SAFETY-TYPE AND SHALL CONTAIN MAIN LUG RATINGS, BRANCH CIRCUIT BREAKERS, SPACES AND COPPER BUSSES AS INDICATED ON THE DRAWINGS.
35. PANEL BOARDS SHALL BE SUITABLE FOR FLUSH MOUNTING OR SURFACE MOUNTED INSTALLATION AS REQUIRED.
36. ELECTRICAL CONTRACTOR SHALL LOCATE LIGHTING FIXTURES TO SUIT STRUCTURAL AND ARCHITECTURAL CONDITIONS IN THOSE ROOMS WHERE BEAMS, DROPPED SOFFITS, ACCESS PANELS OR SIMILAR OBSTRUCTIONS REQUIRE A CHANGE IN LIGHTING FIXTURE LAYOUT.
37. ELECTRICAL CONTRACTOR SHALL COORDINATE PLACEMENT OF ALL ELECTRICAL DEVICES WITH MILLWORK CONSTRUCTOR AND ARCHITECT PRIOR TO ROUGH-IN.
38. FOR EMERGENCY LIGHTING AND EXIT SIGN BATTERY PACK UNITS, THE CIRCUIT FEEDING THE UNIT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND SHALL BE CONNECTED AHEAD OF ANY LOCAL SWITCHES.
39. THE ELECTRICAL CONTRACTOR SHALL CONFORM TO ARTICLE 400 OF THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE REGARDING FLEXIBLE CORDS AND CABLES FOR THE SELECTION AND INSTALLATION OF FLEXIBLE FEEDER CABLE FOR TEMPORARY POWER. THE TYPE OF CABLE SHALL BE "EXTRA-HARD USAGE" TYPE "W", COPPER CONDUCTOR, THERMOSET INSULATION WITHOUT EXCEPTION.
40. THE ELECTRICAL CONTRACTOR SHALL CONFORM TO ARTICLE 590 OF THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE REGARDING THE PROTECTION AND INSTALLATION OF TEMPORARY WIRING.
41. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SERVICE APPLICATIONS FOR ELECTRICAL, CABLE AND TELEPHONE SERVICE CONNECTIONS. THE OWNER SHALL BE RESPONSIBLE TO PROVIDE ALL REQUIRED FEES.
42. FOR ALL INSTALLATIONS IN WHICH OUTLET BOXES ARE INSTALLED IN A FIRE- RATED WALL, THE OUTLET BOXES SHALL BE THOMAS & BETTS UNION PHENOLIC THERMOSET BOXES OR EQUAL, INSTALLED PER MANUFACTURERS INSTRUCTIONS.

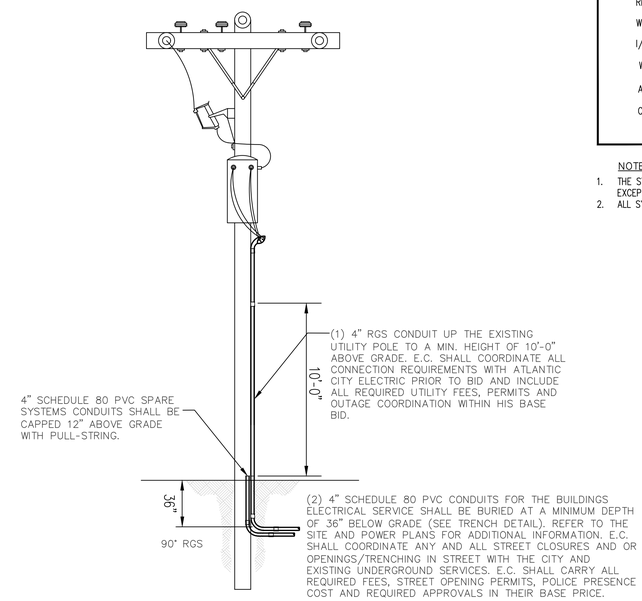


ELECTRONIC TIME CONTROL :
"PARAGON MODEL NO. EL71/120", 24 HOUR, 7 DAY, FULL YEAR (365 DAY), SINGLE CHANNEL, "ASTRO" FEATURE, "SPDT" RELAY W/ 20 AMP RATED CONTACTS OR APPROVED EQUAL BY "TORK". TIMER POWER : 4VA MAX @ 120 VOLT.

LIGHTING CONTACTOR "A"
(4) POLE, 20 AMP/120 VOLT RATED CONTACTS, 120 VOLT COIL, ELECTRICALLY OPERATED, MECHANICALLY HELD. PROVIDE "SQUARE D" OR APPROVED EQUAL. COORDINATE CONTACTOR CONTROL REQUIREMENTS WITH THE ELECTRONIC TIME CONTROL MANUFACTURER.

TIME CLOCK/PHOTOCELL DETAIL

SCALE: NOT TO SCALE



ELECTRICAL SERVICE POLE DETAIL

SCALE: NOT TO SCALE

ELECTRICAL LEGEND

14 HP1	HOME RUN ARROW INDICATES PANEL AND CIRCUIT NUMBER
	20A, 125V SPECIFICATION GRADE GFIC DUPLEX RECEPTACLE
J	JUNCTION BOX - SIZED PER NEC REQUIREMENTS
	DISCONNECT SWITCH AND POINT OF CONNECTION - SIZED AS REQUIRED.
20AS 15AF	FUSED DISCONNECT SWITCH, 20 AMP SWITCH WITH 15 AMP FUSES.
	RECESSED MOUNTED PANELBOARD
L1	4" X 2' RECESSED MOUNTED LIGHTING FIXTURE 6W, 120V REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFICATIONS
L2	4" X 3' RECESSED MOUNTED LIGHTING FIXTURE 3.4W, 120V REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFICATIONS
L3	4" X 3' RECESSED MOUNTED LIGHTING FIXTURE 3.4W, 120V REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFICATIONS
	RECESSED MOUNTED LED DOWNLIGHT 12W, 120V REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFICATIONS
EF	EXHAUST FAN MOTOR WITH LOCAL DISCONNECT SWITCH - 25W, 120V.
OS	LUTRON VACANCY SENSOR CAT#LRF2-VCR28-P-WH
PP	LUTRON POWER PAK CAT#RMJS-5R-DV-8
SW	LUTRON WIRELESS SWITCH PICO CAT#PJ2-2BRL-GWH-L01
S	SINGLE POLE SWITCH 20A, 120V, SINGLE POLE
L/V	LOW VOLTAGE WIRING
GFI	GROUND FAULT INTERRUPTER
CTR	MOUNTED ABOVE MILLWORK COUNTER
E	EXISTING TO REMAIN
ER	EXISTING TO BE REMOVED AND RETURNED TO OWNER
R	EXISTING TO BE REMOVED AND RELOCATE.
RE	RLOCATE EXISTING IN LOCATION SHOWN.
WP	WEATHERPROOF
I/U	DEVICE LISTED AS IN-USE, GFIC, WEATHERPROOF DEVICE
W	WALL MOUNTED
A.F.F.	ABOVE FINISHED FLOOR
C	CEILING MOUNTED

NOTE:
1. THE SYMBOLS FOR WORK TO BE DEMOLISHED AND REMOVED ARE THE SAME AS THOSE ABOVE EXCEPT THEY ARE DRAWN WITH A DASHED LINE TYPE.
2. ALL SYMBOLS OR ABBREVIATIONS ARE NOT NECESSARILY USED ON THE CONTRACT DRAWINGS.

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11TH STREET BOARDWALK RESTROOMS
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OCEAN CITY , NJ 08226

No.	Description	Date
	PREFAB COORDINATION	12/11/20

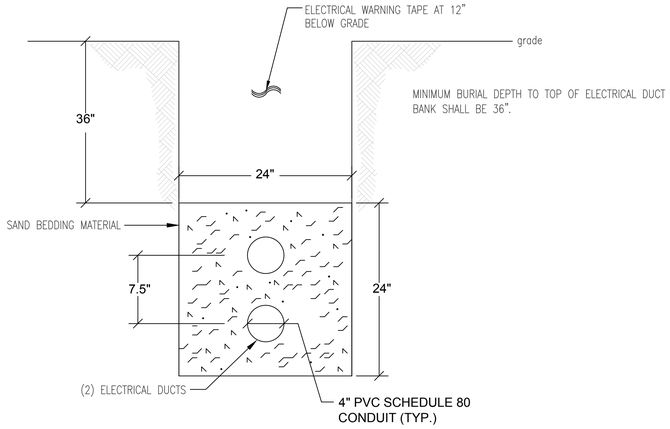
ELECTRICAL COVER SHEET

CEG PROJECT: 8C20379.00

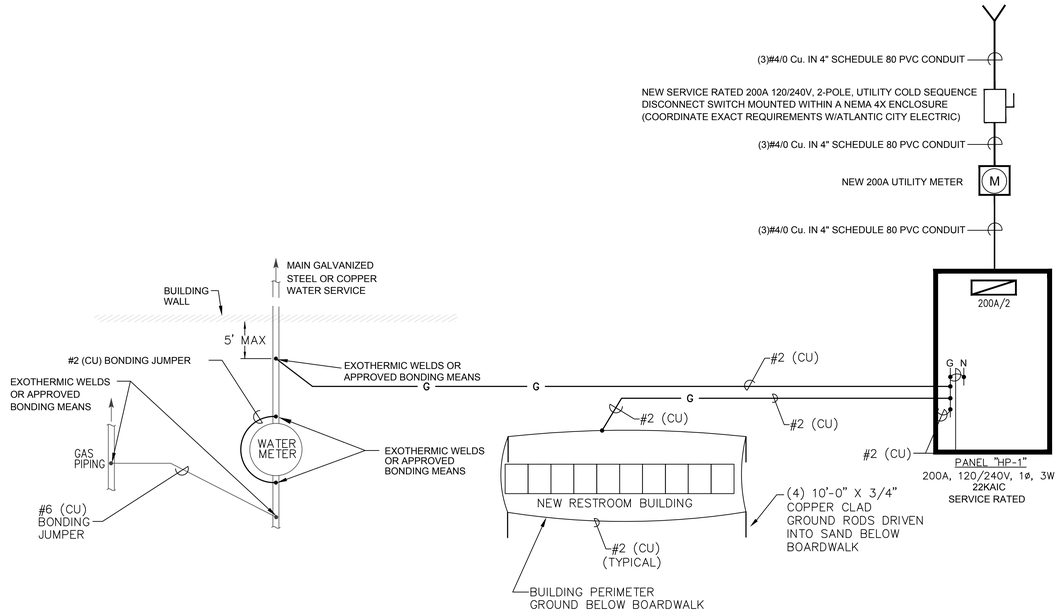
Scale	AS NOTED
Drawn by	EJT
Date	12/11/2020

E-1

Commission no. 200310



240V ELECTRIC SERVICE DUCT BANK DETAIL



ELECTRICAL SINGLE LINE DIAGRAM

NEW PANEL "HP-1"

MAINS: 200A M.C.B — **FED FROM : SEE SINGLE LINE DIAGRAM**
VOLTAGE: 240V, 1Φ, 3W. 22KAIC — **FEEDER: SEE SINGLE LINE DIAGRAM**

CONDUIT	WIRE SIZE	SERVICE TO:	KW/PHASE A	KW/PHASE B	CIRCUIT BREAKER AMP	P	NO.	Φ	NO.	CIRCUIT BREAKER P	AMP	KW/PHASE A	KW/PHASE B	SERVICE TO:	WIRE SIZE	CONDUIT
3/4"	2#12 & 1#12 GRD	TOILET STALL LIGHTING	0.53		20	1	1	A	2	1	20	0.10		UTILITY RM EF-1	3#12 & 1#12 GRD	3/4"
3/4"	2#10 & 1#10 GRD	TANKLESS HOT WTR HEATER		0.48	20	1	3	B	4	1	20		0.10	TIME CLOCK	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	TOILET STALL CONV. RECEPT.	1.08		20	1	5	A	6	1	20	0.10		EXT DOWNLIGHTS V/A T/C	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	TOILET STALL CONV. RECEPT.		0.48	20	1	7	B	8	1	*20		0.35	HEAT TRACE	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	UTYILITY/STORAGE RECEPT.	0.54		20	1	9	A	10	1	*20	0.35		HEAT TRACE	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	CU-1 CONV. RECEPT.		0.18	20	1	11	B	12	1	*20		0.10	HEAT TRACE	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	UTILITY RM EUH-1	1.50		20	1	13	A	14	1	*20	0.10		HEAT TRACE	2#12 & 1#12 GRD	3/4"
3/4"	3#12 & 1#12 GRD	HP-1 INTERIOR UNIT		0.25	20	2	15	B	16	1	*20		0.35	HEAT TRACE	2#12 & 1#12 GRD	3/4"
▼	▼	▼	0.25		▼	▼	17	A	18	1	*20	0.15		HEAT TRACE	2#12 & 1#12 GRD	3/4"
1"	3#8 & 1#10 GRD	EXTERIOR UNIT CU-1		2.88	35	2	19	B	20	1	20		0.72	SPARE		
▼	▼	▼	2.88		▼	▼	21	A	22	1	20	0.93		SPARE		
		SPARE		0.13	20	1	23	B	24	1	20		1.01	SPARE		
			6.78	4.40	A						B	1.73	2.63			
					8.51						7.03					
					15.54											

* = GFIC BREAKER REQUIRED

LOAD SUMMARY

15,540 W/ 240 V= 64.8 AMPS
65 A X 125% = **80.9 AMPS**

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11TH STREET BOARDWALK RESTROOMS

11TH STREET & BOARDWALK
OCEAN CITY , NJ 08226

No.	Description	Date
	PREFAB COORDINATION	12/11/20

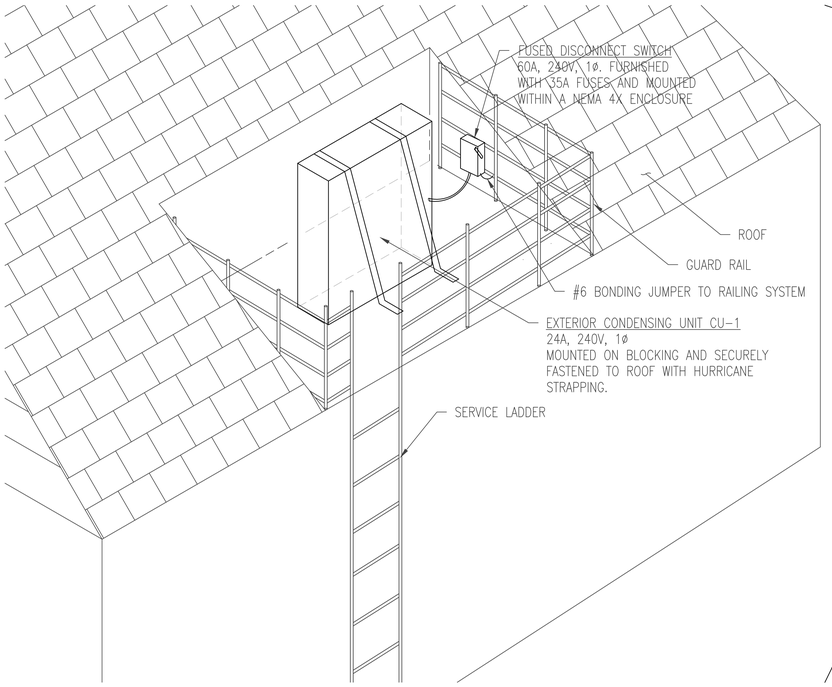
ELECTRICAL SINGLE LINE DIAGRAM AND TRENCH DETAIL

CEG PROJECT: 8C20379.00

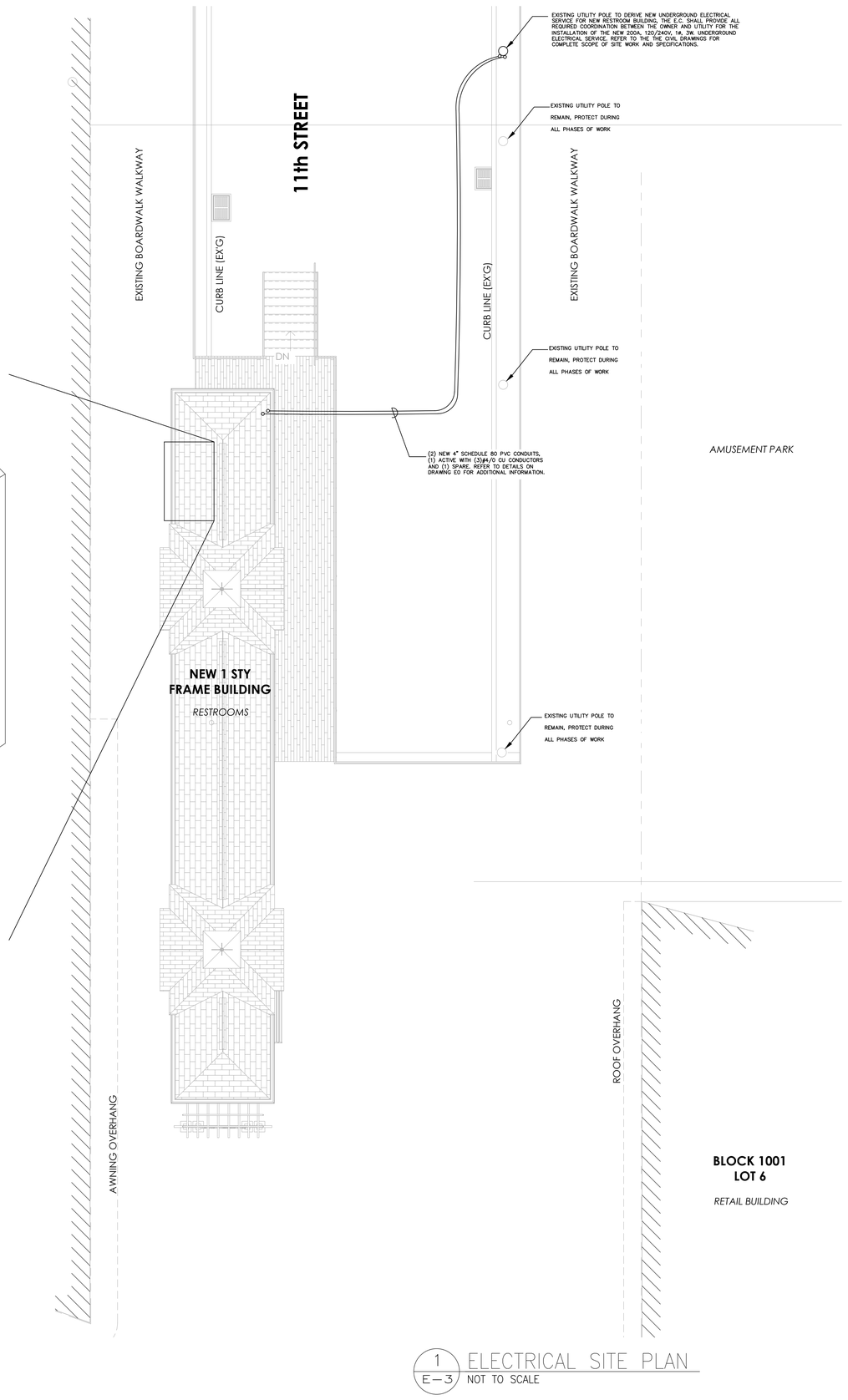
Scale	AS NOTED
Drawn by	EJT
Date	12/11/2020

E-2

Commission no. 200310



2 E-3 ROOF MOUNTED CU DETAIL
NOT TO SCALE



1 E-3 ELECTRICAL SITE PLAN
NOT TO SCALE

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No.	Description	Date
	PREFAB COORDINATION	12/11/20

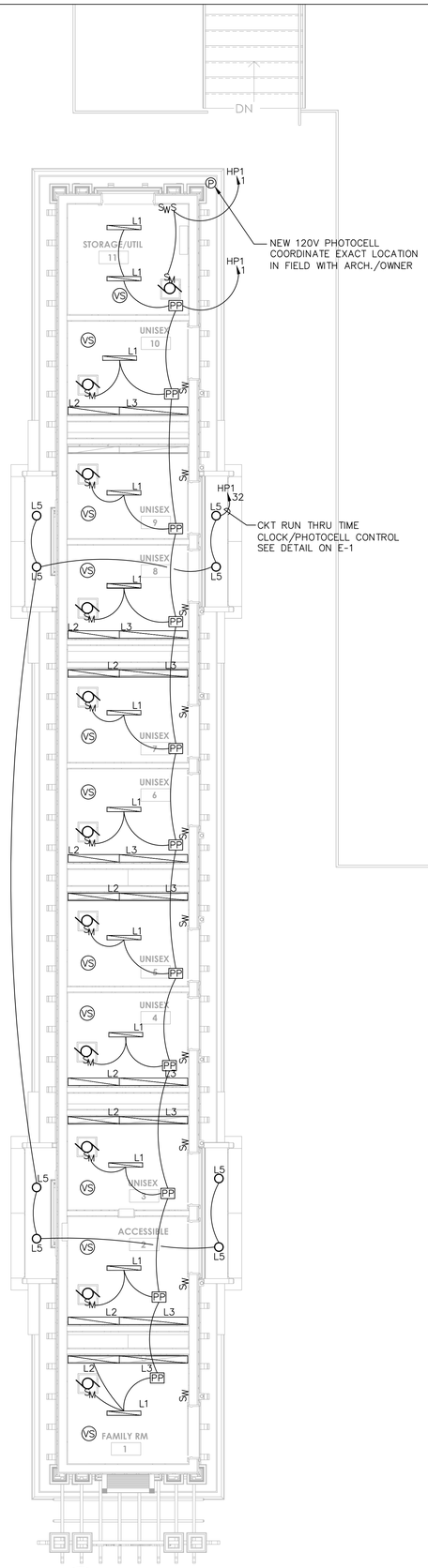
ELECTRICAL SITE PLAN

CEG PROJECT: 8C20379.00

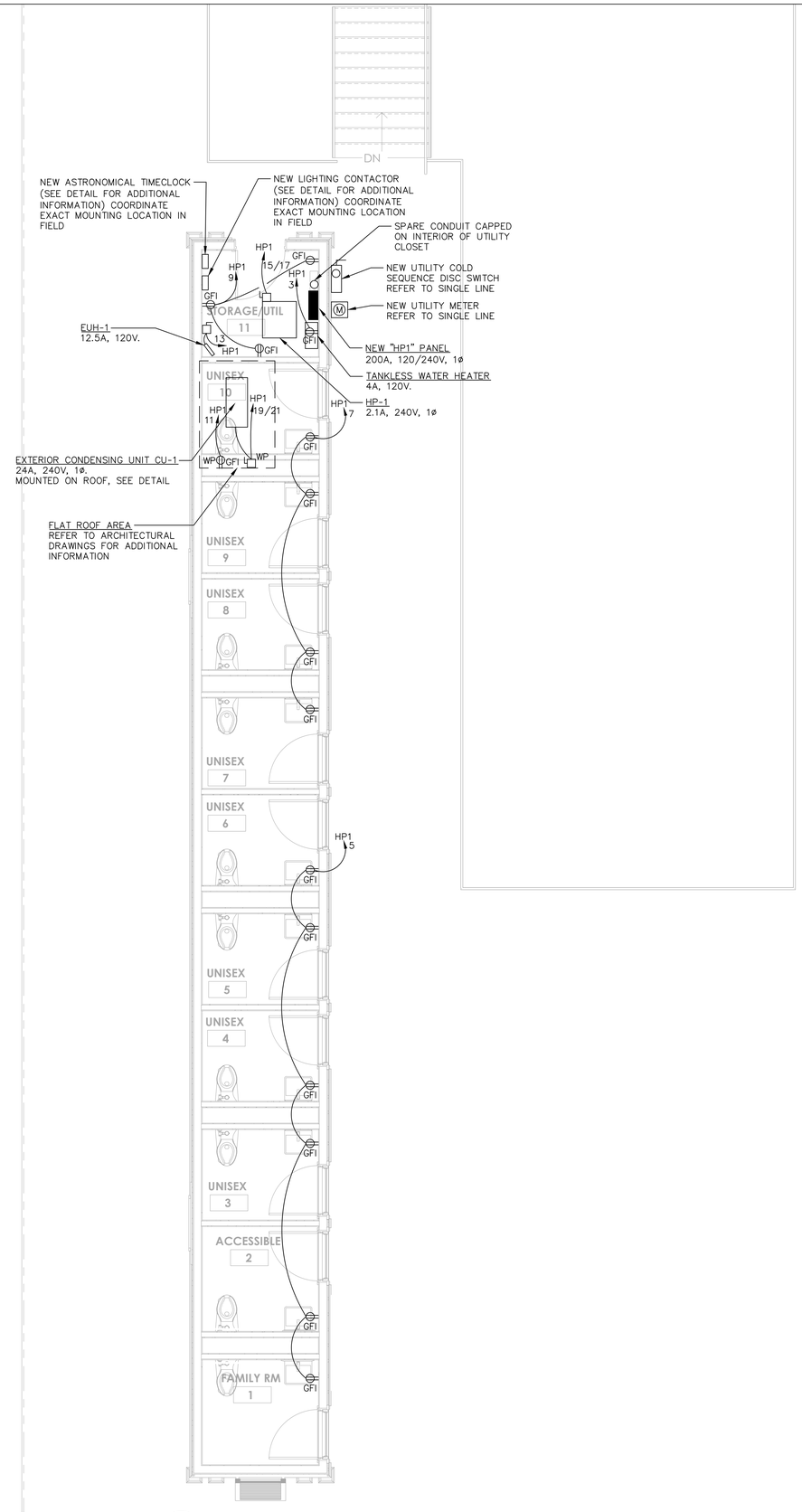
Scale	AS NOTED
Drawn by	EJT
Date	12/11/2020

E-3

Commission no. 200310



1 E−4 ELECTRICAL FLOOR PLAN – LIGHTING
SCALE: 1/4"=1'-0"



2 E−4 ELECTRICAL FLOOR PLAN – POWER
SCALE: 1/4"=1'-0"

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11TH STREET & BOARDWALK
OCEAN CITY , NJ 08226

No.	Description	Date
	PREFAB COORDINATION	12/11/20

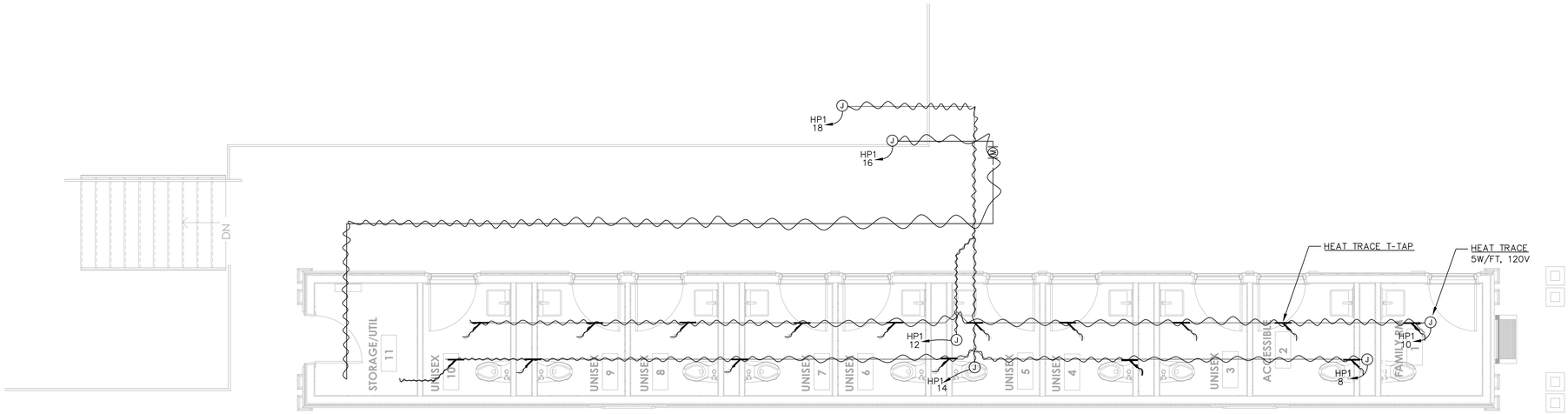
ELECTRICAL LIGHTING AND POWER PLANS

CEG PROJECT: 8C20379.00

Scale	AS NOTED
Drawn by	EJT
Date	12/11/2020

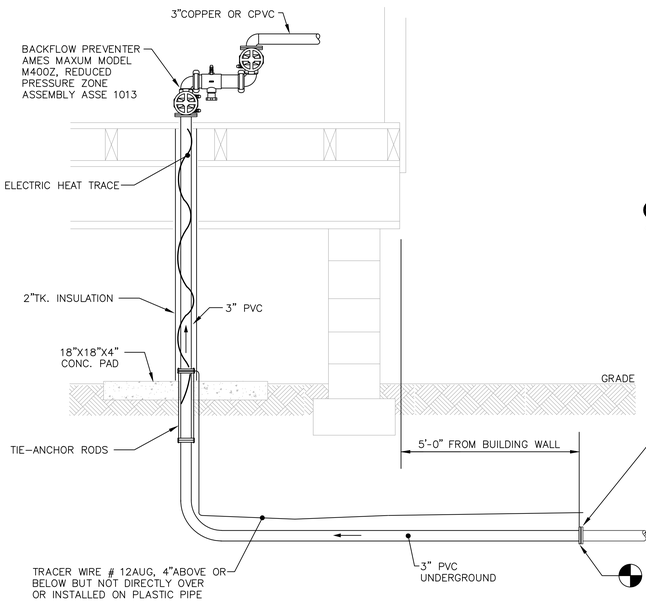
E-4

Commission no. 200310



DETAIL– HEAT TRACE PIPING

NOT TO SCALE

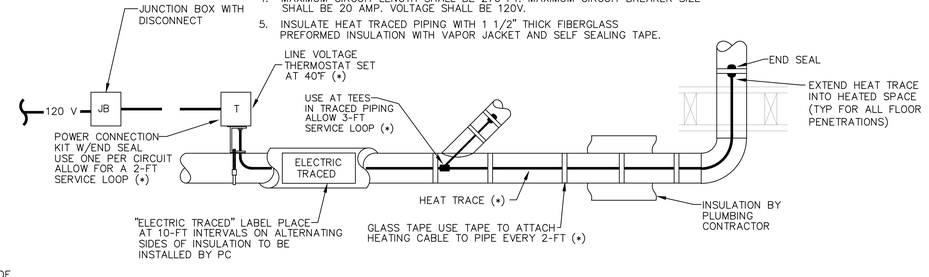


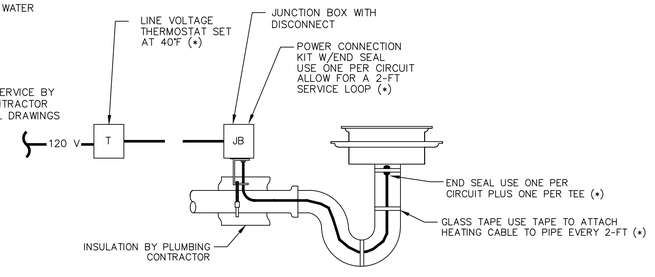
DETAIL– WATER SERVICE PIPING

NOT TO SCALE

NOTES

1. ALL CONDUIT, WIRE, JUNCTION BOXES, ETC. TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. ALL ITEMS MARKED BY AN ASTERISK (*) ARE FURNISHED BY PLUMBING CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. SEE ELECTRICAL HEAT TRACE INSTALLATION DRAWINGS FOR EXACT QUANTITIES OF END CONNECTION & POWER SEAL KITS, SPLICE KITS, TEE KITS, THERMOSTATS AND TEMEPRATURE CONTROLS, POWER CONNECTION KIT, MOUNTING BRACKETS ETC.
3. HEAT TRACING FOR ALL PIPING TO BE RAYCHEM MODEL 5BTV1-CR @ 5 W/FT WITH POWER CONNECTION KITS, SPLICE KITS AND GLASS TAPE AS REQUIRED. HEAT TRACE TO BE FM APPROVED.
4. MAXIMUM CIRCUIT LENGTH SHALL BE 270 FT. MAXIMUM CIRCUIT BREAKER SIZE SHALL BE 20 AMP. VOLTAGE SHALL BE 120V.
5. INSULATE HEAT TRACED PIPING WITH 1 1/2" THICK FIBERGLASS PREFORMED INSULATION WITH VAPOR JACKET AND SELF SEALING TAPE.



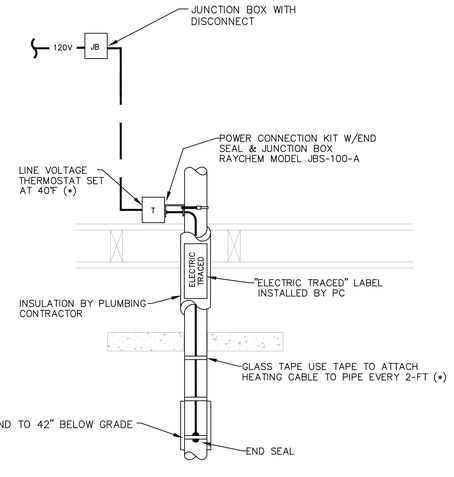


DETAIL– HEAT TRACING SCHEMATIC

NOT TO SCALE

NOTES

1. ALL CONDUIT, WIRE, JUNCTION BOXES, ETC. TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. ALL ITEMS MARKED BY AN ASTERISK (*) ARE FURNISHED BY PLUMBING CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.
3. HEAT TRACING FOR ALL PIPING TO BE RAYCHEM MODEL 5BTV1-CT @ 5 W/FT WITH POWER CONNECTION KITS, SPLICE KITS AND GLASS TAPE AS REQUIRED. HEAT TRACE TO BE FM APPROVED.
4. MAXIMUM CIRCUIT LENGTH SHALL BE 270 FT. MAXIMUM CIRCUIT BREAKER SIZE SHALL BE 20 AMP. VOLTAGE SHALL BE 120V.
5. INSULATE HEAT TRACED PIPING WITH 2" THICK FIBERGLASS PREFORMED INSULATION WITH VAPOR JACKET AND SELF SEALING TAPE.



DETAIL– HEAT TRACE SCHEMATIC

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No.	Description	Date
	PREFAB COORDINATION	12/11/20

HEAT TRACE
DETAILS

CEG PROJECT: 8C20379.00

Scale	AS NOTED
Drawn by	EJT
Date	12/11/2020

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Commission no. 200310