



# PEARL RIVER PUBLIC LIBRARY CHILLER REPLACEMENT

MECHANICAL DRAWINGS

M-7.1 MECHANICAL DETAILS

M-0.1 MECHANICAL SYMBOLS AND ABBREVIATIONS

M-6.0 MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL DETAILS 2

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MP-2.1 MECHANICAL MEZZANINE PENTHOUSE NEW WORK PLAN

ELECTRICAL SYMBOLS, ABBREVIATIONS AND NOTES E-1.0 ELECTRICAL MEZZANINE PENTHOUSE DEMOLITION PLAN

E-2.0 ELECTRICAL MEZZANINE PENTHOUSE NEW WORK PLAN

E-7.0 ELECTRICAL DETAILS AND LIGHTING FIXTURE SCHEDULE

M-5.1 MECHANICAL CHILLER FLOW DIAGRAM & SEQUENCE OF OPERATIONS

M-5.2 MECHANICAL CHILLED WATER SYSTEM PARTIAL ELEVATION SECTION

E-5.0 ELECTRICAL ONE-LINE DIAGRAMS AND FIRST FLOOR PART PLANS

## PROJECT INFORMATION

OWNER:

PEARL RIVER, NY

ARCHITECT:

## LOTHROP ASSOCIATES LLP ARCHITECTS

333 Westchester Avenue, White Plains, New York 10604 (914) 741-1115

STRUCTURAL ENGINEER:

## SILMAN STRUCTURAL ENGINEERS

32 Old Slip, New York, NY 10005 (212) 620 7970

MEP ENGINEER:

## OLA CONSULTING ENGINEERS

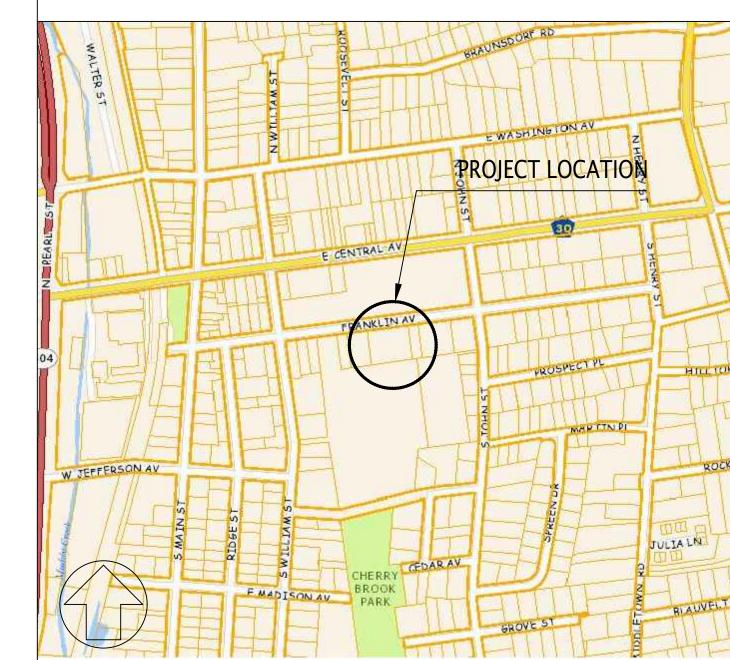
50 Broadway Ste 2, Hawthorne, NY 10532 (914) 747 2800

ACOUSTICAL CONSULTANTS:

## RAH ASSOCIATES

124 East 40th Street, New York, NY 10016 (212) 687 2672

## VICINITY MAP



**Lothrop Associates LLP Architects** 333 Westchester Avenue White Plains, New York 10604 914-741-1115

White Plains Rochester Red Bank Hartford





OLA Consulting Engineers 50 Broadway, Hawthorne, NY 10532 914.747.2800

New York, NY 10018

ROBERT A. HANSEN ASSOCIATES, INC

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COVER PAGE

2494-00 SCALE: PROJECT NO.:

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EXISTING GROUND FLOOR PLAN (FOR REFERENCE) EXISTING GROUND FLOOR REFLECTED CEILING PLAN (FOR REFERENCE)

MECHANICAL PENTHOUSE FLOOR PLAN ENLARGED CHILLER PIT PLANS (MIDDLE ROOF SELECTIVE DEMOLITION, DRAINAGE, AND CONSTRUCTION PLANS) (UPPER ROOF SELECTIVE DEMOLITION, AND CONSTRUCTION PLANS)

A300 PARTIAL BUILDING SECTIONS

ENLARGED CHILLER PLANS AT MID ROOF, UPPER ROOF, AND PART PLAN AT LOUVER

ENLARGED CHILLER PIT SECTIONS

ARCHITECTURAL SITE PLAN

CHILLER PIT INTERIOR ELEVATIONS CHILLER PIT EXTERIOR ELEVATIONS

MISCELLANEOUS ENCLOSURE MODIFICATION DETAILS MISCELLANEOUS DETAILS AND METAL PANEL SIDING

MISCELLANEOUS LOUVER DETAILS AND ENLARGED LOUVER PLAN

CHILLER PIT FRAMING CHILLER FRAMING PLAN AND SECTIONS

STRUCTURAL DRAWINGS GENERAL NOTES

#### BASIC BUILDING CODE / DATA

APPLICABLE BUILDING CODES:

2020 BUILDING CODE OF NEW YORK STATE (2020 BC OF NYS)

2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE (2020 ECCC OF NYS)

#### **BUILDING SQUARE FOOTAGE**

EXISTING BUILDING SQUARE FOOTAGE: 23,892 S.F. PROPOSED CHANGE IN BUILDING SQ. FOOTAGE: 0 S.F.

#### EXISTING BUILDING CODE INFORMATION

ALTERATION LEVEL:

LVL 2 - "EQUIPMENT REPLACEMENT" (2020 BC OF NYS - CHAPTER 6)

#### **ENERGY CONSERVATION BUILDING CODE**

BASIC BUILDING DATA: - CLIMATE ZONE: 5A (TABLE C301.1)

### THERMAL INSULATION REQUIREMENTS

COMPLIANCE METHOD: PRESCRIPTIVE

REQUIRED R-VALUE FOR ROOFING: R-30ci (PRESCRIPTIVE CODE REQUIREMENT - SECTION C402.1.3, 2020 ECCC OF NYS)

REQUIRED R-VALUE FOR WALLS: R-13 + R-7.5ci (PRESCRIPTIVE CODE REQUIREMENT - SECTION C402.1.3, 2020 ECCC OF NYS)

SCHEDULE OF POLYISO INSULATION		
ROOF		
	POLYISO CI : (2) LAYERS 3" = R 34.8ci	
WALL		
	POLYISO: $1.5" = R 8.6$ (EXTERIOR)	
	MINERAL WOOL BATTS : 6" BATTS = R24*	
	*RASED ON ASTM C518 DATA FOR "COMFORTRATT" BY "ROCKWOOL"	

ROOF SOLAR REFLECTANCE AND EMITTENCE - SECTION C402.3 - NOT APPLICABLE TO CLIMATE 5A

### SECTION 1502 - ROOF DRAINAGE

CHAPTER 15 - ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

WHERE ROOF DRAINS ARE REQUIRED, SECONDARY (EMERGENCY OVERFLOW) ROOF DRAINS OR SCUPPERS SHALL BE PROVIDED WHERE THE ROOF PERIMETER CONSTRUCTION EXTENDS ABOVE THE ROOF IN SUCH A MANNER THAT WATER WILL BE ENTRAPPED IF THE PRIMARY DRAINS ALLOW BUILDUP FOR ANY REASON.

NOTE: OVERFLOW DRAIN IS BEING PROVIDED

#### BUILDING CODE BASIC DATA

CH 3 - USE AND OCCUPANCY CLASSIFICATION

OCCUPANCY CLASSIFICATION - A3 (LIBRARY)

CH 4 - SPECIAL DETAILED REQ. BASED ON OCCUPANCY AND USE

#### CH 6 - TYPES OF CONSTRUCTION

TYPE 2A - "NON COMBUSTIBLE CONSTRUCTION" REQUIRED FIRE-RATING FOR BUILDING ELEMENTS: 1 HR (TABLE 606, PAGE 142, NYS 2020 BUILDING CODE), EXCEPT FOR INTERIOR NON-LOAD BEARING

MINIMUM ROOF COVERING CLASSIFICATION FOR TYPE 2A: CLASS B OR CLASS A ROOF ASSEMBLY

CLASS C OR UNCLASSIFIED IS NOT ALLOWED

#### CH 5 - GENERAL BUILDING HEIGHTS AND AREAS

ALLOWABLE BUILDING HEIGHT (TABLE 504.3) WITHOUT SPRINKLER SYSTEM - 65 FT.

ALLOWABLE STORIES ABOVE GRADE (TABLE 504.4.) WITHOUT SPRINKLER SYSTEM - 3 STORIES

BUILDING AREA  $Aa = At + (NS \times If)$ (Equation 5-1)

NO CHANGE IN BUILDING AREA OR HEIGHT

## **ABBREVIATIONS**

APPROX.	APPROXIMATE
CI.	CONTINUOUS
COORD.	COORDINATE
DIA	DIAMETER
DR.	DOOR
DWG.	DRAWING
DWGS.	DRAWINGS
ELEC.	ELECTRICAL
EXIST.	EXISTING
EXT'G.	EXISTING
GWB.	GYPSUM WALL BOARD
INSUL	INSULATION
MANUF.	MANUFACTURER
MEP	MECHANICAL ELEC PLUMBING
MID	MIDDLE
MTL	METAL
MNT	MOUNT
MTD	MOUNTED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
0.F.	OVERFLOW
PART	PARTIAL
RD.	ROOF DRAIN
R-INSUL	RIGID INSULATION
REQ	REQUIRED
SFRP	SHORT FIBRE-REINFORCED POLYMER
UON	UNLESS OTHERWISE NOTED

### **BUILDING CODE DEFINITION**

#### STORY DEFINITION (PAGE 38)

STORY: THAT PORTION OF A BUILDING INCLUDED BETWEEN THE UPPER SURFACE OF A FLOOR AND THE UPPER SURFACE OF THE FLOOR OR ROOF NEXT ABOVE.

A STORY IS MEASURED AS THE VERTICAL DISTANCE FROM TOP TO TOP OF TWO SUCCESSIVE TIERS OF BEAMS OR FINISHED FLOOR SURFACES AND FOR THE TOPMOST STORY, FROM THE TOP OF THE FLOOR FINISH TO THE TOP OF THE CEILING JOISTS OR, WHERE THERE IS NOT A CEILING, TO THE TOP OF THE ROOF RAFTERS.

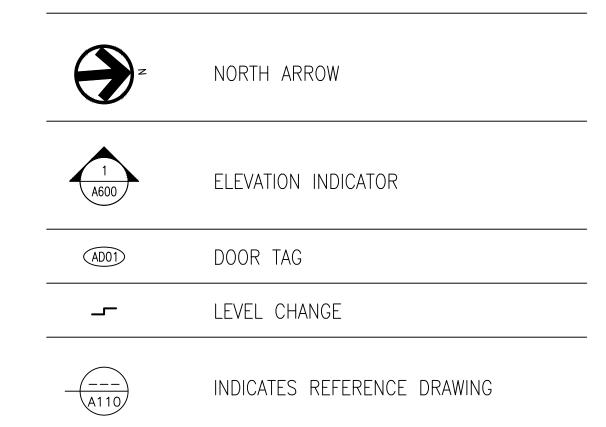
#### PENTHOUSE DEFINITION (PAGE 33)

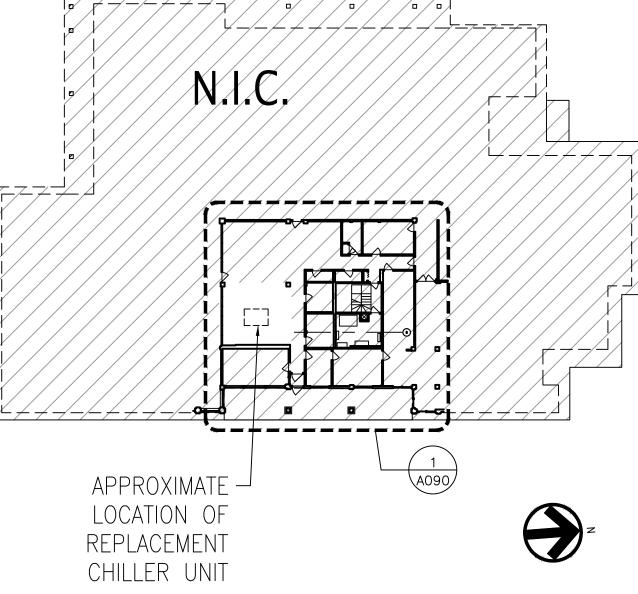
AN ENCLOSED, UNOCCUPIED ROOFTOP STRUCTURE USED FOR SHELTERING MECHANICAL AND ELECTRICAL EQUIPMENT TANKS, ELEVATORS, AND RELATED MACHINERY, AND VERTICAL SHAFT OPENINGS.

#### SECTION 1510 - ROOFTOP STRUCTURES

SECTION 1510.1.1 AREA LIMITATION: - AGGREGATE AREA OF PENTHOUSES AND OTHER ENCLOSED ROOFTOP STRUCTURES SHALL NOT EXCEED ONE-THIRD THE AREA OF THE SUPPORTING ROOF DECK

#### SYMBOL LEGEND







#### GENERAL NOTES TO GENERAL CONTRACTOR

GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS.

THE INTENT OF THE DESIGN DOCUMENTS IS ONLY TO REPRESENT THE DESIGN INTENT FOR THE PROJECT.

ALL WORK SHALL COMPLY WITH STATE BUILDING CODE. LOCAL BUILDING, AND ENERGY REQUIREMENTS. IN THE CASE OF CONFLICT BETWEEN STATE AND LOCAL CODES. THE MORE STRINGENT STANDARD SHALL APPLY. GENERAL CONTRACTOR SHALL NOTIFY IMMEDIATELY ARCHITECT IF HE OR SHE THINKS THAT DESIGN INTENT IS NOT CODE-COMPLIANT

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXECUTION OF THE PROJECT UNDER A SINGLE CONTRACT.

GENERAL CONTRACTOR SHALL CONFIRM THAT ALL COORDINATION, FIELD VERIFICATION, MUTUAL DESIGN INTENT UNDERSTANDING AMONG THE TRADES REQUIRED FOR THE WORK IS EXECUTED IN PROPER ORDER.

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY PERMITS AND FOR PAYING RELATED FEES.

GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO EXECUTE THE WORK WITH ACKNOWLEDGE OF LOCAL NOISE ORDINANCES IN ACCORDANCE WITH LOCAL REQUIREMENTS IN THIS REGARD. ADDITIONALLY, THE GENERAL CONTRACTOR SHALL KEEP THE BUILDING OWNER INFORMED OF ANTICIPATED NOISE RELATED TO THE WORK.

BUILDING OCCUPANCY SHALL REMAIN IN-EFFECT THROUGHOUT THE CONSTRUCTION. THE GENERAL CONTRACTOR SHALL PLAN ON EXECUTING THE WORK WITH MINIMAL DISTURBANCE TO THE INTERIOR. ALL INTERIOR LOGISTICS ANTICIPATED NEED TO BE VERIFIED WITH THE ARCHITECT AND THE OWNER.

USE OF THE LIBRARY'S PARKING SPACES FOR CONSTRUCTION PURPOSES, INCLUDING RELATED DELIVERIES OF EQUIPMENT NEEDS TO BE COORDINATED AND APPROVED BY THE OWNER AND THE ARCHITECT. ALL EXISTING PARKING WILL REMAIN IN USE BY THE LIBRARY STAFF.



333 Westchester Avenue White Plains, New York 10604 914-741-1115

White Plains Rochester Red Bank Hartford

CONSULTANTS:





OLA Consulting Engineers 50 Broadway, Hawthorne, NY 10532 914.747.2800

8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110



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## **NOTES**

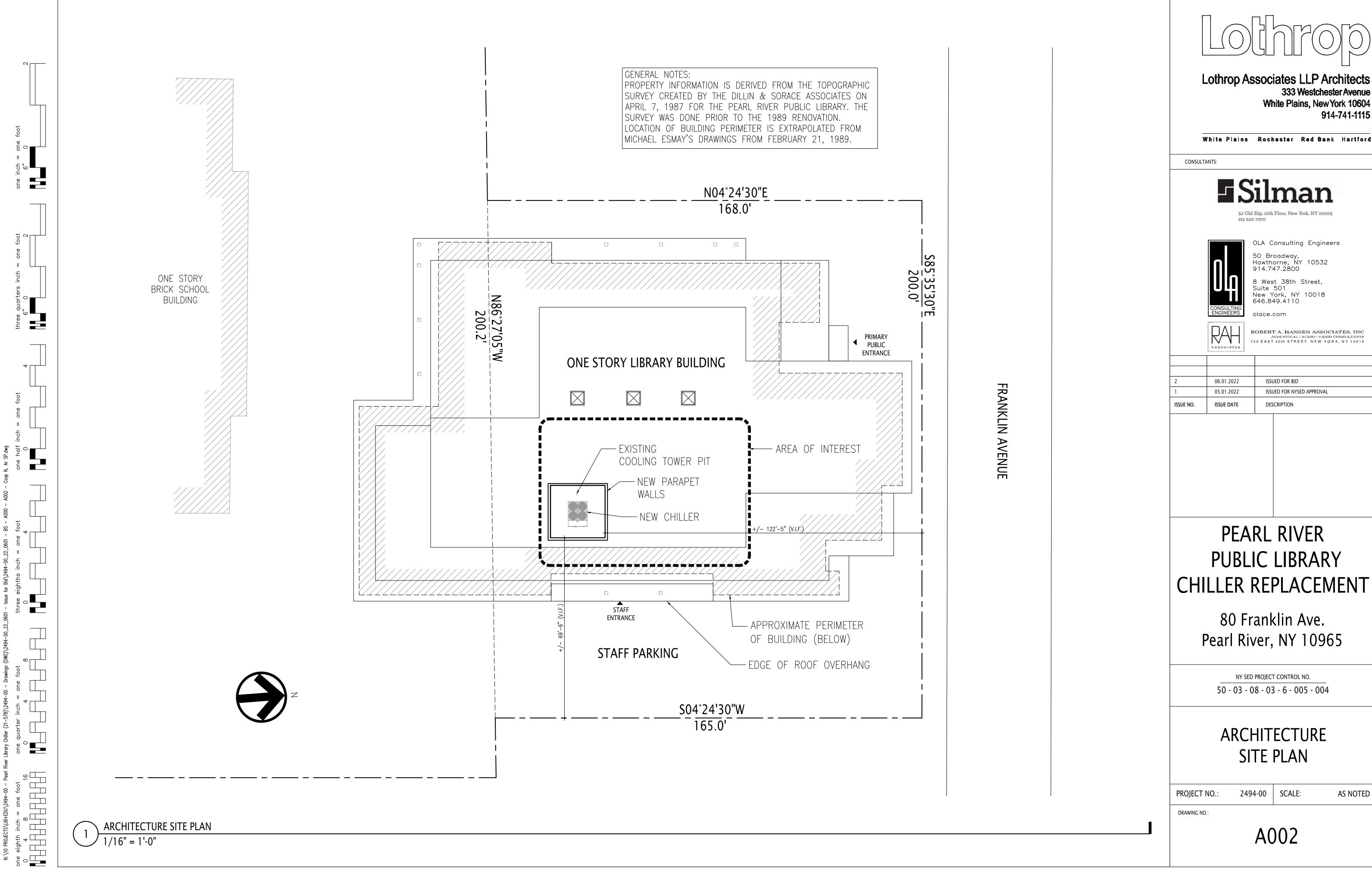
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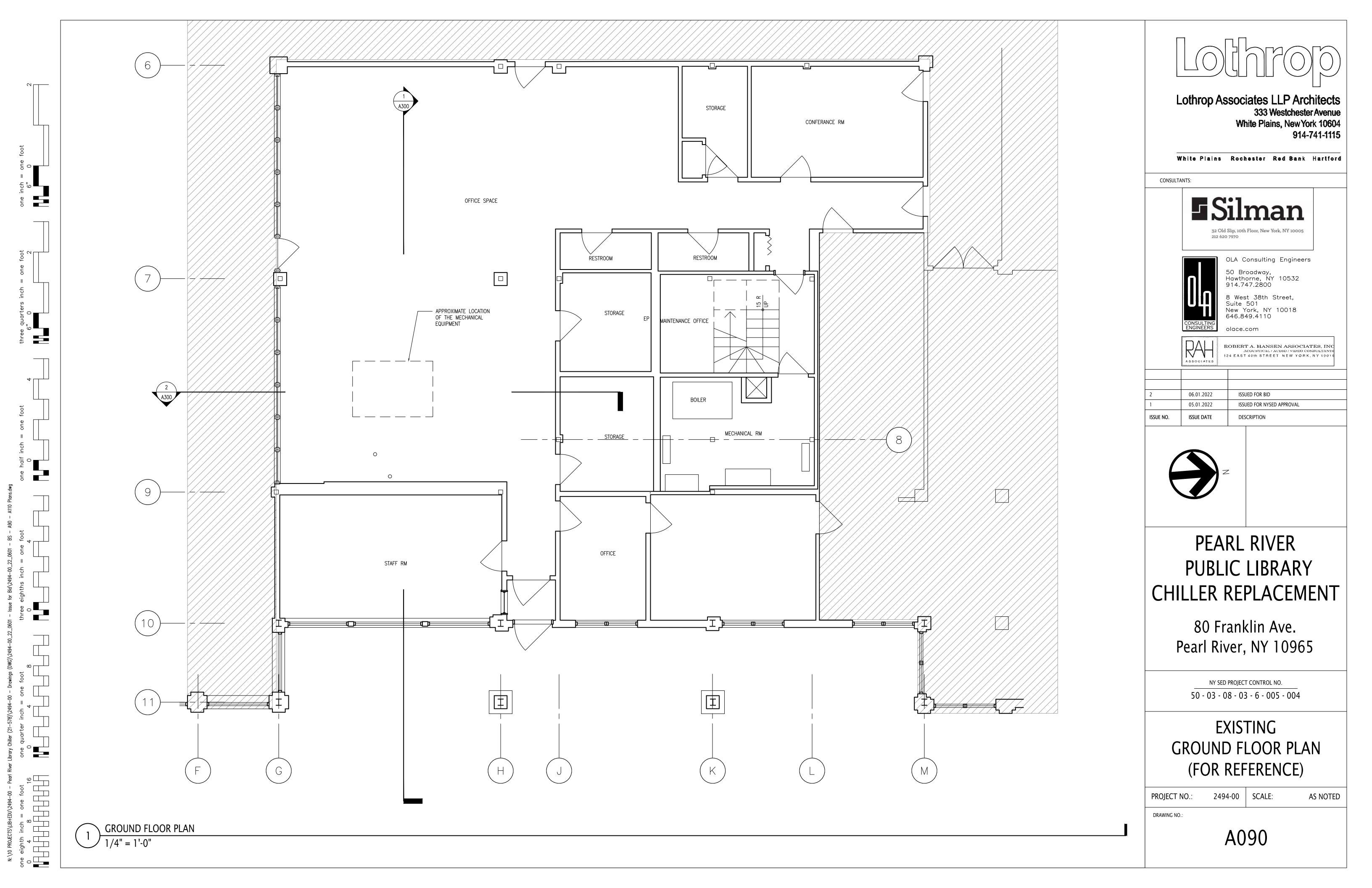
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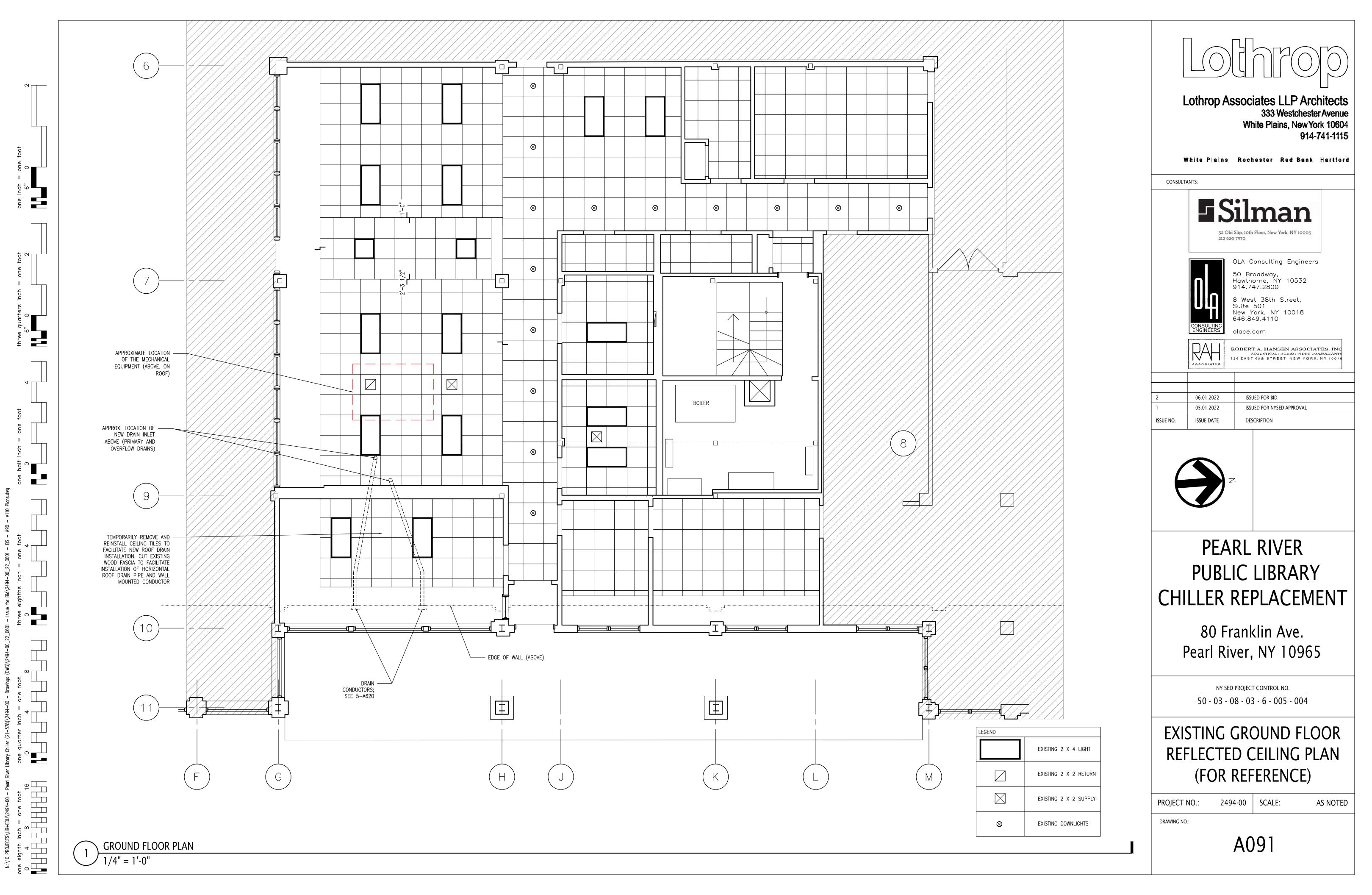
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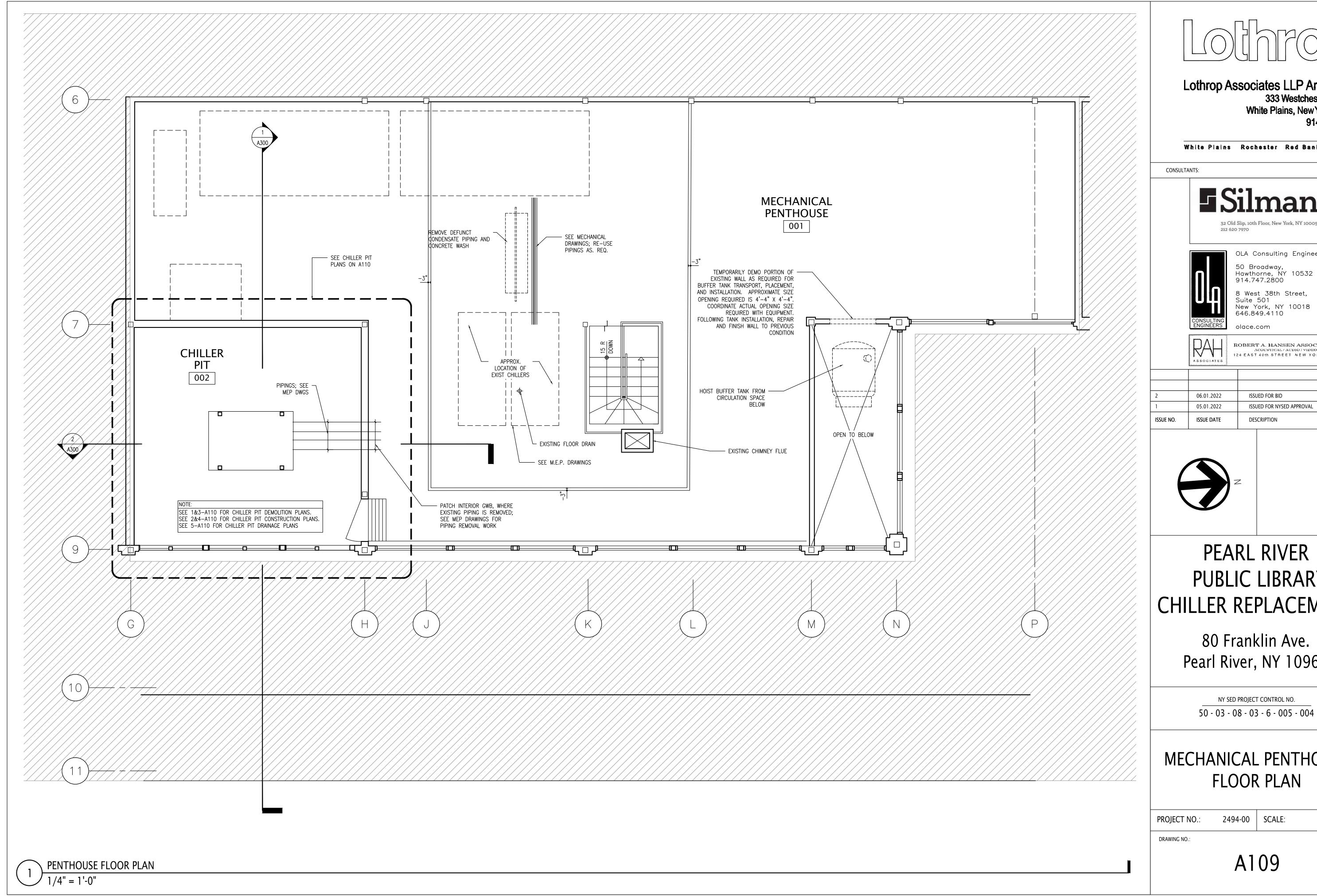
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ARCHITECTURE







Lothrop Associates LLP Architects 333 Westchester Avenue White Plains, New York 10604 914-741-1115

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OLA Consulting Engineers

New York, NY 10018

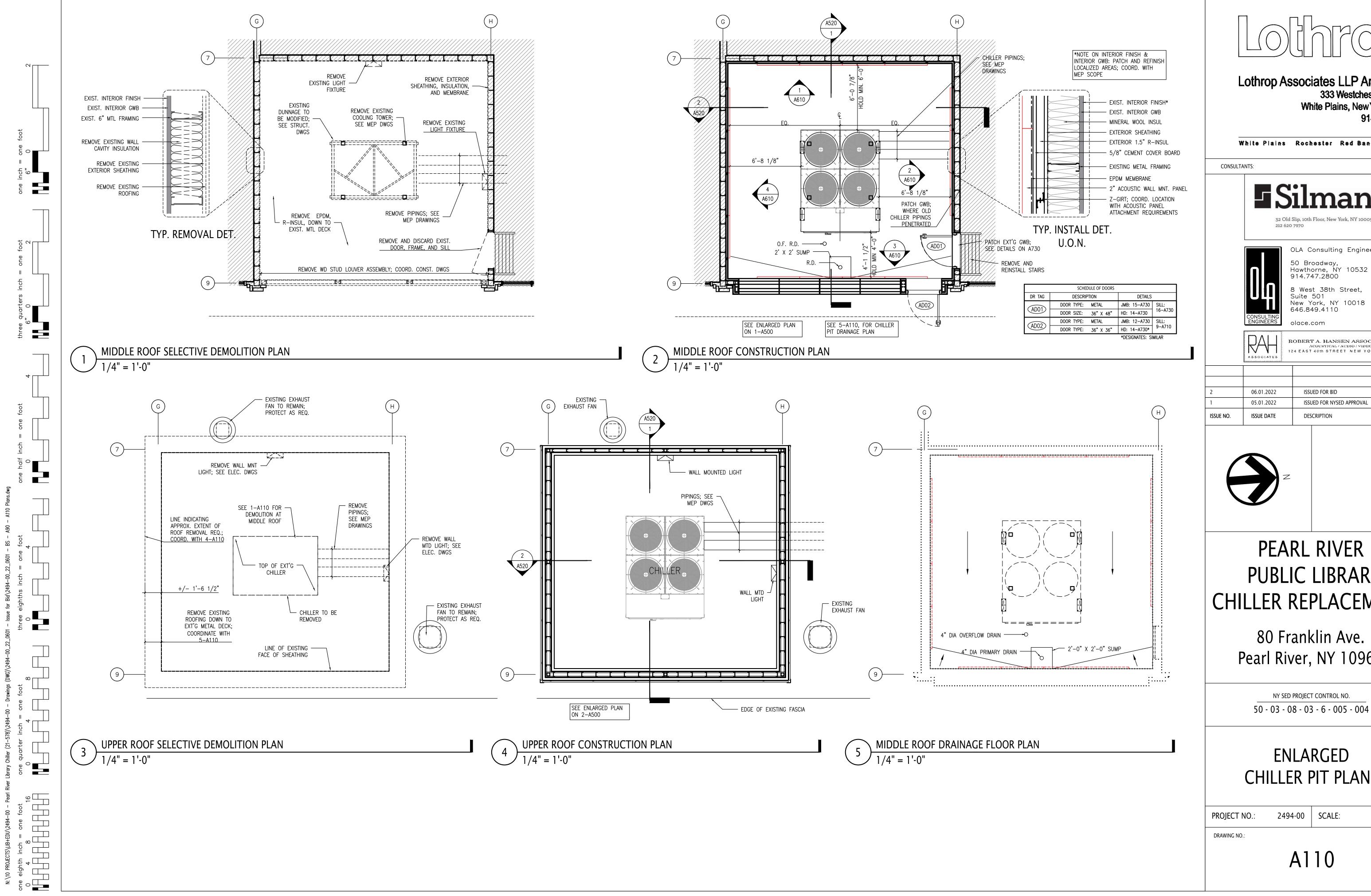
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## MECHANICAL PENTHOUSE



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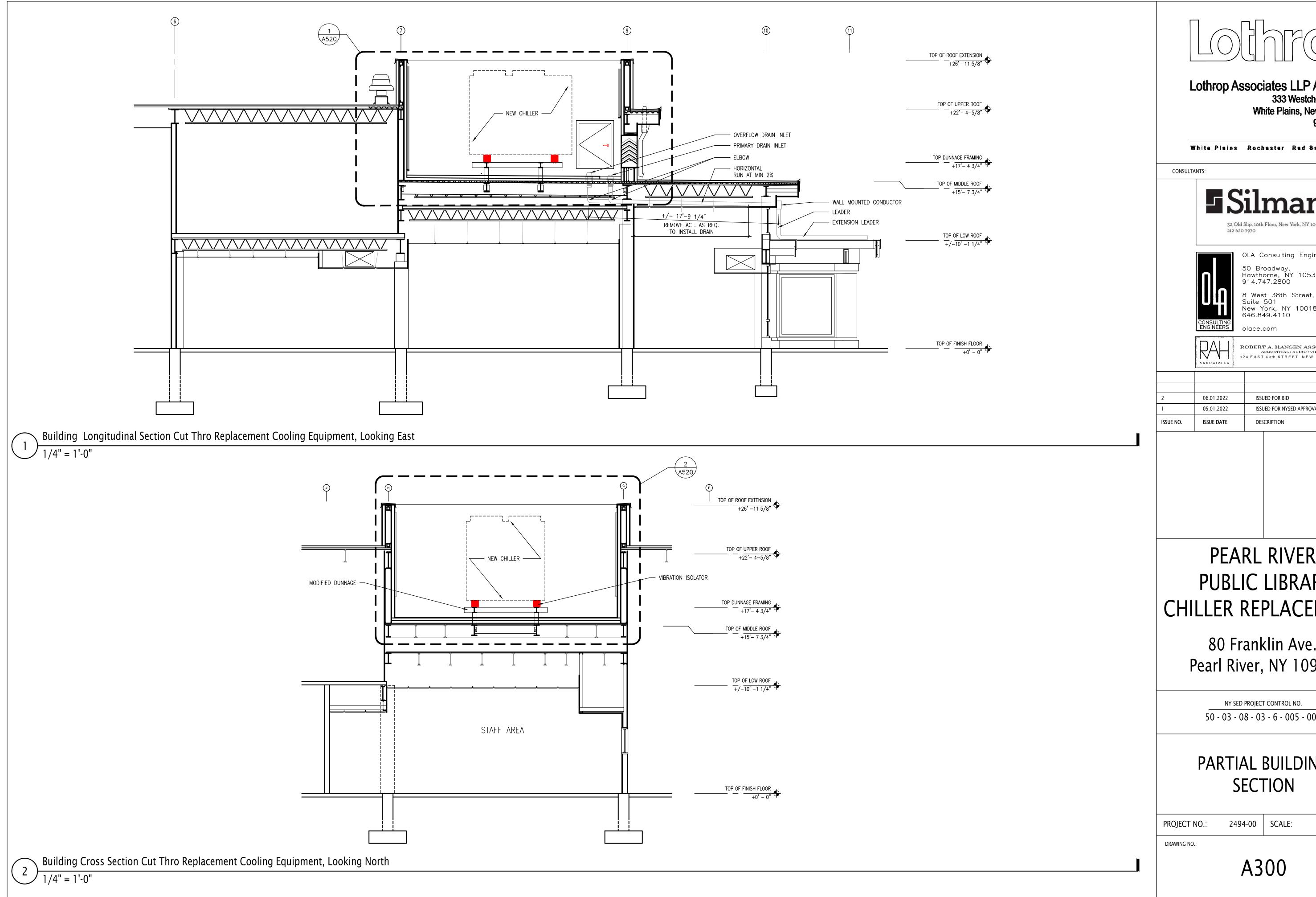
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## CHILLER PIT PLANS



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OLA Consulting Engineers

50 Broadway, Hawthorne, NY 10532 914.747.2800

New York, NY 10018 646.849.4110

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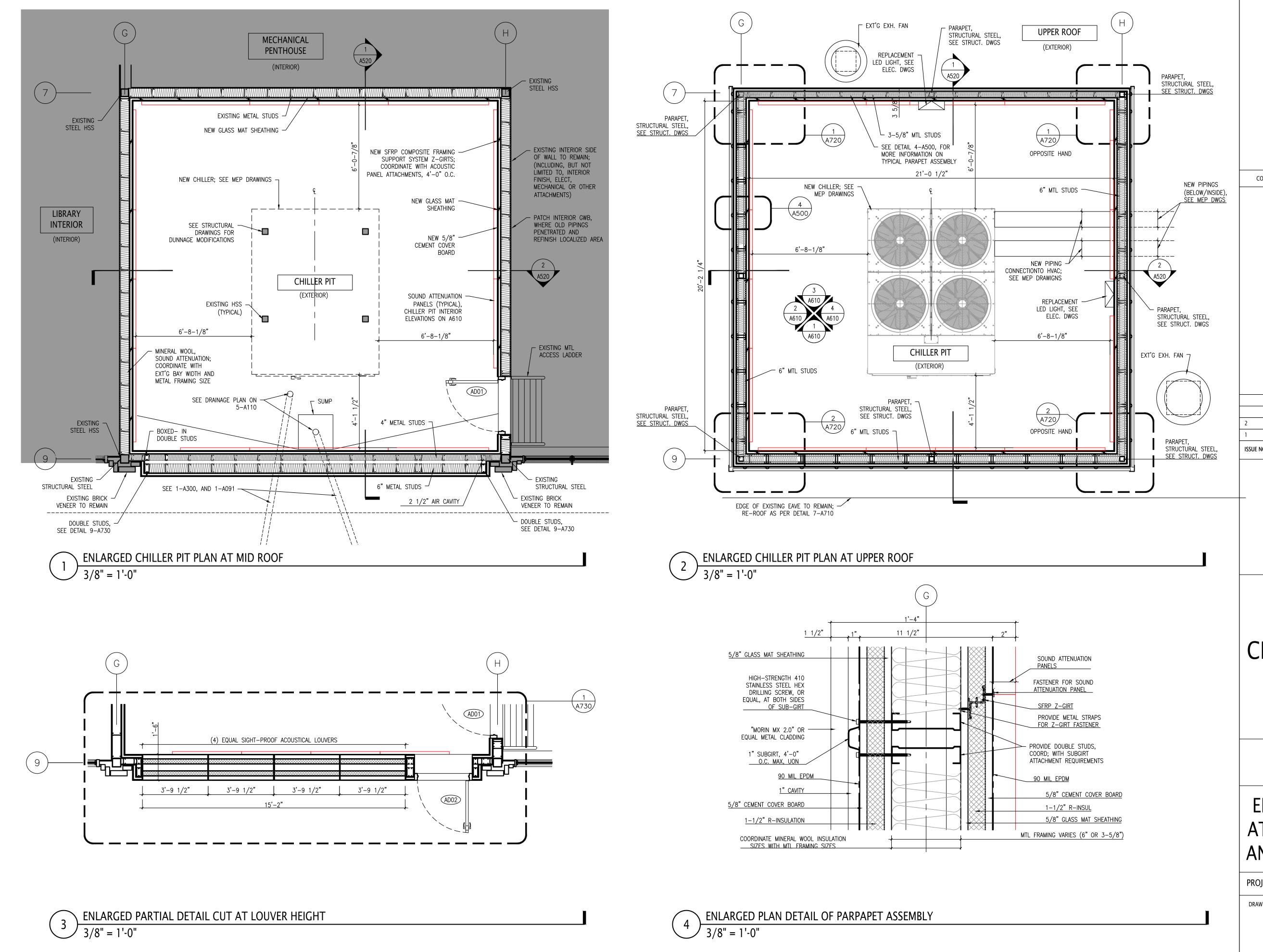
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## PARTIAL BUILDING SECTION



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0 4 8 16

16

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CONSULTANTS:





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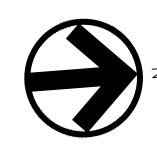
8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110

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ASSOCIATES

ROBERT A. HANSEN ASSOCIATES, INC ACOUSTICAL (AUDIO / VIDEO CONSULTANTS 124 EAST 40th STREET NEW YORK, NY 10016

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## ENLARGED CHILLER PLANS AT MID ROOF, UPPER ROOF, AND PART PLAN AT LOUVER

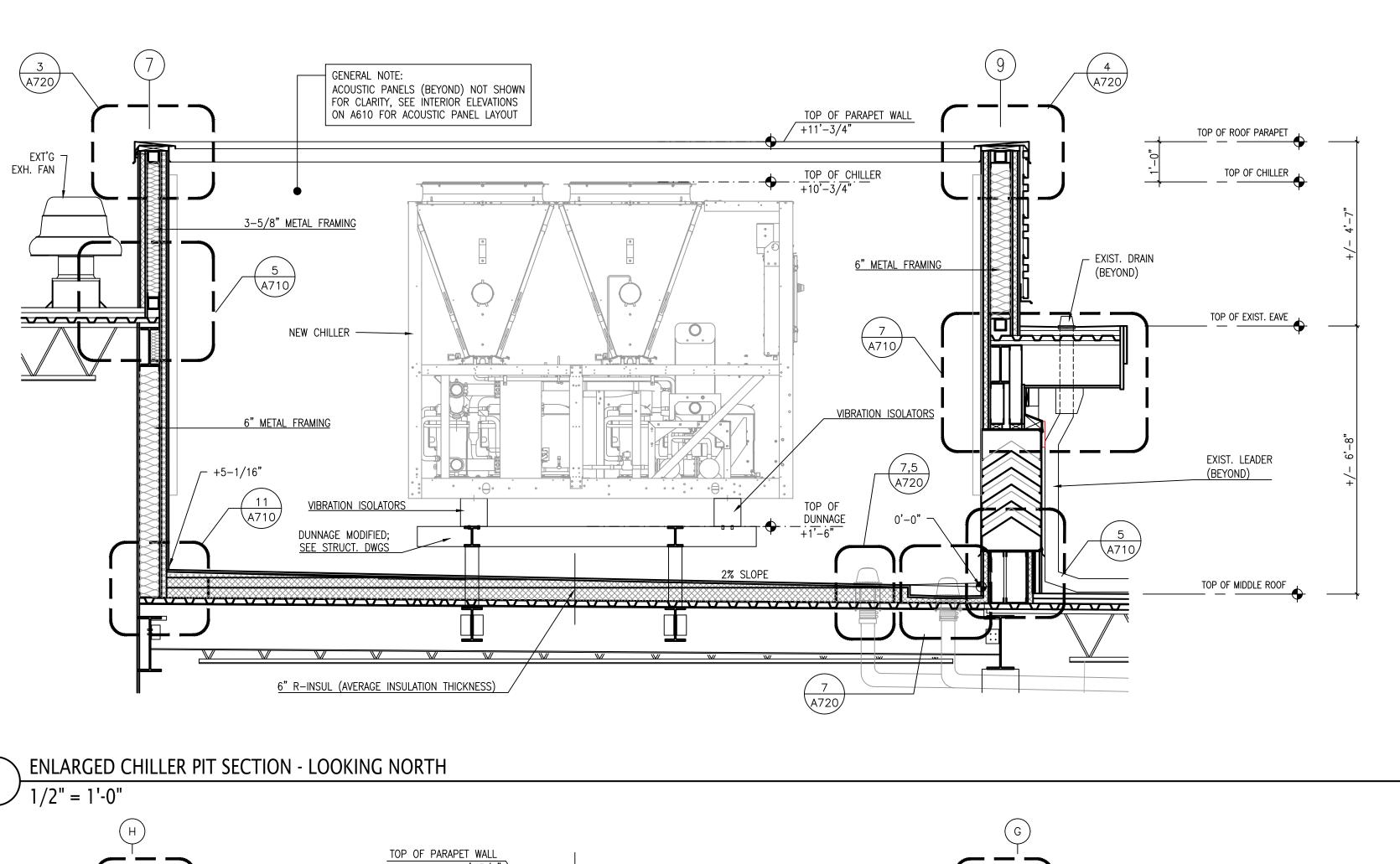
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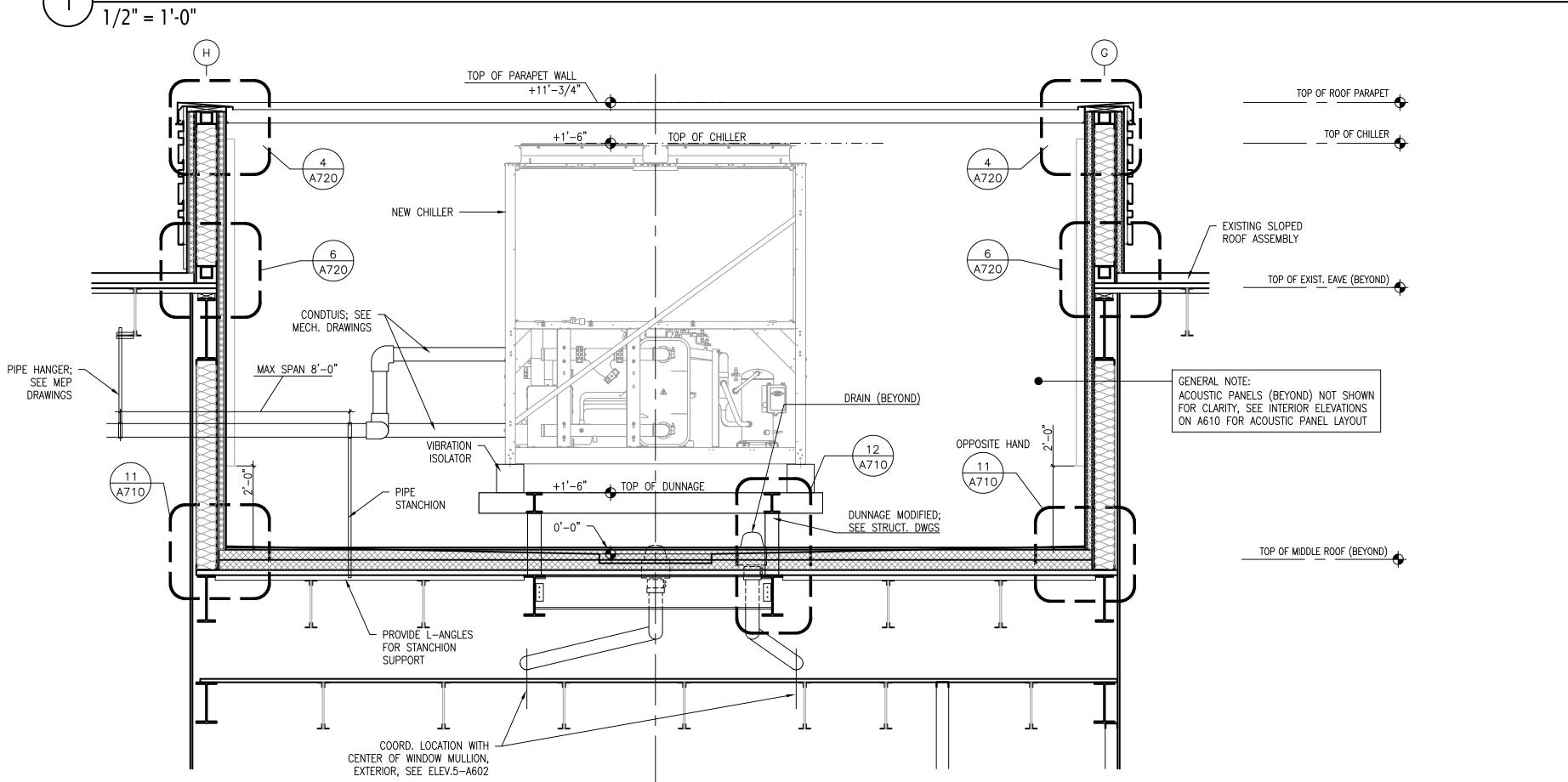
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ENLARGED CHILLER PIT SECTION - LOOKING EAST 1/2" = 1'-0"

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White Plains, New York 10604
914-741-1115

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8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110

olace.com

914.747.2800



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CHILLER PIT SECTIONS

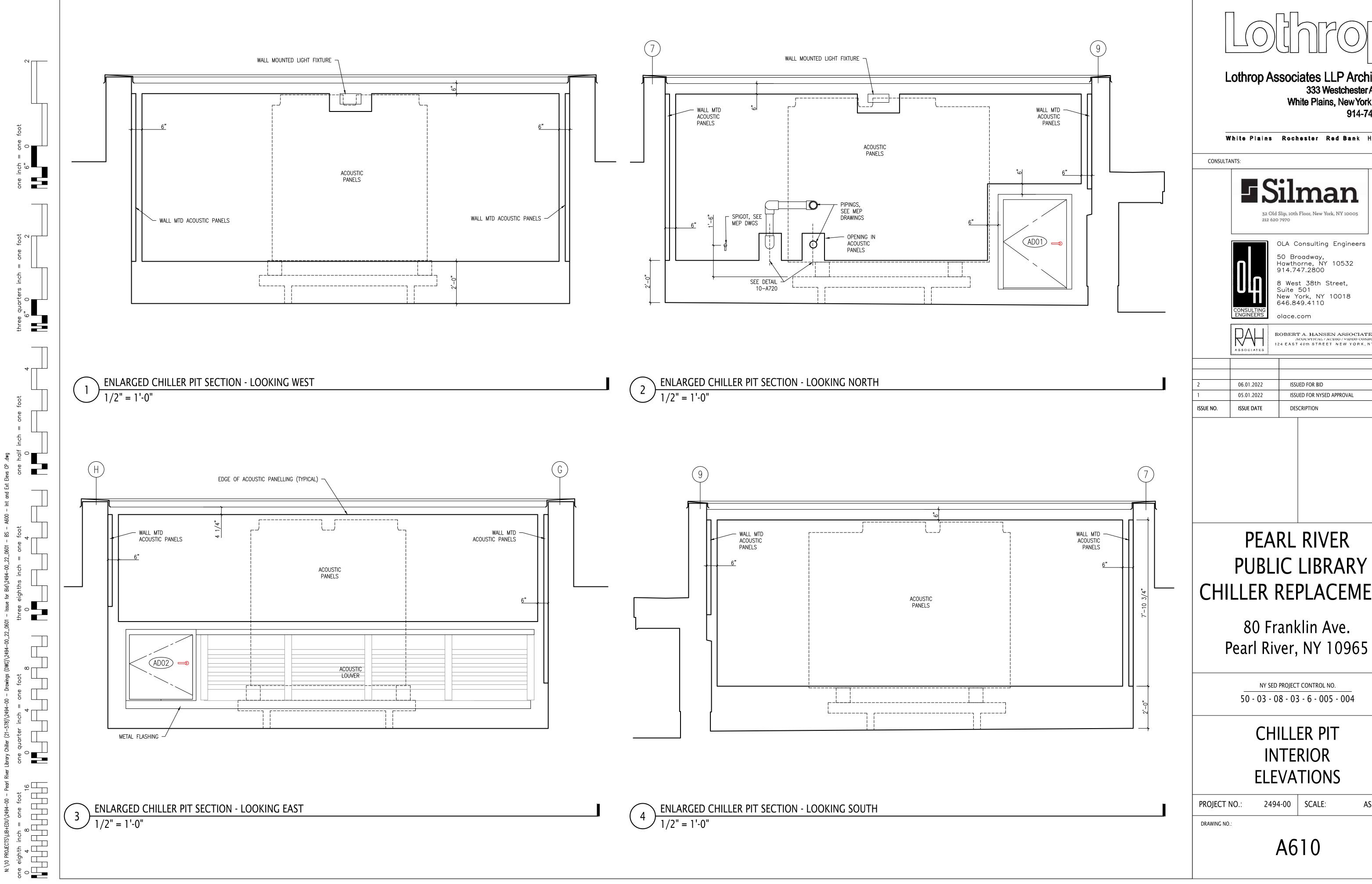
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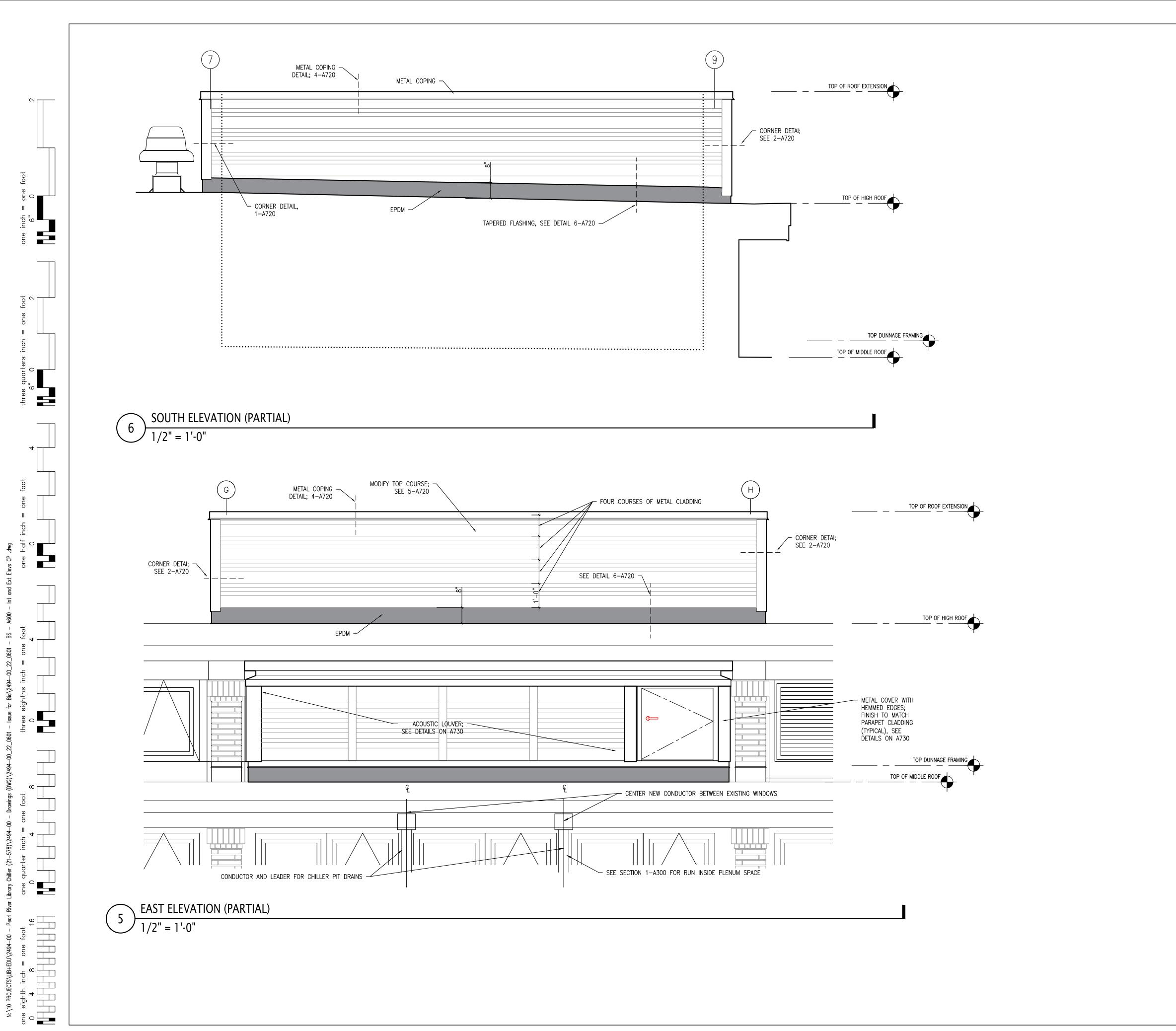
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32 Old Slip, 10th Floor, New York, NY 10005

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> CHILLER PIT **EXTERIOR ELEVATIONS**

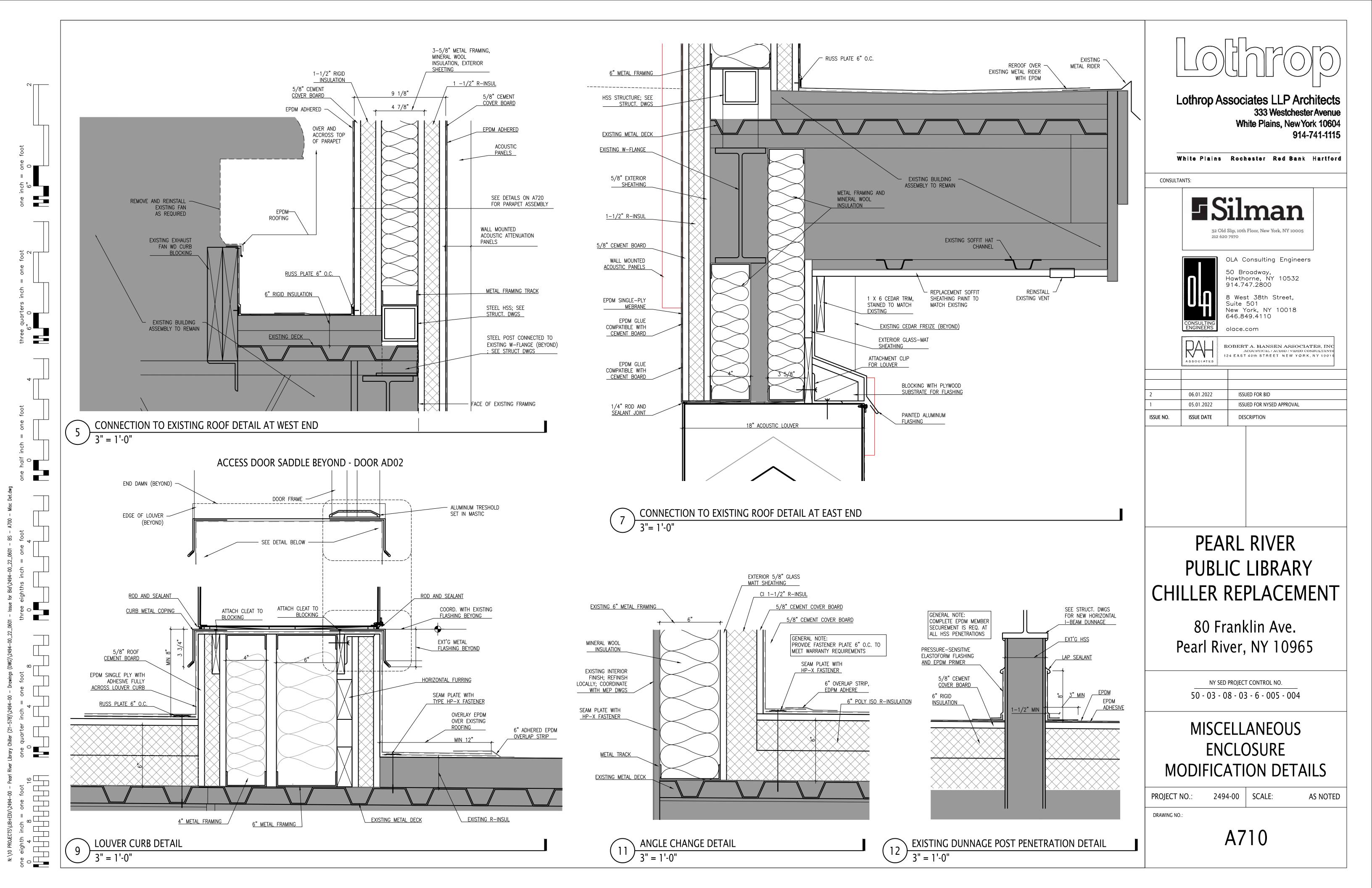
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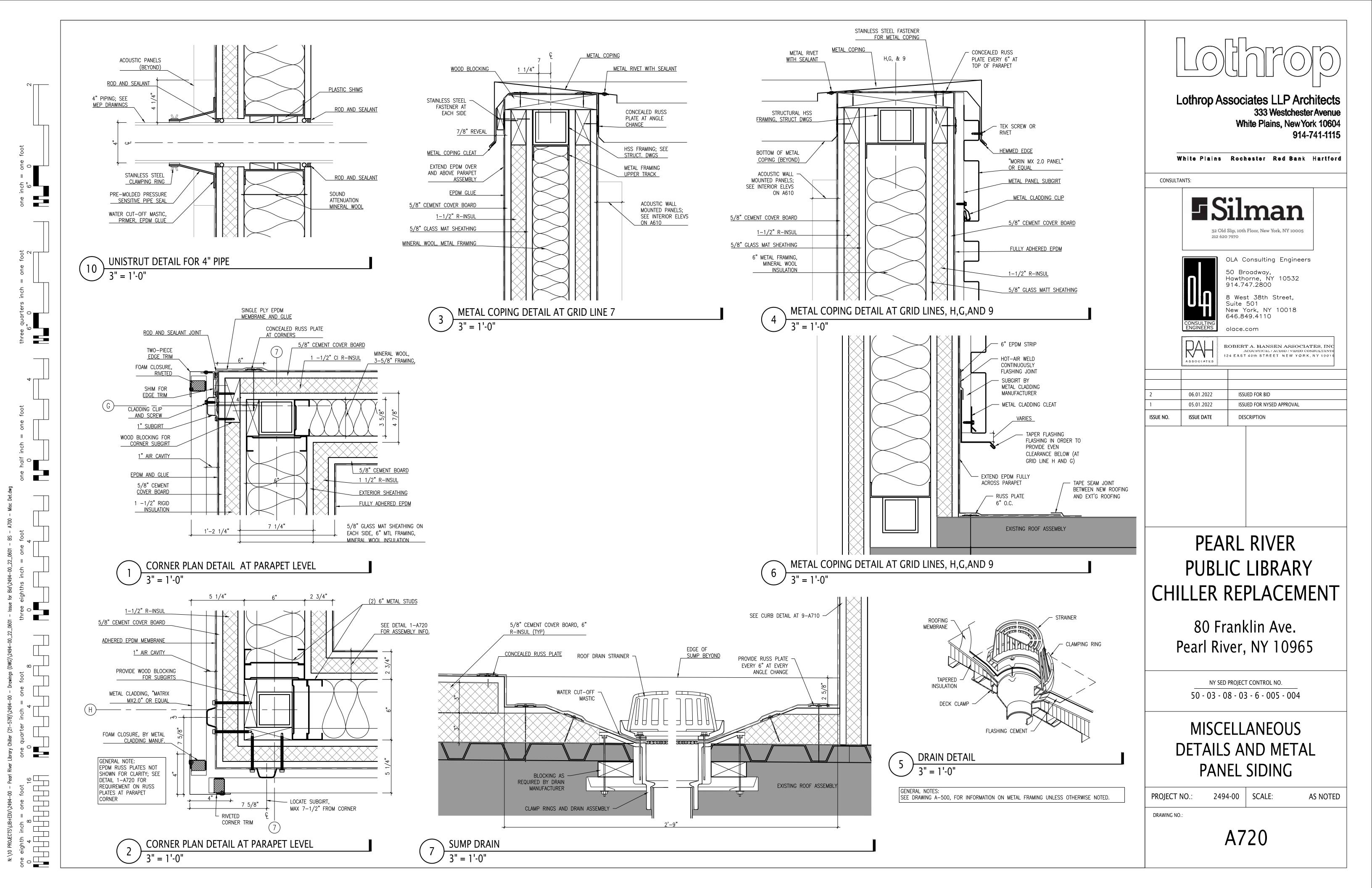
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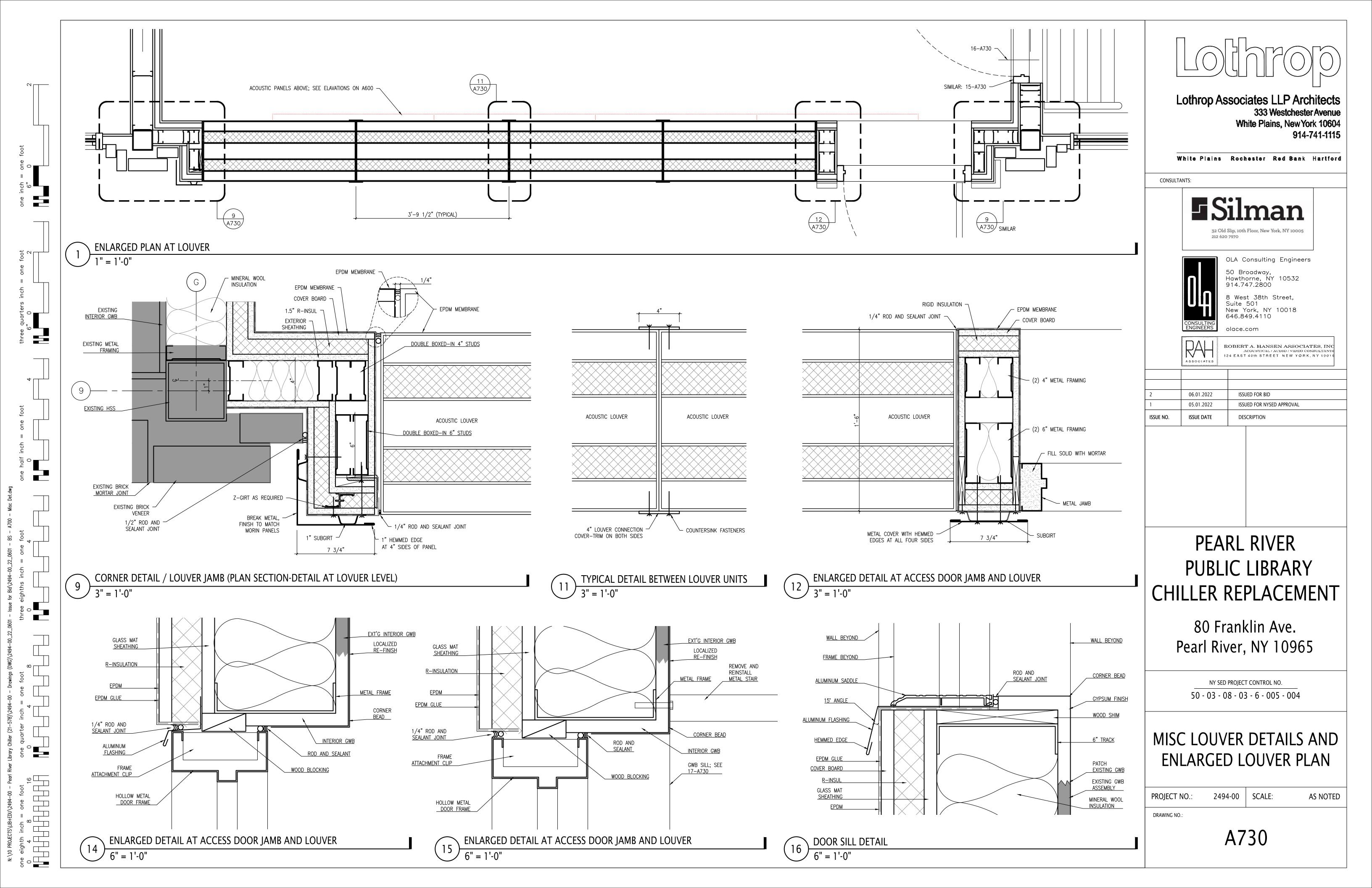
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#### GENERAL NOTES

- 1. ALL STRUCTURAL WORK SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND SHALL CONFORM TO THE PROJECT SPECIFICATIONS, INCLUDING THE NEW YORK STATE BUILDING CODE. ALL GOVERNING STANDARDS LISTED IN THESE NOTES SHALL BE THE EDITION REFERENCED IN THIS GOVERNING CODE.
- 2. CONTRACTOR SHALL PROVIDE TEMPORARY SHORING, BRACING AND SHEETING AND SHALL MAKE SAFE ALL FLOORS, ROOFS, WALLS AND ADJACENT PROPERTY AS PROJECT CONDITIONS REQUIRE. SHORING AND SHEETING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE PROJECT JURISDICTION, HIRED BY THE CONTRACTOR, WHO SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR THE OWNER'S REVIEW.
- 3. DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION GIVEN IN STRUCTURAL DRAWINGS ARE BASED ON INFORMATION CONTAINED IN VARIOUS ORIGINAL DESIGN AND CONSTRUCTION DOCUMENTS PROVIDED BY THE OWNER, AND LIMITED FIELD OBSERVATIONS AND MEASUREMENTS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PERTAINING TO EXISTING CONDITIONS BY ACTUAL MEASUREMENT AND OBSERVATION AT THE SITE. ALL DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE SHOWN IN THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ENGINEER OF RECORD FOR EVALUATION BEFORE THE AFFECTED CONSTRUCTION IS PUT IN
- 4. THE CONTRACT DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. THESE NOTES HIGHLIGHT RATHER THAN REPLACE THE SPECIFICATIONS CONTAINED IN THE PROJECT MANUAL. CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER OF ANY CONFLICTS FOR GUIDANCE.

#### STRUCTURAL STEEL

- 1. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE FOLLOWING GOVERNING STANDARDS:
  - A. AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".
  - B. AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".
  - C. AMERICAN WELDING SOCIETY (AWS D1.1) "STRUCTURAL WELDING CODE STEEL"
  - D. RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) "SPECIFICATION FOR STRUCTURAL JOINTS USING
  - HIGH-STRENGTH BOLTS".
- 2. ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:
  - A. WIDE FLANGE BEAMS, COLUMNS AND STRUCTURAL TEES: ASTM A992. B. HOLLOW STRUCTURAL SECTIONS: ASTM A500, GRADE C.
  - C. STRUCTURAL PIPE SECTIONS: ASTM A53, GRADE B.
  - D. CHANNELS, ANGLES AND PLATES: ASTM A36 UNLESS OTHERWISE NOTED.
  - E. BOLTED CONNECTIONS SHALL BE PER ASTM F3125. GRADES ARE TO BE SELECTED AS FOLLOWS:
    - a. STANDARD BEAM TO BEAM/GIRDER: ASTM F3125, GRADES A325, F1852, A490 OR F2280 BOLTS IN SNUG-TIGHTENED JOINTS (3/4" DIAMETER MINIMUM WITH HARDENED WASHERS).
    - b. BEAM/GIRDER TO COLUMN CONNECTIONS, COLUMN SPLICES AND BOLTS EXPERIENCING TENSION LOADS (UNLESS OVERSIZED OR SLOTTED HOLES ARE USED, IN WHICH CASE SLIP-CRITICAL JOINTS SHALL BE USED): ASTM F3125. GRADES A325, F1852, A490 OR F2280 BOLTS IN PRETENSIONED JOINTS (34" DIAMETER MINIMUM WITH HARDENED WASHERS).
    - c. MOMENT CONNECTIONS AND BRACED FRAME CONNECTIONS: ASTM F3125, GRADES A325, F1852, A490 OR F2280 BOLTS IN SLIP CRITICAL JOINTS (¾" DIAMETER MINIMUM WITH HARDENED WASHERS). FAYING SURFACES SHALL BE CLASS A UNLESS OTHERWISE NOTED.
  - d. PER AISC 341, ALL BOLTS SHALL BE INSTALLED AS PRETENSIONED HIGH STRENGTH BOLTS AND MEET THE REQUIREMENTS FOR SURFACE PREPARATION FOR SLIP CRITICAL CONNECTIONS WITH CLASS A SLIP COEFFICIENT OR HIGHER. THE AVAILABLE SHEAR STRENGTH OF BOLTED JOINTS USING STANDARD HOLES SHALL BE CALCULATED AS THAT FOR BEARING TYPE JOINTS.
- 3. STEEL CONNECTION SHALL BE STANDARD AISC FRAMED BEAM CONNECTIONS, AND SHALL BE SELECTED OR COMPLETED BY AN EXPERIENCED STEEL DETAILER, UTILIZING ASD LOADS AND PROCEDURES.
- 4. MINIMUM WELD SIZE IS  $\frac{1}{4}$ " FILLET UNLESS NOTED OTHERWISE.
- 5. ALL BEAMS EXCEPT CANTILEVER BEAMS SHALL BE FABRICATED AND INSTALLED WITH NATURAL CAMBER UP. CANTILEVER BEAMS SHALL BE FABRICATED AND INSTALLED SO THAT NATURAL CAMBER RAISES CANTILEVER END.
- 6. FIELD CUTTING OR BURNING OF STEEL IS PROHIBITED EXCEPT WITH THE EXPRESSED WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD (IN WHICH CASE ALL BURNING OF STEEL MUST CONFORM TO THE THERMAL CUTTING REQUIREMENTS OF AISC AND AWS).
- 7. WELDING SHALL BE PERFORMED BY CERTIFIED, AWS-QUALIFIED WELDERS. WELDING ELECTRODES FOR CARBON STEEL SHALL BE AWS 5.1, CLASS E70XX. FOR ASTM A572 GRADE 50 KSI PLATE USE ELECTRODE E7018 OR APPROVED EQUAL.
- 8. FIELD PAINT ALL EXTERIOR EXPOSED MEMBERS WITH TNEMEC V530 OMNITHANE OR APPROVED EQUAL.
- 9. SHOP AND ERECTION DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. NO FABRICATION OF STEEL SHALL COMMENCE WITHOUT APPROVED SHOP DRAWINGS.

### POST-INSTALLED ADHESIVE AND MECHANICAL ANCHORS

- 1. POST INSTALLED ANCHORAGE SHALL BE INSTALLED BY QUALIFIED PERSONNEL PER THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII). AS INCLUDED IN THE ANCHOR PACKAGING, TO INTACT BASE MATERIAL, INSTALLATION OF ANCHORS SHALL BE CARRIED OUT BY AN INSTALLER TRAINED TO INSTALL THE SPECIFIED ANCHORS. NOTIFY ENGINEER OF RECORD PRIOR TO INSTALLATION IF BASE MATERIAL CONDITION DEVIATES FROM STRUCTURAL DRAWINGS OR ASSUMPTIONS AND CONDITIONS OF THE MPII. ALL HOLES SHALL BE DRY AND HAMMER DRILLED UNLESS OTHERWISE NOTED, AND ALL CONCRETE BASE MATERIAL TO RECEIVE ADHESIVE ANCHORS SHALL HAVE A MINIMUM AGE OF 21 DAYS.
- 2. INSTALLATION OF ADHESIVE ANCHORS IN A HORIZONTAL OR UPWARDLY INCLINED ORIENTATION AND SUPPORTING A SUSTAINED TENSION LOAD SHALL BE PERFORMED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER. CERTIFICATION SHALL INCLUDE WRITTEN AND PERFORMANCE TESTS IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM OR APPROVED EQUAL. PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS, PROVIDE OWNER AND ENGINEER OF RECORD WITH DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL HORIZONTAL OR UPWARDLY INCLINED ADHESIVE ANCHORS SUPPORTING SUSTAINED TENSION LOADS ARE TRAINED AND CERTIFIED.
  - A. OVERHEAD ADHESIVE ANCHORS MUST BE INSTALLED USING THE PISTON PLUG SYSTEM SPECIFIED BY THE MPII AND PRODUCED BY THE CORRESPONDING MANUFACTURER FOR THE ANCHOR SYSTEM BEING INSTALLED.
- 3. EXISTING REINFORCING BARS IN THE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. REINFORCING BARS SHALL NOT BE CUT WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD. UNLESS NOTED ON THE DRAWINGS THAT THE EXISTING REBARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS BY A MEANS APPROVED BY THE ENGINEER OF RECORD.
- 4. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS, PROXIMITY OF ANCHORS TO EDGE OF CONCRETE, AND EMBEDMENT DEPTH INTO THE SUBSTRATE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING, EDGE CLEARANCES, AND EMBEDMENT DEPTHS INDICATED ON THE DRAWINGS.
- 5. UNLESS OTHERWISE INDICATED, POST INSTALLED ANCHORAGE SHALL BE ADHESIVE TYPE HILTI HIT-HY 200-R INTO CONCRETE OR HILTI HIT-HY 270 INTO BRICK MASONRY, GROUT FILLED CMU OR UNGROUTED CMU BASE MATERIAL. PROVIDE MESH SCREEN IN UNGROUTED CMU, UNREINFORCED MASONRY CONSTRUCTION, AND BRICK MASONRY WITH HOLES OR VOIDS.
- 6. SUBSTITUTION REQUESTS FOR ALTERNATE ANCHORAGE PRODUCTS SHALL BE SUBMITTED TO ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO USE. THIS SHALL INCLUDE MANUFACTURER PRODUCT DATA AND CALCULATIONS DEMONSTRATING THAT THE PROPOSED SUBSTITUTE CAN ACHIEVE THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY THE MANUFACTURER OR SUCH OTHER METHOD AS APPROVED BY THE ENGINEER OF RECORD. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC-ES EVALUATION REPORT SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE, SEISMIC USE, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF MPII. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE AND MUST PROVIDE INFORMATION ON THESE ITEMS. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE ENGINEER OF RECORD PRIOR TO USE.

#### SPECIAL INSPECTIONS

- 1. INSPECTIONS REQUIRED BY THE LOCAL JURISDICTION SHALL BE PERFORMED BY A TESTING AGENCY PROVIDED BY THE OWNER FOR
  - THE FOLLOWING ITEMS: A. INSPECTION OF FABRICATORS (IBC 1704.2.5)
    - B. STEEL CONSTRUCTION (IBC 1705.2)
      - i. STRUCTURAL STEEL (IBC 1705.2.1) 1. STRUCTURAL STEEL WELDING (AISC 360, AWD D1.1)
        - 2. HIGH STRENGTH BOLTS (AISC 360)
- 2. STRUCTURAL OBSERVATIONS REQUIRED BY THE LOCAL JURISDICTION AND IBC 1704.5 SHALL BE PERFORMED BY A REGISTERED DESIGN PROFESSIONAL PROVIDED BY THE OWNER. STRUCTURAL OBSERVATIONS SHALL BE THE VISUAL OBSERVATION OF THE
- STRUCTURAL SYSTEM FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. 3. TESTING AGENCY FOR THE INSPECTIONS SHALL FILE ALL APPROPRIATE FORMS WITH THE BUILDING DEPARTMENT.

WIND LOAD ON CHILLER: 34 PSF

WIND LOAD ON WALL PANELS: 34 PSF

ROOF SNOW LOAD: 30 PSF

ROOF LIVE LOAD: 30 PSF



**Lothrop Associates LLP Architects** 333 Westchester Avenue White Plains, New York 10604

White Plains Rochester Red Bank Hartford

CONSULTANTS:



32 Old Slip, 10th Floor, New York, NY 10005



OLA Consulting Engineers

50 Broadway, Hawthorne, NY 10532 914.747.2800

8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110

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GENERAL NOTES

PROJECT NO.:

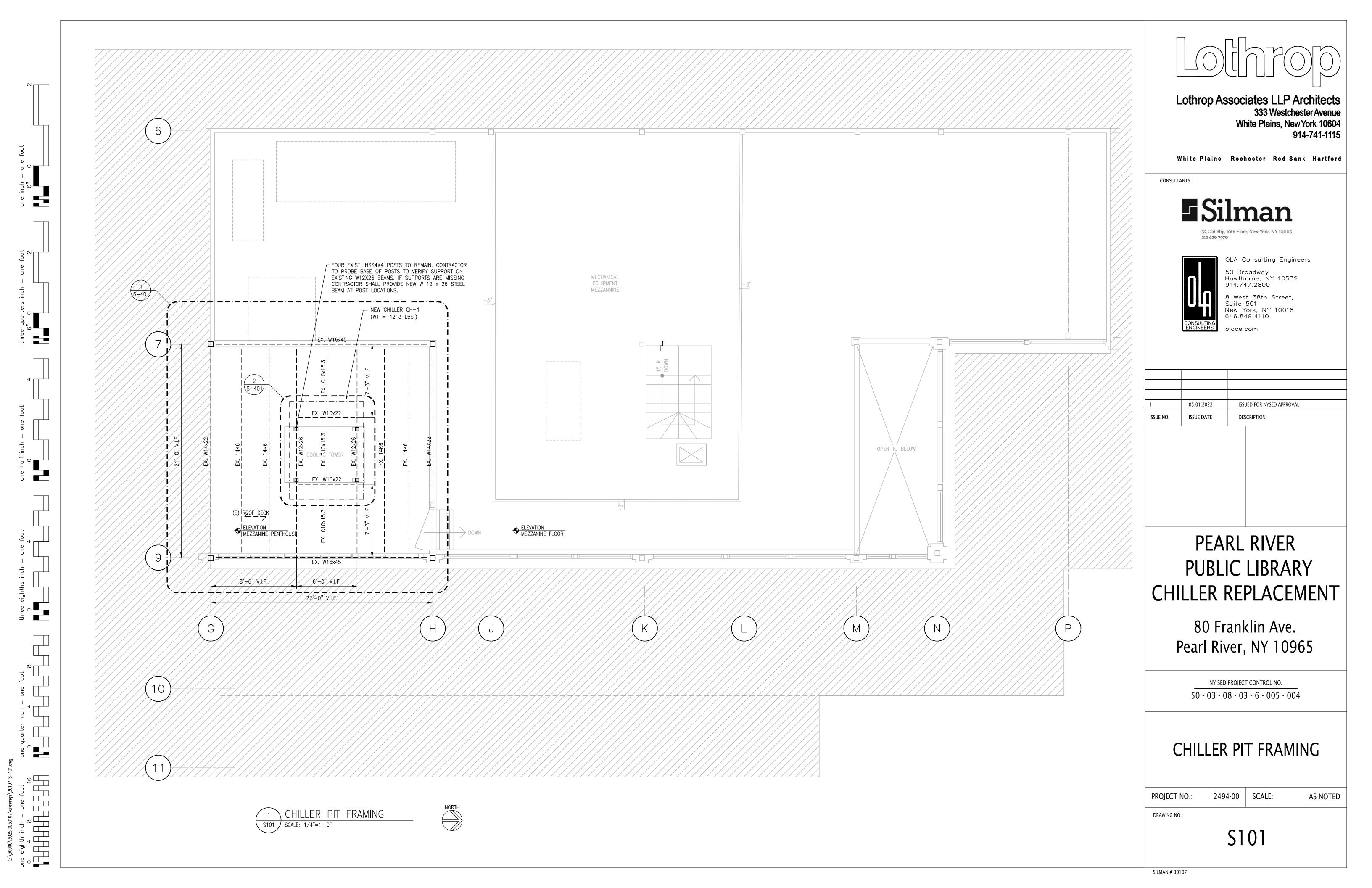
2494-00 SCALE:

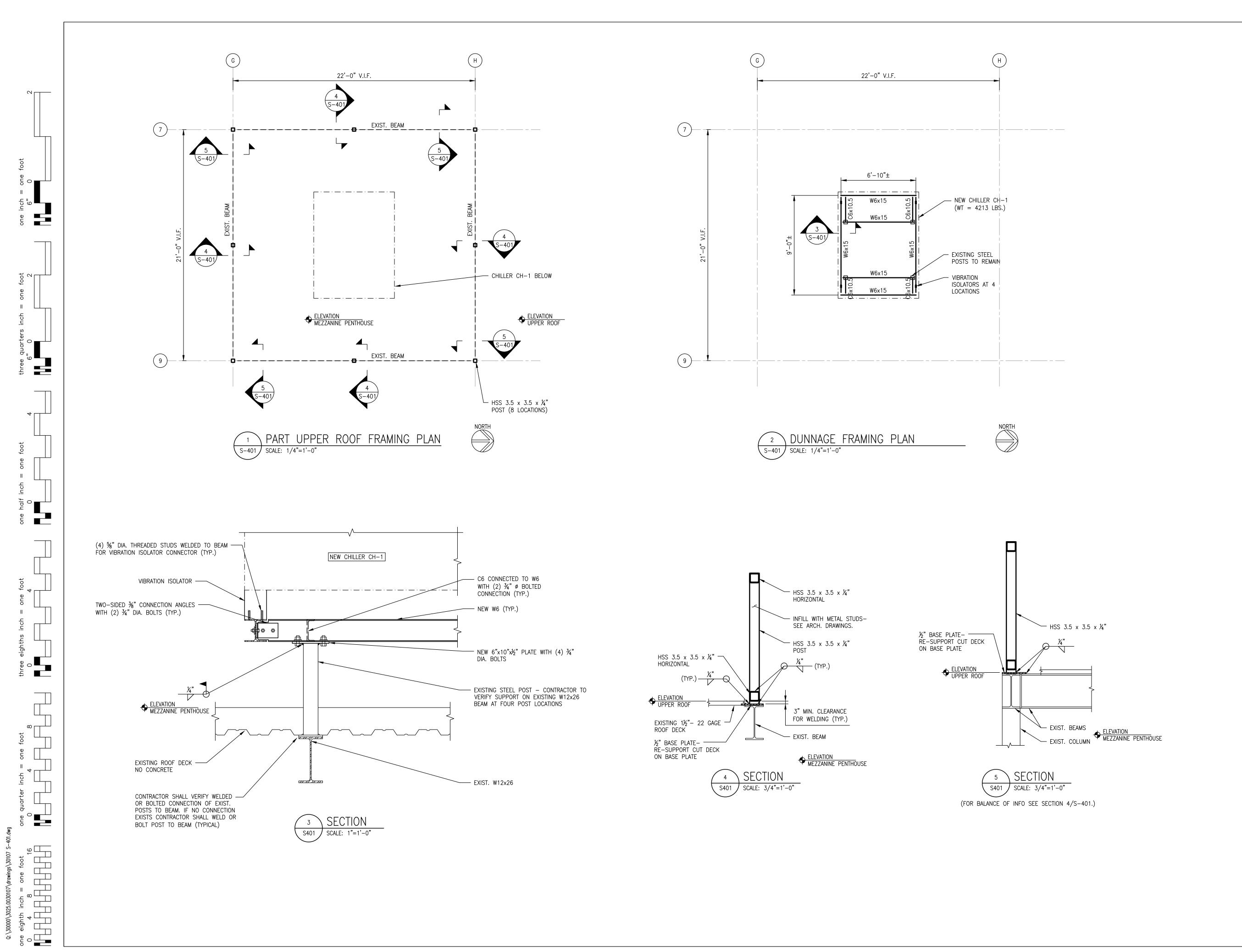
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**S001** 

SILMAN # 30107

DRAWING NO.:







White Plains Rochester Red Bank Hartford



32 Old Slip, 10th Floor, New York, NY 10005



50 Broadway, Hawthorne, NY 10532 914.747.2800

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## CHILLER FRAMING PLAN AND **SECTIONS**

PROJECT NO.:

2494-00 SCALE:

AS NOTED

DRAWING NO.:

\$401

SILMAN # 30107

	BBREVIATIC	110						
SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION
-	AC-	AIR CONDITIONING UNIT		-	FILTER DRYER		SD/AD	SMOKE DAMPER W/ ACCESS DOOR
-	ACC-	AIR COOLED CONDENSING UNIT		-	FILTER		CFSD	COMBINATION FIRE/SMOKE DAMPER W/ ACCESS DOOR
-	AD	ACCESS DOOR	Ĭ.	-	BALL VALVE		VD	VOLUME DAMPER
-	AHU-	AIR HANDLING UNIT	Ø	_	PRESSURE GAGE		AL	ACOUSTIC LINING
	AP	ACCESS PANEL	<u>'</u>		TERMOMETER	6x8 }	_	DUCT SIZE - 1ST FIGURE IS SIDE SHOW
			T T	-	CHECK VALVE		FC	FLEXIBLE CONNECTION
-	BDD	BACKDRAFT DAMPER		-	UNION			
-	CP-	CONDENSATE PUMP	1 1	-		[AUII]	-	ALUMINUM DUCT
-	DIA. OR Ø	DIAMETER		EX.	EXISTING TO REMAIN	AHU X	-	EQUIPMENT TAG
-	DX	DIRECT EXPANSION		REL.	REMOVE AND RELOCATE	AXXX	-	AIR OUTLET CFM TAG
-	EA	EXHAUST AIR		NEW	NEW WORK	AC 1	_	AIR CONDITIONING UNIT
-	EAT	ENTERING AIR TEMPERATURE		DEM.	EXISTING TO BE REMOVED	ACC 1	_	AIR COOLED CONDENER(ING) UNIT
-	EF-	EXHAUST FAN	1/////////	_	PIPE DEMOLITION	(AHU) 1	_	AIR HANDLING UNIT
-	EL	ELEVATION		_	PIPE DEMOLITION	CD-A CFM		CEILING DIFFUSER
-	ER	EXHAUST REGISTER	CHWS	-	CHILLED WATER SUPPLY	(CH 1	_	CHILLER
-	ESP	EXTERNAL STATIC PRESSURE				1 CP	_	CONDENSATE PUMP
			CHWR	-	CHILLED WATER RETURN	EF EF		EXHAUST FAN
-	EWT	ENTERING WATER TEMPERATURE	D	-	DRAIN	1		
-	GPM	GALLONS PER MINUTE	—— DTS ——	-	DUAL TEMPERATURE SUPPLY	(GX 1)		GENERAL EXHAUST FAN
-	HP	HORSE POWER	—— DTR ——	-	DUAL TEMPERATURE RETURN	HX 1	_	HEAT EXCHANGER
_	HV-	HEATING AND VENTILATING UNIT	HWS	-	HOT WATER SUPPLY		_	LOUVER
-	LAT	LEAVING AIR TEMPERATURE	HWR	-	HOT WATER RETURN	P 1	-	PUMP
-	LWT	LEAVING WATER TEMPERATURE	—— PD ——	-	PUMP DISCHARGE, CONDENSATE	(RF)	_	RETURN FAN
<u>-</u>	MER	MECHANICAL EQUIPMENT ROOM	RL	_	REFRIGERANT LIQUID	RH		REHEAT COIL
_	OAI	OUTSIDE AIR INTAKE	RS	_	REFRIGERANT SUCTION	1 (RR-A) CFM	_	RETURN REGISTER
						$\overline{}$		SUPPLY REGISTER
-	RA	RETURN AIR	HG —	-	REFRIGERANT HOT GAS THERMOSTAT	SR-A CFM		
-	RF-	RETURN FAN	T	-		1		TOILET EXHAUST FAN
-	SA	SUPPLY AIR	H	-	HUMIDISTAT	VAV-A CFM	_	VARIABLE AIR VOLUME BOX
-	SP	STATIC PRESSURE	M	-	MOTORIZED DAMPER			
-	TD	TRANSFER DUCT	<b>(S</b> )	-	SMOKE DETECTOR	•		
-	TDH	TOTAL DYNAMIC HEAD	¥	-	DOOR UNDER CUT	A	-	SECTION CALLOUT
-	TF-	TRANSFER FAN	+	-	DOOR LOUVER	×		
_	TSP	TOTAL STATIC PRESSURE	<u> </u>	-	AIR INTO REGISTER	M	_	DETAIL CALLOUT
	TYP.	TYPICAL	(S)	_	SPEED CONTROLLER	X		327/112 6/122001
	U.O.N.	UNLESS OTHERWISE NOTED		+	POINT OF CONNECTION			
<del>-</del> 	0.0.14.	3-WAY VALVE	•	- TD	DISCONNECTION  TOP REGISTER SUPPLY			
<del>-</del>	-			TR				
	-	FLEXIBLE CONNECTION	<b>→</b>	TR	TOP REGISTER RETURN			
K	-	2-WAY VALVE		P-1	PUMP			
₹	-	PLUG VALVE		SR	SUPPLY REGISTER			
M M	-	LOCK SHIELD VALVE		RR/RG	RETURN REGISTER/GRILLE			
$\overline{\mathbb{A}}$	-	GATE VALVE		-	SUPPLY DUCT UP			
<u> </u>	-	GLOBE VALVE		_	SUPPLY DUCT DOWN			
		TEE DOWN		_	RETURN DUCT UP			
		ELBOW DOWN			RETURN DUCT DOWN			
<u> </u>	-	TEE UP		-	TRANSITION FROM SQUARE TO			
<del></del>	-			-	ROUND DUCT			
<u> </u>	-	ELBOW UP		-	TRANSITION			
<u> </u>	-	STRAINER	D	_	DUCT DROP			
U	-	BASKET STRAINER	{ R→	_	DUCT RISE			
×	-	PRESSURE REDUCING VALVE		_	SQUARE VANED ELBOW			
<b>—</b>	-	FLOW ARROW		_	DUCT RISE			
	-	BUTTERFLY VALVE		_	DUCT DROP			
<u>@</u>		BALANCING VALVE			DUCT TRANSITION			
<u></u>	-	MANUAL AIR VENT		-				
	-	SOLENOID VALVE	<del></del>	-	ALUMINUM DUCT			
<u>\$</u>	-			AL	ACOUSTIC LINING			
M	_	MOTORIZED VALVE		FD/AD	FIRE DAMPER W/ ACCESS DOOR			

### **GENERAL NOTES**

- 1. CONTRACT DRAWINGS, AS FAR AS THEY RELATE TO THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT, AND PIPING, SHALL BE UNDERSTOOD AS DIAGRAMMATIC. ANY CHANGES TO EQUIPMENT, AND PIPING LOCATIONS NECESSARY TO AVOID INTERFERENCE WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST, AND MUST BE APPROVED BY THE ENGINEER.
- 2. THE MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO THE BEGINNING OF WORK, AND SHALL COORDINATE ALL WORK WITH OTHER TRADES
- 3. LOCATE THERMOSTATS AND TEMPERATURE SENSORS 5'-6" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. COORDINATE LOCATION WITH FURNITURE, CABINETS, ETC. & WITH ARCHITECTURAL DRAWINGS.
- THE MECHANICAL CONTRACTOR SHALL NOTE THAT, IN ADDITION TO THE SPECIFICATIONS AND DETAILS GIVEN IN THESE PLANS FOR PIPE HANGERS AND SUPPORTS, ALL HANGERS AND SUPPORTS SHALL BE DESIGNED AND INSTALLED IN COMPLIANCE WITH APPLICABLE SEISMIC CODES.
- THE MECHANICAL CONTRACTOR SHALL SUBMIT FOR REVIEW A COMPOSITE SHOP DRAWING, FULLY COORDINATED WITH ALL OTHER TRADES, PLUMBING AND SPRINKLER PIPING, SMOKE DETECTORS, LIGHTS, CONDUITS, SMOKE DETECTORS, ETC.
- ALL WORK SHALL COMPLY WITH STATE BUILDING CODE, LOCAL BUILDING CODE, AND ENERGY CODE REQUIREMENTS. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE, THE MORE STRINGENT STANDARD SHALL APPLY.
- WHEN GENERAL CONSTRUCTION IS COMPLETE, VACUUM CLEAN ALL HVAC EQUIPMENT. REMOVE ANY CONSTRUCTION DEBRIS. REPLACE ALL AIR FILTERS WITH NEW.
- THE OWNER'S PERMANENT HVAC EQUIPMENT (EXISTING / NEW) SHALL NOT BE USED BY ANY CONTRACTOR DURING CONSTRUCTION FOR TEMPORARY HEATING, COOLING, VENTILATION, OR ANY OTHER PURPOSE. IF TEMPORARY HEATING, COOLING, VENTILATION, OR AIRFLOW IS REQUIRED AT ANY POINT DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE TEMPORARY HEATING, COOLING, OR VENTILATION EQUIPMENT, DUCTWORK, CONTROLS, AND POWER AT THEIR OWN EXPENSE.
- 9. WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF MECHANICAL WORK, INCLUDING THE INSTALLATION OF HANGERS FOR PIPING, DUCTWORK, OR EQUIPMENT, SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
- 10. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR PAYING RELATED FEES.
- 11. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL CUTTING, PATCHING, CORE DRILLING, ACCESS PANELS, PAINTING, AND FINAL RESTORATION REQUIRED TO FACILITATE THE INSTALLATION CONTROL CONDUITS, AND PIPING, INCLUDING ABOVE CEILINGS AND IN SHAFTS THAT WILL NOT BE REPLACED OR OPENED UNDER ANY OTHER SCOPE OF WORK RELATED TO THIS PROJECT. CONTRACTOR TO REMOVE AND REPLACE CEILINGS, AND OPEN AND PATCH SHAFTS AND WALLS, AS REQUIRED TO EXECUTE THE MECHANICAL WORK.
- 2. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANING OF ALL EXISTING SUPPLY AIR DUCTWORK ON THE FIRST, SECOND, & THIRD FLOORS WITHIN THE PROJECT AREA.
- 13. THE MECHANICAL CONTRACTOR SHALL OBTAIN PRICING FROM "WESTROCK MECHANICAL CORP." PERFORMING THE AUTOMATIC TEMPERATURE CONTROLS AND BUILDING AUTOMATION SYSTEM INTEGRATION WORK AND INCLUDE THIS COST IN THEIR RID
- 19. ALL EQUIPMENT, MATERIALS, PRODUCTS, ETC., USED/INSTALLED ABOVE THE CEILING SHALL BE PLENUM RATED.

## **DEFINITION OF TERMS**

1.) WHEREVER IN THE CONTRACT DOCUMENTS THE WORD "CLIENT" IS USED, IT MUST BE UNDERSTOOD THAT PEARL RIVER LIBRARY IS INTENDED.

2.) WHEREVER IN THE CONTRACT DOCUMENTS THE WORD "ENGINEER" IS USED, IT MUST BE UNDERSTOOD THAT "OLA CONSULTING ENGINEERS" IS INTENDED.

3.) "WORK" MUST BE DEEMED TO CONSIST OF ALL LABOR AND OPERATIONS, TRANSPORTATION, HOISTING, MATERIALS, TOOLS, EQUIPMENT, SERVICES, INSPECTIONS, INVESTIGATIONS, COORDINATION AND SUPERVISION REQUIRED AND / OR REASONABLY NECESSARY TO PRODUCE THE CONSTRUCTION REQUIRED BY THE CONTRACT DOCUMENTS.

4.) "FURNISH" MEANS THE DESIGN, FABRICATION, PURCHASE AND DELIVERY TO THE JOB

5.) "INSTALL OR INSTALLATION" MEANS THE ACT OF PHYSICALLY PLACING, APPLYING, SETTING, ERECTING, ANCHORING, SECURING, ETC., CONSTRUCTION MATERIALS, EQUIPMENT, FURNISHINGS, APPLIANCES, AND SIMILAR ITEMS SPECIFIED AND FURNISHED AT THE JOB SITE. INSTALLATION OF SPECIFIED ITEMS MUST BE COMPLETE IN ALL RESPECTS.

- 6.) "PROVIDE" MEANS TO FURNISH AND INSTALL CONSTRUCTION MATERIAL, EQUIPMENT, ETC. AS DEFINED ABOVE.
- 7.) THE FOLLOWING ARE DEFINITIONS OF SHOP DRAWING STAMP ACTIONS:
- A.) "NO EXCEPTIONS TAKEN" MEANS THAT THE SHOP DRAWING IS CORRECT AS TO PERFORMANCE, CAPACITY, ETC. AND SUBSTANTIAL CONFORMANCE TO THE CONTRACT DRAWINGS AND SPECIFICATIONS. FABRICATION AND/OR PURCHASE MAY COMMENCE.

B.) "MAKE CORRECTIONS NOTED" MEANS THAT THE SHOP DRAWING IS CORRECT AS TO PERFORMANCE, CAPACITY, ETC. AND SUBSTANTIAL CONFORMANCE TO THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS, SUBJECT TO AND IN COMPLIANCE WITH THE ANNOTATIONS AND/OR CORRECTIONS INDICATED ON THE SHOP DRAWING. FABRICATION AND/OR PURCHASE MAY COMMENCE.

) "AMEND AND RESUBMIT" MEANS THAT THE COMMENTS AND/OR CORRECTION ARE SO (TENSIVE AND IMPORTANT THAT THE REVIEWER WANTS TO SEE HOW THE COMMENTS ND/OR CORRECTIONS ARE RESOLVED PRIOR TO RELEASE FOR FABRICATION AND/OR JRCHASE. FABRICATIONS AND/OR PURCHASE MAY NOT COMMENCE.

D.) "REJECTED" MEANS THAT THE SHOP DRAWING DOES NOT COMPLY OR CONFORM TO THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS. FABRICATION AND/OR PURCHASE MAY NOT COMMENCE.



Lothrop Associates LLP Architects 333 Westchester Avenue White Plains, New York 10604

White Plains Rochester Red Bank Hartford

CONSULTANTS:





OLA Consulting Engineers

50 Broadway, Hawthorne, NY 10532 914.747.2800

8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110

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ROBERT A. HANSEN ASSOCIATES, INC ACOUSTICAL/AUDIO/VIDEO CONSULTANTS 124 EAST 40th STREET NEW YORK, NY 10016

ISSUE NO.	04.22.2022 ISSUE DATE	ISSUED FOR 95% CD  DESCRIPTION
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# MECHANICAL SYMBOLS & ABBREVIATIONS

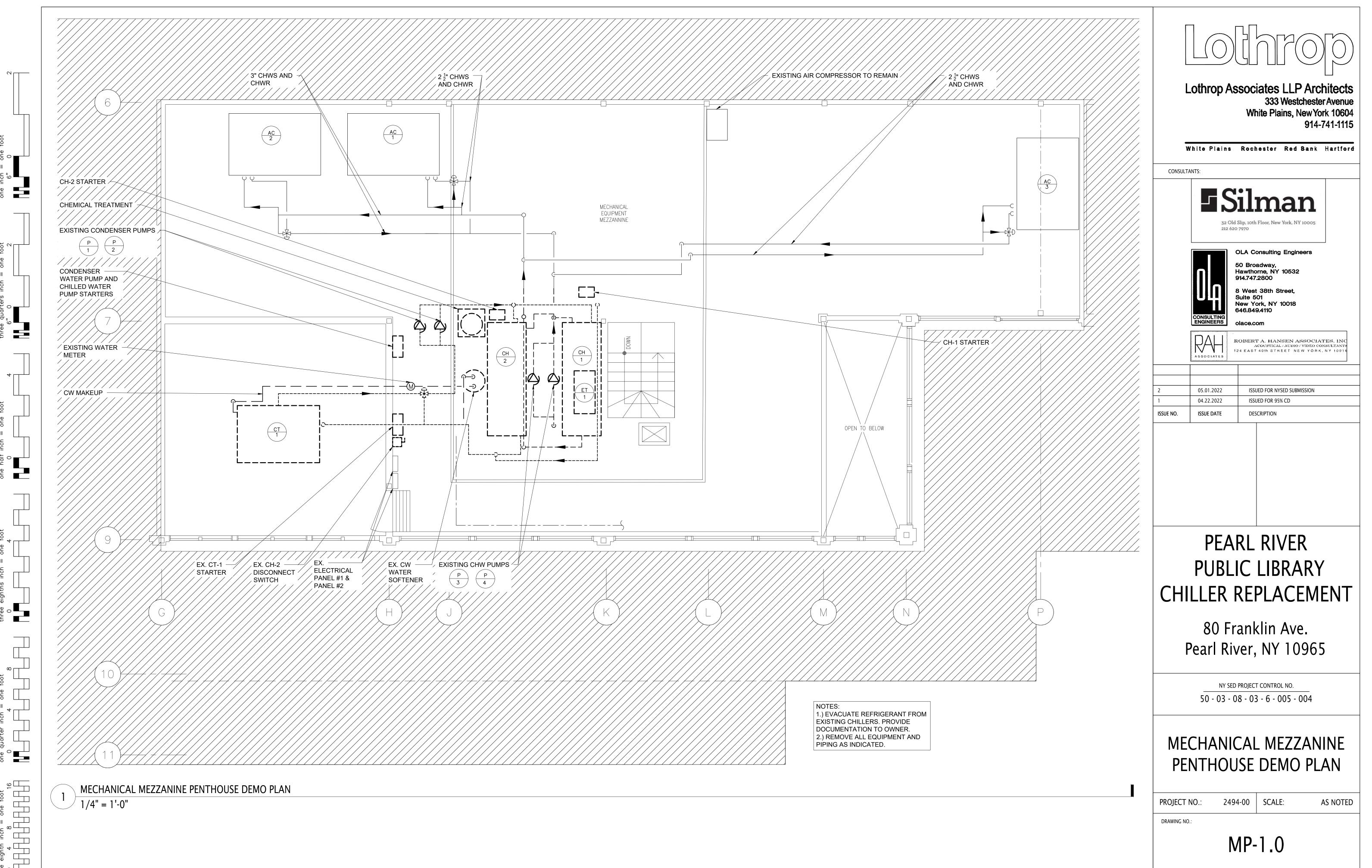
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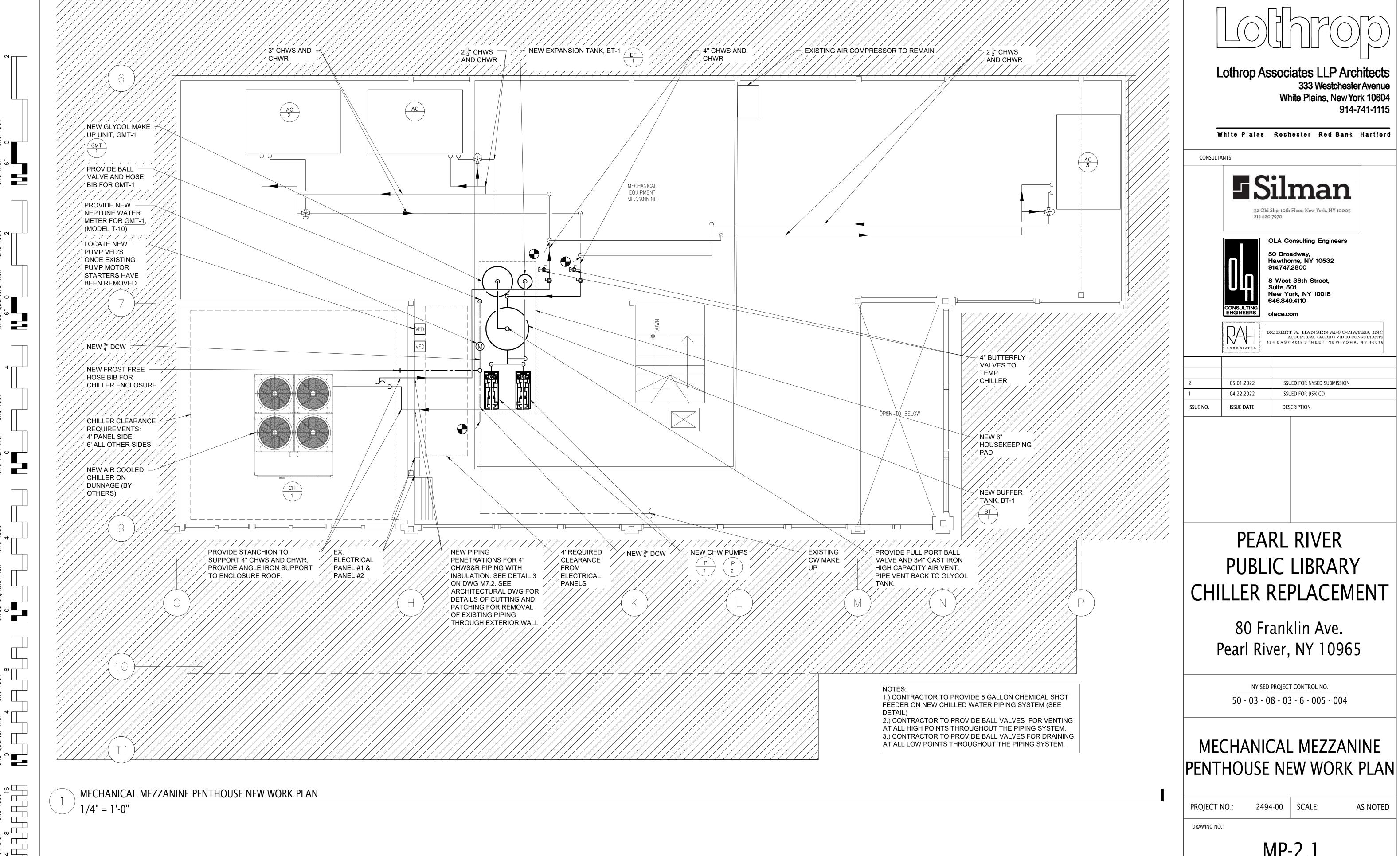
DRAWING NO.:

M-0.1



one eighth inch = one foot

0 4 8 16



one eighth inch = one foot

0 4 8 16

MP-2.1

### **SEQUENCE OF OPERATIONS:**

## **CHILLED WATER PLANT**

THE CHILLED WATER PLANT IS COMPRISED OF ONE AIR COOLED CHILLER AND TWO CHILLED WATER PUMPS. THE CHILLER ENABLES ITS ASSOCIATED CHILLED WATER PUMPS. THE BUILDING MANAGEMENT SYSTEM (BMS) CONTROLS MANY OF THE CHILLED WATER PUMPS FUNCTIONS AND SETPOINTS, AND MONITORS A NUMBER OF POINTS THROUGH THE CHILLER INTERFACES.

### A.) CHILLED WATER PLANT ENABLE/ STAGING:

- 1.) THE CHILLED WATER PLANT WILL BE ENABLED THROUGH THE BMS BASED ON THE FOLLOWING CONDITIONS:
- a.) OUTSIDE AIR TEMPERATURE > 65°F (ADJ.)
- b.) AT LEAST ONE CHILLED WATER CONTROL VALVE FOR THE MAIN AIR HANDLING UNITS IS A MINIMUM 20% OPEN FOR 20 MINUTES (ADJ.).
- 2.) THE CHILLED WATER PLANT WILL BE DISABLED THROUGH THE BMS BASED ON THE FOLLOWING CONDITIONS:
- a.) OUTSIDE AIR TEMPERATURE IS 5°F BELOW ENABLE SETPOINT
- b.) ALL CHILLED WATER CONTROL VALVES FOR THE MAIN AIR HANDLING UNITS ARE LESS THAN 10% OPEN FOR 20 MINUTES (ADJ.).

### B.) CHILLED WATER TEMPERATURE RESET:

- 1.) WHEN THE CHILLED WATER PLANT IS ENABLED THE CHILLED WATER SUPPLY TEMPERATURE SETPOINT IS TO BE 44°F. ONCE THE CHILLED WATER SUPPLY TEMPERATURE REACHES SETPOINT THE RESET SEQUENCE IS TO BE ENABLED.
- 2.) THE CHILLED WATER TEMPERATURE SETPOINT TO MODULATE FROM 44°F TO 48°F.
- 3.) IF ALL OF THE CHILLED WATER CONTROL VALVES FOR THE MAIN AIR HANDLING UNITS ARE LESS THAN 50% OPEN THE CHILLED WATER SUPPLY SETPOINT IS TO BE INCREASED BY 1F.
- 4.) IF ANY OF THE CHILLED WATER CONTROL VALVES REACH 90% OPEN THE CHILLED WATER SUPPLY SETPOINT IS TO BE REDUCED BY 1°F.
- 5.) CHILLED WATER RESET SEQUENCE TO BE DISABLED AND CHILLED WATER SUPPLY TEMPERATURE SETPOINT SHALL DEFAULT TO 44°F WHEN ANY OF THE MAIN AIR HANDLING UNITS RETURN AIR HUMIDITY LEVELS EXCEEDS 65% RH. THE SEQUENCE TO BE RE-ENABLED IF ALL RETURN AIR HUMIDITY LEVELS ARE LOWER THAN 60% RH.

### C.) CHILLERS (CH-1):

- 1.) WHEN ENABLED BY THE BMS CHILLER TO PERFORM ITS START UP PROCEDURE THROUGH ITS LOCAL CONTROLLER:
- 2.) WHEN DISABLED BY THE BMS CHILLER TO PERFORM IT'S SHUT DOWN PROCEDURE THROUGH ITS LOCAL CONTROLLER.
- 3.) ANY CHILLER ALARMS TO BE INDICATED AT THE BMS FRONT END. CRITICAL CHILLER ALARMS TO BE MANUALLY RESET.

## D.) PRIMARY CHILLED WATER PUMP CONTROL:

- 1.) CHILLED WATER PUMPS TO BE ENABLED WHEN THE ASSOCIATED CHILLER IS ENABLED.
- 2.) THE BAS SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE CHILLERS EVAPORATOR.
- 3.) PUMP FLOW TO BE SET THROUGH THE ASSOCIATED VFD.

THIS SCHEMATIC IS TO BE THE BASIS FOR NEW / UPDATED PROJECT BMS GRAPHICS.

### ALARMS:

- 1.) HIGH CHWS TEMPERATURE
- 2.) LOW CHWS TEMPERATURE
- 3.) GENERAL CHILLER ALARM
- 4.) PUMP STATUS 5.) PUMP VFD ALARM
- 6.) LOW CHW SYSTEM PRESSURE

**Lothrop Associates LLP Architects** 333 Westchester Avenue White Plains, New York 10604 914-741-1115

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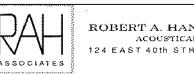




**OLA Consulting Engineers** 

Hawthorne, NY 10532 914.747.2800

New York, NY 10018 646.849.4110



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## MECHANICAL CHILLER FLOW DIAGRAM & SEQUENCE OF **OPERATIONS**

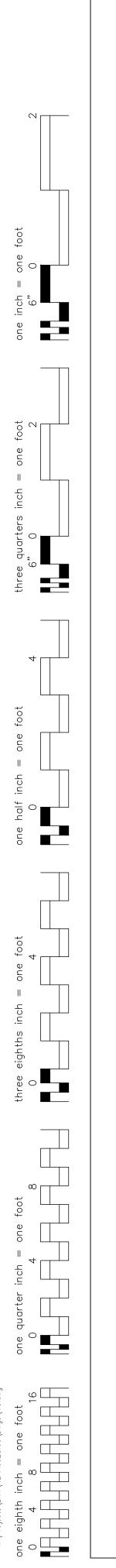
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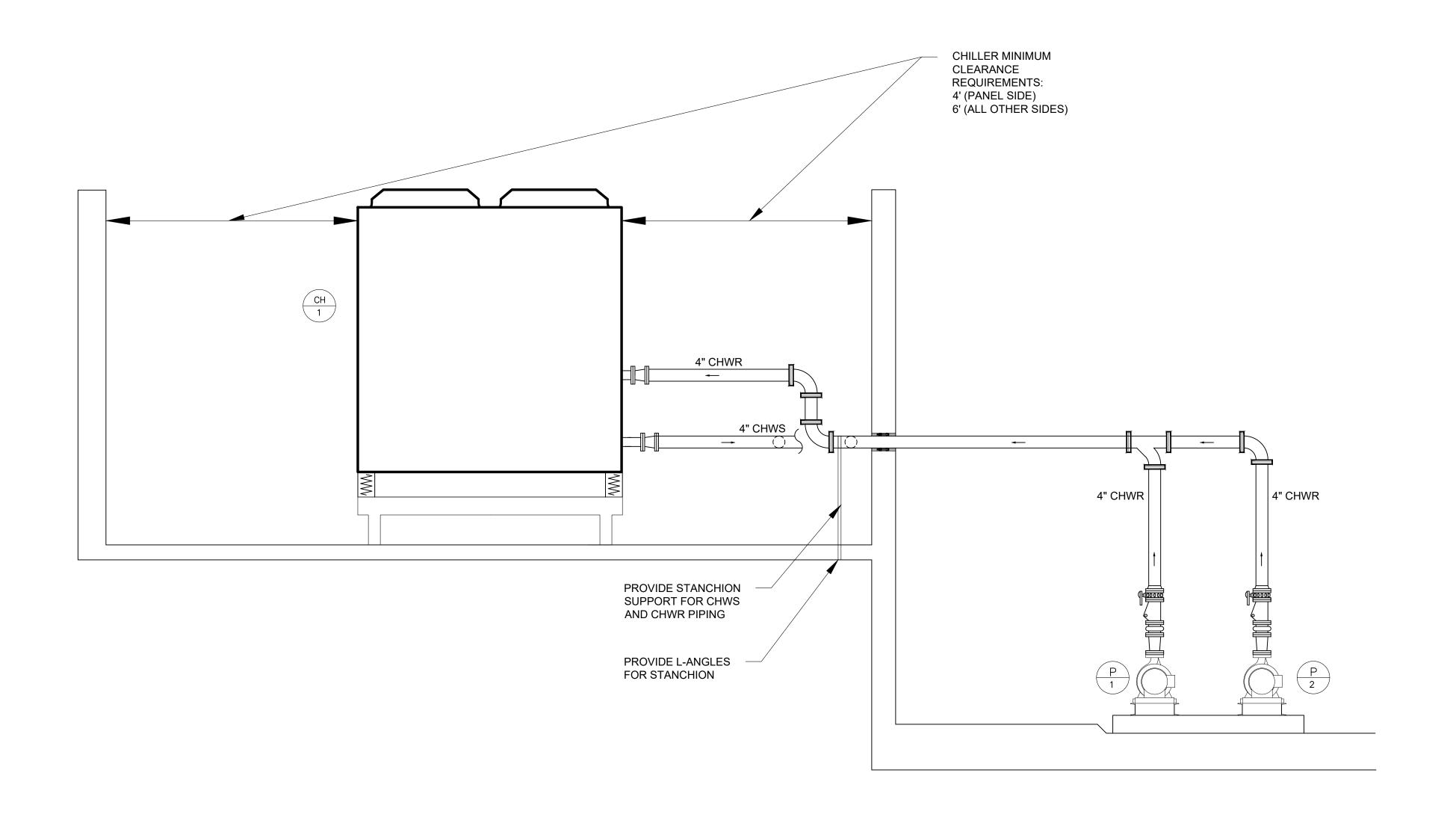
2494-00 SCALE:

AS NOTED

DRAWING NO.:

M-5.1





CHILLED WATER SYSTEM PARTIAL ELEVATION SECTION SCALE: 1/2" = 1'

Lothrop Associates LLP Architects
333 Westchester Avenue
White Plains, New York 10604
914-741-1115

White Plains Rochester Red Bank Hartford

CONSULTANTS:





OLA Consulting Engineers

50 Broadway, Hawthorne, NY 10532 914.747.2800

8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110

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MECHANICAL CHILLED
WATER SYSTEM PARTIAL
ELEVATION SECTION

PROJECT NO.:

2494-00 SCALE:

AS NOTED

DRAWING NO.:

M-5.2

AIR-COOLED PACKA SCHEDUI	
DESIGNATION	<b>∟⊏</b> │
LOCATION	MEZZANINE ROOF
MANUFACTURER	YORK
MODEL	YLAA0070SE17XFBSDTX
OPERATING WEIGHT (LBS.)	4213
TYPE	SCROLL
EER / COP	10.25
EER NPLV / COP NPLV	17.95
EVAPORATOR:	
DESIGN CAPACITY (TONS)	70
DESIGN FLOWRATE (GPM)	174
MIN./MAX. FLOWRATE (GPM)	324.9 / 60.23
MIN CHW FLOW (GPM)	<60.1
CHILLER FLOW SWITCH (AS VERIFIED BY BALANCER) (GPM)	66
E.W.T./L.W.T. (°F)	54 / 44
W.P.D. (FT H <sub>2</sub> O)	19.5
REFRIGERATION SYSTEM:	
No. OF REFRIGERANT CIRCUITS	2
REFRIGERANT TYPE	R410A
COMPRESSOR TYPE	SCROLL - HERMETIC
No. OF COMPRESSORS ON CIRCUIT 1	3
No. OF COMPRESSORS ON CIRCUIT 2	3
REFRIGERANT CHARGE (LBS.)	75.8
CONDENSER:	1
No. OF ROWS/F.P.I.	1 / 20
AMBIENT TEMP. (°F)	95
FANS:	
QUANTITY	4
H.P. (EA.)	2
TOTAL AIRFLOW CFM	60000
ELECTRICAL DATA:	
VOLTS/Ø/Hz	208/3/60
INPUT POWER (kW)	81.87
FLA (AMPS)	318.4
MCA (AMPS)	334
MOOD (AMDO)	

MOCP (AMPS)

I. PROVIDE THE FOLLOWING OPTIONS:

• THE CHILLED WATER SYSTEM SHALL UTILIZE 30% PROPYLENE

350

GLYCOL SOLUTION.

• ULTRA QUIET FANS. LOW SOUND ACOUSTICALLY LINED COMPRESSOR ENCLOSURE

• WIRE MESH SECURITY GRILLES.

• 1-1/2" INSULATION ON EVAPORATOR.

FLOW SWITCH.

• BUILDING AUTOMATION SYSTEM INTERFACE.

• SERVICE SUCTION ISOLATION VALVE FOR EACH REFRIGERANT

• PRESSURE RELIEF SERVICE VALVE KIT.

• YORK RESTRAINED SPRING ISOLATORS WITH A MINIMUM

STATIC DEFLECTION OF 2" BASED UPON LOAD.

• CONTROL TRANSFORMER.

MICROPROCESSOR CONTROLS.

2. PROVIDE THE FOLLOWING MOTOR CONTROL OPTIONS: • SINGLE POINT EXTERNAL POWER CONNECTION AT UNIT, WITH FACTORY INSTALLED, UNIT-MOUNTED, NON-FUSED DISCONNECT

• ALL MOTOR STARTERS AND VARIABLE FREQUENCY DRIVES

SHALL BE FACTORY INSTALLED.

• ALL MOTORS 1 HP OR GREATER SHALL BE PREMIUM

• ALL MOTORS FURNISHED WITH VARIABLE FREQUENCY DRIVES SHALL BE INVERTER DUTY RATED & APPROVED FOR VARIABLE

SPEED AND TORQUE APPLICATIONS.

•UNITARY CONTROLLER BY AUTOMATIC TEMPERATURE CONTROLS MANUFACTURER, COMPATIBLE WITH THE BUILDING

AUTOMATION SYSTEM.

•PROVIDE WITH BACNET CONTROL INTERFACE CARD.

PUMP SCHEDULE			
DESIGNATION	P-1	P-2	
LOCATION	MEZZANINE MER	MEZZANINE MER	
SYSTEM SERVED	CH-1	CH-1	
ARRANGEMENT	BASE MOUNTED	BASE MOUNTED	
MANUFACTURER	TACO	TACO	
MODEL	FI1509D	FI1509D	
IMPELLER DIA. (IN.)	8.40	8.40	
GPM	90	90	
TOTAL DYNAMIC HEAD (FT H₂O)	70	70	
RPM	1760	1760	
NPSH (FT. H₂O)	3	3	
MOTOR HP / BHP	5 / 2.65	5 / 2.65	
VOLTAGE/Ø/Hz	208/3/60	208/3/60	
FT OF HEAD AT 0 GPM	80	80	
STARTER TYPE	VFD	VFD	
STARTER LOCATION	MEZZANINE MER	MEZZANINE MER	
DISCONNECT SWITCH AT PUMP (Y/N)	Υ	Υ	

1. FLUID SHALL BE 30% PROPYLENE GLYCOL SOLUTION.

2. ALL MOTORS 1 HP OR GREATER SHALL BE PREMIUM EFFICIENCY.

3. VFD'S SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

4. ALL VFD'S SHALL BE PROVIDED WITH A DISCONNECT SWITCH OR CIRCUIT BREAKER AND DRIVE/BYPASS CONFIGURATION.

5. PROVIDE INERTIA PADS FOR PUMPS WITH 2" SPRING VIBRATION ISOLATORS.

## CHILLED WATER **BUFFER TANK** SCHEDULE

BT-1
MEZZANINE MER
CHW
TACO
BTH0400F02-125N
400
48
74
4350
1,010
4" FLANGED

. TANK SHALL BE ASME RATED AND STAMPED FOR 125 PSIG.

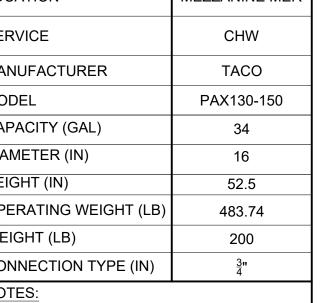
## GLYCOL MAKE UP TANK SCHEDULE

DESIGNATION	GMT-1
BESIGNATION	OWIT-1
LOCATION	MEZZANINE MER
SERVICE	CHW
MANUFACTURER	WESSELS COMPANY
MODEL	GMP-13050
VOLUME (GAL)	50
DIAMETER (IN)	34
HEIGHT (IN)	45
HP	1/3
VOLTAGE/Ø/Hz	120/1/60
MAKE-UP CAPACITY (GPM @ PSI)	1.8 @ 70
OPERATING WEIGHT (LB)	551.27
WEIGHT (LB)	134
NOTES:	

## **EXPANSION TANK** SCHEDULE

DESIGNATION	ET-1	
LOCATION	MEZZANINE MER	
SERVICE	CHW	
MANUFACTURER	TACO	
MODEL	PAX130-150	
CAPACITY (GAL)	34	
DIAMETER (IN)	16	
HEIGHT (IN)	52.5	
OPERATING WEIGHT (LB)	483.74	
WEIGHT (LB)	200	
CONNECTION TYPE (IN)	<u>3</u> 11 4	
NOTES: 1. TANK SHALL BE ASME RATED AND		

STAMPED FOR 125 PSIG.





**Lothrop Associates LLP Architects** 333 Westchester Avenue White Plains, New York 10604 914-741-1115

White Plains Rochester Red Bank Hartford

CONSULTANTS:





**OLA Consulting Engineers** 50 Broadway, Hawthorne, NY 10532

914.747.2800 8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110

ROBERT A. HANSEN ASSOCIATES, INC ACOUSTICAL/AUDIO/VIDEO CONSULTANTS 124 EAST 40th STHEET NEW YORK, NY 10016

2	05.01.2022	ISSUED FOR NYSED SUBMISSION
1	04.22.2022	ISSUED FOR 95% CD
ISSUE NO.	ISSUE DATE	DESCRIPTION

## PEARL RIVER PUBLIC LIBRARY CHILLER REPLACEMENT

80 Franklin Ave. Pearl River, NY 10965

NY SED PROJECT CONTROL NO. 50 - 03 - 08 - 03 - 6 - 005 - 004

## MECHANICAL EQUIPMENT **SCHEDULES**

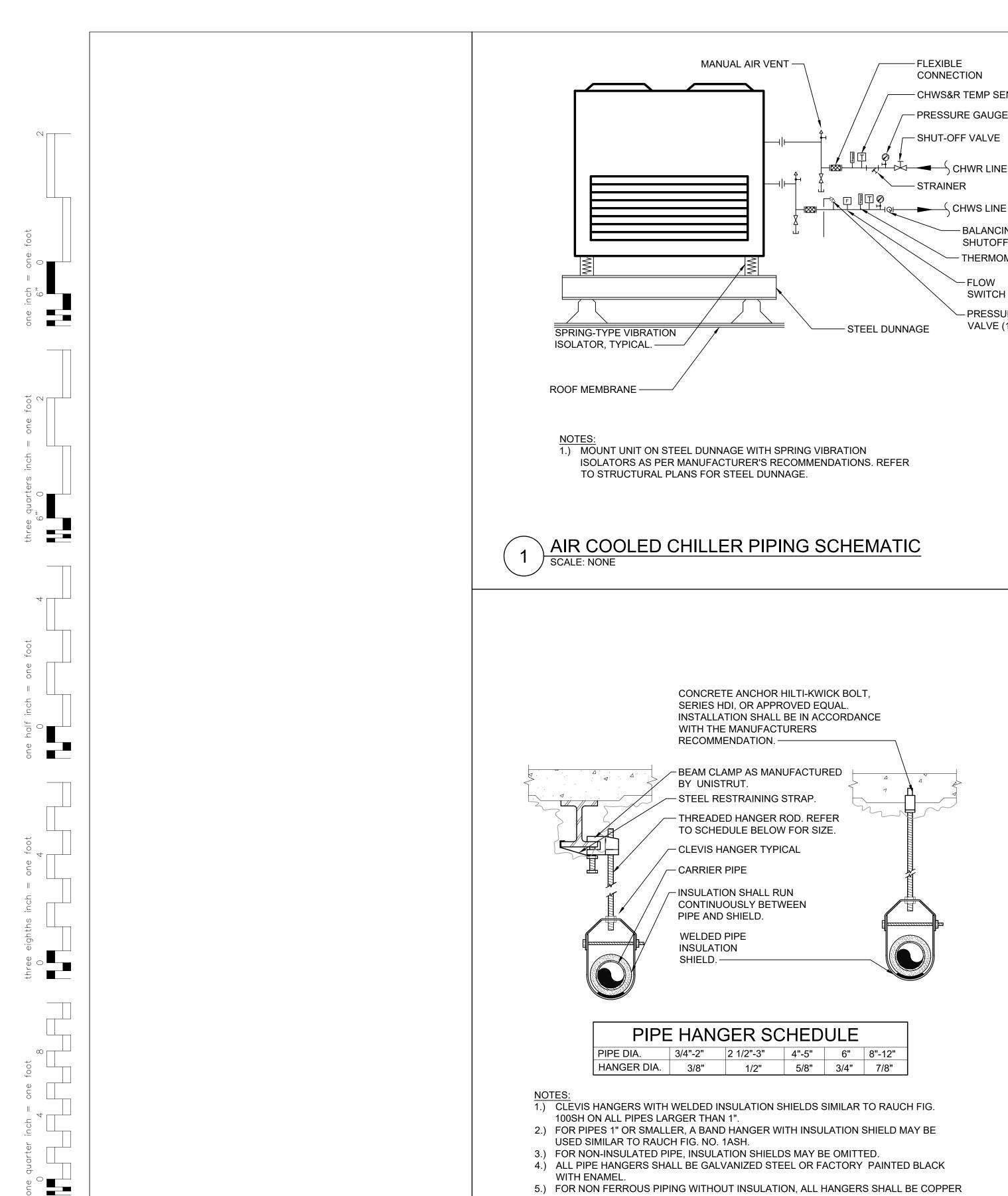
PROJECT NO.:

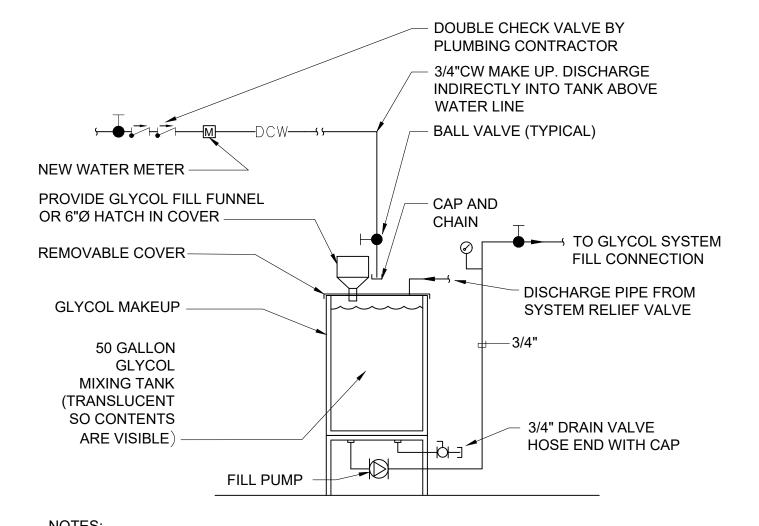
2494-00 SCALE:

AS NOTED

DRAWING NO.:

M-6.0





-FLEXIBLE CONNECTION

-STRAINER

PLATED OR FURNISHED WITH A DI-ELECTRIC BETWEEN PIPE AND HANGERS. 6.) WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF

7.) ALL ANCHORS AND INSERTS SHALL HAVE NEW YORK CITY BOARD OF STANDARD

MATCH EXISTING.

SCALE: NONE

AND APPEALS, (BSA) APPROVAL.

PIPE HANGER DETAIL

MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF HANGER INSTALLATION SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO

- CHWS&R TEMP SENSORS

- PRESSURE GAUGE

- SHUT-OFF VALVE

CHWS LINE

-BALANCING &

SHUTOFF VALVE

PRESSURE RELIEF

VALVE (100 PSI)

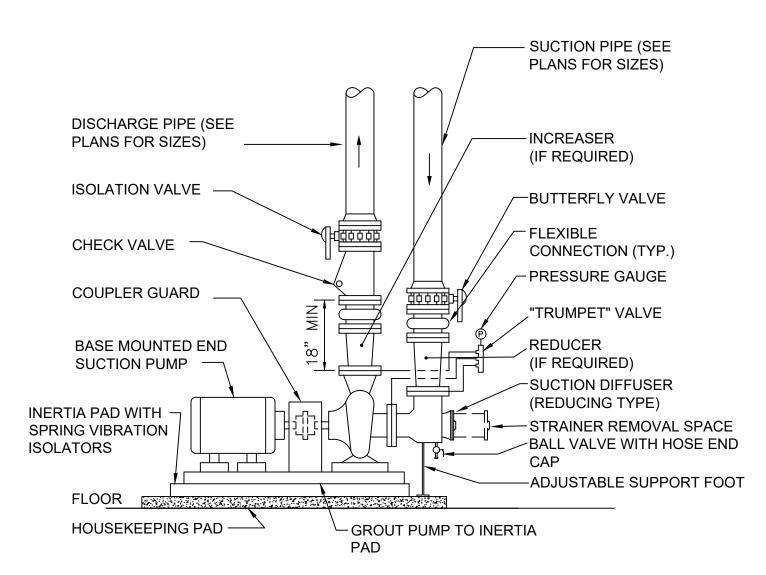
THERMOMETER

-FLOW

**SWITCH** 

1.) SYSTEM SHALL CONTAIN PRESSURE MAINTAINING CONTROLS TO START PUMP.

CHILLED WATER GLYCOL FILL SYSTEM SCALE: NONE



SUPPORT SUCTION AND DISCHARGE PIPES SO THAT NO LOAD IS IMPOSED ON PUMP CASING.

END SUCTION PUMP PIPING DETAIL SOLID BASE SCALE: NONE



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8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110

olace.com

ASSOCIATES

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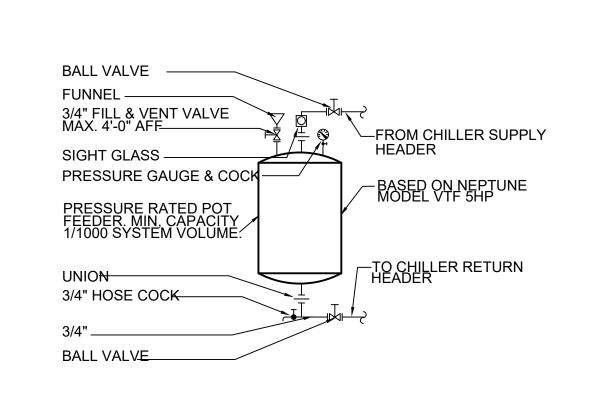
MECHANICAL DETAILS

PROJECT NO.: 2494-00 SCALE:

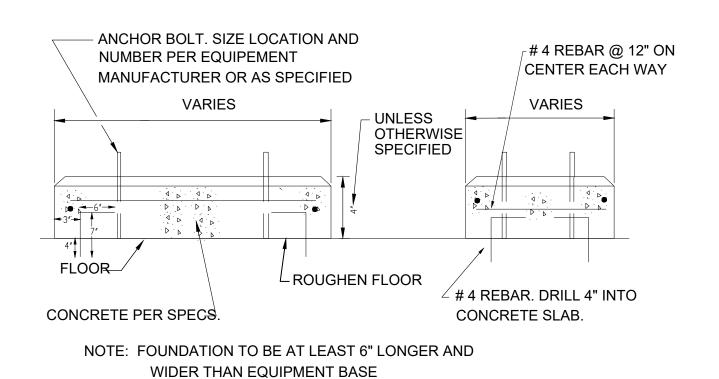
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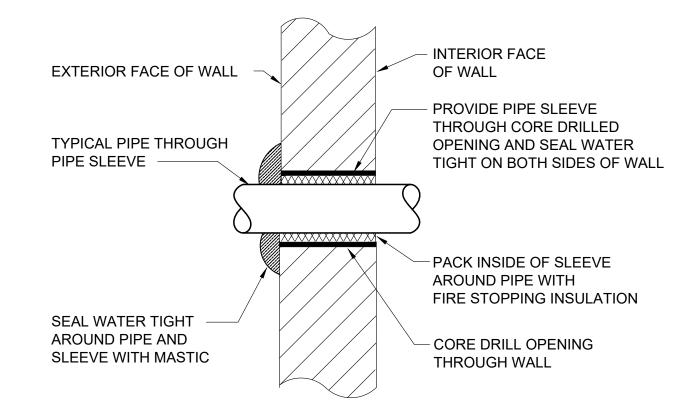
M-7.1







2 CONCRETE PAD DETAIL
SCALE: NONE



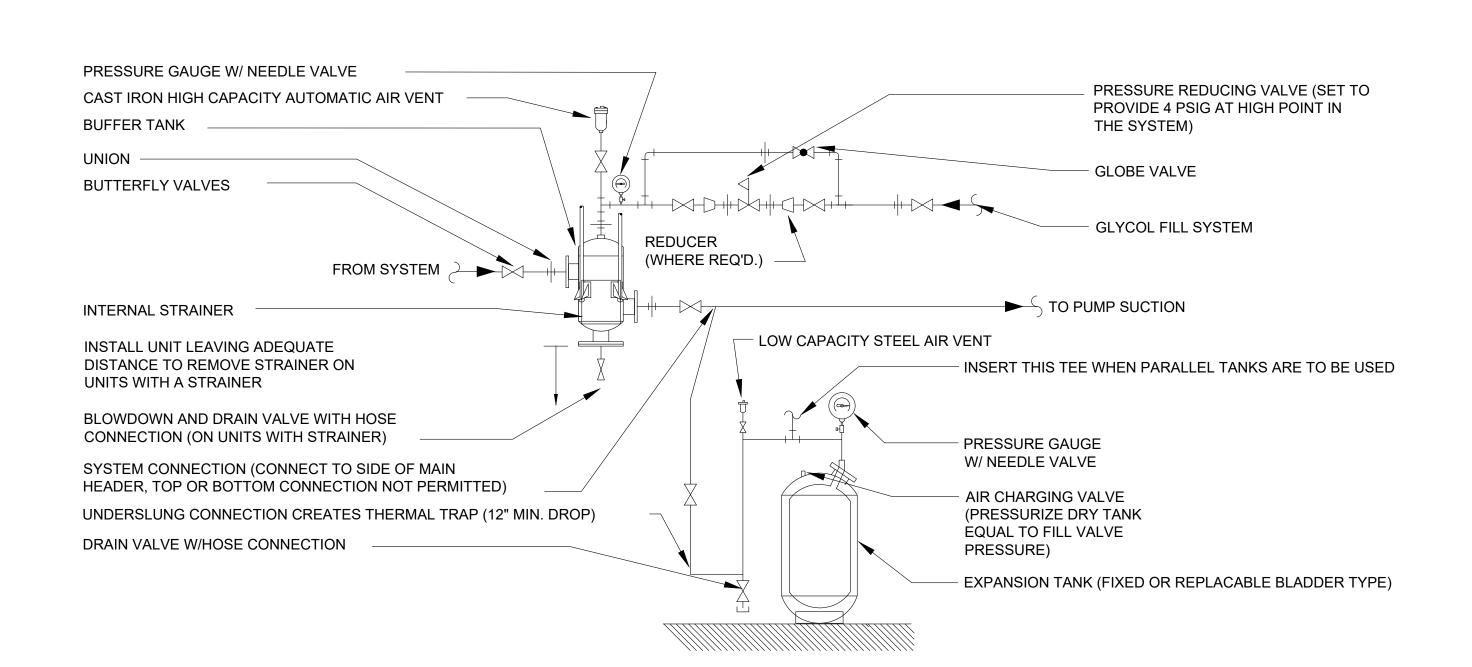
#### **NOTES**

1.) FOR PIPE SIZES THROUGH 1  $\frac{1}{2}$ ", PROVIDE SEPARATE SLEEVE FOR EACH PIPE. FOR PIPE SIZES UNDER 1  $\frac{1}{2}$ ", MULTIPLE PIPES MAY PENETRATE WALL THROUGH A COMMON SLEEVE - SEAL SPACE BETWEEN MULTIPLE PIPES WATER TIGHT WITH MASTIC AND PACK SPACE BETWEEN PIPES WITH FIRE STOPPING INSULATION.

2.) PIPE INSULATION AND VAPOR BARRIER TO BE CONTINUOUS THROUGH ENTIRE PENETRATION.

3.) SLEEVE AROUND PIPE INSULATION MUST BE SEALED WATER TIGHT TO EXTERIOR WALL SURFACE





**BUFFER TANK AND EXPANSION TANK DETAIL** 

SCALE: NONE

(VERTICAL FLOOR MOUNTED - REPLACEABLE BLADDER)



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333 Westchester Avenue
White Plains, New York 10604
914-741-1115

White Plains Rochester Red Bank Hartford

CONSULTANTS:





OLA Consulting Engineers

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8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110

olace.com



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# PEARL RIVER PUBLIC LIBRARY CHILLER REPLACEMENT

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MECHANICAL DETAILS 2

PROJECT NO.:

2494-00 SCALE:

AS NOTED

DRAWING NO.:

M-7.2

SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION
	-	CONDUIT AND WIRING			
	-	CONDUIT & WIRING TO BE REMOVED UON		AF	AMPERAGE OF FUSE
——UG——	-	BURIED CONDUIT		AHU	AIR HANDLING UNIT
——OH——	-	OVERHEAD CONDUCTORS		AL	ALUMINIUM
	_				
		HOMERUN TO PANEL, ARROWS INDICATE # 1P		AS	AMPERAGE OF SWITCH
	-	MULTI-POLE HOMERUN		AWG	AMERICAN WIRE GAUGE
	-	ELECTRICAL EQUIPMENT AS INDICATED		BLDG	BUILDING
	-	ELECTRICAL EQUIPMENT TO BE REMOVED UON		С	CONDUIT
M	-	ELECTRIC METER		СВ	CIRCUIT BREAKER
J	-	JUNCTION BOX		CU	COPPER
	-	FUSED DISCONNECT SWITCH		DEM.	DEMOLISH AND REMOVE
	-	UNFUSED DISCONNECT SWITCH		DISC	DISCONNECT
⊠ <sup>†</sup>	-	COMBINATION MOTOR STARTER/FUSED DISC.		DIM	DIMMER
$\boxtimes$	-	MOTOR STARTER		DWG	DRAWING
$\bigcirc$	-	MOTOR		EMT	ELECTRICAL METALLIC TUBING
44	-	BATTERY PACK EMERGENCY LIGHT FIXTURE		EM	EMERGENCY
	-	EXIT LIGHT, FACES-SHADED, CHEVRON-ARROW		EX.	EXISTING TO REMAIN
$S_{x}$	-	SINGLE POLE SWITCH		FLR	FLOOR
Οx		(x - INDICATES FIXTURE BEING CONTROLLED)		FBO	FURNISHED BY OTHERS
3	-	TUDEE MAY CMITCH			
$S_x^3$		THREE WAY SWITCH (x - INDICATES FIXTURE BEING CONTROLLED)		GFI	GROUND FAULT INTERRUPTER
				HP	HORSEPOWER
S <sub>M</sub>	-	MOTOR RATED TOGGLE SWITCH		IMC	INTERMEDIATE METAL CONDUIT
Sĸ	-	KEY OPERATED SINGLE POLE SWITCH		KVA	KILO-VOLT-AMPERE
S <sub>v</sub>	-	SPEED CONTROLLER (FB0)		KW	KILO-WATT
	-	WALL MOUNTED OCCUPANCY SENSOR		MCB	MAIN CIRCUIT BREAKER
<u>©</u>	-	CEILING MOUNTED OCCUPANCY SENSOR		MIN	MINIMUM
$\rightleftharpoons$	-	DUPLEX RECEPTACLE		MLO	MAIN LUG ONLY
<del> </del>	-	DOUBLE DUPLEX RECEPTACLE		Р	POLE
$\ominus$	-	SPECIAL RECEPTACLE		REL.	REMOVE AND RELOCATE
$\nabla$	-	TELEPHONE OUTLET		RGS	RIGID GALVANIZED STEEL
EPO	EPO	EMERGENCY POWER OFF SWITCH		RTU	ROOF TOP UNIT
· · ·	СВ	CIRCUIT BREAKER		SPD	SURGE PROTECTION DEVICE
	-	ENCLOSED CIRCUIT BREAKER		SW	SWITCH(ES)
/ 200AS	-	FUSED SWITCH		TYP	TYPICAL
	GEN	GENERATOR		UG	UNDERGROUND
	GND	GROUND AS PER LOCAL CODE		UON	UNLESS OTHERWISE NOTED
П	- GND				
OR ⊙  %_ F	-	GROUND ROD		VIF	VERIFY IN FIELD
<u></u>		TRANSFER SWITCH		V	VOLT(S)
or T	XFMR	TRANSFORMER		WH	WATER HEATER
E	СТ	CURRENT TRANSFORMER		WP	WEATHERPROOF
Q	-	UTILITY POLE	NOTES:	ARRDEVIATIONS NA	AY NOT BE APPLICABLE FOR THIS PROJECT.
₹¶ WM	WM	WATER MAIN			
В	-	BOILER BREAK GLASS STATION	TYPICAL BR	ANCH CIRC	UIT WIRING LEGEND
	NC	NORMALLY CLOSED CONTACTS	2-#12 & 1-#	#12 GND (1-1P-20A OF	R 1-1P-15A CB)
	NO	NORMALLY OPEN CONTACTS	→ 3-#12 & 1-#	#12 GND (3P-20A OR 3	BP-15A CB)
	CV	CONTROL VALVE		#12 GND (2P-20A OR 2	,
LD	-	LEAK DETECTOR			LIGHT FIXTURE TYPE SWITCH CONTROL
	SD OR CFSD	SMOKE DAMPER	- CIRCUIT	15	
UH UH	UH	UNIT HEATER	_		CIRCUIT #
<u> </u>	A	AMPERE(S)	NOTES:  1. EACH 120V AND	277V CIRCUIT SHA	ALL HAVE A DEDICATED NEUTRAL CONDUCTO
			SHARED NEUTRA	AL HOMERUNS ARE N	OT PERMITTED.
	AC	AIR CONDITIONER	APPLICABLE ELE	CTRICAL CODE. FO	D FOR VOLTAGE DROP AND DERATING AS P R CIRCUITS THAT ARE BETWEEN 100' AND 150'
	ACC	AIR CONDITIONER CONDENSER	•		UCTORS SHALL BE #10 AWG. FOR CIRCUITS TH TH, PHASE AND NEUTRAL CONDUCTORS SHALL

### GENERAL NOTES

- ALL WORK SHOWN IS NEW UNLESS OTHERWISE NOTED (UON) EXISTING TO REMAIN (EX.).
   THE DRAWINGS ARE TO BE CONSIDERED SCHEMATIC ONLY AND DO NOT NECESSARILY SHOW THE EXACT LOCATIONS AND DETAILS OF THE WORK TO BE INSTALLED.
- 3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND PAYING ALL FEES ASSOCIATED WITH THIS WORK INCLUDING FILING WITH THE UTILITY COMPANY (AS REQUIRED), AND WITH LOCAL AUTHORITY HAVING JURISDICTION.
- 4. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO HIRE A THIRD PARTY ELECTRICAL INSPECTION AGENCY TO PROVIDE UL INSPECTIONS AND SUBMIT A CERTIFICATE OF INSPECTION PRIOR TO FINAL REQUEST FOR PAYMENT.
- ALL WORK INVOLVING THE ELECTRIC SERVICE SHALL BE COORDINATED AND APPROVED BY THE UTILITY COMPANY.
- ALL CONDUCTORS SHALL BE COPPER UON.
- ELECTRONIC FILES OF THE MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS ARE AVAILABLE TO THE CONTRACTOR. THE ENGINEER MAY GRANT THE CONTRACTOR A LIMITED LICENSE TO MAKE A DERIVATIVE WORK OF THE DATABASE FOR THE PURPOSE OF SHOP DRAWINGS, SUBMITTALS AND AS-BUILT DRAWINGS. UPON REQUEST, THE ENGINEER SHALL PROVIDE A RELEASE FORM THAT MUST BE SIGNED AND RETURNED BY THE CONTRACTOR PRIOR TO RELEASE OF THE ELECTRONIC FILES.
- 8. CIRCUIT NUMBERS ARE FOR INFORMATION PURPOSES ONLY.
- CORE DRILLING OR TRENCHING THROUGH AN EXISTING FLOOR SLAB, WHEN REQUIRED, SHALL BE COORDINATED WITH THE OWNER. FLOOR SLABS SHALL BE RADAR SCANNED PRIOR TO CORE DRILLING OR TRENCHING. ALL WORK, INCLUDING CORE DRILLING, RADAR SCAN, INSTALLATION OF FIRE STOPPING, & CONDUIT/CABLE INSTALLATION SHALL BE PERFORMED DURING NON-BUSINESS HOURS AND INCLUDED IN BASE BID. USE EXTREME CAUTION DURING ANY CUTTING OPERATION TO AVOID DAMAGE TO EXISTING EQUIPMENT/SYSTEMS. ANY ITEMS DAMAGED AS A RESULT OF CORE DRILLING SHALL BE REPAIRED AT NO COST TO THE CLIENT. ALL CORES SHALL BE FIRE SEALED.
- 0. WHERE GFI RECEPTACLES ARE CIRCUITED WITH GENERAL CONVENIENCE RECEPTACLES, THE GFI RECEPTACLE SHALL BE THE LAST DEVICE ON THE CIRCUIT.
- 1. INSTALL CONDUIT EXPANSION FITTINGS AT ALL LOCATIONS WHERE CONDUITS CROSS BUILDING OR STRUCTURE EXPANSION JOINTS.
- 12. UNLESS OTHERWISE NOTED, DISCONNECT SWITCHES, STARTERS, HOAS AND MOTOR RATED TOGGLE SWITCHES FOR MECHANICAL PUMPS, CABINET AND UNIT HEATERS, RETURN FANS, ROOF FANS, VAV BOXES, COMPRESSORS, FAN COIL UNITS, AIR HANDLERS AND CONDENSERS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE ALL WORK WITH THE
- 13. DISCONNECT SWITCHES FOR MOTORIZED DAMPERS, CFSD/SD AND VAV BOXES SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR. SWITCHES NOT SHOWN ON PLANS.
- 4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CUTTING, PATCHING, PAINTING, AND FINAL RESTORATION REQUIRED TO FACILITATE THE DEMOLITION AND INSTALLATION OF ALL ELECTRICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO PANELBOARDS, CONDUITS, WIRING, DEVICES, FIXTURES, ETC. INCLUDING ABOVE CEILINGS. CONTRACTOR TO REMOVE AND REPLACE CEILINGS, AND OPEN AND PATCH WALLS, AS REQUIRED TO EXECUTE THE ELECTRICAL WORK.

## **DEFINITION OF TERMS**

MECHANICAL CONTRACTOR.

- 1. "WORK" MUST BE DEEMED TO CONSIST OF ALL LABOR AND OPERATIONS, TRANSPORTATION, HOISTING, MATERIALS, TOOLS, EQUIPMENT, SERVICES, INSPECTIONS, INVESTIGATIONS, COORDINATION AND SUPERVISION REQUIRED AND / OR REASONABLY NECESSARY TO PRODUCE THE CONSTRUCTION REQUIRED BY THE CONTRACT DOCUMENTS.
- 2. "FURNISH" MEANS THE DESIGN, FABRICATION, PURCHASE AND DELIVERY TO THE JOB
- "INSTALL OR INSTALLATION" MEANS THE ACT OF PHYSICALLY PLACING, APPLYING, SETTING, ERECTING, ANCHORING, SECURING, ETC., CONSTRUCTION MATERIALS, EQUIPMENT, FURNISHINGS, APPLIANCES, AND SIMILAR ITEMS SPECIFIED AND FURNISHED AT THE JOB SITE. INSTALLATION OF SPECIFIED ITEMS MUST BE COMPLETE IN ALL RESPECTS.
- . "PROVIDE" MEANS TO FURNISH AND INSTALL CONSTRUCTION MATERIAL, EQUIPMENT, ETC. AS DEFINED ABOVE.
- 5. THE FOLLOWING ARE DEFINITIONS OF SHOP DRAWING STAMP ACTIONS:
- A. "NO EXCEPTIONS TAKEN" MEANS THAT THE SHOP DRAWING IS CORRECT AS TO PERFORMANCE, CAPACITY, ETC. AND SUBSTANTIAL CONFORMANCE TO THE CONTRACT DRAWINGS AND SPECIFICATIONS. FABRICATION AND/OR PURCHASE MAY COMMENCE.
- B. "MAKE CORRECTIONS NOTED" MEANS THAT THE SHOP DRAWING IS CORRECT AS TO PERFORMANCE, CAPACITY, ETC. AND SUBSTANTIAL CONFORMANCE TO THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS, SUBJECT TO AND IN COMPLIANCE WITH THE ANNOTATIONS AND/OR CORRECTIONS INDICATED ON THE SHOP DRAWING. FABRICATION AND/OR PURCHASE MAY COMMENCE.
- C. "AMEND AND RESUBMIT" MEANS THAT THE COMMENTS AND/OR CORRECTION ARE SO EXTENSIVE AND IMPORTANT THAT THE REVIEWER WANTS TO SEE HOW THE COMMENTS AND/OR CORRECTIONS ARE RESOLVED PRIOR TO RELEASE FOR FABRICATION AND/OR PURCHASE. FABRICATIONS AND/OR PURCHASE MAY NOT COMMENCE.
- D. "REJECTED" MEANS THAT THE SHOP DRAWING DOES NOT COMPLY OR CONFORM TO THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS. FABRICATION AND/OR PURCHASE MAY NOT COMMENCE.



Lothrop Associates LLP Architects
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White Plains, New York 10604

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50 Broadway, Hawthorne, NY 10532 914.747.2800

8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110

olace.com



ENGINEERS

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# ELECTRICAL SYMBOLS, ABBREVIATIONS AND NOTES

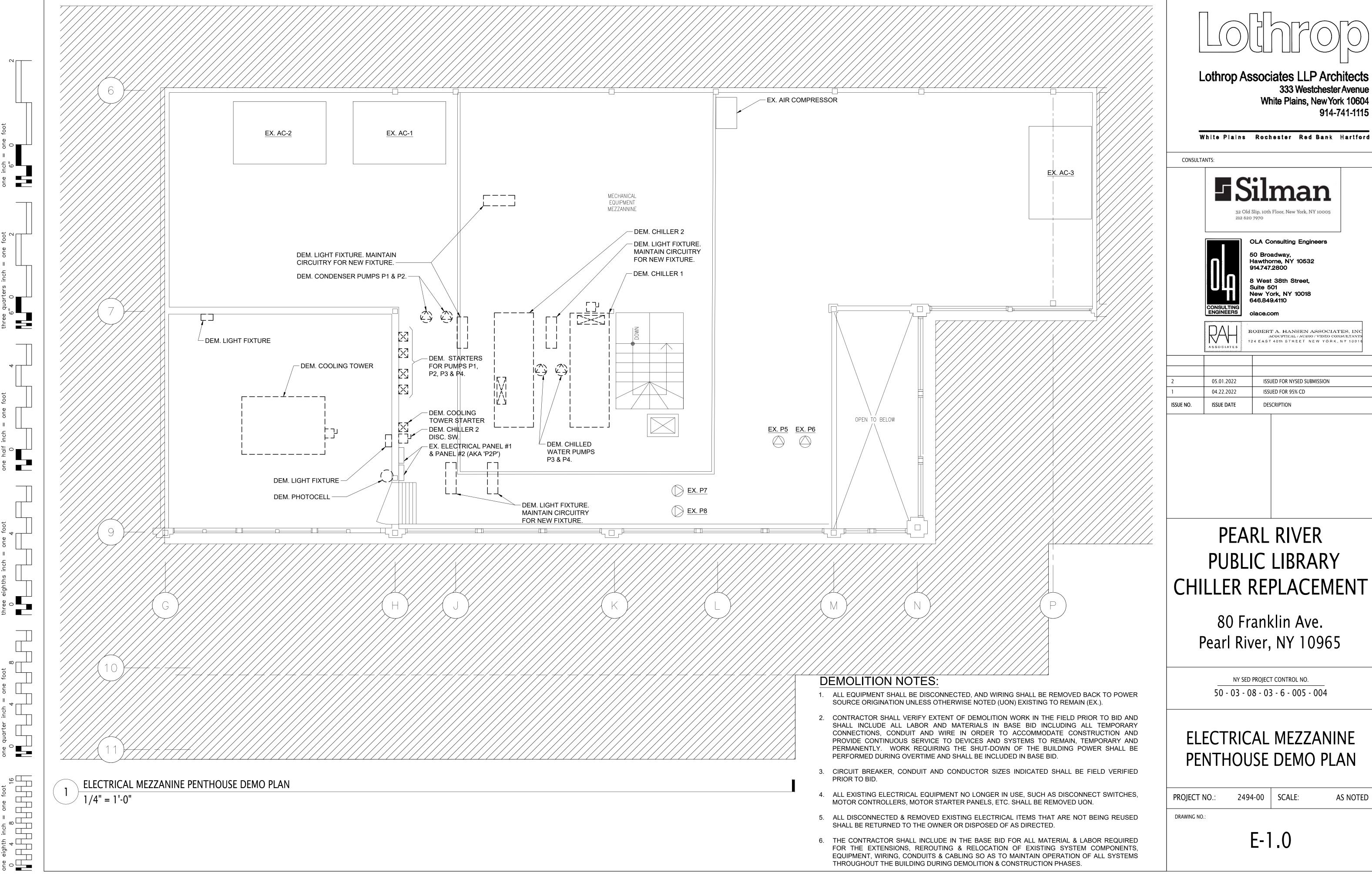
PROJECT NO.:

2494-00 SCALE:

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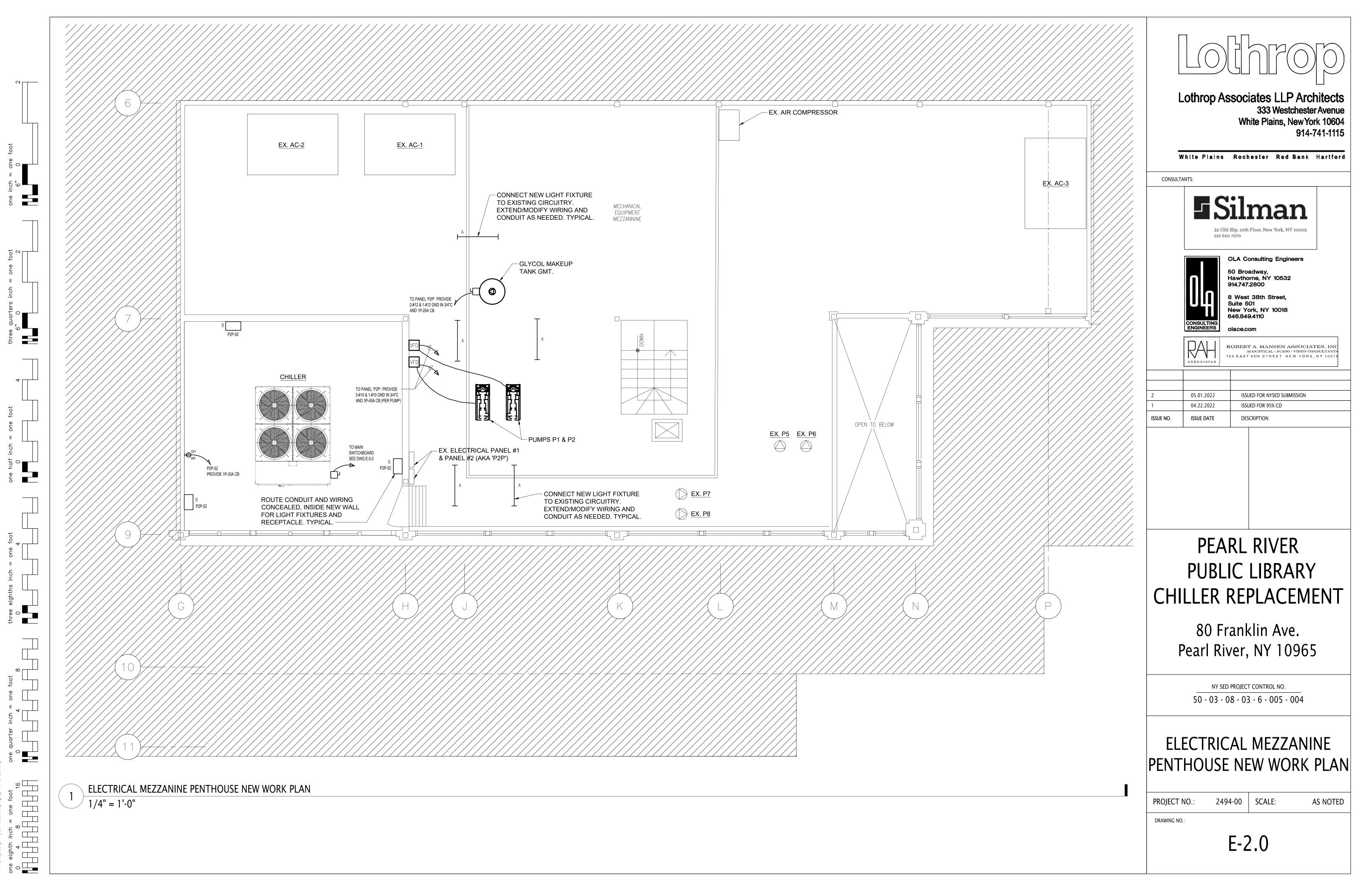
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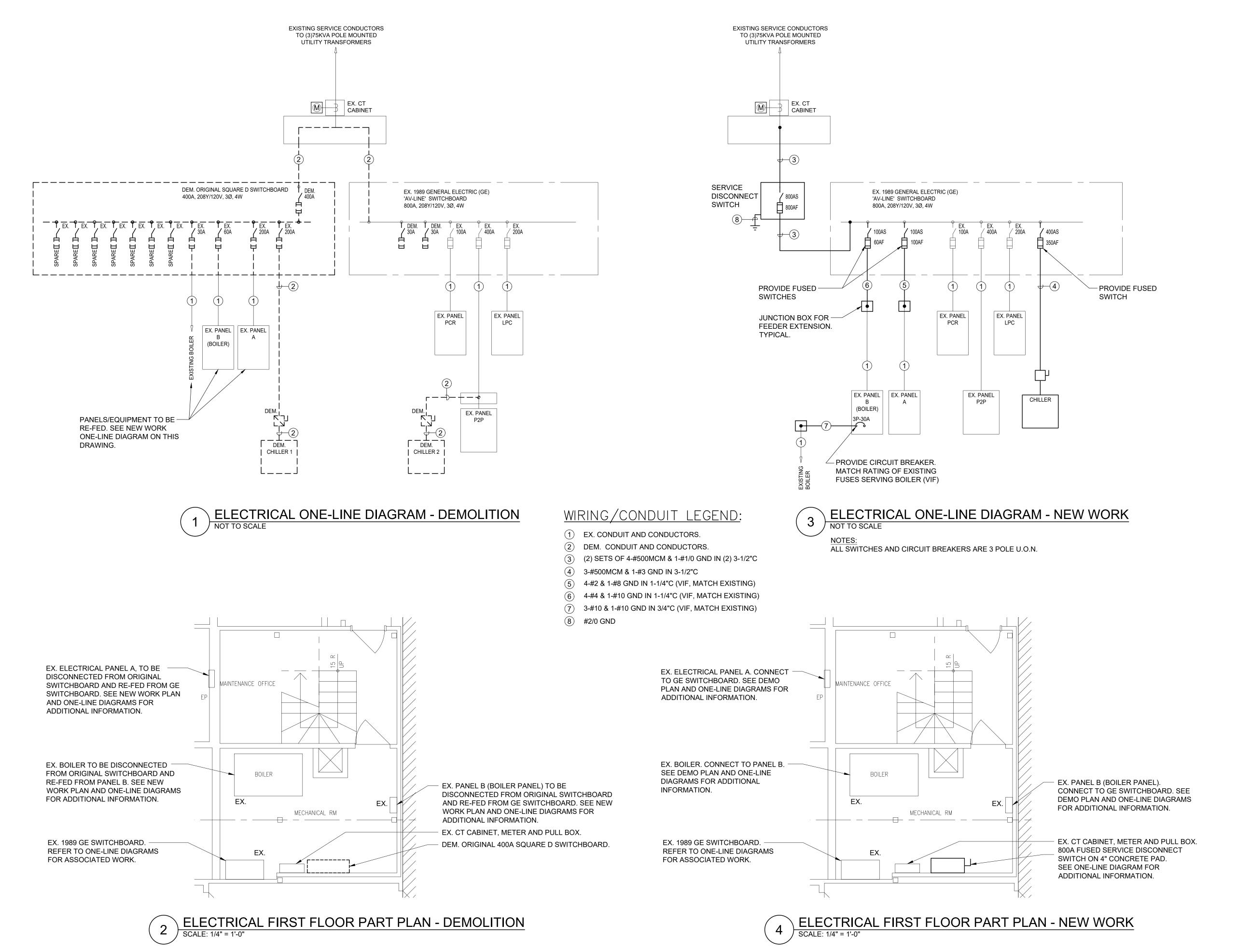
E-0.1



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one eighth inch = one foot

0 4 8 16

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914-741-1115

White Plains Rochester Red Bank Hartford

CONSULTANTS:



CONSULTING

OLA Consulting Engineers
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Hawthorne, NY 10532

8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110

olace.com

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# ELECTRICAL ONE-LINE DIAGRAMS AND FIRST FLOOR PART PLANS

PROJECT NO.:

2494-00 SCALE:

AS NOTED

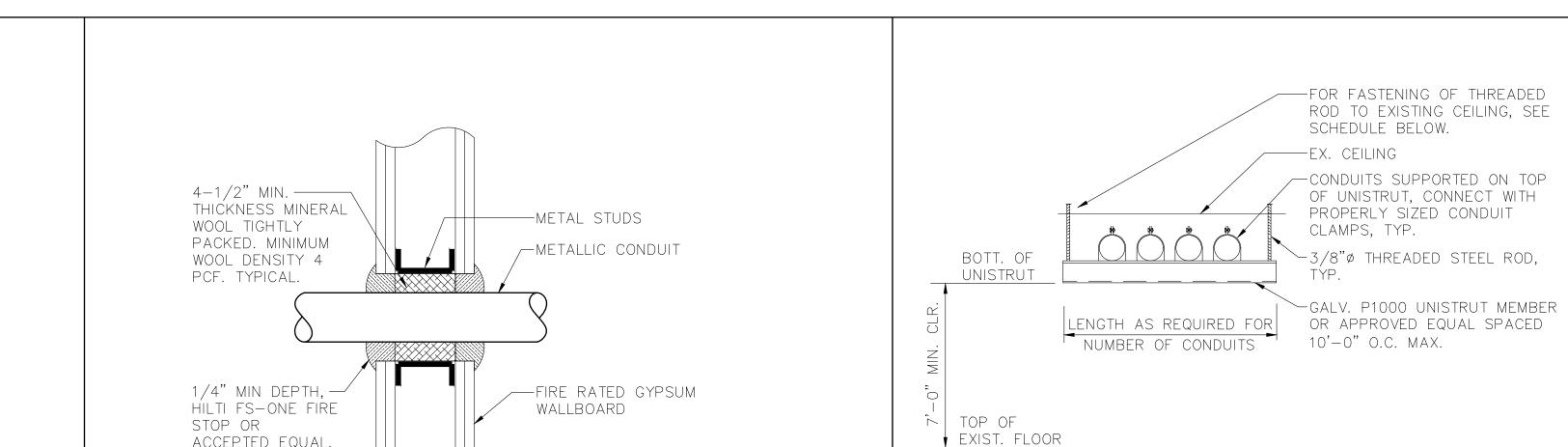
DRAWING NO.:

E-5.0

LIGHTING FIXTURE SCHEDULE						
FIXTURE DESIGNATION	MANUFACTURER	CATALOG NUMBER	LAMPS	VOLTS	MOUNTING	REMARKS
A	CREE	LS4-40L-835-R-UL-10V	LED 31W	UNV	SUSPENDED	4'-0" LINEAR LED LIGHT FIXTURE SUSPENDED FROM SLAB ABOVE BY CABLE. PROVIDE WITH FIELD-INSTALLED ADJUSTABLE CABLE SUPPORT KIT ACCESSORY
В	LSI INDUSTRIES	FIXTURE: XWS LED 5L FTW UNV DIM 40 80CRI CONTROLS: IMSBT1	LED 39W	UNV	SURFACE	EXTERIOR LED WALL SCONCE WITH STANDALONE INTEGRAL MOTION AND PHOTOCELL SENSOR

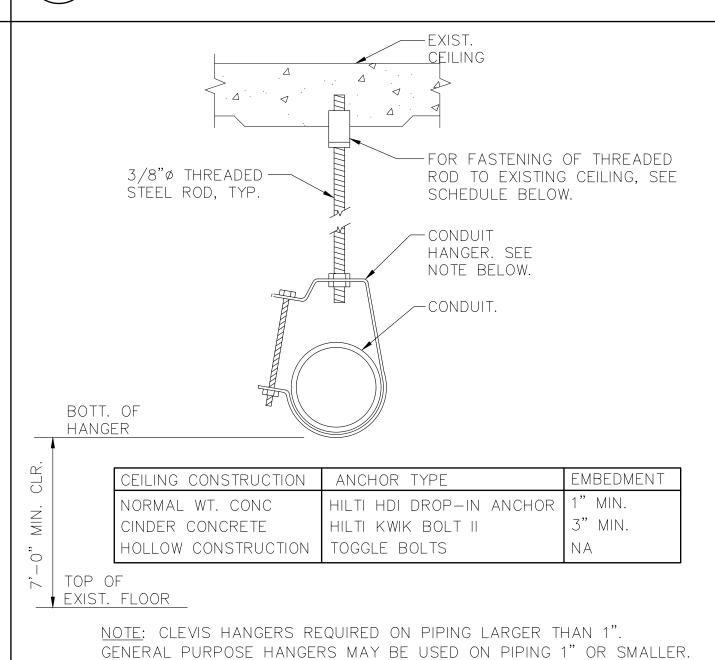
## NOTES:

1.) VERIFY ALL FIXTURE CATALOG NUMBERS FOR INTENDED APPLICATIONS WITH REQUIRED ACCESSORIES.



CEILING CONSTRUCTION | ANCHOR TYPE EMBEDMENT HILTI HDI DROP-IN ANCHOR 1" MIN. NORMAL WT. CONC 3" MIN. CINDER CONCRETE HILTI KWIK BOLT II HOLLOW CONSTRUCTION | TOGGLE BOLTS

## TRAPEZE SUPPORT DETAIL



SINGLE CONDUIT HANGER DETAIL

SCALE: NONE



**Lothrop Associates LLP Architects** 333 Westchester Avenue White Plains, New York 10604 914-741-1115

White Plains Rochester Red Bank Hartford







**OLA Consulting Engineers** 50 Broadway, Hawthorne, NY 10532

8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110

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2	05.01.2022	ISSUED FOR NYSED SUBMISSION
1	04.22.2022	ISSUED FOR 95% CD
ISSUE NO.	ISSUE DATE	DESCRIPTION

## PEARL RIVER PUBLIC LIBRARY CHILLER REPLACEMENT

80 Franklin Ave. Pearl River, NY 10965

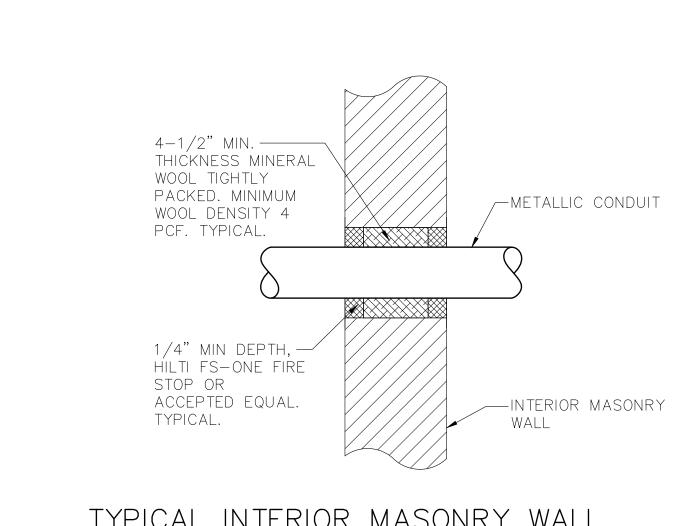
> NY SED PROJECT CONTROL NO. 50 - 03 - 08 - 03 - 6 - 005 - 004

## ELECTRICAL DETAILS AND LIGHTING FIXTURE SCHEDULE

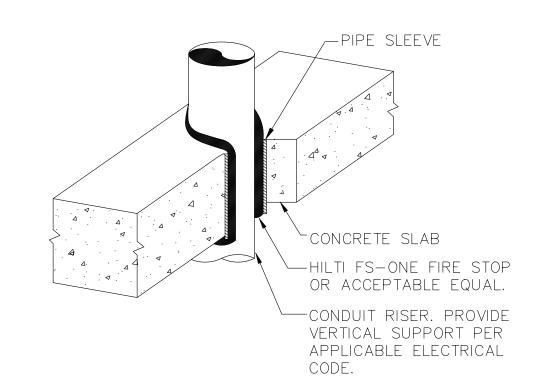
2494-00 SCALE: PROJECT NO.: AS NOTED

DRAWING NO.:

E-7.0



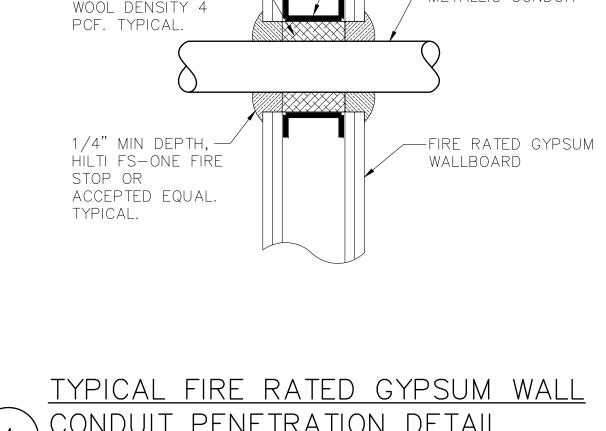
TYPICAL INTERIOR MASONRY WALL CONDUIT PENETRATION DETAIL
SCALE: NONE



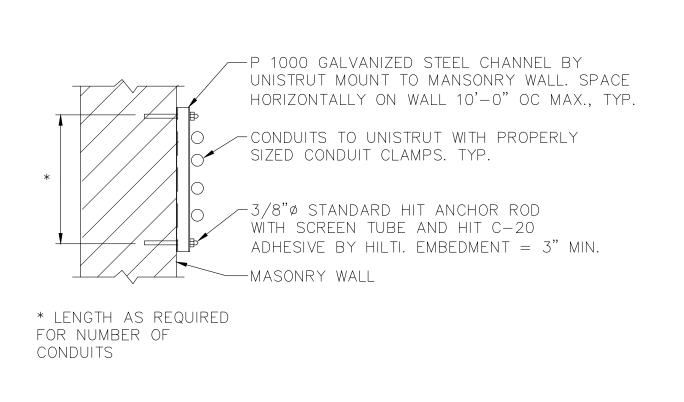
one eighth inch = one foot

0 4 8 16

TYPICAL VERTICAL CONDUIT PENETRATION DETAIL



CONDUIT PENETRATION DETAIL



TYPICAL CONDUIT SUPPORT ON MASONRY
SCALE: 1" = 1'-0"