

ADDRESS: 160 OVERLOOK AVENUE
BLOCK: 238
LOT: 8
ZONING DISTRICT: R-3

## SCOPE OF WORK

LOT AREA:

INTERIOR RENOVATION OF EXISTING 1ST FLOOR MEDICAL OFFICE

39167 SF

## CONSTRUCTION NOTES

1. CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING CODES:
-BUILDING 2015 INTERNATIONAL BUILDING CODE
-PLUMBING: 2015 NATIONAL STANDARD PLUMBING CODE
-MECHANICAL: 2015 INTERNATIONAL MECHANICAL CODE
-ELECTRICAL: 2014 NATIONAL ELECTRIC CODE (NFPA 70)

-REHAB: REHABILITATION SUB-CODE 5:23-6

-THE HACKENSACK ZONING ORDINANCE AND ALL OTHER APPLICABLE CODES 2. DO NOT SCALE PLANS!

3. THE GENERAL CONTRACTOR AND THE SUBCONTRACTORS SHALL VISIT THE SITE PRIOR TO BIDDING ON THE PROJECT AND/OR PRIOR TO BEGINNING CONSTRUCTION.

4. ANY DISCREPANCIES BETWEEN THE ACTUAL EXISTING CONDITIONS AND THOSE DEPICTED ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF ARCHITECT FOR THE ARCHITECT'S DECISION ON HOW TO PROCEED. FAILURE OF THE CONTRACTOR TO POINT OUT SAID DISCREPANCIES PRIOR TO START OF CONSTRUCTION SHALL SIGNAL HIS ACCEPTANCE OF THE EXISTING CONDITIONS

5. IT IS THE INTENT OF ARCHITECT WITH THESE PLANS TO DEPICT COMPLETE SYSTEMS. IN THE EVENT THAT NOT ALL ELEMENTS OF A PARTICULAR SYSTEM ARE INDICATED ON THE PLANS, THE CONTRACTOR SHALL, NEVERTHELESS BE RESPONSIBLE TO PROVIDE COMPLETE WORKING SYSTEMS IN ACCORDANCE WITH GENERAL PRACTICE AND INDUSTRY STANDARDS.

6. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO COMMENCEMENT OF ANY WORK AND TO OBTAIN ALL INSPECTIONS AND SIGN-OFFS

### DEMOLITION NOTES

1. CONTRACTOR TO REMOVE ALL WALLS, PLUMBING FIXTURES, FITTINGS, DOORS INCLUDING HARDWARE, FRAMES, ETC. AS INDICATED ON THE PLANS TO BE REMOVED OR AS NOT SHOWN ON THE FINAL PLAN TO REMAIN.

AT APPROPRIATE TIMES DURING AND AFTER CONSTRUCTION.

2. ALL FLOOR FINISHES TO BE REMOVED TO EXPOSE CONCRETE SLAB. PATCH TO MATCH

3. ALL WALL FINISHES TO BE REMOVED TO EXPOSE EXISTING GWB. PATCH TO MATCH.

4. DEBRIS, WHILE ON SITE SHALL BE STORED IN DUMPSTERS. NO STOCKPILING OF DEBRIS ON THE GROUND WILL BE ACCEPTABLE.

5. ALL DEBRIS TO BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE

WITH ALL APPLICABLE LAWS.

6. CONTRACTOR SHALL COORDINATE WITH BUILDING MANAGEMENT FOR ACCEPTABLE LOCATIONS ON OR IN FRONT OF SITE FOR DUMPSTERS.

### HEATING/AIR CONDITIONING AND VENTILATION NOTES

1. CONTRACTOR TO DESIGN FURNISH AND INSTALL ALL ELEMENTS AS REQUIRED TO EXTEND MODIFY EXISTING HEAT/ AC SYSTEM TO ACCOMMODATE AND SERVICE NEW AND RECONFIGURED ROOMS AND SPACES.

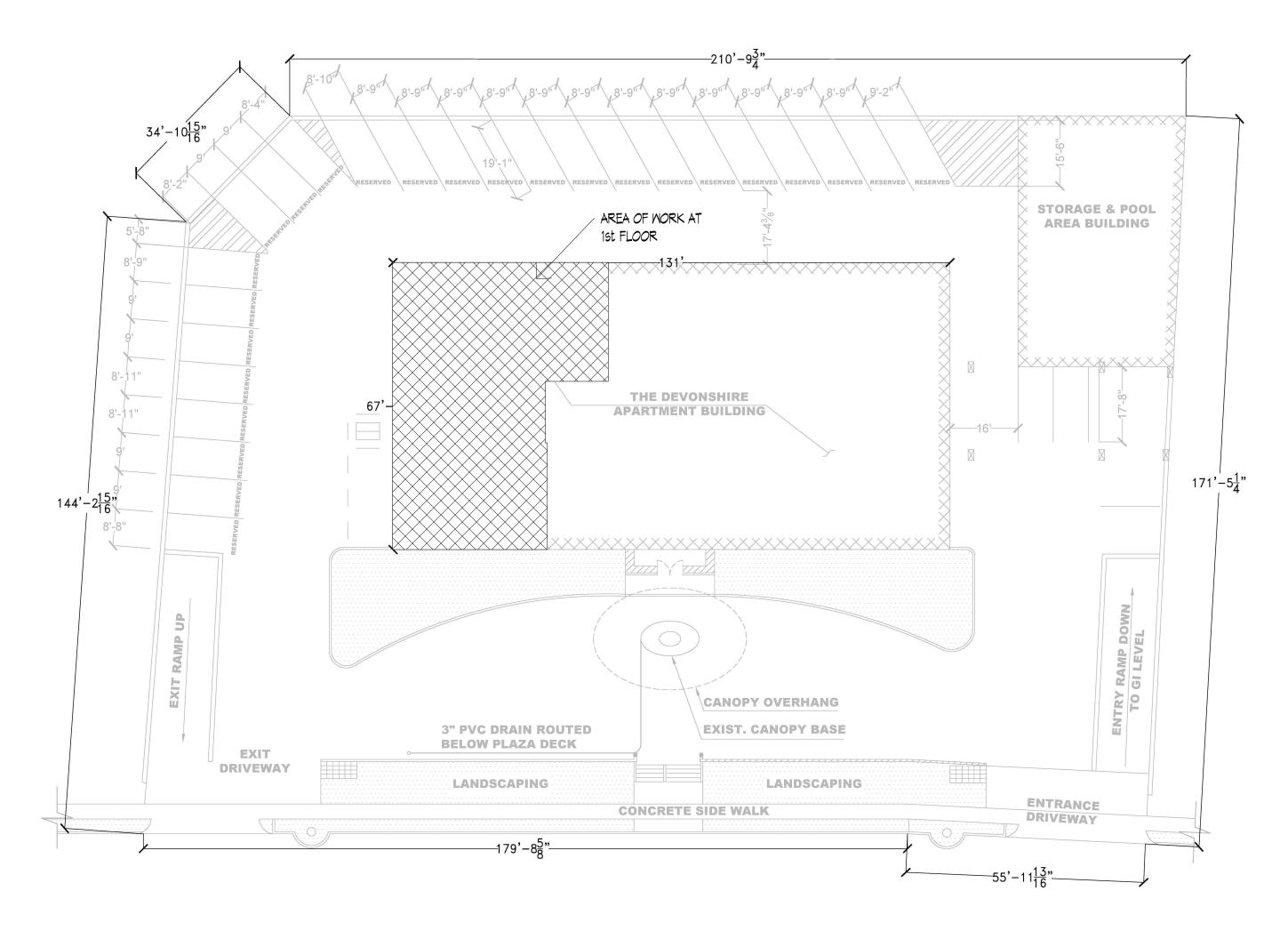
2. THE HEAT/ AC SYSTEM SHALL BE ABLE TO MAINTAIN 68 DEG F INTERIOR WHEN EXTERIOR TEMPERATURE IS BETWEEN 0-100 DEG F.

3. ALL NEW DUCTWORK SHALL BE ACOUSTICALLY INSULATED.

4. ALL NEW DUCTWORK SHALL BE DESIGNED WITH A MAXIMUM COEFFICIENT OF

FRICTION OF .1 INCHES OF WATER PER 100 FEET OF DUCT.

5. CONTRACTOR TO SUBMIT TO ARCHITECT FOR APPROVAL SCHEMATIC LAYOUT SHOWING ALL EQUIPMENT, SIZE AND LOCATION PRIOR TO INSTALLATION.



Site Plan as Produced by Arco Engineering

1 Lyndhurst, NJ 1" = 20'-0"

Drawing List							
Sheet Number	Sheet Name	Sheet Issue Date	Current Revision	Current Revision Date	Current Revision Description		
01 Gener	al						
A-1	Site Plan, Notes	09/18/17	1	9/19/17	ISSUE FOR BIDDING		
02 Archite	ectural	·		<u>'</u>			
A-2	1st Floor Demolition Plan	09/18/17	1	9/19/17	ISSUE FOR BIDDING		
A-3	Proposed Floor Plan	09/18/17	1	9/19/17	ISSUE FOR BIDDING		
A-4	Furniture and Outlet Plan	09/18/17	1	9/19/17	ISSUE FOR BIDDING		
A-5	Ceiling Plan	09/18/17	1	9/19/17	ISSUE FOR BIDDING		
A-6	Kitchen and Bathroom Details	09/18/17	1	9/19/17	ISSUE FOR BIDDING		
A-7	Bathroom Details	09/18/17	1	9/19/17	ISSUE FOR BIDDING		
A-8	Lab Plan and Elevations	09/18/17	1	9/19/17	ISSUE FOR BIDDING		
A-9	Door, Finish Schedules	09/18/17	1	9/19/17	ISSUE FOR BIDDING		
03 Plumb	ing						
P-1	Plumbing Plan, Riser Diagram	09/18/17	1	9/19/17	ISSUE FOR BIDDING		
P-2	Plumbing Specifications 1	09/18/17	1	9/19/17	ISSUE FOR BIDDING		
P-3	Plumbing Specifications 2	09/18/17	1	9/19/17	ISSUE FOR BIDDING		

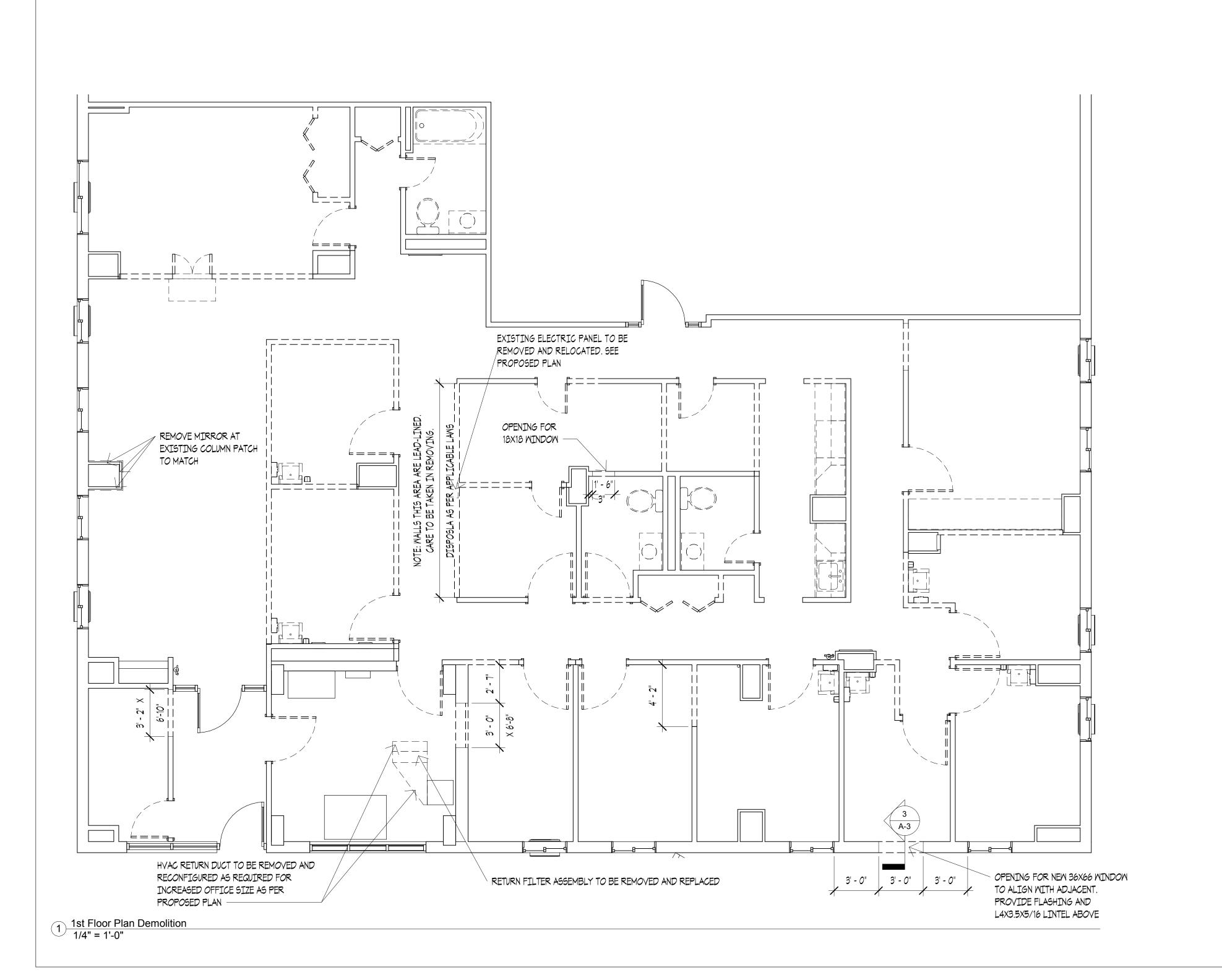
EX	EXISTING DUPLEX ELECTRICAL OUTLET (VIF)	
$\bigoplus^{N}$	NEW DUPLEX CONVENIENCE OUTLET (115V) @ +18" AFF	
N +92"	NEW DUPLEX CONVENIENCE OUTLET (115V) @ HEIGHT AS INDICATED	
N +48"	NEW QUAD CONVENIENCE OUTLET (115V) @ HEIGHT AS INDICATED	
GFCI	NEW DUPLEX CONVENIENCE OUTLET (115V) WITH GFCI PROTECTION MOUNTED @ 48" AFF OR AS INDICATED	
	EXISTING SIMPLEX OUTLET TO REMAIN 115V (VIF)	
$\overset{N}{\bigoplus}$	NEW SIMPLEX OUTLET 115V ON SEPARATE CIRCUIT	
	NEW SIMPLEX 230V OUTLET ON SEPARATE CIRCUIT @ 18" AFF OR AS NOTED	
N	NEW SIMPLEX ETHERNET OUTLET WITH MT CONDUIT TO CEILING FOR WIRING TO SERVER LOCATION BY OWNER'S SEPARATE CONTRACTOR. MOUNTED @ 18" AFF OR AS INDICATED	
N DUP	NEW DUPLEX ETHERNET OUTLET WITH MT CONDUIT TO CEILING FOR WIRING TO SERVER LOCATION BY OWNER'S SEPARATE CONTRACTOR. MOUNTED @ 18" AFF OR AS INDICATED	No. Descript  1 ISSUE FOR BIDDING
N	NEW TELEPHONE/ FAX OUTLET OUTLET WITH MT CONDUIT TO CEILING FOR WIRING TO SERVER LOCATION BY OWNER'S SEPARATE CONTRACTOR. MOUNTED @ 18" AFF OR AS INDICATED	
	CEILING MOUNTED NETWORK ACCESS POINT. SUPPLIED AND INSTALLED BY OWNER'S SEPARATE CONTRACTOR	
Ş	SINGLE POLE LIGHT SWITCH	
\$ 3	3 - WAY (OR 4-WAY) SMITCH	
TV	TELEVISION OUTLET WIRED TO OWNER'S TV SYSTEM	
	INTERCOM CALL STATION	
	EXISTING WALL TO REMAIN	
	EXISTING WALL OR ELEMENT TO BE DEMOLISHED AND REMOVED. PATCH TO MATCH.	
	NEW WALL. COORDINATE WITH FLOOR	
^x>	PLAN AND WALL SCHEDULE FOR LOCATION, EXTENT AND TYPE	Reu
	DOOR. COORDINATE WITH FLOOR PLAN AND DOOR SCHEDULE FOR LOCATION AND DETAILS	Arc 1205 Tear tel. 2
		lel. Z

Legend 1/4" = 1'-0"



Date

9/19/17



DEMOLITION NOTES

1. CONTRACTOR TO REMOVE ALL WALLS, PLUMBING FIXTURES, FITTINGS, DOORS INCLUDING HARDWARE, FRAMES, ETC. AS INDICATED ON THE PLANS TO BE REMOVED OR AS NOT SHOWN ON THE FINAL PLAN TO REMAIN.

2. ALL FLOOR FINISHES TO BE REMOVED TO EXPOSE CONCRETE SLAB PATCH TO MATCH

CONCRETE SLAB. PATCH TO MATCH

3. ALL WALL FINISHES TO BE REMOVED TO EXPOSE EXISTING

GWB. PATCH TO MATCH.

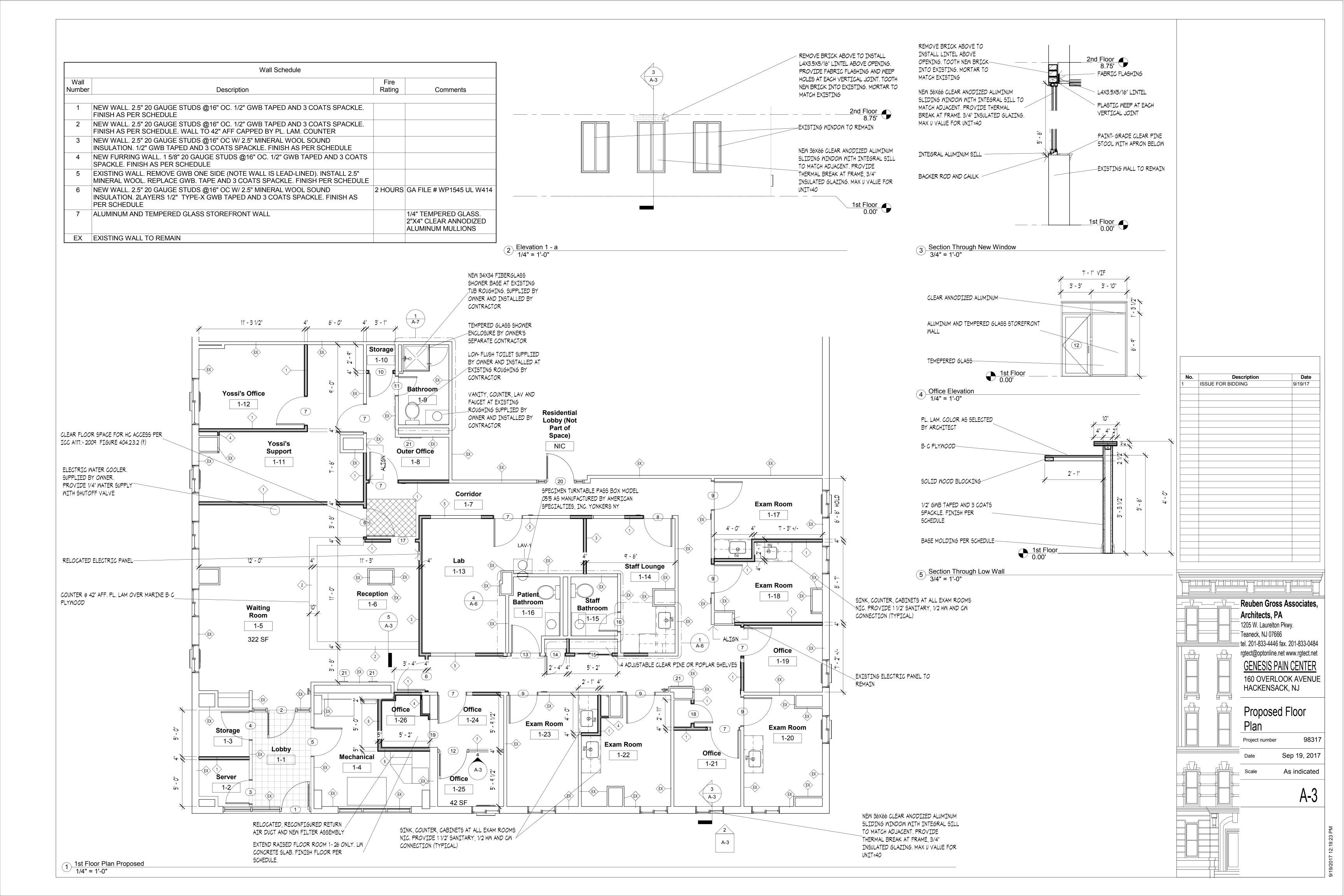
4. DEBRIS, WHILE ON SITE SHALL BE STORED IN DUMPSTERS. NO STOCKPILING OF DEBRIS ON THE GROUND WILL BE ACCEPTABLE.

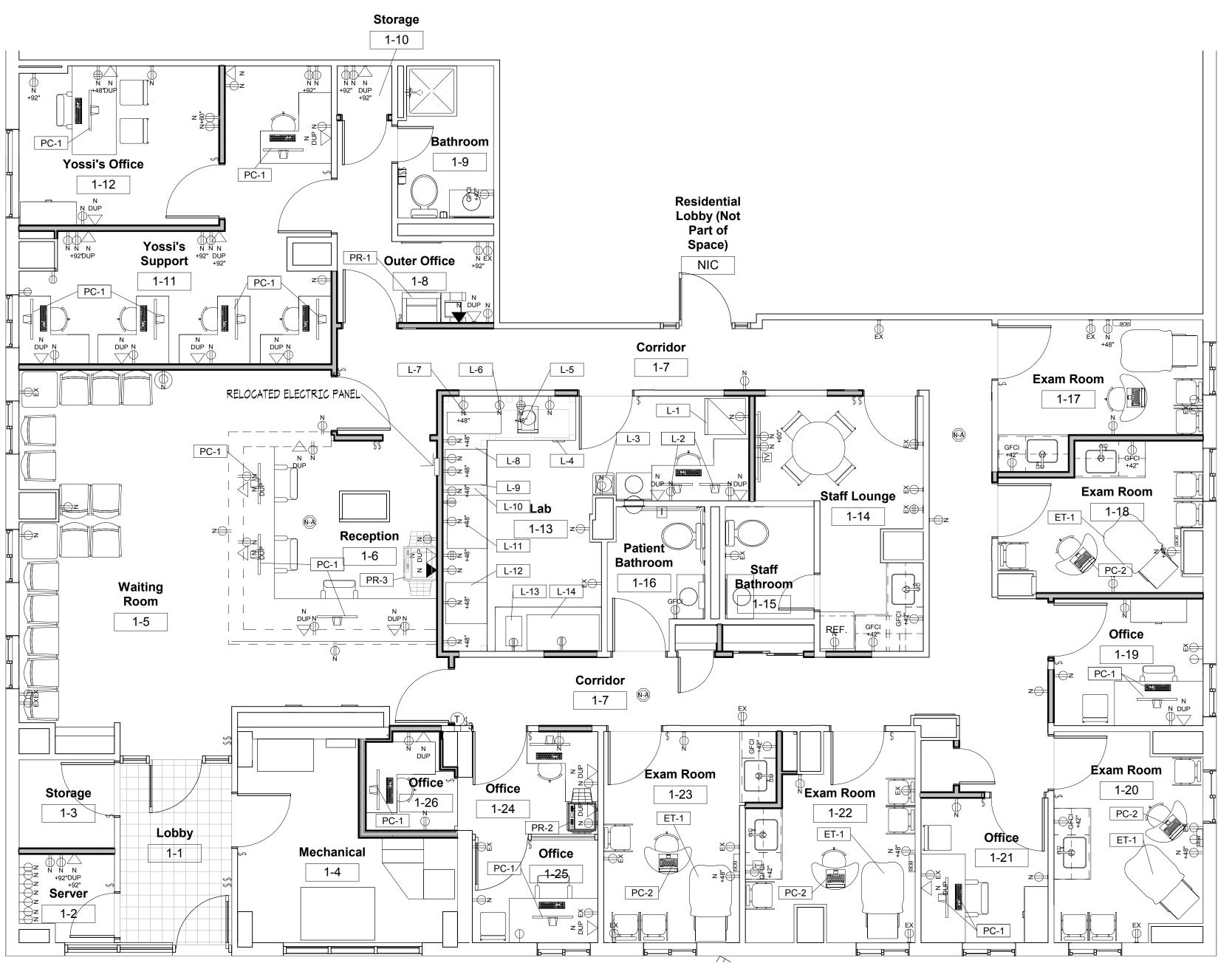
5. ALL DEBRIS TO BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LAWS.

6. CONTRACTOR SHALL COORDINATE WITH BUILDING

MANAGEMENT FOR ACCEPTABLE LOCATIONS ON OR IN FRONT OF SITE FOR DUMPSTERS.

Date ISSUE FOR BIDDING 9/19/17 Reuben Gross Associates, \_Architects, PA 1205 W. Laurelton Pkwy. = Teaneck, NJ 07666 tel. 201-833-4446 fax. 201-833-0484 tel. 201-83 rgtect@optonline.net www.rgtect.net GENESIS PAIN CENTER 160 OVERLOOK AVENUE HACKENSACK, NJ 1st Floor **Demolition Plan** Project number Sep 19, 2017 1/4" = 1'-0" A-2





1st Floor Furniture and Outlet Plan 1/4" = 1'-0"

Specialty Equipment Schedule							
Room Name	Type Mark	Description	Electrical Connection	Comments			
Exam Room	ET-1	EXAM TABLE	N/A	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Kitchen	K-1	REFRIGERATOR FREEZER	115V	BY OWNER			
Lab	L-1	REFRIGERATOR FREEZER	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-2	COMPUTER MONITOR	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-3	WATER PURIFIER	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-4	FREEZER	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-5	CENTRIFUGE	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-6	CHEM STORAGE YELLOW	N/A	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-7	THERMO BATH	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-8	CHEM STORAGE BLUE	N/A	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-9	NEW 24" HOOD	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-10	NITROGEN GENERATOR	230V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-11	BIOLIS	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-12	LCMS AUTO SAMPLER	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-13	LCMS COLUMN OVEN	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Lab	L-14	LCMS MAIN UNIT	230V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Office/ Reception	PC-1	DESKTOP COMPUTER	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Exam Room	PC-2	LAPTOP COMPUTER	115V	BY OWNER			
Outer Office	PR-1	NETWORK PRINTER	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Office	PR-2	DESKTOP PRINTER	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			
Reception	PR-3	NETWORK PRINTER	115V	INSTALLED BY OWNER'S SEPARATE CONTRACTOR			

EXISTING DUPLEX ELECTRICAL OUTLET (VIF)

NEW DUPLEX CONVENTENCE OUTLET (115V) @ +18" AFF

NEW DUPLEX CONVENIENCE OUTLET (115V) @ HEIGHT AS INDICATED

NEW QUAD CONVENIENCE OUTLET (115V) @ HEIGHT AS INDICATED

NEW DUPLEX CONVENIENCE OUTLET (115V) WITH GFCI PROTECTION MOUNTED @ 48" AFF OR AS INDICATED

EXISTING SIMPLEX OUTLET TO REMAIN 115V (VIF)

NEW SIMPLEX OUTLET 115V ON SEPARATE CIRCUIT

NEW SIMPLEX 230V OUTLET ON SEPARATE CIRCUIT @ 18" AFF OR AS NOTED

FOR WIRING TO SERVER LOCATION BY OWNER'S SEPARATE CONTRACTOR. MOUNTED @ 18" AFF OR AS INDICATED

NEW SIMPLEX ETHERNET OUTLET WITH MT CONDUIT TO CEILING

NEW DUPLEX ETHERNET OUTLET WITH MT CONDUIT TO CEILING
FOR WIRING TO SERVER LOCATION BY OWNER'S SEPARATE
CONTRACTOR. MOUNTED @ 18" AFF OR AS INDICATED

NEW TELEPHONE/ FAX OUTLET OUTLET WITH MT CONDUIT TO CEILING FOR WIRING TO SERVER LOCATION BY OWNER'S SEPARATE CONTRACTOR. MOUNTED @ 18" AFF OR AS INDICATED

CEILING MOUNTED NETWORK ACCESS POINT. SUPPLIED AND INSTALLED BY OWNER'S SEPARATE CONTRACTOR

SINGLE POLE LIGHT SWITCH

3

3 - WAY (OR 4-WAY) SMITCH

TELEVISION OUTLET WIRED TO OWNER'S TV SYSTEM

INTERCOM CALL STATION

Electrical Legend
1/4" = 1'-0"

NO.	Description	Date
	ISSUE FOR BIDDING	9/19/17
$\neg \sqcap$		

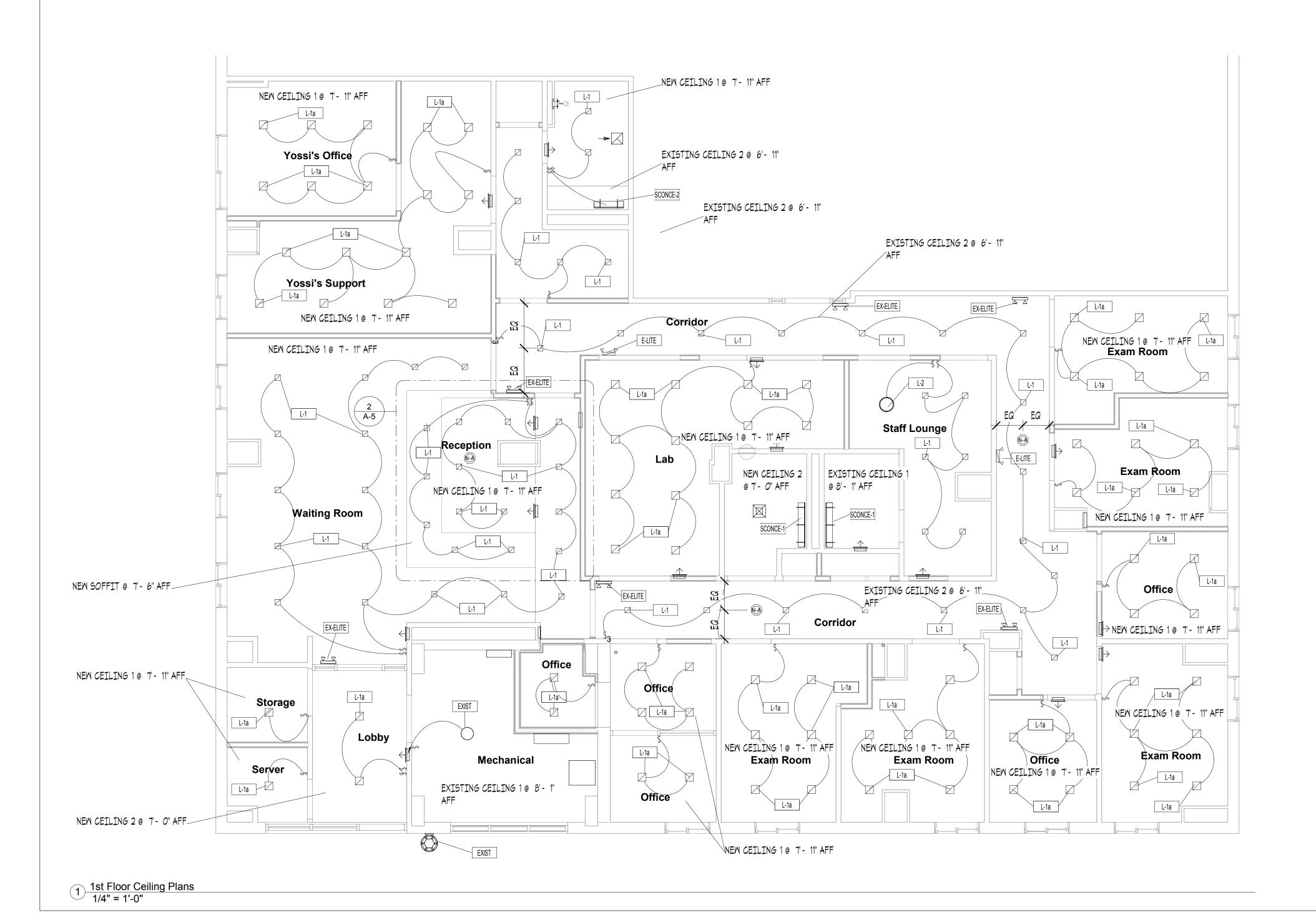
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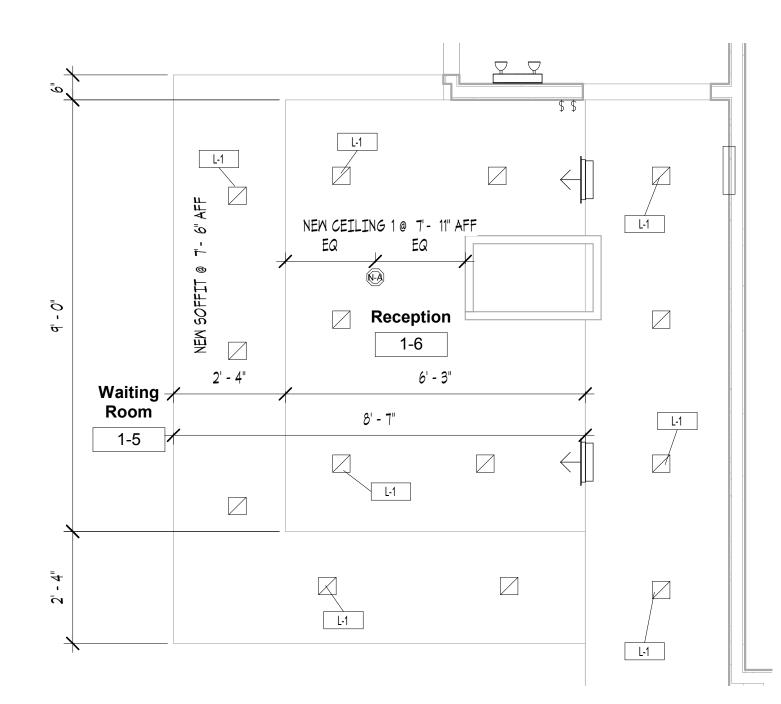


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	Ceiling Schedule		
Туре	Description	Finish	Height Offset From Level
EXISTING CEILING 1	EXISTING POPCORN CEILING AT SLAB ABOVE	PAINT FLAT	8' - 1"
EXISTING CEILING 2	EXISTING GWB CEILING. PATCH TO MATCH	PAINT FLAT	6' - 11"
NEW CEILING 1	NEW CEILING: 1/2" GWB TAPED AND SPACKLED OVER 7/8" HATTRACK		7' - 11"
NEW CEILING 2	NEW CEILING: 1/2" GWB TAPED AND SPACKLED 1 5/8" METAL STUD FRAMING @ 16" OC	PAINT FLAT	7' - 0"
NEW SOFFIT	NEW CEILING: 1/2" GWB TAPED AND SPACKLED 1 5/8" METAL STUD FRAMING @ 16" OC	PAINT FLAT	7' - 6"

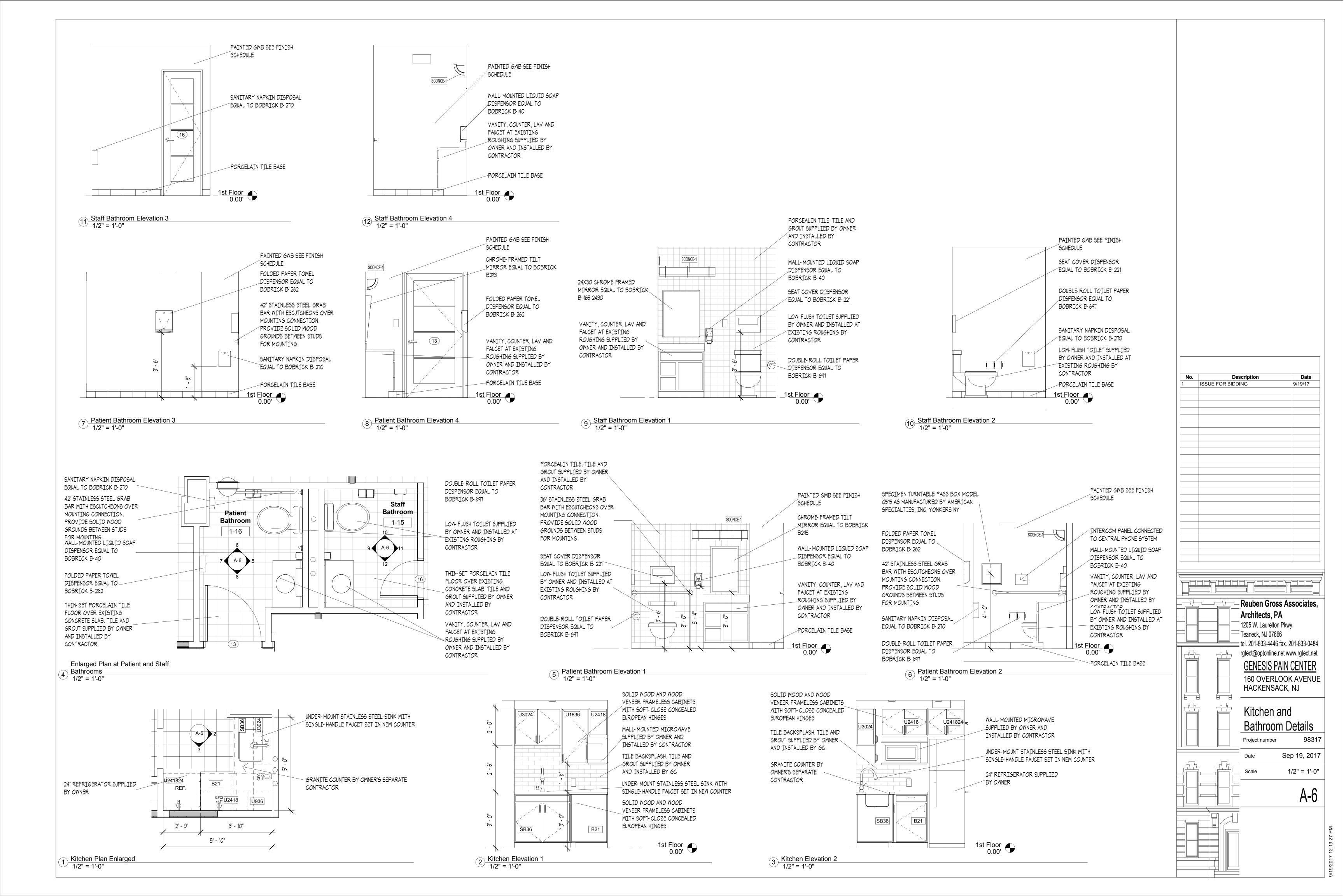
	Lighting Fixture Schedule							
Type Mark	Count	Manufacturer	Model	Description	Comments			
E-LITE	2			2-HEAD EMERGENCY LIGHT WITH BATTERY BACKUP				
EX-ELITE	7	Cooper Industries, Inc.		ILLUMINATED EXIT LIGHT WITH 2-HEAD EMERGENCY LIGHTING AND BATTERY BACKUP				
EXIST	2				EXISTING TO REMAIN			
L-1	60	Philips Lightolier	S4S830K7	4", 80CRI, 3000K, 650 Nominal Delivered Lumens				
L-1a	79	Philips Lightolier	S6S830K10	6", 80 CFI, 3000K, 1000 Nominal Delivered Lumens				
L-2	1			SURFACE MOUNTED FROSTED DOME	SUPPLIED BY OWNER INSTALLED BY CONTRACTOR			
SCONCE-1	2			3' WALL SCONCE	SUPPLIED BY OWNER INSTALLED BY CONTRACTOR			
SCONCE-2	1			2' WALL SCONCE	SUPPLIED BY OWNER INSTALLED BY CONTRACTOR			

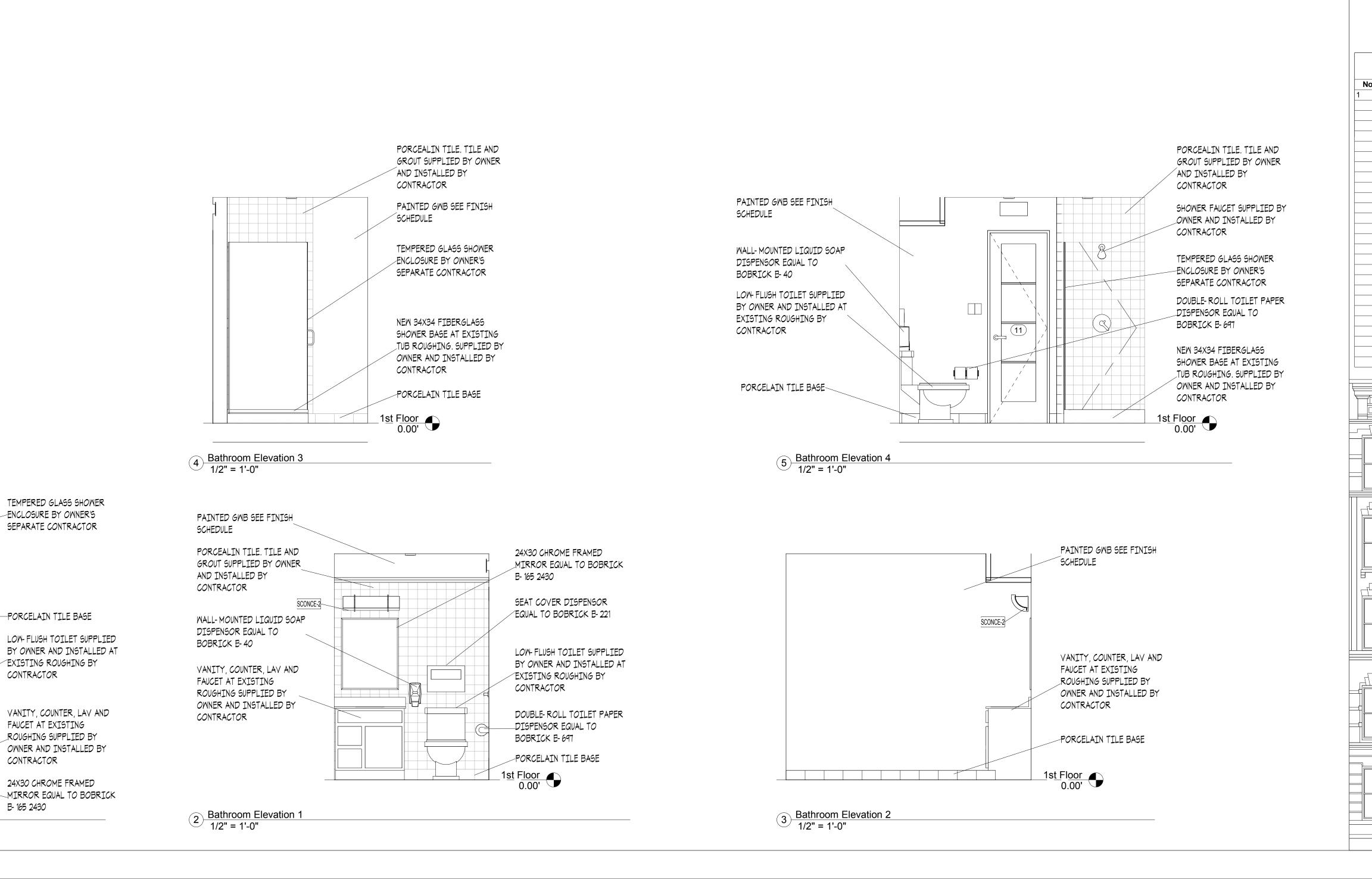




2 Hung Ceiling Detailed Plan at Reception 1/2" = 1'-0"







NEW 34X34 FIBERGLASS

CONTRACTOR

CONTRACTOR

SHOWER BASE AT EXISTING

OWNER AND INSTALLED BY

TUB ROUGHING. SUPPLIED BY\_

SHOWER FAUCET SUPPLIED BY

DOUBLE-ROLL TOILET PAPER

WALL- MOUNTED LIQUID SOAP

DISPENSOR EQUAL TO

DISPENSOR EQUAL TO

SEAT COVER DISPENSOR

EQUAL TO BOBRICK B- 221

1 Enlarged Bathroom Plan 1/2" = 1'-0"

B- 165 2430

BOBRICK E-697

BOBRICK E-40

OWNER AND INSTALLED BY

ISSUE FOR BIDDING

9/19/17

- Reuben Gross Associates,

tel. 201-833-4446 fax. 201-833-0484

rgtect@optonline.net www.rgtect.net

GENESIS PAIN CENTER

160 OVERLOOK AVENUE

Bathroom Details

98317

Sep 19, 2017

1/2" = 1'-0"

A-7

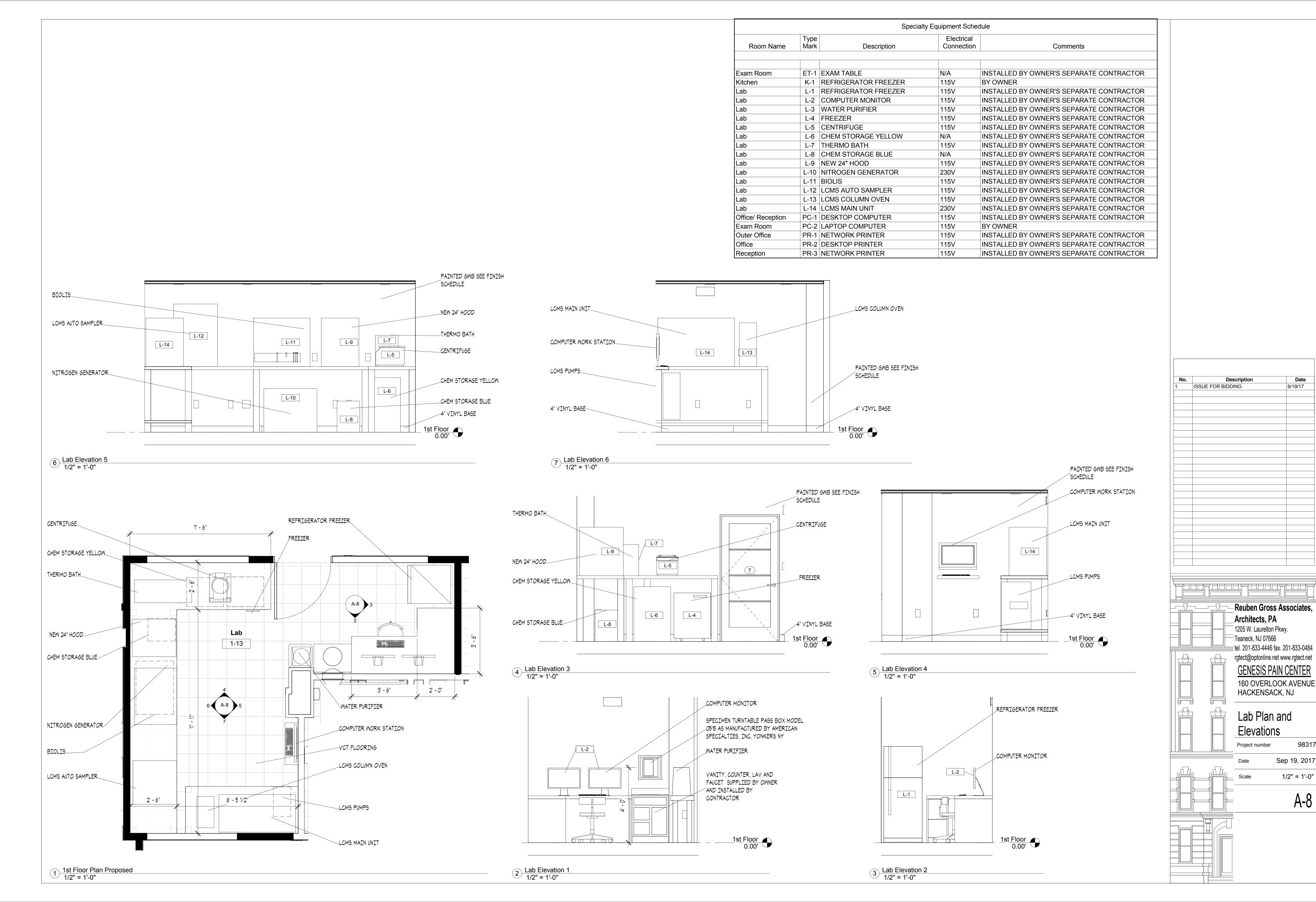
HACKENSACK, NJ

Architects, PA

<sup>-</sup> Teaneck, NJ 07666

Project number

1205 W. Laurelton Pkwy.



Date

9/19/17

Sep 19, 2017

1/2" = 1'-0"

A-8

				Finish Scheo	طبالم				
Numbe	Name	Floor Finish	Wall Finish	Base Molding	Stool/Apron	Molding Finish	Ceiling Material	Ceiling Finish	Comments
1-1	Lobby	PFT	PAINT PEARL	PT*	-		GWB	PAINT FLAT	
1-2	Server	VCT	PAINT PEARL	VINYL	-		GWB	PAINT FLAT	
1-3	Storage	VCT	PAINT PEARL	VINYL	-		GWB	PAINT FLAT	
1-4	Mechanical	NO CHANGE	BLOCK SEALING PAINT	-			-	-	
1-5	Waiting Room	PFT	PAINT PEARL	PT*	WOOD	PAINT SG	GWB	PAINT FLAT	
1-6	Reception	PFT	PAINT PEARL	PT*	-	-	GWB	PAINT FLAT	
1-7	Corridor	PFT	PAINT PEARL	PT*	-	-	GWB	PAINT FLAT	
1-8	Outer Office	CARPET	PAINT PEARL	VINYL	-	PAINT SG	GWB	PAINT FLAT	
1-9	Bathroom	PFT	PWT @ WET WALL. BALANCE PAINT SG	PT*	-	-	GWB	PAINT SG	
1-10	Storage	PFT	PAINT PEARL	PT*	-	-	GWB	PAINT FLAT	
1-11	Yossi's Support	CARPET	PAINT PEARL	PT*	WOOD	PAINT SG	GWB	PAINT FLAT	
1-12	Yossi's Office	CARPET	PAINT PEARL	PT*	WOOD	PAINT SG	GWB	PAINT FLAT	
1-13	Lab	VCT	PAINT PEARL	VINYL	-	-	GWB	PAINT FLAT	
1-14	Staff Lounge	VCT	PAINT PEARL	VINYL	-	-	GWB	PAINT FLAT	
1-15	Staff Bathroom	PFT	PWT @ WET WALL. BALANCE PAINT SG	PT*	-	-	GWB	PAINT SG	
1-16	Patient Bathroom	PFT	PWT @ WET WALL. BALANCE PAINT SG	PT*	-	-	GWB	PAINT SG	
1-17	Exam Room	PFT	PAINT PEARL. CT BACKSPLASH AT SINK COUNTER	PT*	WOOD	PAINT SG	GWB	PAINT FLAT	
1-18	Exam Room	PFT	PAINT PEARL. CT BACKSPLASH AT SINK COUNTER	PT*	WOOD	PAINT SG	GWB	PAINT FLAT	
1-19	Office	CARPET	PAINT PEARL	PT*	WOOD	PAINT SG	GWB	PAINT FLAT	
1-20	Exam Room	PFT	PAINT PEARL. CT BACKSPLASH AT SINK COUNTER	PT*	WOOD	PAINT SG	GWB	PAINT FLAT	
1-21	Office	CARPET	PAINT PEARL	PT*	WOOD	PAINT SG	GWB	PAINT FLAT	
1-22	Exam Room	PFT	PAINT PEARL. CT BACKSPLASH AT SINK COUNTER	PT*	WOOD	PAINT SG	GWB	PAINT FLAT	
1-23	Exam Room	PFT	PAINT PEARL. CT BACKSPLASH AT SINK COUNTER	PT*	WOOD	PAINT SG	GWB	PAINT FLAT	
1-24	Office	CARPET	PAINT PEARL	PT*	-	-	GWB	PAINT FLAT	
1-25	Office	CARPET	PAINT PEARL	PT*	WOOD	PAINT SG	GWB	PAINT FLAT	
1-26	Office	CARPET	PAINT PEARL	PT*	WOOD	PAINT SG	GWB	PAINT FLAT	
NIC	Residential Lobby (Not Part of Space)								

## FINISH NOTES

- FLOORING:
- 1. PFT = PORCELAIN TILE. TILE AND GROUT SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR

  2. VCT = VINYL COMPOSITE TILE. SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR

  3. CARPET. SUPPLIED AND INSTALLED BY OWNER'S SEPARATE CONTRACTOR

#### WALL FINISH:

- 1. ALL PAINT BY BENJAMIN MOORE. NO SUBSTITUTION. COLOR AS SELECTED BY OWNER. ASSUME POSSIBILITY OF DIFFERENT COLORS FOR EACH ROOM
- 2. PWT = PORCELAIN WALL TILE. TILE AND GROUT SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR

  3. CT = CERAMIC TILE (FOR BACKSPLASH). TILE AND GROUT SUPPLIED BY OWNER AND INSTALLED BY

  CONTRACTOR

#### BASE MOLDING:

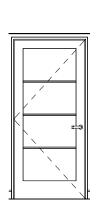
1. PT\* = PORCELAIN WALL TILE. TILE AND GROUT SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR.

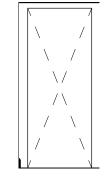
2. VINYL = 4" VINYL BASE MOLDING. COLOR AS SELECTED BY OWNER FROM MANUFACTURER'S STANDARD COLORS.

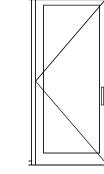
#### ALTERNATE PRICING

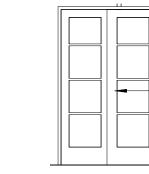
- 1. CONTRACTOR TO PROVIDE ALTERNATE PRICE TO FURNISH AND INSTALL 4" VINYL BASE MOLDING IN LIED OF PORCELAIN TILE WHERE INDICATED ABOVE. COLOR AS SELECTED BY OWNER FROM MANUFACTURER'S STANDARD COLORS.
- 2. CONTRACTOR TO PROVIDE ALTERNATE PRICE TO FURNISH AND INSTALL 4" PAINTED WOOD OR MDF BASE MOLDING IN LIEU OF PORCELAIN TILE AS INDICATED ABOVE. MODING PROFILE AS SELECTED BY OWNER

				_												0.455:-	
ark		<b>D T</b>	evation		SIZE			Fire Passa			Lock	Electric Strike/ Interior Buzzer	Butt	Spring		SADDLE WP Ma	rble
Ma	Room	Door Type	<u> </u>	Width	Height	Jamb	Door Material Ra	ating Se	t Se	Set	Cylinder	Release	Hinges	Hinges Closer	Stop S	addle Sac	ddle Comments
	.OBBY	EXISTING ENTRY DOOR TO REMAIN	3	3' - 0"	7' - 0"	ΔΙΙΙΜΙΝΙΙΙΜ	ALUMINUM AND TEMPERED GLASS										EXISTING DOOR TO REMAIN
	VAITING ROOM	SWING	3	3' - 0"		HM	ALUMINUM AND TEMPERED GLASS										EXISTING DOOR TO REMAIN
	BERVER	PANEL SWING	1	2' - 6"		HM	WOOD AND FROSTED TEMPERED GLASS		X		X		Х		X		NEW DOOR AND FRAME AT EXISTING DOOR LOCATION. CLASSROOM ACTION
S	STORAGE	PANEL SWING	1	3' - 0"	6' - 8"	НМ	WOOD AND FROSTED TEMPERED GLASS		X		X		X		X		
N	/IECHANICAL	PANEL SWING	1	3' - 0"	6' - 8"	НМ	WOOD AND FROSTED TEMPERED GLASS										
С	CORRIDOR	PANEL SWING	1	3' - 0"	6' - 8"	НМ	WOOD AND FROSTED TEMPERED GLASS	X			X		X		X		
С	OFFICE	PANEL SWING	1	3' - 0"	6' - 8"	НМ	WOOD AND FROSTED TEMPERED GLASS		X		X		Х		X		CLASSROOM ACTION
S	STAFF LOUNGE	PANEL SWING	1	3' - 0"	6' - 8"	НМ	WOOD AND FROSTED TEMPERED GLASS	X					Х		Х		
E	EXAM ROOM	PANEL SWING	1	3' - 0"	6' - 8"	НМ	WOOD AND FROSTED TEMPERED GLASS	X					Х		Х		
0 S	STORAGE	PANEL SWING	1	2' - 6"	6' - 8"	НМ	WOOD AND FROSTED TEMPERED GLASS	X			Х		Х		Х		
1 B	BATHROOM	PANEL SWING	1	2' - 0"	6' - 8"	HM	WOOD AND FROSTED TEMPERED GLASS			X			Х		Х		NEW DOOR AND FRAME AT EXISTING DOOR LOCATION
2 C	OFFICE	SWING	3	3' - 0"	6' - 8"	ALUMINUM	ALUMINUM AND TEMPERED GLASS	X			Х		Х	X			PART OF STOREFONT PACKAGE
3 P	PATIENT BATHROOM	PANEL SWING	1	3' - 0"	6' - 8"	HM	WOOD AND FROSTED TEMPERED GLASS			X			Х		Х		NEW DOOR AND FRAME AT EXISTING DOOR LOCATION
1 C	CLOSET	PANEL SWING	1	2' - 0"	6' - 8"	HM	WOOD AND FROSTED TEMPERED GLASS		X				Х				
5 C	CLOSET	PANEL SLIDING	4	4' - 0"	6' - 8"	НМ	WOOD AND FROSTED TEMPERED GLASS										
6 S	STAFF BATHROOM	PANEL SWING	1	2' - 0"	6' - 8"	HM	WOOD AND FROSTED TEMPERED GLASS			X			Х		Х		NEW DOOR AND FRAME AT EXISTING DOOR LOCATION
' R	RECEPTION	ARCH	2	2' - 8"	6' - 8"		-										
3 C	CLOSET	PANEL SWING	1	2' - 0"	6' - 8"	HM	WOOD AND FROSTED TEMPERED GLASS		X				Х		Х		
9 C	OFFICE	ARCH	2	3' - 0"	6' - 8"	N/A	-										
0 R	RESIDENTIAL LOBBY	SWING	3	3' - 0"	7' - 0"		ALUMINUM AND TEMPERED GLASS										EXISTING DOOR TO REMAIN
1		EXISTING ACCESS PANEL TO REMAIN				N/A											









Door Flouring 4

<u>DOOR NOTES</u>

1. INTERIOR WOOD PANEL SWING DOORS 1 3/4" STAINED HARDWOOR WITH TRUE DIVIDED LIGHT AND TEMPERED FROSTED GLASS MANDUFACTURED BY MASONITE OR EQUAL AS APPROVED BY ARCHITECT 2. DOOR HARDWARE AS MANUFACTURED BY SCHLAGE OR EQUAL AS APPROVED BY ARCHITECT.

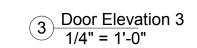
MEDIUM DUTY LEVER OPERATION STYLE AS SELECTED BY ARCHITECT FINISH BRUSHED CHROME

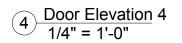


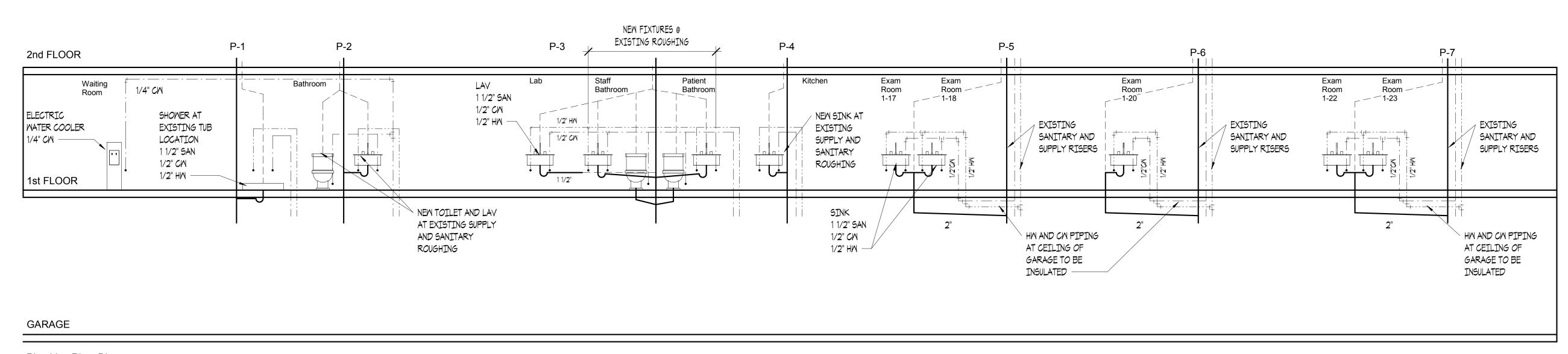
ISSUE FOR BIDDING

Date

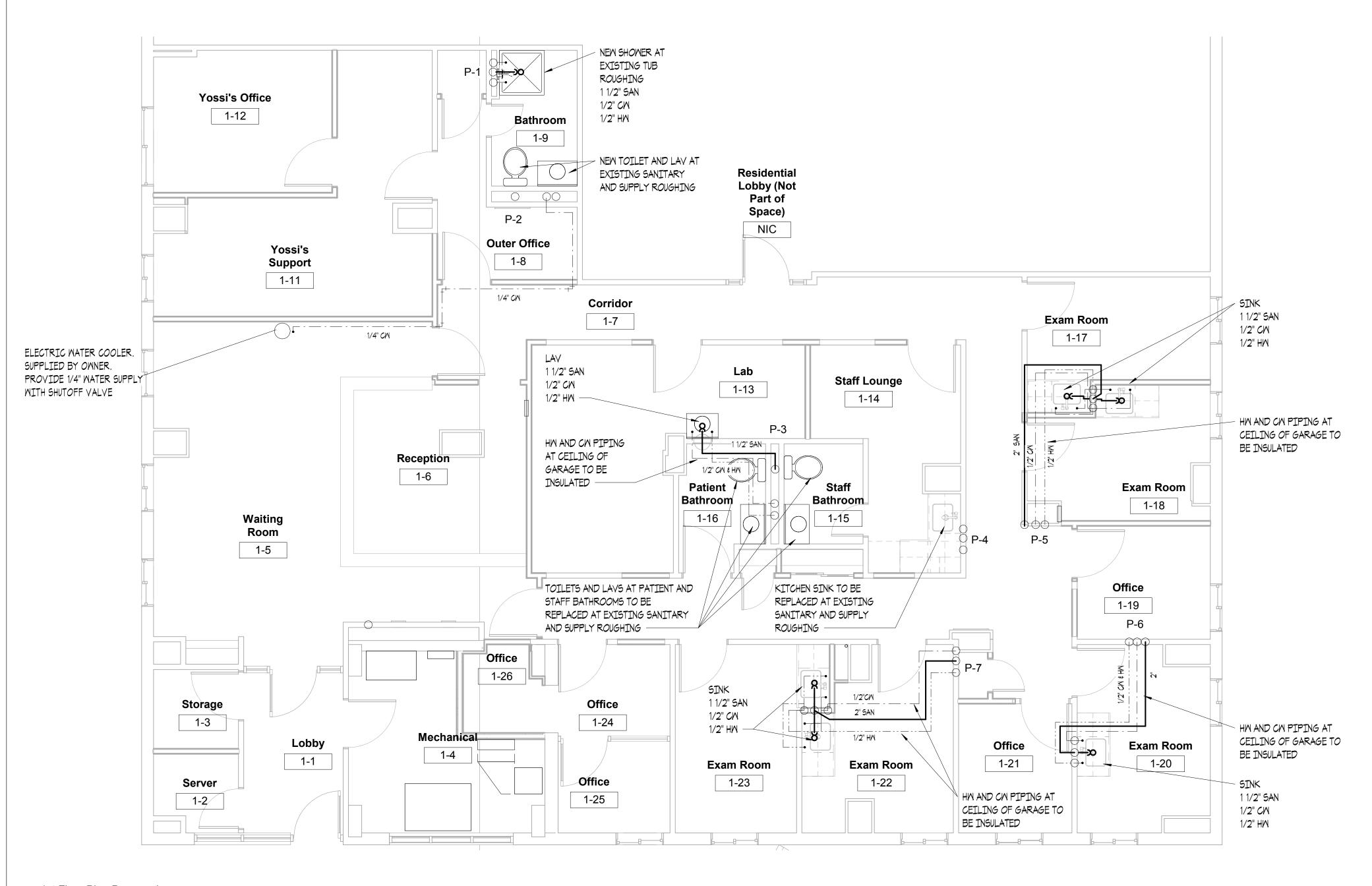
9/19/17







Plumbing Riser Diagram
1/4" = 1'-0"



No.	Description	Date
1	ISSUE FOR BIDDING	9/19/17

Reuben Gross Architects, PA 1205 W. Laurelton Teaneck, NJ 07666 tel. 201-833-4446 fr rgtect@optonline.ne GENESIS PA 160 OVERLO HACKENSAC	Pkwy.  ax. 201-833-0484 et www.rgtect.net  IN CENTER  OOK AVENUE
Plumbing Riser Dia	
Date	Sep 19, 2017
Scale	1/4" = 1'-0"
	P-1

1st Floor Plan Proposed 1/4" = 1'-0"

## PLUMBING SPECIFICATIONS:

#### BASIC PLUMBING REQUIREMENTS

PART 1. - GENERAL

#### 1.1 RELATED DOCUMENTS

ALL APPLICABLE REQUIREMENTS OF OTHER PORTIONS OF THE CONTRACT DOCUMENTS APPLY TO THE WORK OF THIS SECTION INCLUDING, BUT NOT LIMITED TO, ALL DRAWINGS, ALL SPECIFICATIONS, GENERAL CONDITIONS, AND GENERAL REQUIREMENTS INCLUDING SUBMITTALS.

#### 1.2 SUMMARY

THIS SECTION INCLUDES GENERAL ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS TO EXPAND THE REQUIREMENTS SPECIFIED IN RELATED DOCUMENTS.

#### 1.3 APPLICABLE STANDARDS

APPLICABILITY OF STANDARDS: EXCEPT WHERE THE CONTRACT DOCUMENTS INCLUDE MORE STRINGENT REQUIREMENTS, APPLICABLE CONSTRUCTION INDUSTRY STANDARDS HAVE THE SAME FORCE AND EFFECT AS IF BOUND OR COPIED DIRECTLY INTO THE CONTRACT DOCUMENTS. SUCH STANDARDS ARE MADE A PART OF THE CONTRACT DOCUMENTS BY REFERENCE.

CONFLICTING REQUIREMENTS: WHERE COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED, AND THE STANDARDS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, REFER REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, AND UNCERTAINTIES TO THE A/E FOR A DECISION BEFORE PROCEEDING.

PUBLICATION DATES: WHERE THE DATE OF ISSUE OF A REFERENCED STANDARD IS NOT SPECIFIED, COMPLY WITH THE STANDARD IN EFFECT AS OF DATE OF CONTRACT DOCUMENTS.

ABBREVIATIONS AND NAMES: TRADE ASSOCIATION NAMES AND TITLES OF GENERAL STANDARDS ARE FREQUENTLY ABBREVIATED. THE FOLLOWING ACRONYMS OR ABBREVIATIONS AS REFERENCED IN CONTRACT DOCUMENTS ARE DEFINED TO MEAN THE ASSOCIATED NAMES. NAMES AND ADDRESSES ARE SUBJECT TO CHANGE AND ARE BELIEVED TO BE BUT ARE NOT ASSURED TO BE ACCURATE AND UP TO DATE AS OF DATE OF CONTRACT DOCUMENTS.

AGA - AMERICAN GAS ASSOCIATION ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE ARI - AIR CONDITIONING AND REFRIGERATION INSTITUTE ASHRAE - AMERICAN SOCIETY OF HEATING, REFRIGERATING ASME - AMERICAN SOCIETY OF MECHANICAL ENGINEERS ASSE - AMERICAN SOCIETY OF SANITARY ENGINEERING ASTM - AMERICAN SOCIETY FOR TESTING AND MATERIALS AWS - AMERICAN WELDING SOCIETY AWWA - AMERICAN WATER WORKS ASSOCIATION CISPI - CAST IRON SOIL PIPE INSTITUTE NEC - NATIONAL ELECTRIC CODE

NFPA - NATIONAL FIRE PROTECTION ASSOCIATION NSF - NATIONAL SANITATION FOUNDATION PDI - PLUMBING AND DRAINAGE INSTITUTE

UL - UNDERWRITERS LABORATORIES DOT - DEPARTMENT OF TRANSPORTATION

**EPA - ENVIRONMENTAL PROTECTION AGENCY** 

OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

## 1.4 SUBMITTALS

PRIOR TO THE PERFORMANCE OF ANY WORK OR INSTALLATION OF ANY MATERIALS, OBTAIN APPROVAL FROM THE A/E BY SUBMITTING SHOP DRAWINGS AND DATA SHEETS.

SUBMITTAL OF SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES WILL BE ACCEPTED ONLY WHEN SUBMITTED BY THE CONTRACTOR. DATA SUBMITTED FROM SUBCONTRACTORS AND MATERIAL SUPPLIERS DIRECTLY TO THE ENGINEER OF RECORD WILL NOT BE PROCESSED. CERTIFIED DRAWINGS AND CATALOG DATA SHEETS SHALL SHOW:

- 1. APPLICABLE SPECIFICATION SECTION NUMBER AND EQUIPMENT TAG NUMBER.
- 2. PRINCIPAL DIMENSIONS AND DETAILS OF CONSTRUCTION.
- 3. WEIGHTS: INFORMATION REQUIRED FOR THE DESIGN OF SUPPORTS AND FOUNDATIONS.
- 4. SIZES AND LOCATIONS OF PIPING AND CONNECTIONS.
- 5. PERFORMANCE DATA CERTIFIED BY THE MANUFACTURER FOR THE EQUIPMENT FURNISHED.
- 6. SUBMIT SCHEDULE OF PROPOSED PIPING, VALVES, SPECIALTIES, ETC.
- PLUMBING SUBMITTALS SHALL BE PROVIDED FOR THE FOLLOWING ITEMS:
- 1. PIPING AND FITTING MATERIALS. 2. PLUMBING VALVES AND SPECIALTIES.
- 3. PIPING HANGER AND ATTACHMENT ASSEMBLIES.
- 4. PIPING INSULATION.
- 5. ALL SCHEDULED PLUMBING FIXTURES, DRAINS, AND CLEANOUTS.
- 6. UTILITY CONNECTION DETAILS REQUIRED BY AUTHORITIES HAVING JURISDICTION.

APPROVAL OF SHOP DRAWINGS DOES NOT RELEASE CONTRACTOR FROM RESPONSIBILITY OF COORDINATING HIS WORK AT JOBSITE AND TAKING FIELD MEASUREMENTS. IN CASES WHERE INTERFERENCES BECOME APPARENT, THE CONTRACTOR SHALL NOTIFY A/E SO THAT SUCH INTERFERENCES MAY BE RESOLVED PRIOR TO PROCEEDING WITH SHOP WORK. NO CLAIM WILL BE ALLOWED FOR WORK THAT MIGHT HAVE TO BE MOVED OR REPLACED BASED ON A CLAIM THAT WORK WAS PLACED IN ACCORDANCE WITH DIMENSIONS SHOWN ON AN APPROVED SHOP DRAWING.

## 1.5 COORDINATION

## COORDINATE WITH THE BUILDING TRADES:

 STRUCTURAL MEMBERS, PADS, AND BUILDING OPENINGS FOR FIXTURES, EQUIPMENT, PIPING, ETC., FOR USE BY THIS CONTRACTOR SHOWN ON THE ARCHITECTURAL AND STRUCTURAL PLANS ARE THE COORDINATION RESPONSIBILITY OF THIS CONTRACTOR. THIS CONTRACTOR WILL PAY FOR ANY CHANGES IN THE ABOVE REQUIREMENTS AFTER LETTING AND ACCEPTING THE CONTRACT.

- THE DRAWINGS SHOW THE GENERAL ARRANGEMENT, DIRECTIONS AND SIZES OF EQUIPMENT, PIPING, ETC. IT IS NOT INTENDED TO SHOW EVERY OFFSET AND FITTING OF EVERY SITE DIFFICULTY THAT MAY BE ENCOUNTERED, BUT THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AND PERFORM ALL LABOR NECESSARY TO MAKE COMPLETE WORKING SYSTEMS, READY FOR USE, WITHOUT EXTRA CHARGE TO THE OWNER OR A/E. ALL MEASUREMENTS MUST BE VERIFIED ON THE JOBSITE
- EXAMINE THE SITE AND ALL DRAWINGS BEFORE PROCEEDING WITH THE LAYOUT AND INSTALLATION OF THIS TO SUIT ACTUAL CONDITIONS. CONFER AND COOPERATE WITH OTHER TRADES ON THE JOB SO THAT ALL WORK WILL BE INSTALLED IN PROPER RELATIONSHIP. PRECISE LOCATION OF PARTS TO COORDINATE WITH OTHER WORK IS THE RESPONSIBILITY OF THIS CONTRACTOR. ALL SYSTEMS SHALL BE INSTALLED TO PROVIDE MAXIMUM HEADROOM, EXCEPT WHERE DIMENSIONED OTHERWISE ON THE DRAWINGS.

## 1.6 RECORD DOCUMENTS

RECORD DRAWINGS: MAINTAIN A CLEAN, UNDAMAGED SET OF PRINTS OF CONTRACT DRAWINGS AND SHOP DRAWINGS. MARK THE SET TO SHOW THE ACTUAL INSTALLATION WHERE THE INSTALLATION VARIES SUBSTANTIALLY FROM THE WORK AS ORIGINALLY SHOWN. MARK WHICHEVER DRAWING IS MOST CAPABLE OF SHOWING CONDITIONS FULLY AND ACCURATELY; WHERE SHOP DRAWINGS ARE USED, RECORD A CROSS-REFERENCE AT THE CORRESPONDING LOCATION ON THE CONTRACT DRAWINGS. GIVE PARTICULAR ATTENTION TO CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO MEASURE AND RECORD

- 1. MARK NEW INFORMATION THAT IS IMPORTANT TO THE OWNER, BUT WAS
- NOT SHOWN ON CONTRACT DRAWINGS OR SHOP DRAWINGS. 2. ORGANIZE RECORD DRAWING SHEETS INTO MANAGEABLE SETS, BIND WITH DURABLE PAPER COVER SHEETS, AND PRINT SUITABLE TITLES, DATES AND OTHER IDENTIFICATION ON THE COVER OF EACH SET.
- 3. MAINS AND BRANCHES OF PIPING SYSTEMS, WITH VALVES AND CONTROL DEVICES LOCATED AND NUMBERED, CONCEALED UNIONS LOCATED, AND WITH ITEMS REQUIRING MAINTENANCE LOCATED (I.E., TRAPS, STRAINERS, EXPANSION COMPENSATORS, TANKS, ETC.).
- 4. EQUIPMENT LOCATIONS (EXPOSED AND CONCEALED), DIMENSIONED FROM PROMINENT BUILDING LINES.
- 5. APPROVED SUBSTITUTIONS, CONTRACT MODIFICATIONS, AND ACTUAL EQUIPMENT AND MATERIALS INSTALLED.
- 6. INCLUDE ALL "CORRECTED FOR RECORD" SHOP DRAWINGS TO REFLECT APPROVALS RECEIVED.

#### 1.7 MAINTENANCE MANUALS

ORGANIZE OPERATING AND MAINTENANCE DATA INTO SUITABLE SETS OF MANAGEABLE SIZE. BIND PROPERLY INDEXED DATA IN INDIVIDUAL HEAVY-DUTY 2-INCH, 3-RING VINYL-COVERED BINDERS, WITH POCKET FOLDERS FOR FOLDED SHEET INFORMATION. MARK APPROPRIATE IDENTIFICATION ON FRONT AND SPINE OF EACH BINDER. INCLUDE THE FOLLOWING TYPES OF INFORMATION:

- COPIES OF WARRANTIES. 2. WIRING DIAGRAMS.
- 3. INSPECTION PROCEDURES.
- 4. APPROVED SHOP DRAWINGS AND PRODUCT DATA.
- 5. DESCRIPTION OF FUNCTION, NORMAL OPERATING CHARACTERISTICS AND LIMITATIONS, PERFORMANCE CURVES, ENGINEERING DATA AND TESTS, AND COMPLETE NOMENCLATURE AND COMMERCIAL NUMBERS OF REPLACEMENT PARTS. 6. MANUFACTURER'S PRINTED OPERATING PROCEDURES TO INCLUDE START-UP, BREAK-IN, AND ROUTINE AND NORMAL OPERATING INSTRUCTIONS; REGULATION, CONTROL, STOPPING, SHUTDOWN, AND EMERGENCY INSTRUCTIONS; AND SUMMER AND WINTER OPERATING
- INSTRUCTIONS 7. MAINTENANCE PROCEDURES FOR ROUTINE PREVENTATIVE MAINTENANCE AND TROUBLESHOOTING; DISASSEMBLY, REPAIR, AND REASSEMBLY;
- ALIGNING AND ADJUSTING INSTRUCTIONS. 8. SERVICING INSTRUCTIONS AND LUBRICATION CHARTS AND SCHEDULES.

## 1.8 REGULATIONS AND PERMITS

THE CONTRACTOR SHALL GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES, AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES HAVING JURISDICTION.

## PART 2. - PRODUCTS

## 2.1 GENERAL PRODUCT REQUIREMENTS

ALL EQUIPMENT AND MATERIALS, EXCEPT AS OTHERWISE SPECIFIED, SHALL BE NEW, OF CURRENT PRODUCTION, FIRST QUALITY AND OF THE BEST OF EACH CLASS SPECIFIED.

MATERIALS, PRODUCTS, AND EQUIPMENT SHALL BE DELIVERED TO JOBSITE WITH FACTORY PACKAGING BEARING MANUFACTURER'S NAME OR LABEL, AND UNION LABEL WHENEVER PRACTICAL.

## PART 3. - EXECUTION

## 3.1 PLUMBING INSTALLATIONS

GENERAL: SEQUENCE, COORDINATE, AND INTEGRATE THE VARIOUS ELEMENTS OF PLUMBING SYSTEMS, MATERIALS, AND EQUIPMENT. COMPLY WITH THE FOLLOWING REQUIREMENTS:

- 1. COORDINATE SYSTEMS, EQUIPMENT, AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS.
- 2. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS. 3. ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN OTHER BUILDING COMPONENTS DURING PROGRESS OF CONSTRUCTION, TO ALLOW FOR
- MECHANICAL INSTALLATIONS. 4. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SLEEVES TO BE SET IN POURED-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.
- 5. INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT LEVEL AND PLUMB PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, WHERE INSTALLED EXPOSED IN FINISHED SPACES.
- 6. INSTALL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE, AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS.
- 7. INSTALL ACCESS PANELS OR DOORS WHERE UNITS ARE CONCEALED BEHIND FINISHED SURFACES.
- 8. COMPLY WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS, TO THE EXTENT THAT THOSE INSTRUCTIONS AND RECOMMENDATIONS ARE MORE EXPLICIT OR STRINGENT THAN REQUIREMENTS CONTAINED IN CONTRACT DOCUMENTS.
- 9. INSPECT MATERIALS OR EQUIPMENT IMMEDIATELY UPON DELIVERY AND AGAIN PRIOR TO INSTALLATION. REJECT DAMAGED AND DEFECTIVE ITEMS.

## 3.2 FINAL INSPECTION

PRIOR TO FINAL ACCEPTANCE, ALL SYSTEMS SHALL BE OPERATED TO TEST PERFORMANCE TO THE SATISFACTION OF THE A/E.

- 1. WATER SHALL CIRCULATE THROUGHOUT SYSTEMS WITHOUT NOISE, WATER HAMMER, LEAKS, TRAPPING, OR AIR-BINDING. 2. MOTORS AND OTHER EQUIPMENT SHALL OPERATE WITHOUT EXCESSIVE
- NOISE OR VIBRATION. 3. DRAINS SHALL FLOW FREELY, WITHOUT EXCESSIVE NOISE, LEAKS OR STOPPAGES. DEFECTS DEMONSTRATED BY INSPECTIONS AND TESTS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER AT THE SUBCONTRACTOR'S EXPENSE.

### 3.3 CLEANING OF SYSTEMS AND PREMISES

ALL EQUIPMENT AND FIXTURES SHALL BE THOROUGHLY CLEANED OF DIRT AND DEBRIS AT THE COMPLETION OF THE PROJECT AND PRIOR TO ACCEPTANCE BY THE

#### 3.4 PROTECTION

GUARDS, BARRICADES, LIGHTS, SERVICES, ETC., NECESSARY FOR THE PROTECTION OF PERSONS AND PROPERTY SHALL BE FURNISHED AND MAINTAINED.

EXISTING WORK SUCH AS PAVEMENTS, LAWNS, SIDEWALKS, FLOORS, CURBS, AND OTHER STRUCTURES AND UTILITIES WHICH ARE DAMAGED OR DISTURBED DUE TO MAKING CONNECTIONS OR ANY PHASE OF OPERATIONS SHALL BE RESTORED TO THE SATISFACTION OF THE OWNER AND THE GOVERNING AUTHORITIES.

#### BASIC PLUMBING FIXTURES, PIPING MATERIALS AND METHODS

#### 1.1 QUALITY ASSURANCE

WELDER'S QUALIFICATIONS: ALL WELDERS SHALL BE QUALIFIED IN ACCORDANCE WITH ASME BOILER AND PRESSURE VESSEL CODE, SECTION IX, WELDING AND BRAZING QUALIFICATIONS.

WELDING PROCEDURES AND TESTING SHALL COMPLY WITH ANSI STANDARD B31.1.0 - STANDARD CODE FOR PRESSURE PIPING, POWER PIPING, AND THE AMERICAN WELDING SOCIETY, WELDING HANDBOOK.

SOLDERING AND BRAZING PROCEDURES SHALL CONFORM TO ANSI B9.1 STANDARD SAFETY CODE FOR MECHANICAL REFRIGERATION.

#### 1.2 DELIVERY, STORAGE, AND HANDLING

PROVIDE FACTORY-APPLIED PLASTIC END-CAPS ON EACH LENGTH OF PIPE AND TUBE, EXCEPT FOR CONCRETE, CORRUGATED METAL, HUB-AND-SPIGOT, CLAY PIPE. MAINTAIN END-CAPS THROUGH SHIPPING, STORAGE AND HANDLING TO PREVENT PIPE-END DAMAGE AND PREVENT ENTRANCE OF DIRT, DEBRIS, AND MOISTURE.

PROTECT STORED PIPES AND TUBES. ELEVATE ABOVE GRADE AND ENCLOSE WITH DURABLE, WATERPROOF WRAPPING. WHEN STORED INSIDE, DO NOT EXCEED STRUCTURAL CAPACITY OF THE FLOOR.

PROTECT FLANGES, FITTINGS, AND SPECIALTIES FROM MOISTURE AND DIRT BY INSIDE STORAGE AND ENCLOSURE, OR BY PACKAGING WITH DURABLE, WATERPROOF WRAPPING.

#### PART 2. - PRODUCTS

#### 2.1 PIPE AND FITTINGS

REFER TO THE INDIVIDUAL PIPING SYSTEM SPECIFICATION SECTIONS IN DIVISION 15 FOR SPECIFICATIONS ON PIPING AND FITTINGS RELATIVE TO THAT PARTICULAR SYSTEM.

#### 2.2 PIPING SPECIALTIES

GRINNELL

ESCUTCHEONS: CHROME-PLATED, STAMPED STEEL, HINGED, SPLIT-RING ESCUTCHEON, WITH SET SCREW. INSIDE DIAMETER SHALL CLOSELY FIT PIPE OUTSIDE DIAMETER, OR OUTSIDE OF PIPE INSULATION WHERE PIPE IS INSULATED. OUTSIDE DIAMETER SHALL COMPLETELY COVER THE OPENING IN FLOORS, WALLS, OR CEILINGS.

### MANUFACTURERS OF PIPE ESCUTCHEONS:

- 1. CHICAGO SPECIALTY MFG. CO.
- 2. SANITARY-DASH MFG. CO.

DIELECTRIC UNIONS: PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTIONS FOR THE PIPE MATERIALS IN WHICH INSTALLED (SCREWED, SOLDERED, OR FLANGED), WHICH EFFECTIVELY ISOLATE DISSIMILAR METALS, PREVENT GALVANIC ACTION, AND STOP CORROSION.

# MANUFACTURERS OF DIELECTRIC UNIONS:

- ECLIPSE, INC.
- 2. PERFECTION CORP. 3. WATTS REGULATOR CO.

## SLEEVES:

SHEET-METAL SLEEVES: 10 GAGE, GALVANIZED SHEET METAL, ROUND TUBE CLOSED WITH WELDED LONGITUDINAL JOINT.

STEEL SLEEVES: SCHEDULE 40 GALVANIZED, WELDED STEEL PIPE, ASTM A53,

## 2.3 LIQUID-IN-GLASS THERMOMETERS

1-DEGREE SCALE DIVISIONS).

ACCURACY: PLUS OR MINUS 1 PERCENT OF RANGE SPAN OR PLUS OR MINUS ONE

SCALE DIVISION TO MAXIMUM OF 1.5 PERCENT OF RANGE SPAN. SCALE RANGE: TEMPERATURE RANGES FOR SERVICES LISTED AS FOLLOWS: 1. DOMESTIC HOT WATER: 30 TO 240 DEG WITH 2-DEGREE SCALE DIVISIONS (0 TO 115 DEG C WITH 1-DEGREE SCALE DIVISIONS). 2. DOMESTIC COLD WATER: 0 TO

CASE: DIE CAST, ALUMINUM FINISHED, IN BAKED EPOXY ENAMEL, GLASS FRONT, SPRING SECURED, 9 INCHES LONG.

100 DEG F WITH 2-DEGREE SCALE DIVISIONS (MINUS 18 TO 38 DEG C WITH

ADJUSTABLE JOINT: FINISHED TO MATCH CASE, 180-DEGREE ADJUSTMENT IN VERTICAL PLANE, 360-DEGREE ADJUSTMENT IN HORIZONTAL PLANE, WITH LOCKING DEVICE.

## TUBE: RED READING, LIQUID FILLED, MAGNIFYING LENS.

SCALE: SATIN-FACED, NONREFLECTIVE ALUMINUM, WITH PERMANENTLY ETCHED

STEM: COPPER-PLATED STEEL, ALUMINUM OR BRASS, FOR SEPARABLE SOCKET, LENGTH TO SUIT INSTALLATION.

- MANUFACTURERS: LIQUID-IN-GLASS THERMOMETERS:
- 1. MARSHALLTOWN INSTRUMENTS, INC. 2. TRERICE (H.O.) CO.
- 3. WEISS INSTRUMENTS, INC. 4. WEKSLER INSTRUMENTS CORP.

2.4 PRESSURE GAGES

TYPE: GENERAL USE, ASME B40.1, GRADE A, PHOSPHOR BRONZE BOURDON-TUBE TYPE, BOTTOM CONNECTION.

CASE: DRAWN STEEL OR BRASS, GLASS LENS, 4-1/2-INCHES DIAMETER.

#### CONNECTOR: BRASS, 1/4-INCH NPS.

SCALE: WHITE COATED ALUMINUM, WITH PERMANENTLY ETCHED MARKINGS.

RANGE: 2 TIMES OPERATING PRESSURE BUT NOT LESS THAN DESIGN PRESSURE.

#### ACCURACY: PLUS OR MINUS 1 PERCENT OF RANGE SPAN.

SUITABLE FOR FLUID SERVED AND RATED PRESSURE.

SNUBBER: PROVIDE 1/4-INCH NPS BRASS BUSHING WITH CORROSION-RESISTANT POROUS METAL DISC. DISC MATERIAL SHALL BE

- MANUFACTURERS: PRESSURE GAGES:
- 1. MARSHALLTOWN INSTRUMENTS, INC. 2. TRERICE (H.O.) CO.
- 3. WEISS INSTRUMENTS, INC. 4. WEKSLER INSTRUMENTS CORP.
- 2.5 PLUMBING FIXTURES, GENERAL PROVIDE PLUMBING FIXTURES AND TRIM, FITTINGS, OTHER COMPONENTS, AND

SUPPORTS AS SPECIFIED AND SCHEDULED ON THE DRAWINGS.

### 2.6 ELECTRIC WATER HEATERS

PROVIDE WATER HEATER COMPONENTS THAT ARE UL-LISTED AND LABELED.

NSF COMPLIANCE: CONSTRUCT AND INSTALL WATER HEATERS LOCATED IN FOOD SERVICE ESTABLISHMENTS IN ACCORDANCE WITH NSF 5, "STANDARD FOR HOT WATER GENERATING EQUIPMENT FOR FOOD SERVICE ESTABLISHMENTS USING SPRAY TYPE DISHWASHING MACHINES".

NEC COMPLIANCE: INSTALL ELECTRIC WATER HEATERS IN ACCORDANCE WITH REQUIREMENTS OF NFPA 70, "NATIONAL ELECTRICAL CODE".

ASHRAE COMPLIANCE: PROVIDE WATER HEATERS WITH PERFORMANCE EFFICIENCIES NOT LESS THAN PRESCRIBED IN ASHRAE 90A, "ENERGY CONSERVATION IN NEW BUILDING DESIGN".

SPECIAL PROJECT WARRANTY: WARRANTY PERIOD: 5 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

PROVIDE ELECTRIC WATER HEATERS OF SIZES, CAPACITIES, AND ELECTRICAL CHARACTERISTICS AS INDICATED ON DRAWINGS.

ROD; GLASS LINING ON INTERNAL SURFACES EXPOSED TO WATER. HEATING ELEMENTS: LOW WATT DENSITY WITH ZINC PLATED COPPER SHEATH;

HEATER: CONSTRUCT FOR WORKING PRESSURE OF 150 PSI; MAGNESIUM ANODE

SAFETY CONTROLS: EQUIP WITH HIGH TEMPERATURE CUTOFF FOR EACH ELEMENT, FACTORY WIRED.

ACCESSORIES: PROVIDE BRASS DRAIN VALVE; 3/4" RELIEF VALVE; COLD AND

WATER DIP TUBE.

CONTROLS: PROVIDE THERMOSTAT FOR EACH ELEMENT, FACTORY WIRED. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE

- RESIDENTIAL ELECTRIC WATER HEATERS OF ONE OF THE FOLLOWING: 1. BRADFORD WHITE WATER HEATER CORP.
- 2. RHEEM WATER HEATER DIV; CITY INVESTING CO. 3. RUUD WATER HEATER DIV: CITY INVESTING CO.

DOUBLE ELEMENT, NON-SIMULTANEOUS OPERATION.

4. SMITH CORP. (A.O.); CONSUMER PRODUCTS DIV.

## PART 3. - EXECUTION

3.1 PREPARATION REAM ENDS OF PIPES AND TUBES, AND REMOVE BURRS. BEVEL PLAIN ENDS OF

STEEL PIPE. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FOR BOTH INSIDE AND OUTSIDE OF

## PIPING AND FITTINGS BEFORE ASSEMBLY.

3.2 INSTALLATIONS CONCEAL ALL PIPE INSTALLATIONS IN WALLS, PIPE CHASES, UTILITY SPACES,

ABOVE CEILINGS, BELOW GRADE OR FLOORS, UNLESS INDICATED OTHERWISE. INSTALL PIPING FREE OF SAGS OR BENDS AND WITH AMPLE SPACE BETWEEN PIPING TO PERMIT PROPER INSULATION APPLICATIONS.

INSTALL EXPOSED PIPING AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE NOT PERMITTED, UNLESS EXPRESSLY INDICATED ON THE DRAWINGS.

INSTALL PIPING TIGHT TO SLABS, BEAMS, JOISTS, COLUMNS, WALLS, AND OTHER PERMANENT ELEMENTS OF THE BUILDING. PROVIDE SPACE TO PERMIT INSULATION APPLICATIONS, WITH 1" CLEARANCE OUTSIDE THE INSULATION. ALLOW SUFFICIENT SPACE ABOVE REMOVABLE CEILING PANELS TO ALLOW FOR PANEL REMOVAL.

LOCATE GROUPS OF PIPES PARALLEL TO EACH OTHER, SPACED TO PERMIT APPLYING FULL INSULATION AND SERVICING OF VALVES.

FIRE BARRIER PENETRATIONS: WHERE PIPES PASS THROUGH FIRE RATED WALLS, PARTITIONS, CEILINGS, OR FLOORS, THE FIRE RATED INTEGRITY SHALL BE MAINTAINED. REFER TO DIVISION 7 FOR SPECIAL SEALERS AND MATERIALS.

### 3.3 PIPE AND TUBE JOINT CONSTRUCTION

BRAZED AND SOLDERED JOINTS: FOR COPPER TUBE AND FITTING JOINTS, BRAZE JOINTS IN ACCORDANCE WITH ANSI B31.1.0 - STANDARD CODE FOR PRESSURE PIPING, POWER PIPING AND ANSI B9.1 - STANDARD SAFETY CODE FOR MECHANICAL REFRIGERATION.

SOLDERED JOINTS: COMPLY WITH THE PROCEDURES CONTAINED IN THE AWS "SOLDERING MANUAL."

#### SOLDER FILLER METAL: ASTM B 32, 95-5 TIN-ANTIMONY.

BRAZED JOINTS: COMPLY WITH THE PROCEDURES CONTAINED IN THE AWS "BRAZING MANUAL."

#### BRAZING FILLER METALS: AWS A5.8, BCUP SERIES.

GASKET MATERIAL: THICKNESS, MATERIAL, AND TYPE SUITABLE FOR FLUID TO BE HANDLED AND DESIGN TEMPERATURES AND PRESSURES.

CAUTION: REMOVE STEMS, SEATS, AND PACKING OF VALVES AND ACCESSIBLE INTERNAL PARTS OF PIPING SPECIALTIES BEFORE SOLDERING AND BRAZING. THREADED JOINTS: CONFORM TO ASME B1.20.1, TAPERED PIPE THREADS FOR

- FIELD-CUT THREADS. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS: 1. NOTE THE INTERNAL LENGTH OF THREADS IN FITTINGS OR VALVE ENDS, AND PROXIMITY OF INTERNAL SEAT OR WALL, TO DETERMINE HOW FAR PIPE
- SHOULD BE THREADED INTO JOINT. 2. ALIGN THREADS AT POINT OF ASSEMBLY. 3. APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO THE EXTERNAL PIPE
- THREADS (EXCEPT WHERE DRY SEAL THREADING IS SPECIFIED). 4. ASSEMBLE JOINT WRENCH TIGHT. WRENCH ON VALVE SHALL BE ON THE
- VALVE END INTO WHICH THE PIPE IS BEING THREADED. 5. DAMAGED THREADS: DO NOT USE PIPE WITH CORRODED OR DAMAGED THREADS. IF A WELD OPENS DURING CUTTING OR THREADING OPERATIONS, THAT PORTION OF PIPE SHALL NOT BE USED.

## 3.4 INSTALLATION OF PLUMBING FIXTURES

DRAWINGS, AND REFERENCED STANDARDS.

INSTALL PLUMBING FIXTURES LEVEL AND PLUMB, IN ACCORDANCE WITH FIXTURE MANUFACTURERS' WRITTEN INSTALLATION INSTRUCTIONS, ROUGHING-IN

FASTEN SPECIAL FIXTURES HAVING HOLES FOR SECURING FIXTURE TO WALL CONSTRUCTION, TO REINFORCEMENT BUILT INTO WALLS.

FASTEN COUNTER-MOUNTING-TYPE PLUMBING FIXTURES TO CASEWORK.

SECURE SUPPLIES BEHIND WALL OR WITHIN WALL PIPE SPACE, PROVIDING RIGID INSTALLATION.

INSTALL STOP VALVE IN AN ACCESSIBLE LOCATION IN EACH WATER SUPPLY TO

EACH FIXTURE. INSTALL TRAP ON FIXTURE OUTLET EXCEPT FOR FIXTURES HAVING INTEGRAL

INSTALL ESCUTCHEONS AT EACH WALL, FLOOR, AND CEILING PENETRATION IN EXPOSED FINISHED LOCATIONS AND WITHIN CABINETS AND MILLWORK. USE DEEP PATTERN ESCUTCHEONS WHERE REQUIRED TO CONCEAL PROTRUDING PIPE

SEAL FIXTURES TO WALLS, FLOORS, AND COUNTERS USING A SANITARY-TYPE,

ONE-PART, MILDEW-RESISTANT, SILICONE SEALANT IN ACCORDANCE WITH

SEALING REQUIREMENTS SPECIFIED IN DIVISION 7 SECTION "JOINT SEALERS." MATCH SEALANT COLOR TO FIXTURE COLOR.

MALFUNCTIONING FIXTURES, FITTINGS, AND CONTROLS.

3.5 PLUMBING FIXTURE ADJUSTING AND CLEANING OPERATE AND ADJUST FAUCETS AND CONTROLS. REPLACE DAMAGED AND

OPERATE AND ADJUST DISPOSERS, HOT WATER DISPENSERS, AND CONTROLS. REPLACE DAMAGED AND MALFUNCTIONING UNITS AND CONTROLS.

ADJUST WATER PRESSURE AT DRINKING FOUNTAINS, ELECTRIC WATER COOLERS,

AND FAUCETS, SHOWER VALVES, AND FLUSHOMETERS HAVING CONTROLS, TO

## PROVIDE PROPER FLOW AND STREAM.

REPLACE WASHERS OF LEAKING AND DRIPPING FAUCETS AND STOPS. CLEAN FIXTURES, FITTINGS, AND SPOUT AND DRAIN STRAINERS WITH

MANUFACTURERS' RECOMMENDED CLEANING METHODS AND MATERIALS.

3.6. PLUMBING FIXTURE PROTECTION

APPROVED IN WRITING BY THE OWNER.

PROVIDE PROTECTIVE COVERING FOR INSTALLED FIXTURES AND FITTINGS. DO NOT ALLOW USE OF FIXTURES FOR TEMPORARY FACILITIES, EXCEPT WHEN

3.7 INSTALLATION OF WATER HEATERS GENERAL: INSTALL WATER HEATERS IN ACCORDANCE WITH MANUFACTURER'S

INSTALLATION INSTRUCTIONS. INSTALL UNITS PLUMB AND LEVEL, FIRMLY

ANCHORED IN LOCATIONS INDICATED, AND MAINTAIN MANUFACTURER'S

RECOMMENDED CLEARANCES. START-UP, TEST, AND ADJUST ELECTRIC WATER HEATERS IN ACCORDANCE WITH MANUFACTURER'S START-UP INSTRUCTIONS. CHECK AND CALIBRATE CONTROLS.

PART 1. - GENERAL 1.1 SUMMARY

THIS SECTION INCLUDES THE FOLLOWING: 1. HORIZONTAL-PIPING HANGERS AND SUPPORTS.

4. SADDLES AND SHIELDS. 1.2 DEFINITIONS

2. HANGER-ROD ATTACHMENTS.

3. BUILDING ATTACHMENTS.

TERMINOLOGY USED IN THIS SECTION IS DEFINED IN MSS SP-90.

No.	Description	Date
1	ISSUE FOR BIDDING	9/19/17

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### PLUMBING SPECIFICATIONS: (CONT'D.)

PLUMBING SUPPORTS AND ANCHORS

PART 2. - PRODUCTS

# 2.1 PIPING SYSTEMS

HANGERS AND SUPPORT COMPONENTS SHALL BE FACTORY FABRICATED OF MATERIALS, DESIGN, AND MANUFACTURER COMPLYING WITH MSS SP-58.

1. COMPONENTS SHALL HAVE GALVANIZED COATINGS WHERE INSTALLED

FOR PIPING AND EQUIPMENT THAT WILL NOT HAVE FIELD-APPLIED FINISH.

2. PIPE ATTACHMENTS SHALL HAVE COPPER PLATED OR NONMETALLIC
COATING FOR ELECTROLYTIC PROTECTION WHERE ATTACHMENTS ARE IN
DIRECT CONTACT WITH COPPER TUBING.

THERMAL HANGER SADDLE INSERTS: (MSS TYPE 39)

1. 200-PSI AVERAGE COMPRESSIVE STRENGTH AT 5% DEFLECTION,
WATERPROOFED CALCIUM SILICATE.

PIPE HANGERS AND SUPPORTS:

1. M.S.S. TYPE 1 ADJUSTABLE CLEVIS HANGER.

2. PIPE RISER CLAMPS: M.S.S. TYPE 8, OR M.S.S. TYPE 42.

PIPE HANGER ASSEMBLIES SHALL INCLUDE TURNBUCKLES OR OTHER MEANS OF VERTICAL ADJUSTMENT.

TRAPEZE HANGERS MAY BE USED IN LIEU OF INDIVIDUAL HANGERS FOR CLOSELY SPACED LINES. HANGER RODS SHALL BE UPSIZED TO CARRY THE AGGREGATE WEIGHT OF THE MULTIPLE LINES IN ACCORDANCE WITH M.S.S. - SP-58, 1993 EDITION, TABLE 3 LOAD RATINGS.

HANGER RODS: STEEL HANGER RODS, THREADED BOTH ENDS OR CONTINUOUS THREADED. PROVIDE PRODUCTS COMPLYING WITH ASTM A 36.

PART 3. - EXECUTION

3.1 INSTALLATION OF HANGERS AND SUPPORTS

INSTALL HANGERS, SUPPORTS, CLAMPS AND ATTACHMENTS TO SUPPORT PIPING PROPERLY FROM BUILDING STRUCTURE; COMPLY WITH MSS SP-69 AND SP-89. ARRANGE FOR GROUPING OF PARALLEL RUNS OF HORIZONTAL PIPING SUPPORTED TOGETHER ON FIELD-FABRICATED, HEAVY-DUTY TRAPEZE HANGERS WHERE POSSIBLE. INSTALL SUPPORTS WITH MAXIMUM SPACING COMPLYING WITH MSS SP-69. WHERE PIPING OF VARIOUS SIZES IS SUPPORTED TOGETHER BY TRAPEZE HANGERS, SPACE HANGERS FOR SMALLEST PIPE SIZE OR INSTALL INTERMEDIATE SUPPORTS FOR SMALLER DIAMETER PIPE AS SPECIFIED ABOVE FOR INDIVIDUAL PIPE HANGERS.

INSTALL BUILDING ATTACHMENTS WITHIN CONCRETE OR TO STRUCTURAL STEEL. SPACE ATTACHMENTS WITHIN MAXIMUM PIPING SPAN LENGTH INDICATED IN MSS SP-69. INSTALL ADDITIONAL ATTACHMENTS AT CONCENTRATED LOADS, INCLUDING VALVES, FLANGES, GUIDES, STRAINERS, EXPANSION JOINTS, AND AT CHANGES IN DIRECTION OF PIPING. INSTALL CONCRETE INSERTS BEFORE CONCRETE IS PLACED; FASTEN INSERT TO FORMS. WHERE CONCRETE WITH COMPRESSIVE STRENGTH LESS THAN 2,500 PSI IS INDICATED, INSTALL REINFORCING BARS THROUGH OPENINGS AT TOP OF INSERTS.

LOAD DISTRIBUTION: INSTALL HANGERS AND SUPPORTS SO THAT PIPING LIVE AND DEAD LOADING AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT.

INSTALL HANGERS WITH THE FOLLOWING MINIMUM ROD SIZES AND MAXIMUM SPACING. SPACING AND HANGER ROD SIZES SHALL BE ADJUSTED FOR INTERMEDIATE LOADS PLACED BETWEEN SUPPORTS, SUCH AS PUMPS, STRAINERS, VALVES, ETC.:

## COPPER PIPE

COPPER PIPE

NOMINAL PIPE SIZE - MAX. SPAN (FEET) - MIN. ROD SIZE (INCHES)

THRU 1-1/4 6 3/8 1-1/2 8 3/8 2 8 3/8

PIPE SUPPORT SPACING FOR DRAINAGE APPLICATIONS

PIPE MATERIAL MAX HORIZONTAL SPAN (FT) - MAX VERTICAL SPAN (FT)

CAST-IRON PIPE 5 15

COPPER TUBING - 1-1/4 INCH AND SMALLER 6 10

COPPER TUBING - 1-1/2 INCH AND LARGER 10 10

USE INSULATION INSERTS TO SUPPORT PIPING THAT REQUIRES INSULATION.

3.2 ADJUSTING

HANGER ADJUSTMENT: ADJUST HANGERS TO DISTRIBUTE LOADS EQUALLY ON ATTACHMENTS AND TO ACHIEVE INDICATED SLOPE OF PIPE.

TOUCH-UP PAINTING: IMMEDIATELY AFTER ERECTION OF ANCHORS AND SUPPORTS, CLEAN FIELD WELDS AND ABRADED AREAS OF SHOP PAINT AND PAINT EXPOSED AREAS WITH SAME MATERIAL AS USED FOR SHOP PAINTING TO COMPLY WITH SSPC-PA-1 REQUIREMENTS FOR TOUCH-UP OF FIELD-PAINTED SUPPARES.

1. APPLY BY BRUSH OR SPRAY TO PROVIDE A MINIMUM DRY FILM THICKNESS OF 2.0 MILS.

TOUCH-UP PAINTING: CLEANING AND TOUCH-UP PAINTING OF FIELD WELDS, BOLTED CONNECTIONS, AND ABRADED AREAS OF THE SHOP PAINT ON MISCELLANEOUS METAL IS SPECIFIED IN DIVISION 9 SECTION "PAINTING" OF THESE SPECIFICATIONS.

FOR GALVANIZED SURFACES CLEAN WELDS BOLTED CONNECTIONS AND ABRADED AREAS AND APPLY GALVANIZING REPAIR PAINT TO COMPLY WITH ASTM A 780.

PLUMBING VALVES AND STRAINERS

PART 1. - GENERAL

1.1 SUMMARY

THIS SECTION INCLUDES GENERAL DUTY VALVES AND STRAINERS COMMON TO MOST MECHANICAL PIPING SYSTEMS. 1. SPECIAL PURPOSE VALVES AND STRAINERS ARE SPECIFIED IN INDIVIDUAL PIPING SYSTEM SPECIFICATIONS.

PART 2. - PRODUCTS

2.1 MANUFACTURERS

MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS FROM ONE OF THE MANUFACTURERS LISTED IN THIS SPECIFICATION FOR EACH VALVE TYPE OR STRAINER TYPE.

2.2 VALVE AND STRAINER FEATURES, GENERAL

MANUFACTURERS: SUBJECT TO COMPLIANCE WITH THE TECHNICAL SPECIFICATIONS, SELECT MANUFACTURER FROM THOSE LISTED BELOW:

1. CRANE
2. GRINNELL

3. HAMMOND 4. JENKINS 5. LUNKENHEIMER

5. LUNKENHEIM 6. MILWAUKEE 7. NIBCO

8. POWELL

9. STOCKHAM

2.3 BALL VALVE

RATED FOR 150 PSI SATURATED STEAM PRESSURE, 400 PSI WOG PRESSURE; TWO-PIECE CONSTRUCTION; WITH BRONZE BODY CONFORMING TO ASTM B 62, FULL PORT, CHROME-PLATED BRASS BALL, REPLACEABLE "TEFLON" OR "TFE" SEATS AND SEALS, BLOWOUT-PROOF STEM, AND VINYL-COVERED STEEL HANDLE. PROVIDE SOLDER OR THREADED ENDS FOR CONDENSER WATER, CHILLED WATER, AND DOMESTIC HOT AND COLD WATER SERVICE; THREADED ENDS FOR HEATING HOT WATER AND LOW-PRESSURE STEAM.

2.4 CHECK VALVES

RATED FOR 150# STEAM, 300# WOG. CONSTRUCTION SHALL BE CAST-BRONZE BODY AND CAP CONFORMING TO ASTM B 62; BRONZE DISC; AND HAVING THREADED OR SOLDER ENDS.

2.5 STRAINERS

SCREWED COVER.

Y TYPE STRAINER, RATED FOR 250# STEAM, CONSTRUCTED OF BRONZE, WITH A

PART 3. - EXECUTION

3.1 VALVE ENDS SELECTION

SELECT VALVES WITH THE FOLLOWING ENDS OR TYPES OF PIPE/TUBE CONNECTIONS:

1. COPPER TUBE SIZE, 2-INCH AND SMALLER: SOLDER OR THREADED ENDS.

3.2 VALVE INSTALLATIONS

LOCATE VALVES FOR EASY ACCESS AND PROVIDE SEPARATE SUPPORT WHERE NECESSARY.

INSTALL VALVES AND UNIONS FOR EACH FIXTURE AND ITEM OF EQUIPMENT ARRANGED TO ALLOW EQUIPMENT REMOVAL WITHOUT SYSTEM SHUTDOWN. UNIONS ARE NOT REQUIRED ON FLANGED DEVICES.

INSTALL VALVES IN A POSITION TO ALLOW FULL STEM MOVEMENT.

3.3 FIELD QUALITY CONTROL

TESTS: AFTER PIPING SYSTEMS HAVE BEEN TESTED AND PUT INTO SERVICE, BUT BEFORE FINAL ADJUSTING AND BALANCING, INSPECT VALVES FOR LEAKS. ADJUST OR REPLACE PACKING TO STOP LEAKS; REPLACE VALVES IF LEAK PERSISTS. 3.4 ADJUSTING AND CLEANING

CLEANING: CLEAN MILL SCALE, GREASE, AND PROTECTIVE COATINGS FROM EXTERIOR OF VALVES AND PREPARE VALVES TO RECEIVE FINISH PAINTING OR INSULATION.

PLUMBING INSULATION

PART 1. - GENERAL

1.1 QUALITY ASSURANCE

FLAME/SMOKE RATINGS: PROVIDE COMPOSITE MECHANICAL INSULATION (INSULATION, JACKETS, COVERINGS, SEALERS, MASTICS AND ADHESIVES) WITH FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS, AS TESTED BY ASTM E 84 (NFPA 255) METHOD.

PLENUM RATINGS: PROVIDE PRODUCT APPROVED FOR INSTALLATION IN AIR PLENUMS WHERE APPLICABLE.

PART 2. - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE

PRODUCTS OF ONE OF THE FOLLOWING:

ARMSTRONG WORLD INDUSTRIES, INC.
 CERTAINTEED CORP.

3. JOHNS MANVILLE INSULATIONS

4. KNAUF FIBER GLASS
5. OWENS-CORNING FIBERGLAS CORP.

2.2 PIPING INSULATION MATERIALS

FIBERGLASS PIPING INSULATION: ASTM C 547; 'K' VALUE OF 0.24 AT 75 DEGREES F; NONCOMBUSTIBLE.

JACKETS FOR PIPING INSULATION: ASTM C 921, TYPE I (VAPOR BARRIER) FOR PIPING WITH TEMPERATURES BELOW AMBIENT, TYPE II FOR PIPING WITH TEMPERATURES ABOVE AMBIENT. TYPE I MAY BE USED FOR ALL PIPING AT INSTALLERS OPTION.

1. ENCASE PIPE FITTINGS INSULATION WITH ONE-PIECE PRE MOLDED PVC FITTING

COVERS, FASTENED AS PER MANUFACTURER'S RECOMMENDATIONS.

STAPLES, BANDS, WIRES, AND CEMENT: AS RECOMMENDED BY INSULATION MANUFACTURER FOR APPLICATIONS INDICATED. USE STAINLESS STEEL STAPLES

IF REQUIRED FOR PIPING BELOW AMBIENT TEMPERATURE.

ADHESIVES, SEALERS, AND PROTECTIVE FINISHES: AS RECOMMENDED BY INSULATION MANUFACTURER FOR APPLICATIONS INDICATED.

PART 3. - EXECUTION

3.1 INSPECTION

EXAMINE AREAS AND CONDITIONS UNDER WHICH MECHANICAL INSULATION IS TO BE INSTALLED. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN MANNER ACCEPTABLE TO INSTALLER.

3.2 PLUMBING PIPING SYSTEM INSULATION, GENERAL

INSULATION OMITTED: OMIT INSULATION ON CHROME-PLATED EXPOSED PIPING (EXCEPT FOR HANDICAPPED FIXTURES), AIR CHAMBERS, UNIONS, STRAINERS, CHECK VALVES, BALANCE COCKS, FLOW REGULATORS, DRAIN LINES FROM WATER COOLERS, DRAINAGE PIPING LOCATED IN CRAWL SPACES OR TUNNELS, BURIED PIPING, AND PRE-INSULATED EQUIPMENT.

3.3 COLD PIPING

APPLICATION REQUIREMENTS: INSULATE THE FOLLOWING COLD PLUMBING PIPING SYSTEMS:

1. POTABLE COLD WATER PIPING.

INSULATE EACH PIPING SYSTEM SPECIFIED ABOVE WITH ONE OF THE FOLLOWING TYPES AND THICKNESSES OF INSULATION:

1. FIBERGLASS: 1" THICKNESS.

3.4 HOT PIPING

APPLICATION REQUIREMENTS: INSULATE THE FOLLOWING HOT PLUMBING PIPING SYSTEMS:

1. POTABLE HOT WATER PIPING.

2. POTABLE HOT WATER RECIRCULATING PIPING, IF APPLICABLE.

INSULATE EACH PIPING SYSTEM SPECIFIED ABOVE WITH ONE OF THE

FOLLOWING TYPES AND THICKNESSES OF INSULATION: 1. FIBERGLASS: 1" THICKNESS.

3.5 INSTALLATION OF PIPING INSULATION

GENERAL: INSTALL INSULATION PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT INSULATION SERVES ITS INTENDED PURPOSE.

INSTALL INSULATION ON PIPE SYSTEMS SUBSEQUENT TO TESTING AND ACCEPTANCE OF TESTS.

INSTALL INSULATION MATERIALS WITH SMOOTH AND EVEN SURFACES. INSULATE EACH CONTINUOUS RUN OF PIPING WITH FULL-LENGTH UNITS OF INSULATION, WITH SINGLE CUT PIECE TO COMPLETE RUN. DO NOT USE CUT PIECES OR SCRAPS ABUTTING EACH OTHER.

CLEAN AND DRY PIPE SURFACES PRIOR TO INSULATING. BUTT INSULATION JOINTS FIRMLY TOGETHER TO ENSURE COMPLETE AND TIGHT FIT OVER SURFACES TO BE COVERED.

COVER VALVES, FITTINGS AND SIMILAR ITEMS IN EACH PIPING SYSTEM WITH EQUIVALENT THICKNESS AND COMPOSITION OF INSULATION AS APPLIED TO ADJOINING PIPE RUN. INSTALL FACTORY MOLDED, PRECUT OR JOB FABRICATED UNITS (AT INSTALLER'S OPTION) EXCEPT WHERE SPECIFIC FORM OR TYPE IS INDICATED.

EXTEND PIPING INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS AND SIMILAR PIPING PENETRATIONS, EXCEPT WHERE OTHERWISE INDICATED.

3.6 PROTECTION AND REPLACEMENT

REPLACE DAMAGED INSULATION THAT CANNOT BE REPAIRED SATISFACTORILY, INCLUDING UNITS WITH VAPOR BARRIER DAMAGE AND MOISTURE SATURATED UNITS.

PROTECTION: INSULATION INSTALLER SHALL ADVISE CONTRACTOR OF REQUIRED PROTECTION FOR INSULATION WORK DURING REMAINDER OF CONSTRUCTION PERIOD, TO AVOID DAMAGE AND DETERIORATION.

WATER DISTRIBUTION PIPING

PART 1. - GENERAL

1.1 SUMMARY

ADJUST THIS SECTION INCLUDES POTABLE COLD WATER, HOT WATER, AND CIRCULATION HOT WATER PIPING, FITTINGS, AND SPECIALTIES.

PART 2. - PRODUCTS

2.1 RELIEF VALVES

COMBINED PRESSURE-TEMPERATURE RELIEF VALVES: BRONZE BODY, TEST LEVER, THERMOSTAT, COMPLYING WITH ANSI Z21.22 LISTING REQUIREMENTS FOR TEMPERATURE DISCHARGE CAPACITY. TEMPERATURE RELIEF VALVES SHALL BE FACTORY SET AT 210 DEG F, AND PRESSURE RELIEF AT 150 PSI.

MANUFACTURERS: RELIEF VALVES:
1. CONBRACO INDUSTRIES, INC.
2. WATTS REGULATOR CO.

3. ZURN INDUSTRIES, INC. WILKINS REGULATOR DIV.

PART 3. - EXECUTION

3.1 EXAMINATION

EXAMINE ROUGH-IN REQUIREMENTS FOR PLUMBING FIXTURES AND OTHER EQUIPMENT WITH WATER CONNECTIONS TO VERIFY ACTUAL LOCATIONS OF PIPING CONNECTIONS PRIOR TO INSTALLATION.

I INC CONTECTIONS TRUCK TO INSTALLATION.

3.2 SERVICE APPLICATIONS, POTABLE HOT AND COLD WATER
GENERAL: SELECT FROM ALTERNATE PIPING AND ACCESSORIES AS LISTED

1. MAXIMUM WORKING PRESSURE: 100 PSIG

2. TEMPERATURE RANGE (F): -20 TO 140 F

ABOVEGROUND DOMESTIC WATER, COPPER SWEAT:

SIZE RANGE THROUGH 2 INCH
PIPE: COPPER
JOINTS: SOLDERED
FITTINGS: WROUGHT COPPER
FLANGES: CAST BRONZE
SHUTOFF VALVE: BALL VALVE
THROTTLING VALVE: GLOBE VALVE
CHECK VALVE: SWING
STRAINER: Y-TYPE

3.3 FIELD QUALITY CONTROL

INSPECTIONS: INSPECT WATER DISTRIBUTION PIPING AS FOLLOWS:

1. DO NOT ENCLOSE, COVER, OR PUT INTO OPERATION WATER DISTRIBUTION PIPING SYSTEM UNTIL IT HAS BEEN INSPECTED AND APPROVED BY THE

AUTHORITY HAVING JURISDICTION.

2. DURING THE PROGRESS OF THE INSTALLATION, NOTIFY THE PLUMBING OFFICIAL HAVING JURISDICTION AT LEAST 24 HOURS PRIOR TO THE TIME SUCH INSPECTION MUST BE MADE. PERFORM REQUIRED TESTS IN THE

PRESENCE OF THE PLUMBING OFFICIAL.

3. REPORTS: PREPARE INSPECTION REPORTS SIGNED BY THE PLUMBING OFFICIAL.

TEST WATER DISTRIBUTION PIPING AS FOLLOWS:

1. TEST FOR LEAKS AND DEFECTS ALL NEW WATER DISTRIBUTION PIPING SYSTEMS AND PARTS OF EXISTING SYSTEMS THAT HAVE BEEN ALTERED, EXTENDED OR REPAIRED. IF TESTING IS PERFORMED IN SEGMENTS, SUBMIT A SEPARATE REPORT FOR EACH TEST, COMPLETE WITH A DIAGRAM OF THE PORTION OF THE SYSTEM TESTED.

LEAVE UNCOVERED AND UNCONCEALED ALL NEW, ALTERED, EXTENDED, OR REPLACED WATER DISTRIBUTION PIPING UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE ALL SUCH WORK FOR TESTING THAT HAS BEEN COVERED OR CONCEALED BEFORE IT HAS BEEN TESTED AND APPROVED.
 CAP AND SUBJECT THE PIPING SYSTEM TO A STATIC WATER PRESSURE OF 50

3. CAP AND SUBJECT THE PIPING SYSTEM TO A STATIC WATER PRESSURE OF 50 PSIG ABOVE THE OPERATING PRESSURE WITHOUT EXCEEDING THE PRESSURE RATING OF THE PIPING SYSTEM MATERIALS. ISOLATE THE TEST SOURCE AND ALLOW TO STAND FOR 4 HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.

4. REPAIR ALL LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST SYSTEM OR PORTION THEREOF UNTIL SATISFACTORY RESULTS ARE OBTAINED.

5. PREPARE REPORTS FOR ALL TESTS AND REQUIRED CORRECTIVE ACTION.

#### 3.4 ADJUSTING AND CLEANING

CLEAN AND DISINFECT WATER DISTRIBUTION PIPING AS FOLLOWS:

1. PURGE ALL NEW WATER DISTRIBUTION PIPING SYSTEMS AND PARTS OF
EXISTING SYSTEMS THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED

PRIOR TO USE.

2. USE THE PURGING AND DISINFECTING PROCEDURE PROSCRIBED BY THE AUTHORITY HAVING JURISDICTION OR, IN CASE THAT AUTHORITY DOES NOT PRESCRIBE A METHOD, THE PROCEDURE DESCRIBED IN EITHER AWWA C651,

OR AWWA C652, OR AS DESCRIBED BELOW:

A. FLUSH THE PIPING SYSTEM WITH CLEAN, POTABLE WATER UNTIL DIRTY
WATER DOES NOT APPEAR AT THE POINTS OF OUTLET.

B. FILL THE SYSTEM OR PART THEREOF WITH A WATER/CHLORINE SOLUTION CONTAINING AT LEAST 50 PARTS PER MILLION OF CHLORINE. ISOLATE (VALVE OFF) THE SYSTEM OR PART THEREOF AND ALLOW TO STAND FOR 24 HOURS.

C. DRAIN THE SYSTEM OR PART THEREOF OF THE PREVIOUS SOLUTION AND

REFILL WITH A WATER/CHLORINE SOLUTION CONTAINING AT LEAST 200

PARTS PER MILLION OF CHLORINE AND ISOLATE AND ALLOW TO STAND

FOR 3 HOURS.

D. FOLLOWING THE ALLOWED STANDING TIME, FLUSH THE SYSTEM WITH CLEAN, POTABLE WATER UNTIL CHLORINE DOES NOT REMAIN IN THE

WATER COMING FROM THE SYSTEM.

E. SUBMIT WATER SAMPLES IN STERILE BOTTLES TO THE AUTHORITY HAVING JURISDICTION. REPEAT THE PROCEDURE IF THE BIOLOGICAL EXAMINATION MADE BY THE AUTHORITY SHOWS EVIDENCE OF CONTAMINATION.

PREPARE REPORTS FOR ALL PURGING AND DISINFECTING ACTIVITIES

### DRAINAGE AND VENT SYSTEMS

PART 1. - GENERAL

1.1 SUMMARY

THIS SECTION INCLUDES BUILDING SANITARY AND STORM DRAINAGE AND VENT PIPING SYSTEMS.

1.2 SEQUENCING AND SCHEDULING

COORDINATE THE INSTALLATION OF ROOF DRAINS, FLASHING, AND ROOF PENETRATIONS.

COORDINATE FLASHING MATERIALS INSTALLATION OF ROOFING, WATERPROOFING, AND ADJOINING SUBSTRATE WORK.

COORDINATE THE INSTALLATION OF DRAINS IN POURED-IN-PLACE CONCRETE SLABS, TO INCLUDE PROPER DRAIN ELEVATIONS, INSTALLATION OF FLASHING, AND SLOPE OF SLAB TO DRAINS.

COORDINATE WITH INSTALLATION OF SANITARY AND STORM SEWER SYSTEMS AS NECESSARY TO INTERFACE BUILDING DRAINS WITH DRAINAGE PIPING SYSTEMS.

PART 2. - PRODUCTS

2.1 ABOVE GROUND DRAINAGE AND VENT PIPE AND FITTINGS

HUBLESS CAST-IRON SOIL PIPE: CISPI STANDARD 301, SERVICE WEIGHT, CAST-IRON SOIL PIPE AND FITTINGS, WITH HEAVY-DUTY NEOPRENE GASKETS AND STAINLESS STEEL NO-HUB COUPLINGS.

CLAMP-ALL 125, NO EXCEPTIONS.

PVC SEWER PIPE AND FITTINGS: SCHEDULE 40, SOLID CORE, CONFORM TO ASTM D2665 FOR PIPE AND FITTINGS.

NO-HUB COUPLINGS: NO-HUB COUPLINGS SHALL BE HUSKY 4000 SERIES OR

CONTRACTOR MUST SECURE APPROVAL FOR PVC PIPING FROM LOCAL
AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION. FAILURE TO
SECURE APPROVAL WILL RESULT IN REPLACEMENT OF NON-COMPLIANT

2.2 DRAINAGE PIPING SPECIALTIES

1. SOLVENT: ASTM D2564.

NSTALLATION EXPENSE.

CLEANOUT PLUGS: CAST-BRONZE OR BRASS, THREADS COMPLYING WITH ANSI

B2.1, COUNTERSUNK HEAD.

FLOOR, WALL, AND GRADE CLEANOUTS: PROVIDE CLEANOUTS AS SPECIFIED IN THE "PLUMBING FIXTURE SCHEDULE".

2.3 FLOOR DRAINS

SCHEDULE".

PROVIDE FLOOR DRAINS AS SPECIFIED IN THE "PLUMBING FIXTURE

MANUFACTURERS: FLOOR DRAINS: 1. JOSAM MFG. CO. 2. SMITH (JAY R) MFG. CO.

PART 3. - EXECUTION

3.1 PIPE AND TUBE JOINT CONSTRUCTION

3. ZURN INDUSTRIES INC; HYDROMECHANICS DIV.

CAST-IRON SOIL PIPE: MAKE HUBLESS JOINTS IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE CISPI CAST IRON SOIL PIPE AND FITTINGS HANDBOOK, CHAPTER IV.

3.2 INSTALLATION

MAKE CHANGES IN DIRECTION FOR DRAINAGE AND VENT PIPING USING APPROPRIATE 45 DEGREE WYES, HALF-WYES, OR LONG SWEEP QUARTER, SIXTH, EIGHTH, OR SIXTEENTH BENDS. SANITARY TEES OR SHORT QUARTER BENDS MAY BE USED ON VERTICAL STACKS OF DRAINAGE LINES WHERE THE CHANGE IN DIRECTION OF FLOW IS FROM HORIZONTAL TO VERTICAL, EXCEPT USE LONG-TURN TEES WHERE TWO FIXTURES ARE INSTALLED BACK TO BACK AND HAVE A COMMON DRAIN.

STRAIGHT TEES, ELBOWS, AND CROSSES MAY BE USED ON VENT LINES. NO CHANGE IN DIRECTION OF FLOW GREATER THAN 90 DEGREES SHALL BE MADE. WHERE DIFFERENT SIZES OF DRAINAGE PIPES AND FITTINGS ARE CONNECTED, USE PROPER SIZE, STANDARD INCREASERS AND REDUCERS. REDUCTION OF THE SIZE OF DRAINAGE PIPING IN THE DIRECTION OF FLOW IS PROHIBITED

INSTALL DRAIN PITCHED DOWN AT MINIMUM SLOPE OF 1/4 INCH PER FOOT (2 PERCENT) FOR PIPING 3 INCH AND SMALLER, AND 1/8 INCH PER FOOT (1 PERCENT) FOR PIPING 4 INCH AND LARGER.

3.3 INSTALLATION OF PIPING SPECIALTIES

ABOVE GROUND CLEANOUTS: INSTALL IN ABOVE GROUND PIPING AND BUILDING DRAIN PIPING AS INDICATED, AND:

1. AS REQUIRED BY PLUMBING CODE;

 AT EACH CHANGE IN DIRECTION OF PIPING GREATER THAN 45 DEGREES;
 AT MINIMUM INTERVALS OF 75' FOR PIPING 4" AND SMALLER AND 100' FOR LARGER PIPING

4. AT BASE OF EACH VERTICAL SOIL OR WASTE STACK.

INSTALL FLOOR DRAINS AT LOW POINTS OF SURFACE AREAS TO BE DRAINED,

3.4 INSTALLATION OF FLOOR DRAINS INSTALL FLOOR DRAINS IN ACCORDANCE

OR AS INDICATED.

WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND IN LOCATIONS

SET DRAIN ELEVATION DEPRESSED BELOW FINISHED SLAB ELEVATION AS LISTED BELOW TO PROVIDE PROPER SLOPE TO DRAIN.

DEPRESSION IN INCHES - RADIUS OF AREA DRAINED, FEET
1/2 5
3/4 10

TRAP ALL DRAINS CONNECTED TO THE SANITARY SEWER.

INSTALL DRAIN FLASHING COLLAR OR FLANGE SO THAT NO LEAKAGE OCCURS BETWEEN DRAIN AND ADJOINING FLOORING. MAINTAIN INTEGRITY OF WATERPROOF MEMBRANES, WHERE PENETRATED.

POSITION DRAINS SO THAT THEY ARE ACCESSIBLE AND EASY TO MAINTAIN.

3.5 FIELD QUALITY CONTROL

NCDECTION

OFFICIAL.

DO NOT ENCLOSE, COVER, OR PUT INTO OPERATION DRAINAGE AND
 VENT PIPING SYSTEM UNTIL IT HAS BEEN INSPECTED AND APPROVED BY
 THE AUTHORITY HAVING JURISDICTION.

2. DURING THE PROGRESS OF THE INSTALLATION, NOTIFY THE PLUMBING OFFICIAL HAVING JURISDICTION, AT LEAST 24 HOURS PRIOR TO THE TIME SUCH INSPECTION MUST BE MADE. PERFORM TESTS SPECIFIED BELOW IN THE PRESENCE OF THE PLUMBING OFFICIAL.

A. ROUGH-IN INSPECTION: ARRANGE FOR INSPECTION OF THE PIPING SYSTEM BEFORE CONCEALED OR CLOSED-IN AFTER SYSTEM IS ROUGHED-IN, AND PRIOR TO SETTING FIXTURES.

B. FINAL INSPECTION: ARRANGE FOR A FINAL INSPECTION BY THE

INSURE COMPLIANCE WITH THE REQUIREMENTS OF THE PLUMBING CODE.

3. REINSPECTIONS: WHENEVER THE PIPING SYSTEM FAILS TO PASS THE

PLUMBING OFFICIAL TO OBSERVE THE TESTS SPECIFIED BELOW AND TO

TEST OR INSPECTION, MAKE THE REQUIRED CORRECTIONS, AND ARRANGE FOR REINSPECTED BY THE PLUMBING OFFICIAL.

4. REPORTS: PREPARE INSPECTION REPORTS, SIGNED BY THE PLUMBING

PIPING SYSTEM TEST - TEST DRAINAGE AND VENT SYSTEM IN ACCORDANCE WITH THE PROCEDURES OF THE AUTHORITY HAVING JURISDICTION, OR IN THE ABSENCE OF A PUBLISHED PROCEDURE, AS FOLLOWS:

1. TEST FOR LEAKS AND DEFECTS ALL NEW DRAINAGE AND VENT PIPING

SYSTEMS AND PARTS OF EXISTING SYSTEMS, WHICH HAVE BEEN

ALTERED, EXTENDED OR REPAIRED. IF TESTING IS PERFORMED IN SEGMENTS, SUBMIT A SEPARATE REPORT FOR EACH TEST, COMPLETE WITH A DIAGRAM OF THE PORTION OF THE SYSTEM TESTED.

2. LEAVE UNCOVERED AND UNCONCEALED ALL NEW, ALTERED, EXTENDED, OR REPLACED DRAINAGE AND VENT PIPING UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE ALL SUCH WORK FOR TESTING, WHICH HAS

BEEN COVERED OR CONCEALED BEFORE IT HAS BEEN TESTED AND APPROVED.

3. ROUGH PLUMBING TEST PROCEDURE: EXCEPT FOR OUTSIDE LEADERS AND PERFORATED OR OPEN JOINTED DRAIN TILE, TEST THE PIPING OF PLUMBING DRAINAGE AND VENTING SYSTEMS UPON COMPLETION OF THE ROUGH PIPING INSTALLATION. TIGHTLY CLOSE ALL OPENINGS IN THE PIPING SYSTEM, AND FILL WITH WATER TO THE POINT OF OVERFLOW, BUT NOT LESS THAN 10 FEET HEAD OF WATER. WATER LEVEL SHALL NOT DROP DURING THE PERIOD FROM 15 MINUTES BEFORE THE INSPECTION STARTS, THROUGH COMPLETION OF THE INSPECTION. INSPECT ALL

JOINTS FOR LEAKS.

4. FINISHED PLUMBING TEST PROCEDURE: AFTER THE PLUMBING FIXTURES HAVE BEEN SET AND THEIR TRAPS FILLED WITH WATER, THEIR CONNECTIONS SHALL BE TESTED AND PROVED GAS AND WATER-TIGHT. PLUG THE STACK OPENINGS ON THE ROOF AND BUILDING DRAIN WHERE IT LEAVES THE BUILDING, AND INTRODUCE AIR INTO THE SYSTEM EQUAL TO A PRESSURE OF 1" WATER COLUMN. USE A "U" TUBE OR MANOMETER INSERTED IN THE TRAP OF A WATER CLOSET TO MEASURE THIS PRESSURE. AIR PRESSURE SHALL REMAIN CONSTANT WITHOUT THE INTRODUCTION OF ADDITIONAL AIR THROUGHOUT THE PERIOD OF INSPECTION. INSPECT ALL PLUMBING FIXTURE CONNECTIONS FOR GAS

AND WATER LEAKS.

5. REPAIR ALL LEAKS AND DEFECTS USING NEW MATERIALS AND RETEST SYSTEM OR PORTION THEREOF UNTIL SATISFACTORY RESULTS ARE

6. PREPARE REPORTS FOR ALL TESTS AND REQUIRED CORRECTIVE ACTION.

3.6 ADJUSTING AND CLEANING

CLEAN INTERIOR OF PIPING SYSTEM. REMOVE DIRT AND DEBRIS AS WORK

CLEAN DRAIN STRAINERS, DOMES, AND TRAPS. REMOVE DIRT AND DEBRIS.

3.7 PROTECTION

PROGRESSES.

PROTECT DRAINS DURING REMAINDER OF CONSTRUCTION PERIOD, TO AVOID CLOGGING WITH DIRT AND DEBRIS, AND TO PREVENT DAMAGE FROM TRAFFIC AND CONSTRUCTION WORK.

WORK STOPS.

PLACE PLUGS IN ENDS OF UNCOMPLETED PIPING AT END OF DAY OR WHENEVER

No. Description Date

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Plumbing
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Project number 98317

Date Sep 19, 2017

Scale

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