



**CITY OF CALLAWAY  
BEACON POINT PLAZA REHABILITATION-  
NORTH OUTPARCEL  
BID NO.: CM2024-22**

**ADDENDUM #3**

Date Issued: December 11, 2024

**This addendum is being released to answer the following questions.**

1. On the "Index of Drawings," there is a list that provides the sequence number, sheet number and description of the pages to be included. I see that there were some noted as, "RESERVED," or, "(NOT USED.)" However, there were also several that are missing from the document and will need included in order for the bid to be prepared.

Pages missing:

Sheet #S0.1\_Technical-Structural Specifications – **INCLUDED in previous email-see attached**

Sheet #S0.2\_Details-Foundation Details - – **INCLUDED in previous email-see attached**

Sheet #S0.3\_Details-Roof Framing Details - – **INCLUDED in previous email-see attached**

Sheet #A3.1\_Sections-Building Sections - – **INCLUDED in previous email-see attached**

Sheet #M0.1\_Details-Typ. Mech. Details – **RESERVED for future tenant mechanical layout & details**

Sheet #M1.1\_Plan-Mech Layout – **RESERVED for future tenant mechanical layout and details**

Sheet #P0.1\_Technical-Specifications & Plumbing Legend - Sheet #ES1.1\_Plan—**INCLUDED in previous email-see attached**

Electrical Site Layout – **RESERVED- we had no information available on site electrical (lighting or power) other than what was included on sheets X1.1 & E1.1**

*Ashley Robyck*

Ashley Robyck, City Clerk

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This Addendum must be acknowledged and included with the bid packet submission.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Date

# SPECIFICATIONS

## GENERAL

- NO PROVISION OF ANY REFERENCED STANDARD SPECIFICATION, MANUAL OR CODE (WHETHER OR NOT SPECIFICALLY INCORPORATED BY REFERENCE IN THE CONTRACT DOCUMENTS) SHALL BE EFFECTIVE TO CHANGE THE DUTIES AND RESPONSIBILITIES OF OWNER, CONTRACTOR, ENGINEER OR SUPPLIER OR ANY OF THEIR CONSULTANTS, AGENTS OR EMPLOYEES FROM THOSE SET FORTH IN THE CONTRACT DOCUMENTS, NOR SHALL IT BE EFFECTIVE TO ASSIGN TO THE PROFESSIONAL OF RECORD, CONSULTANTS, AGENTS OR EMPLOYEES ANY DUTY OR AUTHORITY TO SUPERVISE OR DIRECT THE FURNISHING OR PERFORMANCE OF THE WORK OR AUTHORITY TO UNDERTAKE RESPONSIBILITIES CONTRARY TO THE PROVISIONS OF THE CONTRACT DOCUMENTS.
- THE GENERAL CONTRACTOR SHALL VERIFY THE DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. THE ARCHITECT OF RECORD SHALL BE NOTIFIED OF ANY DISCREPANCY.
- MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE 2006 INTERNATIONAL BUILDING CODE.
- THE CONTRACTOR SHALL COORDINATE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL WORKS WITH THE STRUCTURAL CONTRACT DOCUMENTS. ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES OR OMISSIONS.
- THE CONTRACTOR SHALL VERIFY THE FLOOR MOUNTED MECHANICAL EQUIPMENTS WEIGHTS, FLOOR OPENING SIZES AND LOCATIONS WITH ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS.
- THE CONTRACTOR SHALL NOTIFY IN WRITING THE PROFESSIONAL OF RECORD, OF CONDITIONS ENCOUNTERED IN THE FIELD CONTRADICTORY TO THOSE SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS.
- FOR DIMENSIONS NOT SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS SEE THE ARCHITECTURAL.
- STRUCTURAL CONTRACT DRAWINGS SHALL NOT INCLUDE SHOP DRAWINGS, VENDOR DRAWINGS, OR ANY MATERIAL PREPARED AND SUBMITTED BY THE CONTRACTOR OR SUBCONTRACTOR.
- REFERENCE TO STANDARD SPECIFICATIONS OF ANY TECHNICAL SOCIETY, ORGANIZATION OR ASSOCIATION TO CODES OF LOCAL OR STATE AUTHORITIES, SHALL MEAN THE LATEST STANDARD CODE, SPECIFICATION OR TENTATIVE SPECIFICATION ADOPTED AND PUBLISHED AT THE DATE OF TAKING BIDS UNLESS SPECIFICALLY STATED OTHERWISE.
- ANY CONTRACTOR INTENDING TO SUPPORT EQUIPMENT, PIPING, DUCT WORK, CRANES OR OTHER ITEMS WHICH SUBJECT THE ROOF OR FLOOR SYSTEMS TO CONCENTRATED LOADINGS NOT SPECIFICALLY INDICATED ON THESE STRUCTURAL DRAWINGS, MUST SUBMIT SHOP DRAWINGS, WEIGHTS, AND PROPOSED SUPPORT LOCATIONS TO THE PROFESSIONAL OF RECORD, FOR APPROVAL PRIOR TO ERECTION. ANY CONTRACTOR WHO ERECTS EQUIPMENT WITHOUT OBTAINING SUCH APPROVAL WILL BE REQUIRED EITHER TO REMOVE IT AND SUBMIT SHOP DRAWINGS OR STAND THE COST OF REQUIRED REINFORCEMENT OF MEMBERS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE PERFORMANCE OF THE CONTRACT. THE CONTRACTOR SHALL GIVE NOTICES AND COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF PUBLIC AUTHORITIES (ESPECIALLY ON SAFETY OF PERSONS OR PROPERTY OR THEIR PROTECTION FROM DAMAGE, INJURY OR LOSS). THE CONTRACTOR SHALL NOT LOAD OR PERMIT ANY PART OF THE CONSTRUCTION SITE TO BE LOADED SO AS TO ENDANGER ITS SAFETY.
- IN NO CASE SHALL STRUCTURAL ALTERATIONS OR WORK AFFECTING A STRUCTURAL MEMBER BE MADE, UNLESS APPROVED BY PROFESSIONAL OF RECORD, IN WRITING.
- THIS BUILDING IS DESIGNED AS AN ENCLOSED STRUCTURE. ALL EXTERIOR COMPONENTS (DOORS, WINDOWS, ETC) MUST BE DESIGNED TO WITHSTAND THE WIND LOADINGS SPECIFIED FOR THE DESIGN OF COMPONENTS AND CLADDING IN THE APPLICABLE BUILDING CODE.
- THE CONTRACT DOCUMENT DRAWINGS, GENERAL NOTES, AND SPECIFICATIONS SHALL GOVERN IN THE EVENT OF A CONFLICT WITH THE SPECIFICATIONS AND/OR CODE OF PRACTICE FOR AISC, ACI, SJI, OR OTHER STANDARDS.

## FOUNDATION

- THE FOUNDATION DESIGN MAY BE REVISED PENDING GEO-TECHNICAL REPORT (TO BE PROVIDED BY OTHERS). THE PROFESSIONAL OF RECORD, IS NOT RESPONSIBLE FOR SUBSURFACE CONDITIONS ENCOUNTERED IN THE FIELD CONTRARY TO THOSE ASSUMED FOR DESIGN.
- FOR BUILDING SITE PREPARATION REQUIREMENTS SEE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS.
- FOUNDATION SHALL CONSIST OF SPREAD FOOTINGS DESIGNED TO BEAR ON SOIL CAPABLE OF SUPPORTING 3000 PSF.

## CONCRETE

- CONCRETE WORK SHALL CONFORM TO THE ACI 318-05 AND CRSI STANDARDS.
- PIPER OR DUCTS EXCEEDING ONE-THIRD THE SLAB THICKNESS SHALL NOT BE PLACED WITHIN THE THICKNESS OF CONCRETE SLABS UNLESS SPECIFICALLY DETAILED. SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LOCATION OF SLEEVES.
- REFER TO ARCHITECTURAL DRAWINGS FOR MOLDS, GROOVES, ORNAMENTS, CLIPS, OR GROUNDS REQUIRED TO BE ENCASED IN CONCRETE AND FOR LOCATION AND DETAILS OF FLOOR FINISHES AND SLAB DEPRESSIONS.
- AT COLUMN FOOTINGS, COLUMN ANCHOR RODS WITH TEMPLATE SHALL BE INSTALLED IN PROPER LOCATION PRIOR TO POURING THE FOOTING.
- CONCRETE SHALL HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTH UTILIZING TYPE I CEMENT:  
FOUNDATIONS AND SLABS ON GRADE 3500 PSI

## REINFORCING STEEL

- REINFORCING STEEL SHALL CONFORM TO ASTM A615-GRADE 60.
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A955 AND HAVE A MINIMUM SIDE LAP OF 8 INCHES.
- REINFORCEMENT SHALL BE SPLICED ONLY AS SHOWN OR NOTED IN THE STRUCTURAL CONTRACT DOCUMENTS.
- ALL REINFORCING LAP SPLICES SHALL BE A MINIMUM OF 36 BAR DIAMETERS IN LENGTH FOR REINFORCED CONCRETE. LAP SPLICES FOR REINFORCED MASONRY SHALL BE A MINIMUM OF 48 BAR DIAMETERS.
- ALL REINFORCING STEEL AND ACCESSORIES SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI MANUAL AND MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES.
- MINIMUM CONCRETE COVER FOR REINFORCING BARS SHALL BE IN CONFORMANCE WITH CHAPTER 7 OF ACI 318-05 EXCEPT AS OTHERWISE NOTED.
- ALL BAR SUPPORTS SHALL HAVE BENT FEET ON ALL LEGS COATED WITH HOT DIP PLASTIC COATING.
- REINFORCING IN ALL FOOTINGS SHALL BE CONTINUOUS AT INTERSECTIONS AND CORNERS. WHERE WALL FOOTINGS STEP, REINFORCING SHALL BE CONTINUOUS IN STEP.
- AT POURED CONCRETE PIERS AND DOUBLES FOR VERTICAL REINFORCING BARS SHALL BE INSTALLED IN THEIR PROPER LOCATION PRIOR TO CONCRETE POUR OF THE FOOTINGS.

## STRUCTURAL SUBMITTALS

- FURNISH TWO PRINTS OF SHOP DRAWINGS. FURNISH THREE COPIES OF OTHER STRUCTURAL SUBMITTALS.
- SEE CONTRACT SPECIFICATIONS FOR ADDITIONAL SUBMITTAL REQUIREMENTS AND PROCEDURES.
- REPRODUCTION OF CONTRACT DOCUMENTS FOR ERECTION AND/OR SHOP DRAWINGS WILL BE PERMITTED.
- REVIEW OF SUBMITTALS AND/OR SHOP DRAWINGS BY THE STRUCTURAL ENGINEER OF RECORD DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE PROFESSIONAL OF RECORD. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR ALSO SHALL BE RESPONSIBLE FOR MEANS, METHOD, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION. SEE SPECIFIC PROVISIONS IN THE CONTRACT DOCUMENTS DEALING WITH THE APPROPRIATE DESIGN RESPONSIBILITIES OF CONTRACTORS, SUBCONTRACTORS, AND SUPPLIERS.
- IN THE EVENT THAT PROFESSIONAL OF RECORD REVIEWS SUBMITTALS (AS A COURTESY TO THE CONTRACTOR TO REDUCE THE TIME PRIOR TO THE START OF FABRICATION) WHICH HAVE NOT FIRST BEEN REVIEWED AND APPROVED BY THE CONTRACTOR, SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO REVIEW AND APPROVE ALL SUCH SUBMITTALS, NOR SHALL IT CREATE RESPONSIBILITY OR LIABILITY ON THE PART OF PROFESSIONAL OF RECORD AS TO THE CORRECTNESS, ACCURACY OR COMPLETENESS OF SUCH SHOP DRAWINGS EXCEPT AS MAY BE SPECIFICALLY DESCRIBED IN THESE GENERAL NOTES. CONTRACTOR IS SOLELY RESPONSIBLE FOR REVIEW AND APPROVAL OF SHOP DRAWINGS AND OTHER SUBMITTALS, AND CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL REQUIREMENTS OF THE WORK OF THE CONTRACTOR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS.
- THE REVIEW OF SUBMITTALS WILL BE MADE FOR LIMITED PURPOSES AND IS SUBJECT TO THE LIMITATIONS AND DISCLAIMERS SET FORTH IN THESE GENERAL NOTES. THE PROFESSIONAL OF RECORD REVIEW DOES NOT INVOLVE OR INCLUDE:  
A. REVIEW OF SUBMITTAL DIMENSIONS AND QUANTITIES.  
B. REVIEW EVALUATION OR APPROVAL OF PROJECT SAFETY PRECAUTIONS OR SAFETY TRAINING.  
C. REVIEW EVALUATION OR APPROVAL OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES OR SEQUENCES.
- PROFESSIONAL OF RECORD REVIEW OF A SPECIFIC ITEM DOES NOT INCLUDE OR INDICATE OR CONSTITUTE REVIEW OF A GROUP OR AN ASSEMBLY OF WHICH THE ITEM IS A COMPONENT.
- THE CONTRACTOR MUST NOTIFY PROFESSIONAL OF RECORD, IN WRITING, RELATIVE TO ANY DEVIATION FROM THE CONTRACT DOCUMENTS, WHICH APPEARS IN THE SHOP DRAWINGS, SAMPLES, AND PRODUCT DATA. APPROVAL OF THE SUBMITTAL CONTAINING SUCH DEVIATION DOES NOT CONSTITUTE APPROVAL OF THE DEVIATION. APPROVAL OR REJECTION OF THE DEVIATION WILL ONLY BE PROVIDED BY PROFESSIONAL OF RECORD IN A SEPARATE WRITTEN COMMUNICATION TO THE CONTRACTOR. PROFESSIONAL OF RECORD IS NOT RESPONSIBLE FOR DISCOVERY OF DEVIATIONS NOT COMMUNICATED BY THE CONTRACTOR.

## STRUCTURAL SUBMITTALS: STRUCTURAL STEEL, WOOD TRUSSES, WOOD FLOOR JOISTS, CONCRETE REINFORCING BARS, ANCHOR RODS, CONCRETE MIX DESIGNS.

- THE FOLLOWING SUBMITTALS MUST BE MADE TO THE ENGINEER OF RECORD:  
A. ERECTION DRAWINGS, FABRICATION DRAWINGS, COMPONENT DETAILS, AND CONNECTION DETAILS.  
B. CALCULATIONS FOR ALL COMPONENTS SIZED BY THE FABRICATOR'S SPECIALTY DESIGN ENGINEER.
- THE STRUCTURAL SUBMITTALS FOR WOOD TRUSSES AND WOOD FLOOR JOISTS SHALL BEAR THE IMPRESSED SEAL AND SIGNATURE OF THE SPECIALTY DESIGN ENGINEER LICENSED IN THE PROJECT STATE.
- THE PROJECT PROFESSIONAL OF RECORD WILL REVIEW THE SUBMITTALS FOR INDICATION THAT HIS INTENT HAS BEEN UNDERSTOOD AND THAT THE SPECIFIED CRITERIA HAVE BEEN USED.

## DESIGN LOADS

1. WOOD FRAMED ROOF	COVERED ENTRY ROOF
DEAD LOADS • 20 PSF	DEAD LOADS • 15 PSF
LIVE LOADS • 20 PSF	LIVE LOADS • 20 PSF
2. WIND LOADING CRITERIA (PER ASCE 7-16)	
BASIC WIND SPEED, V	• 133 MPH OR PER BLDG CODE
BUILDING CATEGORY, II	
IMPORTANCE FACTOR, I	• 1.0
EXPOSURE CATEGORY, B	
INTERNAL PRESSURE COEFF, Gcpi	• +/- 0.3

## STRUCTURAL METALS

- STRUCTURAL STEEL SHALL CONFORM TO ASTM A572 GRADE 50 EXCEPT ANGLES, CHANNELS, FLATES, RODS, ETC SHALL CONFORM TO ASTM A36 AND STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B (Fy=46ksi).
- STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED ACCORDING TO THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS EFFECTIVE AS OF JULY, 1989. CONTRACT DOCUMENTS SHALL GOVERN IN THE EVENT OF CONFLICT WITH THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
- FABRICATOR SHALL PREPARE SHOP DRAWINGS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. CONNECTIONS SHALL BE DETAILED BASED ON THE DESIGN INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS. DEVIATION FROM THE CONNECTION DETAILS DESCRIBED IN THE CONTRACT DOCUMENTS SHALL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE PROFESSIONAL OF RECORD. THE PROFESSIONAL OF RECORD SHALL BE RESPONSIBLE FOR THE FABRICATOR FOR THE COST INVOLVED IN THE REDESIGN OF CONNECTIONS FOR THE CONVENIENCE OF THE FABRICATOR.
- UNLESS INDICATED OTHERWISE, ALL BEAM CONNECTIONS SHALL BE AISC DOUBLE ANGLE PER TABLE II OR III OF THE ASD MANUAL OF STEEL CONSTRUCTION. UNLESS OTHERWISE INDICATED, BOLTED CONNECTIONS SHALL UTILIZE MAXIMUM NUMBER OF ROBS AT 3" STANDARD BOLT SPACING.
- BOLTED CONNECTIONS SHALL BE NON-SLIP CRITICAL BEARING TYPE CONNECTIONS (THREADS EXCLUDED FROM THE SHEAR PLANE) USING 3/4" DIAMETER A-325 BOLTS. SLOTTED HOLES ARE PERMITTED ONLY WHERE THE DIRECTION OF THE LOAD IS NORMAL TO THE AXIS OF THE BOLT. BOLTED CONNECTIONS FOR TRUSS JOINTS, HANGERS AND DIAGONAL BRACINGS (AS OCCURS) SHALL BE SLIP CRITICAL.
- USE PREQUALIFIED WELDED JOINTS PER AISC AND THE STRUCTURAL WELDING CODE OF THE AMERICAN WELDING SOCIETY. NON QUALIFIED JOINTS SHALL BE QUALIFIED BY THE FABRICATOR PRIOR TO FABRICATION.
- SHOP PAINT FOR STRUCTURAL STEEL SHALL BE THE REC 10-99. APPLY TO STRUCTURAL STEEL TO A MINIMUM DRY FILM THICKNESS OF 25 MILS. DO NOT PAINT STEEL TO BE FIRE-PROOFED WITH SPRAYED ON CEMENTITIOUS MATERIALS. DO NOT PAINT STEEL SURFACES TO BE EMBEDDED IN CONCRETE.
- ALL STRUCTURAL STEEL THAT IS OUTSIDE OF CONDITIONED SPACE OR WHICH IS EXPOSED TO THE EXTERIOR ENVIRONMENT SHALL BE GALVANIZED.

WALL COMPONENTS & CLADDING						
COMPONENT	ZONE	EFF. AREA (FT <sup>2</sup> )	C <sub>sp</sub>	G <sub>cp</sub>	PRE <sub>0</sub> (+ve) (psf)	PRE <sub>0</sub> (-ve) (psf)
(EDGE ZONE) ③	< 10 SF.	10.0	0.30	-0.30	23.1	-25.1
	50 SF.	50.0	0.15	-0.20	21.5	-23.2
	100 SF.	100.0	0.05	-0.10	19.2	-21.1
	> 500 SF.	500.1	0.03	-0.12	17.8	-19.7
(INTERIOR ZONE) ④	< 10 SF.	10.0	0.30	-1.26	23.1	-31.6
	50 SF.	50.0	0.15	-1.04	21.5	-26.1
	100 SF.	100.0	0.05	-0.85	19.2	-22.5
	> 500 SF.	500.1	0.03	-0.72	17.8	-19.1
WALL COMPONENTS & CLADDING						
COMPONENT	ZONE	EFF. AREA (FT <sup>2</sup> )	C <sub>sp</sub>	G <sub>cp</sub>	PRE <sub>0</sub> (+ve) (psf)	PRE <sub>0</sub> (-ve) (psf)
(CORNER ZONE) ⑤	< 10 SF.	10.0	0.30	-2.30	23.1	-54.4
	50 SF.	50.0	0.14	-1.11	20.2	-42.8
	100 SF.	100.0	0.05	-1.01	19.2	-39.3
	> 500 SF.	500.1	0.03	-1.00	17.8	-34.1
(EDGE ZONE) ②	< 10 SF.	10.0	0.30	-2.30	23.1	-54.4
	50 SF.	50.0	0.14	-1.11	20.2	-42.8
	100 SF.	100.0	0.05	-1.01	19.2	-39.3
	> 500 SF.	500.1	0.03	-1.00	17.8	-34.1
(INNER ZONE) ①	< 10 SF.	10.0	0.30	-1.10	10.5	-41.2
	50 SF.	50.0	0.20	-1.09	8.3	-32.2
	100 SF.	100.0	0.20	-1.16	8.3	-29.5
	> 500 SF.	500.1	0.20	-1.00	8.3	-25.9
(INNER ZONE) ①	< 10 SF.	10.0	0.30	-0.30	10.5	-23.1
	50 SF.	50.0	0.20	-0.30	8.3	-23.1
	100 SF.	100.0	0.20	-0.25	8.3	-16.0
	> 500 SF.	500.1	0.20	-0.40	8.3	-12.1

## BUILDING DATA

TYPE OF ROOF: FLAT  
 LENGTH OF BUILDING: b = 10.00 FT  
 WIDTH OF BUILDING: d = 10.00 FT  
 HEIGHT OF EAVES: h = 13.00 FT  
 HEIGHT OF PARAPET: h = 13.00 FT p  
 MEAN HEIGHT: H = 13.00 FT

## GENERAL WIND LOAD REQUIREMENTS

BASIC WIND SPEED: V = 133.0 mph  
 RISK CATEGORY: II  
 VELOCITY PRESSURE EXPONENT COEF (TABLE 26.6-1): K<sub>d</sub> = 0.05  
 GROUND ELEVATION ABOVE SEA LEVEL: z<sub>g</sub> = 0 FT  
 GROUND ELEVATION FACTOR: K<sub>z</sub> = 1.00  
 EXPOSURE CATEGORY (CL 26.1.3): B  
 ENCLOSURE CLASSIFICATION (CL 26.1.2): ENCLOSED BUILDINGS  
 INTERNAL PRESSURE COEF +ve (TABLE 26.13-1): G<sub>cpi</sub> = 0.10  
 INTERNAL PRESSURE COEF -ve (TABLE 26.13-1): G<sub>cpi</sub> = -0.10  
 PARAPET INTERNAL PRESSURE COEF +ve (TABLE 26.13-1): G<sub>cpi</sub> = 0.10  
 PARAPET INTERNAL PRESSURE COEF -ve (TABLE 26.13-1): G<sub>cpi</sub> = -0.10  
 GUST EFFECT FACTOR: G<sub>f</sub> = 0.95

## TOPOGRAPHY

TOPOGRAPHY FACTOR NOT SIGNIFICANT: K<sub>s</sub> = 1.0

## VELOCITY PRESSURE

VELOCITY PRESSURE COEFFICIENT (TABLE 26.10-1): K<sub>c</sub> = 0.51  
 VELOCITY PRESSURE: q<sub>h</sub> = 21.9 psf

## VELOCITY PRESSURE AT PARAPET

VELOCITY PRESSURE COEFFICIENT (TABLE 26.10-1): K<sub>c</sub> = 0.59  
 VELOCITY PRESSURE: q<sub>h</sub> = 22.1 psf

## PEAK VELOCITY PRESSURE FOR INTERNAL PRESSURE

PEAK VELOCITY PRESSURE - INTERNAL (AS ROOF PRESS) q<sub>i</sub> = 21.94 psf

## EQUATIONS USED IN TABLES

NET PRESSURE: q<sub>i</sub> = q<sub>h</sub> \* (G<sub>ci</sub> - G<sub>ce</sub>)  
 PARAPET NET PRESSURE: q<sub>i</sub> = q<sub>h</sub> \* (G<sub>ci</sub> - G<sub>ce</sub>)  
 G<sub>ce</sub> = 0.25

## PREENGINEERED SYSTEMS

- THE DESIGN OF PREENGINEERED SYSTEMS SPECIFIED IN THE CONTRACT DOCUMENTS WHICH ARE DESIGNED/ENGINEERED BY OTHERS IS THE SOLE RESPONSIBILITY OF THE SUPPLIER AND ITS DESIGN ENGINEER. LICENSED IN THE PROJECT STATE. SUBMITTALS OF SUCH SYSTEMS TO THE PROFESSIONAL OF RECORD SHALL BE REVIEWED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS WITH REGARD TO THE ARRANGEMENT AND/OR SIZES OF MEMBERS SHOWN ON THE CONTRACT DOCUMENTS AND TO INSURE CORRECT INTERPRETATION OF THE DESIGN INFORMATION INCLUDED IN THE CONTRACT DOCUMENTS. SUCH REVIEW BY THE PROFESSIONAL OF RECORD SHALL NOT IMPLY ANY RESPONSIBILITY FOR THE ACTUAL DESIGN OF SUCH SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DIMENSIONAL ACCURACY AND CONFORMANCE WITH THE INFORMATION CONTAINED IN THE CONTRACT DOCUMENTS.
- SEE SPECIFIC SECTIONS OF GENERAL NOTES ABOVE AND SPECIFICATIONS FOR THE APPROPRIATE DESIGN RESPONSIBILITIES OF THE SUPPLIER AND ITS LICENSED ENGINEER.
- THE CONTRACT DOCUMENT DRAWINGS, GENERAL NOTES, AND SPECIFICATIONS SHALL GOVERN IN THE EVENT OF A CONFLICT WITH THE SPECIFICATIONS AND/OR CODE OF PRACTICE FOR AISC, ACI, SJI OR OTHER STANDARDS.

## ERECTION BRACING AND FORMWORK

- THE DESIGN ADEQUACY AND SAFETY OF ERECTION BRACING, FORMWORK, SHORING, AND TEMPORARY SUPPORTS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ANCHOR BOLTS AND FOUNDATIONS HAVE NOT BEEN DESIGNED FOR ANY CONDITION OF LOADING OTHER THAN THAT OF THE COMPLETED STRUCTURE. VERIFICATION OF ADEQUACY OF ANCHOR BOLT AND FOUNDATIONS TO RESIST ERECTION INDUCED FORCES IS SOLELY THE RESPONSIBILITY OF THE STEEL ERECTOR AND CONTRACTOR.
- UNLESS OTHERWISE NOTED STEEL FRAMEWORKS FOR THIS PROJECT ARE CLASSIFIED PER AISC CODE OF STANDARD PRACTICE AS A NON-SELF-SUPPORTING STEEL FRAME. PROVIDE TEMPORARY SUPPORT SYSTEMS NECESSARY TO SECURE ANY ELEMENT OR ELEMENTS OF THE STEEL FRAMING UNTIL ALL PERMANENT STEEL BRACING, DECKING AND/OR MASONRY WALLS ARE IN-PLACE AND CONNECTED TO THE STEEL FRAMEWORKS.

## JOB SITE SAFETY

THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY AND FOR CONFORMANCE WITH THE HEALTH AND SAFETY PROVISIONS REQUIRED BY ANY REGULATORY AGENCIES. THE PROFESSIONAL OF RECORD HAS NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR, OR THEIR EMPLOYEES WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS.

## REVIEW OF CONSTRUCTION PHASE SERVICES

IT IS UNDERSTOOD AND AGREED THAT THE BASIC SERVICES UNDER THIS AGREEMENT DO NOT INCLUDE PROJECT OBSERVATION OR REVIEW OF THE CONTRACTOR'S PERFORMANCE OR ANY OTHER CONSTRUCTION PHASE SERVICES, AND THAT SUCH SERVICES WILL BE PROVIDED BY THE OWNER. THE OWNER ASSUMES ALL RESPONSIBILITY FOR INTERPRETATION OF THE CONTRACT DOCUMENTS AND FOR THE CONSTRUCTION OBSERVATION AND SUPERVISION AND WAIVES ALL CLAIMS AGAINST PROFESSIONAL OF RECORD THAT MAY BE IN ANY WAY CONNECTED THERETO.

IN ADDITION THE OWNER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD PROFESSIONAL OF RECORD HARMLESS FOR ANY LOSS, CLAIM OR COST, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING OR RESULTING FROM THE PERFORMANCE OF SUCH SERVICES BY OTHER PERSONS OR ENTITIES AND FROM ANY AND ALL CLAIMS ARISING OR RESULTING FROM MODIFICATIONS, CLARIFICATIONS, INTERPRETATIONS, ADJUSTMENTS OR CHANGES MADE TO THE CONTRACT DOCUMENTS TO REFLECT CHANGED FIELD OR OTHER CONDITIONS, EXCEPT FOR CLAIMS ARISING FROM THE SOLE NEGLIGENCE OR WILLFUL MISCONDUCT OF THE PROFESSIONAL OF RECORD.

IF THE OWNER REQUESTS THAT THE PROFESSIONAL OF RECORD PROVIDE ANY SPECIFIC CONSTRUCTION PHASE SERVICES AND IF PROFESSIONAL OF RECORD AGREES IN WRITING TO PROVIDE SUCH SERVICES, THEN THEY SHALL BE COMPENSATED FOR AS ADDITIONAL SERVICES.

## LIGHTGAGE NON-STRUCTURAL STEEL FRAMING (20 GAGE OR LIGHTER):

- All walls and partitions which exceed six (6) feet in height shall have adequate ability to resist a horizontal load of 5 psf.
- All Non-Structural walls to conform to Allowable Material Chart below:

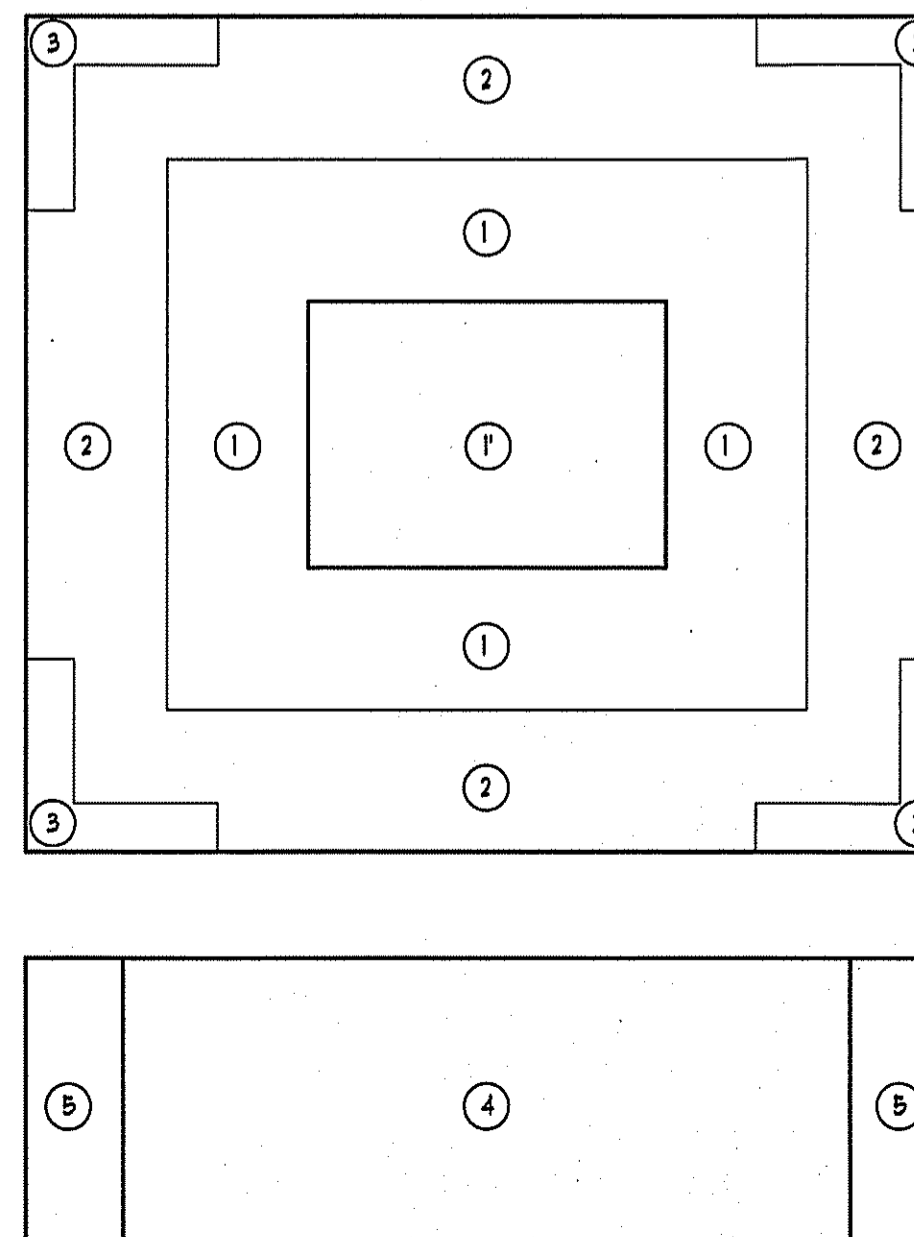
CALCULATED NON-STRUCTURAL ALLOWABLE HEIGHTS TABLE FOR "NON-LOAD BEARING" WALLS					
STUD SIZE	NON-STRUCTURAL	Fy KSI	c/c SPACE	5psf L/240	
3 1/2"	362S125-18	33	12"	14'-1"	
	362S125-18	33	16"	12'-9"	
	362S125-18	33	24"	11'-2"	
	362S125-27	33	12"	16'-5"	
	362S125-27	33	16"	14'-11"	
	362S125-27	33	24"	13'-0"	
	362S125-30	33	12"	17'-3"	
	362S125-30	33	16"	15'-8"	
	362S125-30	33	24"	13'-8"	
	362S125-33	33	12"	17'-7"	
	362S125-33	33	16"	15'-11"	
	362S125-33	33	24"	13'-11"	
6"	600S125-27	33	12"	24'-8"	
	600S125-27	33	16"	22'-4"	
	600S125-27	33	24"	19'-6"	
	600S125-30	33	12"	25'-10"	
	600S125-30	33	16"	23'-5"	
	600S125-30	33	24"	20'-6"	
600S125-33	33	12"	26'-3"		
600S125-33	33	16"	23'-11"		
600S125-33	33	24"	20'-10"		

## NOTES:

- Contractor to ensure wall spans do not exceed allowable span as indicated in chart above. Contractor may brace wall as shown on sheet S1.7 to shorten "span" as required. Walls that track directly to roof members or roof deck to utilize track system with slotted (vertical) connections.
- Industry Standard Nomenclature:  
 $600 \leq 125 \leq 30$   
 Minimum Metal Thickness (Mils) (i.e. 0.030")  
 Flange Width (i.e. 1.25")  
 Type of Member (i.e. Stud)  
 Depth of Member (i.e. 6.00")
- Common Mill Equivalents:  
 18 mil = 25 ga  
 27 mil = 22 ga  
 33 mil = 20 ga

## LIGHTGAGE STRUCTURAL STEEL FRAMING (18 GAGE OR HEAVIER):

- All lightgauge metal framing shall conform to AISI "Specification For The Design of Cold-Formed Steel Structural Members", 2007.
- Walls to be provided with manufacturer's standard bridging: (Either welded 2 1/2" x 18 ga. stud or clipped cold-rolled channel 1 1/2" x 16 ga). Provide bridging at 4'-0" o.c. maximum.
- Provide all miscellaneous accessories and follow erection procedures as per manufacturer's specifications and recommendations.
- Lightgauge steel framing shall meet the yield strength Fy = 33ksi.
- All track shall be deep leg (1 1/2" flange), 18 ga. minimum.



IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. THE USER OR REUSER OF THESE DRAWINGS WITHOUT WRITTEN APPROVAL BY ARCHITECTURE IS PROHIBITED.

G. MARK PEPE ARCHITECT P.C.  
 307 N. ADAMS ST.  
 DOTHAN, AL.  
 TELEPHONE NO. (934) 712 9721  
 FAX NO. (934) 699-2028  
 LICENSE # AR26644

STATE OF FLORIDA  
 G. MARK PEPE  
 REGISTERED PROFESSIONAL ENGINEER  
 #10424

OWNER  
 PATRICK JONES  
 1726 PCB PARKWAY  
 PANAMA CITY BEACH, FL 32419  
 TELEPHONE NO. 850-224-2900  
 E-MAIL patrick@talcor.com

NORTH OUT PARCEL 1 - EXISTING  
 A SHELL BUILDING DEVELOPMENT FOR  
 NAI - TALCOR  
 135 SOUTH TYNDALL PARKWAY, CALLAWAY, FLORIDA 32404

ALL WORK SHOWN IS PART OF A DEVELOPMENT OF THE PROJECT AND IS NOT TO BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT.

REVISIONS

FOR PERMITS

FOR PRICING

CLIENT REVIEW

DRAWN BY: JUMP

PLOT DATE 10-2-24

PROJ. DATE 9-15-24

SHEET

SO.1 of 6

569 7 OF 51  
 JOB NO. 24150









SECTION 0500-PLUMBING SPECIFICATIONS

1.0 SUMMARY

- A. Plumbing Specifications provided in this section and on construction documents are in conjunction with other specifications and documents, when conflict occurs between those noted in bid documents or specifications the most restrictive compliance is required.
- B. **INSTRUCTIONS:** These plans and specifications are each part of an integrated design system. Any modifications, alterations, omissions, additions or substitutions, of or to any specifications or construction documents could result in failure of systems designed or properly damaged, injury, and even death, and requires a full review of the entire system by a licensed professional engineer. Any unauthorized modification of this document may constitute unlicensed practice as a professional engineer and may constitute a felony as set forth by state law.
- C. The use of used or counterfeit equipment is not allowed. It shall be the responsibility of the contractor to provide verification that the equipment is genuine. The contractor shall on a minimum take the following steps to ensure bid equipment used on the job meets the proper standards:
  1. all equipment on this job shall be supplied through an authorized channel (authorized dealer) of the equipment supplier being used
  2. equipment shall not be procured over the internet without prior approval of the engineer or architect, materials available over the internet at very low prices is often counterfeit.
  3. all equipment shall be supplied in the original manufacturer's packaging with the proper documentation

1.2 QUALITY ASSURANCE

- A. The Contractor shall not fabricate or order any equipment, piping or materials until he/she has verified that sufficient clearances are available for the installation of all plumbing materials considering requirements for piping, light fixtures, ceiling systems, floor systems, foundations, HVAC systems, and/or structures.
- B. During the construction phase, the contractor shall be responsible for obtaining all the data necessary for adequate design of heating, plumbing, piping systems, etc. However, none of the required floor plans, elevations, cut-side data, wall details, construction sections, building framing systems and fire rated barriers are not available. Therefore, it is the expressed requirement that no systems be fabricated, ordered, installed or manufactured until site has been visited and sufficient clearances are field verified for satisfactory installation. Any individual or firm not exercising this effort will place complete financial responsibility on themselves or others with no reimbursable expense or approved change orders for said action.
- C. Drawings are diagrams and indicative of work to be furnished and installed under this contract; refer to architectural, structural, civil and foundation documents for all dimensions.
- D. The terms "provide" and "install" shall be considered synonymous with "furnish" and "install".
- E. All work shall be installed in a workmanlike manner by experienced tradesmen with at least 5 years experience in this type project.
- F. The submission of a bid or proposal will constitute as evidence that the Contractor has familiarized himself/herself with the plans, specifications and building site. Claims made subsequent to the proposal for materials and/or labor due to difficulties encountered will not be recognized, unless difficulties could not have been foreseen even though proper examination had been made.

- 1. ASHRAE-55-2004, ASHRAE 62-2007 & ASHRAE Fundamentals
- 2. 2006 ICC Mechanical Code with Alabama Amendments
- 3. SHAKRA
- 4. NFPA-101, NFPA-102, NFPA-103, NFPA-104, NFPA-105
- 5. NFPA-70, NFPA-72, NFPA-73, NFPA-75, NFPA-78, NFPA-80, NFPA-82, NFPA-85, NFPA-86, NFPA-87, NFPA-88, NFPA-90, NFPA-91, NFPA-92, NFPA-93, NFPA-94, NFPA-95, NFPA-96, NFPA-97, NFPA-98, NFPA-99, NFPA-100, NFPA-101, NFPA-102, NFPA-103, NFPA-104, NFPA-105, NFPA-106, NFPA-107, NFPA-108, NFPA-109, NFPA-110, NFPA-111, NFPA-112, NFPA-113, NFPA-114, NFPA-115, NFPA-116, NFPA-117, NFPA-118, NFPA-119, NFPA-120, NFPA-121, NFPA-122, NFPA-123, NFPA-124, NFPA-125, NFPA-126, NFPA-127, NFPA-128, NFPA-129, NFPA-130, NFPA-131, NFPA-132, NFPA-133, NFPA-134, NFPA-135, NFPA-136, NFPA-137, NFPA-138, NFPA-139, NFPA-140, NFPA-141, NFPA-142, NFPA-143, NFPA-144, NFPA-145, NFPA-146, NFPA-147, NFPA-148, NFPA-149, NFPA-150, NFPA-151, NFPA-152, NFPA-153, NFPA-154, NFPA-155, NFPA-156, NFPA-157, NFPA-158, NFPA-159, NFPA-160, NFPA-161, NFPA-162, NFPA-163, NFPA-164, NFPA-165, NFPA-166, NFPA-167, NFPA-168, NFPA-169, NFPA-170, NFPA-171, NFPA-172, NFPA-173, NFPA-174, NFPA-175, NFPA-176, NFPA-177, NFPA-178, NFPA-179, NFPA-180, 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NFPA-981, NFPA-982, NFPA-983, NFPA-984, NFPA-985, NFPA-986, NFPA-987, NFPA-988, NFPA-989, NFPA-990, NFPA-991, NFPA-992, NFPA-993, NFPA-994, NFPA-995, NFPA-996, NFPA-997, NFPA-998, NFPA-999
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- 4. NFPA-101, NFPA-102, NFPA-103, NFPA-104, NFPA-105
- 5. NFPA-70, NFPA-72, NFPA-73, NFPA-75, NFPA-78, NFPA-79, NFPA-80, NFPA-82, NFPA-85, NFPA-86, NFPA-87, NFPA-88, NFPA-89, NFPA-90, NFPA-91, NFPA-92, NFPA-93, NFPA-94, NFPA-95, NFPA-96, NFPA-97, NFPA-98, NFPA-99
- 6. Air Diffusion Council Test Code 106.2R3
- 7. ANSI
- 8. ASME guidelines 1 ASME-B16.22
- 9. ASPE with referenced data design manuals 4 guides
- 10. ASTM-B88, A21-81B, ASTM-B82B, ASTM-B85-02, 4 ASTM-B88-03
- 11. ASH
- 12. IL Fire Resistance Directory
- 13. 2006 ICC Plumbing Code with Alabama Amendments
- 14. Governing Health Department Regulations
- 15. Environmental Regulations
- 16. BOCA Codes
- 17. Any Local Governing Regulations

- H. Deviation from materials, methods and procedures set forth herein must be approved in writing by the Engineer. Approval will not be given unless the Engineer is satisfied that the proposed systems is superior in performance, durability, longevity and reliability to that specified.
- I. Approvals of equipment or systems, by the Engineer, must be in written form no less than ten (10) working days prior to project bid date. Any contractor, sub-contractor, manufacturer or representative visiting to bid equal products must comply with the mandatory requirement. Failure to get pre-approval of systems or products prior to bid date will result in immediate "NOT APPROVED" signature from Engineer during shop drawing review process.
- J. Systems on schedules, specifications and construction documents are basis for design. Only other systems and manufacturers may be approved at review by Engineer.
- K. Contractor and sub-contractors must pre-qualify with the Engineer prior to bidding project. Qualifications will be reviewed based on contractors/sub-contractors experience with systems proposed, type of facility, time in trade, quality of workmanship, and experience with the Engineer.
- L. All piping equipment, fixtures, etc. shall be properly supported from building structural systems in compliance with architect and structural engineer requirements, products may NOT be supported from knee braces or bottom cord-tension rods or steel systems without written approval.
- M. Contractor shall maintain a clean and healthy work premise at all times and shall clean construction site of all labor debris at the completion of the job or as requested by Owner's representative, this is required prior to release of final project payment to contractor.

1.3 GUARANTEE/WARRANTY

- A. All work and materials shall be guaranteed/warranted (parts and labor) for a period of one year from date of FINAL acceptance by Owner. An additional warranty (parts only) shall be included for a period of nine (9) years on all heat exchangers and boilers.

1.4 SUBMITTALS/PROJECT MANUALS

- A. Contractor shall apply to the Engineer, five (5) sets of submittals (in three binder form) for approval on the following:
  1. Installation Materials
  2. Controls
  3. Plumbing Fixtures
  4. Valves, Arrestors, Supports, Circuit Breakers, etc.
  5. Isolation Devices and Hangers
  6. Hangers
  7. Pumps

- B. All submittals must be APPROVED in writing by the Engineer prior to contractor ordering or project delivery.

- C. Contractor shall provide a complete set of reproducible (hard-copy) documents of all equipment, systems, or distribution controls, piping, etc. The documents shall be provided at the completion of the project and prior to Owner acceptance. As-built documents shall include the location of all cleanouts, shut-off valves, balancing valves, dampers, extractors, etc. with the dimensional location of all exterior utilities. Failure to comply with item will result in Architect/Engineers completing efforts with professional services payable by the contractor. Marked-up blueprints by contractor will not constitute compliance with this specification. Effort shall include DVD camera recording of entire sewer the including existing system to local utility or septic tank.

D. Operation Instructions/Manuals

- a) Upon completion of work contractor shall apply to the Owner a minimum of four bound sets of all work, tests and necessary instructions for the complete operation and maintenance of all equipment and products installed. Information shall also include equipment type and output capacities with vendor required maintenance requirements.
- b) Contractor must provide at least a forty-eight (48) hour notice to Owner of training task for Owner personnel on operation and basic maintenance of all systems installed; training period shall not be less than one (1) eight work day.

c) Manufacturer's advertising information or catalogs will not be accepted for operating and maintenance manuals.

d) Operation and Maintenance Manuals shall include:

- 1. maintenance and operating instructions for all equipment and products installed at this job
- 2. characteristics and curves of all equipment
- 3. data on all the equipment and products installed to include line, make, model, capacity, electrical characteristics, etc.
- 4. name, address and telephone number of service agent

E. A complete narrative of how each system is intended to operate shall be included with owner's manuals.

- F. Owner supplied manuals shall include plumbing system control maintenance and operation information including wiring diagrams, schematics, and control sequence descriptions. Desired or field determined set points must be permanently recorded on control drawings, at control devices, or for digital control systems, in programming comments per ASHRAE 90.1-2007 and 2004 IECC requirements.

1.5 TEST AND BALANCE

- A. Testing shall be for all plumbing systems, fixtures, hydraulic systems, equipment, controls, etc.
- B. All domestic hot water systems shall also be tested and adjusted to meet design requirements as required by governing codes or as so noted in specifications.

1.6 EQUIPMENT/SCHEDULES/FIXTURES

- A. All equipment schedules, fixtures and construction document information notes are hereby noted in specifications and construction documents.

- B. All roof curbs or flashing for vents thru roof (VTR) and equipment shall be provided and installed by the contractor, coordinate with metal roofing contractor for all metal roof systems (verify roof type).

- C. Materials and products specified shall be listed by the Underwriters Laboratories (UL) or National Electrical Manufacturers Association (NEMA).

- D. Water heaters installed horizontally overhead shall be supported from structures spanning minimum distance of 10 feet. Equipment shall be secured by steel angle with threaded rods and spring type vibration isolators, as manufactured by Mason Industries, with "Inch" steel under full length of equipment. Threaded rods must be secured to facility foundation and structure, with approval by structural engineer.

- E. Locate all equipment which must be serviced, operated and/or maintained in fully accessible position based on manufacturer recommendations, code requirements, or as so indicated in drawings. Contractor shall review equipment vendor installation instructions for compliance and guidelines to assure proper fit, movement, component replacement, etc. Doors for access to electric heating elements shall have disconnect switch to break circuits as door is opened. Furnish all doors/panels in accordance with local codes and manufacturer's recommendations for each control valve, control, damper, motor, or other device requiring service.

1.7 PLUMBING/CONDENSATE DRAIN PIPING

- A. All condensate drains shall terminate to earth approved area, floor drains, indirect waste drains, dry-wells or French drains with concrete pipe minimum 2" in diameter or 2" x 2" rigid lined with poly groove and 1/2" sand bed bottom approximately 36" in diameter with approved lid cover and anchored drainage not less than 6" below grade, coordinate with HVAC contractor prior to installation effort.

- B. Unless otherwise noted, all water piping shall be routed above steel-roof ceilings and/or in walls or chases with offsets, as required, to meet obstacles, coordinate with other trades prior to installation.

- C. No PVC piping or other materials shall be routed or installed in return air plenums or free pulling mechanical rooms; truss/vent stacks with PVC materials in these areas with 3" external R-5.5 dual wrap with full length backing and upper seal with SHAKRA approved tape or Armaflex AP-55 being installed (1" thickness).

- D. Water piping below slab floor and finished grade shall be sleeved with 3/4" Armaflex being installed; insulation minimum length shall be three feet; piping shall be tested at 500 PSI prior to earth fill and covering.

- E. Water hammer arrestors shall be installed at all water closets, urinals, drinking fountains, washing machines, dishwashers, 1/2" bath/showers in accordance with FGI-1002 & ANSI/ASSE-1010-1916 as manufactured by Wade or Sloan Clack. Devices to be installed with 6 feet of valve served in hot and cold water lines. Size shall be "A" unless noted otherwise. Vent stacking is not permitted for water hammer arrestors.

F. All copper pressure piping for potable water and condensate drains shall be soldered strictly with silver solder with less than 0.2% lead per ICC-SECCI Standard Plumbing Code.

- G. All water piping must be de-aerated in accordance with ICC-SECCI Standard Plumbing Code and verified by written report from the local and State Boards of Health.

- H. Utility connections indicated on documents are the best information available to the design engineer and shall be field verified by the contractor prior to installation.

- I. All piping hangers will be established after finished floor elevations and utility sewer inverts are determined.

- J. Prior to cover-up or back-fill of soil-waste-vent piping below finished grade/floor areas systems shall be filled with water and tested at ten (10) foot head with all fittings and joints open for review by Engineer and/or local building inspection department. Any piping not inspected will be removed with damages to be fully repaired by the contractor. After plumbing fixtures have been set and their traps filled with water the entire sanitary sewer system shall be tested with air pressure of not more than 0.1 inches of water column and smoke peppermint test. Perform the air or smoke test with an approved smoke testing machine which will show a clear passage of smoke and air throughout the entire system. The system shall be proven absolutely tight under such test.

- K. All water piping shall be tested at a minimum of 150 PSI for 2 hours, with no leaks, prior to installation or connections to local utilities; review of test shall be by Engineer or local utility official.

- L. Route all temperature-pressure relief lines to outside per ICC-SECCI Standard Plumbing Code.

- M. Route all vent lines to common stacks in order to limit roof penetrations; roof penetrations shall be routed to backside of roof at all times; verify locations and slopes at site.

- N. All piping sizes shown are clear net inside dimensions.

O. All piping materials shall be of the following:

- 1. Soil-Waste-Vent 4" Interior Storm Drain Piping
  - a. schedule 40 PVC (solid) with solvent welding; bit-wax or core type w/its (constructed care) are NOT accepted except for venting systems only

- 2. Potable Water Piping
  - a. below floor-type "K" soft copper (pressure tested) in compliance with ASTM-B88
  - b. above floor-type "L" or "M" hard drawn copper with ANSI-B16.9 & ASME-B16.22 soldered joint fittings with ASTM-B148-1989 soldering; contractor may NOT use Rigid Vaco ProPress fitting system in accordance with manufacturer's published instructions
  - c. stop valves shall be bronze ball valves with stainless steel balls & Teflon packing & gaskets
  - d. contractor may use cpvc material in compliance with ASTM-D2246 & SDR11 above finished floor for use up to 2" with schedule 80 cpvc for lines above 2", all must be approved by local Authority Having Jurisdiction

- 3. Condensate Piping
  - a. copper type "L" or "M" hard drawn or
  - b. schedule 40 PVC with solvent welding

- 4. Natural Gas Piping
  - a. schedule 40 black iron steel per local code

- 5. Insulation
  - a. All potable water piping including hot water, hot water return and cold water piping (in non-conditioned areas and outside walls) shall be 1/2" thick fiberglass insulation for pipes up to 1 1/2" in size with 2" thick fiberglass insulation above 1 1/2" in size (ASTM G247) with Universal jacket (secured with Foster 85-75) provide protection blocking 4 blocks at each hanger. Fittings shall be finished with Tinsul plastic fitting covers; all joints shall be finished with Foster 50-36 &amp



