Business Services
Procurement and Contracting
16550 SW Merlo Road
Beaverton, OR 97003
(503) 356-4324

February 21, 2020

SOLICITATION ADDENDUM NO. 2
ITB 19-0036
Terra Linda Re-Pipe and Restroom Remodel

THE FOLLOWING CHANGES/ADDITIONS TO THE ABOVE CITED SOLICITATION ARE ANNOUNCED:

This Addendum modifies the Invitation to Bid (ITB) document(s) only to the extent indicated herein. All other areas not changed or otherwise modified by this Addendum shall remain in full force and effect. This Addendum is hereby made an integral part of the ITB document. Bidder must be responsive to any requirements of this Addendum as if the requirements were set forth in the ITB. Failure to do so may result in Bid rejection. See the ITB regarding requests for clarification or change and protests of this Addendum, and the deadlines for the foregoing.

This addendum is to be acknowledged in the space provided on the Bidder Certification form supplied in the solicitation document. Failure to acknowledge receipt of this addendum may be cause to reject your offer.

The closing date **is CHANGED to: March 3, 2020 at 2:00 PM Pacific Time**

CHANGES:

1. The closing date is changed to March 3, 2020 at 2:00 PM Pacific Time.

2. Section IV INSTRUCTIONS TO BIDDERS, Section 3d. is hereby replaced with the following:

   The existing 'prevailing rate of wage' as published by the Oregon Bureau of Labor and Industries are the Prevailing Wage Rates for Public Works Contracts in Oregon effective January 1, 2020 and the Prevailing Wage Rate Amendment effective February 1, 2020. They may be found at the following website: http://www.oregon.gov/boli/WHD/PWR/Pages/pwr_state.aspx, and are incorporated herein by this reference.

3. Under Section V – Attachments, the Bid Submission Checklist is hereby updated to included references to the following attachments, which are also referenced in the General Scope of Work and were published with the ITB Documents:

   ATTACHMENT K Drawings
   ATTACHMENT L Specifications

   These Attachments are not to be returned with the Bid, but bidders must review their content.

4. SECTION 22 11 00 – FACILITY WATER DISTRIBUTION of Attachment L Specifications is revised according to the attached Specification Revisions documents, hereby attached and incorporated by reference.

5. The following changes apply to Attachment K Drawings are changed as indicated by the Drawing Revisions documents, hereby attached and incorporated by reference.

Note: The drawing set was issued to Washington County for building permit approval on 1/6/2020. Plan check comments were received and responded to as "Delta 1" on 2/10/2020. The plan check response sheets are included as part of this package.

1. Sheet G1 - Title Sheet, dated February 10, 2020
2. Sheet G2 – Code Summary, dated February 10, 2020
3. Sheet G3 – Plumbing Counts and Code Plan, dated February 10, 2020
4. Sheet A4.3 – Interior Elevations, dated February 10, 2020
5. Sheet P0.1 – Schedules, dated February 20, 2020
6. Sheet P0.1 – Schedules, dated February 20, 2020
7. Sheet P1.3 – Plumbing Demo Floor Plan, dated February 20, 2020
8. Sheet P1.3 – Plumbing Demo Floor Plan, dated February 20, 2020
9. Sheet P2.2 – Plumbing Floor Plan, dated February 20, 2020
10. Sheet P2.2 – Plumbing Floor Plan, dated February 20, 2020
11. Sheet P2.3 – Plumbing Floor Plan, dated February 20, 2020
12. Sheet P2.3 – Plumbing Floor Plan, dated February 20, 2020
13. Sheet P2.4 – Plumbing Floor Plan, dated February 20, 2020
14. Sheet P2.4 – Plumbing Floor Plan, dated February 20, 2020

6. In SECTION I – INTRODUCTION 8. DISTRICT REPRESENTATIVE: The District Representative is changed to Doaa Elhaggan, Project Manager. Doaa_El_Haggan@beaverton.k12.or.us

7. Exhibit E INSURANCE REQUIREMENTS is added as a part of the Sample Contract attached to the ITB. Exhibit E is also hereby attached to this Addendum 2 and incorporated by reference.

Clarifications and Questions Received

CLARIFICATIONS:

Question: The specification calls for fiberglass insulation on domestic water piping. Is this applicable where we will be "fishing" wirsbo piping down walls to existing fixtures? If so, is it acceptable to use a foam insulation where wall finish is to remain and to minimize damage to existing finishes?

Answer: Fiberglass insulation is preferred and is the district standard. If we get into the construction and there is an area where the removal of the finishes cannot be accommodated or where other building

elements prevent the pipe from being accessed, (e.g., duct work framing etc.), it will be reviewed by the project team on a case by case basis at the time and determine the best solution that meets the District's requirements.

Question: The specification calls for ductile iron for 3" and larger water services. The plans show that brazed copper is acceptable for this as well. Is type K copper (brazed) acceptable for the domestic water service piping?

Answer: The following change is included in the addendum:

Specification Section 221100 2.2, A & C Change: Type K copper (brazed) is acceptable for 3" and larger domestic water piping above grade. Ductile iron required for 3" and larger domestic water pipe below grade.

Question: The specifications call for fiber glass pipe insulation. Is "Armaflex," an acceptable substitution for the wirsbo piping inside of wall cavities? (cut sheet attached)

Answer: Rejected. Use Fiberglass insulation as specified.

Question: Do you know who the PBS contact was for this project?

Answer: Rich Dufresne Rich.Dufresne@pbsusa.com

Question: Has a building permit been submitted by Beaverton School District for this project? If so, who pays for the building permit?

Answer: Yes. The District pays for the building permit. Trade permits are paid by subcontractors.

Question: How many of the hard fittings are above ceiling?

Answer: There are no tunnels in which piping will be replaced.

Question: Are any of the fittings in tunnels?

Answer: All fittings should be above the floor slab.

Question: For the fittings above ceiling is it all drop ceiling or hard lid?

Answer: See Sheet A1.2 for reflected ceiling plan showing ceiling finishes.

Question: It is my impression that the drinking fountain outside is new. Can you confirm? If confirmed, has anyone located a sanitary sewer point of connection closer then the locker rooms that are being converted to storage?

Answer: Although no exterior drinking fountain is present at this time, the existing drawings indicate a drinking fountain was installed at this location in the past. Although it was not confirmed, it is our belief that sanitary sewer piping exists in the proximity of this location.

Question: What scope for fixtures not shown: example A115 no mop sink shown.

Answer: Mop sink in Room A115 is shown on sheet A1.1; mop sink is to be added to Sheet P2.4. (See proposed drawing change to Sheet P2.4 – see Drawings section below)

Question: Any fire suppression scope?

Answer: There is no fire suppression scope.

Question: How many floor drains are to be assumed in C128 & C131?
Answer: Total of 8 floor drains. (Language is to be provided on Sheet P1.3 – see Drawings section below)

Question: What is the scope for the can wash?
Answer: Replace can wash valve with model specified in updated Specifications. Replace supplies to valve. (Language is to be provided in specifications - see Specifications section below, and on Sheet P2.2 – see Drawings section below)

Question: What scope for Electrical bonding to water line?
Answer: Reconnect all existing electrical bonding to new water lines. (Language is to be provided on Sheet P2.2 – see Drawings section below)

Question: Can we abandon piping not necessary to chase?
Answer: In rooms C128, C129, C130 and C131, where unnecessary demolition and repair is required to remove piping rather than abandon it, piping may be abandoned. (Language is to be provided on Sheet P1.3 – see Drawings section below)

Question: Can we shut down water to the entire building for the duration of the project? If needed we could have 1 hose bib working.
Answer: The building's domestic water may be shut down for construction, provided temporary water is supplied as required for construction purposes. (Language is to be provided on Sheet P0.1 – see Drawings section below)

Question: Please provide specs for bubbler in gym.
Answer: Match existing drinking fountain hardware with new lead-free version. (Language is to be provided on Sheets P2.3 – see Drawings section below)

Question: What are the specs for the double check valve and vault P2.2
Answer: Double check valve, Watts 757 series or equal, same size as line size. Utility vault sized as required for installation. (Language is to be provided on Sheet P0.1 – see Drawings section below)

Question: Can we have construction office and laydown within the building? G1 #12
Answer: Per spec section 01 14 00, 1.3, A, 11. "Room may be designated for use as a field office if coordinated through the BSD representative. Room must be vacated by stipulated completion date, regardless of authorized adjustments to construction schedule."

Question: What are the designated wage rates for this project?
Answer: Per Section IV of the ITB, all contractors and subcontractors will abide by the latest determination of the minimum wage rates as scheduled and published for this region by the U.S. Department of Labor and the Oregon Bureau of Labor and Industries and will abide by all amendments, decisions, and related regulations of these agencies. Section IV INSTRUCTIONS TO BIDDERS, Section 3d. has been changed to reflect the latest BOLI rates. The updates are specified in the above Changes section of this Addendum 2.

Question: Are costs associated with all abatement work to be carried by the contractor or the owner it is listed both ways.
Answer: Abatement work is to be carried out by the contractor.

Question: Are there liquidated damages on this project? If so what is the cost per day?
Answer: Per the ITB in Section II – STATEMENT OF WORK, Sub-section 7.(C) If the Work is not Substantially Complete by the applicable required Substantial Completion date, the Contractor shall pay to the Owner

liquidated damages in the amount of $500.00 for each and every day of delay in achieving Substantial Completion.

-END of Addendum

Peter Madaus
Contract Specialist

BEAVERTON SCHOOL DISTRICT

TERRA LINDA ELEMENTARY SCHOOL RE-PIPE AND RESTROOM REMODEL

ABBREVIATIONS (NOT ALL ABBREVIATIONS ARE USED)

&	AND	EXP.	EXPANSION	PL.	PLATE
∠	ANGLE	EXT.	EXTERIOR	PLAM	PLASTIC LAMINATE
℄	CENTERLINE	EXIST. OR (E)	EXISTING	PLYWD.	PLYWOOD
°	DEGREES			PR.	PAIR
Ø	DIAMETER OR ROUND	F.D.	FLOOR DRAIN	P.T.	PRESSURE TREATED
⊥	PERPENDICULAR	FDN.	FOUNDATION	PTD	PAPER TOWEL DISPENSER
▭	PLATE	F.E.	FIRE EXTINGUISHER	PTD/R	COMBINATION PAPER TOWEL DISPENSER / RECEPTACLE
#	POUND OR NUMBER	F.E.C.	FIRE EXTINGUISHER CAB.		
SQ.	SQUARE	F.H.C.	FIRE HOSE CABINET	PTN.	PARTITION
		FIN.	FINISH		
A.B.	ANCHOR BOLT	FLR.	FLOOR	R.	RISER
ACOUST.	ACOUSTICAL	FLUOR.	FLUORESCENT	RAD.	RADIUS
ADJ.	ADJUSTABLE	F.O.C.	FACE OF CONCRETE	R.D.	ROOF DRAIN
A.F.F.	ABOVE FINISH FLOOR	F.O.F.	FACE OF FINISH	REF.	REFRIGERATOR OR REFERENCE
ALT.	ALTERNATE	F.O.S.	FACE OF STUD	REINF.	REINFORCED
ALUM.	ALUMINUM	F.R.T.	FIRE RETARDANT TREATED	REQ'D.	REQUIRED
A.N.S.I.	AMERICAN NATIONAL STANDARDS INSTITUTE A117.1-1980	FT.	FOOT OR FEET	REQ'MTS.	REQUIREMENTS
		FTG.	FOOTING	RESIL.	RESILIENT
ARCH.	ARCHITECTURAL			REV.	REVERSE
ASPH.	ASPHALT	GA.	GAUGE	RM.	ROOM
A/V	AUDIO/VIDEO	GALV.	GALVANIZED	R.O.	ROUGH OPENING
		GC	GENERAL CONTRACTOR		
BD.	BOARD	GFCI	GROUND-FAULT CIRCUIT INTERRUPTER	S.C.	SOLID CORE
BIT.	BITUMINOUS OR BITUMEN	GL.L.B.	GLUE LAMINATED BEAM	SCD	SEAT COVER DISPENSER
BLDG.	BUILDING	G.M.U.	GLASS MASONRY UNIT	SCHED.	SCHEDULE
BLK.	BLOCK	GYP.	GYPSUM	SD	SOAP DISPENSER
BLKG.	BLOCKING			SECT.	SECTION
BM.	BEAM	H.B.	HOSE BIB	S.F. OR SQ. FT.	SQUARE FEET
B.O.	BOTTOM OF	H.C.	HOLLOW CORE	SHTG.	SHEATHING
B.O.C.	BOTTOM OF CURB	HDR.	HEADER	SIM.	SIMILAR
BRNG.	BEARING	H.M.	HOLLOW METAL	SM	SHEET METAL
BTM.	BOTTOM	HORIZ.	HORIZONTAL	SND	SANITARY NAPKIN DISPENSER
		HR.	HOUR	SNR	SANITARY NAPKIN RECEPTACLE
CAB.	CABINET	HT.	HEIGHT	SPEC.	SPECIFICATION
C.B.	CATCH BASIN			SS	STAINLESS STEEL
C.I.	CAST IRON	I.D.	INSIDE DIAMETER OR INSIDE DIMENSION	STL.	STEEL
CJ	CONTROL JOINT	INSUL.	INSULATION	STOR.	STORAGE
CL.	CLOSET	INT.	INTERIOR	STRUCT.	STRUCTURAL
CLG.	CEILING			SUSP.	SUSPENDED
CLR.	CLEAR	JT.	JOINT		
CMU	CONCRETE MASONRY UNIT			T.	TREAD
CO	CLEANOUT	LAM.	LAMINATE	T&G	TONGUE AND GROOVE
COL.	COLUMN	LAV.	LAVATORY	TEL.	TELEPHONE
CONC.	CONCRETE	LT.	LIGHT	TEMP.	TEMPERED
CONN.	CONNECT OR CONNECTION			T.O.	TOP OF
CONST.	CONSTRUCTION	MAX.	MAXIMUM	T.O.C.	TOP OF CURB
CONT.	CONTINUOUS	M.B.	MACHINE BOLT	T.O.P.	TOP OF PAVEMENT
COORD.	COORDINATE	M.D.O.	MEDIUM DENSITY OVERLAY	T.O.W.	TOP OF WALL
CORR.	CORRIDOR	MECH.	MECHANICAL	TPD	TOILET PAPER DISPENSER
CTR.	CENTER	MEMB.	MEMBRANE	T.S.	TUBE STEEL
CUST.	CUSTODIAL	MFR. OR MANUF.	MANUFACTURER	TYP.	TYPICAL
		M.H.	MAN HOLE		
DBL.	DOUBLE	MIN.	MINIMUM	U.B.C.	UNIFORM BUILDING CODE
D.F.	DRINKING FOUNTAIN	MISC.	MISCELLANEOUS	U.O.N.	UNLESS OTHERWISE NOTED
DIA.	DIAMETER	M.O.	MASONRY OPENING		
DIAG.	DIAGONAL	MOD. BIT.	MODIFIED BITUMEN	VERT.	VERTICAL
DIM.	DIMENSION	MTL.	METAL	VEST.	VESTIBULE
DISP.	DISPENSER			V.F.	VENEER PLASTER
DN.	DOWN	(N)	NEW		
DR.	DOOR	N.I.C.	NOT IN CONTRACT	W/	WITH
DS	DOWNSPOUT	NO. OR #	NUMBER	W.C.	WATER CLOSET
DTL.	DETAIL	NOM.	NOMINAL	WD.	WOOD
DWG	DRAWING	N.T.S.	NOT TO SCALE	W.H.	WATER HEATER
				W/O	WITHOUT
EJ	EXPANSION JOINT	O.C.	ON CENTER	WP.	WATERPROOF
EL.	ELEVATION	O.D.	OUTSIDE DIAMETER	WT.	WEIGHT
ELEC.	ELECTRICAL	O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED		
ELEV.	ELEVATOR	O.F.O.I.	OWNER FURNISHED OWNER INSTALLED		
EQ.	EQUAL	OPNG.	OPENING		
		OPP.	OPPOSITE		
		O.S.S.C.	OREGON STRUCTURAL SPECIALTY CODE		

GENERAL NOTES

1. COORDINATE ALL WORK WITH THE DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. CONTRACTOR AND SUB-CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS, LOCATIONS, AND PROJECT REQUIREMENTS PRIOR TO SUBMITTING A BID.
4. CONTRACTOR AND SUB-CONTRACTORS SHALL FIELD VERIFY DIMENSIONS, AND FAMILIARIZE THEMSELVES WITH PROJECT REQUIREMENTS PRIOR TO COMMENCING WITH THE WORK. CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO ARCHITECT.
5. WORK SHALL INCLUDE ALL REQUIRED PERMITS, LABOR, MATERIALS, AND EQUIPMENT TO COMPLETE ALL WORK INDICATED ON DRAWINGS AND SPECIFICATIONS.
6. PROVIDE TEMPORARY DUST-PROOF PARTITIONS AS REQUIRED TO PROTECT ALL EXISTING AREAS AND EQUIPMENT FROM DAMAGE DUE TO DEMOLITION OR NEW CONSTRUCTION ACTIVITIES. COORDINATE LOCATIONS AND REQUIREMENTS WITH OWNER.
7. GENERAL CONTRACTOR TO PATCH, REPAIR AND PAINT (REFINISH) SURFACES AND BUILDING ELEMENTS DAMAGED BY MECHANICAL, ELECTRICAL, AND PLUMBING WORK AND WHERE ITEMS ARE REMOVED, RELOCATED OR ADDED.
8. REPAIR FLOORS WHERE DAMAGED BY THE WORK OF THIS PROJECT.
9. PATCH AND REPAIR ALL SURFACES TO MATCH EXISTING WHERE ITEMS ARE REMOVED OR ALTERED - FIELD VERIFY EXTENT REQUIRED.
10. ALL PAINTING SHALL BE DONE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ADJACENT FINISHES AND CLEANUP.
11. CONTRACTOR IS RESPONSIBLE FOR FINAL CLEAN-UP OF WORK AREAS AND ALL EXPOSED BUILDING SURFACES AT SUBSTANTIAL COMPLETION.
12. ALL TRASH AND TOOLS SHALL BE REMOVED FROM PREMISES EACH DAY AND THE AREA LEFT CLEAN WHENEVER UNATTENDED. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP. COORDINATE WITH OWNER IF SECURE STORAGE IS NEEDED ONSITE.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO FINISHED SURFACES, EQUIPMENT, FURNITURE, EXISTING MATERIALS OR FINISHES, CAUSED AS A RESULT OF HIS WORK. REPAIR OR REPLACE DAMAGED ITEMS AS DIRECTED BY ARCHITECT.
14. ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS.
15. WORK SHALL BE DONE BY THOSE SKILLED AND EXPERIENCED IN THEIR RESPECTIVE TRADES. WORK SHALL BE OF THE HIGHEST QUALITY WORKMANSHIP.

DEFERRED SUBMITTALS (1)

FIRE STOPPING

CONTACTS

OWNER

BEAVERTON SCHOOL DISTRICT
CENTRAL ADMINISTRATION CENTER
16550 SOUTHWEST MERLO ROAD
BEAVERTON, OREGON 97006
PHONE: (503) 356-4318
CONTACT: MEGAN FINCH

ARCHITECT

BBL ARCHITECTS
200 NORTH STATE STREET
LAKE OSWEGO, OREGON 97034
PHONE: (503) 635-4425 FAX: (503) 635-3581
CONTACT: DOUG PRUITT

MECHANICAL / PLUMBING / ELECTRICAL ENGINEER

SYSTEM DESIGN CONSULTANTS
333 SOUTHEAST SECOND AVENUE, SUITE 100
PORTLAND, OREGON 97214
PHONE: (503) 248-0227 FAX: (503) 248-0240
CONTACT: GARY BARNES (MECHANICAL)
CONTACT: NEIL BOYER (PLUMBING)
CONTACT: JOHN ROGERS (ELECTRICAL)

ASBESTOS ABATEMENT

PBS ENGINEERING AND ENVIRONMENTAL INC.
4412 SW CORBETT AVENUE
PORTLAND, OREGON 97239
PHONE: (503) 248-1939
CONTACT: RICH DUFRESNE

DRAWING INDEX

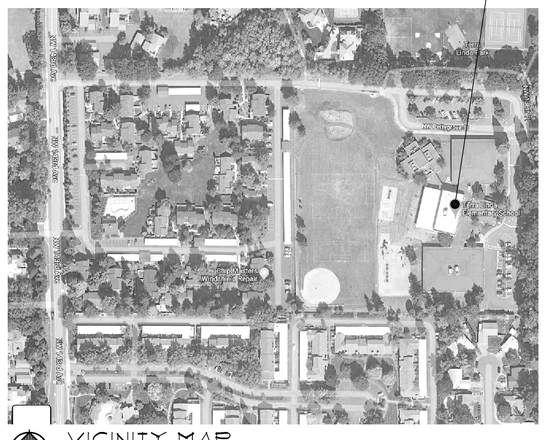
STANDARD SYMBOLS

- EXTERIOR ELEVATION TAG (1 / A2.1)
- BUILDING SECTION FLAG - DIRECTION FLAG OMITTED (1 / A3.1)
- WALL SECTION FLAG - DIRECTION FLAG MAY BE OMITTED (1 / A3.2)
- INTERIOR ELEVATION TAG (D, C, 1, A4.1, A, B)
- DETAIL FLAG (1 / A5.1 TYP.)
- DETAIL CALLOUT (1 / A5.1 SIM.)
- NORTH ARROW
- GRID BUBBLE & GRID LINE (A)
- DOOR TAG (1 / 101)
- KEYNOTE TAG (XXXXXX; LEVEL 2 / LEVEL 1) — GSI MASTER FORMATTING COORDINATE LEVEL 1 AND LEVEL 2 NUMBERS WITH SPECIFICATIONS
- SHEET NOTE TAG (8 TYP.)
- DEMOLITION NOTE TAG (8 TYP.)
- REVISION TAG (8)
- WINDOW TYPE TAG (E)
- WALL TYPE TAG (H)
- CEILING HEIGHT TAG (8'-0")
- FLOOR PLAN ROOM LABEL & NUMBER (ROOM NAME / 101)
- ELEVATION TAG (10'-0" T.O. SOFFIT)

PROJECT SITE

LOCATION MAP
N.T.S.

TERRA LINDA
ELEMENTARY SCHOOL
1998 NE 143RD AVENUE
PORTLAND, OREGON 97229



VICINITY MAP
N.T.S.

REVISIONS

DELTA	DATE	DESCRIPTION
1	10 FEB. 2020	PLAN CHECK RESPONSE
2	20 FEB. 2020	ADDENDUM 2

BEAVERTON SCHOOL DISTRICT

Sheet G1

REGISTERED ARCHITECT
DOUGLAS A. PRUITT
LAKE OSWEGO
STATE OF OREGON

BBL ARCHITECTS
ARCHITECTURE ■ PLANNING ■ INTERIOR DESIGN
200 North State Street ■ Lake Oswego, Oregon 97034

Revisions:
1 02/10/2020 PLAN CHECK

BEAVERTON SCHOOL DISTRICT
TERRA LINDA ELEMENTARY SCHOOL RE-PIPE AND RESTROOM REMODEL
1998 NW 143RD AVENUE, PORTLAND, OREGON 97229

LINE IS 2 INCHES AT FULL SCALE (IF NOT 2 INCHES THEN SCALE ACCORDINGLY)

date: 6 JAN 2020
drawn by: DV
checked: DP
BID SET

job no.: 19036.00.L

BEAVERTON SCHOOL DISTRICT

PROJECT INFORMATION

TERRA LINDA ELEMENTARY SCHOOL

SCOPE OF WORK:
1. REPLACE DOMESTIC WATER PIPING FROM EXISTING/NEW PLUMBING FIXTURES TO EXISTING WATER METER VAULT.
2. REPLACE PLUMBING FIXTURES AND WATER HEATERS WHERE INDICATED.
3. REPAIR BOYS AND GIRLS RESTROOMS A119 AND A121, AND STAFF RESTROOM A109.
4. MODIFY BOYS AND GIRLS RESTROOMS B116 AND B117.
5. ALTERATION OF BOYS AND GIRLS SHOWER ROOMS (C128-C131) INTO NEW STORAGE AREAS.

APPLICABLE CODES:
2019 OREGON STRUCTURAL SPECIALTY CODE
2019 OREGON MECHANICAL SPECIALTY CODE
2017 OREGON SPECIALTY PLUMBING CODE
2017 OREGON SPECIALTY ELECTRICAL CODE

BUILDING CONSTRUCTION, OCCUPANCY, & AREA:
OCCUPANCY TYPE: E, WITH ACCESSORY B (OFFICE) AND S1 (STORAGE) SPACES.
CONSTRUCTION TYPE: V-B
EXISTING FLOOR AREA: 51,664 S.F. NO CHANGE

NO CHANGES IN OCCUPANCY TYPE, BUILDING DIMENSIONS, SETBACKS, CONSTRUCTION TYPE, FIRE RESISTIVE COMPONENTS, OR EXITING. SEE UPDATED NUMBER OF OCCUPANTS WITH STORAGE AREAS REPLACING EXISTING BOYS AND GIRLS SHOWER ROOMS,

FIRE RESISTIVE BUILDING ELEMENTS: NO CHANGE.

EXITS: NO CHANGE TO EXISTING EXITS.

FIRE DETECTION AND SUPPRESSION: NO CHANGE.

OCCUPANCY VENTILATION: NO REQUIREMENT.

ENERGY CODE: NO REQUIREMENT: NO CHANGE.

HAZARDOUS MATERIALS: NONE PRESENT.

ACCESSIBILITY: NO CHANGE TO USE AREAS, SEE ENLARGED FLOOR PLANS FOR MODIFICATIONS TO RESTROOMS.

PLUMBING FIXTURE REQUIREMENTS: NO NEW REQUIREMENTS, SEE PLUMBING FIXTURE COUNTS FOR UPDATED INFORMATION.

SITE TRANSFORMERS: EXISTING - NO CHANGE.

SPECIAL INSPECTIONS, STRUCTURAL OBSERVATION, DEFERRED SUBMITTALS: NO SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS OR DEFERRED SUBMITTALS.

CODE SUMMARY

BUILDING CONSTRUCTION DATA (BY BUILDING)

BUILDING 1

CONSTRUCTION TYPE	VB (UNCHANGED)	HAZARDOUS MATERIALS	NO
BUILDING HEIGHT	(EXISTING UNCHANGED)	SPECIAL INSPECTION	NO
MAXIMUM ALLOWABLE BUILDING HEIGHT	40'	FIRE ALARM	YES
		SPRINKLER	NO
NUMBER OF STORIES	1 (UNCHANGED)	STAND PIPE	NO
BASEMENT	NO		
MAXIMUM ALLOWABLE NUMBER OF STORIES	1		
OCCUPANCY GROUP(S)	E (UNCHANGED)		

FLOOR AREA:

AREA MODIFICATION (SECTION 506.2)

$$I_F = 100\left[\frac{F}{P} - 0.25\right]\frac{W}{30} = 100\left[\frac{650}{125} - 0.25\right]\frac{30}{30} = 65$$

$$A_A = A_T + \left[\frac{A_{I\,F}}{100}\right] + \left[\frac{A_{I\,S}}{100}\right] = 9{,}500 + \left[\frac{9{,}500 \times 65}{100}\right] + \left[\frac{9{,}500 \times 0}{100}\right] = 15{,}675$$

TOTAL FLOOR AREA	11,687 SF
MAXIMUM ALLOWABLE FLOOR AREA	15,675 SF (OK)

BUILDING 2

CONSTRUCTION TYPE	VB (UNCHANGED)	HAZARDOUS MATERIALS	NO
BUILDING HEIGHT	(EXISTING UNCHANGED)	SPECIAL INSPECTION	NO
MAXIMUM ALLOWABLE BUILDING HEIGHT	40'	FIRE ALARM	YES
		SPRINKLER	NO
NUMBER OF STORIES	1 (UNCHANGED)	STAND PIPE	NO
BASEMENT	NO		
MAXIMUM ALLOWABLE NUMBER OF STORIES	1		
OCCUPANCY GROUP(S)	E (UNCHANGED)		

FLOOR AREA:

AREA MODIFICATION (SECTION 506.2)

$$I_F = 100\left[\frac{F}{P} - 0.25\right]\frac{W}{30} = 100\left[\frac{600}{100} - 0.25\right]\frac{30}{30} = 61$$

$$A_A = A_T + \left[\frac{A_{I\,F}}{100}\right] + \left[\frac{A_{I\,S}}{100}\right] = 9{,}500 + \left[\frac{9{,}500 \times 61}{100}\right] + \left[\frac{9{,}500 \times 0}{100}\right] = 15{,}295$$

TOTAL FLOOR AREA	15,806 SF
MAXIMUM ALLOWABLE FLOOR AREA	15,295 SF * (OK)

* ACTUAL FLOOR AREA EXCEEDS THE MAXIMUM ALLOWABLE FLOOR AREA. HOWEVER, THIS IS AN EXISTING CONDITION AND NO ADDITIONAL FLOOR AREA IS PROPOSED AS PART OF THIS PROJECT

BUILDING 3

CONSTRUCTION TYPE	VB (UNCHANGED)	HAZARDOUS MATERIALS	
BUILDING HEIGHT	(EXISTING UNCHANGED)	SPECIAL INSPECTION	
MAXIMUM ALLOWABLE BUILDING HEIGHT	40'	FIRE ALARM	
		SPRINKLER	
NUMBER OF STORIES	1 (UNCHANGED)	STAND PIPE	
BASEMENT	NO		
MAXIMUM ALLOWABLE NUMBER OF STORIES	1		
OCCUPANCY GROUP(S)	E (UNCHANGED)		

FLOOR AREA:

AREA MODIFICATION (SECTION 506.2)

$$I_F = 100\left[\frac{F}{P} - 0.25\right]\frac{W}{30} = 100\left[\frac{500}{525} - 0.25\right]\frac{30}{30} = 70$$

$$A_A = A_T + \left[\frac{A_{I\,F}}{100}\right] + \left[\frac{A_{I\,S}}{100}\right] = 9{,}500 + \left[\frac{9{,}500 \times 70}{100}\right] + \left[\frac{9{,}500 \times 0}{100}\right] = 16{,}150$$

TOTAL FLOOR AREA	16,734 SF
MAXIMUM ALLOWABLE FLOOR AREA	16,150 SF * (OK)

* ACTUAL FLOOR AREA EXCEEDS THE MAXIMUM ALLOWABLE FLOOR AREA. HOWEVER, THIS IS AN EXISTING CONDITION AND NO ADDITIONAL FLOOR AREA IS PROPOSED AS PART OF THIS PROJECT

BUILDING 4

CONSTRUCTION TYPE	VB (UNCHANGED)	HAZARDOUS MATERIALS	NO
BUILDING HEIGHT	(EXISTING UNCHANGED)	SPECIAL INSPECTION	NO
MAXIMUM ALLOWABLE BUILDING HEIGHT	40'	FIRE ALARM	YES
		SPRINKLER	NO
NUMBER OF STORIES	1 (UNCHANGED)	STAND PIPE	NO
BASEMENT	NO		
MAXIMUM ALLOWABLE NUMBER OF STORIES	1		
OCCUPANCY GROUP(S)	E (UNCHANGED)		

FLOOR AREA:

TOTAL FLOOR AREA	4,533 SF
MAXIMUM ALLOWABLE FLOOR AREA	9,500 SF (OK)

BUILDING 5

CONSTRUCTION TYPE	VB (UNCHANGED)	HAZARDOUS MATERIALS	NO
BUILDING HEIGHT	(EXISTING UNCHANGED)	SPECIAL INSPECTION	NO
MAXIMUM ALLOWABLE BUILDING HEIGHT	40'	FIRE ALARM	YES
		SPRINKLER	NO
NUMBER OF STORIES	1 (UNCHANGED)	STAND PIPE	NO
BASEMENT	NO		
MAXIMUM ALLOWABLE NUMBER OF STORIES	1		
OCCUPANCY GROUP(S)	E (UNCHANGED)		

FLOOR AREA:

TOTAL FLOOR AREA	7,437 SF
MAXIMUM ALLOWABLE FLOOR AREA*	9,500 SF (OK)

REGISTERED ARCHITECT
DOUGLAS A. PRUITT
LAKE OSWEGO
STATE OF OREGON

Revisions:
1 02/10/2020 PLAN CHECK

BBL ARCHITECTS
ARCHITECTURE ■ PLANNING ■ INTERIOR DESIGN
200 North State Street ■ Lake Oswego, Oregon 97034

BEAVERTON SCHOOL DISTRICT
TERRA LINDA ELEMENTARY SCHOOL RE-PIPE
AND RESTROOM REMODEL
1998 NW 143RD AVENUE, PORTLAND, OREGON
97229

LINE IS 2 INCHES AT FULL SCALE (IF NOT 2 INCHES THEN SCALE ACCORDINGLY)

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BEAVERTON SCHOOL DISTRICT

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G2

MODIFIED PLUMBING COUNTS (CHAPTER 29) 1

TABLE 2902.1 - MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES:

USE	EDUCATIONAL(E)	ASSEMBLY(A3)	
REQUIRED -	BOTH MALE AND FEMALE	MALE	FEMALE
- WATER CLSTS (URINAL = ⅔ WC):	1 PER 50	1 PER 125	1 PER 65
- LAVATORIES:	1 PER 50	1 PER 200	1 PER 200
- DRINKING FOUNTAINS:	1 PER FLOOR	1 PER FLOOR	

BUILDING TOTALS

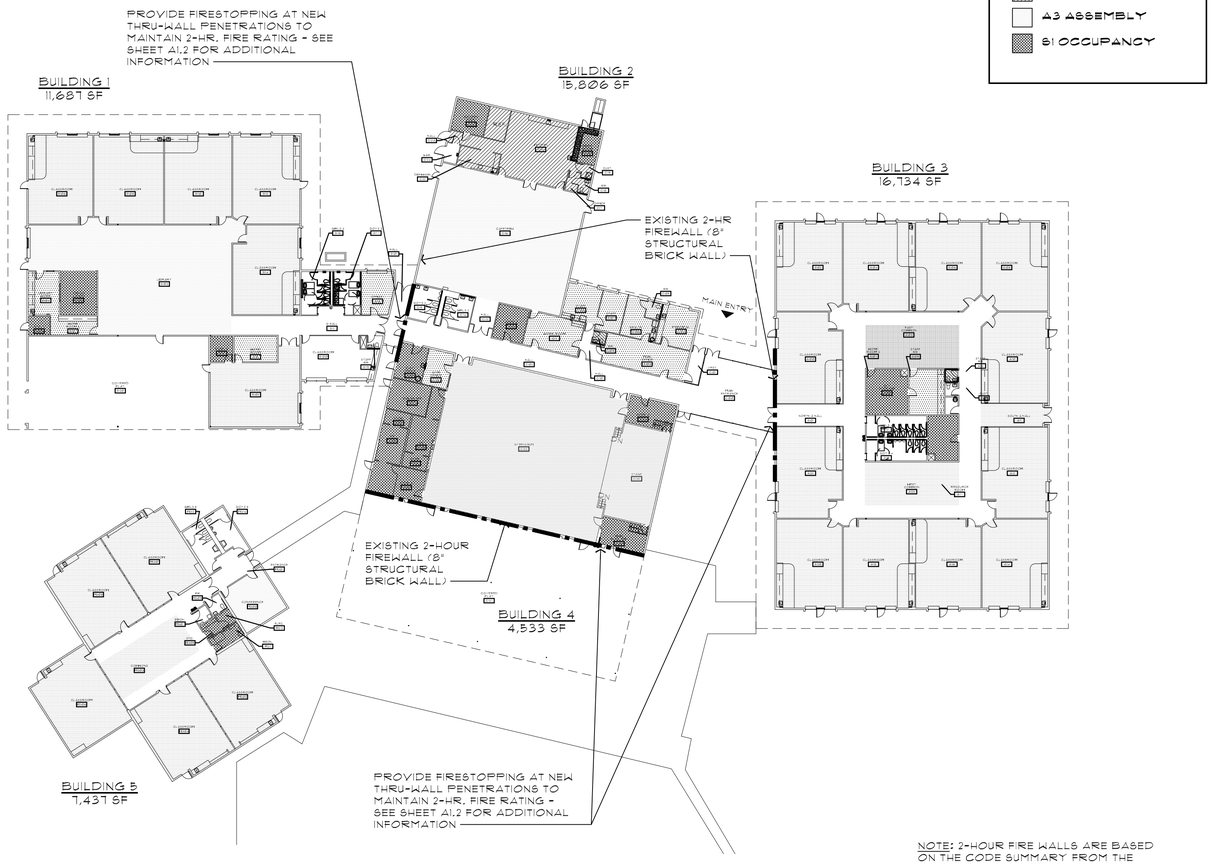
CLASSIFICATION (OCCUPANCY) -	AREA	OCC. LOAD PER SF	OCCUPANTS
- EDUCATION/CLASSROOMS (E):	22,560 SF	20	1,128.00
ACCESSORY USES -			
- STORAGE AREAS:	3,089 SF	300	5.72
- OFFICE (INCL. HEALTH/WORK RMS):	2,640 SF	150	17.60
- KITCHEN:	1,143 SF	200	5.72
ASSEMBLY USES (A3) -			
- CAFETERIA/STAGE:	4,026 SF	15	268.40
- GYMNASIUM:	4,126 SF	50	82.52
- LIBRARY:	2,789 SF	50	55.78
EXEMPT SPACES (INCL. CIRCULATION, WALLS, ETC.):	15,824 SF	EXEMPT	-
TOTAL OCCUPANTS:			1,569 OCC.

OCCUPANT TOTALS
EDUCATION: 1,162 OCCUPANTS
ASSEMBLY: 407 OCCUPANTS

OCCUPANT BREAKDOWN

MALES:	785 TOTAL OCC.	581 M - EDUCATIONAL	204 M - ASSEMBLY
FEMALES:	785 TOTAL OCC.	581 F - EDUCATIONAL	204 F - ASSEMBLY

FIXTURE COUNTS	REQUIRED	EXISTING	REMOVED/ADDED	PROPOSED
WATER CLOSETS				
- MALE:	(11.62 + 1.63) = 14	9	6/5	8
(+ URINAL = ⅔ WC):	Ø	13	6/2	(9 x 2/3 = +6 WCs) 14 TOTAL M WCs
- FEMALE:	(11.62 + 3.13) = 15	18	13/9	15
- UNISEX RRs:	Ø	1	Ø/Ø	1
TOTAL WCs:	29 REQUIRED			PROVIDED: 36 WCs
LAVATORIES (NOTE: WASH FOUNTAINS (WF) = 3 LAVs)				
- MALE:	(11.62 + 1.02) = 13	13 (INCL. 3 WFs) 8/4		9 (INCL. 1 WF)
- FEMALE:	(11.62 + 1.02) = 13	13 (INCL. 3 WFs) 8/4		9 (INCL. 1 WF)
- UNISEX RRs:	Ø	1	Ø/Ø	1
- CLASS RM/BREAK RM:	Ø	28	Ø/Ø	28
- SERVICE (KITCHEN, ETC.):	Ø	5	Ø/Ø	4
TOTAL LAVs:	26 REQUIRED			PROVIDED: 57 LAVs
JANITOR SINKS:	Ø	4	Ø/Ø	4
SHOWERS:	Ø	4	4/4	Ø
EYE WASH STATIONS:	Ø	Ø	Ø/1	1
DISH WASHERS:	Ø	1	Ø/Ø	1
DRINKING FOUNTAINS:	1	5	2/3	6



NOTE: 2-HOUR FIRE WALLS ARE BASED ON THE CODE SUMMARY FROM THE 2017 SECURITY UPGRADE PROJECT. CONFORMANCE WITH THE WALL REQUIREMENTS HAS NOT BEEN INVESTIGATED, BUT THE CONTRACTOR SHALL TREAT THESE AS FIRE WALLS WHEN MAKING PENETRATIONS AND SHALL NOT REDUCE THE FIRE RATING THROUGH CONSTRUCTION ACTIVITIES.

LEGEND

- E OCCUPANCY
- B OFFICE
- B KITCHEN
- A3 ASSEMBLY
- S1 OCCUPANCY

1/G2 CODE PLAN 1
1" = 30'-0"

REGISTERED ARCHITECT
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LAKE OSWEGO
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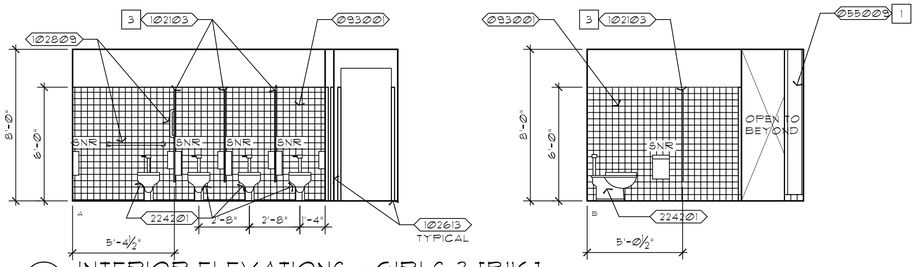
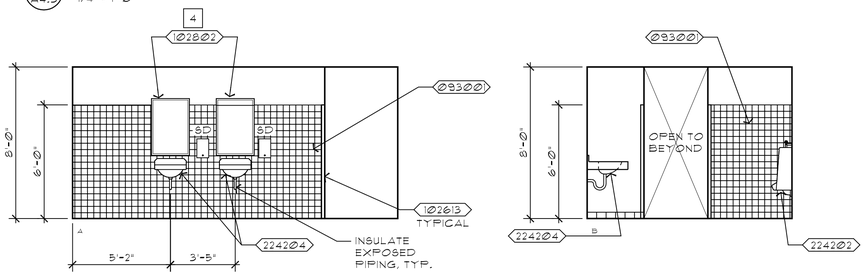
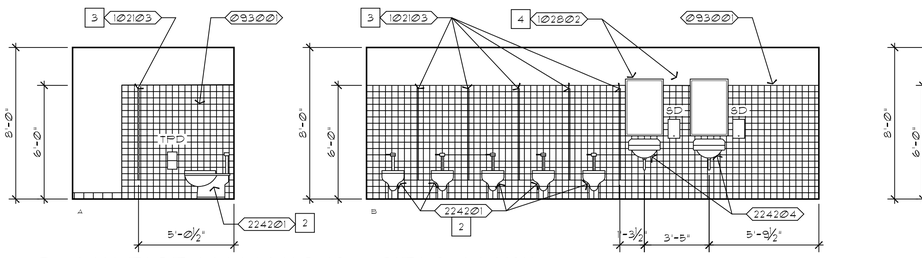
BEAVERTON SCHOOL DISTRICT



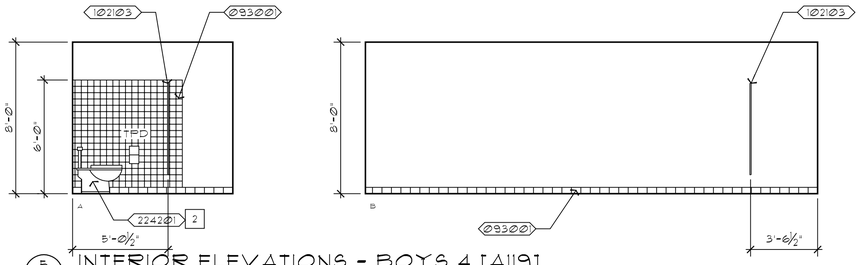
1 A4.3 INTERIOR ELEVATIONS - GIRLS 3 [B116]
1/4" = 1'-0"



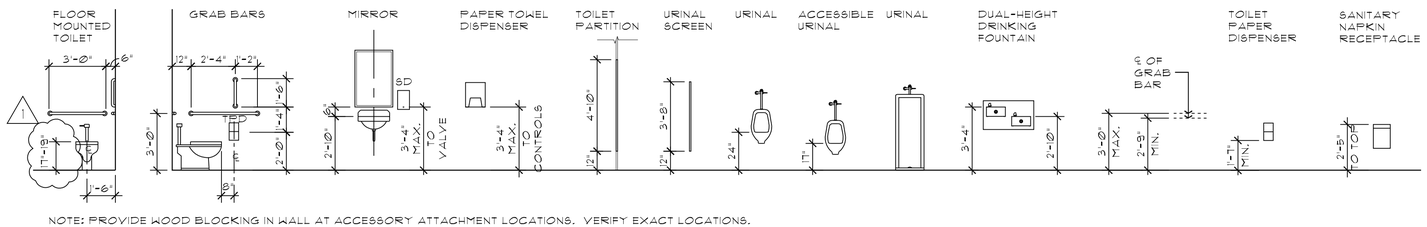
2 A4.3 INTERIOR ELEVATIONS - BOYS 3 [B117]
1/4" = 1'-0"



3 A4.3 INTERIOR ELEVATIONS - GIRLS 4 [A121]
1/4" = 1'-0"

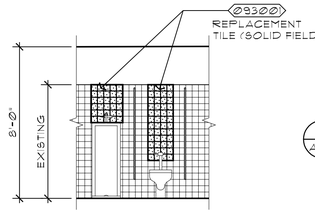


5 A4.3 INTERIOR ELEVATIONS - BOYS 4 [A119]
1/4" = 1'-0"



NOTE: PROVIDE WOOD BLOCKING IN WALL AT ACCESSORY ATTACHMENT LOCATIONS. VERIFY EXACT LOCATIONS.

7 A4.3 TOILET ACCESSORY AND EQUIPMENT MOUNTING HEIGHTS
1/4" = 1'-0"



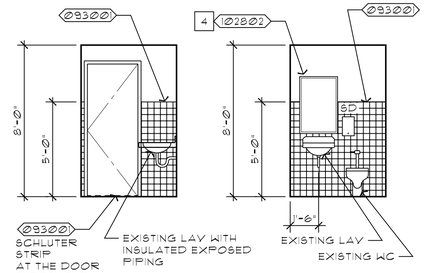
8 A4.3 EXISTING RESTROOM TILE REPLACEMENT/REPAIR
1/4" = 1'-0"

KEYNOTES

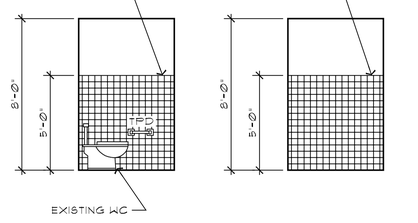
055003	STAINLESS STEEL PLATE
093001	CERAMIC TILE (NOTE: SEE 6/A4.3 FOR TYP. PATTERN)
102103	PLASTIC TOILET COMPARTMENT
102613	CORNER GUARDS
102802	MIRROR
102803	GRAB BAR
224201	WATER CLOSET
224202	URINAL
224204	SINK

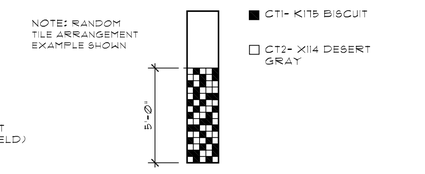
SHEET NOTES

1. INSTALL STAINLESS STEEL PANELS WITH VERTICAL JOINT AT CENTERLINE OF FRONT FACE OF WALL.
2. REPLACEMENT PLUMBING FIXTURE - INSTALL IN SAME LOCATION AS REMOVED FIXTURE.
3. CENTER TOILET PARTITION PANELS IN BETWEEN PLUMBING FIXTURES, TYPICAL. WHERE DIMENSIONS ARE SHOWN, MEASUREMENTS ARE FROM WALL FINISH TO CENTERLINE OF PANEL.
4. MIRROR SIZE: 24"W x 36"H, CENTER ABOVE SINK, TYPICAL. WHERE CERAMIC TILE EXISTS, EXTEND TILE BEHIND TOP EDGES OF MIRROR.



4 A4.3 INT. ELEV. - STAFF RR [A109]
1/4" = 1'-0"





6 A4.3 TYP. RANDOM TILE PATTERN
1/4" = 1'-0"

REGISTERED ARCHITECT
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Sheet
A4.3

PIPE MATERIAL SCHEDULE

SERVICE	
COLD & HOT WATER	GENERAL SUPPLYS OTHER THAN COPPER LISTED BELOW: AQUA PEX PIPING FROM METER TO AND WITHIN MECHANICAL ROOM C120: HARD DRAWN COPPER TUBE TUBE "L"
SANITARY WASTE	SCHEDULE 40 DWV PVC OR CAST IRON
SANITARY VENT	SCHEDULE 40 DWV PVC OR CAST IRON

PLUMBING CONTRACTOR TO PROVIDE BEAVERTON SCHOOL DISTRICT WITH VALVE SCHEDULE SHOWING ALL SHUTOFF VALVES, BACKFLOW VALVES WITH THEIR SIZES, TYPES AND LOCATIONS.

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	BRANCH PIPE SIZE CW	HW	W	V	REMARKS
WC-1	WATER CLOSET	1-1/4"	"	4"	2	FLUSH VALVE, STANDARD HEIGHT
WC-2	WATER CLOSET	1-1/4"	"	4"	2	FLUSH VALVE, ADA HEIGHT
WC-3	WATER CLOSET	1-1/4"	"	"	"	*REPLACE FLUSH VALVE ONLY WITH 3.5 GALLON PER FLUSH (GPF) VALVE OR SAME GPF AS REMOVED EXISTING VALVE. EXISTING BOWL TO REMAIN.
WC-4	WATER CLOSET	3/4"	"	"	"	*REPLACE ALL FLUSHING HARDWARE WITHIN TANK WITH WATER CLOSET MODEL APPROPRIATE HARDWARE.
U-1	URINAL	3/4"	"	2"	1-1/2"	FLUSH VALVE, STANDARD HEIGHT
U-2	URINAL	3/4"	"	2"	1-1/2"	FLUSH VALVE, ADA HEIGHT
U-3	URINAL	3/4"	"	"	"	*REPLACE FLUSH VALVE ONLY WITH 1 GALLON PER FLUSH (GPF) VALVE OR SAME (GPF) AS REMOVED EXISTING VALVE.
L-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/4"	WALL MOUNTED, ADA HEIGHT
L-2	LAVATORY	1/2"	1/2"	"	"	FAUCET ONLY, EXISTING BASIN TO REMAIN
DF-1	DRINKING FOUNTAIN	1/2"	-	2"	1-1/2"	
DF-2	DRINKING FOUNTAIN	1/2"	-	2"	1-1/2"	
DF-3	DRINKING FOUNTAIN	1/2"	-	2"	1-1/2"	FREEZE PROOF
S-1	SINK	1/2"	1/2"	"	"	*FAUCET ONLY AND SUPPLY HARDWARE, EXISTING BASIN TO REMAIN
S-2	SINK - KITCHEN	1/2"	1/2"	"	"	*FAUCET ONLY AND SUPPLY HARDWARE, EXISTING BASIN TO REMAIN
S-3	SINK - KITCHEN HAND SINK	1/2"	1/2"	"	"	*FAUCET ONLY AND SUPPLY HARDWARE, EXISTING BASIN TO REMAIN
S-4	SINK	1/2"	1/2"	2	1-1/2"	
S-5	SINK	1/2"	1/2"	2	1-1/2"	FAUCET ONLY AND SUPPLY HARDWARE, EXISTING BASIN TO REMAIN
S-6	SINK	1/2"	1/2"	2	1-1/2"	FAUCET ONLY AND SUPPLY HARDWARE, EXISTING BASIN TO REMAIN
SS-1	SERVICE (MOP) SINK	1/2"	1/2"	-	-	*FAUCET ONLY AND SUPPLY HARDWARE, EXISTING BASIN TO REMAIN
EW-1	EMERGENCY EYE WASH	1/2"	1/2"	-	-	W/ TEMPERING VALVE
HB-1	HOSE BIBB	3/4"	"	-	-	VACUUM BREAKER
CW-1	CAN WASH	1/2"	1/2"	-	-	VACUUM BREAKER

PLUMBING EQUIPMENT SCHEDULE

SYMBOL	DESCRIPTION	ELECTRICAL
WH-1	NATURAL GAS, TANKLESS WATER HEATER, INDOOR INSTALLATION, 199 MBH NATURAL GAS, 5.6 GPM 120 DEGREE HOT WATER AT 52 DEGREE SUPPLY WATER. PROVIDE VENT PIPING AS RECOMMENDED BY MANUFACTURER. BASIS OF DESIGN: RINNAI RU199iN	120V
WH-2	WATER HEATER: ELECTRIC, 38 GALLON CAPACITY, TWO NON-SIMULTANEOUS 4500 WATT ELEMENTS, 150 PSI WORKING PRESSURE, COMMERCIAL GRADE, 45 GAL PER HOUR RECOVERY AT 80 DEGREE RISE, GLASS LINED STEEL TANK, MAGNESIUM ANODE ROD. SET TEMPERATURE TO 120 DEGREES F. PROVIDE SEISMIC BRACING. BASIS OF DESIGN: A. O. SMITH ECLN-40 200	4500 WATTS 240 V, 1 PH
WH-3	WATER HEATER: ELECTRIC, 10 GALLON CAPACITY, 3500 WATT ELEMENT, 150 PSI WORKING PRESSURE, COMMERCIAL GRADE, 15 GAL PER HOUR RECOVERY AT 80 DEGREE RISE. GLASS LINED STEEL TANK, MAGNESIUM ANODE ROD. SET TEMPERATURE TO 115 DEGREES F. PROVIDE SEISMIC BRACING. BASIS OF DESIGN: A. O. SMITH DEL 10	3500 WATTS 120 V
ET-1	EXPANSION TANK: DIAPHRAGM TYPE, PRE-CHARGED, STEEL OUTER SHELL WITH POLYPROPYLENE LINER. 2 GAL MIN. TANK REQ'D. BASIS OF DESIGN: AMTROL ST-5	
ET-2	EXPANSION TANK: DIAPHRAGM TYPE, PRE-CHARGED, STEEL OUTER SHELL WITH POLYPROPYLENE LINER. 4.4 GAL MIN. TANK REQ'D. BASIS OF DESIGN: AMTROL ST-12	
ET-3	EXPANSION TANK: DIAPHRAGM TYPE, PRE-CHARGED, STEEL OUTER SHELL WITH POLYPROPYLENE LINER. 2 GAL MIN. TANK REQ'D. BASIS OF DESIGN: AMTROL ST-5	
HWRP-1	DOMESTIC HOT WATER CIRCULATING PUMP: IN-LINE, OIL LUBRICATED, WITH 3/4" SWEAT HALF UNION. 3 GPM AT 11 FEET OF HEAD. PROVIDE WITH AQUASTAT BASIS OF DESIGN: GRUNDFOS UP 15-35 SFC	115 VOLT, 1.70 AMPS 1 PH 1/22 HP
HWRP-2	DOMESTIC HOT WATER CIRCULATING PUMP: IN-LINE, OIL LUBRICATED, WITH 3/4" SWEAT HALF UNION. 3 GPM AT 11 FEET OF HEAD. PROVIDE WITH AQUASTAT BASIS OF DESIGN: GRUNDFOS UP 15-35 SFC	115 VOLT, 1.70 AMPS 1 PH 1/22 HP
HWRP-3	DOMESTIC HOT WATER CIRCULATING PUMP: IN-LINE, OIL LUBRICATED, WITH 3/4" SWEAT HALF UNION. 3 GPM AT 11 FEET OF HEAD. PROVIDE WITH AQUASTAT BASIS OF DESIGN: GRUNDFOS UP 15-35 SFC	115 VOLT, 1.70 AMPS 1 PH 1/22 HP
HWRP-3	DOMESTIC HOT WATER CIRCULATING PUMP: IN-LINE, OIL LUBRICATED, WITH 3/4" SWEAT HALF UNION. 3 GPM AT 11 FEET OF HEAD. PROVIDE WITH AQUASTAT BASIS OF DESIGN: GRUNDFOS UP 15-35 SFC	115 VOLT, 1.70 AMPS 1 PH 1/22 HP
DCVA-1	DOUBLE CHECK VALVE ASSEMBLY, TWO INDEPENDANT CHECK MODULES IN SINGLE HOUSING, SLEEVE ACCESS PORT, FOUR TEST COCKS, TWO SHUTOFF VALVES. PROVIDE IN GROUND VAULT FOR SIZED FOR ASSEMBLY. BASIS OF DESIGN: WATTS 757 SERIES OR EQUAL, SAME SIZE AS LINE SIZE. VAULT TO BE UTILITY VAULT OR EQUAL.	

PLUMBING LEGEND

CW	COLD WATER
	PIPE BELOW FLOOR OR GRADE
HW	HOT WATER, 120°F
	EXISTING PIPE
V	VENT
W	SANITARY WASTE ABOVE FLOOR OR GRADE
W	SANITARY WASTE BELOW FLOOR OR GRADE
CTG	CLEANOUT TO GRADE
FCO	FLOOR CLEANOUT
WCO,CO	WALL CLEANOUT, CLEANOUT
	PRESSURE REDUCING VALVE
	ASME TEMPERATURE/PRESSURE RELIEF VALVE
	SHUTOFF VALVE, BALL VALVE
	CHECK VALVE, STRAINER
	BALANCING VALVE
	PIPE UP
	PIPE DOWN
(P)	CAP OR PLUG

ABBREVIATIONS LEGEND

AFF	ABOVE FINISHED FLOOR	TYP	TYPICAL
BFF	BELOW FINISHED FLOOR	U	URINAL
BV	BALANCING VALVE	VTR	VENT THROUGH ROOF
DN	DOWN	WF	WASH FOUNTAIN
DF	DRINKING FOUNTAIN	WC	WATER CLOSET
L or LAV	LAVATORY	VTR	VENT THROUGH ROOF
IE	INVERT ELEVATION		

SYMBOLS

- (A) ABANDON
- (C) CONNECT TO EXISTING
- (E) EXISTING TO REMAIN
- (P) CAP OR PLUG
- (R) REPLACE PART OF FIXTURE
- (X) REMOVE EXISTING

GENERAL PLUMBING NOTES

1. OBTAIN EXACT LOCATIONS AND MOUNTING HEIGHTS OF PLUMBING FIXTURES FROM ARCHITECTURAL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR A.D.A. COMPLIANT FIXTURE LOCATIONS AND MOUNTING HEIGHTS.
3. INSTALL ALL PLUMBING WORK SO AS TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING
4. INSTALL ALL CLEANOUTS WHERE READILY ACCESSIBLE AND AS PER SECTION 707 AND 719 OF THE OREGON STATE PLUMBING SPECIALTY CODE. COORDINATE ALL CLEANOUT LOCATIONS WITH EQUIPMENT, CABINETS, ETC., AND THE ARCHITECT PRIOR TO ANY INSTALLATION.
5. ALL VALVES, UNIONS, ETC. TO BE SAME SIZE AS LINE SIZE UNLESS OTHERWISE INDICATED ON DRAWINGS.
6. PROVIDE UNIONS AFTER EACH SCREW TYPE VALVE AND PRIOR TO EQUIPMENT CONNECTIONS.
7. ALL WASTE PIPING SHALL SLOPE AT 2% UNLESS OTHERWISE INDICATED.
8. ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF ANY STATE OR LOCAL LAWS OR ORDINANCES. OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES, CODE INSPECTIONS, ETC.
9. ROUTE ALL PIPING ON THE WARM SIDE OF BUILDING ENVELOPE INSULATION.
10. COORDINATE ALL REQUIREMENTS FOR ALL POINTS OF CONNECTION WITH THE GENERAL CONTRACTOR AND OTHER TRADES PRIOR TO BID.
11. PRIME ALL FLOOR DRAINS, DECK DRAINS, TRENCH DRAINS, FLOOR SINKS AND ALL OTHER SIMILAR FIXTURES.
12. COORDINATE THE LOCATION OF ALL CEILING ACCESS PANELS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND LIGHTING LAYOUT.
13. ALL PIPING DISCHARGING INTO FLOOR SINKS AND/OR FLOOR DRAINS TO HAVE A MINIMUM AIR GAP AS REQUIRED BY LOCAL CODES AND ARRANGED TO PERMIT EASY REMOVAL OF FLOOR SINK BASKET STRAINERS.
14. BEFORE FABRICATION OR INSTALLATION, VERIFY EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT AND OTHER EQUIPMENT PROVIDED UNDER OTHER SECTIONS OF THE SPECIFICATION. COORDINATE EXACT ROUGH-IN LOCATIONS AND REQUIREMENTS IN THE FIELD.
15. INSTALL ALL VALVES, TRAP PRIMERS, WATER HAMMER ARRESTORS AND OTHER EQUIPMENT SHOWN IN WALLS OR ABOVE NON-ACCESSIBLE CEILINGS BEHIND AN ACCESS PANEL.
16. BUILDING DOMESTIC WATER MAY BE SHUT DOWN FOR CONSTRUCTION PROVIDED TEMPORARY WATER SI SUPPLIED FOR CONSTRUCTION PURPOSES. (2)

REGISTERED PROFESSIONAL ENGINEER
83212PE
OREGON
FEBRUARY 08, 2019
CHRISTOPHER JOEL CHURCHILL
EXPIRES 12/31/21

Revisions:
2 02/20/2020 ADDENDUM 2

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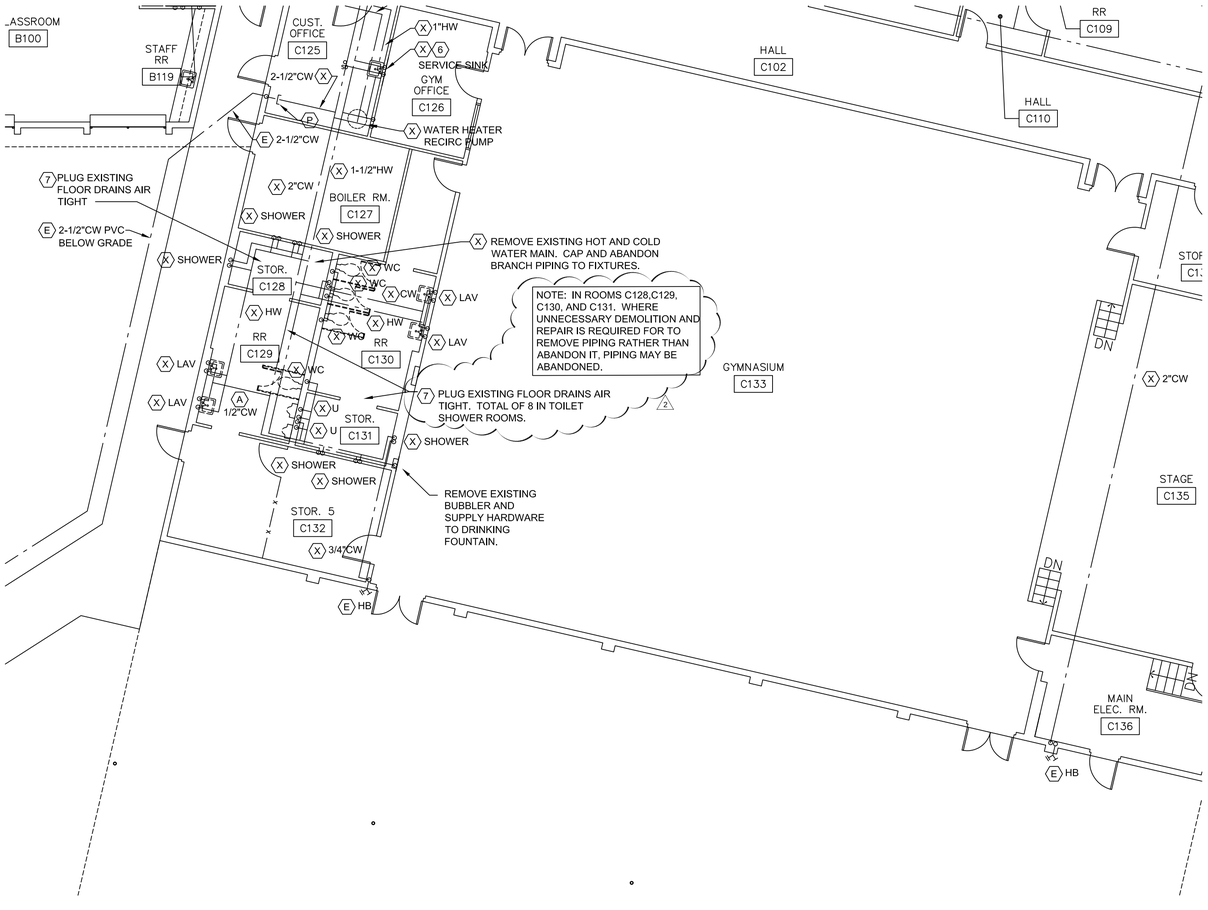

1 P1.3 PLUMBING – PARTIAL DEMO FLOOR PLAN
1/8" = 1'-0"

SHEET NOTES:

1. REMOVE EXISTING FAUCET, SUPPLY LINES AND STOPS. SINK BASIN AND WASTE/VENT/DRAIN CONNECTIONS TO SINK TO REMAIN.
2. REMOVE AND REPLACE INTERIOR TANK VALVES ON WATER CLOSET WITH MANUFACTURER AND MODEL APPROPRIATE VALVES.
3. REMOVE AS MUCH OF PIPING SUPPLYING HOSE BIBB AS CAN BE ACCESSED FOR CONNECTION TO NEW PIPING
4. REMOVE FLUSH VALVE AND SUPPLY, WATER CLOSET BOWL TO REMAIN.
5. REMOVE FLUSH VALVE AND SUPPLY, URINAL PORCELAIN FIXTURE TO REMAIN.
6. REMOVE FAUCET FROM SERVICE SINK.
7. REMOVE STRAINER ON FLOOR DRAIN, PLUG PIPING 4" BELOW TOP OF SLAB. FILL WITH CONCRETE AND FINISH FLUSH WITH FLOOR.
8. DISCONNECT DISHWASHER, SOAP AND RINSE DISPENSER AND PRE-RINSE. REMOVE BRANCH SUPPLY PIPING TO KITCHEN PLUMBING EQUIPMENT. NOTIFY AND CHORDATE WITH BSD BEFORE START OF WORK IN THIS AREA.

ABBREVIATIONS LEGEND

AFF	ABOVE FINISHED FLOOR	TYP	TYPICAL
BFF	BELOW FINISHED FLOOR	U	URINAL
BV	BALANCING VALVE	VTR	VENT THROUGH ROOF
DN	DOWN	WF	WASH FOUNTAIN
DF	DRINKING FOUNTAIN	WC	WATER CLOSET
L or LAV	LAVATORY	VTR	VENT THROUGH ROOF
IE	INVERT ELEVATION		

SYMBOLS

- (A) ABANDON
- (C) CONNECT TO EXISTING
- (E) EXISTING TO REMAIN
- (P) CAP OR PLUG
- (R) REPLACE PART OF FIXTURE
- (X) REMOVE EXISTING

NOTE:
CONTRACTOR TO COORDINATE WITH BEAVERTON SCHOOL DISTRICT REMOVED ITEMS TO BE SALVAGED AND PROVIDE THOSE ITEMS TO THE SCHOOL DISTRICT.

REGISTERED PROFESSIONAL ENGINEER
83212PE
OREGON
FEBRUARY 08, 2019
CHRISTOPHER JOEL CHURCHILL
EXPIRES 12/31/21

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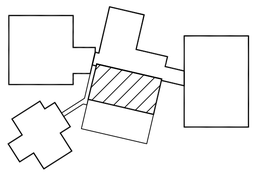

KEY PLAN

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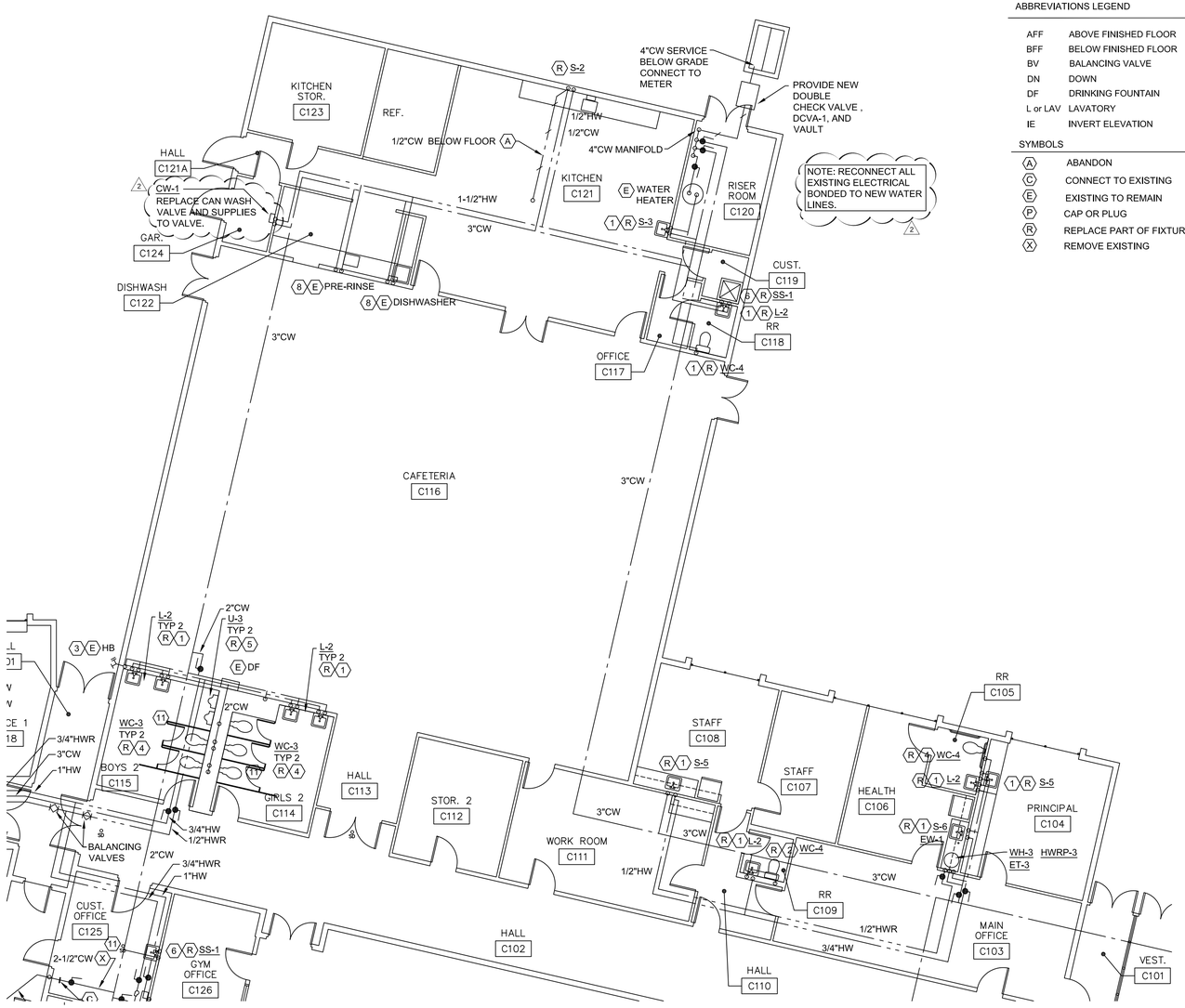
drawn by: NLB
checked: GCB
BID SET

job no.: 19036.00.L

BEAVERTON SCHOOL DISTRICT

Sheet
P1.3



1 P2.2 PLUMBING FLOOR PLAN
1/8" = 1'-0"

SHEET NOTES:

1. PROVIDE AND INSTALL FAUCET, SUPPLY LINES AND STOPS, SINK/LAVATORY BASIN AND WASTE/VENT TO REMAIN.
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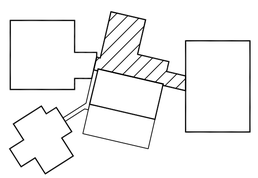

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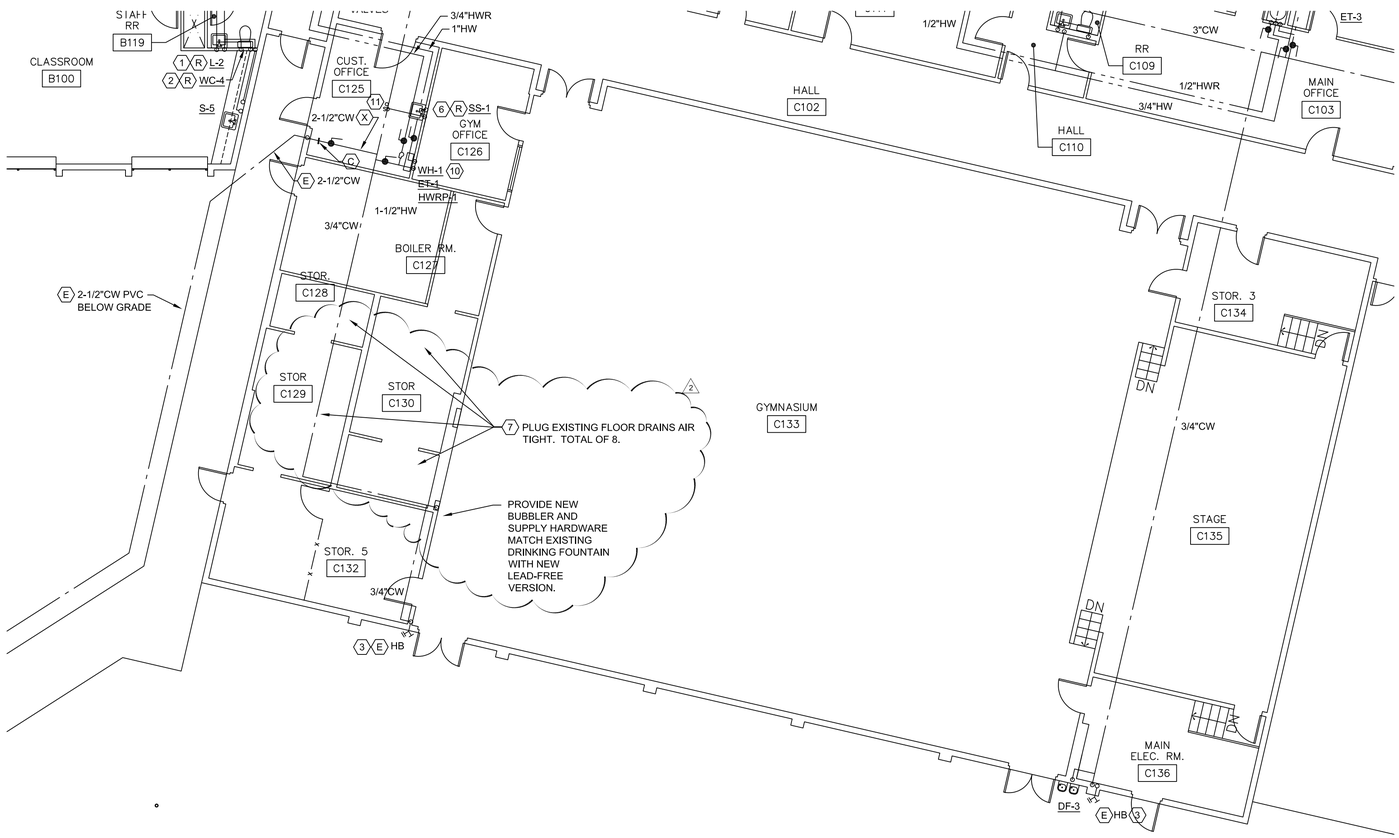
BEAVERTON SCHOOL DISTRICT

Sheet
P2.2



1 PLUMBING FLOOR PLAN
P2.3 1/8" = 1'-0"

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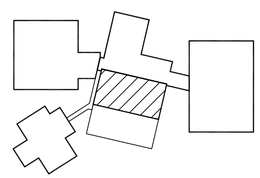

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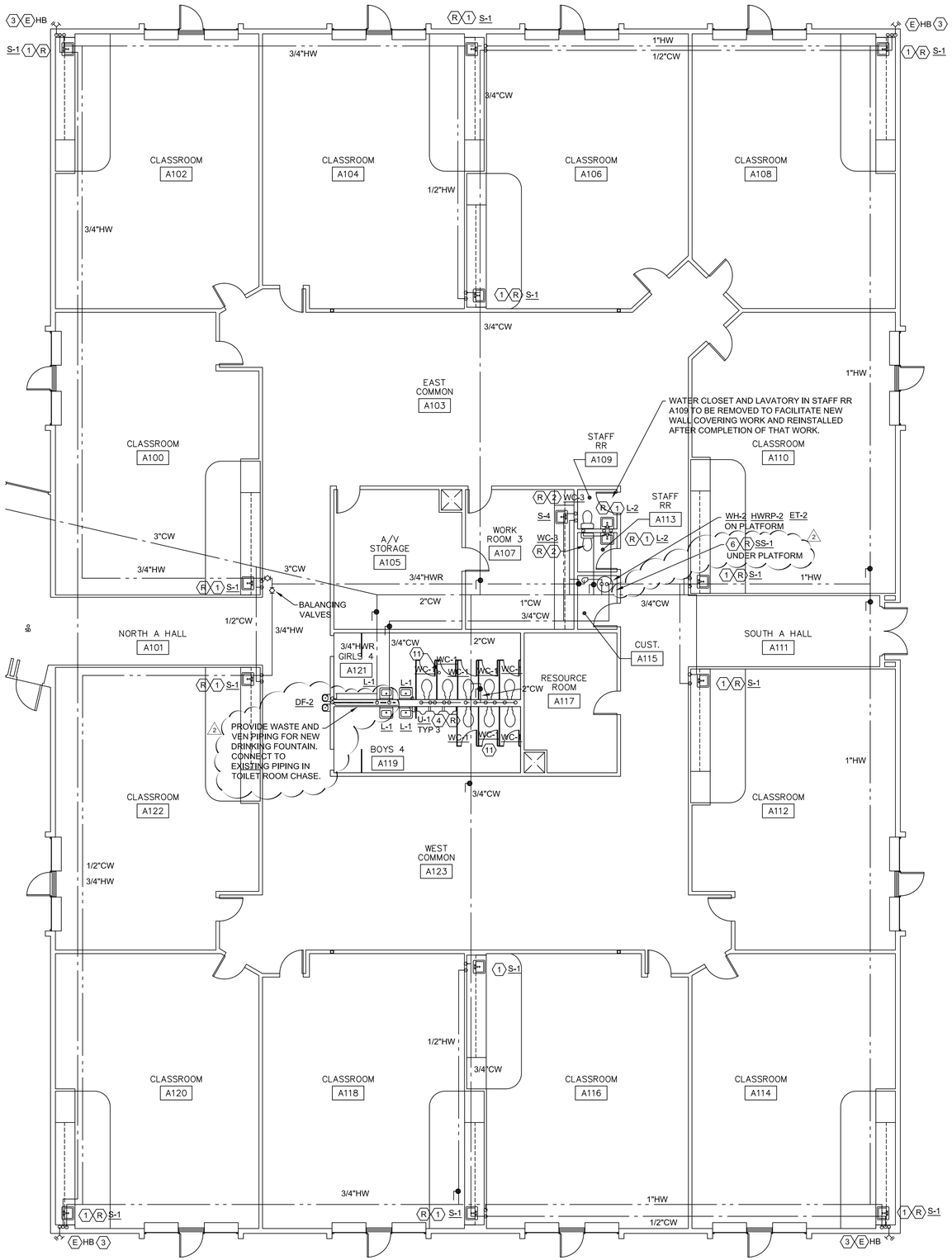
P2.3



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1 P2.4 PLUMBING FLOOR PLAN
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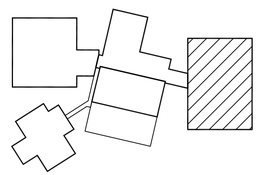

KEY PLAN

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83212PE
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BEAVERTON SCHOOL DISTRICT

Sheet P2.4

FACILITY WATER DISTRIBUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Work included: Providing of all required pipes and pipe fittings.

B. All pipes, fittings, pumps, valves, faucets, etc. which serve domestic water systems shall be lead-free.

1.2 OPERATION AND MAINTENANCE DATA

A. Submit certificates of inspections and tests to owner.

1.3 QUALITY ASSURANCE

A. Piping material and installation to meet requirements of the local plumbing, fire and building codes and serving utility requirements.

B. Pipe Cleaning: Should any pipe be plugged, the piping shall be disconnected, cleaned and reconnected without additional cost to Owner.

C. Damage to the building or systems resulting from failure to properly clean the system shall be corrected without additional expense to the Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Pipe and fittings: Standard product of manufacturer.

B. Flexible connectors: Anaconda, Aeroquip or approved equal.

C. Seismic/expansion joint flex piping: Unisource, Metraflex, Mason. For other manufacturers, submit substitution request.

2.2 DESCRIPTION

A. Copper Pipe - Plumbing:

1. Pipe: Hard drawn copper type "L" above grade and hard drawn copper type "K" below grade, ASTM B88.
2. Fittings: Wrought copper solder type.
3. Solder
   a. Above ground: 2" and smaller - Lead free, 95-5, tin silver and flux.
   b. Below ground: 2 1/2" and larger - Lead free, brazing alloy and flux.
4. **Type K copper (brazed) is acceptable for 3” and larger domestic water piping above grade.**

B. Cross Linked Polyethylene (PEX) Domestic Water Tubing and Fittings:Allowed for 2” and smaller domestic waeter distribution piping

1. Pipe and Fittings: Wirsbo Aquapex for potable water distribution conforming to ASTM F 876-93/ASTM F 877-93 and certified to NSF standards 14 and 61.
2. Wirsbo Propex brass manifolds and fittings.

3. All pipe, manifolds and fittings to be of same manufacturer.

C. Ductile Iron Water Pipe: 3" and larger **below grade.**

1. Pipe: Ductile iron, conforming to AWWA C151/A21.51-91, 150 psi, cement lined and outside coated with bitumastic enamel.
2. Fittings: Mechanical joint, conforming to AWWA C110/a21.10-93, 250 psi.

PART 3 - EXECUTION

3.1 PREPARATION - MEASUREMENTS, LINES AND LEVELS

A. Check dimensions at the building site and establish lines and levels for the work specified in this Division.

3.2 PIPING INSTALLATION

A. Install water distribution system sized in conformance with the drawings.

B. Install unions in all non-flanged piping connections to apparatus and adjacent to all screwed control valves, traps, and appurtenances requiring removal for servicing, so located that piping may be disconnected without disturbing the general system.

C. Provide easily accessible shut off valves on each branch of piping, to facilitate maintenance and repair without shutting down supply to large sections of the building.

D. Install all piping as to vent and drain.

E. Support all piping independently at apparatus so that the equipment shall not carry its weight.

F. Dielectric Fittings: Provide dielectric couplings, unions or flanges between dissimilar metals. Additionally, provide dielectric couplings as required to isolate cathodically protected piping and equipment. Fittings shall be suitable for the pressure and temperature to be encountered.

G. Domestic water piping joints
1. Above ground:
   a. 2" and smaller - soldered.
   b. 2-1/2" and larger and all below grade installations - brazed.
2. Below ground: Brazed.

H. Screwed Joints: Ream pipe ends. Apply dope or tape to male threads only. Brass joints shall be made with Teflon tape only. Make up fitting with not over two threads showing beyond the fitting end. Make junctions of galvanized pipe to cast iron with tapped spigots or half couplings screwed to the end of galvanized pipe to form a spigot end.

I. Solder Type Joints:
1. Clean the copper tubing and fittings thoroughly with steel wool before applying the flux. The copper tubing shall have all burrs removed, be reamed to full bore, and be true and round for all joints.
2. Apply heat uniformly to secure penetration of the filler material. Leave full bead around the entire circumference of the joint to show proper penetration and sealing.
3. Flux shall not be used for copper-to-copper joints. Flux shall be used for joining copper to brass or bronze. In those cases where flux is used, particular care shall be exercised in applying the flux to avoid leaving any excess inside the completed joints.

J. Provide flexible connectors at all piping connections to mechanical equipment.

K. Provide seismic bracing and support per SMACNA "Seismic Restraint Manual Guidelines for Mechanical Systems", see drawings for Seismic Hazard Level.

L. Provide expansion loops/fittings as noted on the drawings and where piping passes through building expansion/seismic joints. Install the loops in accordance with the manufacturers instructions. Provide hangers and guides as recommended.

M. Flush piping system of all construction dirt.

N. Chlorination: Disinfect the domestic hot and cold water piping as follows:
1. Fill systems with a solution of 50 ppm available chlorine for four hours
2. During this time, open and close all valves at least twice.
3. Flush the system with water until the residual chlorine content is not more than 1 ppm.
4. Post flush; test 36 hours later for taste and smell. Flush until free of odor and taste.

O. Test piping system per Section 22 05 93.

3.3 SPECIALTIES INSTALLATION

A. Install all piping specialties where shown on the drawings and in accordance with manufacturer's recommendations.

END OF SECTION

EXHIBIT E

INSURANCE REQUIREMENTS

1. Insurance Coverages. The Contractor shall procure and maintain (and, unless the Owner permits otherwise in writing, shall cause all Subcontractors to procure and maintain) at the Contractor's expense during the period of performance and thereafter as required below the following insurance from one or more companies authorized to do business in the State of Oregon with a policyholder's rating of not less than A-IX in the most recent edition of *Best's Rating Guide*. Except as approved otherwise by the Owner in advance, such insurance shall protect against claims which arise out of or relate to all of the Contractor's (and such Subcontractors') services under the Agreement, whether performed by the Contractor or a Subcontractor or consultant or a person or entity for which either of them may be responsible. The insurance coverages required by this Paragraph 1 shall be written on an occurrence basis, except the Professional Liability Insurance.

1.1 Workers' Compensation Insurance, if required by law, with statutory limits.

1.2. Employer's Liability Insurance, if employees are employed for other than secretarial or bookkeeping services, with a limit of not less than $500,000.

1.3. Commercial General Liability Insurance, applicable to all premises and operations, including Bodily Injury, Property Damage, Personal Injury, Contractual Liability, Independent Contractors, Products and Completed Operations, Broad Form Property Damage (including Completed Operations), Pollution Liability (coverage shall apply to both sudden and gradual pollution conditions), and coverage for explosion, collapse and underground hazards, with limits of not less than $1,000,000 per occurrence, $2,000,000 aggregate applicable specifically to the Project, $1,000,000 personal and advertising injury and $1,000,000 Products and Completed Operations.

1.4. Business Automobile Liability Insurance, applicable to owned, non-owned and hired automobiles, with a limit of not less than $1,000,000 combined single limit each accident; .

1.5. Professional Liability Insurance, covering performance of professional services by the Contractor or any Subcontractor or professional firm at any tier (e.g. for bidder-design or design-build components), whether or not performed by a licensed architect or engineer, with policy limits of not less than $1,000,000 per claim and $2,000,000 in the aggregate.

1.6 Pollution Liability Insurance, covering the Contractor's liability for a third-party bodily injury and property damage arising from pollution conditions caused by the Contractor while performing their operations under the contract. The insurance coverage shall apply to sudden and accidental pollution events. Any coverage restriction as to time limit for discovery of a pollution incident and/or a time limit for notice to the insurer must be accepted by the Owner. The insurance coverage shall also respond to cleanup cost. This coverage may be written in combination with the commercial general liability insurance or professional liability insurance. The policy's limits shall not be less than $1,000,000 each loss / $1,000,000 aggregate. The policy shall be endorsed to state that the general aggregate limit of liability shall apply separately to this contract. Any self- insured retention / deductible amount shall be submitted to the Owner for review and approval.

1.7 Asbestos/hazardous materials Abatement (only applicable to Asbestos/hazardous materials abatement Contractors): General Liability policy shall be written on a form that meets the following criteria, and must be ASBESTOS SPECIFIC as follows:

(a) A full occurrence form, or
(b) A limited occurrence form with at least a three (3) year tail, or
(c) A claims made form with a three (3) year tail.

1.8 True Umbrella Policy, which provides excess limits over the primary layer, in an amount not less than $5,000,000.

1.9 Subcontractors: The Contractor shall require all subcontractors to provide and maintain General Liability, Auto Liability, Professional Liability (as applicable), and Workers' Compensation insurance with coverage's equivalent to those required of the General Contractor in this Agreement. The Contractor shall require certificates of insurance from all subcontractors as evidence of coverage.

1.10 Exceptions or Waivers: Any exception of waiver of these requirements shall be subject to review and written approval from the Owner.

2. Deductibles. The Contractor shall pay all deductibles on all policies required by Paragraph 1.

3. Waivers of Subrogation Re Liability Insurance. The Workers' Compensation and Employer's Liability policies shall be subject to a waiver of subrogation in favor of Owner and its members, partners, officers, directors, agents and employees, and the successors in interest of the foregoing.

4. Cross-Liability Coverages. The Commercial General Liability and Automobile Liability policies shall provide cross-liability coverages as would be achieved under the standard International Organization for Standardization ("ISO") separations of insureds clause.

5. Additional Insureds. The Commercial General Liability and Automobile Liability policies shall name the Owner and its officers, directors, agents and employees, and the successors in interest of the foregoing, as additional insureds, using ISO additional insureds endorsement CG 20 10 11 85 or a substitute providing equivalent coverages. Such coverages provided to the additional insureds shall (a) be primary and noncontributory with respect to any insurance or self-insurance retention of the additional insureds, including but not limited to any Excess Liability coverage maintained by the additional insureds, (b) provide the same types and extents of coverages as the coverages provided to the primary insured, and shall not be limited to the "vicarious liability" of the additional insureds, (c) waive all rights of subrogation against the additional insureds, (d) cover all additional insureds that are a partnership or joint venture, if any, as "Named Insureds" as expressly stated in endorsements and (e) be maintained for the same durations as the coverages provided to the primary insured, including but not limited to the continuation of the Products and Completed Operations coverage until three (3) years after final payment to the Owner's prime contractor on the Project, and shall not be limited to "ongoing operations". Notwithstanding the foregoing, this Paragraph shall not be construed to require the Contractor to provide insurance coverage of the additional insureds in a way or to an extent that results in a violation of ORS § 30.140.

6. Duration of Coverages. The insurance coverages required by Paragraph 1 shall be written on an occurrence basis, except the Professional Liability Insurance. The Professional Liability policy shall provide for a retroactive date of placement prior to or coinciding with the date of commencement under the Agreement. All other policies shall be in effect as of the date of commencement of the Contractor's services under the Agreement. All policies shall be maintained and remain in effect until one (1) year after Final Completion and thereafter when the Contractor is assisting or advising the Owner regarding the correction of defective or nonconforming Work; provided that the Products and Completed Operations policy and the Professional Liability policy shall remain in effect until three (3) years after final payment to the Owner's prime contractor on the Project. The Contractor shall notify the Owner of any claims against the Professional Liability policy, in which event the Owner shall have the right to require the Contractor at its expense to obtain additional Professional Liability Insurance in order to restore the required coverage available for the Project.

7. Builder's Risk Insurance.

The Contractor shall obtain Builder's Risk Insurance as described below:

(1) The Contractor shall purchase and maintain in force during the term of this Contract, at its own expense, Builder's Risk insurance in an amount equal to the Contract Amount, including any subsequent modifications for the entire project at the site on a replacement cost basis, including covering all costs needed to repair the structure or work based on the value figured at the time of rebuilding or repairing, not at the time of loss. Such coverage shall be maintained, unless otherwise provided in the Contract Documents, or otherwise agreed to in writing by all persons and entities who are beneficiaries of such insurance, until final

payment has been made or until no person or entity other than the Owner has insurable interest in the property to be covered, whichever is earlier. The Builder's Risk insurance shall include interests of the Owner, the Contractor, Subcontractors and sub-tier contractors in the project.

(2) Special Covered Cause of Loss Form. The Contractor's Builder's Risk Coverage shall be on a special covered cause of loss form and shall include theft, vandalism, malicious mischief, collapse, false-work, temporary buildings and debris removal including demolition, increased cost of construction, architect's fees and expenses, flood and earthquake coverage, materials and equipment in transit, and all below and above ground structures, water and sewer mains. Other coverage may be required if provided in contract documents. Coverage shall be written for 100% of the completed value (replacement cost basis) of the work being performed.

(3) Amendments and Provisions. The Contractor's Builder's Risk shall also include the following amendments and provisions.

a. Waiver of Subrogation. Waiver of subrogation against all parties named as insured, to the extent the loss is covered;

b. Beneficial Occupancy Clause. The policy shall specifically permit partial or beneficial occupancy at or before substantial completion or final acceptance of the entire work. The Contractor shall take reasonable steps to obtain any necessary consent of the insurance company or companies and agrees to take no action, other than upon mutual written consent, with respect to occupancy or use of the work that could lead to cancellation, lapse or reduction of insurance;

c. Equipment Breakdown Coverage. Equipment breakdown coverage (aka boiler & machinery coverage) shall be provided that specifically covers insured equipment during installation and testing;

d. Interior Damage. Any clause that excludes recovery of damage to the interior of building shall be deleted. The Builder's Risk policy shall provide for recovery for damage to the interior of a building if caused by perils insured against in the Builder's Risk Policy;

e. Design Error. The Builder's Risk policy shall not exclude coverage of damages caused by design error;

f. Settlement, Cracking, Etc. The Builder's Risk policy shall cover settling, cracking, shrinking or expansion (including coverage for loss resulting from settling, cracking, shrinking or expansion) of foundation walls, floors and other parts of the structure; and

g. Deductible. Any deductible shall not exceed $50,000 for each loss.

(4) Builder's Risk Installation Floater. If approved in writing by the Owner's Risk Manager, the Contractor may obtain a Builder's Risk Installation Floater in lieu of Builder's Risk Insurance at the Contractor's expense. The Contractor shall keep the Builder's Risk Installation Floater in effect during the term of this Contract for the value of materials and equipment, on a replacement cost basis, including covering all costs needed to repair the structure or Work (including overhead and profit) based on the values figured at the time of rebuilding or repairing, not at the time of loss. Such coverage shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed to in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the Owner has an insurable interest in the property to be covered, whichever is earlier. The Builders' Risk Installation Floater shall include interest of the Owner, The Contractor, Subcontractors and sub-tier Contractors in the project. The Builders' Risk Installation Floater shall be on a Special Covered Cause of Loss Form and shall include theft, vandalism, malicious mischief, faulty workmanship, labor, materials and equipment to be installed. Other coverages may be required if provided in the Contract Documents. The Builders' Risk Installation Floater shall also provide a Waiver of Subrogation against all parties named as insured, but only to the extent the loss is covered. Coverages shall be written for 100% of the completed value (replacement cost basis including labor and materials) of the work being performed or other limit as specified in the Contract Documents. Coverage shall extend to when project materials are in off-site storage and while in transit.

(5) Insured Loss. The owner shall have sole power and authority to adjust and settle a loss with insurers. A loss insured under the Builder's Risk Insurance or Builder's Risk Installation Floater shall be adjusted by the Owner and any payments or settlements shall be made payable to the Owner for the insureds, as their interests may appear. The Owner shall be entitled to full payment of its loss from the insurance proceeds before payment of the remainder to any other beneficiaries of the policy. The Contractor shall pay Subcontractors their just share of remaining insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors make payments to the Sub-subcontractors in similar manner.

(6) Deductible. Payment of the deductible on the Builders Risk policy claims is the responsibility of the Contractor and is not subject to reimbursement by the Owner. The Contractor promptly shall pay the deductible (or if the claim is less than the deductible, the amount of the claim) promptly and without offset or deduction. If the Contractor does not do so, the Owner may, in addition to other remedies, deduct and offset the amount of the deductible from the Contract Sum.

8. Proof of Insurance. The Contractor shall file with Owner, upon execution of the Agreement, certificates of insurance acceptable to the Owner as well as copies of all insurance policies, with all riders and endorsements, all separate exclusions, conditions and waivers, and all other amendatory documents attached, evidencing the insurance required of the Contractor by this Exhibit E. No progress payment will be due until all such Certificates and policies are furnished. All policies and certificates must be signed copies and shall contain a provision that coverages afforded under the policies cannot be materially altered (i.e., the coverage's reduced, the limits decreased, or the additional insured removed), allowed to expire, or cancelled without first giving 30 days' prior written notice to the Owner. The Contractor shall furnish to the Owner copies of any subsequently issued endorsements amending, modifying, altering, or restricting coverage of limits. Furthermore, such policies or certificates shall verify that the policy contains coverage for blanket contractual liability including both oral and written contracts and acknowledge the indemnification provisions and liability coverages called for by this Agreement. If any of the required coverages are to renew during the period when such coverage is to remain in effect, or are required to remain in force after final payment to the Owner's prime contractor on the Project, an additional certificate evidencing continuation of such coverage shall be submitted upon renewal or with the Contractor's final invoice.

9. Effect of No or Insufficient Insurance. The Contractor's failure to comply with the requirements of this Exhibit E shall constitute a material breach of the Agreement entitling the Owner to terminate the Agreement for cause. In the alternative, the Owner in its sole discretion may purchase the insurance required of, but not obtained or maintained, by the Contractor pursuant to this Exhibit E and charge such costs thereof to the Contractor or deduct the costs thereof from the Contract Sum. The Owner's rights under this Paragraph shall be in addition to, and without waiver of, its other rights and remedies under the Agreement or applicable law.

10. Waivers of Subrogation. The Owner and the Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or the Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, the Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

1. Limitation of This Exhibit E. Nothing in this Exhibit E shall negate, abridge or reduce the Contractor's responsibilities or liabilities under the Agreement or applicable law, the meaning and effect of the provisions of this Exhibit E being limited to setting out the Contractor's express obligations with respect to

insurance. By requiring insurance, the Owner does not guarantee that the insurance is sufficient to cover all the risks the Contractor may face. The Contractor's liability is not limited to insurance.

2. The Contractor shall obtain, at its own expense, the minimum insurance coverage described in this Exhibit and maintain that coverage until final acceptance of the entire Project, and through the stated completed operations period as applicable. By requiring such minimum insurance, the Owner does not guarantee that the insurance is sufficient to cover all the risks the Contractor may face. The Contractor's liability is not limited to insurance. The insurance carried by the Contractor shall be the primary coverage and non-contributory, and any insurance maintained by the Owner is excess and in any event solely for damages or losses for which the Owner is responsible.

3. The Owner's specification or approval of the insurance in this Contract or of its amount shall not relieve or decrease the liability of the Contractor under the Contract documents or otherwise. Coverage's are the minimum to be provided and are not limitations of liability under the Contract, indemnification, or applicable law provisions. The Contractor may, at its expense, purchase larger coverage amounts.

4. Contract Sum. The Contract Sum includes the cost of any insurance required by the Contract Documents.