| | | | | PLU | UMBING FIX | XTURE S | CHEI | OULE | E | | |
|--------|--------------|--|---------------------------------------|------------------------------------|----------------------------------|---------|------|------|-------|------|---|
| ITEM | | FIXTURE | MATERIAL | TYPE | OPERATOR/FITTING | CARRIER | H.W. | C.W. | WASTE | VENT | REMARKS/ACCESSORIES |
| WC-1 | DESCRIPTION | FLOOR MOUNTED WATER CLOSET | VITREOUS CHINA | WELLCOMME | BATTERY OPERATED FLUSHOMETER | | | 1" | 3" | 2" | LUSTRA OPEN FRONT SEAT WITH ANTI -MICROBIAL AGENT - KOHLER #K-4670-CA-0 |
| l . | MANUFACTURER | KOHLER | | #K-4350-0 | SLOAN REGAL #111-1.6 SMO | | | | | | 1.6 GALLONS PER FLUSH. |
| WC-2 | DESCRIPTION | ADA FLOOR MOUNTED WATER CLOSET | VITREOUS CHINA | HIGHCREST | BATTERY OPERATED FLUSHOMETER | | | 1" | 3" | 2" | LUSTRA OPEN FRONT SEAT WITH ANTI -MICROBIAL AGENT - KOHLER #K-4670-CA-0 |
| | MANUFACTURER | KOHLER | | #K-4302-0 | SLOAN REGAL #111-1.6 SMO | | | | | | 1.6 GALLONS PER FLUSH. |
| URN-1 | DESCRIPTION | ADA WALL MOUNTED URINAL | VITREOUS CHINA | BARDON | BATTERY OPERATED FLUSHOMETER | NEW | | 3/4" | 2" | 1½" | PROVIDE ALL ACCESSORIES FOR A 100% COMPLETE INSTALLATION. |
| | MANUFACTURER | KOHLER | | #K-4991-ET-0 | SLOAN REGAL #186-1 XL SMO | | | | | | 1.0 GALLONS PER FLUSH |
| | DESCIVIL HOW | UNDERMOUNTED ADA LAVATORY | VITREOUS CHINA | CAXTON | BATTERY OPERATED FAUCET | | 1/2" | 1/2" | 1 ½" | 1 ½" | LAVATORY IS ADA COMPLIANT WHEN INSTALLED IN 21" MINIMUM DEPTH COUNTERTOP. |
| LAV-1 | MANUFACTURER | KOHLER | | #K-2211-0 | SLOAN #EAF-250-ISM | | | | | | PROVIDE ALL ACCESSORIES FOR A 100% COMPLETE INSTALLATION. FAUCET — 0.5 GPM |
| CS-1 | DESCRIPTION | UNDERMOUNTED CLASSROOM SINK | 18 GAUGE STAINLESS STEEL | SINGLE BASIN SINK | MANUAL DUAL LEVER | | 1/2" | 1/2" | 1 ½" | 1 ½" | PROVIDE ALL ACCESSORIES FOR A 100% COMPLETE INSTALLATION. |
| | MANUFACTURER | ELKAY | | #ELUHAD161655 | CHICAGO FAUCET #201-A317ABCP | | | | | | FAUCET — 2.2 GPM |
| CS-2 | DESCRIPTION | UNDERMOUNTED CLASSROOM SINK | 18 GAUGE STAINLESS STEEL | SINGLE BASIN SINK | FOOT PEDAL | | 1/2" | 1/2" | 1 ½" | 1 ½" | PROVIDE CHICAGO FAUCET SPOUT #626—E29ABCP AND HAWS AXION EYEPOD #7620. |
| | MANUFACTURER | ELKAY | | #ELUHAD161655 | CHICAGO FAUCET #625—LPABCP | | | | | | PROVIDE ALL ACCESSORIES FOR A 100% COMPLETE INSTALLATION. FAUCET — 2.2 GPM |
| SHWR-1 | DESCRIPTION | ADA EMERGENCY DRENCH SHOWER WITH EYEWASH | GALVANIZED STEEL WITH BRADTECT® | COMBINATION UNIT | UNIT MOUNTED HANDLES | | 1" | 1" | 2" | | PROVIDE BRADLEY NAVIGATOR #S19—2100 EFX25 EMERGENCY THERMOSTATIC MIXING VALVE — WATER PROVIDED TO SHOWER MUST BE TEPID PER ANSI Z358. |
| | MANUFACTURER | BRADLEY | SAFETY YELLOW COATING | #S19314EW | (INCLUDED) | | | | | | STANDARDS. SEE FD-1 FOR SHOWER DRAIN. |
| DF-1 | DESCRIPTION | WALL MOUNT ADA DRINKING FOUNTAIN | GALVANIZED STEEL | TWO STATION WATER COOLER | FLEXIBLE ONE-PIECE BUBBLER | | | 1/2" | 1 ½" | 1 ½" | REFER TO ARCH. DRWG'S FOR MOUNTING HEIGHT. |
| | MANUFACTURER | ELKAY | | #EZLTLVR8C | (INCLUDED) | | | | | | PROVIDE ALL ACCESSORIES FOR A 100% COMPLETE INSTALLATION. |
| MR-1 | DESCRIPTION | MOP RECEPTOR | TERRAZZO | DROP FRONT | MANUAL FAUCET — CHROME FINISH | | 1/2" | 1/2" | 3" | 2" | PROVIDE HOSE 36" LONG WITH WALL HANGER (-KH36) MOP HANGER WITH 3 GRIPS ON STAINLESS STEEL |
| | MANUFACTURER | ACORN | | TDF-24 | OPTION -KFC | | | | | | BRACKET (-KMH), AND (1) 24" WALL GUARD (-KWG). |
| HYD-1 | DESCRIPTION | NON-FREEZE WALL HYDRANT | CAST BRASS | WALL MOUNT HYDRANT WITH BOX | | | | 3/4" | | | UNIT SHALL HAVE CAST BRASS HINGED LATCHING COVER WITH SATIN NICKEL FINISH, INTEGRAL VACUUM |
| | MANUFACTURER | PRIER | | C-634N (HYDRANT) C-634BX1 (BOX) | | | | | | | BREAKER-BACKFLOW PREVENTER, AND CONTROL KEY. SEE NOTE #2. |
| FD-1 | DESCRIPTION | FLOOR DRAIN | CAST IRON | SQUARE ADJUSTABLE STRAINER | | | | | 4" | 2" | DRAINS SHALL HAVE OPTIONS LISTED: (-P050-B08-U-BHP-CP). SEE NOTE #1. |
| | MANUFACTURER | J. R. SMITH | | #2005Y | | | | | | | |

NOTES: MANUFACTURERS AND MODELS INDICATED ARE BASIS OF DESIGN, CONTRACTOR MAY SUBMIT EQUAL FOR APPROVAL.

- ALL FLOOR DRAINS (FD-1) SHALL HAVE TRAP PRIMERS (-P050 OPTION). AUTOMATIC TRAP PRIMER ON COLD WATER SUPPLY AT NEAREST FIXTURE AND RUN DRAIN TO TRAP SEAL BEING PROTECTED. PROVIDE ACCESS PANEL WHEN PRIMERS ARE INSTALLED IN WALLS. WHÉRE NO FIXTURE IS AVAILABLE, SEE DETAILS #10, #11, AND #12 ON DRAWING P-3.
- ALL WALLS CONTAINING WALL HYDRANT (HYD-1) SHALL HAVE WALL THICKNESS MEASURED BEFORE UNITS ARE ORDERED.
- FIXTURES LABELED DW (DISHWASHER), IM (ICEMAKER), AND CM (COFFEE MAKER) SHALL BE SELECTED BY ARCHITECT. PLUMBING CONTRACTOR IS TO ONLY CONNECT HOT WATER AND SANITARY TO THE DISHWASHER, ONLY COLD WATER TO THE ICEMAKER, AND ONLY COLD WATER TO THE COFFEE MAKER.

| BACKFLOW PREVENTER SCHEDULE | | | | | | | | |
|-----------------------------|--------------|------|-----------------------|----------------------------|--|--|--|--|
| MARK | MANUFACTURER | SIZE | MAX. PRESSURE DROP | SERVING | REMARKS | | | |
| BFP-1 | WATTS | 2½" | 16 PSI | DOMESTIC WATER SERVICE | MODEL 957. SEE DETAILS #1 & #2 ON DRAWING P-2. MAINTAIN REQUIRED CLEARANCES PER WISCONSIN STATE CODE & DEPARTMENT OF HEALTH REGULATIONS. | | | |
| BFP-2 | WATTS | 4" | 10 PSI | FIRE PROTECTION SERVICE | DCDA TO BE INSTALLED BY FIRE PROTECTION CONTRACTOR. SEE FIRE PROTECTION DRAWINGS FOR WATER ROOM LAYOUT INSTRUCTIONS. | | | |

| | DOMESTIC WATER HEATER SCHEDULE | | | | | | | | | | | |
|-------------|--------------------------------|--|-----------------------------------|------------|----------------|---------|-----|------|------------------|-----------------------------------|-----------------------------------|-----------------------|
| Designation | Capacity (gallons) | Recovery (gal's./hr. @ 100° F. rise) | First Hour Rating (Gallons) | Efficiency | | | | | Physic Height | al Data Vent Outlet & Inlet | Controls | Remarks |
| WH-1 | 119 | 460 | 543 | 96% | Natural Gas | 399,900 | N/A | 33%" | 75 ¾ " | 4"ø | Built—in Adjustable Thermostat | 1, 2, 3, 4, 5, & 6 |

NOTES:

- WATER HEATER SELECTION BASED ON: AO SMITH "CYCLONE MXI MODULATING" BTH-400 Mxi.
- . PLUMBING CONTRACTOR SHALL PROVIDE MANUFACTURER'S CONCENTRIC VENT KIT (OF VENT SIZE SHOWN IN SCHEDULE) FOR HEATER'S DISCHARGE THROUGH THE ROOF. a. MAINTAIN A MINIMUM OF 10'-0" BETWEEN VENT DISCHARGE LOCATION AND HVAC OUTSIDE AIR LOCATIONS.
- 3. PIPE RELIEF VALVE OUTLET TO INDIRECT DRAIN OR FLOOR DRAIN USING FULL SIZE TYPE 'L' COPPER PIPING.
- 4. PROVIDE EXPANSION TANK TO MATCH WATER HEATERS. 5. PROVIDE ALL RELATED PUMPING/PIPING ETC FOR A 100% COMPLETE INSTALLATION.
- \mid 6. SEE DETAILS #4, #5, #6, AND #7 ON DRAWING P-2. OTHER ACCEPTABLE MANUFACTURER: BRADFORD WHITE.

GENERAL PLUMBING NOTES

- GENERAL NOTES ARE APPLICABLE TO ALL PLUMBING WORKING DRAWINGS.
- 2. THE WORK SHALL BE EXECUTED IN STRICT CONFORMITY WITH BASE BUILDING SPECIFICATION AND WITH THE LATEST EDITION OF THE PREVAILING LOCAL PLUMBING AND BUILDING CODES AND ALL LOCAL REGULATIONS THAT MAY APPLY. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE THE MORE STRINGENT STANDARD SHALL APPLY.
- 3. ALL PLUMBING WORK SHALL BE COORDINATED WITH ALL OTHER TRADES BEFORE PROCEEDING WITH INSTALLATION.
- 4. NO CHANGES ARE TO BE MADE IN PLUMBING LAYOUT WITHOUT WRITTEN PERMISSION BY THE ENGINEER OF RECORD.
- 5. NO PIPING SHALL RUN EXPOSED IN FINISHED AREAS.
- 6. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR PAYING RELATED FEES.
- 7. ROUGH-IN DIMENSIONS OF TOILET FIXTURES MUST BE COORDINATED WITH GENERAL CONTRACTOR AND FIELD SUPERVISOR.
- 8. INSTALL BALL VALVES ON ALL BRANCH SUPPLY LINES.
- 9. PROVIDE ACCESS PANELS ON ALL INACCESSIBLE VALVES AND CLEANOUTS. ACCESS PANELS SHALL BE PROVIDED BY PLUMBING CONTRACTOR AND CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR LOCATION. MOUNT SHUT-OFF VALVES NO HIGHER THAN 12'-8" AFF.
- 10. ALL WORK SHALL BE PROPERLY TESTED, BALANCED AND CLEANED. PROVIDE A ONE YEAR WARRANTY FROM DATE OF FINAL INSPECTION ON ALL PARTS AND LABOR.
- 11. FOLLOW PDI STANDARDS FOR WATER HAMMER ARRESTORS.
- 12. ALL FIXTURES TO BE SUPPLIED & INSTALLED BY PLUMBING CONTRACTOR
- 13. GENERAL CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND INSTALLATION WITH LOCAL AUTHORITIES AND SITE DRAWINGS IF NOT EXISTING.
- 14. PROVIDE BUILDING WATER AND GAS SERVICE LINES 5'-0" FROM BUILDING LINE, OR INSIDE BUILDING FROM OUTLET SIDE OF METER AS SHOWN ON SITE PLAN. COORDINATE EXACT LOCATION WITH SITE DRAWINGS AND AT JOB SITE. PROVIDE BACKFLOW PREVENTER AS REQUIRED BY LOCAL AUTHORITIES FOR WATER SERVICE.
- 15. SANITARY SEWER PIPING SHOWN IS BASED ON 0.125"/FT FOR 3"-6" & 0.25"/FT FOR 2 1/2" OR LESS FOR ALL PIPING. COORDINATE BUILDING SEWER LOCATION AND INVERT ELEVATION WITH SITE DRAWINGS.
- 16. TRAP SEAL PRIMERS ARE TO BE PROVIDED AT ALL FLOOR DRAIN LOCATIONS.

BUILDING NATURAL GAS LOAD

GAS LOAD:

2,059,900 BTU/hr

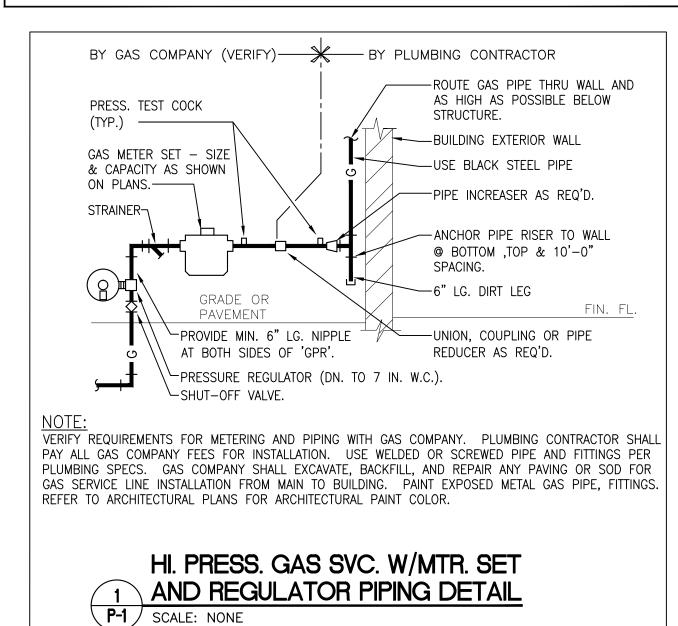
GAS NOTES:

GAS METER - PLUMBING CONTRACTOR TO COORDINATE GAS METER INSTALLATION WITH UTILITY COMPANY. SEE DETAIL #1 ON DRAWING P-1.

PROVIDE GAS SHUT-OFF VALVE AND UNION UPSTREAM AND DOWNSTREAM OF GAS METER.

- GAS LINE SIZED BASED ON 300'-0" OF LENGTH AT A
- 0.5 PRESSURE LOSS (INCHES OF WATER).
- GAS PROVIDED AT 7" WC DOWNSTREAM OF GAS METER. REFER TO GAS CONNECTION DETAILS ON DRAWINGS.
- MAKE FINAL GAS CONNECTION TO EQUIPMENT PER NFPA-54 AND WISCONSIN STATE GAS CODE.

WSFU WATER SUPPLY FIXTURE UNITS



BUILDING DOMESTIC WATER LOADS **BUILDING LOAD** 134 WSFU 134 WSFU **FUTURE LOADS** x 1.1 147.4 WSFU BUILDING TOTAL +/- 5 WSFU (79 GPM = $2\frac{1}{2}$ " WATER LINE, REQUEST $2\frac{1}{2}$ " DOMESTIC WATER LINE AT 70 PSI)

LEGEND SANITARY SEWER (SS) STORM WATER PIPING (ST) _____ST____ _____OST____ OVERFLOW STORM WATER PIPING (OST) ----- U -----UNDERGROUND PIPING (U) DOMESTIC COLD WATER (CW) HOT WATER RECIRCULATING (HWR) DOMESTIC HOT WATER (HW) EXISTING PIPING —— EX —— SANITARY VENT (V) -----GAS PIPING — GAS —— GAS —— COMPRESSED AIR PIPING PUMPED DISCHARGE ———PD—— ----||-----UNION ——⊣⊅⊢—— PLUG COCK ELBOW - TURNED DOWN 0----ELBOW - TURNED UP TEE - TURNED DOWN TEE - TURNED UP ---- $\longrightarrow \bowtie$ VALVE MIXING VALVE CONCENTRIC REDUCER \longrightarrow \longrightarrow INCREASER -D\$1-RPZ/BFP-D\$1-BACKFLOW PREVENTER - REDUCED PRESSURE ZONE -DECT/BFP-DECT-BACKFLOW PREVENTER - DOUBLE CHECK VALVE TYPE ______**>__**__ BALL VALVE CHECK VALVE SHUT-OFF VALVE IN VERTICAL LINE ₩— TEMP. & PRESS. RELIEF VALVE ROOF DRAIN/OVERFLOW DRAIN OO RD/ORD FLOOR DRAIN PUMP ——OFCO FLOOR CLEANOUT ——**⊙**-**⊙** GCO GROUND CLEANOUT ———<u> </u> HB HOSE BIBB ---->---|+WH WALL HYDRANT - ALSO SHOWN AS HYD WALL CLEANOUT ——GII WCO CLEANOUT —— co WHA-WATER HAMMER ARRESTOR CAP/PLUG ├──] CAP POINT OF CONNECTION - NEW TO EXISTING ---CALIBRATED BALANCING VALVE \triangle_{AAV} AUTOMATIC AIR VENT (AAV) FLOOR DRAIN HW HOT WATER CW COLD WATER/CITY WATER ORD OVERFLOW ROOF DRAIN TYP. TYPICAL GC GENERAL CONTRACTOR FCO FLOOR CLEANOUT DN DOWN VTR VENT THRU ROOF CONT. CONTINUATION U/F UNDER FLOOR I.E. INVERT ELEVATION ACCESS DOOR

CD CONDENSATE DRAIN MV MIXING VALVE WC WATER COLUMN HVAC HEATING, VENTILATING, WHA WATER HAMMER ARRESTOR AND AIR CONDITIONING VFB VENT UP FROM BELOW N/A NOT APPLICABLE RPDA REDUCED PRESSURE DETECTOR ASSEMBLIES PC PLUMBING CONTRACTOR DRWGS. DRAWINGS DRWG. DRAWING MC MECHANICAL CONTRACTOR

SANITARY SEWER

PLUMBING VENT

VBF VENT BELOW FLOOR

F/# FOR (# OF ITEMS)

GSS GREASE SANITARY

SEWER

CI CAST IRON

FLR. FLOOR

FLRS. FLOORS

LAV LAVATORY

AFF ABOVE FINISHED FLOOR AAV AIR ADMITTANCE VALVE & AND SHWR SHOWER SHWRS SHOWERS LAVS LAVATORIES

NO. DATE REMARKS IT IS A VIOLATION OF STATE LAW FOR ANY

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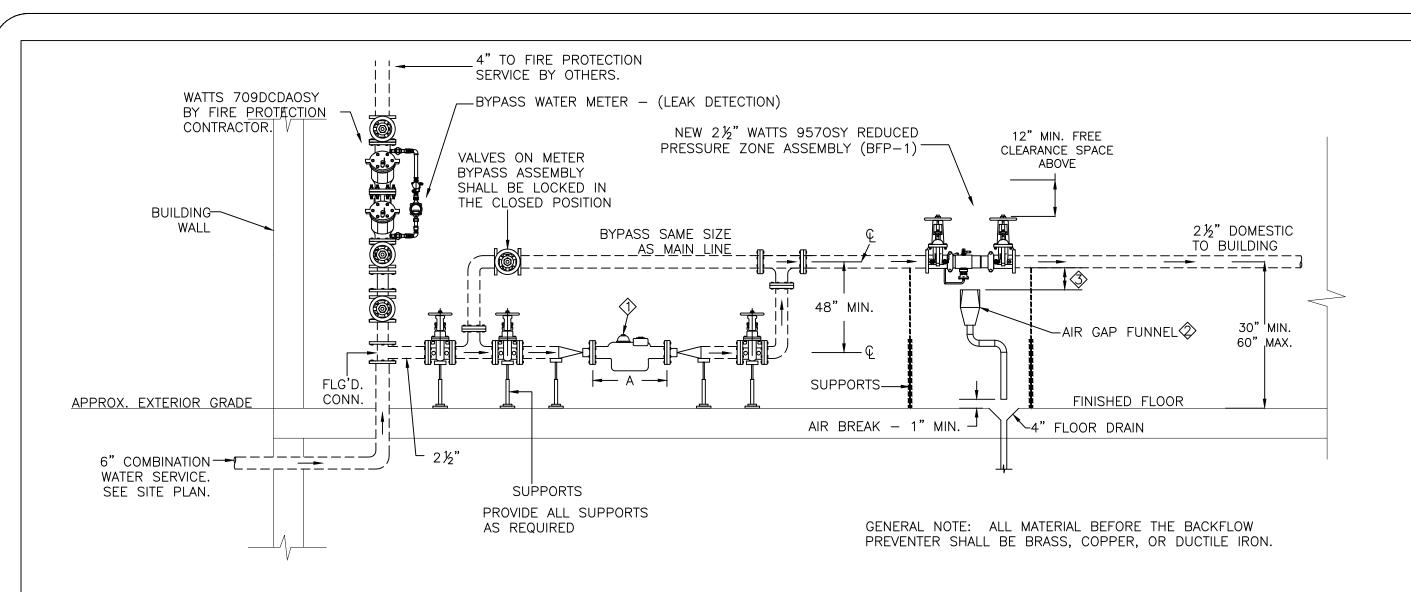
SEAL:

M

PLUMBING LEGENDS, SCHEDULES, & DETAILS

RCHITEC

SCALE JOB NO. DRAWN DWG. NO. CHECKED CONTRACT NO. DATE 12.22.2017



DETAIL NOTES (#):

- 2" FLANGED METER WITH INTEGRAL STRAINER, PROVIDED
- AIR GAP FUNNEL DIAMETER SHALL BE AT LEAST TWO TIMES THE ACTUAL DIAMETER OF THE RPZ RELIEF VALVE OPENING AND NOT LESS THAN 3" DIAMETER.
- 2" MINIMUM OR TWO TIMES THE RPZ DISCHARGE OPENING.

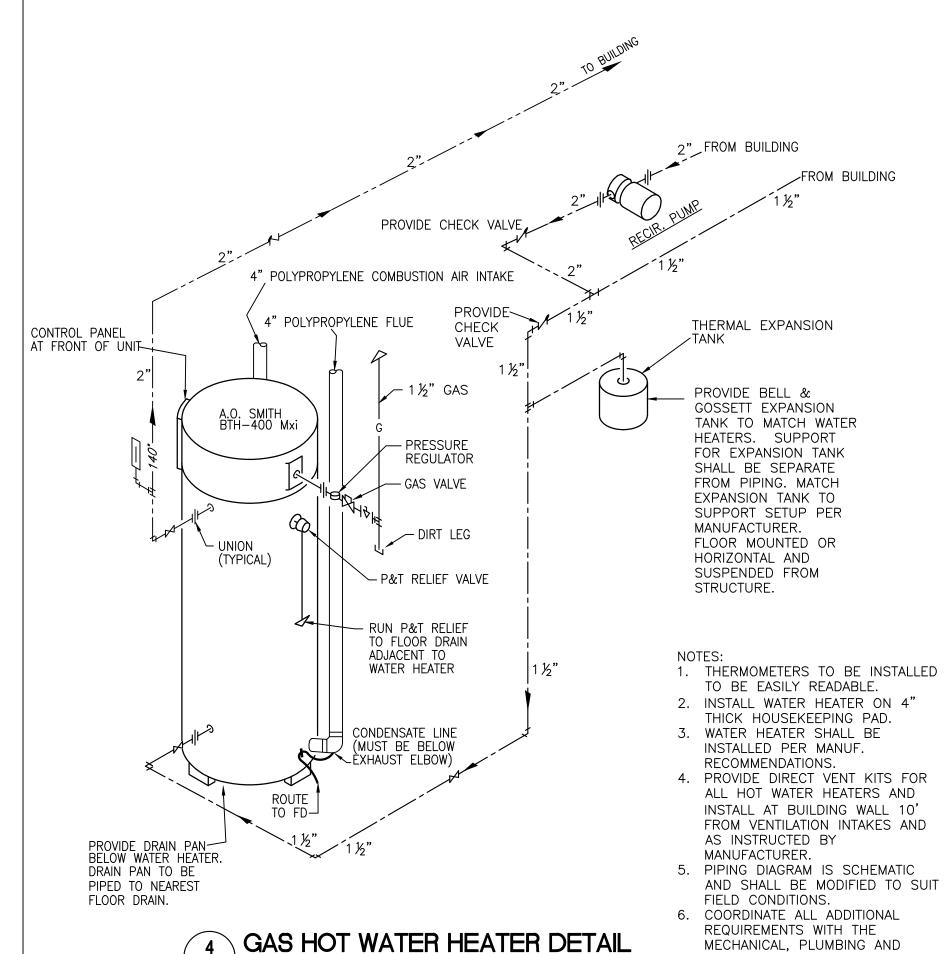
P-2 SCALE: NONE

| | DIMEN | NSIONS AI | ND CLEARANCE | S |
|---------------------|------------------------------------|--|---------------------------------------|--|
| WATER METER TYPE | WATER METER SIZE (INCHES) | LENGTH WATER METER "A" (INCHES) | INSTALLATION HEIGHT ABOVE FLOOR | MINIMUM CLEARANCE PIPE TO WALL (INCHES) |
| DISPLACEMENT | 2" | 17" | 18" MINIMUM, 40" MAXIMUM | 24" |

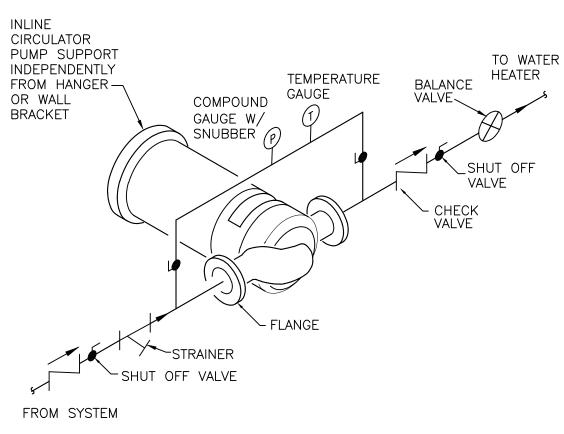
DOMESTIC WATER METER SET AND RPZ TYPE BACKFLOW PREVENTER DETAIL

MECHANICAL, PLUMBING AND

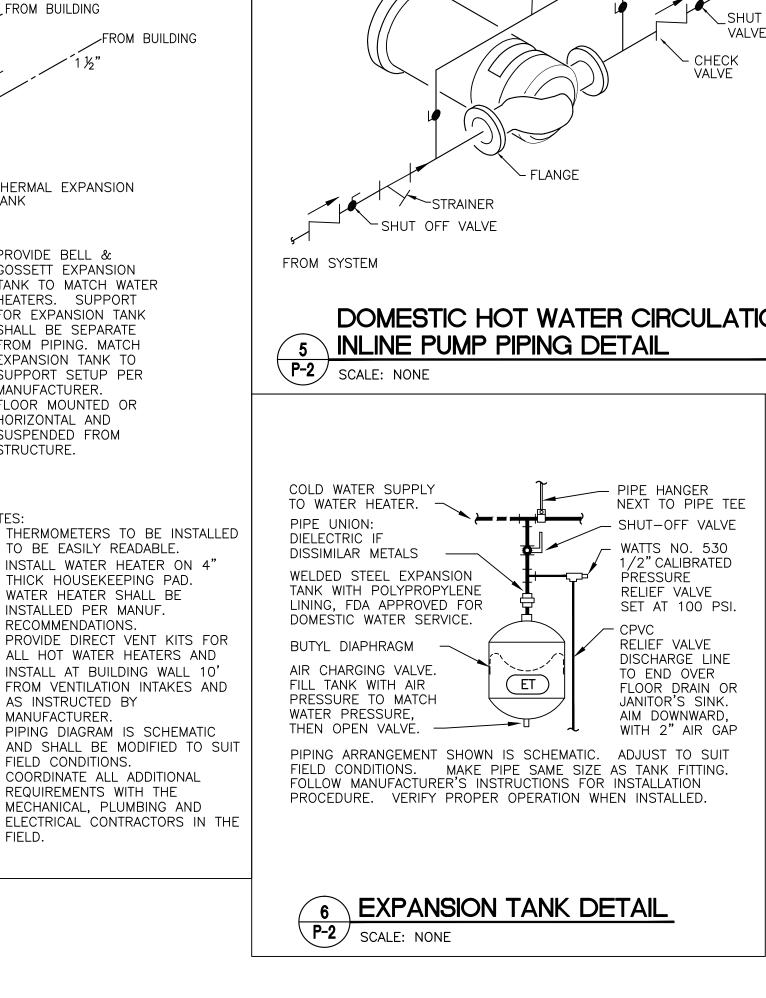
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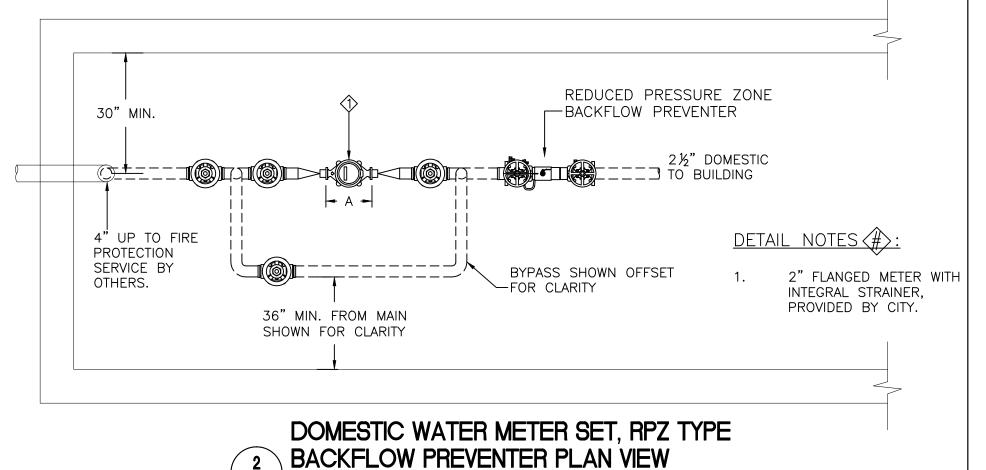


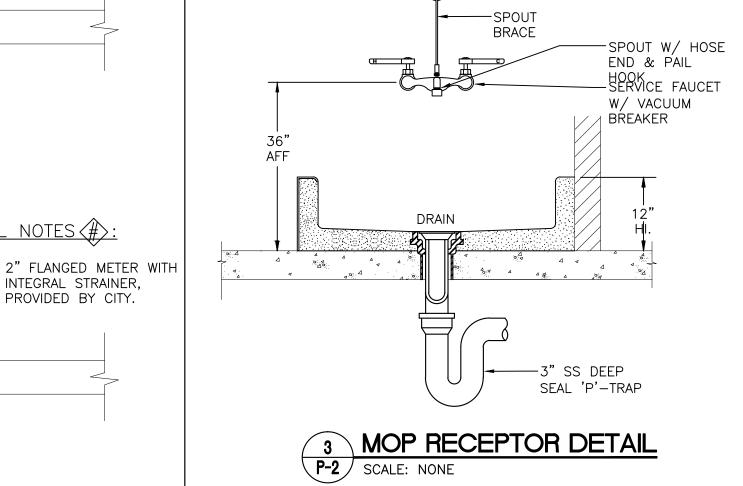
P-2 SCALE: NONE

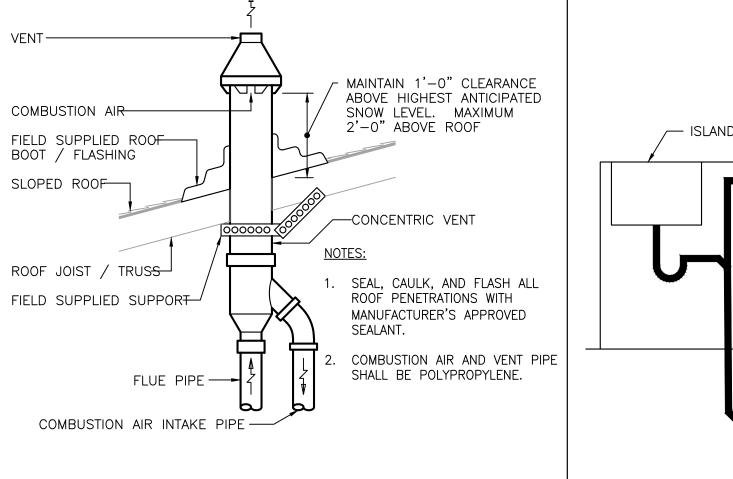


DOMESTIC HOT WATER CIRCULATION





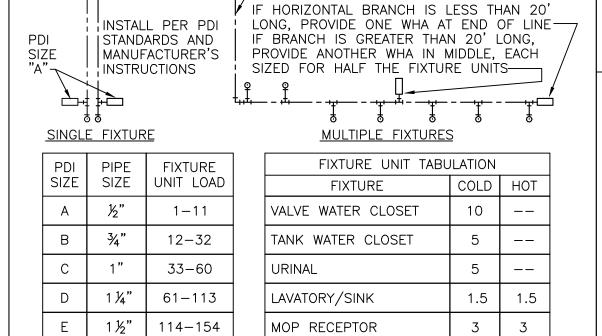




- HOT OR COLD WATER SUPPLY

CONCENTRIC VENT THRU ROOF DETAIL P-2 SCALE: NONE

P-2 SCALE: NONE

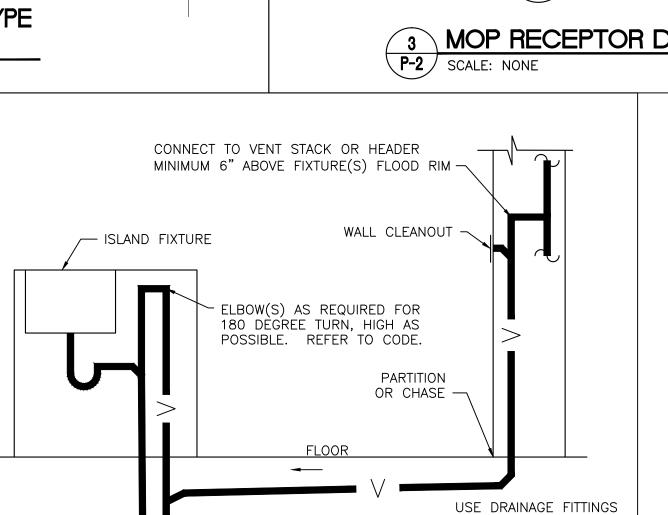


PC TO PROVIDE WATER HAMMER ARRESTERS BY MIFAB, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE.

SHOWER/BATHTUB

154-330

8 WATER HAMMER REQUIREMENTS P-2 SCALE: NONE

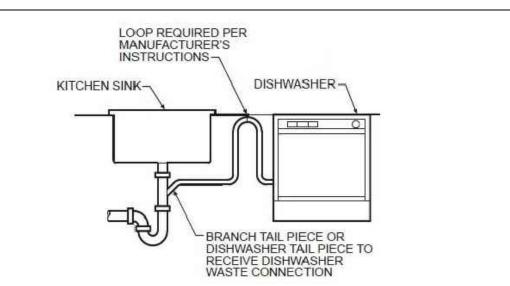


ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST AS REQUIRED TO SUIT ACTUAL CONDITIONS. REFER TO FLOOR PLANS. PROVIDE SIMILAR SEPARATE SYSTEM FOR EACH FIXTURE. REFER TO LOCAL CODE FOR OTHER

SLOPE AT 2%

BELOW FLOOR SLAB

9 ISLAND FIXTURE DETAIL P-2 SCALE: NONE



DISHWASHER SANITARY CONNECTION DETAIL P-2 SCALE: NONE

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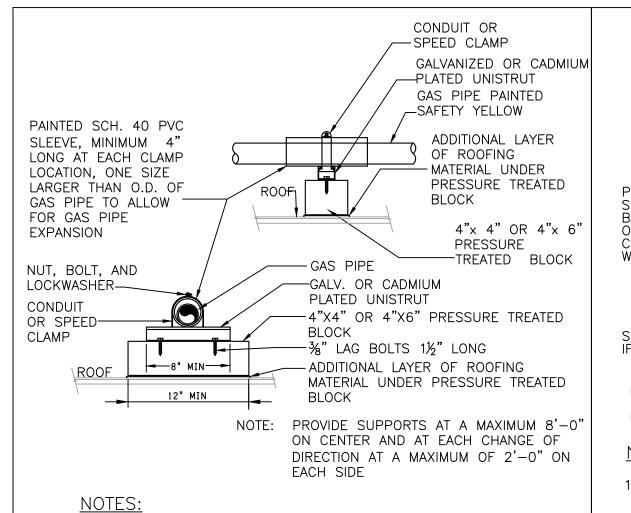
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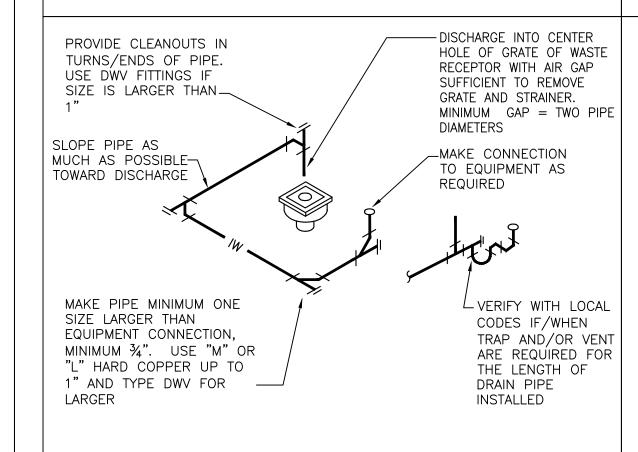
PLUMBING **DETAILS** CONTINUED

SCALE JOB NO. DRAWN DWG. NO. CHECKED CONTRACT NO. DATE 12.22.2017



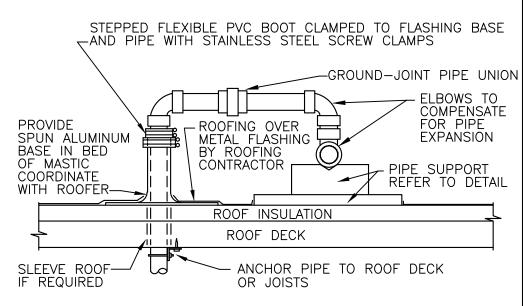
- ALL ROOF GAS PIPING TO BE PAINTED SAFETY YELLOW BY PLUMBING CONTRACTOR.
- 2. IN PLACE OF DETAILS ABOVE PROVIDE HAYDON H-BLOCK SUPPORTS.

1 GAS PIPING SUPPORT DETAIL P-3 SCALE: NONE



NOTE:
ROUTE PIPE INCONSPICUOUSLY AND UNOBTRUSIVELY. HANG PIPE AS REQUIRED. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR ADDITIONAL INFORMATION.

INDIRECT WASTE PIPE AT 6 DRAIN RECEPTOR DETAIL



REFER TO PLANS FOR PIPE SIZE(S) AND LOCATION(S). USE WELDED OR SCREWED FITTINGS AS SPECIFIED FOR PIPE SIZE. LOCATE PENETRATION MINIMUM 18" FROM ADJACENT WALLS.

- ALL ROOF GAS PIPING TO BE PAINTED SAFETY YELLOW BY PLUMBING CONTRACTOR.
- 2. IN PLACE OF DETAIL ABOVE PROVIDE VAULT MODEL AL161010 SMALL VAULT FOR ROOF PENETRATIONS.

QAS PIPING THROUGH ROOF P-3 | SCALE: NONE

- MAIN PIPING

SHUT-OFF

P-3 | SCALE: NONE

- BRANCH

SHUT-OFF VALVE

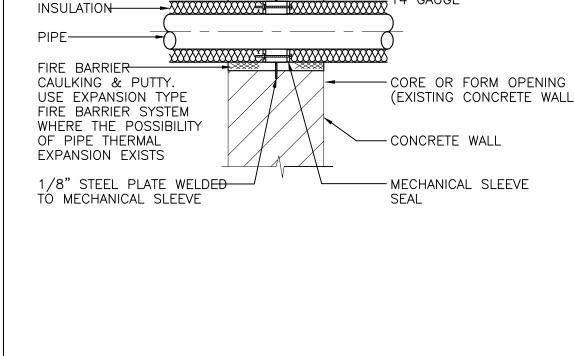
≥ BRANCH

TYP. BRANCH PIPING TAKEOFF DETAIL

TOP OFFSET REQUIRED

ON ALL PIPING TAKEOFFS.

VALVE



ESCUTCHEON -

WHERE EXPOSED

-SHEET METAL SLEEVE -

GREATER THAN 6" PIPE

LESS THAN 3" PIPE =

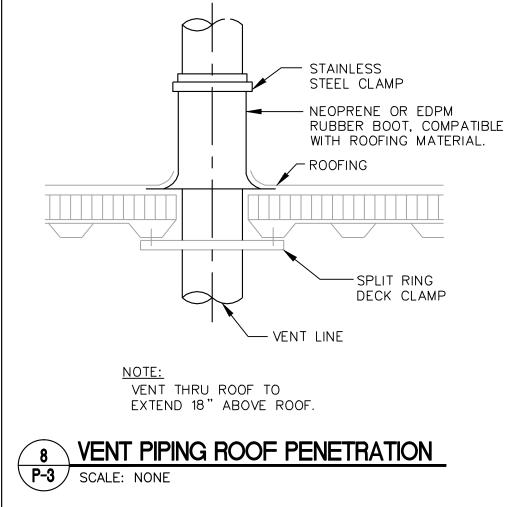
4" TO 6" PIPE =

20 GAUGE

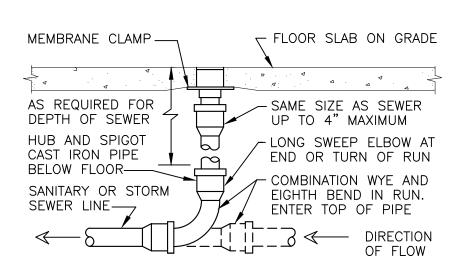
16 GAUGE

4 GAUGE



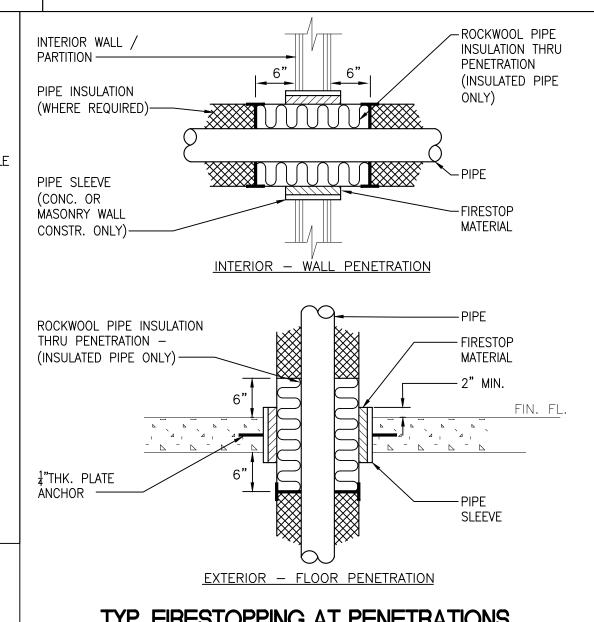


PROVIDE ROUND SECURED NICKEL BRONZE ADJUSTABLE TOP WITH "CO" CAST IN COVER. PROVIDE CLEANOUT TOP WITH VARIATIONS SUITABLE FOR FLOOR COVERING (CARPET MARKER, RECESSED FOR TILE, SCORIATED FOR UNFINISHED FLOORS). PROVIDE BRONZE PLUG IN CAST IRON BODY.

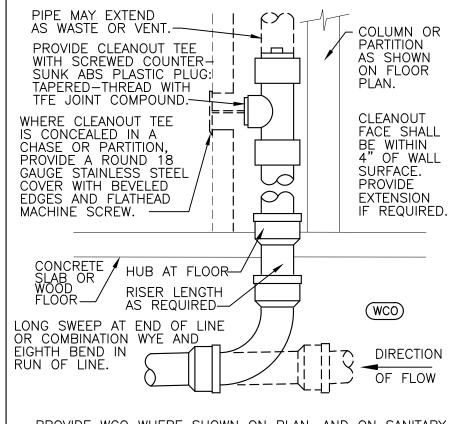


LOCATE AT BUILDING EXIT, AT ENDS OF RUNS, AT TURNS OF PIPE GREATER THAN 45 DEGREES, AT 50' INTERVALS ON STRAIGHT RUNS, AND WHERE SHOWN ON PLANS. PROVIDE BACKFILL PER ARCHITECTURAL SPECIFICATIONS. LOCATE CLEANOUTS WHERE THERE IS 18" CLEAR AROUND. CONSULT LOCAL CODES FOR OTHER FCO REQUIREMENTS.

4 FLOOR CLEANOUT DETAIL P-3 SCALE: NONE

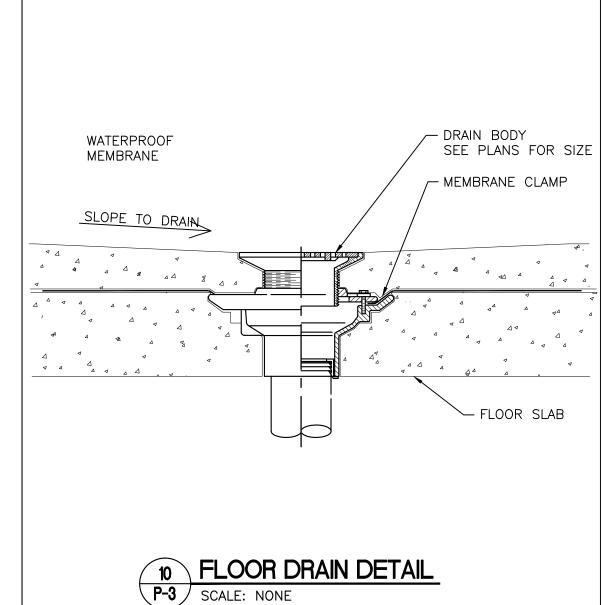


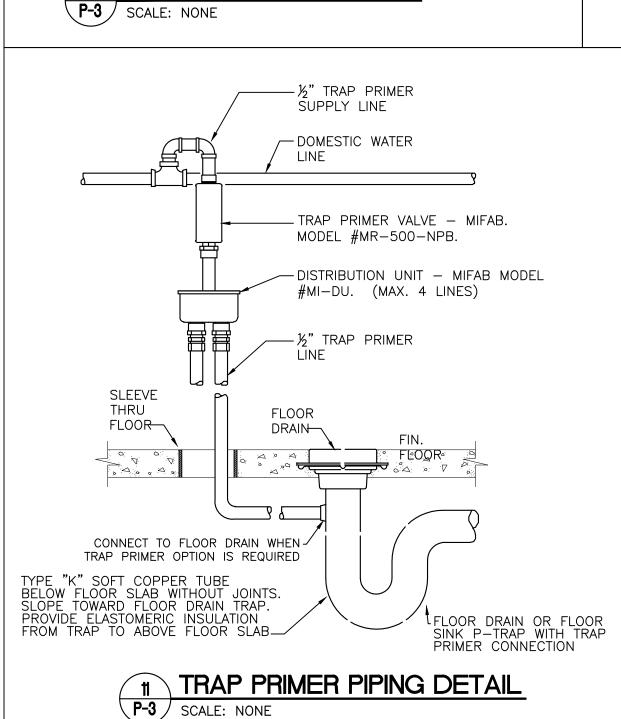
9 (PIPE THRU WALL/FLOOR) DETAIL
P-3 SCALE: NONE

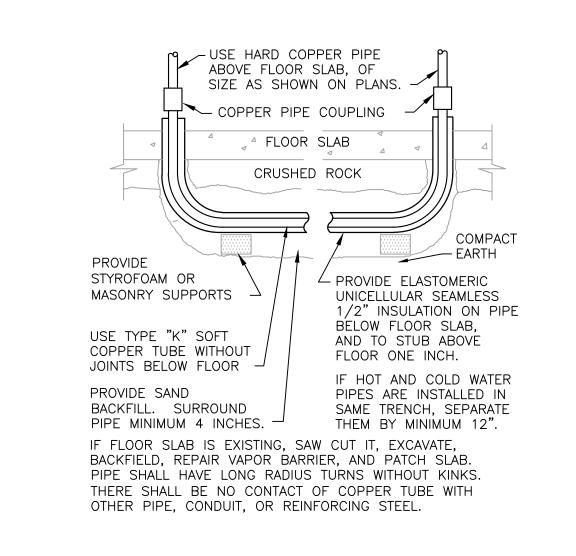


PROVIDE WCO WHERE SHOWN ON PLAN, AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT: LOCATE ABOVE FIXTURE FLOOD RIM WITHIN 4' OF FLOOR. CONSULT LOCAL CODES FOR OTHER WCO REQUIREMENTS.

5 WALL CLEANOUT DETAIL
P-3 SCALE: NONE







WATER PIPING UNDER THE SLAB
SCALE: NONE

GREGORY A. TOMSIC

REGISTERED ARCHITECT

145 BATHURST DR., TONAWANDA, N.Y. 14150

PLUMBING

DETAILS

CONTINUED

REVISION RECORD

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ALTERED, THE ALTERING ARCHITECT OR

AND A SPECIFIC DESCRIPTION OF SUCH

PERSON, UNLESS ACTING UNDER THE DIRECTION

OF A NEW YORK STATE ARCHITECT OR ENGINEER

TO ALTER ANY ITEM ON THIS DOCUMENT IN AN'

ENGINEER SHALL AFFIX TO HIS ITEM HIS SEAL AND

THE NOTATION "ALTERED BY" FOLLOWED BY HIS

SIGNATURE, THE DATE OF SUCH ALTERNATION

Bryant and Stratton

College

Way [53406

20 Warwi Pleasant,

REMARKS

NO. DATE

ALTERATION.

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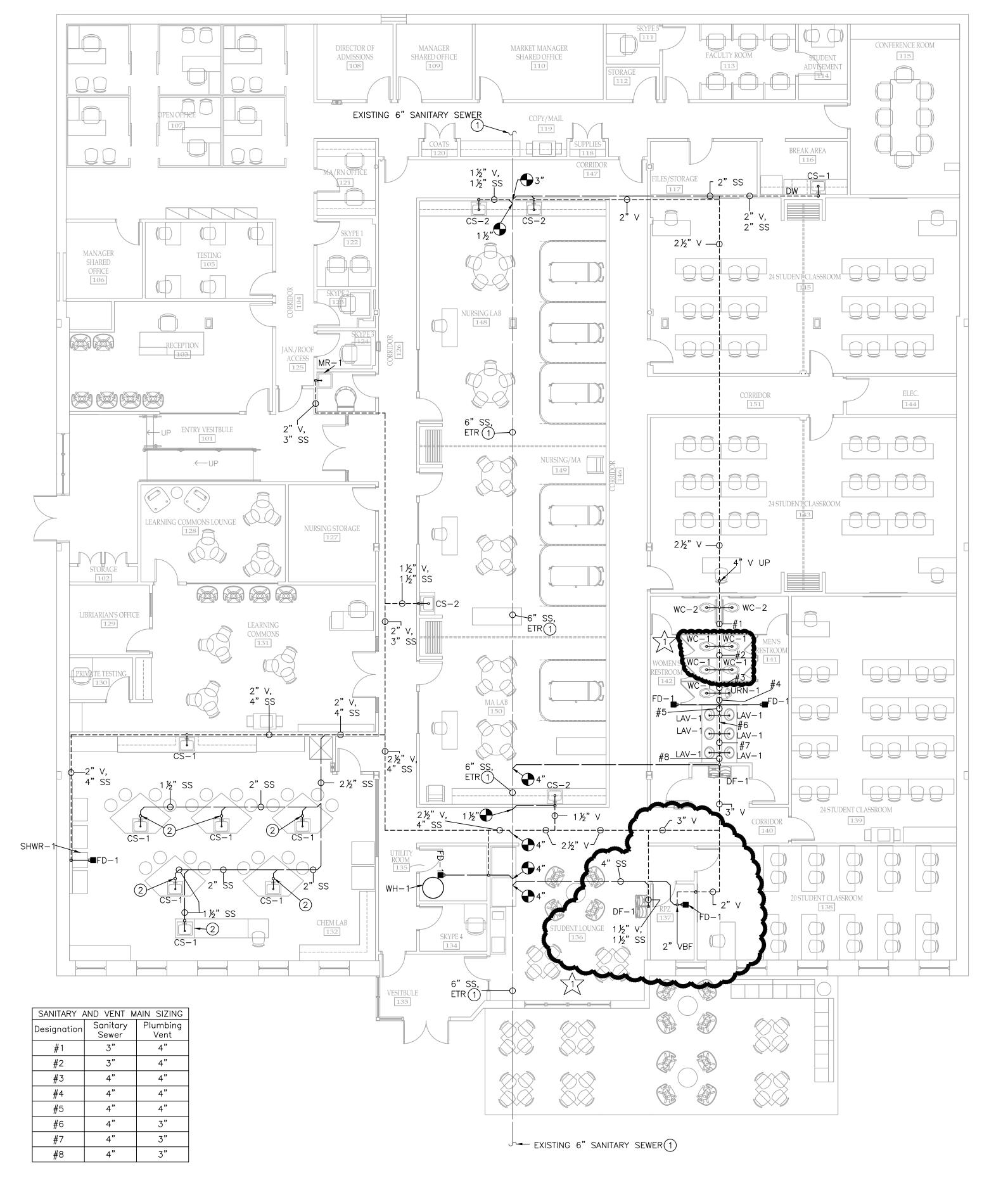
SCALE JOB NO.

DRAWN DWG. NO.

CHECKED P-3

DATE CONTRACT NO.

12.22.2017



SANITARY SEWER FLOOR PLAN P-4 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

- 1. PRIOR TO BIDDING CONTRACTOR TO FIELD VERIFY SIZE AND EXACT LOCATIONS OF ALL ABOVE SLAB AND UNDERSLAB PIPING AND ALL OTHER EXISTING CONDITIONS. ALL EXISTING STORM PIPING IS TO REMAIN. ALL EXISTING DOMESTIC COLD WATER, DOMESTIC HOT WATER, AND NATURAL GAS PIPING IS TO BE REMOVED DURING DEMOLITION.
- 2. EXISTING PIPING INSULATION IS TO REMAIN. REPLACE PIPE INSULATION OF SAME TYPE ON EXISTING PIPING WHICH WAS REMOVED WHILE ABATING ASBESTOS, MAKING NEW PIPE CONNECTIONS, OR REMOVING EXISTING PIPE CONNECTIONS. REINSTALL SPECIFIED INSULATION AS REQUIRED DURING RECONSTRUCTION.
- 3. PLUMBING CONTRACTOR RESPONSIBLE FOR PROPER DISPOSAL OF ALL CONCRETE, PIPING MATERIALS, ETC. OFF-SITE COMPLIANCE WITH ALL LOCAL AND STATE
- 4. PLUMBING CONTRACTOR RESPONSIBLE FOR PATCHING/REPAIR OF CONCRETE FLOOR AND WALL SURFACES TO MATCH EXISTING ARCHITECTURAL FINISHES.
- 5. ALL NEW UNDERSLAB SANITARY SEWER PIPING WILL BE SLOPED DOWN AT 1/8" PER FOOT TO EXISTING SANITARY SEWER.
- 6. ALL NEW PIPING THAT IS TO BE RUN ABOVE THE CEILING SHALL BE COORDINATED WITH ALL OTHER EXISTING WORK/CONDITIONS.
- 7. NOT ALL PIPE SIZES SHOWN. SEE FIXTURE SCHEDULE FOR MAIN CONNECTIONS SIZES. COORDINATE ALL PIPING RUNS WITH POCKET DOORS.
- 8. NOT ALL SHUTOFF VALVES ARE SHOWN. SHUTOFF VALVES FOR ALL FIXTURES DOMESTIC WATER CONNECTIONS SHALL BE LOCATED WHERE THEY ARE ACCESSIBLE. PROVIDE ACCESS DOOR AS REQUIRED PER FIXTURE IF VALVES WILL NOT BE ACCESSIBLE. SEE FIXTURE SCHEDULE FOR PIPE SIZES.
- 9. ALL VENTED FIXTURES ARE TO HAVE THE VENT PIPING CONNECT TO THE SANITARY PIPING ABOVE THE FLOOD RIM. VENT PIPING COMING FROM BELOW THE FLOOR (I.E. TOILET VENTS, FLOOR DRAINS, AND FLOOR SINKS) SHALL COME OFF THE TOP OF THE SANITARY PIPE. FIXTURES THAT ARE VENTED BEFORE SANITARY HEADS BELOW THE FLOOR (I.E. LAVATORIES AND HAND SINKS) SHALL HAVE THE VENT GO UP AND THE SANITARY GO DOWN AT LOCATION INDICATED (UNLESS OTHERWISE NOTED). AIR ADMITTANCE VALVES MAY BE SUBSTITUTED FOR VENTING IN NOTED AREAS.
- 10. BREAKS ARE SHOWN IN THE PIPING (BOTH UNDERSLAB AND ABOVE CEILING) FOR CLARITY ONLY. ALL SYSTEMS SHALL BE INSTALLED IN THEIR ENTIRETY FOR A FULL WORKING SYSTEM.
- 11. SUPPORT ALL PIPING TO ROOF PER WISCONSIN PLUMBING CODE REQUIREMENTS. CEILINGS ARE AT 10'-0" BUT THE ROOF IS APPROXIMATELY 13'-9" ABOVE THAT. COORDINATE ALL PIPING RUNS WITH ALL OTHER TRADES.

PLUMBING DRAWING NOTES

(NOTE: THIS IS A MASTER LIST. NOT EVERY NOTE IS USED ON EVERY DRAWING.)

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- 3. 4" FIRE SERVICE WITH BFP-2 BY FIRE PROTECTION CONTRACTOR. SEE DETAILS #1 AND #2 ON DRAWING P-2. SEE FIRE PROTECTION DRAWINGS FOR CONTINUATION.
- 4. 2½" CW SERVICE WITH BFP-1. SEE DETAILS #1 AND #2 ON DRAWING P-2.
- 5. ISLAND FIXTURES LOCATED IN CHEM / BIO LAB ROOM 150. DROP 2" CW AND 1 1/4" HW PIPING IN WALL WHERE INDICATED AND RUN ALL PIPING IN THE FLOOR AND STUB UP TO FIXTURES.
- 6. PROVIDE 3 HP AIR COMPRESSOR, 208/60/1, CAPABLE OF UP TO 130 PSI, 10.6 CFM, AND SOUND LEVELS UNDER 60 DECIBELS.
- 7. COMBINE 4" AIR INTAKE AND 4" FLUE FOR ONE CONCENTRIC ROOF PENETRATION. CONCENTRIC MUST BE 10'-0" FROM AIR INTAKES/OPERABLE WINDOWS. SEE DETAIL #7 ON DRAWING P-2.
- 8. 1/2" COMPRESSED AIR COPPER PIPING TO DROP DOWN TO HEADWALL AT MEDICAL RAINING BED WITH SHUT OFF VALVE IN RISER. COORDINATE FINAL PIPE DROP LOCATION WITH OWNER AND FINAL CONNECTIONS TO HEADWALL WITH HEADWALL SUPPLIER/INSTALLER.

REVISION RECORD

NO. DATE REMARKS 01.10.2018 ADDENDUM #2

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College

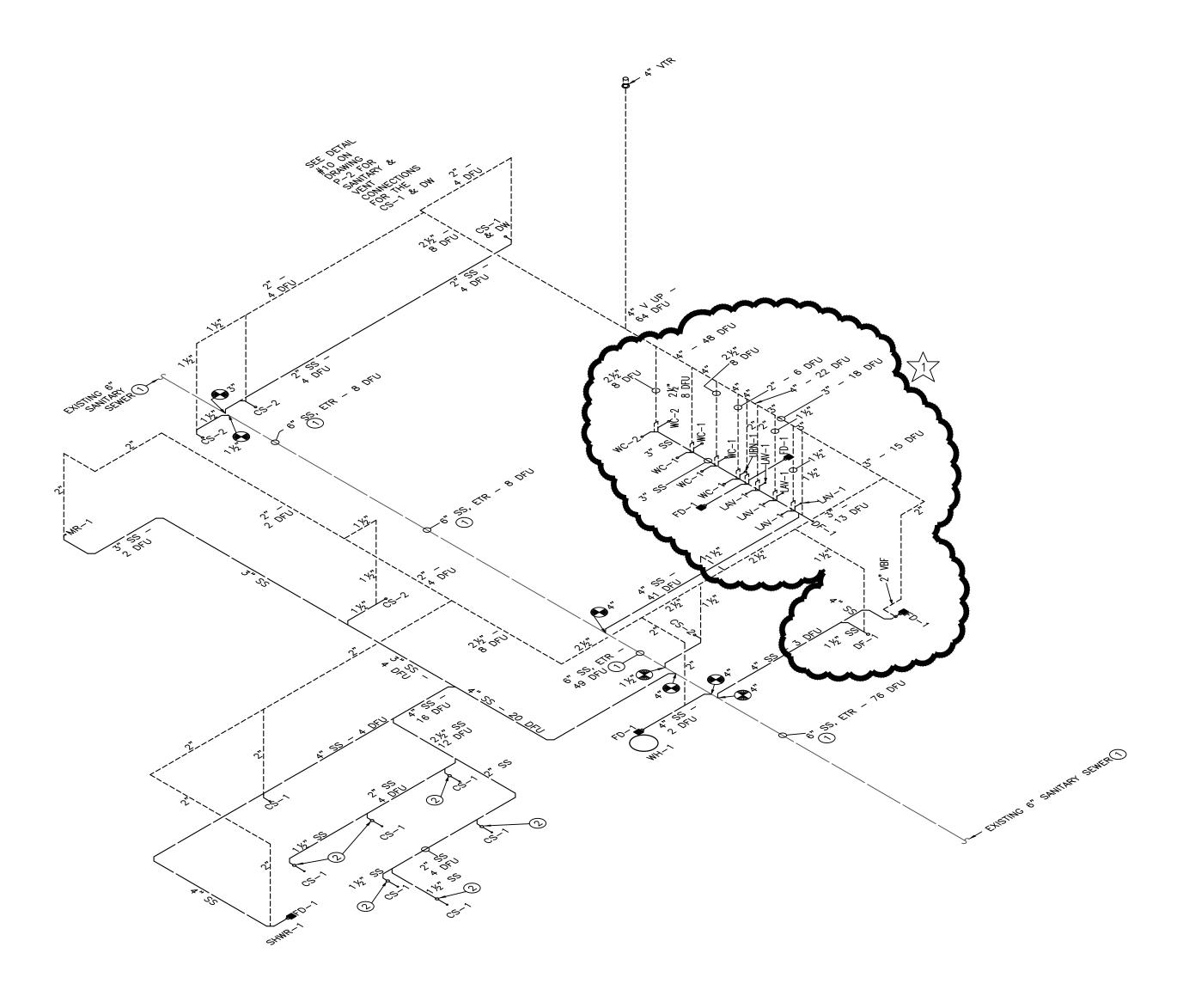
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PLUMBING **SANITARY SEWER** FLOOR PLAN

SCALE JOB NO. DRAWN DWG. NO. P-4 CHECKED CONTRACT NO. DATE 12.22.2017



GENERAL SANITARY NOTES:

- 1. THE MINIMUM PITCH OF HORIZONTAL BRANCH DRAINS 2" OR LESS IN DIAMETER SHALL BE 1/4" PER FOOT.
- 2. THE MINIMUM PITCH OF HORIZONTAL BRANCH DRAINS LARGER THAN 2" IN DIAMETER SHALL BE 1/8" PER FOOT.

SANITARY SEWER + VENT ISOMETRIC P-5 | SCALE: NONE

GENERAL NOTES:

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- 11. SUPPORT ALL PIPING TO ROOF PER WISCONSIN PLUMBING CODE REQUIREMENTS. CEILINGS ARE AT 10'-0" BUT THE ROOF IS APPROXIMATELY 13'-9" ABOVE THAT. COORDINATE ALL PIPING RUNS WITH ALL OTHER TRADES.

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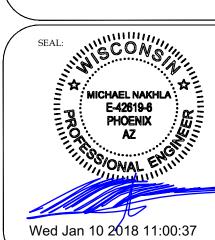
REVISION RECORD

NO. DATE REMARKS 01.10.2018 ADDENDUM #2

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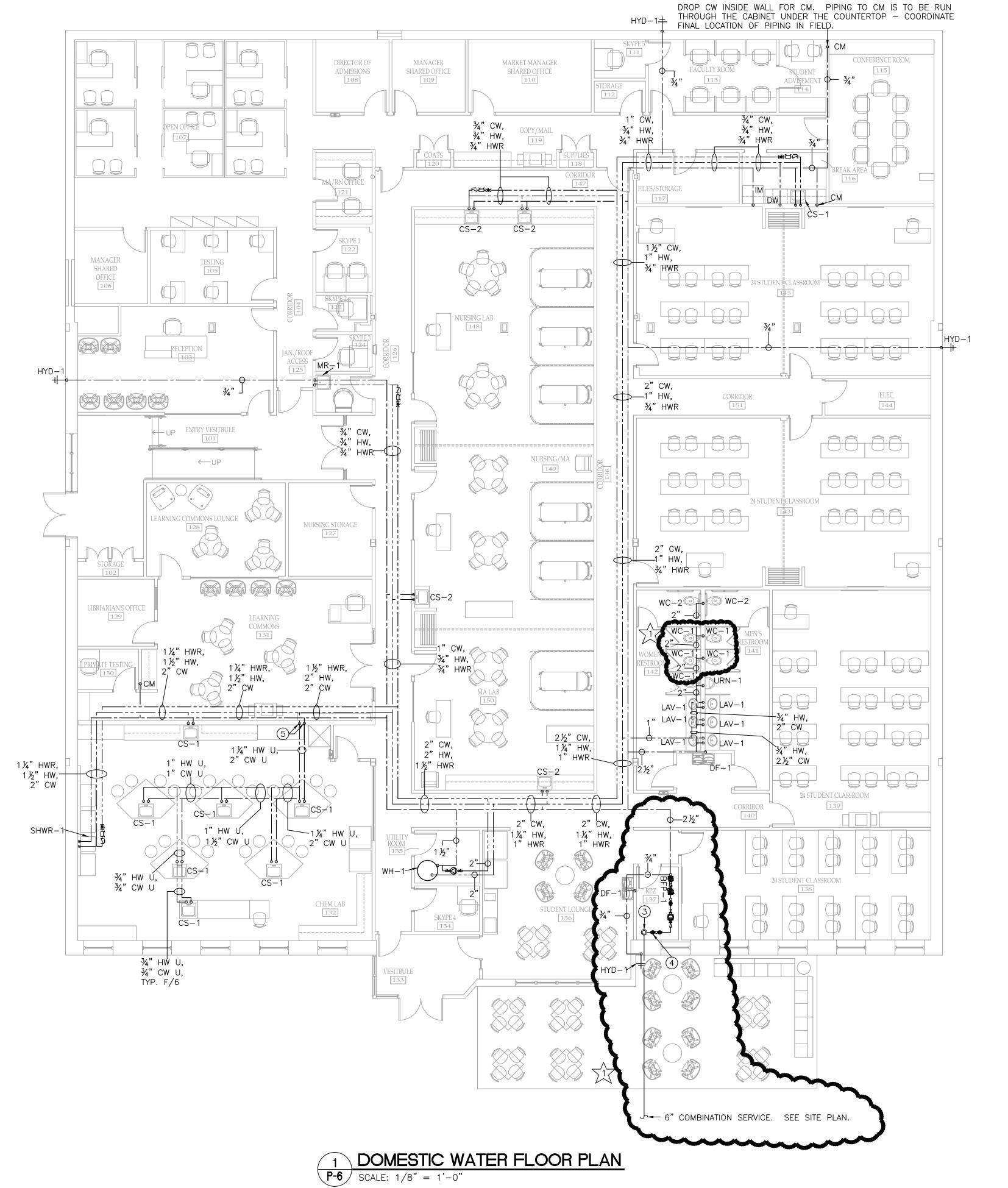
Bryant and Stratton College



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PLUMBING SANITARY SEWER **ISOMETRIC**

| | | / |
|---|------------|--------------|
| | SCALE | JOB NO. |
| | | \ |
| | DRAWN | DWG. NO. |
| | | P-5 |
| | CHECKED | 1 - 5 |
| | | |
|) | DATE | CONTRACT NO. |
| | 12.22.2017 | |



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- 4. $2\frac{1}{2}$ " CW SERVICE WITH BFP-1. SEE DETAILS #1 AND #2 ON DRAWING P-2.
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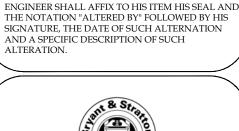
REVISION RECORD

NO. DATE REMARKS

01.10.2018 ADDENDUM #2

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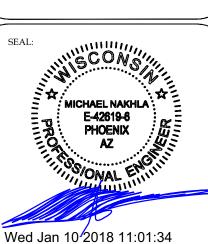
ALTERED, THE ALTERING ARCHITECT OR





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1320 Warwick Way Mt. Pleasant, WI 534

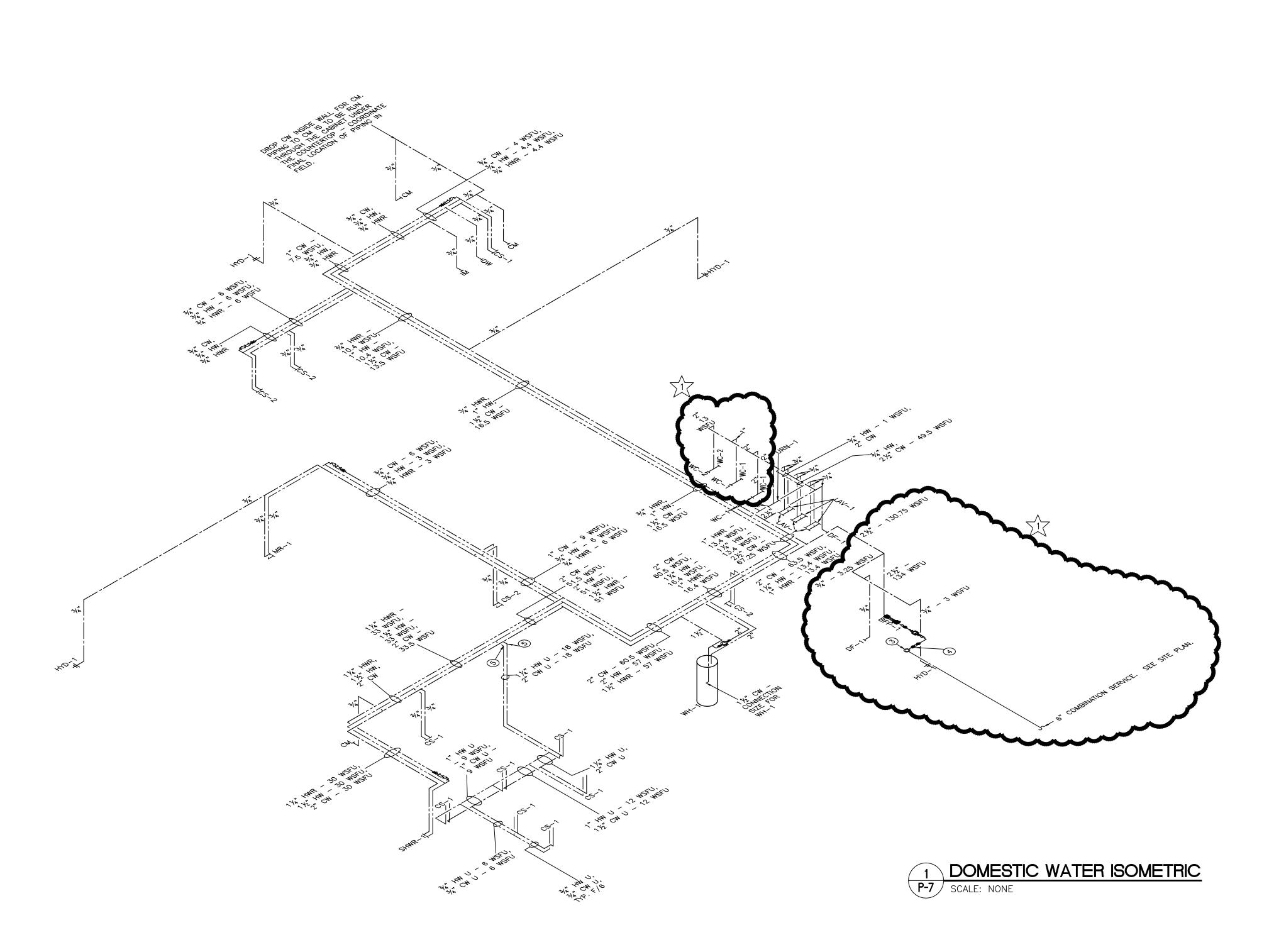


BR

PLUMBING DOMESTIC WATER FLOOR PLAN

REGISTERED ARCHITECT
145 BATHURST DR., TONAWANDA, N.Y. 14150

| SCALE | JOB NO. |
|--------------------|---------------------|
| DRAWN | DWG. NO. P-6 |
| CHECKED | 1'-0 |
| DATE 12.22.2017 | CONTRACT NO. |



GENERAL NOTES:

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REVISION RECORD

NO. DATE REMARKS

01.10.2018 ADDENDUM #2

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COLLEGE

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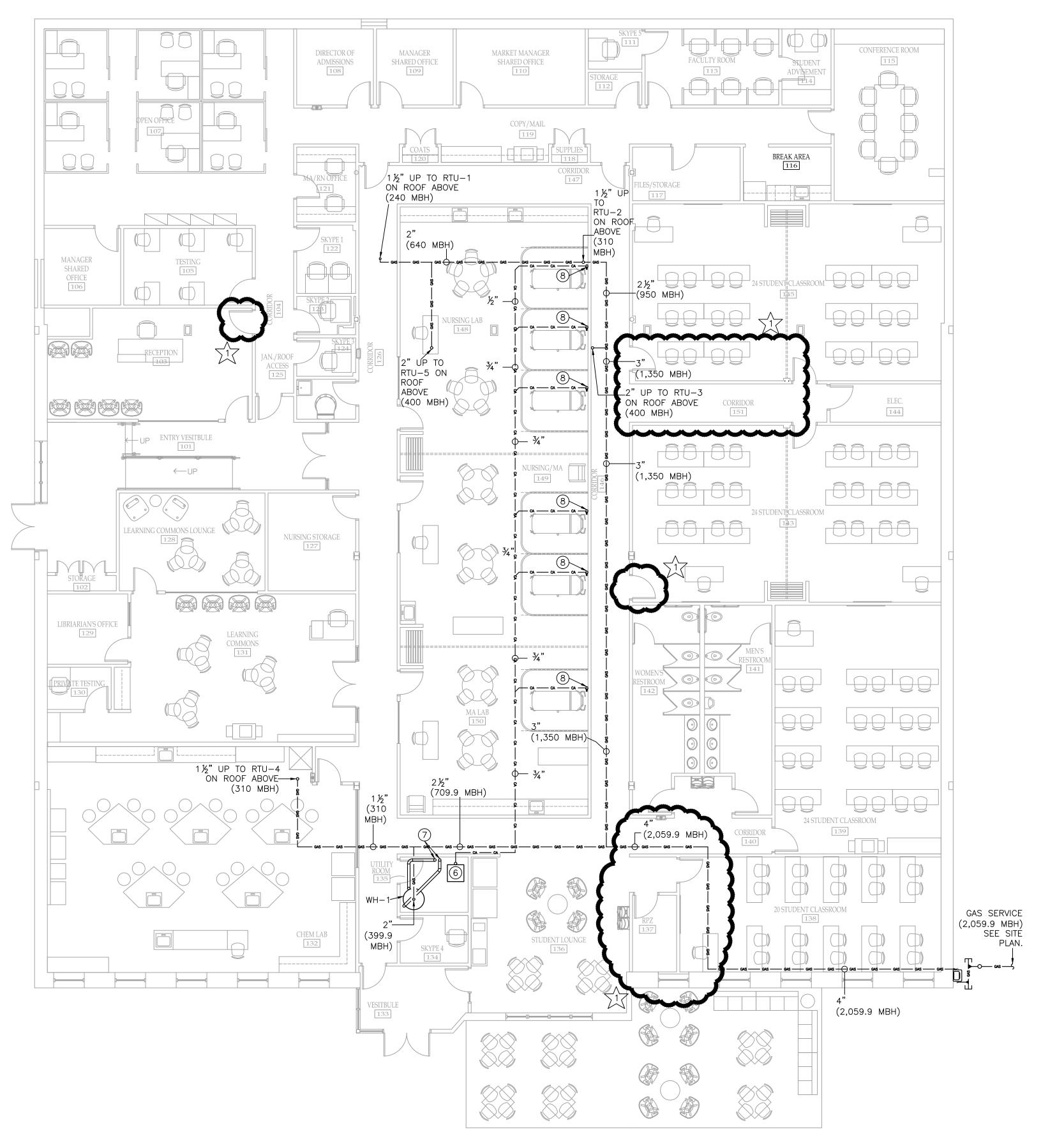
MICHAEL NAKHLA
E-42619-6
PHOENIX
AZ

Wed Jan 10 2018 11:01:06

PLUMBING DOMESTIC WATER ISOMETRIC

REGISTERED ARCHITECT

| SCALE | JOB NO. |
|--------------------|--------------|
| DRAWN | DWG. NO. P-7 |
| CHECKED | 1 -/ |
| DATE 12.22.2017 | CONTRACT NO. |



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- 8. NOT ALL SHUTOFF VALVES ARE SHOWN. SHUTOFF VALVES FOR ALL FIXTURES DOMESTIC WATER CONNECTIONS SHALL BE LOCATED WHERE THEY ARE ACCESSIBLE. PROVIDE ACCESS DOOR AS REQUIRED PER FIXTURE IF VALVES WILL NOT BE ACCESSIBLE. SEE FIXTURE SCHEDULE FOR PIPE SIZES.
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- 10. BREAKS ARE SHOWN IN THE PIPING (BOTH UNDERSLAB AND ABOVE CEILING) FOR CLARITY ONLY. ALL SYSTEMS SHALL BE INSTALLED IN THEIR ENTIRETY FOR A FULL WORKING SYSTEM.
- 11. SUPPORT ALL PIPING TO ROOF PER WISCONSIN PLUMBING CODE REQUIREMENTS. CEILINGS ARE AT 10'-0" BUT THE ROOF IS APPROXIMATELY 13'-9" ABOVE THAT. COORDINATE ALL PIPING RUNS WITH ALL OTHER TRADES.

PLUMBING DRAWING NOTES

(NOTE: THIS IS A MASTER LIST. NOT EVERY NOTE IS USED ON EVERY DRAWING.)

- POSSIBLE SANITARY MAIN LOCATION. CONTRACTOR TO VERIFY SIZE, LOCATION, AND INVERTS IN FIELD. ALL SANITARY PIPING SHOWN ON DRAWINGS SHALL BE ADJUSTED AS NECESSARY TO CONNECT TO EXISTING MAIN PER CODE. SEE GENERAL NOTE #1.
- 2. PROVIDE 2" STUDOR AIR ADMITTANCE VALVE FOR VENTING OF FIXTURE. VALVE SHALL BE PLACED ABOVE THE FLOOD RIM OF THE FIXTURE. SEE GENERAL NOTES. SHOULD AIR ADMITTANCE VALVES NOT BE PERMITTED, SEE DETAIL #9 ON DRAWING P-2.
- 4" FIRE SERVICE WITH BFP-2 BY FIRE PROTECTION CONTRACTOR. SEE DETAILS #1 AND #2 ON DRAWING P-2. SEE FIRE PROTECTION DRAWINGS FOR CONTINUATION.
- 4. $2\frac{1}{2}$ " CW SERVICE WITH BFP-1. SEE DETAILS #1 AND #2 ON DRAWING P-2.
- 5. ISLAND FIXTURES LOCATED IN CHEM / BIO LAB ROOM 150. DROP 2" CW AND 1 $\frac{1}{4}$ " HW PIPING IN WALL WHERE INDICATED AND RUN ALL PIPING IN THE FLOOR AND STUB UP TO FIXTURES.
- 6. PROVIDE 3 HP AIR COMPRESSOR, 208/60/1, CAPABLE OF UP TO 130 PSI, 10.6 CFM, AND SOUND LEVELS UNDER 60 DECIBELS.
- 7. COMBINE 4" AIR INTAKE AND 4" FLUE FOR ONE CONCENTRIC ROOF PENETRATION. CONCENTRIC MUST BE 10'-0" FROM AIR INTAKES/OPERABLE WINDOWS. SEE DETAIL #7 ON DRAWING P-2.
- 8. ½" COMPRESSED AIR COPPER PIPING TO DROP DOWN TO HEADWALL AT MEDICAL TRAINING BED WITH SHUT OFF VALVE IN RISER. COORDINATE FINAL PIPE DROP LOCATION WITH OWNER AND FINAL CONNECTIONS TO HEADWALL WITH HEADWALL SUPPLIER/INSTALLER.

REVISION RECORD

NO. DATE REMARKS

01.10.2018 ADDENDUM #2

7 01.10.2018 | ADDENDUM #2

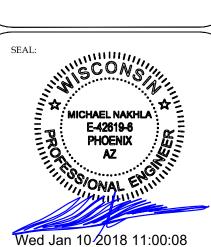
PERSON, UNLESS ACTING UNDER THE DIRECTION OF A NEW YORK STATE ARCHITECT OR ENGINEER, TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY, IF ANY ITEM ON THIS DOCUMENT IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO HIS ITEM HIS SEAL AN THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE, THE DATE OF SUCH ALTERNATION AND A SPECIFIC DESCRIPTION OF SUCH ALTERATION.

IT IS A VIOLATION OF STATE LAW FOR ANY



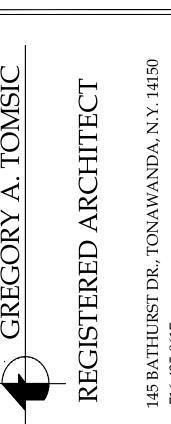
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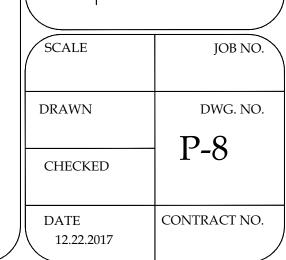
1320 Warwick Way Mt. Pleasant, WI 53406



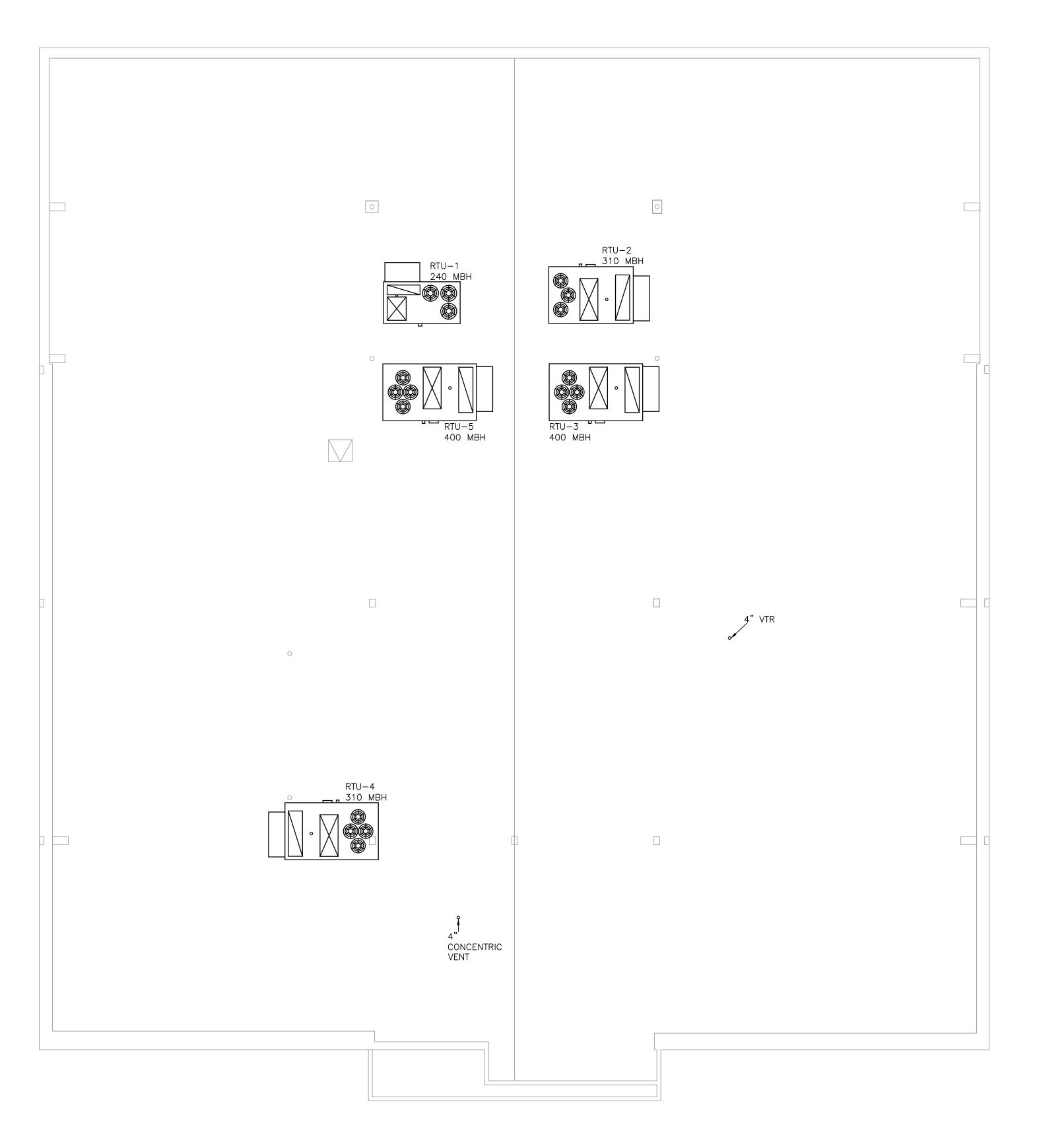
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PLUMBING NATURAL GAS FLOOR PLAN











- 1. PRIOR TO BIDDING CONTRACTOR TO FIELD VERIFY SIZE AND EXACT LOCATIONS OF ALL ABOVE SLAB AND UNDERSLAB PIPING AND ALL OTHER EXISTING CONDITIONS. ALL EXISTING STORM PIPING IS TO REMAIN. ALL EXISTING DOMESTIC COLD WATER, DOMESTIC HOT WATER, AND NATURAL GAS PIPING IS TO BE REMOVED DURING DEMOLITION.
- 2. EXISTING PIPING INSULATION IS TO REMAIN. REPLACE PIPE INSULATION OF SAME TYPE ON EXISTING PIPING WHICH WAS REMOVED WHILE ABATING ASBESTOS, MAKING NEW PIPE CONNECTIONS, OR REMOVING EXISTING PIPE CONNECTIONS. REINSTALL SPECIFIED INSULATION AS REQUIRED DURING RECONSTRUCTION.
- 3. PLUMBING CONTRACTOR RESPONSIBLE FOR PROPER DISPOSAL OF ALL CONCRETE, PIPING MATERIALS, ETC. OFF—SITE COMPLIANCE WITH ALL LOCAL AND STATE CODES
- 4. PLUMBING CONTRACTOR RESPONSIBLE FOR PATCHING/REPAIR OF CONCRETE FLOOR AND WALL SURFACES TO MATCH EXISTING ARCHITECTURAL FINISHES.
- 5. ALL NEW UNDERSLAB SANITARY SEWER PIPING WILL BE SLOPED DOWN AT 1/8" PER FOOT TO EXISTING SANITARY SEWER.
- 6. ALL NEW PIPING THAT IS TO BE RUN ABOVE THE CEILING SHALL BE COORDINATED WITH ALL OTHER EXISTING WORK/CONDITIONS.

NOT BE ACCESSIBLE. SEE FIXTURE SCHEDULE FOR PIPE SIZES.

- 7. NOT ALL PIPE SIZES SHOWN. SEE FIXTURE SCHEDULE FOR MAIN CONNECTIONS SIZES. COORDINATE ALL PIPING RUNS WITH POCKET DOORS.
- 8. NOT ALL SHUTOFF VALVES ARE SHOWN. SHUTOFF VALVES FOR ALL FIXTURES DOMESTIC WATER CONNECTIONS SHALL BE LOCATED WHERE THEY ARE ACCESSIBLE. PROVIDE ACCESS DOOR AS REQUIRED PER FIXTURE IF VALVES WILL
- 9. ALL VENTED FIXTURES ARE TO HAVE THE VENT PIPING CONNECT TO THE SANITARY PIPING ABOVE THE FLOOD RIM. VENT PIPING COMING FROM BELOW THE FLOOR (I.E. TOILET VENTS, FLOOR DRAINS, AND FLOOR SINKS) SHALL COME OFF THE TOP OF THE SANITARY PIPE. FIXTURES THAT ARE VENTED BEFORE SANITARY HEADS BELOW THE FLOOR (I.E. LAVATORIES AND HAND SINKS) SHALL HAVE THE VENT GO UP AND THE SANITARY GO DOWN AT LOCATION INDICATED (UNLESS OTHERWISE NOTED). AIR ADMITTANCE VALVES MAY BE SUBSTITUTED FOR VENTING IN NOTED AREAS.
- 10. BREAKS ARE SHOWN IN THE PIPING (BOTH UNDERSLAB AND ABOVE CEILING) FOR CLARITY ONLY. ALL SYSTEMS SHALL BE INSTALLED IN THEIR ENTIRETY FOR A FULL WORKING SYSTEM.
- 11. SUPPORT ALL PIPING TO ROOF PER WISCONSIN PLUMBING CODE REQUIREMENTS. CEILINGS ARE AT 10'-0" BUT THE ROOF IS APPROXIMATELY 13'-9" ABOVE THAT. COORDINATE ALL PIPING RUNS WITH ALL OTHER TRADES.

PLUMBING DRAWING NOTES #):

(NOTE: THIS IS A MASTER LIST. NOT EVERY NOTE IS USED ON EVERY DRAWING.)

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- 2. PROVIDE 2" STUDOR AIR ADMITTANCE VALVE FOR VENTING OF FIXTURE. VALVE SHALL BE PLACED ABOVE THE FLOOD RIM OF THE FIXTURE. SEE GENERAL NOTES. SHOULD AIR ADMITTANCE VALVES NOT BE PERMITTED, SEE DETAIL #9 ON DRAWING P-2.
- 3. 4" FIRE SERVICE WITH BFP-2 BY FIRE PROTECTION CONTRACTOR. SEE DETAILS #1 AND #2 ON DRAWING P-2. SEE FIRE PROTECTION DRAWINGS FOR CONTINUATION.
- 4. 2½" CW SERVICE WITH BFP-1. SEE DETAILS #1 AND #2 ON DRAWING P-2.
- 5. ISLAND FIXTURES LOCATED IN CHEM / BIO LAB ROOM 150. DROP 2" CW AND 1 ¼" HW PIPING IN WALL WHERE INDICATED AND RUN ALL PIPING IN THE FLOOR AND STUB UP TO FIXTURES.
- 6. PROVIDE 3 HP AIR COMPRESSOR, 208/60/1, CAPABLE OF UP TO 130 PSI, 10.6 CFM, AND SOUND LEVELS UNDER 60 DECIBELS.
- 7. COMBINE 4" AIR INTAKE AND 4" FLUE FOR ONE CONCENTRIC ROOF PENETRATION. CONCENTRIC MUST BE 10'-0" FROM AIR INTAKES/OPERABLE WINDOWS. SEE DETAIL #7 ON DRAWING P-2.
- 8. ½" COMPRESSED AIR COPPER PIPING TO DROP DOWN TO HEADWALL AT MEDICAL TRAINING BED WITH SHUT OFF VALVE IN RISER. COORDINATE FINAL PIPE DROP LOCATION WITH OWNER AND FINAL CONNECTIONS TO HEADWALL WITH HEADWALL SUPPLIER/INSTALLER.

NO. DATE REMARKS

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yant and Stratton College

COLLEGE
1320 Warwick Way
Mt Pleasant WI 5340

SEAL:

PLUMBING ROOF PLAN

REGISTERED ARCHITECT
145 BATHURST DR., TONAWANDA, N.Y. 14150

SCALE JOB NO.

DRAWN DWG. NO.

P-9

CHECKED CONTRACT NO.

12.22.2017

P-9 SCALE: 1/8" = 1'-0"

1.01 SUMMARY

A. The Contractor shall provide the building plumbing systems as shown on the drawings, as specified in this Section, and as needed for a complete installation including, but not necessarily limited to:

- Applications and fees for all plumbing permits, services, and interim and final inspections.
- Temporary water provisions as required for construction purposes.
- Excavation and backfill for plumbing systems work.
- Concrete pads and pits as may be required for plumbing systems work.
- Domestic hot and cold water piping systems, including backflow preventer.
- Drain, waste, and vent systems. Gas piping system.
- Storm piping system.
- Plumbing fixtures and trim.
- Cathodic and dielectric protection
- Accessory plumbing devices including but not necessarily limited to hangers, supports, inserts and valves. Access panels and boxes for Contractor—provided valves.
- Piping insulation.
- 14. Cutting and patching 15. Final gas connections to HVAC equipment.
- Painting of exposed piping.
- 17. Sterilization of the potable water system. 18. Seismic Restraints (as may be required by the local jurisdiction).
- 19. Testing, adjusting and balancing.

B. The Contractor shall include the cost of applications and fees for all plumbing permits, services, and interim and final inspections in the Base Bid.

1.02 SUBMITTALS:

The Contractor shall submit Plumbing Fixture Product Data for review by the Architect/Engineer. Any Request for Product Substitution must be submitted one week prior to bid submission.

1.03 QUALITY ASSURANCE:

Codes and Regulations:

All materials, apparatus, and equipment and the installation thereof shall comply with all state and county ordinances and all other governmental and/or private authorities having jurisdiction, and shall comply with all county and state laws, rules, and regulations, as well as rules and regulations of the National Board of Fire Underwriters, and the Plumbing Code having jurisdiction. In the event of conflict between or among specified requirements and pertinent regulations, the more stringent requirement will govern and shall be provided at no additional cost to the owner.

Drawings and Coordination:

Construction drawings shall be considered as a part of the work, insofar as the drawings furnish the Contractor with information relating to design and construction of the building. Because of the scale of the mechanical drawings, it is not possible to indicate all offsets, fittings, and accessories which may be required to meet such conditions.

The plumbing drawings show the general arrangements of all piping, ductwork, equipment, etc., and shall NOT BE SCALED. This work shall be coordinated with ALL trades. Critical locations are dimensioned on the drawings; if a conflict arises, the Contractor shall notify the owner and the Architect/ Engineer immediately for clarification.

The Contractor shall verify the dimensions governing the plumbing systems work in the building. No extra compensation shall be claimed or allowed on account of differences between actual dimensions and those indicated on the drawings. The Contractor shall examine adjoining work, on which mechanical work is dependent for proper operation, and shall report any work which must be corrected. No waiver of responsibility for defective work shall be claimed or allowed due to any failure to report unfavorable conditions affecting the plumbing systems work.

1.04 WARRANTY/ CLOSEOUT DOCUMENTS:

Manufacturer's Warranty: The Contractor shall provide the manufacturer's standard product warranty.

Installer's Warranty: The Contractor shall include a copy of the Subcontractor's Warranty for all work provided under the contract for construction for a term of 1 year after the Date of Substantial Completion.

Warranties shall be included in the Building Maintenance Manuals submitted to the owner after the Date of Final Completion.

Sterilization Certificate of Performance: Upon completion of the water line sterilization, the Contractor shall deliver a copy of an acceptable sterilization "Certificate of Performance" to the owner. This Sterilization Certificate of Performance shall additionally be included in the Building Maintenance Manuals submitted to the Construction Project Manager after the Date of Final Completion, as further described in this section.

Project Record Drawings: The Contractor shall record all changes as the work progresses on a set of project record drawings kept at the job site, and shall provide record drawings to the Construction Project Manager after the Date of Substantial Completion.

PART 2 PRODUCTS

2.01 GENERAL

The word piping shall mean pipe, fittings, nipples, valves, etc. completely assembled.

2.02 DOMESTIC WATER SYSTEM:

No domestic water filled piping shall run in unheated spaces such as attics. Piping shall be fed from the floor below and run in walls to avoid exposure to below 40 degree temperatures.

Water Lines:

Copper: Type "L" hard drawn, per ASTM B88-7, for all water pipe above concrete or ground.

Copper: Type "K" hard drawn, per ASTM B88-7, for water pipe set in or under concrete or in the ground. Wrap lines below concrete Hose Bibs: Provide as scheduled and detailed on the Drawings. floors with 5 mils polyethylene tape with joints overlapped 25% minimum, and insulate with Armaflex insulation. No fittings shall be under the slab.

Fittings: Wrought copper, per ANSI B16.18 and B16.22.

Identification: Color identify pipe with size of pipe manufacturer's trademark, and conform to the following schedule:

Type "K" Copper - Green Type "L" Copper - Blue

PEX Water Lines:

Uponor PEX—a Tubing: Tubing to be per ASTM F876 and ASTM F877, Uponor AQUAPEX, for all water pipe above or below concrete or ground, all sizes below 3". Fittings: Fitting assembly is manufactured from material listed in paragraph 5.1 of ASTM F1960. All fitting material is to comply with ASTM F1960. Type: PEX—a cold expansion fitting. Assembly consists of the appropriate ProPEX insert with a corresponding ProPEX Ring. PEX Manifold: Material: Type L copper body with UNS 3600 series brass ProPEX outlet connections or Engineered Plastic (EP) body with ProPEX outlet connections. Manifold Type: Uponor ProPEX 1" Copper Manifold or Uponor engineered plastic (EP) Manifold. All manifolds manufactured with the appropriate—sized ProPEX fittings on the manifold supply inlets.

Specification for CPVC Hot and Cold Water Commercial Systems (with piping components ½" - 6"):

All pipe and fittings to be manufactured from CPVC compound with a cell class of 24448 for pipe and 23447 for fittings as per ASTM D-1784 and conform with National Sanitation Foundation (NSF) standards 14 and 61.

3" through 2" sizes: FlowGuard Gold® CPVC Copper Tube Size mfg. to standard dimension ratio (SDR) 11 and shall conform to ASTM D-2846. Transition fittings to have brass male or female connections with integral CPVC socket connections as mfg. by Charlotte Pipe and Foundry Co.

3" through 6" sizes: Corzan® CPVC Schedule 80 iron pipe size (IPS). Pipe shall conform to ASTM F-441. Socket type fittings shall conform to ASTM F-439. Transition to metal piping to be made using 150# flanged connections.

All pipe and fittings to be produced by a single manufacturer and to be installed in accordance with manufacturer's recommendations and local code requirements. FlowGuard Gold to be joined using approved one—step solvent cement conforming to ASTM F-493. Corzan to be installed using approved solvent cement conforming to ASTM F-493 and primer conforming to ASTM F-656. Pipe and fittings to be manufactured by Charlotte Pipe and Foundry Co. and are intended for hot and cold domestic water distribution systems.

2.03 SANITARY/STORM DRAINAGE SYSTEM:

No stormwater filled piping shall run in unheated spaces such as attics without heat trace protection.

Waste & Vent Lines:

Sanitary/Storm piping to be either cast iron or copper. Where allowable by local and national codes, plastic DWV piping may be used under slab and where concealed by walls. Copper or cast piping shall be utilized for sanitary/storm and vent piping above ceiling spaces and where otherwise exposed and within plenum areas.

Cast Iron — Aboveground: Provide cast iron no—hub soil and vent pipe, coated inside and out, conforming to CISPI 301—69T Specifications, for all soil and waste lines above ground and for all vent lines with inside diameter 2 inches and larger. Standard weight soil and waste fittings will be accepted throughout. Pipe shall conform to CISPI Standard 301.

Cast Iron — Under Building: Service weight cast iron pipe with bell and spigot joints and fittings. Underground pipe may be installed with "Tyseal" gaskets as specified hereinafter.

2.04 GAS PIPING SYSTEM:

Provide Schedule 40 black steel pipe conforming to ASTM A120 and A53 with extra—heavy malleable iron banded thread fittings. Unions shall minimum), taped and tacked fastened. be ground iron to bronze seat. Plug valves shall be Rockwell-Nordstrom No. 142. Factory spiral wrapped in two directions, using Scotch wrap 10 mil tape with 1" overlap for all underground piping.

Provide drip legs on all mains and risers and at equipment connections. Provide gas cocks at all equipment connections.

Fittings: Provide extra—heavy black malleable iron banded screwed or weld pattern as applicable per ASA B16.3.

Rooftop horizontal gas piping support pedestals shall be pre-manufactured roof piping supports. Wood blocking with pipe clamps is NOT an Stormwater and Overflow: All Pipe Sizes: 1" thick. acceptable means of supporting horizontal piping located on the roof.

2.04A COMPRESSED AIR PIPING SYSTEM:

Follow all guidelines from local State Codes, Compressed Gas Association, NFPA, American Society of Plumbing Engineers, and ANSI B31.1

Provide ASTM B88 Copper Tubing and Fittings as follows: For pressures up to 200 psi - Type "L" hard; For pressures up to 300 psi -Type "K" hard. Joints on pressures over 100 psi shall be brazed and for pressures under 100 psi soldered. Fittings: Long Ell's should be used for turns and 45° directional (to flow) connection for two conjoining air lines. Provide Ball Valves for shutoff purposes that are designed for compressed air service. Acceptable Manufacturers: Nibco-Scott, Apollo, and Parker.

ROOF PENETRATIONS:

Each trade shall provide their own roof penetrations and the Contractor shall coordinate the installation of same with other related trades such that in no way shall the roof warranty be altered, modified, or voided. The roof flashing system shall be as specified in Section 07510- Single-Ply Membrane Roofing System and Section 07720- Roof Accessories.

ACCESS DOORS:

The Plumbing Subcontractor shall furnish access doors for the Contractor's installation in finished work for concealed valves, cleanouts, and to concealed parts of the plumbing system that require accessibility for proper operation, maintenance, and repair. Doors are not required for suspended acoustical ceilings with lift—out panels.

Access doors shall be of the proper size for respective concealed items, with minimum size exclusive of other requirements, 18" x 18". Access door shall be flush type, with No. 13 U.S. Standard Gauge Steel door and trim, concealed hinges and screwdriver operated, stainless steel cam lock. Access door shall be shop painted with one coat of zinc chromate primer.

2.07 VALVES:

Valves for water piping shall be 125 lb. SWP, all bronze gate valves. Drips shall be all bronze 1/2" globe SWP hose end. Check valves shall be horizontal swing check 125 lb. SWP type. Where used in connection with chrome plated pipe, valves shall be the same finish as the pipe. Install valves on all hot and cold water branch lines to each group of fixtures or individual fixtures. All products listed meet the low-lead requirements of NSF-372 and meet the requirements of ANSI/NSF61.

Gate Valves: Red White #206AB, 125# brass body, non-rising stem, for all lines up to 4".

Check Valves: Red White #236AB 125# brass body, Y-pattern, PTFE seat for all sizes up to 2" in diameter. Nibco #F-910-LF, 125# iron body, bronze trimmed, flanged horizontal check valve for all valves larger than 2 inches in diameter.

Balancing Valve: Red White #9517AB DZR Brass Body, fixed orifice, integral memory stop, 300#WOG. Model #9517ABU for 0.27—0.71 GPM and Model #9517ABL for 0.49-1.17 GPM.

Plug Valves: Rockwell—Nordstrom #142 for lines two inches and smaller and #143 for 2-1/2 inches and larger, lubricated plug valve with #555 lubricant for natural gas service.

Globe Valves: Red White #211AB, brass body, 200# WOG, swivel style disc.

Ball Valves: Red White #5049AB Brass Body, 600# WOG, 150# WSP, PTFE seat, blow-out proof stem.

Gas Valves: 1½" and smaller: Provide Rockwell-Nordstrom #143 with #555 lubricant for natural gas service. 2½" and larger: Provide Rockwell-Nordstrom #143 with #555 lubricant for natural gas service.

Valve Manufacturers: Provide as manufactured by Crane, Jenkens, Walworth, Kennedy, Stockham, Red-White, or Nibco-Scott. No other product/manufacturers are permitted.

Provide valve boxes for all valves. Boxes shall be Mueller #H-10360, Size 564 S, screw type, and shall have 5-1/4" shaft with "WATER" cast in lid. Trap Primers: Where shown on the drawings or required by plumbing code (see Drawings for product specifications). Automatic trap primer

on cold water supply at nearest fixture and run drain to trap seal being protected. Provide access panel when primers are installed in walls. 2.14

Air Cushions and Shock Absorbers: Each hot and cold water connection to a fixture or faucet shall be equipped with full size vertical air cushion not less than 12 inches long. In addition to air cushions, provide 1 inch pipe size, shock absorber at each hot and cold connection Floor drains shall be as scheduled and detailed on the drawings. All floor drains shall have automatic trap primers installed as and battery of fixtures. Shock absorbers shall be MIFAB #CL-A-NPB.

Vacuum Breakers: Furnish and install on all faucets, hydrants and all other water discharge points with threaded hose connector, where shown on drawings and where required by Code. Hose thread vacuum breaker shall be Watts Model #8—A or approved equal.

Vacuum breakers for general piping application shall be Watts Regulator Company, No. 288A or approved equal, with bronze body and internal trim and brass external trim. Vacuum breakers shall have angle type bodies with female inlet connection at bottom and female outlet connections at side. Furnish and install where contamination of potable water is possible and where required by local authorities.

PIPE HANGERS AND SUPPORTS:

Grabler, Fee & Mason, Elcen or approved equal.

Rooftop Piping Support Pedestals: Horizontal piping mounted on roof shall be supported with pre-manufactured pedestals and Accessory Pipe Straps as specified in Section 07720— Roof Accessories. Wood blocking with pipe clamps is NOT an acceptable means of supporting horizontal piping located on the roof, and the installation of same will be rejected by the BBB Construction Project Manager or the Architect/ Engineer.

Adequately support piping against sagging, pocketing, swaying, and displacement. Properly space and apply hangers to achieve the result, and not farther apart than the following:

Steel Pipe: $1\frac{1}{4}$ " and smaller, 8 foot on center; $1\frac{1}{2}$ " and larger, 10 foot on center

Copper Tubing: $1\frac{1}{4}$ " and smaller, 6 foot on center; $1\frac{1}{2}$ " and larger, 10 foot on center

Plastic Pipe (Where Allowed): $1\frac{1}{2}$ " and smaller, 3 foot on center; 2" and larger, 4 foot on center

Install Trisolator #500 isolators around all uninsulated copper lines where hanger occurs. Install dielectric fitting between all ferrous and non-ferrous piping with a 12" section of red brass pipe in between.

Size all hangers on insulated lines to fit around outside diameter of insulation specified with allowance for sheet metal shield. Pipe shield shall be 169A, 1/3 circumference of insulation of a length of not less than 3 x diameter of the insulation (maximum 24"). Manufacturer: Grinnell Company catalog numbers are indicated to simplify the description, however, hangers and supports shall be Grinnell,

Overhead Supported: Each horizontal pipe shall be supported on adjustable wrought iron clevis hangers equal to Grinnell, Figure 260, except that groups of pipes shall be supported on trapeze hangers made up of steel rods and steel channels or angles. Pipe shall be "U" bolted 3. Dual high—limit controls. to trapeze and trapeze spaced for the smallest pipe in the group.

PLUMBING SYSTEM INSULATION:

All insulation shall be applied in a neat and workmanlike manner. Remove and replace all insulation not applied in strict accordance with manufacturer's specifications or not presenting a neat appearance. Insulation shall be continuous through wall and ceiling openings and sleeves.

Work Included: Pipe covering for domestic hot water (including recirculation), cold water, and roof drain piping.

Materials and Installation: No pipe insulation shall be applied until piping has been pressure tested and approved. All insulation shall be applied strictly in accordance with the manufacturer's recommendations. Materials as manufactured by Johns Manville, Fiberalass, Phillip Carey, or Armstrong will be acceptable if equal to those specified. All insulation on indoor work shall have composite fire and smoke hazard ratings as tested by procedure NFPA 255 not exceeding: Flame Spread 25, Fuel Contributed 50, Smoke Developed 50. Accessories, such as adhesives, mastics, cements, tapes, and cloth for fitting, shall have the same component ratings as listed above. Insulation shall have an average thermal conductivity not to exceed 0.25 BTU/inch of thickness per square foot per 1°F. at a mean temperature of 75 °F.

Domestic Hot Water, Tempered Water, Cold Water, and Roof Drain Piping Piping: All piping shall be insulated with fiberglass pipe insulated with foil-kraft laminate vapor barrier fastened with pressure sensitive tape and stapled 12" on center — see schedule below for thicknesses. All piping, fittings, valves, flanges, etc. shall be covered with PVC jackets/fitting covers (20 mils thick

PIPING INSULATION SCHEDULE:

Domestic Cold Water: $1\frac{1}{4}$ " and Smaller: 1" thick; $1\frac{1}{2}$ " and Larger: $1\frac{1}{2}$ " thick.

Domestic Hot, Recirculated, and Tempered Hot Water: $1\frac{1}{4}$ " and Smaller: 1" thick; $1\frac{1}{2}$ " and Larger: 2" thick.

before it is protected by building enclosures, and if acceptable by the local jurisdiction, the covering must be effectively protected with roofing felt, wired on the covering to make an absolute waterproof protection for the pipe covering.

No insulation shall be installed on any piping before the building is adequately closed in. Where necessary to install any insulation

Pipe Insulation at Handicap Accessible Lavatories: Provide "Handi Lav-Guard" Kit No. 102, color white, as manufactured by Truebro Inc. at each handicap accessible toilet room lavatory.

2.10 PAINTING:

Comply with Architectural requirements for painting interior piping. Paint exposed, interior metal piping, valves, service regulators, service meters and meter bars, and piping specialties, except components, with factory—applied paint or protective coating.

W.B. Light Industrial Coating: MPI INT 5.1B — G5. Prime Coat: Rust Inhibitive Primer. (MPI #107). Intermediate Coat: W.B. Light Industrial Coating (MPI #153). Topcoat: W.B. Light Industrial Coating (MPI #153). Color: Selected by Architect.

Damage and Touchup: Repair marred and damaged factory—applied finishes with materials and by procedures to match original factory finish.

2.11 TRAPS:

All fixtures and floor drains are to be separately trapped as near to the fixture or floor drain as possible. Traps shall be self-cleaning, water-sealed, and shall have a scouring action. Traps shall be set true with respect to water seal and shall be protected from freezing. All underground traps, except "P" traps into which floor drains with removable strainers discharge, shall be provided with accessible cleanouts. Traps which are not part of plumbing fixtures shall be of the same material and size as pipes or branches into which they discharge.

VENTS:

Collect vents together as shown on the drawings to minimize number of vents terminating through roof. Verify location of roof equipment indicated. Offset vents through roof to maintain a minimum distance of 10 feet away from outside air intakes.

CLEANOUTS:

Where indicated on the drawings and as required by local plumbing code. Make all cleanouts accessible by one of the following

• Within 6 inches from ceiling access panel OR Extending to floor or grade above OR Locate in wall with removable

Size: Same as pipe on which installed.

Installation: Covers set flush with finished wall, floor or grade, to be securely anchored by means of integral lugs or bolts. Where surfacing materials such as resilient floor covering is used, install the clean out with top so that finished surface is smooth and

Manufacturers: Cleanout products shall be as manufactured by MIFAB or as detailed in the fixture schedule.

Floor Cleanouts and Access Covers: Duco coated cast iron body and frame with "Leckeromated" plug and heavy duty adjustable scoriated secured polished bronze top.

Cleanout to Grade with Countersunk Plug: Duco-coated cast iron body with bronze taper thread countersunk plug. Installed in 24" x 24" concrete pad, tapered for drainage. Wall Cleanouts: Stainless steel chrome plated bronze deep cover with center screw.

FLOOR DRAINS:

required.

2.15 FIXTURE SUPPORTS:

Steel plated supports for all wall hung fixture shall be supported with $3/8" \times 6"$ steel plates recessed and lag screwed to wood studs or welded to steel studs and tapped for fixture bolts. Install the length and number of plates as required to satisfactorily support the fixtures.

2.16 PLUMBING FIXTURES:

General: Furnish and install plumbing fixtures complete with trim and caulk. See drawings for Plumbing Fixture Schedule.

All fixtures shall be Class "A". Vitreous fixtures shall be best quality. Warped, imperfect fixtures are NOT acceptable. Brass products shall contain at least 75% copper. All exposed metal below and above each fixture throughout shall be chrome plated on brass, with cast brass escutcheons. Where fixtures are noted on drawings as furnished by others, they shall be set by this contractor and this contractor shall furnish, install and connect service to such fixtures. All fixtures supported from walls shall be provided with carriers by MIFAB. Furnish, set and connect all plumbing fixtures including all necessary supports, and chrome plated exposed work and fittings. Provide loose—key type fixtures stops for all fixtures unless noted otherwise. The plumbing subcontractor shall purchase plumbing fixtures, flush valves, toilet seats and carriers as specified on the drawings.

The plumbing subcontractor shall purchase faucets, tailpiece, P—trap, lavatory insulation supply kit, valves, sink accessories, trap primer, water hammer arrester, floor drains and wall clean out as specified on the drawings.

Traps exposed above the floor shall be chrome plated adjustable brass, with chrome plated approved cleanout plugs, cast set screw SCALE wall escutcheon and casing. All trim shall be of polished chrome—plated brass and of one acceptable manufacturer unless specifically noted otherwise. Provide fixture stops or valve ahead of all equipment or fixtures. Refer to Plumbina Fixture Schedule or

Domestic Water Heaters: Provide water heater of size, capacity and make as scheduled on the drawings. Heaters shall be fully warranted for minimum of 5 full years after final acceptance of the building. Furnish heaters with the following accessories: 1. ASME combination temperature and pressure relief valve rated in excess of heater input. Run full size drain to location shown

- 2. Automatic thermostat actuated controls with 100 percent shutoff.
- 4. Tank drain.

REVISION RECORD NO. DATE REMARKS

> IT IS A VIOLATION OF STATE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTIC OF A NEW YORK STATE ARCHITECT OR ENGINEE TO ALTER ANY ITEM ON THIS DOCUMENT IN AN WAY IF ANY ITEM ON THIS DOCUMENT IS ENGINEER SHALL AFFIX TO HIS ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE, THE DATE OF SUCH ALTERNATION AND A SPECIFIC DESCRIPTION OF SUCH



College

Way 53406 20 W Pleas

PLUMBING

SPECIFICATIONS

TOMSIC RCHITEC ERED $\bar{\Omega}$

JOB NO. DRAWN DWG. NO. P-10 CHECKED DATE CONTRACT NO. 12.22.2017