PLUMBING NOTES

ABV	ABOVE	IE	INVERT ELEVATION
ADA	AMERICANS WITH DISABILITIES ACT	IN	INCH
AFF	ABOVE FINISHED FLOOR	IW	INDIRECT WASTE
AWS	AMERICAN WELDING SOCIETY	JC	JANITORS CLOSET
AP	ACCESS PANEL	MAX	MAXIMUM
ARCH	ARCHITECT	MECH	MECHANICAL
BFP	BACKFLOW PREVENTER	MIN	MINIMUM
BLDG	BUILDING	MTD	MOUNTED
BLW	BELOW	NC	NORMALLY CLOSED
CFF	CONNECTION FOR FUTURE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CLG	CEILING	NIC	NOT IN CONTRACT
CO	CLEANOUT	NO	NORMALLY OPEN
CONN	CONNECT, CONNECTION	NTS	NOT TO SCALE
CONT	CONTINUATION	OC	ON CENTER
CV	CHECK VALVE	PA	PREACTION SYSTEM
CW	COLD WATER	PLBG	PLUMBING
DN	DOWN	POC	POINT OF CONNECTION
DR	DRAIN	PS	PRESSURE SWITCH
DSP	DRY SPRINKLER PIPE	PSI	POUNDS PER SQUARE INCH
DWG	DRAWING	PFR	POLISHED FUEL RETURN
DWV	DRAINAGE WASTE VENT	PFS	POLISHED FUEL SUPPLY
EL	ELEVATION	RM	ROOM
ELEC	ELECTRICAL	S, SAN	SANITARY
EQUIP	EQUIPMENT	SHT	SHEET
EX, EXIST	EXISTING	SK	SINK
ERV	EMERGENCY RELIEF VENT	SPEC	SPECIFICATIONS
EJD	EJECTOR DISCHARGE	SOV	SHUT-OFF VALVE
EJV	EJECTOR VENT	STRUCT	STRUCTURAL
FL	FLOOR	SPR, SPKR	SPRINKLER
FM	FACTORY MUTUAL	TEMP	TEMPERATURE
FT	FOOT, FEET	TS	TAMPER SWITCH
FU	FIXTURE UNIT	TYP	TYPICAL
FOP	FUEL OIL PUMP	TP	TRAP PRIMER
FOF	FUEL OIUL FILL	UL	UNDERWRITERS LISTED
FOR	FUEL OIL RETURN	UPC	UNIFORM PLUMBING CODE
FOS	FUEL OIL SUPPLY	UR	URINAL
FTV	FUEL TANK VENT	V	VENT
FTEL	FUEL TANK EQUALIZING LINE	VTR	VENT THROUGH ROOF
FU	FIXTURE UNIT	W	WASTE
GAL	GALLON	WCO	WALL CLEANOUT
GC	GENERAL CONTRACTOR	WC	WATER CLOSET
GPF	GALLONS PER FLUSH	WFS	WATER FLOW SWITCH
GPH	GALLONS PER HOUR	W/	WITH
GPM	GALLONS PER MINUTE	W/O	WITHOUT
HW	HOT WATER		
HWR	HOT WATER RETURN		

PLUMBING SYMBOLS

FITTINGS

- FITTING: SUPPLY OUT
- FITTING: UNION
- FITTING: TEE
- FITTING: TEE SINGLE SWEEP
- FITTING: TEE SIDE OUT UP
- FITTING: TEE SIDE OUT DOWN
- FITTING: TEE OUTLET UP
- FITTING: TEE OUTLET DOWN
- FITTING: TEE DISCONNECT
- FITTING: ECCENTRIC STRAIGHT INVERTED REDUCER
- FITTING: ECCENTRIC STRAIGHT CROWN REDUCER
- FITTING: CONCENTRIC REDUCER
- FITTING: EXPANSION JOINT
- FITTING: ELBOW TURN UP
- FITTING: ELBOW TURN DOWN
- FITTING: ELBOW STRT
- FITTING: ELBOW LONG RADIUS
- FITTING: ELBOW USC
- FITTING: ELBOW DSC
- FITTING: ELBOW DBL BRANCH
- FITTING 90° BASE
- FITTING: 90° ELBOW
- FITTING: 45° ELBOW
- FITTING: CROSS
- FITTING: COUPLING JOINT
- FITTING: BOTTOM CONN.
- FITTING: TOP CONN.
- FITTING: BUSHING

PIPING

- THMPC
- THLPRS
- THHSC
- THHRB
- THERM W
- THERMOMETER
- TANK
- SLEEVE
- PUMP
- PUMP SUCTION DIFF
- PRESSURE SWITCH
- HANGING SP
- HANGING ROD
- PRESSURE GUAGE
- GUAGE
- FLOW SWITCH
- FLEX CONNECTION
- RISE
- DROP
- CAP
- BALL JOINT
- ANCHOR IMMED
- ALIGN GUIDE
- AUTOMATIC AIR VENT
- BALANCING VALVE
- AIR SEPARATOR
- HUMIDISTAT
- HUMIDY SENSOR
- PIPING: STRAIN ELBOW
- PIPING: STRAIN

VALVES

- VALVE: TPR
- VALVE: SWING SC
- VALVE: CHECK VALVE
- VALVE: STSC
- VALVE: SSC
- VALVE: SQUARE HD COCK
- VALVE: SOLN
- VALVE: SOL
- VALVE: SNAP
- VALVE: [illegible]SC
- VALVE: SCP
- VALVE: SCE
- VALVE: RELIEF
- VALVE: QUICK OPEN
- VALVE: PRESSURE REDUCER
- VALVE: PRED
- VALVE: PMTD
- VALVE: PLUG
- VALVE: NEEDLE
- VALVE: MTR
- VALVE: MOLS
- VALVE: MOGS
- VALVE: [illegible]
- VALVE: MANUAL
- VALVE: MAGS
- VALVE: HGSC
- VALVE: HGLS
- VALVE: HASC
- VALVE: GSP
- VALVE: GLSE
- VALVE: GLAM
- VALVE: GATE
- VALVE: GATE ANGLE
- VALVE: [illegible]
- VALVE: FL[illegible]
- VALVE: DISCONNECT
- VALVE: CWR
- VALVE: CHECK SPRING
- VALVE: BUTTERFLY
- VALVE: BALL
- VALVE AHOS
- VALVE: ANGLE
- VALVE: 3 WAY
- VALVE: 3 WAY PRESSURE
- VALVE: 3 WAY MOTORIZED

SEISMIC DESIGN REQUIREMENTS

CATEGORY–D: SEISMIC DESIGN CATEGORY FOR THIS PROJECT IS CATEGORY D PER ASCE STANDARD, ASCE/SEI 7–05 AND ASCE/SEI 7–10, CHAPTER 13, THE COMPONENT IMPORTANCE FACTOR, Ip, SHALL BE TAKEN AS 1.5 IF ANY OF THE FOLLOWING CONDITIONS APPLY:

ALL MECHANICAL AND ELECTRICAL COMPONENTS (EQUIPMENT AND PIPING) SHALL BE DESIGNED, SUPPORTED AND INSTALLED PER ASCE STANDARD, ASCE/SEI 7–05 AND ASCE/SEI 7–10, CHAPTER 13. AS SUCH, THE MECHANICAL CONTRACTOR SHALL PROCURE THE SERVICES OF A PROFESSIONAL ENGINEER SPECIALIZING IN THE DESIGN OF VIBRATION AND SEISMIC CONTROL, REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED. THE MECHANICAL CONTRACTOR SHALL PROVIDE ENGINEERED SHOP DRAWINGS SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATE COMPLIANCE WITH BUILDING CODE REQUIREMENTS FOR SEISMIC CONTROL. SHOP DRAWINGS SHALL INCLUDE DESIGN CALCULATIONS, EQUIPMENT SUPPORTS, PIPING SUPPORTS, RISER SUPPORTS, VIBRATION ISOLATION, BASE DETAILS, SEISMIC RESTRAINT DETAILS, DETAILS FOR INTERLOCKING SNUBBERS. PROJECT WILL BE DESIGNED USING THE CURRENTLY ENFORCED BUILDING CODE.

EXCEPTION:

FOR MECHANICAL AND ELECTRICAL COMPONENTS IN SEISMIC CATEGORY D WITH AN IMPORTANCE FACTOR, Ip, OF 1.0, THE FOLLOWING NONSTRUCTURAL COMPONENTS ARE EXEMPT IF ALL OF THE FOLLOWING APPLY:

1. THE COMPONENT IS POSITIVELY ATTACHED TO THE STRUCTURE, AND
2. FLEXIBLE CONNECTIONS ARE PROVIDED BETWEEN THE COMPONENTS AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT AND EITHER:
3. THE COMPONENTS ARE MOUNTED AT 4 FT OR LESS ABOVE A FLOOR LEVEL AND WEIGH 400 LB OR LESS, OR
4. THE COMPONENTS WEIGH 20 LB OR LESS OR, FOR DISTRIBUTION SYSTEMS, WEIGH 5 LB/FT OR LESS.

PLUMBING NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, RULES AND ORDINANCES.
2. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND UTILITIES, PIPE SIZES, LOCATIONS, MATERIALS, ETC., BEFORE BID, STARTING WORK OR ORDERING MATERIALS AND INCLUDE MINOR ADJUSTMENTS TO ADAPT DESIGN TO ACTUAL FIELD CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL COORDINATE THE PLUMBING SYSTEMS INSTALLATIONS WITH WORK OF STRUCTURE, HVAC, ELECTRICAL AND RELATED TRIM, ETC., TO PRECLUDE INTERFERENCE. ALL PLUMBING SHALL BE INSTALLED IN A PROFESSIONAL, NEAT AND WORK MAN LIKE MANNER FOR COMMERCIAL CONSTRUCTION. ALL MATERIALS SHALL BE NEW.
4. PLUMBING CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTION AND TESTS, PLUMBING CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT. PLUMBING CONTRACTOR MUST BE PRESENT FOR ALL INSPECTIONS OF HIS WORK BY REGULATORY AUTHORITIES.
5. THE CONTRACTOR SHALL PROVIDE ALL INTERCONNECTING PIPING REQUIRED AND ALL (WATER, WASTE, VENT) FINAL CONNECTIONS FOR FIXTURE AND EQUIPMENT. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND IDENTIFICATION OF ADDITIONAL WORK TO BE PERFORMED BY THE CONTRACTOR.
6. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR EXACT LOCATIONS OF FIXTURES AND EQUIPMENT.PLUMBING DRAWINGS ARE DIAGRAMMATIC; DO NOT SCALE FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC.
7. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRIM AND ACCESSORIES FOR A COMPLETE AND FUNCTIONING SYSTEM. PROVIDE INDIVIDUAL SUPPLY VALVES, CONNECTORS, CAST TRAPS, AND RELATED TRIM FOR SINKS, LAVATORIES, ETC., AS SPECIFIED.
8. VERIFY LOCATION, SIZE, DIRECTION OF FLOW AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
9. INSTALL ALL PLUMBING MATERIALS, TRIM ACCESSORIES AND RELATED ITEMS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS.
10. WATER DISTRIBUTION PIPING ABOVE AND BELOW GROUND SHALL BE PER PIPING SCHEDULE. SOIL, WASTE, VENT AND RAINWATER PIPING SHALL PER PIPE SCHEDULE.
11. ALL FIXTURES MUST BE PROVIDED WITH READILY ACCESSIBLE STOPS AND APPROPRIATELY COORDINATE LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION. TO INSTALLATION.
12. PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT–OFF.
13. ALL CONDENSATE DRAIN PIPING SHALL BE TYPE PER PIPING SCHEDULE. INSULATE ALL INTERIOR CD PIPING, SEE PIPING SCHEDULE FOR INSULATION REQUIREMENTS. SEE PLUMBING DRAWINGS FOR SIZE AND LOCATION OF PIPING.
14. DOMESTIC HOT WATER AND COLD WATER PIPING INSULATION SHALL BE MINIMUM R–3, OR GREATER IF CODE REQUIRED. INSULATE ALL DOMESTIC WATER PIPING (HOT, HOT WATER RETURN, AND COLD WATER PIPING), SEE PIPING SCHEDULE FOR INSULATION REQUIREMENTS.
15. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONAL LAYOUTS AND EXACT LOCATIONS OF PLUMBING FIXTURES, FLOOR DRAINS, DOWNSPOUT NOZZLES, AREA DRAINS, ETC. WHERE DIMENSIONS ARE NOT GIVEN CENTERLINE FIXTURE PLACEMENT, MOUNTING HEIGHTS, SPOUT HEIGHTS, ETC., SHALL BE IN COMPLIANCE WITH THE FEDERAL ADA REQUIREMENTS, AND INTERNATIONAL PLUMBING CODE.
16. DIELECTRIC COUPLINGS ARE REQUIRED BETWEEN ALL DISSIMILAR METAL IN PIPING AND EQUIPMENT CONNECTIONS.
17. PROVIDE P–TRAP ADA COMPLIANT COVER AND DOMESTIC HOT/COLD WATER COVER FOR BATHROOM SINKS.
18. STUDOR MINI/MAXI AIR ADMITTANCE VALVES MAY BE USED AS AN ALTERNATE TO VENT PIPING THRU ROOF WHERE ACCEPTABLE BY THE PLUMBING OFFICIAL AND LOCAL CODES. INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
19. WHERE VALVES ARE INSTALLED ABOVE CEILING, PROVIDE VISUAL IDENTIFICATION AT CEILING GRID ACCESS OR AT ACCESS PANELS. IDENTIFICATION SHALL BE VISIBLE FROM BELOW CEILING. PROVIDE ACCESS PANELS, AT HARD CEILINGS FOR ACCESS AND MAINTAIN VALVES.
20. PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF ACCEPTANCE BY OWNER. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED.
21. POTABLE WATER SYSTEMS SHALL BE PURGED AND DISINFECTED PRIOR TO UTILIZATION USING METHOD DESCRIBED IN THE THE PLUMBING CODE 2018 SC PLUMBING CODE, OR BY AWWA C651 OR AWWA C652.
22. PROVIDE BALANCING VALVES/CIRCUIT SETTER AT EACH NODE OF HEATING HOT WATER RETURN PIPING FOR EVEN RETURN FLOW.

PLUMBING SHEET INDEX

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P402	PLUMBING ISOMETRICS
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PLUMBING LEGEND

- COLD WATER PIPE
- HOT WATER PIPE
- SOIL OR WASTE PIPE
- VENT PIPE
- NATURAL GAS PIPE
- TURNED UP
- TURNED DOWN
- TEE, OUTLET DOWN
- TEE, OUTLET UP
- FIXTURE — PLUMBING FIXTURE DESIGNATION (UNDERLINED)
- HOT WATER RETURN PIPE
- CONNECT TO EXISTING
- BALANCING VALVE

APPLICABLE BUILDING CODES

- 2009 INTERNATIONAL ENERGY CODE
- 2018 SC PLUMBING CODE
- 2048 SC MECHANICAL CODE
- 2018 SC BUILDING BODE

PROJECT SCOPE

THE SCOPE OF THIS PROJECT LIMITED DEMOLITION OF EXISTING FIXTURES, AND INSTALLING NEW FIXTURES CONNECTING TO EXISTING DOMESTIC WATER AND DWV PIPING.

SYMBOLS LEGEND

- KEYNOTE INDICATOR
- DEMOLISHING NOTE INDICATOR
- + 0'-0" FIN. FLR. — ELEVATION INDICATOR
- ROOM NAME 000 — ROOM NAME/NUMBER INDICATOR
- 01 — COLUMN INDICATOR
- N — NORTH ARROW

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Seal

SOUTH CAROLINA BLV ELECTRICAL ENGINEERS INC No. 6069 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 38087

Client

ALLENDALE-FAIRFAX COUNTY SCHOOL DISTRICT

Project

ALLENDALE PRIMARY SCHOOL

Issued For

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No.	Item	Date

Key Plan

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Sheet Title

PLUMBING LEGENDS, NOTES AND SYMBOLS

P-001

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