PLUMBING GENERAL NOTES:

1. THE SCOPE OF THE WORK CONSISTS OF THE FURNISHING AND INSTALLING OF COMPLETE PLUMBING SYSTEMS INCLUDING MISCELLANEOUS SYSTEMS. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL SUPERVISION, LABOR, MATERIALS, EQUIPMENT, MACHINERY, AND ANY AND ALL OTHER ITEMS NECESSARY TO COMPLETE THE SYSTEMS. THE PLUMBING CONTRACTOR SHALL NOTE THAT ALL ITEMS OF EQUIPMENT ARE SPECIFIED IN THE SINGULAR; HOWEVER, THE CONTRACTOR SHALL PROVIDE AND INSTALL THE NUMBER OF ITEMS OF EQUIPMENT AS INDICATED ON THE DRAWINGS AND AS REQUIRED FOR COMPLETE SYSTEMS.
2. IT IS THE INTENTION OF THE SPECIFICATIONS AND DRAWINGS TO CALL FOR FINISHED WORK, TESTED, AND READY FOR OPERATION.
3. ANY APPARATUS, APPLIANCE, MATERIAL OR WORK NOT SHOWN ON DRAWINGS BUT MENTIONED IN THE SPECIFICATIONS, OR VICE VERSA, OR ANY INCIDENTAL ACCESSORIES NECESSARY TO WORK COMPLETE AND PERFECT IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED, SHALL BE FURNISHED, DELIVERED AND INSTALLED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
4. MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER INSTALLATION AND OPERATION, SHALL BE INCLUDED IN THE CONTRACTOR'S ESTIMATE, THE SAME AS IF HEREIN SPECIFIED OR SHOWN.
5. THE PLUMBING CONTRACTOR SHALL GIVE FULL COOPERATION TO OTHER TRADES AND SHALL FURNISH (IN WRITING, WITH COPIES TO ARCHITECT) ANY INFORMATION NECESSARY TO PERMIT THE WORK OF ALL TRADES TO BE INSTALLED SATISFACTORILY AND WITH LEAST POSSIBLE INTERFERENCE OR DELAY.
6. ALL WORKMANSHIP AND MATERIAL SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, RULES AND ORDINANCES.
7. ALL MATERIAL SHALL BE NEW.
8. ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE.
9. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTION AND TESTS.
10. THESE DRAWINGS ARE DIAGRAMMATIC ONLY. REFER TO THE ARCH. DWG's FOR BLDG. DIMENSIONS AND EXACT LOCATIONS AND ELEVATIONS OF ALL FIXTURES AND EQUIPMENT.
11. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION. REPORT ANY DISCREPANCY TO ENGINEER/ARCHITECT PRIOR TO BEGINNING CONSTRUCTION.
12. VERIFY LOCATION, SIZE, INVERTS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. ADVISE ENGINEER OF ANY DISCREPANCIES.
13. 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.
14. CONTRACTOR SHALL KEEP A SET OF AS BUILT DWG. ON THE JOB SITE AT ALL TIMES AND DELIVER A SET OF UP TO DATE AS BUILTS TO THE ENGINEER AND OWNER AT THE COMPLETION OF THE PROJECT.
15. APPLY A WATER PRESSURE TEST TO ALL PARTS OF THE WATER PIPING SYSTEM NOT LESS THAN 150 PSIG OR 1.25 TIMES THE SYSTEM WORKING PRESSURE (WHICHEVER IS GREATER), FOR A PERIOD OF 4 HOURS. REPAIR ANY LEAKS.
16. THE PLUMBING SECTIONS OF THESE DRAWINGS AND THE SPECIFICATIONS MUST BE READ IN CONJUNCTION WITH EACH OTHER PRIOR TO BID AND CONSTRUCTION OF THIS PROJECT. ALL ARE CONSIDERED ONE DOCUMENT.
17. ALL FIXTURES AND EQUIPMENT SHALL BE KEPT CLEAN DURING ALL CONSTRUCTION AND NOT USED DURING CONSTRUCTION.
18. PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND ALL WATER HAMMER ARRESTORS. ACCESS PANELS IN RATED WALLS MUST MAINTAIN THE SAME RATING AND MUST MATCH THE FINISH OF THE WALL IN WHICH IT IS INSTALLED.
19. NO COMBUSTIBLE MATERIAL TO BE USED IN MECHANICAL ROOMS OR IN CEILING SPACES WHERE USED AS RETURN AIR PLENUMS.
20. NO WATER PIPING PERMITTED ABOVE ELECTRICAL EQUIPMENT.
21. SEE ARCHITECTURAL DRAWINGS FOR BASIC PLUMBING REQUIREMENTS FOR THE PHYSICALLY HANDICAPPED.

PLUMBING SPECIFICATION NOTES:

DOMESTIC WATER PIPING

PIPING

PIPING SHALL BE SOFT COPPER TUBE ASTM B 88, TYPES K, WATER TUBE, ANNEALED TEMPER FOR ½" AND SMALLER, AND HARD COPPER TUBE ASTM B 88, TYPES L, WATER TUBE, DRAWN TEMPER FOR PIPING LARGER THAN 1".
COPPER PRESSURE FITTINGS: ASME B16.18, CAST-COPPER-ALLOY OR ASME B16.22, WROUGHT-COPPER, SOLDER-JOINT FITTINGS. FURNISH WROUGHT-COPPER FITTINGS IF INDICATED.
BRONZE FLANGES: ASME B16.24, CLASS 150, WITH SOLDER-JOINT ENDS. FURNISH CLASS 300 FLANGES IF REQUIRED TO MATCH PIPING.
COPPER UNIONS: MSS SP-123, CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY, WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACES, AND SOLDER-JOINT OR THREADED ENDS.

CONNECTIONS

INSTALL PIPING ADJACENT TO EQUIPMENT AND MACHINES TO ALLOW SERVICE AND MAINTENANCE. CONNECT DOMESTIC WATER PIPING TO WATER-SERVICE PIPING WITH SHUTOFF VALVE, AND EXTEND AND CONNECT TO THE FOLLOWING:

WATER HEATERS: COLD-WATER SUPPLY AND HOT-WATER OUTLET PIPING IN SIZES INDICATED, BUT NOT SMALLER THAN SIZES OF WATER HEATER CONNECTIONS.
PLUMBING FIXTURES: COLD- AND HOT-WATER SUPPLY PIPING IN SIZES INDICATED, BUT NOT SMALLER THAN REQUIRED BY PLUMBING CODE.
EQUIPMENT: COLD- AND HOT-WATER SUPPLY PIPING AS INDICATED, BUT NOT SMALLER THAN EQUIPMENT CONNECTIONS. PROVIDE SHUTOFF VALVE AND UNION FOR EACH CONNECTION. USE FLANGES INSTEAD OF UNIONS FOR NPS 2-1/2 AND LARGER. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR VALVE SERVICING.

TRAPEZE HANGERS FOR PIPING SUPPORT SHALL BE MSS SP-69, TYPE 59, SHOP- OR FIELD-FABRICATED PIPE-SUPPORT ASSEMBLY MADE FROM STRUCTURAL-STEEL SHAPES WITH MSS SP-58 HANGER RODS, NUTS, SADDLES, AND U-BOLTS.
APPLY ADJUSTABLE STEEL CLEVIS HANGERS FOR SUSPENSION OF INSULATED STATIONARY PIPES. PROVIDE PROTECTION SHIELDS (MSS TYPE 40) TO PREVENT CRUSHING INSULATION. INSTALL HANGERS FOR PIPING WITH MAXIMUM SPAN OF 10 FEET; MINIMUM ROD SIZE, 3/8 INCH.

INSULATION

INSULATE ALL PIPING WITH 1" NOMINAL THICKNESS FIBERGLASS PIPE INSULATION WITH VAPOR BARRIER JACKET, OWENS-CORNING ASJ/SSL II OR EQUAL, WITH FORMED FITTING COVERS.

CLEANING

CLEAN AND DISINFECT POTABLE DOMESTIC WATER PIPING USING PURGING AND DISINFECTING PROCEDURES PRESCRIBED BY AUTHORITIES HAVING JURISDICTION.
SUBMIT WATER SAMPLES IN STERILE BOTTLES TO AUTHORITIES HAVING JURISDICTION. REPEAT PROCEDURES IF BIOLOGICAL EXAMINATION SHOWS CONTAMINATION.
PREPARE AND SUBMIT REPORTS OF PURGING AND DISINFECTING ACTIVITIES.

JOINT CONSTRUCTION

USE ASTM B 813, WATER-FLUSHABLE, LEAD-FREE FLUX; ASTM B 32, LEAD-FREE-ALLOY SOLDER; AND ASTM B 828 PROCEDURE, UNLESS OTHERWISE INDICATED.

FLEX CONNECTOR

STAINLESS STEEL BRAIDED SANITARY FLEXIBLE CONNECTOR WITH A BONDED SILICONE LINER EMBEDDED IN A BRAIDED METAL HOSE, LISTED FOR DOMESTIC WATER SUPPLY APPLICATIONS. PROVIDE FLEX CONNECTOR WITH 150 PSI RATING AND FLANGED END CONNECTIONS. FLEXICRAFT MSLFG OR EQUAL.

SANITARY PIPING INSTALLATION

PIPING

SOLVENT STACK FITTINGS: ASME B16.45 OR ASSE 1043, HUBLESS, CAST-IRON AERATOR AND DE-AERATOR DRAINAGE FITTINGS. STAINLESS-STEEL COUPLINGS: CISPI 310, WITH STAINLESS-STEEL CORRUGATED SHIELD; STAINLESS-STEEL BANDS AND TIGHTENING DEVICES; AND ASTM C 564, RUBBER SLEEVE.
MAKE CHANGES IN DIRECTION FOR SOIL AND WASTE DRAINAGE AND VENT PIPING USING APPROPRIATE BRANCHES, BENDS, AND LONG-SWEEP BENDS. SANITARY TEES AND SHORT-SWEEP 1/4 BENDS MAY BE USED ON VERTICAL STACKS IF CHANGE IN DIRECTION OF FLOW IS FROM HORIZONTAL TO VERTICAL. USE LONG-TURN, DOUBLE Y-BRANCH AND 1/8-BEND FITTINGS IF 2 FIXTURES ARE INSTALLED BACK TO BACK OR SIDE BY SIDE WITH COMMON DRAIN PIPE. STRAIGHT TEES, ELBOWS, AND CROSSES MAY BE USED ON VENT LINES. DO NOT CHANGE DIRECTION OF FLOW MORE THAN 90 DEGREES. USE PROPER SIZE OF STANDARD INCREASERS AND REDUCERS IF PIPES OF DIFFERENT SIZES ARE CONNECTED. REDUCING SIZE OF DRAINAGE PIPING IN DIRECTION OF FLOW IS PROHIBITED.

INSTALL SOIL AND WASTE DRAINAGE AND VENT PIPING AT THE FOLLOWING MINIMUM SLOPES, UNLESS OTHERWISE INDICATED:
1. BUILDING SANITARY DRAIN: 2 PERCENT DOWNWARD IN DIRECTION OF FLOW FOR PIPING NPS 3 AND SMALLER; 1 PERCENT DOWNWARD IN DIRECTION OF FLOW FOR PIPING NPS 4 AND LARGER.
2. HORIZONTAL SANITARY DRAINAGE PIPING: 2 PERCENT DOWNWARD IN DIRECTION OF FLOW.
3. VENT PIPING: 1 PERCENT DOWN TOWARD VERTICAL FIXTURE VENT OR TOWARD VENT STACK.

DO NOT ENCLOSE, COVER, OR PUT PIPING INTO OPERATION UNTIL IT IS INSPECTED AND APPROVED BY AUTHORITIES HAVING JURISDICTION.

JOINT CONSTRUCTION

CAST-IRON, SOIL-PIPING JOINTS: MAKE JOINTS ACCORDING TO CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK, CHAPTER IV, "INSTALLATION OF CAST IRON SOIL PIPE AND FITTINGS."
1. GASKETED JOINTS: MAKE WITH RUBBER GASKET MATCHING CLASS OF PIPE AND FITTINGS.
2. HUBLESS JOINTS: MAKE WITH RUBBER GASKET AND SLEEVE OR CLAMP.

CONNECTIONS

CONNECT SOIL AND WASTE PIPING TO EXISTING SANITARY SEWERAGE PIPING. USE TRANSITION FITTINGS TO JOIN DISSIMILAR PIPING MATERIALS.
CONNECT DRAINAGE AND VENT PIPING TO THE FOLLOWING:
1. PLUMBING FIXTURES: CONNECT DRAINAGE PIPING IN SIZES INDICATED, BUT NOT SMALLER THAN REQUIRED BY PLUMBING CODE.
2. PLUMBING FIXTURES AND EQUIPMENT: CONNECT ATMOSPHERIC VENT PIPING IN SIZES INDICATED, BUT NOT SMALLER THAN REQUIRED BY AUTHORITIES HAVING JURISDICTION.
3. PLUMBING SPECIALTIES: CONNECT DRAINAGE AND VENT PIPING IN SIZES INDICATED, BUT NOT SMALLER THAN REQUIRED BY PLUMBING CODE.
4. CONNECT DRAINAGE PIPING AS INDICATED. PROVIDE SHUTOFF VALVE, IF INDICATED, AND UNION FOR EACH CONNECTION.
5. USE FLANGES INSTEAD OF UNIONS FOR CONNECTIONS NPS 2-1/2 AND LARGER.

PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
SS	SS	SANITARY LINE
S	S	SEWER LINE
V	V	VENT LINE
CW	CW	COLD WATER LINE
HW	HW	HOT WATER
HWR	HWR	HOT WATER RETURN
SD	SD	STORM DRAIN ABOVE GRADE
SD	SD	STORM DRAIN BELOW GRADE
		TRAP PRIMER WATER LINE
MW	MW	MAKE UP WATER LINE
	G.V.	GATE VALVE
	GL.V.	GLOBE VALVE
	CHK.V.	CHECK VALVE
	P.R.V.	PRESSURE REDUCING VALVE
	STR.	STRAINER WITH DRAIN
	UN.	UNION
	F.D.	FLOOR DRAIN
	F.C.O.	FLOOR CLEAN OUT/CTG
	W.C.O.	WALL CLEANOUT
	RPZBFP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
TPV	T.P.V.	TRAP PRIMER VALVE
	P.G.	PRESSURE GAGE
	THERM.	THERMOMETER
	NFWH.	NON FREEZE WALL HYDRANT
HB	HB	HOSE BIB
	WHA.	WATER HAMMER ARRESTOR
	–	WATER LEAK DETECTOR

FIXTURE (COORDINATE WITH OWNER FOR APPROVAL)

FD: J.R. SMITH FLOOR DRAIN, NO-HUB MODEL 2005BB DUCO CAST IRON BODY WITH FLASHING COLLAR AND ADJUSTABLE STRAINER HEAD, W/TRAP PRIMER CONNECTION. BRONZE BODY AND GRATE. USE A-ROUND GRATE IN CONCRETE FLOOR.

PLUMBING FIXTURE CONNECTION SCHEDULE

SYMBOL	DESCRIPTION	MAKE/MODEL	CONNECTION SIZE			
			CW	HW	WASTE	VENT
MS	MOP SINK	COOR. WITH OWNER & ARCH.	3/4"	3/4"	3"	1-1/2"
KS	KITCHEN SINK	COOR. WITH OWNER & ARCH.	3/4"	3/4"	2"	2"
HS	HAND SINK	COOR. WITH OWNER & ARCH.	1/2"	1/2"	2"	1-1/2"
VS	VEG/MEAT SINK	COOR. WITH OWNER & ARCH.	1/2"	1/2"	2"	1-1/2"
ICE	ICE MACHINE	COOR. WITH OWNER & ARCH.	1/2"	–	–	–
FD	FLOOR DRAIN	SEE SPECS. PROVIDE TRAP PRIMER	–	–	3"	–
WC	WATER CLOSET	COOR. WITH OWNER & ARCH.	3/4"	–	4"	2"
UR	URINAL	COOR. WITH OWNER & ARCH.	3/4"	–	2"	1-1/4"
LAV	LAVATORY	COOR. WITH OWNER & ARCH.	1/2"	1/2"	1-1/2"	1-1/4"
WU	WUDU LAVATORY	COOR. WITH OWNER & ARCH.	1/2"	1/2"	1-1/2"	1-1/4"
SH	SHOWER	COOR. WITH OWNER & ARCH.	3/4"	3/4"	3"	1-1/2"

PLUMBING ABBREVIATION

ABBREVIATION	DESCRIPTION
A.F.F.	ABOVE FINISH FLOOR
A.F.G.	ABOVE FINISH GRADE
A.P.	ACCESS PANEL
ARCH.	ARCHITECT OR ARCHITECTURAL
ASWP	AUTOMATIC SPRINKLER WET PIPE
BFP	BACK FLOW PREVENTER
BTU	BRITISH THERMAL UNITS
BTUH	BRITISH THERMAL UNITS PER HOUR
BF	BELOW FLOOR
C.I.	CAST IRON
CLG.	CEILING
CTG	CLEAN OUT ABOVE GRADE
CO	CLEANOUT
FCO	FLOOR CLEANOUT
CONC.	CONCRETE
CONN.	CONNECT OR CONNECTION
CONT.	CONTINUATION
CONTR.	CONTRACTOR
CW	COLD WATER
DWGS.	DRAWINGS
EA.	EACH
ELEV.	ELEVATION
EXIST.	EXISTING
°F	DEGREES FAHRENHEIT
F.F.E.	FINISH FLOOR ELEVATION
FIN.	FINISH
FLR.	FLOOR
FT.	FEET OR FOOT
GPM	GALLONS PER MINUTE
GA.	GAUGE
GALV.	GALVANIZED
HW	HOT WATER
I.E.	INVERT ELEVATION
INV.	INVERT
LBS.	POUNDS
MAX.	MAXIMUM
MECH.	MECHANICAL
MFR.	MANUFACTURER
MH	MANHOLE
MIN.	MINIMUM
MTD.	MOUNTED
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
NO.	NUMBER
P.R.V.	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PLBG.	PLUMBING
QTY.	QUANTITY
SHT.	SHEET
SPEC.	SPECIFICATION
TEMP.	TEMPERATURE
TYP.	TYPICAL
W.C.	WATER COLUMN
WTR	WATER

GREASE INTERCEPTOR SIZING

EQUIPMENT TAG	SEAT #	WASTE PER SEAT	# HR OPER.	LOAD FACTOR	EFFECTIVE GREASE INTERCEPTOR CAPCITY IN GALLON
GI-1	250	25	2	1	1042

GREASE INTERCEPTOR FORMULA:
SEAT NO. X GALLON OF WASTE PER SEAT X # OF HOUR/12 X LOADING FACTOR (1.0 FOR MAIN HIGHWAY)
MIN. EFFECTIVE GREASE INTERCEPTOR CAPACITY IN GALLON = 1042 GALLON
DESIGN GREASE INTERCEPTOR SIZE SHALL BE 1500 GALLON.

GAS WATER HEATER

SYMBOL	BTUH INPUT	MAKE/MODEL	STORAGE CAPACITY	RECOVERY RATE		ELECTRICAL DATA		
				GPH	TEMP RISE °F	VOLTS	PH	AMP
WH-1	199,000	A.O. SMITH #BTH-199	100 GAL	235	100	120	1	15
WH-2	150,000	A.O. SMITH #BTH-150	100 GAL	178	100	120	1	15

NOTE: INSTALL WATER HEATER PER MANUFACTURER'S RECOMMENDATION AND REQUIREMENT.
COORDINATE WITH ELECTRICAL CONTRACTOR FOR ELECTRICAL POWER REQUIREMENT.
WATER HEATER SHALL BE MIN. 97% THERMAL EFFICIENCY.

GEORGIA REGISTERED No. 31781 PROFESSIONAL ENGINEER KINWAH WONG
11-12-2014

DESIGN BUILD
BLACKWATER CONSTRUCTION GROUP, LLC
2200 SATELLITE BLVD. DULUTH GA
LIC#GC 313569

DESIGN CONSULTANTS
DESIGN SOLUTIONS LLC
info@omdesignsolutions.com
Phone: 404-740-7587

ARCHITECT OF RECORD
ROBERT J LARA, AIA
8450 SW 201 ST.
CUTLER BAY, FL 33189

STRUCTURAL
ENGQUEST
3550 ENGINEERING DRIVE, SUITE 175
PEACHTREE CORNERS, GA 30092
TEL: (678) 906-4670
www.engquest.com

MEP
ENGQUEST
3550 ENGINEERING DRIVE, SUITE 175
PEACHTREE CORNERS, GA 30092
TEL: (678) 906-4670
www.engquest.com

NOTES:

REVISION #	DATE	REMARKS

ISSUE DATE:	ISSUED TO:	ISSUED FOR:
10-02-2014	COUNTY	PERMITS

PROJECT ADDRESS:
MASJID AL-MOMINEEN
837 NORTH INDIAN CREEK DRIVE CLARKSTON, DEKALB COUNTY GEORGIA. 30021

LAYOUT:
PLUMBING GENERAL NOTES AND LEGEND

PAPER SIZE: 24X36 (ARCH D)

SCALE: AS NOTED

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