

GENERAL	
1.	REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF PLUMBING FIXTURES, DRAINS, PIPE CHASES, WALLS AND FURNISHES.
2.	THESE DRAWINGS ARE DIAGRAMMATIC WHEREIN THE POSITIONING OF PLUMBING PIPING IS APPROXIMATE AND SHALL BE VERIFIED AND COORDINATED WITH WORK BY OTHER TRADES AND BUILDING DESIGN/ CONSTRUCTION CONDITIONS PRIOR TO INSTALLATION.
3.	WORK REQUIRED BY THESE DOCUMENTS SHALL CONFORM TO APPLICABLE CODES AND STANDARDS, WHERE CONFLICTS OCCUR WITH CODES, DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENT SHALL PREVAIL.
4.	PROVIDE SLEEVING, CUTTING, CORING AND PATCHING OF WALLS, FLOORS, ROOFS, FOOTINGS AND GRACE BRIMS WHERE REQUIRED FOR INSTALLATION OF WORK.
5.	PROVIDE AUTOMATIC TRAP PRIMERS AND NECESSARY PIPING FOR CONNECTION TO FLOOR SINKS, FLOOR DRAINS AND OTHER WASTE DRAIN RECEPTORS SUBJECT TO INFREQUENT USE PER CPC LOCATIONS OF TRAP PRIMERS SHOWN ON PLANS ARE BASED UPON ENGINEER'S JUDGMENT ONLY AND ARE SUBJECT TO APPROVAL BY THE LOCAL BUILDING INSPECTOR.
6.	PROVIDE NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER DISSIMILAR METALS ARE JOINED.
7.	MECHANICAL DEVICES (E.G. VALVES, TRAP PRIMERS, WATER HAMMER ARRESTORS, ETC.) SHALL BE READILY ACCESSIBLE. PROVIDE ACCESS PANELS WHERE INSTALLED WITHIN OR BEHIND WALLS OR ABOVE HARD UP CEILINGS.
8.	PIPING AND CONDUIT PENETRATIONS THRU FIRE RATED ASSEMBLIES (I.E. FLOORS, WALLS, CEILINGS, ETC.) SHALL BE INSTALLED WITH UL LISTED FIRESTOP SYSTEMS PER C.B.C. REQUIREMENTS.
9.	FIXTURES FOR PERSONS WITH DISABILITIES SHALL BE PROVIDED IN ACCORDANCE WITH CURRENT APPLICABLE ACCESSIBILITY CODES. REFER TO ARCHITECTURAL PLANS FOR ACCESSIBILITY FIXTURE LOCATIONS.
10.	BURIED METALLIC PIPING (E.G. CAST IRON, STEEL, COPPER, ETC.) SHALL BE INSTALLED WITHIN A MINIMUM 8 MIL THICK POLYETHYLENE SLEEVE OR SEALED SHEET PER MANUFACTURER'S INSTALLATION RECOMMENDATIONS.
11.	CROSS CONNECTION PROTECTION SHALL BE PROVIDED AT POTABLE WATER SUPPLIED APPLIANCES AND EQUIPMENT OTHER THAN THOSE LISTED IN CITY OF SAN DIEGO INFORMATION BULLETIN 103. PROVIDE VACUUM BREAKERS AT HOSE BIBBS.
12.	DO NOT ROUTE PIPING OVER ELECTRIC ROOMS, TELECOMMUNICATION/ DATA ROOMS, ELEVATOR EQUIPMENT ROOMS OR EXIT PASSAGeways FROM STRUCTURAL FLOOR TO STRUCTURAL CEILING UNLESS PIPING IS DEDICATED TO SERVICE THAT ROOM. NO PIPING SHALL BE INSTALLED OVER ELECTRICAL PANELS.
13.	PROVIDE RECORD AS-BUILT DRAWINGS FOR ALL WORK PERFORMED. DRAWINGS SHALL CONSIST OF REDUCIBLE PLANS WITH ALL INSTALLATION CHANGES INDICATED.
14.	PIPING SHALL HAVE ALL BURS REMOVED, PIPE ENDS BEAMED, AND CHIPS REMOVED. PLASTIC PIPING INSTALLED ON PRESSURIZED SYSTEMS SHALL BE CUT WITH PROPER TOOL. CUTTERS PER THE MANUFACTURER'S INSTRUCTIONS, SAW CUTTING OF PIPE PRODUCING SHAVINGS AND BURRS IS NOT ACCEPTABLE.
15.	PROVIDE HANGERS, BRACES, INTERMEDIATE FRAMING SUPPORTS, ANCHORS AND MISCELLANEOUS DEVICES REQUIRED FOR PIPE AND EQUIPMENT INSTALLATIONS.
16.	UNIFORMLY GRADE STORM DRAIN AND CONDENSATE DRAIN PIPING NOT LESS THAN 1/8 INCH PER FOOT AND WASTE AND SEWER DRAIN PIPING NOT LESS THAN 1/4 INCH PER FOOT UNLESS OTHERWISE NOTED AND APPROVED BY THE INSPECTOR.
17.	NEW PIPING INSTALLED ABOVE CEILINGS OR WITHIN ADJACENT WALLS OF SOUND SENSITIVE AREAS AND ROOMS (E.G. AUDITORIUMS, LIBRARIES, CONFERENCE ROOMS, ANIMAL HOUSING AND TESTING ROOMS) SHALL BE INSTALLED WITH MANUFACTURED RESIDENT HANGERS AND ISOLATORS WHICH WILL REDUCE NOISE FOR AN ACoustically SENSITIVE INSTALLATION.
18.	NEW CAST IRON DRAIN PIPING OVERHEAD OF FOOD AND BEVERAGES PREPARED, DISPLAYED AND IN STORAGE SHALL BE INSTALLED WITH HEAVY DUTY 4 BAND COUPLINGS PER C.P.C. SECTION 318.0.
19.	SEISMIC DESIGN AND ANCHORAGE OF PLUMBING COMPONENTS SHALL BE IN ACCORDANCE WITH ASCE 7-02 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES' SECTION 13.6. PROVIDE PRE-ENGINEERED SEISMIC RESTRAINT SYSTEM TO MEET TOTAL DESIGN LATERAL FORCE REQUIREMENTS FOR RESTRAINT AND SUPPORT OF EQUIPMENT AND PIPING. SEISMIC RESTRAINT SYSTEM SHALL BE DESIGNED BY A REGISTERED STRUCTURAL OR CIVIL ENGINEER LICENSED BY THE STATE IN WHICH THE PROJECT IS CONSTRUCTED.
20.	SEE ARCHITECTURAL DRAWING A0010 FOR THE LIST OF DEFERRED SUBMITTAL ITEMS.

COORDINATION	
1.	COORDINATE AND VERIFY EXACT LOCATIONS, SIZES, POINTS OF CONNECTION AND INVERT ELEVATIONS OF NEW AND EXISTING BUILDING PLUMBING SERVICE LATERALS ON SITE PRIOR TO PERFORMING WORK. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES. MAKE FINAL CONNECTIONS TO LATERALS.
2.	COORDINATE EXACT LOCATIONS OF HVAC EQUIPMENT WITH HVAC CONTRACTOR. VERIFY EXACT LOCATIONS AND SIZES OF FLOOR SINKS, DRAIN RECEPTORS AND ROUTING OF GAS AND DRAIN PIPING SERVING HVAC EQUIPMENT. VERIFY DEPTH OF SLOPE REQUIRED FOR GRAVITY DRAIN LINES TO POINT OF DISCHARGE. DETERMINE PIPE ROUTING AND AVOID CONFLICTS WITH NEW AND EXISTING INSTALLATIONS INCLUDING BUILDING COMPONENTS, OTHER UTILITIES, EQUIPMENT, ETC.
3.	COORDINATE WITH HVAC CONTRACTOR THE CONNECTIONS FOR ALL HVAC AIR HANDLERS, EXHAUST FANS, FAN COIL AND ANY OTHER HVAC ITEMS REQUIRING DRAIN PIPE CONNECTIONS. DRAIN CONNECTIONS MAY NOT BE SHOWN ON PLANS.
4.	COORDINATE ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR INCLUDING POWER LOADS OF PLUMBING EQUIPMENT, FIXTURES AND APPLIANCES.
5.	COORDINATE ACCESS PANEL REQUIREMENTS WITH THE ARCHITECT. PROVIDE PANEL SIZES, FINISH, ELEVATIONS AND LOCATIONS.
6.	COORDINATE LOCATIONS, SIZES AND ELEVATIONS OF SLEEVES AND PENETRATIONS THRU WALLS, FLOORS, SEAMS (INCLUDING GRADE BEAMS/FOOTINGS) AND SLABS WITH THE ARCHITECT AND STRUCTURAL ENGINEER.
7.	COORDINATE AND PROVIDE PIPING ROUGH-INS AND CONNECTIONS TO EQUIPMENT, FIXTURES AND APPLIANCES THRU PRE MANUFACTURED CABINET FRAMING SYSTEMS (CHASES).
8.	REFER TO FOOD SERVICE PLANS FOR EXACT LOCATIONS OF PLUMBING ROUGH-INS AND CONNECTION REQUIREMENTS FOR FLOOR DRAINS, FLOOR SINKS, KITCHEN FIXTURES AND EQUIPMENT INCLUDING DIRECT AND INDIRECT WASTE WATER, GAS, ETC. THE CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO FIXTURES AND EQUIPMENT INCLUDING ALL NECESSARY DEVICES (E.G. PIPING, SHUT-OFF VALVES, REGULATORS, HOSES, SHOCK ARRESTORS, BACKFLOW PREVENTERS, ETC.) AND MAKE FULLY OPERATIONAL.
9.	A SEPARATE FIRE DEPARTMENT PERMIT IS REQUIRED FOR COMPRESSED BOTTLE/CYLINDER/TANK GASES. THE CONTRACTOR SHALL SUBMIT COMPLETE PLANS FOR ALL BOTTLE/CYLINDER/TANK COMPRESSED GAS SYSTEMS INCLUDING PIPING DISTRIBUTION TO THE FIRE DEPARTMENT FOR PERMITTING. CONTACT THE SAN DIEGO FIRE DEPARTMENT HAZMAT DIVISION (619-533-4477) AND OBTAIN AN APPLICATION NUMBER.
11.	VACUUM PIPING: TYPE "L" HARD DRAIN COPPER TUBING WITH WROUGHT COPPER FITTINGS. JOINTS: SOLDERED.
12.	DEIONIZED WATER PIPING: SCHEDULE 40 POLYPROPYLENE WITH SOCKET OR BUTT FUSION FITTINGS. JOINTS: FUSION WELDED.
13.	INDUSTRIAL WASTE AND VENT PIPING ABOVE AND BELOW GROUND: DWV POLYPROPYLENE PIPE AND SOCKET FITTINGS. JOINTS: FUSION WELDED.
14.	COMPRESSED AIR, CARBON DIOXIDE, OXYGEN AND SPECIALTY GASES PIPING ABOVE GROUND: TYPE "L" HARD DRAIN COPPER TUBING WITH WROUGHT COPPER FITTINGS. JOINTS: SILVER BRAZED UNDER NITROGEN PURGE. PIPING SYSTEMS SHALL BE CLEANED SAME AS FOR OXYGEN SYSTEMS.

RECYCLED WATER GENERAL NOTES	
1.	TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION ON SITE, IMPROVEMENTS, CONTRACTORS SHALL NOTIFY THE RECYCLED WATER PROGRAM AT 619.533.7465.
2.	ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF "CITY OF SAN DIEGO RULES AND REGULATIONS FOR RECYCLED WATER USE AND DISTRIBUTION WITHIN THE CITY OF SAN DIEGO". THE COUNTY OF SAN DIEGO DEPARTMENT OF ENVIRONMENTAL HEALTH REQUIREMENTS, AND CALIFORNIA DEPARTMENT OF PUBLIC HEALTH TITLE 17 AND 22.
3.	ALL BACKFLOW PREVENTER INSTALLATIONS AND LOCATIONS SHALL BE SUBJECT TO APPROVAL BY THE CITY OF SAN DIEGO WATER DEPARTMENT.
4.	FOR SITE IRRIGATION SYSTEMS (I.E. EXTERIOR LANDSCAPE) REFER TO CIVIL AND LANDSCAPE DRAWINGS FOR INSTALLATION REQUIREMENTS.
5.	HOSE BIBBS ON RECYCLED WATER SYSTEMS ARE PROHIBITED.
6.	CROSS-CONNECTION BETWEEN RECYCLED WATER LINES AND POTABLE WATER LINES IS STRICTLY PROHIBITED.
7.	NO SUBSTITUTION OF PIPE MATERIALS WILL BE ALLOWED WITHOUT PRIOR APPROVAL BY THE CITY OF SAN DIEGO.
8.	INSTALL APPROVED, METALLIC BACKED AND STENOILED WARNING TAP OVER ALL BELOW GRADE PRESSURE RECYCLED WATER LINES. STENOIL AND COLOR CODE (PURPLE) ALL PIPE, ORIENT THE STENOILING TO THE TOP OF THE TRENCH.
9.	ALL ABOVE GROUND WATER PIPING, DEVICES, VALVES, AND OTHER APPURTENANCES SHALL EITHER BE CONTINUOUSLY WRAPPED WITH PURPLE COLORED MYLAR TAPE OR PAINTED PURPLE COLOR. MYLAR TAPE OR PAINTED DEVICES SHALL BE WRAPPED OR PAINTED STAMPED IN SOLID BLACK UPPERCASE LETTERS WITH THE WORDS "CAUTION: RECYCLED WATER, DO NOT DRINK" IN INTERVALS NOT TO EXCEED THREE FEET FOR EXPOSED PIPING AND FOUR FEET FOR PIPING CONCEALED WITHIN WALL. THE COLOR CODED IDENTIFICATION DIFFERENTIATING THE RECYCLED WATER PIPING SYSTEM FROM THE POTABLE WATER PIPING SYSTEM SHALL BE CONSISTANT THROUGHOUT THE BUILDING.
10.	SIGNAGE: A. TOILETS ROOM SIGNS: ALL TOILET ROOM ENTRANCES SHALL HAVE PERMANENTLY POSTED SIGNS. EACH SIGN SHALL CONTAIN ONE-HALF (1/2) INCH HIGH LETTERS OF A VISIBLE COLOR ON A CONTRASTING BACKGROUND. THE LOCATION OF SIGNS SHALL BE IN A VISIBLE LOCATION ADJACENT TO THE ENTRANCE DOOR OF THE TOILET ROOMS. THE TEXT ON THE SIGNS SHALL CONTAIN THE FOLLOWING TEXT: TO CONSERVE WATER, THIS BUILDING USES RECYCLED WATER TO FLUSH TOILETS AND URINALS. B. EQUIPMENT ROOM SIGNS: ALL EQUIPMENT ROOMS AND EQUIPMENT YARDS CONTAINING RECYCLED WATER EQUIPMENT SHALL HAVE A PERMANENT SIGN. EACH SIGN SHALL CONTAIN ONE (1) INCH HIGH LETTERS OF A VISIBLE COLOR CONTRASTING ON A PURPLE BACKGROUND. THE LOCATION OF THE SIGNS SHALL BE IN A LOCATION THAT IS VISIBLE TO ANYONE WORKING ON OR NEAR RECYCLED WATER EQUIPMENT. THE TEXT ON THE SIGNS SHALL CONTAIN THE FOLLOWING TWO TEXT: 1. "CAUTION: RECYCLED WATER, DO NOT DRINK, DO NOT CONNECT TO DRINKING WATER SYSTEM". 2. "NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM. C. VALVE ACCESS DOOR SIGNS: ALL RECYCLED WATER VALVES WITH A WALL SHALL HAVE ITS ACCESS DOOR INTO THE WALL EQUIPPED WITH A PERMANENT SIGN. EACH SIGN SHALL CONTAIN ONE-HALF (1/2) INCH HIGH LETTERS OF A VISIBLE COLOR CONTRASTING ON A PURPLE BACKGROUND. THE SIGNS SHALL BE ATTACHED ON THE OUTSIDE FACE OF THE ACCESS DOOR AND IN THE CENTER OF THE ACCESS DOOR FRAME. THE TEXT ON THE SIGNS SHALL CONTAIN THE FOLLOWING TWO TEXT: 1. "CAUTION: RECYCLED WATER, DO NOT DRINK, DO NOT CONNECT TO DRINKING WATER SYSTEM". 2. "NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM".
11.	PROVIDE A MINIMUM OF A LEAST 18 INCHES OF COVERING OVER ALL PIPING.
12.	WHEN BELOW GRADE POTABLE WATER LINES AND RECYCLED WATER LINES CROSS, THE RECYCLED LINE SHALL BE INSTALLED WITHIN A PROTECTIVE SLEEVE. THE SLEEVE SHALL EXTEND 10 FEET FROM EACH SIDE, FROM THE CENTER LINE OF THE POTABLE LINE, FOR A TOTAL OF 20 FEET.
13.	BELOW GRADE MAINTAIN A 10 FOOT HORIZONTAL SEPARATION BETWEEN POTABLE WATER AND RECYCLED WATER OR SEWER LINES. INSTALL SEWER LINE BELOW RECYCLED WATER LINE AND RECYCLED WATER ALENAIBLE THE POTABLE WATER LINE.
14.	BELOW GRADE PROVIDE A MINIMUM OF 12 INCHES OF VERTICAL SEPARATION BETWEEN POTABLE/RECYCLED WATER/SEWER.
15.	THE REQUIRED CROSS-CONNECTION TEST SHALL BE DONE BY THE CITY OF SAN DIEGO WATER DEPARTMENT AND MONITORED BY THE COUNTY OF SAN DIEGO DEPARTMENT OF ENVIRONMENTAL HEALTH. COPIES OF INSPECTION REPORTS WILL BE FORWARDED TO THE NON-INSPECTING PARTY.
16.	AN ANNUAL CROSS-CONNECTION INSPECTION WILL BE DONE BY THE CITY OF SAN DIEGO SUBJECT TO APPROVAL BY THE COUNTY OF SAN DIEGO DEPARTMENT OF ENVIRONMENTAL HEALTH. COPIES OF THE INSPECTION REPORTS WILL BE FORWARDED TO THE NON-INSPECTING PARTY. A CROSS-CONNECTION SHUTDOWN TEST WILL BE PERFORMED EVERY FOUR YEARS.
17.	PRIOR TO INSTALLATION OF ANY RECYCLED WATER WORK, IT MUST BE INSPECTED BY THE CITY'S RECYCLED WATER PROGRAM PERSONNEL. THE INITIAL CROSS-CONNECTION SHUTDOWN TEST SHOULD BE PERFORMED USING POTABLE WATER FROM A FIRE HYDRANT AND THROUGH A CONSTRUCTION METER WITH AN APPROVED BACKFLOW DEVICE ISSUED BY THE CITY WATER DEPARTMENT.
18.	CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND OBTAINING ALL NECESSARY AND REQUIRED PERMITS.
19.	ALL RECYCLED WATER PIPES SHALL BE INSPECTED AND APPROVED BY OEH STAFF FOR PROPER IDENTIFICATION AND VALVE SEAL THIS PRIOR TO ENCLOSING THE PLUMBING IN WALLS, FLOORS, OR CEILINGS.
20.	WHEN RECYCLED WATER BECOMES AVAILABLE, AN ON-SITE USER SUPERVISOR SHALL BE DESIGNATED IN WRITING. THIS INDIVIDUAL SHALL BE FAMILIAR WITH PLUMBING SYSTEMS WITHIN THE PROPERTY, WITH BASIC CONCEPTS OF BACKFLOW/CROSS-CONNECTION PROTECTION, THE RECYCLED HURVEYOR'S RULES AND REGULATIONS AND THE SPECIFIC REQUIREMENTS OF A RECYCLED WATER SYSTEM. COPIES OF THE DESIGNATION, WITH CONTACT PHONE NUMBERS SHALL BE PROVIDED TO THE CITY OF SAN DIEGO WATER DEPARTMENT AND/OR THE SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH. IN CASE OF EMERGENCY DURING THE CONSTRUCTION AND PRIOR TO OWNER OCCUPANCY CONTACT <u>KEITH JESTER</u> AT <u>619-534-6771</u> PHONE NUMBER IN CASE OF EMERGENCY AFTER OWNER OCCUPANCY CONTACT <u>KEITH JESTER</u> AT <u>619-534-5542</u> PHONE NUMBER
21.	ALL WORK SHALL BE IN ACCORDANCE WITH CPC CHAPTER 16 PART 2.
22.	ALL RECYCLED WATER PIPES SHALL BE INSPECTED AND APPROVED BY SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH STAFF FOR PROPER IDENTIFICATION AND VALVE TAGS PRIOR TO ENCLOSING THE PLUMBING IN WALLS, FLOORS, AND CEILINGS.
23.	NO PIPING SYSTEM USED FOR CONVEYING RECYCLED WATER SHALL BE CONVERTED TO POTABLE WATER WITHOUT PRIOR WRITTEN APPROVAL FROM SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH OR THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH.

MATERIALS	
1.	BUILDING SANITARY DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH SECTION 701.0 AND 903.0 OF THE CPC AND SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
2.	SANITARY SEWER, VENT AND STORM DRAIN PIPE BELOW GROUND WITH BUILDING AND TO 5'-0" OUTSIDE OF BUILDING BOUNDARY: SCHEDULE 40 SOLID CORE DWV PVC, DWV PVC SOLVENT WELDED FITTINGS.
3.	SANITARY SEWER, VENT AND STORM DRAIN PIPE ABOVE GROUND: SERVICE WEIGHT, CAST-IRON PIPE AND FITTINGS, PIPING SHALL CONFORM TO CSDH STANDARD 301 AND ASTM 74 AND BEAR MARKINGS OF SUCH STANDARDS. JOINTS: NO-HUB CLAMPS.
4.	POTABLE AND INDUSTRIAL WATER PIPING BELOW GROUND: TYPE "K" HARD DRAIN COPPER TUBING WITH WROUGHT COPPER FITTINGS. JOINTS: SILVER BRAZED.
5.	POTABLE AND INDUSTRIAL WATER PIPING ABOVE GROUND: TYPE "L" HARD DRAIN COPPER TUBING WITH WROUGHT COPPER FITTINGS. JOINTS: LEAD FREE SOLDER.
6.	PUMP DISCHARGE PIPING: TYPE "L" HARD DRAIN COPPER TUBING WITH WROUGHT COPPER FITTINGS. JOINTS: SOLDER.
7.	HOT WATER PIPING SHALL BE INSULATED AND SUPPORTED WITH MANUFACTURED INSULATION DEVICES (CALCIUM SILICATE OR EQUAL). INTERRUPTION OF INSULATION AT PIPE HANGER/SUPPORT POINTS WILL NOT BE ACCEPTED.
8.	NATURAL GAS PIPING ABOVE GROUND: SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE IRON THREADED FITTINGS OR WELDED FITTINGS. MEDIUM PRESSURE GAS PIPING SHALL HAVE IDENTIFICATION LABELING EVERY FIVE FEET.
9.	NATURAL GAS PIPING BELOW GROUND: POLYETHYLENE PRESSURE PIPE AND FITTINGS APPROVED FOR NATURAL GAS. JOINTS: FUSION WELDED. MEDIUM PRESSURE GAS PIPING SHALL HAVE IDENTIFICATION LABELING EVERY FIVE FEET.
10.	CONDENSATE AND INDIRECT DRAIN PIPING: TYPE "M" HARD DRAIN OR DWV COPPER TUBING WITH WROUGHT COPPER FITTINGS. JOINTS: SOLDERED. INTERIOR CONDENSATE DRAIN PIPING AND FITTINGS SHALL BE INSULATED.
11.	VACUUM PIPING: TYPE "L" HARD DRAIN COPPER TUBING WITH WROUGHT COPPER FITTINGS. JOINTS: SOLDERED.
12.	DEIONIZED WATER PIPING: SCHEDULE 40 POLYPROPYLENE WITH SOCKET OR BUTT FUSION FITTINGS. JOINTS: FUSION WELDED.
13.	INDUSTRIAL WASTE AND VENT PIPING ABOVE AND BELOW GROUND: DWV POLYPROPYLENE PIPE AND SOCKET FITTINGS. JOINTS: FUSION WELDED.
14.	COMPRESSED AIR, CARBON DIOXIDE, OXYGEN AND SPECIALTY GASES PIPING ABOVE GROUND: TYPE "L" HARD DRAIN COPPER TUBING WITH WROUGHT COPPER FITTINGS. JOINTS: SILVER BRAZED UNDER NITROGEN PURGE. PIPING SYSTEMS SHALL BE CLEANED SAME AS FOR OXYGEN SYSTEMS.

MANDATORY CONSERVATION MEASURES	
1.	SERVICE WATER HEATING EQUIPMENT SHALL CONFORM TO THE REQUIREMENTS OF APPLICABLE EFFICIENCY STANDARDS AND SHALL BE CERTIFIED AND LISTED BY THE CALIFORNIA ENERGY COMMISSION (CEC).
2.	PLUMBING FIXTURES SHALL HAVE FLOW RESTRICTION DEVICES THAT LIMIT THE MAXIMUM FLOW AND CAPACITY OF WATER AS FOLLOWS: LAVATORY FAUCETS IN PUBLIC REST ROOMS SHALL BE SELF-CLOSING TYPE WITH A FLOW RESTRICTION DEVICE NOT TO EXCEED 0.25 GALLONS OF WATER PER 2.2 GPM SINKS LAVATORIES (PRIVATE) 2.2 GPM LAVATORIES (PUBLIC) 2.2 GPM SHOWERS 2.5 GPM WATER CLOSETS 1.6 GPF URINALS 1.0 GPF

RECYCLED WATER DECLARATION OF RESPONSIBLE CHARGE	
I HEREBY DECLARE THAT I AM A LICENSED DESIGN PROFESSIONAL OF THE WORK FOR THIS PROJECT AND THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.	
I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO AND SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS THE LICENSED DESIGN PROFESSIONAL OF THE WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.	
FIRM NAME <u>X-NTH</u> RESPONSIBLE PARTY NAME <u>TODD SOBRO</u> ADDRESS <u>5670 OBERLIN DRIVE, SAN DIEGO, CA 92121</u> PHONE <u>(619) 597-0555</u> EMAIL <u>tsobro@x-nth.com</u> SIGNATURE <u>[Signature]</u> DATE <u>5-28-2009</u> REGISTRATION NUMBER <u>M 23355</u> EXPIRATION DATE <u>9-30-2010</u>	

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PLUMBING SYMBOL LEGEND	
SYMBOL	ABBR. DESCRIPTION
	PPING TURN DOWN OR DROP
	PPING TEE DOWN OR RISE
	PPING TEE UP OR RISE
	P-TRAP
	CV CHECK VALVE
	PRV PRESSURE REDUCING VALVE
	BP BACKFLOW PREVENTER
	BLV BALANCING VALVE
	PRV PRESSURE RELIEF VALVE
	FDO FLOOR CLEAN OUT
	WCO WALL CLEAN-OUT
	ECO EXTERIOR CLEAN OUT
	CAPPED PIPE
	HOSE BIBB
	WH WALL HYDRANT
	U UNION
	FS FLOW SWITCH
	PG PRESSURE GAUGE WITH GAUGE COCK
	TEE BRANCH
	VALVE ON PIPING RISE OR DROP
	TP TRAP PRIMER
	TH THERMOMETER
	WHM() WATER HAMMER ARRESTOR (P.D.I. SIZE)
	DIRECTION OF FLOW
	SLOPE & DIRECTION OF FALL
	DIAMETER
	SQ FT SQUARE FEET
	DR DRAIN RECEPTOR
	FD FLOOR DRAIN
	FS FLOOR SINK
	RD ROOF DRAIN
	ORD OVERFLOW ROOF DRAIN

TAGS AND CALL OUT SYMBOLS	
SYMBOL	DESCRIPTION
	EQUIP EQUIPMENT REQUIRING ELECTRICAL SERVICE. REFER TO SCHEDULES FOR PERFORMANCE REQUIREMENTS.
	EQP EQUIPMENT NOT REQUIRING ELECTRICAL SERVICE. REFER TO SCHEDULES FOR PERFORMANCE REQUIREMENTS.
	EQP EQUIPMENT AND FIXTURES SPECIFIED IN ANOTHER SECTOR OF WORK.
	WC-1 PLUMBING FIXTURE CALLOUT
	SECTION DESIGNATION SHEET NUMBER
	DETAIL DESIGNATION SHEET NUMBER
	REVISION CALLOUT
	KEYNOTE CALLOUT
	P FURNISHED AND INSTALLED BY PLUMBING CONTRACTOR
	M FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR
	E FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR

PLUMBING PIPING LEGEND	
SYMBOL	ABBR. DESCRIPTION
	CD CONDENSATE DRAIN
	D INDIRECT DRAIN
	LW LABORATORY WASTE ABOVE FLOOR OR GRADE
	LW- LABORATORY WASTE BELOW FLOOR OR GRADE
	LWV LABORATORY WASTE VENT
	CCD OVERFLOW CONDENSATE DRAIN
	OSD OVERFLOW STORM DRAIN
	PD PUMP DISCHARGE
	SD STORM DRAIN ABOVE FLOOR OR GRADE
	SD- STORM DRAIN BELOW FLOOR OR GRADE
	S SANITARY SEWER OR WASTE ABOVE FLOOR OR GRADE
	S- SANITARY SEWER OR WASTE BELOW FLOOR OR GRADE
	KW KITCHEN WASTE ABOVE FLOOR OR GRADE
	CW COLD WATER (DOMESTIC/POTABLE)
	DI DEIONIZED WATER
	DIR DEIONIZED WATER RETURN
	HW HOT WATER (DOMESTIC/POTABLE) 120°F
	HWR HOT WATER RETURN (DOMESTIC/POTABLE) 120°F SYSTEM
	ICW INDUSTRIAL COLD WATER
	IHW INDUSTRIAL HOT WATER 120°F
	IHRW INDUSTRIAL HOT WATER RETURN 120°F SYSTEM
	ISCW INDUSTRIAL SOFT COLD WATER
	RW RECLAIMED WATER
	CO2 CARBON DIOXIDE
	CDRV CARBON DIOXIDE RELIEF VENT
	O2 OXYGEN
	ORV OXYGEN RELIEF VENT
	LG LOW PRESSURE NATURAL GAS (MAX. 14 IN. WC, AVG. 7 IN. WC)
	LA LABORATORY AIR
	LV LABORATORY VACUUM
	MG MEDIUM PRESSURE NATURAL GAS (0.5 PSIG TO 5.0 PSIG)
	N2 NITROGEN
	SCW SOFT COLD WATER
	O2 OXYGEN

PLUMBING ABBREVIATIONS	
ABBR.	DESCRIPTION
ABV	ABOVE
AC	AIR CONDITIONING
A/C	ABOVE CEILING
ADA	AMERICANS WITH DISABILITIES ACT
A/E	ARCHITECT/ENGINEER
AF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ANU	AIR-HANDLING UNIT
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
AP	ACCESS PANEL
ARCH	ARCHITECT OR ARCHITECTURAL
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
BFT	BELOW FINISHED FLOOR
B/G	BELOW GRADE
B/F	BELOW FLOOR
B/S	BELOW SLAB
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CLN	CLEAN
CON	CONCRETE
CONN	CONNECT OR CONNECTION
CONT	CONTINUATION
CONTR	CONTRACTOR
DEG	DEGREE
DFU	DRAINAGE FIXTURE UNITS
DN	DOWN
DWS	DRAWINGS
EA	EACH
EFF	EFFICIENCY
ELECT	ELECTRICAL
ELEV	ELEVATION
EQUIP	EQUIPMENT
FTE	FINISH FLOOR ELEVATION
FIN	FINISH OR FINISHED
FLR	FLOOR
FT	FEET OR FOOT
FU	FIXTURE UNITS
GA	GAUGE
GAL	GALLONS
GALV	GALVANIZED
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HR	HOUR
HVAC	HEATING, VENTILATION, & AIR CONDITIONING
I	INVERT ELEVATION
ID	INSIDE DIAMETER
INV	INVERT
IN. WC	INCHES WATER COLUMN
IVTR	INDUSTRIAL VENT THROUGH ROOF
I/W	IN WALL
LBS	POUNDS
MAX	MAXIMUM
MECH	MECHANICAL
MH	MANHOLE
MFR	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
NC	NORMALLY CLOSED
N	NUMBER
NO	NORMALLY OPEN
OPER	OPERATING
PSIG	POUNDS PER SQUARE INCH GAUGE
PLBG	PLUMBING
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
SCFM	STANDARD CUBIC FEET PER MINUTE
SHT	SHEET
ST STL	STAINLESS STEEL
SPEC	SPECIFICATION
SPWH	STANDARD HOSE VALVE
STRUCT	STRUCTURAL
TEV	THERMAL EXPANSION VALVE
TYP	TYPICAL
VOL	VOLUME
VTR	VENT THROUGH ROOF
V/PH/Hz	VOLTS/PHASE/HERTZ
W/	WITH
WSFU	WATER SUPPLY FIXTURE UNITS
WT	WEIGHT