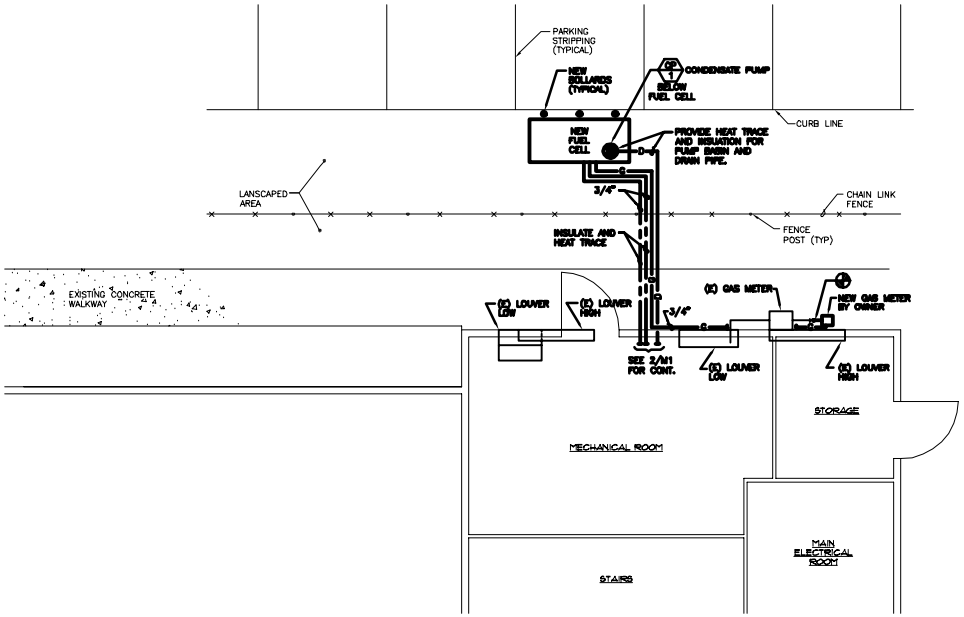
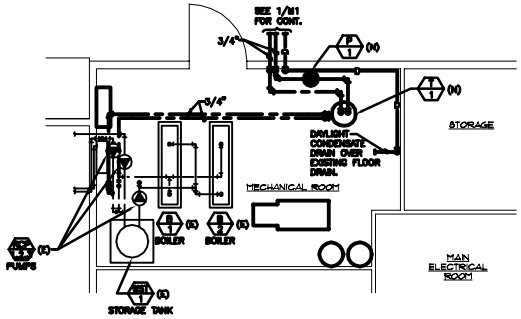
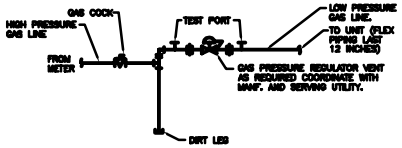


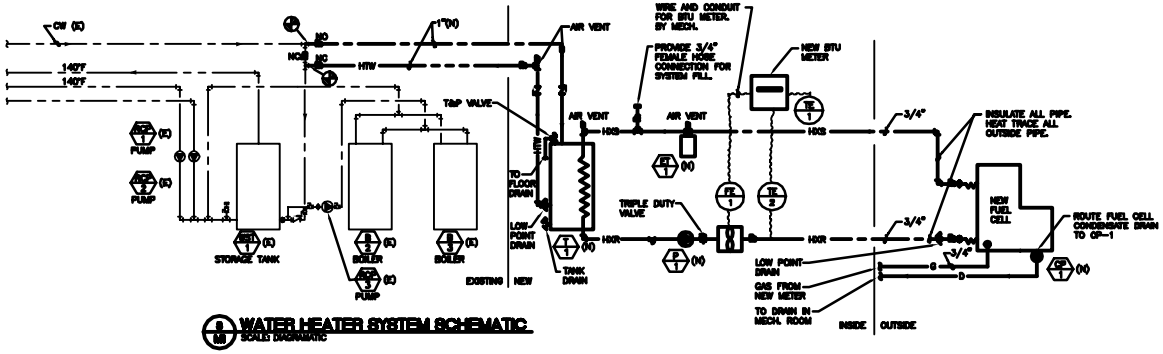
1 M1 PARTIAL SITE PLAN
SCALE: 1/4"=1'-0"



4 M1 MECHANICAL ROOM PLAN
SCALE: 1/4"=1'-0"



4 M1 GAS FIRED EQUIPMENT CONNECTION DETAIL
SCALE: NONE



8 M1 WATER HEATER SYSTEM SCHEMATIC
SCALE: DIAGRAMATIC

EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	QTY / SYSTEM	UOM	SUPPLIER	MODEL #
P-1	CIRCULATOR PUMP. 2" GPM @ 2-1/2 FT. HEAD BRONZE BODY, 3/4" SWEAT	1	EA	GRAINGER	4P085
BTU METER	BTU METER WITH FLOWMETER (FE-1) AND TEMP. ELEMENTS (TE-1, TE-2)	1	EA	ONICON	100-F-1300-0.75
T-1	INDIRECT WATER HEATER, 33 GAL.	1	EA	BRADFORD-WHITE	M2-P-40R10
ET-1	EXPANSION TANK 4.4 GAL.	1	EA	GRAINGER	4UN87
CP-1	CONDENSATE PUMP	1	EA	GRAINGER	5P227

NOTE: DATA LISTED IS TAKEN FROM BEST AVAILABLE DATA FROM PLUG-POWER. CONFIRM ALL DATA WITH INSTALLATION INSTRUCTIONS.

EXPECTED PERFORMANCE

ITEM	T IN	T OUT	FLOW	ΔP
FUEL CELL	100-118	150-189	2 GPM	NEGLIGIBLE
T-1	60	100-118	2 GPM (FUEL CELL SIDE) 2 GPM (HW SIDE)	NEGLIGIBLE

NOTE: DATA LISTED IS TAKEN FROM BEST AVAILABLE DATA FROM PLUG-POWER. CONFIRM ALL DATA WITH INSTALLATION INSTRUCTIONS.

PLUMBING LEGEND

CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RECIRC
140	140 140°F HOT WATER
140R	140R 140°F HOT WATER RECIRC
G	NATURAL GAS
D	CONDENSATE
HX2	HIGH EXCHANGER SUPPLY
HX1	HIGH EXCHANGER RETURN
HTW	HIGH EXCHANGER TEMPERED WATER

(N)	NEW
(E)	EXISTING
	BALL VALVE
	CHECK VALVE
	PRESSURE ACTUATOR VALVE
	RELIEF VALVE
	TRIPLE DUTY VALVE
	UNION
	STRAINER
	PUMP
	CAP
	CONNECT TO EXISTING
P	EQUIPMENT
"W"	FLEXIBLE PIPE CONNECTOR

R&W ENGINEERING, INC.

PROJECT NUMBER 147.000.001
CONTACT: BEN GEORGE.

REV	DATE	DESCRIPTION	BY

HARKINS HOUSE
PLUG POWER FUEL CELL

DESIGNED	EAC
DRAWN	RCD
CHECKED	EAC
DATE	06/09/03
DRAWING NO.	M1
SHEET	1 OF MSHT