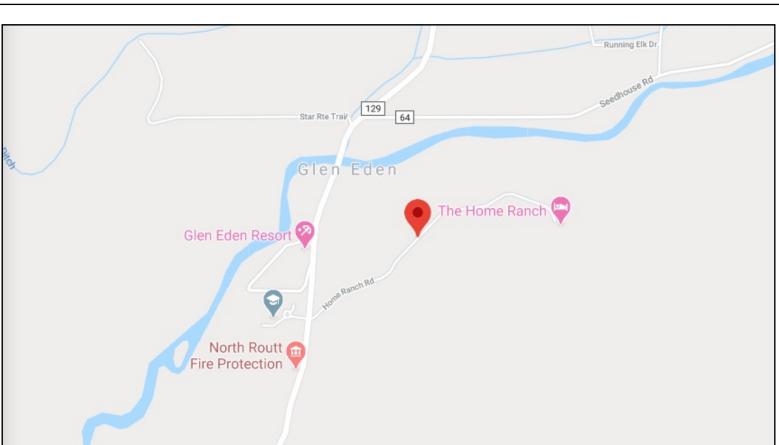
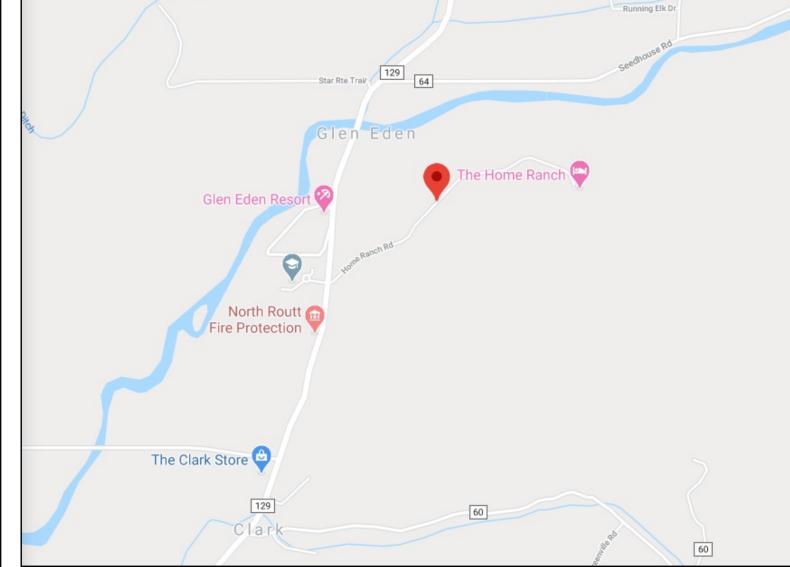
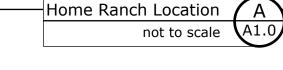
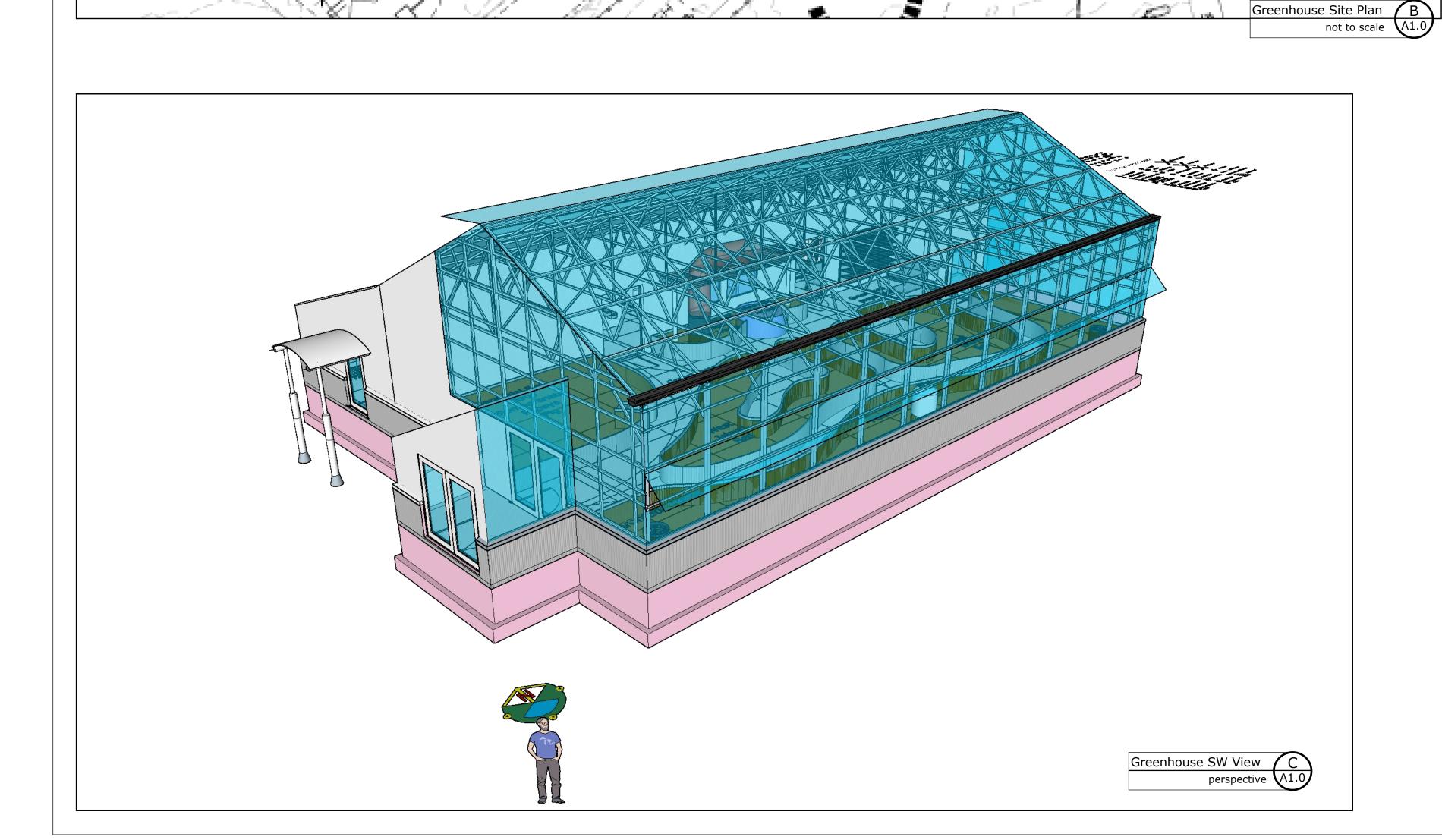
jerome: 970-456-3480 michael: 970-274-0634









See C1.1 Master

Site Plan for details

INDOOR RIDING ARENA

PROPOSED GREENHOUSE

Existing High Tunnel -

EXISTING OREENHOUSE

OUTDOOK KITCHEN

► A1.0 SITE PLAN, LOCATION CLIMATE BATTERY PLAN ► A2.2 GREENHOUSE FLOOR PLAN PLUMBING PLAN **ELECTRICAL & CONTROLS PLAN**

DRAWING LEGEND:

ELECTRICAL 1-LINE DIAGRAM GREENHOUSE ROOF PLAN

GREENHOUSE ELEVATIONS

A3.2 GREENHOUSE ELEVATIONS GREENHOUSE SECTIONS

CLIMATE BATTERY DETAILS

CLIMATE BATTERY INSTALLATION

CLIMATE CONTROL SPECS

→ A5.3 PROCESSING EQUIPMENT SPECS

A6.1 PLANTING BED LAYOUT & DETAILS A6.2 PLANTING PLAN - UNDERSTORY

A6.3 PLANTING PLAN - OVERSTORY

S1.0 GENERAL NOTES - FNDN STRUC.

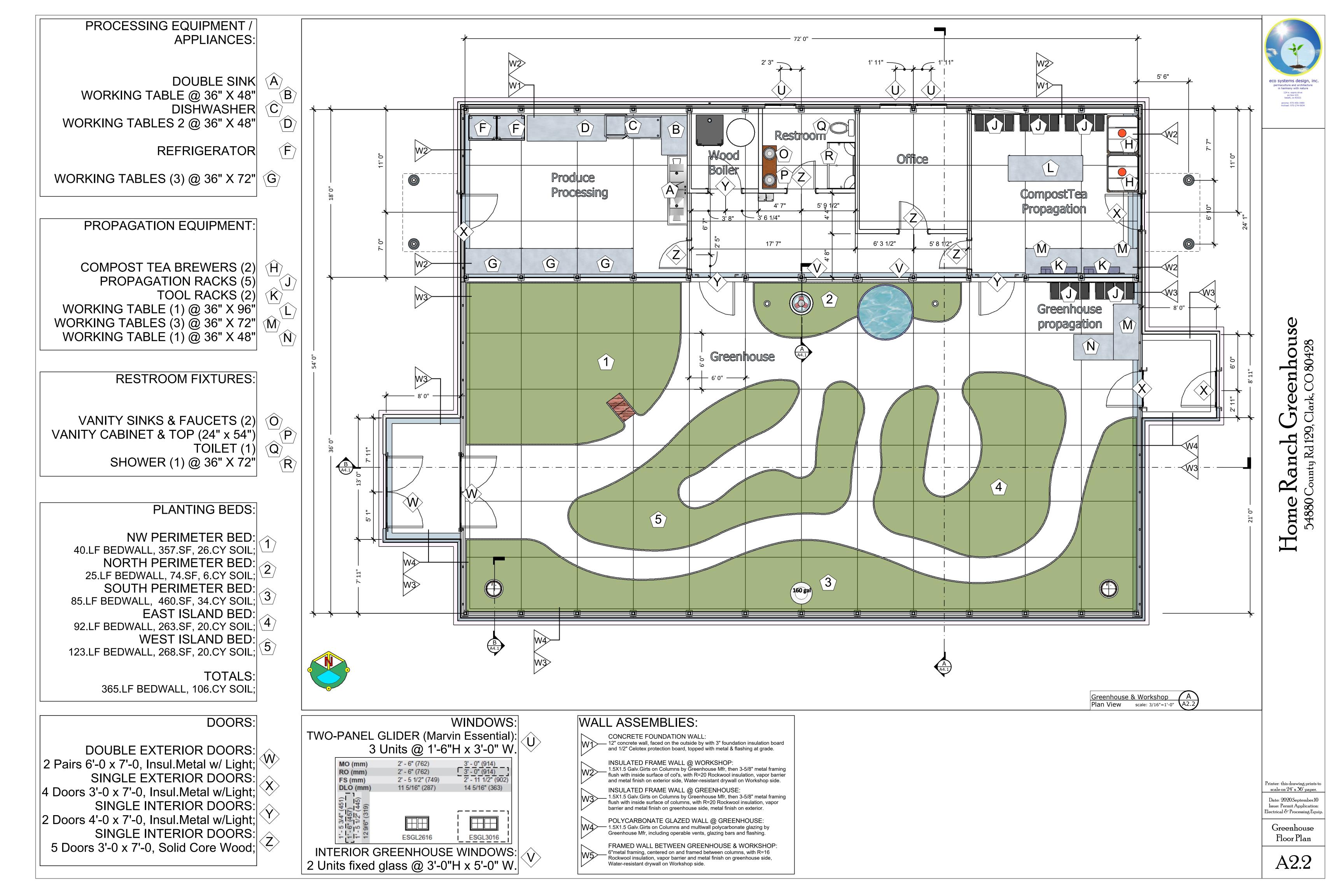
FOUNDATION PLAN

FOUNDATION DETAILS

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Site Plan

A1.0

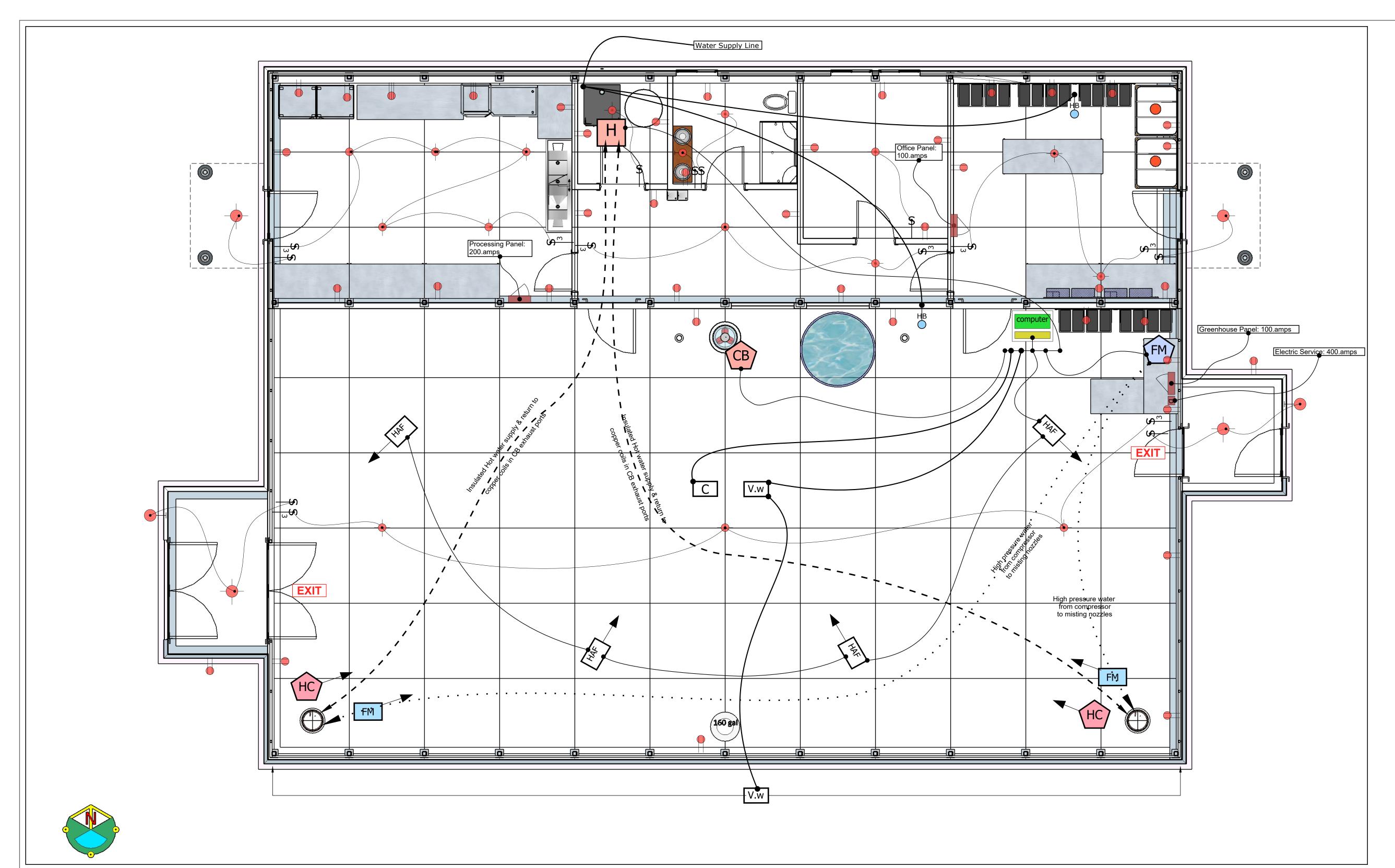


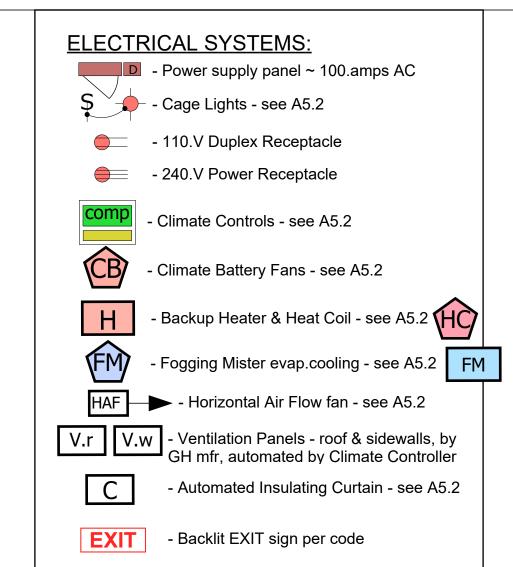
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Plumbing Plan

P9 3





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jerome: 970-456-3480 michael: 970-274-0634

enhouse c, CO80428

PLUMBING SYSTEMS:

HB Hose Bibb - Outdoor freeze-proof faucet

Plant irrigation system and layout will be determined with planting and succession layouts, in accordance with best practices in regenerative agriculture, as determined by farm managers.

PROCESSING PANEL:

BREAKER IN: 200.Amps

Kitchen Lights: 110.V 15.Amps Dishwaser: 110.V 20.Amps

North Power Outlets: 110.V 20.Amps

South Power Outlets: 110.V 20.Amps

Prop.Lab Power Outlets: 110.V 20.Amps Refrigerator/Freezer: 110.V 20.Amps Restroom/Boiler Outlets: 110.V 20.Amps Hallway Power Outlets: 110.V 20.Amps

OFFICE CIRCUITS (in processing panel): **GREENHOUSE PANEL:**

Office/Prop.Lab Lights: 110.V 15.Amps

Restroom/Boiler Lights: 110.V 15.Amps

BREAKER IN: 400.Amps

Out to Office Panel: 100.Amps Out to Kitchen Panel: 100.Amps Greenhouse Controller: 20.Amps

ClimateBattery+HAF fans: 110.V 20.Amps

Greenhouse Vent Motors: 110.V 20.Amps Greenhouse Curtain: 110.V 20.Amps

Backup Heat Water Pump: 110.V 20.Amps Backup Cooling Compressor: 110.V 20.Amps

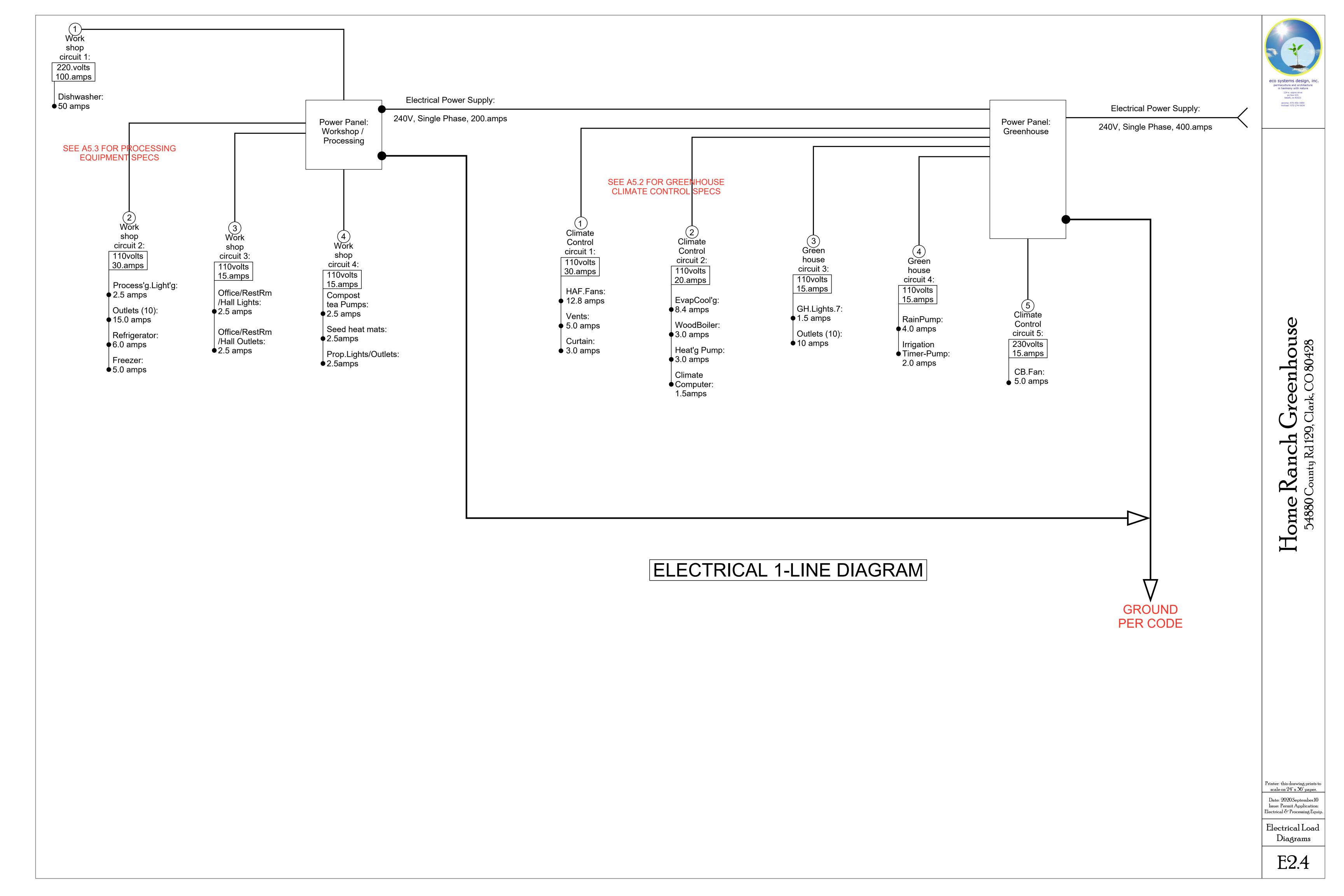
GH Lights + Power Outlets: 110.V 20.Amps



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Greenhouse Electrical Plan

E2.3





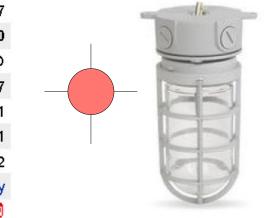
Use Dimmable LED A19 bulbs, 9watt, 800 lumens, Ca warm white 2700k

Vapor Tight Fixture, 10 x4.25x4.25 In

Lighting > Hazardous Location Fixtures > Vapor Tight Fixtures

Vapor Tight Fixture, Lamp Power Rating 200 Watt Maximum, Voltage Rating 120 Volts, Lamp Type Incandescent, Suggested Lamp Stock Number 4V586, Ceiling Mount, UL Listed for Wet Locations, Length 10.00 In, Width 4.25 In, Depth 4.25 In, Gray Finish

rainger Item #	3RB17	
rice (ea.)	\$44.00	
rand	LUMAPRO	
fr. Model#	3RB17	
nip Qty. 🔃	1	
ell Qty. (Will-Call) <mark>?</mark>	1	
nip Weight (lbs.)	3.2	
sually Ships** 🔃	Today	
atalog Page No.	587 💷	



Enlarge Image

Enlarge Image

See Notes & Restrictions for important safety information.

Price shown may not reflect your price. Log in or <mark>registe</mark>r.

Add to Order Add to Personal List ++ Compare Alternates

Vapor Tight Fixture,12.50 x4.25x7.00 ln

Lighting > Hazardous Location Fixtures > Vapor Tight Fixtures

Vapor Tight Fixture, Lamp Power Rating 200 Watt Maximum, Voltage Rating 120 Volts, Lamp Type Incandescent, Suggested Lamp Stock Number 4V586, Wall Mount, UL Listed for Wet Locations, Length 12.50 In, Width 4.25 In, Depth 7.00 In, Gray Finish

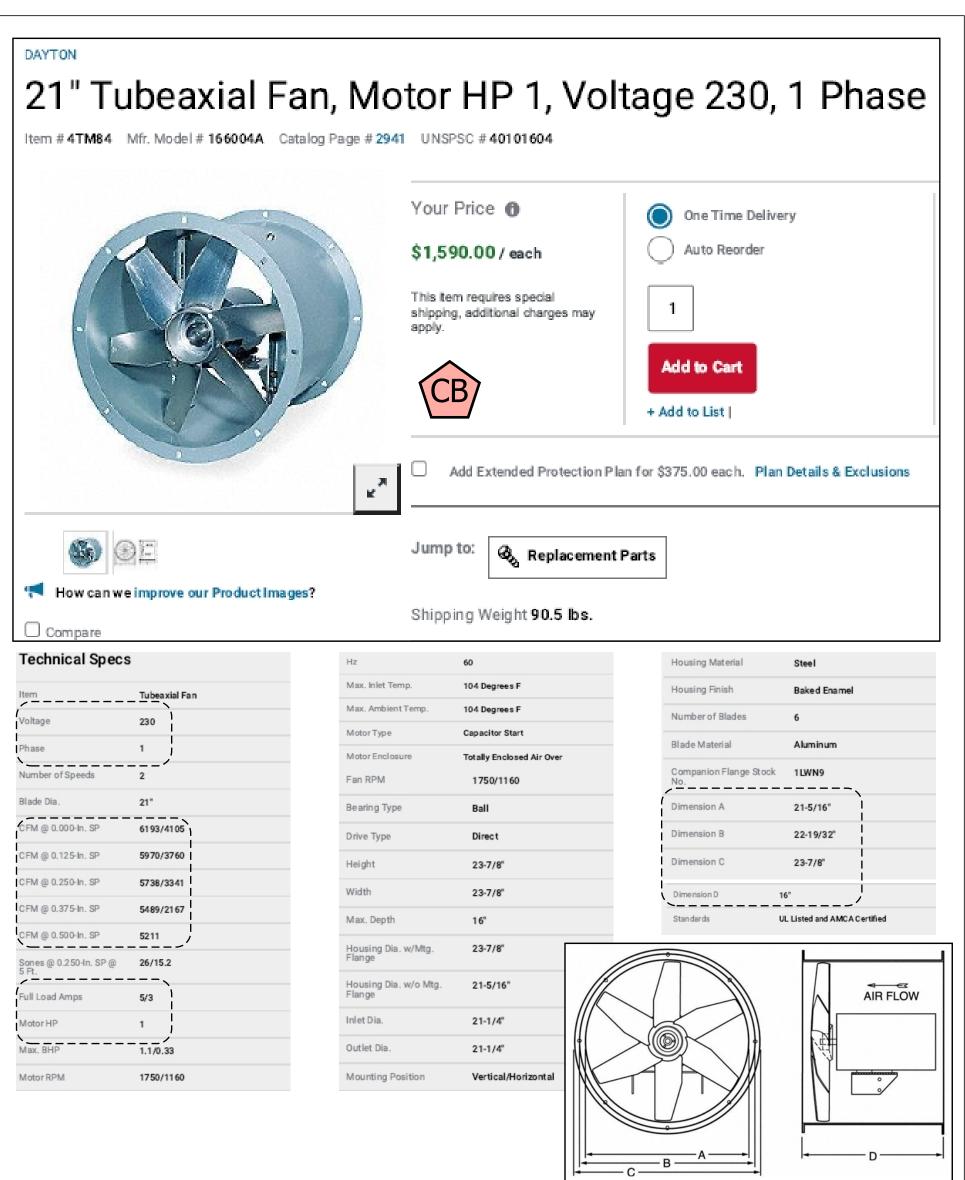
Grainger Item #	3RB18
Price (ea.)	\$54.50
Brand	LUMAPRO
Mfr. Model #	3RB18
Ship Qty. 📵	1
Sell Qty. (Will-Call) 了	1
Ship Weight (lbs.)	4.24
Usually Ships** 🔃	Today
Catalog Page No.	587 💷

See Notes & Restrictions for important safety information. Qty.

Add Grainger TripleGuard® repair & replacement coverage 1 for \$16.95 each.

Add to Order Add to Personal List ++ Compare Alternates

Price shown may not reflect your price. Log in or <mark>register</mark>





The Features & Benefits of a Plant - Air Ventilation System for Horizontal Air Flow

The engineers at Schaefer Fan Company have been innovators in air circulation technology since 1951. The Plant Air system was created with this experience, vigorously tested and patented. The Schaefer Plant Air Circulation Fan is much more efficient in air-to-energy usage than other fans. The Schaefer guards are wider, with less restrictive wire spacing, allowing for twice the air flow of typical basket fans. The Plant Air fan design spreads air currents to insure efficient air circulation and optimum distribution of mist, fog, CO2, and spray chemicals. The Plant Air fan is nomaintenance. The totally enclosed motor never needs oiling and uses heavy-duty moisture resistant bearings for long life.

Air, light, water...

...you know what it takes to make your greenhouse thrive. Schaefer Plant Air Circulation Fans are your solution to healthy air circulation and healthy plant growth. Use Schaefer Plant Air Circulation Fans to implement Horizontal Air Flow (HAF) patterns throughout the greenhouse. The HAF system places small circulation fans strategically in the greenhouse creating a 'race-track' air flow pattern. This system created with Schaefer Plant Air fans encourages plant performance by:

Reducing humidity and moisture condensation.

 Prevent mildew and disease. Encourage healthy plant growth.

Reduce heat loss from conduction through wet glazing. Improving carbon dioxide availability:

Improve photosynthesis by increased fresh air flow across plant leaf surface. · Lower Levels of additional CO needed. Equalizing greenhouse temperature:

 Eliminate air stratification - moving hot air down from the peak. Uniform temperature, lower thermostat settings - save up to 5% in heating costs. Reduce burning of exposed leaves, flowers or fruit on warm days.

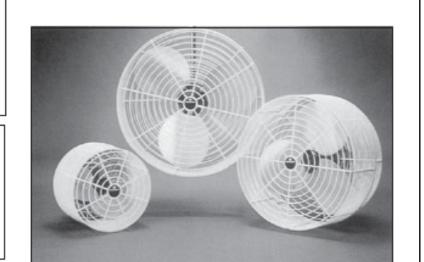
Model#	Size	CFM	HP	Volts	Amps	Var. Speed
GAV S12	12"	2,600	1/10	115/230	9/.45	Yes
GAV S20	20"	6,000	1/3	115/230	3.8/1.9 ◆	Yes
GAV S24	24"	8,500	1/2	115/230	4.0/2.0	Yes
GAV S36	36"	11,000	1/2	115/230	6.0/3.0	No

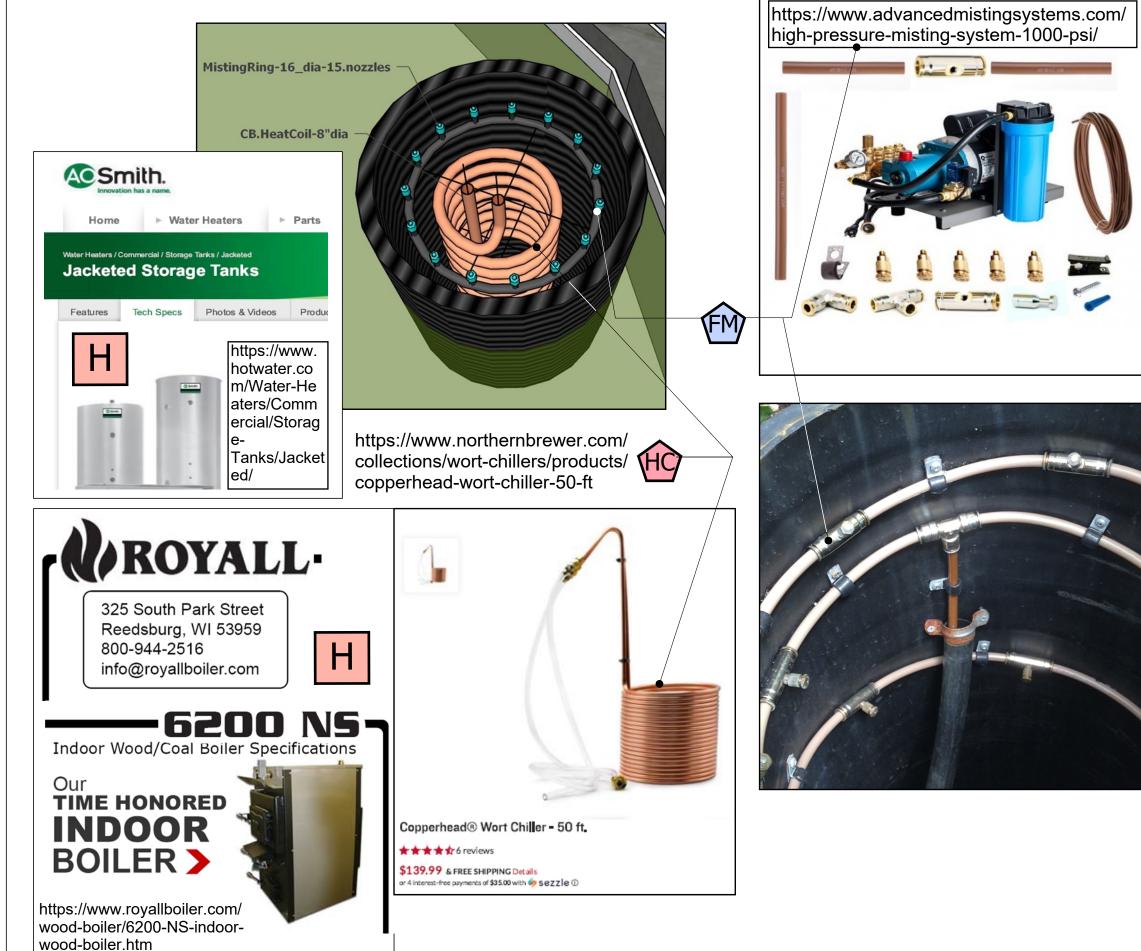
 Maintain consistent greenhouse temperatures. Motor mount provides for each Installation. Solid aluminum blades.

· Moisture resistant variable speed motor . · White vinyl housing prevents shadowing. Fan holes are larger than traditional basket fans and provide double the circulation of traditional models.

 The fan's heavy duty bearing motors are maintenance-free and highly energy efficient. Noise levels are low-well below OSHA noise level require-

ments for plant environments. The fan mounts closer to the ceiling trusses for more headroom clearance.





Climate Control Computer: Wadsworth SEED Controller: https://wadsworthcontrols. com/controls/seed/

Sensors: Weather station Soil sensors T & RH

Controls: Climate Battery Fan HAF circulation fans Passive vent panels Energy Curtain Backup Heater Backup cooling



Home Ranch Greenhouse: Climate Control Equipment:	MFR:	MODEL:	Quantity:	Volts:	Amps:	Watts:
Climate Battery Fan:	Dayton	4TM84	1	230	6.0	1,380
HAF Fans:	Schaefer	GAVS20	4	115	3.8	1,748
Wadsworth Roof Vent:	Wadsworth	VC-2000	1	115	2.5	288
Wadsworth Sidewall Vent:	Wadsworth	VC-100A	1	115	0.7	78
Wadsworth Energy Curtain:	Wadsworth		1	115	2.5	288
Backup Heating Boiler:	Royall	6200-NS	1	115	3.0	345
Backup Heating Tank & Pump:	AO.Smith	500.gal	1	115	5.0	575
Backup Cooling Compressor & Pump:	AMS	1000.psi	1	115	9.0	1,035
Total Power:					32.5	5,736

Cooling Stage 3	I	Battery: ON	Vents: OPEN 2/3	HAF Fans: ON	CLOSED	Fogging Mister: off	off	off
Cooling Stage 2	1	ON	OPEN 1/3	ON	open	off	off	off
Cooling Stage 1	+	ON	closed	ON	open	off	off	off
Neutral - everything OFF	+	off	closed	off	open	off	off	off
Heating Stage 1 Heating Stage 2		ON off	closed closed	ON	CLOSED	off off	off off	off ON
Treating otage 2			ciosca		000000	0.1	011	0.1
	Greenhouse							

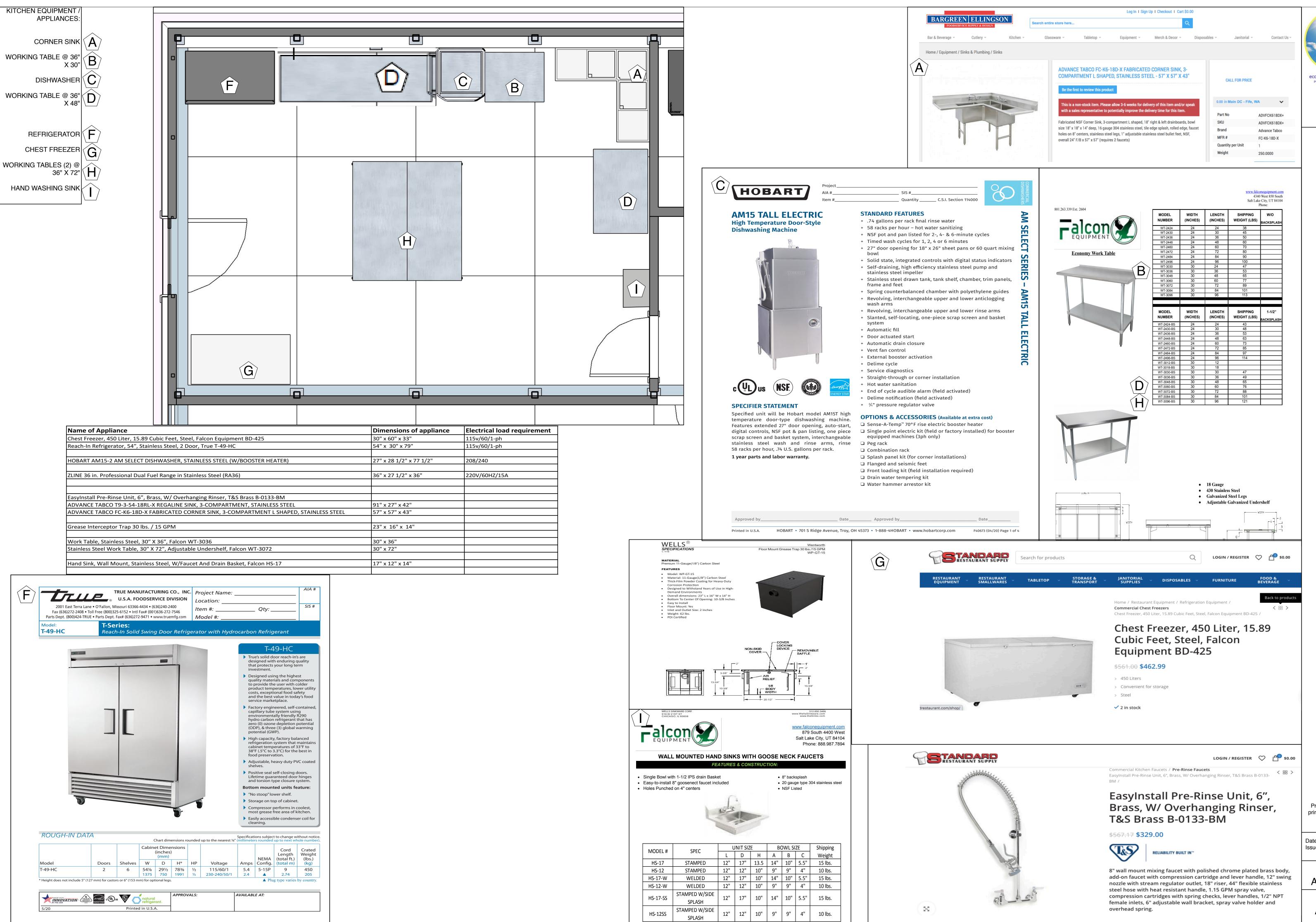
SUMMER TEMPERATURE SETTINGS:	Greenhouse Temperature ° F:	Climate Battery:	Vents:	HAF Fans:	Energy Curtain:	Fogging Mister:	CB Heat Coils:	Backup Heater:
Cooling Stage 3:	90	ON	OPEN 3/3	ON	CLOSED	ON	off	off
Cooling Stage 3:	80	ON	OPEN 2/3	ON	open	off	off	off
Cooling Stage 2:	75	ON	OPEN 1/3	ON	open	off	off	off
Cooling Stage 1:	70	ON	closed	ON	open	off	off	off
Neutral - everything OFF:		off	closed	off	open	off	off	off
Heating Stage 1:	50	ON	closed	ON	CLOSED	off	off	off
Heating Stage 2:	40	off	closed	ON	CLOSED	off	off	off

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Climate Control Specifications



eco systems design, inc.
permaculture and architecture
in harmony with nature

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po box 531
baselt, co 91521
jerome: 970-456-3480
michael: 970-274-0634

me Ranch Greenhouse 54880 County Rd 129, Clark, CO 80428

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Kitchen

Appliances

A5.3