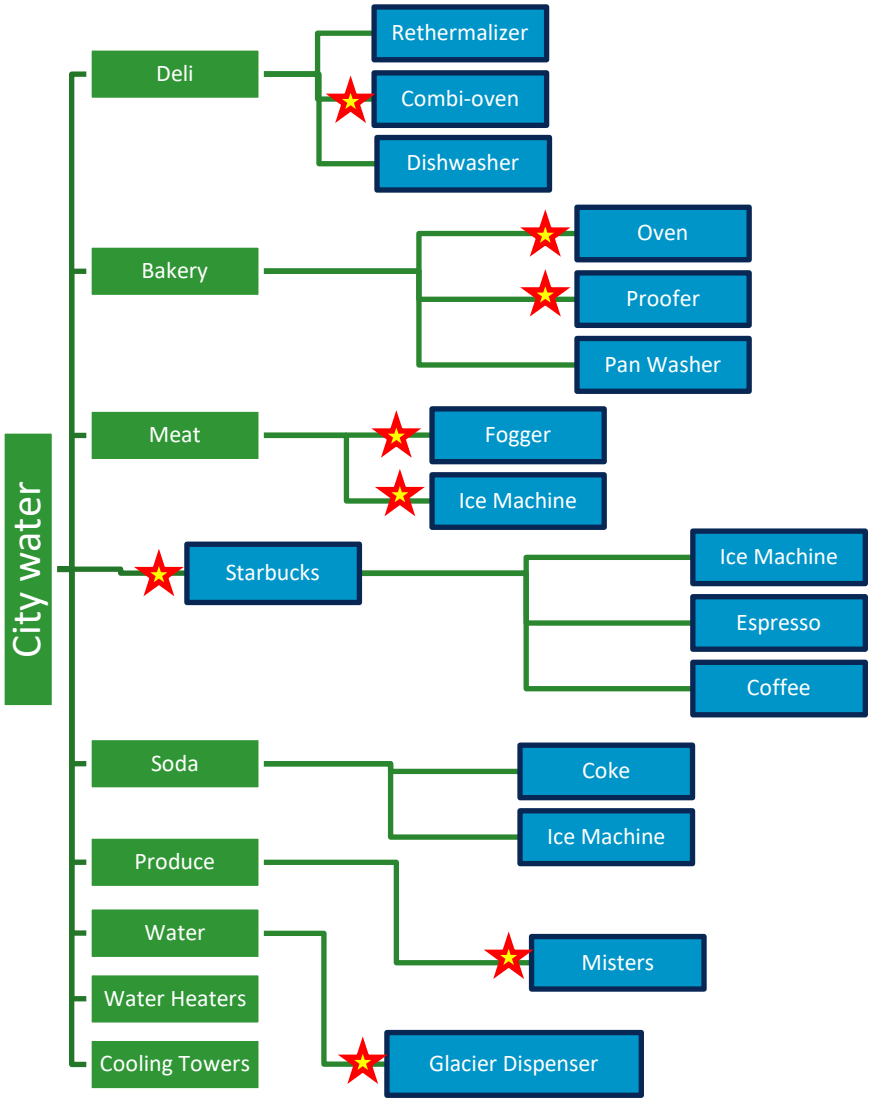
PENTAIR GROCERY OPPORTUNITIES & TREATMENT SOLUTIONS – Case Study

EXISTING Point-of-Use (POU) LAYOUT

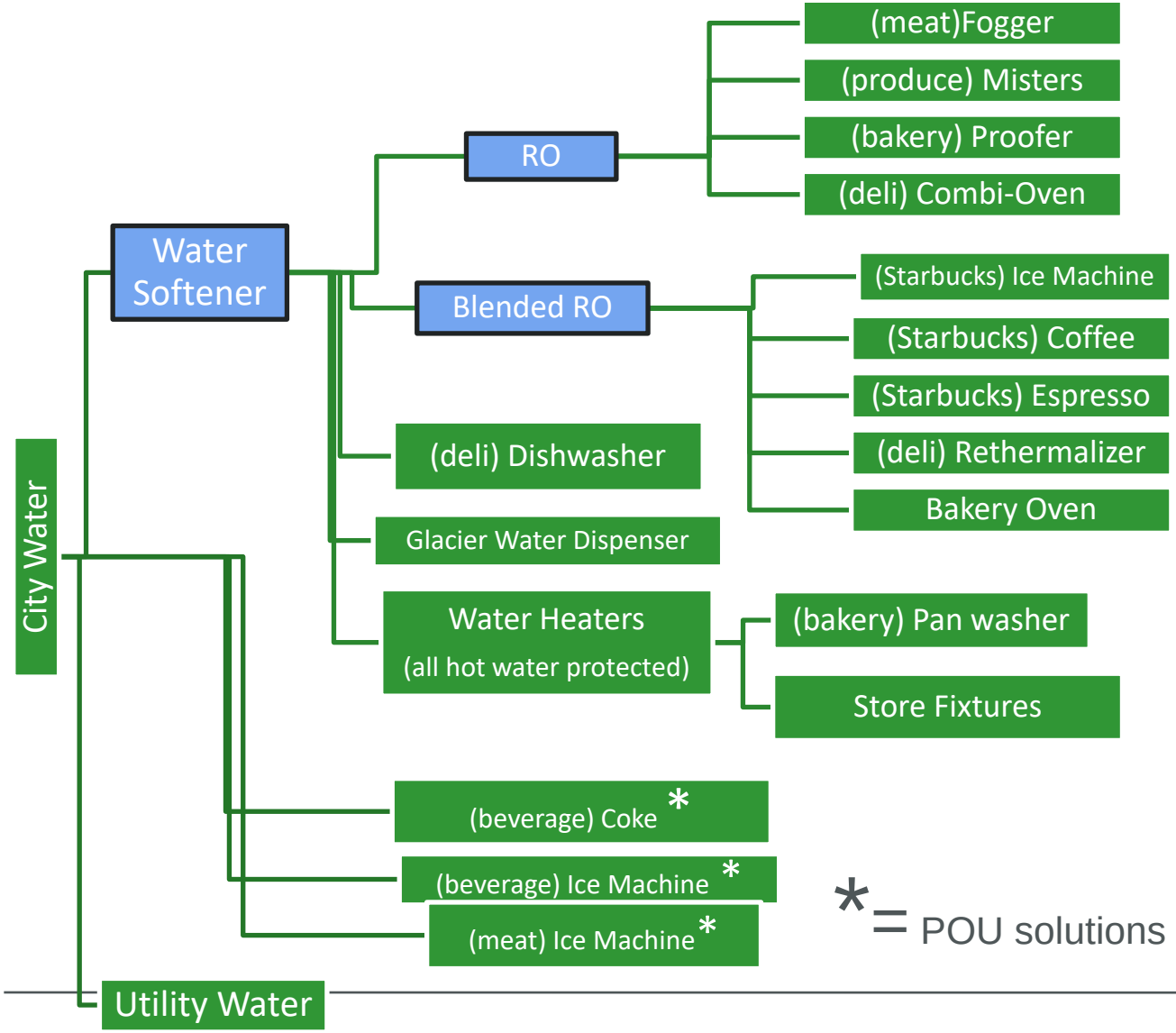


8
POU Water-Treatment Solutions

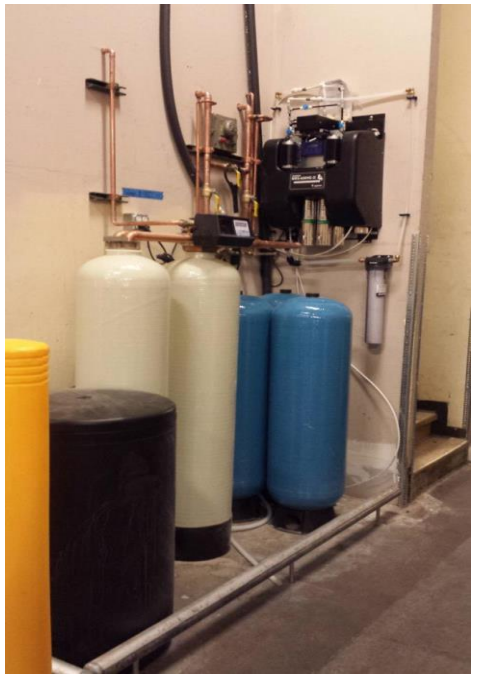
★ = Current possible POU Water Filtration

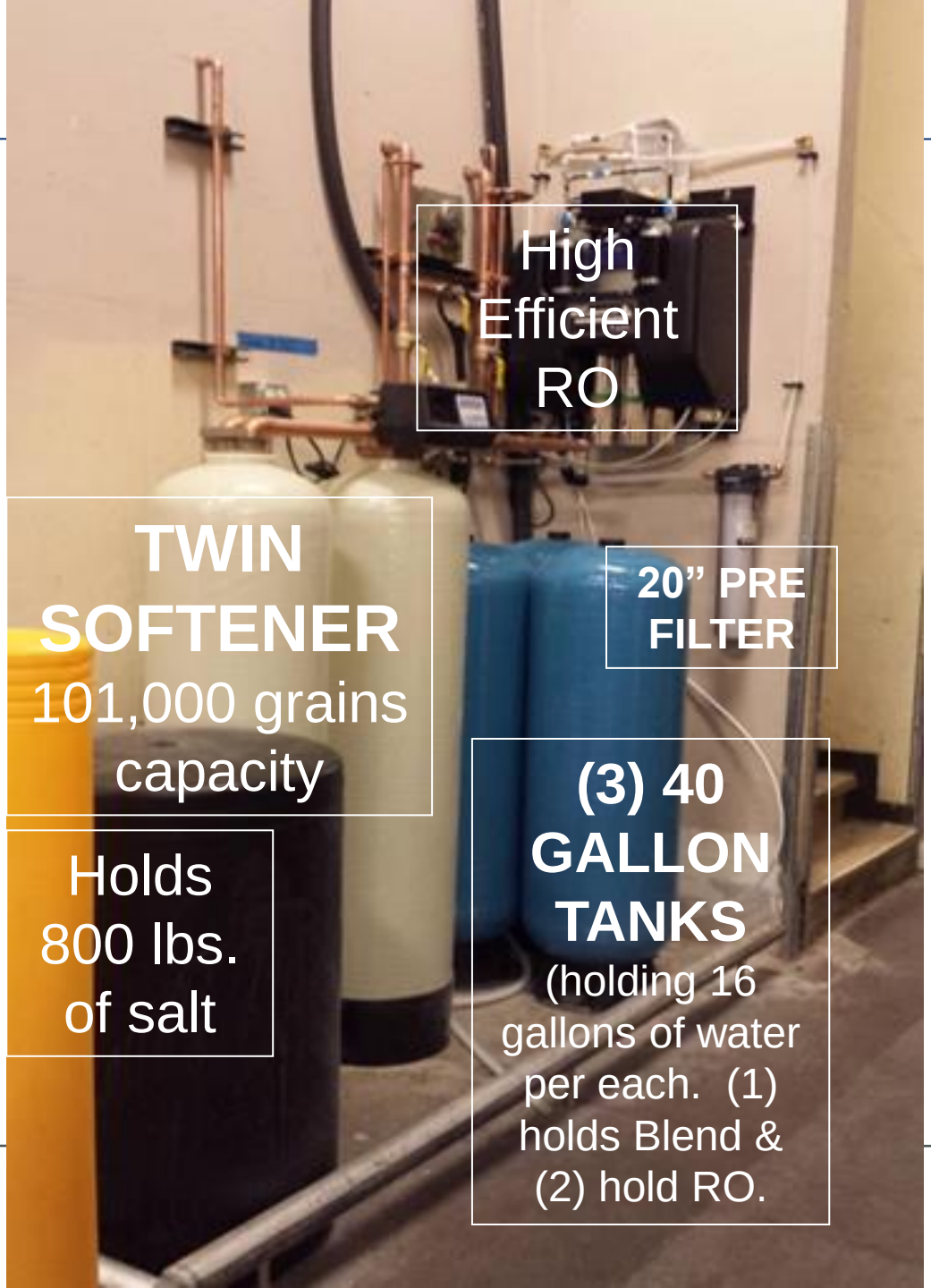
This is an actual outbound water line from a store that was uncovered when store operations were interrupted.

Point-of-Entry (Central) SYSTEM

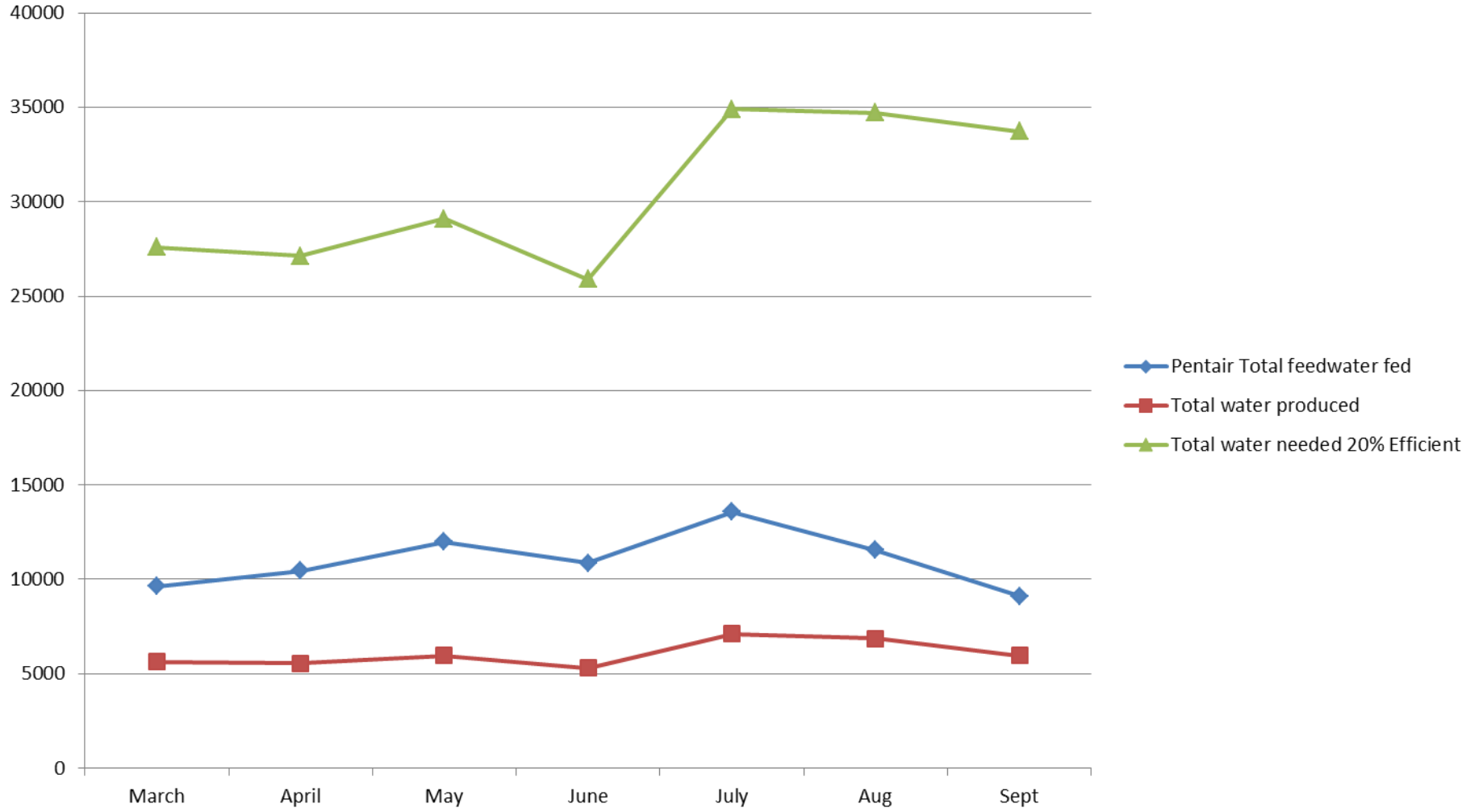


Central Water Treatment Solution




High Efficient RO
TWIN SOFTENER
101,000 grains capacity
20” PRE FILTER
Holds 800 lbs. of salt
(3) 40 GALLON TANKS
(holding 16 gallons of water per each. (1) holds Blend & (2) hold RO.

CENTRAL SYSTEM PERFORMANCE



CENTRAL SYSTEM PERFORMANCE – COST SAVINGS

WATER COSTS SCOTTSDALE, AZ												
Water Rates	$ 3.70											
Sewer Rates	$ 3.07											
Total per 1,000 gallons	$ 6.77											
Pentair Water Costs	$ -	$ 14.12	$ 16.93	$ 15.56	$ 18.64	$ 70.81	$ 81.04	$ 73.58	$ 91.88	$ 78.08	$ 61.74	
Water Cost at 20% Efficient	$ -	$ 40.83	$ 49.24	$ 43.86	$ 52.81	$ 183.70	$ 196.92	$ 175.28	$ 236.24	$ 234.91	$ 228.28	
Water Savings Costs	$ -	$ 26.71	$ 32.31	$ 28.30	$ 34.17	$ 112.89	$ 115.88	$ 101.70	$ 144.36	$ 156.83	$ 166.54	

CENTRAL SYSTEM PERFORMANCE – METER DATA

	Scottsdale Central Water Test Site Meter Readings										
Reading Date	reading 3/12/2014	19-Mar	26-Mar	2-Apr	9-Apr	7-May	5-Jun	2-Jul	7-Aug	5-Sep	2-Oct
Meter #1 (soft water supply)	3,089	5,143	7,611	9,876	12,593	22,898	34,702	45,430	58,826	70,135	78,786
Meter #2 (hard water supply)	687	718	751	785	821	976	1,143	1,283	1,458	1,682	2,151
Meter #3 (pure RO water)	877	1,815	2,997	4,020	5,288	9,618	14,248	18,452	24,168	29,713	34,518
Meter #4 (blended RO water)	1,970	2,263	2,562	2,862	3,183	4,404	5,725	6,811	8,214	9,540	10,694
Reject Water	929	1,783	2,803	3,779	4,943	9,852	15,872	21,450	27,902	32,564	35,725
REAL DATA FROM ABOVE											
Pentair Total feedwater fed		2,085	2,501	2,299	2,753	10,460	11,971	10,868	13,571	11,533	9,120
Total water produced		1,231	1,481	1,323	1,589	5,551	5,951	5,290	7,119	6,871	5,959
		59%	59%	58%	58%	53%	50%	49%	52%	60%	65%
TRADITIONAL DATA @ 20% EFFICIENT											
Total water needed 20% Efficient		6,031	7,273	6,479	7,801	27,135	29,087	25,890	34,895	34,699	33,719
Total water produced		1,231	1,481	1,323	1,589	5,551	5,951	5,290	7,119	7,119	7,119
Reject Water		4,800	5,792	5,156	6,212	21,584	23,136	20,600	27,776	27,580	26,600
		20.4%	20.4%	20.4%	20.4%	20.5%	20.5%	20.4%	20.4%	20.5%	21.1%

ENERGY SAVINGS

EVERPURE® WATER YOU CAN TRUST®

Energy Savings

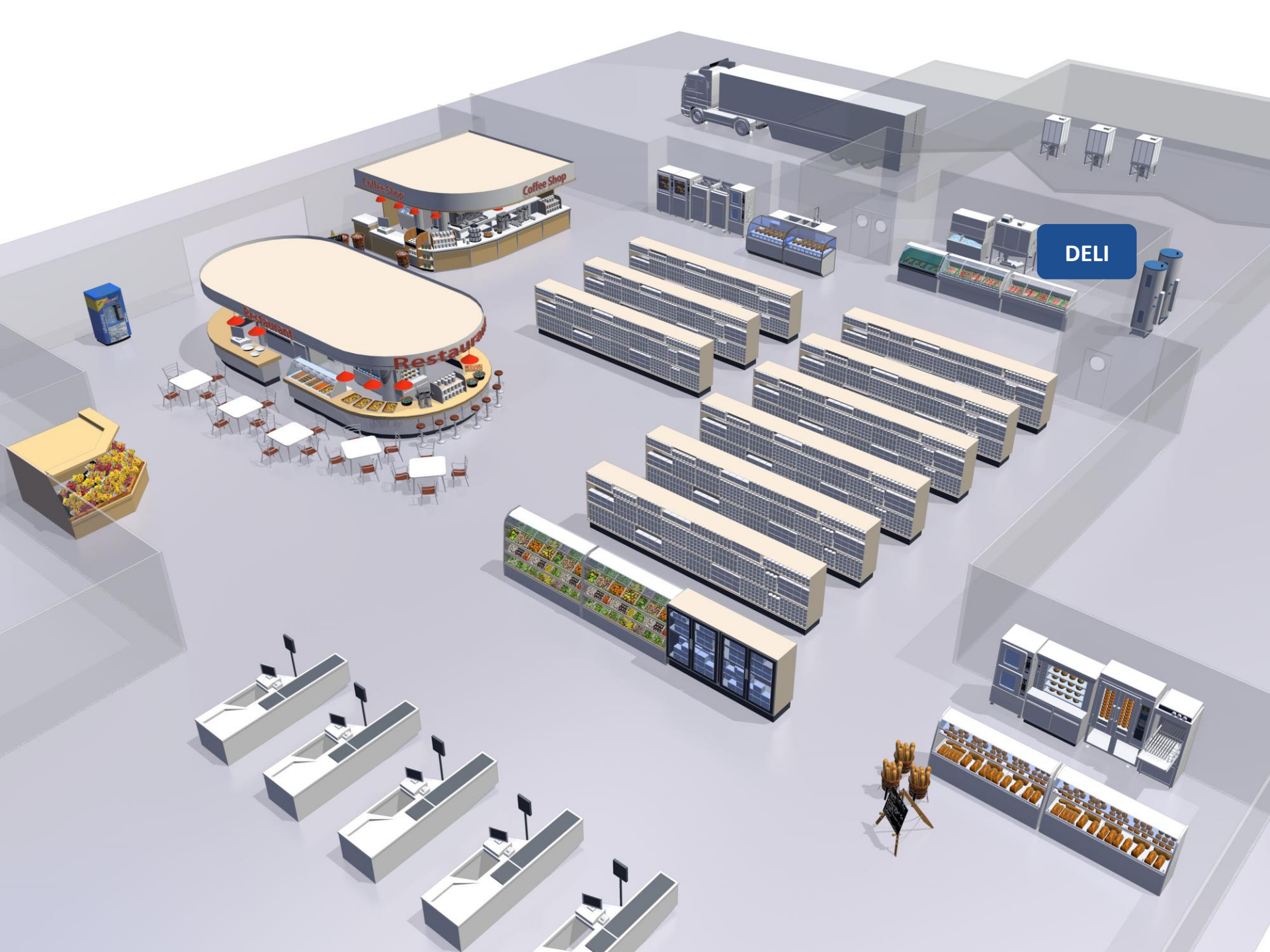
(Coffee, Espresso, Iced Tea, Ice and Steam Equipment)

Years for Annuity: 5

Light blue indicates data entry fields

Without Filtration		With Filtration	
Annual Energy Cost for Equipment w/Scale		**Annual Energy Cost for Equipment without Scale**	
Electricity Rate ($ per kWh)	$ 0.11	**Electricity Rate ($ per kWh)**	0.11
or **BTU of Equipment**	0.0	or **BTU of Equipment**	
kW of Equipment	12.0	**kW of Equipment**	12.0
Hours operated per day - high volume use	6.0	Hours operated per day - high volume use	6.0
Hours operated per day - low volume use	6.0	Hours operated per day - low volume use	6.0
Days operated per year	365	Days operated per year	365
Scale in equipment (inches)	1/8	**Scale in equipment (inches)**	
Total Annual Electricity Cost	**$ 4,700.49**	Total Annual Electricity Cost	**$ 3,854.40**
Energy Cost Over 5 years:	**$ 23,502.44**	**Energy Cost Over 5 years:**	**$ 19,272.00**

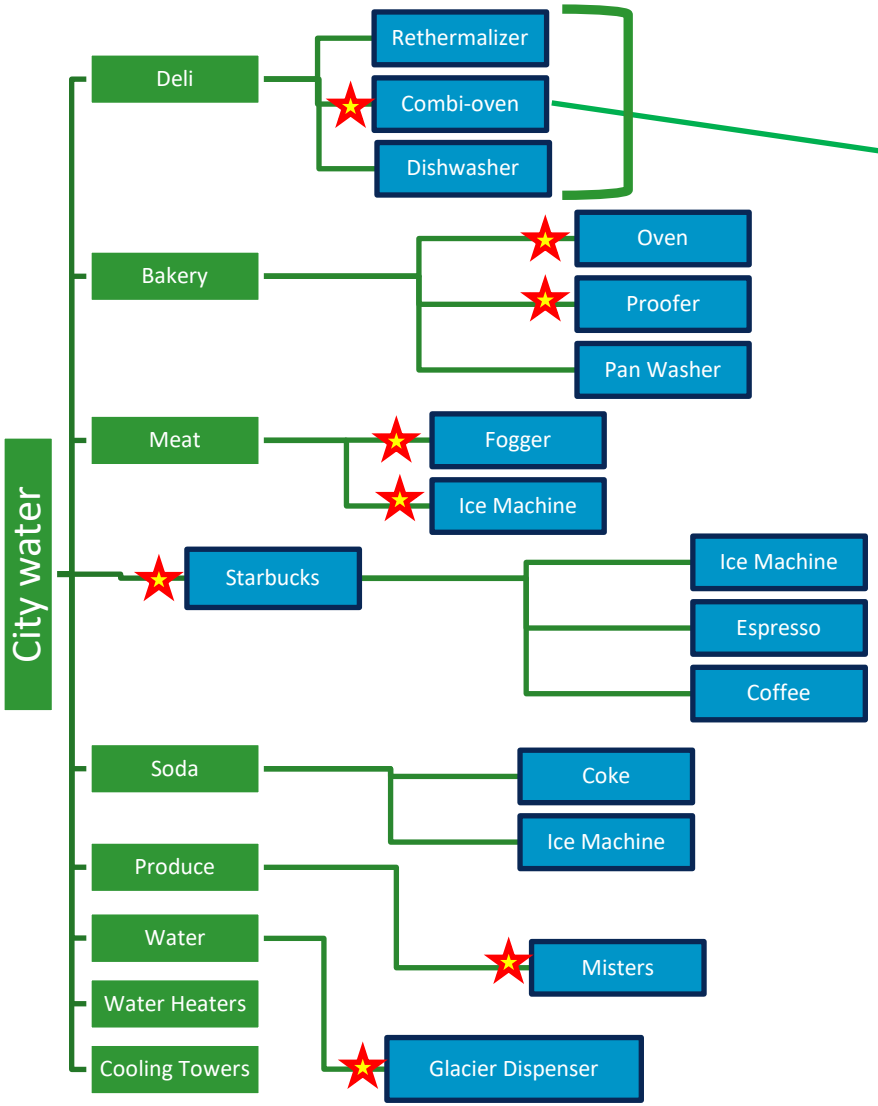
Energy Savings Over 5 Years: $ 4,230.44


Coffee Shop
Coffee Shop
Restaurant
DELI

DELI

- COMBI-STEAM OVEN (Alto-Shaam® 7.14 ESG)
- DISHWASHER (Hobart® AM15 or Jet-Tech® F-22)
- RETHERMALIZERS (Pitco® RTG14)

EXISTING POINT-OF-USE (POU) LAYOUT



What we are focusing on
Equip cost-
$30K+$10K+$5K=$45K

8
POU Water-Treatment Solutions

★ = Current possible POU Water Filtration

WHEN WATER IS CONVERTED TO STEAM, CONTAMINANTS LEFT BEHIND CAN CAUSE SCALE AND CORROSION.

HOW WATER IMPACTS BOILER-FREE STEAM

Scale on tubes can reduce performance

- Low steam production
- Overheating of water injection solenoid'

Product quality and consistency

- Excessive browning of food

Takes longer to heat due to scale

- Wastes energy
- Longer cooking cycles
- Overfiring of heat exchanges could cause failure

Stuck floats and valves

- Under filling could result in tripping of safety, shutting down unit
- Dry firing could occur, damaging controls, elements

Corrosion on cabinet walls and racks from chlorine and chlorides

WATER QUALITY MINIMUM STANDARDS

Alto-Shaam® 7.14 ESG

- **Contaminant Inlet Water Requirements**
  - Free Chlorine - Less than 0.1 ppm (mg/L)
  - Hardness - 30-70 ppm
  - Chloride - Less than 30 ppm (mg/L)
  - Ph - 7.0 to 8.5
  - Silica - Less than 12 ppm (mg/L)
  - Total Dissolved Solids (tds) - 50-125 ppm

RECOMMENDATION – REVERSE OSMOSIS

THE EVERPURE® MRS-600HE-II REVERSE OSMOSIS SYSTEM PREVENTS SCALE WHILE SIGNIFICANTLY REDUCING WATER WASTE

- The best technology for removing TDS from water
- Effective at removing hardness up to 40 grains
- Saves thousands of a gallons of water from going to drain
- Pre-filtration, filtration and reverse osmosis in one system
- Provides consistent, premium quality water at every location

IN DISHWASHING, 467 GALLONS OF WATER = 1 LB OF LIMESCALE ROCK*

* At the national average of 300 ppm TDS

THE IMPACT OF WATER ON DISHWASHING

Hardness leaves spots

Scale can damage heating elements in booster water heaters

Particles can etch over time

Scale can clog orifices

- Reduces flow
- Causes gaps in cleaning

Corrosion from chlorine and chlorides attacks metals

- It causes “rust” on surfaces
- It disintegrates parts

Scale increases energy usage

- As little as 1/8” can cost $hundreds annually

WATER QUALITY MINIMUM STANDARDS

Jet-Tech® F-22

- To get best results, supply 140^{O}F at all time.
- If water temperature is 120F, the dishwasher must be allowed an extra two (2) minutes between washes.
- Running pressure must not exceed 25 PSI (20 ~5)
- Water should be **free of minerals and other sediments.**
- If a hot water tank has to be installed to supply the dishwasher, the average rate of water consumption is 30 gallons per hour.

Hobart® AM15

- Recommended water hardness to be less than 3 grains per gallon
- Chlorides must not exceed 50 parts per million
- “water treatment has been shown to reduce costs associated with machine cleaning, reduce the need for de-liming the dishwasher and reduce detergent usage
- Sediment, silica, Chlorides or other dissolved solids may lead to a recommendation for particulate filtration or RO treatment

RECOMMENDATION – SOFTENING SYSTEMS

Efficient Operation

- Meter initiated regeneration minimizes salt, water and electrical costs
- Meters are made of lead-free brass or tough, corrosion resistant plastic

Heavy Duty Brine Tanks

- Rigid high-impact, exceptional resistance to stress cracks

High Performance Fleck Control Valves

- Time-tested technology
- Designed to withstand rigorous fatigue testing,

Pressure Tanks

- Fiberglass reinforced resin vessels eliminate possibility of corrosion
- Endured 250,000 cycle testing without leakage
- Meets NSF design parameters

THE IMPACT OF WATER ON RETHERMALIZERS

Hardness

- Reduces flow
- Causes liquid level thermostat control issues
- Over flow
- Leaves spots

De-liming

- Use of chemicals

Corrosion from chlorine and chlorides attacks metals

- It causes “rust” on surfaces
- It disintegrates parts

Scale increases energy usage

- As little as 1/8” can cost $hundreds annually

WATER QUALITY MINIMUM STANDARDS

Pitco®

- Temperature - 180 degrees Max
- Hardness – 2.0 Grains/gal Max
- pH – 6.5 to 8.0
- Pressure – 20 psi to 60 psi

RECOMMENDATION – SOFTENING SYSTEMS

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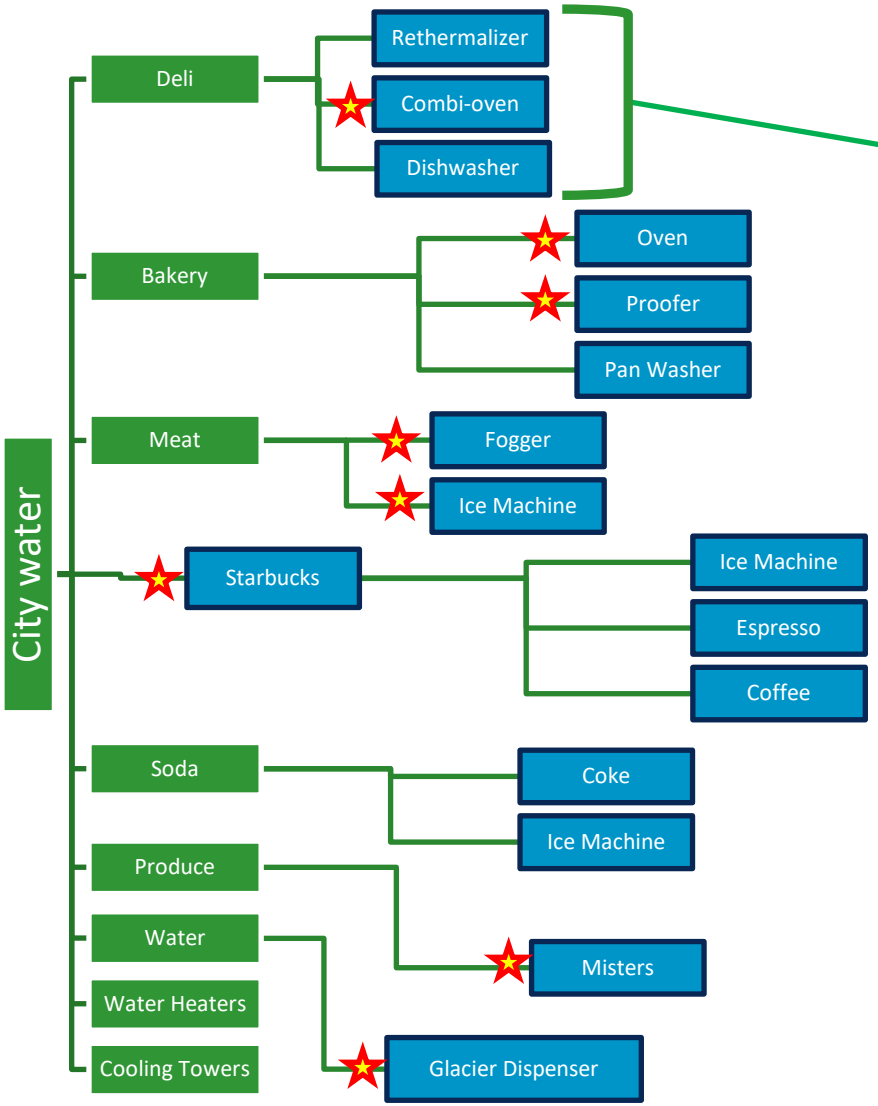


What we are focusing on protecting $45K in equipment PLUS Customer Experience

8
POU Water-Treatment Solutions

★ = Current possible POU Water Filtration

Point-of-Entry (Central) SYSTEM

City Water

Water Softener

RO

- (meat)Fogger
- (produce) Misters
- (bakery) Proofer
- (deli) Combi-Oven

Blended RO

- (Starbucks) Ice Machine
- (Starbucks) Coffee
- (Starbucks) Espresso
- (deli) Rethermalizer
- Bakery Oven

(deli) Dishwasher

Glacier Water Dispenser

Water Heaters
(all hot water protected)

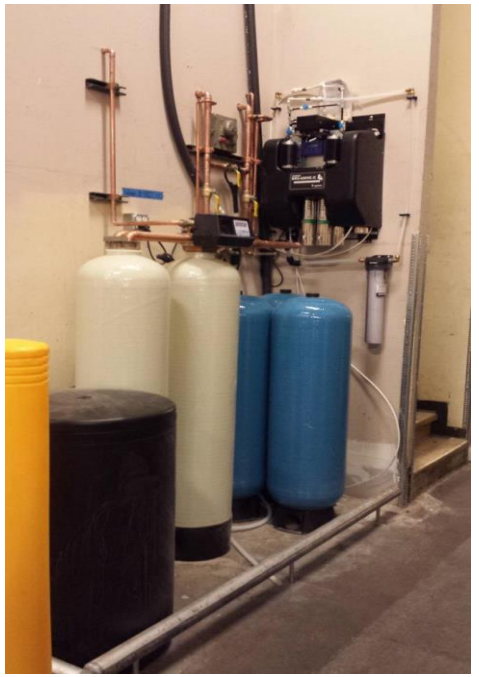
- (bakery) Pan washer
- Store Fixtures

- (beverage) Coke *
- (beverage) Ice Machine *
- (meat) Ice Machine *

Utility Water

*= POU solutions

Central Water Treatment Solution



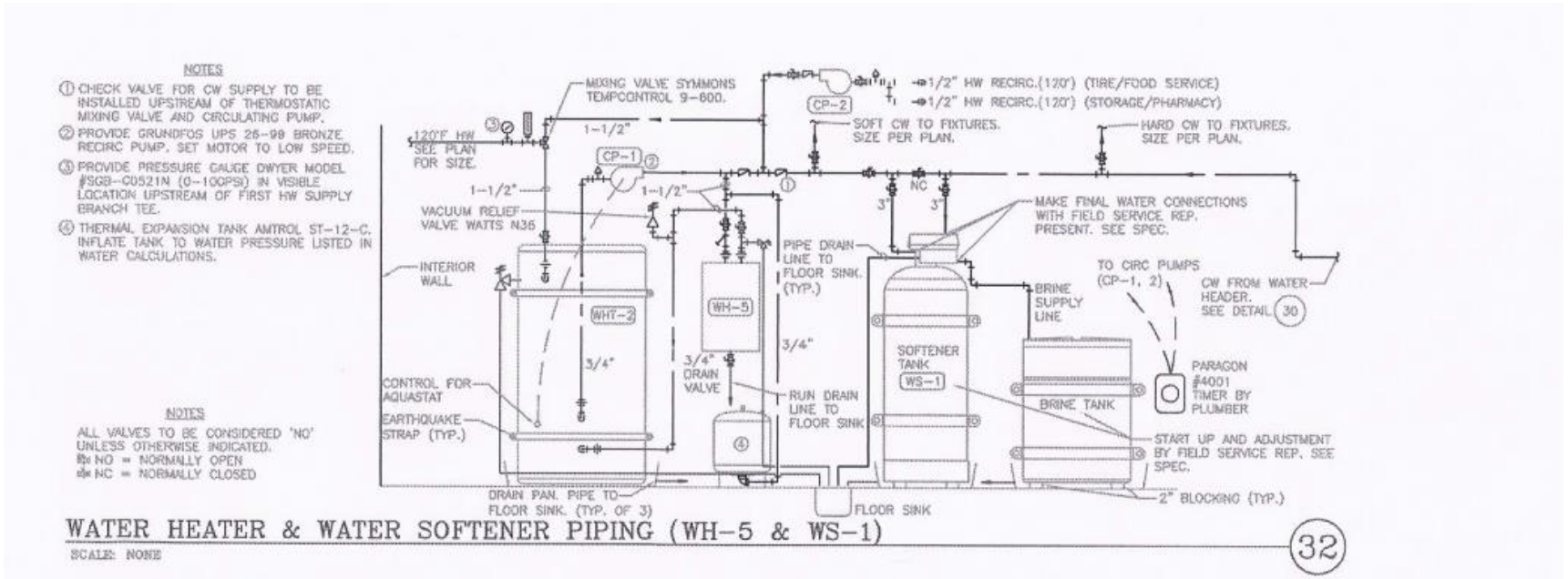
ANNUAL MAINTENANCE

Part Number	Description	Frequency of Change	Annual Cost @ List
EV313151	HEII Permeate Pump	Once a year to every other year	$491
EV313152	HEII Inlet Boost Pump	Once a year to every other year	$491
EV962716	7FS-BW (3)	Once/year	$540
EV961256	MC (2)	Twice/year	$448
EV962713	MR-600 Membrane	Every-other year	$856/2= $428
CH30865-1	ROmate 40 Gallon Tank		$365
		ANNUAL COST	**$1,416**
Salt Usage	Next slide		

ANNUAL MAINTENANCE – SALT USAGE

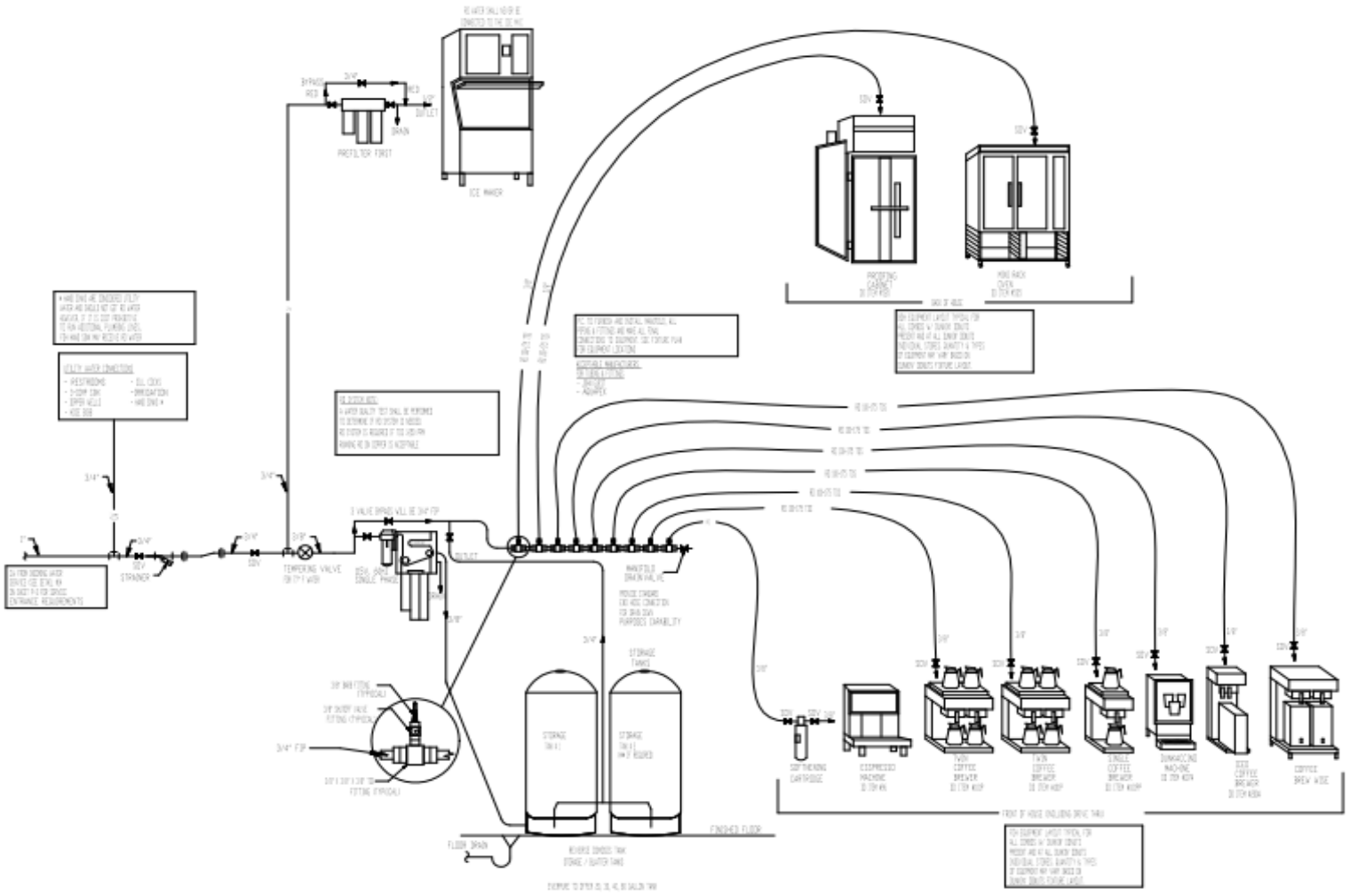
		Grains pre gallon	Gallon capacity to regeneration.	Salt usage per regeneration	40 lb bag of salt.# of regenerations	lbs salt/1000 gallons of water used.
Water Softener Specification		8.00	12625.00	4.00	10.00	0.32
Model #:	**9500**	9.00	11222.22	4.00	10.00	0.36
Capacity:	**101,000 Grains ea.**	10.00	10100.00	4.00	10.00	0.40
Flow Rate:	**37 GPM**	11.00	9181.82	4.00	10.00	0.44
Peak Flow:	**48 GPM**	12.00	8416.67	4.00	10.00	0.48
BW Rate:	**5.0 GPM**	13.00	7769.23	4.00	10.00	0.51
Tank Size:	**14" X 65" Fiberglass**	14.00	7214.29	4.00	10.00	0.55
Brine Tank:	**24" DIA. X 40" Poly**	15.00	6733.33	4.00	10.00	0.59
Media Vol.:	**3.0 FT^3 ea.**	16.00	6312.50	4.00	10.00	0.63
		17.00	5941.18	4.00	10.00	0.67
		18.00	5611.11	4.00	10.00	0.71
Pipe Size:		19.00	5315.79	4.00	10.00	0.75
Inlet:	**1.5" NPT**	20.00	5050.00	4.00	10.00	0.79
Outlet:	**1.5" NPT**	21.00	4809.52	4.00	10.00	0.83
Drain:	**1" NPT**	22.00	4590.91	4.00	10.00	0.87
		23.00	4391.30	4.00	10.00	0.91
		24.00	4208.33	4.00	10.00	0.95
Weight:		25.00	4040.00	4.00	10.00	0.99
Shipping:	**550 LBS.**	26.00	3884.62	4.00	10.00	1.03
Operating:	**LBS.**	27.00	3740.74	4.00	10.00	1.07
		28.00	3607.14	4.00	10.00	1.11
		29.00	3482.76	4.00	10.00	1.15
		30.00	3366.67	4.00	10.00	1.19

BEST-PRACTICE EXAMPLE

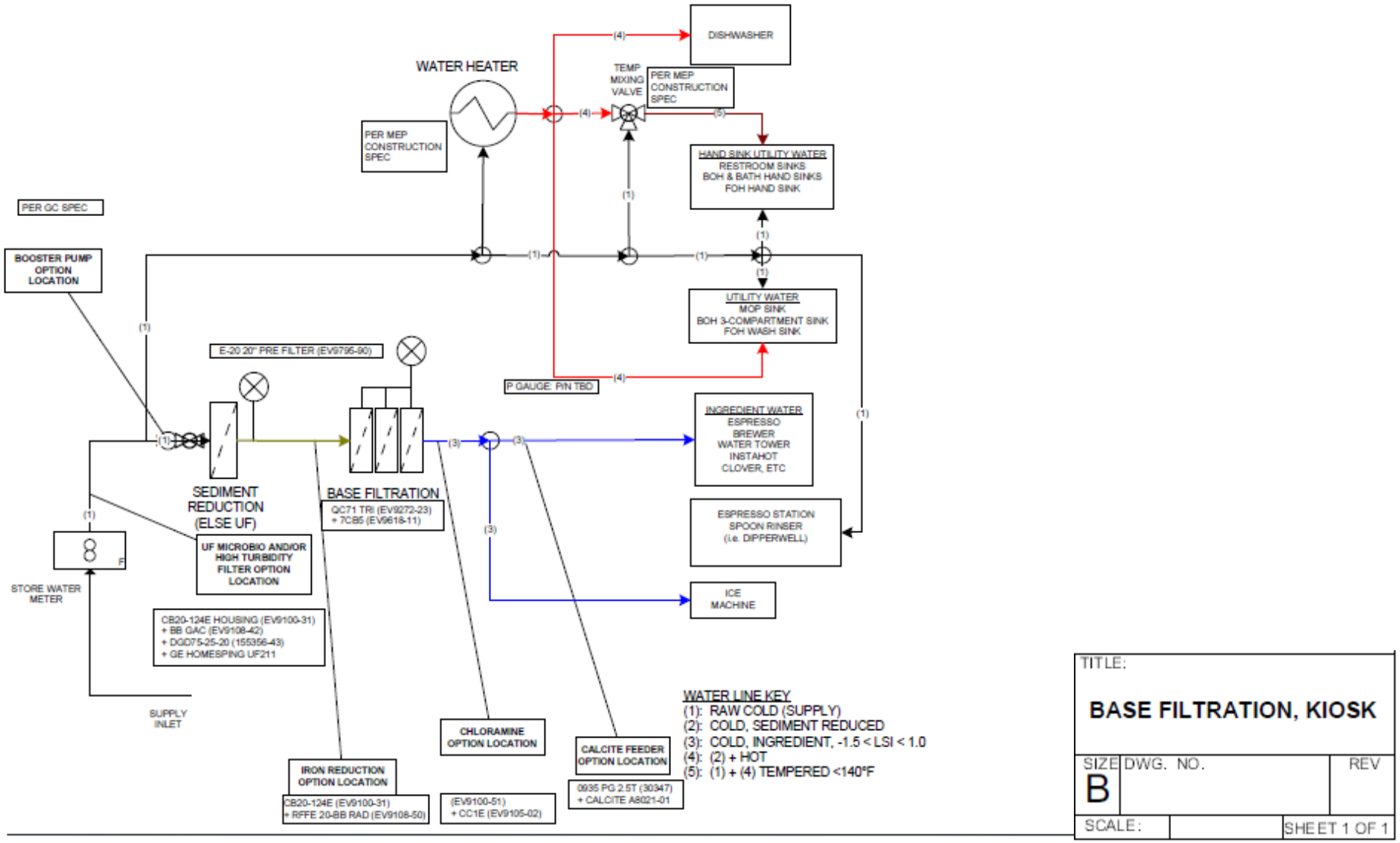


WS-1	WATER SOFTENER	EVERPURE EV9980-32 CES-3900E-341			3"		74 GPM CONTINUOUS @ 15 PSI PRESSURE DROP, 96 GPM MAX. @ 25 PSI PRESSURE DROP. 120V, 1ø, 10W. 3330#. ORDER DIRECT FROM EVERPURE SEE SPEC. AND CONTACT @ 1-800-842-6193 (TWM@PENTAIR.COM)	14/P-2.1	JANITOR ROOM
WS-1	WATER SOFTENER	EVERPURE EV9980-33 CES-3900E-512			3"		100 GPM CONTINUOUS @ 15 PSI PRESSURE DROP, 129 GPM MAX. @ 25 PSI PRESSURE DROP. 120V, 1ø, 10W. 4690#. ORDER DIRECT FROM EVERPURE SEE SPEC. AND CONTACT @ 1-800-842-6193 (TWM@PENTAIR.COM)	14/P-2.1	JANITOR ROOM

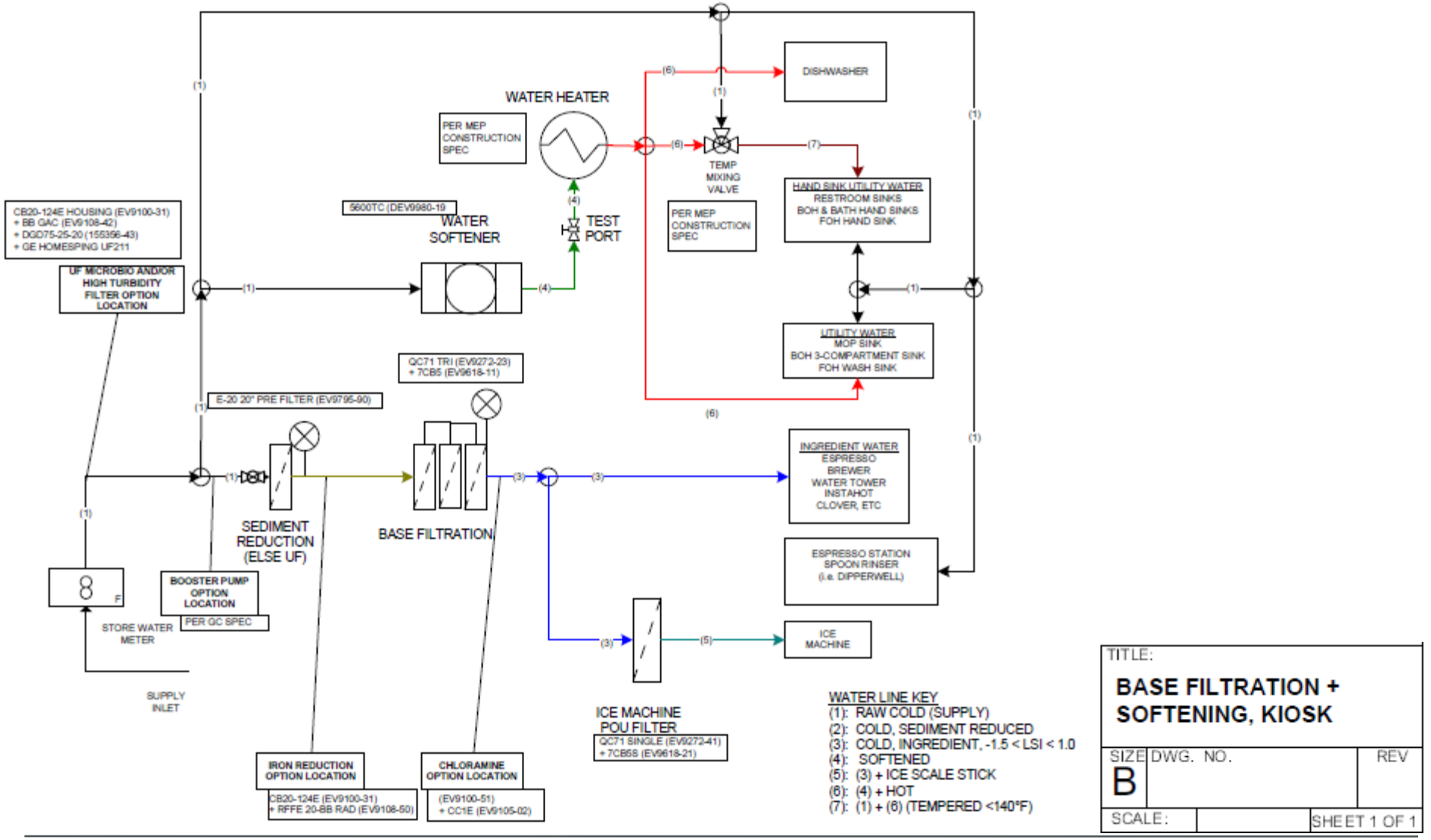
BEST-PRACTICE EXAMPLE



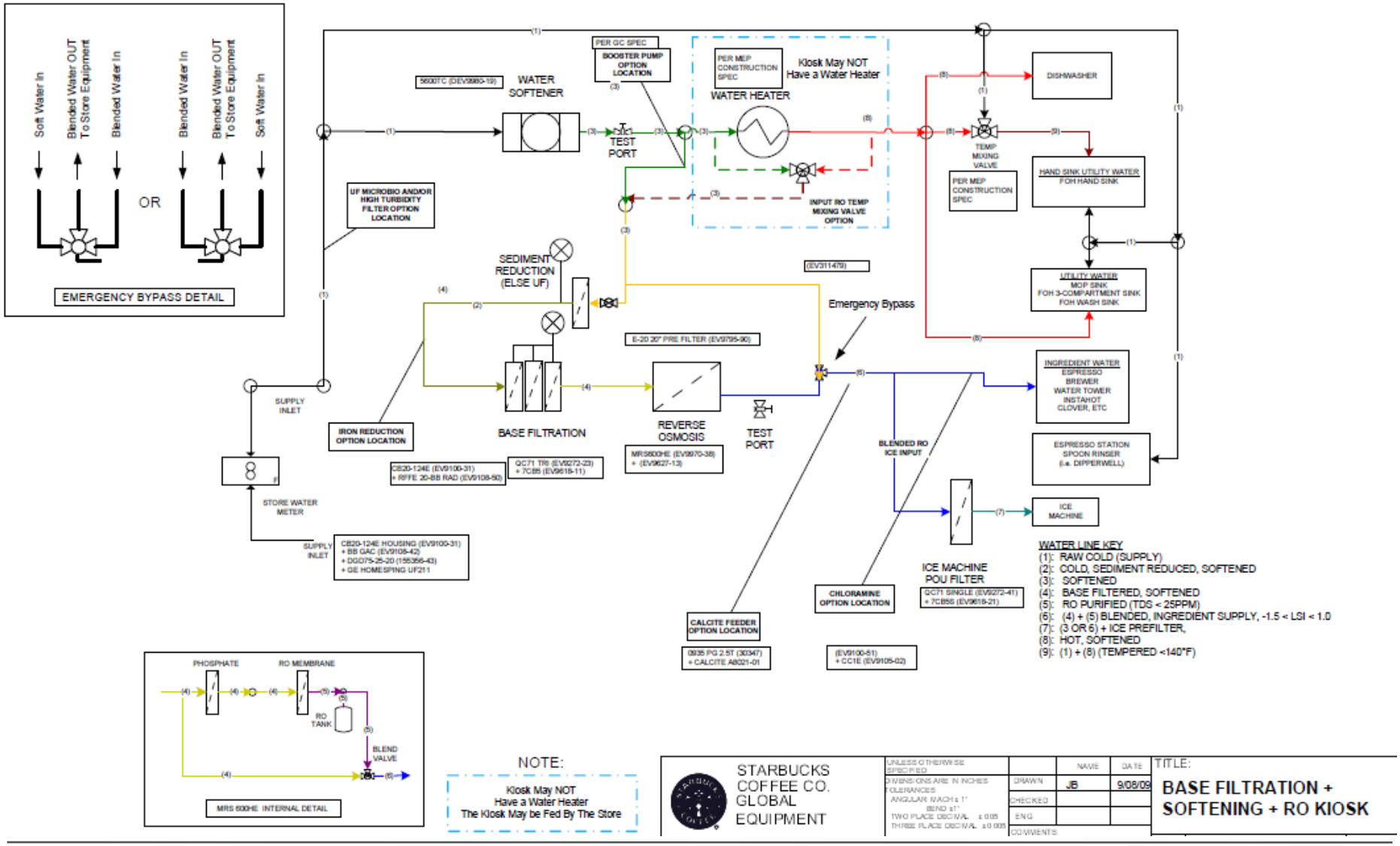
KIOSK CONFIG I—P&ID



KIOSK CONFIG II—P&ID



KIOSK CONFIG III—P&ID



TO CAPTURE OTHER SITES AND BRANDS

NEEDED

- WATER USAGE
- EQUIPMENT SET
- WATER CHARACTERISTICS

POSSIBLE SOURCES

- UTILITY BILL
- ASSET LIST, SERVICE WO'S, ?
- WATER TEST, PNR DATABASE