PAGOSA LAKES
PROPERTY OWNERS ASSOCIATION

Board of Directors Regular Meeting
May 11, 2023 6pm
Pagosa Lakes Administration Building
AGENDA

1. **6:00 pm Call to Order**
2. **Verification of Quorum by Board Secretary**
    - **a.** Approval of Agenda
3. **Approval of the minutes**

    April 13, 2023 Regular Meeting of the Board
4. **Appointment of New Board Member**
5. **Disclosures of Conflicts**
6. **Owner/Member comments (individual comments are limited to three (3) minutes)**
7. **Staff Reports:**
    a. General Manager's Report
    b. Treasurers Report – Memo – Cash Fund
    c. Department of Property & Environment Report
    d. Department of Recreation Amenities Report
    e. Department of Community Standards Report
    f. Lifestyle Report
8. **There is 1 lot Consolidation up for review**
9. **Committee Reports:**
    a. ECC Liaison Report April 2023 Meeting Minutes
    b. Finance Committee Chair
10. **Unfinished Business**
    a. Strategic Plan Update & Owner Survey Results
11. **New Business**
    a. Purchase of RU Unit & Contract
    b. Resolution to Update PPP for Permit Transfers
12. **Correspondence**
13. **Owner/Member comments (individual comments are limited to three (3) minutes)**
14. **Adjournment**

PAGOSA LAKES
PROPERTY OWNERS ASSOCIATION

Board of Directors Regular Meeting
April 13, 2023 6pm
Pagosa Lakes Administration Building
MINUTES

Board Attendees: Dan Mayer-President
Lars Schneider-Vice President
Danny Musgrove-Secretary
Patrick Donovan-Treasurer
Director: Chris Tanner
Absent: Mike Perez & Monty Whitman (proxies)

Staff: Allen Roth GM, Katie Benoit CT,
Larry Lynch-DPE , Keith Cramer- DCS,
Ryan Graham- RA,
Jen Pitcher- Lifestyles

Candace Selk Barnes-Recording Secretary

Owners/Guests: Emily Lashbrooke, Lori Herricksen, Leah Ballard, Kate Crawford, Pat & Linn Moore, Linda Lee, Kenny Rogers

VIA Zoom: McMahan & Associates, Tricia Frank and Brian Reid.

1. **Called to Order at 6:09 pm by President Mayer with a reminder that audio and visual recording is prohibited.**
2. **Verification of Quorum by Board Secretary Musgrove – two members absent, proxies received.**
3. **Approval of Agenda** – Motion to approve Agenda with addition of Conflict of Interest Disclosure by Schneider, 2nd by Donovan. Passed.
   Approval of the minutes – Motion to approve March 9, 2023 Minutes by Musgrove, 2nd by Tanner. Passed.

- Conflict of Interest Disclosure - Tanner recused himself from Agenda item 10 b. Pine Needle Pick-up Contract due to Conflict of Interest.

4. **Grant Presentation by CDC Executive Director Emily Lashbrooke on Chris Mtn. II**
5. **Habitat for Humanity Presentation –** by Herricksen requesting Permit fees be waived. Motion to waive $900 of inspection fees, "as formed" fee and if necessary $100 permit extension fee by Mayer, 2nd by Donovan. Unanimous with Proxies. Also asked about possibility of placing storage trailers at PLPOA brush facility and use of Rec Center Showers for volunteer workers this summer. The Board had no objection.
6. **Audit Presentation – McMahan and Associates VIA ZOOM.** Motion to approve audit by Donovan, 2nd by Schneider. Unanimously with proxies.
7. **Owner/Member comments:** Owner K. Rogers presented handouts to members and asked for consideration to approve a "swap" of sliver of greenbelt between his two lots to consolidate as adjoining properties for replat by Archuleta County. Owner Rogers will pay all expenses.

   Motion to approve replat as presented by Schneider, 2nd by Tanner. Passed 5-0.

8. **Staff Reports:**
   a. General Manager's Report – GM Roth shared the Rec Ctr Women's Locker Room project is going well. PLPOA has been working with Arch County and PAWSD regarding flooding/sewer issues within Lakeview Estates during massive runoff of snowmelt. An upcoming eblast will include suggestion to Owners to check their homeowner's insurance covers sewer backup and a reminder that culverts under driveways is homeowners' responsibility.

b. Treasurers Report – Treasurer Donovan & CT Benoit- Memo – Cash Fund. No investment activity, all funds are fully insured.

c. Department of Property & Environment Report – DPE Mgr Lynch. Snow removal equip has been removed and stored, a sure sign of spring. Brush Collection site will open Wednesday May 3 for owner use.

d. Department of Recreation Amenities Report- RA Mgr Graham stated that Village Interiors is doing a great job, demo done, installation of tile and new counter top should be completed Saturday, April 22 and the Men's locker room project should commence on April 24.

e. Department of Community Standards Report – DCS Mgr Cramer as submitted with reminder annual Dumpster Day is upcoming Friday April 21st; last year 7 roll offs were filled. Additionally, "The BIG Spring Clean" a joint effort between Town of Pagosa and Archuleta County will be held on May 5 and 6th with numerous sites accepting a huge variety of rubbish.

f. Lifestyle Report – J Pitcher as submitted.

Motion to accept Staff Reports as submitted by Schneider, 2nd by Musgrove. Unanimous with proxies.

9. **Committee Reports:**
   a. ECC Liaison Report March 2023 Meeting Minutes by Board Liaison & EEC Member Musgrove.

Motion to accept Committee Report by Schneider, 2nd by Donovan. Unanimous with proxies.

10. Unfinished Business

a. Strategic Plan Update & Owner Survey – Discussion regarding draft owner Survey.

Motion to approve with the addition of Wyndam as homeowner option and to end with a space for Additional Comments bySchneider, 2nd by Tanner. Passed.

b. Pine Needle Pick-up Contract – Email vote did not pass unanimously as required. Discussion with Donovan insisting RFP/RFQ policy be followed. GM Roth stated Article 11 states that deviations can be made by the sole discretion of the Board and recommended the one bid by Elite be accepted as At Your Disposal sent email stating they weren't interested in bidding. Musgrove shared he had spoken to G&I Disposal and they had no interest either.

Motion to award contract for pine needle pickup at $3.75 per bag for 2023 authorizing a variance per the Purchasing Policy, to Elite by Schneider, 2nd by Musgrove.

Additional discussion with owner comments supporting RFP/RFQ per policy.

Motion amended to include that in upcoming years and RFQ be required by Schneider, 2nd by Musgrove. Amendment Passed. 4 Ayes with Tanner abstaining.
Amended Motion to award contract considered - 3 ayes, 1 nay by Donovan. Tanner abstained. Passed.

c. County / PLPOA Joint Sessions – Update by GM Roth – scheduled for Thursday, April 20 Vista Conference Room commencing at 5pm. GM Roth shared draft Agenda – see GM Report.

d. Board Vacancy – Update by GM Roth; Seven Applicants. Discussion and all agreed that date for Board interviews will be held Tuesday April 25 commencing at 5pm at 15 minute intervals as a Special Meeting to be advertised and open to owners.

Roth reminded all that 3 (three) board positions will be open and those interested in running must submit applications and signed petition by no later than May 15, 2023 by 5 pm.

11. **New Business**
    a. Contract for Rec Center Crawl Space: GM Roth presented two bids; discussion ensued.

    Motion to award Rec Center crawl space renovation to Exclusive Remodeling & Home Repair in the amount of $ 43,735.35 to be completed by August 1, 2023 by Schneider, 2nd by Tanner. Unanimous with proxies.

12. **Correspondence –** Letter of gratitude and acknowledgement of job well done to Ryan Graham RA Mgr from Owners.

13. **Owner/Member comments** Zoom attendee T Frank appreciated the letter and agreed with contents regarding Graham.

14. **Adjournment –** Motion to adjourn at 9:32 pm by Schneider, 2nd by Donovan. Passed.

Respectfully submitted by:

_____ _____

Danny Musgrove, Board Secretary

Candace Selk Barnes, Recording Secretary

INTEROFFICE MEMORANDUM

TO: PATRICK DONOVAN

FROM: KATIE BENOIT

SUBJECT: ACCOUNTING NOTES FOR APRIL 2023.

DATE: April 30, 2023

As of April 30, 2023, the Association has received $1,466,700 or 80.9% of the total billed 2023 assessments of $1,812,900. For the same period in 2022, the collections were approximately $1,377,000 or 82.6% of the total of $1,667,325 billed.

Certificates of Deposit as of April 30, 2023:

MATURITY	RATE	VALUE	FUND
5/22/2023	4.60%	$125,000	Operating
5/30/2023	4.60%	$125,000	Operating
5/30/2023	4.55%	$210,000	Trails Reserve
5/30/2023	4.60%	$69,000	Operating
9/15/2023	3.40%	$205,000	Reserve
3/28/2024	3.85%	$300,000	Reserve

Pagosa Lakes Property Owners Association, Inc

Balance Sheet as of 4/30/2023

Assets	Operating	Capital	Reserve	Settlement	Total
Current Assets					
10000 - Petty Cash	$953.00				$953.00
10500 - Cash-TBK Operating	$430,239.50				$430,239.50
11540 - CIT Bank Operating	$83,061.34				$83,061.34
11541 - CIT Bank Sweep - Operating	$1,006,450.54				$1,006,450.54
12100 - Edward Jones Operating	$70,405.18				$70,405.18
12110 - Edward Jones Emergency Fund	$253,804.86				$253,804.86
12200 - Edward Jones Capital Improvement		$354,777.08			$354,777.08
12300 - Edward Jones Settlement				$74,925.28	$74,925.28
13820 - Edward Jones Reserves			$600,543.66		$600,543.66
13841 - CIT Bank Reserves - CDARS			$300,000.00		$300,000.00
13850 - Edward Jones Trails Maintenance Reserves			$239,589.47		$239,589.47
14000 - Accounts Receivable	$481,541.89				$481,541.89
14900 - Allowance for Doubtful Accounts	($79,700.67)				($79,700.67)
15100 - Accts Rec.-Employee Dep Health	$2,671.48				$2,671.48
15200 - Accts Rec.-Prepaid Legal	$15.95				$15.95
15300 - Accts Rec.-Supplemental Health	$536.99				$536.99
15500 - Interfund-Due To/Due From	($154,344.41)	$155,598.00	($1,253.59)		-
16000 - Prepaid Expenses	$18,125.23				$18,125.23
Total Current Assets	**$2,113,760.88**	**$510,375.08**	**$1,138,879.54**	**$74,925.28**	**$3,837,940.78**
Fixed Assets					
18500 - Land: Admin-Shop-Rec Center	$506,377.38				$506,377.38
18510 - Building	$3,973,557.99				$3,973,557.99
18520 - Equipment	$894,966.73				$894,966.73
18530 - Lakes	$425,755.37				$425,755.37
18540 - Improvements	$1,585,187.24				$1,585,187.24

Pagosa Lakes Property Owners Association, Inc

Balance Sheet as of 4/30/2023

19900 - Accumulated Depreciation	($3,285,082.06)				($3,285,082.06)
Total Fixed Assets	**$4,100,762.65**				**$4,100,762.65**
Total Assets	**$6,214,523.53**	**$510,375.08**	**$1,138,879.54**	**$74,925.28**	**$7,938,703.43**
Liabilities / Equity	**Operating**	**Capital**	**Reserve**	**Settlement**	**Total**
Current Liabilities					
20000 - Accounts Payable	$25,301.60		$64.10		$25,365.70
20100 - Accrued Expenses	$46,748.46				$46,748.46
22000 - Prepaid Assessments	$9,222.99				$9,222.99
23000 - Contract Liability	$128,578.00				$128,578.00
25000 - Other Current Liabilities	$0.02				$0.02
27000 - Employee Dep Health Payable	($670.00)				($670.00)
Total Current Liabilities	**$209,181.07**		**$64.10**		**$209,245.17**
Equity					
30000 - Donated Capital	$2,121,280.83				$2,121,280.83
31000 - Funds Transfer	$177,065.08	($19,883.40)	($157,181.68)		-
32000 - Retained Earnings-Operating	$2,128,620.91	$101,285.34	($112,324.29)	$512.30	$2,118,094.26
33000 - Retained Earnings-Reserves			$1,183,882.09		$1,183,882.09
34000 - Retained Earnings-Capital Improvement		$455,629.14			$455,629.14
35000 - Retained Earnings-Settlement				$73,884.39	$73,884.39
36000 - Net Income	$1,578,375.64	($26,656.00)	$224,439.32	$528.59	$1,776,687.55
Total Equity	**$6,005,342.46**	**$510,375.08**	**$1,138,815.44**	**$74,925.28**	**$7,729,458.26**
Total Liabilities / Equity	**$6,214,523.53**	**$510,375.08**	**$1,138,879.54**	**$74,925.28**	**$7,938,703.43**

Pagosa Lakes Property Owners Association, Inc

Statement of Revenues and Expenses 4/1/2023 - 4/30/2023

	Current Period			Year To Date			Annual
	Actual	Budget	Variance	Actual	Budget	Variance	Budget
Operating Income							
Admin Service Income							
40000 - Association Dues-Regular	(2,400.00)	-	(2,400.00)	1,810,500.00	1,811,100.00	(600.00)	1,811,100.00
40010 - Association Dues-Timeshare	-	-	-	296,100.00	296,100.00	-	296,100.00
40020 - Association Dues-STR	(1,800.00)	-	(1,800.00)	253,200.00	225,000.00	28,200.00	225,000.00
40100 - Funds Transfer-General Reserves	-	-	-	(300,000.00)	(366,000.00)	66,000.00	(366,000.00)
40110 - Funds Transfer-Trails Maintenance Reserve	-	-	-	-	(54,000.00)	54,000.00	(54,000.00)
40200 - Funds Transfer-Capital Improvement	-	-	-	-	(313,740.00)	313,740.00	(313,740.00)
40300 - Assessments-Uncollectible	(1,165.25)	-	(1,165.25)	(1,626.46)	(35,000.00)	33,373.54	(35,000.00)
40400 - Carry Forward	-	-	-	-	75,000.00	(75,000.00)	75,000.00
40500 - Late Charges	631.89	-	631.89	1,900.24	-	1,900.24	40,000.00
40600 - Other Income-Lien Fees	-	-	-	-	-	-	11,000.00
40700 - Delinquent Postage Fees	121.50	416.67	(295.17)	329.30	1,666.68	(1,337.38)	5,000.00
40800 - Delinquent Door Notice Fees	-	-	-	-	-	-	15,000.00
41000 - Lot Consolidation Fee	-	2,083.33	(2,083.33)	14,750.00	8,333.32	6,416.68	25,000.00
41010 - Other Income-Transfer Fees	5,600.00	7,083.33	(1,483.33)	16,640.00	28,333.32	(11,693.32)	85,000.00
41020 - Other Income-Misc	-	-	-	1,001.00	-	1,001.00	-
41250 - Credit card expense payment	-	25.00	(25.00)	95.40	75.00	20.40	100.00
41900 - Interest - Operating	375.05	1,250.00	(874.95)	4,265.74	5,000.00	(734.26)	15,000.00
Total Admin Service Income	**1,363.19**	**10,858.33**	**(9,495.14)**	**2,097,155.22**	**1,681,868.32**	**415,286.90**	**1,834,560.00**
Community Standards Income							
42000 - Filing Fee	1,860.00	2,596.00	(736.00)	3,450.00	6,269.00	(2,819.00)	15,200.00
42010 - Review & Inspect Fee	10,640.00	16,217.00	(5,577.00)	38,460.00	39,179.00	(719.00)	95,900.00
42100 - DCS Fines	-	596.00	(596.00)	(.01)	1,442.00	(1,442.01)	3,500.00
42300 - Community Enhancement	-	512.00	(512.00)	-	1,237.00	(1,237.00)	3,500.00
Total Community Standards Income	**12,500.00**	**19,921.00**	**(7,421.00)**	**41,909.99**	**48,127.00**	**(6,217.01)**	**118,100.00**
Property & Environment Income							
44000 - Fishing Permits	9,050.05	13,000.00	(3,949.95)	23,695.05	52,000.00	(28,304.95)	156,000.00
44010 - Boat Permits	1,240.00	750.00	490.00	1,875.00	3,000.00	(1,125.00)	9,000.00
44100 - Weed Control	-	41.67	(41.67)	-	166.68	(166.68)	500.00
44200 - Property/Environment-Fines	-	33.33	(33.33)	-	133.32	(133.32)	400.00
44300 - Other-DPE (Seed/Fertilizer)	1,314.00	291.67	1,022.33	1,314.00	1,166.68	147.32	3,500.00
Total Property & Environment Income	**11,604.05**	**14,116.67**	**(2,512.62)**	**26,884.05**	**56,466.68**	**(29,582.63)**	**169,400.00**
Community Lifestyle Income							
46000 - Community Activities	635.00	100.00	535.00	635.00	800.00	(165.00)	4,000.00
46100 - Newsletter Advertising	-	-	-	-	-	-	8,000.00
46200 - Rent-Clubhouse	812.00	800.00	12.00	2,769.00	1,560.00	1,209.00	7,500.00
46210 - Kitchen Rental	-	-	-	-	-	-	500.00
46220 - Accessory Rental-Tablecloths	-	-	-	-	-	-	250.00

Pagosa Lakes Property Owners Association, Inc

Statement of Revenues and Expenses 4/1/2023 - 4/30/2023

	Current Period			Year To Date			Annual
	Actual	Budget	Variance	Actual	Budget	Variance	Budget
Operating Income							
46230 - Clubhouse Cleaning	-	-	-	-	-	-	900.00
46300 - Vista Garden Income	50.00	375.00	(325.00)	500.00	750.00	(250.00)	3,000.00
Total Community Lifestyle Income	**1,497.00**	**1,275.00**	**222.00**	**3,904.00**	**3,110.00**	**794.00**	**24,150.00**
Recreation Amenities Income							
48000 - PLPOA Members-Amenities	26,328.20	23,000.00	3,328.20	101,575.20	107,000.00	(5,424.80)	269,694.00
48200 - Timeshare Owners-Amenities	52,993.50	-	52,993.50	105,987.00	52,993.00	52,994.00	211,974.00
48300 - Sponsored Events/Programs	2,435.00	2,000.00	435.00	7,318.00	5,350.00	1,968.00	15,254.00
48400 - Rental Income	131.00	225.00	(94.00)	992.51	1,150.00	(157.49)	4,000.00
48500 - Retail	166.05	100.00	66.05	940.06	750.00	190.06	3,500.00
48600 - Pagosa Springs Porpoises Swim Revenue	-	-	-	1,719.00	-	1,719.00	-
Total Recreation Amenities Income	**82,053.75**	**25,325.00**	**56,728.75**	**218,531.77**	**167,243.00**	**51,288.77**	**504,422.00**
Total Operating Income	**109,017.99**	**71,496.00**	**37,521.99**	**2,388,385.03**	**1,956,815.00**	**431,570.03**	**2,650,632.00**
Operating Expense							
Admin Service Expense							
50000 - Payroll-Admin	28,577.76	30,967.92	2,390.16	112,913.86	123,871.68	10,957.82	371,615.00
50010 - Payroll-Overtime-Admin	8.10	83.33	75.23	63.60	333.32	269.72	1,000.00
50020 - Payroll Taxes-Admin	2,914.11	2,500.00	(414.11)	10,511.33	10,000.00	(511.33)	30,000.00
50100 - Health Insurance-Admin	4,970.45	5,104.17	133.72	24,852.25	25,520.81	668.56	61,250.00
50110 - Dental Insurance-Admin	338.61	341.67	3.06	1,693.05	1,366.68	(326.37)	4,100.00
50120 - Vision Insurance-Admin	49.38	50.00	.62	197.52	200.00	2.48	600.00
50130 - SAR-SEP-Admin	1,504.22	1,416.67	(87.55)	5,905.47	5,666.68	(238.79)	17,000.00
50140 - HRA-Health Reimbursement-Admin	1,400.00	1,400.00	-	7,000.00	5,600.00	(1,400.00)	16,800.00
50150 - Insurance-Workers Comp-Admin	148.56	125.00	(23.56)	696.20	500.00	(196.20)	1,500.00
50160 - Life Insurance-All	196.78	200.00	3.22	787.12	800.00	12.88	2,400.00
50190 - Payroll-Paychex	455.19	750.00	294.81	2,702.06	3,000.00	297.94	9,000.00
50195 - Misc (Admin Cafeteria Plan)	112.00	133.33	21.33	299.00	533.32	234.32	1,600.00
50200 - Office Supplies	83.23	583.33	500.10	1,982.15	2,333.32	351.17	7,000.00
50250 - Software Expense	2,233.00	2,291.67	58.67	12,291.12	9,166.68	(3,124.44)	27,500.00
50251 - Office Equip Repair/Tech Help	1,116.95	916.67	(200.28)	5,420.25	3,666.68	(1,753.57)	11,000.00
50260 - Equipment Leases	-	250.00	250.00	1,089.52	1,000.00	(89.52)	3,000.00
50300 - Postage	500.00	916.67	416.67	4,322.37	3,666.68	(655.69)	11,000.00
50310 - Admin Copier	-	41.67	41.67	-	166.68	166.68	500.00
50320 - Copies/Printing	-	83.33	83.33	-	333.32	333.32	1,000.00
50400 - Dues & Fees	-	145.83	145.83	284.00	583.32	299.32	1,750.00
50410 - Education-Seminars	-	708.33	708.33	2,829.07	2,833.32	4.25	8,500.00
50420 - Subscriptions	-	22.92	22.92	35.00	91.68	56.68	275.00
50500 - Gas/Mileage	-	16.67	16.67	-	66.68	66.68	200.00
50700 - Board Meetings/Discretionary	61.00	100.00	39.00	143.79	400.00	256.21	1,200.00

Pagosa Lakes Property Owners Association, Inc

Statement of Revenues and Expenses 4/1/2023 - 4/30/2023

	Current Period			Year To Date			Annual
	Actual	Budget	Variance	Actual	Budget	Variance	Budget
Operating Expense							
50710 - Online Elections	-	1,333.33	1,333.33	-	5,333.32	5,333.32	16,000.00
50900 - Misc. & Contingency	62.30	83.33	21.03	533.10	333.32	(199.78)	1,000.00
50950 - Advertisement	59.90	83.33	23.43	269.55	333.32	63.77	1,000.00
51000 - Audit	-	2,166.67	2,166.67	-	8,666.68	8,666.68	26,000.00
51100 - Legal	2,446.15	4,166.67	1,720.52	42,244.99	16,666.68	(25,578.31)	50,000.00
51200 - Legal-Collections	5,874.34	2,083.33	(3,791.01)	21,465.78	8,333.32	(13,132.46)	25,000.00
51201 - Legal-Collections-billed	(8,919.72)	-	8,919.72	(15,488.55)	-	15,488.55	-
51500 - Property Taxes	-	208.33	208.33	66.32	833.32	767.00	2,500.00
51510 - Income Tax	-	3,900.00	3,900.00	-	3,900.00	3,900.00	3,900.00
52000 - Insurance Deductibles	-	83.33	83.33	-	333.32	333.32	1,000.00
52010 - Master Insurance	-	-	-	46,919.15	50,000.00	3,080.85	70,000.00
53000 - Bank Charges	5.00	41.67	36.67	5.00	166.68	161.68	500.00
53010 - Credit Card Charges	939.99	1,166.67	226.68	3,556.66	4,666.68	1,110.02	14,000.00
53020 - Returned Checks	-	8.33	8.33	-	33.32	33.32	100.00
53030 - Delinquent Account Expenses	-	1,666.67	1,666.67	-	6,666.68	6,666.68	20,000.00
Total Admin Service Expense	**45,137.30**	**66,140.84**	**21,003.54**	**295,590.73**	**307,967.49**	**12,376.76**	**820,790.00**
Community Standards Expense							
60000 - Payroll-DCS	21,576.26	23,916.08	2,339.82	89,608.86	95,664.32	6,055.46	286,993.00
60010 - Payroll-Overtime-DCS	111.41	250.00	138.59	435.73	1,000.00	564.27	3,000.00
60020 - Payroll Taxes-DCS	1,914.08	1,916.67	2.59	8,299.14	7,666.68	(632.46)	23,000.00
60100 - Health Insurance-DCS	3,398.60	3,925.00	526.40	16,993.00	19,625.00	2,632.00	47,100.00
60110 - Dental Insurance-DCS	308.48	316.67	8.19	1,542.40	1,266.68	(275.72)	3,800.00
60120 - Vision Insurance-DCS	41.87	41.92	.05	167.48	167.68	.20	503.00
60130 - SAR-SEP-DCS	764.58	1,041.67	277.09	3,121.75	4,166.68	1,044.93	12,500.00
60140 - HRA-Health Reimbursement-DCS	800.00	1,000.00	200.00	4,000.00	4,000.00	-	12,000.00
60150 - Insurance-Workers Comp-DCS	405.10	333.33	(71.77)	1,904.11	1,333.32	(570.79)	4,000.00
60200 - Office/Field Supplies/Expenses	-	356.00	356.00	127.11	1,373.00	1,245.89	4,500.00
60230 - Uniforms	-	40.00	40.00	-	153.00	153.00	500.00
60310 - DCS Copier	395.49	516.67	121.18	1,866.36	2,066.68	200.32	6,200.00
60320 - Printing Decs & Maps	-	133.33	133.33	-	533.32	533.32	1,600.00
60410 - Professional Fees	-	40.00	40.00	-	153.00	153.00	500.00
60430 - Training	-	125.00	125.00	-	500.00	500.00	1,500.00
60500 - DCS Vehicle Gas	161.75	208.33	46.58	507.59	833.32	325.73	2,500.00
60530 - Vehicle Exp-Sport S 63	-	62.50	62.50	414.73	250.00	(164.73)	750.00
60540 - Vehicle Exp-Sport SL 29	14.00	62.50	48.50	361.77	250.00	(111.77)	750.00
60700 - ECC Expenses	-	80.00	80.00	-	306.00	306.00	1,000.00
60900 - Contingency	-	40.00	40.00	-	153.00	153.00	500.00
60910 - Capital Expenditures	-	160.00	160.00	-	612.00	612.00	2,000.00
60930 - Community Enhancement	-	2,916.67	2,916.67	-	11,666.68	11,666.68	35,000.00
Total Community Standards Expense	**29,891.62**	**37,482.34**	**7,590.72**	**129,350.03**	**153,740.36**	**24,390.33**	**450,196.00**

Pagosa Lakes Property Owners Association, Inc

Statement of Revenues and Expenses 4/1/2023 - 4/30/2023

	Current Period			Year To Date			Annual
	Actual	Budget	Variance	Actual	Budget	Variance	Budget
Operating Expense							
Property & Environment Expense							
61000 - Payroll-DPE	25,873.19	28,937.92	3,064.73	103,853.91	115,751.68	11,897.77	347,255.00
61010 - Payroll-Overtime-DPE	368.93	416.67	47.74	1,797.28	1,666.68	(130.60)	5,000.00
61020 - Payroll Taxes-DPE	2,315.85	2,333.33	17.48	9,735.41	9,333.32	(402.09)	28,000.00
61100 - Health Insurance-DPE	4,248.25	4,375.00	126.75	21,241.25	21,875.00	633.75	52,500.00
61110 - Dental Insurance-DPE	368.17	375.00	6.83	1,840.85	1,500.00	(340.85)	4,500.00
61120 - Vision Insurance-DPE	54.58	54.58	-	227.73	218.32	(9.41)	655.00
61130 - SAR-SEP-DPE	813.00	833.33	20.33	3,291.13	3,333.32	42.19	10,000.00
61140 - HRA-Health Reimbursement-DPE	1,000.00	1,000.00	-	4,800.00	4,000.00	(800.00)	12,000.00
61150 - Insurance-Workers Comp-DPE	736.08	500.00	(236.08)	3,440.86	2,000.00	(1,440.86)	6,000.00
61200 - Office/Field Supplies	-	41.67	41.67	23.17	166.68	143.51	500.00
61210 - Tools, Supplies Expense	348.64	666.67	318.03	1,883.45	2,666.68	783.23	8,000.00
61220 - Janitorial Supplies	-	250.00	250.00	405.86	1,000.00	594.14	3,000.00
61230 - Uniforms	-	125.00	125.00	-	500.00	500.00	1,500.00
61240 - Admin Office Cleaning	-	125.00	125.00	-	500.00	500.00	1,500.00
61350 - Enforcement/Signage	164.61	1,000.00	835.39	6,349.42	2,500.00	(3,849.42)	10,000.00
61351 - Roadside Cleanup/Adopt a Street	-	50.00	50.00	-	50.00	50.00	300.00
61352 - Signage	-	250.00	250.00	-	250.00	250.00	2,000.00
61410 - Seminars/Training/CE	-	125.00	125.00	-	500.00	500.00	1,500.00
61500 - Vehicle-Gas	511.56	1,118.75	607.19	3,567.91	4,475.00	907.09	13,425.00
61510 - Dept Auto #1/2011 Toyota P/U	65.26	83.33	18.07	65.26	333.32	268.06	1,000.00
61530 - Dept Auto #3/06 Ford	-	250.00	250.00	282.19	1,000.00	717.81	3,000.00
61540 - Dept Auto #4/2013 Ford Truck	-	125.00	125.00	-	500.00	500.00	1,500.00
61550 - Dept Auto #5/2018 Ford F-350	265.17	125.00	(140.17)	338.05	500.00	161.95	1,500.00
61560 - Dept Auto #6/20 Chevy Silverado	-	125.00	125.00	674.30	500.00	(174.30)	1,500.00
61570 - Dept Auto #7/2020 Chevy Colo P/U	-	125.00	125.00	275.96	500.00	224.04	1,500.00
61580 - Kubota Tractor 201	-	41.67	41.67	-	166.68	166.68	500.00
61590 - Kubota Tractor 2014	-	208.33	208.33	490.73	833.32	342.59	2,500.00
61600 - Facilities Maintenance	177.83	583.33	405.50	805.77	2,333.32	1,527.55	7,000.00
61601 - Equipment Maintenance	228.79	375.00	146.21	642.63	1,500.00	857.37	4,500.00
61602 - Trailer Maintenance	-	83.33	83.33	84.16	333.32	249.16	1,000.00
61603 - Boating Improvements	-	-	-	-	-	-	4,000.00
61604 - Lakes Fisheries & Parks/Repair & Maint	315.34	1,000.00	684.66	850.88	3,000.00	2,149.12	10,000.00
61605 - Fence Maint & Construction	-	208.33	208.33	-	833.32	833.32	2,500.00
61606 - Parks & Trails Expense	298.30	416.67	118.37	875.48	1,666.68	791.20	5,000.00
61610 - Consulting	-	500.00	500.00	-	500.00	500.00	2,000.00
61611 - Engineering/Survey	-	208.33	208.33	-	833.32	833.32	2,500.00
61620 - Fire Mitigation	-	1,916.67	1,916.67	1,386.56	7,666.68	6,280.12	23,000.00

Pagosa Lakes Property Owners Association, Inc

Statement of Revenues and Expenses 4/1/2023 - 4/30/2023

	Current Period			Year To Date			Annual
	Actual	Budget	Variance	Actual	Budget	Variance	Budget
Operating Expense							
61630 - Grass Seed/Fertilizer	4,032.75	1,000.00	(3,032.75)	4,032.75	1,000.00	(3,032.75)	3,500.00
61631 - Insect, Disease & Noxious Weeds	-	500.00	500.00	126.50	500.00	373.50	2,500.00
61632 - Water Quality Testing	-	83.33	83.33	-	333.32	333.32	1,000.00
61633 - Weeds & Algae Control	-	2,083.33	2,083.33	-	8,333.32	8,333.32	25,000.00
61640 - Porta Potties	651.00	583.33	(67.67)	2,984.60	2,333.32	(651.28)	7,000.00
61642 - PO Cluster Boxes	5,000.00	416.67	(4,583.33)	5,000.00	1,666.68	(3,333.32)	5,000.00
61800 - Kids Fishing Derby & Events	-	83.33	83.33	391.54	333.32	(58.22)	1,000.00
61900 - Misc & Contingency	10.69	-	(10.69)	10.69	-	(10.69)	-
61910 - Common Area Improvements-Repairs-Equip	184.85	500.00	315.15	184.85	1,000.00	815.15	5,000.00
61960 - Stocking & Food Chain	-	8,666.67	8,666.67	-	34,666.68	34,666.68	104,000.00
Total Property & Environment Expense	**48,032.84**	**62,869.57**	**14,836.73**	**181,961.13**	**245,453.28**	**63,492.15**	**736,135.00**
Community Lifestyle Expense							
62250 - Website-Front Steps	175.00	341.67	166.67	1,014.42	1,366.68	352.26	4,100.00
62320 - Newsletter Prep/Printing/Postage	-	-	-	-	-	-	28,000.00
62800 - Community Activities & Events	-	250.00	250.00	365.76	2,750.00	2,384.24	20,000.00
62810 - Clubhouse Rental Expense	-	41.67	41.67	-	166.68	166.68	500.00
62820 - Facilities-Clubhouse	-	208.33	208.33	317.78	833.32	515.54	2,500.00
62830 - Clubhouse Cleaning Expense	-	125.00	125.00	-	500.00	500.00	1,500.00
62840 - Landscaping Clubhouse	-	41.67	41.67	-	166.68	166.68	500.00
62940 - Community Garden	167.99	375.00	207.01	618.22	750.00	131.78	3,000.00
Total Community Lifestyle Expense	**342.99**	**1,383.34**	**1,040.35**	**2,316.18**	**6,533.36**	**4,217.18**	**60,100.00**
Recreation Amenities Expense							
63000 - Payroll-DRA	24,297.62	23,988.42	(309.20)	98,651.16	95,953.68	(2,697.48)	287,861.00
63010 - Payroll-Overtime-DRA	-	83.33	83.33	118.47	333.32	214.85	1,000.00
63020 - Payroll Taxes-DRA	2,144.34	1,933.33	(211.01)	9,100.63	7,733.32	(1,367.31)	23,200.00
63100 - Health Insurance-DRA	2,548.95	2,625.00	76.05	12,744.75	13,125.00	380.25	31,500.00
63110 - Dental Insurance-DRA	214.48	216.67	2.19	1,072.40	866.68	(205.72)	2,600.00
63120 - Vision Insurance-DRA	35.76	37.50	1.74	143.04	150.00	6.96	450.00
63130 - SAR-SEP-DRA	202.49	391.67	189.18	880.70	1,566.68	685.98	4,700.00
63140 - HRA-Health Reimbursement-DRA	600.00	600.00	-	3,000.00	2,400.00	(600.00)	7,200.00
63150 - Insurance-Workers Comp-DRA	235.26	166.67	(68.59)	1,105.83	666.68	(439.15)	2,000.00
63200 - Supplies-Building	629.42	1,116.00	486.58	2,309.08	4,464.00	2,154.92	8,500.00
63210 - Supplies-Programs	303.26	1,000.00	696.74	1,958.79	4,000.00	2,041.21	10,000.00
63220 - Janitorial/Housekeeping	-	166.67	166.67	1,397.07	666.68	(730.39)	2,000.00
63230 - Uniforms	-	-	-	-	200.00	200.00	1,000.00
63250 - EZ Facility Software	544.00	395.83	(148.17)	2,138.00	1,583.32	(554.68)	4,750.00
63251 - Tech Help	-	41.67	41.67	-	166.68	166.68	500.00
63320 - Office Supplies/Printing	(82.86)	343.00	425.86	260.02	1,372.00	1,111.98	2,500.00

Pagosa Lakes Property Owners Association, Inc

Statement of Revenues and Expenses 4/1/2023 - 4/30/2023

	Current Period			Year To Date			Annual
	Actual	Budget	Variance	Actual	Budget	Variance	Budget
Operating Expense							
63400 - Dues/Subscriptions	-	20.83	20.83	-	83.32	83.32	250.00
63410 - Seminars/Training	-	-	-	648.00	550.00	(98.00)	2,200.00
63600 - Maintenance Building	161.01	1,500.00	1,338.99	2,111.41	6,000.00	3,888.59	18,000.00
63601 - Maintenance-Grounds & Parking	-	200.00	200.00	68.34	800.00	731.66	3,000.00
63602 - Maintenance-Pool	4,152.94	1,250.00	(2,902.94)	7,168.55	5,000.00	(2,168.55)	15,000.00
63800 - Pagosa Springs Porpoises Swim	(590.00)	83.33	673.33	1,629.00	333.32	(1,295.68)	1,000.00
63900 - Misc & Contingency	-	41.67	41.67	-	166.68	166.68	500.00
63910 - Non Capital Equipment Replacement	-	416.67	416.67	-	1,666.68	1,666.68	5,000.00
63920 - Merchandise	7.91	166.67	158.76	226.41	666.68	440.27	2,000.00
64010 - Utilities-Gas Rec	1,510.62	2,500.00	989.38	18,801.11	14,000.00	(4,801.11)	38,000.00
64020 - Utilities-Electric Rec	2,799.50	3,000.00	200.50	10,960.41	12,000.00	1,039.59	36,000.00
64030 - Utilities-Water Rec	637.23	625.00	(12.23)	1,872.21	2,500.00	627.79	7,500.00
64040 - Utilities-Waste Control Rec	117.84	108.33	(9.51)	769.18	433.32	(335.86)	1,300.00
64060 - Utilities-Alarm Rec	-	208.33	208.33	400.00	833.32	433.32	2,500.00
64070 - Utilities-TV-Telephone Rec	202.00	500.00	298.00	1,401.13	2,000.00	598.87	6,000.00
75050 - Irrigation Water	-	166.67	166.67	-	666.68	666.68	2,000.00
Total Recreation Amenities Expense	**40,671.77**	**43,893.26**	**3,221.49**	**180,935.69**	**182,948.04**	**2,012.35**	**530,011.00**
Utilities Expense							
70010 - Gas Admin	198.09	166.67	(31.42)	1,206.13	666.68	(539.45)	2,000.00
70020 - Electric Admin	424.86	333.33	(91.53)	1,240.95	1,333.32	92.37	4,000.00
70030 - Water Admin	65.25	341.67	276.42	401.85	1,366.68	964.83	4,100.00
70040 - Waste Control Admin	173.04	175.00	1.96	714.82	700.00	(14.82)	2,100.00
71010 - Gas Shop	169.70	183.33	13.63	1,486.75	733.32	(753.43)	2,200.00
71020 - Electric Shop	151.52	166.67	15.15	852.01	666.68	(185.33)	2,000.00
71030 - Water Shop	68.28	50.00	(18.28)	195.78	200.00	4.22	800.00
71040 - Waste Shop	138.01	141.67	3.66	658.01	566.68	(91.33)	1,700.00
72010 - Gas Clubhouse	423.95	333.33	(90.62)	2,678.85	1,333.32	(1,345.53)	4,000.00
72020 - Electric Clubhouse	156.66	166.67	10.01	458.97	666.68	207.71	2,000.00
72030 - Water Clubhouse	65.25	80.00	14.75	212.67	320.00	107.33	2,000.00
73000 - Cellular Phones	107.04	250.00	142.96	971.67	1,000.00	28.33	3,000.00
73010 - Telephone-All Depts Except Rec	361.65	541.67	180.02	1,445.16	2,166.68	721.52	6,500.00
74000 - Street Lights	129.94	133.33	3.39	474.80	533.32	58.52	1,600.00
74010 - Water Other Assoc Lots	-	33.33	33.33	80.40	133.32	52.92	400.00
74020 - Aerator	1,314.73	916.67	(398.06)	5,512.76	3,666.68	(1,846.08)	11,000.00
74030 - Internet	309.70	333.33	23.63	1,264.05	1,333.32	69.27	4,000.00
Total Utilities Expense	**4,257.67**	**4,346.67**	**89.00**	**19,855.63**	**17,386.68**	**(2,468.95)**	**53,400.00**
Total Operating Expense	**168,334.19**	**216,116.02**	**47,781.83**	**810,009.39**	**914,029.21**	**104,019.82**	**2,650,632.00**
Net Operating Income (Loss)	**(59,316.20)**	**(144,620.02)**	**85,303.82**	**1,578,375.64**	**1,042,785.79**	**535,589.85**	**-**

Pagosa Lakes Property Owners Association, Inc

Statement of Revenues and Expenses 4/1/2023 - 4/30/2023

	Current Period			Year To Date			Annual
	Actual	Budget	Variance	Actual	Budget	Variance	Budget
Reserve Income							
Reserve Income							
80000 - Reserve-Restricted	-	366,000.00	(366,000.00)	300,000.00	366,000.00	(66,000.00)	366,000.00
Total Reserve Income	**-**	**366,000.00**	**(366,000.00)**	**300,000.00**	**366,000.00**	**(66,000.00)**	**366,000.00**
Trails Maintenance Income							
81000 - Trails Maintenance Reserve	-	-	-	-	-	-	54,000.00
81900 - Interest-Reserve	1,245.93	-	1,245.93	5,955.15	-	5,955.15	-
Total Trails Maintenance Income	**1,245.93**	**-**	**1,245.93**	**5,955.15**	**-**	**5,955.15**	**54,000.00**
Total Reserve Income	**1,245.93**	**366,000.00**	**(364,754.07)**	**305,955.15**	**366,000.00**	**(60,044.85)**	**420,000.00**
Reserve Expense							
Reserve Expense							
84001 - Exercise Equipment	6,757.01	-	(6,757.01)	45,241.97	57,475.00	12,233.03	57,475.00
84013 - Renovate Locker Rooms - Rec Center	64.10	78,375.00	78,310.90	4,272.98	78,375.00	74,102.02	78,375.00
84014 - Replace Air Unit - Rec Center	-	-	-	1,542.50	-	(1,542.50)	-
84019 - Greenbelt Fire Mitigation	-	-	-	-	-	-	73,150.00
84020 - Paint & siding - Clubhouse	-	-	-	-	-	-	9,985.00
84021 - Exterior - Shop	-	-	-	-	-	-	6,019.00
84022 - Replace Plow	-	-	-	-	8,360.00	8,360.00	8,360.00
84023 - Replace Mailbox - Reserves	6,781.00	-	(6,781.00)	6,781.00	-	(6,781.00)	43,472.00
84024 - Crawl Space Renovation	23,677.38	-	(23,677.38)	23,677.38	-	(23,677.38)	31,350.00
Total Reserve Expense	**37,279.49**	**78,375.00**	**41,095.51**	**81,515.83**	**144,210.00**	**62,694.17**	**308,186.00**
Total Reserve Expense	**37,279.49**	**78,375.00**	**41,095.51**	**81,515.83**	**144,210.00**	**62,694.17**	**308,186.00**
Net Reserve Income (Loss)	**(36,033.56)**	**287,625.00**	**(323,658.56)**	**224,439.32**	**221,790.00**	**2,649.32**	**111,814.00**

Pagosa Lakes Property Owners Association, Inc

Statement of Revenues and Expenses 4/1/2023 - 4/30/2023

	Current Period			Year To Date			Annual
	Actual	Budget	Variance	Actual	Budget	Variance	Budget
Capital Income							
Capital Improvement Income							
90000 - Capital Improvement Income	-	-	-	-	-	-	313,740.00
91900 - Interest-Capital Fund	682.22	-	682.22	2,666.40	-	2,666.40	-
Total Capital Improvement Income	**682.22**	**-**	**682.22**	**2,666.40**	**-**	**2,666.40**	**313,740.00**
Total Capital Income	**682.22**	**-**	**682.22**	**2,666.40**	**-**	**2,666.40**	**313,740.00**
Capital Expense							
Capital Improvement Expense							
95005 - Improve Lake Facilities	-	5,000.00	5,000.00	19,530.40	20,000.00	469.60	60,000.00
95007 - Mailbox Improvements	-	-	-	8,000.00	-	(8,000.00)	-
95009 - Parking Lot - Rec Center	-	12,500.00	12,500.00	1,792.00	50,000.00	48,208.00	150,000.00
95010 - NVL Trail	-	20,000.00	20,000.00	-	80,000.00	80,000.00	240,000.00
Total Capital Improvement Expense	**-**	**37,500.00**	**37,500.00**	**29,322.40**	**150,000.00**	**120,677.60**	**450,000.00**
Total Capital Expense	**-**	**37,500.00**	**37,500.00**	**29,322.40**	**150,000.00**	**120,677.60**	**450,000.00**
Net Capital Income (Loss)	**682.22**	**(37,500.00)**	**38,182.22**	**(26,656.00)**	**(150,000.00)**	**123,344.00**	**(136,260.00)**

Pagosa Lakes Property Owners Association, Inc

Statement of Revenues and Expenses 4/1/2023 - 4/30/2023

	Current Period			Year To Date			Annual
	Actual	Budget	Variance	Actual	Budget	Variance	Budget
Settlement Income							
Settlement Income							
41910 - Interest - Settlement	138.31	-	138.31	528.59	-	528.59	-
Total Settlement Income	**138.31**	**-**	**138.31**	**528.59**	**-**	**528.59**	**-**
Total Settlement Income	**138.31**	**-**	**138.31**	**528.59**	**-**	**528.59**	**-**
Net Settlement Income (Loss)	**138.31**	**-**	**138.31**	**528.59**	**-**	**528.59**	**-**
Net Total	**(94,529.23)**	**105,504.98**	**(200,034.21)**	**1,776,687.55**	**1,114,575.79**	**662,111.76**	**(24,446.00)**

Funds as of 4/30/23

EJ Operating		
State Street Bank	0.34	
Bmo Harris Bank	0.20	
Fifth Third Bank	1,426.72	
Harborone Bk Brockton	69,977.92	
		71,405.18
EJ Emergency		
State Street Bank	3,848.00	
Fifth Third Bank	1.60	
Bmo Harris Bank	25.26	
Harborone Bk Brockton	124,960.00	
Umpqua Bk Roseburg	124,970.00	
		253,804.86
EJ Capital Improvement		
Bmo Harris Bank	133,961.37	
State Street Bank	41,839.36	
Truist Bank	131,487.78	
Fifth Third Bank	47,488.57	
		354,777.08
EJ Reserves		
Fifth Third Bank	168,531.45	
State Street Bank	64,819.68	
Truist Bank	115,437.68	
Bmo Harris Bank	54,821.20	
Santander Bank	203,714.65	
		607,324.66
EJ Trails Maint. Reserve		
Bmo Harris Bank	0.01	
State Street Bank	190.07	
Fifth Third Bank	29,477.09	
Bank of China NYC	209,922.30	
		239,589.47
EJ Settlement		
State Street Bank	16,807.82	
Fifth Third Bank	0.04	
Bmo Harris Bank	58,117.42	
		74,925.28
TBK Bank - Operating		
TBK Bank	250,000.00	
First Republic Bank	195,463.77	
		445,463.77
CIT bank - Operating		
CIT bank	164,782.53	
		164,782.53
CIT bank - ICS		
Synovus Bank	248,438.46	
The Bank of Tampa	196,384.55	
Huntington National	248,416.06	
US Bank	248,438.46	
		941,677.53
CIT bank - CDARS - Reserve		
Pinnacle Bank	64,500.00	
Western Alliance Bank	235,500.00	
		300,000.00

**Each bank has a $250,000 FDIC limit

Summary of totals at each bank

State Street Bank	127,505.27
Harborone Bk Brockton	194,937.92
Fifth Third Bank	246,925.47
Bmo Harris Bank	246,925.46
Umpqua Bk Roseburg	124,970.00
Truist Bank	246,925.46
Santander Bank	203,714.65
Bank of China NYC	209,922.30
TBK Bank	250,000.00
First Republic Bank	195,463.77
Pinnacle Bank	64,500.00
Western Alliance Bank	235,500.00
CIT Bank	164,782.53
Synovus Bank	248,438.46
The Bank of Tampa	196,384.55
Huntington National	248,416.06
US Bank	248,438.46

DEPARTMENT OF PROPERTY AND ENVIRONMENT
MAY, 2023 BOARD REPORT
By Larry D Lynch

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1. **Lakes and Fisheries –** All four lakes are in good condition as we head into mid-Spring. An exceptional run-off has resulted in a good flush for the lakes and the spillways all functioned normally. We did stock the lakes at the end of April with 5000 lbs of 12-16 inch rainbows, really nice looking trout and I anticipate that the fishing is going to be exceptional over the coming weeks. We did receive our aquatic weed and algae control products in late April and I am planning beginning early season weed and algae control applications on the lakes this month when conditions indicate. Planning to do early season control of Milfoil weed problem areas; early season Chara algae control in targeted select problem areas.
2. **DPE Projects** – The DPE will be busy in the coming weeks working on a number of projects including assisting at the Rec Center locker room remodels installing toilets, benches, wall hangings and restroom and shower partitions; working on moving floating docks into summer positions and installing the smaller boat docks at the ramps; extensive landscaping work at the Rec Center including installing new irrigation system and landscape plantings around the new concrete patio; extensive landscaping work at the Admin and Clubhouse repairing damaged areas from the water line excavation last fall where we will be installing new irrigation, new topsoil and seeding, creating a new rock landscape area near the Admin entry area. Additional projects include work at the Vista Lake community garden where we are building new redwood raised planting beds, installing a gravel floor in the greenhouse, bringing in new fabric liner and wood chips, running new irrigation lines and soaker hoses, and installing new signs. Toward the latter part of the month we plan to start work on repair and maintenance of the National Forest boundary fence where the heavy snows this past winter may result in some issues. The cattle usually show up in early June. We will also be excavating and prepping the vaulted toilet install site at Hatcher Lake in the next few weeks, a large 6’ X 14’ hole, 4-feet deep with compacted gravel and leveling sand, a large hole and prep work.
3. **Brush Collection Area –** We opened the brush collection area on May 3rd this year and saw some steady drop-offs. We had a few issues with the chipper this spring with a broken weld on the discharge belt and some issues with the belt alignment, but got it repaired and working. We are shifting the chipping and drop-off area to the south about 100 feet this spring to give us a little more breathing room to a couple of new homes that border our north property line and may be looking to install some new security and screening fence this summer.

4. **Conservation Officers** – We will be starting up our conservation officers this month for seasonal lake patrols. Currently I have 3 part-time officers including a new hire in early May. Great group of guys, generally retired professionals and a vested interest in the lakes and resources. They average about 12 hours a week and rotate schedules, working to have weekend and evening coverage as well when things get busy on the lakes.

Pagosa Lakes Property Owners Association
Regular Board of Directors Meeting
Recreation Center Report

Attendance report for April fd	**2023**
Timeshare Sign Ins	1,280
Member Sign Ins	5,910
Total User Attendance	7,190
Programs and Activities Attendance	
All programs in Aerobics Room	221
Water Aerobics	143
Racquetball	101
Basketball	69
Lap Lane	796

Manager's Summary:

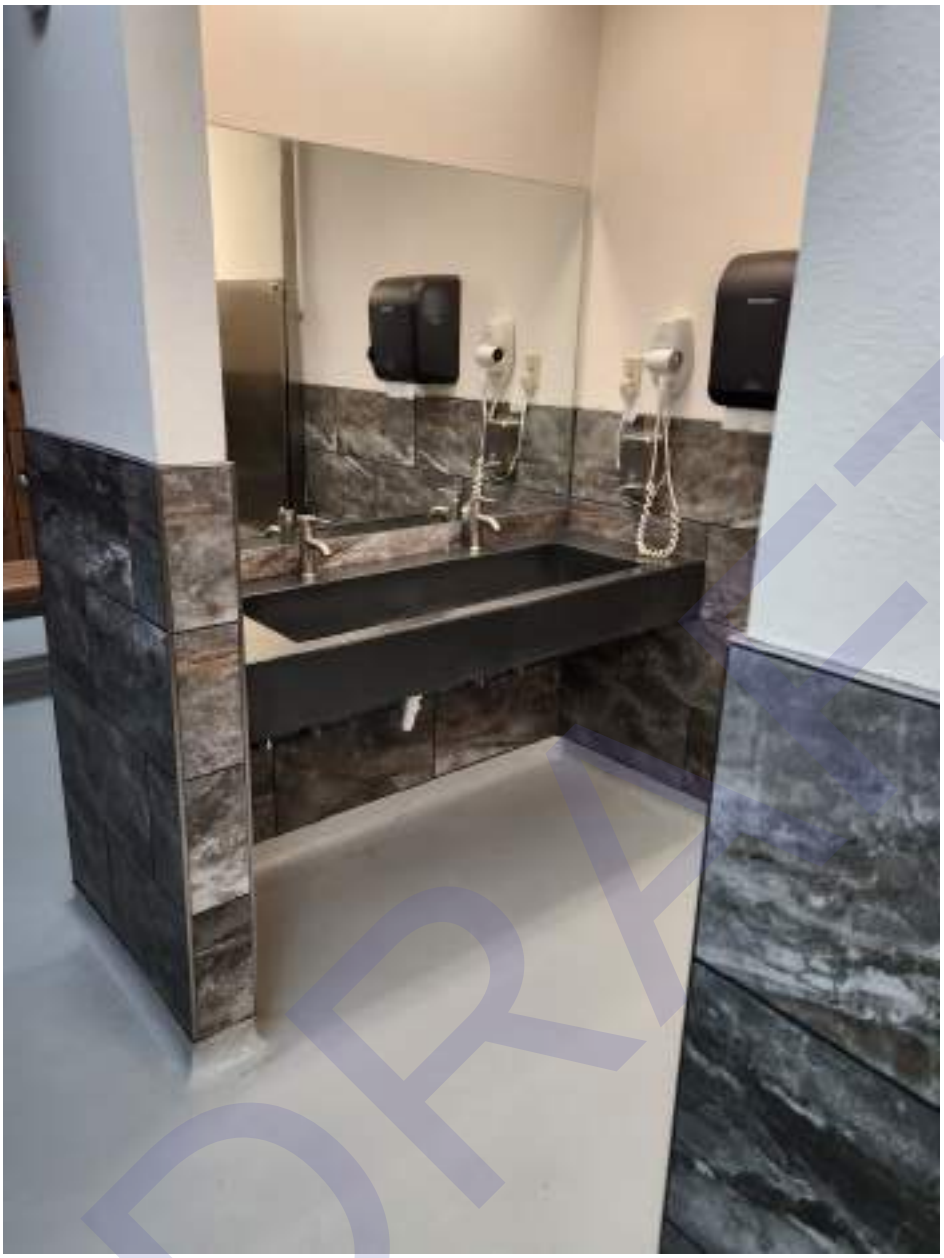
- All of the new fitness equipment has arrived. Most people are very pleased with the new equipment, we have received many compliments.
- The women's locker room remodel is complete. The locker room turned out very nice and we have received many compliments. The men's locker room is completely demoed and a good amount of the tile is up. Counter tops will go in on Thursday, May 5th.
- April has been a quite month. But it has been greatly appreciated with the remodel work going on.
- I'm meeting with a few soccer clubs to discuss possible funding for a multipurpose field on May 4th.
- The new fitness classes have been well received and the Spin with Jen has been close to maxing out every session.

Maintenance/Supervision:

- Pool and Spa have been running well through Spring Break.
- Things are running good at the rec center. We have not had many issues.
- Several new Cardio machines have arrived, been assembled and placed on the cardio floor. Two new Cybex recumbent bikes and one new Cybex treadmill.
- Continued preventative maintenance on all weight and cardio equipment is ongoing.
- Crawl space restoration will be starting 4/6/2023. Most of the crawl space has been cleaned up along with some leaks that have been fixed.

Programs:

- The Rec Center is hosting a Pickleball Exhibition on June 3rd. This is for individuals that have little to no experience playing Pickleball.
- Registration has begun for Camp 9-1-1. Community seems pretty excited about the program.
- I have been able to find local swim meets for the team this summer. We will be traveling to Durango quite a bit, Telluride and possibly Cortez.
- Group swim lessons have begun. They have been a huge hit. We maxed out all beginner and intermediate levels. The Parent and Me class have been super popular and advanced swim lessons only had a few registered. New session dates will be out by early next week for June.
- Racquetball Tournament with be May 12-13



April 2023, Department of Community Standards Report

By Keith Cramer

- There are 25 open violations, as of May 3rd.
- We have opened 17 & closed 14 violations this past month. Compliance has been achieved.
- There are 194 current open project permits as of May 3rd.
- There were 13 Short Term Rental applications submitted since March 30th.
    - 0 new owners of existing STR properties,
    - 10 annual renewals of existing STR properties.
    - 3 new registrations of STR properties not previously registered.
- The 2023 Spring Dumpster Day on 4/21/23 had DCS(4) & DPE(4) staff members working non-stop for 9 hours assisting owners. We filled eight 40’ roll-away dumpsters.

Current open violations as of 5/3/23

XN	Step	Details	Property Address
124640	Notice of Violation	Architectural - Storage of Construction Material	1733 Harvard Ave
124641	Notice of Violation	Architectural - Changing Grade By More Than 12"	1733 Harvard Ave
124642	Notice of Violation	Building / Construction - Project Permit Process Violation	1733 Harvard Ave
110457	Hearing Requested	Land and Structures - Unauthorized Dwelling	110 Antelope Ave
149196	Courtesy Notice	Unsightly - Improper Storage of Household Furniture	534 Park Ave Unit A
149307	Courtesy Notice	Building / Construction - Project Permit Process Violation	128 Divot Pl
144974	Courtesy Notice	Building / Construction - Project Permit Process Violation	23 Brassie Ct
160100	Courtesy Notice	Recreational Vehicles	1752 Lake Forest Cir
160101	Courtesy Notice	Hazardous Activities - Burning	1752 Lake Forest Cir
160102	Courtesy Notice	Rubbish and Debris - General	1752 Lake Forest Cir
133532	Courtesy Notice	Rubbish and Debris - General	194 Midiron Ave
133534	Courtesy Notice	Unsightly - Tires	144 Island Pl
159695	Courtesy Notice	Unsightly - Improper Use of Carport for Storage	2073 Park Ave
159696	Courtesy Notice	Building / Construction - Project Permit Process Violation	2073 Park Ave
133459	Notice of Violation	Vehicle Parking - Parking in the Grass	476 Park Ave Unit A
93928	Notice of Violation	Parking - Parking in the Grass	533 Dutton Dr
159628	Notice of Violation	Building / Construction - Deviating From Plans	34 Beaver Cir
159629	Notice of Violation	Building / Construction - Project Permit Process Violation	34 Beaver Cir
133460	Notice of Violation	Recreational Vehicles	123 Highland Ave
160094	Hearing Requested	Violation of the Project Agreement/PPP	333 Grenadier Pl
160095	Hearing Requested	Land Use and Improvements - Campers & RVs	333 Grenadier Pl
160096	Hearing Requested	Building/Improvement Restrictions - Occupancy	333 Grenadier Pl
81161	Notice of Violation	Maintenance - Structural	160 Paradise Dr
11316	Second Notice of Violation	Land and Structures - Unauthorized Dwelling	793 Monument Ave
35699	Notice of Violation	Building / Construction - Deviating From Plans	314 Midiron Ave

Violations opened 3/30/23 through 5/3/23

XN	Step	Details	Property Address
149196	Courtesy Notice	Unsightly - Improper Storage of Household Furniture	534 Park Ave Unit A
149307	Courtesy Notice	Building / Construction - Project Permit Process Violation	128 Divot Pl
144974	Courtesy Notice	Building / Construction - Project Permit Process Violation	23 Brassie Ct
160100	Courtesy Notice	Recreational Vehicles	1752 Lake Forest Cir
160101	Courtesy Notice	Hazardous Activities - Burning	1752 Lake Forest Cir
160102	Courtesy Notice	Rubbish and Debris - Genera	1752 Lake Forest Cir
133532	Courtesy Notice	Rubbish and Debris - General	194 Midiron Ave
133534	Courtesy Notice	Unsightly - Tires - F 9. Property Maintenance	144 Island Pl
159695	Courtesy Notice	Unsightly - Improper Use of Carport for Storage	2073 Park Ave
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160096	Hearing Requested	Building/Improvement Restrictions - Occupancy	333 Grenadier Pl

Violations closed 3/30/23 through 5/3/23

XN	Type	Details	Property Address
124814	Violations	Rubbish and Debris - General	459 Saddle Cir
133462	Violations	Rubbish and Debris - General	123 Highland Ave
133463	Violations	Unsightly - Improper Storage of Miscelaneous	123 Highland Ave
153374	Violations	Rubbish and Debris - Polycart/Trashcan Left Roadside	534 Park Ave Unit A
128966	Violations	Rubbish and Debris - Polycart/Trashcan Left Roadside	177 Dutton Dr
149312	Violations	Rubbish and Debris - General - F9. Property Maintenance	317 Canyon Cir
149313	Violations	Unsightly - Tires	317 Canyon Cir
149317	Violations	Parking - Inoperable Vehicle	317 Canyon Cir
133538	Violations	Parking - Parking in the Grass	184 Holiday Ave
133539	Violations	Parking - Parking in the Grass	149 E Golf Pl
133540	Violations	Parking - Parking in the Grass	77 S Driver Ct
128967	Violations	Rubbish and Debris - Polycart/Trashcan Left Roadside	6 Glenwood Ct
133461	Violations	Maintenance - Structural	123 Highland Ave

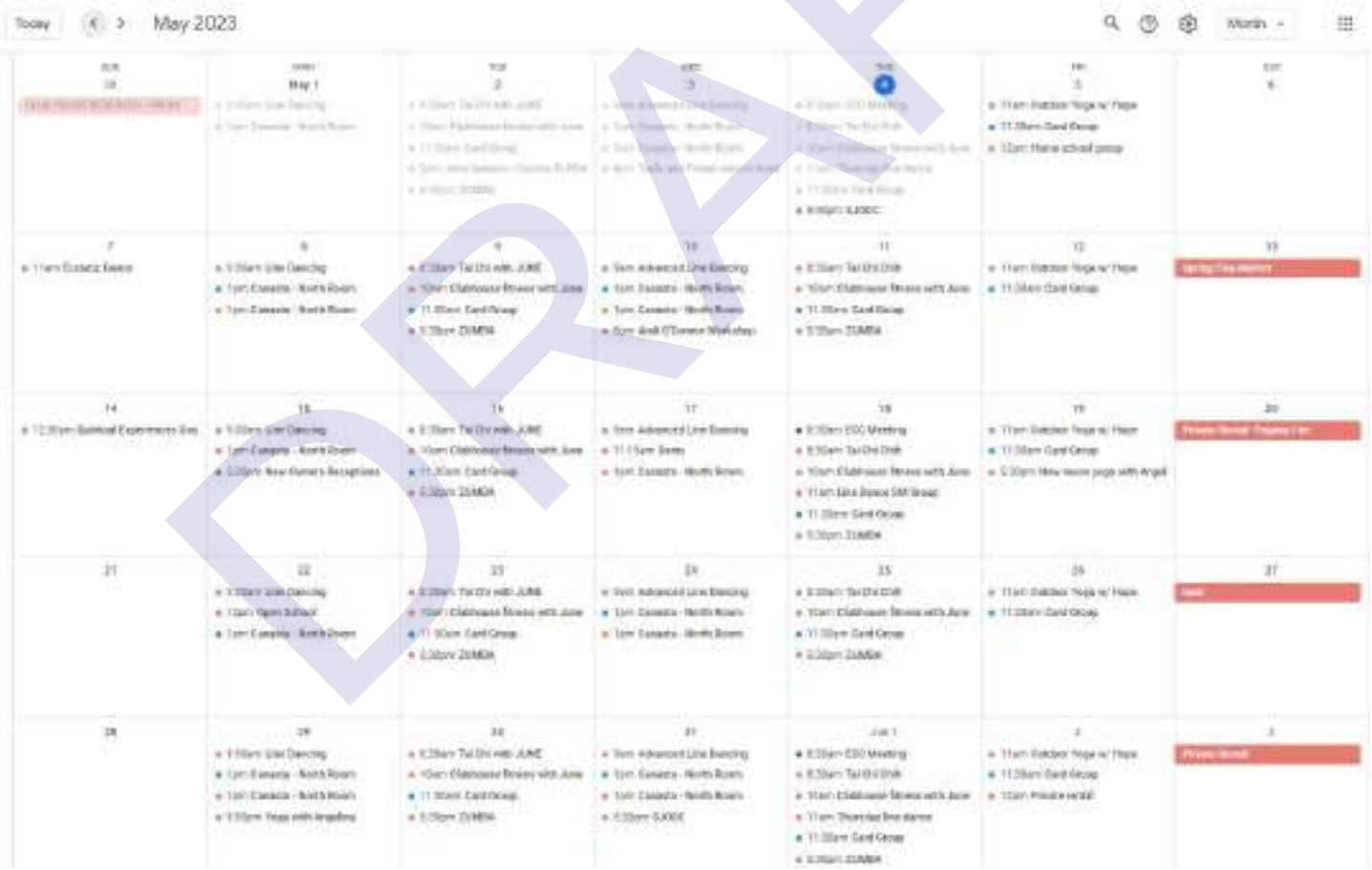
Pagosa Lakes Property Owners Association
Lifestyle and Communications Report
May 11, 2023
Jenifer Pitcher

TECH/communications:

- ***WEBSITE LUANCH set at May 5th – after much discussion with front steps we felt it was best to not mess with the flow before the assessment due date.***
- ***Summer Newsletter***
- ***Election***

Lifestyle:

- ***UPCOMING LIFESTYLE EVENT & HAPPENINGS***
  - ***5/13/23 Flea Market***
  - ***5/15/23 New Owners Reception***
  - ***6/29/23 Canidates Forum***
- ***7/29/23 Annual Meeting/BBQ***



ARCHULETA COUNTY
COLORADO

Archuleta County, Development Services
1122 Hwy 84, PO Box 1507
Pagosa Springs, Colorado 81147
Office 970-264-1385

Lot Consolidation Utility Notification Letter

RECEIVED
APR 18 2023
BY: AV

Date April 12, 2023

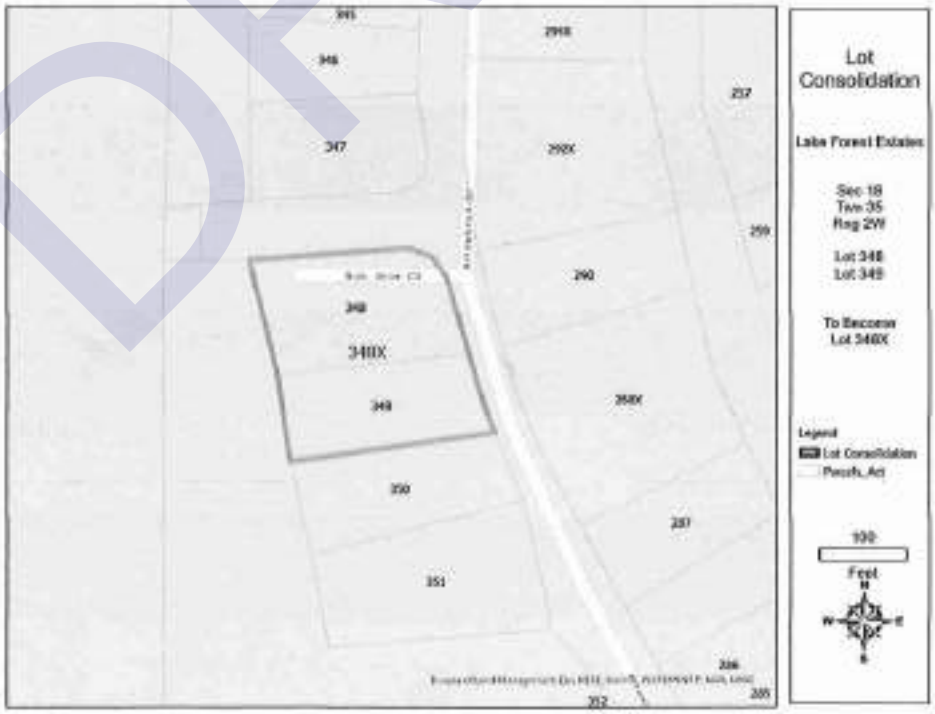
Dear Utility Company/HOA/POA: The owners of Lots 348 and 349 in Lake Forest Estates Subdivision, are proposing by resolution to consolidate two (2) lots to become lot 348X, 17 San Jose Ct. All covenants and restrictions will remain the same. Anyone who wishes to comment should contact the Archuleta County Planning Department, P.O. Box 1507, Pagosa Springs, Colorado 81147, and/or at (970) 264-8383, prior to May 12, 2023 *(a minimum of 30 days from the date of mailing).*

Lot 348
17 San Jose Ct
Lot 349
270 Arrowhead Dr
Nothing owed on either Lot

Sincerely,

Eric Johnson

Meghan Johnson



ECC Liaison Report - April 2023

(Numbers in the top section represent reviewed Applications and Requests)

DESCRIPTIONS	Month of April	YTD 2023	Totals 2022
Construction of new Single Family Residential and Modular Home	12	16	69
Mobile /Manufactured New or used placement	0	0	5
Major Projects (200 sq ft or larger)	5	8	53
Minor Projects (199 sq ft or smaller)	12	20	226
Fences	7	9	94
Owner initiated Variance Request	3	3	8
Solar	2	2	17
Boat Dock Permit / liscense	0	0	7
Sign/ Banner permanent and temporary	0	0	2
Seasonal and Temporary structures	1	1	27
Written Request: Tree Removal/Fire Mitigation)	6	7	126
Written Request:Extensions/Revisions	38	83	255
Written Request: Miscellaneous	2	6	92
Construction of new Commercial Structure	0	0	2
Construction of Multi-family structures (per Building):Duplex	1	1	0
Construction of Multi-family structures(per Building) :3-5 units	0	0	0
Construction of Multi-family structures(per Building):6+	0	0	0
TOTAL APPLICATIONS	87	154	981
Approval Details			
TOTAL APPROVED APPLICATIONS	85	152	955
Approved Single Family residences	11	15	68
Approved Manufactured homes	0	0	5
Approved Multi-Family Count (all types)	1	1	0
Approved Commercial	0	0	1
Approved Variance	2	2	3
As Form Inspection Additions			
As Form inspection for new residence	9	12	46
As Form inspection for Mobile/ Manufactured	0	0	2
Addition of concrete inspection for Major	2	3	5
Addition of concrete inspection for Minor	0	0	1

Previous Totals (Old catagories)	2021	2020	2019
Single Family Residence	87	59	82
Manufactured Homes	4	5	4
Multi-Family Residence	0	2	1
Major Projects (over $12,500)	59	31	40
Minor Projects (under $12,500)	312	409	441
Commercial Buildings	3	1	X
Roofs	X	X	X
Fences	31	X	X
Docks	4	7	2
Signs	3	0	6
Variance	16	9	16
Seasonal / Temporary	9	X	X
(WR) Written Requests, Misc.	107	153	73
(WR) Tree Removal/Fire Mitigation)	126	109	78
(WR) Extensions/Revisions	136	188	126
Solar	13	1	7
TOTAL APPLICATIONS	857	960	869
TOTAL APPROVED APPLICATIONS	846	959	833
Approved Single Family residences	87	59	79
Approved Manufactured homes	2	4	4
Approved Multi-Family Count	2	2	3
Approved Commercial	3	1	X
Approved Variance (as of 12/2021)	0	X	X

p. 720.874.9090
w. engineeredproducts.com
a. 301 Commercial Rd, Suite D, Golden, CO 80401

QUOTATION

23-1508a Pagosa Springs SGM
Engineering Seresco

OPP # / QUOTE #: 23-1508 / Q23-3126
QUOTE DATE: 05/03/2023
PLAN DATE:
ATTN TO PERSON: Tony Haschke
SUBMITTED BY: Pat Zeller
QUOTE REV: 00

Seresco

Seresco

DESCRIPTION

Qty (1) Outdoor Pool Dehumidifier by Seresco
Tag(s):

- CWT-019-NT-X-A6FTE912G2C5AF41H
- 460 / 3ph
- **9100** CFM Supply Air, 2050 CFM Outside Air
- **1"** External Static Pressure
- Heat Recovery Package on Outside Air with additional purge/economizer
- Outside Air Inlet Motorized Damper and Filter
- Unit integrated exhaust and economizer fan
- Scroll Compressor
- Refrigerant: R-410A
- Remote Air-Cooled Condenser with Copper Tubing and Coated Fins (Model NG-V12)
- Unit Mounted Modulating Gas Heat
- 2" MERV 13 Filters
- Unit Mounted Command Center Controls w/Building Communication (BACnet - IP and Ethernet) or Remote Mounted Command Center Controls w/Building Communication (BACnet - IP and Ethernet)
- Temperature and Humidity Sensors
- Factory Startup Included
- 5 -Year Compressor Warranty & 2-Year Parts Only Warranty on remaining items
- Freight to Pagos Springs

Excludes: Building Communications Card, DDC Interface to BAS, Smoke Detectors, Phase Monitor, Condensate P-Traps, Refrigerant Copper Piping, Piping Insulation, Additional Refrigerant Charges for System, Additional or Extended Warranty, Spring Isolation Rail/Curb, Spare Filters, Labor Warranty, Remote Command Center to be Wired by Others

Seresco Total $278,000.00

ENGINEERED PRODUCTS - STANDARD TERMS AND CONDITIONS OF SALE

TAXES - All Federal, State and Local taxes, use, or similar taxes will be for buyer's account.

PAYMENT TERMS - The net amount of invoices shall be due and payable in cash 30 days after the invoice date. The material is subject to shipment in whole or in part at the option of the seller and each shipment is subject to immediate invoicing. If at any time, seller deems buyer's credit unsatisfactory, seller reserves the right to require payment in advance, or other security or guarantee that invoices will be paid promptly when due. If buyer fails to comply with the terms of payment or with any other of these terms and conditions, seller shall have the right to withhold further deliveries or to cancel the unfilled portion of any order and all unpaid accounts shall thereupon become due and payable without prejudice to any claims for damages to which seller may be entitled. A service charge of 1 1/2% per month (18% per annum, but not more than the lawful interest rate maximum) will be added on any past due accounts, and if the account is not paid when due, buyer agrees to pay all reasonable costs of collection including a reasonable sum for attorney's fees.

SHIPMENT - SHIPMENTS ARE F.O.B. POINT OF MANUFACTURE WITH FREIGHT ALLOWED. All risk of loss, damage and other incidence of title and ownership shall pass to buyer upon delivery to carrier at seller's shipping point and such delivery shall constitute delivery to buyer. Shipping dates or time of arrival of shipment at destination will not be guaranteed by seller. Seller shall not be liable for any delays or defaults in making shipment where occasioned by any cause of any kind or extent beyond its control, or the control of its suppliers, manufacturers or contractors, which prevent or interfere with seller making shipments on an estimated date. In the event of shipping delay, if buyer and seller do not mutually agree to cancel the order for the item involved, the shipping date shall be automatically extended to the manufacturer's current estimate.

WARRANTY - Any warranties expressed or implied are limited to those provided by the manufacturer to buyer. Seller expressly warrants title. EXCEPT FOR SUCH EXPRESS WARRANTY, SELLER MAKES NO WARRANTY OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, AND ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND OTHER WARRANTIES OF WHATEVER KIND, ARE HEREBY DISCLAIMED BY SELLER AND EXCLUDED. Seller assumes no liability for any failure of buyer's specifications to meet buyer's requirements, nor does seller guarantee that materials furnished meet or conform to any specifications except as specifically noted in writing by seller.

CLAIMS - Any claims or exceptions by buyer for defective material must be made in writing within 30 days after buyer's receipt of materials, and buyer shall give seller an opportunity to investigate. SELLER IS FURNISHING BASIC MATERIALS AND PRODUCTS OF VARIOUS MANUFACTURERS AT STANDARD PRICES AND IS NOT INSURING BUYER AGAINST POSSIBLE CONSEQUENCES OF ERROR, OMISSIONS OR NEGLECT IN MANUFACTURE, PRODUCTION OR DELIVERY. EXCEPT FOR BREACH OF THE EXPRESS WARRANTY SPECIFIED ABOVE, SELLER SHALL NOT, UNDER ANY CIRCUMSTANCES BE LIABLE ON ACCOUNT OF ANY IMPERFECTION, DEVIATION FROM SPECIFICATIONS OR OTHER DEFECT IMPAIRING THE QUALITY, VALUE OR SUITABILITY FOR ANY PURPOSE, OF ANY PRODUCT OR MATERIAL SOLD HEREUNDER, WHETHER CAUSED BY SELLER'S NEGLIGENCE OR OTHERWISE. IN NO EVENT SHALL SELLER BE LIABLE FOR CONSEQUENTIAL, PUNITIVE, SPECIAL OR CONTINGENT DAMAGES, OR ANY OTHER CLAIM OR DEMAND WHATSOEVER, EXCEPT TO THE EXTENT OF THE PURCHASE PRICE OF THE PRODUCT, THE REFUND OF WHICH SHALL BE BUYER'S SOLE AND EXCLUSIVE REMEDY HEREUNDER. BUYER ASSUMES ALL RISK OF LOSS, DAMAGE, OR DELAY INCIDENT TO THE FURNISHING OF ANY PRODUCT BY SELLER HEREUNDER, OR THE UTILIZATION THEREOF, EXCEPT TO THE EXTENT EXPRESSLY ABOVE PROVIDED. Seller shall have no responsibility to make any claim for loss, damage or injury to shipments caused by a carrier or others, after delivery to carrier at seller's shipping point. Any claim by buyer against seller for shortage or damage occurring prior to delivery to carrier must be made within 5 days after receipt of materials and accompanied by the original transportation bill signed by carrier noting that carrier received material from shipper in the condition claimed.

GENERAL - All prices on seller's quotations are for acceptance within 30 days unless otherwise stated in writing. Neither seller's quotation prices, nor invoice charges for materials, include any field or service work or operator training unless so stated in writing. The right to correct typographical errors is hereby reserved.

When seller's quotation prices or invoice charges for materials include standard shipping charges, it is understood that the method of shipment will be at the seller's option, and buyer is responsible for furnishing labor and equipment for unloading within the time limit allowed by the carrier. Seller's quotations do not guarantee to include all materials required for a specific project, nor that the material quantities, sizes or specifications noted are correct. Buyer assumes all liability for type and quantity of materials ordered. Orders are not subject to cancellation, return or back charge, or change in specifications, shipping schedules or other conditions without the seller's written consent. When orders have been filled as specified, no items may be returned, nor will any credit be allowed, unless the consent of seller has first been secured, and only standard stock items returned will, if accepted, be credited less the cost of handling and the freight costs involved. Materials not normally stocked by seller may not be returned for credit.

Except as otherwise provided, all quotations and sales shall be subject to these terms and conditions and buyer is conclusively presumed to have accepted these terms and conditions unless otherwise agreed in writing. Orders designated to be invoiced directly by the manufacturer are subject to acceptance by such manufacturer and to such manufacturer's terms and conditions, and to these terms and conditions. In the event of inconsistency or conflict between the terms and conditions of the manufacturer and seller, the manufacturer's terms and conditions that are involved in such inconsistency or conflict shall have priority.

Until all amounts owed by buyer to seller pursuant to these terms and conditions and any other contract between seller and buyer are collected and paid in full, seller retains a security interest in the goods supplied and buyer grants to seller a purchase money security interest under the Uniform Commercial Code in and lien upon such goods, as well as all attachments, additions and accessions thereto, all as security for the payment of all such amounts and the performance by buyer of all its obligations to seller. Buyer acknowledges that this security interest continues in all proceeds of such goods, attachments, additions and accessions, including cash, checks, notes, accounts receivable, proceeds of the unearned premiums on property insurance and other collections received by buyer. Buyer further acknowledges that seller's purchase money security interest continues notwithstanding any attachment or affixing of the goods, attachments, additions or accessions to real estate.

In the event buyer's purchase order states terms additional to, or different from, these terms and conditions, then seller's acknowledgment in accordance with these terms and conditions shall be deemed a notification of objection to such additional or different terms, or in the event such purchase order expressly limits acceptance to its terms, the seller's acknowledgment shall constitute an offer to sell that may be accepted only in accordance with these terms and conditions, without modification, addition or alteration. Under those circumstances the failure of buyer to deliver notification of objection to these terms and conditions within a reasonable time shall be deemed an acceptance hereof and a contract shall be formed only upon these terms and conditions.

This agreement constitutes the sole and entire agreement between buyer and seller and none of the terms and conditions contained herein may be added to, deleted, modified or altered except by written instrument signed by seller. There are no oral understandings, representations or agreements relative to this agreement, which are not fully expressed herein. The laws of the State of Colorado shall govern the validity, interpretation and enforcement hereof. All orders are received subject to approval and acceptance by an officer of seller and seller reserves the right to reject any orders as well as the right to select its own customers.

Unless otherwise noted, this quotation is offered as follows: Shipments are F.O.B. point of manufacture with freight allowed to first destination. Payment terms are Net 30 Days. Sales and use taxes are not included. Quotation is subject to acceptance within 30 days. Prices quoted are firm provided release to ship is made within 30 days from date of order, not to exceed 60 days from the date of this quotation. Standard factory warranties will apply unless otherwise noted above. Return charges may apply to any equipment that is returned. Start-Up is not included unless otherwise noted above. Receiving, loading, hauling and installing of equipment is excluded. All quotations and sales are made in accordance with ENGINEERED PRODUCTS - STANDARD TERMS AND CONDITIONS OF SALE included on the last page of this quotation.

seresco ADVANCED DEHUMIDIFIERS

UNIT SELECTION 76057.11

Representative	Project Info
Eric Johnson Engineered Products 301 Commercial Rd, Suite D ejohnson@engineeredproducts.com Phone: 720-874-9090	Date: Apr 5, 2023 Job Name: Pagosa Springs Description: CWT-019 Perf Mas RH=59

Natatorium Design

Pools

Pool Name	Surface Area (ft²)	Water Temp (°F)	Activity Factor
Rec	2718	83	1
Kiddie Pool	250	83	1
Spa	250	104	1.5

Room Conditions

Wet Deck Area (ft²)	1412
Pool Room Volume (ft³)	153680
Number of Spectators	12

Air Conditions

Room Temp (°F)	86
RH Unoccupied (%)	50
RH Occupied (%)	59

Unit Design

Number of Units	1
Pool Water Heating	Yes
Entering Water Temperature	81
Outside Air Required	Yes
Voltage Frequency	60 Hz
Outside Air CFM	2050
Country	USA
State/Province	CO
City	ALAMOSA SAN LUIS VALLEY RGNL
Elevation (ft)	7532
Summer DB (°F)	65
Summer WB (°F)	58
Winter DB (°F)	-16.5

Moisture Load Summary (lb/hr)

Load Source	Occupied	Unoccupied
Rec	108.5	69.6
Kiddie Pool	10	6.4
Spa	54	19.4
Outside Air	-48.2	
Spectators	2.5	
Total	**126.8**	**95.4**

Selected Model: CWT-019, 19 tons

	Occupied	Unoccupied	Total Occupied
Moisture Removal Capacity (lb/hr)	125.1	99.6	125.1
Sensible Cooling (MBH)	121		121
Total Capacity (MBH)	256.1		256.1
Compressor Total Heat Rejection (MBH)	320.1		320.1
Pool Water Heating Capacity (MBH)	285		285
Standard Unit Supply Air CFM	9500		9500
CFM Range	7600 - 11400		
Room Air Changes (per hr)	3.7		

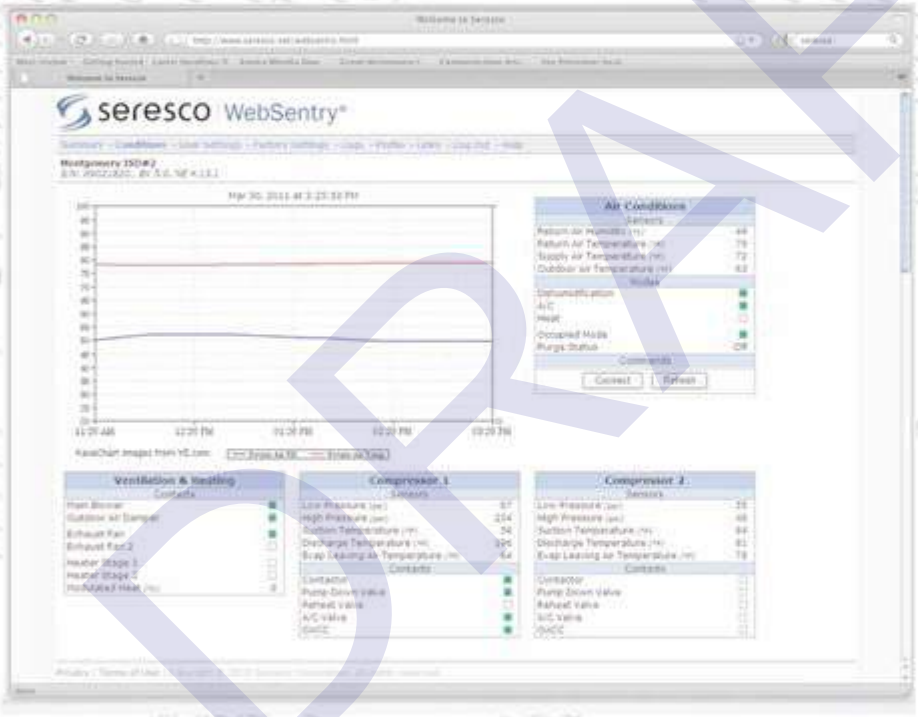
Project Name: Pagosa Springs

Prepared For: Eric Johnson
Engineered Products

Seresco Model #: CWT-019-GT-I-A6FTE912G2E5AF41H

Featuring Compressor Wall Technology

OAFC Model #: NG-V-12-EUHSMO-V



https://serescodehumidifiers.com

1071 Ages Dr
Ottawa, Ontario K1G 6L3
1-770-457-3392

April 5, 2023

Table of Contents

Pagosa Springs

CWT-019-GT-I-A6FTE912G2E5AF41H

Model	19 Ton 3-compressor dehumidifier with three stages of control
Unit Subseries	Pool Water Heater, Titanium
Unit Location	Indoor
Cabinet	Horizontal 2-in Double Walled - Return Plenum - Top [Right Side Access]
Supply Voltage	460V-480V/3PH
Unit Control	CommandCenter c/w Building Communication and Remote Panel
Building Communication	BACnet (IP and Ethernet)
Refrigerant	R410A
Disconnect	Fused Disconnect Unit Mounted
Outdoor Air	Heat Recovery Package Option on OA with Additional Purge/Economizer Option
Exhaust Fan	Unit mounted Exhaust Fan and Purge/Economizer Fan
Space Heating	Unit mounted gas heater (Furnace)
Heat Control	Modulating - factory supplied and wired valve
Air Conditioning	Air Cooled A/C - For Use With Remote Outdoor Air Cooled Equipment
OAFC Voltage	460V-480V/3PH
Warranty	2 years on driveline, 5 years on compressor, 5 years on coils
Supply Air CFM	9100
Outdoor Air CFM	2050
Exhaust Air CFM	2255
Purge Air CFM	7755
Supply Air Orientation	Top Supply
Outdoor Air Orientation	Top
Pool Water Connection	Side
Condensate Drain	Side
Heating Capacity (Output)	640 MBH

Pagosa Springs

CWT-019-GT-I-A6FTE912G2E5AF41H

Unit Data

Refrigerant Charge (including remote OACC and line set, compared to all DX systems) . . . . . 11lbs vs 239lbs

Design Data

Outdoor Air (CFM) 2050
ESP . . . . . 0.5 inches
Room Conditions (°FDB/%RH) 86/52
Unit Total Airflow (CFM) 9100

Electrical Data

Unit Voltage (V/Ph/Hz) 460V-480V/3PH/60
Unit Full Load Amps - FLA (A) 86.9
Unit MCA (A) (min circuit ampacity) 90
Unit MOP (A) (max overcurrent protect) 100

Supply Air Blower - Fan Array

Airflow (CFM) 9100
Type . . . . . Plenum
Unit ESP (in WC) 1.0
ESP Supply Air . . . . . 0.75 inches
ESP Return Air . . . . . 0.25 inches
Number of Motors 4
Motor HP 7.5
Motor FLA (A) 11.0
Motor Drive . . . . . VFD

Exhaust Air Blower

Exhaust Air (CFM) 2255
Type . . . . . Plenum
ESP . . . . . 0.5 inches
Number of Motors 2
Motor HP 3.2
Motor FLA (A) 3.4
Motor Drive . . . . . Direct Drive

Purge Air Blower

Purge Air (CFM) 7755
Type . . . . . Axial
ESP . . . . . 0.75 inches
Number of Motors 2
Motor HP 5.3
Motor FLA (A) 4.7
Motor Drive . . . . . Direct Drive

Compressor

Type . . . . . Scroll
Number of compressors 3
Refrigerant R410A
Motor RLA/LRA (A) 11.2/75.0

Evaporator Coil

Sensible Capacity (MBH) 131.5
Total Capacity (MBH) 245.2
Latent Capacity (Lbs/h) 105.3
Circuits 3
Condensate Drain Connection 1.25

Reheat Coil

Total Heat Rejection (MBH) 306.5
Control Type . . . . . Full Modulation

Protocol Pump

Number of Motors 1
Motor HP 0.75
Motor FLA (A) 1.8

Heat Recovery

Type . . . . . Glycol Runaround 33% Propylene
Coil rows (OA/EA) 4/4
Number of Motors 1
Pump Motor HP 0.25
Pump Motor FLA (A) 0.65
Heat Recovery Condensate Drain Connection 1.25

Pool Heating

Type . . . . . Titanium gasketed plate
Capacity (MBH) 285.0
Water Flow Rate (GPM) 60
Water Pressure Drop (PSI Max) 10
Number of Linesets 1
Connection Size (in) 2
Connection Type . . . . . Stub
Connection Stub Material . . . . . PVC
Maximum Circuit Pressure Rating (PSI) 100.0

Auxiliary Heat

Location . . . . . Unit Mounted
Type . . . . . Gas Heater: Unit mounted gas heater (Furnace)
Capacity, Input (MBH) 800
Capacity, Output (MBH) 640
Max/Min Gas Pressure (in WC) 14/7
Connection Size (in) 1-1/2
Connection Type . . . . . FPT
Control . . . . . Modulated

Fluid Cooled A/C

Fluid Flow Rate (GPM) 48.0
Fluid Pressure Drop (PSI) 1.7
Connection Size, in/out 2
Connection Type . . . . . Flange
Brazed Plate HX Volume (US Gal) 0.00
Fluid System Fill (US Gal) 22.0
Recom'd Field Line Size (in, ID), Option A 2
Max Total Equivalent Length (ft), Option A 300
Recom'd Field Line Size (in, ID), Option B 2-1/2
Max Total Equivalent Length (ft), Option B 700

May differ from connection size

Remote Outdoor Air Dry Cooler

Model NG-V-12
Design Air On Temp (°F) . . . . . 100 F
Capacity (MBH) 306.5
Voltage (V/Ph/Hz) 460-480/3/60
Connection Size, in/out 2
Connection Type . . . . . Flange
Number of Motors 2
Motor HP 4.5
Motor FLA (A) 4.7
MCA (A) 11
MOP (A) 15
Fluid Fill (by others) (US Gal) 18.0

LEGEND			
AP	Access Pannel	PEA	Purge Exhaust Air
CD	Condensate Drain	PC	Pipe Chase
EA	Exhaust Air	POA	Purge Outside Air
HR	Heat Recovery	RA	Return Air
OA	Outside Air	SA	Supply Air

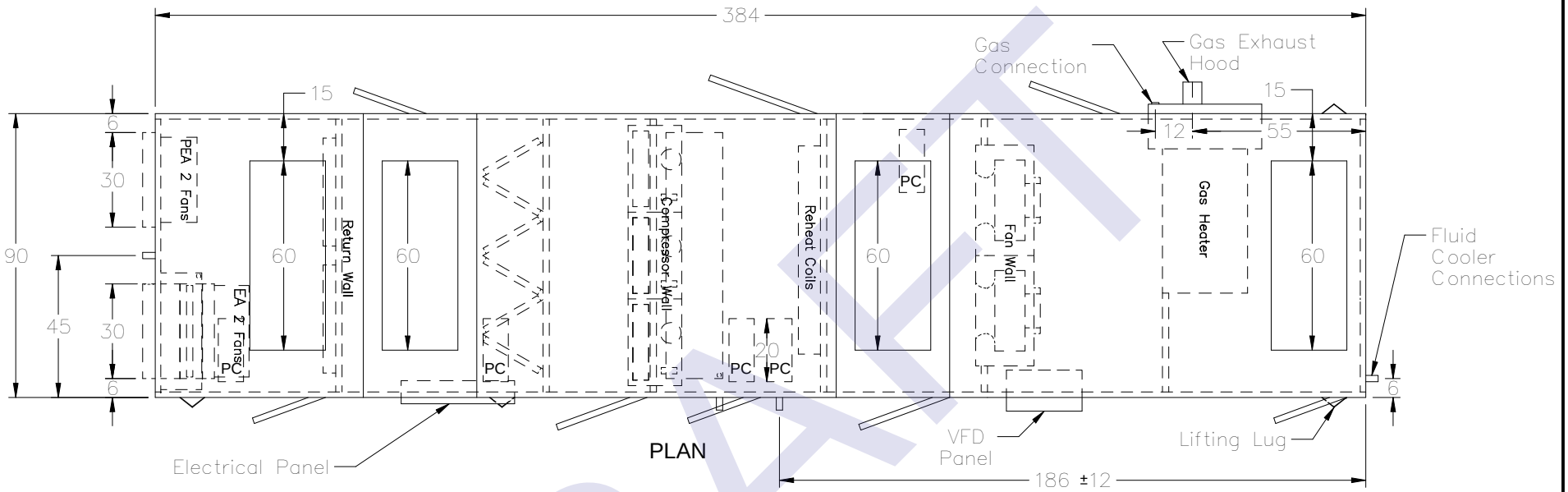
SELECT OPTIONS	
Disconnect	☐
Side Condensate Drain	☐
Roof Curb (Installed by others)	☐

seresco

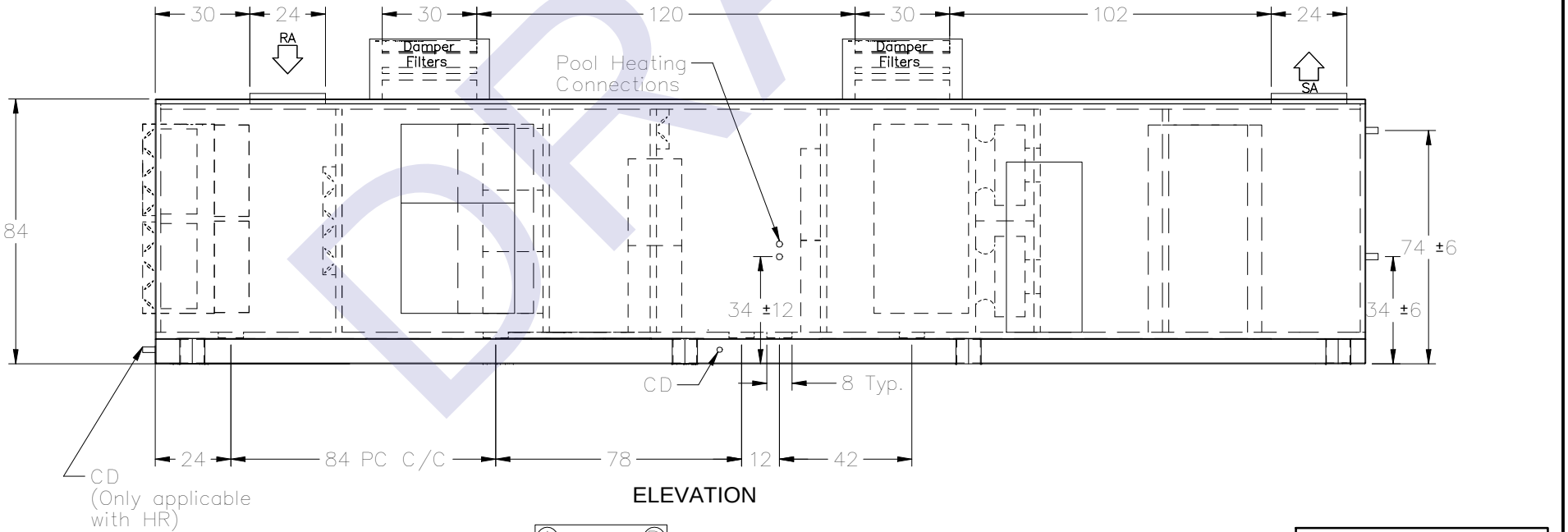
CAD FILE	CxAI-C-TT-SGH2P2 TOA VFD
DATE	07/12/22
REV	2
DRAWN BY	TaimoorSiddiqui
SHEET	1 OF 1

DESCRIPTION

CWT OUTDOOR



PLAN



ELEVATION

(A=22%, B=24%, C=30% & D=24%)

UNIT OPERATING WEIGHT: 11 300 LBS

36" access required all around

Noise level at 30' (may vary due to installation):
Voltage : G,C,E Fan Type : EC
Low speed, 57 dBA
High speed, 63 dBA

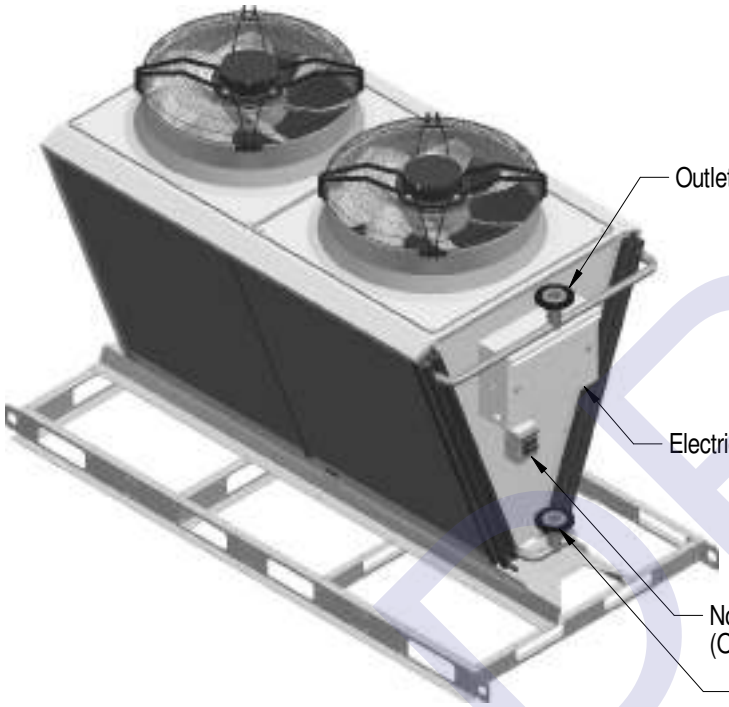
	Voltage
A	208/1/60
B	230/1/60
C	208/3/60
D	230/3/60
E	460/3/60
G	575/3/60

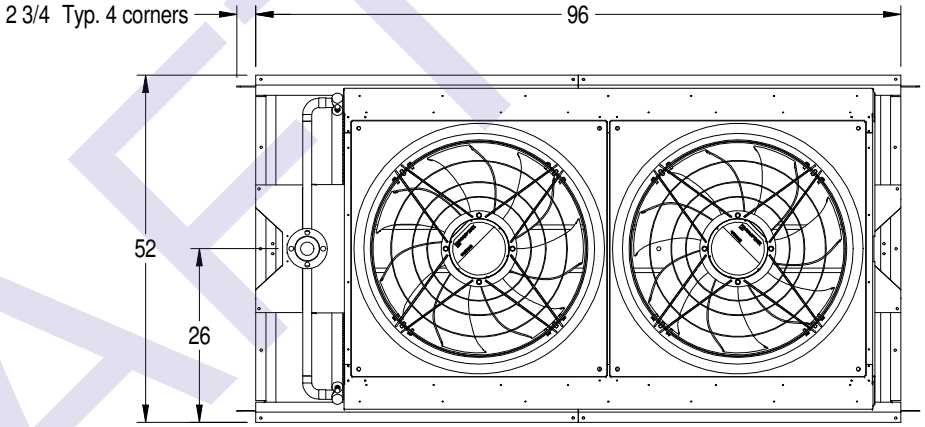
Voltage : G,C,E Fan Type : 2-Speed
Low speed, 54 dBA
High speed, 60 dBA

Dehumidified AIR Solutions

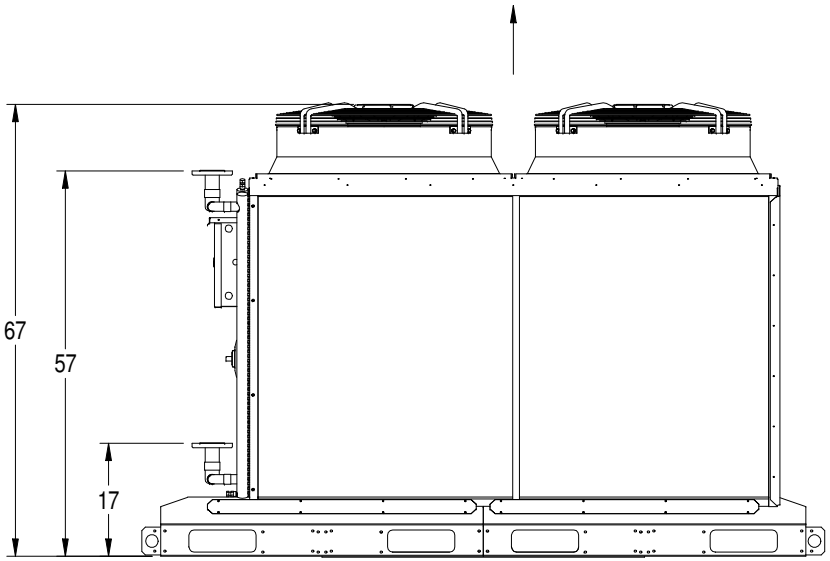
CAD FILE: NG-V-12 rev06
DATE: 04/16/20
DRAWN BY: amikhaiel
SHEET: 1 OF 1

DESCRIPTION
NG-V VERTICAL AIR FLOW





96" of clearance required.



Important note:
Minimum 36" of clearance all the way around for proper air flow.

UNIT OPERATING WEIGHT: 1200 LBS

General Unit Mounting Instructions – Large Cabinets

Supporting the unit lengthwise along the base rails

- Base rails extend 2” past the unit width or length on either side of the cabinet.

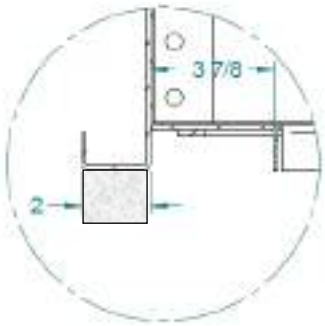


Figure 1 Unit base used for support

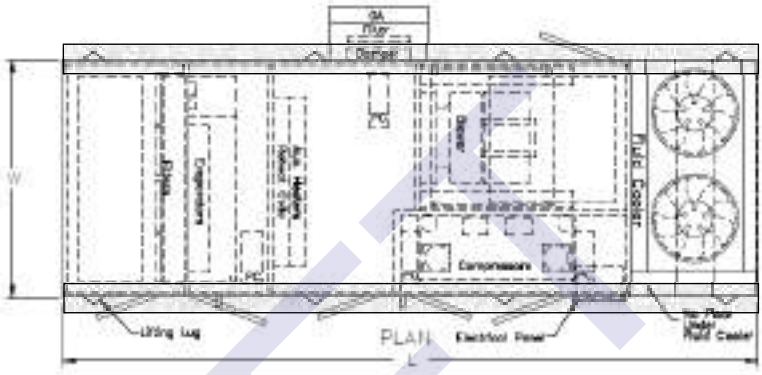


Figure 2 Support beams placed along the unit length “L”

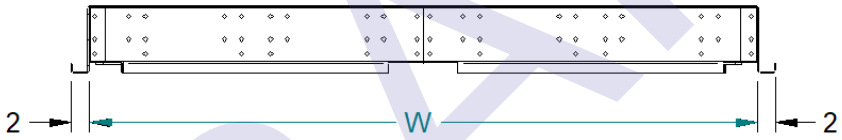


Figure 3 Base detail including unit nominal width “W”

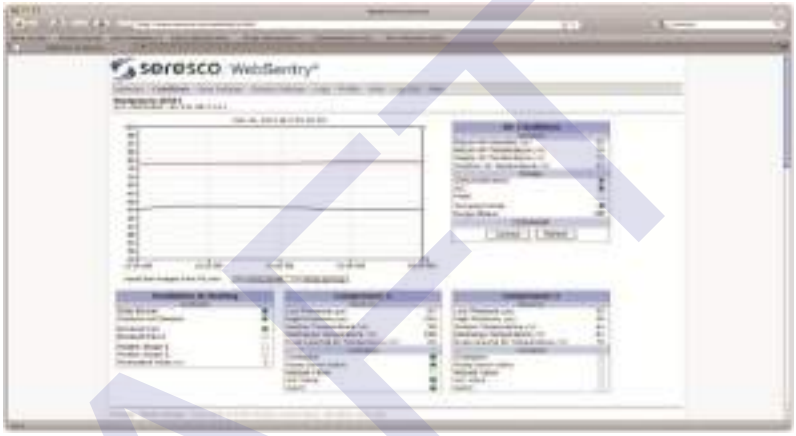
Supporting the unit across the width of the unit

- Supports must be at a maximum of 8’ apart.
- Supporting beams should be 12” longer than the nominal unit width “W” from figures 2 and 3 above, extending 6” on either side of the unit.

WEBSENTRY®TECHNOLOGY – REMOTE INTERNET CONTROL, DIAGNOSTICS AND REPORTING

There's only one way we could provide superb, factory-engineered performance after a dehumidifier leaves our plant. It's called WebSentry Technology.

WebSentry Technology provides a powerful array of capabilities designed to ensure peak operating performance, a minimum of down time and the absolute lowest cost of ownership in the industry. Like an umbilical cord back to the factory, with WebSentry, literally every aspect of the dehumidifier's performance can be monitored, recorded, analyzed and tweaked for its entire lifetime. Our recording servers are equipped with sophisticated monitoring algorithms designed to detect and protect each and every dehumidifier with literally minute by minute monitoring, 24 hours a day 7 days a week.



From regular service issues to potentially serious matters, if any kind trouble indicator is identified, instant alerts are sent to predetermined contacts including designated service technicians via email alerts. Upon notification, authorized service technicians can instantly login to the system live, to observe, adjust and control important parameters via WebSentry's web or smart phone interface.

WebSentry brilliantly solves the most challenging issues of dehumidifier industry to guarantee your client has the very best dehumidifier performance, with fewer service calls and minimum down time while enjoying the best lifetime service and value of any dehumidifier in the industry.

WebSentry® Advantages

- Premium extended 1st year warranty – parts and labor
- Fully monitored remote factory start-up capability
- Comprehensive installing contractor support
- WebSentry smart phone interface

WebSentry® Capabilities

- Remote monitoring for lifetime of dehumidifier
- Real time monitoring and alarm service
- Secure online access to real time data
- Secure remote access for set point adjustments
- Remote access with smart phone application Web

COMMANDCENTER® CONTROLLER – FOR PEAK PERFORMANCE

Seresco's CommandCenter Controller, provides unmatched space control, operating efficiency and equipment protection.

CommandCenter® Capabilities

- Automated, programmable, remote controllable system control
- Utilizes built-in pressure transducers
- Measures, monitors and controls hundreds of operating parameters
- Real time clock with battery back-up and on-board memory for data logging
- Easy to use programming interface with alternate web and smart phone control capability
- Optional remote operator panel unit can be located up to 1,000 ft. away from unit
- Allows live 24-7 monitoring, performance logging, computer analysis, and secure remote control via the Internet or smart phone with Seresco's WebSentry Technology

CommandCenter® Specifications

- Both staged and modulated control for space heating, cooling and dehumidification.
- 20 unit mounted sensors including space/pool conditions and refrigerant pressures.
- 16 digital inputs (dry contacts) used for monitoring fault conditions and external control of the unit
- 24 digital outputs and 4 analog outputs used for controlling internal and external components.
- 2 RS-485 serial ports and 1 RS-232 serial port
- 1 Ethernet port (RJ45)
- LON, Modbus, BACnet building automation option available.

Sensor Information

- Refrigerant high pressure
- Refrigerant suction pressure
- Outside air temperature
- Outside air humidity
- Air temperature leaving the evaporator
- Supply air temperature
- Compressor superheat temperature
- Compressor compartment temperature

Service Technician Mode

- History log of sensor data with date/time
- History log of alarms and status
- History log of operation
- Force modes of operation
- Adjust damper
- Calibrate damper
- Test Internal and External Contacts

Alarms

- Communication fault, Sensor fault, Dirty filter, High refrigerant pressure fault, Low refrigerant pressure fault, No airflow, Blower overload, Firestat, High supply air temperature

INDUSTRY LEADING FEATURES

Seresco dehumidifiers match or exceed the specifications of every other competitor in the marketplace.

Seresco Exclusive Features

Built-in Refrigerant Pressure Transducers

- Allow 24-7 Monitoring of critical suction and discharge pressures to ensure optimal system performance

Superior Compressor Protection

- Advanced monitoring and control technologies to protect compressors including sight glasses on receivers

Fully Dipped Coils

- Provide 100% protection against corrosion (not just the fins)

Direct Driven, Backward Inclined Airfoil Plenum Fans

- Provide powerful, quiet, efficient, reliable performance with no belts to adjust, wear out or replace
- These fans also allow factory installed auxiliary air heating while providing maximum flexibility for supply air duct options

Service Vestibule Outside Air Stream

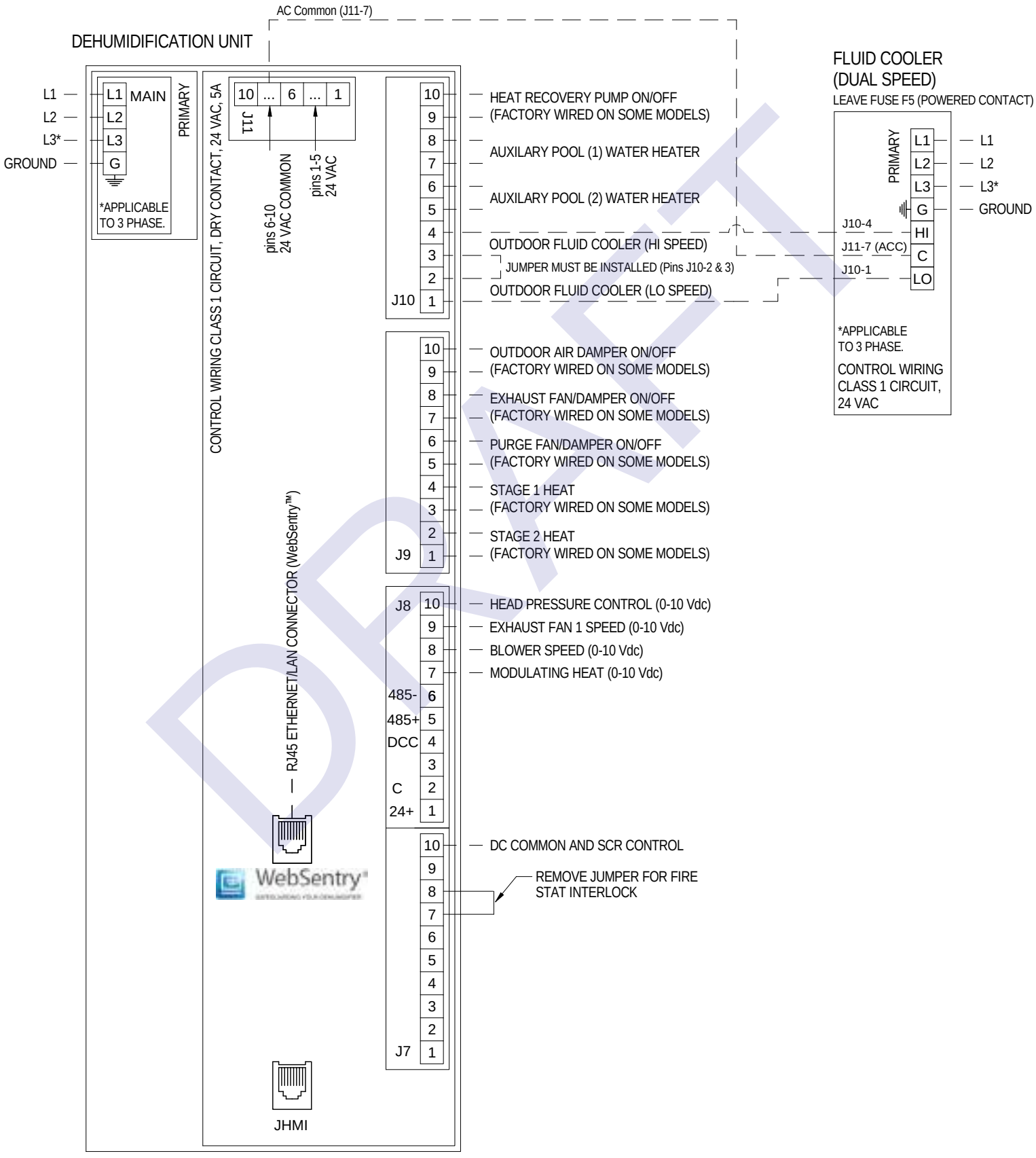
- Protects critical components from chlorinated air stream, maximizes AC efficiency, and allows unit servicing while in operation

Ultra Compact Designs

- allow twice the capacity in half the footprint (200 Series) with up to 14 tons of dehumidification fitting through a 30 inch door

DRAWING NUMBER			REV	COMMENTS	DATE	APPROVED
FWD-NP-NGV-00			1			
FILE: FWD-NP-NGV-00			2			
			3			
DFTN	DATE	REV #: 1	4			
			5			
jtheriault	05/22/14	SHEET 1 OF 1	6			

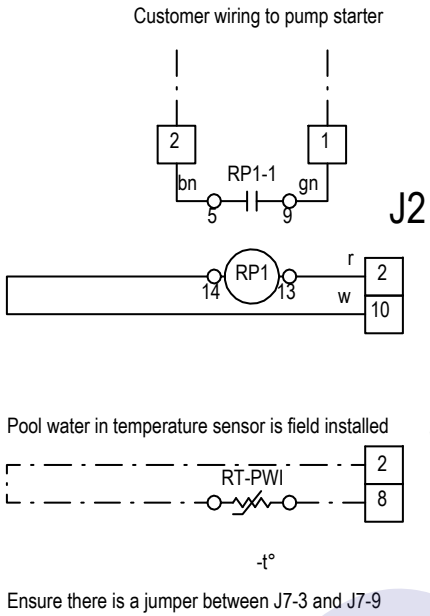
NP Series Field Wiring Diagram with NG-V Remote Fluid Cooler



Dehumidified AIR Solutions	DRAWING NUMBER			REV	COMMENTS	DATE	APPROVED
	WD-SMART_PUMP-00			1			
	FILE: Smart_Pump_Instructions			2			
				3			
	DFTN	DATE	REV #: 0	4			
	kmoritz	06/08/21	SHEET 1 OF 1	5			
				6			

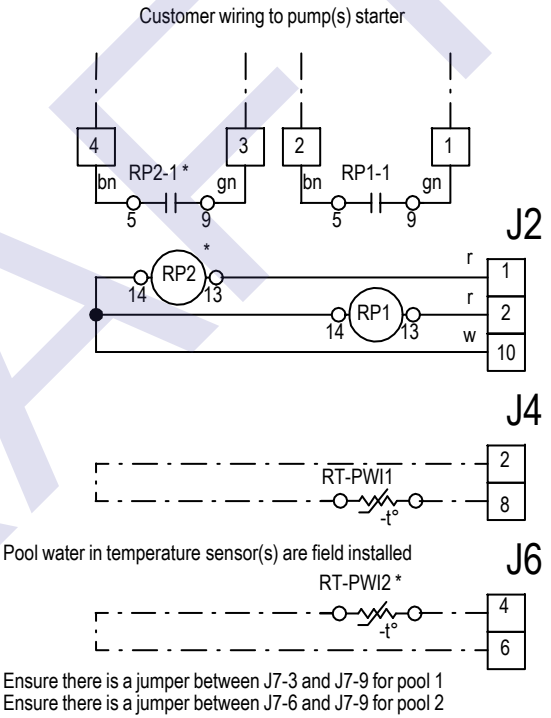
DETAIL E - Smart Pump

Single Deck



Ensure there is a jumper between J7-3 and J7-9

Double



Ensure there is a jumper between J7-3 and J7-9 for pool 1
Ensure there is a jumper between J7-6 and J7-9 for pool 2

Instructions for Smart Pump

1) Remove "Pool Water In" (RT-PWI) temperature sensor wiring from control board located on terminal J4-8

2) Take the supplied extra temperature sensor (DAS# 8930) which was shipped loose with the unit and install it on the pool water supply line that goes to the unit where required. Please follow Detail E on the control wiring diagram for "Pool Water In" (RT-PWI) wiring

3) Relay control wiring is already wired to control board, please wire pump starter to relay as shown in Detail E

CommandCenter® Touch Display

Introduction

The CommandCenter® touch display replaces the LCD display with discrete buttons as the local and remote operator panels on Seresco's dehumidification systems. It uses the same communication interface as the previous operator panel and communicates over a RS-485 serial port. The touch display is modelled after Seresco's WebSentry® application and will detect the CommandCenter® software and hardware versions and adapt menu and settings pages accordingly.

New features include a larger (4" x 2.5") screen with color display and easy to use touch screen interface, a removable SD card for storing menu structure and system configuration backup files, and easy firmware and menu upgrades. System log files can be saved to the SD card for troubleshooting when not connected to WebSentry®

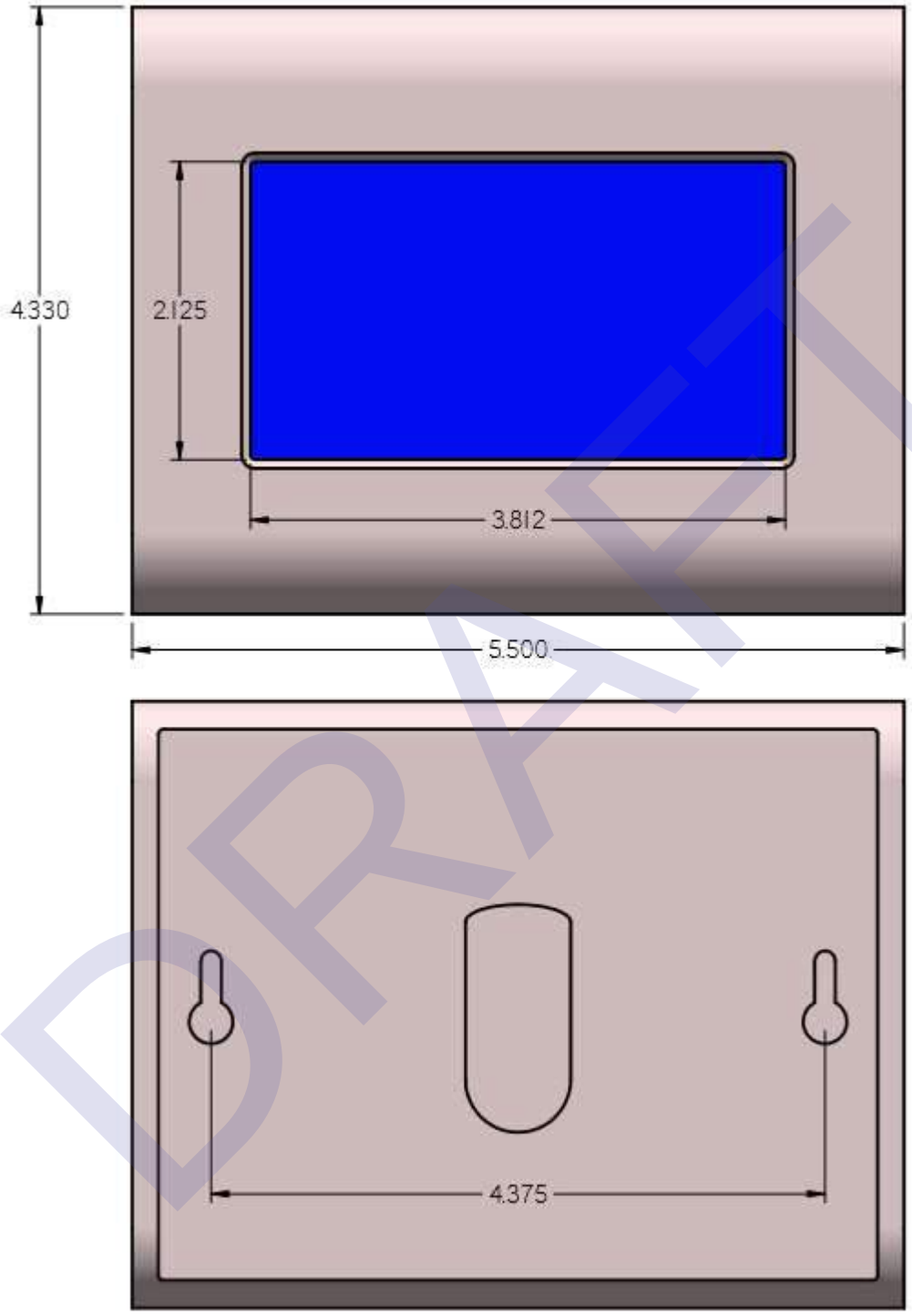
Installation

The touch display communicates over a RS-485 serial port. The display is equipped with a RJ-45 socket so it is recommended to use a CAT5 or CAT6 cable between the display and the CommandCenter® board. CommandCenter® version 7 hardware has a dedicated RJ-45 socket intended for connecting the touch display to the board. If the display is mounted in or near the unit, all you need is a standard Ethernet cable with RJ-45 plugs on both ends. If you want to add a second display in a remote location you must use header J8 for this purpose. Connect the wires of the CAT5 or CAT6 cable to header J8 as follows:

Pin 1 – Solid and striped blue wire
Pin 2 – Solid and striped brown wire
Pin 5 – Striped green wire
Pin 6 – Solid green wire

Ensure that the wiring of the RJ-45 plug at the touch screen end conforms to the T568-A wiring standard.

The touch display has two keyholes on the rear of the enclosure for mounting to vertical surfaces (use no. 6 screws). The front cover of the enclosure snaps off, giving access to the SD card. See the CommandCenter® Touch Display User Manual for more details.



CommandCenter Touch Display

All Dimensions Are In Inches

BACnet Interface, CWT Dehumidification Units

v8.3.0

General

This document describes the BACnet interface provided with the dehumidification unit. Points are listed in two ways, by function and as a reference by object type sorted in numerical order.

As a quick reference to see which points are writeable, use the list ordered by object type, even though this is also noted in the Notes column in the list ordered by function.

Only the list order by function describes each point in detail. The second list just has a reference to which function it belongs, where you can find the full descriptions of the point.

At the end of the document, you will find some sections describing unit BACnet specific configuration including how to override sensors.

Some points are dependent on current unit configuration while others are optional (command inputs) that needs to be enabled in the unit's user interface. These points will not show up when you discover points. This is indicated in the Notes column for each point.

License

The BACnet interface can not be used unless it has been licensed. If unit was purchased with BACnet support, unit is licensed and license key should have been entered when unit was manufactured.

If license key has not been entered, the key can be obtained form the factory, after it has been confirmed that the unit is licensed to use BACnet. See 'General BACnet Configuration' on how to enter the license key and other configuration parameters.

Device Properties

Default Name:	Dehumidifier
Default Instance:	150
Segmentation	Not Supported
Max APDU Length:	1476

Points By Function

This section lists all available points by function and a detailed description of each point.

The used object types are as follows.

AI	Analog Input
AV	Analog Value
BV	Binary Value

Room Conditions

Temperature sensors are measured in either Celsius or Fahrenheit depending on unit configuration.

Type	ID	Name	Notes
AI	0	Return Air Humidity	Humidity of the air returned from the controlled space.
AI	1	Return Air Temperature	Temperature of the air returned from the controlled space.
AI	40	Return Air Dew Point	Dew point of the air returned from the controlled space.
AI	41	Wall Temperature	Dew point temperature measured on a wall. It is an optional sensor that is not installed in the unit but has to be installed in the controlled space. It is used to detect dew on walls and will automatically lower the humidity setpoint to ensure unit running in dehumidification mode. This sensor is disabled by default.
AI	53	Room Temperature	Temperature of the air in the controlled space if a sensor is installed in the space and wired to unit. This sensor is disabled by default.
AI	54	Room Humidity	Humidity of the air in the controlled space if a sensor is installed in the space and wired to unit. This sensor is disabled by default.
AI	59	Remote Control RH	Humidity of the air in the controlled space as determined by BACnet control system and provided to this unit using the AV 769 point. This sensor is disabled by default.
AI	60	Remote Control Temperature	Temperature of the air in the controlled space as determined by BACnet control system and provided to this unit using the AV 768 point. This sensor is disabled by default.
AI	63	Remote Control Dew Point	Dew point of the air in the controlled space calculated using AI 59 and AI 60.

			This sensor is disabled by default.
AI	64	Room Dew Point	Dew point of the air in the controlled space if a temperature and RH sensor is installed int the space and wired to the unit. This sensor is disabled by default.
AV	0	Room Temperature Occupied Setpoint	Desired room temperature when day time mode is Occupied. Range: 55 – 95 ºF
AV	1	Humidity Occupied Setpoint	Desired humidity when day time mode is Occupied. Range: 35 – 85 %
AV	13	Humidity Floating Setpoint	Desired humidity level. This is the actual setpoint that is used for humidity control. It will be set to either AV 1 or AV 17 depending on if day time mode is Occupied or Unoccupied. If a wall temperature sensor is installed, it will be adjusted based on the reading of the wall temperature sensor. This setpoint will be the lowest of wall temperature demand and either AV 1 or AV 17 setpoints. Lowest humidity level is 35%.
AV	16	Room Temperature Unoccupied Setpoint	Desired room temperature when day time mode is Unoccupied. Range: 55 – 95 ºF
AV	17	Humidity Unoccupied Setpoint	Desired humidity when day time mode is Unoccupied. Range: 35 – 85 %
AV	768	Remote Control Temp	This point can be used to provide a remote sensor used for control. Customer can read from a remote sensor and write to this point, or for more elaborate implementations, read several sensors and write an average sensor value to this point.
AV	769	Remote Control RH	This point can be used to provide a remote sensor used for control. Customer can read from a remote sensor and write to this point, or for more elaborate implementations, read several sensors and write an average sensor value to this point.
BV	260	Dehumidification Mode	Active when unit is dehumidifying

			the controlled space.
BV	261	A/C Mode	Active when unit is cooling the controlled space.
BV	262	Heating Mode	Active when unit is heating the controlled space.
BV	839	High Space Temperature	Active if return air temperature is higher than configured High Temperature (95 ºF by default). This should only happen if unit is configured with no A/C and compressor is running in dehumidification mode and the reheat is causing the spacer to overheat. The compressor will be stopped if it is running and this alarm is tripped. This is to avoid compressor tripping on a high pressure fault due to the space being too hot.
BV	840	High Humidity	Active if return air RH is above configured High Humidity offset from setpoint. One possible cause is that the compressor was forced to stop due to the High Space Temperature alarm. The only solution is to ensure the space gets enough cooling when the compressor is being used for dehumidification.

Pool Water

Temperature sensors are measured in either Celsius or Fahrenheit depending on unit configuration.

Points labelled as just Pool or Pool 1 are only visible in BACnet interface if unit is configured to heat pool 1. Points labelled as Pool 2 are only visible in BACnet interface if unit is configured to heat pool 2. Points labelled as just Pool are pool 1 points in a 2 pool configuration.

Type	ID	Name	Notes
AI	13	Pool Water In Temperature	Water temperature coming from pool 1.
AI	14	Pool Water Out Temperature	Water temperature going to poo 1l after it has been heated.
AI	32	Pool 2 Water In Temperature	Water temperature coming from pool 2.
AI	33	Pool 2 Water Out Temperature	Water temperature going to pool 2 after it has been heated.
AV	2	Pool Temperature Setpoint	Desired pool water temperature for pool 1. Range: 60 – 108 ºF
AV	6	Pool 2 Temperature Setpoint	Desired pool water temperature for pool 2. Range: 60 – 108 ºF.
AV	268	Pool 1 Modulated Heat	Indicates pool 1 heating level as a percentage of total heat not rejected to reheat coil. Heat not rejected to pool is

			rejected to a fluid cooler or condenser. In a unit that is heating 2 pools, heat not rejected to reheat coil, is shared between the two pools. This output is only used if unit is using a modulating valve for pool heating control. Otherwise use BV 5 to determine if pool 1 heating is active.
AV	269	Pool 2 Modulated Heat	Indicates pool 2 heating level as a percentage of total heat not rejected to reheat coil. Heat not rejected to pool is rejected to a fluid cooler or condenser. In a unit that is heating 2 pools, heat not rejected to reheat coil, is shared between the two pools. This output is only used if unit is using a modulating valve for pool heating control. Otherwise use BV 33 to determine if pool 2 heating is active. In a unit with a compressor wall design, both pools share the same modulating signal (AV 268) and therefore this signal is not being used.
AV	772	Remote Control Pool 1 Temperature	This point can be used to overwrite the value of AI 13. For instance, if a pump is used to only pump water through the unit on a pool water heating demand, a remote sensor needs to be installed where water can be measured all the time. Write the remote sensor value to this point and AI 13 will be updated and proper pool 1 water temperature control will be maintained.
AV	773	Remote Control Pool 2 Temperature	This point can be used to overwrite the value of AI 32. For instance, if a pump is used to only pump water through the unit on a pool water heating demand, a remote sensor needs to be installed where water can be measured all the time. Write the remote sensor value to this point and AI 32 will be updated and proper pool 2 water temperature control will be maintained.
BV	5	Pool Heating Valve	Active when valve is open for pool 1 water heating coax on compressor circuit. This contact is not used when unit is configured for modulating pool heating control, unless unit is using the compressor wall design and configured to heat 2 pools.
BV	14	Auxiliary Pool Heater	Active when auxiliary pool water heater is turned on for pool 1.
BV	33	Pool Heating Valve, Pool 2	Active when valve is open for pool 2 water heating coax on compressor circuit. This contact is not used when unit is configured for modulating pool heating control, unless unit is using the compressor wall design and configured to heat 2 pools.
BV	34	Auxiliary Pool Heater, Pool 2	Active when auxiliary pool water heater is turned on for pool 2.
BV	263	Pool Heating Mode	Active when unit is heating a pool. Either pool 1 or pool 2.

BV	520	Pool 1 Heater	Use this command input to enable/disable pool 1 water heating control. This does not start or stop pool water heating but enables/disables it to be used by the controller. This command input is disabled by default.
BV	521	Pool 2 Heater	Use this command input to enable/disable pool 2 water heating control. This does not start or stop pool water heating but enables/disables it to be used by the controller. This command input is disabled by default.
BV	773	Pool 1 Water Flow Fault	Active when there is a pool water flow fault for pool 1.
BV	803	Pool 2 Water Flow Fault	Active when there is a pool water flow fault for pool 2.
BV	833	Pool 1 Bad Waterflow	Active when there has been a compressor alarm shortly after pool 1 heating valve was opened. Compressor alarm is then considered being triggered by opening the pool 1 water valve.
BV	834	Pool 2 Bad Waterflow	Active when there has been a compressor alarm shortly after pool 2 heating valve was opened. Compressor alarm is then considered being triggered by opening the pool 2 water valve.
BV	835	Pool 1 High Temperature	Active when pool 1 high water out temperature alarm is triggered by pool 1 water out being 115 ºF or more.
BV	836	Pool 2 High Temperature	Active when pool 2 high water out temperature alarm is triggered by pool 2 water out being 115 ºF or more.

Supply Air

Temperature sensors are measured in either Celsius or Fahrenheit depending on unit configuration.

Type	ID	Name	Notes
AI	8	Supply Air Temperature	Temperature of air supplied to the controlled space.
AI	55	Supply Airflow	Supply airflow measured in CFM. This sensor is only available if unit is equipped with air pressure differential sensors.
AV	257	Blower Speed	Supply fan speed as a percentage of total capacity.
BV	0	Blower Contactor	Active when the supply fan is running.
BV	512	Blower Enabled	Use this command input to enable/disable the supply fan. Note that this only indicates the desired status of the supply fan. Use BV 0 to see the actual running status. If fan is running and status is changed to Inactive, it might take a minute before it stops if a compressor is running. A compressor needs to go through a pump down sequence before it can be stopped. Supply fan can also be disabled from the local user unit interface which will override the status of this point. Supply fan needs to be enabled from

			both interfaces for the supply fan to run. There can also be an alarm preventing the supply fan from running. See status of the alarm points below. This command input is disabled by default.
BV	768	Blower Overload	Active when there is a supply fan motor overload alarm. If blower overload 2 is enabled, both overload alarms needs to be tripped before stopping blower operation.
BV	837	Blower Overload 2	Active when there is a supply fan motor overload alarm for fan 2. This input is disabled by default. Blower operation will not be stopped unless both overload alarms are tripped.
BV	769	No Airflow	Active when air flow sensor measures a too low air flow.
BV	772	Dirty Filter	Active when an air flow sensor used to detect dirty filters is measuring a too low air flow. This input is disabled by default.
BV	810	Freezestat 2 Alarm	Active when a too low supply air temperature has been detected and sustained a few minutes after closing outdoor air dampers.

Outside Air / Exhaust

Temperature sensors are measured in either Celsius or Fahrenheit depending on unit configuration.

When referring to fans it is referred to controlled fan groups, minimum exhaust and purge fans. Each group can consist of multiple physical fans but they are started and stopped by the controller as if there is only one fan in each group.

Type	ID	Name	Notes
AI	12	Outdoor Air Temperature	Temperature of the outside air. This sensor is disabled for units with no outside air intake.
AI	30	Exhaust Air Temperature	Temperature of the exhausted air. This sensor is disabled for units with no exhaust installed.
AI	34	Outdoor Air Humidity	Humidity of the outside air. This sensor is disabled for units with no outside air intake.
AI	35	Outdoor Air Dew Point	Dew point of the outside air. This sensor is disabled for units with no outside air intake and might be disabled by default even if there is an outdoor air intake installed in the unit.
AI	67	Outside Airflow	Total outside airflow measured in CFM. This input is only available if unit has been

			configured for outside air CFM control.
AI	68	Air Quality	Air quality measured in PPM. This sensor is disabled by default.
AV	4	Purge Setpoint	Return air temperature at which purge mode will be stopped if unit is running in purge mode. Range: 40 – 70 ºF
AV	5	Economizer Min OA Setpoint	Outside air temperature at which economizer will not be used if temperature drops below this setpoint. Range: 40 – 90 ºF
AV	7	Freezestat Setpoint	Supply air temperature at which outside air dampers will be closed and exhaust stopped if day time mode is Lights On. If supply air temperature stays below this setpoint for a few minutes after above action, the main blower will also be stopped. Range: 20 – 55 ºF
AV	260	Outdoor Air Damper 1	Indicates how much the outdoor air damper 1 (minimum OA) is opened as a percentage if max opening. This output is only used if unit is using a modulated actuator for the damper. Otherwise BV 18 is used to determine if damper is opened or closed
AV	261	Outdoor Air Damper 2	Indicates how much the outdoor air damper 2 (purge) is opened as a percentage if max opening. This output is only used if unit is using a modulated actuator for the damper. Otherwise BV 44 is used to determine if damper is opened or closed. Damper is then tied to the exhaust fan 2 control.
AV	264	Exhaust Fan 1	Exhaust fan 1 (minimum exhaust) speed as a percentage of total fan 1 capacity. This output is only used if unit is using a modulated actuator for the fan. Otherwise BV 42 is used to determine if the fan is running.
AV	265	Exhaust Fan 2	Exhaust fan 2 (purge) speed as a percentage of total fan 2 capacity. This output is only used if unit is using a modulated actuator for the fan. Otherwise BV 44 is used to determine if the fan is running.
AV	512	Purge Interval	Defines number of minutes unit will be running in purge mode after it has been started. If you set this timer to 0, purge will be running until purge mode is stopped manually.

			Range: 0 – 60 Min
AV	517	Elapsed Purge Time	Number of minutes unit has been running in purge mode.
AV	770	Outdoor Air Temp	This point can be used to overwrite the value of AI 12.
AV	771	Outdoor Air RH	This point can be used to overwrite the value of AI 34.
BV	13	Heat Recovery Pump	Active if heat recovery pump is turned on. The point will change status even if there is no pump wired to the terminal. You need to know if a heat recovery pump is installed to see if this point is useful to show in a BACnet interface.
BV	18	Outdoor Air Damper	Active if outdoor air damper 1 (minimum OA) is open. This output is only used if unit is using an on/off actuator for the damper. Otherwise AV 260 is used to determine how much the damper is opened.
BV	42	Exhaust 1	Active if exhaust fan 1 (minimum exhaust) is running. This output is only used if unit is using an on/off actuator for the fan. Otherwise AV 264 is used to determine the fan speed.
BV	44	Exhaust 2	Active if exhaust fan 2 (purge) is running. This output is only used if unit is using an on/off actuator for the fan. Otherwise AV 265 is used to determine the fan speed.
BV	259	Purging	Active if unit is in purge mode.
BV	513	Purge	Use this command input to start/stop purge mode. Purge mode will automatically be stopped if you have set the purge interval using AV 512. If purge interval is set to 0, you have to stop purge mode by setting this point to Inactive. This command input is disabled by default.
BV	516	Day Time Mode	Use this command to set day time mode (Occupied/Unoccupied). Set to Active for Occupied and Inactive for Unoccupied. This command input is disabled by default.
BV	526	Event Mode 1	Use this command input to start/stop event mode 1. This command input is disabled by default.
BV	771	Freezestat Alarm	Active when a too low supply air temperature has

			been detected.
BV	790	Heat Recovery Overload	Active when there is a heat recovery pump overload alarm.
BV	793	Purge Alarm	Active when return air temperature has dropped below purge setpoint (AV 4).
BV	802	Exhaust Fan 1 Overload	Active when there is an exhaust fan 1 motor overload alarm.
BV	812	Exhaust Fan 2 Overload	Active when there is an exhaust fan 2 motor overload alarm.
BV	841	Velocity 1 Sensor Fault	Active on units with a Modbus enabled velocity sensor, where controller has lost communication with the sensor. This is for velocity sensor 1.
BV	842	Velocity 2 Sensor Fault	Active on units with a Modbus enabled velocity sensor, where controller has lost communication with the sensor. This is for velocity sensor 2.
BV	843	Air Quality Sensor Fault	Active on units with a Modbus enabled air quality sensor, where controller has lost communication with sensor.

Space Heating

Temperature sensors are measured in either Celsius or Fahrenheit depending on unit configuration.

Type	ID	Name	Notes
AV	256	Modulated Heat	Indicates heating level as a percentage of total capacity. This output is only used if unit is using a modulating valve for heating control. Otherwise use BV 21 and BV 22 to determine current heating stage.
BV	21	Stage 1 Heat	Active when heating stage 1 is on. For units using a modulating heating valve, this will also be Active when modulating heating source is turned on. Use AV 256 do determine the heating level.
BV	22	Stage 2 Heat	Active when heating stage 2 is on (for units with 2 stage heaters). For units using a modulating heating valve, this will also be Active when heating level is at or above a defined 2nd stage heating level. This level is configured using the unit's user interface.
BV	518	Space Heater	Use this command input to enable/disable the space heater. This does not start or stop the heater but enables/disables it to be used by the controller. This command input is disabled by default.
BV	838	Heating Fault	Active if space heater is not able to bring return air temperature inside dead band when using 100% space heating.

Compressors

Temperature sensors are measured in either Celsius or Fahrenheit depending on unit configuration.
Pressure sensors are measured in PSI.

Circuit 1

These points apply to compressor circuit 1.

Type	ID	Name	Notes
AI	2	Refrigerant High Pressure, Compressor 1	Refrigerant pressure on the circuit 1 discharge line.
AI	3	Refrigerant Low Pressure, Compressor 1	Refrigerant pressure on the circuit 1 suction line.
AI	6	Evaporator Temperature, Compressor 1	Air temperature off circuit 1 evaporator coil.
AI	9	Suction Temperature, Compressor 1	Temperature of circuit 1 suction line.
AI	26	Discharge Temperature, Compressor 1	Temperature of circuit 1 discharge line.
AI	36	Superheat, Compressor 1	Superheat temperature of circuit 1.
AV	266	Compressor 1 Load	Compressor load as a percentage of compressor 1 capacity. This output is only used if compressor 1 is configured as a modulated compressor.
BV	1	Compressor Contactor, Compr 1	Active if compressor 1 is turned on.
BV	2	Reheat Valve, Compr 1	Active if circuit 1 reheat valve is open. This output is only used if reheat control type is configured as Staged. This is configured from unit's user interface.
BV	3	A/C Valve, Compr 1	Active if circuit 1 A/C valve is open. This output is only used if reheat control type is configured as Staged. This is configured from unit's user interface.
BV	4	Pump Down Valve, Compr 1	Active if circuit 1 pump down valve is open. The pump down valve controls the refrigeration circulation.
BV	52	Compressor 1 Stage 2	Active if compressor 1 stage 2 is turned on. This output is only used if compressor 1 is configured as a 2 stage compressor.
BV	774	Compressor 1 High Pressure	Active if there is a compressor 1 high pressure alarm.
BV	775	Compressor 1 Low Pressure	Active if there is a compressor 1 low pressure alarm.
BV	776	Compressor 1 Oil Fault	Active if there is a compressor 1 oil failure alarm.
BV	777	Compressor 1 High Discharge Temp	Active if there is a compressor 1 high discharge temperature alarm.
BV	797	Compressor 1 Low Superheat	Active if there is a compressor 1 low superheat alarm.
BV	829	Compressor 1 High Superheat	Active if there is a compressor 1 high superheat alarm.
BV	804	Compressor 1 Pressure Fault	Active if there is a compressor 1 pressure fault alarm. This indicates that either the high pressure is too low or the low pressure is too high which is a sign of the compressor not running at all.

			Typically due to some compressor internal mechanical fault.

Circuit 2

These points apply to compressor circuit 2. They will only be available in BACnet interface if unit has been configured as a 2 compressor system.

Type	ID	Name	Notes
AI	4	Refrigerant High Pressure, Compressor 2	Refrigerant pressure on the circuit 2 discharge line.
AI	5	Refrigerant Low Pressure, Compressor 2	Refrigerant pressure on the circuit 2 suction line.
AI	7	Evaporator Temperature, Compressor 2	Air temperature off circuit 2 evaporator coil.
AI	10	Suction Temperature, Compressor 2	Temperature of circuit 2 suction line.
AI	27	Discharge Temperature, Compressor 2	Temperature of circuit 2 discharge line.
AI	37	Superheat, Compressor 2	Superheat temperature of circuit 2.
AV	267	Compressor 2 Load	Compressor load as a percentage of compressor 2 capacity. This output is only used if compressor 2 is configured as a modulated compressor.
BV	7	Compressor Contactor, Compr 2	Active if compressor 2 is turned on.
BV	8	Reheat Valve, Compr 2	Active if circuit 2 reheat valve is open. This output is only used if reheat control type is configured as Staged. This is configured from unit's user interface.
BV	9	A/C Valve, Compr 2	Active if circuit 2 A/C valve is open. This output is only used if reheat control type is configured as Staged. This is configured from unit's user interface.
BV	10	Pump Down Valve, Compr 2	Active if circuit 2 pump down valve is open. The pump down valve controls the refrigeration circulation.
BV	54	Compressor 2 Stage 2	Active if compressor 2 stage 2 is turned on. This output is only used if compressor 2 is configured as a 2 stage compressor.
BV	778	Compressor 2 High Pressure	Active if there is a compressor 2 high pressure alarm.
BV	779	Compressor 2 Low Pressure	Active if there is a compressor 2 low pressure alarm.
BV	780	Compressor 2 Oil Fault	Active if there is a compressor 2 oil failure alarm.
BV	781	Compressor 2 High Discharge Temp	Active if there is a compressor 2 high discharge temperature alarm.
BV	798	Compressor 2 Low Superheat	Active if there is a compressor 2 low superheat alarm.
BV	830	Compressor 2 High Superheat	Active if there is a compressor 2 high superheat alarm.
BV	805	Compressor 2 Pressure Fault	Active if there is a compressor 2 pressure fault alarm. This indicates that either the high pressure is too low or the low pressure is too high which is a sign of the compressor not running at all. Typically due to some compressor internal

			mechanical fault.

Compressor Wall

These points apply to compressor wall design. They will only be available in BACnet interface if Compressor Wall configuration option is set to Yes.

Type	ID	Name	Notes
AI	2	Refrigerant High Pressure, Compressor 1	Refrigerant pressure on the discharge line for compressor module configured to have sensors.
AI	3	Refrigerant Low Pressure, Compressor 1	Refrigerant pressure on the suction line for compressor module configured to have sensors.
AI	6	Evaporator Temperature, Compressor 1	Air temperature off evaporator coil for compressor module configured to have sensors.
AI	9	Suction Temperature, Compressor 1	Temperature of suction line for compressor module configured to have sensors.
AI	26	Discharge Temperature, Compressor 1	Temperature of discharge line for compressor module configured to have sensors.
AI	36	Superheat, Compressor 1	Superheat temperature for compressor module configured to have sensors. Measure super heat for compressor module where the low pressure and suction temperature sensors are located.
BV	51	Compressor 1, Stage 1	Active if compressor 1 stage 1 is turned on.
BV	53	Compressor 2, Stage 1	Active if compressor 2 stage 1 is turned on.
BV	55	Compressor 3, Stage 1	Active if compressor 3 stage 1 is turned on.
BV	57	Compressor 4, Stage 1	Active if compressor 4 stage 1 is turned on.
BV	59	Compressor 5, Stage 1	Active if compressor 5 stage 1 is turned on.
BV	61	Compressor 6, Stage 1	Active if compressor 6 stage 1 is turned on.
BV	822	Compressor 1 Fault	Active if there is a compressor 1 fault. You need to look at unit log to determine the exact reason for the fault.
BV	823	Compressor 2 Fault	Active if there is a compressor 1 fault. You need to look at unit log to determine the exact reason for the fault.
BV	824	Compressor 3 Fault	Active if there is a compressor 1 fault. You need to look at unit log to determine the exact reason for the fault.
BV	825	Compressor 4 Fault	Active if there is a compressor 1 fault. You need to look at unit log to determine the exact reason for the fault.
BV	826	Compressor 5 Fault	Active if there is a compressor 1 fault. You need to look at unit log to determine the exact reason for the fault.
BV	827	Compressor 6 Fault	Active if there is a compressor 1 fault. You need to look at unit log to determine the exact reason for the fault.

General

These are points that apply to the overall control of all compressor circuits.

Type	ID	Name	Notes
AV	12	A/C Summer Only Setpoint	Determines the highest outside air temperature at which the compressor circuits will operate in A/C mode.

			Unit also has to be configured to only use A/C in the summer. This is configured from the unit's user interface. Range: 40 – 70 ºF
AV	263	Reheat Level	Indicates reheat level as a percentage of reheat valve fully opened. 0% thereby means full A/C. This output is only used when reheat control type is set to Modulated. This is configured from unit's user interface.
BV	11	Bypass Damper Open	Active when bypass damper is opening.
BV	12	Bypass Damper Close	Active when bypass damper is closing.
BV	47	Compressor Pump	Active when A/C pump is on or A/C valve is open. This output is only used if A/C Pump/Valve setting has been set to Yes. This is configured from unit's user interface.
BV	515	Compressors Enabled	Use this command input to enable/disable the compressor circuits. This does not start or stop compressor but enables/disables them to be used by the controller. This command input is disabled by default.
BV	519	A/C Enabled	Use this command input to enable/disable A/C control. This does not start or stop A/C control but enables/disables the usage of A/C by the controller. When output is set to Inactive, this overrides the A/C summer mechanism and usage of AV 12. This command input is disabled by default.
BV	809	Compressor Pump Fault	Active when there is a compressor pump overload alarm. This output is only used if A/C Pump/Valve setting has been set to Yes. This is configured from unit's user interface.

Outside Air Condenser / Fluid Cooler

Type	ID	Name	Notes
AV	258	Head Pressure Control	Indicates fan speed of outside air condenser or fluid cooler as a percentage of full speed. For water cooled units, this indicates the valve opening as a percentage of fully opened.
BV	17	OACC/OAFC Fan 1	Active when outdoor air condenser or fluid cooler is turned on. If unit is configured for a 2 condenser/fluid cooler,

			Active means that stage 1 is turned on. If unit is configured for a High/Low speed condenser/fluid cooler, Active means that low speed is being used.
BV	46	OACC/OAFC Fan 2	If unit is configured for a 2 condenser/fluid cooler, Active means that stage 2 is turned on. BV 17 will also be Active. If unit is configured for a High/Low speed condenser/fluid cooler, Active means that high speed is being used. BV 17 will not be active.
BV	63	Fluid Cooler Pump	Active when fluid cooler pump is turned on. Disabled by default.
BV	794	OACC/OAFC Overload	Active when there is an outdoor air condenser or fluid cooler fan motor overload alarm.
BV	828	Fluid Cooler Pump Fault	Active when there is a low fluid flow, indicating a pump fault. Only available when fluid cooler pump is enabled.

Economizer Coil

These points only apply if unit has been equipped with an economizer coil and this feature is enabled in the unit configuration.

Type	ID	Name	Notes
AI	47	Cooling Leaving Air Temp 1	Air temperature leaving economizer coil 1.
AI	48	Cooling Leaving Air Temp 2	Air temperature leaving economizer coil 2.
BV	64	Economizer Coil	Active when economizer coil valve is open.

Other

Type	ID	Name	Notes
AI	42	Unit Current	Overall unit load measured in Amp.
AV	515	Heartbeat Timer	Defines max number of seconds in which at least one of any overridden sensor needs to be refreshed. If no overridden sensor is written to in this time frame, unit will rollback to built-in sensors. Set timer to 0 to disable heartbeat feature. See Overriding Sensor Values section below. Range: 0 – 600 Sec
AV	518	Alarm Count	Indicates number of active alarms.
AV	519	Alert Count	Indicates number of active alerts. Alerts are alarms with less severity. For instance, Dirty Filter Alarm.
BV	16	System On	Active when system is ready to control the space.

			The following criteria has to be met before the status is Active: - Passed the initial start-up phase. - Is not shutting down. - Is not in service mode. - There are no alarms. - Supply fan is running. - At least one compressor is ready to use. This output is disabled by default.
BV	257	Service Mode	Active when unit is in service mode.
BV	770	Firestat Alarm	Active when firestat input is indicating an alarm.
BV	792	Voltage Fault	Active when voltage monitor is indicating a fault.
BV	801	Bad Battery	Active when unit has determined that the mother board might be bad. This is determined if certain battery backed up configuration is reset after a power cycle. This does not necessarily mean that the battery bad. For instance, changing a core module will result in this alarm since the battery is located on the motherboard and not on the core module. If this alarm comes back every time after you reset alarm and power cycle unit, then you most likely need to replace the battery.

Points By Object Type

This section describes all points per object type and in numerical order. This is how points are returned when doing a discovery so this can be used as a quick reference to identify the function to which a point belongs.

These tables also clearly indicates which points are writeable.

Analog Inputs (AI)

All AI's are read-only.

ID	Name	Function Reference
0	Return Air Humidity	Room Conditions
1	Return Air Temperature	Room Conditions
2	Refrigerant High Pressure, Compressor 1	Compressor Circuit 1, Compressor Wall
3	Refrigerant Low Pressure, Compressor 1	Compressor Circuit 1, Compressor Wall
4	Refrigerant High Pressure, Compressor 2	Compressor Circuit 2
5	Refrigerant Low Pressure, Compressor 2	Compressor Circuit 2
6	Evaporator Temperature, Compressor 1	Compressor Circuit 1, Compressor Wall
7	Evaporator Temperature, Compressor 2	Compressor Circuit 2
8	Supply Air Temperature	Supply Air
9	Suction Temperature, Compressor 1	Compressor Circuit 1, Compressor Wall
10	Suction Temperature, Compressor 2	Compressor Circuit 2
12	Outdoor Air Temperature	Outside Air / Exhaust
13	Pool Water In Temperature	Pool Water
14	Pool Water Out Temperature	Pool Water
26	Discharge Temperature, Compressor 1	Compressor Circuit 1, Compressor Wall
27	Discharge Temperature, Compressor 2	Compressor Circuit 2
30	Exhaust Air Temperature	Outside Air / Exhaust
32	Pool 2 Water In Temperature	Pool Water
33	Pool 2 Water Out Temperature	Pool Water
34	Outdoor Air Humidity	Outside Air / Exhaust
35	Outdoor Air Dew Point	Outside Air / Exhaust
36	Superheat, Compressor 1	Compressor Circuit 1, Compressor Wall
37	Superheat, Compressor 2	Compressor Circuit 2
40	Return Air Dew Point	Room Conditions
41	Wall Temperature	Room Conditions
42	Unit Current	Other
53	Room Temperature	Room Conditions
54	Room Humidity	Room Conditions
55	Supply Airflow	Supply Air
56	Exhaust Airflow	Outside Air / Exhaust
59	Remote Control RH	Room Conditions
60	Remote Control Temperature	Room Conditions
61	Remote Control Pool 1	Pool Water
62	Remote Control Pool 2	Pool Water
63	Remote Control Dew Point	Room Conditions
64	Room Dew Point	Room Conditions
67	Outside Airflow	Outside Air / Exhaust
68	Air Quality	Outside Air / Exhaust

Analog Values (AV)

The RW column indicates if a point can be both read and written to (RW) or if it is read-only (R).

ID	RW	Name	Function Reference
0	RW	Room Temperature Occupied Setpoint	Room Conditions

1	RW	Humidity Occupied Setpoint	Room Conditions
2	RW	Pool Temperature Setpoint	Pool Water
4	RW	Purge Setpoint	Outside Air / Exhaust
5	RW	Economizer Min OA Setpoint	Outside Air / Exhaust
6	RW	Pool 2 Temperature Setpoint	Pool Water
7	RW	Freezestat Setpoint	Outside Air / Exhaust
12	RW	A/C Summer Only Setpoint	Compressor General
13	R	Humidity Floating Setpoint	Room Conditions
16	RW	Room Temperature Unoccupied Setpoint	Room Conditions
17	RW	Humidity Unoccupied Setpoint	Room Conditions
256	R	Modulated Heat	Space Heating
257	R	Blower Speed	Supply Air
258	R	Head Pressure Control	Outside Air Condenser / Fluid Cooler
260	R	Outdoor Air Damper 1	Outside Air / Exhaust
261	R	Outdoor Air Damper 2	Outside Air / Exhaust
263	R	Reheat Level	Compressor General
264	R	Exhaust Fan 1	Outside Air / Exhaust
265	R	Exhaust Fan 2	Outside Air / Exhaust
266	R	Compressor 1 Load	Compressor Circuit 1
267	R	Compressor 2 Load	Compressor Circuit 2
268	R	Pool 1 Modulated Heat	Pool Water
269	R	Pool 2 Modulated Heat	Pool Water
512	RW	Purge Interval	Outside Air / Exhaust
515	RW	Heartbeat Timer	Other
517	R	Elapsed Purge Time	Outside Air / Exhaust
518	R	Alarm Count	Other
519	R	Alert Count	Other
768	RW	Remote Control Temp	Room Conditions
769	RW	Remote Control RH	Room Conditions
770	RW	Outdoor Air Temp	Outside Air / Exhaust
771	RW	Outdoor Air RH	Outside Air / Exhaust
772	RW	Remote Control Pool 1 Temperature	Pool Water
773	RW	Remote Control Pool 2 Temperature	Pool Water

Binary Values (BV)

The RW column indicates if a point can be both read and written to (RW) or if it is read-only (R).

Writeable points needs to be enabled in the unit configuration before you can see and control them. This is described in the Enabling Sensors and Commands section.

ID	RW	Name	Function Reference
0	R	Blower Contactor	Supply Air
1	R	Compressor Contactor, Compr 1	Compressor Circuit 1
2	R	Reheat Valve, Compr 1	Compressor Circuit 1
3	R	A/C Valve, Compr 1	Compressor Circuit 1
4	R	Pump Down Valve, Compr 1	Compressor Circuit 1
5	R	Pool Heating Valve	Pool Water
7	R	Compressor Contactor, Compr 2	Compressor Circuit 2
8	R	Reheat Valve, Compr 2	Compressor Circuit 2
9	R	A/C Valve, Compr 2	Compressor Circuit 2
10	R	Pump Down Valve, Compr 2	Compressor Circuit 2
11	R	Bypass Damper Open	Compressor General

12	R	Bypass Damper Close	Compressor General
13	R	Heat Recovery Pump	Outside Air / Exhaust
14	R	Auxiliary Pool Heater	Pool Water
16	R	System On	Other
17	R	OACC/OAFC Fan 1	Outside Air Condenser / Fluid Cooler
18	R	Outdoor Air Damper	Outside Air / Exhaust
21	R	Stage 1 Heat	Space Heating
22	R	Stage 2 Heat	Space Heating
33	R	Pool Heating Valve, Pool 2	Pool Water
34	R	Auxiliary Pool Heater, Pool 2	Pool Water
42	R	Exhaust 1	Outside Air / Exhaust
44	R	Exhaust 2	Outside Air / Exhaust
46	R	OACC/OAFC Fan 2	Outside Air Condenser / Fluid Cooler
47	R	Compressor Pump	Compressor General
51	R	Compressor 1, Stage 1	Compressor Wall
52	R	Compressor 1 Stage 2	Compressor Circuit 1
53	R	Compressor 2, Stage 1	Compressor Wall
54	R	Compressor 2 Stage 2	Compressor Circuit 2
55	R	Compressor 3, Stage 1	Compressor Wall
57	R	Compressor 4, Stage 1	Compressor Wall
59	R	Compressor 5, Stage 1	Compressor Wall
61	R	Compressor 6, Stage 1	Compressor Wall
63	R	Fluid Cooler Pump	Outside Air Condenser / Fluid Cooler
64	R	Economizer Coil	Economizer Coil
257	R	Service Mode	Other
259	R	Purging	Outside Air / Exhaust
260	R	Dehumidification Mode	Room Conditions
261	R	A/C Mode	Room Conditions
262	R	Heating Mode	Room Conditions
263	R	Pool Heating Mode	Pool Water
512	RW	Blower Enabled	Supply Air
513	RW	Purge	Outside Air / Exhaust
515	RW	Compressors Enabled	Compressor General
516	RW	Day Time Mode	Outside Air / Exhaust
518	RW	Space Heater	Space Heating
519	RW	A/C Enabled	Compressor General
520	RW	Pool 1 Heater	Pool Water
521	RW	Pool 2 Heater	Pool Water
526	RW	Event Mode 1	Outside Air / Exhaust
768	R	Blower Overload	Supply Air
769	R	No Airflow	Supply Air
770	R	Firestat Alarm	Other
771	R	Freezestat Alarm	Outside Air / Exhaust
772	R	Dirty Filter	Supply Air
773	R	Pool 1 Water Flow Fault	Pool Water
774	R	Compressor 1 High Pressure	Compressor Circuit 1
775	R	Compressor 1 Low Pressure	Compressor Circuit 1
776	R	Compressor 1 Oil Fault	Compressor Circuit 1
777	R	Compressor 1 High Discharge Temp	Compressor Circuit 1
778	R	Compressor 2 High Pressure	Compressor Circuit 2
779	R	Compressor 2 Low Pressure	Compressor Circuit 2
780	R	Compressor 2 Oil Fault	Compressor Circuit 2
781	R	Compressor 2 High Discharge Temp	Compressor Circuit 2

790	R	Heat Recovery Overload	Outside Air / Exhaust
792	R	Voltage Fault	Other
793	R	Purge Alarm	Outside Air / Exhaust
794	R	OACC/OAFC Overload	Outside Air Condenser / Fluid Cooler
797	R	Compressor 1 Low Superheat	Compressor Circuit 1
798	R	Compressor 2 Low Superheat	Compressor Circuit 2
801	R	Bad Battery	Other
802	R	Exhaust Fan 1 Overload	Outside Air / Exhaust
803	R	Pool 2 Water Flow Fault	Pool Water
804	R	Compressor 1 Pressure Fault	Compressor Circuit 1
805	R	Compressor 2 Pressure Fault	Compressor Circuit 2
809	R	Compressor Pump Fault	Compressor General
810	R	Freezestat 2 Alarm	Supply Air
812	R	Exhaust Fan 2 Overload	Outside Air / Exhaust
822	R	Compressor 1 Fault	Compressor Wall
823	R	Compressor 2 Fault	Compressor Wall
824	R	Compressor 3 Fault	Compressor Wall
825	R	Compressor 4 Fault	Compressor Wall
826	R	Compressor 5 Fault	Compressor Wall
827	R	Compressor 6 Fault	Compressor Wall
828	R	Fluid Cooler Pump Fault	Outside Air Condenser / Fluid Cooler
829	R	Compressor 1 High Superheat	Compressor Circuit 1
830	R	Compressor 2 High Superheat	Compressor Circuit 2
833	R	Pool 1 Bad Waterflow	Pool Water
834	R	Pool 2 Bad Waterflow	Pool Water
835	R	Pool 1 High Temperature	Pool Water
836	R	Pool 2 High Temperature	Pool Water
837	R	Blower Overload 2	Supply Air
838	R	Heating Fault	Space Heating
839	R	High Space Temperature	Room Conditions
840	R	High Humidity	Room Conditions
841	R	Velocity 1 Sensor Fault	Outside Air / Exhaust
842	R	Velocity 2 Sensor Fault	Outside Air / Exhaust
843	R	Air Quality Sensor Fault	Outside Air / Exhaust

Rebooting Unit

The unit can also be rebooted over BACnet. This is implemented using a standard BACnet message Reinitialize Device. The implementation of this message varies between different BACnet platforms so we can therefore not give any further information on exactly how this is done. You have to contact the manufacturer of the BACnet platform you are using.

The message supports different restart states. The only one this unit support is Warm Start.

A password is also required. Password is Restart254.

Enabling Sensors and Commands

Some sensors and command inputs are not enabled in the system by default. This means that they will not show up in the BACnet interface. Follow the instructions below to enable a sensor or command input. You can use the unit's user interface (TouchScreen Display) or Web Monitoring interface if unit is online to make these changes. TouchScreen Display interface is described below.

Enable Sensor

From top menu, select Advanced, Sensors and Sensor Usage. Find the sensor you need to enable. Change setting to Default.

It is also possible that a sensor has not been assigned to a terminal. If this is the case, you need to find out to which terminal sensor has been wired.

To assign sensor to a terminal, from top menu, select Advanced, I/O Assignments and Sensor Assignment. Find sensor and assign it to wired terminal.

Enable Command Input

There typically are two steps involved to enable a command input for BACnet usage. First step is to assign input to BMS, and second step is to enable the input for usage.

From top menu, select Advanced, I/O Assignments and Digital Input Assignment. Find command input you want to use over BACnet. Name should be the same or similar as listed in this document. Change assignment to BMS.

From top menu, select Advanced, Controls and Digital Input Enabled. Find command input you want to use over BACnet. Name is the same as for Assignment. Change setting to Yes.

Note that enabling a command will take affect immediately. This means you need to be ready to control it over BACnet or you might get undesired results. For instance, enabling the Blower Enabled command will turn off the blower if the status of the input defaults to Inactive. Most command inputs will default to Inactive so enabling Purge Mode command will not have any affect until you set it to Active.

Using Remote Control Sensors

The room temperature and RH is normally controlled by using the provided return air sensors. To override this and use your own sensors in the space, use point AV 768 and AV 769. To enable these points, follow the instructions above for enabling sensors. You do not need to assign them to a terminal.

To make the unit use them in control algorithms, from top menu, select Advance, Environment and then either Dehumidification or Room Temperature. Change Control Sensor to Remote Control.

The unit also comes with a fallback solution in case there is a break in the BACnet communication interface. In this case the unit will fallback to use the return air sensors for control. For this to work you have to set the heartbeat timer (AV 515) to a value greater than 0.

Unit BACnet Configuration

This unit support 3 types of BACnet interfaces as listed below.

- BACnet IP
- BACnet over Ethernet
- BACnet MS/TP

Use the unit's user interface to make any BACnet configuration changes. From the top menu, select Advanced, Network and BACnet.

General Configuration

These settings apply to all interface types.

BACnet Enabled	You can configure unit to be a Readonly unit or Read/Write. Note that when unit is in Service mode, for safety reasons you can not write to all writeable points. You will not be able to enable the interface unless a correct license key has been entered.
License	License key. This can be obtained form the factory it if has not already been entered.
Interface	Select the interface you want to use. Note that when you set interface to BACnet IP, you also have to configure TCP/IP settings to change it to a static IP (unless this is done at router level).
Port	Default port is BAC0 (47808). Unit only support 16 different ports, BAC0 (47808) to BACF 47823).
Device ID	Supports full range of device ids. Default is 150.
Max APDU Size	This parameter is automatically changed to match interface when interface is changed but can be overwritten. Note that you can not go higher than 480 for MS/TP since this is the max for MS/TP.

MS/TP Configuration

These settings only apply to MS/TP.

Note that all serial ports are by default terminated at the board. There are two sets of jumpers for each port next to the 4 RJ-45 sockets. Jumpers for ports 1-4 are going from right to left.

MS/TP MAC	The MS/TP MAC address.
MS/TP Serial Port	Select a port that will be used for MS/TP. Typically this will be either port 3 or 4 on JCOM. The port is by default assigned to Unit Network. To disable it for the Unit Network, from the top menu select Advanced, Network and Unit Network. Find the port Enabled parameter and change it to No. When this is done, you can assign the port to be used by MS/TP.
MS/TP Baud Rate	Baud rate of MS/TP network.
MS/TP Max Master Address	Recommended to set this to the max MAC address that will be used in network.
MS/TP Max Info Frames	Can be used for performance tuning. Number of info frames unit can send before passing on token.

	Default is 1.
MS/TP Usage Timeout	Another fine tuning parameter. Number of milliseconds unit will wait before considering that a token has been lost or device is not replying to a polling request. Use a higher number for lower baud rates. For instance, set to 50 if baud rate is 9600 or even 19200. Default is 20.
MS/TP Postpone Reply	Unit can handle request messages in two different ways. Either it will process request when received and reply right away or it will send a postpone message, pass on token and have the reply sent when receiving the token again and request fully processed. Default is to not postpone requests but if you are experiencing connection issues, try setting it to Yes.
Logging Parameters	All the logging parameters are for troubleshooting purposes and should not be enabled unless supervised by the factory. To be useful the unit needs to be connected to the Web Monitoring server since this will be used to review the log data.

Master/Slave Unit Control

When multiple units are installed to control the same space, they can be configured in a master/slave network, where one unit is designated the master and is processing the main control logic. Each slave unit will begin dehumidification, heating, or cooling only when instructed to do so by the master unit.

The units are connected using the Modbus protocol for communication.

The units do not need the same configuration. The units can be of different size and have different control capabilities.

Unit Demands

Demands are controlled as follows:

Dehumidification

Dehumidification is done in stages, where compressors on the slave units are an extension to the compressors on the master unit. All compressors on the master unit will be started before starting any compressor on any slave unit.

Economizer, if supported by the unit, follows the same control sequence as the compressors. The master unit will run economizer at full capacity before starting economizer on any slave unit.

Room Temperature

Room temperature is controlled by the master based on the supply air temperature setpoint, set at the master. This setpoint is then communicated to all slave units.

If heating is required, each unit will use and control its own space heating, independently from the other units. Units will control the on/off cycle of a staged heater or set the modulated heating signal to ensure that the supply air setpoint is maintained.

If cooling is required, compressors or economizer will be started in sequential order. This control sequence will follow the same approach used for dehumidification. Once a compressor is running on a slave unit, it will independently control the reheat to maintain the supply air setpoint.

Pool Water Heating

Pool water heating requirements typically change very slowly. Therefore, this demand is not controlled by the master. Each unit will independently control pool water heating based on its own pool water temperature setpoint.

Occupied, Event and Purge Mode

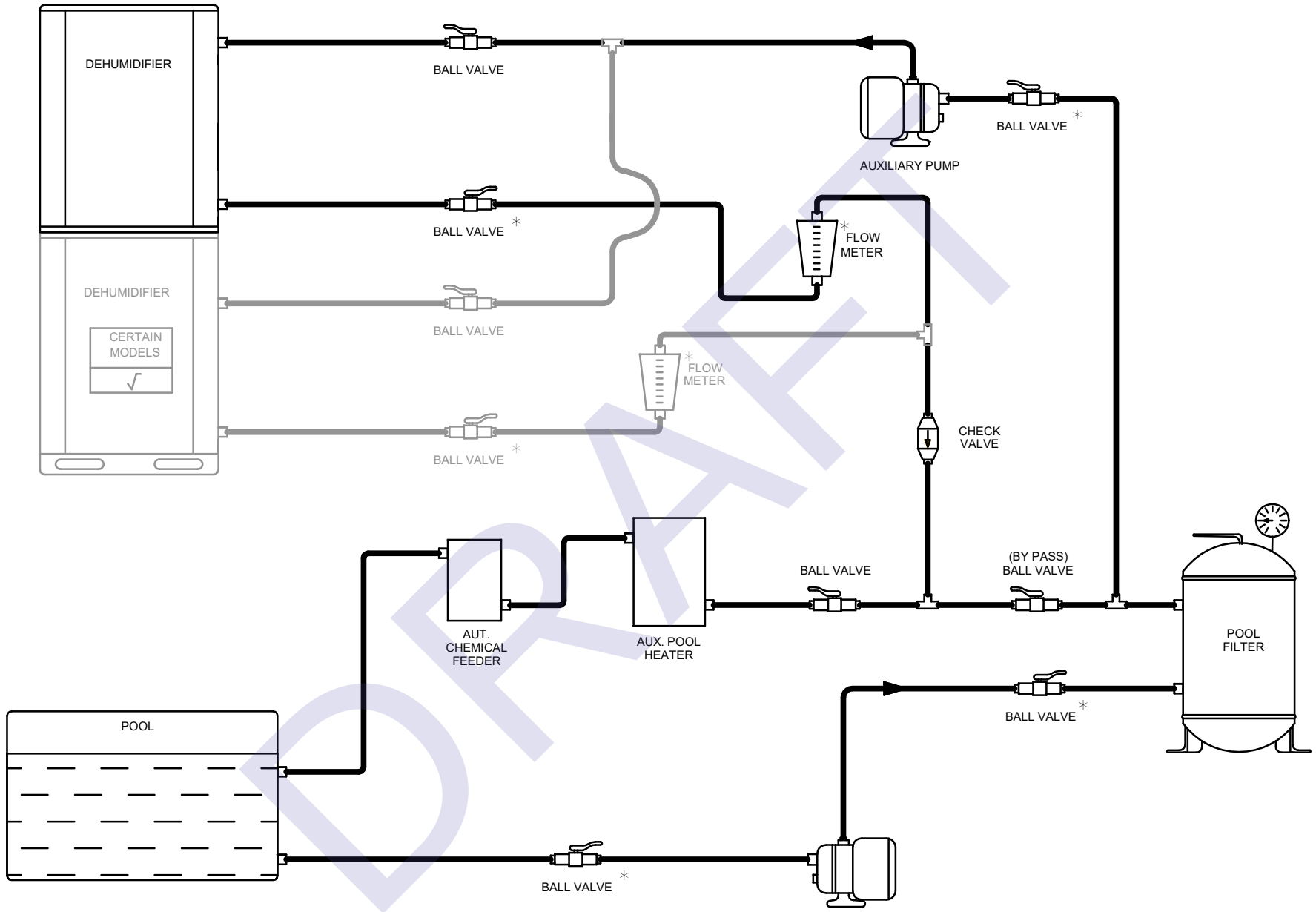
The occupied, event, and purge modes are synchronized between all units to ensure that all units are running in the same mode.

Connection Faults

Slave units are designed to detect a communication loss between themselves and the master. In this event, slave units will switch operation to normal, stand-alone control.

When communication with the master is re-established, the slave units will switch operation to slave mode and respond to control directives from the master unit.

Where multiple slave units are installed and the master unit will be out of service for an extended period of time, one of the slave units can be reconfigured to be a master unit.



NOTES:
---*-Components are optional
---This drawing is to be used as referrence only

CAD FILE: DAS-PHS-000-001	TITLE: **Pool Heating Schematic For Dehumidifiers**
DATE: 12/28/17	
DRAWN BY: F.Y.W.	APPROVED BY: B.P.

Part 1 - General

1. **Scope**

   Furnish and install, where indicated, a factory-assembled, fully-enclosed, split environmental control system with energy recovery feature(s) designed for natatorium environment control

   Features shall include:

   A. Dehumidification by means of a direct expansion evaporator coil utilizing Compressor Wall Technology, designed to have extremely low refrigerant charge

   B. Space heating by means of a packaged indirect-fired natural gas duct furnace module

   C. Cooling mode with heat rejection to a remote outdoor air cooled fluid cooler (dry-cooler). No field refrigeration work shall be required. Substituting an outdoor condenser and increasing the refrigerant charge grows the owner's long-term liability and will not be allowed.

   D. Pool water heating from reclaimed compressor waste heat by means of a full flow titanium heat exchanger

   E. Packaged minimum exhaust fan and purge fan with economizer mode

   F. Integral minimum outdoor air connection

   G. Integral purge outdoor air connection with economizer mode

   H. Heat recovery by means of a glycol run-around loop between the minimum exhaust and minimum outdoor air streams

   I. Convenience outlet and light included factory mounted in control cabinet, powered and wired separately.

   J. Internet connectivity for 2 years via cell based technology

2. **Quality and Safety Assurance**

   A. The system shall be ETL listed

   B. The system shall be completely assembled, wired, piped, and test-run at the factory prior to shipping. All controls shall be factory adjusted to satisfy the design conditions.

   C. Manufacturer shall have a minimum of ten-plus years prior experience making similar equipment as described in this specification.

   D. The system shall have a mechanical vestibule where the electrical panel is out of the process air stream

   E. The system shall have a microprocessor controller with unit-mounted temperature sensors and an Ethernet connection for factory logging and parameter adjustment via the Internet. The customer (or their authorized representative) shall be provided access to the online logging and parameter adjustment interface, upon request. Demonstration of these capabilities must be carried out at the engineer's office prior to bid day

   F. The system shall have remote factory start-up assistance capability, when connected to a network with Internet access

   G. The system shall have 24-7 remote computer logging capability with automated alarm notifications and system performance alerts transmitted via e-mail to authorized users, when connected to a network with Internet access

   H. Warranty: The entire system shall have a 24-month limited parts warranty from the factory ship date

      1. A 1-year labor warranty shall be provided by the manufacturer when the system is connected to the factory via an Internet monitoring system from the date of initial commissioning

      2. The compressor(s) shall have a 5-year warranty from the factory ship date

      3. The internal airside heat exchanger coils shall have a 5-year warranty from the factory ship date

   I. When connected to a network with Internet access, the system shall have remote service capability with the ability for field service technicians to receive service and trouble alerts by e-mail and make parameter adjustments via a browser interface on any Internet-capable device

Part 2 - Product

3. **General**

The natatorium control system shall include:

A. Mechanical process dehumidification

B. Indoor cabinet configuration

C. A packaged indirect-fired natural gas duct furnace module installed downstream of the blower, sized as specified by the design engineer to meet the skin losses and outdoor air heating loads

D. Pool heating via pool water-to-fluid titanium heat exchanger providing premium unmatched chemical resistance for saltwater and chlorine pool water. Lesser pool water heater will not be entertained and are not acceptable.

E. Air filtration via MERV-13 pleated panel filters for return

F. Purge and economizer modes

G. Minimum exhaust and purge exhaust fan(s) with economizer mode

H. Heat recovery between the minimum exhaust air and outdoor air streams and via a glycol run around loop

I. Programmable microprocessor controller with remote Internet logging and parameter adjustment

J. Remote operator panel(s)

K. Bacnet IP building management system interface

L. A service vestibule where all electronics are outside of process air stream.

M. Convenience outlet and light included factory mounted in control cabinet, powered and wired separately.

4. **Sequence of Operation**

The system shall be designed and sized to maintain the specified space conditions

A. System Startup

1. Power is turned on or the system is restarted
2. After a short initial delay to allow the sensors to stabilize, the blower starts and operates continuously
3. Based on sensor feedback, the system shall begin or resume operation based on the sequence below

B. Airside Configuration

1. The system continuously delivers the specified supply air volume to the natatorium
2. The minimum exhaust air volume is set to meet the engineer's schedule.
3. The minimum outdoor air volume is set to meet the engineer's schedule.
4. System is equipped with supply airflow measurement and shall adjust fan speeds to maintain total specified supply air volume, even in the case of a single fan failure.

C. Dehumidification Mode

1. The return air relative humidity is above the humidity setpoint
2. Return air dewpoint is above dewpoint setpoint.
3. The compressor enters the Compressor Start sequence
4. If the system cannot maintain the return air temperature setpoint, the next available compressor will start
5. Compressor waste heat is rejected into a glycol fluid loop which feeds the reheat coils and the air conditioning air-cooled heat exchanger in parallel.
6. The reheat coils are fully modulating (0-100%). The reheat output will modulate to maintain the space temperature at set point year-round. Reheat coils that are on off or only give heat from one circuit are not acceptable since they do not closely match the requirement of the space and cause swings in space conditions.

D. Air Conditioning Mode

1. The return air temperature is above the room temperature setpoint

2. The compressor starts, if not already operating in Dehumidification Mode
3. Excess compressor hot gas is diverted to a fluid-cooled heat exchanger. Up to 100% of compressor heat is rejected into the glycol fluid loop which is pumped outdoors to an outdoor air-cooled heat exchanger for 100% heat rejection at summer design ambient conditions
4. 100% of compressor heat is rejected at the outdoor air-cooled heat exchanger on a summer design day. On off-peak days, the air reheat output will modulate to maintain the space temperature at the set point
5. If the system cannot maintain the return air temperature setpoint, the next available compressor will start

E. Space Heating Mode
1. The return air temperature is below the room temperature setpoint
2. The microprocessor space heating output signal (0-10 volts) is sent to the heating coil controller. The signal output will regulate based on the return air temperature

F. Pool Water Heating Mode
1. The return pool water temperature is below the pool water setpoint and the pool water flow switch or minimum temperature differential is satisfied.
2. If the compressor is already operating due to a Dehumidification or Air Conditioning demand, the fluid control valve will divert fluid to the Titanium pool water heat exchanger to modulate the heating of the pool water. Pool water heating that does not use a titanium pool water heater or modulation to match the demands of the pool are not acceptable.
3. If there is no pre-existing demand for the compressor to operate, the microprocessor sends a signal to the auxiliary pool water heater (remote by others) to operate. The compressor will not operate solely for a pool water heating demand unless specifically configured to do so at the controller. Aux Pool Heat contact will be closed with insufficient flow. In order to prevent the pool from overheating, it is recommended that a field-installed aquastat (provided by others) be installed in series with these wires.
4. Factory-installed relay(s) and factory furnished, field-installed pool water temperature sensor(s) are provided to enable the smart pool feature. This feature provides the ability to activate booster pool water pump(s) feeding the unit when pool water heating is in demand.

G. Exhaust Air Heat Recovery Mode
1. The minimum outdoor air damper and minimum exhaust fan(s) are tied to the system's occupancy schedule and will operate as programmed
2. Once the outdoor air temperature falls below the heat recovery setpoint (65 °F by default; field-adjustable) the glycol pump shall circulate a glycol mixture between the exhaust air and the outdoor air heat recovery coils, recovering heat from the space condition exhaust air and using it to preheat the incoming outside air

H. Purge Mode
1. This mode is manually triggered by an operator when super-chlorinating the pool. It can be triggered at the unit-mounted or optional remote operator panel(s), through the online WebSentry interface or by the BACnet controller
2. Purge Mode has an adjustable timed duration after which the system automatically resumes normal operation
3. Once triggered by the operator:
    a) The compressor(s), if operating, pump down and cycle off
    b) A signal from the microprocessor sets the exhaust fan(s) to their maximum CFM
    c) The unit-mounted outdoor air dampers open fully and the return air dampers close
    d) The system stays in 100% outdoor air ventilation mode
    e) After the timed period expires, all dampers and fans return to normal operating settings and the system resumes normal operation
    f) During Purge Mode, the system will control heating based on supply air temperature

I. Economizer Cooling Mode

1. The return air temperature is above the room temperature setpoint
2. The microprocessor will compare the temperature of the outside air with the cooling setpoint
3. When outside air is deemed suitable by the microprocessor, it will be used as the first stage of sensible cooling
4. The system will switch over to using the compressor(s) if outside air conditions cannot satisfy the space cooling demand

J. Economizer Dehumidification Mode

1. The return air relative humidity is above humidity setpoint
2. The microprocessor will compare the moisture content of the outside air to the dehumidification setpoint
3. When the outside air is deemed suitable by the microprocessor, it will be used as the first stage of dehumidification
4. The system will switch over to using the compressor(s) if outside air conditions cannot satisfy the space humidity demand.

K. Freeze Protection

1. The supply air temperature falls below the freezestat setpoint
2. Exhaust fan(s) are stopped and outdoor air damper(s) are fully closed
3. When the freezestat alarm is tripped, it must be manually cleared by the operator

5. **Cabinet**

A. Cabinet Construction: All cabinet 16, 20 and 24 gauge sheet metal shall be galvanized G90 steel or GalvalumeTM alloy with mill-applied zinc phosphate primer followed by an exterior grade white silicone modified polyester top coat. The sheet metal is engineered to form a cabinet with maximum strength and rigidity. All seams shall be caulked with silicone to prevent air and water leakage or infiltration

1. Base Rails: The cabinet shall have a base frame comprised of 2 layers of 10 gauge mill galvanized G90 steel. Lifting lugs shall be provided on the base frame for rigging the system.
2. The cabinet walls shall be of double-wall construction using 20 gauge pre-painted steel with a fully painted inner metal liner and 2 inches of fiberglass insulation
3. The cabinet floor shall be comprised of a 16-gauge galvanized steel panel with a 20-gauge pre-painted steel inner liner, 2-inch double wall engineered with structural bending for maximum rigidity and be mechanically fastened to the base frame of the unit
4. The cabinet roof shall be 20-gauge pre-painted steel, 2-inch double wall engineered with structural bending for maximum rigidity and be mechanically fastened to the base walls of the unit
5. The cabinets shall be mechanically assembled with stainless steel 5/32" sealed blind rivets. Where bolts are required bright zinc plated bolts shall be used
6. Access doors shall be supported on multiple hinges, held shut by compression latches for quick access. Doors shall be provided for entrance to all sections housing components requiring routine maintenance. Full height access doors shall have "hold back" latches to prevent door closure during the performance of service procedures
7. The system shall have non-corroding protective mesh screens covering internal fan blades, protective grates covering all floor access ports

B. Outdoor Air Intake:

1. Purge /Economizer and Minimum Outdoor Air connections with motorized dampers and controls.

C. Insulation: The unit shall be insulated per the following standards:

1. All exterior cabinet sections shall be insulated with two (2) inch thick fiberglass inside the double walled cabinet
2. Fire resistant rating to conform to NFPA Standard 90A and 90B
3. Sound attenuation coefficient shall not be less than 1.02 at a frequency of 1,000 Hz as per ASTM Standard C423
4. Thermal conductivity shall not exceed 0.26 Btu/hr-sqft-ft at 75 °F

D. Cabinet configuration shall include:

1. A filter rack with separate access doors shall be provided for the return air and minimum outdoor air streams
2. Unit shall be equipped with a second outdoor air intake assembly with motorized 2 position extruded aluminum, Insulated, silicone side-sealed damper for Purge and Economizer operation
3. Electrical panel: The unit shall have a built-in electrical control panel in a separate compartment in order not to disturb the airflow within the dehumidifier during electrical servicing. All electrical components shall be mounted on a 16 gauge galvanized sub-panel

6. **Filters**

Wherever possible, air filters shall be standard sized, replaceable, off-the-shelf filters including:

A. Exhaust Air: 2-Inch MERV 8, 30% pleated filters with rust-free non-metallic structure
B. Return Air: 2-Inch MERV 13, 90% pleated filters with rust-free non-metallic structure on a slide-in or face-loading rack
C. Outside Air: 2-Inch MERV 13, 90% pleated filters with rust-free non-metallic structure.
D. Dirty air filter switches included on the return air filter for indicating an alarm when pressure drop exceeds a set point.

7. **Coils**

A. Evaporator/dehumidifier coils shall be designed for maximum moisture removal capacity
   1. Coils shall be fully dipped and coated with a polyester/enamel coating for maximum corrosion protection. Coating shall comply with ASTM B117/D1654 and ASTM D2126 for corrosion resistance against common acids, salt and gases
   2. Coil shall have galvanized casing and end plates
   3. Aluminum fin and copper tubes mechanically bonded to assure high heat transfer.

B. Air reheat coils shall be sized for variable heat transfer into the air with a capacity of 100% of the compressors total required heat of rejection. Air reheat coils that are on off will cause unstable space conditions and are not acceptable.
   1. Coils shall be fully dipped and coated with a polyester/enamel coating for maximum corrosion protection. Coating shall comply with ASTM B117/D1654 and ASTM D2126 for corrosion resistance against common acids, salt and gases
   2. Coil shall have galvanized casing and end plates
   3. Aluminum fin and copper tube joints mechanically bonded to assure high heat transfer

C. Coils shall have a 3-year warranty extension for a total of 5 years coverage

D. Heat Recovery Coils
   1. The unit shall have heat recovery between the minimum exhaust and outdoor air streams per specifications
      a) The heat recovery coils shall be sized for heat transfer between the two air streams
      b) The heat recovery fluid circulating between coils shall be glycol. The module shall be a complete package and independent circuit that includes a circulating pump, fill valves and expansion tank
   2. Coils shall be fully dipped and coated with a polyester/enamel coating for maximum corrosion protection. Coating shall comply with ASTM B117/D1654 and ASTM D2126 for corrosion resistance against common acids, salt and gases
   3. Aluminum fin and copper tube joints mechanically bonded to assure high heat transfer
   4. Plate heat recovery that will add fan horsepower and therefore have a negative effect on energy saving are not acceptable. Strategies that use the main compressors to cool exhaust air to try and act as heat recovery cannot be used in place of full time heat recovery because the compressors will not be running in the coldest months requiring heat recovery the most.

8. **Drain Pans**

Each evaporator coil shall be provided with a positive draining, compound-sloped, baked powder paint coated aluminum drain pan with fully-welded corners to ensure zero water retention. In no way will stainless steel or galvanized drain pans be acceptable.

9. **Blowers and Blower Motors**

A. Supply blowers:
   1. Fan array blower shall consist of a steel backward airfoil; a three phase, enhanced performance cast aluminum,

premium efficient NEMA design motor; and a general purpose, variable frequency drive.

2. Each impeller shall have a sheet metal enclosure surrounding it, to limit interference from neighboring fans.
3. The impeller and motor shall both have a corrosion resistant coating.
4. Each fan assembly shall be suitable for a maximum temperature of 121°F.
5. Each fan in the Fan Array is an independent sub-assembly.
6. Each fan shall include airflow monitoring with pressure transducers to measure and maintain the required total system airflow. If one fan fails, the other fans in the array will ramp up to more closely maintain specified system supply airflow until the failed fan can be replaced.
7. The fan array will allow for fans to reduce speed in unoccupied hours saving operating costs.
8. Machines without this built-in supply fan array with redundancy and operating costs shall not be accepted.

B. Exhaust blowers:

1. The packaged exhaust blower (EF1) shall be sized to maintain the negative pressure requirement in the space during normal operation and its operation tied to the system's occupancy scheduler
2. The fan assembly shall be balanced in Class G 6.3 acc DIN ISO 1940, dynamic on two levels
3. The fan assembly shall be suitable for ambient temperatures of -40°C to max. +70°C
4. Thermal contacts installed in the windings compliant with THCL 155
5. Drive motor in external rotor principle, sealed in protection class IP54 with moisture protection impregnation of the windings, topical protection
6. High corrosion resistance design with high quality and reliability
7. The exhaust fan shall be controlled from an end switch on the power open of the exhaust air damper
8. Shall be packaged with the heat recovery module

C. Purge blowers:

1. The ventilation/economizer/purge exhaust blower (PEA) shall be unit mounted and sized to provide full exhaust from the space when operating with EF1
2. The fan shall be direct driven axial fan made of high-strength composite material in which the motor and controller are integrated. It includes FE2owlet blades combined with guide vanes and EC commutated direct-current external rotor motors provides maximum efficiency the quietest performance. The EC motor shall have maintenance-free electronic circuitry, a rotor with permanent magnets, and an integral controller to provide the windings with electrical current so that, the motor rotates continuously and quietly. The fan is aerodynamically-optimized, sickle-blade profile, patterned with serrated trailing edge and winglets on the blade outer edge for energy and noise-optimized operation
3. The fan assembly shall be balanced in Class G 6.3 acc DIN ISO 1940, dynamic on two levels
4. The fan assembly shall be suitable for ambient temperatures of -40°C to max. +70°C
5. Thermal contacts installed in the windings compliant with THCL 155
6. Drive motor in external rotor principle, sealed in protection class IP54 with moisture protection impregnation of the windings, topical protection
7. High corrosion resistance design with high quality and reliability
8. The exhaust fan shall be controlled from an end switch on the power open and spring return outside air damper

10. **Dampers**

Internal dampers shall be made from extruded anodized aluminum with a parallel blade configuration and neoprene double-seal tips to minimize leakage. Damper blades shall be mounted on steel rods which rotate on nylon bushings. All damper hardware shall be corrosion resistant

A. The system shall be provided with normally closed outside air and exhaust air dampers equipped with spring-return actuators The dampers adjust between 0% to 100% open position.

B. The outdoor air and exhaust air dampers shall be of opposed blade configuration. Dampers shall have 0.750-inch insulated

blades made from extruded anodized aluminum with neoprene double-seal tips to minimize leakage. Damper leakage shall be less than 1% of maximum flow at 4-inch water column differential. Damper blades shall be mounted on steel rods which rotate on nylon bushings. All damper hardware shall be corrosion resistant

11. **Pool Water Heater**
    A. The pool water heater shall be Titanium Gasketed Flat Plate heat exchanger. Heat exchanger that are not titanium are not acceptable since they increase the owners liability.
    B. Heat exchanger will be modulating and have the ability to reject up to 100% of the heat of rejection of the unit to the pool water. Partially sized pool water heaters and on/off pool water heaters are not acceptable.
    C. Pool heaters that when breached allow water into the refrigeration system are not allowed.
    D. Terminating connections are PVC NPT fittings located at the cabinet wall for easy connection
    E. The maximum circuit pressure rating is 100 psi.
12. **Compressors**
    A. Hermetic, scroll action compressor, suction gas cooled, suitable for refrigerant R-410A
    B. The compressor(s) shall be mounted on rubber-in-shear isolators to limit the transmission of noise and vibration
    C. Compressors shall have a 3-year warranty extension for a total of 5 years coverage
    D. The compressor manufacturer must have a wholesale outlet for replacement parts in the nearest major city
13. **Refrigeration Circuit**
    A. Unit shall utilize compressor wall technology (CWT). CWT is an array of small compressor modules. Each compressor module shall consist of a drain pan, evaporator, compressor, a self-contained refrigeration circuit, and a refrigerant-to-fluid plate heat exchanger. Each one of these compressor modules shall tie all together into the Protocol fluid system. Once the refrigerant heat is transferred to the fluid side, heat can be used as needed putting heat into the reheat coil, pool water heater, or be rejected to the dry cooler(s) for air conditioning. Each compressor module is independent and provides ultimate redundancy. Machines with reduced number of stages to not be able to match the load are not acceptable.
    B. Each unit shall utilize a multiple number of separate compressors, mounted in an easily serviceable and quickly removable chassis system
    C. All refrigeration circuits shall have a check valve, a liquid line filter-drier and an expansion valve
    D. All refrigeration circuits shall have an externally adjustable balanced port design mechanical thermostatic expansion valve
    E. The system shall have an externally adjustable balanced port design mechanical thermostatic expansion valve. The valve shall have a removable power head
    F. Tamper proof, hermetically sealed non-adjustable high and low pressure switches shall be installed using Schrader type valves
    G. The maximum operating pressure for the glycol loop is 100 psi. The glycol loop temperature should not exceed 134 ºF.
14. **Control Panel**
    A. The electrical contractor shall be responsible for external power wiring and disconnect switch fusing. Power block terminals shall be provided
    B. The system shall include a factory-installed fused disconnect
    C. Main control panel shall be mounted inside the service vestibule outside of the process air stream
    D. Vapor proof compressor module control panels mounted on each module
    E. Blower motors shall be protected with thermal trip overloads
    F. The system shall have a voltage monitor with phase protection
    G. Available dry contacts shall include:
        1. Alarm
        2. Blower interlock
        3. Stage 1 & 2 heating

4. Outdoor air damper control
5. Remote exhaust fan #1
6. Remote exhaust fan #2
7. Outdoor-air cooled equipment
8. System on
9. Auxiliary pool heater 1
10. Heat recovery

H. Terminals shall be provided to send 24-volt power to the outdoor air cooled condenser or fluid cooler fan contactor

I. All wiring shall be installed in accordance with UL or CSA safety electrical code regulations and shall be in accordance with the NFPA All components used in the system shall be UL or CSA listed

J. Wiring diagrams shall be located near the electrical panel(s) on the system. These diagrams shall provide colour-coding and wire numbering for easy troubleshooting. All wires shall be contained in a wire duct.

K. The compressor(s) shall have a time delay on start to prevent short cycling

L. An airflow switch and a dry contact for alarm(s) shall be provided and factory-mounted.

M. Convenience outlet and light included factory mounted in control cabinet, powered and wired separately.

15. **Microprocessor Control**

A. A microprocessor controller with the following characteristics will be provided:

1. All set points and parameter adjustments are pre-programmed at the factory during quality control testing
2. The microprocessor program shall be stored on updatable FLASH memory
3. A minimum of 11 analogue inputs, 4 analogue outputs, 24 digital inputs and 16 digital outputs
4. Four serial interface ports including both RS232 and RS485 types
5. An Ethernet port with RJ-45 connector and LED activity indicator
6. A real time clock to time-stamp the system operation log and to enable a programmable 7-day occupation schedule
7. Two manual demand forced modes to allow the user to manually bypass the microprocessor in the event of controller failure
8. The local and remote operator panel(s) shall have a backlit graphic liquid crystal display with touch controls

B. The system shall have pressure transducers monitoring the refrigerant discharge (high) and suction (low) pressures. The refrigeration circuit shall be accessible for diagnostics, adjustment and servicing without the need of service manifold gauges.

C. The following status LEDs shall be on the controller:

1. Alarm - indicates there has been a failure requiring service.
2. Dehumidification - indicates that the system is dehumidifying the space.
3. Cooling - indicates that the air-conditioning mode.
4. Pool Heating - indicates that the system is heating the pool water with recycled energy.
5. Space Heat - indicates that the space heating is operating.
6. Maintenance - indicates whether or not maintenance is required.
7. Manual - indicates that the system has been set to manual operation.

D. The following set points shall be accessible and adjustable from the operator panel:

1. Space temperature
2. Space relative humidity
3. Pool water temperature

E. The following sensors shall be unit-mounted and monitored at the operator panel. All information from these items shall be

actively used in the system control and operation strategies:

1. Return air temperature
2. Supply air temperature
3. Return air relative humidity
4. Entering pool water temperature
5. Leaving pool water temperature
6. Supply Airflow

F. System Fault: Shall indicate via text message to the display what systems require attention or servicing. Built-in monitoring and diagnostics shall allow the user to view the following:

1. Power failure
2. Dirty air filter
3. System off
4. Anti-short cycle delay

16. **Air Heating**

The packaged indirect-fired natural gas duct furnace module shall be sized to meet the scheduled heating capacity and have the following characteristics:

A. Modulating (0-10V) auxiliary air heat control

B. The duct furnace module shall be a natural gas indirect-fired type using spark ignition with a heating capacity as shown in this submittal and is installed in a 'blow through' configuration downstream from the blower. The heat exchanger tubes are constructed of formed and welded 16-gauge series 409 stainless steel suitable for installation downstream of the cooling coil and satisfactory for air inlet temperatures below 40 °F. The burner is the power firing type and incorporates a primary combustion air blower and spark ignition transformer

C. Standard controls shall include a modulating gas valve, intermittent spark ignition, overheat control, rollout flame supervision, combustion air flow proving switch, positive burner safety switch, pilot cock, main gas cock with 100% shut off, adjustable main and pilot pressure regulators

D. The natural gas duct furnace module shall be an ETL recognized component. The gas train shall be complete with all controls factory mounted to comply with requirements of ETL. The gas train is complete with a modulating main gas valve and is ready for connection to a natural gas supply with pressure between 7 in and 14 in WC

E. The complete system shall be test-fired and preliminary adjustments made prior to leaving the factory

17. **Air Conditioning**

Air-cooled air conditioning via a fluid cooler

A. The system shall be equipped with an air conditioning mode where excess compressor heat is rejected to a remote outdoor air-cooled heat exchanger (aka Dry Cooler) via a single glycol fluid loop. No site refrigeration work shall be required. The system shall include a circulating pump and expansion tank. The packaged fluid cooled condenser and remote outdoor air-cooled heat exchanger shall both be capable of rejecting 100% of the compressor heat rejection with an air on temperature at summer design conditions

B. The system shall be provided with a dry contact rated for 24VAC/5A to operate the remote outdoor fluid cooler control

C. Coils shall be tested at 425 PSIG and mounted vertically for complete surface utilization. Coils shall be counter flow and have adequate capacity to dissipate the total heat rejection of the system at design conditions

18. **Factory Performance Testing**

A. The system shall be thoroughly tested under factory test conditions.

Part 3 - Execution

19. **Product Delivery, Acceptance, Storage and Handling**
    A. Perform a thorough physical inspection of the system upon delivery from the shipment carrier
    B. Identify and immediately report any physical damage to manufacturer
    C. If the system is to be stored prior to installation, store in a clean, dry place protected from weather, dirt, fumes, water, construction and physical damage
    D. Handle the system carefully during installation to prevent damage
    E. Damaged systems or components shall not be installed. Contact the manufacturer for RMA instructions
    F. Comply with the manufacturer's rigging and installation instructions for unloading the system and moving it into position
20. **Connections**
    A. Where installing piping adjacent to the system, allow space for service and maintenance
    B. Duct connections: drawings indicate the general arrangements of the ducts. Connect the system to ducts with flexible duct connectors. Comply with code requirements for flexible duct connectors
    C. Electrical connections: comply with code requirements for power wiring, switches and motor controls in electrical sections
21. **Installation**
    The agency responsible for start-up should work in accordance with the specifications and in accordance with the manufacturer's instructions and only by workers experienced in this type of work
22. **Start Up**
    A. Detailed instructions for start up as provided by the manufacturer must be followed
    B. Installing contractor must contact the manufacturer prior to start up to confirm start up procedures
    C. Remote Internet access and control must be initiated and confirmed by the factory prior to start up for extended labor warranty to be in effect

Pools - Equipment Warranty

General Policy

All Seresco service and warranty work is managed exclusively by Dehumidified Air Services (DASV). All warranties apply to the original equipment owner and are not transferable. All warranty inquiries should be made to Dehumidified Air Services.

Dehumidified Air Services:

Phone: 1-833-327-7665 Email: Warranty@DehumidifiedAirServices.com

Seresco warrants as set forth and for the time periods shown below that it will provide through either a DASV Service Technician or an authorized service organization specified and approved by DASV, a new or rebuilt part to replace a factory installed part which has failed because of defect in workmanship or material.

NOTE: EVERY REQUEST RELATED TO WARRANTY OF ANY NATURE AS DESCRIBED BELOW MUST BE OFFICIALLY AUTHORIZED AND DOCUMENTED IN ADVANCE BY DASV TO QUALIFY FOR WARRANTY COVERAGE.

Warranty Void Unless Registered

All Warranties are void unless start-up of the equipment is approved by a DASV service technician. Upon completion of the start-up, a “Warranty Registration Certificate” will be issued, along with the Start-Up Report, which activates the Warranty Period of the equipment. The Warranty Period will commence either upon completion of start-up registration of the equipment or 6 months from factory ship date, whichever comes first.

Initial 90-day Comprehensive Warranty

During the first 90 days from initial start-up, all parts and repairs related to factory defects or replacement parts are covered by Seresco manufacturer warranty. All parts and labor requirements will either be handled by DASV technicians directly or managed and approved in advance by DASV through DASV authorized technicians.

Internet Connected, Conditional One Year Repair Warranty

If and only if the equipment is connected to the internet from the date of warranty activation, a Repair Warranty will be provided for an additional 9 months subsequent to the initial 90-Day Comprehensive Warranty for a total of 12 months of parts and labor warranty coverage. The unit must be connected and communicating to Seresco WebSentry for the entire term from start-up in order to qualify.

If qualified, Seresco will provide or pay for the required part and direct labor only, related to the part replacement. Only the labor required to replace the defective part is under warranty for this 9-month extension. Travel time, diagnostic time, per diems, truck charges, shipping charges etc. are not covered under this Conditional Repair Warranty.

Two-Year Parts Warranty

If any factory installed part supplied by Seresco fails because of a defect in workmanship or material prior to the completion of the 24th month from date of completion of the warranty activation, Seresco will provide a new or rebuilt part F.O.B. factory. No labor reimbursement will be made for expenses incurred in replacing the part except as set in the *Initial 90-day Comprehensive or Internet Connected, Conditional One-Year Repair Warranty.*

Seresco reserves the right to have the defective part returned to the factory in order to determine the warranty applicability. Parts shipping and handling costs (to and from the factory) are not covered outside of the *Initial 90-day Warranty.*

Replacement Part Warranty

If a replacement part provided by Seresco under this warranty fails due to a material defect prior to the end of the Two-Year Parts Warranty (or the end of the extended warranty period if applicable), whichever comes first, Seresco will provide a new or rebuilt part F.O.B. factory.

Applicability

This warranty is applicable only to products that are purchased and installed in the United States and Canada. This warranty is NOT applicable to:

1. Products that have become defective or damaged as a result of non-DASV or unauthorized service work, poor maintenance, faulty electrical supply, act of God, or any other circumstances outside of the specified care, maintenance or operation of the equipment including:
   - Components that have been relocated from their original placement during manufacturing.
   - Any portion of the system not supplied by Seresco.
   - Components on which the model and/or serial number plates have been removed or defaced.
   - Components which have become defective or damaged as a result of unauthorized opening of the refrigeration circuit, improper wiring, electrical supply characteristics, poor maintenance, accidents, transportation, misuse, abuse, fire, flood, alteration and/or misapplication of the product.
   - Products not installed, operated and maintained as per the Seresco Operating and Maintenance Manual.
   - Products operating in mechanical rooms that house chemicals (i.e. chlorine, bromine, water treatment chemicals).
   - Products on which payment is in default.
2. Parts that wear out due to normal usage, such as air filters, fuses and sensors are not covered by this warranty.

NOTE: Refrigerant lost during the *Initial 90-day Comprehensive or Internet Monitored, Conditional One-Year Repair Warranty* will be reimbursed in accordance to the current market price of refrigerant at the time of repair and upon discretion of DASV's Customer Support team. Seresco will not be responsible for refrigerant lost from the system due to improperly installed contractor piping to the remote outdoor air-cooled condenser.

Limitations

1. DASV is a Manufacturer Service organization, not a first-response or urgent response local service company. As such, we highly recommend that equipment owners have a relationship with their own qualified first response service organization or one recommended by DASV.

   DASV hours of operation are from 8:00 AM to 6:00 PM Eastern, Monday through Friday unless otherwise agreed to under a separate agreement.

   Parts replacement can be subject to availability. We highly recommend for mission-critical applications that owners purchase and maintain a local stock of critical components in case immediate replacement be required. If for any reason one of those components is replaced under applicable warranty conditions, Seresco will reimburse the original cost of any component used under terms of Warranty.

   NOTE: Seresco expressly disclaims any liability for parts replacement delays due to parts unavailability or shipping delays.
2. This warranty is given in lieu of all other warranties. Anything in the warranty notwithstanding, any implied warranties of fitness for particular purpose and merchantability shall be limited to the duration of the warranties described above. Seresco expressly disclaims and excludes any liability for consequential or incidental damage for breach of any express or implied warranty.

   Where a jurisdiction does not allow limitations or exclusions in a warranty, the foregoing limitations and exclusions shall not apply to the extent of the legislation, however, in such case the balance of the above warranty shall remain in full force and effect.

   This warranty gives specific legal rights. Other rights may vary according to local legislation.

Force Majeure

Seresco will not be liable for delay or failure to provide warranty service due to government restrictions or restraints, war, strikes, material shortages, acts of God or other causes beyond Seresco control.

Optional Extended Warranties

If purchased prior to shipment and documented with a registered extended warranty statement certificate, Seresco will provide replacement components within the specified period of the extended warranties. Extended warranties commence either upon completion of start-up registration of the equipment or 6 months from factory ship date, whichever comes first, and cover parts replacement only for parts that fail as a result of manufacturing defect. The failed parts must be returned to the factory with transportation prepaid by the customer as a condition of these warranties. Optional extended warranties are for parts only and subject to all the terms of the Two-Year Parts Warranty.

1. Optional Five-Year Compressor Warranty

Subject to the terms above, Seresco will provide a replacement compressor for up to 60 months from the date of the warranty activation.

2. Optional Five-Year Dehumidifier Coil Warranty

Subject to the terms above, Seresco will provide a replacement coil for up to 60 months from the date of the warranty activation. Extended coil warranties are for parts of the dehumidifier only and does not cover parts of dry cooler or OACC coils.

3. Optional Ten Year Dehumidifier Coil Warranty

Subject to the terms above, Seresco will provide a replacement coil for up to 120 months from the date of the warranty activation. Extended coil warranties are for parts of the dehumidifier only and does not cover parts of dry cooler or OACC coils.

4. Optional Five-Year Driveline Warranty

Subject to the terms above, Seresco will provide driveline replacement parts for up to 60 months from the date of the warranty activation.

Driveline Components Include:

- Supply fan motor
- Exhaust fan motor (including Min Exhaust and Purge Exhaust motors)
- Heat recovery loop pump
- Compressor glycol/water pump
- Dry cooler/outdoor condenser fan(s)
- Dry cooler pump(s)

UNIT SELECTION 76057.10

Representative	Project Info	
Eric Johnson	Date:	Apr 5, 2023
Engineered Products	Job Name:	Pagosa Springs
301 Commercial Rd, Suite D	Description:	Ventilation Solution 9100 CFM SA
ejohnson@engineeredproducts.com		
Phone: 720-874-9090		

Natatorium Design

Pools

Pool Name	Surface Area (ft²)	Water Temp (°F)	Activity Factor
Rec	2718	83	1
Kiddie Pool	250	83	1
Spa	250	104	1.5

Room Conditions

Wet Deck Area (ft²)	1412
Pool Room Volume (ft³)	153680
Number of Spectators	12
Room Temp (°F)	86
RH Unoccupied (%)	50
RH Occupied (%)	52

Unit Design

Number of Units	1
Outside Air CFM	2420 (ASHRAE Recommends 2420)
Country	USA
State/Province	CO
City	ALAMOSA SAN LUIS VALLEY RGNL

Moisture Load Summary (lb/hr)

Load Source	Occupied	Unoccupied
Rec	132.3	69.6
Kiddie Pool	12.2	6.4
Spa	57.3	19.4
Spectators	2.5	
Total	**204.3**	**95.4**

Selected Model: -

		Unit Airflow	Total Airflow
Room Air Changes (per hr)	3.6		
% of Average Year with Humidity Control	100%		
Selected Supply Air CFM		9100	9100
Expected Minimum OA CFM		2420	2420
Suggested Maximum OA CFM		6930	6930

seresco
ADVANCED DEHUMIDIFIERS

UNIT SELECTION 76057.10

Annual Load Profile					
Avg. Bin Dry Bulb (°F)	Avg. Bin Dew Point (°F)	Hours Per Year	Required OA CFM	OA Heat Required MBH	Adjusted Relative Humidity
-26	-28	1	4520	546.5	52
-21	-26	6	4530	524.3	52
-16	-18	23	4560	500.9	52
-11	-13	62	4590	479.2	52
-7	-9	66	4620	461.7	52
-2	-5	124	4660	442	52
3	0	213	4710	422.1	52
9	5	396	4820	402.8	52
14	9	363	4910	381.9	52
19	12	395	5000	364	52
23	16	480	5110	347.2	52
29	19	666	5200	322.2	52
34	21	712	5320	298.7	52
39	24	564	5550	284.6	52
43	28	715	5830	269.8	52
48	31	749	6150	251.6	52
53	35	821	6800	239.4	52
59	36	643	6770	198.9	52
64	36	473	6710	162.8	52
68	36	481	6710	129.9	52
73	37	455	6930	94.7	52
79	35	272	6550	52.6	52
83	36	73	6670	23.4	52
86[1]	37	7	6600	-1.1	52

[1]There are minimum 7 hours per year when the room temperature will exceed setpoint.

Seresco Technologies Inc.
Phone: 1-770-457-3392
Email: sales@serescodehumidifiers.com

The ultimate in hybrid dehumidification technology that blends both ventilation and cooling to deliver perfect room conditions – with exceptional energy savings.

WE CALL IT...

THE HYBRID SERIES

Our Hybrid design provides the simplicity, reliability, and efficiency of ventilation-based dehumidification for indoor pools, plus a refrigeration circuit to provide air conditioning as required.

THE POWER OF NATURAL DEHUMIDIFICATION

Typical pool dehumidifiers use a refrigeration circuit to cool air below its dew point and remove moisture, before reheating it and delivering it back to the space. While effective, it can also be desirable to use outdoor air to manage indoor humidity levels when the conditions are right.

The Hybrid Series leverages the potential of dry outdoor air to accomplish dehumidification, while also incorporating a refrigeration circuit to provide sensible cooling that keeps the pool area comfortable.

APPLICATIONS

While our Hybrid Series is a suitable dehumidification solution for indoor pools in most North American climates, it is most cost-effective in areas where outdoor air is dry for most of the year. However, unlike other ventilation-based dehumidifiers, our Hybrid Series also provides sensible cooling capability, so high outdoor air temperatures are no longer a concern.

ADVANTAGES

- Outdoor air-based dehumidification is a cost-effective alternative to mechanical dehumidification in many geographies across North America and can reduce energy consumption as the compressor is not used to dehumidify.
- Its simple design makes it easier to service and maintain; smaller refrigeration components cost less to operate and maintain.
- Mechanical cooling keeps the space temperature comfortable by meeting the sensible load.
- Advanced control algorithm precisely modulates outdoor air, using only the minimum necessary to maintain space humidity.
- Direct-drive fan array with ECM motors means lower energy costs and no belts!
- Heat recovery utilizes a glycol runaround loop, reducing the energy cost of pre-heating outdoor air.

OPTIONS

- Sensible air cooling available from 20 to 128 tons or with chilled water coil
- Packaged space heating — hot water, electric, or gas furnace

FEATURES

- Delivering airflow from 6,000 to 64,000 CFM with ECM driven fan arrays
- Reliable, frost-free heat recovery via glycol loop when needed most (to -29˚ F / -34˚ C)
- Fully modulating outside air up to 100%
- Easy-to-clean, fully-coated coils
- Room purge mode

seresco | Advanced Dehumidifiers WebSentry® Technology

serescodehumidifiers.com

Sales@SerescoDehumidifiers.com | United States: (770) 457-3392 | Canada: (613) 741-3603

Pagosa Lakes Property Owners Association
RESOLUTION 2023-01
OF THE BOARD OF DIRECTORS OF
PAGOSA LAKES PROPERTY OWNERS' ASSOCIATION, INC.
Resolution Revising Project Permit Process, Updating Section 1.12

WHEREAS, The Declaration of Restrictions and Bylaws governing the Pagosa Lakes Property Owners' Association, allow for the implementation of Rules and Regulations for the Association, and require a project application and ECC approval for improvements to a property, and;

WHEREAS, The Declaration of Restrictions, Association Bylaws, Resolutions, Rules and Regulations adopted by the PLPOA Board of Directors are established and enforced for the benefit and protection of all property owners, and;

WHEREAS, There is statutory authority for such enforcement in the State of Colorado Statutes: including C.R.S. 38-33, 3-117, -316, - 302(1)(a), and;

WHEREAS, The Board wishes to update situations in which ownership of a property changes ownership prior to completion of a project for which a permit has been issued.

THEREFORE, The following change to the Project Permit Process will consist of updating section 1.12 as noted below, shall be established:

1.12 Change of Ownership While Project is Incomplete

The owner must notify PLPOA in writing in advance if the property is to be conveyed before construction is complete and the permit closed. If the owner fails to do so, this does not relieve the new owner of the obligation to continue the project as described in the permit. ~~If a property changes ownership before a project is completed, the new owner must continue the project as described in the permit.~~ If a change to the project/permit is desired, the new owner may follow established PPP processes. The new owner is subject to the same permit renewal fee schedule and fine schedules as were in effect for the prior owner at the time of conveyance. The change in ownership will not be deemed to restart the permit or extension process. The new owner must complete and sign a permit application form for the project in order for the permit to be transferred. A Permit Transfer Fee in the amount of $500 will be applied for transferring a permit for a noncomplete project to a new owner.

PRESIDENT'S AND SECRETARY'S CERTIFICATION: The undersigned, respectfully being the President and Secretary of the Pagosa Lakes Property Owners Association, a Colorado nonprofit corporation, certify that the foregoing Resolution was approved and adopted by the Board of Directors of the Association, at duly called and held meeting of the Board of Directors of the Association on _____
And in witness thereof, the undersigned have subscribed their names.

By: _____
Dan Mayer, President

Attest: _____
Danny Musgrove, Secretary