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Rock Island Townhomes

Summary

- A total of 21 irrigation zones
- Two controllers.
    1. Side of 16940 Kings Court
    2. Back patio of 16921
- There is a two-inch water source located at each of these addresses, one for each controller.

The irrigation system as a whole was installed poorly and is not a very water efficient system. The majority of the zones have a mixture of rotor type sprinklers and spray type sprinklers, which have very different precipitation rates. Running both rotor and spray heads together for the same amount of time results is excess water being irrigated and not being absorbed into the soil, but rather running off into the storm drains or wetlands. Most zones are not irrigating similar microclimates together (front yards, side yards, and backyards having different drier/sunnier or wetter/shadier conditions). Like using a mix of rotor and spray type sprinklers in the same zone, if similar microclimates are not irrigated together, excess water will either run off or create wet areas on the property. Based on the findings of the audit, it's estimated that the irrigation systems could be 60 percent to 70 percent rebuilt.

These systems do have weather-based controllers to assist in preventing over-watering, but the controllers use an on-site weather station to help with water management. These controllers are not as efficient as newer controllers that use internet-based weather information to help with water management. After speaking with a board member on-site, they are very active in turning irrigation off when the weather conditions are wet. Combined with the existing controllers' capabilities, these are both great for water efficiency, but the irrigation system itself is not water efficient.

Please note that some of the recommendations listed in the tables below have options for consideration (i.e. Board members have the option to implement one or the other as opposed to both together – for example Recommendations 2a and 2b for Controller 1).

Controller 1 – 16940 Kings Ct

Recommendation	Management Type	Improvement	Estimated Cost
1	Weather sensing technology	Install and program a smart controller	$1,000-$1,400*
2a	Water distribution	Change nozzles to account for varying microclimates	$2,500-$5,000
2b	Wiring retrofit	Zone reconfiguration so microclimates run together	$25,000-$30,000
3	Water distribution	Fix rotors in zones 3, 4, and 8	Variable

* Cost does not include mobile hotspot one-time fee and the $10-$15 monthly internet fee (internet can be suspended during winter months)

Controller 2 – 19621 Kings Ct

Recommendation	Management Type	Improvement	Estimated Cost
1	Weather sensing technology	Install and program a smart controller	$1,600-$2,200*
2a	Water distribution	Change nozzles to account for varying microclimates	$2,500-$5,000
2b	Wiring retrofit	Zone reconfiguration so microclimates run together	$25,000-$30,000
3	Water distribution	Fix sprinklers in zones 4, 5, 7, 8, and 11	Variable

* Cost does not include mobile hotspot one-time fee and the $10-$15 monthly internet fee (internet can be suspended during winter months)

Suggestions

Controller 1 – 16940 Kings Ct

- The controller has an on-site weather sensor, so no change is recommended.
- All zones need to be gone through to change nozzles. On each zone, larger nozzles should be installed in sunny, drier areas and smaller nozzles in shady, wetter areas. Where there are spray heads running with rotors, the spray heads should be changed to rotary nozzles so similar irrigation rates are being applied. Without rebuilding the zones, changing the spray nozzles to rotary nozzles will help but not totally correct the lack of efficiency and will also help in reducing the wetter areas on the property. This change would likely be done at a time and material rate, but the price would range from approximately $2,500.00 to $5,000.00 total for this controller. Another option would be to split zones/re-build zones to irrigate similar microclimates. This type of change would require a new controller, new wire throughout the irrigation system, installation of new valves, and rezoning of the system. This process would be similar to installing a new system and would take anywhere from 7 to 10 days of work for an installation crew. The estimated price for this would range from approximately $25,000.00 to $30,000.00 total for this controller.
- A new weather-based controller to increase water efficiency could be installed for $1,000 to $1,400.
- Zone 3 has one rotor and zone 8 has three rotors that are too far in the tall grasses and should be moved so that tall grasses are not being watered. Zone 4 has one broken rotor that should be fixed. This work would likely be done at a time and material rate by an irrigation contractor providing service work and could be done during a normal service visit.

Controller 2 – 19621 Kings Ct

- The controller has an on-site weather sensor, so no change is recommended.
- All zones need to be gone through to change nozzles. On each zone, larger nozzles should be installed in sunny, drier areas and smaller nozzles in shady, wetter areas. Where there are spray heads running with rotors, the spray heads should be changed to rotary nozzles so similar irrigation rates are being applied. Changing the spray nozzles to rotary nozzles will help but not totally correct the lack of efficiency and will also help in reducing the wetter areas on the property. This change would likely be done at a time and material rate, but the price would range from approximately $2,500.00 to $5,000.00 total for this controller. Another option would be to split zones/re-build zones to irrigate similar microclimates. This type of change

would require a new controller, new wire throughout the irrigation system, installation of new valves, and rezoning of the system. This process would be similar to installing a new system and would take anywhere from 7 to 10 days of work for an installation crew. The estimated price for this would range from approximately $25,000.00 to $30,000.00 total for this controller.

- A new weather-based controller to increase water efficiency could be installed for $1,600 to $2,200.
- Zones 4, 5, 7 and 8 each have one leaking sprinkler, and zone 11 has two leaking sprinklers, and these should be fixed. This work would likely be done at a time and material rate by an irrigation contractor providing service work and could be done during a normal service visit.

ROCK ISCAND

Name/Address: Rock Island #1

BNR Irrigation Evaluation

Date: _____

Total number of zones for property: 10

Controller Make, Model and Location Weather Matic Smartline @ 16940

Water source: City (RPZ) PVB) Size: 2", Other _____ Location of water source _____

Is there a pump? _____ If yes, pump make, model and size _____

Program A Start times and water days: 12 AM Even days M T W TH F SA S

Program _____ Start times and water days: _____ M T W TH F SA S

Program _____ Start times and water days: _____ M T W TH F SA S

Program _____ Start times and water days: _____ M T W TH F SA S

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
1	Map	Rotor		Turf	Red-5	A

Evaluation of the efficiency of zone operation: _____

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
2	Map	MIX		Turf	Red	A

Evaluation of the efficiency of zone operation: _____

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Name/Address: Rock Island #1

BNR Irrigation Evaluation

Date: _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
3	Map	Rotor		Turf	Black/5	A

Evaluation of the efficiency of zone operation: OK - strange spacing. 1 Rotor in the weeds that needs to move out into turf

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move 1

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
4	Map	MIX		Turf	Blue	A

Evaluation of the efficiency of zone operation: low - rezone 1 broken head

# of Heads to replace 1 # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
5	Map	MIX		Turf	Red	A

Evaluation of the efficiency of zone operation: low - rezone

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
6	Map	MIX		Turf	Green	A

Evaluation of the efficiency of zone operation: low - rezone

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Name/Address: Rock Island #1

BNR Irrigation Evaluation

Date: _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
7	Map	Rotor		Turf	Yellow	A

Evaluation of the efficiency of zone operation: 3 Seperated areas running together ? 3 ok

# of Heads to replace_____ # of Heads that are pitched/need adjustment_____ # of Heads to add or move_____

Time needed to perform repairs on this zone_____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
8					Purple	A

Evaluation of the efficiency of zone operation: OK. 3 Rotors in the weeds that need to be moved out

# of Heads to replace_____ # of Heads that are pitched/need adjustment_____ # of Heads to add or move_____

Time needed to perform repairs on this zone_____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
9	Map	MIX		Turf	Pink	A

Evaluation of the efficiency of zone operation: low - rezone

# of Heads to replace_____ # of Heads that are pitched/need adjustment_____ # of Heads to add or move_____

Time needed to perform repairs on this zone_____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
10	Map	Rotor		MIX	Orange	A

Evaluation of the efficiency of zone operation: low - rezone

# of Heads to replace_____ # of Heads that are pitched/need adjustment_____ # of Heads to add or move_____

Time needed to perform repairs on this zone_____

Name/Address: Rock Island #2

BNR Irrigation Evaluation

Date: _____

Total number of zones for property: 11

Controller Make, Model and Location Weathermatic Smartline @ 16921

Water source: City (RPZ) / PVB) Size: 2, Other _____ Location of water source _____

Is there a pump? No If yes, pump make, model and size _____

Program A Start times and water days: 12 AM ODD DAYS M T W TH F SA S

Program _____ Start times and water days: _____ M T W TH F SA S

Program _____ Start times and water days: _____ M T W TH F SA S

Program _____ Start times and water days: _____ M T W TH F SA S

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
1	MAP	MIX		Turf	Purple	A

Evaluation of the efficiency of zone operation: _____

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
2	MAP	MIX		Turf	Pink	A

Evaluation of the efficiency of zone operation: _____

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Name/Address: Rock Island #2

BNR Irrigation Evaluation

Date: _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
3	Map	MIX		Turf	Grey	A

Evaluation of the efficiency of zone operation: Re-zoning
Low

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
4	Map	MIX		Turf	Yellow	A

Evaluation of the efficiency of zone operation: Low - Re-zone
1 leaking head

# of Heads to replace 1 # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
5	Map	MIX		Turf	Black	A

Evaluation of the efficiency of zone operation: Low - Re-zone
1 - leaking head

# of Heads to replace 1 # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
6	Map	MIX		Turf	Brown	A

Evaluation of the efficiency of zone operation: Low - Re-zone

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Name/Address: Rock Island #2

BNR Irrigation Evaluation

Date: _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
7	Map	Rotor		Turf	Blue/5	A

Evaluation of the efficiency of zone operation: low - rezone

1 - leaking head

# of Heads to replace 1 # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
8	Map	MIX		Turf	White/5	A

Evaluation of the efficiency of zone operation: low - rezone

1 - leaking heads

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
9	Map	MIX		Turf	Red/5	A

Evaluation of the efficiency of zone operation: low - rezone

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
10	Map	MIX		Turf	Rd	A

Evaluation of the efficiency of zone operation: low - rezone

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Name/Address: Rock Island #2

BNR Irrigation Evaluation

Date: _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
11	Map	MIX		Turf	Red/5	A

Evaluation of the efficiency of zone operation: low - rezone
2 - leaking heads

# of Heads to replace 2 # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program
12						

Evaluation of the efficiency of zone operation: _____

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program

Evaluation of the efficiency of zone operation: _____

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____

Zone #	Zone Location	Rotor/Spray	Brand	Turf/Plants	Wire Color	Program

Evaluation of the efficiency of zone operation: _____

# of Heads to replace _____ # of Heads that are pitched/need adjustment _____ # of Heads to add or move _____

Time needed to perform repairs on this zone _____