

REGENCY AT PROVIDENCE - IRRIGATION SYSTEMS DESCRIPTION

This is a description of the irrigation systems for certain common property at the Regency at Providence and Regency Hills communities in Upper Providence Township, Pennsylvania. The five systems are made up of pressure regulators, backflow preventers, water meters, the Pond 1 well pump, shutoff valves, solenoid valves, zone controllers, wireless rain detectors and various types of spray heads (490 total) along with several thousand feet of PVC piping. The total estimated irrigation water consumption exceeds 750,000 gallons per year. The systems are monitored by a committee of volunteer residents and maintained by local contractors directed by the Community Association Board through its management company.

The static (no-flow) pressure to each of the systems is maintained at 55 to 60 psi. Once irrigation zones are operated this pressure drops to as low as 25 psi, depending on the number of spray heads in the particular zone and the length of pipe feeding that zone.

In the tables below the A Program start times, duration times and days per week settings are listed as they were during the summer of 2024. The settings may change from year-to-year or during a given growing season based on weather, condition of turf/vegetation or other factors. The B Program of each controller is often used to supplement watering in certain areas due to new plantings or during hot, dry periods.

Each irrigation zone is operated by an open/closed solenoid valve which is contained in a subsurface enclosure and connected to its controller by buried wiring, which provides 12 volt DC power to the valve. These subsurface enclosures are located throughout the area of the five systems and have, in some instances over time, been covered by soil, turf or mulch.

During the spring of each year our irrigation contractor pressurizes the systems, operates each zone and makes adjustments/repairs to spray heads as needed. In the fall the contractor returns with a towed air compressor and blows all system piping and spray heads free of water to prevent freeze damage.

Sloan Clubhouse System

This system provides irrigation for the planting beds and lawn areas surrounding the clubhouse, the clubhouse parking lot, the tennis courts and the bocce court. It has been in operation since ~2005. The water for this system is fed from the Pond 1 well pump, located west of the clubhouse. This pump was originally only intended to maintain the water in Pond 1 at an aesthetically pleasing level. Based on a cost/benefit analysis of utility water and sewer charges by the HOA Board, the pump's discharge piping and controls were modified in 2016 by Hydroscares Inc. to also provide feed water for the 23 zones of the Sloan Clubhouse irrigation system. In 2021 a new (same model) well pump was installed along with new thick-walled PVC drop pipe to restore deteriorating water pressure.

A battery-operated Rain Bird programmable controller at the Pond 1 well site operates two Rain Bird latching DC solenoid valves, one to the Pond 1 fill line and one to the Sloan Clubhouse irrigation system. The Rain Bird controller is programmed to open the irrigation solenoid in the early morning hours to pressurize the line to the Sloan Clubhouse system. When the Hunter irrigation controller then opens any of the Sloan Clubhouse zone valves, the water pressure in the system drops; this causes the Aquavar SOLO2 controller (located near Pond 1 well) to start the 5 horsepower Goulds well pump and control its speed to maintain adequate irrigation water pressure. More detailed information on this system can be found on the RAP website [here](#).

Water Source: Pond 1 well pump (as described above)

Shutoff Valve Location: at Pond 1 well site

Irrigation Controller: Hunter ICC2, Model 904700 (replaced original Hunter unit in May 2023)

Controller Manual: <https://www.hunterindustries.com/sites/default/files/lit-666-om-icc2-us-web.pdf>

Controller Location: Rear interior wall of Sloan outdoor pool shed

Irrigation Zone Characteristics:

Program A

No.	Description	No. of Heads	Type	Duration
1	Along Fairmount	14	Rotors	15 min.
2	Sidewalk Fairmount	9	Rotors	15
3	Parking by Fairmount	8	Rotors	15
4	Sloan grass strip	13	Pop-ups	15
5	Hydrant grass area	11	Pop-ups	10
6	Right side walkway	10	Pop-ups	10
7	West of indoor pool	8	Rotors	10
8	Behind pool berm	7	Rotors	15
9	Fairmount grass strip	7	Pop-ups	15
10	Behind pool path	6	Rotors	10
11	Lower left walkway***	11	Rotors	10
12	Parking lot entrance	9	Pop-ups & rotors	15
13	Parking lot left strip	17	Pop-ups	10
14	Left of front door	8	Pop-ups	15
15	Center parking island	18	Type 1812 pop-ups*	20
16	Right of front door	5	Type 1812 pop-ups*	20
17	Fairmount island bed	6	Type 1812 pop-ups*	20
18	Electric box bed	6	3 pop-ups & 3 rotors*	20
19	Beds along left path	15	Type 1812 pop-ups*	20
20	Along Egypt Road	11	Rotors	10
21	Tennis court top**	6	Rotors	10
22	Around tennis court	11	Rotors	10
23	Left of bocce court	8	Rotors	10

* Zones 15 through 19 converted from drip irrigation to spray systems in May 2023

** Zone 21 solenoid valve replaced December 2024

*** One overgrown spray head plugged west of tennis courts December 2024

Program A Start time: 1:00 AM

Days per week: M/W/F

Fairmount Entrance System

The system at the Fairmount Boulevard entrance off Egypt Road irrigates the flower beds, shrubs and turf in the incoming/outgoing traffic control islands. It has been in operation since ~2005.

Water Source: Pennsylvania American Water distribution system

Shutoff Valve Location: In subsurface enclosure near gatehouse door

Irrigation Controller: Rain Bird, Model ESP Modular

Controller Location: On interior wall of Fairmount gatehouse

Irrigation Zone Characteristics:**Program A**

No.	Description	No. of Heads	Type	Duration
1	Flagpole island lower	4	Pop-ups	10 min.
2	Flagpole island middle & RAP sign	6	Pop-ups	15
3	Flagpole island upper	4	6" pop-ups	10
4	Gatehouse & upper island shrubs	9	12" pop-ups	10
5	Entrance island	12	12" pop-ups	10
6	Upper island grass	5	Pop-ups	10
7	Upper island grass & shrubs	5	Pop-ups	10

Program A Start time: 5:30 AMDays per week: M/W/F**Eden Entrance System**

The system at the Eden Boulevard entrance off Egypt Road irrigates the flower beds and shrubs in the incoming/outgoing traffic control islands. It has been in operation since ~2008.

Water Source: Pennsylvania American Water distribution systemShutoff Valve Location: In subsurface enclosure amid shrubs north of gatehouseIrrigation Controller: Rain Bird, Model ESP ModularController Location: On interior wall of Eden gatehouse**Irrigation Zones Characteristics:****Program A**

No.	Description	No. of Heads	Type	Duration
1	Visitors and exit gate island	5	12" pop-ups	10 min.
2	Gatehouse island	5	12" pop-ups	10
3	Flagpole and RAP sign	6	6" pop-ups	10
4	Entrance island	11	12" pop-ups	10

Program A Start time: 5:30 AMDays per week: M/W/F**Regency Hills Clubhouse System**

The system at the Regency Hills Clubhouse irrigates the planting beds and lawn areas around the clubhouse, pool and parking lot. It was operational beginning the summer of 2012.

Water Source: Pennsylvania American Water distributions systemShutoff Valve Location: In closet on bottom floor of clubhouse, left of elevatorIrrigation Controller: Hunter model PRO-C, PC-400 (replaced original controller August 2023)

Normally locked – key is hanging in RH entry gatehouse next to Rain Bird controller

Controller Manual: https://www.hunterindustries.com/sites/default/files/OM_ProC_EM.pdfController Location: At west exterior wall of clubhouse**Irrigation Zone Characteristics:****Program A**

No.	Description	No. of Heads	Type	Duration
1	Turf – left curb	7	Rotors	10 min.

2	Turf – left corner	4	Rotors	10
3	Bed – left side	10	Pop-ups	15
4	Bed – left front	7	Pop-ups	15
5	Bed – right front	8	Pop-ups	15
6	Bed – right side	10	Pop-ups	15
7	Bed – between pool & parking lot	9	Pop-ups	15
8	Turf - behind pool	5	Rotors	15
9	Turf – inside & outside pool	4	Rotors	15
10	Parking lot island – pool side	13	6" & 12" pop-ups	15
11	Parking lot island – curb line	10	6" & 12" pop-ups	15
12	Parking lot island - clubhouse	16	6" & 12" pop-ups	15

Program A start time: 3:00 AM

Days per week: M/W/F

Regency Hills Entrance System

The system at the Regency Hills entrance off Black Rock Road irrigates the flower beds in the incoming/outgoing traffic control islands, the ornamental plants in front of the stone walls as well as lawn areas on either side of the entryway. It was operational beginning the summer of 2012.

Water Source: Pennsylvania American Water distribution system

Shutoff Valve Location: In subsurface enclosure east of the vehicle exit lane

Irrigation Controller: Rain Bird, Model ESP Modular

Controller Location: On interior wall in gatehouse

Irrigation Zones Characteristics:

Program A

No.	Description	No. of Heads	Type	Duration
1	Turf rotors – fire access	10	Rotor	15 min.
2	Turf rotors – behind exit wall	9	Rotor	15
3	Bed spray - exit side	10	12" pop-up	10
4	Bed spray – island with flags	11	12" pop-up	10
5	Bed spray – 2 small islands	8	12" pop-up	10
6	Bed spray – entrance side	10	12" pop-up	10
7	Turf rotors – behind entrance wall	6	Rotor	10
8	Turf rotors – entrance curb	6	Rotor	10
9	Turf rotors – entrance middle	6	Rotor	10
10	Turf rotors – entrance at house	5	Rotor	10
11	Turf rotors – btwn wall & woods	4	Rotor	10
12	Turf rotors – at woods	6	Rotor	15

Program A Start time: 3:30 AM

Days per week: M/W/F

Principal System Components



Sloan Clubhouse irrigation zone controller
- located on interior back wall of pool shed



Aquavar controller - varies Pond 1 well pump speed to
maintain Sloan Clubhouse irrigation system pressure



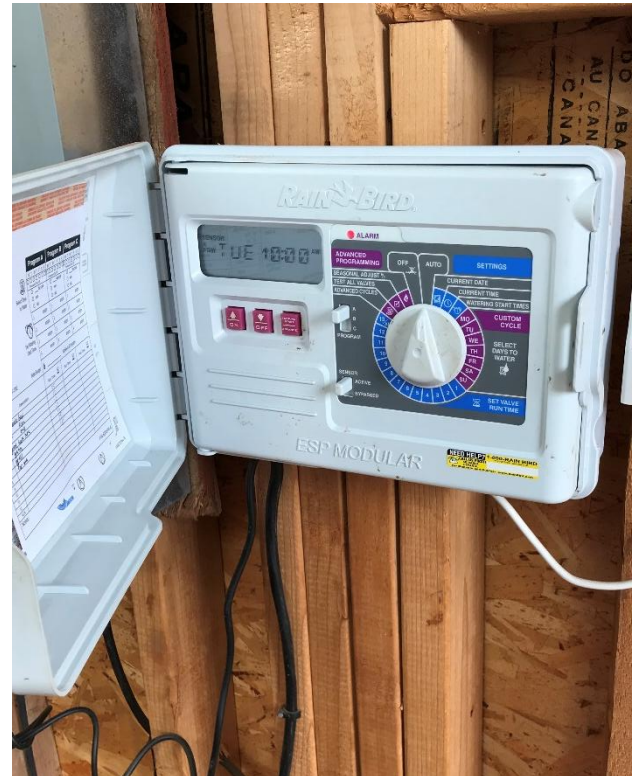
Programmable digital controller located at
Pond 1 well site controls irrigation water for
Sloan clubhouse as well as pond water level



Rain Bird DC latching solenoid valve allows Pond
1 well water to pressurize Sloan irrigation system



Regency Hills Clubhouse irrigation zone controller – located on west exterior wall



Eden entrance irrigation zone controller – located in gatehouse (Fairmount and RH entrances similar)



Typical subsurface valve enclosure with shutoff valves (blue handles) & backflow preventer (center)



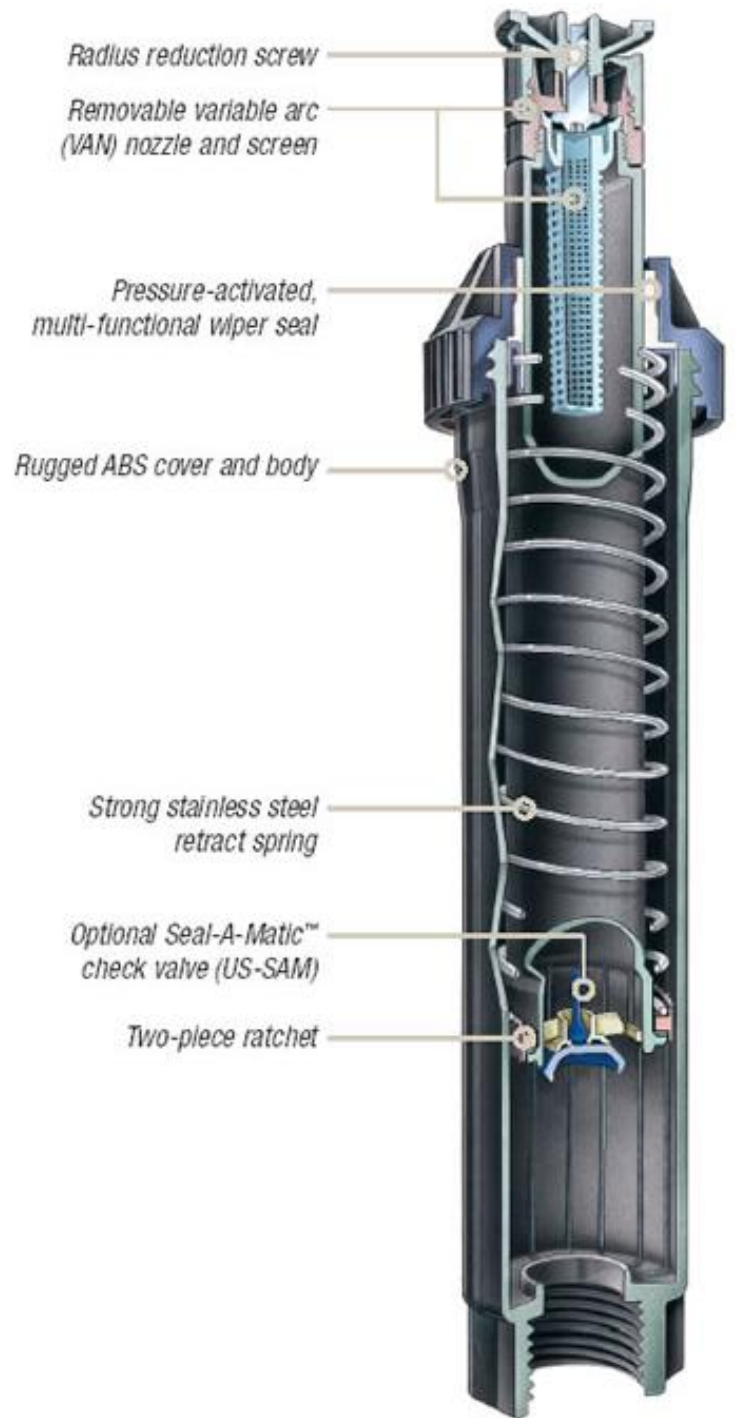
Another subsurface enclosure showing wiring for solenoid zone valves



Typical wireless rain sensor located near each controller. Suspends watering during rain events.



12 inch pop-up spray head - pressurized



Cross section of typical pop-up spray head