

# IRRIGATION SYSTEMS FOR REGENCY AT PROVIDENCE & REGENCY HILLS

This is a description of the common property irrigation systems at the Regency at Providence and Regency Hills developments in Upper Providence Township, Pennsylvania. The communities' 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, various types of spray heads (441 total) and drip tubing 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.

In the tables below the A Program and B Program start times, duration times and days per week settings are listed as they were during the summer of 2021. The settings may change from year-to-year or during a given growing season based on weather, condition of vegetation or other factors.

## Sloan Clubhouse

This system provides irrigation for the planting beds and lawn areas surrounding the clubhouse, the clubhouse parking lot, the tennis courts and the putting green. 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, the pump's discharge piping and controls were modified in 2016 by Hydroscaapes 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 Toro DDCWP-2 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 Toro controller is programmed to open the pond fill solenoid from 0 to 120 minutes per day (usually in the afternoon) depending on pond water level. The second solenoid opens between midnight and 8 AM every day to pressurize the line to the Sloan Clubhouse system. When the Hunter irrigation controller opens any of the Sloan Clubhouse zone valves, the water pressure in the system drops; this causes the Aquavar SOLO controller (located near Pond 1 well) to start the 5 horsepower Goulds well pump and control its speed to maintain irrigation water pressure.

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

Water Pressure: 50 to 55 psi

Shutoff Valve Location: at Pond 1 well

Irrigation Controller: Hunter ICC, Model 800PL

Irrigation Controller Manual: [https://www.hunterindustries.com/sites/default/files/OM\\_ICC\\_DOM.pdf](https://www.hunterindustries.com/sites/default/files/OM_ICC_DOM.pdf)

Irrigation Controller Location: Rear wall of Sloan outdoor pool shed

Zone Valve Box Locations: (1) NW corner of clubhouse in mulch bed, (2) NW corner of clubhouse next to sidewalk, (3) W of indoor pool near stone wall, (4) SW of indoor pool near storm drain, (5) south of pine trees right side of clubhouse (buried in grass)

Irrigation Zone Characteristics:

**Program A   Program B**

No.	Description	No. of Heads	Type	Duration	Duration
1	Along Fairmount	14	Rotors	20 min.	0 min.

2	Sidewalk Fairmount	9	Rotors	20	0
3	Parking by Fairmount	8	Rotors	20	0
4	Sloan grass strip	13	Pop-ups	10	0
5	Hydrant grass area	11	Pop-ups	10	0
6	Right side walkway	10	Pop-ups	10	0
7	Right side walkway	8	Rotors	20	0
8	Behind pool berm	7	Rotors	20	0
9	Fairmount grass strip	7	Pop-ups	10	0
10	Behind pool path	6	Rotors	20	0
11	Lower left walkway	12	Rotors	14	0
12	Parking lot entrance	9	Pop-ups & rotors	20	0
13	Parking lot left strip	17	Pop-ups	10	0
14	Left of front door	8	Pop-ups	10	0
15	Center parking island	-	Drip tubing	0	45
16	Right of front door	-	Drip tubing	0	45
17	Fairmount island bed	-	Drip tubing	0	45
18	Electric box bed	-	Drip tubing	0	45
19	Beds along left path	-	Drip tubing	0	45
20	Along Egypt Road	11	Rotors	20	0
21	Tennis court top	6	Rotors	0*	0
22	Around tennis court	11	Rotors	14	0
23	Left of putting green	8	Rotors	20	0

Program A Start time: 12:15 AM

Days per week: M/W/F

Program B start time: 4:00 AM

Days per week: Tu/Th/Sa

\* Zone #21 duration time set to 0 minutes to reduce flooding to the south & east of tennis courts.

## Fairmount Entrance

The system at the Fairmount Boulevard entrance off Egypt Road irrigates the flower beds, shrubs and turf in the incoming/outgoing traffic control islands.

Water Source: Pennsylvania American Water distribution system

Water Pressure: approx. 60 psi

Shutoff Valve Location: In subsurface enclosure near gatehouse door

Controller: Rain Bird, Model ESP Modular

Controller Location: On interior wall of Fairmount gatehouse

Solenoid Valve Box Locations: Near gate house door and at southeast corner of gate house

Irrigation Zone Characteristics:

No.	Description	No. of Heads	Type	Program A	Program B
				Duration	Duration
1	Flagpole island lower	4	Pop-ups	15 min.	0 min.
2	Flagpole island middle & RAP sign	6	Pop-ups	15	0
3	Flagpole island upper	4	6" pop-ups	15	0
4	Gatehouse & upper island shrubs	9	12" pop-ups	15	0
5	Entrance island	12	12" pop-ups	15	10

6	Upper island grass	5	Pop-ups	15	0
7	Upper island grass & shrubs	5	Pop-ups	15	0

Program A Start time: 4:00 AM

Days per week: M/W/F

Program B start time: 5:30 AM

Days per week: Su/Tu/Th

## **Eden Entrance**

The system at the Eden Boulevard entrance off Egypt Road irrigates the flower beds and shrubs in the incoming/outgoing traffic control islands.

Water Source: Pennsylvania American Water distribution system    Water Pressure: approx. 60 psi

Shutoff Valve Location: In subsurface enclosure amid shrubs north of gatehouse

Controller: Rain Bird, Model ESP Modular

Controller Location: On interior wall of Eden gatehouse

Solenoid Valve Box Locations: Amid shrubs north of gate house and at northwest corner of gate house

Irrigation Zones Characteristics:

**Program A    Program B**

No.	Description	No. of Heads	Type	Duration	Duration
1	Visitors and exit gate island	5	12" pop-ups	15 min.	0 min.
2	Gatehouse island	5	12" pop-ups	15	0
3	Flagpole and RAP sign	6	6" pop-ups	15	0
4	Entrance island	11	12" pop-ups	15	10

Program A Start time: 4:30 AM

Days per week: M/W/F

Program B start time: 5:30 AM

Days per week: Su/Tu/Th

## **Regency Hills Clubhouse**

The system at the Regency Hills Clubhouse irrigates the planting beds and lawn areas around the clubhouse, pool and parking lot.

Water Source: Pennsylvania American Water distributions system    Water Pressure: 62 psi

Shutoff Valve Location: In closet on bottom floor of clubhouse, left of elevator

Controller: Irritrol, Model Total Control – 12 Station. Normally locked – key is in RH entry gatehouse

Controller Manual: [https://cdn2.toro.com/en/-/media/Files/Irritrol/products/controllers/total-control-r-series/manual\\_totalcontrol.ashx](https://cdn2.toro.com/en/-/media/Files/Irritrol/products/controllers/total-control-r-series/manual_totalcontrol.ashx)

Controller Location: At west exterior wall of clubhouse

Solenoid Valve Box Locations: In grass area left side of clubhouse & in grass area left side of pool

Irrigation Zone Characteristics:

**Program A    Program B**

No.	Description	No. of Heads	Type	Duration	Duration
1	Turf – left curb	7	Rotors	25 min.	2 min.
2	Turf – left corner	4	Rotors	25	2
3	Bed – left side	10	Pop-ups	10	2

4	Bed – left front	7	Pop-ups	10	2
5	Bed – right front	8	Pop-ups	10	2
6	Bed – right side	10	Pop-ups	10	2
7	Bed – between pool & parking lot	9	Pop-ups	15	2
8	Turf - behind pool	5	Rotors	25	2
9	Turf – inside & outside pool	4	Rotors	25	2
10	Parking lot island – pool side	13	6" & 12" pop-ups	25	2
11	Parking lot island – curb line	10	6" & 12" pop-ups	25	2
12	Parking lot island - clubhouse	16	6" & 12" pop-ups	25	2

Program A start time: 12:15 AM

Days per week: M/W/F

Program B start time: 12:15 AM

Days per week: Set to OFF for all days of the week

### **Regency Hills Entrance**

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.

Water Source: Pennsylvania American Water distribution system      Water Pressure: 53 psi

Shutoff Valve Location: Under white composite enclosure east of the vehicle exit lane

Controller: Rain Bird, Model ESP Modular

Controller Location: On interior wall in gatehouse

Solenoid Valve Box Location: Under white composite enclosure east of exit lane

#### **Irrigation Zones Characteristics:**

**Program A    Program B**

<b>No.</b>	<b>Description</b>	<b>No. of Heads</b>	<b>Type</b>	<b>Duration</b>	<b>Duration</b>
1	Turf rotors – fire access	10	Rotor	0 min. *	0 min.
2	Turf rotors – behind exit wall	9	Rotor	20	0
3	Bed spray - exit side	10	12" pop-up	15	10
4	Bed spray – island with flags	11	12" pop-up	15	10
5	Bed spray – 2 small islands	8	12" pop-up	15	10
6	Bed spray – entrance side	10	12" pop-up	15	10
7	Turf rotors – behind entrance wall	6	Rotor	20	0
8	Turf rotors – entrance curb	6	Rotor	20	0
9	Turf rotors – entrance middle	6	Rotor	20	0
10	Turf rotors – entrance at house	5	Rotor	20	0
11	Turf rotors – btwn wall & woods	4	Rotor	20	0
12	Turf rotors – at woods	6	Rotor	0 *	0

\* Set to zero minutes on a trial basis beginning July 10, 2018 to determine optimum irrigation needs

Program A Start time: 12:15 AM

Days per week: M/W/F

Program B start time: 5:30 AM

Days per week: Su/Tu/Th

# Principal System Components



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



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



Toro controller operates solenoid valves to either pressurize Sloan Clubhouse irrigation system or to fill Pond 1

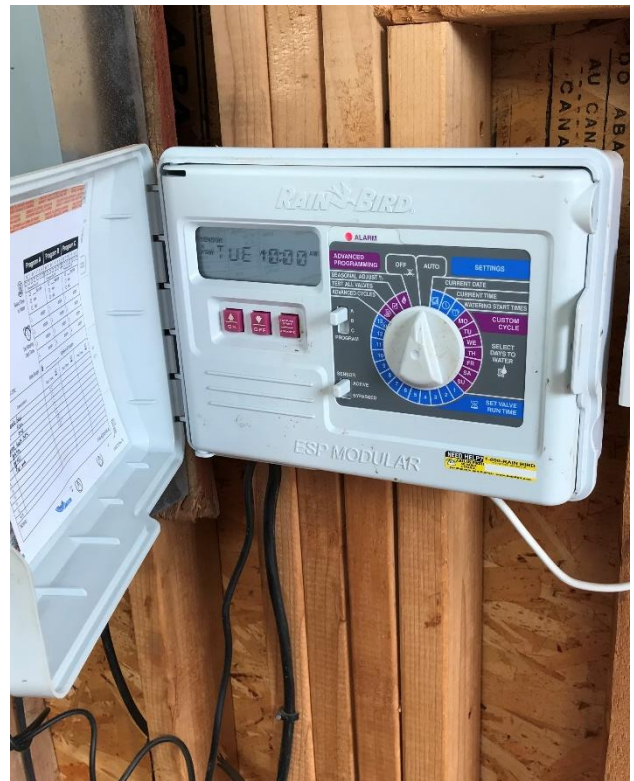


Rain Bird DC latching solenoid valve allows Pond 1 well water to pressurize Sloan irrigation system





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 (middle)

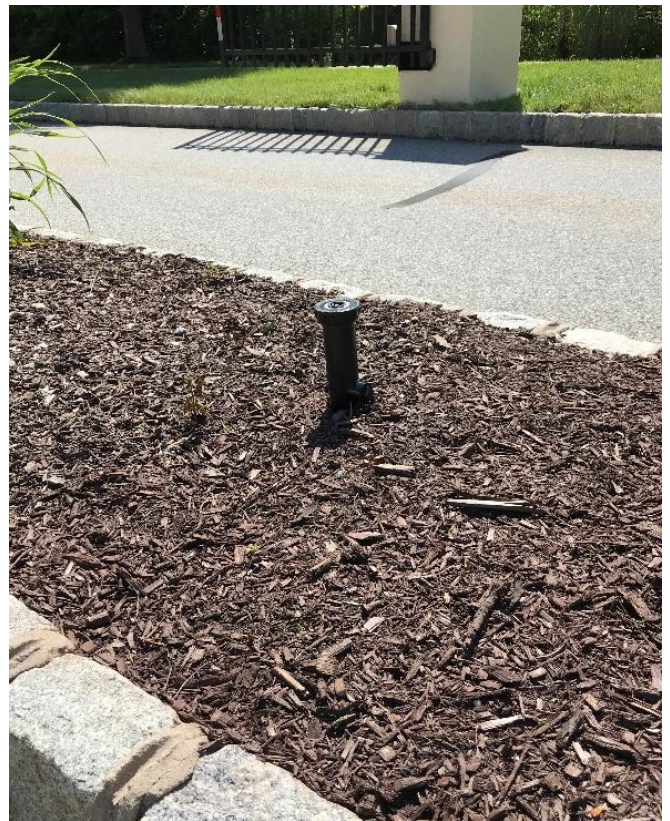


Another subsurface enclosure showing wiring for solenoid zone valves





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



Typical 12 inch pop-up spray head - depressurized



12 inch pop-up spray head - pressurized

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*Last updated: July 25, 2021*