

All irrigation work is to be performed by a qualified irrigation contractor. The owner or a full time employee of the contractor must hold and maintain a valid restricted plumber's license in the Town of Babylon for irrigation work. All additional plumbing work to connect proposed irrigation systems to the local utility must hold a valid plumber's license in the Town of Babylon and must be approved by the local water authority to make connections to their system. A copy of the licenses must accompany this bid. **There will be no exceptions made for these qualifications.**

The work under this bid shall be for the successful contractor to design, and supply all necessary labor, materials, equipment, etc. to install a complete irrigation system as directed by the Town of Babylon or its designee at locations throughout the Town. All irrigation systems will be connected to Reduced Pressure Zone (RPZ) devices as required. The contractor shall apply for all necessary permits to implement this work. The Town will, if required, pay for all fees for permits to the local water authority, utilizes, etc. The contractor shall design the entire irrigation system adequately irrigate the proposed landscaping and provide shop drawings for approval by the Town of Babylon's engineering division or its designee. Upon completion of all work, the contractor shall provide the Department of General Services with two (2) sets of As-built drawings for the irrigation system prior to final payment.

## **MATERIALS**

The irrigation system shall include, but not be limited to, connection to existing water service, excavation and trenching, valves (Gate, Inline, Ball, Zone, Quick Coupler, Drain), the valve boxes, irrigation pipe and fittings, irrigation sprinkler heads, mist heads, irrigation cable, both A/C and/or D/C irrigation controllers with rain sensors, drip lines, etc. The contractor shall provide double check valves and /or RPZ back flow device as per the local water authority. The contractor shall also provide lightening protection and grounding equipment, electric and/or battery operated controls. The Town of Babylon will bring the electric hook-up to the site, if it is not already available. The contractor shall provide to the Department of General Services two (2) sets of detailed as-built plans for any newly installed or renovated system.

**SPRINKLER/ MISTING HEADS:** Shall be heavy duty with a fully adjustable radius with built-in check valves as manufactured by Hunter, Rainbird , Toro or other approved equal.

**ROTARY HEADS:** Shall be heavy duty with a fully adjustable radius with built-in check valves as manufactured by Hunter, Rainbird , Toro or other approved equal.

**GATE VALVES:** Iron body gate valve with square nut shut off and curb box, 200 psi working pressure rated as manufactured by Hunter or other approved equal.

**BALL VALVES;** 2" bronze ball valve, full flow inline valve installed up flow of each zoned valve, 200 psi working pressure rated as manufactured by Hunter or other approved equal.

**ELECTRIC ZONE VALVES:** Heavy duty/commercial 2" brass globe style, 200 psi pressure rated, as manufactured by Hunter, Irritrol or other approved equal.

**QUICK COUPLER VALVES:** Shall have a 1" inlet and outlet mounted on a three (3) cell swing joint, provide 1" inch key and swivel hose ell for each valve Model No. 44RC as manufactured by Rainbird or other approved equal.

**MANUAL DRAIN VALVES:** Provide two (2) valves at each location. Coordinate location of each valve with the Town of Babylon. Valve shall be 1" ball valve, rising seat with 3" nipple on outlet and shall drain to daylight or surface water as per the Town of Babylon.

**SWING JOINT:** Shall be triple swing and installed on all sprinkler heads and quick couplers. Sprinklers shall have PVC unitized body. Three ell swing joints as manufactured by Dura, Inc. or other approved equal. Quick couplers shall have triple swing galvanized steel schedule 40 swing joint.

**IRRIGATION CABLE:** Shall be installed to have a separate control wire for each valve to the controller and be color code for power and common wire (white). Bundle and tape wire every ten feet. Where splices are necessary, provide 2 feet of wire above grade for inspection and repair. All splices shall be made at a valve box controller. All wire shall be UL #14-600 volt polyethylene jacketed, direct burial irrigation cable color coded for valves and white for common wire. NOTE: All controllers to have separate common wire.

**LIGHTENING PROTECTION:** Controllers shall include factory installed recommended lightening protection. All connections to rods shall be with Cad Weld Connectors. All rods shall be 5/8" diameter x 10" copper clad.

**CONTROLLERS:** Shall be electromechanical type or battery operated and housed indoors or be weatherproof and housed in an underground vault as recommended as manufactured by Hunter, Irritrol or other approved equal.

**PIPE SLEEVES:** Shall be provided where irrigation pipe crosses walkways, sidewalks, etc. Sleeve size shall be minimum of two sizes larger than pipe passing through, use at the minimum PVC class, 160 water pipe.

**DRIP HOSE:** As manufactured by Netafin or other approved equal.

TOTAL CONTROL CLOCK: As manufactured by Irritrol or other approved equal.

### **DETAILS**

Before beginning any work, the successful bidder shall submit a schedule outlining the work. The contractor will provide original specification sheets in triplicate of all proposed material and equipment to be used. Work may not proceed until the list of materials has been approved by the Town of Babylon. The contractor shall coordinate the work closely with the Town to avoid any misunderstandings and the help lessen the impact of construction. Contractor is to stake the area with a new irrigation system is to be installed and review the layout and obtain approval from the Town prior to the commencement any work.

Contractor to use a proper size width trencher or puller to set the irrigation pipe at the proper specified depth:

- a. Mainline pipe shall have a minimum 18 inches of cover soil.
- b. Lateral pipe shall have a minimum of 12 inches of cover soil
- c. Pipe shall be laid on undisturbed trench bottom
- d. Backfill with ten inches of soil containing no foreign matter. Soil is to be placed carefully around pipe and wire and tamped in place.
- e. Remainder of backfill shall be filled in six inch lifts and mechanically tamped to compaction until matching the adjacent area.

The contractor is to restore any disturbed grounds, walkways, etc. in kind around the irrigation work area. All pipes shall be cut with pipe cutting tools, square and true. Remove all burrs and clean ends before making connections. Snake pipe in trench to allow for expansion/contraction. When trenching must occur near trees or within drip lines, the contractor will prune roots and seal all roots one inch or larger.

The contractor will be responsible for all settlement for the entire warranty period. Two sawcuts will be made in paved areas and paving carefully removed, if necessary. After trench is made, the trench shall be mechanically compacted. Valve boxes shall be laid flush to grade, supported on brick and a minimum of four inches of washed pea gravel.

The controller must have maximum lightening/surge protection in conformance to manufacturer's instructions. Grounding must be completed as directed until the earth/ground installation is 10 OHMS and can be below this level. Adjust all sprinklers and zone pressure with pressure regulating or electric valves, if applicable. The contractor shall fill the system, bleed the system and monitor the initial start-up locate and repair leaks to prevent damage to the site.

The contractor shall start-up and test all zone valves for proper operation. The system must

be capable of irrigating the proposed area with a minimum of one and one half inches of water per week with watering cycles of twenty minutes per day.

In locations where the contractor is near or crossing other utilities (electric, water, gas telephone, cable, etc) or drainage systems, the contractor shall be responsible for calling for mark-out to the 1 Call Center and must dig by hand those locations so as not to cause any damage. Any damages will be repaired immediately at the contractor's own expense and to the satisfaction of the Town. The contractor shall deliver to the Dept. of General Services all warranties, guarantees, manuals, as-built drawings, etc, prior to payment.

The contractor shall note that the Town of Babylon will bring in all utility services to each site. The water will be a minimum of a two inch service with 70 psi and a flow rate of 50 to 60 g.p.m.

Payments shall be made based on the square foot prices noted on the bid proposal pages prices for the installation of new irrigation systems and shall include the cost of excavating, site restoration, all labor, materials and any and all equipment necessary to complete the work to the satisfaction of the Town.

Repairs or maintenance to existing systems shall be paid on a hourly basis plus up to 15% over cost for parts. Contractor must provide original invoices for all materials. Work shall also include connection to and with the approval of the local water authority. Excavation, trenching and site restoration, installation of RPZ backflow valve and or double check valve as per the local water authority, valves (Gate, Inline Ball, Zone, Quick Coupler, Drain) valve boxes, irrigation pipe and fittings, irrigation sprinkler heads, irrigation cable, irrigation controllers, batter or electric power, rain sensors, lightening protection and ground equipment, detailed as-built plans to the new and renovated irrigation system. All new installations and repairs to existing systems must be warrantyed for one year from the date of acceptance from the Town of Babylon for parts and labor.

The contractor should note that upon completion of the work, they shall provide to the Town a one year Maintenance Guarantee for the work completed for one year from the date of acceptance from the Town. The contractor shall also be responsible for the initial start-up and winterizing the system during the one year maintenance period.

This project is considered a public works project and as such, the contractor must comply with all the requirements of the New York State Department of Labor, including the submission of certified payroll forms with each request for payment. The Town also reserves the right to request copies of cancelled payroll checks and employee worksheets, etc . These requirements apply to the contractor and their subcontractors. Failure to comply with any of these regulations will result in payment being withheld. **NO EXCEPTIONS WILL BE MADE TO THESE REQUIREMENTS.**

Contractor must all provide Certificates of Insurance as per the attached requirements.

Any questions regarding the bid must be in submitted in writing to:

Kathy Lynch  
200 East Sunrise Highway  
Lindenhurst, NY 11757  
631-957-7434  
631-957-3052  
klynch@townofbabylon.com