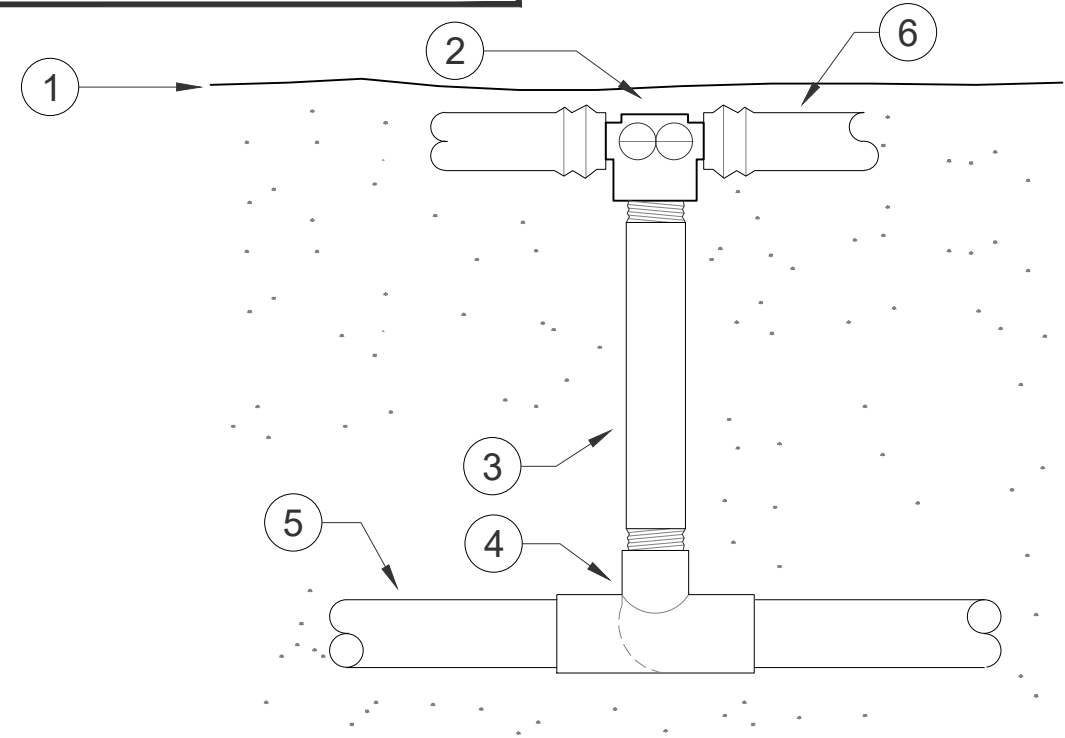
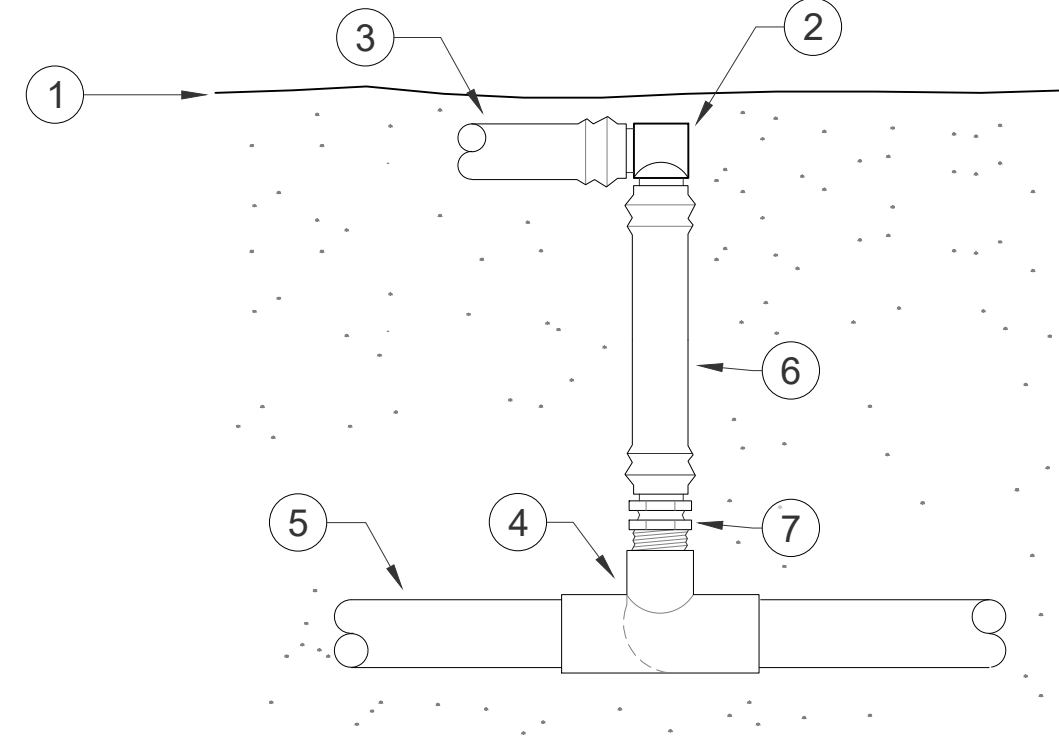


MAX 6.90 GPM FLOW PER RISER.
(230 FEET IN EACH DIRECTION)



- 1 FINISHED GRADE
- 2 HUNTER PLD-075-TB-TEE, BARB TEE x 3/4" FPT.
- 3 3/4" SCH-80 NIPPLE, LENGTH AS REQUIRED.
- 4 SCH-40 PVC TEE, (S x S x FPT).
- 5 PVC PIPE, DRIPLINE SUPPLY / EXHAUST HEADER.
- 6 DRIPLINE 2-INCHES BELOW FINISHED GRADE.

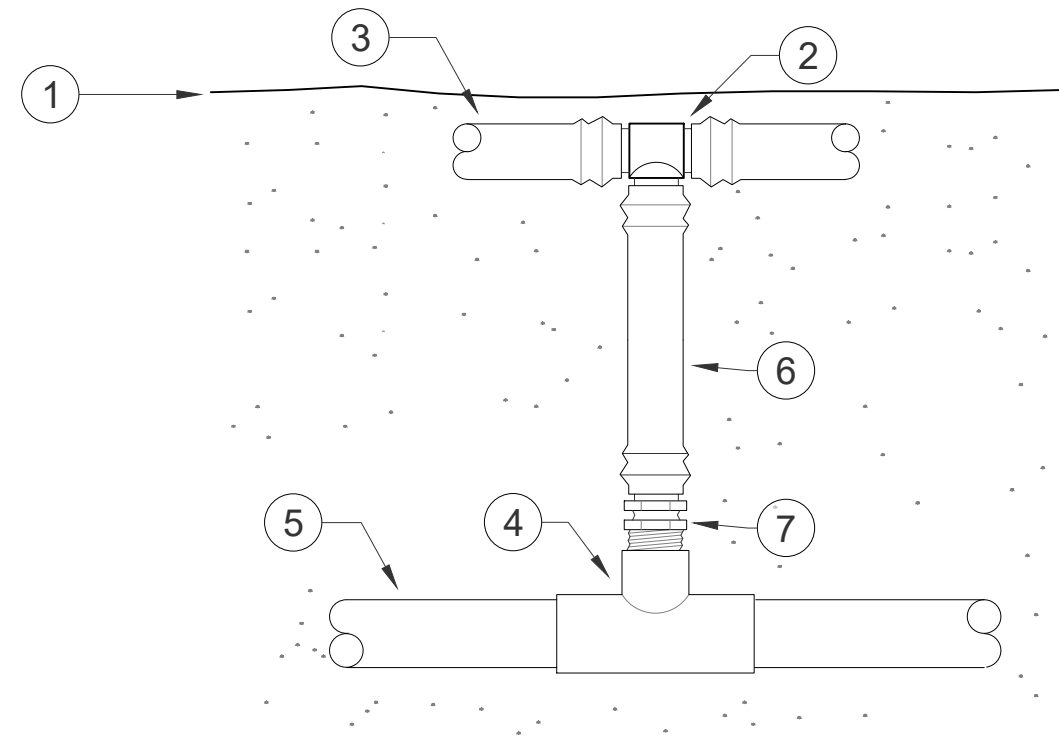
1 DRIPLINE SUPPLY HEADER CENTER FEED RISER
N.T.S. DRIPLINE SUPPLY HEADER CENTER FEED RISER



- 1 FINISHED GRADE
- 2 HUNTER PLD-ELB, ELBOW.
- 3 DRIPLINE, SEE SPECIFICATIONS FOR TYPE. PLACE 2-INCHES UNDER MULCH.
- 4 SCH-40 PVC 3/4" TEE, (S x S x FPT) OR 3/4" (S x FPT) ELBOW
- 5 PVC PIPE, DRIPLINE SUPPLY / EXHAUST HEADER.
- 6 BLANK TUBING.
- 7 HUNTER PLD-050 ADAPTOR.

MAX 3.45 GPM FLOW PER BLANK TUBING RISER. (230 feet tubing)

2 DRIPLINE SUPPLY / EXHAUST HEADER CONNECTION
N.T.S. DRIPLINE SUPPLY / EXHAUST HEADER CONNECTION



- 1 FINISHED GRADE
- 2 HUNTER PLD-TEE.
- 3 DRIPLINE, SEE SPECIFICATIONS FOR TYPE. PLACE 2-INCHES BELOW FINISHED GRADE.
- 4 SCH-40 PVC 3/4" TEE, (S x S x FPT).
- 5 PVC PIPE, DRIPLINE SUPPLY / EXHAUST HEADER.
- 6 BLANK TUBING.
- 7 HUNTER PLD-050 ADAPTOR.

MAX 3.45 GPM FLOW PER BLANK TUBING RISER. (230 feet tubing)

3 DRIPLINE SUPPLY / EXHAUST HEADER CONNECTION
N.T.S. DRIPLINE SUPPLY / EXHAUST HEADER CONNECTION

DRIP SPECIFICATIONS:

1. DRIP TUBING; HUNTER HDL-CV-GOP, ROW SPACING 12-INCHES. DRIP GRID LAY-OUT IS BASED ON 25 PSI. ALL DRIP ZONE VALVES HAVE A HUNTER ACCU SYNC PRESSURE REGULATOR (AS-ADJ) ON SOLENOID VALVE.
2. INSTALL DRIP SYSTEM IN THE FOLLOWING ORDER: A). WITH ALL MAINLINE AND IT'S ASSOCIATE EQUIPMENT COMPLETELY INSTALLED, FLUSH MAINLINE TILL FREE AND CLEAR OF DEBRIS. B). INSTALL ALL LATERALS TO THE VARIOUS DRIP GRIDS, AND SUPPLY HEADERS WITH RISERS EXTENDED ABOVE GROUND. CENTER FEED RISERS, TEMPORARY EXTEND NIPPLES WITH PIPE AND COUPLINGS (DO NOT GLUE). FLUSH TILL FREE AND CLEAR OF DEBRIS, TEMPORARY CAP NIPPLES, SEAL BLANK TUBING (RISERS) WITH TAPE. C). INSTALL EXHAUST HEADERS - RISERS - FLUSH POINTS. D). INSTALL DRIP GRID, STAPLE TUBING PER DETAIL #5, CONNECT DRIP TUBING TO SUPPLY HEADER RISERS. FLUSH TILL FREE AND CLEAR OF DEBRIS. E). CONNECT DRIP GRID TO EXHAUST HEADER RISERS, FLUSH SYSTEM USING "FLUSH VALVE". PVC DISCHARGE AND EXHAUST HEADERS MUST BE BURIED WITH MINIMUM 6" COVER. MULCH IS NOT CONSIDERED AS COVERAGE.
3. INSTALL OPERATION INDICATORS "OI" WITHIN 12-INCHES OF FLUSH POD, ONE AT END OF EACH DRIP GRID. SEE DETAIL #6. ACTIVATE DRIP ZONE, ENSURE ALL OPERATION INDICATORS ARE FULLY EXTENDED, ADJUST STREAM SPRAY TO WHERE IT CAN EASILY BE SEEN BY MAINTENANCE PERSON.
4. PRESSURE TEST WITH OWNERS REPRESENTATIVE PRESENT; PER ZONE, TEMPORARY INSTALL (2) PRESSURE GAUGES (LIQUID FILLED PRESSURE GAUGES) ON (2) FLUSH POINTS, (1) ON LARGEST GRID "FLUSH POINT" AND THE OTHER ON FARTHEST GRID "FLUSH POINT". ACTIVATE ZONE, AFTER FLOW HAS STABILIZED, VERIFY ALL ZONE OPERATION INDICATORS ARE FULLY EXTENDED, CHECK PRESSURE ON BOTH GAUGES, PRESSURE MUST BE 20 PSI OR HIGHER TO PASS TEST. IF TEST FAILS, CONTRACTOR TO LOCATE AND CORRECT PROBLEM AND RETEST. IT IS IN THE CONTRACTORS BEST INTEREST TO PERFORM HIS OWN TEST BEFORE HE CALLS OWNERS REPRESENTATIVE PRESENTS TO AVOID RE-INSPECTION FEE'S.
5. PRESSURE TEST RESULTS SHALL BE NOTED AS-BUILD DRAWING BY THE "FLUSH VALVE" WHERE TESTS WAS TAKEN. ALL "FLUSH VALVE" LOCATIONS SHALL BE INCLUDED IN AS-BUILD DRAWINGS.

Scale: 1" = 16'

Design Date: 01-04-2023

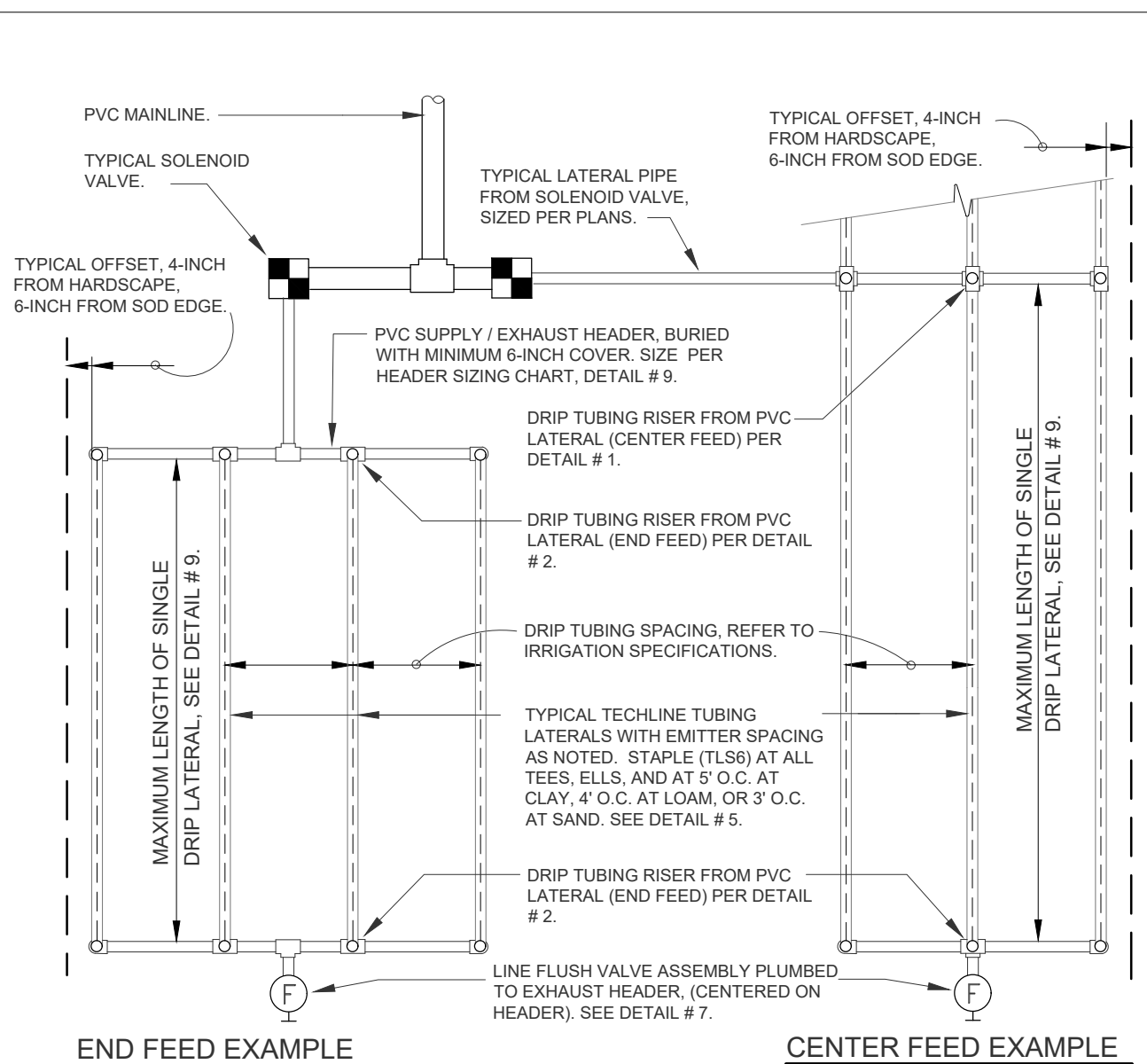
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Last Date Modified

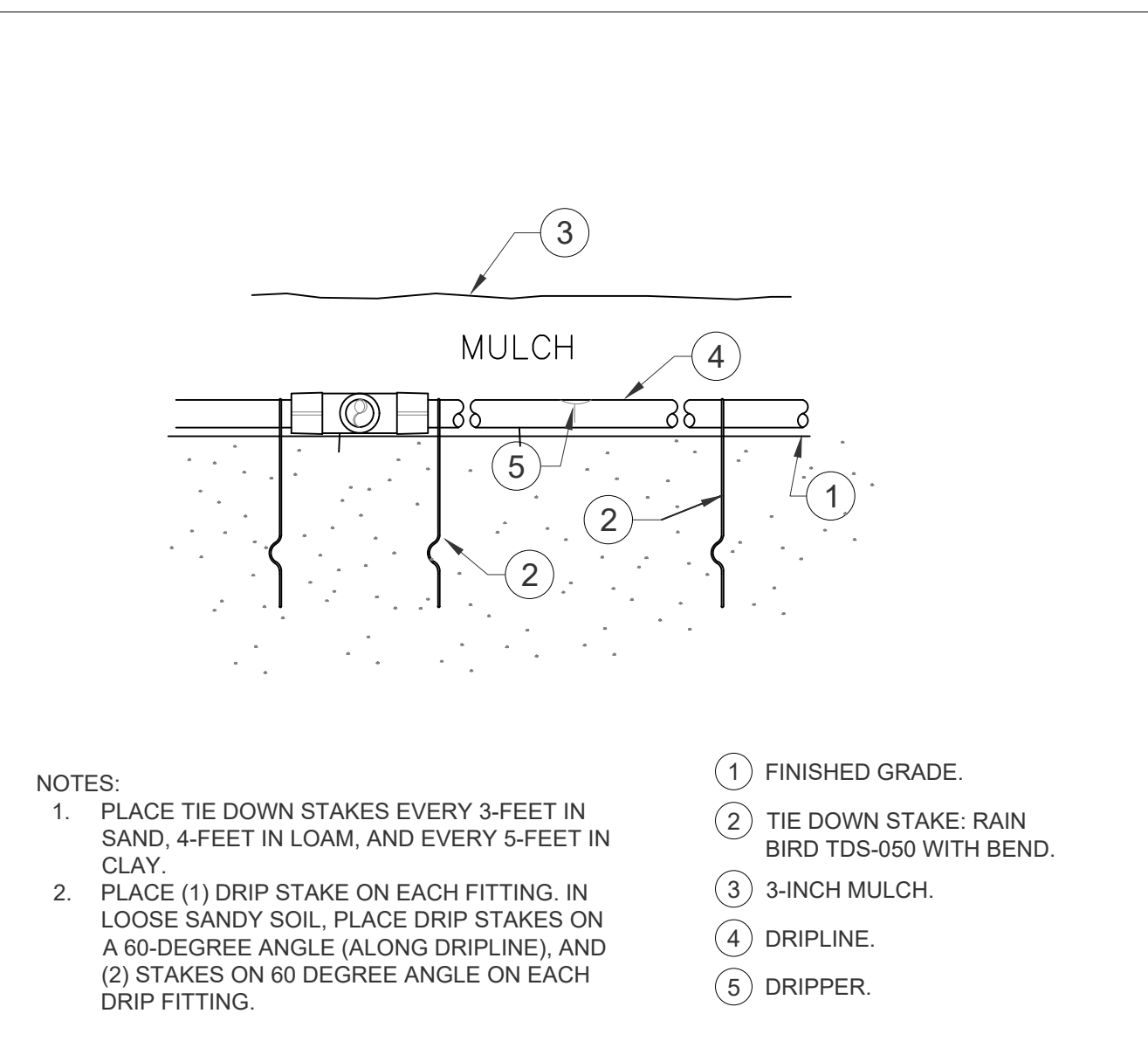
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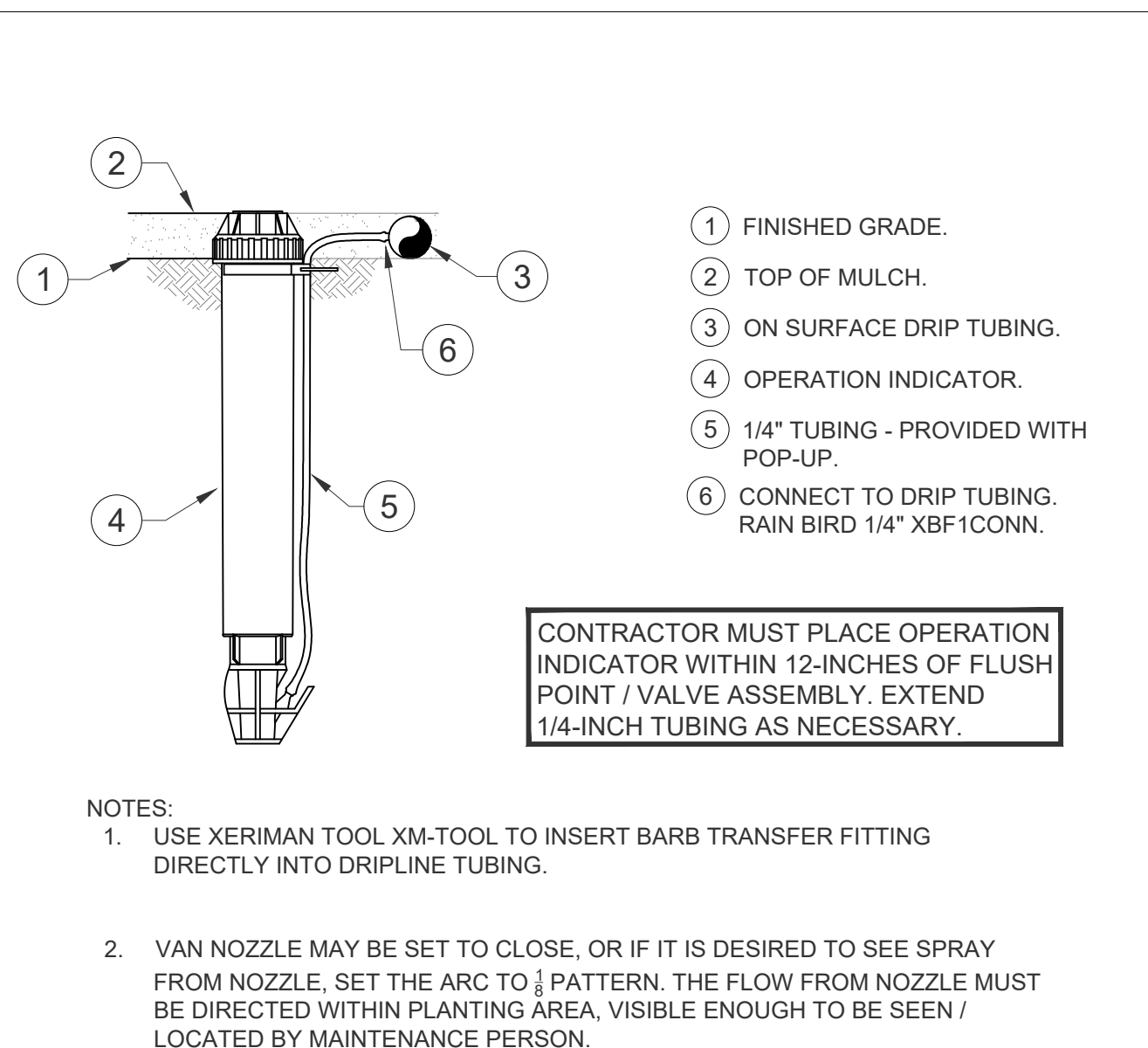
IRRIGATION
DRIP DENTALS



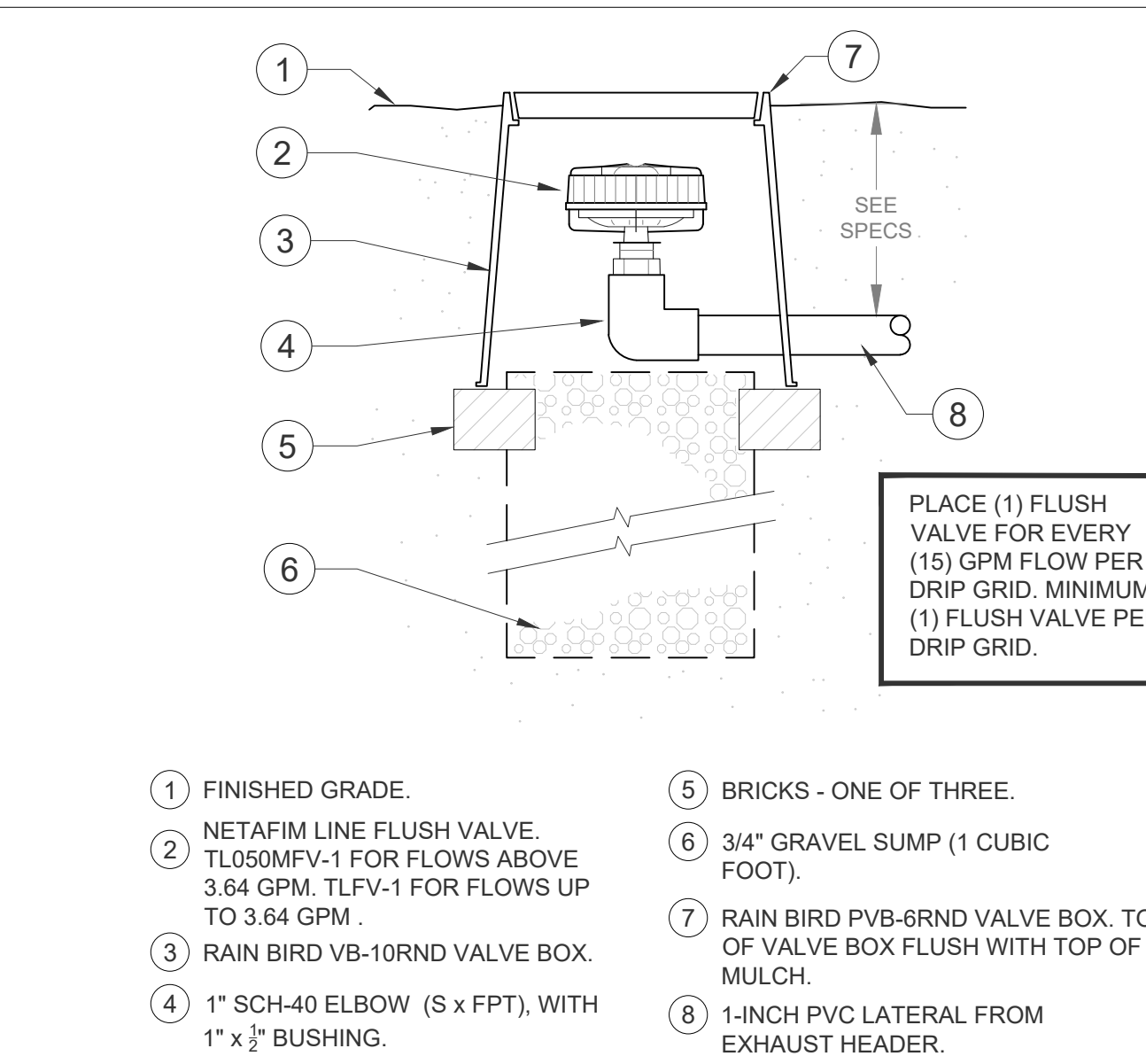
4 GENERAL DRIP EQUIPMENT PLACEMENT
N.T.S.



5 RAIN BIRD TDS-050 (WITH BEND) DRIP STAKES
N.T.S.



6 RAIN BIRD OPERATION INDICATOR
N.T.S.



7 NETAFIM FLUSH VALVE - PLUMBED TO PVC
N.T.S.

HDL-COP DRIPLINE GENERAL GUIDELINES FOR WATERING TIME

	TURF			SHRUB & GROUND COVER		
	CLAY	LOAM	SANDY	CLAY	LOAM	SANDY
DIPPER FLOW (GPH)	0.40	0.60	0.90	0.40	0.60	0.90
DIPPER INTERVAL	24"	12"	12"	24"	18"	12"
LATERAL (ROW) SPACING	18"-24"	12"	9"-12"	18"-24"	18"-24"	12"-18"
APPLICATION RATE (IN/HR)	.22-.17	.96	1.93-1.44	.22-.17	.43-.32	1.44-.96
TIME TO APPLY 1/4"	68-88	16	8-10	68-88	35-47	10-16

8 HUNTER HDL-COP DRIPLINE TABLE -1
N.T.S.

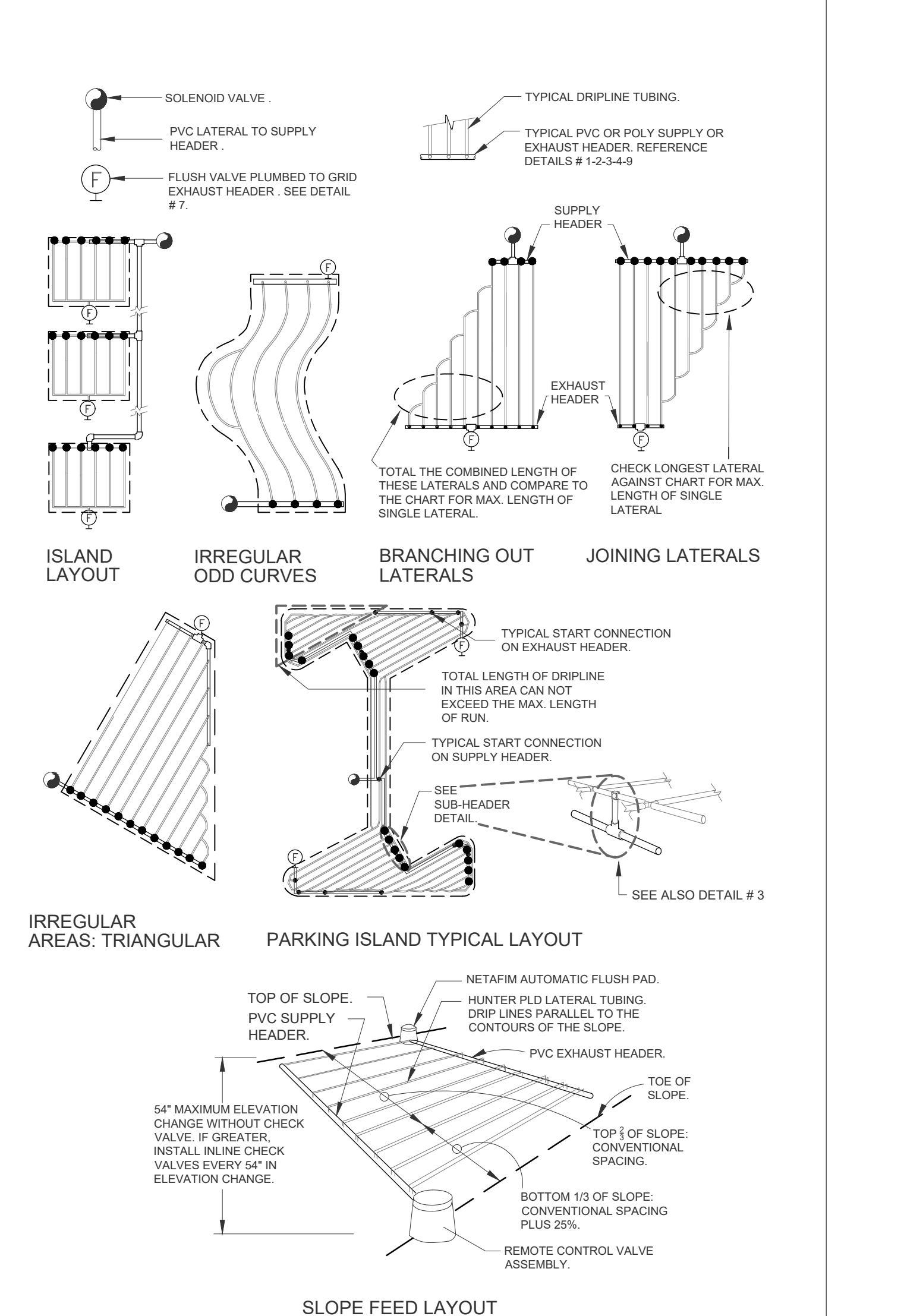
HUNTER HDL-COP MAXIMUM LENGTH OF SINGLE LATERAL (FEET)

DRIPPER SPACING	12"			18"			24"		
	0.4	0.6	0.9	0.4	0.6	0.9	0.4	0.6	0.9
DRIPPER FLOW RATE (GPH)	15	285	236	164	404	333	233	423	292
INLET PRESSURE (PSI)	20	339	280	192	475	395	273	501	348
	30	411	339	236	582	482	333	610	419
	40	463	385	267	657	545	376	688	479

HUNTER HDL-COP FLOW PER 100 FEET

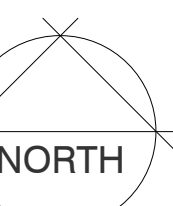
DRIPPER SPACING	0.4 GPH DRIPPER			0.6 GPH DRIPPER			0.9 GPH DRIPPER		
	GPH	GPM	GPM	GPH	GPM	GPM	GPH	GPM	GPM
12"	-	-	40.00	0.67	60.00	1.00	90.0	1.50	
18"	-	-	26.67	0.44	40.00	0.67	59.9	0.99	
24"	-	-	20.00	0.33	30.00	0.50	45.0	0.75	

9 HUNTER HDL-COP DRIPLINE TABLE - 2
N.T.S.



10 TYPICAL DRIP GRID LAY-OUT
N.T.S.

Lofts at Bahama Village
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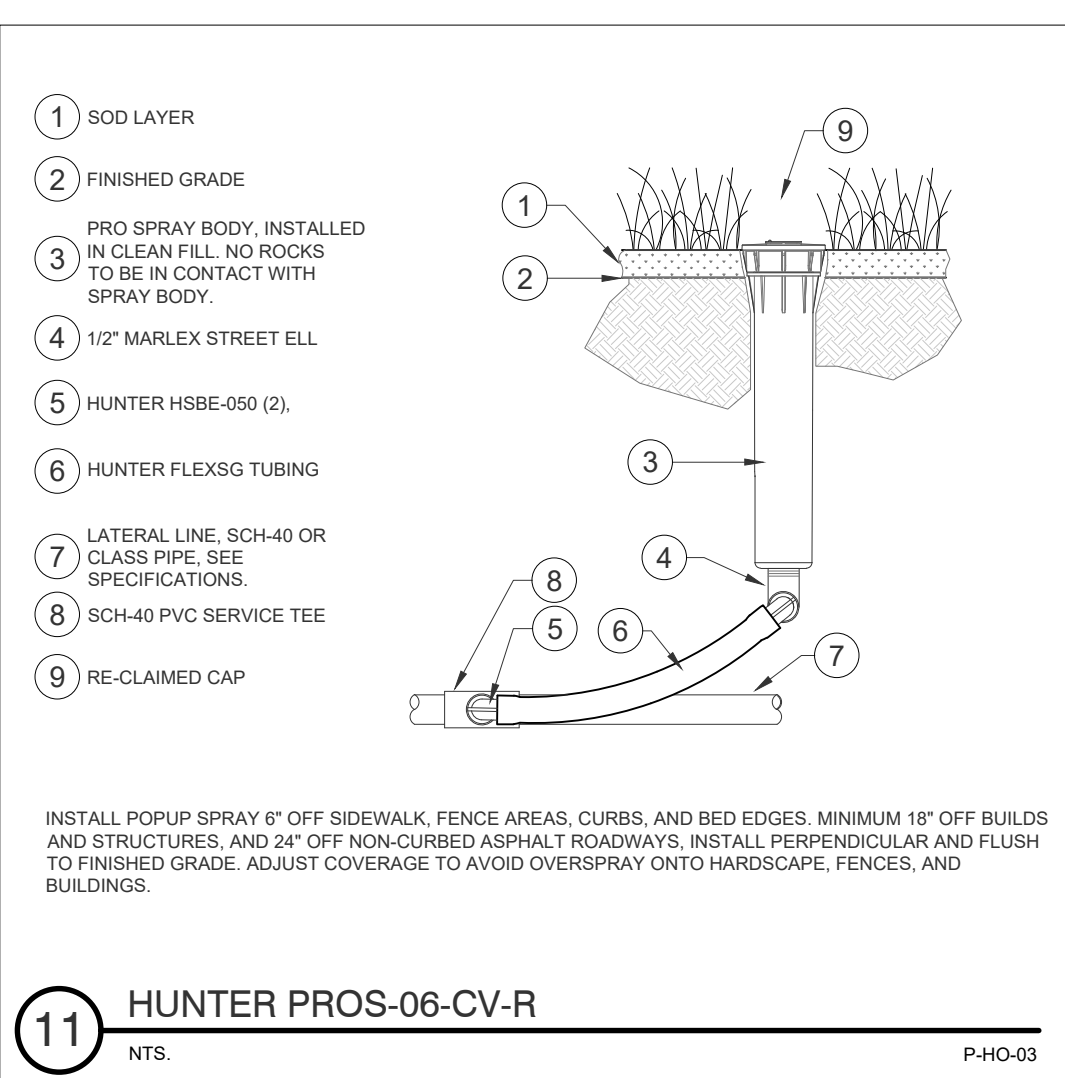
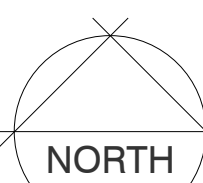


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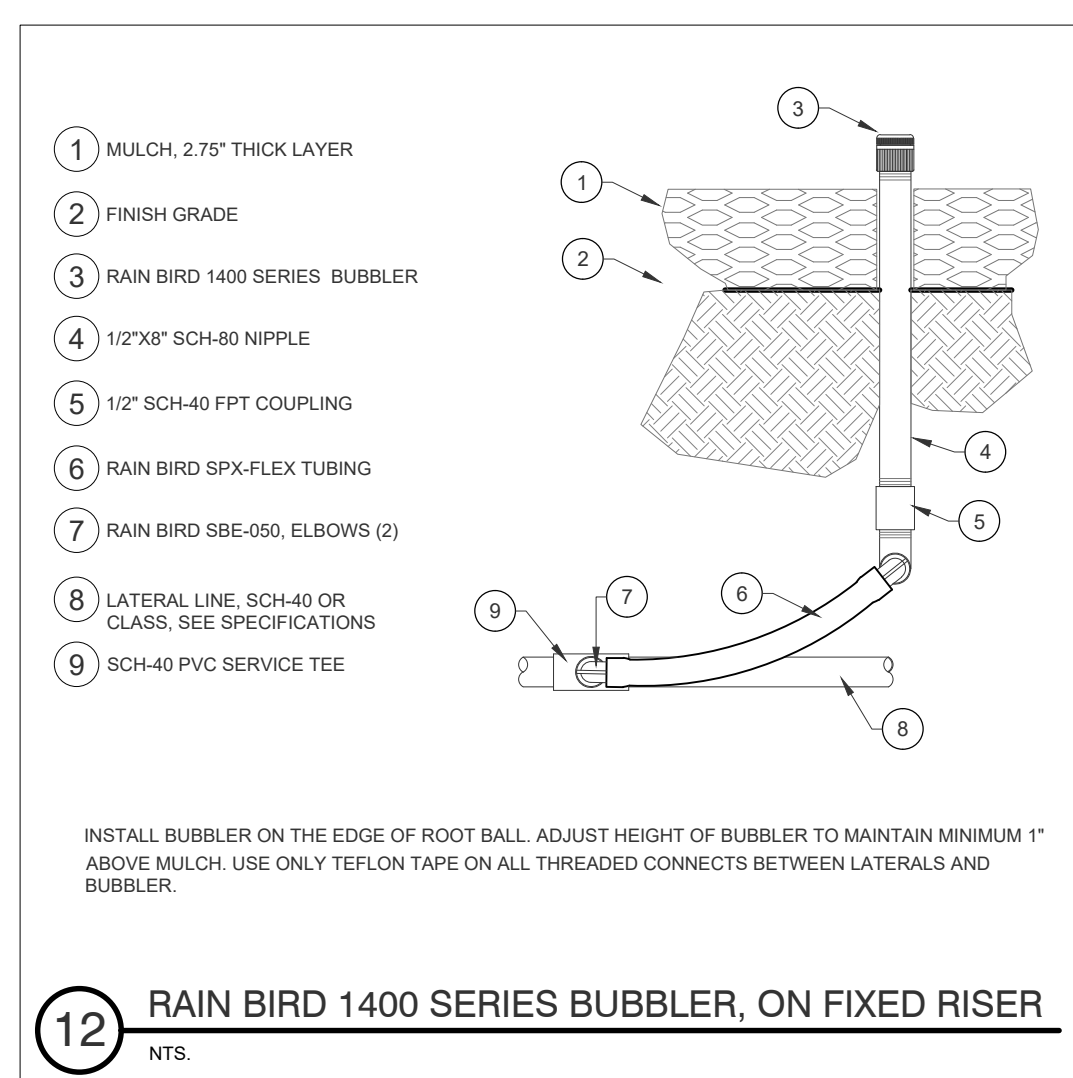
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IRRIGATION DETAILS - LEGEND

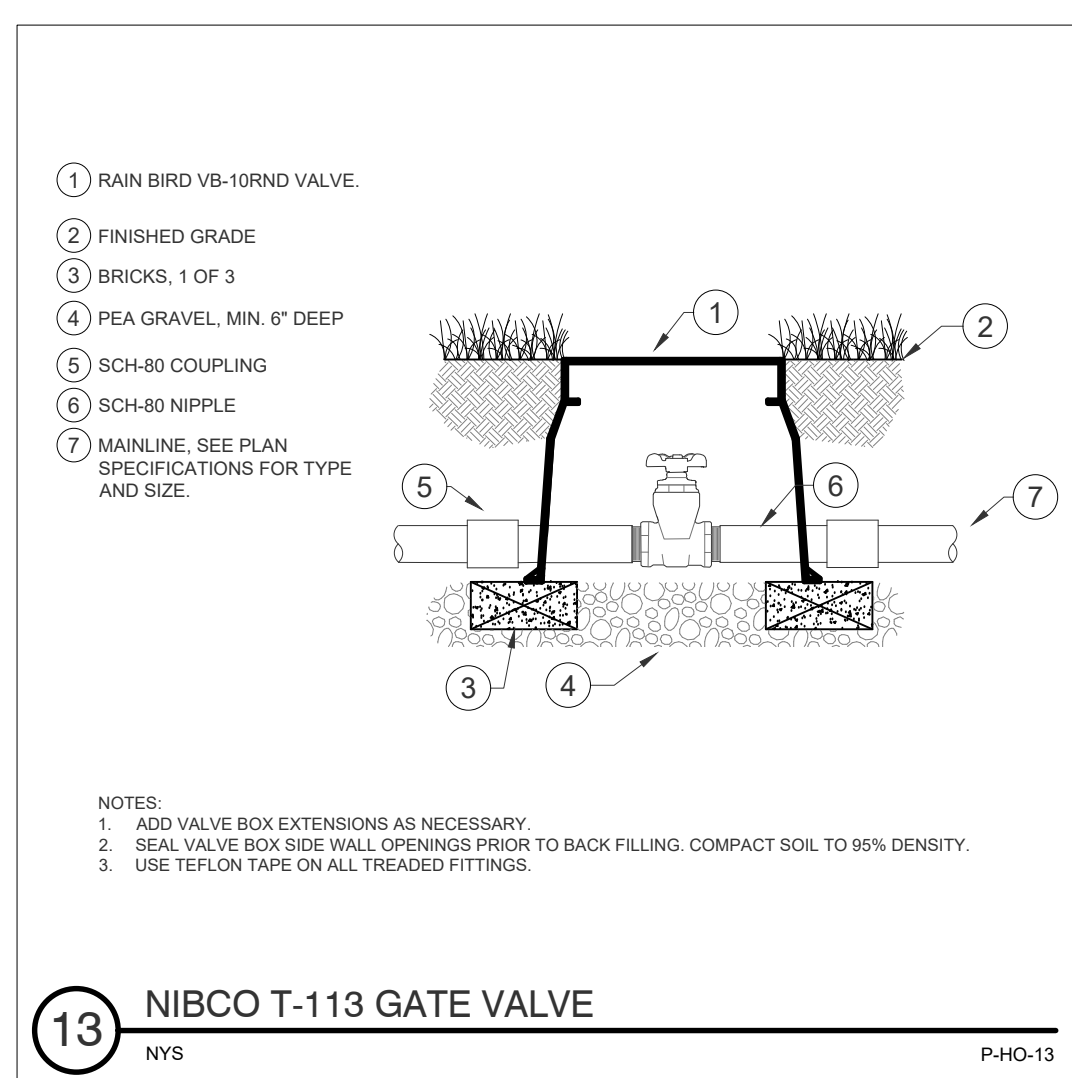
Lofts at Bahama Village
Fort Street, Key West, FL. 33040



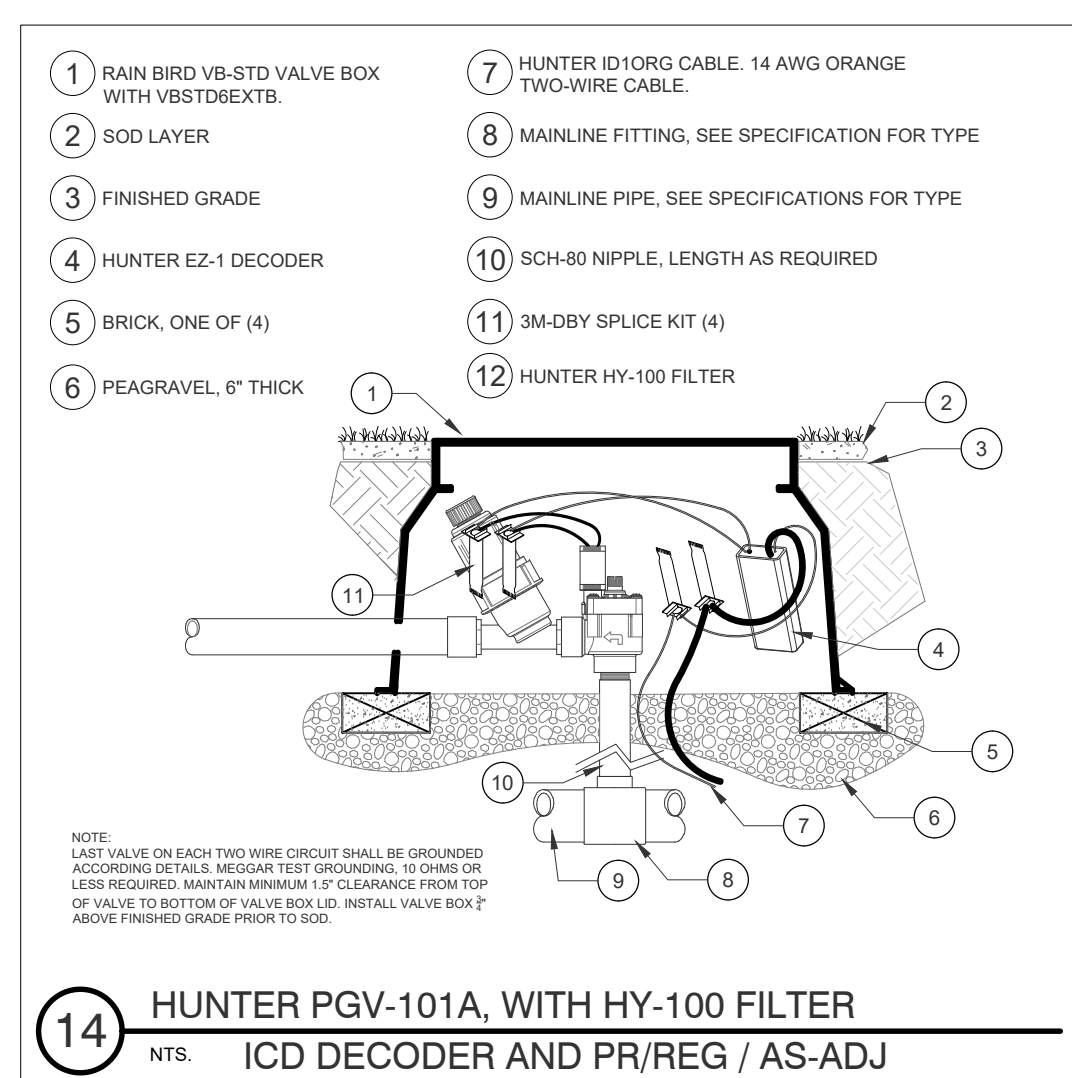
11 HUNTER PROS-06-CV-R
NTS. P-HO-03



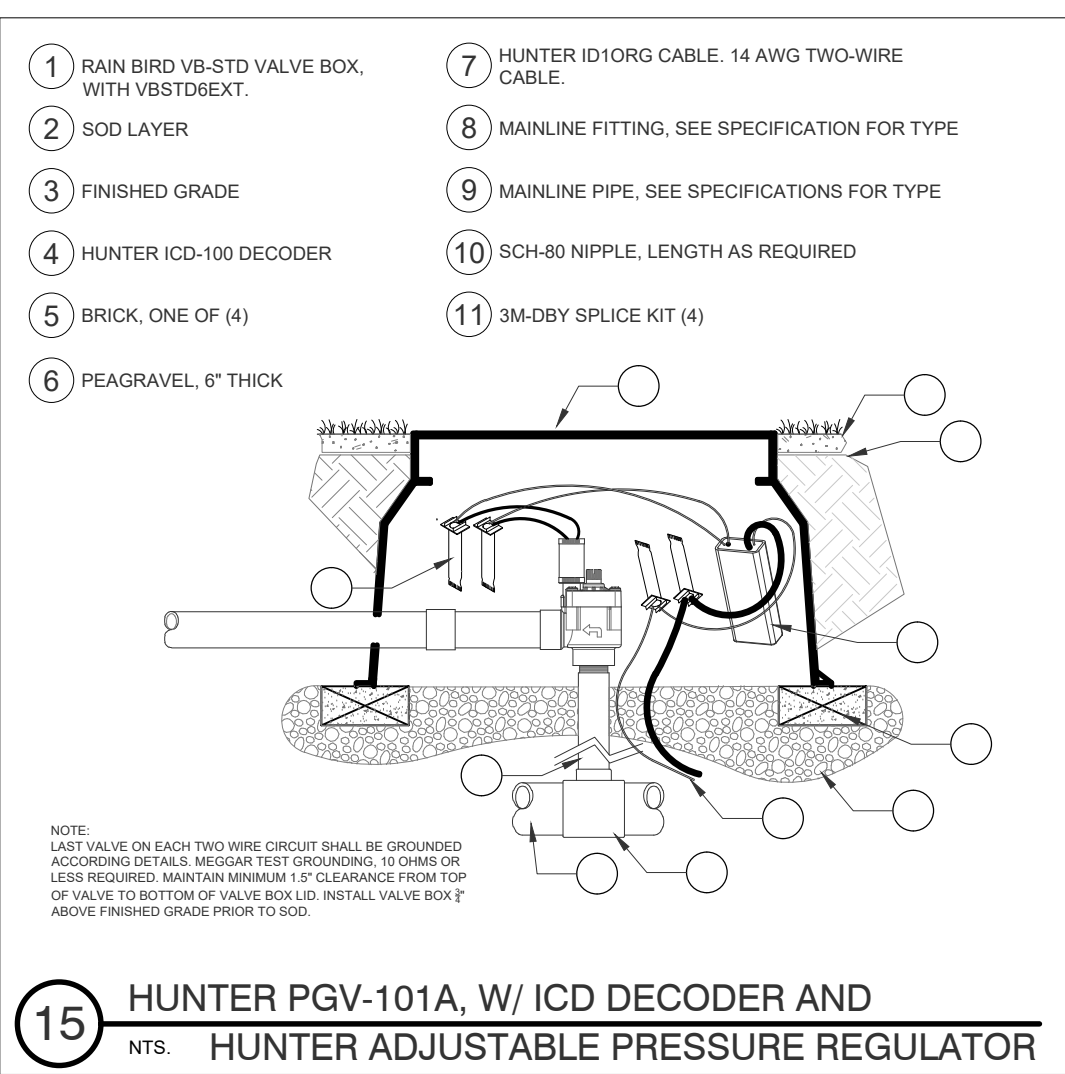
12 RAIN BIRD 1400 SERIES BUBBLER, ON FIXED RISER
NTS.



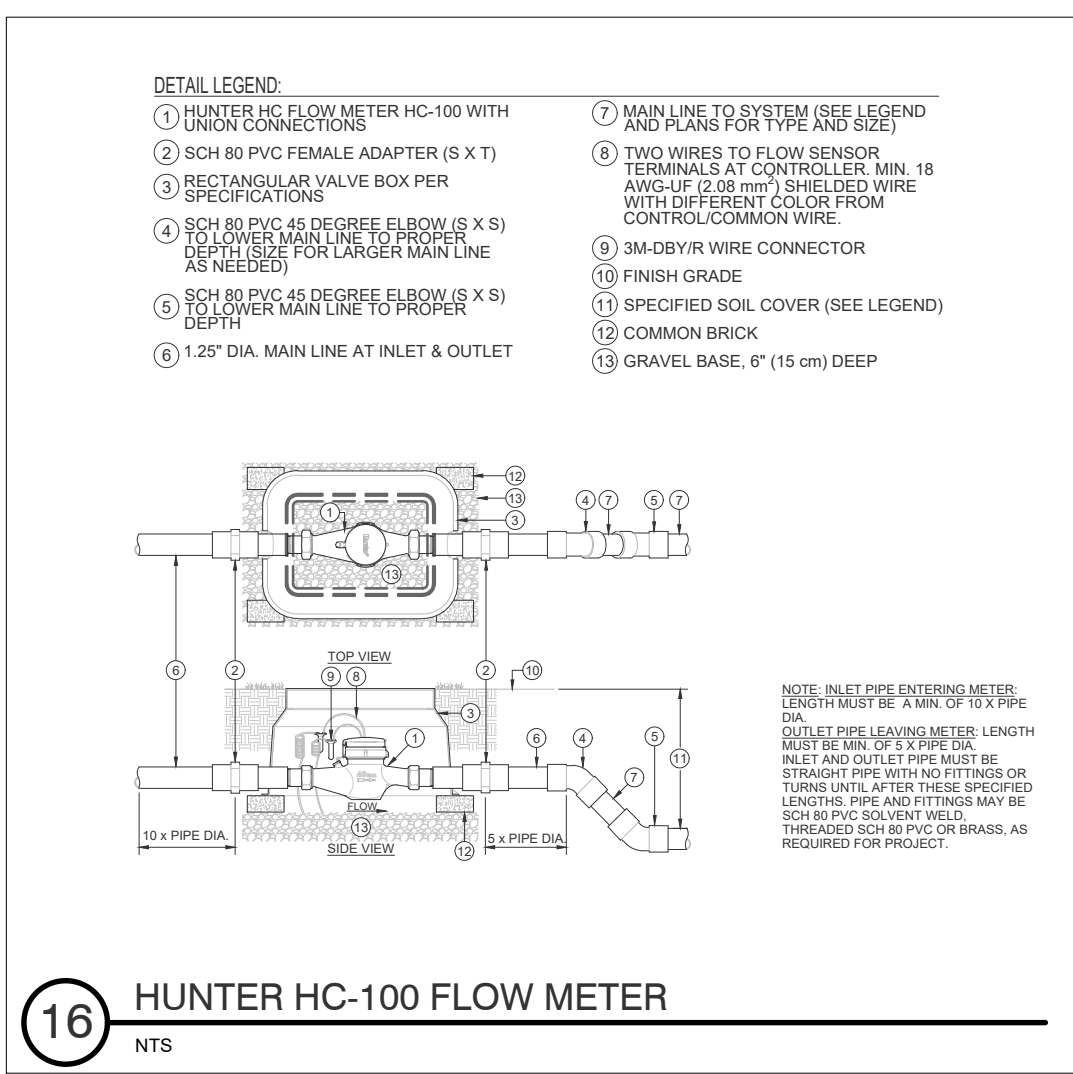
13 NIBCO T-113 GATE VALVE
NTS. P-HO-13



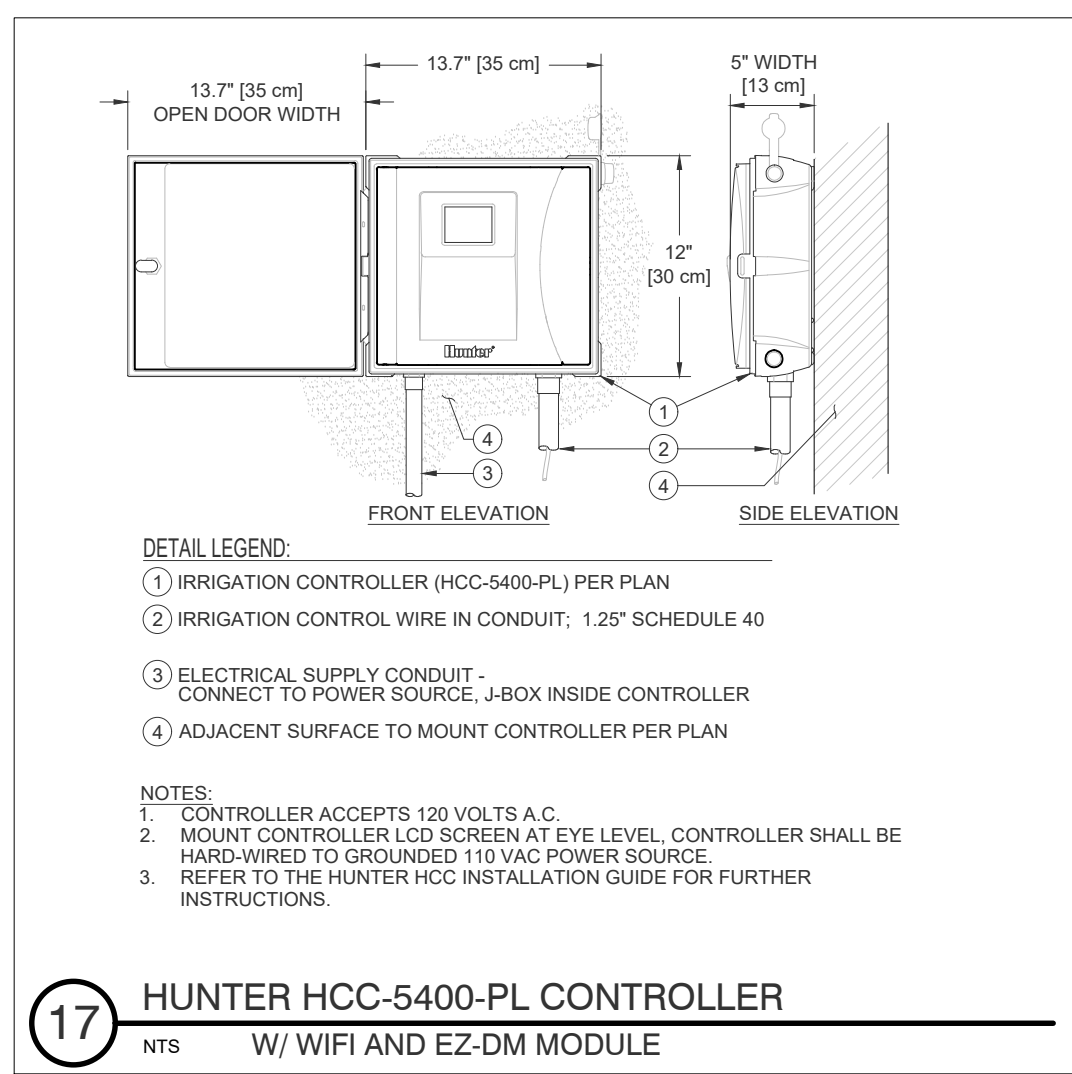
14 HUNTER PGV-101A, WITH HY-100 FILTER
NTS. ICD DECODER AND PR/REG / AS-ADJ



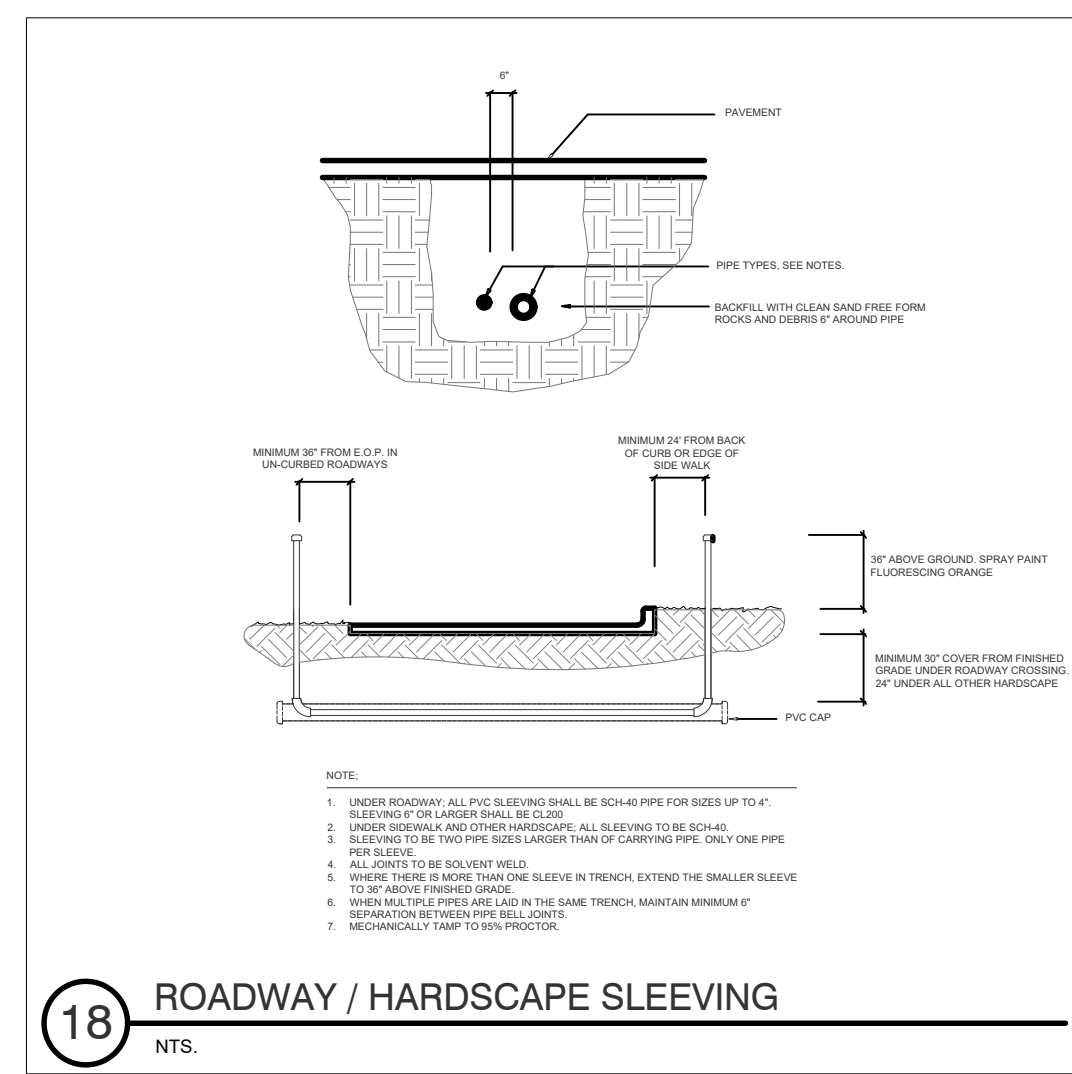
15 HUNTER PGV-101A, W/ ICD DECODER AND HUNTER ADJUSTABLE PRESSURE REGULATOR
NTS.



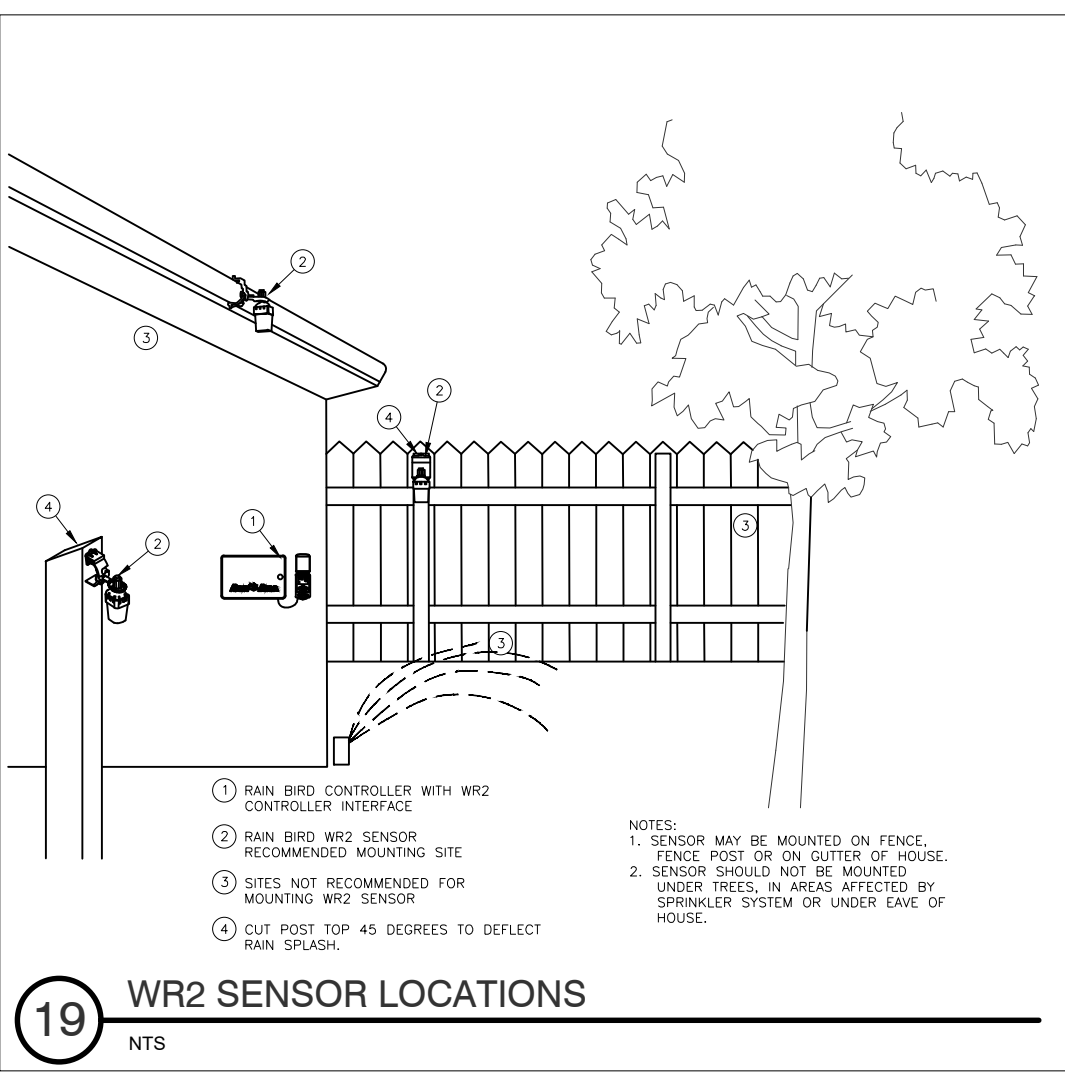
16 HUNTER HC-100 FLOW METER
NTS.



17 HUNTER HCC-5400-PL CONTROLLER
NTS. W/ WIFI AND EZ-DM MODULE



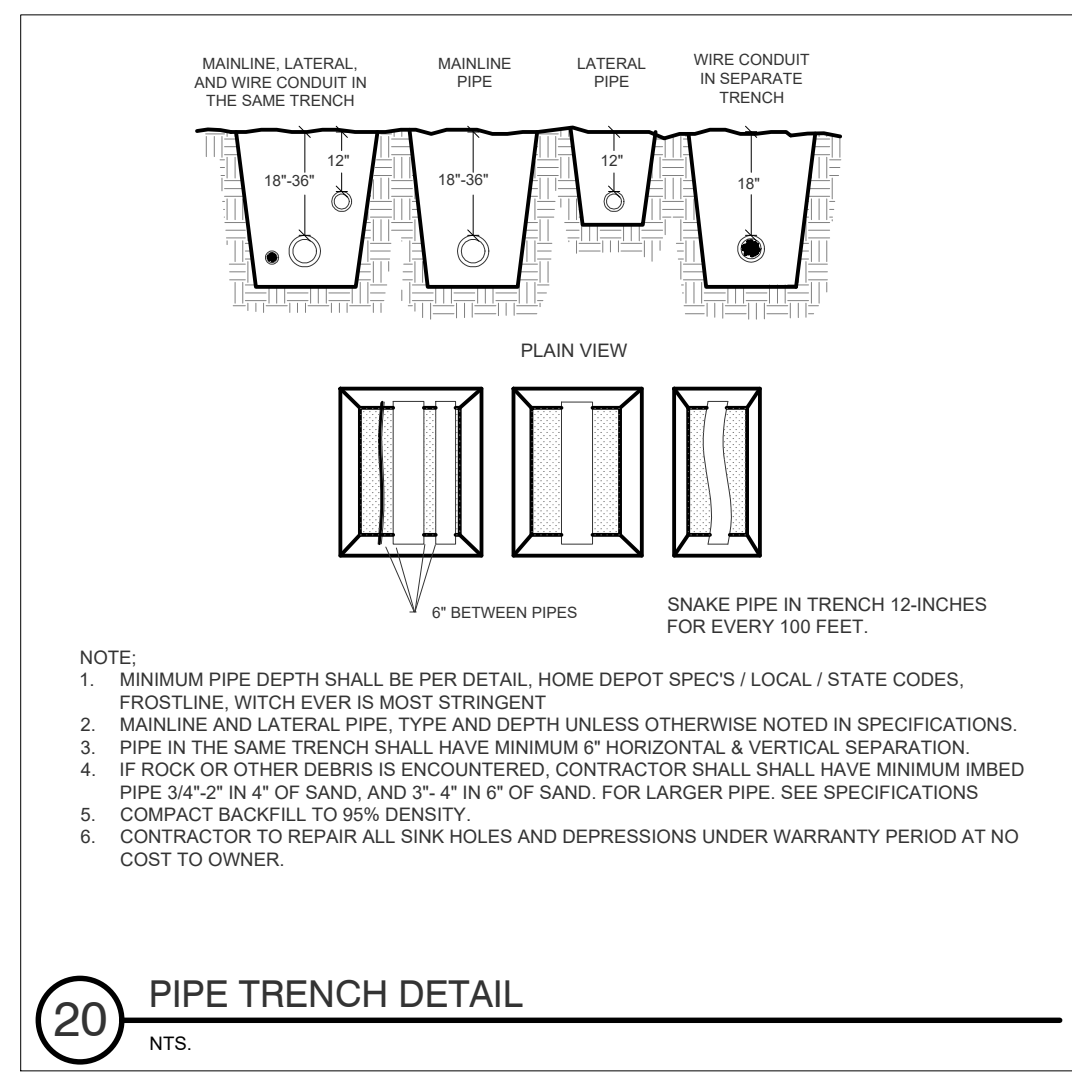
18 ROADWAY / HARDSCAPE SLEEVING
NTS.



19 WR2 SENSOR LOCATIONS
NTS.

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PSI @ 100'	PRG/PI
1	Hunter PGV-101A	1"	Bubbler	4	28.5	36.3	n/a
2	Hunter PGV-101A	1"	Area for Dripline	7.92	27.1	35.0	1.24 in/h
3	Hunter PGV-101A	1"	Turf Rotary	17.04	33.0	41.8	0.38 in/h
4	Hunter PGV-101A	1"	Area for Dripline	18.03	28.4	37.4	1.24 in/h
5	Hunter PGV-101A	1"	Turf Spray	18.39	24.2	30.7	1.58 in/h
6	Hunter PGV-101A	1"	Turf Rotary	15.55	33.8	43.5	0.38 in/h
7	Hunter PGV-101A	1"	Area for Dripline	20.55	28.6	36.6	1.24 in/h
8	Hunter PGV-101A	1"	Area for Dripline	11.8	28.1	38.1	1.24 in/h
9	Hunter PGV-101A	1"	Area for Dripline	8.25	26.4	36.4	1.24 in/h
10	Hunter PGV-101A	1"	Bubbler	15	28.5	38.6	n/a
11	Hunter PGV-101A	1"	Area for Dripline	17.99	28.2	38.3	1.24 in/h
12	Hunter PGV-101A	1"	Bubbler	10	29.3	39.4	n/a
13	Hunter PGV-101A	1"	Area for Dripline	10.07	27.8	37.7	1.24 in/h
14	Hunter PGV-101A	1"	Area for Dripline	15.77	27.4	36.0	1.24 in/h
15	Hunter PGV-101A	1"	Area for Dripline	9	28.6	37.2	1.24 in/h
16	Hunter PGV-101A	1"	Bubbler	8	28.3	36.7	n/a
17	Hunter PGV-101A	1"	Turf Spray	10.53	26.7	34.9	1.52 in/h
18	Hunter PGV-101A	1"	Area for Dripline	18.48	31.0	38.6	1.24 in/h
19	Hunter PGV-101A	1"	Turf Rotary	17.32	32.7	40.2	0.49 in/h
20	Hunter PGV-101A	1"	Turf Spray	16.71	27.6	42.2	1.27 in/h
21	Hunter PGV-101A	1"	Turf Spray	7.15	27.0	41.6	0.47 in/h
22	Hunter PGV-101A	1"	Turf Spray	12.6	26.2	34.4	1.24 in/h
23	Hunter PGV-101A	1"	Bubbler	15	28.2	41.2	n/a
24	Hunter PGV-101A	1"	Area for Dripline	11.34	27.3	38.5	1.24 in/h
25	Hunter PGV-101A	1"	Area for Dripline	4.11	28.1	39.4	1.24 in/h
26	Hunter PGV-101A	1"	Area for Dripline	13.56	27.9	41.2	1.24 in/h
27	Hunter PGV-101A	1"	Turf Spray	11.15	26.4	34.7	1.54 in/h
28	Hunter PGV-101A	1"	Bubbler	3	26.5	34.6	n/a
29	Hunter PGV-101A	1"	Area for Dripline	10.49	26.8	38.4	1.24 in/h
30	Hunter PGV-101A	1"	Area for Dripline	16.94	26.7	38.3	1.24 in/h



20 PIPE TRENCH DETAIL
NTS.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
④ ⑥ ⑧ ⑩ ⑫ ⑮ ⑰	Hunter PROS-06-PR330-CV Adj Series Turf Spray, 6in. Pop-Up. With Drain Check Valve. Co-molded niper seal with UV Resistant Material.	
⑩ ⑫ ⑮	Hunter MP2000 PROS-06-PR330-CV Turf Rotator, 6in. pop-up with factory installed check valve, pressure regulated to 30 psi, MP Rotator nozzle on PR330 body, K=Blue adj arc 90-210, G=Green adj arc 210-270, R=Red 360 arc.	
⑩ ⑫ ⑮	Hunter MP3000 PROS-06-PR330-CV Turf Rotator, 6in. pop-up with factory installed check valve, pressure regulated to 30 psi, MP Rotator nozzle on PR330 body, B=Blue adj arc 90-210, Y=Yellow adj arc 210-270, A=Gray 360 arc.	
⑮ ⑰ ⑲ ⑳	Hunter PCB Flood Bubbler, 1/2in. FIPT.	
Ⓢ	Netafim TL050MFV-1 Automatic flush valve, 1/2in. male pipe thread.	59
Ⓣ	Rain Bird OPERIND Drip System Operation Indicator, stem rises 6in. for clear visibility when drip system is charged to a minimum of 20psi. Includes 16in. of 1/4in. distribution tubing with connection fitting pre-installed.	40
Ⓤ	Hunter HDL-COP HDL-09-12-CV; Hunter Dripline w/ 0.9 GPH emitters at 12" O.C. Check valve, dark brown tubing w/ black striping. Dripline laterals spaced at 14" apart, with emitters offset for triangular pattern. Install with Hunter PLD barbed or PLD-LOG fittings.	18,121 l.f.
Ⓡ	Hunter PGV-101A 1in. Plastic Electric Remote Control Valve, Female NPT Inlet/Outlet. Angle Configuration With Flow Control.	
Ⓢ	Nibco T-113 Class 125 bronze gate shut off valve with wheel handle, same size as mainline pipe diameter at valve location.	
Ⓣ	Propose Zurn T20A 1" w/ 1.25" piping Pressure Vacuum Breaker, provide -installed by others.	
Ⓤ	Hunter HCC-3200-PL 32 Station Outdoor Wi-Fi enabled, full-functioning controller with touchscreen & three 1CM-300 Module. Commercial Use. Plastic Cabinet.	
Ⓡ	Hunter WRF-GLIK Rain/freeze Sensor, install within 1000 ft of controller, in line of sight. Mount as noted. Gutter Mount.	
Ⓢ	Hunter HC-100-FLOW 1in. Flow meter for use with Hydramise enabled controller to monitor flow and provide system alerts. Also functions as stand alone flow totalizer/sub meter.	
Ⓣ	Hunter HY-100 1in. MPT x MPT threaded inlet and outlet filter with 150 mesh stainless steel screen	
Ⓤ	Proposed new Water Meter (by others) 1" potable water meter w/minimum 1.25" service line	

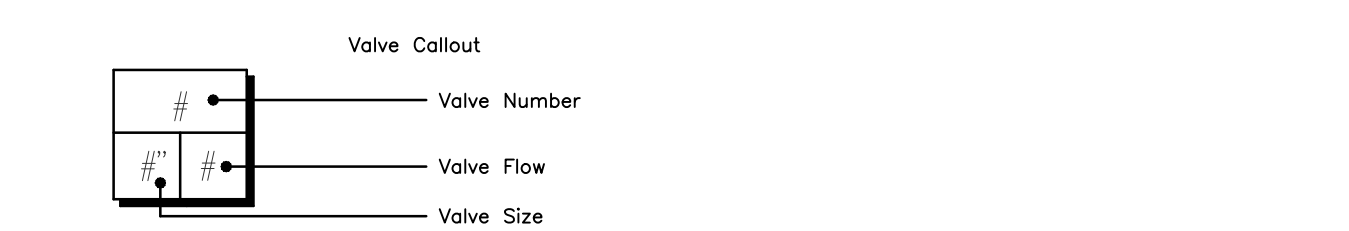
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
Ⓤ	Hunter HDL-COP HDL-09-12-CV; Hunter Dripline w/ 0.9 GPH emitters at 12" O.C. Check valve, dark brown tubing w/ black striping. Dripline laterals spaced at 14" apart, with emitters offset for triangular pattern. Install with Hunter PLD barbed or PLD-LOG fittings.
Ⓡ	Hunter PGV-101A 1in. Plastic Electric Remote Control Valve, Female NPT Inlet/Outlet. Angle Configuration With Flow Control.
Ⓢ	Nibco T-113 Class 125 bronze gate shut off valve with wheel handle, same size as mainline pipe diameter at valve location.
Ⓣ	Propose Zurn T20A 1" w/ 1.25" piping Pressure Vacuum Breaker, provide -installed by others.
Ⓤ	Hunter HCC-3200-PL 32 Station Outdoor Wi-Fi enabled, full-functioning controller with touchscreen & three 1CM-300 Module. Commercial Use. Plastic Cabinet.
Ⓡ	Hunter WRF-GLIK Rain/freeze Sensor, install within 1000 ft of controller, in line of sight. Mount as noted. Gutter Mount.
Ⓢ	Hunter HC-100-FLOW 1in. Flow meter for use with Hydramise enabled controller to monitor flow and provide system alerts. Also functions as stand alone flow totalizer/sub meter.
Ⓣ	Hunter HY-100 1in. MPT x MPT threaded inlet and outlet filter with 150 mesh stainless steel screen
Ⓤ	Proposed new Water Meter (by others) 1" potable water meter w/minimum 1.25" service line

Irrigation Lateral Line: PVC Schedule 40 Schedule 40 solvent weld bell end PVC pipe. Use only Weld-On Medium body T21 Blue glue with P-70 purple primer. Apply solvent weld glue per manufactures instructions. See specifications and details for additional installation instructions.

Irrigation Lateral Line: Uponor AquaPEX-White PEX pipe must be rated for direct burial using brass fitting. To be installed by a license Plumbing contractor per code.

Irrigation Mainline: PVC Schedule 40 Schedule 40 solvent weld bell end PVC pipe. Use only Weld-On Medium body T21 Blue glue with P-70 purple primer. Apply solvent weld glue per manufactures instructions. See specifications and details for additional installation instructions.

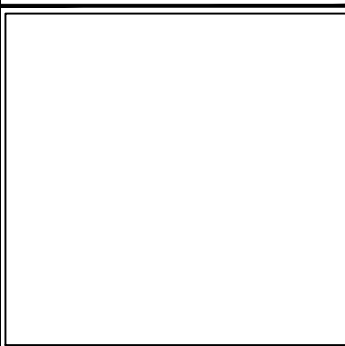
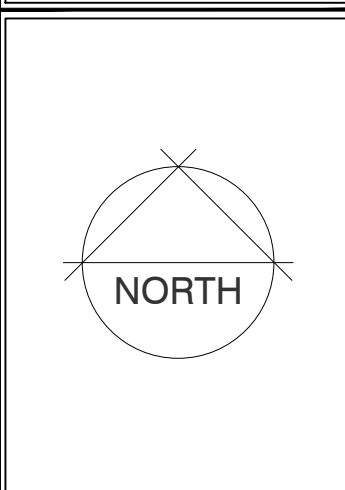
Pipe Sleeve: PVC Schedule 40 Solvent weld bell end PVC pipe. Use only Weld-On Medium body T21 Blue glue with P-70 purple primer. Apply solvent weld glue per manufactures instructions. Sleeving sizes 1.5-inch thru 4-inch shall be Sch-40, 6-inch and larger shall be Class 200 PVC pipe.



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IRRIGATION NOTES - SPECIFICATIONS

Lofts at Bahama Village
Fort Street, Key West, FL 33040



IRRIGATION NOTES & SPECIFICATIONS

PLAN;

Irrigation design on this plan is diagrammatic and shows the intent of the scope of work. Due to the narrow planting areas with trees and utilities, some of the irrigation equipment and pipes are shown outside the planting area for clarity. Some bubblers are are off-set from its intended location for clarity. Contractor is required to obtain current utility / landscape and site plans to assist in bidding and planning his scope of work. It is the responsibility of the contractor to ensure that the system is installed to all applicable laws, codes, rules, regulations of the governing authorities, and according to manufactures recommended installation instructions. All required permits pertaining to the irrigation installation shall be obtained by the irrigation contractor prior to commencing work. Cost for all permits shall be included in his proposal.

SCOPE OF WORK;

New site to install a new irrigation system according to this irrigation plan. Irrigation contractor must work with other sub-contractors to locate existing & new utilities and tree / palm location prior to commencing working. It will be the irrigation contractors responsibility to field adjust Sleeving / piping and valve location to avoid any structural - utility obstructions. It is the irrigation contractors sole responsibility to ensure that this irrigation system is installed according to Florida Plumbing code Appendix "F", local codes / ordinances and according to all manufactures installation recommendations.

Contractor shall maintain a current as-build drawing on daily bases for review of owners representatives, General contractor, landscape architect when requested. Contractor must carefully read all notes, specification and details. If he has any question of concern of any items or needs clarification for anything, contractor must submit and RFI prior to submitting his bid. Submitting his bid, he agrees to all information in drawings, details, requirements and specifications are understood and included in his bid proposal.

Contractor shall adjust irrigation head placement in sod bed areas to maximize coverage and adjust pipe routing to avoid utilities and other obstructions. Use nozzle radius reduction screw to adjust coverage and ensure pop-up sprays have head to head coverage 100% of planting area.

The contractor and his / her on site installation crew must have experience and be well versed in all codes and familiar of all equipment manufactures installation procedures for the equipment specified in plans.

Contractor shall verify all underground utilities 72 hours prior to commencement of work. A copy of the locating ticket shall be on site at all times. The information and location for the new utilities in this community may not be available to the locating services, contractor must work with owner / owners representative for location of newly installed site utility, and electrical lines. Irrigation contractor is must secure all his work according to O.S.H.A. regulations to protect the public and workers from any hazards created by his work.

The contractor shall take immediate steps to repair, replace, or restore all services to any utilities which are disrupted due to their operations. All costs involved in disruption of service and repairs due to negligence on the part of the Irrigation contractor shall be their responsibility.

Irrigation Contractor shall adjust pop-up heads and bubblers for 100% coverage on the zones intended area. Heads and valve boxes to be flush with finished grade.

POINT OF CONNECTION

2-inch potable water meter with a Double Check valve Assembly, provided and installed by others. Irrigation design is based on 62 gpm @ 56 psi pressure. Prior to commencing work, irrigation contractor shall install a pressure recorder capable of collecting pressure data in one hour intervals or better, for minimum a week. Test needs to be complete during a period with no rain days. He / she shall submit pressure recording on spread sheet to owner representative and landscape architect for evaluation and approval prior to commencing work. If recording shows pressure is below 56 PSI at any given point, a booster pump will need to be installed. Booster pump size and type to be determined by owner representative.

Contractor to obtain owners approval of location of controller, filter, flow sensor, grounding grid and 120v power prior to installation.

CONTROLLER

The location of the controller shall be by potable water - well and pump facility east shown on plan . Controller shall be a Hunter HCC controller model #HCC-800-PL with EZ-DM module. A licence electrician to hardwire controller with 120v power and surge protection, irrigation contractor to provide/ install grounding per details and MEGGAR test for (10 ohms or less). Controller must not be energized before grounding grid is installed and tested. Irrigation contractor to program controller and set up flow sensor / flow manager. All rotor and spray zones shall be programmed on

schedule "A", and all drip zones shall be on "B" schedule.

Mount rain sensor on gutter as shown in plan. Sensor to be located in an area with minimum 6 foot radius, clear of vertical obstructions, adjust location as necessary. Contractor to obtain owners approval of final rain sensor location.

Additional items for controller as follows:

1. Controllor Chart: Reduce the size of irrigation plans and hang on controllor door. Color code zones coverage area. A valve chart shall accompany the irrigation chart to show GPM, Precipitation rate, and type of equipment for each zone. Zone and irrigation chart to be laminated (on both sides). Controllor station numbers must correspond to irrigation as-build plan.
2. Testing: Upon completion of irrigation system installation with all spray / rotor heads cleaned and adjusted, drip grids flushed and operational, program controllor to "Learn Flow" (see controllor manual) with zones running minimum 5 minutes each. Note actual zone flow on as-build plan and zone valve chart.
3. Documentation: Provide owner with a copy of Hunter controllor manual and warranty information.

ELECTRICAL CONNECTIONS AND CONTROL WIRE

Confirm to the National Electrical Code (NEC) and local electrical codes. Hunter ID1 cable shall be 14 gauge solid strand. ID1 cable shall be incased in a 1.25" Sch-40 conduit, shall run continuously between valve and splice boxes. Provide 24-inch loop expansion coils at each valve and splice/pull box. Provide a splice/pull box for runs 300' or more between solenoid valves and or if more than 4 sweep ells are used -whichever comes first. All Hunter ID1 cable splices shall be completed using 3M-DBRY-6 splice kits.

Two-wire ID1 cable color coding as follows:

1. Run two ID1 cables, ID1PUR and ID1BLU from controller to first splice box. ID1PUR leg to run south and ID1BLU leg to run north.
2. All two-wire splices shall be performed in valve boxes using Hunter DBYR-6.
3. Mainline sections with NO two-wire running besides, contractor shall run a 14 gauge black tracer wire, start and ending in the valve box of that where the two-wire ends.

In-coming 120v power to controller shall be surge protected and grounded. A license electrician shall install all 120v power to controller, surge protection to the controller. Irrigation contractor to coordinate with electrician.

Splice / pull boxes (not shown on plans) shall be installed on the same principle as per valve detail.

Hunter Spray Heads:

Pop-up heads and bubblers shall be installed as per details on sheet IR-4. Contractor shall make minor head location, adjustment to maximize coverage maintaining head to head coverage. Head shall be set perpendicular and flush with finished grade, soil compacted around head. Do not intentionally install a pop-up head behind an obstacles, blocking coverage because plan puts it there. In slopes, install bubblers on high side of root ball.

Contractor shall use nozzle radius reduction to reduce over spray onto hardscape and other structures (max 25% of published radius). If grass coverage changes from irrigation plan, contractor shall adjust head spacing / nozzle in shrub and grass area accordantly. Head spacing shall never be greater than radius of throw (and of adjusted throw).

VALVES:

Solenoid valves shall be install according to details on sheet IR-4. Place valve boxes no closer than 18-inches to walk ways, 24" to curbs and edge of footings to structures. Valve clusters (2 or more) shall be uniformly spaced 2-feet apart (between valve box bottoms) and parallel to each other and set perpendicular to grade. Valve box for wire splices, shall be installed according to valve detail. All valve boxes shall be set in shrub beds. Valve boxes in shrub beds shall be set flush with top of mulch. Contractor to seal around cut out openings for pipe in valve boxes for soil intrusion.

GATE VALVES; NIBCO T-113. Installed as per detail on sheet IR-4. If gate valve needs to be set lower than detail shows, contractor shall use a 6-inch drain pipe to extend down to gate valve.

PIPE;

All pipe shall be new and free from defects. Pipe PVC fittings to be manufactured by LASCO or Spears. Threaded PVC nipples shall be Sch-80 per ASTM D2464.

Laterals: Sch-40 PVC pipe, solvent weld BE, installed with minimum 18" cover, measured from finished grade to top of pipe. All lateral pipe fittings up to 2.5" shall be Sch-40 ASTM D-2466, 3" and above shall be Sch-80 ASTM D-2467. Above ground pipe and fittings; Sch-40 PVC pipe with Sch-80 fittings. Use IPS 725 solvent weld (ASTM D2564) Blue cement with purple primer for welding Sch-40 & 80 PVC joints/fittings up to 4". When pipe ends are cut, contractor shall clean pipe ends and apply solvent weld as per manufactures instructions and guidelines.

"PEX" Pipe: Shall be used for looping pipe around areas where sleeves cannot run in a straight line. See legend for pipe type on sheet IR-4. PEX Pipe shall installed 18" below sidewalk. PEX pipe shall not have any connections under hardscape -there shall be a solid pipe run from plant to planter. Use only base fittings to connect PEX pipe to Sch-40 PVC pipe. It is highly recommended to hire a license Plumber for the installation of PEX pipe and connection to PVC pipe.

Mainline: Sch-40 PVC pipe. When pipe ends are cut, contractor shall remove burrs from cut and cleaned pipe end as per manufactures installation procedures. Installed mainline pipe up to 3-inches with minimum 24"cover, measured from finished grade to top of pipe. All mainline fittings shall be Sch-80 ASTM D-2467. Use only IPS 705 PVC Clear Median-body, medium setting cement (ASTM D2564) with purple primer for fittings. Apply solvent weld and primer as per manufactures instructions and guidelines. Thrust block all directional changes per manufactures recommendations.

SLEEVING

Minimum sleeve size for pipe; 2-inch. Sleeves sizes up to 4" shall be Sch-40 bell end, ASTM D-2466. Sleeves sizes 6-inch or larger shall be Class 200 SDR 21 pipe, ASTM D-2241 solvent weld BE. Sleeve size to be two pipe sizes larger than carrying pipe, only one pipe per sleeve. See detail on this sheet for additional requirements.

INSPECTION

- A. The contractor shall maintain proper facilities and safe access for inspection to all parts of the work.
- B. Irrigation inspection shall consist of a minimum of:
 1. Mainline pressure test.
 2. Lateral inspection and coverage test, no inspection will commence without "Record Drawings".
 3. Final inspection.
- C. If the specifications, the Owners Representatives instructions, laws, ordinance, or any public authority require work to be specifically tested or approved, the Contractor shall give the Owners Representative three days notice of its readiness for inspection.
- D. The Contractor shall be solely responsible for notifying Owners Construction Representative where and when such work is in readiness for testing.
- E. If any work should be covered up without approval of Owners Construction Representative, it must be un-covered for examination at irrigation contractors expense.

Provide owner with (1) years warranty for all labor and materials on contractors letter head, dated from final acceptance. Sink holes around valve boxes and pipe runs shall be included in warranty documents.