

IRRIGATION SPECIFICATIONS

PART 1 - GENERAL 1.01 SCOPE

- A. PROVIDE COMPLETE SPRINKLER INSTALLATION AS DETAILED AND SPECIFIED HEREIN, INCLUDING FURNISHING ALL LABOR, MATERIALS, AND EQUIPMENT FOR THE PROPER INSTALLATION. WORK INCLUDES BUT IS NOT LIMITED TO:
- TRENCHING AND BACKFILL.
 - AUTOMATIC CONTROLLED SYSTEM.
 - UPON COMPLETION OF INSTALLATION, SUPPLY RECORD DRAWINGS SHOWING DETAILS OF CONSTRUCTION INCLUDING LOCATION OF MAINLINE PIPING, MANUAL AND AUTOMATIC VALVES, ELECTRICAL SUPPLY TO VALVES, AND SPECIFICALLY EXACT LOCATION OF AUTOMATIC VALVES.
- B. NOTE: ALL SLEEVES AS SHOWN ON PLANS WILL BE FURNISHED BY GENERAL CONTRACTOR. METER AND POWER SOURCE TO BE PROVIDED BY GENERAL CONTRACTOR AS REQUIRED BY LOCAL JURISDICTION.

1.02 APPLICABLE STANDARDS

- A. D1785 - POLY (VINLY CHLORIDE) (PVC) PLASTIC PIPE, SCHEDULES 40, 80, AND CL200
- B. D2464 - POLY (VINYL CHLORIDE) (PVC) PLASTIC PIPE FITTINGS THREADED, SCHEDULE 40
- C. D2466 - POLY (VINYL CHLORIDE) (PVC) PLASTIC PIPE FITTINGS SOCKET TYPE, SCHEDULE 40
- D. D2564 - SOLVENT CEMENTS FOR POLY (VINYL CHLORIDE) (PVC) PLASTIC PIPE FITTINGS
- E. STANDARD RECOMMENDED PRACTICE FOR:

1. D2855 - MAKING SOLVENT - CEMENTED JOINTS WITH POLY (VINYL CHLORIDE) (PVC) PIPE AND FITTINGS.

1.03 MAINTENANCE AND GUARANTEE

- A. MATERIALS AND WORKMANSHIP SHALL BE FULLY GUARANTEED FOR ONE (1) YEAR AFTER FINAL ACCEPTANCE.
- B. PROVIDE MAINTENANCE OF SYSTEM, INCLUDING RAISING AND LOWERING OF HEADS TO COMPENSATE FOR LAWN GROWTH, CLEANING AND ADJUSTMENT OF HEADS, RAISING AND LOWERING OF SHRUB HEADS TO COMPENSATE FOR SHRUB GROWTH, FOR ONE (1) YEAR AFTER COMPLETION OF INSTALLATION.
- C. CONTRACTOR SHALL BLOWOUT, CLOSE AND OPEN THE SYSTEM ONCE DURING THE GUARANTEE PERIOD.
- D. GUARANTEE IS LIMITED TO REPAIR AND REPLACEMENT OF DEFECTIVE MATERIALS OR WORKMANSHIP, INCLUDING REPAIR OF BACKFILL SETTLEMENT.

1.04 SUBMITTALS

- A. USE OF MATERIALS DIFFERING IN QUALITY, SIZE, OR PERFORMANCE FROM THOSE SPECIFIED WILL ONLY BE ALLOWED UPON WRITTEN APPROVAL OF OWNER/IRRIGATION DESIGNER. THE DECISION WILL BE BASED ON COMPARATIVE ABILITY OF MATERIAL OR ARTICLE TO PERFORM FULLY ALL PURPOSES OF MECHANICS AND GENERAL DESIGN CONSIDERED TO BE POSSESSED BY ITEM SPECIFIED. BIDDERS DESIRING TO MAKE A SUBSTITUTION FOR SPECIFIED SPRINKLERS SHALL SUBMIT MANUFACTURER'S CATALOG SHEET SHOWING FULL SPECIFICATION OF EACH TYPE OF SPRINKLER PROPOSED AS A SUBSTITUTE, INCLUDING DISCHARGE IN GPM MAXIMUM ALLOWABLE OPERATING PRESSURE AT SPRINKLER. APPROVAL OF SUBSTITUTE SPRINKLER SHALL NOT RELIEVE CONTRACTOR OF HIS RESPONSIBILITY TO DEMONSTRATE THAT FINAL INSTALLED SPRINKLER SYSTEM WILL OPERATE ACCORDING TO INTENT OF ORIGINALLY DESIGNED AND SPECIFIED SYSTEM.
- B. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO DEMONSTRATE THAT FINAL INSTALLED SPRINKLER SYSTEM WILL OPERATE ACCORDING TO INTENT OF ORIGINALLY DESIGNED AND SPECIFIED SYSTEM. IF IRRIGATION CONTRACTOR NOTES ANY PROBLEMS IN HEAD SPACING OR POTENTIAL COVERAGE, IT IS HIS RESPONSIBILITY TO NOTIFY THE IRRIGATION DESIGNER IN WRITING, BEFORE PROCEEDING WITH WORK. IRRIGATION CONTRACTOR GUARANTEES 100% COVERAGE OF ALL AREAS TO BE IRRIGATED.
- C. CONTRACTOR TO FURNISH AN AS BUILT DRAWING OF ENTIRE SYSTEM FOR REVIEW PRIOR TO ACCEPTANCE.

1.05 TESTING

- A. PERFORM TESTING REQUIRED WITH OTHER TRADES, INCLUDING EARTHWORK, PAVING, AND PLUMBING, TO AVOID UNNECESSARY CUTTING, PATCHING AND BORING.

1.06 COORDINATION

- A. COORDINATE INSTALLATION WITH OTHER TRADES, INCLUDING EARTHWORK, PAVING, AND PLUMBING, TO AVOID UNNECESSARY CUTTING, PATCHING AND BORING.

PART 2 - PRODUCTS

2.01 GENERAL

- A. SPRINKLER MAINS: SPRINKLER MAINS ARE THAT PORTION OF PIPING FROM WATER SOURCE TO OPERATING VALVES. THIS PORTION OF PIPING IS SUBJECT TO SURGES, BEING A CLOSED PORTION OF SPRINKLER SYSTEM. QUICK COUPLER LINES ARE CONSIDERED A PART OF SPRINKLER MAIN.
- B. LATERAL PIPING: LATERAL PIPING IS THAT PORTION OF PIPING FROM OPERATING VALVE TO SPRINKLER HEADS & DRIPLINE. THIS PORTION OF PIPING IS NOT SUBJECT TO SURGES, BEING AN "OPEN END" PORTION OF SPRINKLER SYSTEM.

2.02 POLY VINYL CHLORIDE PIPE (PVC)

- A. PVC PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH COMMERCIAL STANDARDS NOTED HEREIN.
- B. MARKING AND IDENTIFICATION: PVC PIPE SHALL BE CONTINUOUSLY AND PERMANENTLY MARKED WITH THE FOLLOWING INFORMATION: MANUFACTURER'S NAME, PIPE SIZE, TYPE OF PIPE, AND MATERIAL, SDR NUMBER, PRODUCT STANDARD NUMBER, AND THE NSF (NATIONAL SANITATION FOUNDATION) SEAL.
- C. PVC PIPE FITTINGS: SHALL BE OF THE SAME MATERIAL AS THE PVC PIPE SPECIFIED AND SHALL BE COMPATIBLE WITH PVC PIPE FURNISHED.

2.03 POLYETHYLENE PIPE

- A. POLYETHYLENE PIPE TO BE MANUFACTURED AND SUPPLIED IN ACCORDANCE WITH COMMERCIAL STANDARDS BY A REPUTABLE DEALER.

2.04 COPPER TUBING

- A. HARD, STRAIGHT, LENGTHS OF DOMESTIC MANUFACTURE ONLY. NO COPPER TUBE OF FOREIGN EXTRUSION OR ANY SO-CALLED IRRIGATION TUBING (THIN WALL) SHALL BE USED.

2.05 COPPER TUBE FITTINGS

- A. CAST BRASS OR WROUGHT COPPER, SWEAT-SOLDER TYPE.

2.06 WIRE

- A. TYPE UF WITH A 4/64" INSULATION THICKNESS WHICH IS UNDERWRITER'S LABORATORY APPROVED FOR DIRECT UNDERGROUND BURIAL WHEN USED IN A NATIONAL ELECTRIC CODE CLASS II CIRCUIT (30 VOLTS AC OR LESS).

2.07 SCHEDULE 80 PVC NIPPLES

- A. COMPOSED OF STANDARD SCHEDULE 40 PVC FITTINGS AND PVC MEETING NOTED STANDARDS. NIPPLES FOR HEADS AND SHRUB RISERS, WHERE APPLICABLE, NO CLAMPS OR WIRES MAY BE USED. TO BE NOMINAL ONE-HALF (1/2") INCH DIAMETER BY EIGHT (8") INCHES LONG.

- B. POLYETHYLENE NIPPLES SIX (6") INCHES LONG TO BE USED ON ALL POP-UP SPRAY HEADS.

2.08 MATERIALS - SEE IRRIGATION PLAN

- A. SPRINKLER HEADS IN LAWN AREA AS SPECIFIED ON PLAN.
- B. PVC PIPE: CLASS 200, SDR 21 COPPER TUBING (MUNICIPAL CONNECTION); TYPE "M" 24V WIRE: AWG 14 SINGLE STRAND, TYPE U.F.
- C. ELECTRIC VALVES TO BE ALL PLASTIC CONSTRUCTION AS INDICATED ON PLANS.
- D. REFER TO DRAWING FOR BACKFLOW PREVENTION REQUIREMENTS. COORDINATE EXACT LOCATION WITH IRRIGATION DESIGNER.

PART 3 EXECUTION 3.01 INSTALLATION - GENERAL

- A. CONTRACTOR IS TO VERIFY PRESSURE AND FLOW RATES PRIOR TO BEGINNING INSTALLATION. CONTRACTOR TO PROVIDE ANY PRESSURE REDUCING VALVES OR BOOSTER PUMPS TO ACHIEVE STATIC PRESSURE AS STATED.
- B. STAKING: BEFORE INSTALLATION IS STARTED, PLACE A STAKE WHERE EACH SPRINKLER IS TO BE LOCATED, IN ACCORDANCE WITH DRAWING. STAKING SHALL BE APPROVED BY IRRIGATION DESIGNER AS REQUIRED.
- C. EXCAVATIONS: EXCAVATIONS ARE UNCLASSIFIED AND INCLUDE EARTH, LOOSE ROCK, ROCK OR ANY COMBINATION THEREOF, IN WET OR DRY STATE. BACKFILL TRENCHES WITH MATERIAL THAT IS SUITABLE FOR COMPACTION AND CONTAINS NO LUMPS, CLODS, ROCK, DEBRIS, ETC. SPECIAL BACKFILL SPECIFICATIONS, IF FURNISHED TAKE PREFERENCE OVER THIS GENERAL SPECIFICATION.
- D. BACKFILL: FLOOD OR HAND-TAMP TO PREVENT AFTER SETTILING. HAND RAKE TRENCHES AND ADJOINING AREA TO LEAVE GRADE IN AS GOOD OR BETTER CONDITION THAN BEFORE INSTALLATION.
- E. PIPING LAYOUT: PIPING LAYOUT IS DIAGRAMMATIC. ROUTE PIPING AROUND TREES AND SHRUBS IN SUCH A MANNER AS TO AVOID DAMAGE TO PLANTINGS. DO NOT DIG WITHIN BALL OF NEWLY PLANTED TREES OR SHRUBS.

3.02 PIPE INSTALLATION

- A. SPRINKLER MAINS: INSTALL A FOUR (4") INCH MINIMUM WIDTH TRENCH WITH A MINIMUM OF TWELVE (12") INCHES OF COVER.
- B. LATERAL PIPING: INSTALL A FOUR (4") INCH WIDE MINIMUM TRENCH DEEP ENOUGH TO ALLOW FOR INSTALLATION OF SPRINKLER HEADS AND VALVES, BUT IN NO CASE, WITH LESS THAN EIGHT (8") INCHES OF COVER.
- C. TRENCHING: REMOVE LUMBER, RUBBISH, AND LARGE ROCKS FROM TRENCHES. PROVIDE FIRM, UNIFORM BEARING FOR ENTIRE LENGTH OF EACH PIPE LINE TO PREVENT UNEVEN SETTLEMENT. WEDGING OR BLOCKING OF PIPE WILL NOT BE PERMITTED. REMOVE FOREIGN MATTER OR DIRT FROM INSIDE OF PIPE BEFORE WELDING, AND KEEP PIPING CLEAN BY APPROVED MEANS DURING AND AFTER LAYING OF PIPE.

3.03 PVC PIPE AND FITTING ASSEMBLY

- A. SOLVENT: USE ONLY SOLVENT RECOMMENDED BY MANUFACTURER TO MAKE SOLVENT-WELDED JOINTS. THOROUGHLY CLEAN PIPE AND FITTINGS OF DIRT, DUST AND MOISTURE BEFORE APPLYING SOLVENT.
- B. PVC TO METAL CONNECTION: WORK METAL CONNECTIONS FIRST. USE A NON-HARDENING PIPE DOPE SUCH AS PERMATEX NO. 2 ON THREADED PVC ADAPTERS INTO WHICH PIPE MAY BE WELDED.

3.04 COPPER TUBING AND FITTING ASSEMBLY

- A. CLEAN PIPE AND FITTING THOROUGHLY AND LIGHTLY SAND PIPE CONNECTIONS TO REMOVE RESIDUE FROM PIPE. ATTACH FITTINGS TO TUBING IN AN APPROVED MANNER USING 50-50 SOFT SOLID CORE SOLDER.

3.05 SHRUB SPRAY HEADS (FIXED)

- A. SHRUB SPRAY HEADS: SUPPLY IN ACCORDANCE WITH MATERIALS LIST, WITH NOZZLING IN ACCORDANCE WITH DRAWINGS. DRAWINGS INDICATE SIZE OF NOZZLING AND DEGREE OF ARC. DETERMINE CORRECT DEGREE OF ARC OF NOZZLE (IF CONDITIONS WARRANT) BY AREA TO BE COVERED AND BY WIND CONDITIONS THAT MAY AFFECT COVERAGE.

- 3.06 POP-UP SPRAY HEADS A. SUPPLY POP-UP SPRAY HEADS IN ACCORDANCE WITH MATERIALS LIST AND PLAN. ATTACH SPRINKLER TO LATERAL PIPING WITH A SEMI-FLEXIBLE POLYETHYLENE SCH 80 NIPPLE NOT LESS THAN THREE (3") INCHES OR MORE THAN SIX (6") INCHES LONG.

3.07 VALVES

- A. SUPPLY VALVES IN ACCORDANCE WITH MATERIALS LIST AND SIZED ACCORDING TO DRAWINGS. INSTALL VALVES IN A LEVEL POSITION IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. SEE PLAN FOR TYPICAL INSTALLATION OF ELECTRIC VALVE, VALVE BOX.

3.08 WIRING

- A. ALL VALVE CONTROL WIRING SHALL BE THROUGH TWO-WIRE FROM CONTROLLER TO DECODER. ALL CONNECTIONS SHALL BE AS PER THEIR MANUFACTURER'S INSTRUCTIONS. NO CONDUIT WILL BE REQUIRED FOR U.F. WIRE UNLESS OTHERWISE NOTED ON THE PLAN. WIRE SHALL BE TUCKED UNDER THE PIPING.
- B. A WIRE TYPE AND METHOD OF INSTALLATION SHALL BE IN ACCORDANCE WITH LOCAL AND STATE CODES.

3.09 AUTOMATIC SPRINKLER CONTROLS

- A. SUPPLY IN ACCORDANCE WITH IRRIGATION PLAN. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

3.10 TESTING

- A. SPRINKLER MAINS: TEST SPRINKLER MAIN ONLY FOR A PERIOD OF TWELVE (12) TO FOURTEEN (14) HOURS UNDER NORMAL PRESSURE. IF LEAKS OCCUR, REPLACE JOINT OR JOINTS AND REPEAT TEST.
- B. COMPLETE TESTS PRIOR TO BACKFILLING. SUFFICIENT BACKFILL MATERIAL MAY BE PLACED IN TRENCHES BETWEEN FITTINGS TO INSURE STABILITY OF LINE UNDER PRESSURE. IN EACH CASE, LEAVE FITTINGS AND COUPLINGS OPEN TO VISUAL INSPECTION FOR FULL PERIOD OF TEST.

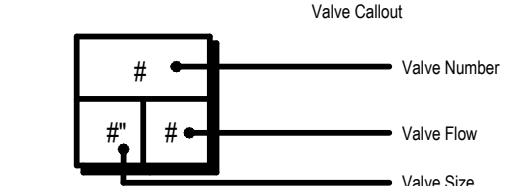
3.11 FINAL ADJUSTMENT

- A. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE FINAL ADJUSTMENT OF SPRINKLER SYSTEM IN PREPARATION FOR IRRIGATION DESIGNER'S FINAL INSPECTION. COMPLETELY FLUSH SYSTEM TO REMOVE DEBRIS FROM LINES AND TURNING ON SYSTEM. CHECK SPRINKLERS FOR PROPER OPERATION AND PROPER ALIGNMENT FOR DIRECTION OF FLOW. CHECK EACH SECTION OF SPRAY HEADS FOR OPERATING PRESSURE AND BALANCE TO OTHER SECTIONS BY USE OF FLOW ADJUSTMENT AND TOP OF EACH VALVE. CHECK NOZZLING FOR PROPER COVERAGE. PREVAILING WIND CONDITIONS MAY INDICATE THAT ARC OF ANGLE OF SPRAY SHOULD BE OTHER THAN SHOWN ON DRAWINGS. IN THIS CASE, CHANGE NOZZLES TO PROVIDE CORRECT COVERAGE.

- B. THE CONTRACTOR MUST REPAIR, AT CONTRACTOR'S SOLE COST, ALL DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION, PROPERTY, OR IRRIGATION SYSTEMS EQUIPMENT. DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO MAIN LINES, LATERALS, HEADS, VALVES, BACKFLOW DEVICES, METERS, CONTROLLERS AND ASSOCIATED WIRES, RAIN SENSORS, ETC. AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RE-PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL IRRIGATION RELATED ITEMS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION, AND IN CONFORMANCE WITH APPLICABLE CODES, LAWS, RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE CONTRACTOR MUST, PROMPTLY, DOCUMENT ALL EXISTING DAMAGE AND NOTIFY, IN WRITING, THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	PSI	DETAIL	
	RAIN BIRD RD-06-S 15 STRIP SERIES 6IN. POP-UP W/ CHECK VALVE.	30	25			
	RAIN BIRD 1806-1400 FLOOD FLOOD BUBBLER 6.0IN. POPUP	110	20			
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	GPM	RADIUS	DETAIL
	RAIN BIRD 3504-PC 0.75 TURF ROTOR, 4IN. POP-UP, ADJUSTABLE AND FULL CIRCLE.	100	25	0.54	15'	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	GPM	RADIUS	DETAIL
	RAIN BIRD XCZ-100-LC 1" WIDE FLOW DRIP CONTROL KIT, FOR LIGHT COMMERCIAL USES. 1IN. PEB VALVE, WITH 1IN. PRESSURE REGULATING 40PSI BASKET FILTER. 0.3-20 GPM.	1				
	RAIN BIRD XCZ-150-LCS 1-1/2" HIGH FLOW CONTROL ZONE KIT WITH LOW MINIMUM INLET PRESSURE REQUIREMENTS, FOR LARGE COMMERCIAL DRIP ZONES. 1-1/2IN. PEB GLOBE VALVE WITH HIGH-CAPACITY FILTER AND PRESSURE REGULATING SYSTEM (PRS) FIXED AT 40PSI. FLOW RANGE: 20 - 62 GPM.	6				
	RAIN BIRD MDCCAP DRIPLINE FLUSH VALVE CAP IN COMPRESSION FITTING COUPLER.	48				
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFDE-06-18 XFDE ON-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE. 0.6 GPH EMITTERS AT 16IN. O.C. DRIPLINE LATERALS SPACED AT 40" R/R APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. UV & KINK RESISTANT. USE XF INSERT FITTINGS.	4,070	LF			
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	GPM	RADIUS	DETAIL
	RAIN BIRD PEB 1" 1IN., 1-1/2IN., 2IN., 3IN. PLASTIC INDUSTRIAL REMOTE CONTROL VALVE. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	10				
	LANDSCAPE PRODUCTS INC. BBV 1/2IN., 3/4IN., 1IN., 1-1/4IN., 1-1/2IN., 2IN., 2-1/2IN., 3IN. FULL PORT BRASS BALL VALVE. SUITABLE FOR A FULL RANGE OF LIQUIDS AND GASES IN RESIDENTIAL AND COMMERCIAL APPLICATIONS.	4				
	FEBCO 765 1-1/2" PRESSURE VACUUM BREAKER, BRASS WITH BALL VALVE SOV. INSTALL 12IN. ABOVE HIGHEST DOWNSTREAM OUTLET AND THE HIGHEST POINT IN THE DOWNSTREAM PIPING.	1				
	FEBCO 765 1-1/2" PRESSURE VACUUM BREAKER, BRASS WITH BALL VALVE SOV. INSTALL 12IN. ABOVE HIGHEST DOWNSTREAM OUTLET AND THE HIGHEST POINT IN THE DOWNSTREAM PIPING.	1				
	RAIN BIRD ESPAME3 WITH (3) ESP-SM3 13 STATION, HYBRID MODULAR OUTDOOR CONTROLLER, FOR RESIDENTIAL OR LIGHT COMMERCIAL USE. LNK WIFI MODULE AND FLOW SENSOR READY.	1				
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1				
	POINT OF CONNECTION 1 1/2" CONTRACTOR TO CONNECT TO EXISTING IRRIGATION METER	1				
	POINT OF CONNECTION 2" CONTRACTOR TO CONNECT TO EXISTING IRRIGATION WATER METER	1				
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40 1 1/2"	4,303	LF			
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40 3/4"	545.3	LF			
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40 1"	62.9	LF			
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40 1 1/4"	12.4	LF			
	IRRIGATION MAINLINE: PVC SCHEDULE 40	250.6	LF			
	IRRIGATION MAINLINE: PVC SCHEDULE 40 1/2"	148.1	LF			
	IRRIGATION MAINLINE: PVC SCHEDULE 40 3/4"	60.1	LF			
	IRRIGATION MAINLINE: PVC SCHEDULE 40 1"	37.1	LF			
	IRRIGATION MAINLINE: PVC SCHEDULE 40 1 1/4"	550.2	LF			
	IRRIGATION MAINLINE: PVC SCHEDULE 40 1 1/2"	114.5	LF			
	IRRIGATION MAINLINE: PVC SCHEDULE 40 2"	190.8	LF			
	IRRIGATION MAINLINE: PVC SCHEDULE 40 2 1/2"	99.2	LF			
	PIPE SLEEVE: PVC CLASS 200 SDR 21	106.2	LF			



VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	HEADS	WIRE	PSI	PSI @ POC	PRECIP
1	RAIN BIRD XCZ-150-LCS	1-1/2"	AREA FOR DRIPLINE	2.48	372.3 LF	597.0	20.7	25.5	0.43 in/h
1	RAIN BIRD PEB	1"	SHRUB SPRAY	12.48	16	597.0	30.3	34.5	1.51 in/h
2	RAIN BIRD PEB	1"	BUBBLER	9.75	39	536.8	29.3	39.2	0.85 in/h
2	RAIN BIRD PEB	1"	BUBBLER	5.25	21	536.8	24.2	26.8	0.85 in/h
3	RAIN BIRD XCZ-150-LCS	1-1/2"	AREA FOR DRIPLINE	7.3	1,095 LF	456.5	22.5	28.1	0.43 in/h
3	RAIN BIRD PEB	1"	SHRUB SPRAY	12.9	14	456.5	30.8	35.3	1.55 in/h
4	RAIN BIRD XCZ-150-LCS	1-1/2"	AREA FOR DRIPLINE	6.11	915.8 LF	390.3	24.1	27.4	0.43 in/h
4	RAIN BIRD PEB	1"	TURF ROTOR	15.12	28	390.3	33.9	39.2	0.97 in/h
4	RAIN BIRD PEB	1"	TURF ROTOR	13.5	25	402.7	31.5	37.7	0.88 in/h
6	RAIN BIRD PEB	1"	BUBBLER	10	40	301.5	30.3	34.2	0.87 in/h
7	RAIN BIRD XCZ-100-LC	1"	AREA FOR DRIPLINE	3.7	554.9 LF	209.7	23.1	25.7	0.43 in/h
8	RAIN BIRD XCZ-150-LCS	1-1/2"	AREA FOR DRIPLINE	3.28	491.8 LF	105.6	20.1	22.7	0.43 in/h
9	RAIN BIRD PEB	1"	TURF ROTOR	9.18	17	99.8	29.2	32.0	0.54 in/h
10	RAIN BIRD PEB	1"	BUBBLER	2.5	10	215.4	22.0	24.6	0.85 in/h
11	RAIN BIRD XCZ-150-LCS	1-1/2"	AREA FOR DRIPLINE	2	233.7	233.7	20.3	22.9	0.43 in/h
12	RAIN BIRD XCZ-150-LCS	1-1/2"	AREA FOR DRIPLINE	2.27	340.4 LF	745.1	20.5	28.5	0.43 in/h
13	RAIN BIRD PEB	1"	TURF ROTOR	16.2	30	256.4	35.3	43.0	0.56 in/h
			Common Wire			1,451			

WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	RAIN BIRD XCZ-150-LCS	AREA FOR DRIPLINE	0.43 in/h	0.5	71	176	
1	RAIN BIRD PEB	SHRUB SPRAY	1.51 in/h	0.75	30	374	
2	RAIN BIRD PEB	BUBBLER	0.85 in/h	0.75	53	517	
2	RAIN BIRD PEB	BUBBLER	0.85 in/h	0.75	53	278	
3	RAIN BIRD XCZ-150-LCS	AREA FOR DRIPLINE	0.43 in/h	0.5	71	518	
3	RAIN BIRD PEB	SHRUB SPRAY	1.55 in/h	0.75	30	387	
4	RAIN BIRD XCZ-150-LCS	AREA FOR DRIPLINE	0.43 in/h	0.5	71	434	
4	RAIN BIRD PEB	TURF ROTOR	0.97 in/h	1	63	953	
5	RAIN BIRD PEB	TURF ROTOR	0.88 in/h	1	89	1,202	
6	RAIN BIRD PEB	BUBBLER	0.87 in/h	0.75	52	520	
7	RAIN BIRD XCZ-100-LC	AREA FOR DRIPLINE	0.43 in/h	0.5	71	263	
8	RAIN BIRD XCZ-150-LCS	AREA FOR DRIPLINE	0.43 in/h	0.5	71	233	
9	RAIN BIRD PEB	TURF ROTOR	0.54 in/h	1	111	1,019	
10	RAIN BIRD PEB	BUBBLER	0.85 in/h	0.75	53	133	
11	RAIN BIRD XCZ-150-LCS	AREA FOR DRIPLINE	0.43 in/h	0.5	71	142	
12	RAIN BIRD XCZ-150-LCS	AREA FOR DRIPLINE	0.43 in/h	0.5	71	161	
13	RAIN BIRD PEB	TURF ROTOR	0.56 in/h	1	107	1,733	
	TOTALS				1,138	9,042	

CRITICAL ANALYSIS

Generated: 2025-04-14 09:46

P.O.C. NUMBER: 01
Water Source Information: CONTRACTOR TO CONNECT TO EXISTING IRRIGATION WATER METER

FLOW AVAILABLE
Point of Connection Size: 2"
Flow Available: 69.4 GPM

PRESSURE AVAILABLE
Static Pressure at POC: 60 PSI
Pressure Available: 60 PSI

DESIGN ANALYSIS
Maximum Station Flow: 16.2 GPM
Flow Available at POC: 69.4 GPM
Residual Flow Available: 53.2 GPM

Critical Station: 13
Design Pressure: 25 PSI
Friction Loss: 7.13 PSI
Fittings Loss: 0.71 PSI
Elevation Loss: 0 PSI
Loss through Valve: 2.48 PSI
Pressure Req. at Critical Station: 0.71 PSI
Loss for Fittings: 0.47 PSI
Loss for Main Line: 4.67 PSI
Loss for POC to Valve Elevation: 0.25 PSI
Loss for Backflow: 2.5 PSI
Critical Station Pressure at POC: 43.0 PSI
Pressure Available: 60 PSI
Residual Pressure Available: 17.0 PSI

CRITICAL ANALYSIS

Generated: 2025-04-14 09:46

P.O.C. NUMBER: 02
Water Source Information: CONTRACTOR TO CONNECT TO EXISTING IRRIGATION METER

FLOW AVAILABLE
Point of Connection Size: 1 1/2"
Flow Available: 43.65 GPM

PRESSURE AVAILABLE
Static Pressure at POC: 60 PSI
Pressure Available: 60 PSI

DESIGN ANALYSIS
Maximum Station Flow: 15.13 GPM
Flow Available at POC: 43.65 GPM
Residual Flow Available: 28.53 GPM

Critical Station: 4
Design Pressure: 25 PSI
Friction Loss: 5.92 PSI
Fittings Loss: 0.59 PSI
Elevation Loss: 0 PSI
Loss through Valve: 2.36 PSI
Pressure Req. at Critical Station: 33.9 PSI
Loss for Fittings: 0.25 PSI
Loss for Main Line: 2.52 PSI
Loss for POC to Valve Elevation: 0 PSI
Loss for Backflow: 2.5 PSI
Critical Station Pressure at POC: 39.2 PSI
Pressure Available: 60 PSI
Residual Pressure Available: 20.8 PSI

NOTE:

- PLANS DESIGNED BY PROFESSIONAL IRRIGATION DESIGNER. ALL IRRIGATION COMPONENTS SHALL BE INSTALLED BY CERTIFIED IRRIGATION CONTRACTOR
- THIS PLAN IS TO BE UTILIZED FOR IRRIGATION PURPOSES ONLY
- REFER TO UTILITY PLAN FOR PROPOSED & EXISTING UNDERGROUND UTILITIES
- REFER TO IRRIGATION NOTES & DETAILS SHEET FOR SPECIFICATIONS & DETAILS (C-708 & C-709)

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