IRRIGATION NOTES:

1. IRRIGATION HAS BEEN DESIGNED WITH AN ASSUMED PRESSURE OF 60 PSI AT THE IRRIGATION METER. IF AVAILABLE PRESSURE IS LESS THAN ASSUMED NOTIFY LICENSED IRRIGATOR OF RECORD PRIOR TO SYSTEM INSTALLATION FOR DESIGN MODIFICATION INSTRUCTIONS.
2. INSTALL WEATHER SENSING DEVICE AS SPECIFIED. AFFIX TO INSIDE OF PARAPET WALL ABOVE CONTROLLER. COORDINATE EXACT LOCATION WITH OWNER AND ARCHITECT AND CONDUIT FOR WIRING WITH ELECTRICAL CONSULTANT.
3. A LICENSED IRRIGATOR MUST BE ON-SITE AND PROVIDE SUPERVISION FOR THE ENTIRE DURATION OF THE IRRIGATION SYSTEM INSTALLATION, PER TAC RULE 344.36. ON-SITE SUPERVISING LICENSED IRRIGATOR ASSUMES ALL RESPONSIBILITY FOR THE IRRIGATION SERVICES PERFORMED IN ACCORDANCE WITH THESE DOCUMENTS.
4. BACKFLOW PREVENTER MUST BE WINTERIZED UPON INSTALLATION.
5. EACH IRRIGATION CONTROL VALVE SHALL BE ADJUSTED TO PROVIDE THE MINIMUM AMOUNT OF PRESSURE REQUIRED (PER MANUFACTURER'S RECOMMENDATIONS) TO OPERATE THE IRRIGATION ZONE IT IS SERVING.
6. ALL IRRIGATION PIPING AND VALVES MUST MEET THE SEPARATION DISTANCES FROM THE ON-SITE SEWAGE FACILITIES SYSTEM AS REQUIRED FROM A PRIVATE WATER LINE IN 289.91(10) OF TAC TITLE 30 RELATING TO MINIMUM REQUIRED SEPARATION DISTANCES FOR ON-SITE SEWAGE FACILITIES.
7. ALL IRRIGATION EMISSION DEVICES MUST DIRECT FLOW AWAY FROM ANY ADJACENT IMPERVIOUS SURFACE AND SHALL NOT BE INSTALLED CLOSER THAN FOUR INCHES FROM A HARDSCAPE AREA, SUCH AS, BUT NOT LIMITED TO, A BUILDING, FENCE, CONCRETE, OR ANY OTHER IMPERVIOUS MATERIAL.
8. IRRIGATION EMISSION DEVICES MUST BE INSTALLED TO OPERATE AT THE MINIMUM AND NOT ABOVE THE MAXIMUM SPRINKLER HEAD PRESSURE AS PUBLISHED BY THE MANUFACTURER FOR THE NOZZLE AND HEAD SPACING THAT IS USED.
9. ALL PVC IRRIGATION PIPING MUST NOT EXCEED THE MAXIMUM WATER VELOCITY WITHIN FIVE FEET PER SECOND.
10. ALL UNLABELED PVC IRRIGATION PIPING THAT IS DOWN STREAM OF PIPE SIZES LABELED 3/4" SHALL BE 1/2" CLASS 315 PVC.
11. ALL PVC FITTINGS MUST BE PRIMED WITH A COLORED PRIMER PRIOR TO APPLYING THE PVC CEMENT IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE (SECTION 316) OF THE INTERNATIONAL PLUMBING CODE (SECTION 605)
12. RAIN/MOISTURE SHUT-OFF TECHNOLOGY MUST BE INSTALLED AND DONE SO IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
13. AN ISOLATION VALVE MUST BE INCLUDED ON ALL IRRIGATION INSTALLATIONS AND SHALL BE PLACED BETWEEN THE WATER METER AND THE BACKFLOW PREVENTION DEVICE.
14. ALL IRRIGATION PIPING MUST HAVE A MINIMUM DEPTH COVERAGE OF SIX (6) INCHES OF SELECT BACKFILL BETWEEN THE TOP OF THE PIPE AND THE FINISHED GRADE OF THE TOPSOIL. MOUNDING SOIL TO MEET THIS REQUIREMENT MUST BE NOTED ON THE IRRIGATION PLAN AND DISCUSSED WITH THE IRRIGATION SYSTEM OWNER OR OWNER'S REPRESENTATIVE AND LICENSED IRRIGATOR OF RECORD TO ADDRESS ANY SAFETY ISSUES.
15. ALL TRENCHES AND HOLES CREATED DURING INSTALLATION OF AN IRRIGATION SYSTEM MUST BE BACKFILLED AND COMPACTED TO FINISHED GRADE.
16. ALL UNDERGROUND WIRING MUST BE LISTED BY UNDERWRITERS LABORATORIES AS ACCEPTABLE FOR BURIAL AND MUST BE BURIED WITH A MINIMUM OF SIX (6) INCHES OF BACKFILL.
17. ALL ELECTRICAL WIRE SPLICES EXPOSED TO MOISTURE MUST BE WATERPROOFED AS CERTIFIED BY WIRE SPLICE MANUFACTURER.
18. ALL QUICK COUPLERS MUST BE INSTALLED USING A QUICK COUPLER KEY AND PLACED IN A VALVE BOX. AN ISOLATION VALVE MUST BE INSTALLED UPSTREAM OF EACH QUICK COUPLER.
19. A FINAL WALK THROUGH WITH OWNER'S REPRESENTATIVE MUST BE SCHEDULED PRIOR TO FINAL COMPLETION, TO EXPLAIN OPERATION OF THE SYSTEM.
20. UPON COMPLETION OF THE IRRIGATION SYSTEM INSTALLATION, PROVIDE THE OWNER OR OWNER'S REPRESENTATIVE WITH A DOCUMENT CONTAINING, BUT NOT LIMITED TO THE FOLLOWING INFORMATION:
    - DRAWING SHOWING ACTUAL INSTALLATION (ALL VARIANCES FROM ORIGINAL PLAN MUST BE AUTHORIZED BY LICENSED IRRIGATOR OF RECORD). DRAWING MUST INCLUDE THE STATEMENT "THIS IRRIGATION SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL LAWS, ORDINANCES, RULES, REGULATIONS OR ORDERS. I HAVE TESTED THE SYSTEM AND DETERMINED THAT IT HAS BEEN INSTALLED ACCORDING TO THE IRRIGATION PLAN AND IS PROPERLY ADJUSTED FOR THE MOST EFFICIENT APPLICATION OF WATER AT THIS TIME."
    - HOW TO OPERATE AND REPAIR THE IRRIGATION SYSTEM
    - MANUFACTURER'S MANUAL FOR THE AUTOMATIC CONTROLLER
    - HOW TO CHECK THE RAIN/MOISTURE SENSOR
    - A LIST OF COMPONENTS THAT REQUIRE MAINTENANCE, SUCH AS FILTERS, AND THE RECOMMENDED FREQUENCY FOR THE SERVICE.
    - HOW TO PRUNE GRASS AND PLANTS AWAY FROM IRRIGATION EMITTERS
    - LIST OF PRECIPITATION RATES OF EACH IRRIGATION ZONE WITHIN THE SYSTEM
    - DOCUMENTATION OUTLINING ANY WATER CONSERVATION MEASURES CURRENTLY IN EFFECT FROM THE WATER PURVEYOR
    - THE NAME OF THE WATER PURVEYOR
    - A SUGGESTED SEASONAL OR MONTHLY WATERING SCHEDULE BASED ON CURRENT EVAPOTRANSPIRATION DATA FOR THE GEOGRAPHIC REGION AND MINIMUM WATER REQUIREMENTS FOR THE PLANT MATERIAL IN EACH ZONE BASED ON THE SOIL TYPE AND PLANT MATERIAL WHERE THE SYSTEM IS INSTALLED.
    - A WRITTEN WARRANTY COVERING MATERIALS AND LABOR FURNISHED IN THE NEW INSTALLATION OF THE IRRIGATION SYSTEM FOR A MINIMUM PERIOD OF ONE YEAR. WARRANTY MUST INCLUDE THE ON-SITE LICENSED IRRIGATION CONTRACTOR'S SEAL, NAME, SIGNATURE, DATE, BUSINESS ADDRESS AND BUSINESS TELEPHONE NUMBER(S). WARRANTY MUST INCLUDE THE STATEMENT, "IRRIGATION IN TEXAS IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), MC-178, P.O. BOX 130897, AUSTIN, TEXAS 78711-3087. TCEQ'S WEBSITE IS: WWW.TCEQ.STATE.TX.US." IRRIGATION CONTRACTOR SHALL ALSO SUPPLY INFORMATION REGARDING APPLICABLE MANUFACTURER'S WARRANTIES.
18. AFFIX A PERMANENT STICKER TO THE IRRIGATION CONTROLLER THAT LISTS THE ON-SITE LICENSED IRRIGATOR'S NAME, LICENSE NUMBER, COMPANY NAME, TELEPHONE NUMBER(S) AND THE DATES OF THE WARRANTY PERIOD.
19. AFFIX A LAMINATED AS-BUILT IRRIGATION ZONE MAP TO THE INSIDE COVER OF THE CONTROLLER. NUMBER ALL ZONES ON THE MAP. PROVIDE A CHART SHOWING THE PROGRAM, WATERING DAYS, START TIMES, AND RUN TIMES FOR EACH ZONE.
20. REFER TO IRRIGATION SPECIFICATIONS FOR MORE INFORMATION.
21. WHEN INSTALLING IRRIGATION UNDER OR NEAR EXISTING TREES, ALL TRENCHES MUST BEHAND DUG. ROOTS LARGER THAN THREE (3) INCHES IN DIAMETER MAY NOT BE CUT.

DRIP IRRIGATION NOTES:

1. INSTALL MANUAL FLUSH VALVE(S) IN EACH ZONE AT LOW POINT(S), PER DETAIL NO. 411A ON SHEET L4.1.
2. INSTALL ONE AIR/VACUUM RELIEF VALVE IN EACH SUB-SURFACE ZONE AT HIGHEST POINT PER DETAIL NO. 412 ON SHEET L4.1.
3. INSTALL RAINBIRD OPERATION INDICATOR(S) IN EACH ZONE. FOR END-FED ZONES PLACE INDICATOR AT OPPOSITE END FROM VALVE. FOR CENTER-FED ZONES AN INDICATOR SHALL BE PLACED AT EACH END OF ZONE. WHEN ZONE HAS MULTIPLE END AREAS, I.E. PARKING LOTS, PLACE ONE INDICATOR PER END AREA. PLACEMENT SHOULD BE ACCESSIBLE BUT SCREENED FROM PUBLIC VIEW. SEE DETAIL NO. 414 ON SHEET L4.1.
4. ALL ON-SURFACE DRIPLINE SHALL BE COVERED BY A MULCH LAYER (MIN. 3" DEEP) AND WEED BARRIER FABRIC (EXCEPT IN AREAS OF SEASONAL COLOR AND SURFACE SPREADING GROUNDCOVERS).
5. ALL DRIPLINE, IN ON-SURFACE INSTALLATIONS, MUST BE SECURED EVERY THREE (3) LINEAR FEET WITH RAINBIRD GALVANIZED TIE-DOWN STAKES, OR APPROVED EQUAL.
6. INSTALL CONTROL VALVES WITH MAXIMUM 18 GAUGE WIRE.

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	WIRE	PSI	PSI @ POC	GPM	PRECIP
1	Rain Bird XCZ-100-PRF	1"	Area for Dripline	258.7	28.30	32.78	6.84	0.45 in/h
2	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotary	370.5	40.41	54.44	19.37	0.55 in/h
	Common Wire			439.8				

WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	Rain Bird XCZ-100-PRF	Area for Dripline	0.45 in/h	0.66	88	601.9	86.0
2	Rain Bird PEB-PRS-D	Turf Rotary	0.55 in/h	0.99	109	2,111	301.6
		TOTALS:			197	2,713	387.5

NOTE: CONTRACTOR SHALL LAMINATE A COPY OF THE ABOVE SCHEDULE AND AFFIX IT TO THE INSIDE COVER OF THE IRRIGATION CONTROLLER.

IRRIGATION SCHEDULE

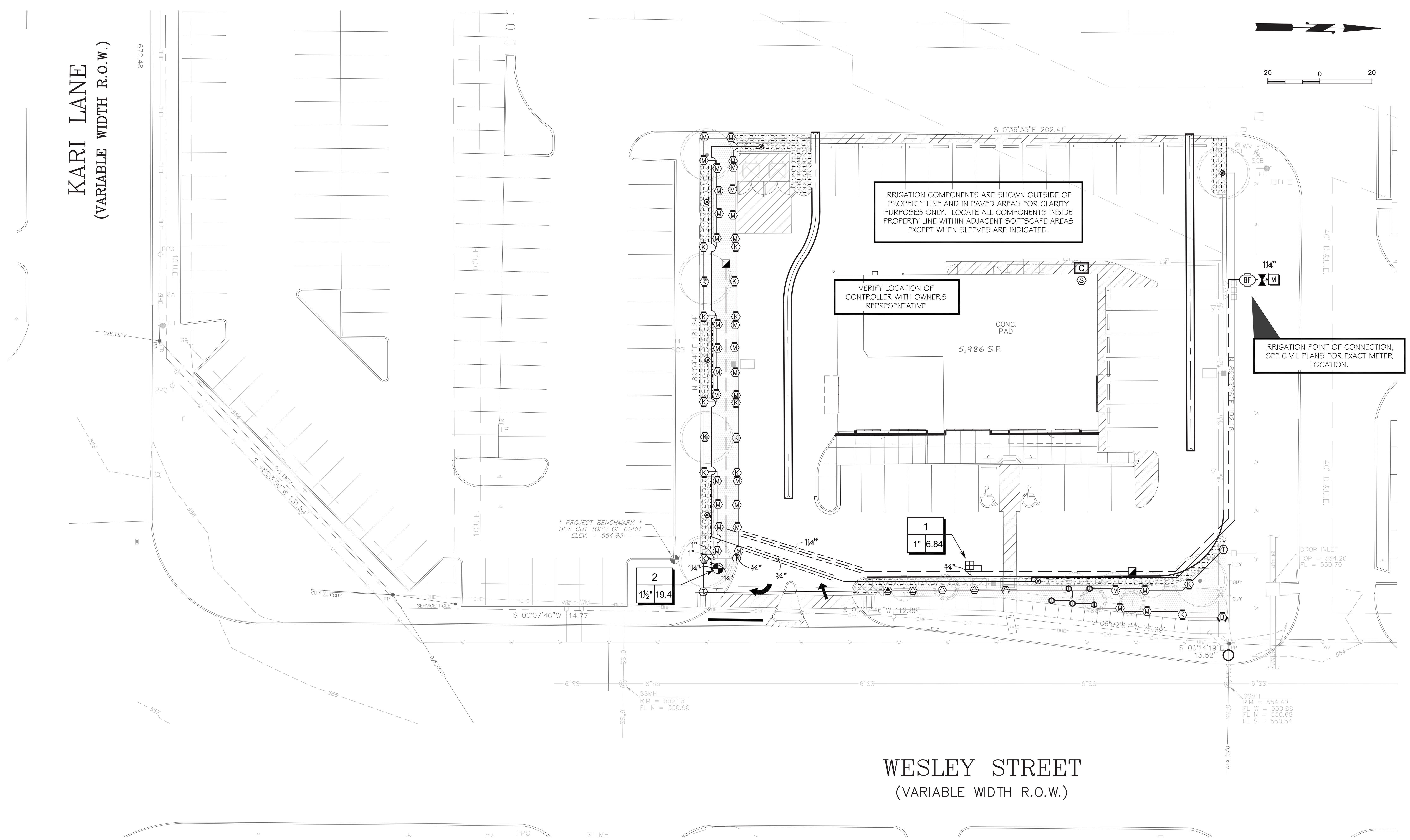
SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
M	Hunter MP1000 PROS-04-CV	32	90-210	30		12'
K	Hunter MP2000 PROS-04-CV	15	90-210	30		17'
B	Hunter MP3000 PROS-04-CV	1	90-210	30		27'
T	Hunter MP Corner PROS-04-CV	3	Adj	30		12'
	Hunter MP Strip PROS-04-CV	1	RCS	30	0.19	5'x15'
	Hunter MP Strip PROS-04-CV	4	SST	30	0.38	5'x30'

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird XCZ-100-PRF Medium Flow Drip Control Kit, 1" DV valve, 1" pressure regulating filter, 40psi pressure regulator. 3gpm - 15gpm.	1
	Pipe Transition Point in Drip Box Pipe transition point from PVC lateral to drip tubing with riser in 6" (150mm) drip box.	6
	Area to Receive Dripline Rain Bird XFS-06-18 (18) XFS Sub-Surface Pressure Compensating Landscape Dripline w/Copper Shield Technology. 0.6GPH emitters at 18.0" O.C. Dripline laterals spaced at 18.0" apart, with emitters offset for triangular pattern. UV Resistant.	1,455 s.f.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird PEB-PRS-D 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration. With Pressure Regulator Module.	1
	Rain Bird 33-DRC 3/4" Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Thermoplastic Rubber Cover, Double Track Key Lug, and 2-Piece Body.	2
	Isolation Valve	1
BF	Febco 765 1" Pressure Vacuum Breaker, brass with ball valve SOV. Install 12" (305MM) above highest downstream outlet and the highest point in the downstream piping.	1
C	Hunter PC-400 Light Commercial & Residential Controller, 4-station base module controller, 120 VAC, Outdoor model	1
S	Hunter WSS Wireless Solar, rain freeze sensor with outdoor interface, connects to Hunter PCC, Pro-C, and I-Core Controllers, install as noted. Includes 10 year lithium battery and rubber module cover, and gutter mount bracket.	1
M	Water Meter 1" See Civil Plans for more information on Irrigation Meter Connection. Assumed supply pressure 60 PSI.	1
	Irrigation Lateral Line: Blu-Lock and PVC Class 200 Blu-Lock pipe, as manufactured by Hydro Rain, 1/2" to 1", then PVC Class 200 for 1-1/4" and larger. Only lateral transition pipe sizes 1" and above are indicated on the plan, with all others being 3/4" in size.	1,226 l.f.
	Irrigation Mainline: PVC Schedule 40	439.8 l.f.
	Pipe Sleeve: Blu-Lock and PVC Class 200 Typical pipe sleeve for irrigation pipe. Pipe sleeve size shall allow for irrigation piping and their related couplings to easily slide through sleeving material. Extend sleeves 18 inches beyond edges of paving or construction.	83.1 l.f.

Valve Callout

- # — Valve Number
- # — Valve Flow
- #" — Valve Size



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ADDENDUM NO. 1 05/12/16

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HOUSTON, TEXAS 77063
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STATE OF TEXAS
AMANDA D. BUCKSON
15410
LICENSED IRRIGATOR
10-21-16

PAD BUILDING AT THE CROSSROADS MALL
GREENVILLE, TEXAS

GREENVILLE PROPERTIES LTD.
GREENVILLE, TEXAS

DATE	4/15/16
PROJECT NO.	08-14-05
DRAWN BY	JCM

IRRIGATION PLAN

L2.1

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