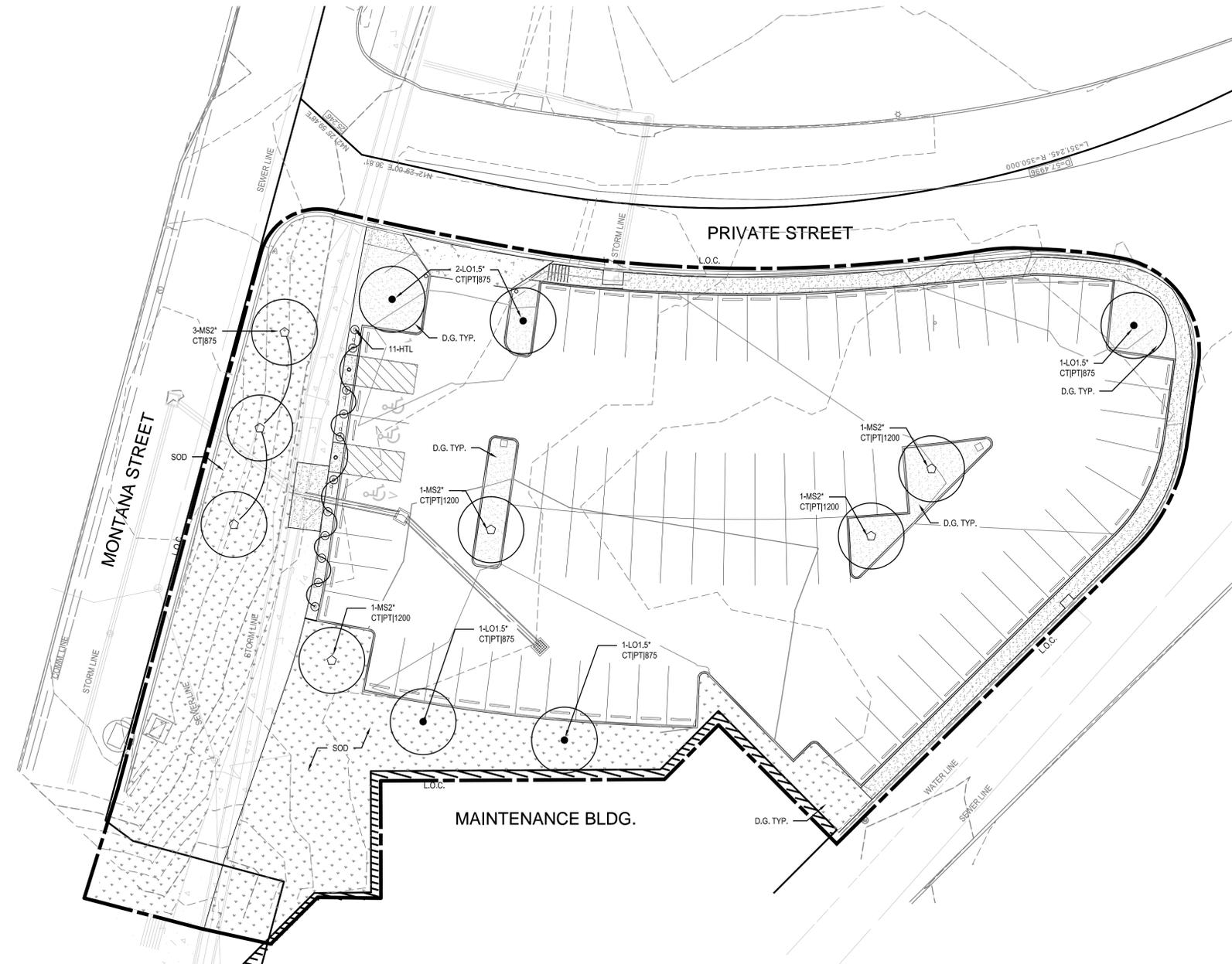


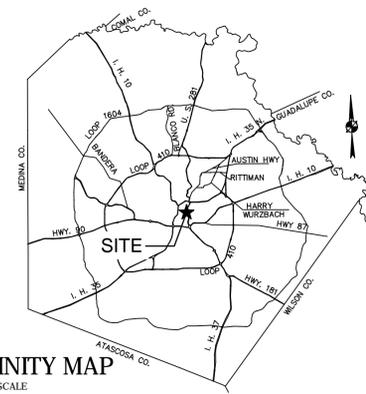
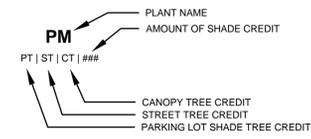


NOTE: ALL PLANT MATERIAL SHALL BE POCKET PLANTED AS PER SPECIFICATIONS. EXCAVATE 2 TIMES THE DIAMETER OF THE INSTALLED PLANT ROOT BALL AND REPLACE WITH SPECIFIED PLANTING MIX



1 PLANTING PLAN (LOT 2)  
PLAN

**LABEL LEGEND**



VICINITY MAP  
NOT TO SCALE

**LANDSCAPE ORDINANCE (LOT 2)**

**PROPERTY DESCRIPTION:**  
**PROPERTY DESCRIPTION:** HBGCC SOUTH PARKING LOT 2; SA, TEXAS  
**ZONE:** CITY LIMITS / CRAG  
**OWNERS REPRESENTATIVE:** COSA  
**WATER METHOD:** DEDICATED IRRIGATION METER TBD

**MANDATORY CRITERIA:**

- IRRIGATION.** LANDSCAPED AREAS TO BE IRRIGATED WITH SYSTEM THAT IS SUITABLE FOR THE TYPE OF PLANTINGS INSTALLED. AN IRRIGATION SYSTEM CONSISTING OF DEDICATED IRRIGATION METER WATER LINE, WATER EMITTERS AND CONTROLLER IS REQUIRED TO HAVE SEPARATE WATER SERVICE IF THE SAWS IS A PURVEYOR.
- PARKING LOT SHADING.** SHADING SHALL BE REQUIRED FOR PARKING LOTS SUBJECT TO THIS SECTION THAT ARE LOCATED WITHIN THE PROJECT AREA, AND ANY PARKING AREAS (EXCLUDING DRIVEWAYS OR GARAGES) IN RESIDENTIAL DISTRICTS. CANOPY TREES SHALL BE PROVIDED TO SHADE A MINIMUM OF TWENTY-FIVE (25) PERCENT OF A PARKING LOT. (20) POINTS ARE AWARDED TOWARD ELECTIVE CRITERIA CREDIT FOR COMPLIANCE WITH THIS SECTION. FIFTY (50) PERCENT OF PARKING SHADED - (15) POINTS.

**MANDATORY REQUIREMENTS:** (MINIMUM 25 POINTS REQUIRED)

MANDATORY CRITERIA:	POINTS PROVIDED
1. <b>PARKING LOT SHADING.</b> TWENTY (20) POINTS ARE AWARDED FOR COMPLIANCE WITH SUBSECTION (c)(7), ABOVE. FURTHER, AN ADDITIONAL: A) FIVE (5) POINTS ARE AWARDED WHEN SURFACE PARKING LOTS INCLUDE CANOPY TREES, AS DEFINED IN APPENDIX "A", WHICH SHADE A MINIMUM OF THIRTY-FIVE (35) PERCENT OF ANY INDIVIDUAL PARKING LOT; AND B) FIFTEEN (15) POINTS ARE AWARDED WHEN SURFACE PARKING LOTS INCLUDE CANOPY TREES, AS DEFINED IN APPENDIX "A", WHICH SHADE A MINIMUM OF FIFTY (50) PERCENT OF ANY INDIVIDUAL PARKING LOT. PARKING LOT AREA = 13,960 SF @ 35% = 4,886 SF REQUIRED SHADING PROVIDED: (4) MEXICAN SYCAMORE @ 1200 SF (75% CREDIT) = 3,600 SF (3) LIVE OAK @ 875 SF (75% CREDIT) = 1,969 <b>TOTAL SF = 5,568 SF (39%)</b>	(25) POINTS
<b>TOTAL POINTS PROVIDED</b>	<b>(25) POINTS</b>

**TREE CANOPY ORDINANCE (LOT 2)**

**MANDATORY CRITERIA:**

- FINAL TREE CANOPY.** ALL SITES MUST PROVIDE A MINIMUM FINAL TREE CANOPY COVER AS LISTED BELOW FOR THE ENTIRE GROSS PROJECT AREA OUTSIDE OF THE REGULATORY FLOODPLAIN.  
 - IDENTIFY "FINAL TREE CANOPY" PERCENT (%) BASED ON THE LAND USE AND AS NOTED ON SECTION (e), CRAG AREA: 15% FOR THE PURPOSE OF THIS SUBMITTAL APPROVAL.

**TREE CANOPY ORDINANCE: ( Minimum 15% Total Site Area)**

SITE AREA = 48,000 SF	
CANOPY AREA REQUIRED = 48,000 SF X 15% =	7,200 SF REQUIRED
<b>PROPOSED TREES</b>	
(7) MEXICAN SYCAMORE - 1200 SF @ 90%	7,560 SF
(5) LIVE OAK - 875 SF @ 90%	3,938 SF
<b>TOTAL TREE CANOPY COVERAGE</b>	<b>11,498 SF (21%) TREE CANOPY COVERAGE</b>

NOTE: TREES LABELED WITH "\*" ARE TO BE SUPPLIED BY THE OWNER & INSTALLED BY CONTRACTOR



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 SAN ANTONIO, TEXAS 78210  
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LANDSCAPE ARCHITECT |



8-5-2016

REVISIONS |

NO.	DATE	DESCRIPTION

CLIENT |

Project |

**HBGCC SOUTH PARKING LOT 1&2**  
**Landscape Improvements**  
 Tower of the Americas Way  
 San Antonio, Texas

PROJECT NO | 16039

DATE ISSUED | 5 AUGUST, 2016

DRAWN BY | RAA

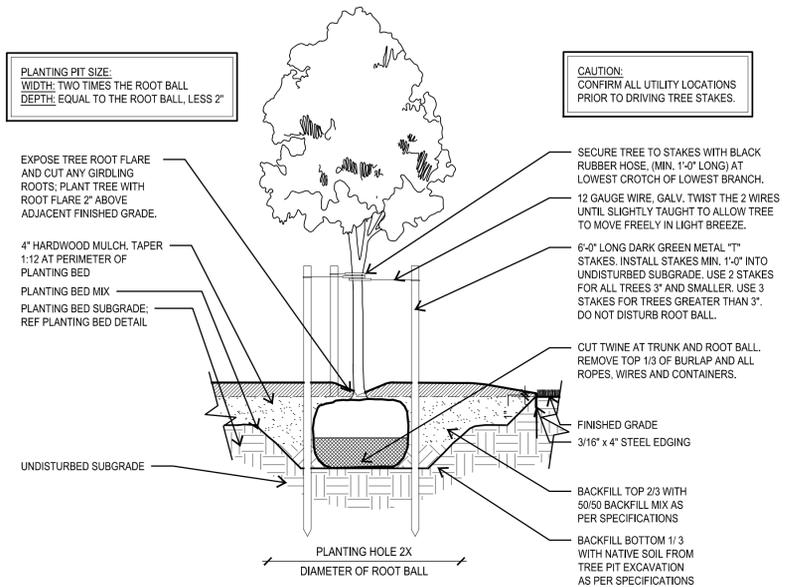
CHECKED BY | MVP

SHEET TITLE |

**LOT 2 LANDSCAPE PLANTING PLAN**

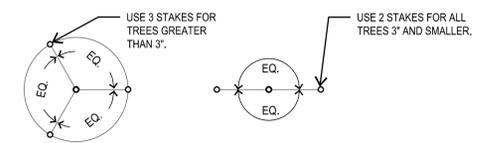
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**LP 1.2**



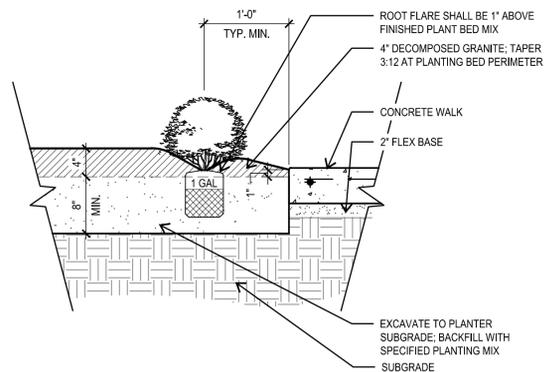
### 1 TYPICAL TREE PLANTING AT BED

SECTION SCALE: 1/2"=1'-0"



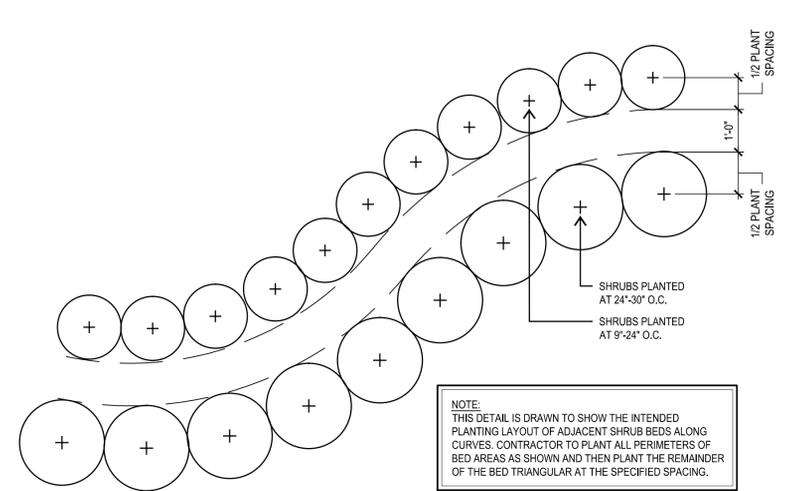
### 2 TYPICAL TREE STAKING

PLAN SCALE: 1/2"=1'-0"



### 3 TYPICAL SHRUB PLANTING

SECTION SCALE: 1"=1'-0"



### 4 TYPICAL SHRUB SPACING

PLAN SCALE: 1"=1'-0"

## MATERIALS

- A.) PLANT MATERIALS:
- CERTIFIED IN ACCORDANCE WITH TDA REQUIREMENTS.
  - SPECIES AND SIZE AS INDICATED IN PLANT SCHEDULE. LARGER SIZE MAY BE SUBSTITUTED WITHOUT ADDITIONAL COST TO OWNER, PROVIDED ROOT BALL OR SPREAD INCREASES PROPORTIONATELY.
  - WHERE MATERIALS ARE PLANTED IN MASSES, PROVIDE PLANTS OF UNIFORM SIZE.
  - GROWN IN CLIMATIC CONDITIONS SIMILAR TO THOSE AT SITE. FREE FROM DISEASE, INSECT INFESTATIONS, DEFECTS INCLUDING WEAK OR BROKEN LIMBS, CROTCHES, AND DAMAGED TRUNKS, ROOTS OR LEAVES, SUN SCALD, FRESH BARK ABRASIONS, EXCESSIVE ABRASIONS, AND OBJECTIONABLE DISFIGUREMENTS.
  - EXHIBIT NORMAL GROWTH HABITS: VIGOROUS, HEALTHY, FULL, WELL-PROPORTIONED, AND SYMMETRICAL.
  - TREE TRUNKS TO BE STURDY AND EXHIBIT HARDENED SYSTEMS AND VIGOROUS AND FIBROUS ROOT SYSTEMS, NOT ROOT OR POT BOUND.
  - NOT PRUNED, TRIMMED, OR TOPPED.
  - CONTAINER-GROWN STOCK; GROWN IN CONTAINERS FROM SEEDING.
- B.) MULCH:
- SHREDDED, COMPOSTED HARDWOOD BARK OF VARYING LENGTH BY NEW EARTH LLC, OR APPROVED SUBSTITUTE. PARTIALLY DECOMPOSED; FREE FROM STICKS, STONES, CLAY, AND GROWTH AND GERMINATION-INHIBITING INGREDIENTS.
- C.) MIXES:
- PLANT BED MIX: PLANT BED MIX (BACKFILL MIX) SHALL BE NEW EARTH'S 4 WAY MIX AS PRODUCED BY NEW EARTH LLC PH. 210-661-5180. DOCUMENTATION OF PURCHASE OF THIS SPECIFIC MIX SHALL BE SUBMITTED TO LANDSCAPE ARCHITECT. IF EQUAL IS PROPOSED, CONTRACTOR SHALL SUBMIT SAMPLE AND COMPLETE ANALYSIS WITH TEST RESULTS AND METHOD OF PRODUCTION FOR EVALUATION AS AN EQUAL SUBSTITUTE.

## PREPARATION

- LANDSCAPE CONTRACTOR SHALL RECEIVE THE SITE AT APPROXIMATELY FINISH GRADE LESS ANY SETTLEMENT THAT MAY HAVE OCCURRED SINCE SITE CONSTRUCTION AND BACKFILLING. THIS GRADE SHALL BE RAKED TO REMOVE ALL DEBRIS INCLUDING STICKS, CLODS, AND STONES AND SHALL BE FINE GRADED TO ELIMINATE ALL HUMPS, RUTS, DEPRESSIONS AND ABRUPT CHANGES IN GRADE AND ANY AREA THAT COULD CAUSE WATER TO POND.
- A.) IF VEGETATION IS GROWING IN PLANTING/LAWN AREA, APPLY HERBICIDE AT RATES RECOMMENDED BY MANUFACTURER. ALLOW TO DIE, AND THEN GRUB OUT ROOTS TO MINIMUM 1/2 INCH DEPTH.
- B.) MARK LOCATION OF TREES AND OUTLINES OF PLANTS BEDS USING COLORED WOOD STAKES OR FLAGS PRIOR TO BEGINNING PLANTING; OBTAIN LANDSCAPE ARCHITECT'S APPROVAL PRIOR TO PROCEEDING.
- PLANTING TREES
- REMOVE CONTAINERS WITHOUT DAMAGE TO ROOTS.
  - REMOVE BOTTOM OF PLANT BOXES PRIOR TO PLACING TREES; REMOVE SIDES AFTER PLACEMENT AND PARTIAL BACKFILLING. PREVENT DAMAGE TO ROOTS.
  - REMOVE UPPER THIRD OF BURLAP FROM BALLED AND BURLAP TREES AFTER PLACEMENT.
  - PLACE PLANT UPRIGHT AND PLUMB IN CENTER OF HOLE. PULL ANY WEEDS GROWING IN TREE BALL AND EXPOSE ROOT FLARE (THIS WILL BE THE TOP MOST IDENTIFIABLE ROOT). REMOVE ANY GIRDLING ROOTS AND SET PLANT SO THAT ROOT FLARE IS 1" ABOVE FINISH GRADE. ORIENT PLANTS FOR BEST APPEARANCE. BACKFILL THE BOTTOM 1/3 OF THE EXCAVATION WITH SOIL CUT FROM EXCAVATION OF PIT AND THOROUGHLY WATER THIS SOIL TO SETTLE IN. BACKFILL THE REMAINDER OF THE EXCAVATION WITH A 50/50 MIX OF NEW EARTH'S 4 WAY MIX AND NATIVE SOIL EXCAVATED FROM THE PIT. PLACE PLANT HEALTH CARE GROUP'S 'TREE SAVER' IN BACKFILL AS PER P.H.C.G. DIRECTION AND APPLICATION RATES. LIGHTLY TAMP AND WATER SOIL TO REMOVE ALL AIR POCKETS. FOR PLANTS OUTSIDE OF PLANTING BEDS, CONSTRUCT 3 INCH HIGH WATER CONTAINMENT RING AROUND PLANT. SPREAD MULCH TO MINIMUM 4 INCH DEPTH OVER PLANT BASIN.
  - ADJUST PLANT HEIGHT IF SETTLEMENT OCCURS AFTER BACKFILL AND STAKE AS DETAILED.
    - TWO TO THREE WEEKS FOLLOWING PLANTING, INJECT PLANT HEALTH CARE INJECTABLE INOCULANT AROUND ROOT BALL FOLLOWING MANUFACTURER'S DIRECTIONS AND APPLICATION RATES. CONTACT LANDSCAPE ARCHITECT TO OBSERVE THIS OPERATION.
  - TRIM PLANTS TO REMOVE DEAD AND INJURED BRANCHES ONLY. TREAT CUTS OVER 3/4 INCH DIAMETER WITH TREE PAINT.
  - BRACE PLANTS OVER 65 GALLONS SIZE IMMEDIATELY AFTER PLANTING:
    - FOR TREES 2' CAL. AND GREATER PROVIDE STAKING AS DETAILED. POSITION TO PREVENT HAZARDS TO PEDESTRIANS.
    - DO NOT RESTRICT PLANT MOVEMENT UNDER LIGHT WIND LOADS OR DAMAGE BARK.

## GENERAL NOTES

- LANDSCAPE CONTRACTOR SHALL ACCEPT THE SITE IN ITS EXISTING CONDITION AND SHALL TIE NEW WORK TO EXISTING CONDITIONS AND CONTROLS (SUCH AS EXISTING GRADES AND WALK ELEVATIONS) AS NECESSARY TO MEET THE INTENT OF THE PLANS.
- BEFORE PROCEEDING WITH ANY WORK IN AN AREA, LANDSCAPE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LAYOUTS AND SIZES AND SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN PLANS AND ACTUAL SITE CONDITIONS. IF ANY UTILITIES OR OBSTRUCTIONS ARE DISCOVERED DURING CONTRACT WHICH MAY NOT HAVE BEEN KNOWN DURING DESIGN, CONTRACTOR SHALL STOP WORK AND IMMEDIATELY NOTIFY LANDSCAPE ARCHITECT BEFORE PROCEEDING. LANDSCAPE CONTRACTOR SHALL BE LIABLE FOR ALL MODIFICATIONS AND DAMAGE IF WORK PROCEEDS IN EITHER OF THE ABOVE SITUATIONS WITHOUT NOTIFYING LANDSCAPE ARCHITECT.
- PRIOR TO ANY EXCAVATION, LANDSCAPE CONTRACTOR SHALL CONTACT APPROPRIATE AUTHORITIES INCLUDING, BUT NOT LIMITED TO, TEXAS ONE CALL SYSTEM AT 1-800-245-4545 TO LOCATE EXISTING UNDERGROUND UTILITIES.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ANY DAMAGE TO ANY UTILITIES OR PROPERTY THAT MAY OCCUR IN THE EXECUTION OF HIS CONTRACT WORK. WHEN WORK REQUIRES CROSSING EXISTING WALKS OR CURBS WITH EQUIPMENT, LANDSCAPE CONTRACTOR SHALL PROVIDE APPROVED BRIDGE MATERIAL SUCH AS WOOD PLANKS AND EARTH TO PREVENT DAMAGE TO FINISHED WORK. LANDSCAPE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS THAT MAY BE WORKING ON THE SITE SIMULTANEOUSLY AND SHALL COORDINATE STAGING OF HIS WORK WITH OWNER AND LANDSCAPE ARCHITECT. ALL TRASH AND DEBRIS GENERATED FROM CONTRACT OPERATIONS SHALL BE REMOVED ON A DAILY BASIS. ALL WORK SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES AND ORDINANCES. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SITE SAFETY IN CONJUNCTION WITH HIS CONTRACT WORK.

## PLANT LIST (PARKING LOT 1)

CALLOUT	QUANTITY	COMMON NAME BOTANICAL NAME	SIZE	REMARKS
MS1.5	5	MEXICAN SYCAMORE PLATANUS MEXICANA	1.5" CAL.; MIN 6' HT.; MIN 3' SPRD.	SINGLE TRUNK B&B; STRAIGHT TRUNK WITH FULL AND UNIFORM CANOPY; PARK GRADE NOT ACCEPTABLE
MS2"	3	MEXICAN SYCAMORE PLATANUS MEXICANA	2" CAL.; MIN 6' HT.; MIN 3' SPRD.	* OWNER TO SUPPLY, CONTRACTOR TO INSTALL
CE3"	7	CEDAR ELM ULMUS CRASSIFOLIA	3" CAL.; MIN 6' HT.; MIN 3' SPRD.	* OWNER TO SUPPLY, CONTRACTOR TO INSTALL
LO1.5"	13	LIVE OAK QUERCUS VIRGINIANA	1.5" CAL.; MIN 6' HT.; MIN 3' SPRD.	* OWNER TO SUPPLY, CONTRACTOR TO INSTALL

## ORNAMENTAL TREES

CALLOUT	QUANTITY	COMMON NAME BOTANICAL NAME	SIZE	REMARKS
CM	8	TUSCARORA CRAPE MYRTLE LAGERSTROEMIA INDICA X FAURIEI 'TUSCARORA'	1.5" CAL.; MIN 3 MULTI TRUNK MIN 6' HT.; MIN 3' SPRD.	MULTITRUNK, 3-5 TRUNKS, 1-1/2" MIN CANE CAL.; FULL CANOPY; DARK GREEN; CONTAINER GROWN SPECIMEN

## SHRUBS

CALLOUT	QUANTITY	COMMON NAME BOTANICAL NAME	SIZE	REMARKS
FIG	20	FIG IVY FICUS PUMILA	1 GAL.; 18" HT. 12" SPRD.	DARK GREEN; FULL, STAKED
HTR	14	HORSETAIL EQUISETUM SPP.	1 GAL.; 18" HT. 12" SPRD.	DARK GREEN; FULL, PLANT 30" O.C.

## GROUNDCOVER

CALLOUT	QUANTITY	COMMON NAME BOTANICAL NAME	SIZE	REMARKS
D.G.	10,900 SF	DECOMPOSED GRANITE	• 4" THICK FINISH GRADE • PROVIDE WEED BARRIER	COMPANY: KELLER MATERIAL LIMITED PHONE: 210-967-1300
SOLID SOD	FIELD VERIFY	COMMON BERMUDA CYNODON DACTYLON	SOLID SOD	CONTINUOUS SOLID SOD STRIP ALONG BACK OF CURB. CONTRACTOR TO FIELD VERIFY QUANTITY OF LAWN REQUIRED.

NOTE: TREES LABELED WITH "\*" ARE TO BE SUPPLIED BY THE OWNER & SUPPLIED BY CONTRACTOR

## PLANT LIST (PARKING LOT 2)

CALLOUT	QUANTITY	COMMON NAME BOTANICAL NAME	SIZE	REMARKS
MS2"	7	MEXICAN SYCAMORE PLATANUS MEXICANA	2" CAL.; MIN 6' HT.; MIN 3' SPRD.	* OWNER TO SUPPLY, CONTRACTOR TO INSTALL
LO1.5"	5	LIVE OAK QUERCUS VIRGINIANA	1.5" CAL.; MIN 6' HT.; MIN 3' SPRD.	* OWNER TO SUPPLY, CONTRACTOR TO INSTALL

## SHRUBS

CALLOUT	QUANTITY	COMMON NAME BOTANICAL NAME	SIZE	REMARKS
HTR	11	HORSETAIL EQUISETUM SPP.	1 GAL.; 18" HT. 12" SPRD.	DARK GREEN; FULL, PLANT 30" O.C.

## GROUNDCOVER

CALLOUT	QUANTITY	COMMON NAME BOTANICAL NAME	SIZE	REMARKS
D.G.	3,335 SF	DECOMPOSED GRANITE	• 4" THICK FINISH GRADE • PROVIDE WEED BARRIER	COMPANY: KELLER MATERIAL LIMITED PHONE: 210-967-1300
SOLID SOD	FIELD VERIFY	COMMON BERMUDA CYNODON DACTYLON	SOLID SOD	CONTINUOUS SOLID SOD STRIP ALONG BACK OF CURB. CONTRACTOR TO FIELD VERIFY QUANTITY OF LAWN REQUIRED.



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LANDSCAPE ARCHITECT |



8-5-2016

REVISIONS |

NO.	DATE	DESCRIPTION

CLIENT |

Project |

HBGCC SOUTH PARKING LOT 1&2  
Landscape Improvements  
Tower of the Americas Way  
San Antonio, Texas

PROJECT NO |

16039

DATE ISSUED |

5 AUGUST, 2016

DRAWN BY |

RAA

CHECKED BY |

MVP

SHEET TITLE |

PLANTING  
DETAILS & NOTES

SHEET NO |

LP 2.1

N/A

5 EXISTING IRRIGATION NOTES

TYPICAL WEEKLY SCHEDULE BASED ON PRECIPITATION RATE

Precipitation Rate (in/hr)	Water Desired (in/wk)	Time/Cycle (min)	No. of Zones	Total Min. Hrs.
Spray Zones 1.44	.80		4	440 7.4
MP Rotators .45	.80	110.0		
Turf Drip .43	.80			
Drip Zones .63	.80	76.0	2	152 2.5
Bubbler Zones 3.87	.80	15.0	6	90 1.5
Total System Hours of Operation Per Week				11.4

\* IT WILL BE NECESSARY TO DIVIDE WATERING TIME INTO 2 TO 3 CYCLES TO MINIMIZE RUNOFF. A TYPICAL SCHEDULE WOULD ALLOW WATERING TO OCCUR TWO TIMES PER WEEK. TOTAL WATERING TIME WOULD BE DIVIDED BY THE NUMBER OF WATERING DAYS. THIS SCHEDULE IS DESIGNED FOR SUMMER WATER USAGE AND ESTABLISHMENT OF NEW PLANTING.

4 ET Valve Schedule

PRESSURE REQUIREMENT CALCULATIONS @ ZONE No. 11

DESIGN STATISTICS FOR CALCULATIONS	
Total Zone Flow:	19.3 g.p.m.
Electric Valve Size:	1"
Static Pressure Less 10% (static @ 75 psi):	67.5 p.s.i.
ACCUMULATIVE LOSSES FROM CITY MAIN TO FURTHEST HEAD	
Sprinkler head requirement:	40 p.s.i.
Zone Pipe/Fitting Loss:	1.21 p.s.i.
1" Electric Valve Loss:	3.5 p.s.i.
System Mainline Loss (2.5" Sch-40 Main):	0.88 p.s.i.
Elevation Gain (+ - 0):	na
Backflow Preventer Loss:	4.5 p.s.i.
Water Meter Loss:	2.0 p.s.i.
Master Electric Valve Loss:	1.8 p.s.i.
Type K Copper Service Loss:	na
Total Net Loss:	13.89 p.s.i.
Design Pressure:	53.89 p.s.i.

Notes: System requires a minimum of 54 psi static pressure for system to operate properly. Irrigation Contractor shall conduct on site pressure test to verify site pressure prior to starting work. Contractor shall notify Owner's Representative of pressure deficiencies or any other on site problems that may alter the effectiveness of the system.

3 Critical Zone Chart

- IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH THE SPECIFICATIONS AND ALL SUBMITTAL REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO NOTIFY THE OWNER'S REPRESENTATIVE FOR SITE. INSPECTIONS AS SPECIFIED IN THE SPECIFICATIONS. FAILURE TO NOTIFY THE OWNER'S REPRESENTATIVE DOES NOT RELIEVE THE CONTRACTOR FROM INSPECTION APPROVAL AND WILL REQUIRE THE CONTRACTOR TO UNCOVER WORK AS REQUIRED FOR APPROVAL AT THE COST OF THE CONTRACTOR. IRRIGATION CONTRACTOR IS TO INFORM OWNER'S REPRESENTATIVE OF THE START DATE OF WORK.  
THE IRRIGATION CONTRACTOR IS REQUIRED BY LAW TO NOTIFY TEXAS ONE CALL (800-245-4545) 72 HOURS PRIOR TO ANY EXCAVATION. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES. IRRIGATION CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES WHETHER OR NOT TEXAS ONE CALL IS NOTIFIED.
- DO NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WITHOUT VERIFYING ACTUAL ON-SITE WATER PRESSURE FROM THE SOURCE. DO NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
- IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER CONTRACTORS AS REQUIRED TO ACCOMPLISH IRRIGATION INSTALLATION.
- DUE TO SCALE OF DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS SLEEVES, ETC., WHICH MAY BE REQUIRED. IRRIGATION CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF HIS WORK AND PLAN HIS WORK ACCORDINGLY, FURNISHING SUCH FITTINGS, ETC., AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. THE WORK SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID CONFLICTS BETWEEN IRRIGATION SYSTEM, PLANTING AND ARCHITECTURAL FEATURES. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS AND WITHIN PROPERTY LINES.
- IT IS THE IRRIGATION CONTRACTOR'S RESPONSIBILITY TO COORDINATE PIPING WITH THE LANDSCAPE SUBCONTRACTOR TO AVOID CONFLICT WITH PLANTING BEDS. IT WILL BE THE RESPONSIBILITY OF THE IRRIGATION SUBCONTRACTOR TO MOVE PIPING TO ALLOW PROPER PLACEMENT OF PLANT MATERIAL. THE IRRIGATION CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO ENSURE PROPER COVERAGE AT NO ADDITIONAL COST TO THE OWNER.
- NO MACHINE TRENCHING IS TO BE DONE WITH DRIPLINE OF TREES. TRENCHING IS TO BE DONE BY HAND OR BY TUNNELING UNDER ROOT SYSTEM BY METHOD APPROVED BY OWNER'S REPRESENTATIVE. PIPING LAYOUT IS DIAGRAMMATIC AND PIPING SHALL BE ROUTED AROUND EXISTING PLANT MATERIAL TO AVOID DAMAGE TO EXISTING PLANTS. DO NOT CUT ANY ROOT OVER 3/4" DIAMETER. ANY CUTS MADE SHALL BE CLEAN AND WITHOUT FRAIRED ENDS.
- IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR SLEEVES AND CHASES WHEREVER PIPING OR CONDUIT PASSES, UNDER ALL PAVING, THROUGH WALLS, ETC. ALL SLEEVE LOCATIONS MAY NOT BE SHOWN ON PLAN. COORDINATE WITH ARCHITECTURAL AND CIVIL DRAWINGS. GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS AS REQUIRED. ALL SLEEVE AND CHASE LOCATIONS ARE NOT NOTED ON PLAN. ALL SLEEVES SHALL BE SCH 40 PVC, SIZED TWICE THE DIAMETER OF PIPE OR COMBINATION OF PIPES ENCLOSED WITHIN THE SLEEVE.
- CONFIRM STATIC WATER PRESSURE AT LEAST 7 DAYS BEFORE BEGINNING WORK. IF STATIC WATER PRESSURE IS LESS THAN STATED IN PRESSURE CALCULATIONS DO NOT PROCEED UNTIL DIRECTED SO BY THE LANDSCAPE ARCHITECT. IF ACTUAL SITE STATIC PRESSURE EXCEEDS DESIGN PRESSURE BY 15 P.S.I. IN ANY ZONE, A PRESSURE REDUCING VALVE SHALL BE INSTALLED. REFER TO DETAILS FOR MODEL.
- PRESSURE AT ANY POINT WITHIN A ZONE SHALL NOT VARY BY MORE THAN 10% FROM THE DESIGN SPRINKLER OPERATING PRESSURE. SEE SPECIFICATIONS FOR TESTING.
- ALL IRRIGATION WORK SHALL BE INSTALLED UNDER THE SUPERVISION OF A LICENSED (IN THE STATE OF TEXAS) IRRIGATION CONTRACTOR.
- OBTAIN COVERAGE TEST APPROVAL FROM OWNER'S REPRESENTATIVE PRIOR TO PLANTING, SODDING OR SEEDING.
- ALL UNDESIGNATED END LATERAL PIPING SHALL BE 1/2" IN SPRAY ZONES AND 3/4" IN ROTOR ZONES.
- SPRINKLER HEAD SPACING SHALL NOT EXCEED 50% OF SPRAY DIAMETER BASED ON MANUFACTURERS OPERATING SPECIFICATIONS.
- ALL ROTORS SHALL BE LOCATED 12" FROM PAVEMENT, CURBS OR EDGE OF STRUCTURE. ALL SPRAY HEADS SHALL BE LOCATED 6" FROM PAVEMENT, CURBS OR EDGE OF STRUCTURE.
- UNDER NO CIRCUMSTANCES ARE ZONE TYPES TO BE COMBINED I.E. ROTARY HEADS WITH SPRAYS, TURF AREAS WITH PLANTING BEDS.
- IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM STATIC PRESSURE ON SITE PRIOR TO STARTING WORK. REFER TO NOTES #9 AND #10.
- IT IS THE IRRIGATION CONTRACTORS RESPONSIBILITY TO SECURE ALL REQUIRED PERMITS AND PAY ALL ASSOCIATED FEES UNLESS OTHERWISE NOTED. ALL LOCAL CODES SHALL PREVAIL OVER ANY DISCREPANCIES CONTAINED IN THESE DOCUMENTS.
- UNSLEEVED PIPES MAY BE SHOWN UNDER PAVEMENT FOR GRAPHIC CLARITY. INSTALL PIPES IN ADJACENT SLEEVES WITHIN LANDSCAPE AREAS.
- ELECTRIC POWER SHALL BE PROVIDED TO CONTROLLER LOCATION BY GENERAL CONTRACTOR. IRRIGATION CONTRACTOR SHALL PROVIDE FINAL HARD-WIRE TO CONTROLLERS.
- AFTER AWARD OF CONTRACT AND BEFORE ANY IRRIGATION SYSTEM MATERIALS ARE ORDERED FROM SUPPLIERS OR DELIVERED TO THE JOB SITE, SUBMIT TO THE OWNER A COMPLETE LIST OF ALL IRRIGATION SYSTEM MATERIALS, OR PROCESSES PROPOSED TO BE FURNISHED AND INSTALLED AS PART OF THIS CONTRACT. THE LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE WILL ALLOW NO SUBSTITUTIONS WITHOUT PRIOR WRITTEN ACCEPTANCE. MANUFACTURER'S WARRANTIES SHALL NOT RELIEVE THE CONTRACTOR OF HIS LIABILITY UNDER THE GUARANTEE. SUCH WARRANTIES SHALL ONLY SUPPLEMENT THE GUARANTEE.

2 General Notes

- DEDICATED 1" IRRIGATION WATER METER, VERIFY LOCATION IN FIELD
- 1.5" DOUBLE CHECK BACK FLOW DEVICE
- MASTER VALVE IN A SEPARATE VALVE BOX. 1.5" HUNTER ICV-151G
- MP ROTATOR NOZZLE 90°-210°; SIZE AS SPECIFIED ON PLAN
- MP ROTATOR NOZZLE 210°-270°; SIZE AS SPECIFIED ON PLAN
- MP ROTATOR NOZZLE 360°; SIZE AS SPECIFIED ON PLAN
- MP ROTATOR: M35-MP 3500, M3-MP 3000, M2-MP 2000, M1-MP 1000, M8-M800SR, MC-MP CORNER, MR, MS, ML- MP SIDESTRIPS AND END STRIPS
- NOTE: ALL MP ROTATOR NOZZLES ARE TO BE INSTALLED ON HUNTER PROS-06-CV SPRAYS FOR TURF AREAS AND HUNTER PROS-12-CV SPRAYS FOR PLANTING BEDS.
- INDICATES MANUFACTURER'S STANDARD CATALOGED SPACING WITHOUT WIND. ALLOWANCE THIS NUMBER IS FOR REFERENCE ONLY AND DOES NOT INDICATE ACCEPTANCE OF DEVIATION FROM DESIGN SPACING TO THIS STANDARD.
- INDICATES ANGLE OF COVERAGE. FOR EXAMPLE: H= 180 DEG SUB-LETTER 'g' INDICATES GROUND COVER. 's' INDICATES SHRUB APPLICATION.
- INDICATES TREE BUBBLER- HUNTER RZWS, SIZE AS NEEDED.
- INDIVIDUAL DRIP EMITTERS, REFER TO DRIP DETAILS FOR TYPE AND NUMBER PER PLANT
- EXISTING CONTROLLER - RAINMASTER EAGLE TWICE. LOCATION IS TO BE DETERMINED BY CONTRACTOR IN THE FIELD PRIOR TO WORK.
- EXISTING WEATHER SENSOR - VERIFY SENSOR IS ON SITE, CONNECTED, AND FUNCTIONAL. REPLACE OR ADD IF REQUIRED AFTER CONSULTING WITH LANDSCAPE ARCHITECT.
- QUICK COUPLING VALVE; REFER TO DETAILS FOR PRODUCT
- RAINBIRD DRIP CONTROL ZONE VALVE - REFERENCE DETAILS
- HUNTER ICV-AS-ADJ REMOTE CONTROL VALVE. SIZE AS NOTED ON PLAN.
- QUICK COUPLING VALVE; REFER TO DETAILS FOR PRODUCT
- MANUAL VALVE- SIZE OF MAINLINE
- ZONE IDENTIFICATION  
ZONE SIZE IN GALLONS PER MINUTE
- HATCH INDICATES BED/TURF AREAS TO BE INCLUDED THIS ZONE  
VALVE SIZE THIS ZONE
- DRIPLINE: RAINBIRD XFS-09-18 FOR SURFACE PLANTING BEDS, ROWS SPACED AT 18 INCHES  
RAINBIRD XFS-06-12 FOR SUBSURFACE TURF, ROWS SPACED AT 12 INCHES  
RAINBIRD XFCV-06-12 FOR SLOPES GREATER THAN 3:1
- DRIP SUPPLY LINE, SCH 40 PVC, SIZE PER PLAN.
- ZONE IDENTIFICATION  
ZONE SIZE IN GALLONS PER MINUTE.  
VALVE SIZE THIS ZONE.
- MAIN LINE - USE SCH-40 PVC PIPE, SIZE AS DESIGNATED ON PLANS.
- LATERAL LINE - SIZE AS NOTED ON PLAN. DO NOT DEVIATE ON SIZING WITHOUT CONSULTING WITH PROJECT DESIGNER.  
USE CLASS 315 ON 1/2" PIPE AND CLASS 200 IPS PVC ON 3/4" AND LARGER PIPE.
- SLEEVE - USE TWO (2) SIZES LARGER THAN TOTAL DIAMETER OF SPRINKLER PIPE/S DESIGNATED FOR CROSSING PAVING. WHERE REQUIRED, VALVE WIRING MAY BE RUN IN THE SAME SLEEVES. USE SCH 40 PVC PIPE OR AS DESIGNATED ON PLANS.
- NOTE: Irrigation Details- Refer to Sheet LI 2.1 TO LI 2.3

1 Legend

STATEMENT OF IRRIGATION DESIGN STANDARDS CONFORMITY:  
This plan is complete and conforms to the design and installation parameters of the irrigation design and equipment standards set out 35-510(i) and 35-511(c)(6) of the City of San Antonio Unified Development Code.

*Paul J. Radlett*  
Paul J. Radlett TX LI # 12574



201 GROVETON STREET  
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210.314.5582  
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LANDSCAPE ARCHITECT |



REVISIONS |

NO.	DATE	DESCRIPTION
1	08/15/16	Owner Comments

CLIENT |

Project |

**HBGCC SOUTH PARKING LOT 1&2**  
**Landscape Improvements**  
Tower of the Americas Way  
San Antonio, Texas

PROJECT NO |

16039

DATE ISSUED |  
27 JULY, 2016

DRAWN BY | WOR, PJR

CHECKED BY | MVP

SHEET TITLE |

IRRIGATION  
NOTES

SHEET NO |

LI 1.0



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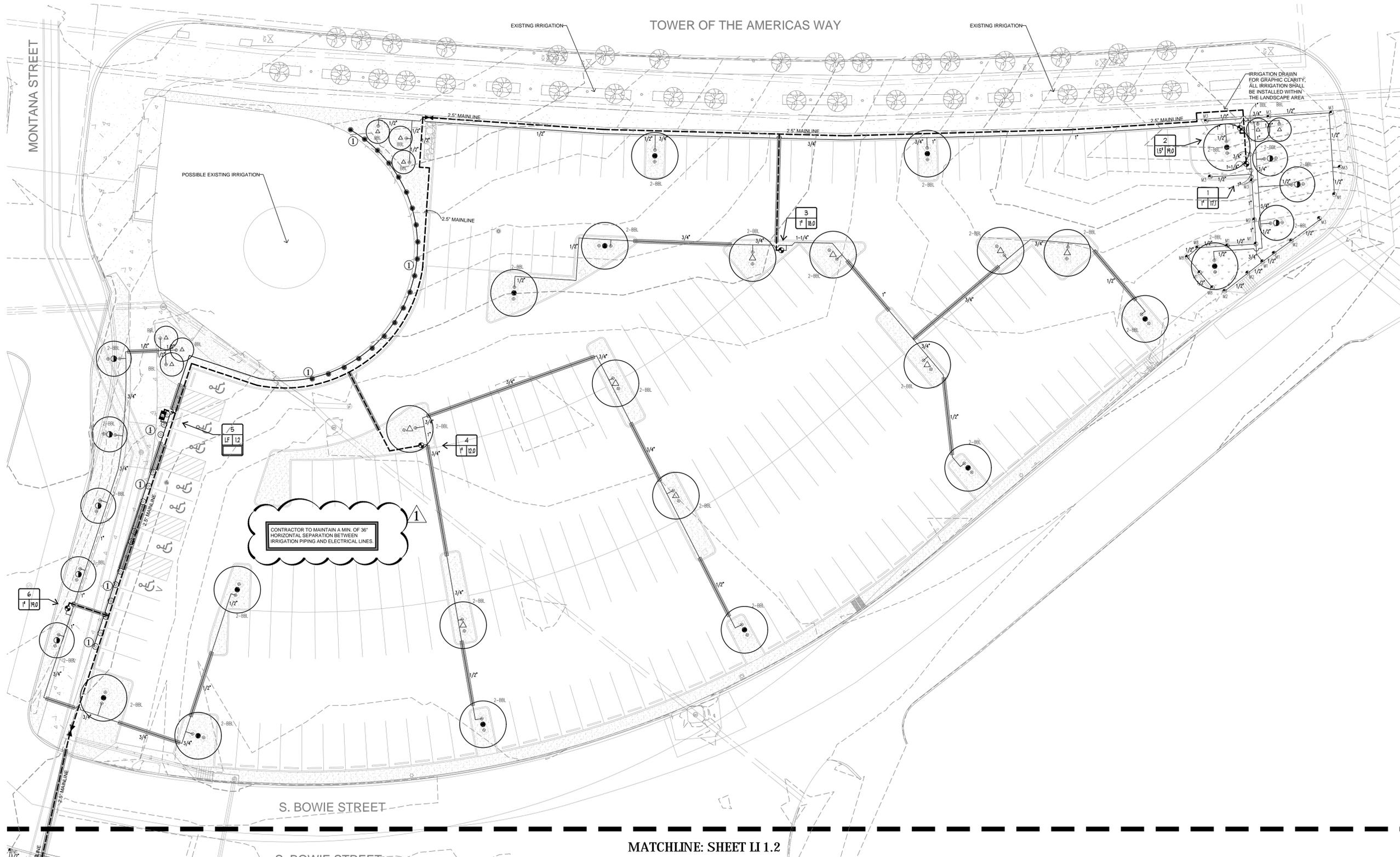
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SHEET TITLE |

**LANDSCAPE IRRIGATION PLAN**

SHEET NO |

**LI 1.1**



1 IRRIGATION PLAN  
 PLAN

MATCHLINE: SHEET LI 1.2





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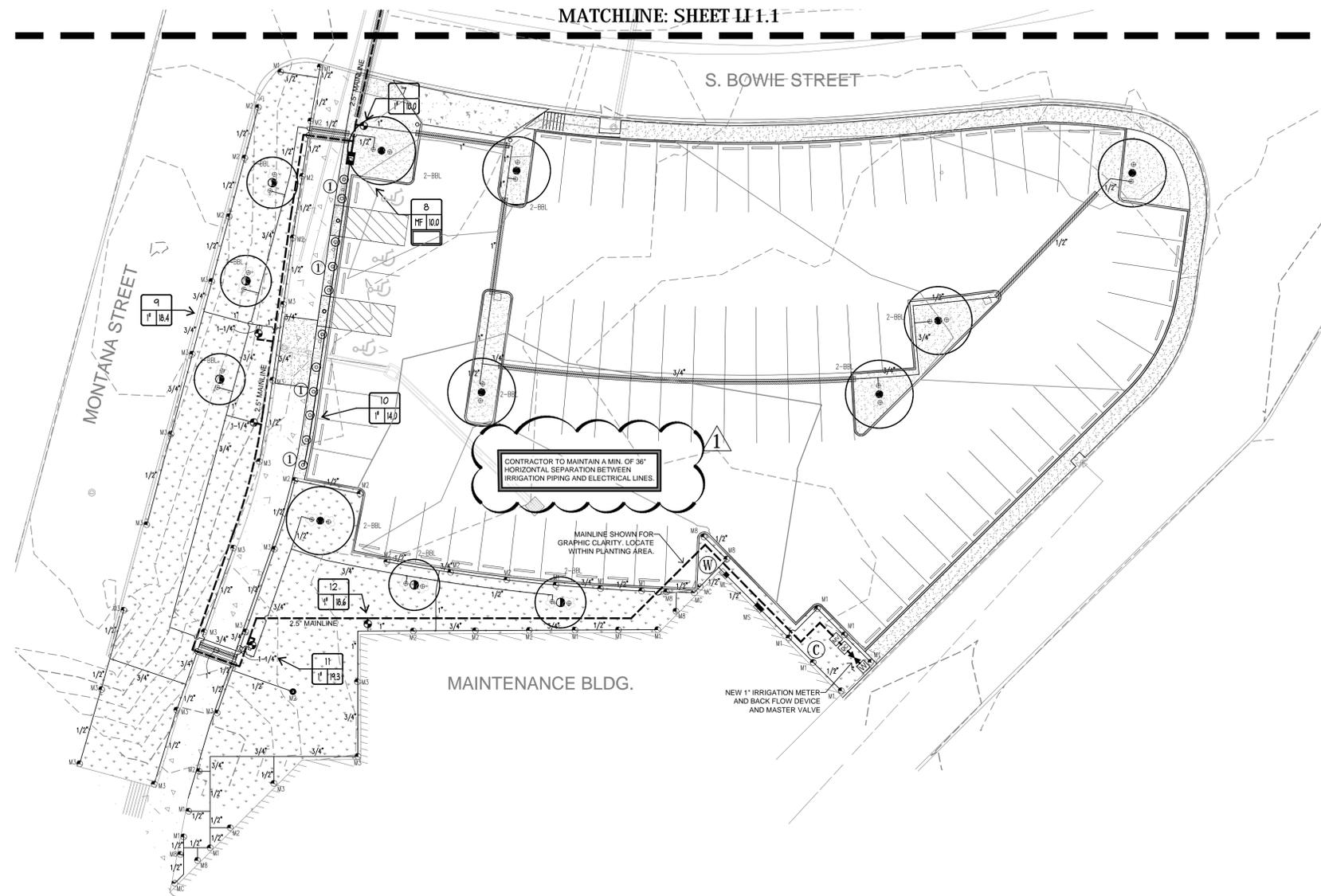
MVP

SHEET TITLE |

**LANDSCAPE IRRIGATION PLAN**

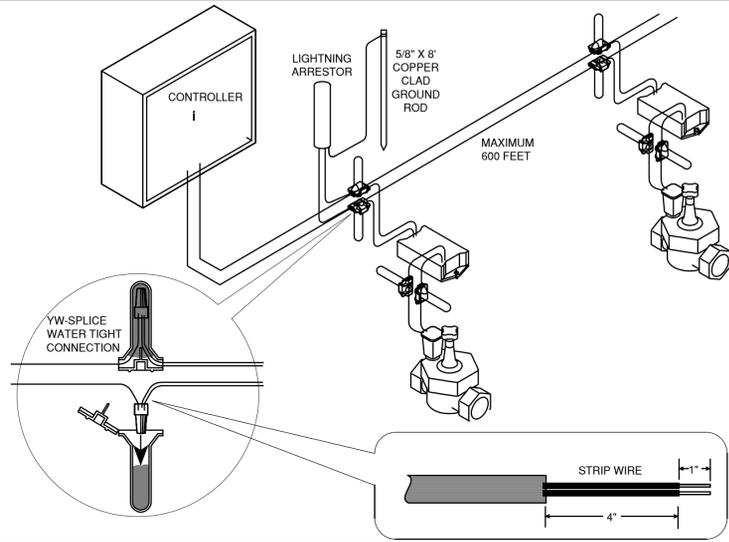
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**LI 1.2**

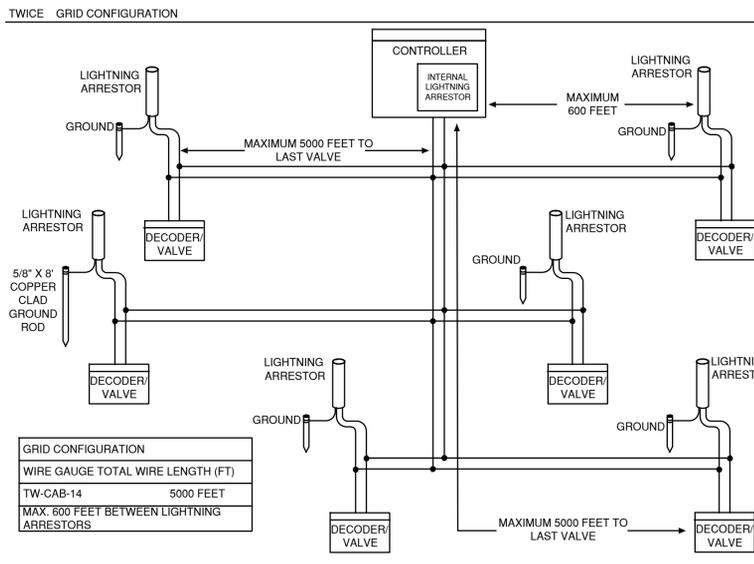


**2 IRRIGATION PLAN**  
 PLAN

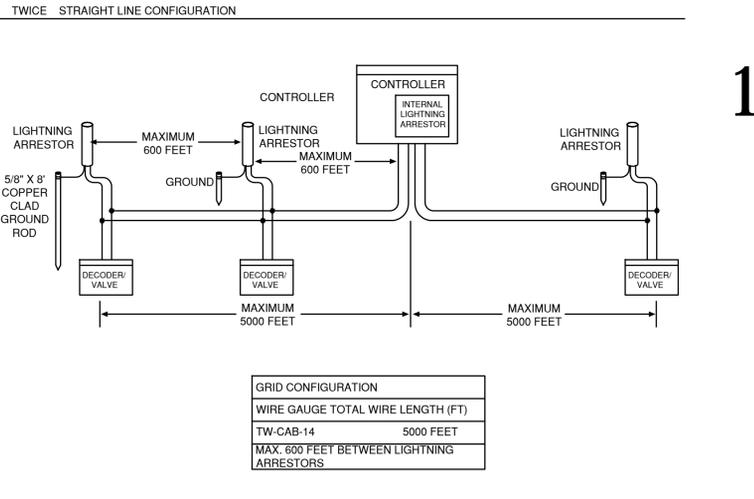




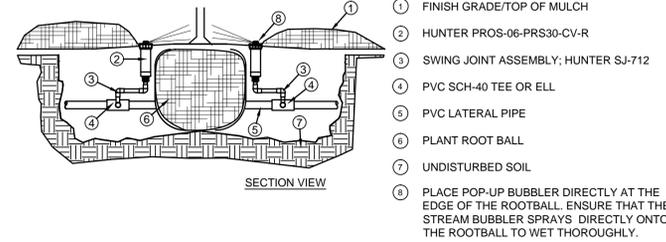
### 13 TWO-WIRE GRID CONFIGURATION



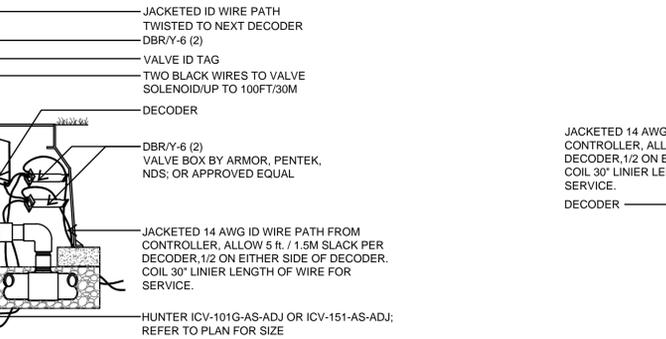
### 12 TWO-WIRE CONNECTION DETAIL



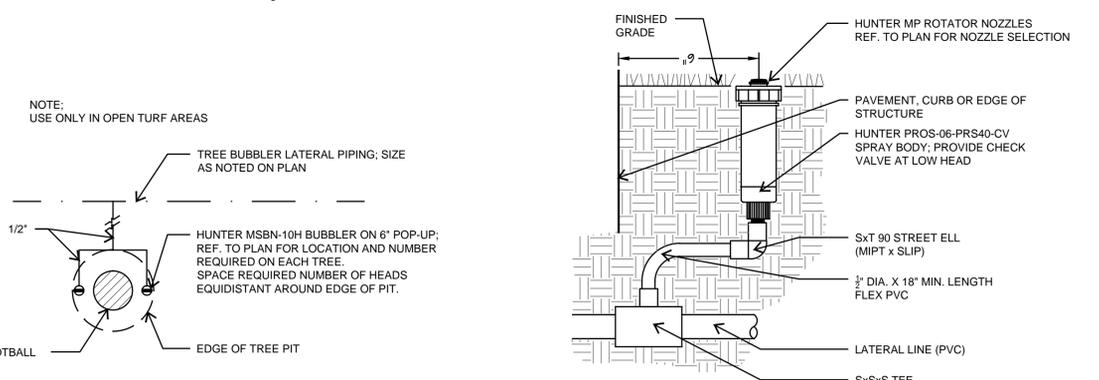
### 11 TWO-WIRE STRAIGHT LINE CONFIGURATION



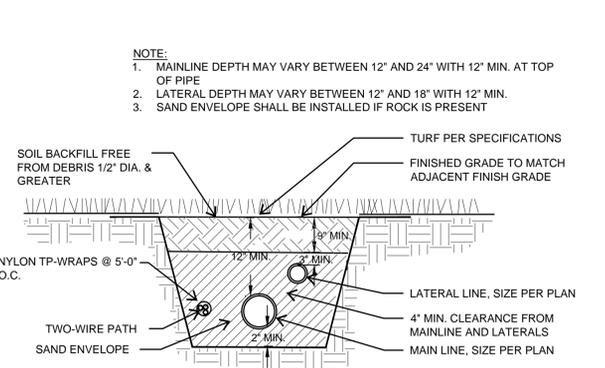
### 8 TREE BUBBLER ASSEMBLY



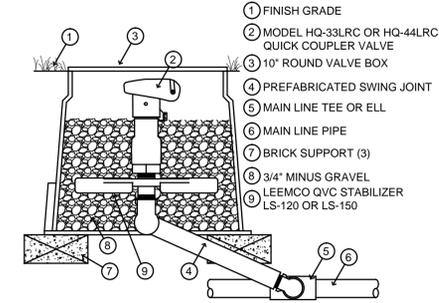
### 7 ZONE VALVE



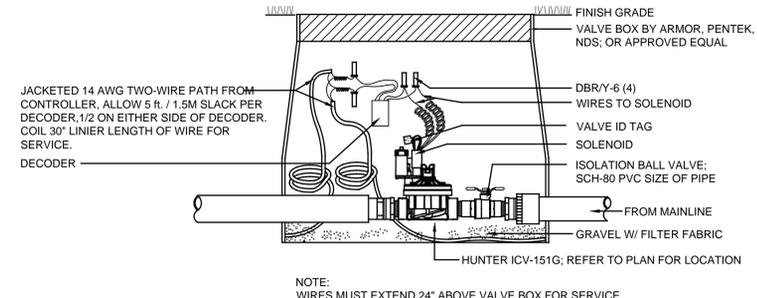
### 6 MP ROTATOR TURF SPRAY



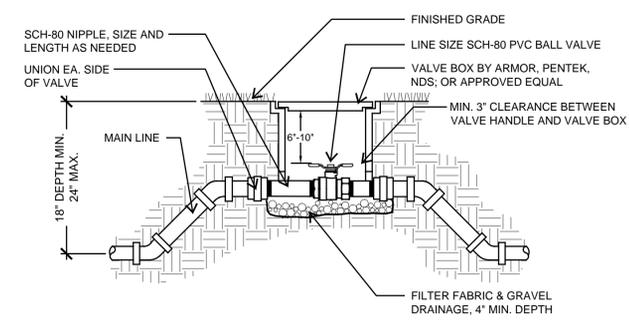
### 5 IRRIGATION TRENCH DETAIL



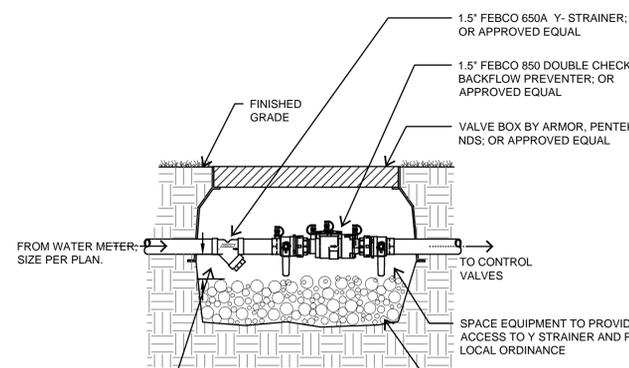
### 4 QUICK COUPLER VALVE



### 3 MASTER VALVE



### 2 MANUAL ISOLATION VALVE



### 1 BACKFLOW DEVICE PER LOCAL CODE



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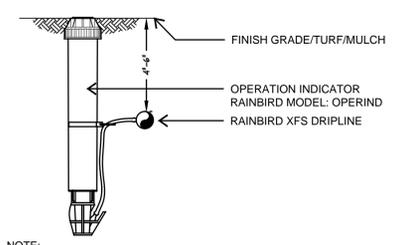
MVP

SHEET TITLE |

IRRIGATION  
DETAILS

SHEET NO |

LI 2.1



NOTE:  
1. INSERT BARB TRANSFER FITTING DIRECTLY INTO DRIPLINE TUBING.  
2. VAN NOZZLE MAY BE SET TO CLOSED. OR IF IT IS DESIRED TO SEE SPRAY FROM THE NOZZLE, SET THE ARC TO 1/2 PATTERN. THE FLOW FROM THE NOZZLE, 0.3 GPM, SHOULD BE ACCOUNTED FOR IN THE SYSTEM DESIGN.

## 7 OPERATION INDICATOR

- 1.) DRIPLINE SHALL BE BURIED 3" TO 5" BELOW FINISHED SOIL GRADE IN PLANTING BEDS AFTER PLANTING AND BEFORE MULCH AND 4" TO 6" BELOW FINISHED GRADE IN TURF AREAS.
- 2.) STAGER EMITTER SPACING IN PARALLEL ROWS TO CREATE TRIANGULAR WETTING PATTERN.
- 3.) ALL DRIPLINE SHALL BE SECURED USING SOIL STAPLES AS SUPPLIED BY THE MANUFACTURER SPACED A MAX. OF 3' ON CENTER.
- 4.) DRIPLINE LATERALS SHOWN ON THE PLANS ARE USED TO INDICATE ZONING SIZES AND RELATIONSHIPS. INSTALLATION OF DRIPLINE ZONES SHALL FOLLOW ONE OF THE TWO METHODS DESCRIBED IN DTLs. 3/4-LI 2.2. AND RAIN BIRD'S RECOMMENDED INSTALLATION SPECIFICATIONS.
- 5.) RAIN BIRD XFS SERIES DRIPLINE SHALL BE USED AS FOLLOWS:  
TURF AREAS; XFS-06-12, ROWS SPACED AT 12 INCHES ROWS SPACED AT 12 INCHES BED AREAS; XFS-09-18, ROWS SPACED AT 18 INCHES ROWS SPACED AT 18" BED AREAS WITH SLOPE 3:1 OR MORE; XFCV-06-12
- 6.) WHEN CONFLICTS OCCUR BETWEEN THESE DRAWINGS AND THE MANUFACTURER'S SPECIFICATIONS DEFER TO THE MANUFACTURER'S RECOMMENDED SPECIFICATIONS.
- 7.) EACH DRIPLINE ZONE SHALL HAVE A DRIPLINE SYSTEM OPERATION INDICATOR, RAIN BIRD MODEL OPERIND. INSTALL PER RAIN BIRD RECOMMENDATIONS.

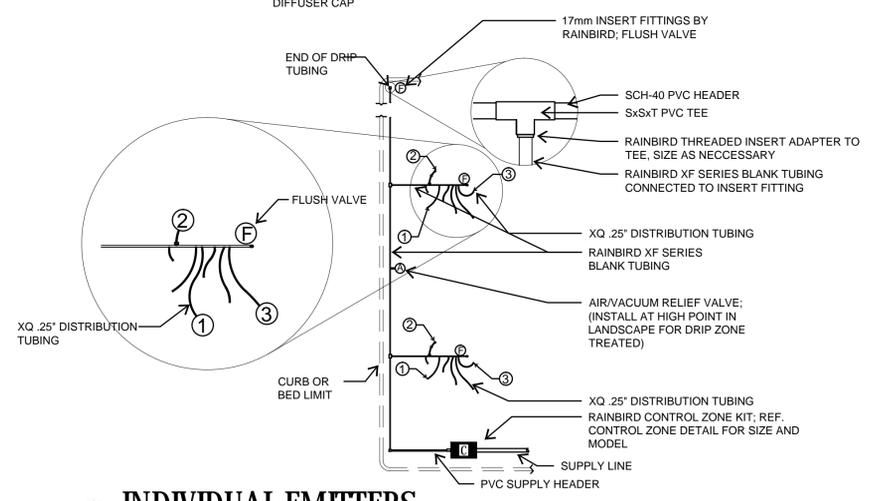
PROPER SIZING OF SUPPLY AND EXHAUST HEADERS (17MM XFS SERIES DRIPLINE)

TOTAL ZONE FLOW	PIPE SIZE
UP TO 5 GPM	1/2" SCH 40 PVC or 1/2" CLASS 315 PVC
5.1 TO 8 GPM	3/4" CLASS 200 PVC
8.1 TO 13 GPM	1" CLASS 200 PVC
13.1 TO 22 GPM	1-1/4" CLASS 200 PVC
22.1 TO 31 GPM	1-1/2" CLASS 200 PVC

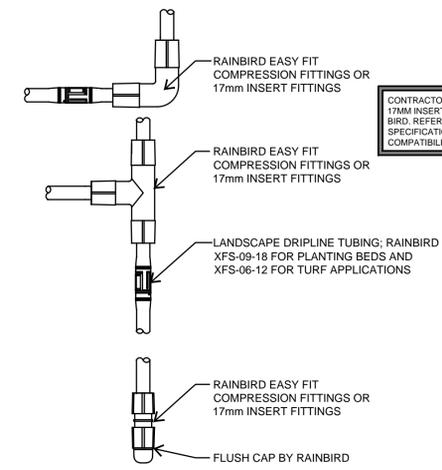
NOTE: A 45 PSI PRESSURE REGULATOR IS RECOMMENDED TO OBTAIN MAXIMUM RUN LENGTHS AND MAXIMIZE ZONE SIZE WHEN INSTALLING XFS SERIES DRIPLINE.

## 9 DRIP DESIGN NOTES

- RAINBIRD EMITTER SCHEDULE**
- 1) 15 GAL. SHRUB - (2) RED 2.0 GPH XB-20-PC EMITTERS WITH XQ .25" DISTRIBUTION TUBING WITH DBC-025 BUG CAP AND PC-DIFF-PPL DIFFUSER CAP
  - 2) 5 GAL. SHRUB - (2) BLACK 1.0 GPH XB-10-PC EMITTERS WITH XQ .25" DISTRIBUTION TUBING WITH DBC-025 BUG CAP AND PC-DIFF-PPL DIFFUSER CAP
  - 3) 1 GAL. SHRUB - (1) BLACK 1.0 GPH XB-10-PC EMITTERS WITH XQ .25" DISTRIBUTION TUBING WITH DBC-025 BUG CAP AND PC-DIFF-PPL DIFFUSER CAP

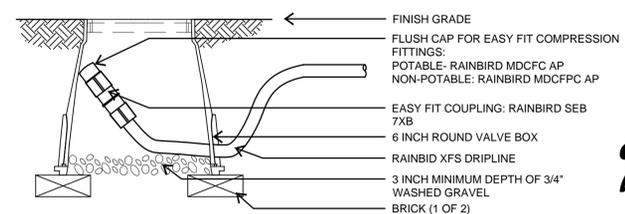


## 8 INDIVIDUAL EMITTERS



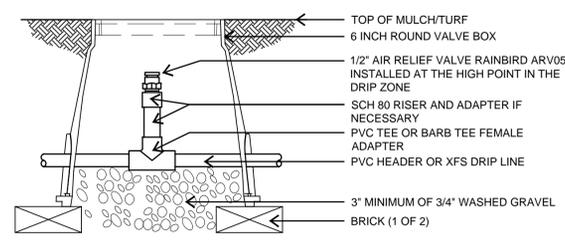
CONTRACTOR TO USE EASY FIT COMPRESSION OR 17MM INSERT FITTINGS WITH DRIPLINE BY RAIN BIRD. REFER TO MANUFACTURER'S SPECIFICATIONS FOR ALL PARTS TO INSURE COMPATIBILITY.

## 6 DRIPLINE FITTINGS

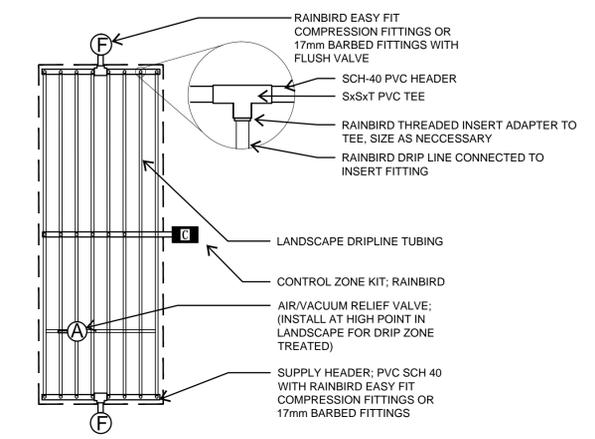


NOTE:  
1. ALLOW A MINIMUM OF 6-INCHES OF DRIPLINE TUBING IN VALVE BOX IN ORDER TO DIRECT FLUSHED WATER OUTSIDE VALVE BOX.

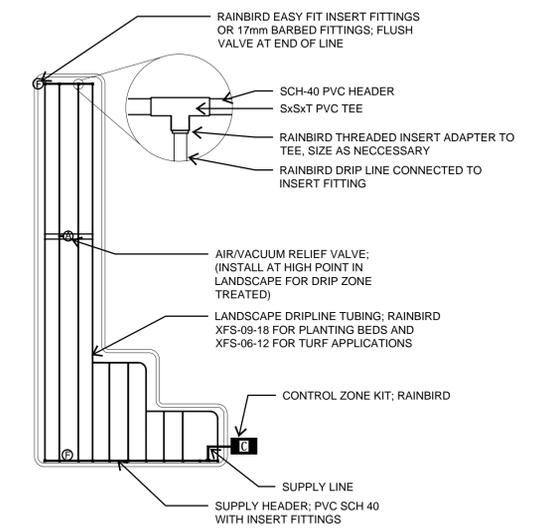
## 5 DRIPLINE FLUSH VALVE



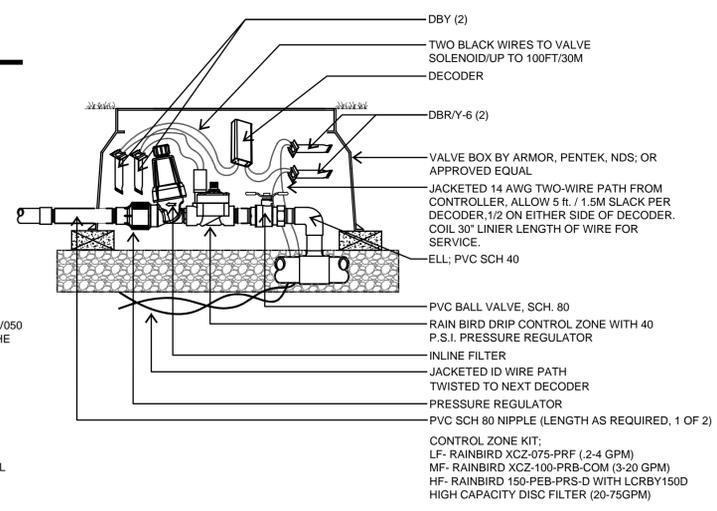
## 4 AIR RELIEF VALVE



## 3 DRIPLINE INSTALLATION (CENTER FEED)



## 2 DRIPLINE INSTALLATION (END FEED)



## 1 CONTROL ZONE KIT