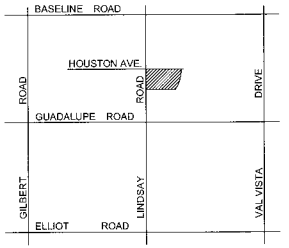
VICINITY MAP

N.T.S.



GENERAL NOTES

1. ALL LANDSCAPE WORK TO CONFORM TO THE MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" AND DETAILS DATED 1992 AND CURRENT REVISIONS THERETO, TOGETHER WITH THE TOWN OF GILBERT STANDARD DETAILS AND SUPPLEMENT TO M.A.G. AND THE SPECIAL PROVISIONS. IF ANY DISCREPANCIES EXIST BETWEEN THE DRAWINGS AND THE DOCUMENTS LISTED ABOVE, THE DRAWINGS SHALL PREVAIL OR SHALL BE AS DETERMINED BY THE OWNER'S REPRESENTATIVE.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT AND INSPECT THE JOB SITE PRIOR TO BIDDING, TO THOROUGHLY STUDY THESE CONTRACT DOCUMENTS IN THEIR ENTIRETY, AND TO FULLY AND COMPLETELY ESTIMATE THE EXTENT OF THE PROJECT WORK TO BE COMPLETED. NO ADDITIONAL COMPENSATION WILL BE PERMITTED FOR FAILURE TO COMPLETELY ASCERTAIN ALL ASPECTS OF THE PROJECT.
3. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS. NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY OF EXISTING CONDITIONS WHICH ADVERSELY IMPACT CONTRACTOR'S ABILITY TO COMPLETE IMPROVEMENTS INDICATED ON PLANS.
4. CONTRACTOR SHALL REVIEW AND FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES AND SUBSURFACE SYSTEMS PRIOR TO STARTING ANY EXCAVATIONS OR UNDERGROUND WORK.
5. CONTRACTOR SHALL VERIFY WITH OWNER'S REPRESENTATIVE ALL LANDSCAPE WORK SEQUENCING AND SCHEDULING AND SHALL SUBMIT VERIFICATION THAT ALL PLANT MATERIAL HAS BEEN SECURED AND IS AVAILABLE FOR REVIEW PRIOR TO STARTING ANY WORK.
6. BASE INFORMATION PROVIDED DERIVED FROM TOWN OF GILBERT G.I.S. DATA & AERIAL PHOTOS BOTH PROVIDED BY THE TOWN OF GILBERT.
7. LANDSCAPING SUBGRADE (± .10 TOLERANCE) TO BE PROVIDED BY THE LANDSCAPE CONTRACTOR AS FOLLOWS:
   A. ROCK GROUND COVER AREAS: 2" BELOW FINISH GRADE TO ALLOW FOR INSTALLATION OF 2" MINIMUM DEPTH ROCK GROUND COVER.
   B. ALL SITE LANDSCAPE AREAS DESIGNATED FOR ROCK GROUND COVER SHALL BE FINISH GRADED PRIOR TO THE START OF ANY LANDSCAPE INSTALLATIONS. TOP OF ROCK GROUND COVER TO BE MIN. 1" BELOW TOP OF ADJACENT PAVEMENT OR CURB SURFACE.
8. CALL BLUE STAKE (602)263-1100 TO LOCATE UNDERGROUND UTILITIES BEFORE STARTING ANY UNDERGROUND WORK.
9. NO PLANT SUBSTITUTIONS, TYPE OR QUANTITY DEVIATIONS FROM THE APPROVED LANDSCAPE PLANTING OR IRRIGATION PLANS WITHOUT PRIOR WRITTEN APPROVAL FROM THE TOWN OF GILBERT.
10. ALL PLANT MATERIAL AND SPECIFICATIONS TO CONFORM TO THE ARIZONA NURSERYMAN ASSOCIATION STANDARDS.
11. ALL RIGHT-OF-WAY PLANT MATERIAL TO BE IN COMPLIANCE WITH THE CURRENT DEPARTMENT OF WATER RESOURCES LOW WATER USE APPROVED PLANT LIST.
12. PRIOR TO THE START OF ANY LANDSCAPE CONSTRUCTION ACTIVITY, CONTRACTOR SHALL SUBMIT TO THE LANDSCAPE ARCHITECT, AT A MINIMUM, A SAMPLE OR MANUFACTURER'S PRODUCT DATA SHEET OF THE FOLLOWING ITEMS, FOR REVIEW AND APPROVAL (NOTE: ADDITIONAL SUBMITTALS MAY BE REQUIRED UPON REQUEST BY THE LANDSCAPE ARCHITECT)(REFER TO SPECIFICATIONS):
   A. LANDSCAPE ITEMS– *PLANT MATERIAL VERIFICATION SOURCE LIST; FERTILIZER AND FERTILIZER TABLET; COMPLETE TREE STAKING MATERIALS INCLUDING STAKES, WIRES, & RUBBER HOSE; BOULDER SAMPLES WHERE CALLED FOR; PRE-EMERGENT; AND ROCK GROUND COVER MATERIAL SAMPLES (MIN. 2 POUNDS EACH TYPE).
      *ALL LANDSCAPE PLANT MATERIAL SHALL BE REVIEWED AND APPROVED AT THE NURSERY BY THE LANDSCAPE ARCHITECT PRIOR TO DELIVERY TO THE SITE.
   B. LANDSCAPE IRRIGATION ITEMS– THE FOLLOWING IRRIGATION SUBMITTAL SAMPLES AND/OR MATERIAL PRODUCT DATA SHEETS SHALL BE PROVIDED FOR REVIEW: BACK FLOW PREVENTER & ENCLOSURE; CONTROLLER WITH EITHER PEDESTAL OR WALL MOUNTED CABINET ENCLOSURE; CONTROL VALVES; EACH TYPE OF VALVE BOXES (ALL SIZES); ALL PVC PIPE INCLUDING PVC FLEX HOSE AND 1/4" POLY DISTRIBUTION TUBING; ALL REQUIRED PVC PRIMER AND CEMENT INCLUDING TYPE 795 CEMENT FOR FLEX HOSE; EMITTERS AND/OR HEADS; WIRE CONNECTORS, WATER SERVICE PRESSURE AND POWER SERVICE VERIFICATION.
13. CONTRACTOR IS REQUIRED TO PROVIDE A MINIMUM OF 72-HOUR PRIOR NOTIFICATION TO SCHEDULE ALL REQUIRED FIELD REVIEWS AND SITE INSPECTIONS.

LANDSCAPE NOTES

1. VERIFY ALL LAYOUT AND GRADING WITH THE OWNER'S REPRESENTATIVE PRIOR TO STARTING CONSTRUCTION.
2. LANDSCAPE AREAS ARE DEFINED AS ALL NON-PAVED AREAS SHOWN ON THE PLANS WHICH ARE BOUNDED BY THE FENCE/WALLS OR PROPERTY LINES ADJACENT TO THE ROADWAYS INCLUDING ALL ADJACENT PUBLIC RIGHT-OF-WAY, COMMON OPEN SPACE TRACTS, AND ANY ADJACENT PROPERTIES OUTSIDE THESE LIMITS WHICH ARE DISTURBED BY ANY CONSTRUCTION ACTIVITY UNDER THIS CONTRACT.
3. ALL EXISTING LANDSCAPE AREAS OUTSIDE THE SITE AREA DEFINED ABOVE WHICH ARE DISTURBED BY ANY ACTIVITY UNDER THIS CONTRACT SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION AND TO THE SATISFACTION OF THE TOWN OF GILBERT AT CONTRACTOR'S EXPENSE. SEE PROTECTION/RESTORATION NOTES THIS SHEET
4. THE CONTRACTOR SHALL PROVIDE FLAGGED AND/OR STAKED LAYOUT OF ALL PLANTING LOCATIONS FOR REVIEW AND ADJUSTMENT, IF NECESSARY, BY THE OWNER'S REPRESENTATIVE PRIOR TO STARTING IRRIGATION OR PLANT PIT EXCAVATIONS.
5. PLANT QUANTITIES INDICATED ARE FOR GENERAL REFERENCE ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE ALL QUANTITIES AND MATERIALS NECESSARY TO COMPLETE THE WORK IN ACCORDANCE WITH THE SYMBOLS SHOWN ON THE PLANS.
6. ALL PLANTING AREAS SHOWN TO RECEIVE ROCK GROUND COVER SHALL RECEIVE A 2" MINIMUM LAYER (AFTER SETTLEMENT) OF ROCK GROUND COVER AND FINISH GRADING, AS DESIGNATED, UNLESS OTHERWISE INDICATED.
7. UNLESS OTHERWISE INDICATED, ROCK GROUND COVER SHALL BE DECOMPOSED GRANITE ¾" SCREENED 'MADISON GOLD'. PROVIDE SAMPLE TO OWNER'S REPRESENTATIVE FOR SELECTION AND APPROVAL PRIOR TO ORDERING.
8. RIP RAP OR OTHER ROCK SURFACING SHALL ALSO BE CONSIDERED ROCK GROUND COVER WHERE CALLED FOR.
9. ALL NON-PAVED SITE AREAS INDICATED OR SHOWN TO RECEIVE INSTALLATION OF ROCK GROUND COVER SHALL RECEIVE A MINIMUM OF TWO APPLICATIONS OF APPROVED PRE-EMERGENT HERBICIDE (SURFLAN OR APPROVED EQUAL). FIRST APPLICATION SHALL BE APPLIED DIRECTLY TO SOIL SURFACE. SECOND APPLICATION SHALL BE APPLIED TO ROCK GROUND COVER AFTER SETTLEMENT. ALL HERBICIDE APPLICATIONS SHALL BE MADE BY A LICENSED APPLICATOR IN ACCORDANCE WITH THE MANUFACTURERS' DIRECTIONS. PROVIDE LISTING OF MANUFACTURERS WITH CHEMICAL ANALYSIS AND APPLICATORS LICENSE FOR SELECTION AND APPROVAL PRIOR TO STARTING ANY APPLICATIONS. PROVIDE 48 HOUR NOTIFICATION TO THE OWNER'S REPRESENTATIVE PRIOR TO STARTING APPLICATIONS. FIELD VERIFY INSTALLATION LIMITS OF ALL ROCK GROUND COVER AND BOULDERS WITH THE OWNER'S REPRESENTATIVE PRIOR TO STARTING ANY WORK.
10. CONSTRUCTION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THESE PLANS AND ANY AND ALL DEVIATIONS WILL REQUIRE REAPPROVAL. LANDSCAPE INSTALLATIONS TO BE APPROVED BY THE TOWN OF GILBERT PARKS AND RECREATION DEPARTMENT.
11. AS APPLICABLE, DESIGN OF WALLS, ENTRY MONUMENT SIGN, AND RAMADAS AS PRESENTED HEREIN HAVE BEEN REVIEWED AS CONCEPTUAL ONLY AND WILL REQUIRE A SEPARATE REVIEW AND PERMIT FROM THE BUILDING DEPARTMENT. IN NO CASE SHALL THE DEPICTED WALLS, ENTRY MONUMENT SIGNS, AND RAMADAS BE CONSIDERED FINAL. APPROVAL BY THE PLANNING DEPARTMENT IS REQUIRED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT FOR SAID WALLS, ENTRY MONUMENTS, AND RAMADAS.
12. NO OBJECTS WITHIN THE TOWN OF GILBERT SIGHT TRIANGLES SHALL EXCEED 2 FEET, AND TREES SHALL HAVE A 7 FEET MINIMUM CLEAR CANOPY. ALL TREES, SHRUBS, AND GROUNDCOVERS ARE TO MEET OR EXCEED A.N.A. SPECIFICATIONS.

IRRIGATION NOTES

1. CONTRACTOR SHALL REVIEW AND FIELD VERIFY LAYOUT OF ALL IRRIGATION SYSTEM COMPONENTS AND HAVE THE LAYOUT APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO STARTING INSTALLATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY COMPONENTS AND COMPLETING THE INSTALLATION OF A FULLY AUTOMATIC AND OPERATIVE IRRIGATION SYSTEM, AS INDICATED ON THE PLANS, PRIOR TO THE START OF ANY PLANTING OPERATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING EXISTING CONDITIONS PRIOR TO THE START OF CONSTRUCTION. NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND INFORMATION SHOWN ON PLANS WHICH AFFECT OPERATION OR LAYOUT OF SYSTEM.
4. SYSTEM HAS BEEN DESIGNED WITH A STATIC PRESSURE OF 65 TO 70 PSI. CONTRACTOR SHALL FIELD VERIFY PRESSURE PRIOR TO ORDERING MATERIAL OR STARTING IRRIGATION AND NOTIFY CONSULTANT OF ANY DIFFERENCE FROM PRESSURE INDICATED. IF CONTRACTOR FAILS TO NOTIFY CONSULTANT HE ASSUMES FULL RESPONSIBILITY FOR ANY SYSTEM ALTERATIONS.
5. WATER SERVICE CONNECTIONS TO THE WATER LINE, AND WATER METERS WHERE SHOWN ON THE PLANS ARE EXISTING. CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONNECTIONS DOWNSTREAM OF THE WATER METER AND EXTEND TAP SIZE TYPE 'K' HARD COPPER PIPE FROM WATER METER THROUGH BACKFLOW PREVENTER AS DETAILED, AND AS APPLICABLE.
6. ALL PIPING AND WIRING PLACED UNDER PAVED AREAS SHALL BE INSTALLED IN SEPARATE SLEEVES WHERE SHOWN ON PLANS. SLEEVE INSTALLATIONS SHALL BE COMPLETED PRIOR TO THE START OF ANY PAVING OPERATIONS. WHERE NECESSARY, VERIFY EXISTING SLEEVE LOCATIONS AND DETERMINE CONDITION AND COMPATIBILITY WITH DESIGN PRIOR TO THE START OF ANY OTHER WORK. SLEEVING BENEATH EXISTING PAVEMENTS SHALL BE INSTALLED BY BORING (SIDEWALK) AND CUTTING AND PATCHING (STREETS) UNLESS OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE.
7. ENCLOSURES FOR THE BACKFLOW PREVENTER ASSEMBLY SHALL BE AS DETAILED AND SHALL BE FABRICATED BASED ON DETAILS SHOWN. PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO STARTING FABRICATION.
8. THE IRRIGATION SYSTEM LAYOUT SHOWN ON THE DRAWINGS IS GENERALLY SCHEMATIC. ALL VALVES, COMPONENTS, PIPING, FITTINGS AND EQUIPMENT SHALL BE LOCATED WITHIN LANDSCAPE AREAS UNLESS SLEEVED OR OTHERWISE SHOWN OR APPROVED BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING NEW IRRIGATION SYSTEM COMPONENTS AND CONNECTIONS WHICH WILL PROVIDE FULL AUTOMATIC OPERATION AND 100% COMPLETE COVERAGE TO ALL PLANTS AND TURF AREAS AS INDICATED ON THE PLANS WITHOUT RUN-OFF OR OVERTHROW ONTO ANY PAVED SURFACES.
9. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY FINAL LOCATION, COORDINATE ACCESS AND MAKE ALL NECESSARY CONNECTIONS FOR THE IRRIGATION CONTROLLER POWER SERVICE AT LOCATION SHOWN ON THE PLANS.
10. REFER TO SPECIFICATIONS AND DETAILS FOR INSTALLATIONS PROCEDURES.
11. ALL IRRIGATION VALVE BOXES AND EQUIPMENT ENCLOSURES SHALL BE LOCATED OUT OF TURF AREAS IN GRANITE AREAS. WHERE GRANITE AREAS ARE NOT AVAILABLE, VALVE BOXES ONLY, MAY BE LOCATED IN TURF AREAS. VALVE BOXES IN TURF AREAS SHALL BE GREEN COLOR. ALL OTHER VALVE BOXES SHALL BE BEIGE/TAN TO MATCH GRANITE. ALL VALVE BOXES AND EQUIPMENT ENCLOSURE LOCATIONS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE. FIELD VERIFY LOCATIONS PRIOR TO STARTING ANY IRRIGATION SYSTEM INSTALLATIONS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL PIPING NECESSARY TO PROVIDE A COMPLETE AND FULLY OPERATIONAL IRRIGATION SYSTEM INCLUDING ALL SUB-LATERAL PIPING, FITTINGS AND RISERS TO EACH PLANT EMITTER AS SPECIFIED AND AS DETAILED, WHETHER OR NOT PIPING IS SHOWN ON THE PLANS.
13. UNLESS OTHERWISE NOTED ON IRRIGATION PLANS, ALL EXISTING AT GRADE OR ABOVE GRADE IRRIGATION COMPONENTS TO BE REMOVED. THIS INCLUDES, BUT IS NOT LIMITED TO ELECTRIC VALVES, VALVE BOXES, SPRAY HEADS, BUBBLERS, EMITTER DISTRIBUTION LINES AND CONTROLLERS. ALL EXISTING IRRIGATION BELOW GRADE (PVC PIPING) TO BE ABANDONED IN PLACE, UNLESS DISTURBED DURING NEW CONSTRUCTION. REMOVE AND DISPOSE AS NECESSARY.
14. A TOWN OF GILBERT PERMIT IS REQUIRED FOR THE INSTALLATION OF ANY LANDSCAPE OR IRRIGATION SYSTEM. IRRIGATION LINES MUST BE INSPECTED BEFORE BACKFILLING. A SET OF 4 MIL. PHOTO-MYLARS "AS-BUILTS" OF THE LANDSCAPE AND IRRIGATION PLANS ARE ALSO REQUIRED.
15. "BEFORE THE TOWN OF GILBERT WILL ACCEPT AN INSTALLED BACKFLOW DEVICE FOR APPROVAL, THE FOLLOWING MUST BE ACCOMPLISHED: THE DEVICE MUST BE TESTED BY A STATE CERTIFIED BACKFLOW TESTER AND THE TEST RESULTS FORWARDED TO THE TOWN OF GILBERT BACKFLOW SPECIALIST. THE TOWN WILL PROVIDE AN UP-TO-DATE LIST OF CERTIFIED TESTERS FROM WHICH TO BE SELECTED. TESTER FEES WILL BE AT THE EXPENSE OF THE INSTALLER."

PROTECTION / RESTORATION NOTES

1. RESTORATION OF LANDSCAPE AREAS WILL BE BASED ON THE LIMIT OF DISTURBANCE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LIMITS OF RESTORATION AND PROVIDE ALL LABOR AND MATERIALS NECESSARY TO COMPLETE THE REQUIRED REPAIR WORK AS NOTED AND IN ACCORDANCE WITH M.A.G. SECTION 107.9.
2. RESTORATION SHALL INCLUDE BUT IS NOT LIMITED TO THE COMPLETE RESTORATION OF ALL DISTURBED LANDSCAPE SURFACES, INCLUDING INSTALLATION OF NEW OR REPLACEMENT IRRIGATION SYSTEMS AND PLANTS AS WELL AS ALL FINISH GRADING AND ROCK GROUND COVER TO MATCH ADJACENT UNDISTURBED LANDSCAPE AREAS.
3. LIMIT OF RESTORATION SHALL BE DETERMINED BY THE LIMIT OF DISTURBANCE OR EXTENT OF WORK NECESSARY TO COMPLETE THE REQUIRED RESTORATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AND INSTALL ALL NECESSARY PROTECTIVE DEVICES TO PREVENT OR RESTRICT ENCROACHMENT OF OPERATIONS OR TRAFFIC FROM ACCESS AND DISTURBANCE OF ANY ADJACENT AREAS NOT SHOWN TO BE DISTURBED AS A RESULT OF WORK UNDER THIS CONTRACT.
4. ANY AND ALL PLANTS, NOT DESIGNATED TO BE REMOVED, WHICH ARE DISTURBED OR DAMAGED AS A RESULT OF WORK UNDER THIS CONTRACT SHALL BE REPLACED WITH A PLANT OF EQUAL OR BETTER QUALITY AND OF THE SAME SIZE AND SPECIES AS THE ORIGINAL EXISTING PLANT UNLESS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE.

MAINTENANCE

1. CONTRACTOR SHALL CONTINUOUSLY MAINTAIN ALL INSTALLED PORTION OF LANDSCAPE AREAS INCLUDED IN THE CONTRACT DURING THE PROGRESS OF THE WORK UNTIL SUBSTANTIAL PROJECT COMPLETION AND FOR A MINIMUM PERIOD OF 90 DAYS THEREAFTER. MAINTENANCE SHALL INCLUDE ALL WORK NECESSARY TO KEEP THE PROJECT IN NEAT, CLEAN, WEED FREE CONDITION AND TO ASSURE HEALTHY PLANT GROWTH.
2. CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM AND MAKE ANY NECESSARY REPAIRS, REPLACEMENTS, OR ADJUSTMENTS REGARDLESS OF CAUSE TO ASSURE A COMPLETE AND OPERATIONAL SYSTEM AND COMPLETE 100% UNIFORM HEAD TO HEAD COVERAGE TO THE NEW AND EXISTING PLANTINGS AND LAWN AREAS.
3. 1 WEEK PRIOR TO THE END OF THE MAINTENANCE PERIOD, AND ONCE OWNER'S REPRESENTATIVE AGREES ALL LANDSCAPE AREAS ARE GRADED SMOOTH AND WEED FREE, LAWN AREAS AND PLANT MATERIALS ARE IN SATISFACTORY GROWING CONDITION, AND AUTOMATED IRRIGATION SYSTEM IS FULLY OPERATIONAL WITH COMPLETE 100% UNIFORM HEAD TO HEAD COVERAGE TO ALL INSTALLED PORTIONS OF LANDSCAPE PLANTINGS AND LAWN AREAS, PROJECT WILL BE ACCEPTED AND TOWN OF GILBERT MAINTENANCE WILL BEGIN.
4. CONTRACTOR WILL GUARANTEE PLANT MATERIALS AS FOLLOWS: 1 AND 5 GAL PLANTS – 90 DAYS. TREES – 1 YEAR FROM DATE OF SUBSTANTIAL COMPLETION. AT NO ADDITIONAL COST TO THE OWNER, REPLACE IN KIND AND SIZE PLANT MATERIALS NOT SURVIVING OR IN POOR CONDITION.
5. CONTRACTOR WILL GUARANTEE INSTALLED PORTION OF IRRIGATION SYSTEM FOR 1 YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
6. AFTER SATISFACTORY COMPLETION OF CONTRACTOR MAINTENANCE PERIOD, THE TOWN OF GILBERT WILL HAVE THE RESPONSIBILITY FOR MAINTAINING THE LANDSCAPING IN ACCORDANCE WITH APPROVED PLANS.

LANDSCAPE MATERIALS LIST

SYM.	BOTANICAL NAME / COMMON NAME	SIZE	QTY.	REMARKS
	TREES			
○	NERIUM OLEANDER STANDARD OLEANDER 'RED'	24" BOX	4	SINGLE STRAIGHT MAIN LEADER 9.0' HT. x 4.0' W. x 1.25" CAL.
	SHRUBS, GROUND COVERS, AND ACCENTS			
★	AGAVE DESMETTIANA AGAVE	5 GAL.	9	
▲	BOUGAINVILLEA 'LA JOLLA' BOUGAINVILLEA	5 GAL.	6	TRAIN TO WALL
⊕	CAESALPINIA MEXICANA MEXICAN BIRD OF PARADISE	15 GAL.	5	
⊗	CALLIANDRA CALIFORNICA BAJA FAIRY DUSTER	5 GAL.	25	
⊙	CASSIA PHYLLODENIA SILVER LEAF CASSIA	5 GAL.	4	
⊛	CHRYSACTINIA MEXICANA DAMIANITA	1 GAL.	108	
✳	HESPERALOE PARVIFLORA RED YUCCA	5 GAL.	45	
◍	LANTANA 'NEW GOLD' NEW GOLD LANTANA	1 GAL.	78	
○	LEUCOPHYLLUM LANGMANIAE 'RIO BRAVO' SAGE	5 GAL.	76	
☼	MUHLENBERGIA CAPILLARIS PINK MUHLY	5 GAL.	38	
◔	MUHLENBERGIA RIGENS DEER GRASS	5 GAL.	18	
⊙	NERIUM OLEANDER 'PETITE PINK' OLEANDER	5 GAL.	25	
◷	ROSMARINUS OFFICINALIS 'HUNTINGTON CARPET' DWARF ROSEMARY	1 GAL.	68	
○	RUELLIA BRITTONIANA 'KATIE' KATIE RUELLIA	1 GAL.	71	
⊛	RUELLIA PENINSULARIS DESERT RUELLIA	5 GAL.	75	
⊖	SIMMONDSIA CHINENSIS JOJOBA	5 GAL.	4	
◐	SOPHORA SECUNDIFLORA TEXAS MOUNTAIN LAUREL	15 GAL.	2	
○	TETRAPLEURIS ACAULIS ANGELITA DAISY	1 GAL.	51	
	TURF–SEED (NUMEX SAHARA) OVERSEEDED 'MIDIRON' SOD IF PLANTED OUT OF SEASON		11,185 S.F.	TURF RESTORATION
	BRICK HEADER – AS NOTED ON PLAN		100 LIN. FT.	
	CONCRETE HEADER – AS NOTED ON PLAN		25 LIN. FT.	
	ROCK GROUND COVER			
	DECOMPOSED GRANITE, INSTALL 2" MIN. DEPTH IN ALL LANDSCAPE PLANTING AREAS. SIZE AND COLOR: SAN PEDRO– 3/8" SCREENED 'PINK CORAL' ALL OTHER LANDSCAPE PLANTING AREAS– 1/2" SCREENED MADISON GOLD'		45,329 S.F.	

EXISTING TREE LEGEND
EXISTING TREE TO REMAIN
A=ASH TREE
B=BOTTLE TREE
E=ELM TREE
EXISTING PALM TREE TO REMAIN

IRRIGATION MATERIALS LIST

SYMBOL	DESCRIPTION
M	EXISTING WATER METER (SIZE AND LOCATION AS SHOWN ON PLANS)
	EXISTING BACKFLOW PREVENTER (SEE PLANS FOR LOCATION)
	NEW SCHEDULE 40 PVC SLEEVE (ALL PIPING AND WIRING UNDER PAVEMENT TO BE SLEEVED). (SIZE AS NOTED)
	NEW MAINLINE SCHEDULE 40 PVC – 2" AND SMALLER (SIZE AS NOTED)
	NEW ISOLATION BALL VALVE –2" AND SMALLER–NIBCO MODEL T-585 (LINE SIZE) (SEE DETAIL)
	NEW EMITTER VALVE MANIFOLD ASSEMBLY INCLUDES: RAINBIRD PEB ELECTRIC REMOTE CONTROL VALVE, LINE SIZE BRASS RESILIENT SEATED BALL VALVE WITH FULL PORT OPENINGS; AG PRODUCTS 4E PLASTIC SPIN CLEAN FILTER WITH 150 MESH SCREEN; AND SENNINGER LOW FLOW PRESSURE REDUCING VALVE (FOR FLOWS .1–8 GPM) (PMR–30LF) OR MEDIUM FLOW PRESSURE REDUCING VALVE (FOR FLOWS 2–20 GPM) (PMR–30MF) – 3/4" PRESET AT 30 PSI (SEE DETAIL).
	NEW REMOTE CONTROL VALVE – (SIZE PER PLAN) RAINBIRD PEB SERIES ELECTRIC REMOTE CONTROL VALVE WITH LINE SIZE BRASS RESILIENT SEATED BALL VALVE WITH FULL PORT OPENINGS ON INLET.
TURF	NEW LATERAL (SIZE PER SCHEDULE), CLASS 200 PVC PIPE
BUBBLERS	NEW LATERAL (SIZE PER SCHEDULE), CLASS 200 PVC PIPE
TREES	NEW 3/4" DRIP LATERAL, CLASS 200 PVC PIPE (UNLESS OTHERWISE NOTED ON PLANS)
SHRUBS	NEW 3/4" DRIP LATERAL, CLASS 200 PVC PIPE (UNLESS OTHERWISE NOTED ON PLANS)
	1/2" DRIP SUBLATERAL (NOT SHOWN), CLASS 315 PVC PIPE. ALL SUBLATERAL PIPE SHALL BE PVC CLASS 315. PROVIDE AND INSTALL ALL SUBLATERAL PIPE LENGTHS AND FITTINGS AS NECESSARY TO CONNECT LATERAL PIPE TO EMITTER INSTALLATION AT EACH PLANT (SEE DETAILS)
PART FULL ▲ ●	HUNTER INSTITUTIONAL SERIES – 4" POP UP TURF SPRAY HEADS 8 SERIES – 8'–9" RADIUS 12 SERIES – 12'–13' RADIUS
PER EMITTER SCHEDULE	NEW MULTI OUTLET EMITTER – BOWSMITH ML200 SERIES – (1.0 AND 2.0 GPH OUTLETS @ 20 PSI) (TREES) WITH SWIVEL OUTLET 90° ELBOWS FOR EACH DISTRIBUTION TUBE (SEE DETAILS AND SCHEDULE)
PER EMITTER SCHEDULE	NEW SINGLE OUTLET EMITTER – BOWSMITH SL200 SERIES – (0.6 AND 1.0 GPH OUTLETS @ 20 PSI) (SHRUBS) (SEE DETAIL AND SCHEDULE)
	DRIP SYSTEM FLUSH PLUG OUTLET (SEE DETAIL)
	ELECTRIC SOLID STATE CONTROLLER, RAINMASTER RME SENTAR II–SIZE AS NOTED ON PLANS. PROVIDE WITH HEAVY DUTY LIGHTNING/SURGE PROTECTION. WIRING AND ELECTRICAL CONDUIT (SCHEDULE 80, GRAY) FOR CONTROLLER POWER SERVICE CONNECTION. ALL IRRIGATION VALVE BOXES TO BE CARSON/BROOKS AMETEK OR EQUAL BOLT DOWN LID MODELS (TAN COLOR IN GRANITE AREAS, GREEN IN TURF AREAS) (SEE DETAILS AND NOTES). PROVIDE STAINLESS STEEL BOLTS.
A 1.0	CONTROL VALVE KEY A=CONTROLLER STATION ASSIGNMENT GPM SIZE
	ALL WIRING TO BE UL APPROVED #14 MIN. FOR DIRECT BURIAL, SOLID COPPER. INCREASE SIZE AS NECESSARY TO CONDUCT VOLTAGE REQUIRED TO PROVIDE AUTOMATIC OPERATION OF ALL VALVES. WHERE PIPING AND WIRING INSTALLATIONS ARE TO BE SLEEVED, INSTALL IN SEPARATE SLEEVES. CONTRACTOR TO VERIFY A MINIMUM WATER PRESSURE OF 72 P.S.I. AT WATER SOURCE.

DRAWING SHEET INDEX

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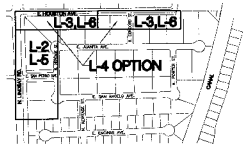
KEYMAP



CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(ARIZONA BLUE STAKE, INC.)

REVISIONS

NO.	DATE	DESCRIPTION

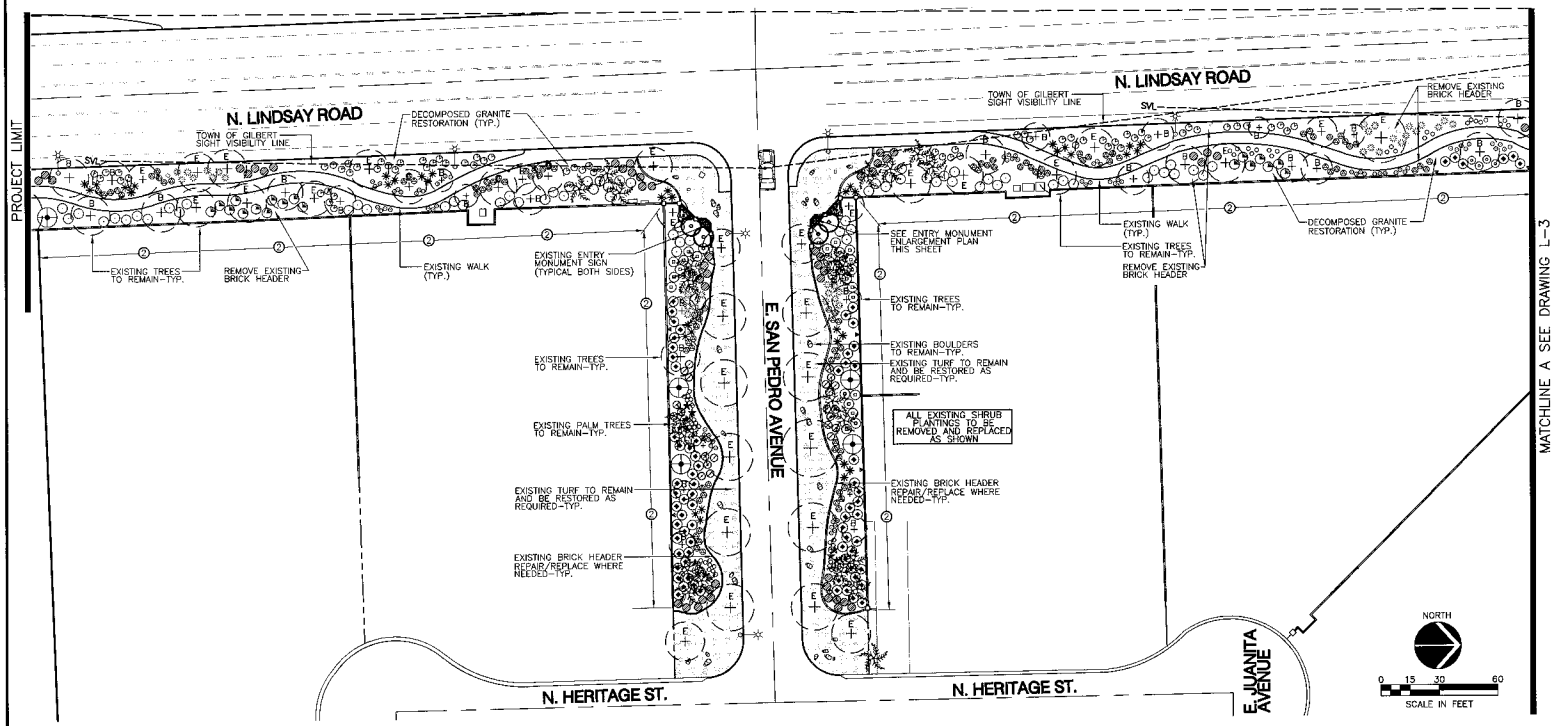
DIANE C. McCLOSKEY 17810 PROFESSIONAL LANDSCAPE ARCHITECT

McCloskey + Peltz, Inc.
LANDSCAPE ARCHITECTS
Tempe, Arizona 85284
One West Elliot Road Suite 110
Phone: (480) 838-1774
Fax: (480) 838-1777

General Notes Sheet
Parkway Improvement District 07-7
CIRCLE G RANCHES VI
PREPARED FOR: Town of Gilbert

DESIGNED BY:	MPI
DRAWN BY:	BCD
CHECKED BY:	DCM
PROJECT NO:	08422
DATE:	1/2008

DRAWING NO.
L-1
SHEET 1 OF 13



LANDSCAPE MATERIALS LIST

SYM.	BOTANICAL NAME / COMMON NAME	SIZE
	TREES	
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✱	AGAVE DESMETTIANA AGAVE	5 GAL.
◭	BOUGAINVILLEA 'LA JOLLA' BOUGAINVILLEA	5 GAL.
⊕	CAESALPINIA MEXICANA MEXICAN BIRD OF PARADISE	15 GAL.
⊘	CALLIANDRA CALIFORNICA BAJA FAIRY DUSTER	5 GAL.
⊙	CASSIA PHYLLODENIA SILVER LEAF CASSIA	5 GAL.
⊛	CHRYSACTINIA MEXICANA DAMIANITA	1 GAL.
✳	HESPERALOE PARVIFLORA RED YUCCA	5 GAL.
⊚	LANTANA 'NEW GOLD' NEW GOLD LANTANA	1 GAL.
○	LEUCOPHYLLUM LANGMANIAE 'RIO BRAVO' SAGE	5 GAL.
⁂	MUHLENBERGIA CAPILLARIS PINK MUHLY	5 GAL.
◔	MUHLENBERGIA RIGENS DEER GRASS	5 GAL.
ⓐ	NERIUM OLEANDER 'PETITE PINK' OLEANDER	5 GAL.
◔	ROSMARINUS OFFICINALIS 'HUNTINGTON CARPET' DWARF ROSEMARY	1 GAL.
○	RUELLIA BRITTONIANA 'KATIE' KATIE RUELLIA	1 GAL.
◉	RUELLIA PENINSULARIS DESERT RUELLIA	5 GAL.
⊖	SIMMONDSIA CHINENSIS JOJOBA	5 GAL.
⊕	SOPHORA SECUNDIFLORA TEXAS MOUNTAIN LAUREL	15 GAL.
○	TETRANEURIS ACAULIS ANGELITA DAISY	1 GAL.

TURF-SEED (NUMEX SAHARA) OVERSEEDED 'MIDIRON' SOD IF PLANTED OUT OF SEASON

BRICK HEADER – AS NOTED ON PLAN

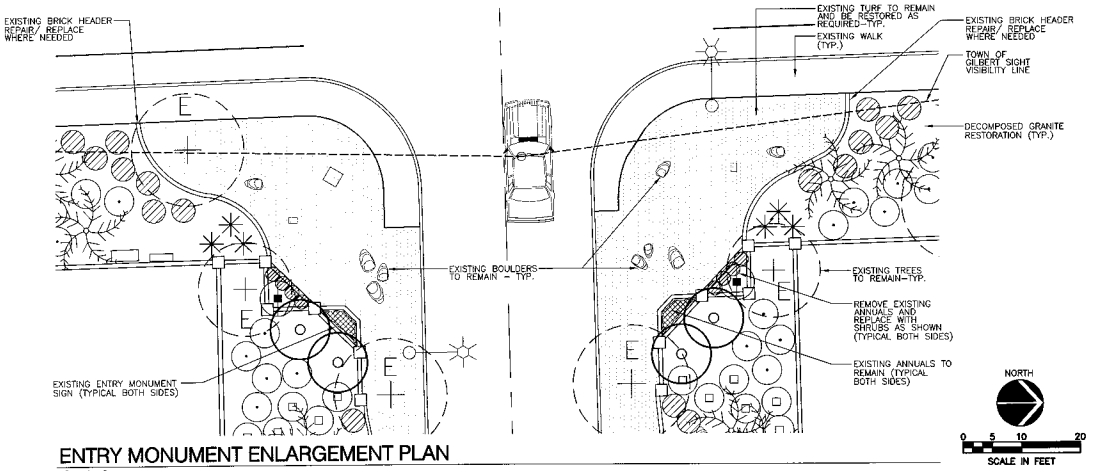
CONCRETE HEADER – AS NOTED ON PLAN

ROCK GROUND COVER

DECOMPOSED GRANITE, INSTALL 2" MIN. DEPTH IN ALL LANDSCAPE PLANTING AREAS. SAN PEDRO- 3/8" SCREENED 'PINK CORAL' ALL OTHER LANDSCAPE PLANTING AREAS- 1/2" SCREENED 'MADISON GOLD'

EXISTING TREE LEGEND

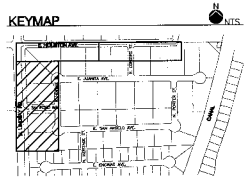
EXISTING TREE TO REMAIN
A=ASH TREE
B=BOTTLE TREE
E=ELM TREE
EXISTING PALM TREE TO REMAIN



ENTRY MONUMENT ENLARGEMENT PLAN

1"=10'-0"

KEYMAP



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1-800-STAKE-IT
(ARIZONA BLUE STAKE, INC.)

REVISIONS		
NO.	DATE	DESCRIPTION

McCloskey • Peltz, Inc.
LANDSCAPE ARCHITECTS
One West Elliot Road Suite 110 Tempe, Arizona 85284
Phone: (480) 838-4777 Fax: (480) 831-1774

Landscape Planting Plan
Parkway Improvement District 07-7

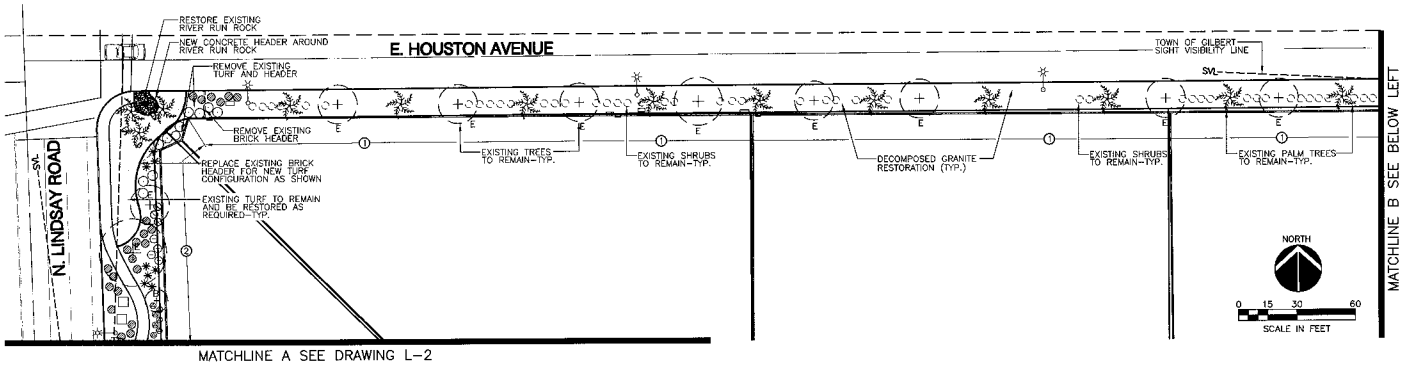
CIRCLE G RANCHES VI

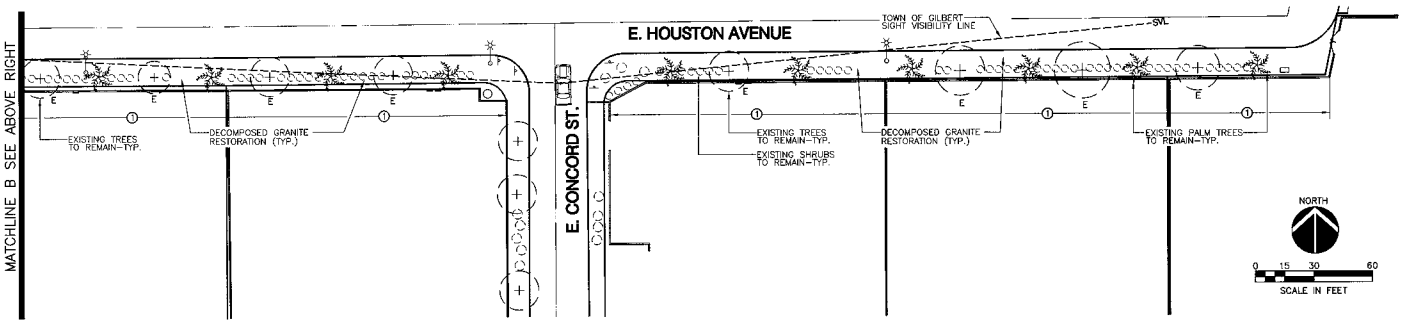
PREPARED FOR: Town of Gilbert

DESIGNED BY:	MPI
DRAWN BY:	BCD
CHECKED BY:	DCM
PROJECT NO:	06422
DATE:	1/2008

DRAWING NO. L-2

SHEET 2 OF 13





LANDSCAPE MATERIALS LIST

SYM.	BOTANICAL NAME / COMMON NAME	SIZE
	TREES	
o	NERIUM OLEANDER STANDARD OLEANDER 'RED'	24" BOX
	SHRUBS, GROUND COVERS, AND ACCENTS	
*	AGAVE DESMETTIANA AGAVE	5 GAL.
	BOUGAINVILLEA 'LA JOLLA' BOUGAINVILLEA	5 GAL.
	CAESALPINIA MEXICANA MEXICAN BIRD OF PARADISE	15 GAL.
	CALLIANDRA CALIFORNICA BAJA FAIRY DUSTER	5 GAL.
	CASSIA PHYLLODENIA SILVER LEAF CASSIA	5 GAL.
	CHRYSACTINIA MEXICANA DAMIANITA	1 GAL.
	HESPERALOE PARVIFLORA RED YUCCA	5 GAL.
	LANTANA 'NEW GOLD' NEW GOLD LANTANA	1 GAL.
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	MUHLENBERGIA CAPILLARIS PINK MUHLY	5 GAL.
	MUHLENBERGIA RIGENS DEER GRASS	5 GAL.
	NERIUM OLEANDER 'PETITE PINK' OLEANDER	5 GAL.
	ROSMARINUS OFFICINALIS 'HUNTINGTON CARPET' DWARF ROSEMARY	1 GAL.
	RUELLIA BRITTONIANA 'KATIE' KATIE RUELLIA	1 GAL.
	RUELLIA PENINSULARIS DESERT RUELLIA	5 GAL.
	SIMMONDSIA CHINENSIS JOJOBA	5 GAL.
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TURF-SEED (NUMEX SAHARA) OVERSEEDED 'MIDIRON' SOD IF PLANTED OUT OF SEASON

BRICK HEADER - AS NOTED ON PLAN

CONCRETE HEADER - AS NOTED ON PLAN

ROCK GROUND COVER

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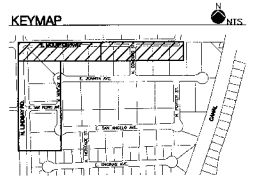
KEYMAP



602-263-1100
1-800-STAKE-IT

REVISIONS NO.	DATE	DESCRIPTION

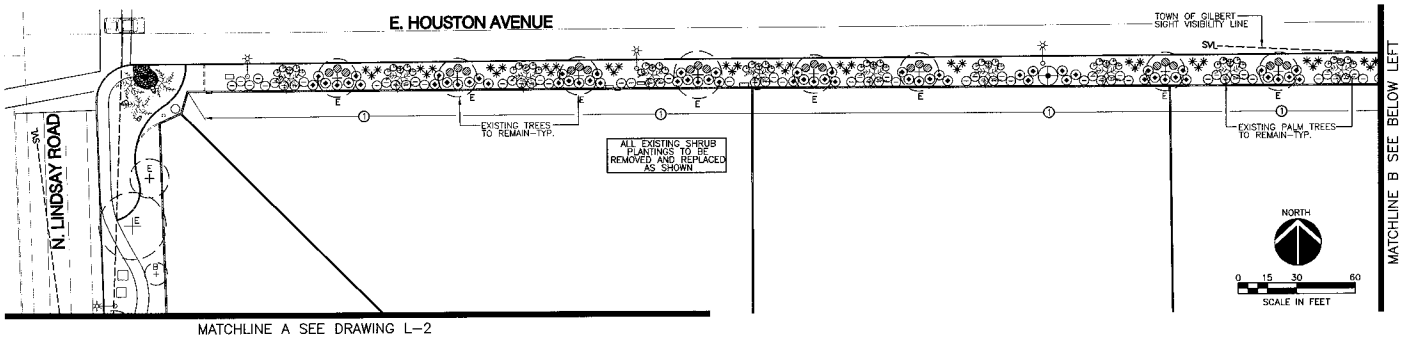
McCloskey • Peltz, Inc.
LANDSCAPE ARCHITECTS
One West Elliot Road Suite 110 Tempe, Arizona 85284
Phone: (480) 838-4777 Fax: (480) 831-1774

Landscape Planting Plan
Parkway Improvement District 07-7
CIRCLE G RANCHES VI
PREPARED FOR: Town of Gilbert

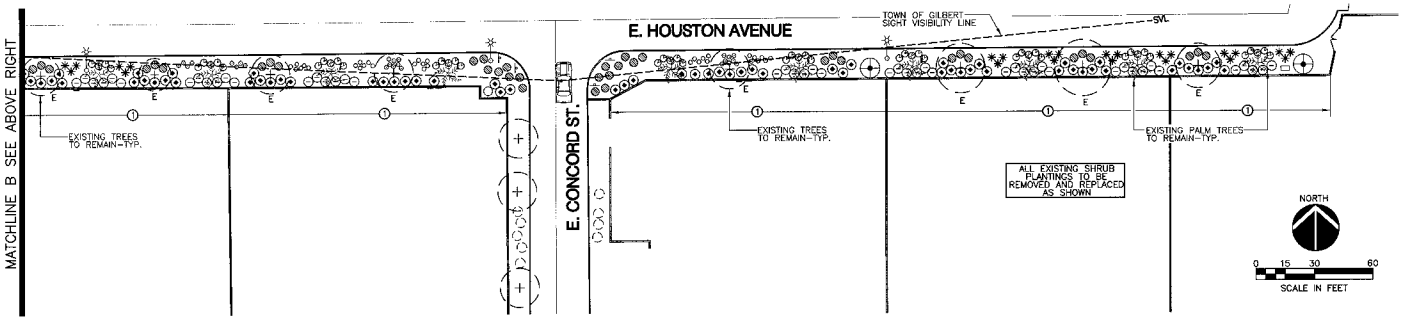
DESIGNED BY:	MPI
DRAWN BY:	BCD
CHECKED BY:	DCM
PROJECT NO:	06422
DATE:	1/2008

DRAWING NO. L-3

SHEET 3 OF 13



LANDSCAPE PLANTING PLAN OPTION FOR E. HOUSTON AVENUE ONLY



LANDSCAPE PLANTING PLAN OPTION FOR E. HOUSTON AVENUE ONLY

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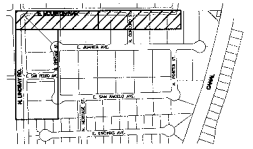
KEYMAP N NTS



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REVISIONS		
NO.	DATE	DESCRIPTION

McCloskey + Peltz, Inc.
LANDSCAPE ARCHITECTS
One West 8lst Road Suite 110 Tempe, Arizona 85284
Phone: (480) 838-4777 Fax: (480) 831-1774

Landscape Planting Plan Option
Parkway Improvement District 07-7

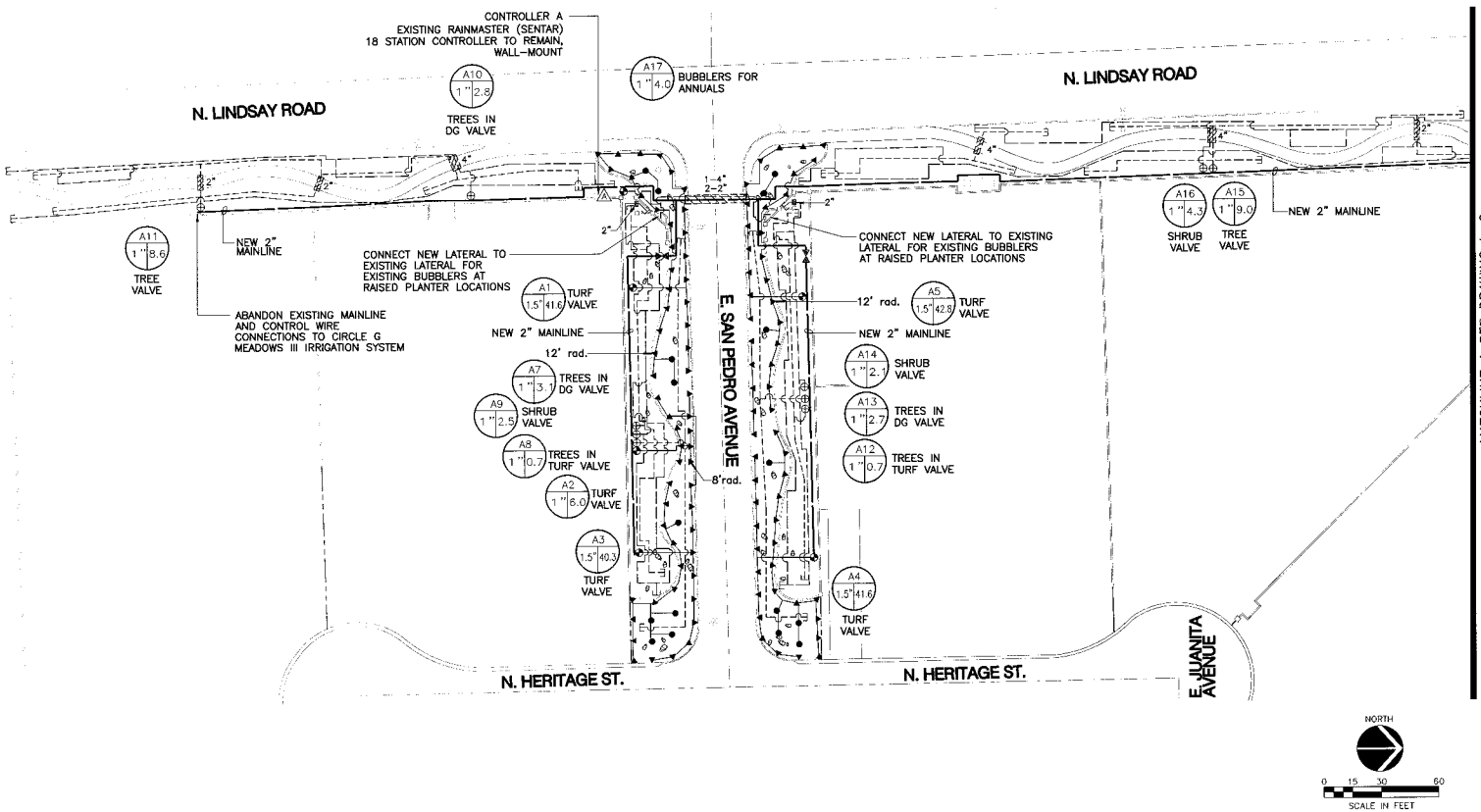
CIRCLE G RANCHES VI

PREPARED FOR: Town of Gilbert

DESIGNED BY:	MPI
DRAWN BY:	BCD
CHECKED BY:	DCM
PROJECT NO:	06422
DATE:	1/2008

DRAWING NO. L-4

SHEET 4 OF 13



IRRIGATION MATERIALS LEGEND

SYMBOL	DESCRIPTION
M	EXISTING WATER METER (SIZE AND LOCATION AS SHOWN ON PLANS)
	EXISTING BACKFLOW PREVENTER (SEE PLANS FOR LOCATION)
	NEW SCHEDULE 40 PVC SLEEVE (ALL PIPING AND WIRING UNDER PAVEMENT TO BE SLEEVED) (SIZE AS NOTED)
	NEW MAINLINE, SCHEDULE 40 PVC – 2" AND SMALLER (SIZE AS NOTED)
	NEW ISOLATION BALL VALVE –2" AND SMALLER–NIBCO MODEL T-585 (LINE SIZE) (SEE DETAIL).
	NEW EMITTER VALVE MANIFOLD ASSEMBLY INCLUDES: RAINBIRD PEB ELECTRIC REMOTE CONTROL VALVE, LINE SIZE BRASS RESILIENT SEATED BALL VALVE WITH FULL PORT OPENINGS; AG PRODUCTS 4L PLASTIC SPIN CLEAN FILTER WITH 150 MESH SCREEN; AND SENNINGER LOW FLOW PRESSURE REDUCING VALVE (FOR FLOWS 1–8 GPM) (PMR–30LF) OR MEDIUM FLOW PRESSURE REDUCING VALVE (FOR FLOWS 2–20 GPM) (PMR–30MF) – 3/4" PRESET AT 30 PSI (SEE DETAIL).
	NEW REMOTE CONTROL VALVE – (SIZE PER PLAN) RAINBIRD PEB SERIES ELECTRIC REMOTE CONTROL VALVE WITH LINE SIZE BRASS RESILIENT SEATED BALL VALVE WITH FULL PORT OPENINGS ON INLET.
TURF	NEW LATERAL (SIZE PER SCHEDULE), CLASS 200 PVC PIPE
BUBBLERS	NEW LATERAL (SIZE PER SCHEDULE), CLASS 200 PVC PIPE
TREES	NEW 3/4" DRIP LATERAL, CLASS 200 PVC PIPE (UNLESS OTHERWISE NOTED ON PLANS)
SHRUBS	NEW 3/4" DRIP LATERAL, CLASS 200 PVC PIPE (UNLESS OTHERWISE NOTED ON PLANS)
	1/2" DRIP SUBLATERAL (NOT SHOWN), CLASS 315 PVC PIPE. ALL SUBLATERAL PIPE SHALL BE PVC CLASS 315. PROVIDE AND INSTALL ALL SUBLATERAL PIPE LENGTHS AND FITTINGS AS NECESSARY FROM LATERAL PIPE TO EMITTER INSTALLATION AT EACH PLANT (SEE DETAILS)
PART ▲ FULL ●	HUNTER INSTITUTIONAL SERIES – 4" POP UP TURF SPRAY HEADS 8 SERIES – 8'–9' RADIUS 12 SERIES – 12'–13' RADIUS
PER EMITTER SCHEDULE	NEW MULTI OUTLET EMITTER – BOWSMITH ML200 SERIES – (1.0 AND 2.0 GPH OUTLETS @ 20 PSI) (TREES) WITH SWIVEL OUTLET 90° ELBOWS FOR EACH DISTRIBUTION TUBE (SEE DETAILS AND SCHEDULE)
PER EMITTER SCHEDULE	NEW SINGLE OUTLET EMITTER – BOWSMITH SL200 SERIES – (0.6 AND 1.0 GPH OUTLETS @ 20 PSI) (SHRUBS) (SEE DETAIL AND SCHEDULE)
	DRIP SYSTEM FLUSH PLUG OUTLET (SEE DETAIL)
	ELECTRIC SOLID STATE CONTROLLER, RAINMASTER RME SENTAR II–SIZE AS NOTED ON PLANS, PROVIDE WITH HEAVY DUTY LIGHTNING/SURGE PROTECTION. WIRING AND ELECTRICAL CONDUIT (SCHEDULE 80, GRAY) FOR CONTROLLER POWER SERVICE CONNECTION. ALL IRRIGATION VALVE BOXES TO BE CARSON/BROOKS AMETEK OR EQUAL BOLT DOWN LID MODELS (TAN COLOR IN GRANITE AREAS, GREEN IN TURF AREAS) (SEE DETAILS AND NOTES). PROVIDE STAINLESS STEEL BOLTS.
A1 1" 1.0	CONTROL VALVE KEY CONTROLLER STATION ASSIGNMENT GPM SIZE
	ALL WIRING TO BE UL APPROVED #14 MIN. FOR DIRECT BURIAL SOLID COPPER. INCREASE SIZE AS NECESSARY TO CONDUCT VOLTAGE REQUIRED TO PROVIDE AUTOMATIC OPERATION OF ALL VALVES. WHERE PIPING AND WIRING INSTALLATIONS ARE TO BE SLEEVED, INSTALL IN SEPARATE SLEEVES. CONTRACTOR TO VERIFY A MINIMUM WATER PRESSURE OF 72 P.S.I. AT WATER SOURCE.

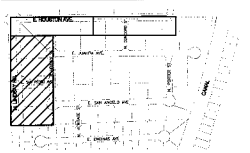
UNLESS OTHERWISE NOTED ON IRRIGATION PLANS, ALL EXISTING AT GRADE OR ABOVE GRADE IRRIGATION COMPONENTS TO BE REMOVED. THIS INCLUDES, BUT IS NOT LIMITED TO ELECTRIC VALVES, VALVE BOXES, SPRAY HEADS, BUBBLERS, EMITTER DISTRIBUTION LINES AND CONTROLLERS.

ALL EXISTING IRRIGATION BELOW GRADE (PVC PIPING) TO BE ABANDONED IN PLACE, UNLESS DISTURBED DURING NEW CONSTRUCTION. REMOVE AND DISPOSE AS NECESSARY.

CONTRACTOR SHALL MAINTAIN/RESTORE IRRIGATION SERVICE TO ALL EXISTING LANDSCAPE PLANTING AND TURF AREAS TO REMAIN.

NEW LANDSCAPE AND IRRIGATION INSTALLATION TO BE PHASED AS PER SHEET L-13.

KEYMAP



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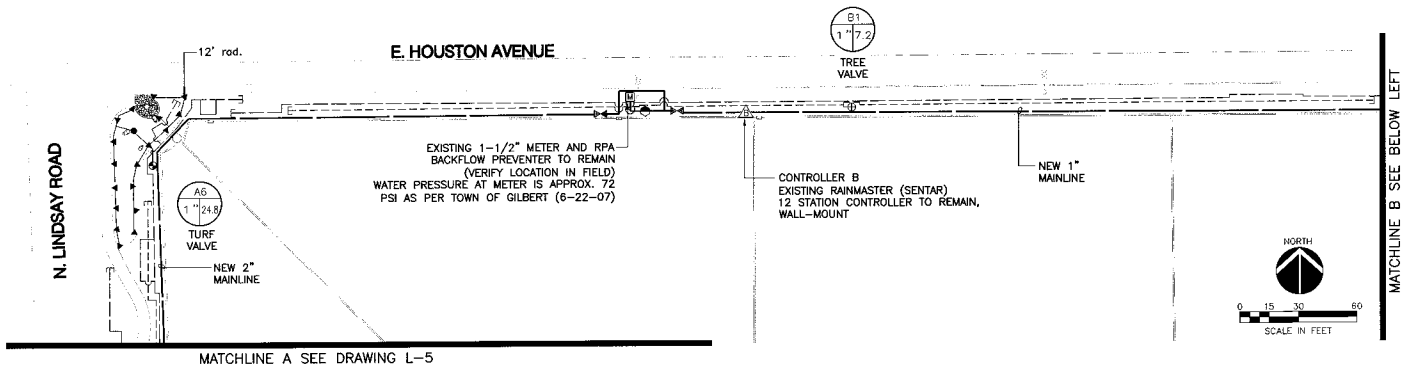
REVISIONS NO.	DATE	DESCRIPTION

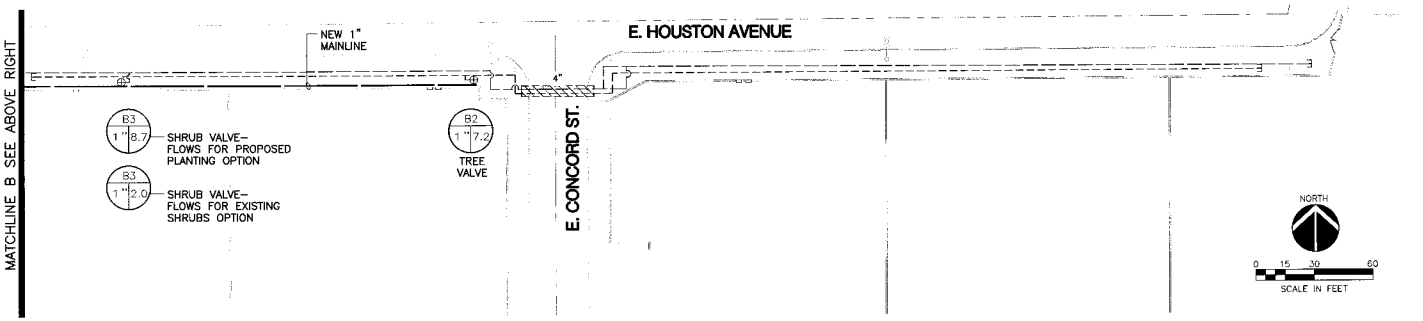
McCloskey + Peltz, Inc.
LANDSCAPE ARCHITECTS
One West Elliot Road Suite 110 Tempe, Arizona 85284
Phone (480) 897-7177 Fax (480) 897-1704

Irrigation Plan
Parkway Improvement District 07-7
CIRCLE G RANCHES VI
PREPARED FOR: Town of Gilbert

DESIGNED BY:	MPI
DRAWN BY:	BCD
CHECKED BY:	DCM
PROJECT NO:	06422
DATE:	1/2008

DRAWING NO. L-5
SHEET 5 OF 13





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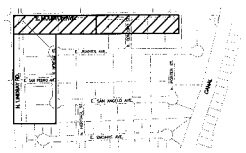
NEW LANDSCAPE AND IRRIGATION INSTALLATION TO BE PHASED AS PER SHEET L-13.

KEYMAP N NTS



CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(ARIZONA BLUE STAKE, INC.)

REVISIONS NO.	DATE	DESCRIPTION

REGISTERED LANDSCAPE ARCHITECT 10512 DIANE C. McCLOSKEY 1/31/08

McCloskey + Peltz, Inc.
LANDSCAPE ARCHITECTS
One West Elliot Road Suite 110 Tempe, Arizona 85284
Phone: (480) 838-4777 Fax: (480) 831-1774

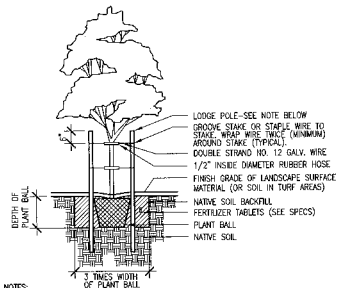
Irrigation Plan
Parkway Improvement District 07-7
CIRCLE G RANCHES VI

PREPARED FOR: Town of Gilbert

DESIGNED BY:	MPI
DRAWN BY:	BCD
CHECKED BY:	DCM
PROJECT NO.	06422
DATE:	1/2008

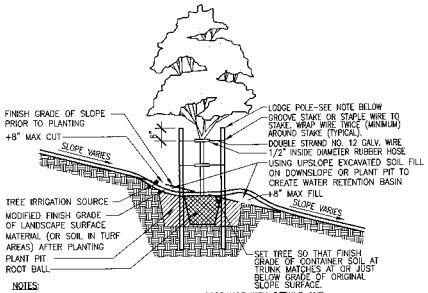
DRAWING NO. L-6

SHEET 6 OF 13



NOTES:
- HEIGHT OF STAKE VARIES. TOP TIE PLACED FOR MAX. SUPPORT. BOTTOM TIE PLACED HALFWAY BETWEEN TOP TIE AND GRADE. SEE TREE STAKING DETAIL. ONLY STAKE TREES THAT HAVE PREVIOUSLY BEEN STAKED IN THE NURSERY.
- STAKES SHALL BE LOCATED AND INSTALLED SO AS TO NOT CONTACT THE ROOT BALL OR DAMAGE IRRIGATION SYSTEM WHEN DRIVEN INTO POSITION.

1 TREE PLANTING
N.T.S.

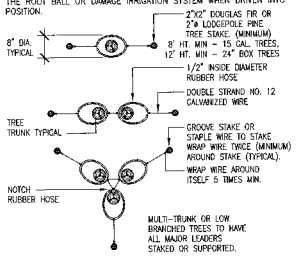


NOTES:
- PLANTING AND STAKING SHALL BE IN ACCORDANCE WITH DETAILS AND SPECIFICATIONS.
- ALWAYS SET TREE TO MINIMIZE UPSLOPE CUT AND DOWNSLOPE FILL.
- ROUND ALL CHANGES BETWEEN SURFACE SLOPE TRANSITIONS.
- LOCATE IRRIGATION SOURCE ON UPSLOPE SIDE OF PLANT PIT.

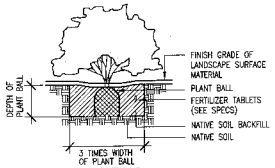
2 TREE PLANTING ON SLOPE
N.T.S.

NOTE:
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE NEED TO INCREASE THE QUANTITY, HEIGHT AND DIAMETER OF TREE STAKES TO PROVIDE MAXIMUM SUPPORT AND INSURE STABILITY OF ALL TREES.

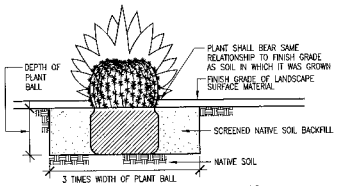
STAKES SHALL BE LOCATED AND INSTALLED SO AS TO NOT CONTACT THE ROOT BALL OR DAMAGE IRRIGATION SYSTEM WHEN DRIVEN INTO POSITION.



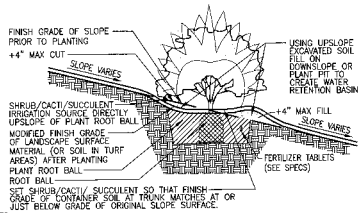
3 TREE STAKING DETAIL
N.T.S.



4 SHRUB PLANTING
N.T.S.



5 SUCCULENT AND CACTI PLANTING
N.T.S.

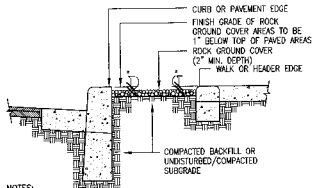


NOTES:
- PLANTING AND STAKING SHALL BE IN ACCORDANCE WITH DETAILS AND SPECIFICATIONS.
- ALWAYS SET SHRUB/CACTI/SUCCULENT TO MINIMIZE UPSLOPE CUT AND DOWNSLOPE FILL.
- ROUND ALL CHANGES BETWEEN SURFACE SLOPE TRANSITIONS.
- LOCATE IRRIGATION SOURCE ON UPSLOPE SIDE OF PLANT ROOT BALL.

6 SHRUB/CACTI/SUCCULENT PLANTING ON SLOPE
N.T.S.

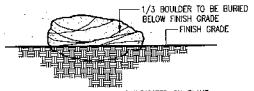
IF IMPERVIOUS SUBSURFACE CALICHE, ROCK OR HARDPAN EXISTS BENEATH EXCAVATED PLANT PIT, CONTRACTOR SHALL COMPLETE NECESSARY REMOVAL OR PENETRATION OF IMPERVIOUS MATERIAL TO PROVIDE NECESSARY PLANT PIT DRAINAGE AT A MINIMUM RATE OF 1 INCH PER HOUR. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ADEQUATE PLANT PIT DRAINAGE PRIOR TO PLANT INSTALLATION.

ALL NATIVE SOIL BACKFILL WITHIN 18" OF ROOT BALL SHALL BE SCREENED TO REMOVE ALL ROCK OR OTHER NON-SOIL MATERIALS LARGER THAN 1-1/2" IN ANY DIMENSION.



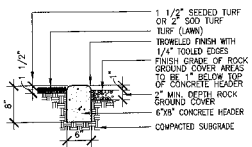
NOTES:
- FINISH GRADES SHALL BE UNIFORM THROUGHOUT ALL PLANTING AREAS. ALL ROCK GROUND COVER DEPTH SHALL BE AFTER FINISH GRADING, WATER WASHING, AND SETTLEMENT.
- CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH OWNER FORCES AS NECESSARY TO PROVIDE ALL FILL AND ROUGH GRADING REQUIRED TO ACHIEVE FINISH GRADE OF ROCK GROUND COVER AS INDICATED HEREIN
- WATER WASH ALL ROCK GROUND COVER SURFACES TO REMOVE FINES AND DUST.

7 FINISH GRADE ROCK GROUND COVER
N.T.S.

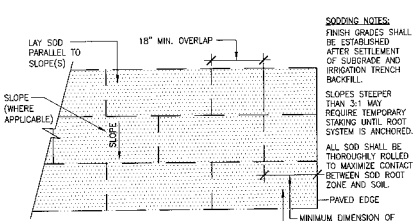


SIZE AND TYPE OF BOULDERS AS INDICATED ON PLANS

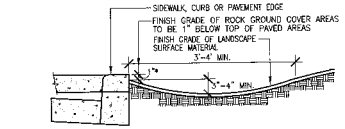
8 BOULDER INSTALLATION
N.T.S.



9 6"X8" CONCRETE HEADER
N.T.S.



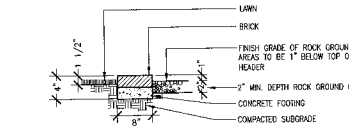
10 SODDING DETAIL
N.T.S.



GENERAL NOTES:
- NUISANCE SWALES SHALL BE LOCATED BETWEEN ALL PAVEMENT EDGES AND ANY ADJACENT ELEVATED LANDSCAPE SURFACES.
- FINISH GRADING (PRIOR TO PLACEMENT OF PLANTS AND ROCK GROUND COVER) SHALL INCLUDE GRADING / CONSTRUCTING NUISANCE SWALES.

*1 1/2" SEEDED TURF OR 2" SOD TURF ADJACENT TO PAVEMENT EDGES

11 NUISANCE WATER SWALE
N.T.S.



12 BRICK HEADER
N.T.S.

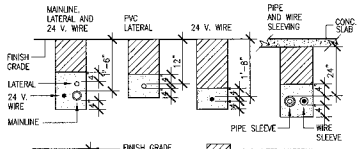
REVISIONS		
NO.	DATE	DESCRIPTION

McCloskey • Peltz, Inc.
LANDSCAPE ARCHITECTS
One West Elliot Road Suite 110
Tempe, Arizona 85284
Phone: (480) 838-4777
Fax: (480) 831-1774

Landscape Details
Parkway Improvement District 07-7
CIRCLE G RANCHES VI
PREPARED FOR: Town of Gilbert

DESIGNED BY:	MPI
DRAWN BY:	BCD
CHECKED BY:	DCM
PROJECT NO:	06422
DATE:	1/2008

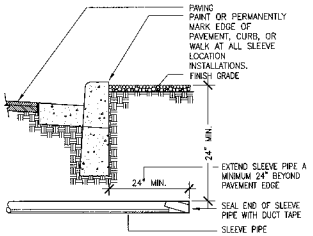
DRAWING NO.
L-7
SHEET 7 OF 13



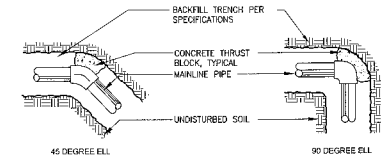
TRENCH BACKFILL SHALL BE PLACED IN LIFTS AS INDICATED TO THE LEFT. BEDDING SHALL BE PLACED AND LEVELED PRIOR TO INSTALLATION OF BURY ITEM. BACKFILL SHALL BE INSTALLED IN MAXIMUM 6" LIFTS

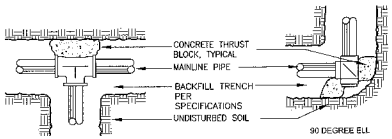
NOTE:
- SLEEVE ALL PIPE AND WIRE SEPARATELY
- ALL PIPE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. PLASTIC PIPE TO BE "SNAKED" IN TRENCHES. PROVIDE A MIN. OF 2" CLEARANCE TO SIDE OF TRENCH AND BETWEEN PIPES
- ALL 120 V. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS. TAPE AND BUNDLE WIRES EVERY 10', PROVIDE LOOSE 20" LOOP AT ALL CHANGES OF DIRECTION OVER 30°

1 IRRIGATION TRENCHING
N.T.S.

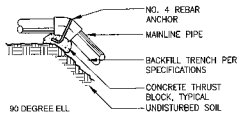


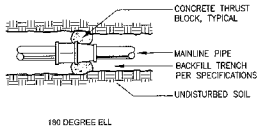
2 IRRIGATION SLEEVE
N.T.S.





SECTION VIEW – N.T.S.

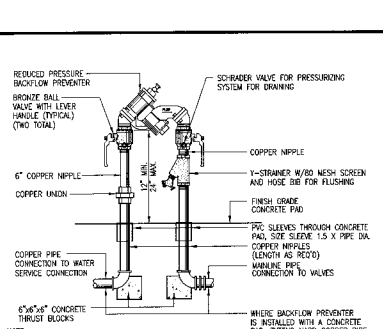




GENERAL NOTES
- ALL CONCRETE USED IN THRUST BLOCKS SHALL BE 470-C-2000.
- SUPPLY LINE 2" IN DIAMETER AND LARGER SHALL RECEIVE CONCRETE THRUST BLOCKING. BELL AND GASKET PIPE MAY USE PIPE RESTRAINT SYSTEMS.
- THRUST BLOCKS SHALL BE A MINIMUM OF 1 CUBIC FT. OF CONCRETE. PIPE SHALL NOT BE ENCASED IN CONCRETE.
- ALL MAINLINES SHALL BE INSTALLED AND TESTED ACCORDING TO THE MANUFACTURER'S INSTALLATIONS SPECIFICATIONS.
- ALL TRENCH DEPTH AND WIDTH SHALL BE PER THE SPECIFICATIONS/DETAILS.
- COMPLETELY WRAP PLASTIC FITTINGS IN CONTACT WITH CONCRETE USING BLACK PIPE TAPE, PRIOR TO THRUST BLOCK PLACEMENT.
- USE NO. 4 REBAR WITH MASTIC COATING WHERE PIPE MUST BE ANCHORED TO THRUST BLOCK.

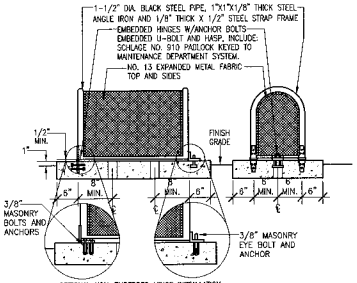
NOTE: PROVIDE SMOOTH EDGES FOR ALL CONCRETE AT THRUST BLOCKS TO AVOID DAMAGE TO PIPES

3 THRUST BLOCKS
N.T.S.



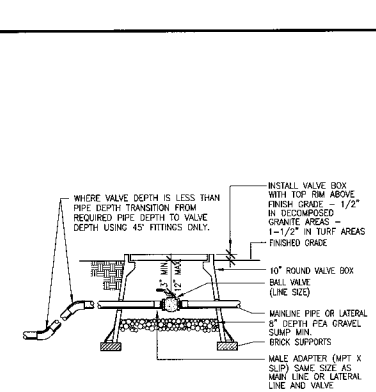
NOTE:
- LOCAL CODE SHALL COVERN ALL INSTALLATION REQUIREMENTS
- ALL CONNECTIONS SHALL BE COPPER OR THREADED BRASS.
- COORDINATE INSTALLATION OF CONCRETE SLAB AND BACKFLOW PREVENTER ENCLOSURE CAGE IF INDICATED

4 2" OR SMALLER REDUCED PRESSURE BACKFLOW PREVENTER
N.T.S.

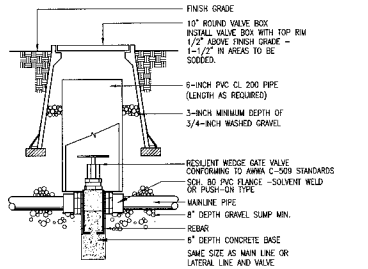


- 6" THICK CONCRETE PAD SHALL HAVE TOP SURFACE SLOPED AT 1/2% W/ BROOM FINISH. ALL OPENINGS IN PAD SHALL BE SLEEVED WITH 1-1/2" LARGER DIAMETER THAN PENETRATING PIPE SIZE.
- THE ENCLOSURE SHALL BE SIZED, POSITIONED AND INSTALLED FOR UNRESTRICTED OPERATION, ACCESS AND CLEARANCE AROUND ITEMS ENCLOSED.
- ALL HINGED CONNECTION LOCATIONS AND HARDWARE TO BE TAMPER PROOF.
- WELD ALL JOINTS CONTINUOUS AND GRIND SMOOTH ALL ROUGH SURFACES OR SHARP EDGES. PRIME AND PAINT ALL SURFACES W/ 2 COATS RUSTPROOF PAINT PER COLOR SELECTED BY OWNER. PROVIDE COLOR SAMPLE FOR SELECTION AND APPROVAL.
- ALL ANCHORS AND HARDWARE TO BE STAINLESS STEEL.

5 BACKFLOW PREVENTER ENCLOSURE
N.T.S.

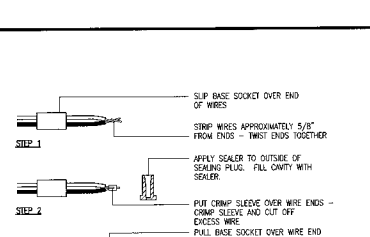


6 BALL VALVE/ISOLATION VALVE
N.T.S.



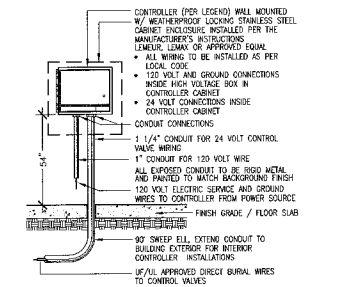
GENERAL NOTES
- NOMINAL SIZE OF GATE VALVE TO MATCH NOMINAL SIZE.
- INSTALL A 4-INCH THICK CONCRETE PAD BELOW VALVE WITH NO. 4 REBAR WHEN USING PUSH ON TYPE VALVES.
- RESILIENT WEDGE GATE VALVE MAY HAVE EITHER MECHANICAL JOINT, PUSH-ON ENDS, OR FLANGE ENDS. THE OPERATOR IS A WRENCH NUT.

7 ISOLATION GATE VALVE
N.T.S.



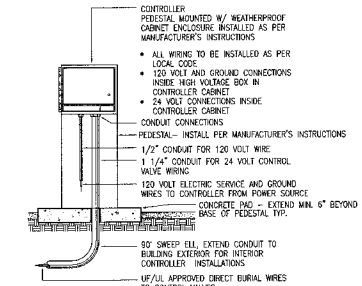
NOTE:
- FOR WIRE SIZES NO. 14, 12, AND 10 – ALL CONNECTIONS IN VALVE BOXES ONLY

8 TYPICAL WIRE CONNECTION
N.T.S.



NOTE: LANDSCAPE IRRIGATION INSTALLER IS RESPONSIBLE FOR COORDINATING AND MAKING ALL SERVICE ACCESS AND INSTALLATION CONNECTIONS. 5/8" X 8' COPPER CLAD GROUNDING ROD SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

9 WALL MOUNTED CONTROLLER
N.T.S.



NOTE: LANDSCAPE IRRIGATION INSTALLER IS RESPONSIBLE FOR COORDINATING AND MAKING ALL SERVICE ACCESS AND INSTALLATION CONNECTIONS. 5/8" X 8' COPPER CLAD GROUNDING ROD SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

10 PEDESTAL MOUNTED CONTROLLER
N.T.S.

REVISIONS	NO.	DATE	DESCRIPTION

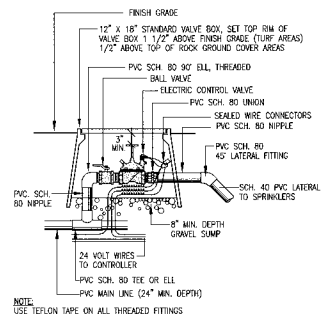
DIANE C. MCCLOSKEY 12210 REGISTERED LANDSCAPE ARCHITECT STATE OF ARIZONA

McCloskey + Peltz, Inc.
LANDSCAPE ARCHITECTS
One West Elliot Road, Suite 110 Tempe, Arizona 85284
Phone: (480) 838-0777 Fax: (480) 831-1774

Irrigation Details
Parkway Improvement District 07-7
CIRCLE G RANCHES VI
PREPARED FOR: Town of Gilbert

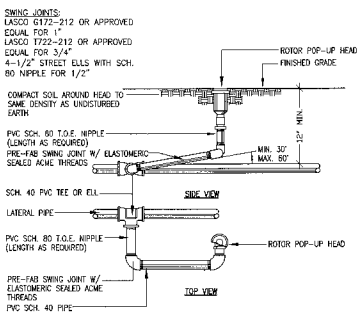
DESIGNED BY:	MPI
DRAWN BY:	BCD
CHECKED BY:	DCM
PROJECT NO:	06422
DATE:	1/2008

DRAWING NO.
L-8
SHEET 8 OF 13



NOTE:
USE TEFLON TAPE ON ALL THREADED FITTINGS

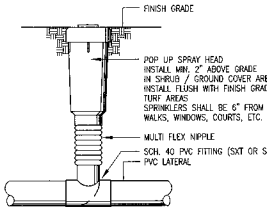
1 REMOTE CONTROL VALVE (TURF)
N.T.S.



NOTE
ALL THREADED CONNECTIONS TO BE COATED WITH TEFLON TAPE (EXCEPT ACME THREADS). OFFSET IS RIGHT ON LATERAL SO THAT ALL FITTINGS TIGHTEN WHEN FORCE IS APPLIED.

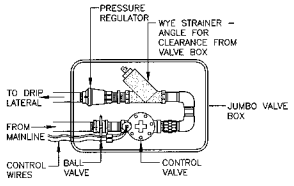
ALL HEADS SHALL BE 6" MIN. FROM WALLS, HEADERS, OR OTHER PAVED SURFACES.

2 ROTOR HEAD W/ SWING JOINT
N.T.S.

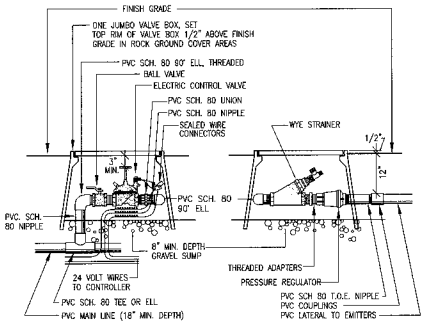


NOTE: ADJUSTABLE ARC NOZZLES SHALL BE USED WHERE EDGES CURVE OR BEND. CONTRACTOR TO ADJUST ALL HEADS AFTER TURF IS ESTABLISHED

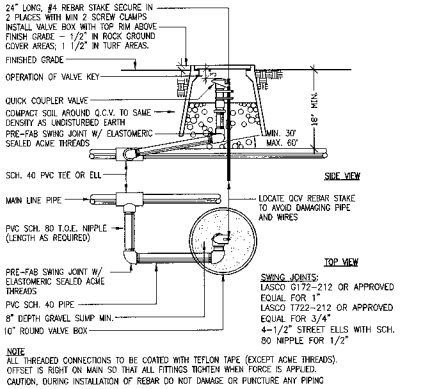
3 POP UP SPRAY HEAD
N.T.S.



EMITTER VALVE MANIFOLD – TOP VIEW

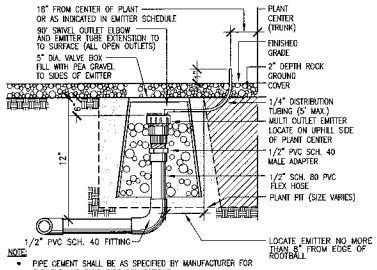


4 EMITTER VALVE MANIFOLD
N.T.S.



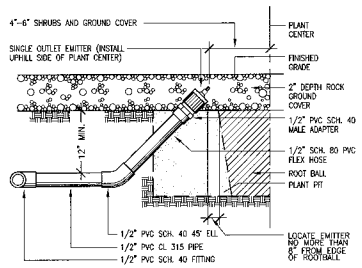
NOTE
ALL THREADED CONNECTIONS TO BE COATED WITH TEFLON TAPE (EXCEPT ACME THREADS). OFFSET IS RIGHT ON MAIN SO THAT ALL FITTINGS TIGHTEN WHEN FORCE IS APPLIED.
CAUTION, DURING INSTALLATION OF REBAR DO NOT DAMAGE OR PUNCTURE ANY PIPING

5 QUICK COUPLER VALVE
N.T.S.



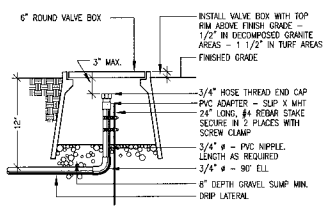
NOTE:
- PIPE CEMENT SHALL BE AS SPECIFIED BY MANUFACTURER FOR FLEXIBLE AND RIGID PIPE CONNECTIONS
- EMITTER TUBING EMISSION POINTS SHALL BE EQUALLY SPACED AND LOCATED TO DIRECT WATER FLOW TO PLANT ROOT BALL
- A MINIMUM OF THREE EMITTERS OPEN INITIALLY. ADDITIONAL OPENINGS AND EMISSION POINTS SHALL BE BASED ON PLANT SIZE (SEE EMITTER LAYOUT AND SCHEDULE)
- EMITTER VALVE BOX SIZE: 8" DIA. RAINBIRD MODEL SEB-6x OR APPROVED EQUAL

6 MULTI OUTLET EMITTER IN VALVE BOX
N.T.S.

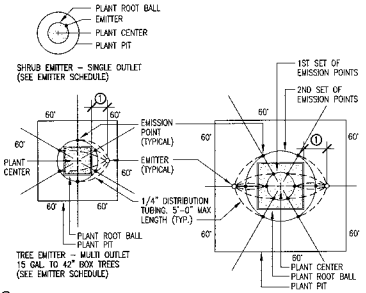


NOTE:
- 90° ELL MAY BE USED IN LIEU OF 45° IF PLANTER WIDTH IS LESS THAN REQUIRED FOR 45°
- PIPE CEMENT SHALL BE AS SPECIFIED BY MANUFACTURER FOR ALL PIPE CONNECTIONS.

7 SINGLE OUTLET EMITTER
N.T.S.



8 DRIP SYSTEM FLUSH PLUG
N.T.S.



① LOCATE MULTI OUTLET EMITTER NO MORE THAN 8" FROM EDGE OF ROOT BALL.

NOTE:
EMITTER SHALL BE LOCATED ON UPHILL SIDE OF PLANT ROOT BALL. EMISSION POINTS SHALL BE EQUALLY DISTRIBUTED AROUND PLANT PIT PERIMETER PER SCHEDULE
EMITTER SHALL BE 8" MAXIMUM FROM EDGE OF TREE ROOT BALL. TYPICAL.
DISTRIBUTION TUBING SHALL NOT EXCEED 5'-0" MAXIMUM IN LENGTH.

9 EMITTER LAYOUT
N.T.S.

TREES

TREE SIZE	NUMBER OF MULTI OUTLET EMITTERS OUTLET QUANTITY = EMITTER GPH TOTAL	DISTANCE FROM TRUNK	
		1ST SET OF EMISSION POINTS	2ND SET OF EMISSION POINTS
15 GAL.	1 – 1 GPH = 6 GPH	3 @ 12"	
24" BOX	1 – 1 GPH = 6 GPH	4 @ 18"	
30" BOX	1 – 1 GPH = 6 GPH	6 @ 21"	
36" BOX	1 – 2 GPH = 12 GPH	6 @ 24"	
42" BOX	1 – 2 GPH = 12 GPH	6 @ 27"	
48" BOX	2 – 2 GPH = 24 GPH	6 @ 12"	4 @ 42"
54" BOX	2 – 2 GPH = 24 GPH	6 @ 15"	5 @ 45"
EX. LG. TREES	2 – 2 GPH = 24 GPH	6 @ 18"	6 @ 48"
EX. TREES IN TURF	1 – 2 GPH = 12 GPH	6 @ 24"	
EX. F. PALM	1 – 2 GPH = 12 GPH	6 @ 24"	

SHRUBS

PLANT	SIZE	EMITTER TYPE (G.P.H.)
ANGELITA DAISY, KATIE'S RUELLIA, RAIN LILY, AND PENSTEMON	ALL	.6 G.P.H. SINGLE OUTLET
ALL OTHER SHRUBS, GROUND COVER, AND ACCENTS	1 OR 5 GAL.	1 G.P.H. SINGLE OUTLET

10 EMITTER SCHEDULE
N.T.S.

PIPE SIZE	FLOW (GPM) FOR SCH. 40 PVC	FLOW (GPM) FOR CL 315 (1/2" SIZE) AND CL 200 PVC (3/4" AND LARGER)
1/2"	0-4	0-5
3/4"	4-8	5-10
1"	8-13	10-15
1-1/4"	13-22	15-25
1-1/2"	22-30	25-35
2"	30-50	35-55
2-1/2"	50-70	55-80
3"	70-120	80-120
4"	120-200	120-200

1. ALL VALVE BOXES TO BE CARSON/BROOKS, AMETEK, OR EQUAL
2. ALL LATERAL PIPE TO BE CLASS 200 PVC, 1/2" DRIP SUBLATERAL – CL 315 PVC)
3. MAINLINE PIPE TO BE SCHEDULE 40 PVC (SOLVENT WELD)– LESS THAN 3" AND CLASS 200 PVC (RING-TITE) – 3" AND GREATER

11 PIPE SCHEDULE
N.T.S.

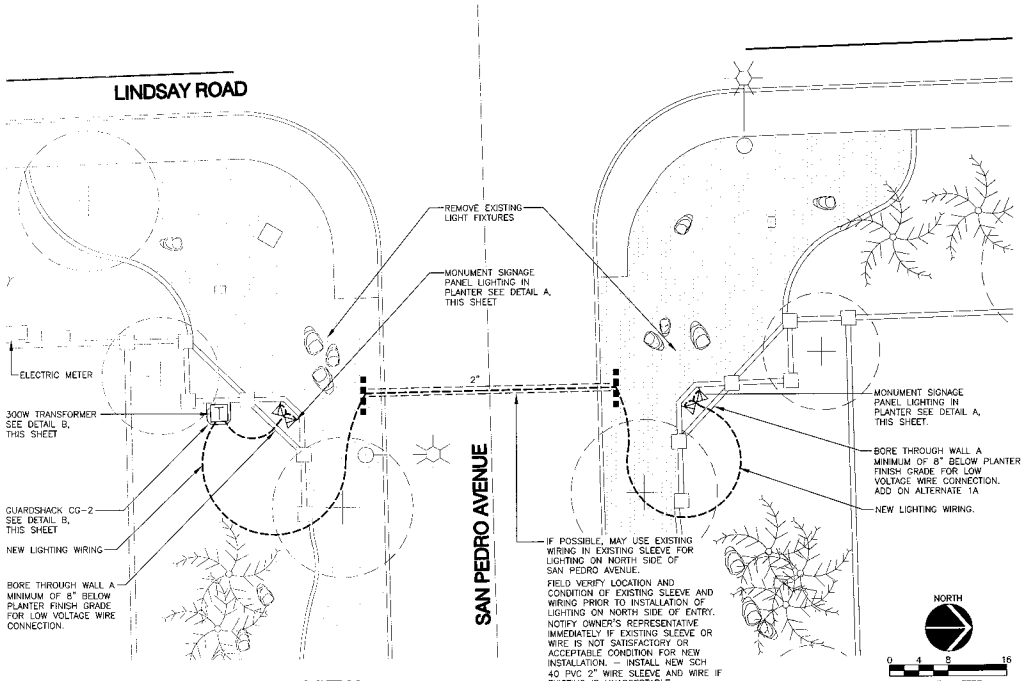
REVISIONS NO.	DATE	DESCRIPTION

McCloskey + Peltz, Inc.
LANDSCAPE ARCHITECTS
One West Elliot Road Suite 110 Tempe, Arizona 85284
Phone: (480) 897-7774 Fax: (480) 897-7774

Irrigation Details
Parkway Improvement District 07-7
CIRCLE G RANCHES VI
PREPARED FOR: Town of Gilbert

DESIGNED BY:	MPI
DRAWN BY:	BCD
CHECKED BY:	DCM
PROJECT NO:	06422
DATE:	1/2008

DRAWING NO.
L-9
SHEET 9 OF 13



ENTRY MONUMENT PLAN VIEW

1/8"=1'-0"

LOW VOLTAGE LIGHTING LEGEND

SEE THIS SHEET FOR LOW VOLTAGE LIGHTING DETAILS AND NOTES

SYM.	MANUFACTURER	MODEL	NOTES
	LOW VOLTAGE LIGHTING		
	FX LUMINAIRE	MU-20-W	SIGN LIGHT
T	FX LUMINAIRE	PX-300-TPC	
	GUARDSHACK	CG-2	OR APPROVED EQUAL

UNLESS OTHERWISE NOTED, ALL LIGHTS TO HAVE BRONZE FINISH TYP.

NOTE: PROVIDE PLANT MATERIAL TO SCREEN THE TRANSFORMER FROM VIEW-TYP.

LOW VOLTAGE LIGHTING NOTES

GENERAL

Scope of Work: The supply and installation of a 12 volt landscape lighting system which includes the fixtures specified on Lighting Legend as well as the installation of low voltage transformers, conduit, and direct burial cable as necessary to complete the layout shown on plans. Lighting plans are diagrammatic and intended to show general fixture locations. Contractor is responsible for necessary line (120v) and low voltage (12v) work to complete the lighting design as shown.

Standards: All work performed is to comply with the National Electric Code and applicable local codes and ordinances. Contractor shall possess all necessary licenses to complete the described work. Contractor is to obtain all necessary permits to complete work described.

INSTALLATION

Contractor is to verify site measurements, grades, existing sleeves, existing plant locations, and existing utilities, equipment and switching controls. Contractor is to provide all necessary components and accessories to complete installation as specified.

1. Direct Burial Cable: Cable shown on plans is for fixture grouping only. Cable to be circuited and sized to provide a minimum of 10.5 volts and a maximum of 11.5 volts to all lighting fixtures. Refer to FX Luminaire's "Circuiting Guidelines" included with the transformer. Minimum underground low voltage cable size is 12 gauge multi-strand direct burial. Install cable along edge of hardscape whenever possible. Minimum cable depth is 8". All cable run under hardscape areas shall be installed in sleeves with sweep corners. Leave 24" loops at all fixture locations for final adjustment. All wire junctions shall be waterproofed with FX Luminaire Lite Splice connectors or APPROVED equal. Only fully encapsulated waterproof connectors rated for direct burial will be accepted. Black taped connections will be rejected.

2. Fixture location: Verify exact location with Landscape Architect or Owner's agent before commencing installation. All fixtures shall be in a new, unused condition. Equipment shall be the type specified – there will be no substitutions without prior approval from Landscape Architect or Owner's agent. Install all equipment as per manufacturer's specifications and details.

3. Transformers: Shall be FX Luminaire stainless steel Multi-Tap sized to be 80% loaded. Transformers to be installed inconspicuously using plant material or site features to obscure a direct view of their locations. Avoid locations that are easily accessible to children or that are in a direct path of irrigation water. Install transformers 12" above finish grade and level. All wires leading to or from transformer shall be in conduit sleeve that is firmly affixed to mounting surface. All junction boxes and other equipment shall be UL approved for wet locations. Paint transformers and any necessary junction boxes or conduit to match the surface on which they are mounted. Install transformers according to manufacturer's specifications and local codes. All exposed metal parts including transformers shall be permanently grounded in accordance with the National Electrical Code.

4. Switches: Contractor shall install switches at locations indicated on plan.

5. Testing: Contractor is to coordinate a convenient time in the evening to test and aim all equipment to the satisfaction of the Landscape Architect or Owner's agent.

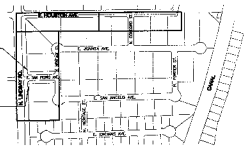
6. Guarantee: Upon completion and acceptance of the described work, the Contractor shall provide a guarantee for all workmanship and equipment for the period of one year from the date of acceptance. All warranty service work shall be performed at no cost to Owner and be done in a timely fashion.

7. As Built: Contractor will provide Owner with complete and reproducable drawing of the system layout as it was actually installed. This drawing should include the location of underground cable, sleeves, and all fixtures and equipment.

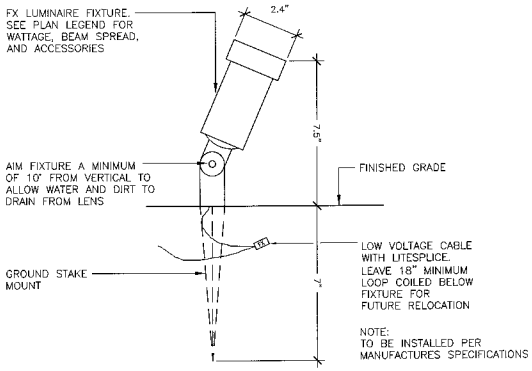
FX LUMINAIRE CONTACT:
GREG REDLAWSK
PHONE: 1-888-711-7963
FAX: 1-858-535-1234
EMAIL: greg@fxl.com

NOTE:
ALL LOW VOLTAGE LIGHTING SHALL BE ON AN AUTOMATIC TIMER AND SHALL BE EXTINGUISHED BETWEEN THE HOURS OF MIDNIGHT AND SUNRISE.
NOTE:
ELECTRICAL METER/ POWER SOURCE IS EXISTING, FIELD VERIFY.

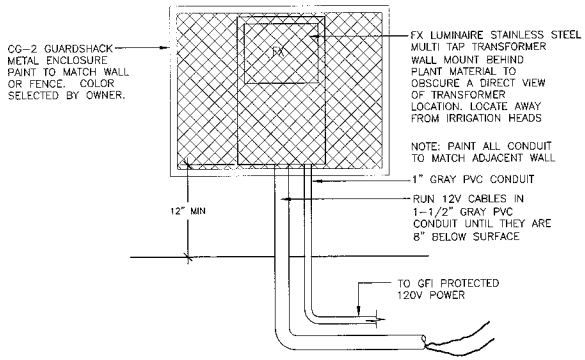
KEYMAP N NTS.



LOW VOLTAGE LIGHTING DETAILS



A MACCIA ULTIMO ON SPIKE MOUNT
N.T.S.



B TRANSFORMER WALL MOUNTED WITH METAL ENCLOSURE
N.T.S.

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(ARIZONA BLUE STAKE, INC.)

REVISIONS

NO.	DATE	DESCRIPTION

McCloskey + Peltz, Inc.
LANDSCAPE ARCHITECTS
One West Elliot Road Suite 110 Tempe, Arizona 85284
Phone (480) 820-2277 Fax (480) 820-7734

Low Voltage Entry Lighting Plan
Parkway Improvement District 07-7
CIRCLE G RANCHES VI
PREPARED FOR: Town of Gilbert

DESIGNED BY:	MPI
DRAWN BY:	BCD
CHECKED BY:	DCM
PROJECT NO:	06422
DATE:	1/2008

DRAWING NO. L-10
SHEET 10 OF 13

PLANTING SPECIFICATIONS

PART 1 - GENERAL

A. Work Specified Herein – The work of this Section shall include all labor, materials, equipment and services necessary to furnish and install all landscape plant materials including trees, shrubs, vines, ground cover and related items as indicated or specified.

B. Bidder shall visit and inspect site to thoroughly inform himself of all existing conditions. No extra payment or time extensions will be given due to rocky soil conditions. Any discrepancies between existing conditions and those shown on drawings should be brought to the attention of the Owner's Representative for clarification. No additional compensation will be permitted for failure to ascertain all aspects of the project.

C. Substitutions

1. No change from the design shall be made without written authorization from the Owner's Representative & Town of Gilbert.
2. Plants of kinds other than those indicated on the plant list will be considered by the Owner's Representative only upon submission of proof that any plant is not reasonably procurable in the local region. Replacement plant will be approved on the grounds that it resembles the plant specified in regards to appearance, ultimate height, shape, habit of growth, general soil and other requirements.

D. Quality Assurance

1. Plants shall be subject to review and approval of Owner's Representative at place of growth or upon delivery for conformance to specifications. Such approval shall not impair the right of inspection and rejection during the progress of the work and does not constitute the Owner's Representative's approval of the plant materials in regards to their health and vigor as specified herein. Rejected plants shall be removed from the project site immediately.
2. For inspection and identification securely attach durable, legible labels stating in weather resistant ink, the correct plant name and size, as specified in the plant list, to all plants, bundles and containers of plant material delivered to the site.
3. Perform all work in accordance with the requirements of this Contract, MAG Standard Specifications, Town of Gilbert standards as well as provisions of all applicable laws, codes, ordinances, rules, and regulations.
4. Soil Testing: Representative soil samples from the site (from both lawn and planting areas) and for each source of imported topsoil (as applicable) shall be tested for agricultural suitability and for planting/fertilization/soil amendment recommendations in locations as directed by the Owner's Representative.
   a. Soil tests shall be performed by an approved independent certified agricultural soils testing laboratory.
   b. Soils analyses shall include the following data: pH, Calcium, Magnesium, Sodium, Potassium, Exchangeable (plus soluble) Sodium percentage, Free Lime, Nitrate Nitrogen, Phosphate Phosphorous, Salts, mechanical analysis, percentage of organic content, and recommendations on type and quantity of additives required to establish a satisfactory pH factor and suitable nutrient levels for planting/lawns.
   c. Contractor will be required to fertilize / amend soils as recommended by the soils report at no additional cost.
5. Percolation / Drainage: The Owner's Representative shall be immediately notified in writing of soil and drainage conditions detrimental to growth of plant material or lawns. The Contractor shall submit a proposal for correcting the situation. No plants or lawn shall be installed until drainage problems are corrected.

E. Submittals

1. Submit quality certificates on plant materials as specified herein.
2. Seed
3. Fertilizer / Soil Amendment materials
4. Decomposed granite or other rock ground cover sample(s), each type
5. Submit complete maintenance instructions on the care and feeding of the plant materials through a complete growing season.
6. Submit certification within two weeks of award of contract that all plant materials are secured at a wholesale nursery.
7. Prior to installation or application, deliver to Project Site samples of plant materials, for review and acceptance.
8. Soil lab reports (as applicable)

F. Pre-Construction Conference – The Owner's Representative may schedule a pre-construction conference with Contractor at least 7 days before beginning work under this Section. Purpose of this conference is to review questions Contractor may have regarding the work, administrative procedures during construction and project work schedule.

G. Samples and Tests – The Owner's Representative reserves the right to obtain and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request. Rejected materials shall be immediately removed from the site and replaced at the Contractor's expense. Cost of testing of materials shall be paid by the Contractor.

H. Permits and Fees – Obtain all permits and pay required fees to any Governmental Agency having jurisdiction over the work. Arrange inspections required by local agencies and ordinances during the course of construction as required.

I. Regulatory Agency Requirements – Comply with Local, State, and Federal requirements governing storing, handling, and applying Herbicides, Pesticides, and Insecticides.

J. Product Delivery, Storage, and Handling – Deliver fertilizer in original, unopened containers, each bearing manufacturer's guaranteed analysis, name, trade name, and conformance with governing regulations and laws. Remove unacceptable products immediately from job site. Do not deliver more plant materials than can be planted within three days. Handle container plants only by the container. Store plant materials and protect against damage and dehydration until planted.

K. Job Conditions

1. Call BLUE STAKE ((602) 263-1100) to locate underground utilities before starting any underground work.
2. Prior to cutting into the soil, locate all existing underground installations and protect same. Repair any damage to these installations at no cost to the Owner.
3. Coordinate all work with other trades so that conflicts will neither exist nor delay the work in any way.
4. Fine grade to be established and inspected by Owner's Representative prior to installation of materials or planting commences.
5. Irrigation system to be fully operable and approved by Owner's Representative before planting commences.

L. Planting Seasons – Unless otherwise approved, planting permitted during any period, except those prohibited by unfavorable weather. No planting shall occur or will be permitted during weather conditions which adversely affect materials, nor will it be permitted when soil is in muddy condition.

M. Seeding Season – Summer lawn shall be seeded from April 1 to September 1 when ground temperature is above 60 degrees.

PART 2 - MATERIAL STANDARDS

A. Basis of Bidding: The following organic amendments, soil amendments, and fertilizers are for bidding purposes only. Specific amendments and fertilizers will be determined after site Soil Samples are tested and amendment recommendations made per soils report as specified in Part 1 D. Quality Assurance – 4. Soil testing above.

B. Organic Soil Amendment shall be stabilized, fortified, treated (nitrolized) wood products with no more than one (1) percent ether treatment; fir mulch, pine mulch, or redwood mulch.

C. Sand: "Root zone" sand as available from Pioneer Sand Company, or approved equal.

D. Soil Amendments

1. Soil Sulfur: Agricultural grade water soluble sulfur containing a minimum of 60% sulfur expressed as elemental, Dispersul or approved equal.
2. Gypsum: Agricultural grade gypsum product, commercially packaged, free flowing, and containing a minimum of 90% calcium sulfate by volume.

E. Commercial fertilizer shall be of uniform composition, dry and free-flowing

1. Lawn areas: Pellet or granular form. Fertilizer to be used for soil preparation operations in turf areas and in hydromulching operation shall be Ammonium phosphate containing 16% Nitrogen, 20% Phosphoric Acid, and 0% Potash, by weight. Fertilizer to be used after mowing shall be Ammonium sulfate containing 21% Nitrogen, 0% Phosphoric Acid, and 0% Potash, by weight.
2. Plant pits: Fertilizer tablets for plant pits shall be Agriform 21 gram (or equal) with 20-10-5 composition. Install per manufacturer's recommendations.

F. Plant Materials

1. Plants shall be quality material having the habit and growth which is normal for the species; sound, vigorous, healthy, free from insects, plant diseases, and injury. Full foliaged when in-leaf. Trees well branched, grafts at ground level, and with normal trunks throughout, full height. Trees with weak, thin trunks not capable of supporting themselves when planted in the open will not be accepted. Cull, bull, height and spread dimensions shall be measured with branches in normal and good practice. Size and quality shall be equal to or better than specified. All landscape material which in the opinion of the Owner's Representative does not meet specifications as recommended by the American Association of Nurserymen shall be removed from the landscape premises and replaced by the Landscape Contractor at no cost to the Owner.
2. Furnish container stock grown therein from a months to 1 year without pot-bind, and have sufficient roots to hold earth intact after removal from container. Containers shall be free from noxious weeds, including Bermuda grass.
3. Plant names shall conform to those given in "Standardized Plant Names" latest edition, prepared by the American Committee on Horticultural Nomenclature, or shall be names generally accepted by the trade.
4. Select, dig, transport, protect and plant in accordance with the requirements of these specifications and "American Standards for Nursery Stock" and accepted good practice. All local, state, and federal laws pertaining to the inspection, sale, and shipment of plant materials shall be complied with.

G. Seed: Lawn seed shall be fresh, clean, and new crop seed mixture. Seed shall be delivered in original, sealed packages bearing the producer's guaranteed analyses for percentages of mixtures, purity, germination, and weed seed. Label shall be in conformance with U.S. Department of Agriculture rules and regulations under the Federal Seed Act and applicable Arizona State seed laws. Seed that has become wet, moldy, or otherwise damaged will not be acceptable. The kind of seed planted shall be appropriate for the planting season, and shall be the following:

Summer lawn seed shall be certified Nemex Sahara supplied by Pennington Seed and Seed West. It shall be fancy hulled. Pennigrid seed having minimum percentages of purity and germination of at least 97% and 85% respectively, and a seed content not exceeding 35%. Seed shall be applied at a rate of 3 pounds per 1000 square feet. Packaging shall be branded packaging with the certified labels or tags.

H. Sod: Sod shall be Bermuda hybrid Midiron (over seeded if necessary depending on season). It shall be strongly rooted and not less than 2 years old, free of weeds and all undesirable native weeds and grasses, machine cut to 3/4" pad thickness ±1/4" excluding top growth and thatch. Sod shall be of uniform pad size. Pads with broken or uneven ends are not acceptable. Provide only sod capable of a vigorous growth and development when planted. Keep sod moist and protected from drying winds and sun. Sod shall be installed within 24 hours after delivery to site.

I. Wood cellulose fiber mulch for use with hydraulic application of grass seed and fertilizer shall consist of specially prepared virgin wood cellulose fiber, processed to contain no growth or germination inhibiting factor and dyed green to facilitate visual monitoring of the application of materials. The dye shall be biodegradable and not inhibit plant growth. The wood fiber shall be delivered in undamaged containers labeled and bearing the name of the manufacturer and showing the air-dry weight content the maximum being 12 percent moisture, plus or minus 3 percent at the time of manufacture. The ph range shall be from 4.5 to 6.5. The wood cellulose fiber shall be manufactured so that:

1. After addition and agitation in slurry tanks with fertilizers, seed, water, and other approved additives, the fibers in the material will become uniformly suspended to form a homogeneous slurry.
2. When hydraulically sprayed on the ground, the material will form a blotterlike cover impregnated uniformly with grass seed.
3. The cover will allow the absorption of moisture and allow rainfall or applied water to percolate to the underlying soil.

J. Tackifier shall consist of organic mucilloid liquid concentrate diluted with water and a psyllium base containing no agents toxic to seed germination. The addition of tackifier to the slurry mix shall not change the properties of the tackifier. When applied, the tackifier shall form a transparent crust permeable by water and air.

K. Water – Free of oil, acid, salts, or other substance harmful to seed growth.

L. Concrete header – As noted and detailed on drawings

PART 3 - SOIL PREPARATION

A. Topsoil – Topsoil, if required, shall be screened, fertile, friable soil from well-drained arable land, free from mat grass, refuse, roots, heavy clay, noxious weeds or any material toxic to plant growth. Textural content shall be as follows: Silt 20-45%, Clay 15-20%, Sand 30-60%; with a minimum of 5% organic material (natural or added). The ph shall not be lower than 5.5 nor exceed 8.3 and soluble salts shall not exceed 1500 ppm. Existing site soil may be used if it meets or is amended to meet the above specification.

B. Planting Soil – Plant pit backfill for all trees and shrubs shall be screened, clean on-site native soil. Add slow release fertilizer tablets (Agriform 21 gram or equal) with 20-10-5 composition per manufacturer's recommendations and other amendments as recommended by soils testing.

C. Lawn Areas – Where the existing soil is caliche type, it shall be excavated to a depth of 6 inches, removed from the site and replaced with topsoil as specified herein.

1. Prepare Soil – Remove rocks, weeds, sticks, roots, debris, and extraneous matter over 1" in any dimension from area to be planted and dispose off site in a legal manner. Uniformly and thoroughly incorporate amendments as recommended by soils testing to a depth of 6" by means of a rototiller.
   Grade – Carefully grade all surfaces to be seeded or sodded to a smooth, free draining, even surface with a loose, moderately coarse texture.
2. Roll lightly to show surface irregularities; or irrigate, let dry and finish grade. Irregularities in the surface shall be leveled before seeding or sodding operations commence. Soil surfaces should be a minimum of 1 1/2" below header or paved surfaces or curbs in seeding areas and 2" below for sod areas.

PART 4 - EXECUTION

A. Grades – Verify that final grades to ± 0.10 foot in elevation have been established prior to commencing landscaping operations. Allow for inclusion of all amendments, settling, etc. Be responsible for installing all planting areas as indicated or as directed by Owner's Representative. When decomposed granite or other rock ground cover is to be installed, the applicable subgrade shall be graded before installation of such materials. After installation of decomposed granite or rock ground cover provide finish grade of 1" below paved surfaces or curbs. Surface drainage shall be away from the building foundations and walks, and shall ensure proper drainage of the site as indicated on the Drawings.

B. General – Irrigation system must be automated prior to start of planting. In planting trees, use equipment of adequate size and appropriate type to ensure optimal damage to the plant material.

C. Plant Removal Operations – Remove any existing trees or shrubs not to remain according to the Planting Plans, to a depth necessary to permit proper planting or leveling according to Drawings and as specified. This will include stump removal or grinding as required, all debris to be completely removed from site and disposed of properly.

D. Layout – Owner's Representative will check the stakeout of all planting areas prior to the start of irrigation system installation. Minor relocation of planting areas or other modifications shall be done at this time to avoid utility lines or impervious or wet soil conditions. Place shrubs at least 20" from foundations, walls, and walks for protection of the stem walls and as much further as character of growth demands.

E. Pit Drainage – Test drainage of plant beds and pits by filling with water, allow to drain, and refill. Conditions causing the retention of water in planting beds or turf areas for more than 24 hours shall be brought to the attention of the Owner's Representative prior to any planting.

F. Planting Operations – Remove any rock or other underground obstruction, if possible, to the depth necessary to permit proper planting according to Drawings and as specified herein. If underground construction, obstructions, or rock are encountered in excavations of planting areas, other locations for the plantings may be selected only with the approval of the Owner's Representative.

1. Moisture Content: Do not work soil when moisture content is so great that excessive compaction will occur nor when it is so dry a dust will form in the air or that clods will not break readily. Apply water as required for ideal moisture for backfilling and for planting as specified.
2. Excavation for Planting: Use extreme caution to avoid damage to the irrigation lines.
3. Planting Pits: Dig to three times the diameter of the root ball. Backfill shall be screened native soil as specified.
4. Setting Plants: Unless otherwise specified, place all plants in the center of planting pits, plant upright and face to give the best appearance and relationships to adjacent plants or structures. Set trees plumb and rigidly brace in position until the soil has been tamped solidly around the soil. All plants which settle deeper than the surrounding grade shall be raised to correct level. Backfill plants with prepared soil which shall be thoroughly settled by watering and tamping to fill all voids.
5. Watering and Filling: Water compact topsoil to the extent approved by the Owner's Representative. After settlement, supply additional topsoil as required to make a constant finished grade as detailed.
6. Pruning: After planting, prune the plants of superfluous growth as directed by the Owner's Representative.
7. Staking of Trees: Support trees by minimum of two 2"x 2" posts with a top tie placed for maximum support and a tie placed midway between the top and ground; provide extra ties if they are needed in the opinion of Owner's Representative. If evidence can be shown that trees have been grown without stakes at the nursery, the trees need not be staked.
8. Finish Grading:
   a. Grade all planting areas to a smooth, even, and uniform plane with no abrupt changes to surface. Remove all weeds including Bermuda grass, obnoxious grass, and nut grass and dispose of off-site in a legal disposal area.
   b. Level planting areas to properly float water for even distribution of irrigation systems.
   Dispose of any unacceptable or excess soil or other materials at a legal off-site disposal area.

PART 5 - LAWN PLANTING AND RESTORATION

A. General Requirements

1. Drainage – Conditions causing retention of water in turf areas for more than 24 hours shall be brought to the attention of the Owner's Representative prior to any planting.
2. Prepare Soil – remove rocks, weeds, debris 1" in diameter and greater from area to be seeded and dispose off-site. Work up soil to a depth of 6" and break up all clods. Soil prep all areas as specified.
3. Grade and Rake – Carefully rake to be smooth. For seeded areas, soil surface should be 1 1/2" below curbs, walks, or other paved surfaces. Roll areas to expose soil depressions or surface irregularities, and minimize excessive settling. Regrade as required. Use sand to level and fill all voids.
4. Fertilize – Scatter (16-20-0) fertilizer onto the soil evenly at a rate of 10 pounds per 1000 square feet of lawn area. Rake in lightly. Or, hydromulch fertilizer as specified herein and uniformly applied and mixed in the slurry to assure uniform distribution of 10 pounds per 1000 square feet over all lawn areas). Be sure soil is level and smooth before seeding.

B. Installation of Seed

1. Seed may be broadcast by means of a rotary or drop type distributor or hyroseeded at Contractor's option. Method of seeding shall be approved by Owner's Representative prior to commencing seeding operation.
2. Seed immediately after preparation of bed. Perform seeding operations when the soil is dry and when winds do not exceed 5 miles per hour velocity. All areas intended for seeding shall not be treated with pre-emergent control.
3. Application of seed with a rotary or drop type distributor:
   a. Install seed evenly by sowing equal quantities in 2 directions at right angles to each other. Sow grass seed at rate indicated herein.
   b. After seeding, top dress with 1/4" layer of organic mulch or as recommended by the manufacturer whichever is greater. Spread this topdressing with a lawn spreader or by hand. Roll with light lawn roller and thoroughly water with a fine spray.
4. Hydroseeding
   a. The homogeneous mixture shall be applied to the seeding area by means of hydraulic type equipment which shall provide continuous mixing and agitation action to the mixture of water, fertilizer, seed, and wood fiber. The mixture shall be applied through a pressure spray distribution system providing a continuous, non-fluctuating discharge and deliver the mixture in the prescribed quantities.
   b. Apply seed, mulch, fertilizer, and tackifier in a two step process.
      Step 1: Slurry mix of water, seed, 200 lbs./acre of fertilizer and 200 lbs./acre of wood fiber mulch shall be mixed in a hydromulcher and hydraulically sprayed on soil surface. The seed, fertilizer, and mulch shall be allowed to mix a minimum of 5 minutes prior to starting the application and applied within 30 minutes after mixing with water. Water shall be sufficient to form a homogeneous mixture capable of being applied by commercial hydromulching equipment.
      Step 2: Slurry mix of 125 lbs./acre tackifier, 1300 lbs./acre of wood fiber mulch, and water shall be mixed in a hydromulcher applied by hydraulically spraying over the seeded area.
   c. The operator shall spray the seeding areas with a uniform, visible coat by using the green color of the wood pulp as a guide. The slurry shall be applied in a sweeping motion in an arched stream so as to fall like rain, allowing the wood fibers to build on each other until a good coat is achieved and the material is spread at the required rate. The mulch material shall form a blotter like mat covering the ground. The mat shall have the characteristics of moisture absorption and percolation and shall cover and hold grass seed in contact with the soil. All slurry mixture which has not been applied within 4 hours after mixing will be rejected and removed from the project at Contractor's expense.
   d. Special care should be exercised in preventing the slurry from being sprayed onto paved surfaces, walls, or other areas not intended to receive seed. Any spilled slurry over overspray shall be cleaned up at the Contractor's expense.
5. After seeding, thoroughly soak seeded areas so that soil is thoroughly watered with fine spray and kept continually moist throughout the germination period. If the sprinkler system is used for initial watering, care shall be taken to avoid over watering and puddling of seed. The Contractor shall provide protective devices as required to protect seeded areas from traffic for 60 days minimum, or until grass is established. Repair or reseed areas damaged by erosion or poor germination. Any areas that do not germinate properly shall be reseeded at 15 day intervals until an acceptable stand of grass is produced.
6. After first mowing, evenly apply 21-0-0 (Ammonium sulfate) at a rate of 5 lbs. per 1000 square feet. A lawn shall be considered acceptably established only when it shows an even stand of grass free of weeds and bare spots and has been mowed at least once.

C. Mowing – Time initial and subsequent mowings to maintain grass height at 1"– 1 1/2". Mowing shall be repeated as required to maintain specified height. No more than 40 percent of grass leaf growth shall be removed in initial or subsequent mowings. Mowing shall not be delayed until grass blades bend over and become matted. Any mowing occur when grass is wet. Each mowing shall consist of mowing, trimming, edging, and off-site disposal of turf clippings for all turf areas within the limits of work as approved by the Owner's Representative. Perform all mowing with equipment suitable for the type of turf. Participate in hand cut with power driven equipment; chemical edging is not allowed. Take precautions necessary to protect trees in turf areas from damage caused by mowing, trimming, or edging equipment.

D. Installation of Sod: MID IRON

1. Lay Sod – Avoid laying sod on bone dry soil, dampen as required. Lay first strip of sod slabs along a straight line (use a string in irregular areas). Butt joints tightly, do not overlap edges. On second strip, stagger joints much as in laying bricks. Use a sharp knife to cut sod to fit curves, edges, and sprinkler heads.
2. Watering – Do not lay whole lawn before watering. When a conveniently large area has been sodded, water lightly to prevent drying and continue to lay sod and to water until installation is complete. Sprinkler heads should be set flush.
3. Rolling Sod – After laying sod in an area, roll lightly to eliminate irregularities and to form good contact between sod and soil. Do not use a very heavy roller or excessive initial watering which may cause surface marks.
4. Irrigation – Thoroughly water the completed lawn surface maintaining soil at least 8" deep. Repeat sprinkling at regular intervals to keep sod moist at all times until rooted. After sod is established, decrease the frequency and increase the amount of water per application as necessary.

E. Restoration / Reconditioning of Existing Turf Areas:

1. Provide a soils test in existing turf areas at least one month prior to seeding following a proper soil testing procedure. The test results will determine any soil amendment needs and procedures for soil improvement of the existing turf areas. Soil amendments to be added as per the soil test recommendations, cost of testing and any necessary materials and labor for the above procedure shall be paid by the Contractor.
2. Cultivate bare and compacted areas thoroughly.
3. Contractor to provide Core Aeration of all existing turf areas noted for restoration, follow all proper procedures for the core aeration process. All equipment labor and materials to be provided by the Contractor.
4. Remove diseased or unsatisfactory lawn areas. Do not bury into soil.
5. Any low spots (dips or holes) to be filled in with an appropriate soil and sand mixture to return areas to a smooth and level grade.
6. Follow seeding procedures as in part B (installation of seed) above for proper seeding of existing turf areas to be restored.

PART 6 - ROCK GROUND COVER/WEED CONTROL

A. Weed Control – The application of all weed control materials shall be licensed by the State of Arizona as a pest control operator in addition to holding any Subcontractor license that is required. Pre-emergent weed control: Surflon, or equal. Contact herbicide: Roundup, or equal.

B. Placing Granite

1. Decomposed granite shall be installed in all new planting areas, unless otherwise noted on plans. See plans for location.
2. Prior to placing granite, the area shall be totally free of weeds including Bermuda grass, using chemical control as necessary. Apply a pre-emergent control according to manufacturer's recommendations. The decomposed granite shall be evenly distributed in the designated areas to a minimum depth of 2" (after settlement) and 1" below adjacent pavements, curbs, etc. in all landscape areas.
3. After placing and grading, lightly water to remove fine material from the surface and water settle or roll to an extent satisfactory to the Owner's Representative. Apply a second application of pre-emergent control according to manufacturer's recommendations.

C. Type of Granite – Decomposed granite shall be size and color per drawings, free from lumps or balls of clay and shall not contain calcareous coatings, caliche, organic matter or deleterious substances. Decomposed granite sample shall be approved by the Owner's Representative prior to delivery to site. All material shall be from a single production source and shall present a uniform appearance. Material containing clumps which will not disintegrate with a shovel blow shall be rejected.

PART 7 - CLEANUP, MAINTENANCE, AND GUARANTEE

A. Cleanup – Keep all areas of the project in a clean, neat and orderly condition at all times. Trash burning and disposal shall not be done on the site. Prior to acceptance put all areas of the work in a finished condition acceptable to the Owner's Representative.

B. Maintenance

1. Continuously maintain all landscape areas included in the contract during the progress of the work, until final acceptance of the work. Maintenance shall consist of irrigating, fertilizing, weeding, spraying, pruning, resetting unstable plants, repairing of all erosion and other maintenance necessary to assure healthy plant growth. Bermuda or rye grass in planting areas is unacceptable.
2. Maintain lawns by watering, weeding, mowing, fertilizing, trimming, and other operations such as regrading, repair of all erosion, and reseeding or resodding as required to establish a smooth, acceptable lawn, free of eroded, dead or bare areas. Any damaged area or areas, greater than 2 feet in diameter, which fail to show a good stand of grass, shall be reworked and replanted until an acceptable stand of grass is established.
3. The Contractor shall maintain the irrigation system and make any necessary repairs, replacements, or adjustments regardless of cause to assure a complete and operational system and complete 100% coverage for all plant material and lawn areas.
4. During the maintenance period keep the project neat and free from debris at all times. Obtain Owner's approval for on site storage of equipment, or any maintenance materials.
5. After completion of landscape installation, an inspection will be performed and a punch list prepared. Upon acceptable completion of the punch list items (Substantial Completion) the maintenance/warranty period will commence. The date of Substantial Completion will be documented in writing and approved by the Owner's Representative. Continue maintenance for a period of 90 days after Substantial Completion.
6. Final Maintenance Inspection: One week prior to the end of the 90 day maintenance period a final inspection will be performed. If, after this inspection, the Owner agrees that all planting areas are weed free, plant materials are in satisfactory growing condition, and lawn areas are smooth, weed free, and showing an acceptable stand of grass with no bare or eroded areas, written Notice of Acceptance will be given to the Contractor for landscape installation, and the two year maintenance will commence. If, after this inspection, remedial work is required by the Contractor, Notice of Acceptance and the commencement of Owner maintenance will be delayed until all remedial work items are completed by the Contractor in a manner acceptable to the Owner's Representative.

C. Warranty

1. Provide a uniform stand of grass by watering, mowing, fertilizing, and maintaining lawn areas until final acceptance. Reseed or resod with specified materials, areas which fail to provide a uniform stand of grass until all effected areas are accepted by the Owner's Representative.
2. Guarantee plant materials for one year (90 days for annual color (flats, 1 gallon, 5 gallon) – 90 days; Trees – 1 year; against defects including death and unsatisfactory growth. Exception shall be for defects resulting from neglect by Owner, abuse or damage by others or unusual phenomena or incidents which are beyond the Contractor's control.
3. Immediately replace any rejected material at no cost to the Owner, with like kind in satisfactory condition any plant material not showing healthy growth at the end of the warranty period.
4. Guarantee all replacements the same as required for original plantings (see above).
5. Check site at least once every two (2) weeks during warranty period for proper maintenance, and notify Owner, in writing of any advised changes.
6. Notify Owner's Representative seven (7) days prior to the end of the warranty period that final inspection is requested. The Owner's Representative will make notice of any items not acceptable or requiring correction and such corrections shall be made immediately.

D. Plant Loss and Replacement

At no additional cost to the Owner, replace plant material not surviving or in poor condition. Perform replanting immediately, and in accordance with these specifications. Maintenance/Warranty period may be extended for failure to perform remedial work.

REVISIONS		
NO.	DATE	DESCRIPTION

McCloskey ♦ Peltz, Inc.
LANDSCAPE ARCHITECTS
One West Elliot Road Suite 110 Tempe, Arizona 85284
Phone: (480) 897-4777 Fax: (480) 897-1774

Planting Specifications
Parkway Improvement District 07-7
CIRCLE G RANCHES VI
PREPARED FOR: Town of Gilbert

DESIGNED BY:	MPI
DRAWN BY:	BCD
CHECKED BY:	DCM
PROJECT NO:	06422
DATE:	1/2008

DRAWING NO.
L-11
SHEET 11 OF 13

IRRIGATION SPECIFICATIONS

PART 1 - GENERAL

A. Work Specified Herein – The work of this Section shall include all labor, materials, equipment and services necessary to furnish and install a complete landscape irrigation system including:
1. Trenching, stockpiling excavation materials, and refilling trenches.
2. Complete system including but not limited to piping, backflow preventer assemblies, valves, fittings, heads, controller and wiring, and final adjustments to insure complete coverage.
3. Water and electrical service connections.
4. Replacement of unsatisfactory materials.
5. Clean up, inspection and approval.
6. Tests

B. Substitutions
1. No change from the design shall be made without written authorization from the Owner's Representative and Town of Gilbert.
2. Equipment specified is to establish performance and quality standard and shall be understood to include the words, "or approved equal". Any proposed equivalent materials shall be reviewed for approval by Owner's Representative prior to bidding.

C. Quality Assurance
1. Perform all work in accordance with requirements of this Contract, MAG Standard Specifications, Town of Gilbert standards, as well as provisions of all applicable laws, codes, ordinances, rules, and regulations.
2. Conform to requirements of reference information listed below except where more stringent requirements are shown or specified in the Contract Documents.
   a. American Society for Testing and Materials (ASTM) – Specifications and Test Methods specifically referenced in this Section.
   b. Underwriters Laboratories (UL) – UL Wires and Cables
3. Special Requirements:
   a. Tolerances – Specified depths of mains and laterals and pitch of pipes are minimums. Settlement of trenches is cause for removal of flash grade treatment, refilling, recompaction, and repair of finish grade treatment.
   b. Protect, maintain, and coordinate work with other trades.
   c. Contractor shall replace or repair damage to paving, grading, soil preparation, sodding, or planting during work associated with irrigation system installation at no additional cost to Owner.
   d. Work involving substantial plumbing for installation of backflow preventers, copper service, and related work shall be executed by licensed and bonded plumbers.

D. Pre-Construction Conference – The Owner's Representative may schedule a pre-construction conference with Contractor at least 7 days before beginning work under this Section. Purpose of this conference is to review questions Contractor may have regarding the work, administrative procedures during construction and project work schedule.

E. Submittals – Prepare and make submittal of the following:
1. Submit 5 sets Shop Drawings and complete materials list indicating manufacturer, model number(s), size(s), and description of all materials and equipment to be used on this project. Show appropriate dimensions and adequate detail to accurately portray intent of construction.
2. As Built Record Drawings. Contractor is responsible for recording and dimensioning all deviations from approved plans.
3. Controller Charts indicating areas of coverage for each station on each Controller. Do not prepare Controller charts until As Built Record Drawings have been approved by Owner's Representative.
4. Operation manual – in 3 ring binder include instructions for operation and maintenance of all equipment and components of irrigation system.

F. Delivery, Storage, and Handling – Deliver, unload, store, and handle materials by packaging, bundling products in dry, weatherproof, waterproof condition in manner to prevent damage, breaking, deterioration, intrusion, ignition, and vandalism. Deliver original, unopened packaging with containers prominently displaying manufacturer name, volume, quantity, contents, instructions, and conformance to local, state, and federal law. Remove and replace cracked, broken, or contaminated items or elements prematurely exposed to moisture, inclement weather, temperature extremes, fire, or job site damage. Exercise care in handling and loading of PVC pipe.

G. Job Site Conditions
1. Protection of Property – Preserve and protect all trees, plants, monuments, buildings, walls, structures, paved areas, curbs and other property from damage due to work of this Section. In the event damage does occur, all damage to items shall be completely repaired or replaced to original condition or better to the satisfaction of the Owner. All costs for such repairs shall be paid by Contractor.
2. Flare and barricade open ditches.
3. Protection and Repair of Underground Lines
   a. Contractor is responsible for verifying location (including depth) of all underground utility lines by BLUE STAKE ((602) 263-1100) or other means prior to starting excavation. Take all precautions necessary to protect these underground lines from damage. In the event damage does occur, all damage shall be repaired by Contractor to the approval of the Owner. All costs for such repairs shall be paid by Contractor.

H. Warranty / Guarantee – Manufacturer shall warranty materials against defects for a period of one year from date of Substantial Completion. Contractor shall guarantee workmanship for similar period. Contractor shall be responsible for coordinating material warranty items with manufacturer / distributor.
1. Settling of backfilled trenches that may occur during guarantee period shall be repaired by Contractor at no expense to Owner, including complete restoration of damaged property.
2. Expenses due to vandalism before Substantial Completion shall be borne by Contractor.
3. Check site at least once every two (2) weeks during warranty period for proper maintenance and operation of irrigation system, and notify Owner, in writing of any advised changes.

I. Maintenance – Continuously maintain the irrigation system included in the contract during the progress of the work, until final acceptance of the work. Maintenance shall consist of making any necessary repairs, replacements, or adjustments regardless of cause to assure a complete and operational system and complete 100% coverage for all plant material and lawn areas.

J. Extra Stock – In addition to the installed system furnish the following items to the Owner:
1. 2 pop up spray heads and rotor heads of each type used
2. 5 drip emitters and or bubblers of each type used
3. Two wrenches for disassembly and adjusting of each type of sprinkler head and valve supplied.
4. Two keys to each of the Controllers.

PART 2 - PRODUCTS

A. Copper Pipe and Fittings – Copper pipe shall meet applicable specifications of ASTM B-88 hard tempered copper tubing. Copper pipe fittings shall be 150 pound working water pressure standard, solder end type, constructed of wrought copper, bronze, or brass. Joints shall be made with tin lead solder approximately 95-5 composition.

B. Plastic Pipe and Fittings – The pipe shall be homogeneous throughout and free from cracks, holes, foreign materials, blisters, deleterious wrinkles, and dents.
1. Pressure Supply Lines downstream from backflow prevention units – Schedule 40 PVC (2-1/2" and smaller: solvent weld), Class 200 PVC (3" and larger Ring-Tite), size as noted on drawings.
2. Non pressure lines – Class 200 PVC minimum 3/4" or larger, size as noted on drawings; Class 315 PVC, 1/2" size.
3. All pipe to be identified with the following indelible markings: Manufacturer's name, Nominal Pipe Size, Schedule or class, working pressure at 73 degrees F., NSF (National Sanitation Foundation) seal of approval, and Date of extrusion
4. Solvent Weld Pipe – Manufactured from virgin polyvinyl chloride (PVC) compound in accordance with ASTM D2241 and ASTM D1784; cell classification 12454 B, Type 1, Grade 1.
5. Fittings-All main line and control valve assembly fittings and nipples shall be PVC Schedule 80 suitable for installation on I.P.S. sized PVC pipe as noted on plans. Other fittings shall be Standard weight, Schedule 40, injection molded PVC, complying with ASTM D1784 and D2466, cell classification 12454 B.
   a. Threads – injection molded type (where required)
   b. Tees and ells – side gated
6. Threaded Nipples – ASTM D2464, Schedule 80 with molded threads
7. Joint Cement and Primer – PVC solvent cement shall meet the applicable specifications of ASTM D-2564. PVC cleaner and primer shall be type as recommended by manufacturer of pipe and fittings.

C. Reduced Pressure Vacuum Breaker – Size and type as shown on drawings.

D. Drip System
1. All irrigation emitter heads shall be installed on Schedule 80 flex risers with minimum Schedule 40 adapters and fittings length as required.
2. All emitter heads of a particular type and for a particular function in the system shall be of the same manufacturer's type and shall be marked with the manufacturer's name and identification, in such a position that they can be identified without being removed from the system. Type of emitter shall be as indicated on drawings. Both single and multi outlet emitters shall be installed at each plant as detailed and in relation to the finish grade and plant root zone as shown. The multi outlet emitters shall be installed with distribution tubing providing a minimum of three (3) emission points equally spaced around the root zone of the tree.
3. Emitter Distribution Tubing – 1/4" flexible vinyl tubing appropriate for use with multi emitters.
4. Drip Valve Assembly – Size and type as shown on drawings.
   a. Wye Strainer – Plastic as manufactured by Ag. Products Inc. with min. 150 mesh stainless steel screen. Model type as shown on drawings
   b. Pressure Regulator – Preset type manufactured by Senninger, model type and size as shown on drawings
   c. Control Valve – Type, size as shown on drawings. The automatic remote control valves shall be slow acting diaphragm type electric solenoid operated valves. The valves shall be solenoid actuated, hydraulic operating valves of the globe screwed pattern type. The solenoid shall be for 24-volt, 60-cycle operation with running current of 2 watts. The solenoid shall be completely epoxy encapsulated for positive waterproofing. The valve shall be slow opening and closing with opening and closing speed not less than 5 sec. Flow range shall be .1 gpm – 200 gpm
   d. Ball Valve / Isolation Valve – Brass resilient seated ball valve with full port opening
5. Drip line flush cap – As shown and detailed on drawings

E. Valve Boxes – Carson / Brooks, Ametek or equal.
1. All ball valves, gate valves, quick couplers, drip line flush caps, wire stubs, control wiring splices, control valves, and drip valve assemblies shall be installed in valve boxes as shown on drawings.
2. Valve boxes to be installed with bolt down lids and stainless steel hardware. Boxes in turf-green, boxes in D.G. areas-tan.

F. Controller – Size and type as shown on drawings, installed in accordance with the details and manufacturer's directions and in conformance with applicable local code requirements. Provide controller with lockable outdoor cabinet.

G. Electrical Control Wiring
1. Low Voltage
   a. Electrical Control Wire – AWG UF UL No. 14 gauge (min.) (or larger if required to operate system as designed). Wiring used for connecting the automatic control valves to the automatic controller shall be type UF 600 volt single conductor copper wire with PVC insulation and bear UL approval for direct underground burial feeder cable.
   b. All control wire to be a single color. Common wire to be white.
   c. Control wire connections and splices shall be made with 3M direct bury splices, Rainbird Pentite connectors, or similar approved dry splice method.
2. High Voltage – Type required by local codes and ordinances, of proper size to accommodate the needs of equipment serviced.

H. Electric Remote Control Valves (Turf) – Type, size as shown on drawings.

I. Sprinkler Heads – As indicated on drawings. Fabricate riser units in accordance with details on drawings with riser nipples of same size as riser opening in sprinkler body.

PART 3 - EXECUTION

A. Inspection
1. Examine areas and conditions under which work of this section is to be performed. Do not proceed with work until unsatisfactory conditions have been corrected.
2. Grading operations with the exception of final grading shall be completed and approved by Owner's Representative before staking or installation of any irrigation system begins.

B. Preparation
1. Staking – mark with powdered line or marking paint, routing of pressure supply line and flag heads and control valve locations as directed by Owner's Representative. Owner's Representative will review staking and direct changes if required. Staking review does not relieve installer from coverage problems due to improper placement of heads after staking.
2. Install sleeving under paving prior to paving operation to accommodate piping and wiring. Compact backfill around sleeves to 95% Modified Proctor Density within 2% of optimum moisture content in accordance with ASTM D1557.
3. Trenching – Trench excavation shall follow as much as possible layout shown on drawing. Dig trenches straight and support pipe continuously on bottom of trench. Trench bottom shall be clean and smooth with all rock and organic debris 1" and greater in size removed. Pressure supply line trenches shall be over excavated as required to allow for bedding material.
   a. Clearances
      1. Piping smaller than 3 inches – trenches shall have a minimum width of 7 inches.
      2. Provide not less than 6 inches of clearance between each line, and not less than 12 inches of clearance between lines of other trades
      3. Pipe and wire depth as shown on detail on drawings
4. Existing Irrigation Removal-Unless otherwise noted on irrigation plans, all existing at grade or above grade irrigation components to be removed. This includes, but is not limited to electric valves, valve boxes, spray heads, bubblers, emitters, emitter distribution lines, backflow preventers, and controllers. All existing irrigation system components below grade (piping) to be abandoned in place, unless disturbed during new construction. Remove and dispose as necessary.

C. Installation
Locate all other equipment as near as possible to locations designated on drawings. Deviations shall be approved by Owner's Representative prior to installation.
1. PVC Piping – Snake pipe in trench as much as possible to allow for expansion and contraction. Do not install pipe when air temperature is below 40 degrees (F). When pipe laying is not in progress, or at end of each day, close pipe ends with tight plug or cap. Perform work in accordance with good practices prevailing in piping trades. Coordinate pressure supply line installation with required bedding operations.
   a. Solvent weld PVC Pipe – Lay pipe and make all plastic to plastic joints in accordance with manufacturer's recommendations. All solvent welded PVC pipe and fittings shall be primed.
2. Reduced Pressure Vacuum Breaker – Install as detailed in locations shown on drawings. Comply with manufacturer's recommendations, backflow prevention units shall be tested in accordance with the the requirements as specified in the manual of Cross Connection Control Recommended Practice as published by the foundation for Cross Connection Control Research, University of Southern California and local codes. The testing of the backflow prevention unit shall be performed by authorized service-test personnel. The test shall be performed at no additional cost to the Owner.
3. Drip System
   a. Make all fitting connections per manufacturer recommendations and as detailed and shown on drawings.
   b. Install drip line flush caps at all dead ends of drip laterals.
4. Automatic Controller
   a. Electrical service point of connection. Existing controller locations and electrical supply shall be used where possible. Where not possible, electrical supply shall be extended from the point of service to the controller location shown on plan. Field verify locations, condition, and operation of existing electric service. Notify Owner's Representative immediately of existing conditions detrimental to performing work under this contract.
   b. Connect remote control valves to controller in numerical sequence as shown on the drawings. to the controller location shown on plan. Field verify location and coordinate with electrical contractor.
5. Control Wiring
   a. Bury control wiring between controller and electric valves in pressure supply line trenches, strung as close as possible to pressure supply lines with wires consistently located below and to one side of pipe on top of initial pipe bedding, or in separate trenches.
   b. Bundle 24 volt wires at 10 feet intervals
   c. Provide an expansion loop by wrapping wire at least 8 times around a 3/4 inch pipe and withdrawing pipe.
   d. Make all splices and E.C.V. connections using Pentite connectors or similar dry splice method.
   e. Install all control wire splices not occurring at control valve in a separate splice valve box.
   f. Install one control wire for each control valve.
   g. Run 1 spare #14 – 1 wire from controller pedestal to last electric control valve on each and every leg of mainline.
   h. Label spare wires at controller and wire stub box. Wire color for extra wire to be green.
6. Electric Control Valves – Install cross handle 3" min. below finish grade where shown on drawings and as detailed. When grouped together, allow at least 12" between valve box sides. Install each remote control valve in a separate valve box. Install top of valve box 1/2" above finish grade.
7. Drip Valve Assemblies – Install drip valve assembly as detailed.
8. Drip Emitters – Install all emitters as detailed
9. Valve Boxes
   a. Install one valve box for each type of valve installed as detailed.
   b. Valve box extensions are not acceptable.
   c. Install gravel sump after compaction of all trenches. Valve box to rest on gravel sump. Place final portion of gravel inside valve box after valve box is backfilled and compacted.
   d. All valve boxes to be bolt down lid models. Provide with stainless steel bolts and washers as required.
   e. Provide sufficient clearances inside valve boxes to properly operate and maintain irrigation system component housed within.
10. Sprinkler Heads
   a. Install sprinkler heads where designated on drawings or where staked. Spacing of heads shall not exceed the maximum indicated on drawings unless restaked as directed by Owner's Representative. In no case shall the spacing exceed that recommended by the manufacturer. Contractor is responsible for providing complete 100% head to head coverage.
   b. Set plumb to finish grade as detailed. Install heads on risers as detailed. Adjust heads to correct height after seed is established.
   c. Adjust part circle heads for proper coverage. Plant placement shall not interfere with intended sprinkler head coverage, piping, or other equipment. Owner's Representative may request nozzle changes or adjustments without additional cost to the Owner.
11. Backfilling – Do not begin backfilling operations until required system tests have been completed. Backfill shall not be done in freezing weather except with review of Owner's Representative. Leave trenches slightly mounded to allow for settlement after backfilling is completed. Trenches shall be finish graded prior to walk through of system by Owner's Representative.
   a. All pressure supply lines shall be bedded with construction grade sand 4" below invert of pipe to 6" above top of pipe and width of trench.
   b. Excavated material is generally considered satisfactory for backfill purposes after completing bedding requirements. Backfill material shall be free of rubbish, vegetable matter, frozen materials, and stones larger than 2 inches in maximum dimension. Do not mix subsoil with topsoil. Material is not suitable for backfill if excavated material is not sufficient to meet backfill, compaction, and final grade requirements.
   c. Do not leave trenches open for a period of more than 48 hours. Open excavations shall be protected in accordance with OSHA regulations.
   d. Compact backfill to 90% maximum density determined in accordance with ASTM D155-7 utilizing mechanical or hand tamping method.
12. Piping and wiring under paving to be installed in separate sleeves. Locations, sizes, and condition of existing on site sleeving is not known. Contractor will be required to provide all sleeving required to complete work under this contract and cut, repair, and replace pavement as required for installation of new sleeving to the approval of the Town of Gilbert.
13. Water Supply and Point of Connection – Water supply points of connection (existing water meters) are shown on plans. Field verify location, size, condition, and proper operation prior to start of construction. Notify Owner's Representative of existing conditions detrimental to performing work under this contract.

D. Field Quality Control
1. Flushing – after piping, risers, and valves are in place and connected but prior to installation of sprinkler heads, emitters, quick coupler assemblies, and air relief valves thoroughly flush piping system under full head of water pressure from dead end fittings. Maintain flushing for 5 minutes through furthermost valves. Cap risers after flushing.
2. Testing – Conduct test in the presence of the Owner's Representative. Arrange for presence of Owner's Representative 48 hours in advance of testing. Supply force pump and all other test equipment.
   a. Prior to backfilling, and after installation of all control valves, fill pressure supply line with water, and pressurize to 40 PSI over the designated static pressure or 150 PSI whichever is greater, for a period of 2 hours.
   b. Test is acceptable if no leakage or loss of pressure is evident during test period
   c. Detect and repair all leaks
   d. Retest system until test pressure can be maintained for duration of test.
   e. Pressure supply line may be backfilled after acceptable pressure test.
   f. Before final acceptance, pressure supply line shall remain under pressure for a minimum period of 48 hours.
3. Adjusting – Upon completion of installation, "fine tune" entire system by regulating valves, adjusting patterns and break up arms / screws, and setting pressure reducing valves at proper pressure to provide optimum and efficient coverage. Flush and adjust all sprinkler heads for optimum performance and to prevent over spray onto walks, roadways, buildings, and walls as much as possible. Heads of same type shall be operating at same pressure +/- 7%.
   a. If it is determined that irrigation adjustments will provide proper and more adequate coverage, make such adjustments prior to final maintenance inspection as directed at no additional cost to Owner. Adjustments may also include changes in nozzle sizes, degrees of arc, and control valve throttling.
   b. All sprinkler heads shall be set perpendicular to finish grade unless otherwise designated.
   c. Areas that do not conform to designated operation requirements due to unauthorized changes or poor installation practices shall be immediately corrected at no additional cost to the Owner.
4. Cleanup – Maintain continuous cleaning operation throughout duration of work. Legally dispose of, off-site, at no additional cost to Owner all trash or debris generated by installation of irrigation system.
5. Substantial Completion Walkthrough
   a. Arrange for presence of Owner's Representative 48 hours in advance of walkthrough.
   b. Entire system shall be completely installed and operational prior to scheduling of walkthrough.
   c. Operate each zone, in its entirety for Owner's Representative at time of walk through to insure correction of all incomplete items.
   d. Expose all drip emitters and micro spray devices under operation for observation by Owner's Representative to demonstrate that they are performing and installed as designed.
   e. Submit As Built record drawings for review at time of Substantial Completion Walkthrough.
   f. Owner's Representative shall generate punch list of items to be completed before granting substantial completion and initiating 90 day maintenance period.
   g. Contractor shall furnish all materials and perform all work required to correct all inadequacies of coverage due to deviations from the Contract Documents and as directed by the Owner's Representative.
6. Final Maintenance Inspection
   a. One week prior to the end of the 90 day maintenance period a final inspection will be performed. Contractor shall show evidence that Owner has received all As Built Record drawings, accessories, charts, and equipment as required prior to scheduling final maintenance inspection. The same process will be followed as specified for the Substantial Completion Walkthrough. If, after this inspection, the Owner agrees that the irrigation system installation is acceptable, written Notice of Acceptance will be given to the Contractor, and Owner maintenance will commence. If, after this inspection, remedial work is required by the Contractor, Notice of Acceptance and the commencement of Owner maintenance will be delayed until all remedial work items are completed by the Contractor in a manner acceptable to the Owner's Representative.

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Irrigation Specifications
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