

LANDSCAPE MATERIALS LIST

QTY.	BOTANICAL NAME COMMON NAME	SIZE
TREES		
◆	DALBERGIA SISSOO SISSOO	24" BOX
○	QUERCUS VIRGINIANA SOUTHERN LIVE OAK	24" BOX
●	TIPUANA TIPU TIPU TREE	24" BOX
SHRUBS, GROUND COVERS, AND ACCENTS		
*	AGAVE DESMETTIANA AGAVE	5 GAL.
+	CAESALPINIA MEXICANA MEXICAN BIRD OF PARADISE	5 GAL.
⊕	CASSIA PHYLLODENIA SILVER LEAF CASSIA	5 GAL.
⊗	CHRYSACTINIA MEXICANA DAMIANITA	1 GAL.
*	HESPERALOE PARVIFLORA RED YUCCA	5 GAL.
⊕	LANTANA MONTEVIDENSIS TR. PURPLE LANTANA	1 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 JUOBA	5 GAL.
■	TURF- SEED (NUMEX SAHARA)	
▨	TURF-BY SOD ('MIDIRON') OVERSEEDED 'MIDIRON' SOD IF PLANTED OUT OF SEASON	
—	CONCRETE HEADER	
■	ROCK GROUND COVER NEW LOOSE RIVER RUN ROCK 6"-8" SIZE LOCATED AS SHOWN ON PLAN	
■	DECOMPOSED GRANITE, INSTALL 1/2" SCREENED 2" MIN. DEPTH IN ALL LANDSCAPE PLANTING AREAS. COLOR: 'MADISON GOLD'. PROVIDE SAMPLE FOR APPROVAL PRIOR TO ORDERING.	

- EXISTING TREE LEGEND**
 ○ EXISTING TREE TO REMAIN
 ⊕ ASH TREE
 ⊗ AFRICAN SUMAC
 ⊕ EUCALYPTUS
 ⊕ PINE TREE

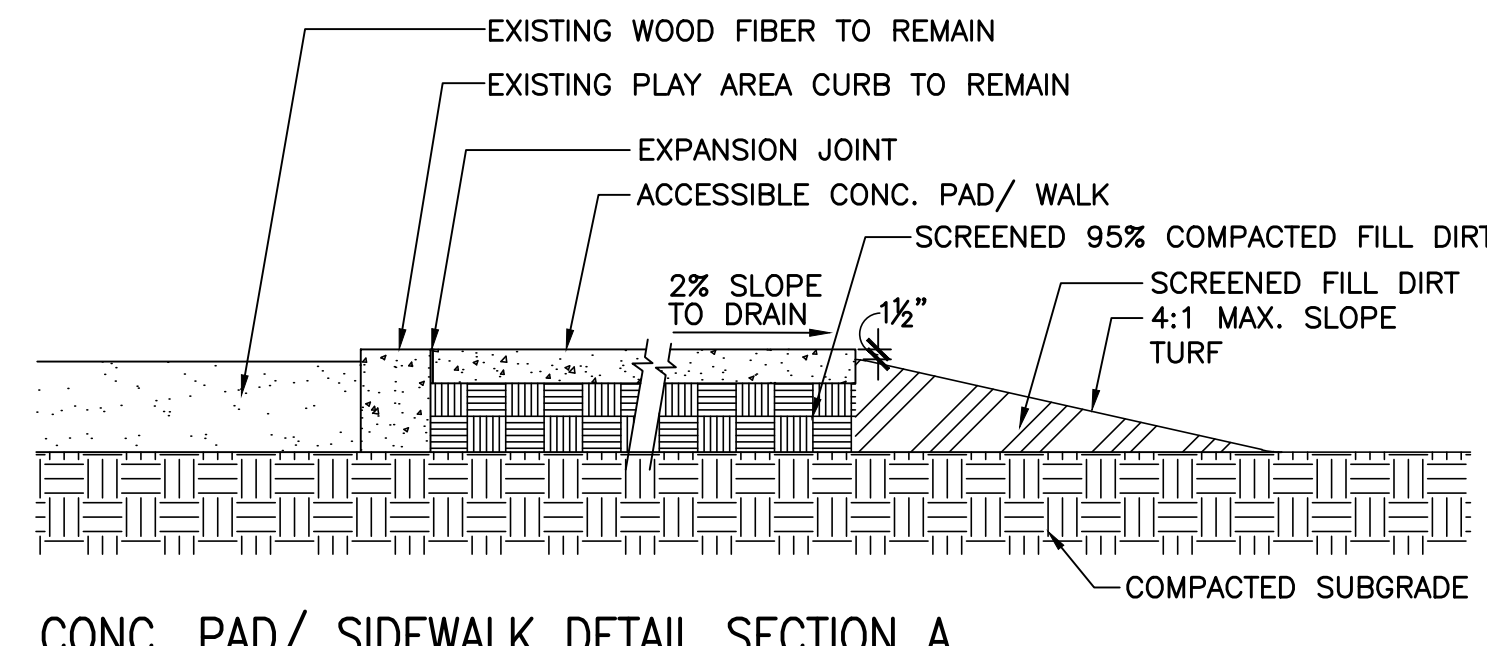
WALL LEGEND NOTES

- ① EXISTING INTEGRAL COLOR BLOCK WALL MAINTAINED BY THE TOWN OF GILBERT

CONSTRUCTION NOTES

- ◆ INSTALL 2" MIN. DEPTH DECOMPOSED GRANITE IN ALL NEW AND EXISTING PLANTING AREAS (TYPICAL)
- ◆ EXISTING TURF TO REMAIN & BE RESTORED BY SEEDING AS REQUIRED. SEE SPECIFICATIONS.
- ◆ EXISTING RIVER RUN ROCK
- ◆ REMOVE EXISTING TURF ADJACENT TO WALL, HEADWALLS, WALK, PAVEMENT, PLAY AREA CURB, OR TRANSFORMERS TO LIMIT OF NEW HEADER (TYPICAL)
- ◆ NEW CONCRETE HEADER (TYPICAL)
- ◆ EXISTING TREE TO REMAIN (TYPICAL)
- ◆ EXISTING WALK (TYPICAL)
- ◆ WHERE DECOMPOSED GRANITE OR TURF ABUT A CONC. HEADER OR OTHER PAVEMENT EDGE CONTRACTOR SHALL ADJUST GRADE TO PROVIDE A MINIMUM 1" BETWEEN TOP OF HEADER OR PAVEMENT EDGE AND TOP OF 2" DEPTH DECOMPOSED GRANITE OR TOP OF TURF. (REFER TO DETAILS)

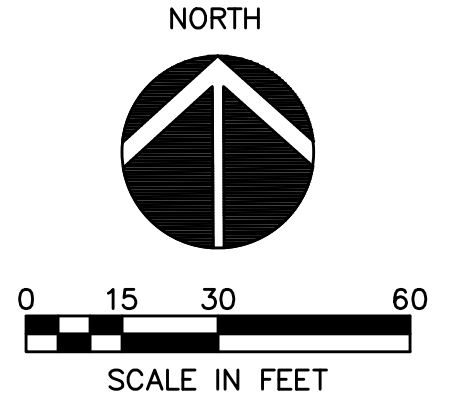
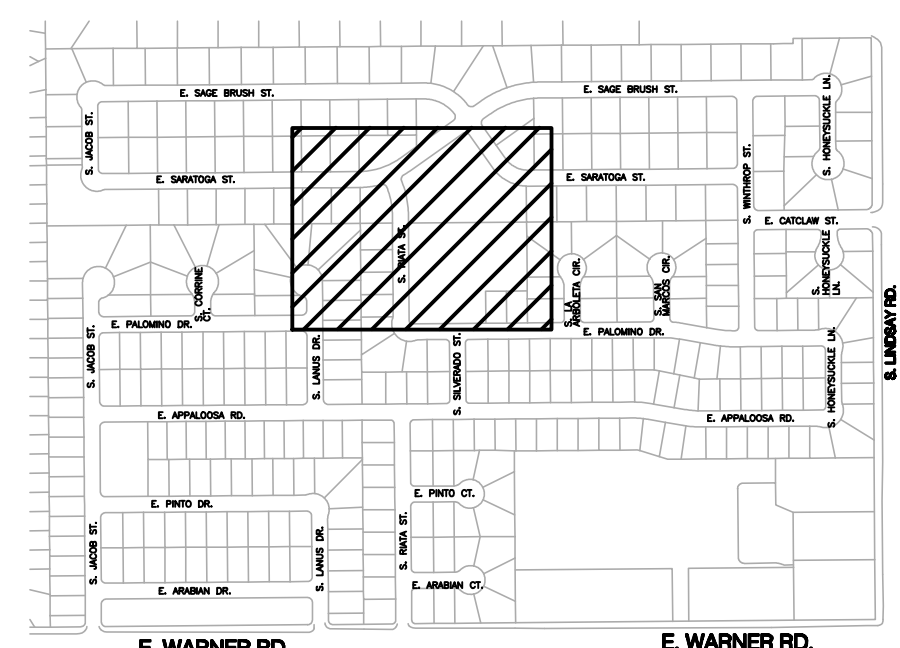
NOTE: CALL 'BLUE STAKE' (602) 263-1100 TO LOCATE UNDERGROUND UTILITIES BEFORE STARTING ANY UNDERGROUND WORK.



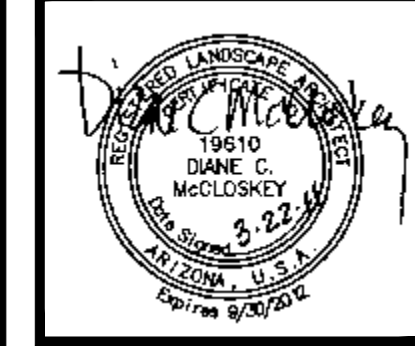
CONC. PAD/ SIDEWALK DETAIL SECTION A

N.T.S.

KEYMAP



NO.	DATE	DESCRIPTION

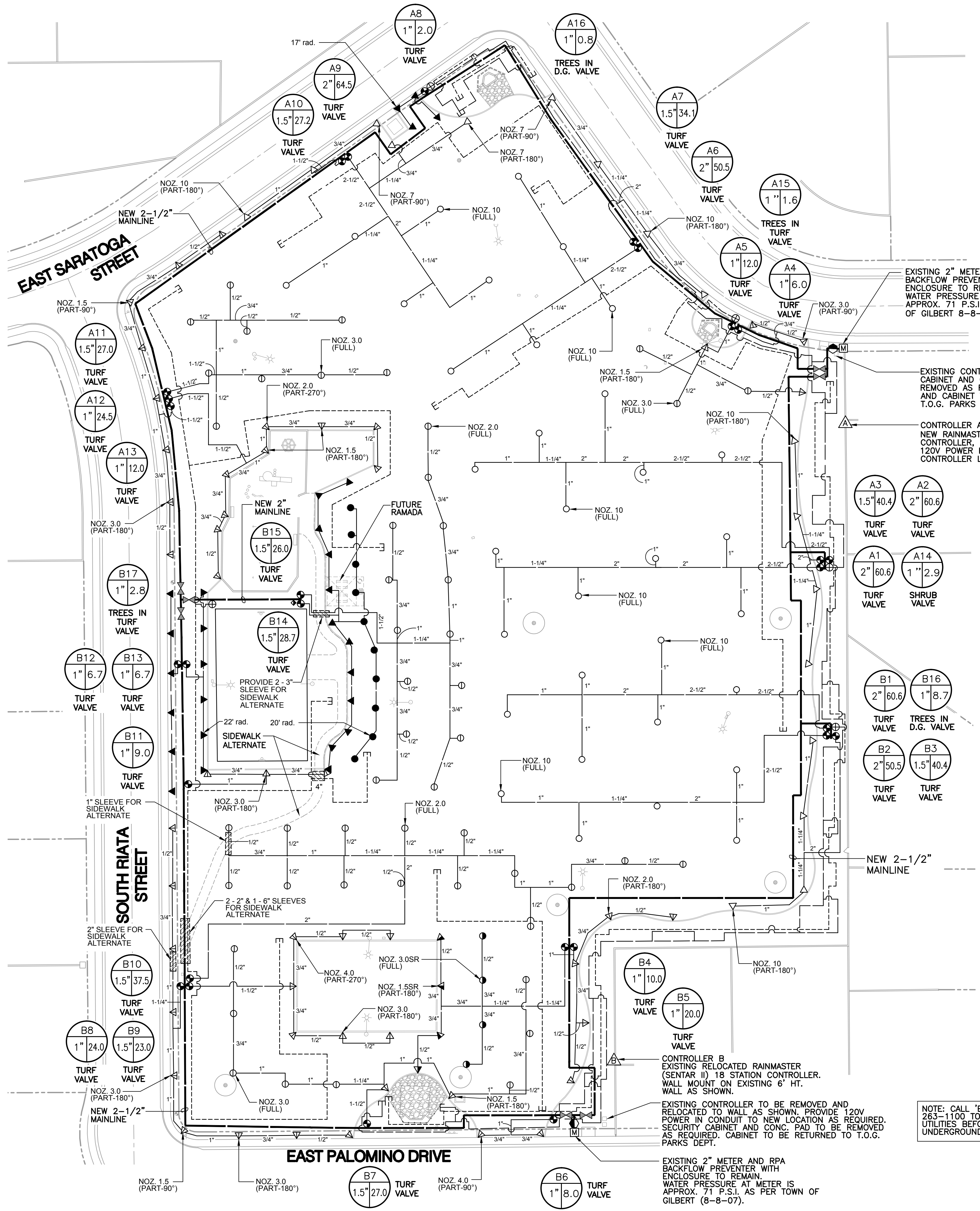


McCloskey + Peltz, Inc.
 LANDSCAPE ARCHITECTS
 One West Elliot Road Suite 110 Tempe, Arizona 85284
 Phone: (480) 838-4777 Fax: (480) 831-1774

Landscape Plan
 Parkway Improvement District 07-4
SPRING MEADOWS
 PREPARED FOR: Town of Gilbert
 FY 11-12

DESIGNED BY: MPI
 DRAWN BY: DWM
 CHECKED BY: DCM
 PROJECT NO: 06422
 DATE: 3/2011

DRAWING NO.
L-2
 SHEET 2 OF 8



IRRIGATION MATERIALS LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
Ⓜ	EXISTING WATER METER TO REMAIN (SIZE AND LOCATION AS SHOWN ON PLANS)	PER Emitter SCHEDULE	NEW MULTI OUTLET EMITTER - BOWSMITH ML200 SERIES - (1.0 GPH OUTLETS @ 20 PSI) (TREES) WITH SWIVEL OUTLET 90° ELBOWS FOR EACH DISTRIBUTION TUBE (SEE DETAILS AND SCHEDULE)
Ⓜ	EXISTING BACKFLOW PREVENTER AND ENCLOSURE TO REMAIN (SEE PLANS FOR LOCATION)	PER Emitter SCHEDULE	NEW SINGLE OUTLET EMITTER - BOWSMITH SL200 SERIES - (1.0 GPH OUTLETS @ 20 PSI) (SHRUBS) (SEE DETAIL AND SCHEDULE)
Ⓜ	NEW SCHEDULE 40 PVC SLEEVE (ALL PIPING AND WIRING UNDER PAVEMENT TO BE SLEEVED) (SIZE AS NOTED)	Ⓜ	DRIP SYSTEM FLUSH PLUG OUTLET (SEE DETAIL)
Ⓜ	NEW MAINLINE SCHEDULE 40 PVC - 2-1/2" AND SMALLER (SIZE AS NOTED)	Ⓜ	ELECTRIC SOLID STATE CONTROLLER, RAINMASTER RME SENTAR II-SIZE AS NOTED ON PLANS. WALL MOUNT. PROVIDE WITH HEAVY DUTY LIGHTNING/SURGE PROTECTION.
Ⓜ	NEW ISOLATION VALVE-ASAHI TYPE 21 TRUE UNION BALL VALVE (LINE SIZE) (SEE DETAIL).	Ⓜ	WIRING AND ELECTRICAL CONDUIT (SCHEDULE 80, GRAY) FOR CONTROLLER POWER SERVICE CONNECTION. PAINT EXPOSED CONDUIT TO MATCH ADJACENT WALL.
Ⓜ	NEW EMITTER VALVE MANIFOLD ASSEMBLY INCLUDES: RAINBIRD PEB ELECTRIC REMOTE CONTROL VALVE WITH ASAHI TYPE 21 TRUE UNION BALL VALVE ON INLET; AG PRODUCTS 4E PLASTIC SPIN CLEAN FILTER WITH 150 MESH SCREEN; AND SENNINGER LOW FLOW PRESSURE REDUCING VALVE (FOR FLOWS 1-8 GPM) (PRL) OR MEDIUM FLOW PRESSURE REDUCING VALVE (FOR FLOWS 2-20 GPM) (PMR-MF) - 3/4" PRESET AT 30 PSI (SEE DETAIL).	Ⓜ	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.
Ⓜ	NEW REMOTE CONTROL VALVE - (SIZE PER PLAN) RAINBIRD PEB SERIES ELECTRIC REMOTE CONTROL VALVE WITH ASAHI TYPE 21 TRUE UNION BALL VALVE ON INLET.	Ⓜ	CONTROL VALVE KEY CONTROLLER STATION ASSIGNMENT
Ⓜ	NEW 3/4" QUICK COUPLER VALVE - RAINBIRD 33DRVC WITH ONE 33K KEY AND 3/4" HOSE SWIVEL PROVIDED FOR EACH QUICK COUPLER VALVE INSTALLED.	Ⓜ	CONTROLLER STATION ASSIGNMENT 1" 1.0 GPM SIZE
Ⓜ	NEW LATERAL (SIZE PER SCHEDULE, UNLESS OTHERWISE NOTED ON PLANS), CLASS 200 PVC PIPE MIN.	Ⓜ	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.
Ⓜ	NEW 3/4" DRIP LATERAL, CLASS 200 PVC PIPE (UNLESS OTHERWISE NOTED ON PLANS)	Ⓜ	WHERE PIPING AND WIRING INSTALLATIONS ARE TO BE SLEEVED. INSTALL IN SEPARATE SLEEVES.
Ⓜ	NEW 3/4" DRIP LATERAL, CLASS 200 PVC PIPE (UNLESS OTHERWISE NOTED ON PLANS)	Ⓜ	CONTRACTOR TO VERIFY A MINIMUM WATER PRESSURE OF 71 P.S.I. AT WATER SOURCE.
Ⓜ	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)		
Ⓜ	HUNTER I-20-04-SS POP UP ROTOR TURF SPRAYS WITH STANDARD NOZZLES AS SHOWN ON PLANS NOZZLE 1.5, 1.5 GPM @ 45 PSI - 31' RADIUS NOZZLE 2.0, 2.0 GPM @ 45 PSI - 34' RADIUS NOZZLE 3.0, 3.0 GPM @ 45 PSI - 38' RADIUS NOZZLE 4.0, 4.0 GPM @ 45 PSI - 40' RADIUS		
Ⓜ	HUNTER I-20-04-SS POP UP ROTOR TURF SPRAYS WITH SHORT RADIUS NOZZLES AS SHOWN ON PLANS NOZZLE 1.5SR, 1.5 GPM @ 50 PSI - 23'-25' RAD. NOZZLE 3.0SR, 3.0 GPM @ 50 PSI - 23'-25' RAD.		
Ⓜ	HUNTER I-25-04-SS POP UP ROTOR TURF SPRAYS (NOZZLES AS SHOWN ON PLANS) NOZZLE 7, 7.0 GPM @ 50 PSI - 47' RADIUS NOZZLE 10, 10.1 GPM @ 50 PSI - 51' RADIUS		
Ⓜ	HUNTER PROS-04-PRS40 SERIES - 4" POP UP TURF SPRAY HEADS WITH MP ROTATOR NOZZLES MP2000 - 13'-21' RADIUS MP3000 - 22'-30' RADIUS		

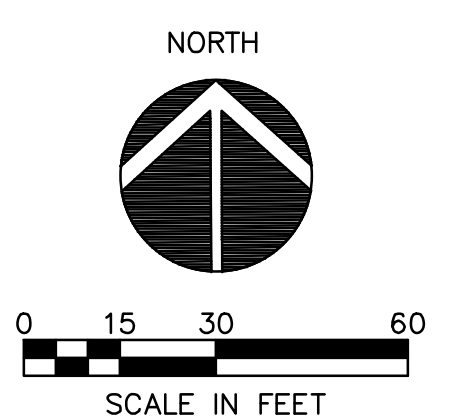
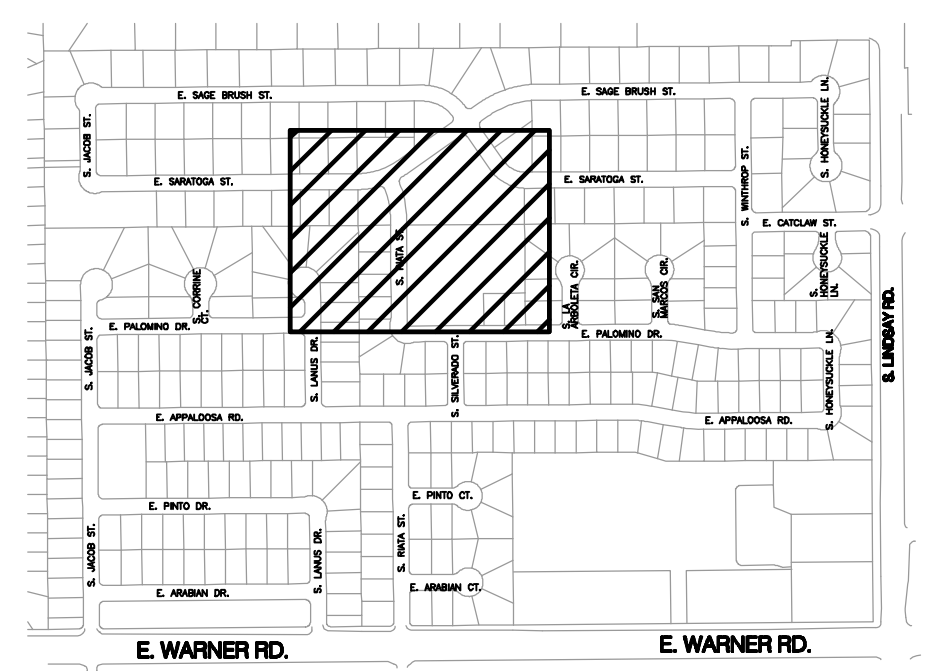
TRENCHING ADJACENT TO EXISTING TREES:

WHERE IT IS NECESSARY TO EXCAVATE ADJACENT TO EXISTING TREES, THE CONTRACTOR SHALL USE ALL POSSIBLE CARE TO AVOID INJURY TO TREES AND TREE ROOTS. EXCAVATION IN AREAS WHERE ROOTS TWO INCHES (2") AND LARGER OCCUR SHALL BE DONE BY HAND. ALL ROOTS TWO INCHES (2") AND LARGER IN DIAMETER, EXCEPT DIRECTLY IN THE PATH OF PIPE CONDUIT, SHALL BE TUNNELED UNDER AND SHALL BE HEAVILY WRAPPED WITH BURLAP TO PREVENT SCARRING OR EXCESSIVE DRYING. WHERE A TRENCHING MACHINE IS RUN CLOSE TO TREES HAVING ROOTS SMALLER THAN TWO INCHES (2") IN DIAMETER, THE WALL OF THE TRENCH ADJACENT TO THE TREE SHALL BE HAND TRIMMED, MAKING CLEAN CUTS THROUGH. REPORT ALL CUT ROOTS TO OWNERS REPRESENTATIVE. TRENCHES ADJACENT TO TREES SHOULD BE CLOSED WITHIN 24 HOURS, AND WHERE THIS IS NOT POSSIBLE, THE SIDE OF THE TRENCH ADJACENT TO THE TREE SHALL BE KEPT SHADED WITH BURLAP OR CANVAS.

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. ALL EXISTING VALVES, CONTROLLERS AND ROTORS TO BE SALVAGED AND RETURNED TO TOWN OF GILBERT PARKS DEPT.

NOTE: CALL "BLUE STAKE" (602) 263-1100 TO LOCATE UNDERGROUND UTILITIES BEFORE STARTING ANY UNDERGROUND WORK.

KEYMAP



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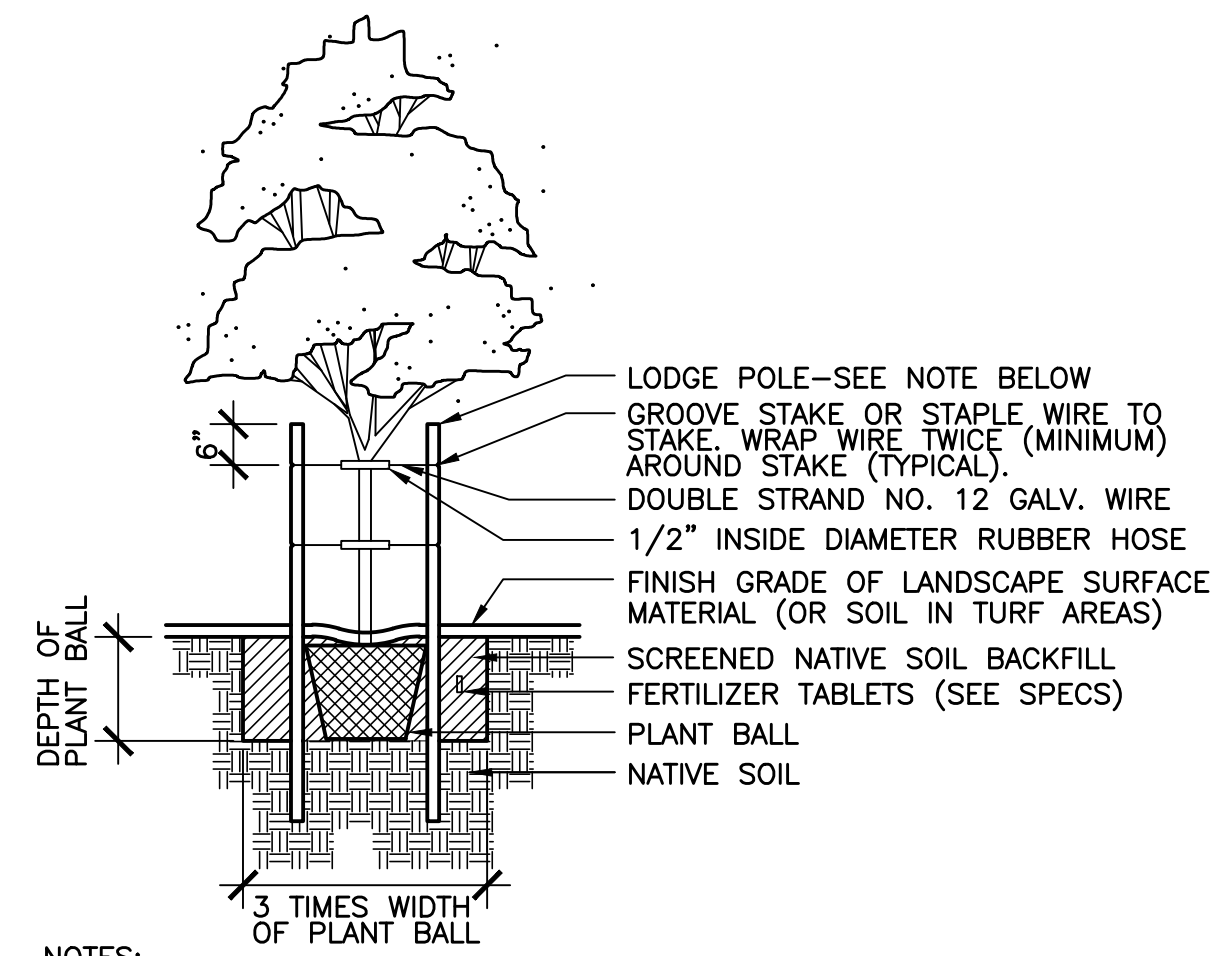
McCloskey • Peltz, Inc.
 LANDSCAPE ARCHITECTS
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 Phone: (480) 838-4777 Fax: (480) 831-1774

FY 11-12

Spring Meadows
 Parkway Improvement District 07-4
 PREPARED FOR: Town of Gilbert

DESIGNED BY: MPI
 DRAWN BY: DWM
 CHECKED BY: DCM
 PROJECT NO: 06422
 DATE: 3/2011

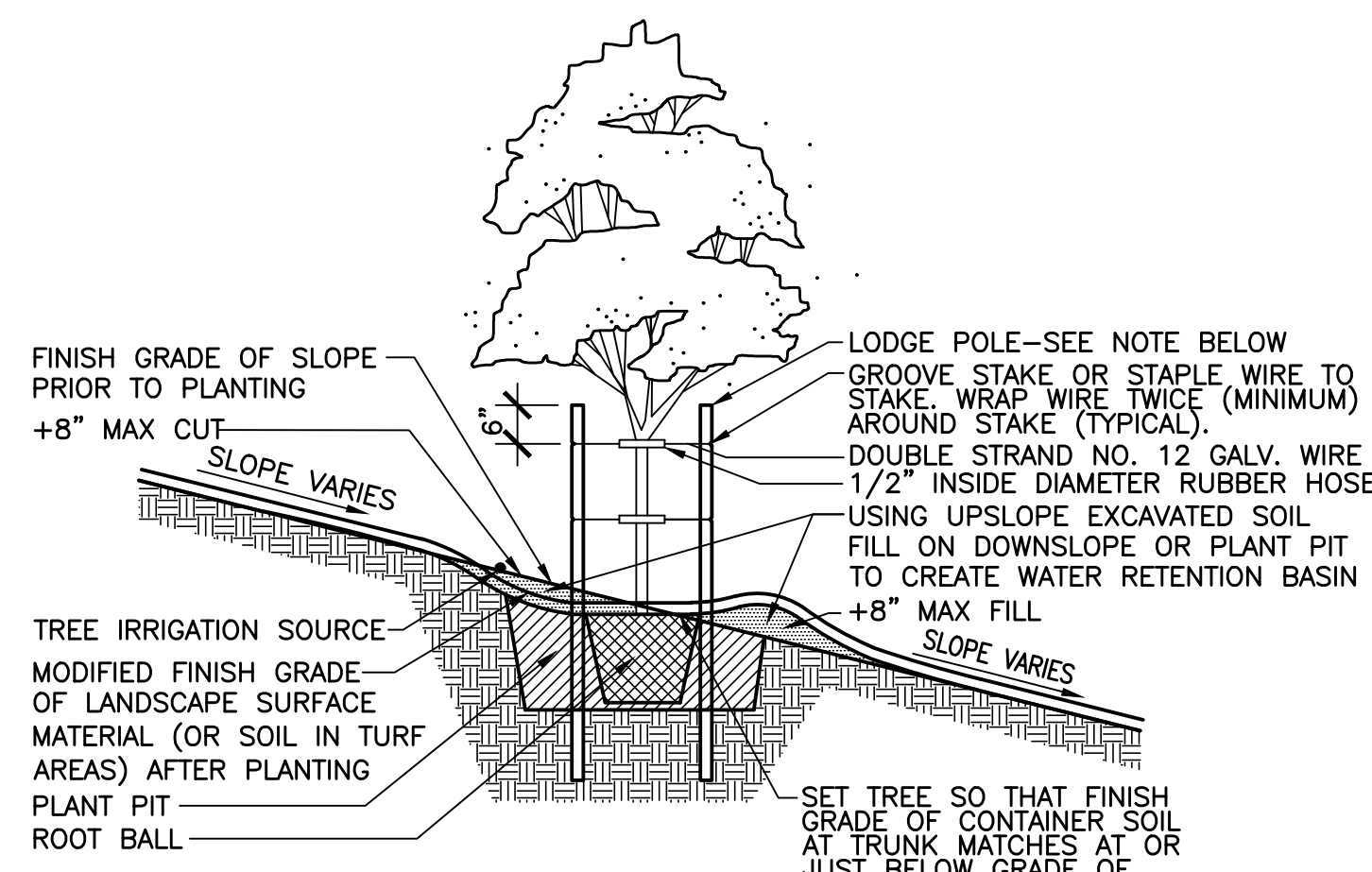
DRAWING NO. **L-3**
 SHEET 3 OF 8



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.

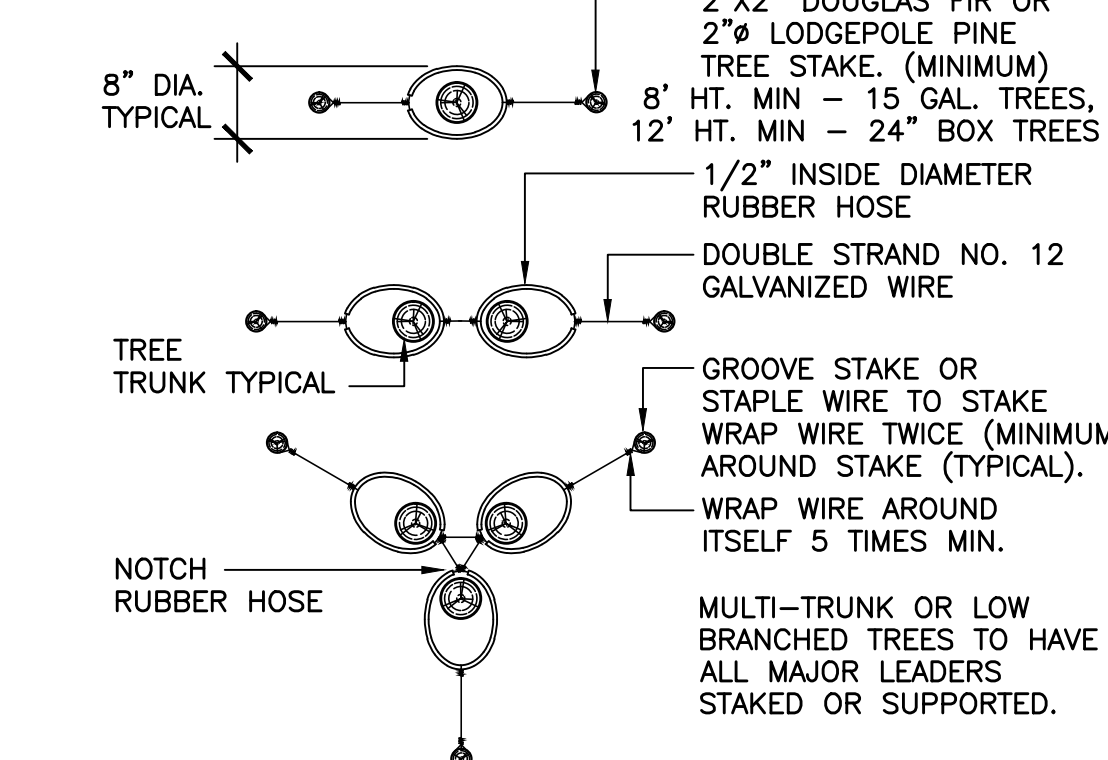


NOTES:

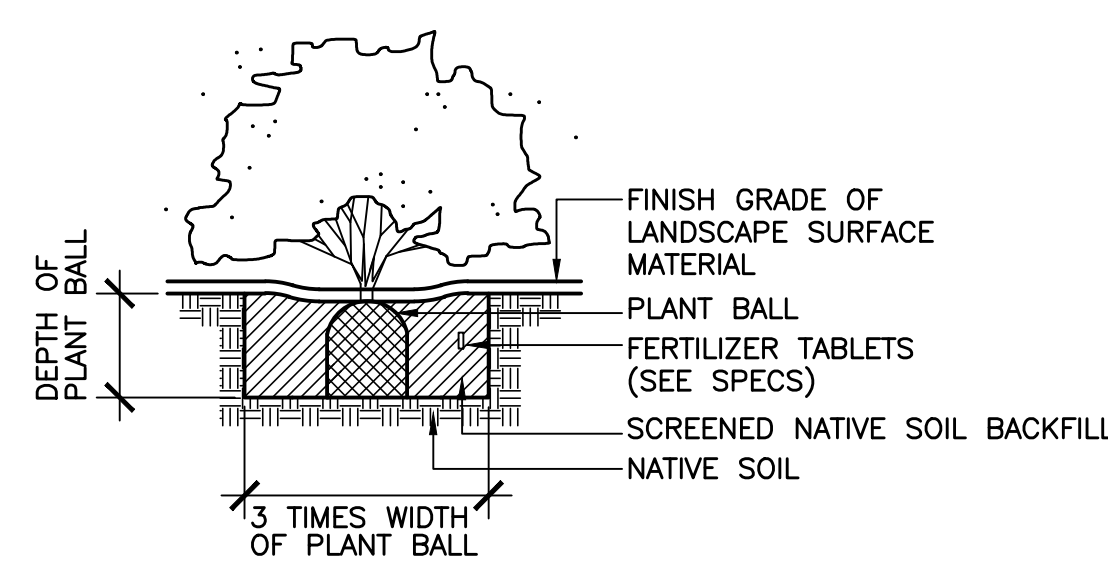
- PLANTING AND STAKING SHALL BE IN ACCORDANCE WITH DETAILS AND SPECIFICATIONS.
- ALWAYS SET TREE TO MINIMIZE UPSLOPE CUT AND DOWNSLOPE FILL.
- ROUND ALL CHANGES BETWEEN SURFACE SLOPE TRANSITIONS.
- LOCATE IRRIGATION SOURCE ON UPSLOPE SIDE OF PLANT PIT.

2 TREE PLANTING ON SLOPE
N.T.S.

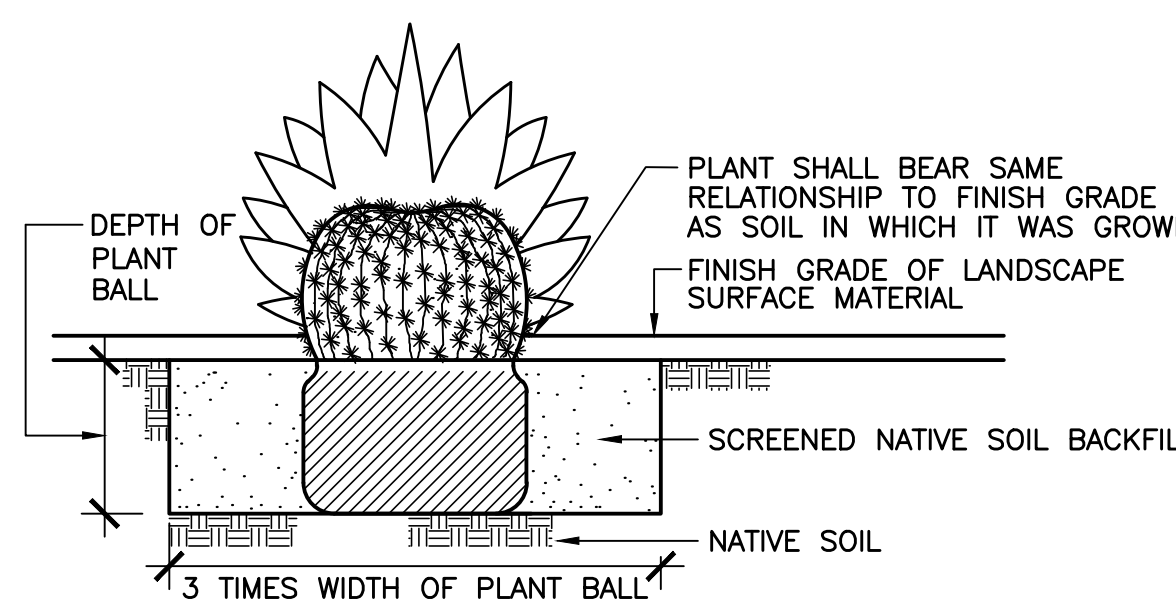
NOTE:
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE NEED TO INCREASE THE QUANTITY, HEIGHT AND DIAMETER OF TREE STAKES TO PROVIDE MAXIMUM SUPPORT AND INSURE STABILITY OF ALL TREES.
STAKES SHALL BE LOCATED AND INSTALLED SO AS TO NOT CONTACT THE ROOT BALL OR DAMAGE IRRIGATION SYSTEM WHEN DRIVEN INTO POSITION.



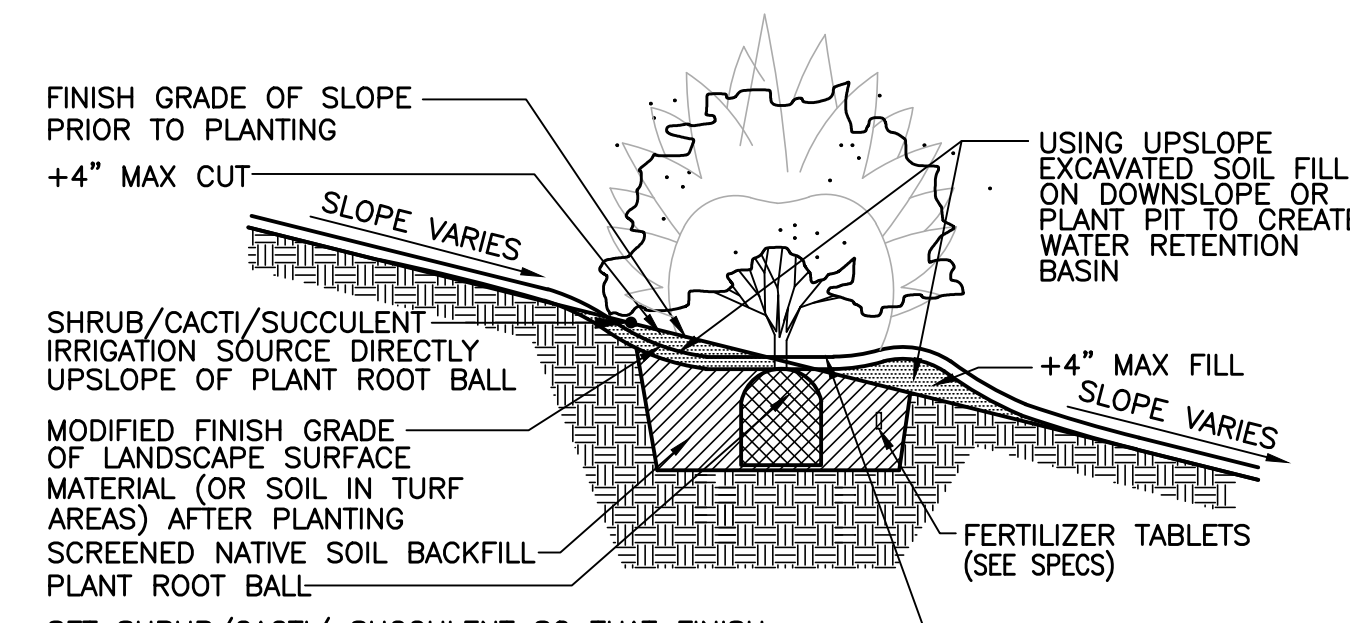
3 TREE STAKING DETAIL
N.T.S.



4 SHRUB PLANTING
N.T.S.



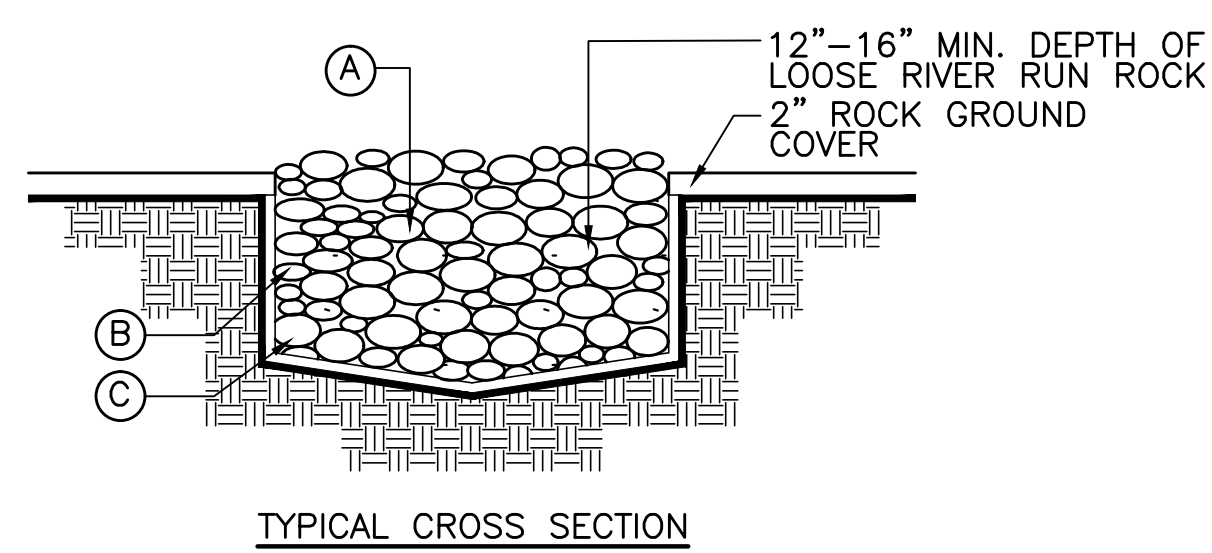
5 SUCCULENT AND CACTI PLANTING
N.T.S.



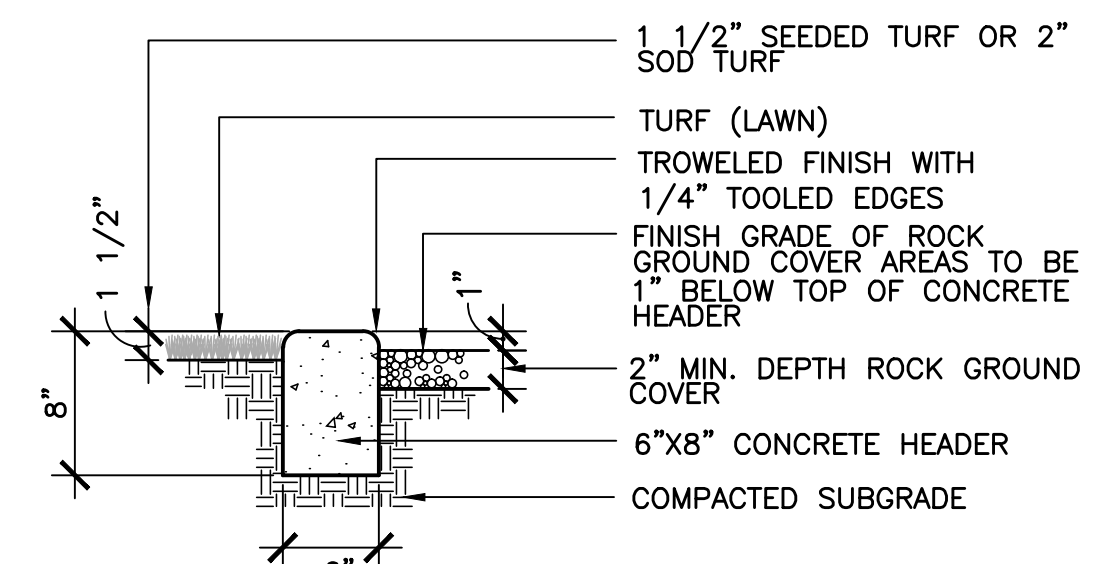
NOTES:

- 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.

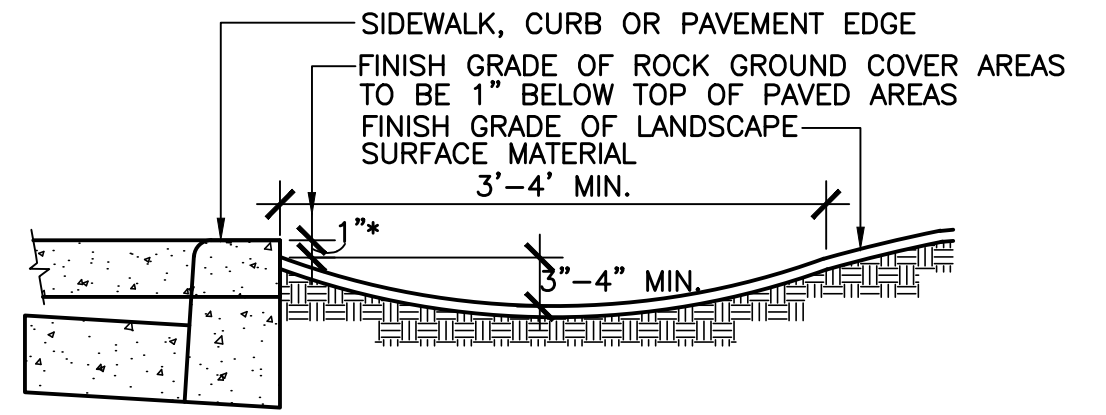
6 SHRUB/CACTI/SUCCULENT PLANTING ON SLOPE
N.T.S.



- (A) 3"-8" LOOSE RIVER RUN ROCK SIZE UNLESS OTHERWISE SPECIFIED.
 - (B) LANDSCAPE FILTER FABRIC (MIRAFI OR EQUAL)
 - (C) APPLY PRE-EMERGENT HERBICIDE OVER ALL SUBGRADE SOIL SURFACES PRIOR TO INSTALLATION OF FILTER FABRIC
- 7 LOOSE RIVER RUN ROCK DETAIL**
N.T.S.



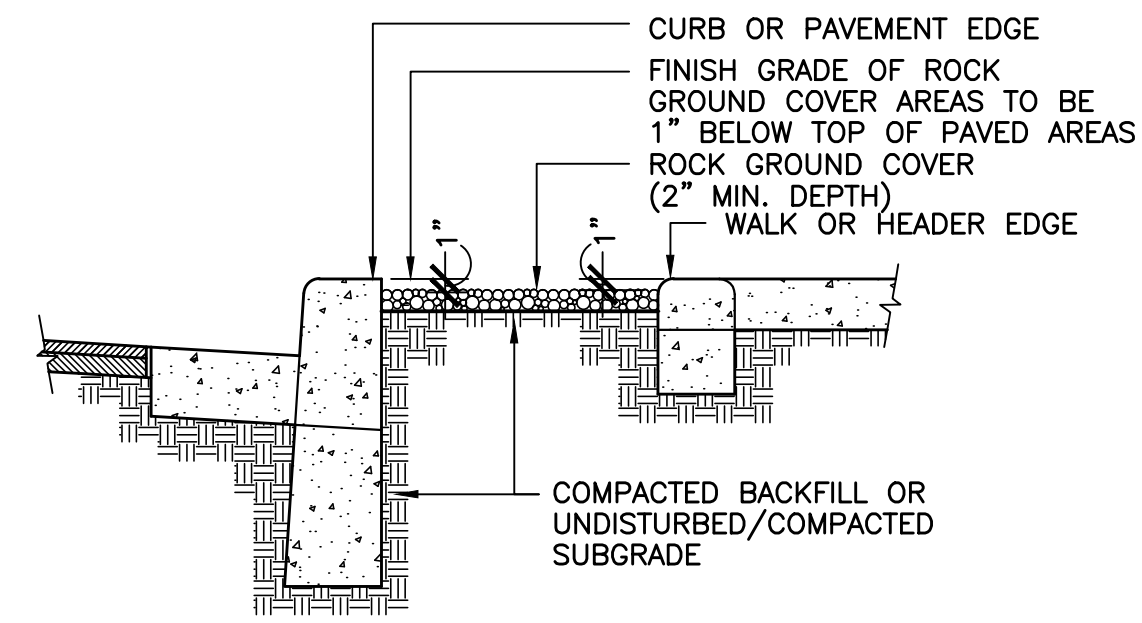
8 6"X8" CONCRETE HEADER
N.T.S.



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

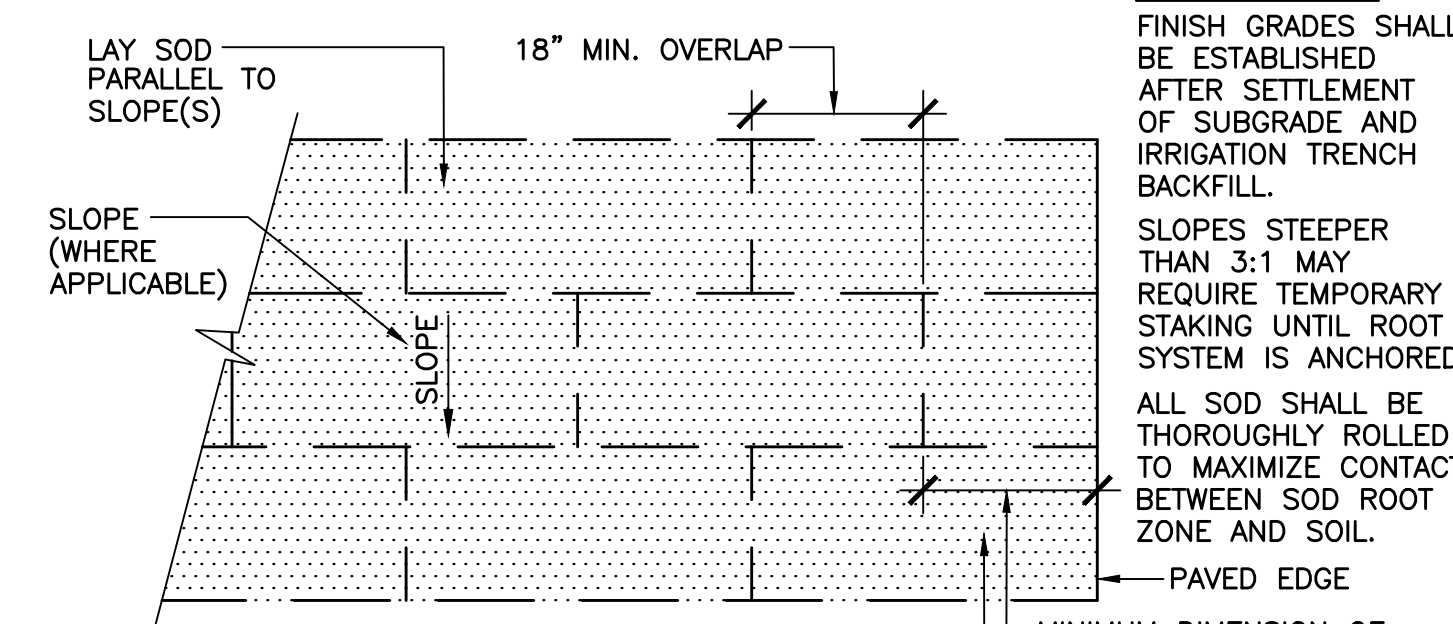
9 NUISANCE WATER SWALE
N.T.S.



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 OTHER 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.

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



SODDING NOTES:
FINISH GRADES SHALL BE ESTABLISHED AFTER SETTLEMENT OF SUBGRADE AND IRRIGATION TRENCH BACKFILL.
SLOPES STEEPER THAN 3:1 MAY REQUIRE TEMPORARY STAKING UNTIL ROOT SYSTEM IS ANCHORED.
ALL SOD SHALL BE THOROUGHLY ROLLED TO MAXIMIZE CONTACT BETWEEN SOD ROOT ZONE AND SOIL.

MINIMUM DIMENSION OF ANY PIECE OR SECTION OF SOD SHALL BE 12"

11 SODDING DETAIL
N.T.S.

NO.	DATE	DESCRIPTION



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LANDSCAPE ARCHITECTS
One West Elliot Road Suite 110 Tempe, Arizona 85284
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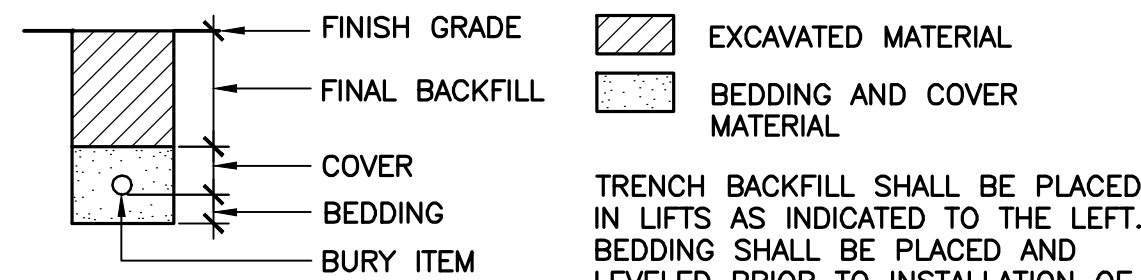
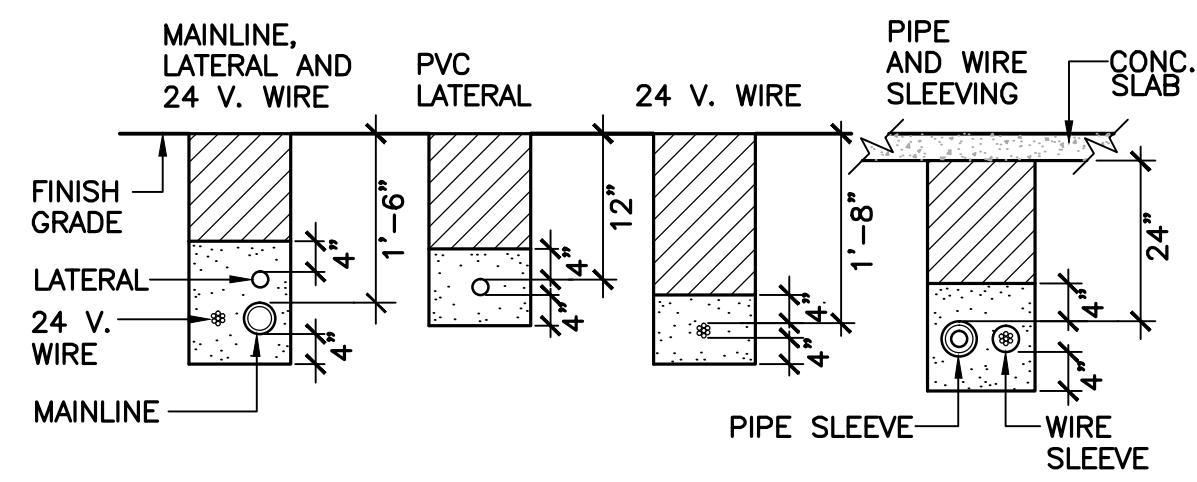
Landscape Details
Parkway Improvement District 07-4
SPRING MEADOWS
PREPARED FOR: Town of Gilbert
FY 11-12

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.

DESIGNED BY: MPI
DRAWN BY: DWM
CHECKED BY: DCM
PROJECT NO: 06422
DATE: 3/2011

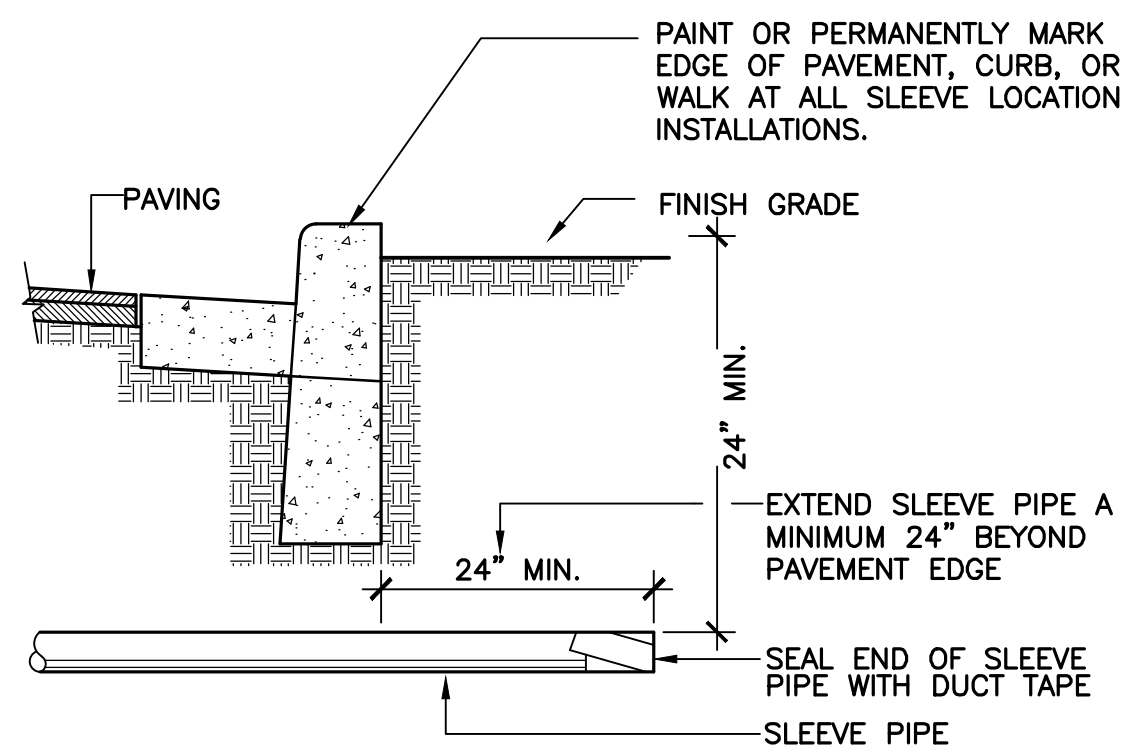
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L-4
SHEET 4 OF 8



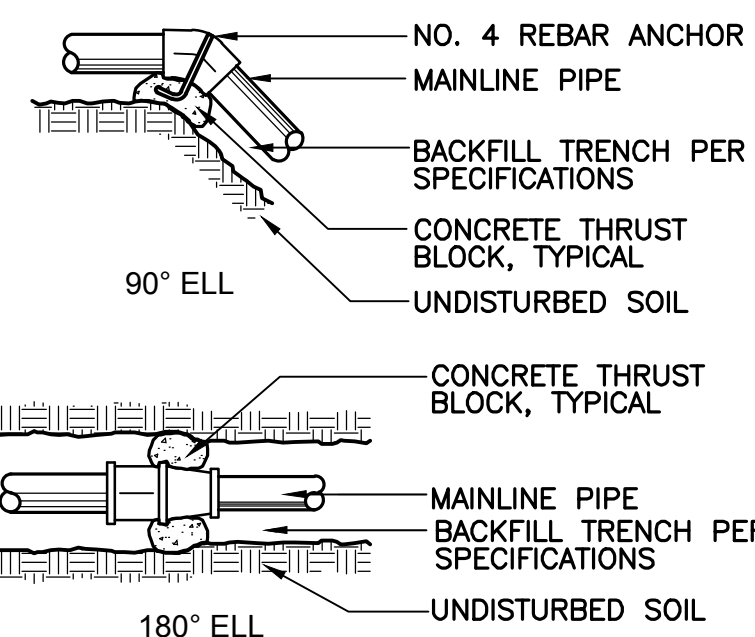
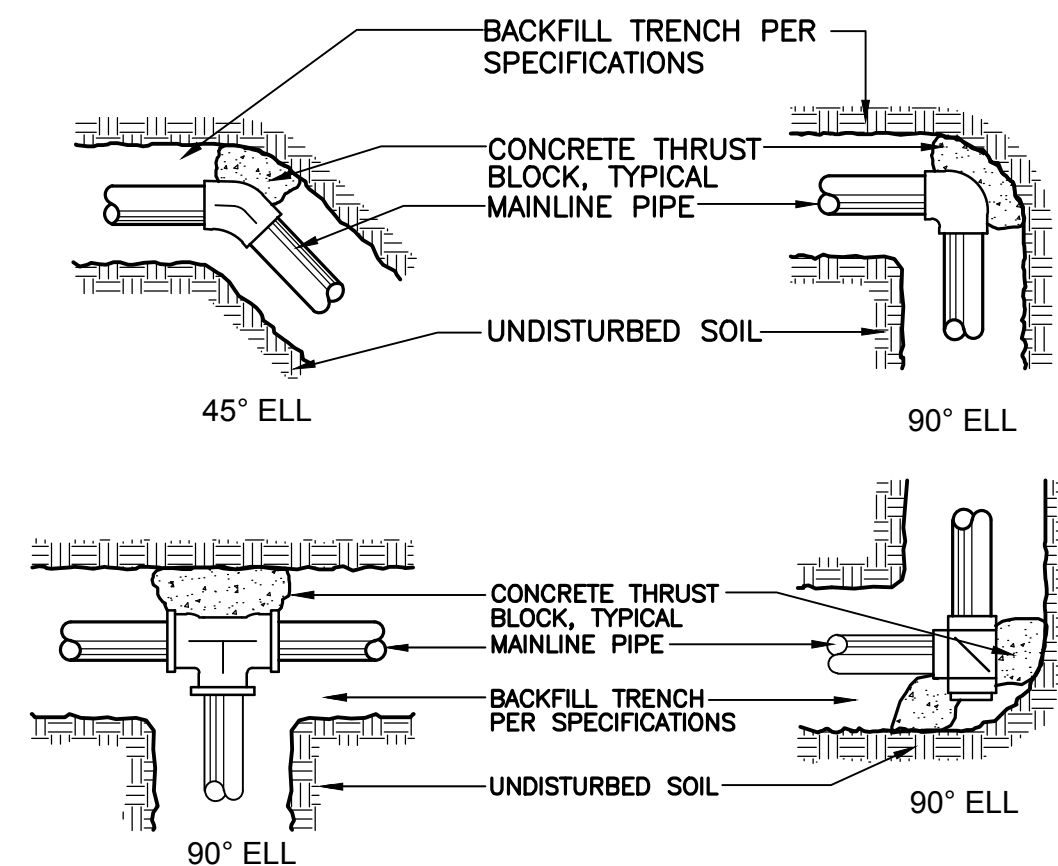
TRENCH BACKFILL SHALL BE PLACED IN LIFTS AS INDICATED TO THE LEFT. BEDDING SHALL BE PLACED AND LEVELED PRIOR TO INSTALLATION OF BURY ITEM. BACKFILL SHALL BE INSTALLED IN MAXIMUM 6" LIFTS.

- 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.



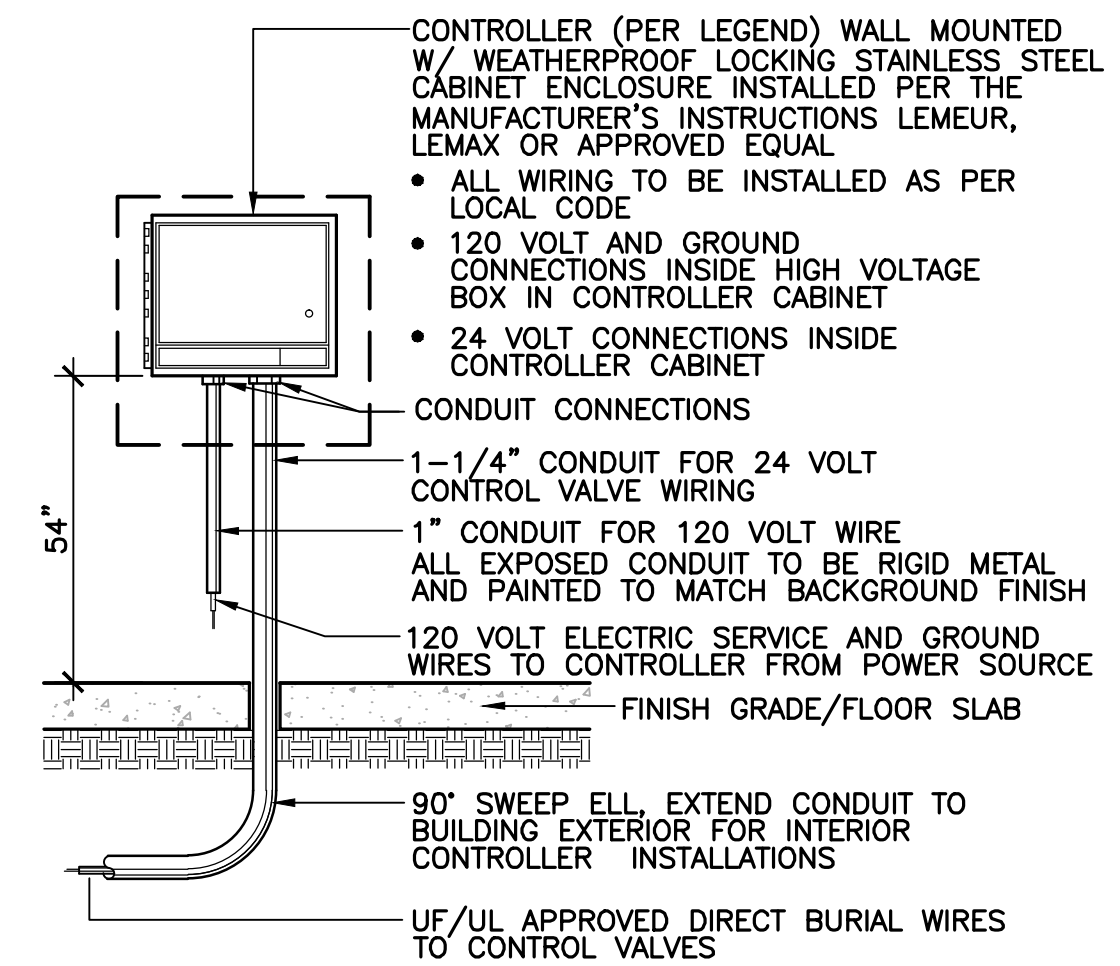
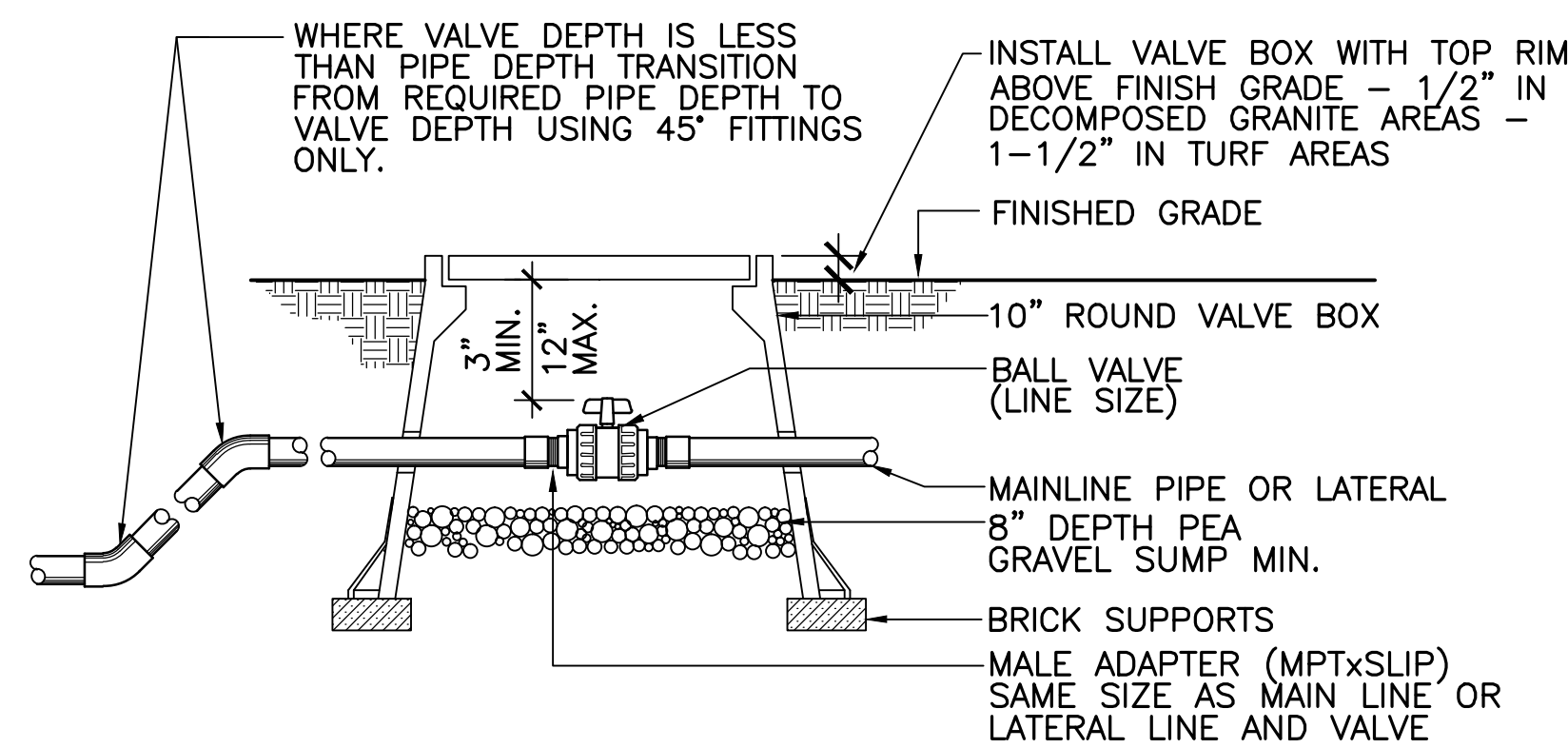
5 TYPICAL WIRE CONNECTION
N.T.S.

- 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

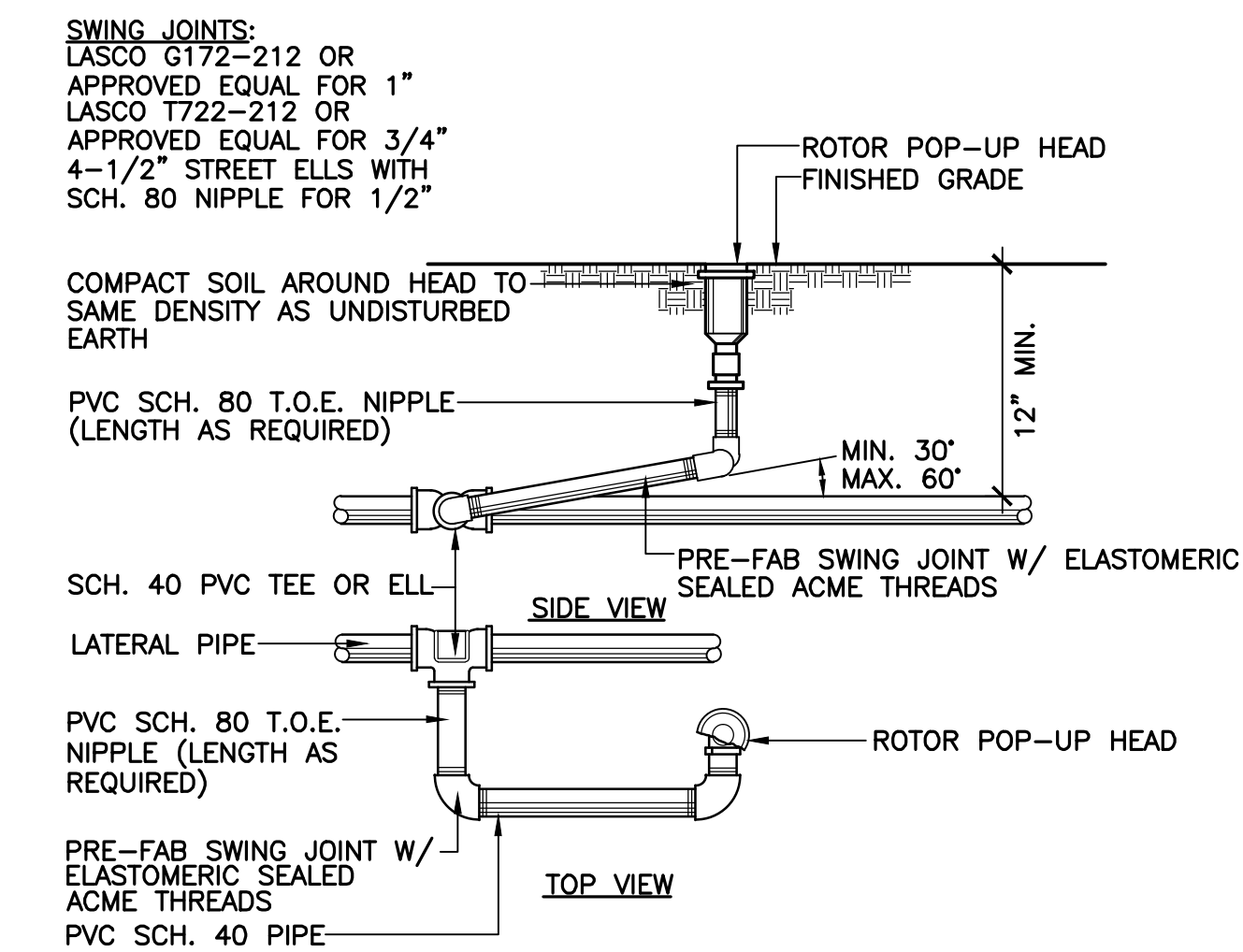
3 THRUST BLOCKS
N.T.S.

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



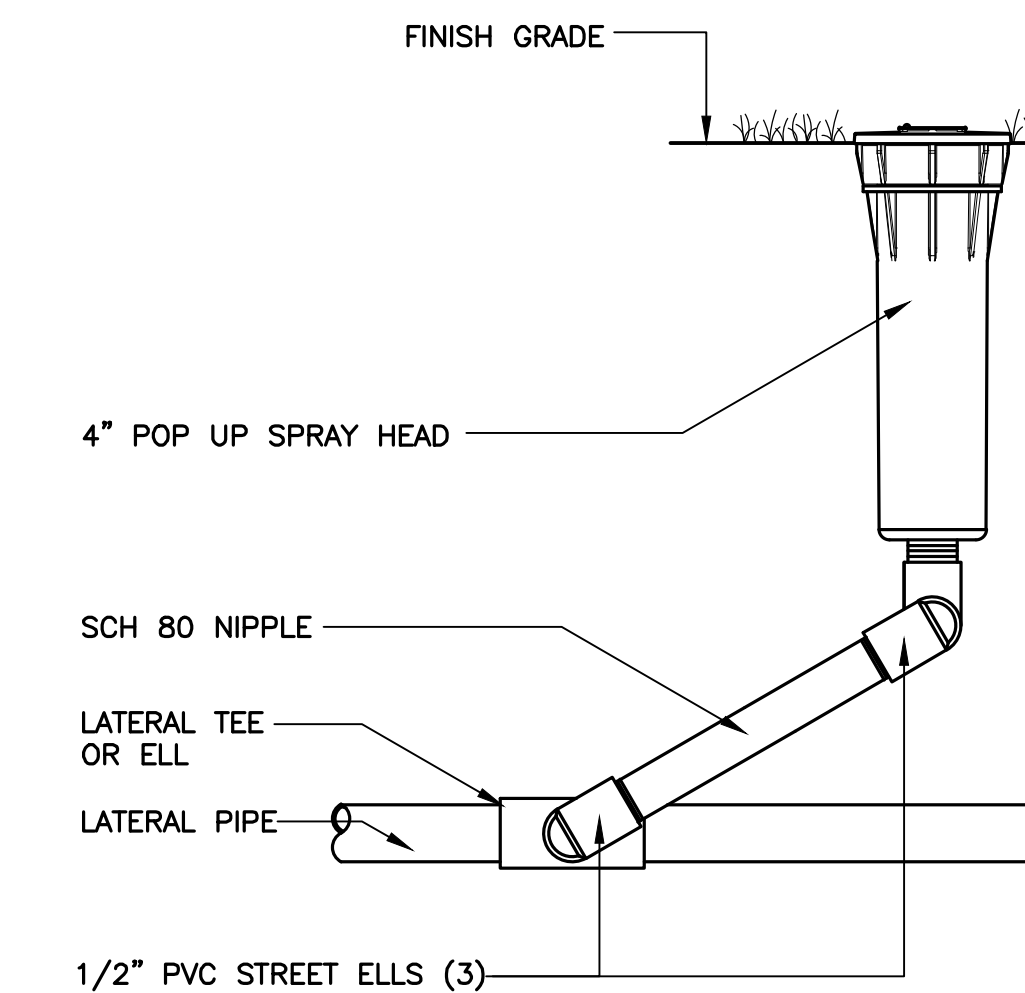
NOTE: LANDSCAPE IRRIGATION INSTALLER IS RESPONSIBLE FOR COORDINATING AND MAKING ALL SERVICE ACCESS AND INSTALLATION CONNECTIONS. 5/8" x 8' COPPER CLAD GROUNDING ROD SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

6 WALL MOUNTED CONTROLLER
N.T.S.



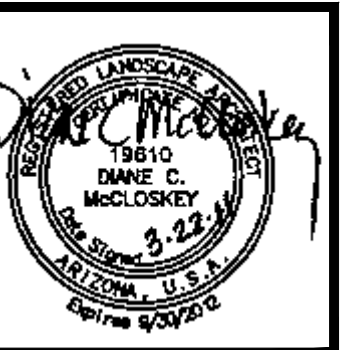
- NOTES:**
- ALL THREADED CONNECTIONS TO BE COATED WITH TEFLON TAPE (EXCEPT ACME THREADS). OFFSET IS RIGHT ON LATERAL SO THAT ALL FITTINGS TIGHTEN WHEN FORCE IS APPLIED.
 - ALL HEADS SHALL BE 6" MIN. FROM WALLS, HEADERS, OR OTHER PAVED SURFACES.

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



8 POP UP SPRAY HEAD
N.T.S.

NO.	DATE	DESCRIPTION



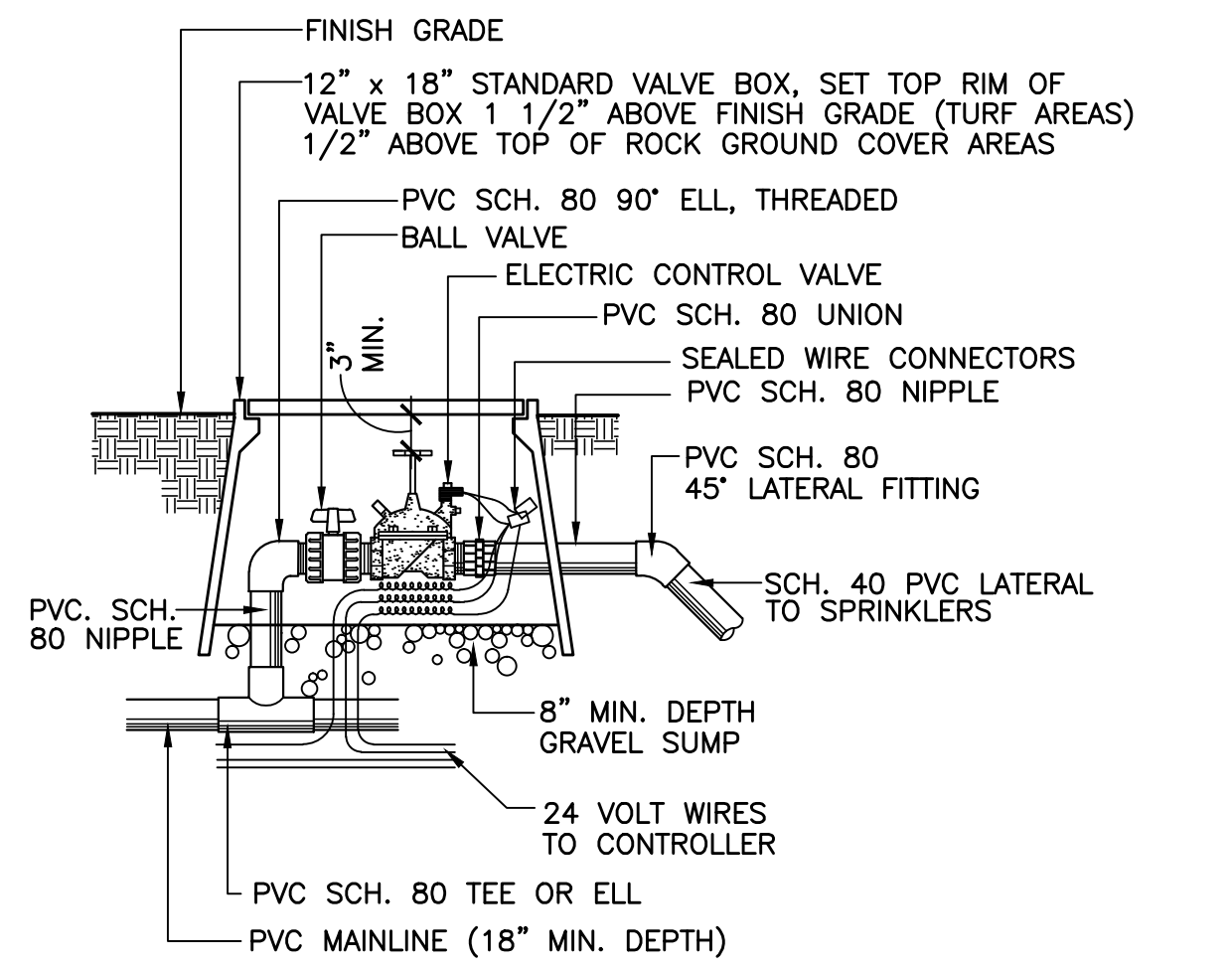
McCloskey + Peltz, Inc.
LANDSCAPE ARCHITECTS
One West Elliot Road Suite 110 Tempe, Arizona 85284
Phone: (480) 838-4777

FY 11-12

Irrigation Details
Parkway Improvement District 07-4
SPRING MEADOWS
PREPARED FOR: Town of Gilbert

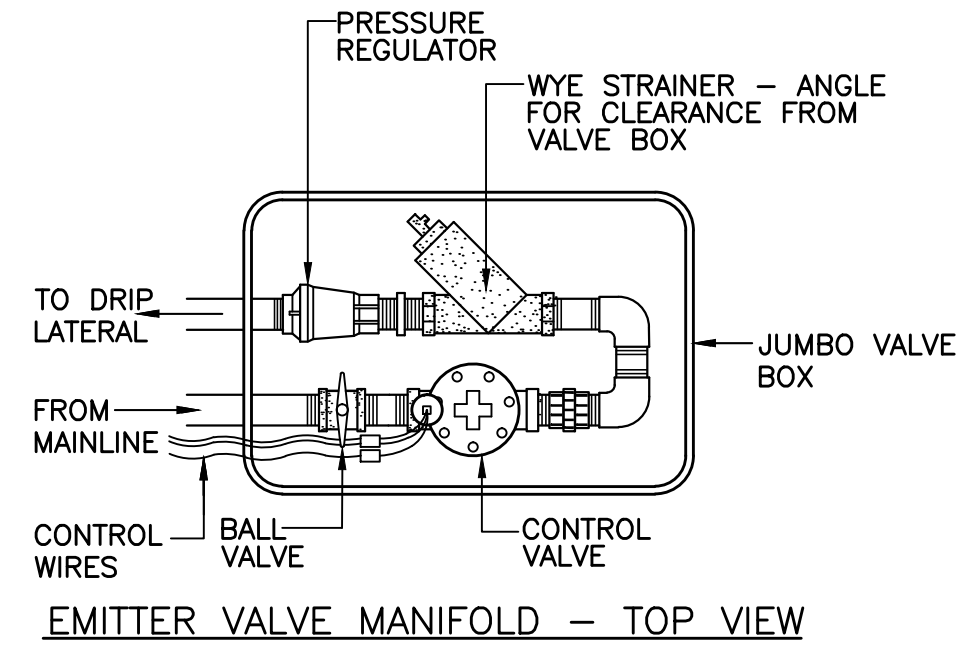
DESIGNED BY: MPI
DRAWN BY: DWM
CHECKED BY: DCM
PROJECT NO: 06422
DATE: 3/2011

DRAWING NO.
L-5
SHEET 5 OF 8

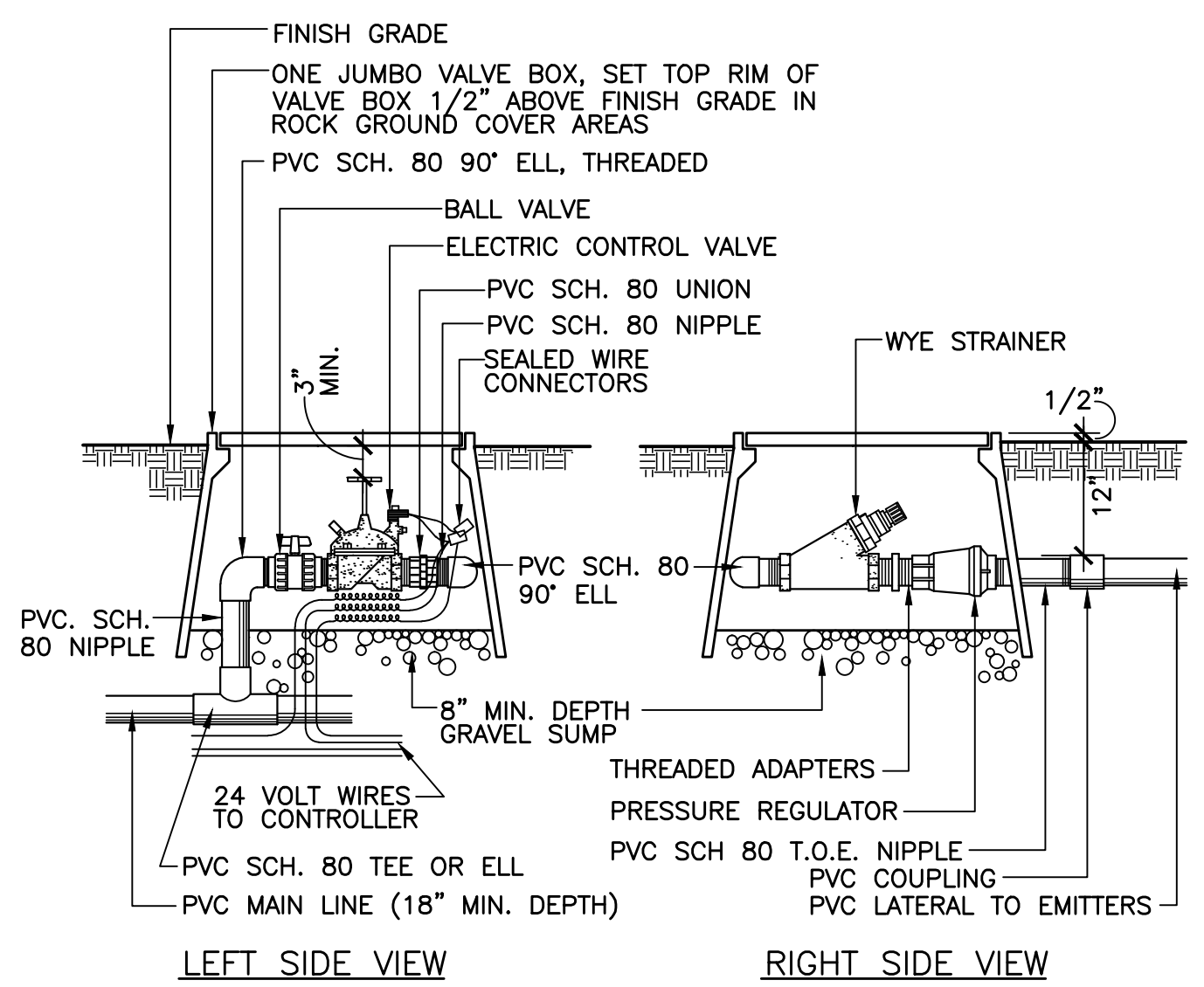


- NOTES:**
- USE TEFLON TAPE ON ALL THREADED FITTINGS
 - ALL VALVE BOXES SHALL BE PERMANENTLY MARKED/IMPRINTED WITH TYPE OF VALVE ENCLOSED AND STATION NUMBER AS APPLICABLE. METHOD OF MARKING VALVES/VALVE BOXES SHALL BE APPROVED BY OWNER'S REPRESENTATIVE.

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

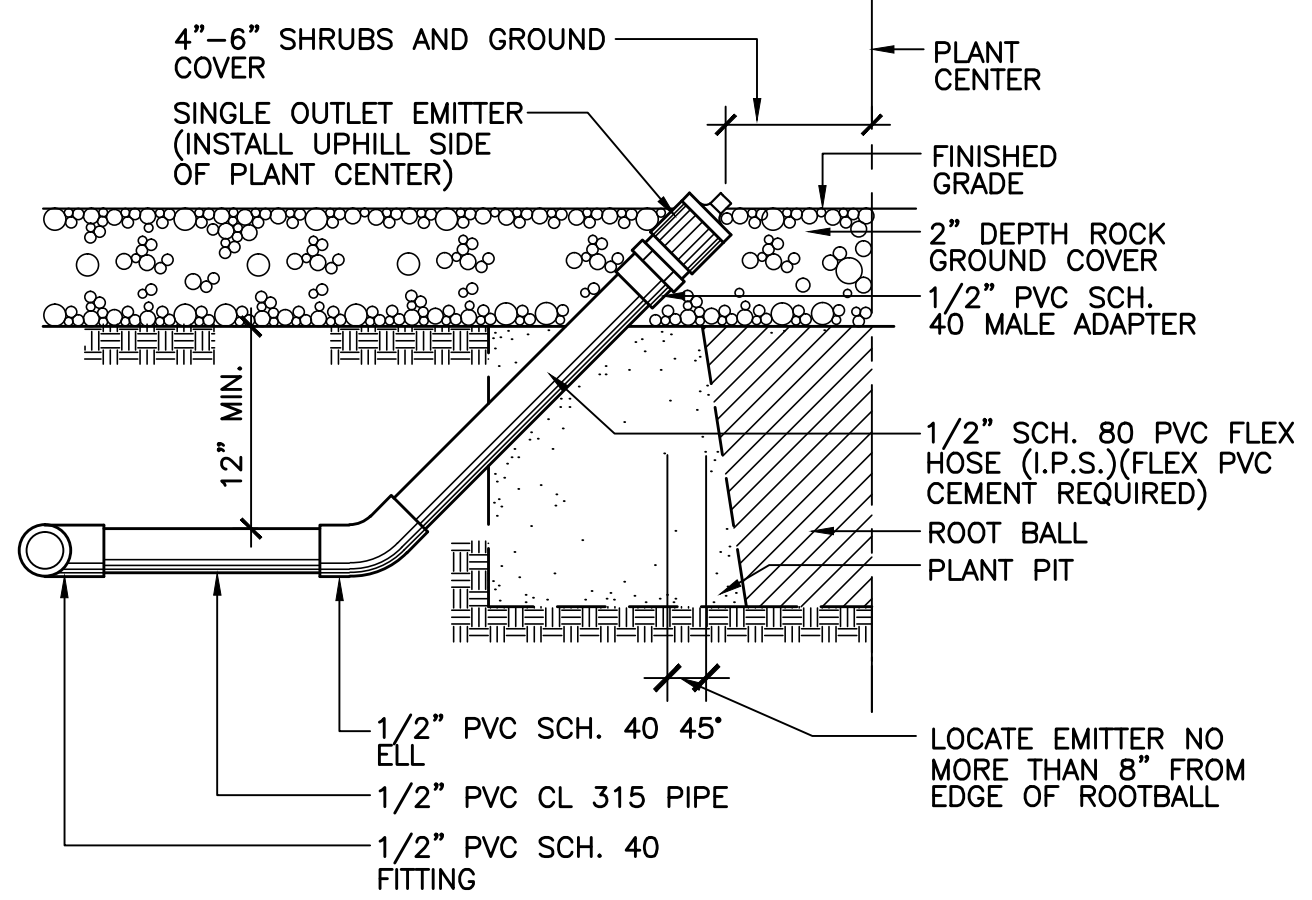


EMITTER VALVE MANIFOLD - TOP VIEW



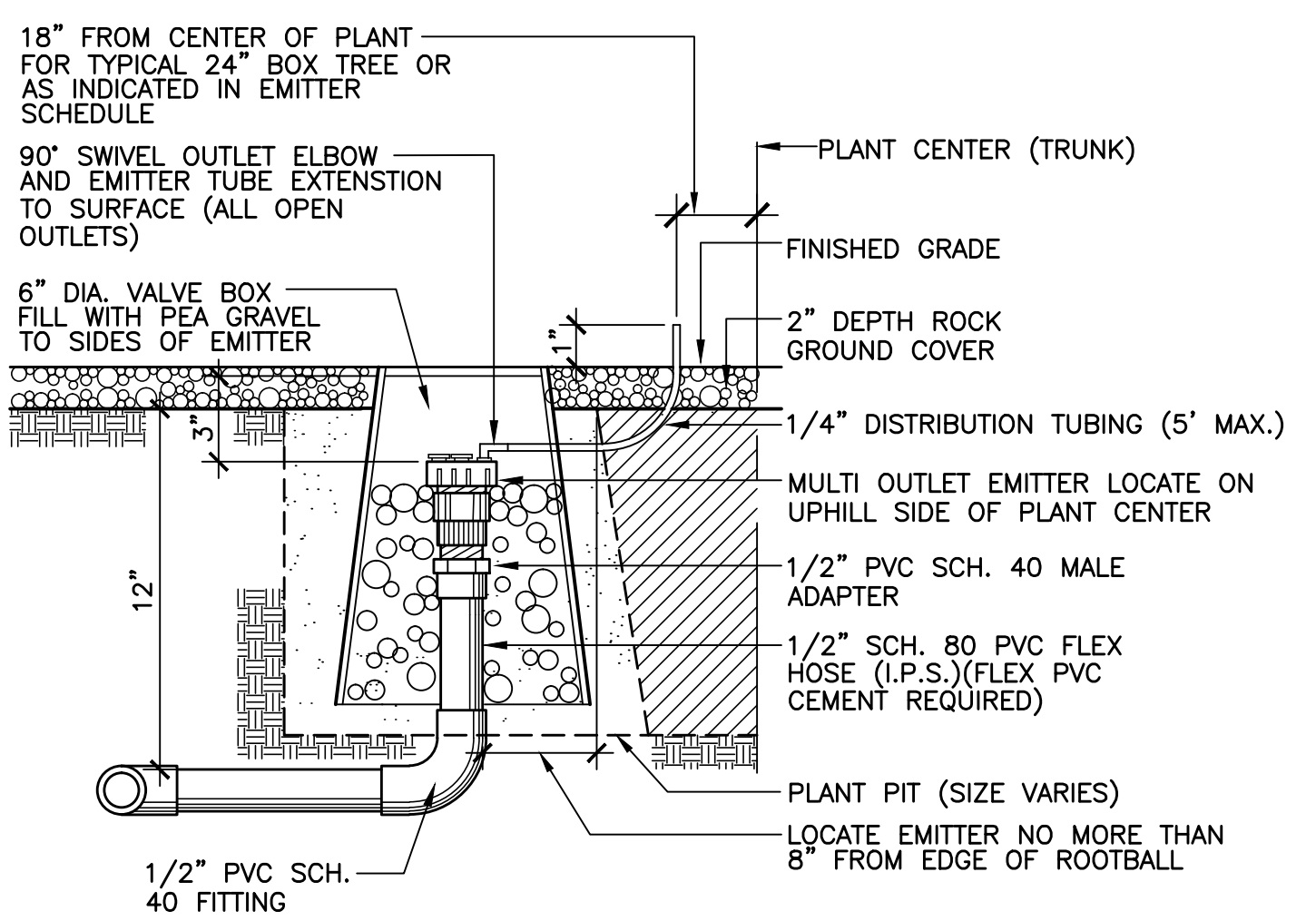
LEFT SIDE VIEW RIGHT SIDE VIEW

2 EMITTER VALVE MANIFOLD
N.T.S.



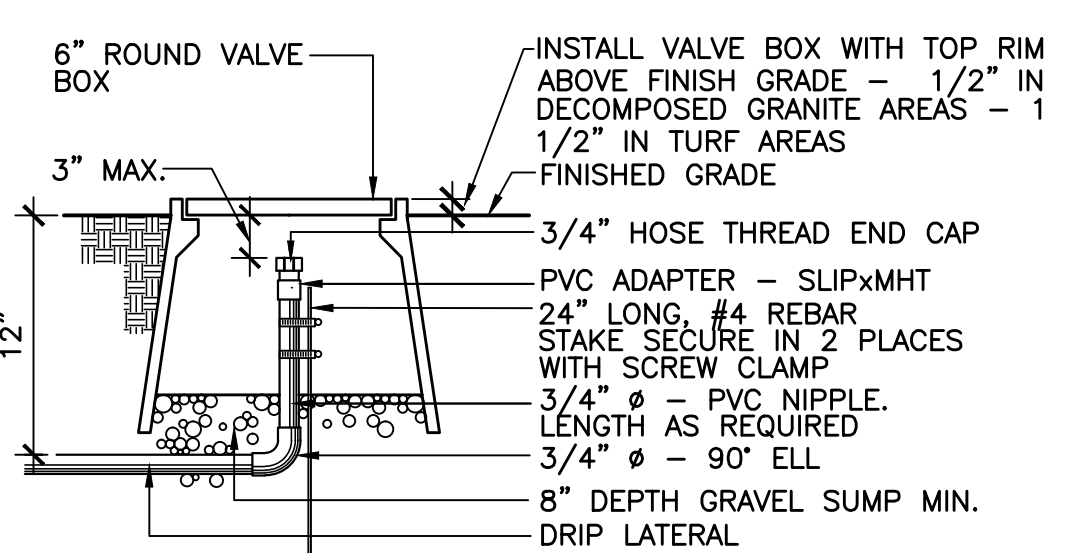
- NOTES:**
- 90° ELL MAY BE USED IN LIEU OF 45° IF PLANTER WIDTH IS LESS THAN REQUIRED FOR 45°
 - PIPE CEMENT SHALL BE AS SPECIFIED BY MANUFACTURER FOR ALL PIPE CONNECTIONS.

3 SINGLE OUTLET EMITTER
N.T.S.

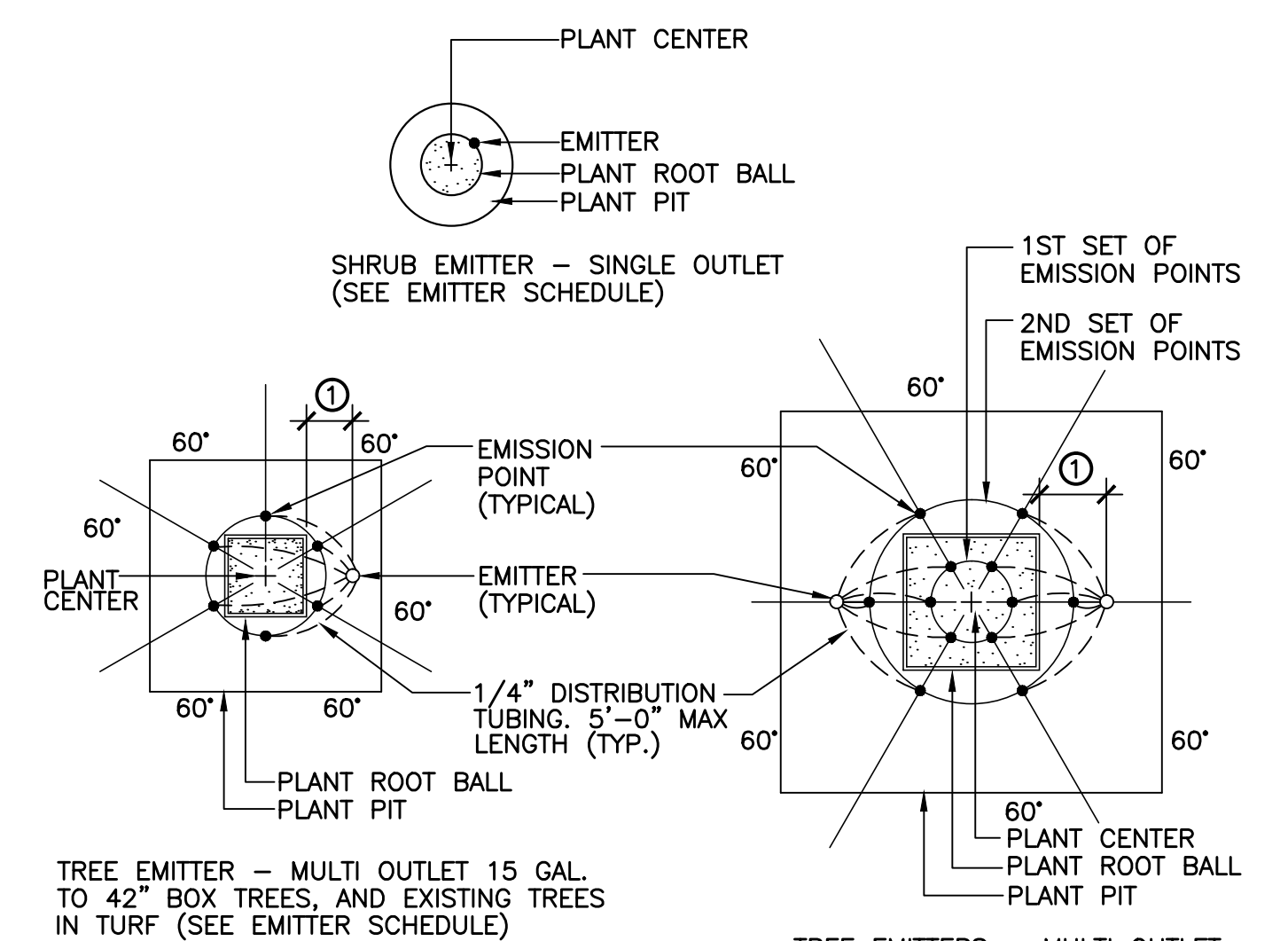


- NOTES:**
- PIPE CEMENT SHALL BE AS SPECIFIED BY MANUFACTURER FOR FLEXIBLE AND RIGID PIPE CONNECTIONS
 - EMITTER TUBING EMISSION POINTS SHALL BE EQUALLY SPACED AND LOCATED TO DIRECT WATER FLOW TO PLANT ROOT BALL.
 - A MINIMUM OF THREE EMITTERS OPEN INITIALLY. ADDITIONAL OPENINGS AND EMISSION POINTS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

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



5 DRIP SYSTEM FLUSH PLUG
N.T.S.



- NOTES:**
- 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.

6 EMITTER LAYOUT
N.T.S.

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. TREES IN D.G.	2 - 2 GPH = 24 GPH	6 @ 18"	6 @ 48"
EX. TREES IN TURF	1 - 2 GPH = 12 GPH	6 @ 24"	

PLANT	SIZE	EMITTER TYPE (G.P.H.)
ALL SHRUBS, GROUND COVER, AND ACCENTS	1 OR 5 GAL.	1 G.P.H. SINGLE OUTLET

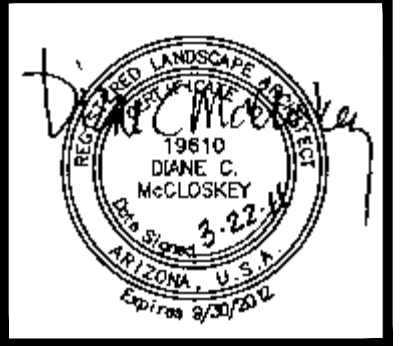
7 EMITTER SCHEDULE
N.T.S.

PIPE SIZE	FOR CL. 315 (1/2" SIZE) AND CL. 200 PVC (3/4" AND LARGER)	
	FLOW (GPM)	FLOW (GPM)
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

- NOTES:**
1. ALL VALVE BOXES TO BE CARSON/BROOKS, AMETEK, OR EQUAL
 2. ALL LATERAL PIPE TO BE SCH. 40 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

8 PIPE SCHEDULE
N.T.S.

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

Irrigation Details
Parkway Improvement District 07-4
SPRING MEADOWS
PREPARED FOR: Town of Gilbert
FY 11-12

DESIGNED BY: MPI
DRAWN BY: DWM
CHECKED BY: DCM
PROJECT NO: 06422
DATE: 3/2011

DRAWING NO.
L-6
SHEET 6 OF 8

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 finish 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 the 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) 283-1100 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 manufacture 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

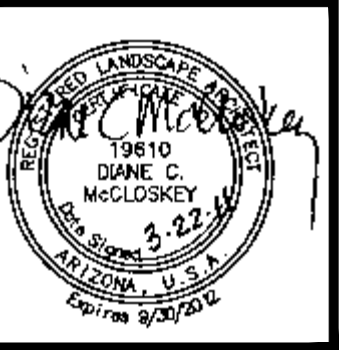
- A. Inspection
1. Examine areas and conditions under which work of this section is to be performed. Do not proceed with work until unsatisfactory conditions have been corrected.
 2. Grading operations with the exception of final grading shall be completed and approved by Owner's Representative before staking or installation of any irrigation system begins.
- B. Preparation
1. Staking – mark with powdered line or marking point, 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.
Note: At the discretion of Town of Gilbert Parks Department–valves, rotor heads, controllers, enclosures and backflow preventers shall be salvaged and returned to the Town of Gilbert.
- 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 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 foot 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, replace, and seal 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) 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 furthestmost 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.

REVISIONS	
NO.	DATE



McCloskey • Peltz, Inc.
LANDSCAPE ARCHITECTS
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Phone: (480) 831-1774

Irrigation Specifications
Parkway Improvement District 07-4
SPRING MEADOWS
PREPARED FOR: Town of Gilbert
FY 11-12

DESIGNED BY: MPI
DRAWN BY: DWM
CHECKED BY: DCM
PROJECT NO: 06422
DATE: 3/2011

DRAWING NO.
L-8
SHEET 8 OF 8