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# Peach County

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## **REQUEST FOR BID No. 16-003** **Addendum No. 2** December 29, 2015

### **PEACH COUNTY** **GEORGIA**

**Peach County Workforce Development Center Irrigation**  
**425 James E. Khoury Blvd., Fort Valley, GA**

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**PURPOSE:**

1. Revise plans bid set.
2. Re-Schedule Pre-Bid meeting and site visit
3. Pavement Crossings Clarification

**ADDENDUM 2:**

**1. Revised Plans and Specifications (Exhibit A2-1):**

The attached revised plans and specifications supersedes and/or replaces the plans and specifications included with RFB 16-003 (Exhibit 2). All references in RFB 16-003 to the "drawings and specifications" shall refer to the attached revised plans and specifications. All bids, and construction of the landscaping, shall be in accordance with the attached revised plans and specifications.

**2. Re-Scheduled Pre-Bid Meeting and Site Visit**

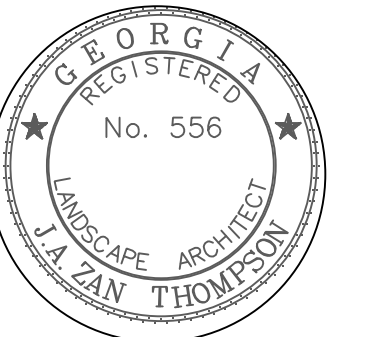
The Pre-Bid meeting and site visit originally scheduled for December 7, 2015 at 9:30 a.m. at the Peach County Regional Workforce Development Center 425 James E. Khoury Blvd. Fort Valley, GA 31030 is re-scheduled for January 6, 2016, 10:30 a.m. local time. Attendance of the pre-bid meeting and site visit is not mandatory, but is recommended.

### **3. Pavement Crossings Clarification (Exhibit A2-2) :**

All road and parking lot pavement crossings shall be bored unless pipe conduit for crossings dedicated to irrigation have been installed previously. Sidewalks pavement crossings may be installed only by removing and replacing entire sections of sidewalk between construction joints, or shall be bored, unless pipe conduit for crossings dedicated to irrigation have been installed previously. No cutting of pavement will be allowed. Refer to attached electrical plan for sketch of planned irrigation conduits. Contractor shall field verify actual locations.

**EXHIBIT A2-1**  
**REVISED PLANS AND SPECIFICATIONS**

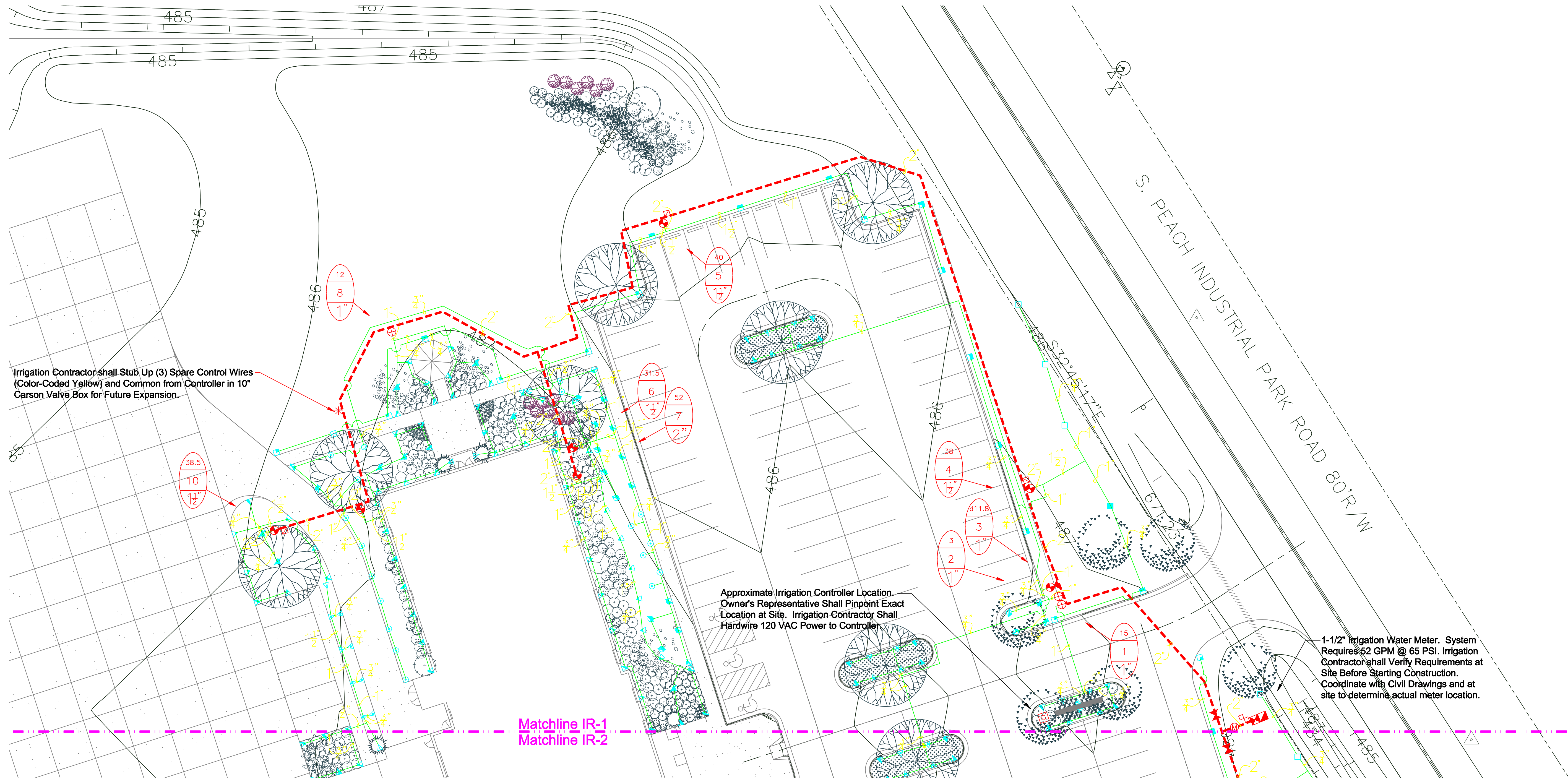




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**REVISIONS**

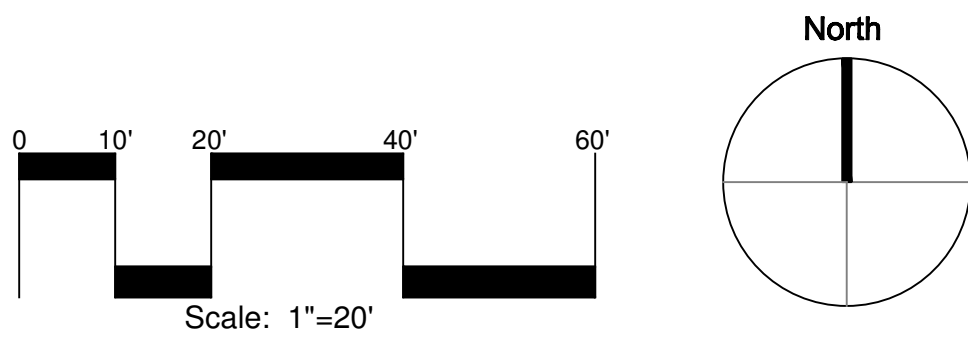
REV. #	DATE	DESCRIPTION
1	12 23 15	COST REDUCTION



1-1/2" Irrigation Water Meter. System Requires 52 GPM @ 65 PSI. Irrigation Contractor shall Verify Requirements at Site Before Starting Construction. Coordinate with Civil Drawings and at site to determine actual meter location.

**REVISION NOTE:**

- USE THIS PLAN AS A GUIDE FOR INTENT. CONTRACTOR SHOULD SPEC EQUIPMENT THAT PROVIDES BEST VALUE FOR OWNER. FOR EXAMPLE, HUNTER PGP ROTARS OR A BETTER VALUE THAN I-20 HEADS. CONTRACTOR SHOULD ADJUST PLAN INCLUDING NUMBER OF HEADS AND PIPE SIZES, ETC. TO SERVE EQUIPMENT CONTRACTOR SELECTS. OWNER WILL BE LOOKING FOR COST SAVINGS WHILE SERVING IRRIGATION NEEDS TO ESTABLISH PLANT MATERIAL. SEE REVISED PLANTING PLAN FOR SPECIFIC NUMBER OF PLANT MATERIALS AND THERE LOCATION. DO NOT USE THIS PLAN FOR PLANTING AS IT IS NOT CURENT PLAN. IRRIGATION EQUIPMENT MANUFACTURER CAN BE ADJUSTED/CHANGED AS RECOMMENDED BY CONTRACTOR TO PROVIDE COST SAVINGS.



LANDSCAPE IRRIGATION PLAN  
**Peach County Workforce  
Development Center**  
Peach County Board of Commissioners  
Peach County, Georgia

**REVISED  
BID SET**

PROJECT NO.	982.03
DATE	06/19/2015
SHEET TITLE	IRRIGATION PLAN
CHECKED BY	ZT
SHEET NO.	IR-1











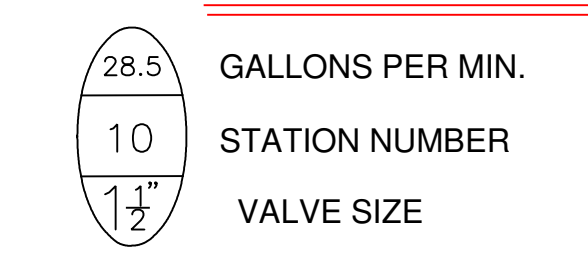


## IRRIGATION LEGEND

- 1-1/2" WATER METER, SYSTEM REQUIRES 52 GPM @ 65 PSI. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE SYSTEM REQUIREMENTS AT SITE BEFORE STARTING CONSTRUCTION.
- MANUAL DRAIN VALVE. SCH 80 PVC TRUE UNION BALL VALVE. DETAIL-E.
- WATTS #007-M1-QT-2", 2" DOUBLE CHECK ASSEMBLY BACKFLOW PREVENTER. DETAIL-F.
- WINTERIZATION ASSEMBLY. DETAIL-P.
- RAIN BIRD ESP-24-LXME-LXMM-PED-SS CONTROLLER: 24 STATION, MODULAR CONTROLLER, FOUR PROGRAMS, STAINLESS STEEL PEDESTAL MOUNTED. DETAIL-J. IRRIGATION CONTRACTOR SHALL ALSO INSTALL A WIRED RAIN SENSOR AND A FREEZE-CLIK DEVICE (ON SIDE OF CONTROLLER).
- RAIN BIRD 150-PEB PLASTIC ELECTRIC REMOTE CONTROL VALVE, 1 1/2" SIZE, MOUNTED WITH SCH 80 PVC TRUE UNION BALL VALVE, DETAIL-A.
- RAIN BIRD 100-PEB PLASTIC ELECTRIC REMOTE CONTROL VALVE, 1" SIZE, MOUNTED WITH SCH 80 PVC TRUE UNION BALL VALVE, DETAIL-A.
- RAIN BIRD 1806-SAM, 6" POP-UP LAWN SPRAY SPRINKLER, 12" RADIUS, FULL-2.0 GPM, HALF-1.0 GPM, QUARTER-0.5 GPM, 30 PSI. DETAIL-C.
- RAIN BIRD 1806-SAM, 6" POP-UP LAWN SPRAY SPRINKLER, 15" RADIUS, FULL-4.0 GPM, HALF-2.0 GPM, QUARTER-1.0 GPM, 30 PSI. DETAIL-C.
- RAIN BIRD 1806-SAM, 6" LAWN POP-UP SIDE STRIP SPRAY SPRINKLER, 9' X 18' RADIUS, 1.5 GPM, 30 PSI. DETAIL-C.
- RAIN BIRD 1806-SAM, 6" LAWN SIDE STRIP SPRAY SPRINKLER, 4' X 30' RADIUS, 1.5 GPM, 30 PSI. DETAIL-C.
- RAIN BIRD 1806-SAM, 6" LAWN END STRIP SPRAY SPRINKLER, 4' X 15' RADIUS, 1.0 GPM, 30 PSI. DETAIL-C.
- RAIN BIRD 1812-SAM, 12" HI-POP SHRUB SPRAY SPRINKLER, 15" RADIUS, FULL-4.0 GPM, HALF-2.0 GPM, QUARTER-1.0 GPM, THREE QUARTER-3.0 GPM, 30 PSI. DETAIL-D.
- RAIN BIRD 1812-SAM, 12" HI-POP SHRUB SPRAY SPRINKLER, 12" RADIUS, FULL-2.0 GPM, 30 PSI. DETAIL-D.
- RAIN BIRD 1812-SAM, 12" HI-POP SHRUB SIDE STRIP SPRAY SPRINKLER, 9' X 18' RADIUS, 1.5 GPM, 30 PSI. DETAIL-D.
- RAIN BIRD 1812-SAM, 12" HI-POP SHRUB SIDE STRIP SPRAY SPRINKLER, 4' X 30' RADIUS, 1.5 GPM, 30 PSI. DETAIL-D.
- RAIN BIRD 1812-SAM, 12" HI-POP SHRUB END STRIP SPRAY SPRINKLER, 4' X 15' RADIUS, 1.0 GPM, 30 PSI. DETAIL-D.
- HUNTER I-20 ADS LAWN ROTOR, 40' RADIUS, FULL-8.0 GPM, HALF-4.0 GPM, QUARTER-2.0 GPM, 45 PSI. DETAIL-B.
- HUNTER I-20 ADS LAWN ROTOR, 30' RADIUS, FULL-4.0 GPM, HALF-2.0 GPM, QUARTER-1.0 GPM, 45 PSI. DETAIL-B.
- HUNTER INDUSTRIES MP ROTATOR SERIES 3000, MOUNTED ON RAIN BIRD 1806-SAM SPRINKLER IN LAWN, 30' RADIUS, FULL-4.0 GPM, HALF-2.0 GPM, QUARTER-1.0 GPM, 40 PSI. DETAIL-C.
- HUNTER INDUSTRIES MP ROTATOR SERIES 2000, MOUNTED ON RAIN BIRD 1806-SAM SPRINKLER IN LAWN, 20' RADIUS, FULL-2.0 GPM, HALF-1.0 GPM, QUARTER-0.5 GPM, 40 PSI. DETAIL-C.
- RAIN BIRD #5 QUICK COUPLING VALVE 1" SIZE. CONTRACTOR TO SUPPLY TWO QCV KEYS AND MATCHING HOSE SWIVELS. DETAIL-O.
- SCH 80 PVC TRUE UNION BALL VALVE, SIZED SAME AS MAINLINE, MOUNTED IN CARSON VALVE BOX. DETAIL-K.
- RAIN BIRD DRIP ZONE ASSEMBLY KIT, MODEL #XCZ-100-PRB-COM. 1" SIZE DETAIL-L.
- POINT OF CONNECTION - DRIP LINE TUBING TO PVC PIPE, DETAIL-M,N.
- DRIP TUBING: RAIN BIRD XFS DRIPLINE DRIP TUBING, .6 GPH, 12" CENTERS, STAKED EVERY TURN OR EVERY 4', INSTALL NETAFIM AIR RELIEF VALVE KIT IN 10" CIRCULAR VALVE BOX AT HIGH POINT OF EACH ZONE AND INSTALL NETAFIM DRIP DRAIN VALVE(S) IN 10" CIRCULAR VALVE BOX AT LOW POINT(S) OF EACH ZONE. DETAIL-M,N,Q,R,S.
- TREE RING DRIP TUBING: RAIN BIRD XFS DRIPLINE DRIP TUBING, .6 GPH, 12" CENTERS, STAKED EVERY TURN OR EVERY 4', INSTALL NETAFIM AIR RELIEF VALVE KIT IN 10" CIRCULAR VALVE BOX AT HIGH POINT OF EACH ZONE AND INSTALL NETAFIM DRIP DRAIN VALVE(S) IN 10" CIRCULAR VALVE BOX AT LOW POINT(S) OF EACH ZONE. DETAIL-M,N,Q,R,S.
- NOTE: INSTALLATION CONTRACTOR SHALL INSTALL RAIN BIRD DRIP OPERATION INDICATOR KIT AT EACH END OF ALL DRIP ZONE AREAS.
- MAINLINE PIPE: 2" SIZE IF NOT NOTED. CLASS 200 PVC.
- IRRIGATION SLEEVE: CLASS 200 PVC, SIZE NOTED ON PLAN. DETAIL-H.
- LATERAL LINE PIPE: CLASS 200 PVC, SIZE NOTED.
- 3" ELECTRICAL CONDUIT SLEEVE.

- NOTES:
1. ALL SPRINKLERS WILL BE MOUNTED ON (3) MARLEX STREET ELLS WITH A SCHED. 80 NIPPLE SIZE OF SPRINKLER INLET.
  2. CONTRACTOR TO UTILIZE A AUTOMATIC DRAIN CHECK VALVE DEVICE WHERE LOW HEAD DRAINAGE MAY OCCUR.
  3. ALL WIRE WILL BE COLOR CODED DIRECT BURIAL UL/UF WIRE: COMMON (WHITE) #12-1, CONTROL (RED) #14-1.
  4. ALL PIPING AND WIRING UNDER HARDTOPS WILL BE IN CLASS 200 PVC PIPE SLEEVE.

### TYPICAL VALVE INDICATOR



- GALLONS PER MIN.
- STATION NUMBER
- VALVE SIZE

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REVISIONS		
REV. #	DATE	DESCRIPTION
1	12/23/15	COST REDUCTION

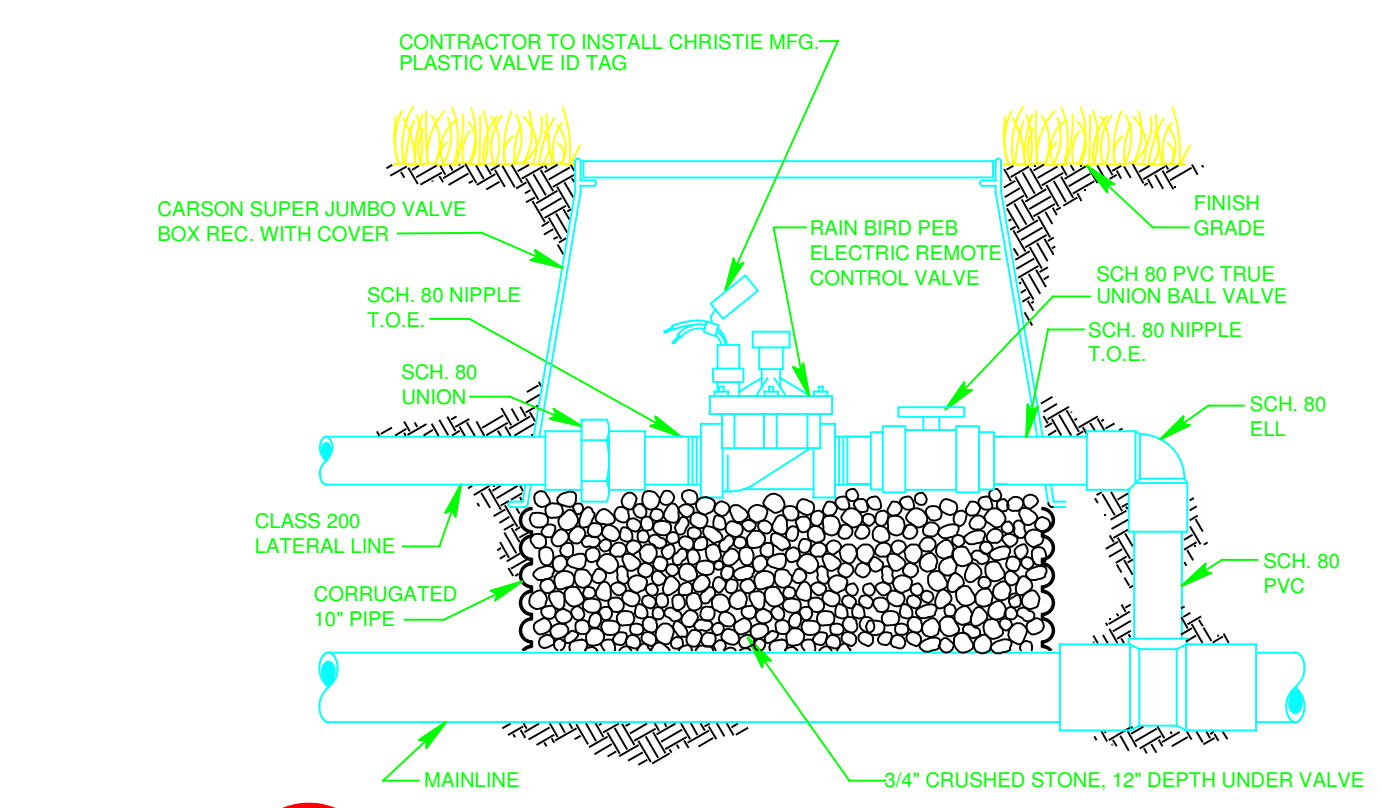
LANDSCAPE IRRIGATION PLAN

Peach County Workforce  
Development Center

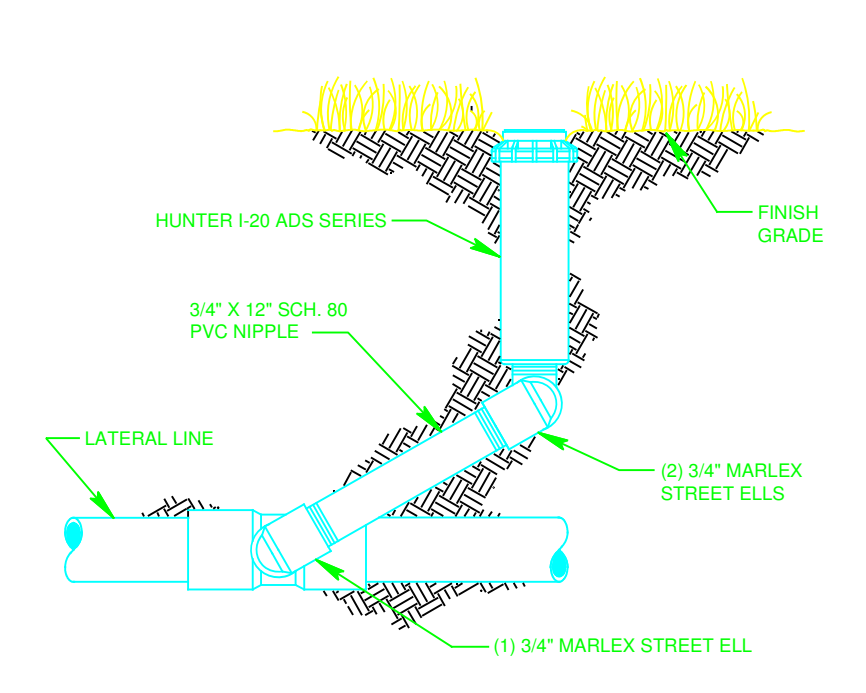
Peach County Board of Commissioners  
Peach County, Georgia

REVISED  
BID SET

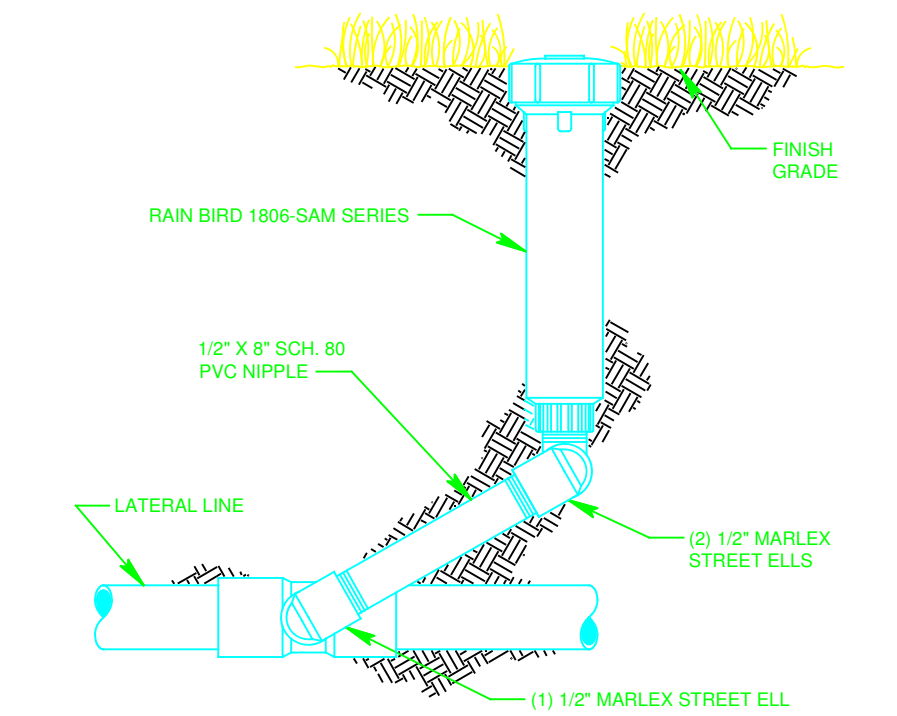
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SHEET NO.	IR-4



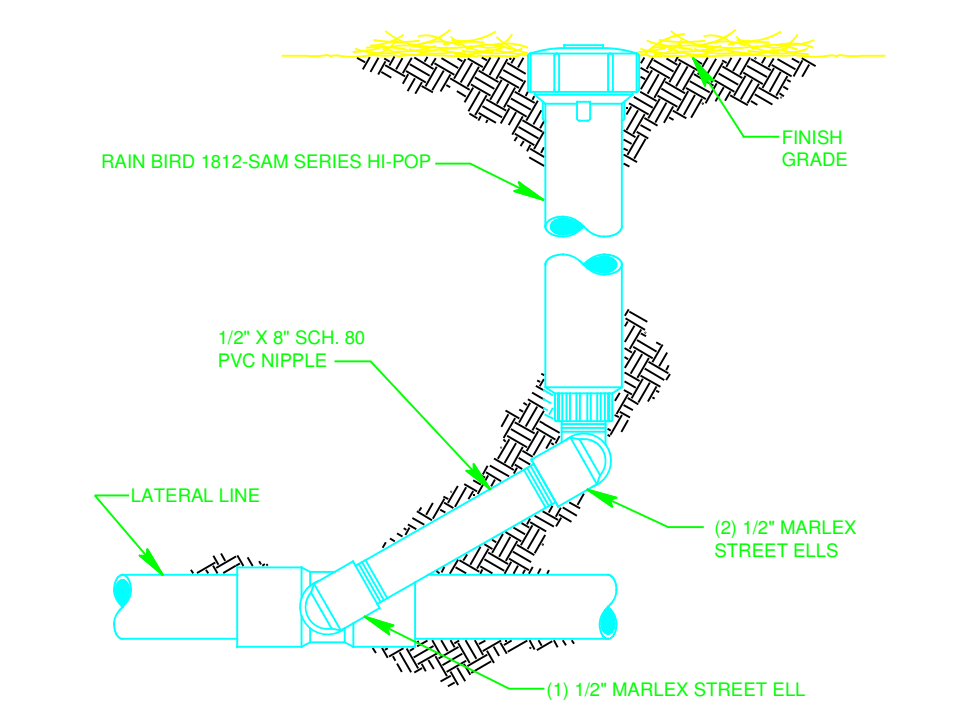
**A CONTROL VALVE**  
NTS



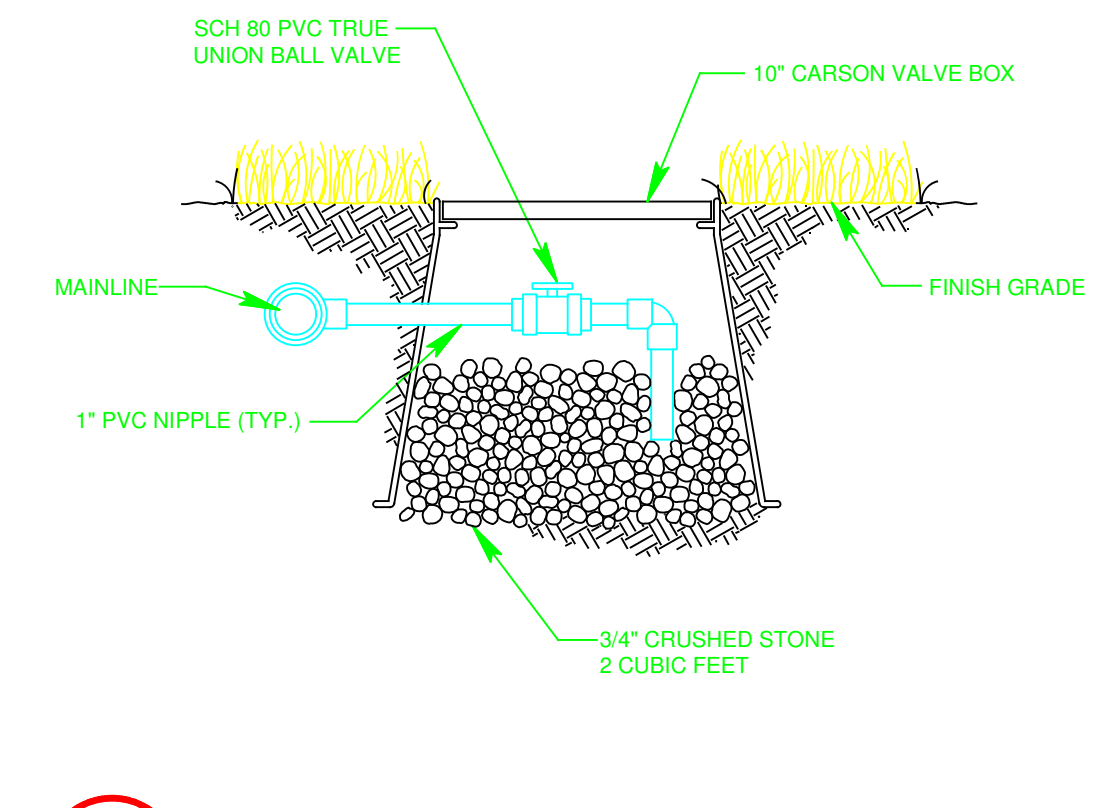
**B LAWN ROTOR**  
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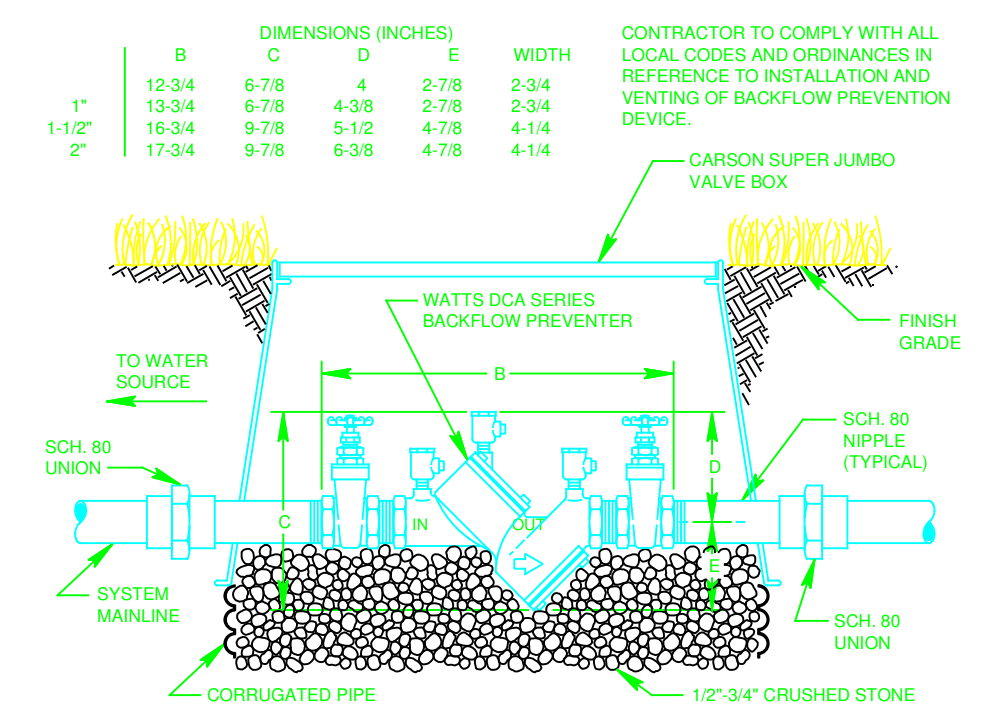
**C LAWN SPRAY**  
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**D SHRUB SPRAY**  
NTS



**E MANUAL DRAIN VALVE**  
NTS



**F BACKFLOW PREVENTER**  
NTS

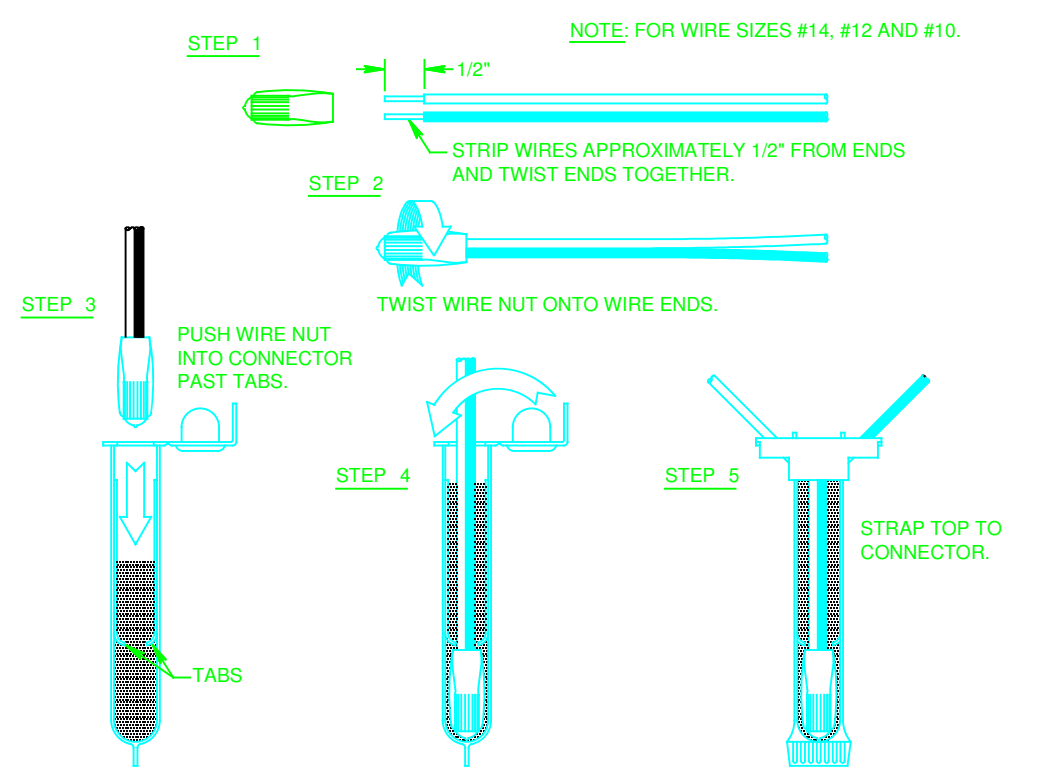
\* IRRIGATION CONTRACTOR SHALL SUBMIT BACKFLOW DETAIL TO LOCAL AUTHORITIES FOR APPROVAL BEFORE STARTING CONSTRUCTION.

### REVISION NOTE:

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### GENERAL NOTES

1. ALL MAINLINES TO HAVE A MINIMUM OF 18" OF COVER. (CLASS 200 PVC PIPE).
2. ALL LATERAL AND SUB-MAIN PIPE TO HAVE A MINIMUM OF 12" OF COVER. (CLASS 200 PVC PIPE).
3. NO ROCKS, BOULDER, OR OTHER EXTRANEOUS MATERIALS TO BE USED IN BACKFILLING OF TRENCH.
4. ALL PIPE TO BE INSTALLED AS PER MANUFACTURERS' SPECIFICATIONS.
5. ALL THREADED JOINTS TO BE COATED WITH TEFLON TAPE OR LIQUID TEFLON.
6. ALL LINES TO BE THOROUGHLY FLUSHED BEFORE INSTALLATION OF SPRINKLER HEADS.
7. SPRINKLER AND RELATED EQUIPMENT TO BE INSTALLED AS PER DETAILS.
8. ALL ELECTRICAL JOINTS TO BE MADE USING WATERPROOF CONNECTIONS AS SHOWN ON DETAILS.
9. ALL EQUIPMENT NOT SPECIFIED IN THE LEGEND SHALL BE DETERMINED AND FURNISHED BY THE CONTRACTOR.
10. NO ELECTRICAL CONNECTIONS SHALL BE MADE IN THE FIELD EXCEPT AT A VALVE CONTROL BOX OR ANOTHER VALVE BOX SPECIFICALLY FOR CONNECTIONS.
11. ANY DISCREPANCY BETWEEN THIS SHEET AND OTHERS IN THIS SET MUST BE REFERRED TO THE IRRIGATION CONSULTANT BY THE CONTRACTOR FOR CLARIFICATION BEFORE PRECEEDING WITH THE WORK.
12. ALL 24 VOLT WIRE SHALL BE #12 UL/UF FOR COMMON WIRE, AND #14 UL/UF FOR CONTROL WIRES, DIRECT BURIAL. SOLID COPPER.
13. CONTRACTOR TO BE RESPONSIBLE FOR PROPER COVERAGE OF AREAS TO BE WATERED. I.E. ADJUST HEADS WITH INSUFFICIENT COVERAGE DUE TO BLOCKAGE BY EXISTING OR PROPOSED SITE FEATURES.
14. CONTRACTOR TO REFER TO LANDSCAPE PLAN TO KEEP SPRINKLER EQUIPMENT AND ACCESSORY MATERIAL FROM INTERFERING WITH PROPER PLANTING, I.E. VERIFY ROOT BALL SIZE FOR PLANTING.
15. CONTRACTOR SHALL PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN VALVE BOX (WRAP AROUND 3/4" PIPE 12 TIMES).
16. CONTRACTOR TO UTILIZE APPROPRIATE AUTOMATIC DRAIN DEVICE WHERE LOW HEAD DRAINAGE MAY OCCUR.
17. ALL SPRINKLERS TO BE MOUNTED ON SWING JOINTS - REFER TO DETAILS.
18. CONTRACTOR SHALL UTILIZE VALVE I.D. TAGS ON ALL REMOTE CONTROL VALVES.
19. 24 VOLT WIRE SHALL BE COLOR CODED; COMMON-WHITE, CONTROL-RED.
20. CONTRACTOR SHALL INSTALL MANUFACTURERS' RECOMMENDED GROUNDING EQUIPMENT FOR POWER SUPPLY AND VALVE OUTPUT WITH (2) 5/8" COPPER CLAD GROUND RODS.
21. CONTRACTOR SHALL INST. ALL MANUFACTURERS' RECOMMENDATION ON FAULT GROUND AND LIGHTNING PROTECTION.
22. CONTROLLER GROUNDING MUST BE AS PER ASIC REQUIREMENTS
23. ALL MATERIAL TO BE SUPPLIED BY CONTRACTOR TO OWNER:
  - A. TWO WRENCHES FOR DISASSEMBLING AND ADJUSTING EACH TYPE OF SPRINKLER HEADS AND VALVE SUPPLIED.
  - B. TWO KEYS FOR EACH OF THE AUTOMATIC CONTROLLERS.
  - C. TWO QUICK COUPLER KEYS WITH MATCHING HOSE SWIVELS.
24. SYSTEM IS DIAGRAMMATIC TO IMPROVE CLARITY. ALL MAINLINE PIPING ELECTRIC VALVES AND WIRING ARE TO BE INSTALLED IN LANDSCAPE AREAS AND WITHIN PROPERTY BOUNDARIES. CONTRACTOR SHALL REFERENCE THE LANDSCAPE PLAN PRIOR TO THE INSTALLATION OF PIPING TO AVOID CONTACT WITH PLANT MATERIALS EXISTING OR NEW.
25. CONTRACTOR TO ADD EXTENSION RISER TO POP-UP HEADS WHEN NEEDED FOR PROPER COVERAGE.
26. CONTRACTOR SHALL INSTALL SPRINKLER EQUIPMENT 12" FROM FOUNDATIONS. ALSO INSTALL SPRINKLERS 4" FROM CURB OR WALKS.
27. PRIOR TO BID IRRIGATION CONTRACTOR SHALL VERIFY RIGHT-OF-WAY AND BACKFLOW REQUIREMENTS. NO LATER THAN FIVE DAYS BEFORE BID SUBMITTALS CONTRACTOR SHALL NOTIFY CONSULTANT OF ANY CHANGES FROM PLANS AND SPECIFICATIONS.
28. IRRIGATION CONTRACTOR SHALL PROVIDE THE OWNER AND LANDSCAPE ARCHITECT WITH A REPRODUCIBLE CROSS MEASURED AS-BUILT DRAWING OF THE INSTALLED IRRIGATION SYSTEM IN AUTOCAD 2010 FORMAT BEFORE FINAL ACCEPTANCE.
29. A 1-YEAR WARRANTY PERIOD SHALL BE PROVIDED FOR SYSTEM AFTER SUBSTANTIAL COMPLETION IS ACCEPTED. START UP AND ADJUSTING OF SYSTEM IN SPRING TIME SHALL BE INCLUDED IN WARRANTY.
30. PRIOR TO BID, CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, INSTALLATION PARAMETERS AND OPERATIONS CONFORM TO ALL APPLICABLE CODES AND ORDINANCES. NO LATER THAN FIVE DAYS BEFORE BID SUBMITTALS CONTRACTOR SHALL NOTIFY IRRIGATION CONSULTANT/DESIGNER OF ANY CHANGES REQUIRED DUE TO CURRENT CODE OR ORDINANCE DISCREPANCIES. IF CONTRACTOR DOES NOT COMPLY TO THIS NOTIFICATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY INSTALLATION CHANGE AND REDESIGN COSTS FOR NON-COMPLIANCE.
31. UNLESS OTHERWISE NOTED, THE CONTRACTOR MUST COMPLETE 2 PRESSURE TESTS OF THE IRRIGATION SYSTEM MAINLINE (BOTH TO SHOW NO DROP IN PRESSURE DURING DURATION OF TEST.
  - A. 2-HOUR PRESSURE TEST AT 1.5 TIMES THE SYSTEM STATIC PRESSURE
  - B. 24-HOUR PRESSURE TEST AT THE SYSTEM STATIC PRESSURE
32. IRRIGATION INSTALLATION CONTRACTOR SHALL PROVIDE OWNER WITH A COLOR-CODED ZONES DIAGRAM PLAN, 8-1/2"x11" LAMINATED SHEET(S), TO IDENTIFY CONTROLLER STATION TO THE CONTROL VALVE NUMBER FOR EACH CONTROLLER. TO BE LOCATED IN ADHESIVE POUCH ATTACHED INSIDE OF CONTROLLER(S).



**G WIRE CONNECTION**  
NTS  
3M-DBR/Y-6







**UNDERGROUND IRRIGATION SYSTEM**

**PART 1- GENERAL**

**1.1 SYSTEM DESCRIPTION**

- A. The sprinkler system shall include sprinklers, valves, piping fittings, controller, wiring, all of sizes and types as shown on the drawings and specified. The system shall be constructed to grades and conform to areas and locations as shown on the drawings.
- B. Sprinkler lines shown on the drawings are essentially diagrammatic. Spacing of the sprinkler heads or quick coupling valves are shown on the drawings and shall be exceeded only with written permission of the Designer.
- C. Unless otherwise specified or indicated on the drawings, the construction of the sprinkler system shall include the furnishing, installing, and testing of all mains, laterals, risers and fittings, sprinkler heads, gate valves, control valves, controllers, electric wire, controls, backflow preventers, enclosures, and other necessary specialties and the removal and/or restoration of existing improvements, excavating and backfill, and all other work in accordance with the plans and specifications a required for a complete system.

**1.2 QUALITY ASSURANCE**

- A. Conference: Before any work is started a conference shall be held between the Contractor and the Owner concerning the work under this contract.
- B. The Contractor shall maintain continuously a competent superintendent, satisfactory to the Owner, on the work during progress with authority to act or him in all matter pertaining to the work.
- C. It is the Irrigation Contractor's responsibility to coordinate and cooperate with the other Contractors to enable work to proceed rapidly and efficiently.
- D. The Contractor shall confine his operations to the area to be improved and to the areas allotted him by the Designer and General Contractor for material and equipment.
- E. Contractor shall take all necessary to protect the existing site conditions and vegetation.

**1.3 SUBMITTALS**

- A. General: Submit in accordance with Shop Drawings, Product Data, and Samples.
- B. Shop Drawings and Equipment Product Information:
  - 1. Prior to purchasing materials, submit product information on all sprinkler heads, automatic valves, quick coupling valves, controller, and pipe to be used on the project.
  - 2. Contractor shall review drawings and data to supply actual precipitation rates and times for each zone in maintenance package.
  - 3. Prior to trenching, Contractor shall submit proposed trenching equipment to Designer for approval.
- C. Record Drawings and Instructions
  - 1. Upon completion of installation, Contractor shall produce as-built drawings in Autocad 2010 format and furnish one set of reproducible and one set of printed record drawings showing all sprinkler heads, valves, drains, and pipelines to scale with dimensions. These drawings shall have dimensions from easily located stationary points (cross measured) as they relate to all valves, mainlines, and wire. Clearly note all approved substitutions of size, material, etc. Complete, concise instruction sheets and parts lists covering all operating equipment and weathering techniques shall be bound into folders and furnished to the Owner in three (3) copies. Submission of this information is a requirement for final acceptance.

**1.4 SITE CONDITIONS**

- A. The Contractor shall examine the site, plans and specifications (i.e. system requirements).
- B. It shall be the Contractor's responsibility to report in writing to the Designer any deviations between drawings, specification, and actual site conditions. Failure to do so prior to the installing of equipment shall be done at the Contractor's expense.
- C. Adjustment of the sprinkler heads and automatic equipment will be done by the Contractor, upon completion of installation, to provide optimum performance.
- D. After completion, testing, and acceptance of the system, the Contractor shall verbally instruct the Owner's personnel in the operation and maintenance of the system. All written instruction shall be included in the bound maintenance package as stated in Paragraph 1.3 - Submittals.

**PART 2 - PRODUCTS**

**2.1 PIPE AND FITTINGS**

- A. Pipe sizes shall conform to those shown on the drawings. No substitutions of smaller pipe sizes will be permitted, but substitutions of larger size may be approved. All pipe damaged or rejected because of defects shall be removed from the site at the time of said rejection.
- B. All mainline piping (21/2") two and one half inches and larger will be equipped with gaskets.
- C. All fittings for mainline pipes two and one half (21/2") inches or larger will be equipped with gaskets.
- D. All piping downstream of electric valves, sizes (3) inches and smaller, shall be rigid unplasticized PVC 200 PSI working pressure extruded from virgin parent material of the type specified on the drawings. The pipe shall be homogeneous throughout and free from visible cracks, holes, foreign materials, blisters, wrinkles and permanently marked with the manufacturer's name, material, size, and schedule type. Pipe must bear the NFS seal.
- E. All mainline piping and underground piping under continuous pressure shall be rigid unplasticized PVC-Class 200 PSI working pressure extruded from virgin parent material of the type specified on the drawings. The pipe shall be homogeneous throughout and free from visible cracks, holes, and foreign materials, blisters, wrinkles and dents.
- F. All plastic fittings to be installed shall be molded fittings manufactured of the same material as the pipe and shall be suitable for solvent weld, slip joint ring tight seal, or screwed connections NO fitting made of other material shall be used except as hereinafter specified.
- G. Slip fitting socket tapers shall be so sized that a dry unsoftened pipe and conforming to these special provisions can be inserted no more than halfway into the socket. Plastic saddle and flange fittings will not be permitted. Only Schedule 80 pipe may be threaded.
- H. Fittings for all Mainline Piping 4" and larger shall be Harco Ductile Iron Gasketed Fittings. All mainline 4" and larger shall utilize approved thrust blocking and or restraints. Thrust Blocking and restraints to be installed as per manufacturer's recommendations for pipe type, pipe size and local environmental conditions.

**2.2 SLEEVES**

- A. All sleeves shall be Class 200 PVC or stronger. All sleeves are required at every crossing indicated on drawings. (Size Noted)
- B. All sleeves shall be installed under proposed pavement areas prior to subgrade and base construction.
- C. Sleeves shall have a minimum horizontal separation of 18" and a maximum of twenty-four (24) inch clearance below bottom of curb.
- D. All sleeves shall have a minimum horizontal separation of twenty-four (24) and maximum of thirty-six inches from center to center.
- E. Stub up sleeve pipe twelve (12) inches above ground surface and cap. Paint cap with fluorescent orange paint for easy identification.
- F. The location of all sleeves shown on the plans is schematic. The contractor shall make any adjustments necessary to accommodate existing vegetation, utilities, or other existing conditions.
- G. If the road crossings are designated as being bore locations the bore must be ample size to accommodate the size sleeve specified.

**2.3 CONTROL SYSTEM**

- A. The automatic controllers shall be as shown on the plans and shall be made by the same manufacturer as valves.
- B. Install Rain Check or Mini-Click type shut off device to override the control timer in the event of rain.

**2.4 CONTROL WIRE**

- A. Control wire shall be type UF, UL approved, for direct burial and shall be gauge 14 or larger for the control wire and gauge 12 or larger for common wire.
- B. Joining of underground wires shall be made with watertight connectors in valve boxes. No splicing between boxes is acceptable. Utilize 3M DBR/Y-6 Connections unless directed otherwise.
- C. All wire connections in valve boxes: first example shall stay open until the Designer approves.

**2.5 IRRIGATION VALVES**

- A. Zone Control Valves
  - 1. Globe-type diaphragm valves of normally closed design, with bronze bodies or heavy-duty plastic and covers (type noted on drawings). Operation accomplished by means of an integrally mounted heavy-duty 24 volt AC solenoid complying with National Electrical Code, Class II Circuit, solenoid coil potted in epoxy resin within a plastic-coated stainless steel housing. Solenoids shall be completely waterproof, suitable for direct underground burial. Provide a flow stem adjustment in each valve.
  - 2. Drip Control Valves shall be prefabricated assemblies as specified on plans.

**2.6 VALVE BOXES**

- A. All valves shall be installed in thermoplastic valve access boxes of the size required to permit access to the valve. Valve boxes shall include black thermoplastic locking covers. Manufacturer - Ametek or approved equal.
- B. All valve boxes shall be installed on at least a two (2) cubic foot gravel base to provide foundation and drainage.
- C. All valve box elevations shall be 1/2" below finished grade.

**2.7 THRUST BLOCKS**

- A. Place one cubic ft. of concrete for each inch of pipe diameter for thrust block. Thrust shall not allow vertical or horizontal movement of pipe in any direction unless otherwise noted on design. Thrust blocking shall be provided on all piping three (3) inch diameter and larger.

**2.8 DRIP EQUIPMENT**

- A. Drip tubing shall be as specified on plans (type, emitter flow, emitter spacing, etc).
- B. All miscellaneous drip equipment required for proper operation must be installed (i.e. air vent valves, drip flush tubes, staking, etc).

**PART 3 - EXECUTION**

**3.1 EXCAVATION AND BACKFILL**

- A. Trenches for pipe sprinkler lines shall be excavated of sufficient depth and width to permit proper handling and installation by any other method the Contractor may desire if approved by the Owner, pipe manufacturer, and Designer. The backfill shall be thoroughly compacted and evened off with the adjacent soil level. Selected fill dirt or sand shall be used if soil conditions are rocky. In rocky areas the trenching depth shall be two (2) inches below normal trenching depth to allow for this bedding. The fill dirt or sand shall be used in filling (4) inches above the pipe. The remainder of the backfill shall contain no lumps or rocks larger than three (3) inches. The top twelve (12) inches of backfill shall be topsoil, free of rocks, subsoil, or trash. Any open trenches or partially backfilled trenches left overnight or left unsupervised shall be barricaded to prevent undue hazard to the public.
- B. The Contractor shall backfill in six (6) inch compacted lifts as needed to bring the soil to its original density.
- C. In the spring following the year of installation, the Contractor shall repair any settlement of the trenches by bringing them to grade with topsoil, and seeding with the existing lawn type(s). Watering and maintenance of the repaired areas shall be the Owner's responsibility.

**3.2 INSTALLATION OF PLASTIC PIPE**

- A. Plastic pipe shall be installed in a manner that permits expansion and contraction as recommended by the manufacturer.
- B. Plastic pipe shall be cut with a handsaw or hacksaw with the assistance of a square in sawing vice or in a manner so as to ensure a square cut. Burrs at cut ends shall be removed prior to installation so that a smooth unobstructed flow will be obtained.
- C. All plastic-to-plastic joints shall be solvent weld joints or slip seal joints. Only the solvent recommended for the pipe and fittings shall be installed as outlined and instructed by the pipe manufacturer. The Contractor shall assume full responsibility for the correct installation.
- D. The joints shall be allowed to set at least twenty-four (24) hours before pressure is applied to the system on PVC pipe.

**3.3 CONTROLLER AND ELECTRICAL CONNECTIONS**

- A. All electrical connections shall conform to the National Electrical Code, latest edition.
- B. Control wires installed beneath walks, drives, or other permanent surfaces shall be placed in sleeves.
- C. Wires shall be spliced only at valve boxes.
- D. Leave twenty-four (24) inch loop of wire at each valve for expansion/contraction and servicing.
- E. Controllers and valves shall be from the same company e.g. (Rain Bird, Toro or approved equal).
- F. 120 VAC electrical power supply to the controller location shall be supplied by others.

**3.4 FLUSHING AND TESTING**

- A. After all new sprinkler piping and risers are in place and connected for a given section and all necessary division work has been completed and prior to the installation of sprinkler heads all control valves shall be opened and a full head of water used to flush out the system.
- B. Sprinkler main shall be pressure tested as follows:
  - 1. Two (2) hour pressure test at 1.5 times the system operating pressure
  - 2. Twenty four (24) hour pressure test at the system operating pressure
 If leaks occur, repair and repeat the test until no leaks occur (pressure does not drop). Give Designer twenty-four hours notice prior to testing.
- C. Testing of the system shall be performed after completion of the entire installation and any necessary repairs shall be made at the Contractor's expense to put the system in good working order before final payment by the Owner.
- D. Adjustment of the sprinkler heads, and automatic equipment, will be done by the Contractor upon completion of installation to provide optimum performance. Minor adjustments during the guarantee period will be made by the Owner.
- E. After completion, testing, and acceptance of the system, the Contractor will instruct the Owner's personnel in the operation and maintenance of the system.

**3.5 CLEAN UP AND PROTECTION**

- A. During irrigation work, Contractor shall keep project site clean and orderly
- B. Upon Completion of Work, clear grounds of debris, superfluous materials and all equipment. Remove from site to satisfaction of the Owner's Representative.

**3.6 WINTERIZING THE SYSTEM**

- A. Contractor's responsibility to winterize the irrigation system the first winter following Substantial Completion of the Project.

**3.7 INSPECTION**

- A. Periodic Inspections will be made by the Landscape Architect/Owner's Representative to review the quality and progress of the work. Work found to be unacceptable must be corrected within a timely mater (to be determined by Owner's Representative). Remove rejected materials promptly from the project site.
- B. It will be the responsibility of the Irrigation Contractor to provide a reliable communication system (i.e. Two way radios or remote radio control activation system) for Substantial Completion and all periodic inspections.

**PART 4 - CODES, PERMITS, WARRANTY, AND GUARANTEE**

**4.1 CODES AND ORDINANCES**

- A. All materials, installation parameters, and operations shall conform to all applicable codes and ordinances. It is the Contractor's responsibility to investigate and follow all regulations. Contractor is responsible to verify applicable codes and ordinances prior to submitting bid. Before bid submittal, it is the Contractor's responsibility to notify the Irrigation Consultant/Designer at least 5 days before bid submittal, of any changes due to code or ordinance discrepancies. If the Contractor does not comply with this process and notification, the Contractor shall be responsible for the necessary installation change and redesign costs for non-compliance.

**4.2 PERMITS AND FEES**

- A. The Contractor shall obtain, at his expense, all required permits and shall pay all required fees. Any penalties imposed due to failure to obtain any permit or pay any fee shall be the responsibility of the Contractor.

**4.3 WARRANTY AND GUARANTEE**

- A. The Contractor shall furnish a certificate of warranty registration and a written guarantee of work and materials for a one year period from the date of final acceptance of the Irrigation System by the Owner and the Designer.

**END OF SECTION**

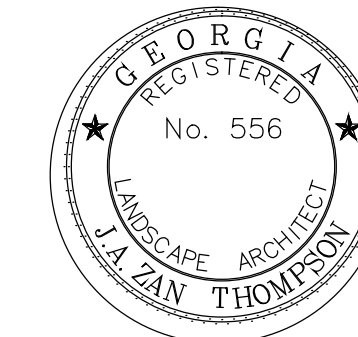
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**NOT RELEASED FOR CONSTRUCTION**

REVISIONS		
REV. #	DATE	DESCRIPTION

**LANDSCAPE IRRIGATION PLAN**  
**Peach County Workforce**  
**Development Center**  
Peach County Board of Commissioners  
Peach County, Georgia

**BID SET**

PROJECT NO.	<b>982.03</b>
DATE	<b>06/19/2015</b>
SHEET TITLE	

**IRRIGATION SPECIFICATIONS**

CHECKED BY	<b>ZT</b>
SHEET NO.	<b>IR-6</b>



## **EXHIBIT A2-2**

### **Pavement Crossings Clarification**

#### **Irrigation Conduit Sketch**





**PEACH COUNTY REGIONAL  
WORKFORCE DEVELOPMENT CENTER**  
SOUTH PEACH INDUSTRIAL PARK RD.  
FT. VALLEY, GEORGIA  
PEACH COUNTY BOARD OF COMMISSIONERS  
410 OLD MACON RD.  
FORT VALLEY GA 31030

MARK	DATE	DESCRIPTION
	11.27.13	BIDDING & CONSTRUCTION DOCUMENTS
	01.03.13	ADDENDUM

PROJECT NO: 3118

CAD DWG FILE:

DRAWN BY: JJC

CHK'D BY: JMM

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**DISCLAIMER:** Scales as stated herein are valid on the original drawing, the dimensions of which are 24" x 36 inches. These scales noted herein are re-interpreted by the ratio of overall sheet dimensions to the part to corresponding dimensions of the original drawing.

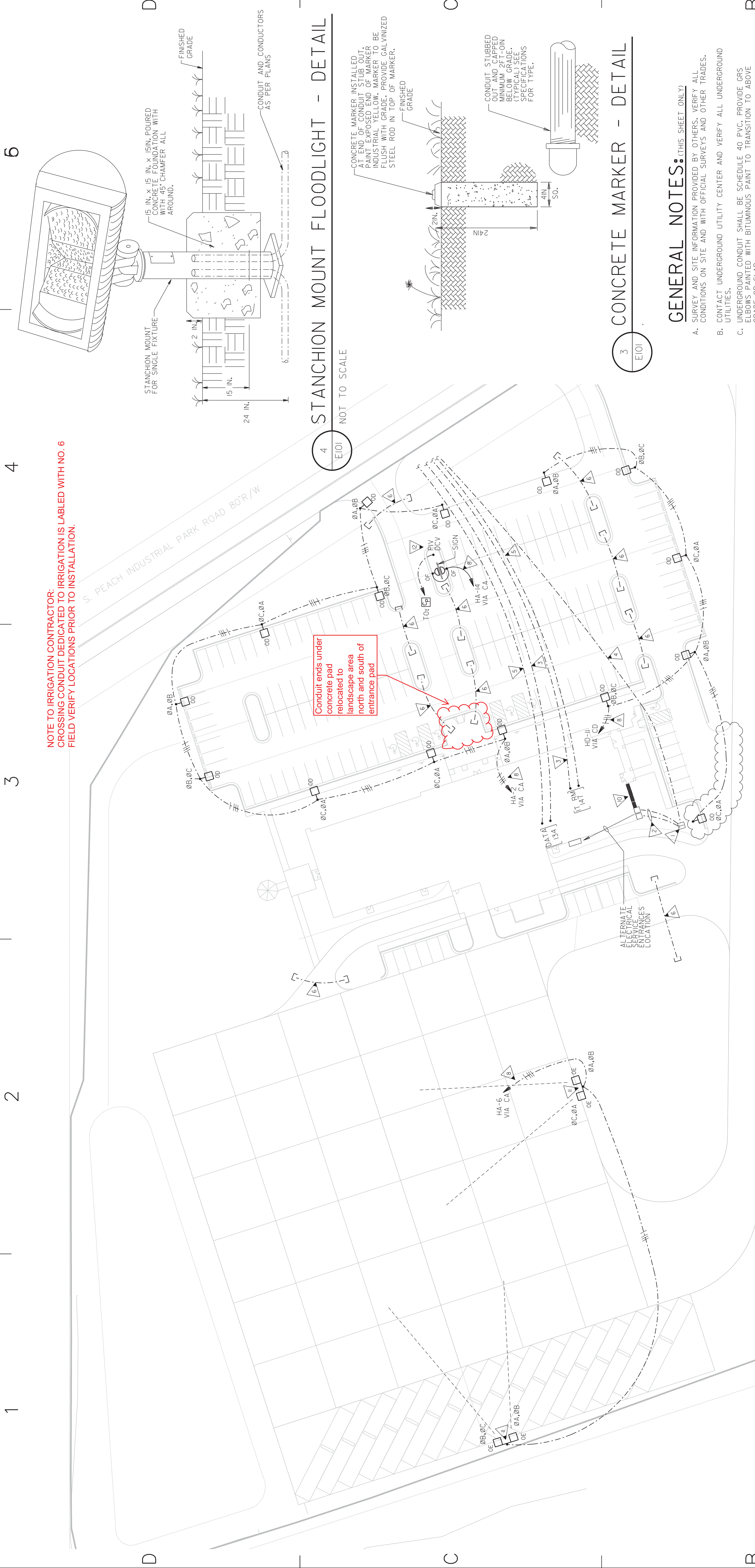
SHEET TITLE

**SITE PLAN -  
ELECTRICAL**

**E101**

SHEET DATE

**NOTE TO IRRIGATION CONTRACTOR:**  
CROSSING CONDUIT DEDICATED TO IRRIGATION IS LABELED WITH NO. 6  
FIELD VERIFY LOCATIONS PRIOR TO INSTALLATION.



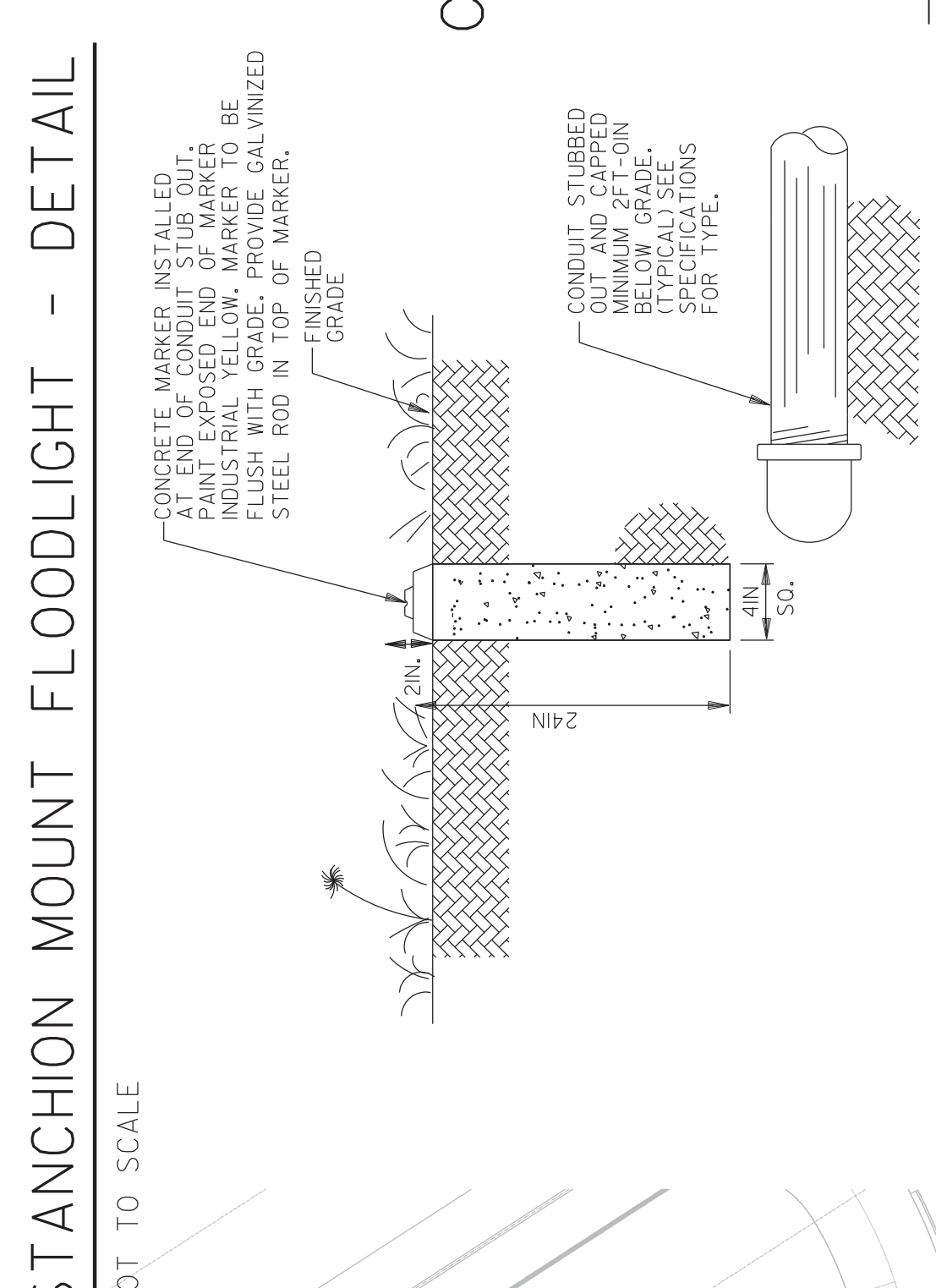
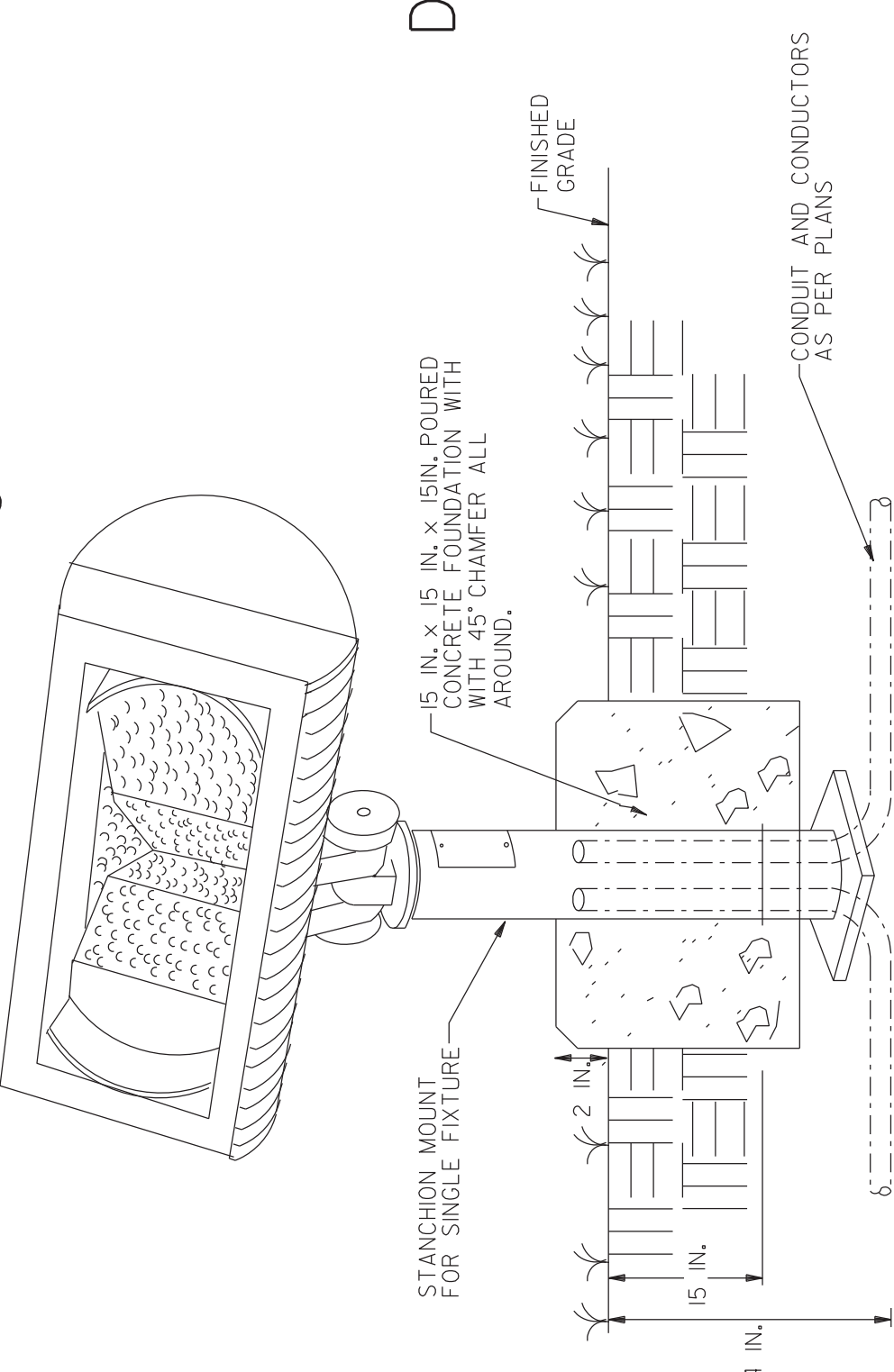
6

4

3

2

1



**GENERAL NOTES:** THIS SHEET ONLY

- SURVEY AND SITE INFORMATION PROVIDED BY OTHERS. VERIFY ALL CONDITIONS ON SITE AND WITH OFFICIAL SURVEYS AND OTHER TRADES.
- CONTACT UNDERGROUND UTILITY CENTER AND VERIFY ALL UNDERGROUND UTILITIES.
- UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC. PROVIDE GRS ELBOWS PAINTED WITH BITUMINOUS PAINT TO TRANSITION TO ABOVE GRADE OR SLAB.
- CONTRACTOR SHALL STAKE-OFF ALL EXISTING UTILITIES PRIOR TO ROUGH-IN. ALL NEW INSTALLATION SHALL BE COORDINATED WITH EXISTING UTILITY LOCATIONS.
- CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH DEMOLITION OF UTILITIES, RELOCATION OF UTILITIES AND NEW UTILITIES FOR THIS PROJECT. COORDINATE ALL COSTS WITH SERVING UTILITY COMPANIES.
- MINIMUM SIZE OF ALL CONDUITS ON THIS SHEET SHALL BE 1IN.
- PROVIDE HANDHOLE IN COMPLIANCE WITH N.E.C. SEE DETAIL 5/EI01.

**KEYED NOTES:** THIS SHEET ONLY

- UTILITY PAD MOUNTED TRANSFORMER AND METER, TRANSFORMER FURNISHED AND INSTALLED BY UTILITY. REFER TO RISER FOR ADDITIONAL INFORMATION. SEE ARCHITECTURAL PLAN AND REFER TO GENERAL NOTES ON THIS SHEET FOR EXACT LOCATIONS.
- UNDERGROUND SECONDARY. REFER TO RISER.
- PROVIDE 2-4" IN. CONDUITS, MINIMUM DEPTH 30 INCHES BELOW GRADE. ROUTE TO NEAREST CONNECTION POINT FOR TELEPHONE/ FIBER SERVICE PROVIDER. COORDINATE CONNECTIONS AND LOCATIONS WITH SERVICE PROVIDER.
- PROPOSED ROUTE OF UTILITY PRIMARY. COORDINATE ROUTING WITH SUPPLYING UTILITY. AVOID CONFLICTS WITH OTHER ITEMS AND POLE LOCATIONS.
- PROVIDE 1/4 IN. MINIMUM DEPTH 30 INCHES BELOW GRADE. ROUTE TO NEAREST CONNECTION POINT FOR TELEPHONE/ FIBER CONNECTIONS. COORDINATE CONNECTIONS AND LOCATIONS WITH CATV PROVIDER.
- PROVIDE 4 IN. CONDUIT WITH CONDUIT MARKER ON BOTH ENDS. SEE CONDUIT MARKER DETAIL 3/EI01.
- SET TYPE 'O' FIXTURES BACK 5 FT. FROM SIGN. SEE STANCHION MOUNT FLOODLIGHT - DETAIL 4/EI01.
- PROVIDE 1/2 IN. ENTIRE CIRCUIT. ROUTE VIA LIGHTING CONTACTOR CONTROLLED BY TIMELOCK AND PHOTOELECTRIC CELL.
- FIXTURE AIMING LINE, TYPICAL.
- MAIN ELECTRICAL SERVICES. SEE RISER DIAGRAM. IF ALTERNATE WALL, WHERE INDICATED IS NOT ACCEPTED, ELECTRICAL SERVICE EQUIPMENT (C.T. METER, E.C.B.) SHALL BE LOCATED WHERE INDICATED BY ARROW.
- POLE BASE SHALL BE 36" ABOVE FINISHED PAVING. SEE DETAIL 2/EI01.
- PROVIDE FIRE ALARM MONITORING FOR ALL DOUBLE CHECK AND POST INDICATOR VALVES. SEE CIVIL FOR EXACT LOCATIONS AND QUANTITIES.

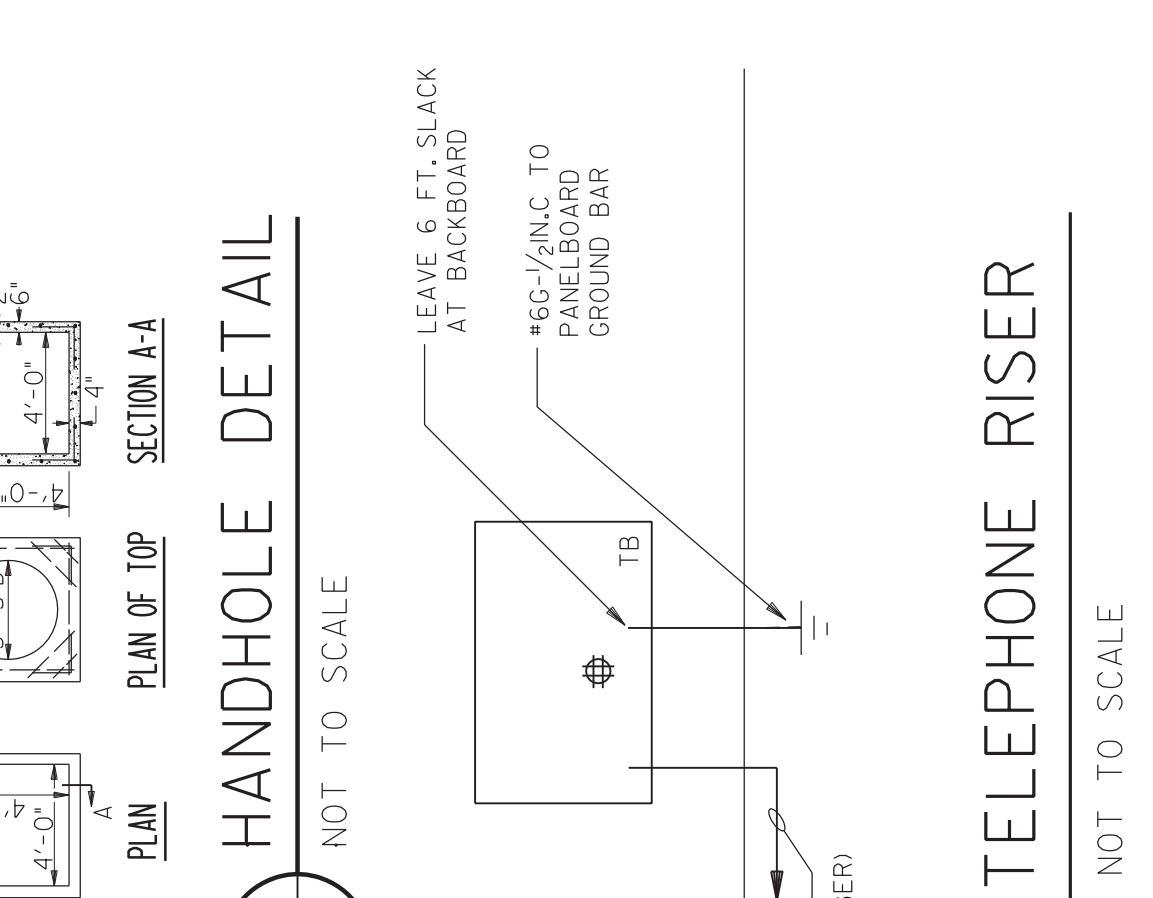
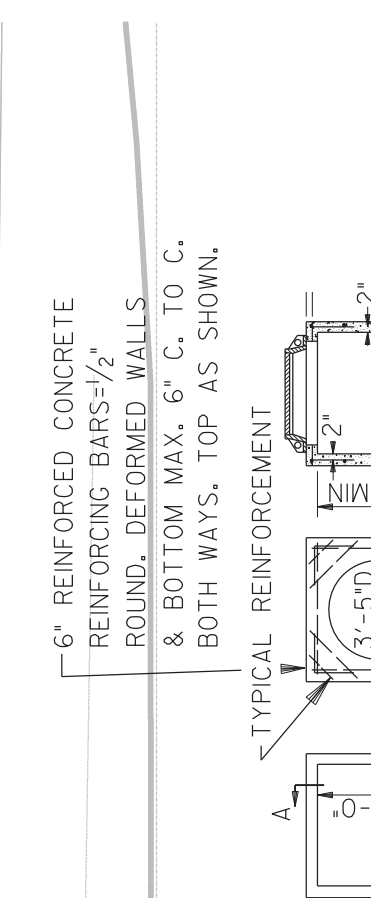
**1 SITE PLAN - ELECTRICAL**  
SCALE: 1"=40'-0"

NOTE: DIMENSIONS ARE PROVIDED ON CONTRACT DRAWINGS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. DIMENSIONS ARE WITHOUT FORCE AND EFFECT ON THE CONTRACT DOCUMENTS.

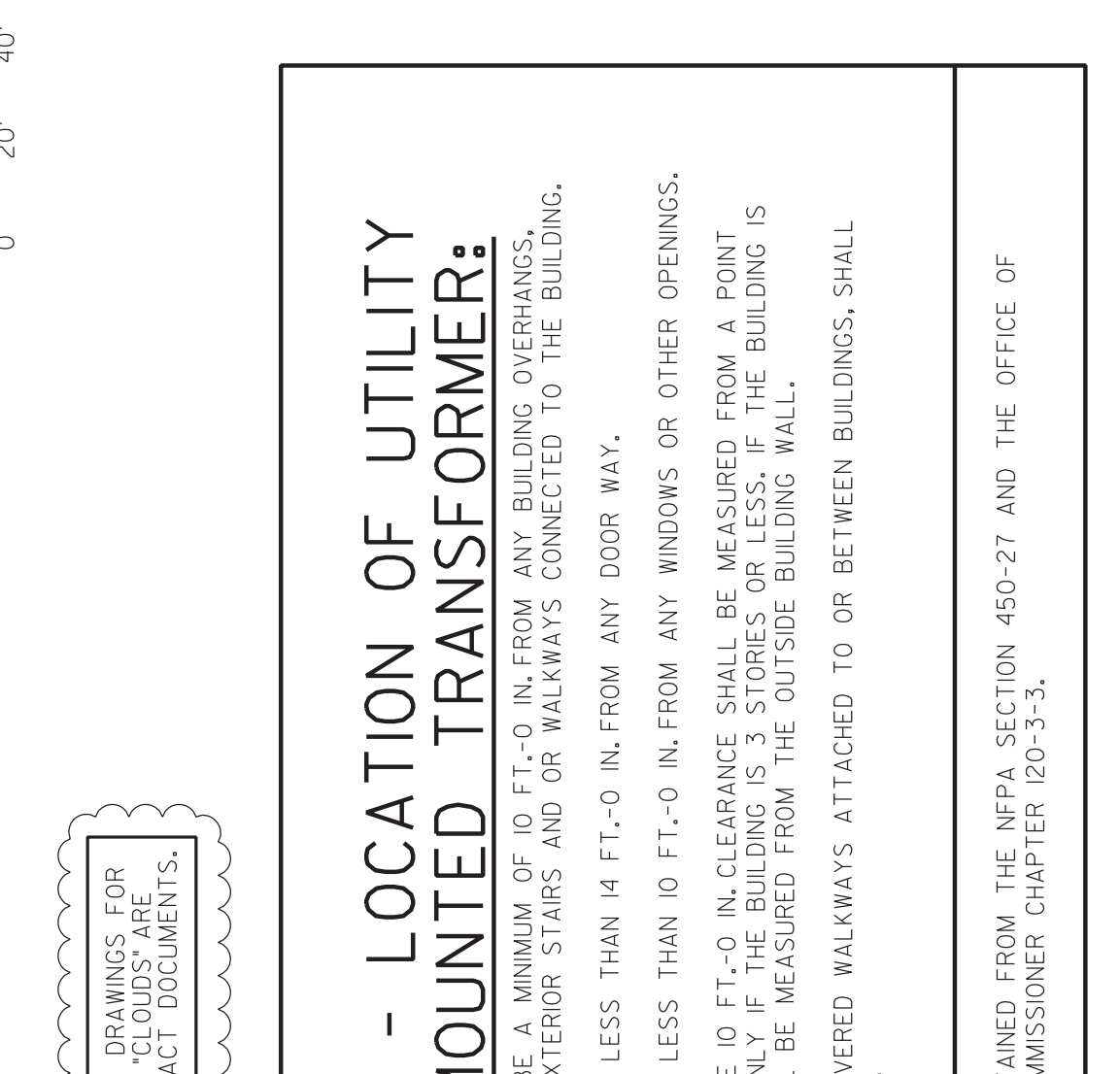
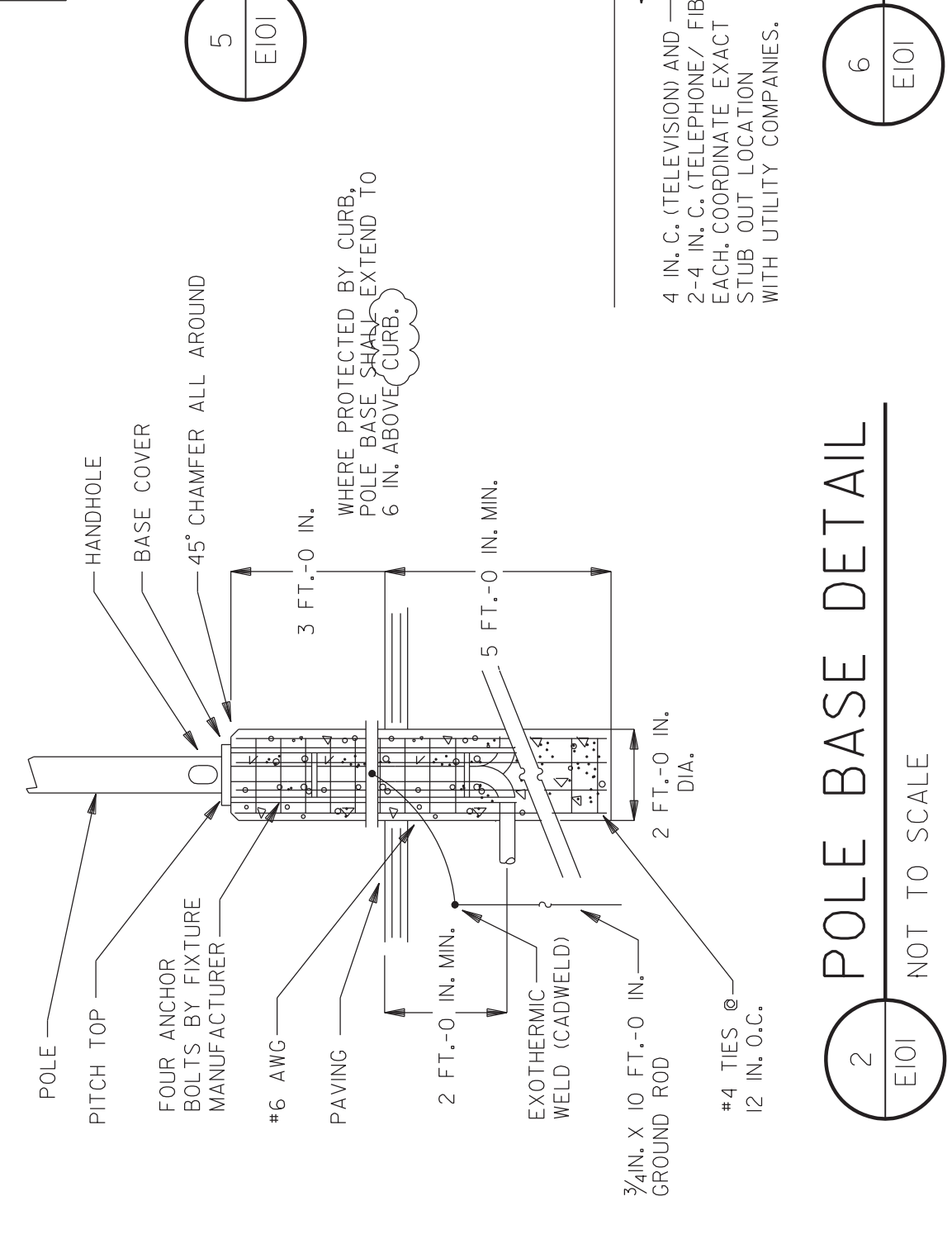
**GENERAL NOTES - LOCATION OF UTILITY COMPANY PAD MOUNTED TRANSFORMER:**

- TRANSFORMER PAD LOCATIONS SHALL BE A MINIMUM OF 10 FT.-0 IN. FROM ANY BUILDING OVERHANGS, CANOPIES, EXTERIOR WALLS, BALCONY, EXTERIOR STAIRS AND OR WALKWAYS CONNECTED TO THE BUILDING.
- TRANSFORMER PAD EDGE SHALL BE NO LESS THAN 14 FT.-0 IN. FROM ANY DOOR WAY.
- TRANSFORMER PAD EDGE SHALL BE NO LESS THAN 10 FT.-0 IN. FROM ANY WINDOWS OR OTHER OPENINGS.
- IF THE BUILDING HAS AN OVERHANG THE 10 FT.-0 IN. CLEARANCE SHALL BE MEASURED FROM A POINT BELOW THE EDGE OF THE OVERHANG ONLY IF THE BUILDING IS 3 STORES OR LESS. IF THE BUILDING IS 4 STORES OR MORE 10 FT.-0 IN. SHALL BE MEASURED FROM THE OUTSIDE BUILDING WALL.
- FIRE ESCAPES, OUTSIDE STAIRS, AND COVERED WALKWAYS ATTACHED TO OR BETWEEN BUILDINGS, SHALL BE CONSIDERED PART OF THE BUILDING.

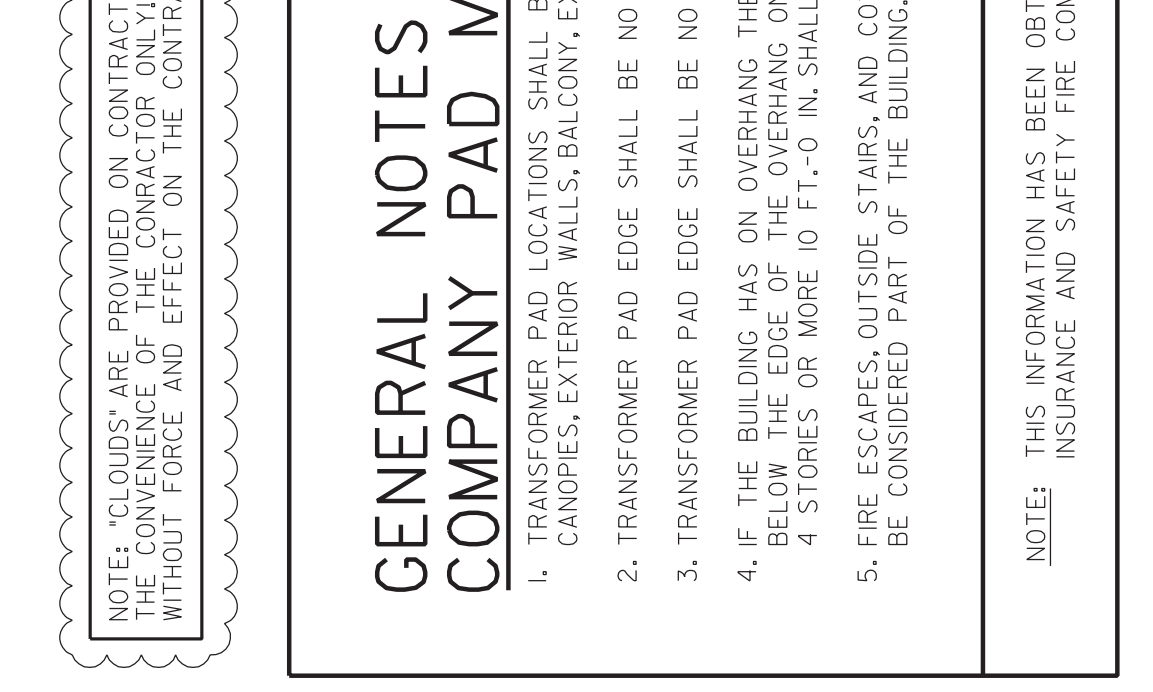
NOTE: THIS INFORMATION HAS BEEN OBTAINED FROM THE NFPA SECTION 450-27 AND THE OFFICE OF INSURANCE AND SAFETY FIRE COMMISSIONER CHAPTER 120-3-3.



**2 POLE BASE DETAIL**  
NOT TO SCALE



**3 CONCRETE MARKER - DETAIL**  
E101



**4 STANCHION MOUNT FLOODLIGHT - DETAIL**  
E101



**5 HANDHOLE DETAIL**  
E101



**6**



TELEPHONE RISER  
E101 NOT TO SCALE

POLE BASE DETAIL  
E101 NOT TO SCALE

HANDHOLE DETAIL  
E101 NOT TO SCALE

STANCHION MOUNT FLOODLIGHT - DETAIL  
E101

CONCRETE MARKER - DETAIL  
E101