

IRRIGATION SPECIFICATONS

PART I: GENERAL CONDITIONS

EXTENT:

INCLUDES FURNISHING ALL LABOR, MATERIALS & EQUIPMENT FOR THE PROPER INSTALLATION OF THE IRRIGATION SYSTEM. THE WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING: (1) TRENCHING & BACKFILLING, (2) AUTOMATICALLY CONTROLLED IRRIGATION SYSTEM, (3) TEST ALL SYSTEMS & MAKE OPERATIVE, (4)AS-BUILT DRAWINGS.

GENERAL:

1. **PERMITS & FEES:** OBTAIN ALL PERMITS & PAY REQUIRED FEES TO ANY GOVERNMENTAL AGENCY HAVING JURISDICTION OVER THE WORK. INSPECTIONS REQUIRED BY LOCAL ORDINANCES DURING THE COURSE OF CONSTRUCTION SHALL BE ARRANGED AS REQUIRED. ON COMPLETION OF THE WORK, SATISFACTORY EVIDENCE SHALL BE FURNISHED TO THE OWNER'S CONSTRUCTION REPRESENTATIVE TO SHOW ALL WORK HAS BEEN INSTALLED IN ACCORDANCE WITH THE ORDINANCES & CODE REQUIREMENTS.

2. **APPROVAL:** WHEREVER THE TERMS 'APPROVE' OR 'APPROVED' ARE USED IN THE SPECIFICATIONS, THEY SHALL MEAN THE APPROVAL OF THE OWNER'S CONSTRUCTION REPRESENTATIVE IN WRITING.

3. **BEFORE ANY WORK IS STARTED:** A CONFERENCE SHALL BE HELD BETWEEN THE CONTRACTOR & THE OWNER'S CONSTRUCTION REPRESENTATIVE CONCERNING THE WORK UNDER THIS CONTRACT.

4. **COORDINATION:** COORDINATE & COOPERATE WITH OTHER CONTRACTORS TO ENABLE THE WORK TO PROCEED RAPIDLY & EFFICIENTLY AS POSSIBLE.

5. **INSPECTON OF THE SITE:**

A) CONTRACTOR SHALL ACQUAINT HIMSELF WITH ALL SITE CONDITIONS. SUBMISSION OF THEIR PROPOSAL SHALL BE CONSIDERED EVIDENCE THAT THE INSPECTION HAS BEEN CONDUCTED. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES BY CONTACTING THE GENERAL CONTRACTOR OR "NO CUTS" AGENCY TO FIELD LOCATE & MARK. FAILURE TO DO SO WILL MAKE THE CONTRACTOR LIABLE FOR ALL DAMAGES ARISING FROM THEIR DAMAGE TO UNDERGROUND UTILITIES.

B) CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS IN THE LAYOUT AS MAY BE NEEDED TO CONNECT TO ALL EXISTING STUBOUTS, SHOULD SUCH STUB OUTS NOT BE LOCATED EXACTLY AS SHOWN, AND AS MAY BE REQUIRED TO WORK AROUND EXISTING WORK AT NO INCREASED COST TO THE OWNER.

6. **PROTECTION OF EXISTING PLANTS & SITE CONDITIONS:** THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT SITE CONDITIONS TO REMAIN. SHOULD DAMAGE BE INCURRED, THIS CONTRACTOR SHALL REPAIR DAMAGE TO ITS ORIGINAL CONDITION AT THEIR EXPENSE.

7. **THE OWNER RESERVES THE RIGHT TO SUBSTITUTE, ADD OR DELETE ANY MATERIAL OR WORK AS IT PROGRESSES.** ADJUSTMENTS TO THE CONTRACT PRICE SHALL BE NEGOTIATED IF DEEMED NECESSARY BY THE OWNER ON A PER DIEM BASIS.

8. **THE OWNER RESERVES THE RIGHT TO REJECT MATERIAL OR WORK WHICH DOES NOT CONFORM TO THE CONTRACT DOCUMENTS.** REJECTED WORK SHALL BE REMOVED OR CORRECTED AT THE EARLIEST TIME POSSIBLE.

9. **WORK SCHEDULE:** WITHIN TEN DAYS AFTER AWARD OF CONTRACT, THE CONTRACTOR SHALL SUBMIT A WORK SCHEDULE TO THE OWNER.

10. **AS-BUILT IRRIGATION DRAWINGS:** PREPARE AS-BUILT DRAWINGS ON A BLUEPRINT WHICH SHALL SHOW DEVIATIONS FROM THE BID DOCUMENTS MADE DURING CONSTRUCTION AFFECTING THE MAINLINE PIPE, CONTROLLER LOCATIONS, REMOTE CONTROL VALVES & QUICK COUPLING VALVES. THE DRAWINGS SHALL ALSO INDICATE & SHOW APPROVED SUBSTITUTIONS, MATERIAL & MANUFACTURE'S NAME, CATALOGUE NAME & NUMBER. THE DRAWINGS SHALL BE DELIVERED TO THE OWNER'S CONSTRUCTION REPRESENTATIVE BEFORE FINAL ACCEPTANCE OF THE WORK.

II. **FINAL ACCEPTANCE:** FINAL ACCEPTANCE OF THE WORK MAY BE OBTAINED FROM THE OWNER'S CONSTRUCTION REPRESENTATIVE UPON COMPLETION OF ALL WORK.

12. **GUARANTEE:** ALL WORK SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF ACCEPTANCE AGAINST ALL DEFECTS IN MATERIALS, EQUIPMENT & WORKMANSHIP. GUARANTEE SHALL ALSO COVER REPAIR OF DAMAGE TO ANY PART OF THE PREMISES RESULTING FROM LEAKS OR OTHER DEFECTS IN MATERIAL, EQUIPMENT & WORKMANSHIP TO THE SATISFACTION OF THE OWNER'S CONSTRUCTION REPRESENTATIVE. REPAIRS, IF NECESSARY, SHALL BE COMPLETED PROMPTLY AT NO COST TO THE OWNER.

MATERIALS:

1. **GENERAL:** ALL MATERIALS THROUGHOUT THE SYSTEM SHALL BE NEW & IN PERFECT CONDITION.

2. **PLASTIC PIPING:** ALL MAINLINES SHALL BE PVC PIPE & SHALL CONFORM TO CS-256-63. ALL LATERAL PIPING SHALL BE PVC CLASS 160 SOLVENT WELD CONFORMING TO ASTM D-1784 & D-2241.

3. **PLASTIC FITTINGS:** SCH 40 SOLVENT WELD, PVC STANDARD WEIGHT. WEIGHT AS MANUFACTURED BY SLOANE, LASCO OR APPROVED EQUAL.

4. **SOLVENT CEMENT:** COMPATIBLE WTH PVC PIPE, OF PROPER CONSISTENCY & COLOR.

5. **SPRINKLER HEAD RISERS:** SCH 40 PVC.

6. **AUTOMATIC CONTROLLER:** SEE LEGEND.

7. **REMOTE CONTROL VALVES:** SEE LEGEND.

8. **CONTROL WIRING:** 24 VOLT SOLID UL APPROVED FOR IN-GROUND. CONTROL WIRE-#16, COMMON WIRE-#14.

9. **SLEEVES FOR CONTROL WIRE:** UNDER ALL WALKS & PAVED AREAS & WHERE INDICATED ON DRAWING. MINIMUM PVC 1220-160 PSI PLASTIC PIPE.

10. **SPRINKLER HEADS:** SEE LEGEND.

II. **QUICK COUPLING VALVES:** SHALL BE NOTED ON DRAWINGS.

WORKMANSHIP:

1. LAYOUT WORK AS ACCURATELY AS POSSIBLE TO THE DRAWINGS. THE DRAWINGS, THOUGH CAREFULLY DRAWN, ARE GENERALLY DIAGRAMMATIC TO THE EXTENT THAT SWING JOINTS, OFFSETS & ALL FITTINGS ARE NOT SHOWN.

2. THE CONTRACTOR SHALL RESPONSIBLE FOR FULL & COMPLETE COVERAGE OF ALL IRRIGATED AREAS & SHALL MAKE ANY NECESSARY MINOR ADJUSTMENTS AT NO COST TO THE OWNER'S CONSTRUCTION REPRESENTATIVE.

3. ANY MAJOR REVISIONS TO THE IRRIGATION SYSTEM MUST BE SUBMITTED & ANSERWED IN WRITTEN FORM, ALONG WITH ANY CHANGE IN THE CONTRACT PRICE.

INSTALLATION:

A) PERFORM ALL EXCAVATIONS AS REQUIRED FOR THE INSTALLATION OF THE WORK INCLUDING UNDER THIS SECTION, INCLUDING SHORING OF EARTH BANKS TO PREVENT CAVE-INS. RESTORE ALL SURFACES, EXISTING UNDERGROUND INSTALLATIONS TO THEIR ORIGINAL CONDITION & IN A MANNER APPROVED BY THE OWNER.

B) TRENCHES SHALL BE MADE WIDE ENOUGH TO ALLOW A MINIMUM OF 6 INCHES BETWEEN PARALLEL PIPE LINES. TRENCHES FOR PIPE LINES SHALL BE MADE OF SUFFICIENT DEPTHS TO PROVIDE THE MINIMUM COVER FROM FINISH GRADE AS FOLLOWS:

1) 18 INCHES MINIMUM COVER OVER MAINLINES.

2) 12 INCHES MIN. COVER OVER CONTROL WIRING FROM CONTROL TO VALVES.

3) 12 INCH MINIMUM COVER OVER LATERAL LINES TO HEADS.

C) MAINTAIN ALL WARNING SIGNS, SHORING, BARRICADES, FLARES AS REQUIRED BY THE SAFETY ORDERS OF THE DIVISION OF SAFETY & LOCAL ORDINANCES.

I. PIPE LINE ASSEMBLY:

A) INSTALL REMOTE CONTROL VALVES WHERE SHOWN & GROUP TOGETHER WHERE PRACTICAL, PLACE NO CLOSER THAN 12 INCHES TO WALK EDGES, BUILDINGS & WALLS.

B) PLASTIC PIPE & FITTINGS SHALL BE SOLVENT WELDED USING SOLVENTS & METHODS RECOMMENDED BY THE MANUFACTURER OF THE PIPE, EXCEPT WHERE THREADED CONNECTIONS ARE REQUIRED. PIPE & FITTINGS SHALL BE THOROUGHLY CLEANED OF DIRT, DUST & MOISTURE BEFORE APPLYING SOLVENT WITH A NON-SYNTHETIC BRISTLE BRUSH.

C) PIPE MAY BE ASSEMBLES & WELDED ON THE SURFACE. SNAKE PIPE FROM SIDE TO SIDE OF TRENCH BOTTOM TO ALLOW FOR EXPANSION & CONTRACTION.

D) MAKE ALL CONNECTIONS BETWEEN PLASTIC & METAL VALVES OR STEEL PIPE WITH THREADED FITTINGS USING PLASTIC MALE ADAPTERS.

2. SPRINKLER HEADS:

A) INSTALL ALL SPRINKLER HEADS AS DETAILED ON DRAWINGS.

B) DO NOT SCALE PLANS FOR EXACT HEAD LOCATIONS.

3. CLOSING OF PIPE & FLUSHING LINES:

A) CAP OR PLUG ALL OPENINGS AS SOON AS LINES HAVE BEEN INSTALLED TO PREVENT THE ENTRANCE OF MATERIALS THAT WOULD BE UNNECESSARY FOR COMPLETION OF INSTALLATION.

B) THOROUGHLY FLUSH OUT ALL WATER LINES BEFORE INSTALLING HEADS, VALVES & OTHER HYDRANTS.

C) TEST IN ACCORDANCE WITH PARAGRAPH ON HYDROSTATIC TESTS.

D) UPON COMPLETION OF THE TESTING, THE CONTRACTOR SHALL COMPLETE ASSEMBLY & ADJUST SPRINKLER HEADS FOR PROPER DISTRIBUTION.

4. HYDROSTATIC TESTS: (IF APPLICABLE)

A) REQUEST THE PRESENCE OF THE OWNER AT LEAST 48 HOURS IN ADVANCE OF TESTING.

B) TESTING TO BE ACCOMPLISHED AT THE EXPENSE OF THE CONTRACTOR & IN THE PRESENCE OF THE OWNER.

C) CENTER LOAD PIPING WITH SMALL AMOUNT OF BACKFILL TO PREVENT ARCHING OR SLIPPING UNDER PRESSURE.

D) APPLYING A CONTINUOUS & STATIC WATER PRESSURE OF 120 PSI WHEN WELDED PLASTIC JOINTS HAVE BEEN CURED FOR 2 HOURS WITH THE RISERS CAPPED AS FOLLOWS: MAINLINES & SUBMAINS TO BE TESTED FOR 2 HRS.

5. AUTOMATIC CONTROLLERS:

A) INSTALL CONTROL WIRING, SPRINKLER MAINS & LATERALS IN COMMON TRENCHES WHERE EVER POSSIBLE & LAY TO THE SIDE BELOW THE MAINLINE. PROVIDE LOOPED SLACK AT VALVES & SNAKE WIRES IN TRENCH TO ALLOW FOR CONTRACTION OF WIRES.

B) CONTROL WIRE SPLICES WILL BE ALLOWED ONLY FOR RUNS OVER 500FT.

C) ALL WIRING PASSING UNDER ANY EXISTING FUTURE PAVING, CONSTRUCTION ETC SHALL BE ENCASED IN PLASTIC OR GALVANIZED STEEL CONDUIT EXTENDING AT LEAST 12 INCHES BEYOND EDGES OF PAVING.

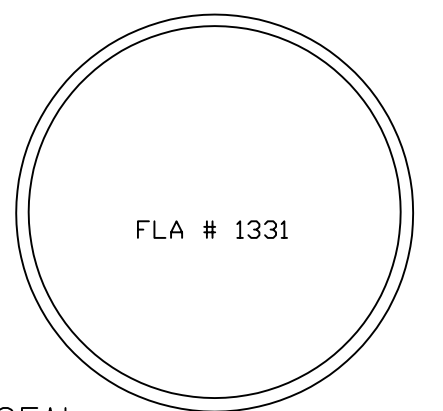
6. BACKFILL & COMPACTING:

A) AFTER SYSTEM IS OPERATING & REQUIRED TESTS & INSPECTIONS HAVE BEEN MADE, BACKFILL EXCAVATIONS & TRENCHES WITH CLEAN SOIL.

B) BACKFILL FOR ALL TRENCHES, REGARDLESS OF TYPE OF PIPE COVERED, SHALL BE COMPACTED TO MINMUM 90% DENSITY.

C) COMPACT TRENCHES IN AREAS TO BE PLANTED BY THOROUGHLY FLOODING THE BACKFILL & TAMPING.

D) DRESS OFF ALL AREAS TO FINISH GRADE.



SEAL:

REVISIONS:

TITLE:

IRRIGATION SPECIFICATIONS

NOT TO SCALE

UPDATE: 10 MARCH 10

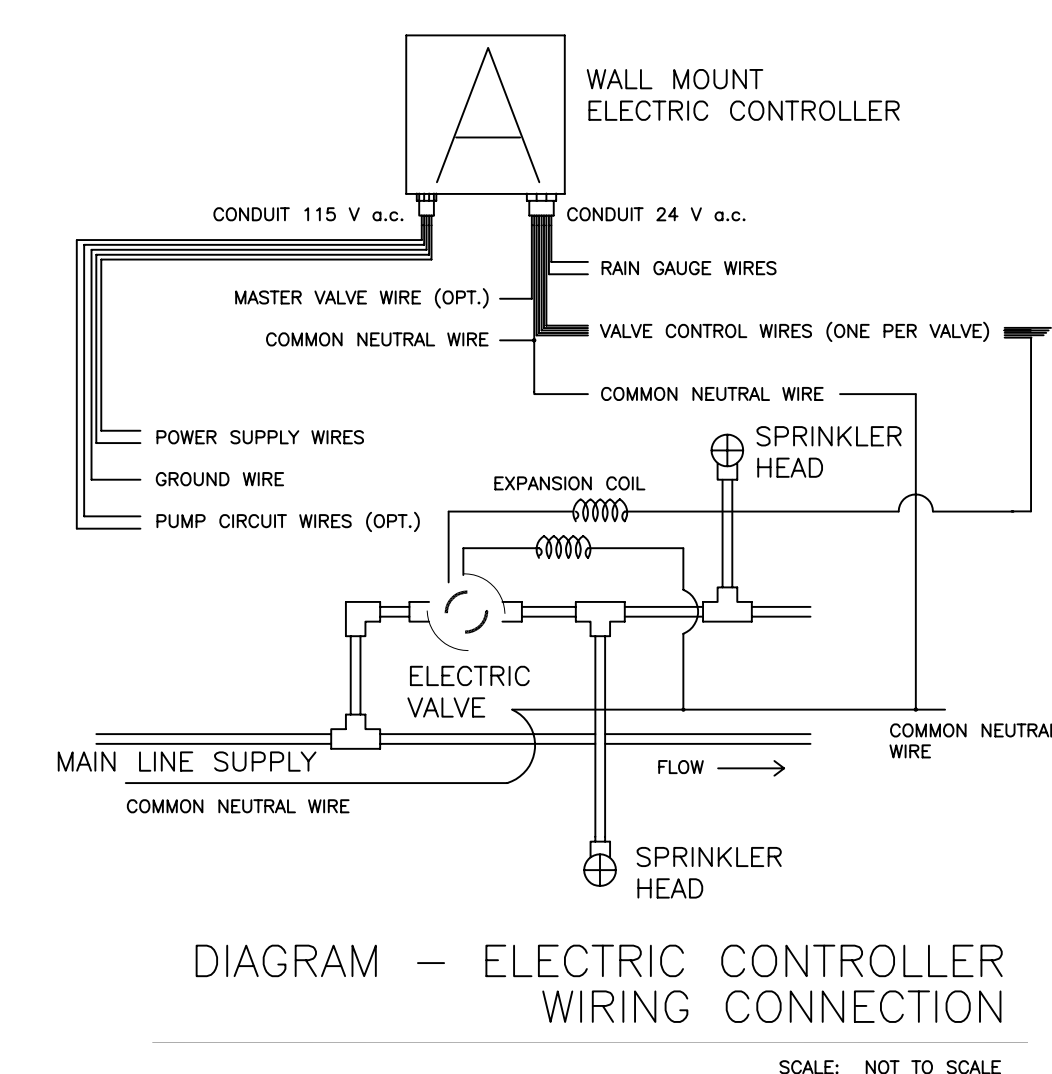
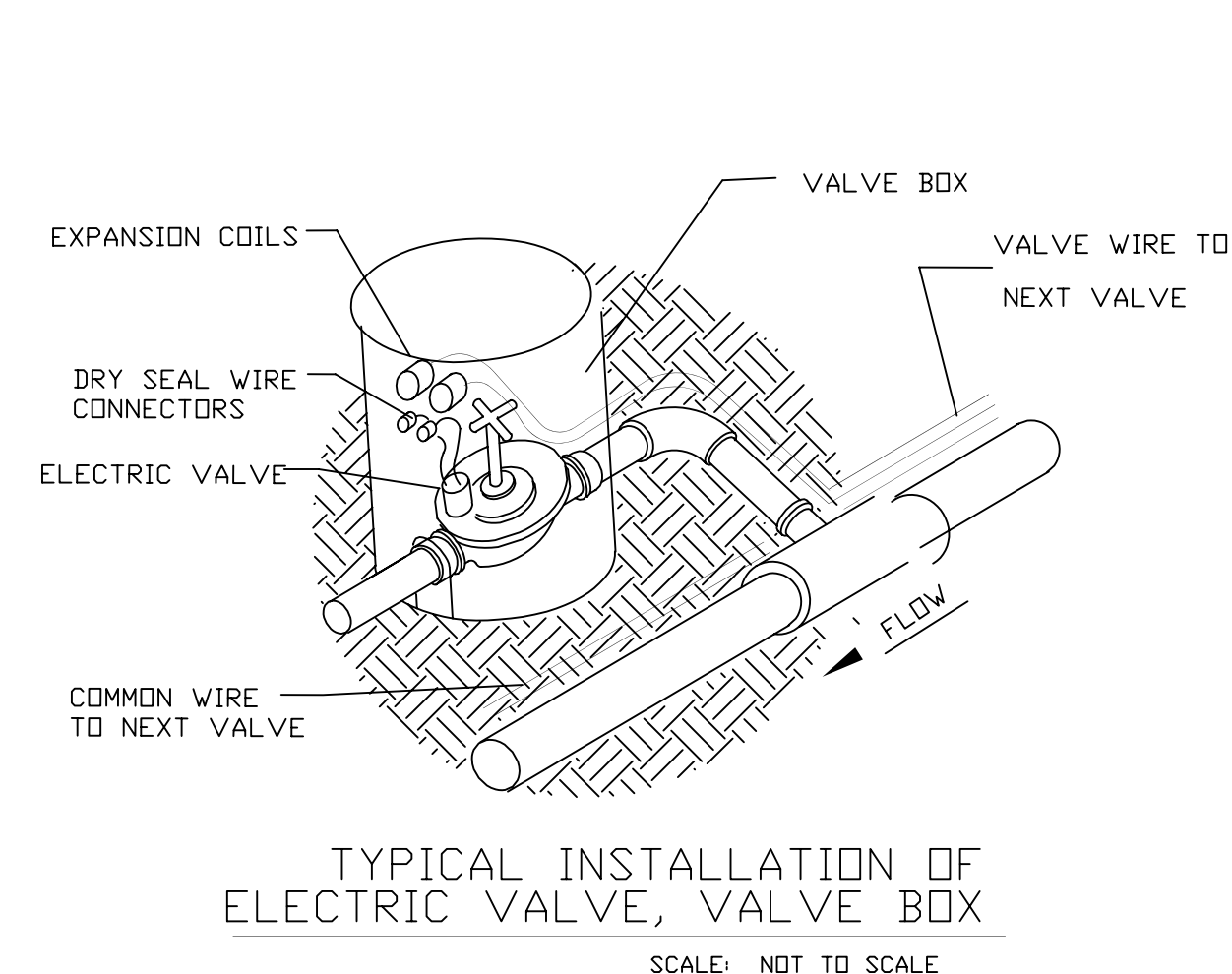
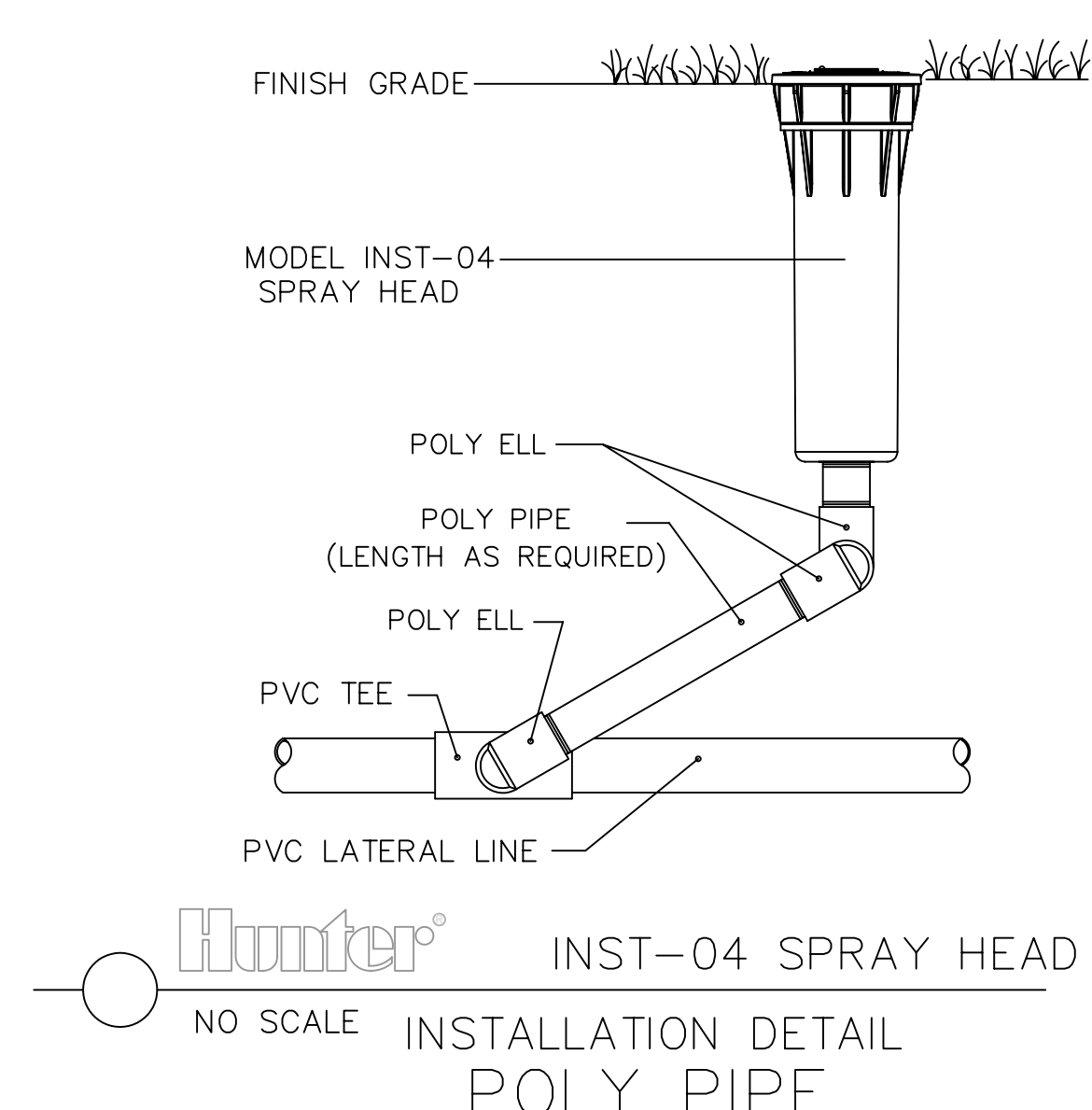
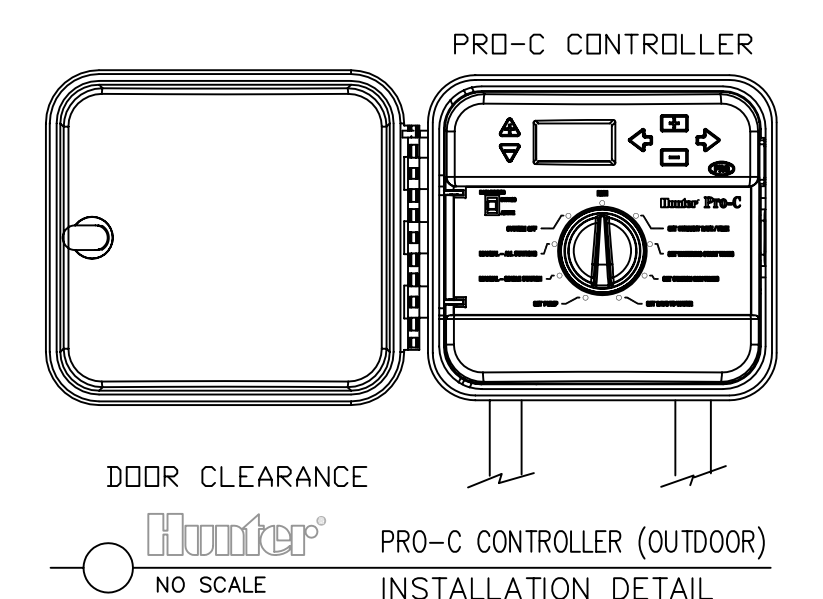
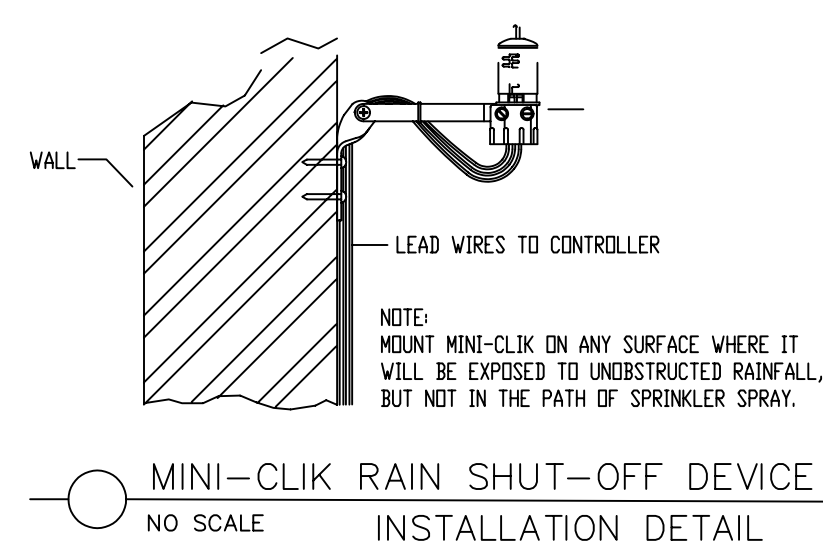
DATE: 12 MAY 07

DRAWN: RMF

CHECKED: BF

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PROJECT: INFINITI of COCONUT CREEK
Sample Road
Coconut Creek, Florida



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