

IRRIGATION SYSTEM DESIGN APPROACH

THE EXISTING IRRIGATION SYSTEM WILL BE MODIFIED TO PROVIDE NEW MAINLINE ROUTING AND AUTOMATED IRRIGATION FOR THE PROPOSED COLUMBARIUM AREA AND PRE PLACED CRYPT BURIAL AREAS. NEW LATERAL PIPE VALVES AND SPRINKLERS WILL BE INSTALLED TO IRRIGATE THE NEW AREAS. EXISTING MAINLINE PIPE, CONTROL WIRE, MAINLINE AND MIANLINE VALVES WILL BE LEFT IN PLACE AND PROTECTED DURING CONSTRUCTION.

THE POINTS-OF-CONNECTION ARE THE EXISTING IRRIGATION MAINLINE PIPE.

EXISTING IRRIGATION CONTROLLER "F" WITH EXISTING CONTROL WIRES ROUTED TO THE COLUMBARIUM WILL BE USED. EXISTING CONTROLLER "B" AND "E" WILL BE USED FOR THE BURIAL AREAS.

ALL NEW IRRIGATION EQUIPMENT MUST MATCH EXISTING EQUIPMENT.

SPRINKLERS AND VALVES REMOVED WILL NOT BE REUSED BUT WILL BE SALVAGED AND TURNED OVER TO THE CO/COR.

GENERAL NOTES

1. THE SYSTEM DESIGN ASSUMES A MINIMUM DYNAMIC PRESSURE FOR THE IRRIGATION SYSTEM OF 90 PSI AND A FLOW OF 200 GPM AT THE EXISTING 4-INCH MAINLINE PIPE. CONTRACTOR TO VERIFY EXISTING PRESSURE AND FLOW AT EACH POINT-OF-CONNECTION, REPORT ANY DISCREPANCIES TO CO/COR PRIOR TO CONSTRUCTION.
2. READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND INSTALLATION DETAILS FOR THIS AND RELATED WORK PRIOR TO CONSTRUCTION. CONFIRM EXACT LIMITS OF IRRIGATED AREA AND ALL EXISTING AND FUTURE HARDSCAPE AND BURIAL AREAS PRIOR TO CONSTRUCTION.
3. COORDINATE UTILITY LOCATES (CALL BEFORE YOU DIG) OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND CONDITIONS BEFORE EXCAVATING.
4. DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING, OR IF DISCREPANCIES IN CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATIONS ARE DISCOVERED. BRING ALL SUCH OBSTRUCTIONS OR DISCREPANCIES TO THE ATTENTION OF THE COR.
5. THE DRAWINGS ARE DIAGRAMMATIC. THEREFORE, THE FOLLOWING SHOULD BE NOTED:
  - A. IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLANTING AREAS FOR CLARITY.
  - B. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING MATERIALS, ARCHITECTURAL FEATURES, STORM DRAINS, AND SIGNS.
  - C. INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE.
6. SELECT NOZZLES FOR ROTARY SPRINKLERS WHICH PROVIDE COMPLETE AND ADEQUATE COVERAGE IF SITE CONDITIONS ARE NOT AS SHOWN. CAREFULLY ADJUST THE RADIUS OF THROW AND ARC OF EACH ROTARY SPRINKLER TO PROVIDE THE BEST PERFORMANCE AND MINIMIZE OVERSPRAY.
7. WITH REGARD TO PIPE SIZING, THE FOLLOWING SHOULD BE NOTED:

IF A SECTION OF UNSIZED PIPE IS LOCATED BETWEEN TWO IDENTICALLY SIZED SECTIONS, THE UNSIZED PIPE IS THE SAME NOMINAL SIZE AS THE TWO SIZED SECTIONS. THE UNSIZED PIPE SHOULD NOT BE CONFUSED WITH THE DEFAULT PIPE SIZE NOTED IN THE LEGEND.
9. CONTRACTOR IS RESPONSIBLE FOR FINAL VALVE BOX AND SPRINKLER ELEVATION IN RELATION TO THE SURROUNDING FINAL GRADE.
10. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING IRRIGATION EQUIPMENT. ANY EXISTING IRRIGATION EQUIPMENT INCLUDING VALVES, WIRES, PIPES AND FITTINGS THAT ARE DISTURBED DURING CONSTRUCTION WILL BE REPLACED AT THE CONTRACTORS EXPENSE WITH MATCHING EQUIPMENT. PRIOR TO CONSTRUCTION LOCATE THE EXISTING IRRIGATION EQUIPMENT AND PIPE IN THE CONSTRUCTION AREA AND MARK WITH THE CO/COR.

FLAG NOTES

- ① EXCAVATE AND EXPOSE THE EXISTING MAINLINE PIPE AT THE APPROXIMATE LOCATION SHOWN. CONNECT TO THE EXISTING MAINLINE PIPE USING DUCTILE IRON TEE AND REPAIR COUPLINGS. INSTALL JOINT RESTRAINTS, BACKFILL HOLES, AND COMPACT TO MATCH EXISTING CONDITIONS.
- ② CONNECT TO EXISTING CAPPED LATERAL AT APPROXIMATE LOCATION INDICATED. USE SOLVENT WELD FITTINGS. INSTALL NEW SPRINKLERS AS SHOWN. BACKFILL AND COMPACT TO MATCH EXISTING CONDITIONS.
- ③ EXCAVATE AND EXPOSE EXISTING 3-INCH PVC MAINLINE PIPE AT LOCATION INDICATED, INSTALL NEW REMOTE CONTROL VALVE ASSEMBLY PER DETAILS. USE ONE OF THE TWO SPARE CONTROL WIRES FROM CONTROLLER F. VERIFY WIRE CONTINUITY PRIOR TO INSTALLING NEW VALVE. IF SPARE WIRES DO NOT HAVE CONTINUITY CONTACT CO/COR IMMEDIATELY.
- ④ IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE OF THE PLANTING AREA FOR CLARITY ONLY. INSTALL ALL IRRIGATION COMPONENTS IN LANDSCAPED AREA AND NOT IN GRAVE SITES OR HARDSCAPE.
- ⑤ INSTALL NEW FLOWER WATER STATION AT LOCATION IDENTIFIED ON PLANS, REFER TO DETAILS FOR ADDITIONAL INFORMATION

DEMOLITION FLAG NOTES

- ① EXCAVATE AND EXPOSE EXISTING REMOTE CONTROL VAVLE ASSEMBLY INDICATED DOWN TO THE SERVICE TEE AND REMOVE. CAP TEE WITH DUCTILE IRON PLUG AND RESTRAIN. DO NOT DISTURB THE EXISTING CONTROL WIRE, RECONNECT THE COMMON GROUND WIRE, PLACE SPLICE OVER THE UNUSED CONTROL WIRE AND PLACE SPLICES IN THE EXISTING VALVE BOX. DISCONNECT THE UNUSED CONTROL WIRE AT THE CONTROLLER AND ZERO OUT THE RUN TIME FOR THAT STATION.
- ② EXCAVATE AND EXPOSE EXISTING LATERAL PIPE AT APPROXIMATE LOCATION INDICATED. CUT LATERAL PIPE AND CAP USING A PVC SCH 40 SOLVENT WELD CAP. BACKFILL HOLES AND COMPACT TO MATCH EXISTING CONDITIONS. MARK LOCATION WITH 6-INCH ROUND VALVE BOX.
- ③ EXCAVATE AND EXPOSE EXISTING SPRINKLER ASSEMBLY AT APPROXIMATE LOCATION SHOWN. REMOVE SPRINKLER ASSEMBLY AND TURN OVER TO COR. IF SPRINKLER IS WITHIN THE SPRINKLER DEMOLITION BOUNDARY, PIPE IS TO BE ABANDONED IN PLACE. BACKFILL HOLES AND COMPACT TO EXISTING CONDITIONS.
- ④ VERIFY OPERATION OF ALL REMOTE CONTROL VALVES AND SPRINKLERS IN THIS AREA PRIOR TO DEMOLITION OR CONSTRUCTION. EXCAVATE AND EXPOSE EXISTING SPRINKLERS, REMOTE CONTROL VALVE ASSEMBLIES, AND VALVE BOXES WITHIN DEMOLITION BOUNDARY INDICATED. REMOVE ASSEMBLIES AND TURN OVER TO COR. CAP PVC RISER ON SUPPLY SIDE OF REMOTE CONTROL VALVE WITH PVC SCH 40 CAP. ABANDON LATERAL PIPE IN PLACE. VERIFY WHICH IRRIGATION CONTROLLER OPERATES THE REMOTE CONTROL VALVES AND PROTECT WIRING FOR FUTURE USE. REPAIR ANY EXISTING IRRIGATION SYSTEM COMPONENT DAMAGED BY THE NEW CONSTRUCTION.
- ⑤ REMOTE CONTROL VALVE ASSEMBLY TO REMAIN DURING CONSTRUCTION. CAP LATERAL PIPE IMMEDIATELY DOWNSTREAM OF VALVE BOX WITH PVC SCH 40 SOLVENT WELD CAP. PROTECT REMOTE CONTROL VALVE ASSEMBLIES DURING CONSTRUCTION WITH FENCING. VERIFY SOLENOID OPERATION OF REMOTE CONTROL VALVES PRIOR TO CONSTRUCTION, NOTIFY CO/COR OF ANY DEFICIENCIES.

LEGEND

	MAINLINE PIPE *TYPE: PVC CL 200 *SIZE: PER PLANS
	EXISTING PVC MAINLINE PIPE TO BE ABANDONED IN PLACE, SALVAGE VALVES
	EXISTING PVC LATERAL PIPE TO BE ABANDONED IN PLACE,
	EXISTING SPRINKLERS, SALVAGE AND TURN OVER SEE BELOW FOR TYPE.
	LATERAL PIPE TO SPRINKLERS *TYPE: CLASS 160 PVC *SIZE: 1-INCH UNLESS OTHERWISE INDICATED
	NEW CONTROL AND COMMUNICATION WIRE PATH
	UNCONNECTED PIPE CROSSING
	POINT-OF-CONNECTION (P.O.C.)
	ISOLATION GATE VALVE ASSEMBLY *MODEL: REFER TO SPECIFICATIONS *SIZE OF GATE VALVE TO MATCH NOMINAL MAINLINE SIZE
	QUICK COUPLING VALVE ASSEMBLY *MODEL: RAIN BIRD 5LRC
	AIR VACUUM RELIEF VALVE ASSEMBLY *MODEL: REFER TO SPECIFICATIONS
	REMOTE CONTROL VALVE ASSEMBLY *MODEL: RAIN BIRD PESB *SIZE: AS INDICATED ON PLANS
	EXISTING COMPLIMENTING ROTORS SHOWN BOLD FOR GRAPHIC CLARITY
	POP-UP ROTOR SPRINKLER RAIN BIRD 8005 @ 80 PSI *NUMBER WITHIN IS NOZZLE
	NOZZLE FLOW(GPM) RADIUS(FEET) 24 27 71
	POP-UP ROTOR @ 65 PSI *NUMBER WITHIN IS NOZZLE
	FLOW(GPM) RADIUS(FEET) 2 35
	POP-UP SPRINKLER: PRESSURE REGULATING, CHECK VALVE @ 30 PSI RADIUS: 5' FLOW (GPM): Q - 0.10 H - 0.20 F - 0.41 RADIUS: 8' FLOW (GPM): Q - 0.26 H - 0.52 F - 1.05 RADIUS: 10' FLOW (GPM): Q - 0.39 H - 0.79 F - 1.58 RADIUS: 12' FLOW (GPM): Q - 0.65 H - 1.30 F - 2.60 RADIUS: 15' FLOW (GPM): Q - 0.92 H - 1.85 F - 3.70
	HUNTER MP ROTATOR ON POP-UP SPRINKLER WITH CHECK VALVE NOZZLE: 2000 RADIUS: 14.5 FEET FLOW (GPM): Q - 0.40 H - 0.74 F - 1.47
	IRRIGATION CONTROLLER ASSEMBLY: REFER TO SPECIFICATIONS EXISTING CONTROLLER "B": 40 STATIONS, 34 STATIONS USED EXISTING CONTROLLER "E": 40 STATIONS, 30 STATIONS USED EXISTING CONTROLLER "F": 40 STATIONS, 36 STATIONS USED
	INDICATES CONTROLLER STATION NUMBER
	INDICATES LATERAL DISCHARGE IN GPM
	INDICATES REMOTE CONTROL VALVE SIZE IN INCHES
	EXISTING REMOTE CONTROL VALVE ASSEMBLY

NOTE: ALL SHADED IRRIGATION COMPONENTS ARE EXISTING. PRIOR TO CONSTRUCTION A CLEAN SET OF RECORD DRAWINGS THAT THESE PLANS HAVE REFERENCED WILL BE AVAILABLE IN PDF FORMAT. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY THE CONTRACTOR. THE INFORMATION PROVIDED BY THE CONTRACTOR IS BELIEVED TO BE RELIABLE AND CORRECT. HOWEVER AQUA ENGINEERING IS NOT RESPONSIBLE FOR ITS ACCURACY, NOR FOR ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.

EXISTING SPRINKLER LEGEND

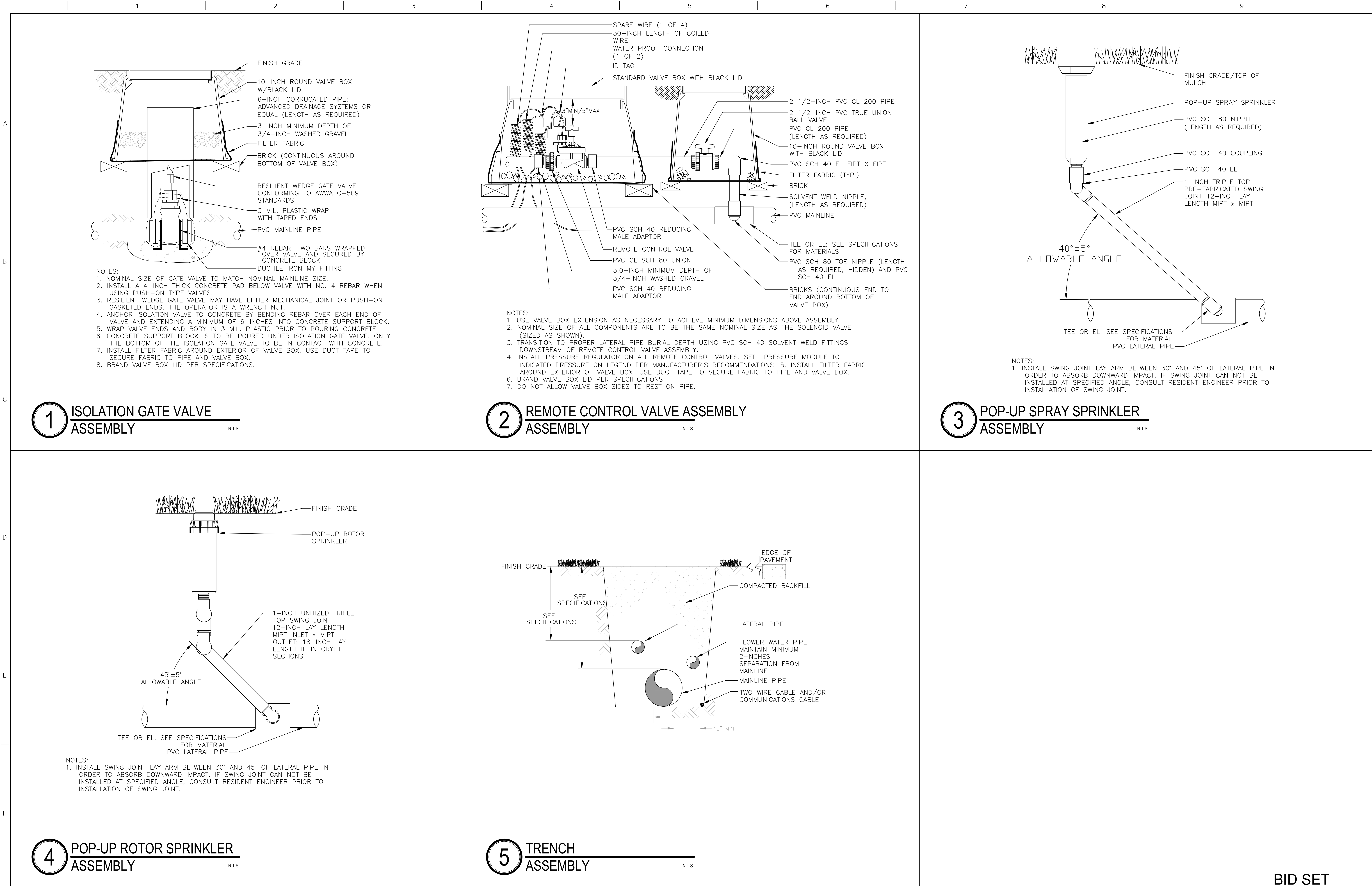
	POP-UP SPRINKLER: CHECK VALVE WITH MP 3000 ROTATOR NOZZLE PRESSURE: 50 PSI RADIUS 22-30 FEET FLOW (GPM): Q - 0.96 H - 2.04 F - 4.07
	POP-UP SPRINKLER: CHECK VALVE WITH MP 2000 ROTATOR NOZZLE PRESSURE: 50 PSI RADIUS 13-21 FEET FLOW (GPM): Q - 0.44 H - 0.83 F - 1.64
	POP-UP SPRINKLER: CHECK VALVE WITH MP 1000 ROTATOR NOZZLE PRESSURE: 50 PSI RADIUS 8-15 FEET FLOW (GPM): Q - 0.21 H - 0.41 F - 0.84
	POP-UP SPRINKLER: PRESSURE REGULATING, CHECK VALVE WITH MP LEFT STRIP ROTATOR NOZZLE PRESSURE: 50 PSI RADIUS 15 X 5 FEET FLOW (GPM): 0.19
	POP-UP SPRINKLER: PRESSURE REGULATING, CHECK VALVE WITH MP RIGHT STRIP ROTATOR NOZZLE PRESSURE: 50 PSI RADIUS 15 X 5 FEET FLOW (GPM): 0.19
	POP-UP SPRINKLER: PRESSURE REGULATING, CHECK VALVE WITH MP SIDE STRIP ROTATOR NOZZLE PRESSURE: 50 PSI RADIUS 30 X 5 FEET FLOW (GPM): 0.38
	LARGE TURF SPRINKLER ASSEMBLY: PART CIRCLE PRESSURE: 70 PSI MIN RADIUS: 75 FEET FLOW: 27 GPM
	LARGE TURF SPRINKLER ASSEMBLY: FULL CIRCLE PRESSURE: 65 PSI MIN RADIUS: 75 FEET FLOW: 27 GPM
	POP-UP ROTOR SPRINKLER ASSEMBLY: PRESSURE: 65 PSI RADIUS: 46 FEET FLOW: 8.2 GPM
	POP-UP ROTOR SPRINKLER ASSEMBLY: PRESSURE: 65 PSI RADIUS: 44 FEET FLOW: 6 GPM
	POP-UP ROTOR SPRINKLER ASSEMBLY: PRESSURE: 65 PSI RADIUS: 36 FEET FLOW: 2 GPM

BID SET

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IRRIGATION NOTES AND LEGEND								Construct 1,1361 Pre-Placed Crypts, 1,152 Niche Columbarium & 932 In-Ground Cremains		928CM3001					
Approved Project Director								Location JACKSONVILLE NATIONAL CEMETERY 4083 Lannie Road Jacksonville, FL 32218		Building Number -		Drawing Number  I-11  Dwg. 35 of 41			
Revisions:		Date						Date MARCH 10, 2016		Checked RWB	Drawn JDL				



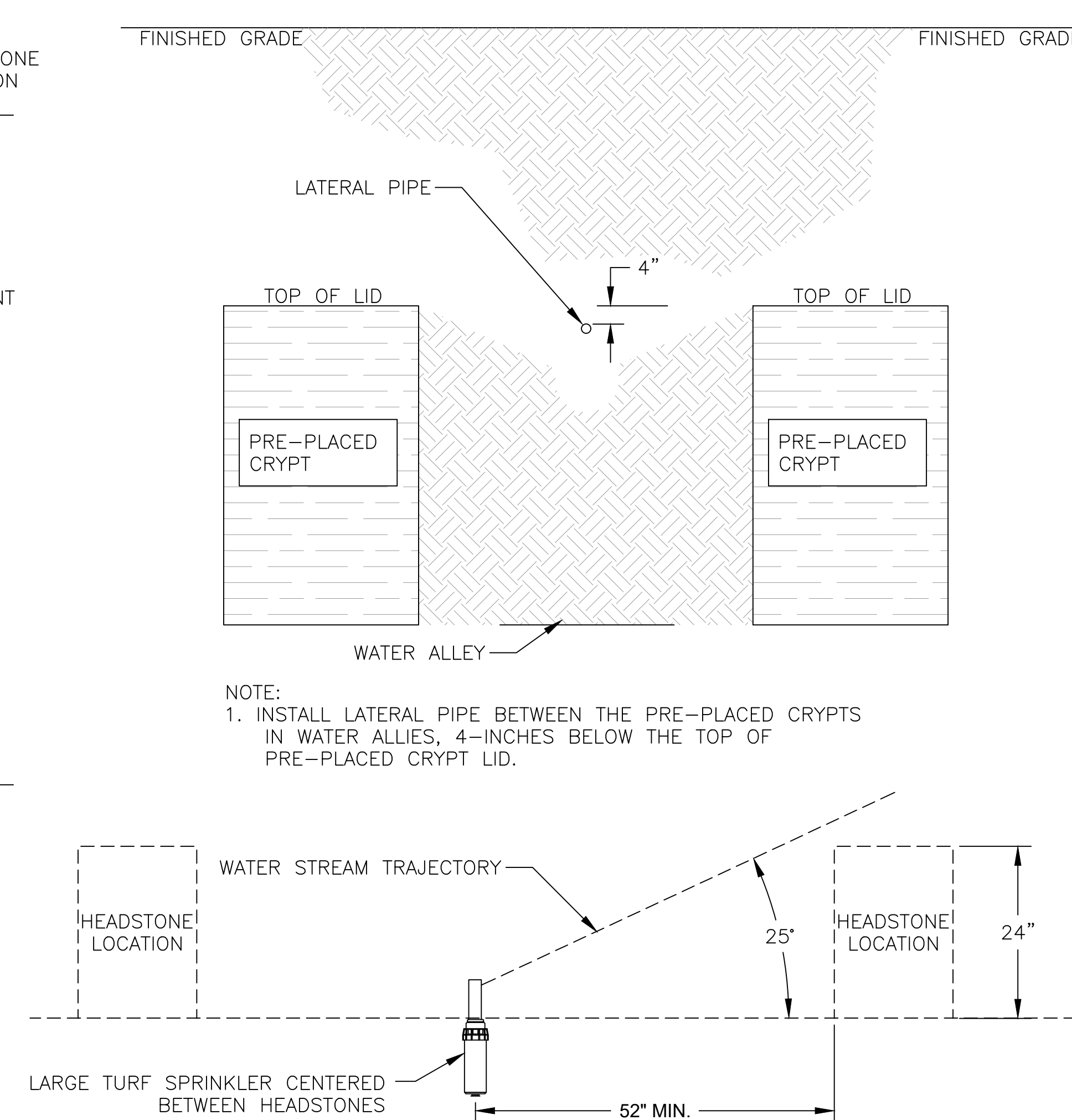




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		 <p>ENGINEERS PLANNERS CONSTRUCTORS CONSTRUCTION MANAGERS</p> <p>KCI TECHNOLOGIES</p>		 <p>Aqua Engineering Inc.</p> <p>375 E. Henderson Road, Building 2-002 Fort Collins, CO 80513-1168 TEL: 970.226.0800 fax 970.226.0805 www.aquaengineering.com</p>		 <p>M·T·R LANDSCAPE ARCHITECTS</p> <p>101 Bellevue Road Pittsburgh, PA 15229 (412) 931-6455</p>		<b>IRRIGATION DETAILS</b>		Construct 1,1361 Pre-Placed Crypts, 1,152 Niche Columbarium & 932 In-Ground Cremains		928CM3001			
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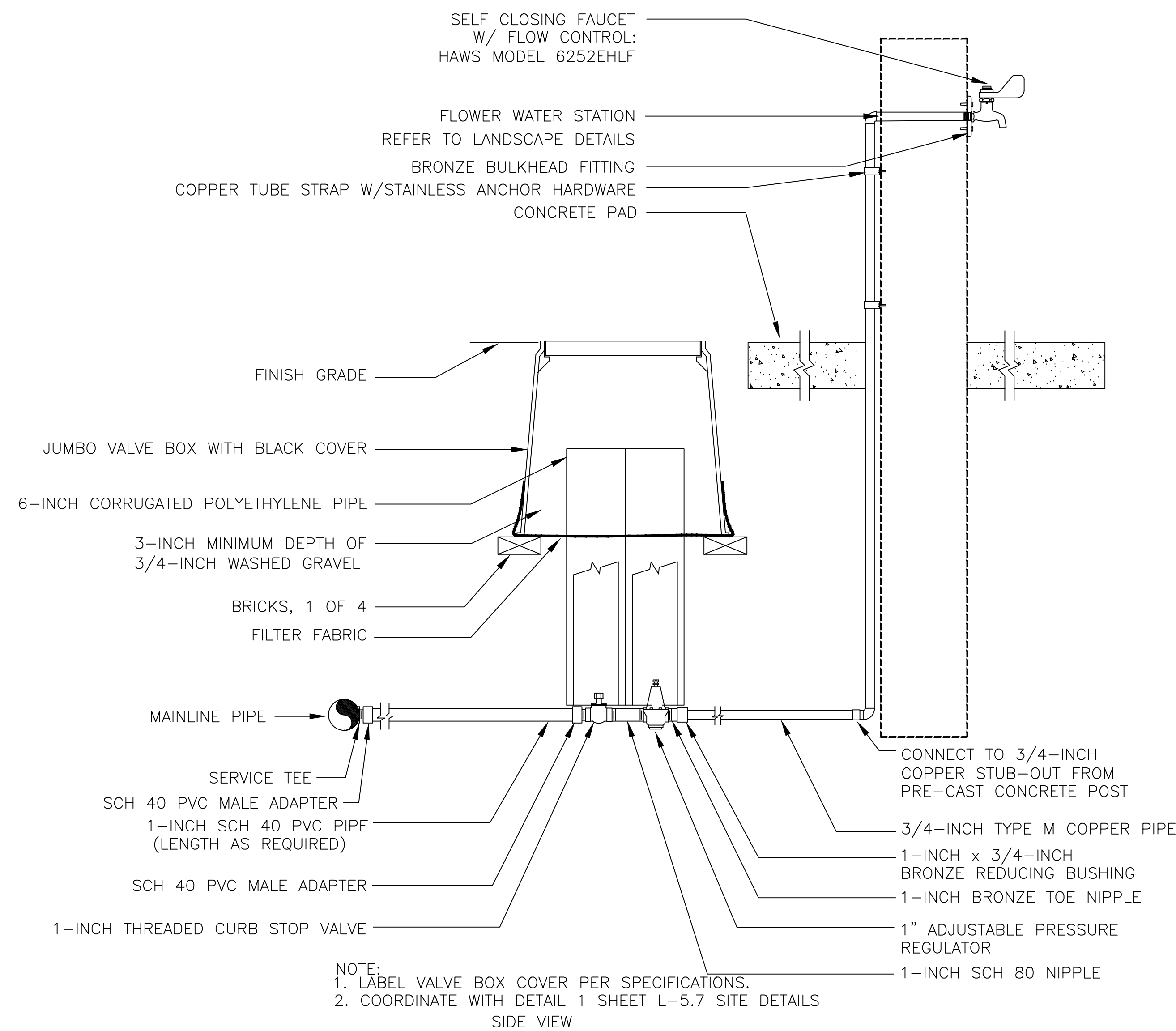
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NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR STAKING TRENCH LOCATION IN THE CORRECT LOCATION WITHIN ALLEYS.
2. CENTER OF SPRINKLER WILL BE ALIGNED WITH CENTERLINE OF OF ALLEY.
3. CENTER SPRINKLERS BETWEEN THE HEADSTONES AS INDICATED TO AVOID DISRUPTION OF THE WATER STREAM FROM THE NOZZLE. A MINIMUM OF 52-INCHES SEPARATION BETWEEN THE SPRINKLERS AND UPRIGHT MONUMENTS MUST BE MAINTAINED. COORDINATE HEADSTONE OFFSET FROM EDGE OF CURB TO ENSURE SPRINKLERS WILL BE CENTERED WHEN HEADSTONES ARE INSTALLED.

NTC




NOTE:  
1. LABEL VALVE BOX COVER PER SPECIFICATIONS.  
2. COORDINATE WITH DETAIL 1 SHEET L-5.7 SITE DETAILS

SIDE VIEW

**BID SET**

NATIONAL CEMETERY  
ADMINISTRATION  
OFFICE OF DESIGN  
AND CONSTRUCTION

 Department of  
Veterans Affairs