

CONSTRUCTION PLANS FOR VETERANS MEMORIAL PARK IRRIGATION RENOVATION

PREPARED FOR
**CITY OF SIDNEY
SIDNEY, MONTANA**

WR24-04-111
INDEX OF DRAWINGS

SEQUENCE NUMBER	SHEET NUMBER	SHEET(S) TITLE
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2	G1.1	EXISTING CONDITIONS
3	L1.0	MAINLINE, EQUIPMENT & SLEEVING LAYOUT
4	L1.1	IRRIGATION PLAN
5	L1.2	IRRIGATION DETAILS

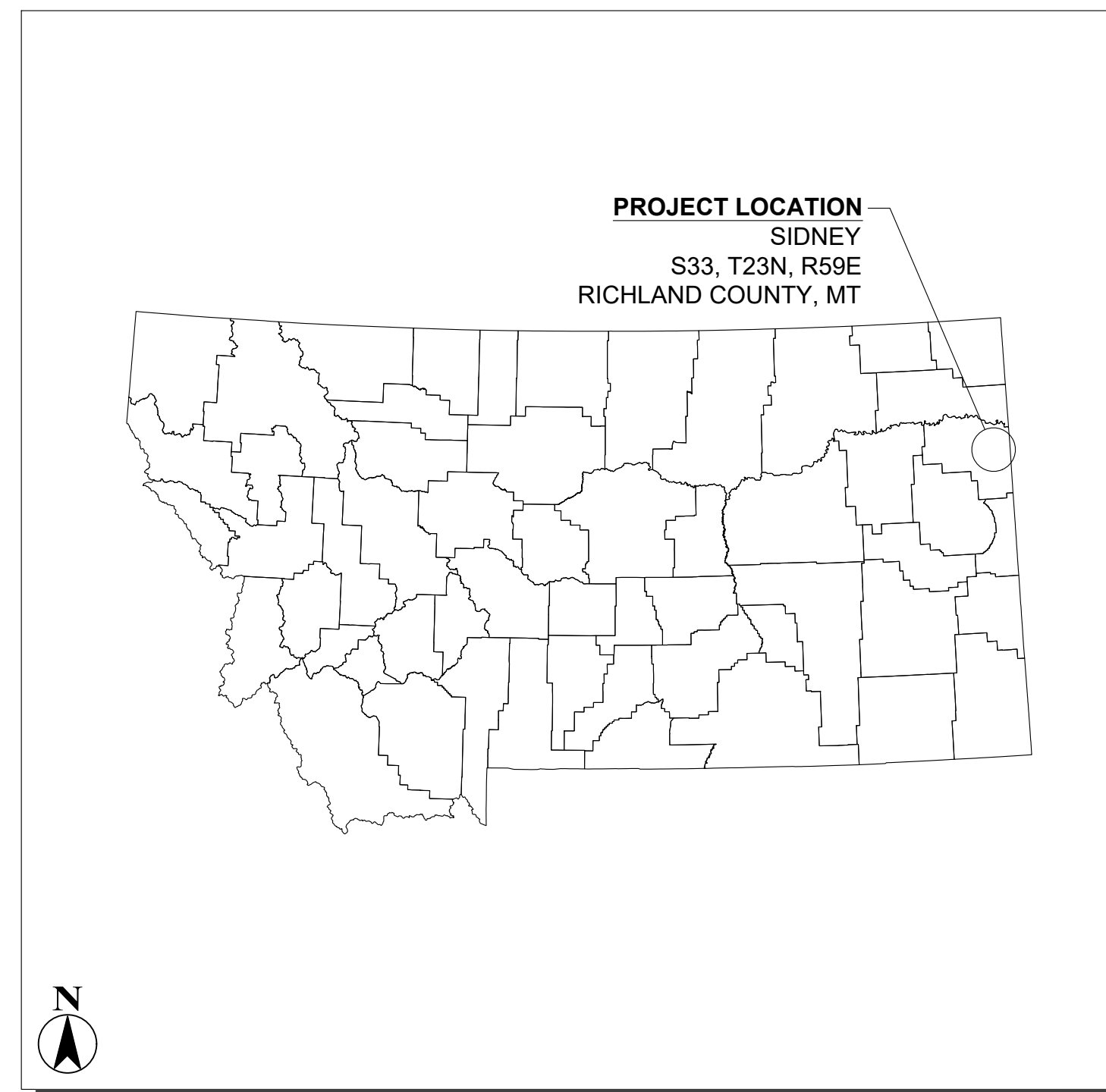
THIS PLAN SET CONTAINS 5 SHEETS

QUALITY REVIEW:
###/###/2024

BY: GORDON LEMMEL, P.L.A.
INTERSTATE ENGINEERING, INC.
PROJECT MANAGER

THIS DOCUMENT IS PRELIMINARY AND IS NOT INTENDED FOR CONSTRUCTION RECORDING, OR IMPLEMENTATION PURPOSES.

PRELIMINARY



LOCATION MAP
NOT TO SCALE



SITE MAP
NOT TO SCALE

CITY OFFICIALS

MAYOR: RICK NORBY	PWD: JEFF HINTZ
CLERK / TREASURER: JESSICA CHAMBERLIN	WTR DEPT.: JASON ELLETSON
COUNCIL: FRANK DIFONZO	COUNCIL: KEN KOFFLER
COUNCIL: JOE STEVENSON	COUNCIL: TAMI CHRISTENSON
COUNCIL: KALI GODFREY	COUNCIL: KYSA RASMUSSEN

REV NO	DATE	BY	DESCRIPTION



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SECTION

G

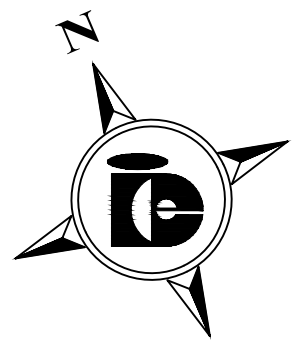
1.0

SHEET NO.



1
G1.1 EXISTING CONDITIONS

SCALE: 1" = 30'
HORIZONTAL SCALE IN FEET



REV NO	DATE	BY	DESCRIPTION

VETERANS MEMORIAL PARK IRRIGATION RENOVATION
CITY OF SIDNEY
SIDNEY, MONTANA

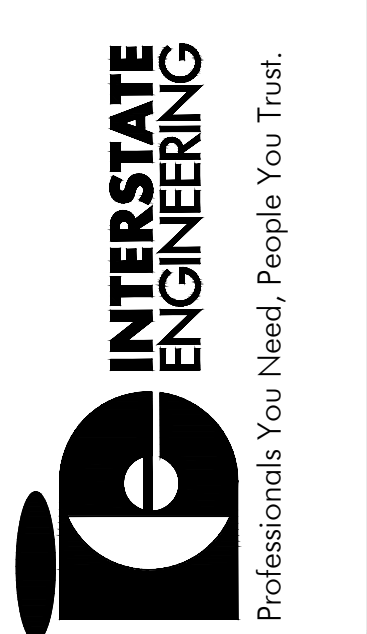
EXISTING CONDITIONS

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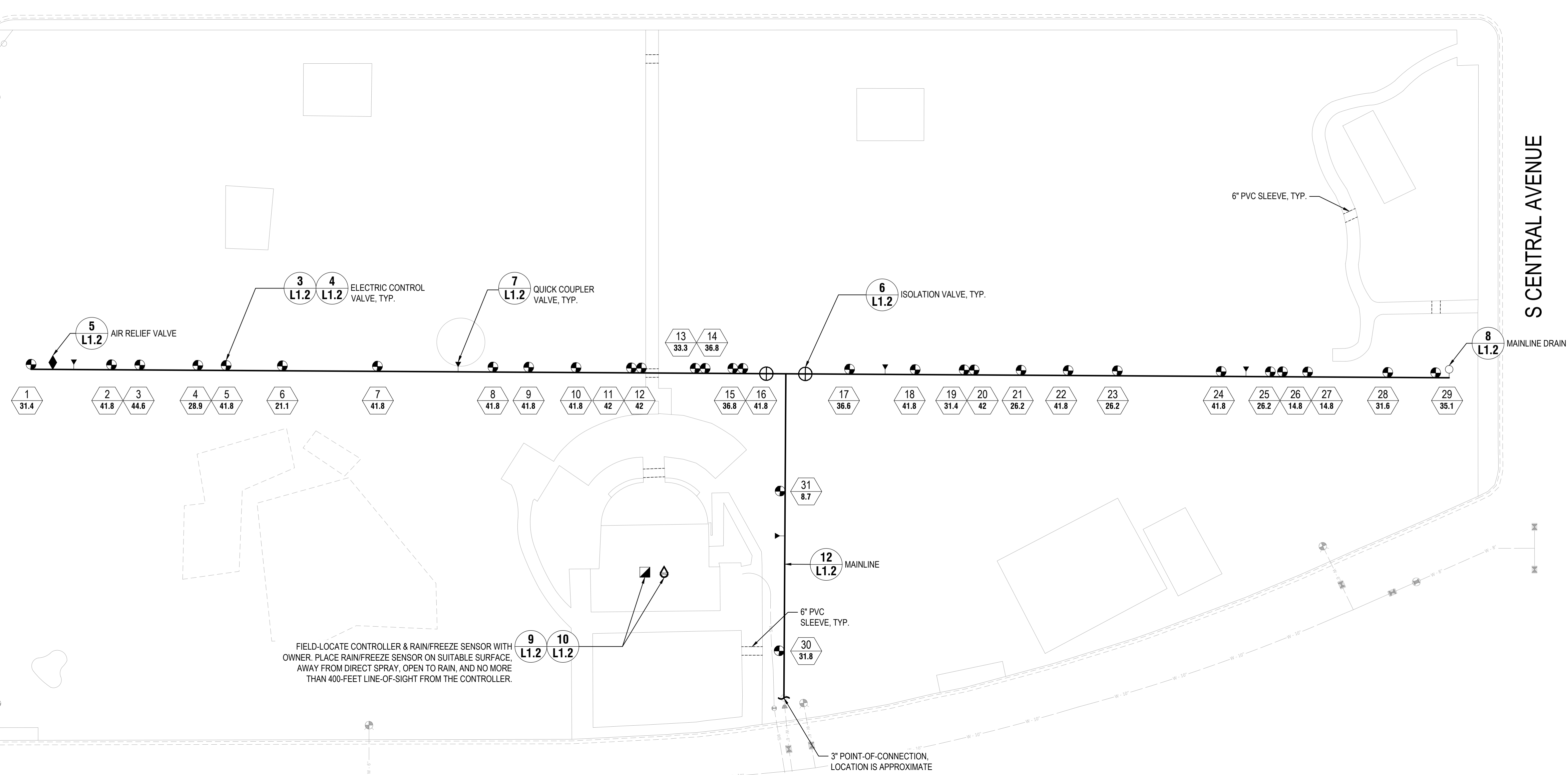
SECTION
G
1.1
SHEET NO.

5TH STREET SW

3RD AVENUE SW

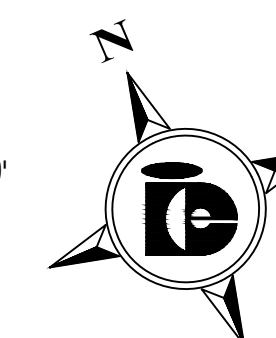
S CENTRAL AVENUE

6TH STREET SW



1 MAINLINE, EQUIPMENT & SLEEVING LAYOUT (L1.0)

SCALE: 1" = 30'
HORIZONTAL SCALE IN FEET



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CITY OF SIDNEY
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MAINLINE, EQUIPMENT & SLEEVING LAYOUT

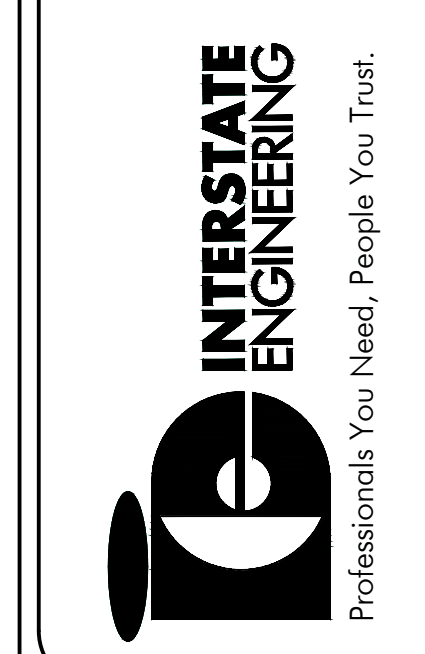
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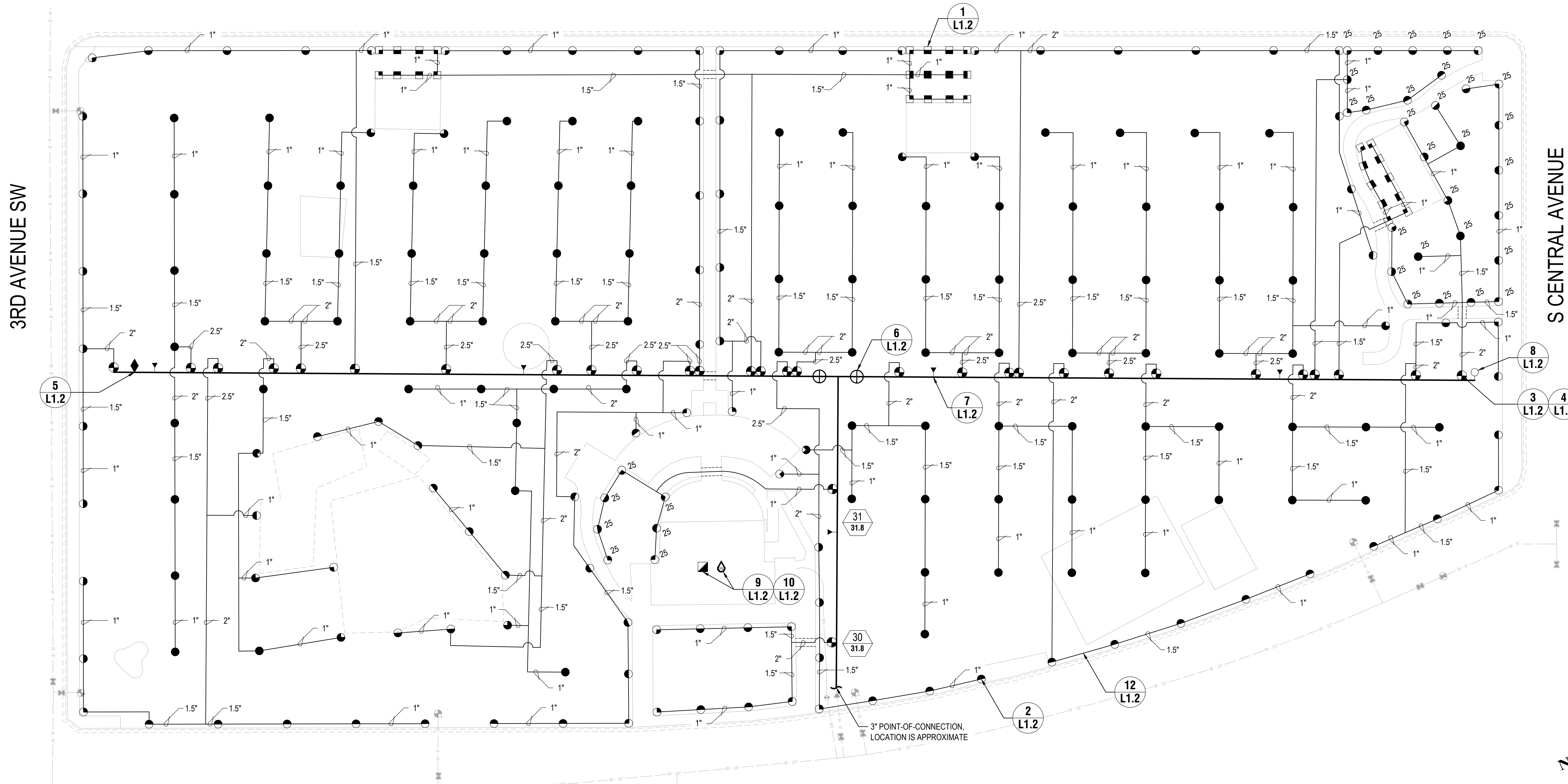


SECTION
L

1.0

SHEET NO.

1 31.4 2 41.8 3 44.6 4 28.9 5 41.8 6 21.1 7 41.8 8 41.8 9 41.8 10 41.8 11 42 12 42 13 33.3 14 36.8 15 36.8 16 41.8 17 36.6 18 41.8 19 31.4 20 42 21 26.2 22 41.8 23 26.2 24 41.8 25 26.2 26 14.8 27 14.8 28 31.6 29 35.1

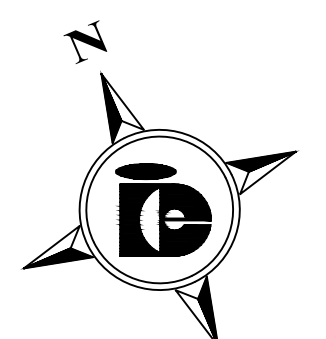


S CENTRAL AVENUE

3RD AVENUE SW

6TH STREET SW

1 IRRIGATION PLAN
L1.1



SYMBOL	DESCRIPTION	SIZE	MANUF.	MODEL #
	POP-UP SPRAY HEADS	6"	RAINBIRD	1806-SAM-PRS-HE-VAN-8, -15
	POP-UP ROTOR HEADS	6"	RAINBIRD	5006-+-PC/FC-SAM
	MP ROTATOR HEADS	6"	RAINBIRD	5006-+-MPR-25-Q, -H, -F
	ELECTRIC CONTROL VALVE	2"	RAINBIRD	200-PGA
	QUICK COUPLER VALVE	1"	RAINBIRD	44-RC
	MANUAL ISOLATION VALVE	3"	MATCO	770T10G
NO SYMBOL	DECODER	1 STATION	RAINBIRD	FD-101TURF
	CONTROLLER	31 STATIONS	RAINBIRD	ESP-LXD + LXMPED
	RAIN / FREEZE SENSOR	N/A	RAINBIRD	WR2-RFC
	AIR RELEASE VALVE	1"	BERMAD	IR-C10-P
	MAINLINE DRAIN	1"	NIBCO	N00116A
	LATERAL LINE	AS INDICATED		CLASS 200 PVC
	MAINLINE	3"		CLASS 200 PVC
	SLEEVE LINES	6"		SCHEDULE 40 PVC

LAYOUT & EQUIPMENT NOTES

- REFER TO SHEET L1.2 FOR DETAILS.
- REFER TO SHEET L1.0 FOR EQUIPMENT, MAINLINE, AND SLEEVE LAYOUT AND LOCATIONS.
- USE #6 NOZZLES FOR ALL HALF, THREE-QUARTER, AND FULL PATTERN ROTOR HEADS.
- USE #3 NOZZLES FOR ALL QUARTER PATTERN ROTOR HEADS.
- DO NOT PLACE HALF PATTERN ROTOR HEADS ON THE SAME ZONE AS THREE-QUARTER OR FULL PATTERN ROTOR HEADS.
- DO NOT PLACE SPRAY OR MATCHED PRECIPITATION HEADS ON THE SAME ZONE AS ROTOR HEADS.
- PAIRING RUN TIMES IS ACCEPTABLE FOR RUNNING ZONES SIMULTANEOUSLY. DO NOT EXCEED 76 GPM.

NOZZLE LEGEND

- RAINBIRD 5006 ROTOR, NOZZLES PER NOTES #3 AND #4
- RAINBIRD 5006 ROTOR W/ MPR NOZZLE
- RAINBIRD 1800 SPRAY

IRRIGATION NOTES

- VERIFY ALL EXISTING AND PROPOSED SITE CONDITIONS, INCLUDING PLANTING, GRADING, BUILDING CONSTRUCTION, WATER DEVELOPMENT, AND SUPPLY, PRIOR TO COMMENCEMENT OF WORK. NOTE ANY SLEEVES AND IRRIGATION STUBS FOR FUTURE WORK.
- LOCATE AND PROTECT ALL UNDERGROUND UTILITIES, CONDUITS, AND STRUCTURES. ANY DAMAGE INCURRED IS THE CONTRACTOR'S RESPONSIBILITY AT NO ADDITIONAL COST TO THE OWNER.
- THE IRRIGATION CONTRACT INCLUDES THE SUPPLY AND INSTALLATION OF ALL MATERIALS AND EQUIPMENT FOR A COMPLETE, AUTOMATIC IRRIGATION SYSTEM. ANY ITEMS REQUIRED TO CONFORM WITH SUCH INTENT ARE CONSIDERED TO BE INCIDENTAL TO THE WORK.
- THE IRRIGATION PLAN IS SCHEMATIC. FIELD-VERIFY ALL DIMENSIONS, EXISTING, AND PROPOSED CONDITIONS, AS REQUIRED TO PROVIDE ONE COMPLETE AND OPERABLE SYSTEM.
- DO NOT WILLFULLY INSTALL THE SYSTEM WHEN OBVIOUS OBSTRUCTIONS, GRADE CHANGES AND SITE GEOMETRY EXIST. SUCH DIFFERENCES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE. IN THE EVENT NOTIFICATION IS NOT MADE, THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY NECESSARY REVISIONS.
- CONFORM TO ALL LOCAL CODES REGARDING INSTALLATION.
- IRRIGATION DESIGN IS BASED UPON HAVING 35 PSI AND 5.5 GPM AVAILABLE AT THE FURTHEST HEAD AND 39.5 PSI AND 76 GPM AT THE POINT OF CONNECTION. VERIFY THE ACTUAL PSI AND GPM AVAILABILITY AND COMPATIBILITY WITH THE WATER SOURCE PRIOR TO INSTALLATION. IF CONDITIONS AT POINT-OF-CONNECTION ARE NOT PRESENT, DO NOT INSTALL THE IRRIGATION SYSTEM AND IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE. CONTRACTOR ASSUMES RESPONSIBILITY FOR ANY REWORK AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE PVC IRRIGATION PIPE, 3" SIZE OR SMALLER IN CLASS 200 I.P.S.; PROVIDE 4" SIZE PIPE AND LARGER IN SCHEDULE 40.
- PROVIDE 6 INCH DIAMETER SCHEDULE 40 PVC FOR ALL ELECTRICAL AND IRRIGATION SLEEVES LOCATED UNDER PAVEMENT.
- PROVIDE DIRECT BURIAL SINGLE CONDUCTOR INSULATED WIRE CONTROL CABLE WIRE, SIZES 14 AWG, UTILIZING LOW DENSITY HIGH MOLECULAR WEIGHT POLYETHYLENE INSULATION, TWISTED, SUITABLE FOR DIRECT BURIAL APPLICATIONS FOR OPERATION UP TO 600 VOLTS AND CONDUCTOR TEMPERATURES UP TO 60C. UL LISTED. PROVIDE SOFT DRAWN BAR COPPER CONDUCTORS MEETING THE REQUIREMENTS OF ASTM B-3 OR B-8. PROVIDE INSULATION THICKNESS OF 0.060 INCH. MARK SURFACE WITH THE MANUFACTURER'S IDENTIFICATION. COMPLETE ALL SPLICES WITHIN VALVE BOXES USING ONE-PIECE, JELLY-FILLED, WATER-PROOF WIRE CONNECTORS WITH 20 EXPANSION COILS PER SPLICE. PROVIDE SLEEVES FOR WIRING UNDER ALL PAVED AREAS.
- BURY ALL MAINLINE PIPE WITH A MINIMUM COVER OF 18 INCHES. BURY ALL LATERAL PIPE WITH A MINIMUM COVER OF 12 INCHES. PULLING OF PIPE 2 INCH DIAMETER OR LESS IS ACCEPTABLE, PROVIDING DEPTHS ARE ACHIEVED. BURY DRIP LATERALS TO ACHIEVE A MINIMUM COVER OF 10 INCH DEPTH. ALL DRIP TUBES WITH EMITTERS SHALL BE AT SURFACE OVER THE FABRIC, BUT UNDER THE MULCH.
- SLOPE MAINLINE TO DRAIN.
- LIMIT THE USE OF FITTINGS AND INSTALL LINE SIZE FITTINGS TO ENSURE MINIMUM FRICTION LOSS IN SYSTEM.
- LOCATE HEADS APPROXIMATELY 2 INCHES FROM PROPOSED CURBS, WALKS AND MOWING EDGES.
- CONNECT ALL SPRAY HEADS TO LATERAL PIPES USING FUNNY PIPE, CONNECT ALL ROTORS TO LATERAL PIPES WITH PVC SWING JOINTS.
- LOCATE SPRINKLER HEADS TO AVOID OBSTRUCTIONS THAT WILL LIMIT RADIUS OF COVERAGE. CAUSE DRY SPOTS, OVER SPRAY ON BUILDINGS, STRUCTURES AND PAVEMENTS OR OTHER WATER DAMAGE.
- NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT WRITTEN CONSENT FROM THE OWNER'S REPRESENTATIVE.
- ALL VALVES TO BE INSTALLED IN RECTANGULAR VALVE BOXES OF PROPER SIZE, DEPTH AND GRADE. PROVIDE VALVE BOX EXTENSIONS AS REQUIRED.
- VERIFY WITH THE OWNER'S REPRESENTATIVE, THE FINAL LOCATION OF THE CONTROLLER AND CONNECTION TO WATER SOURCE TO MEET FIELD CONDITIONS. COORDINATE INSTALLATION WITH OWNER'S REPRESENTATIVE AND OTHER TRADES.
- METER AND BACKFLOW ARE ALREADY PRESENT ON SITE. 3-INCH CONNECTION POINT IS PROVIDED.
- FINAL BALANCE AND ADJUST THE COMPLETE IRRIGATION SYSTEM, INCLUDING SPRAY HEADS AND ROTORS FOR PROPER OPERATION.
- CONTRACTOR IS RESPONSIBLE FOR PERFORMING FIRST-YEAR WINTERIZATION AND SPRING START-UP PRIOR TO MAY 1ST, DURING THE ONE-YEAR WARRANTY PERIOD.
- FINAL INSPECTION: DEMONSTRATE THE ENTIRE SYSTEM IN OPERATION TO THE OWNER'S REPRESENTATIVE, PROVING THAT ALL REMOVE CONTROL VALVES ARE PROPERLY FUNCTIONING, THAT ALL HEADS ARE PROPERLY ADJUSTED FOR RADIUS, AND ARC OF COVERAGE.
- PRIOR TO FINAL PAYMENT THE CONTRACTOR SHALL PROVIDE TO THE OWNER'S REPRESENTATIVE AN AS-BUILT PLAN AND OWNER'S MANUALS. DURING THE COURSE OF THE INSTALLATION, THE CONTRACTOR MUST RECORD ALL CHANGES MADE TO THE IRRIGATION SYSTEM. THE CHANGES MUST BE MADE IN RED ON THE ORIGINAL PLAN.
- WARRANTY THE IRRIGATION SYSTEM FOR A PERIOD OF ONE-YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. ANY SETTLEMENT THAT OCCURS DURING THIS TIME WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

5A 30 ZONE STATION NUMBER
 X LX DETAIL NUMBER SHEET NUMBER
 1.5 — NOZZLE NUMBER (SEE NOZZLE LEGEND)
 IRRIGATION HEAD

REV NO	DATE	BY	DESCRIPTION

VETERANS MEMORIAL PARK IRRIGATION RENOVATION
 CITY OF SIDNEY
 SIDNEY, MONTANA

IRRIGATION PLAN

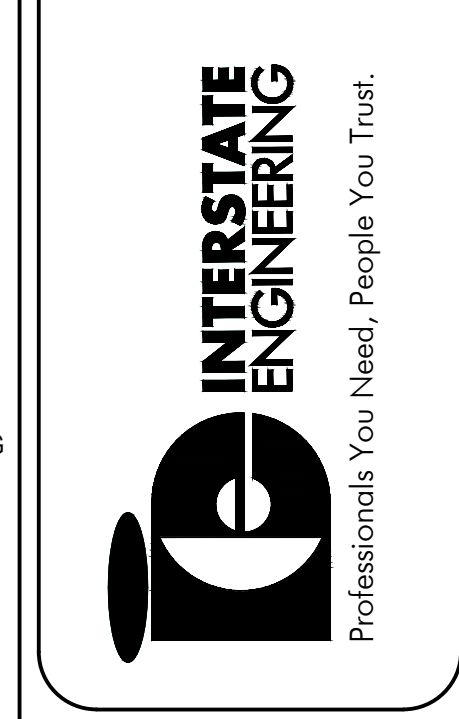
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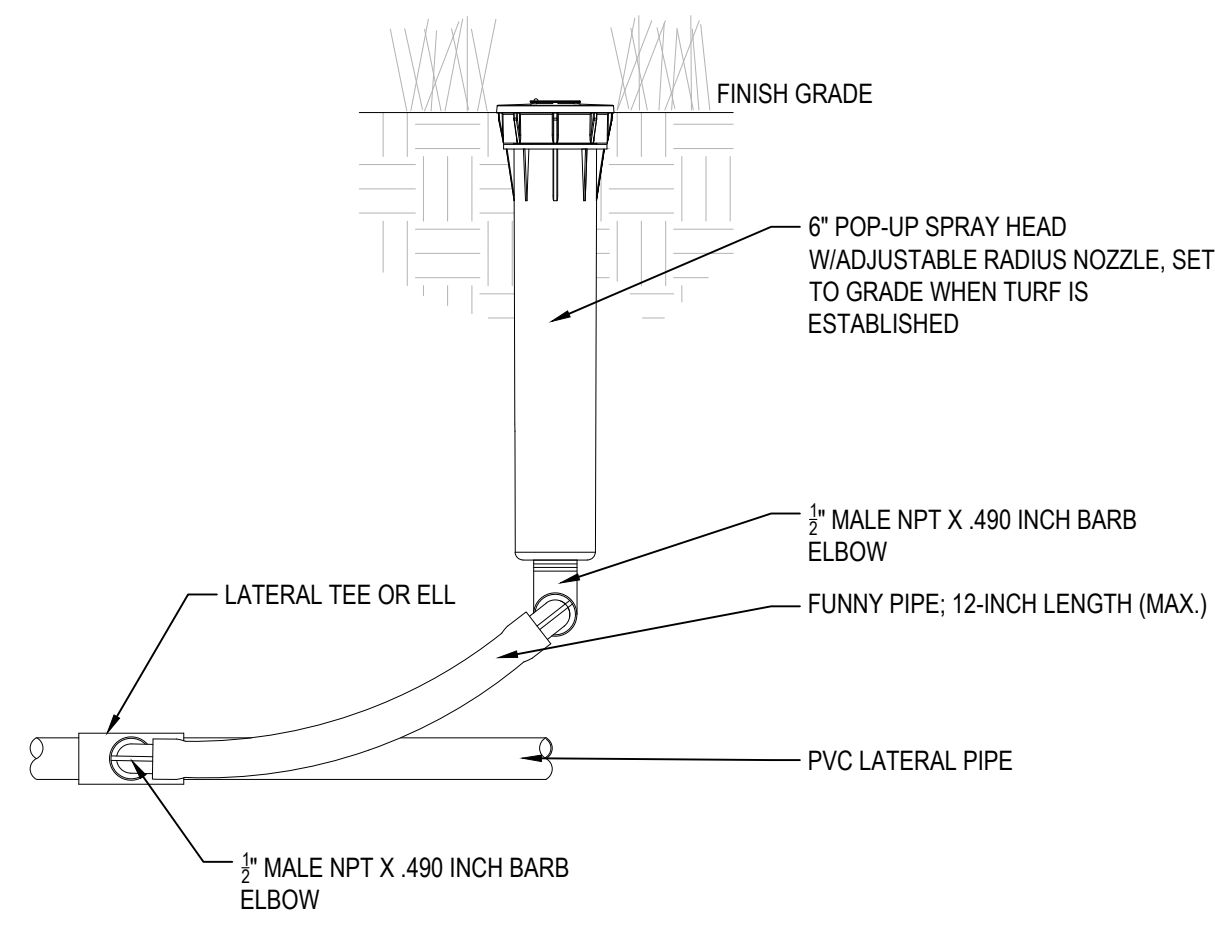
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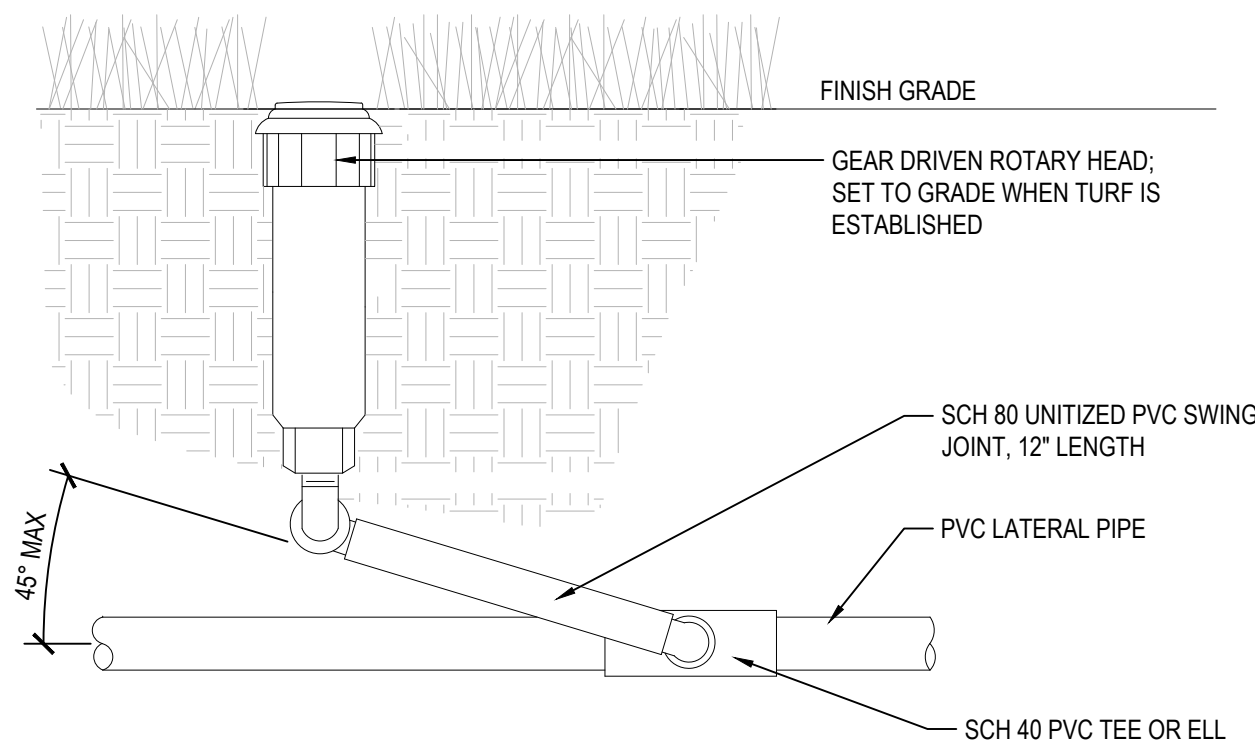


SECTION
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 1.1
 SHEET NO.

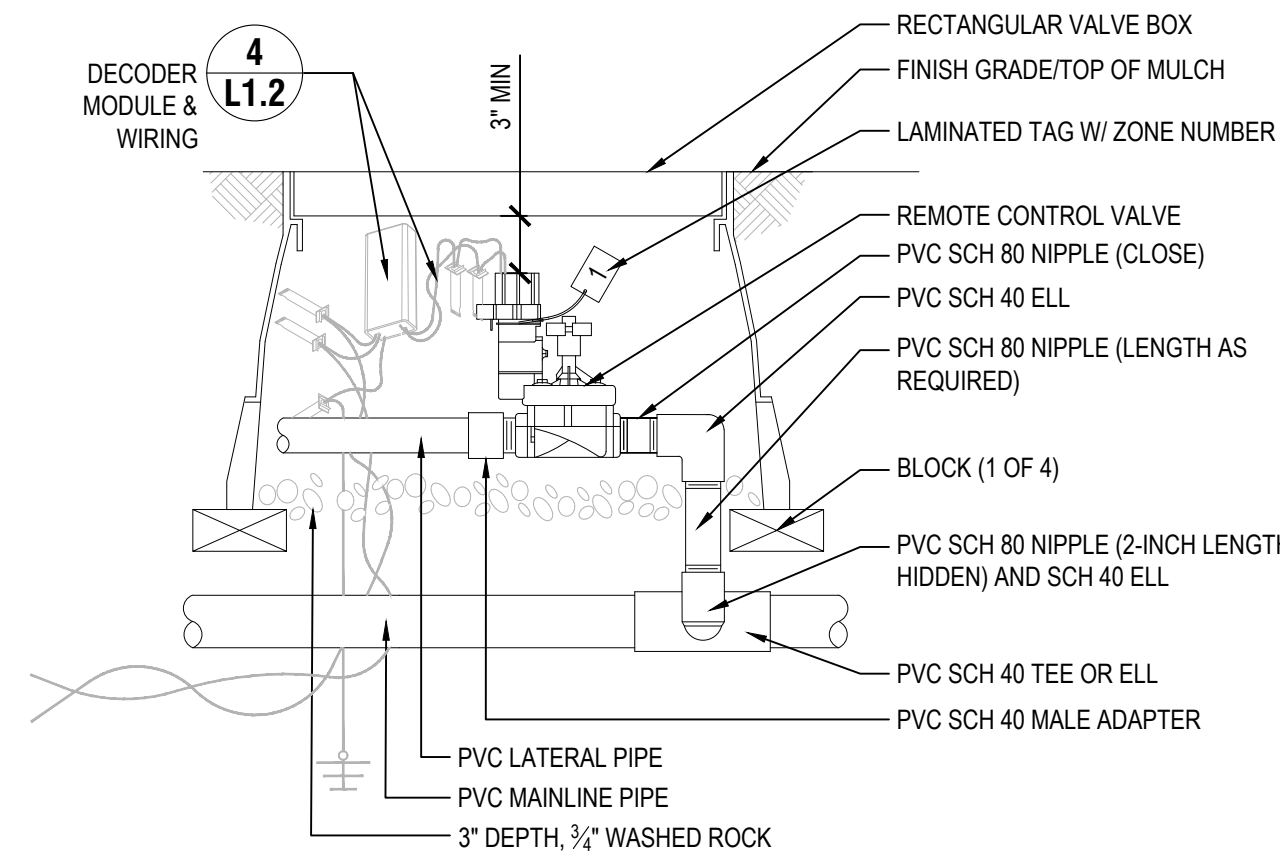


***USE OF THE SIDE INLET IS NOT PERMITTED**

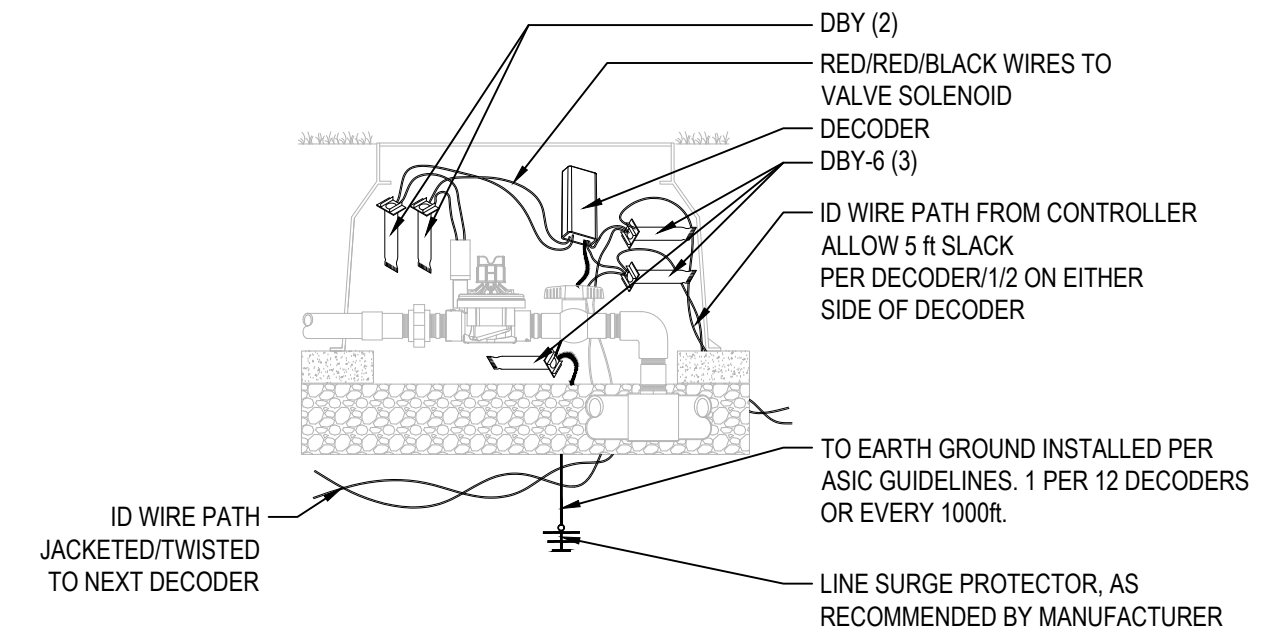
1
L1.2 **6-INCH POP-UP SPRAY HEAD** NOT TO SCALE



2
L1.2 **ROTOR HEAD** NOT TO SCALE

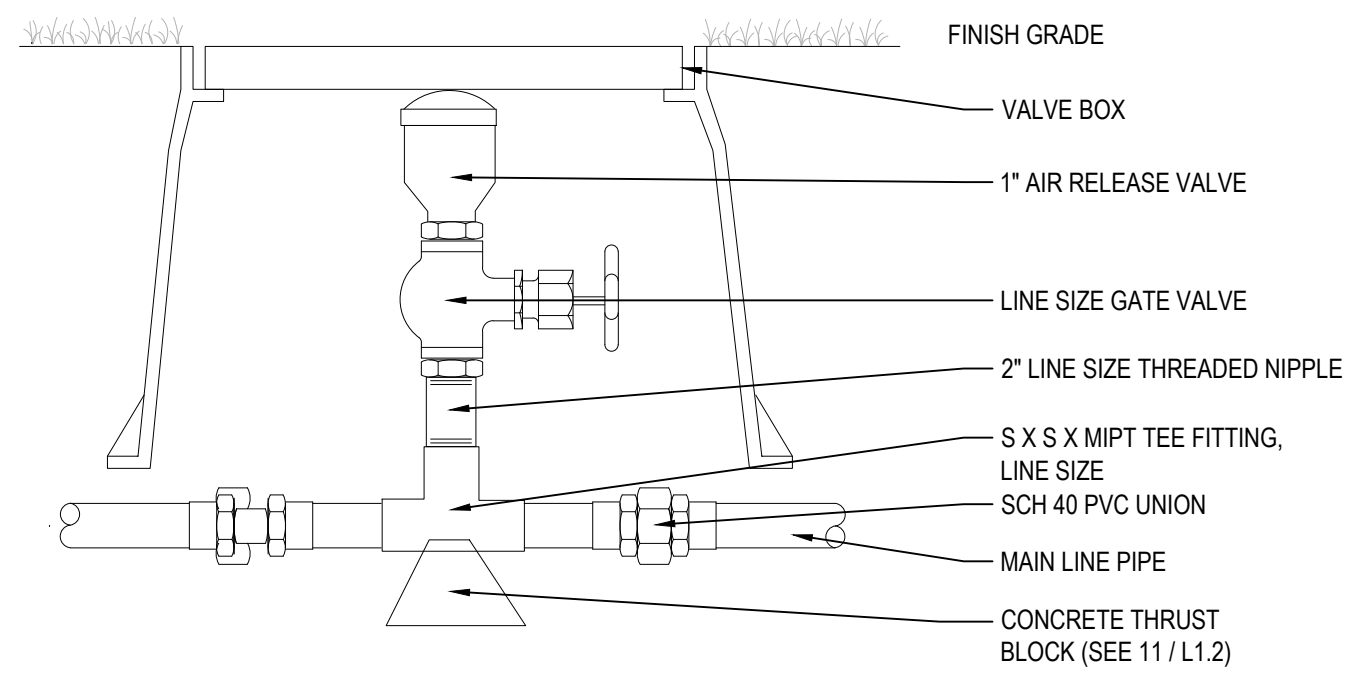


3
L1.2 **ELECTRIC CONTROL VALVE** NOT TO SCALE

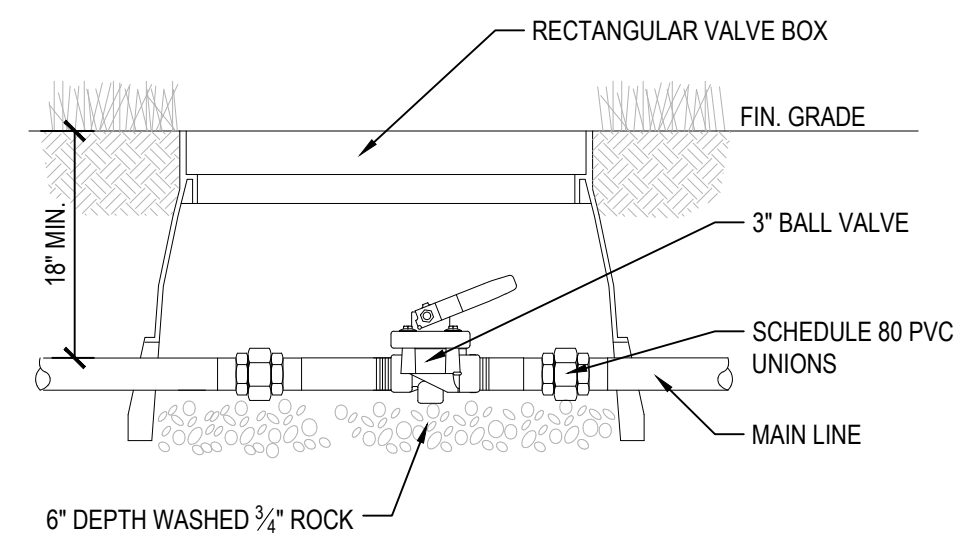


NOTES:
1. ALL CDEC DECODERS SHALL HAVE A 5 DIGIT ADDRESS STATION OUTPUT 1 = RED / RED AND BLACK
2. INSTALL EACH GROUND PLATE 4 - 8' FROM DEC - SG - LINE. DO NOT INSTALL IN THE SAME TRENCH AS TDC WIRE PATH
3. INSTALL SURGE PROTECTION NO FURTHER THAN 500 FT FROM ANY DECODER
4. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

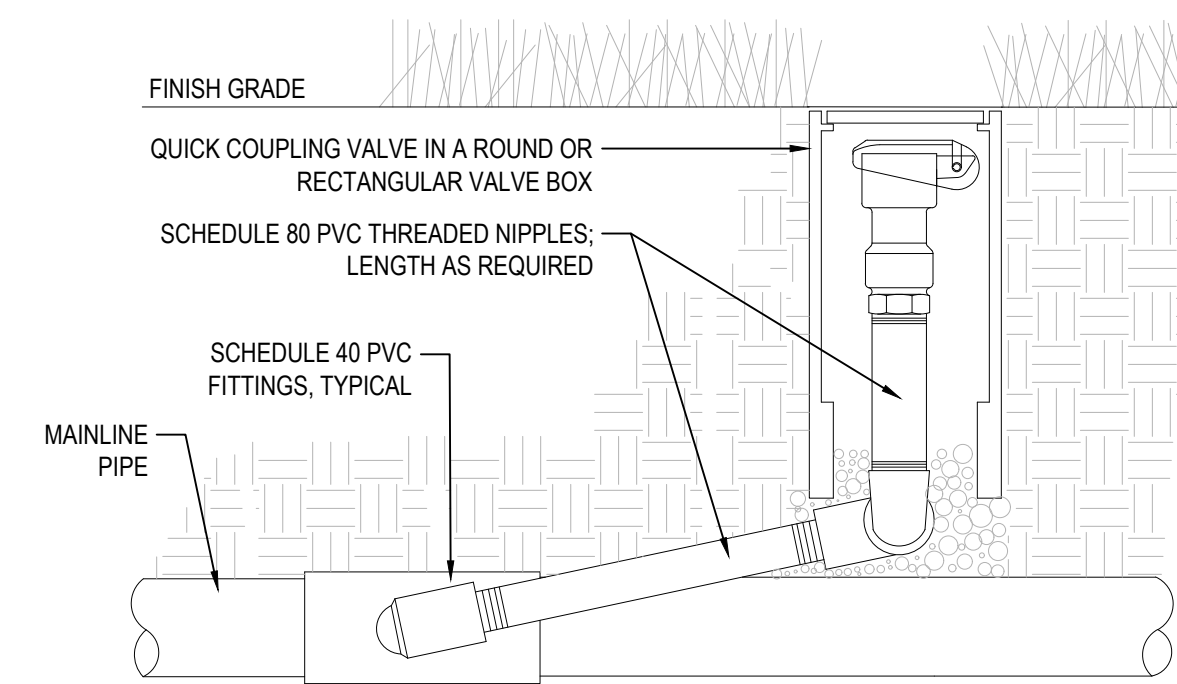
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L1.2 **DECODER MODULE** NOT TO SCALE



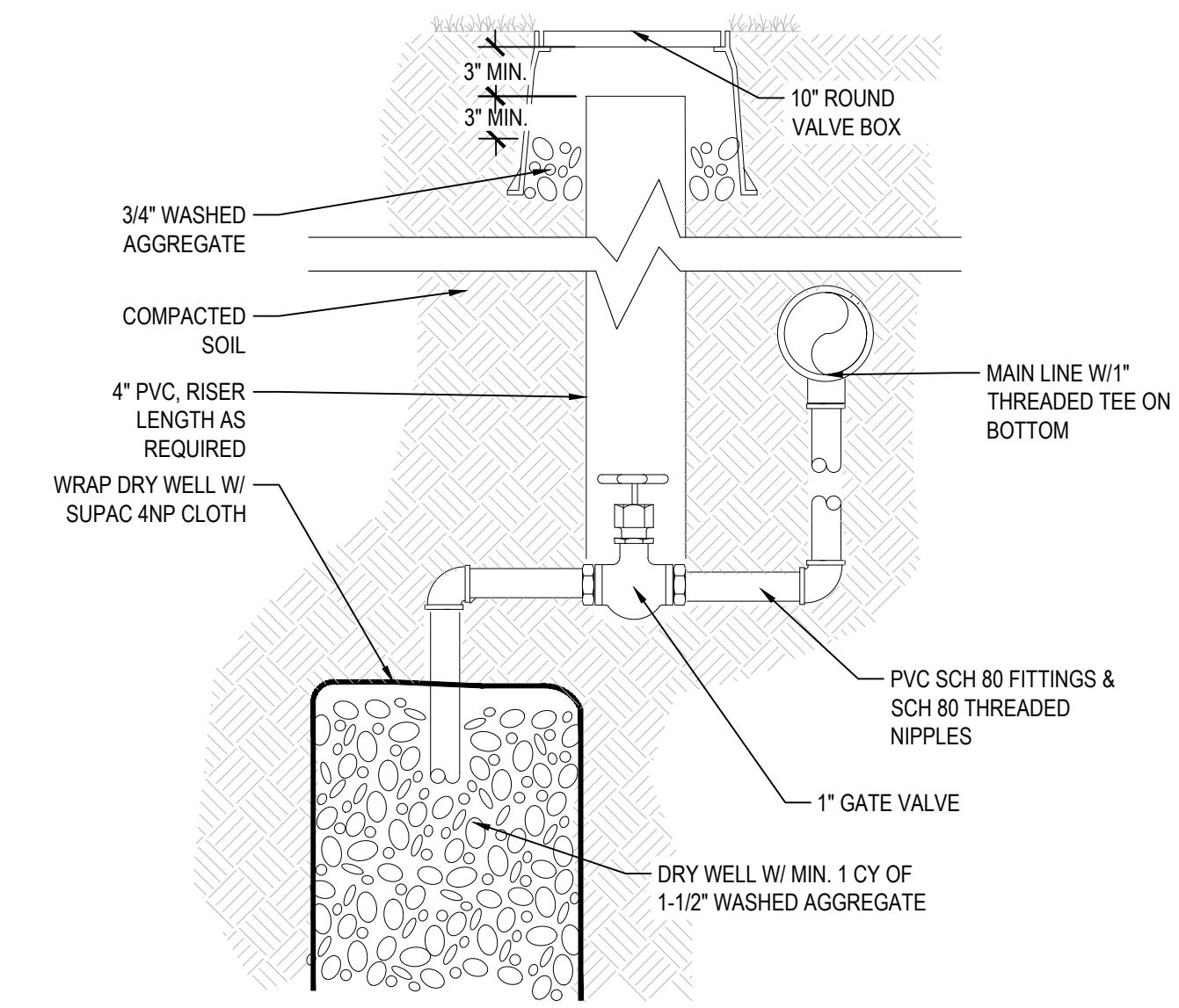
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L1.2 **AIR RELEASE VALVE** NOT TO SCALE



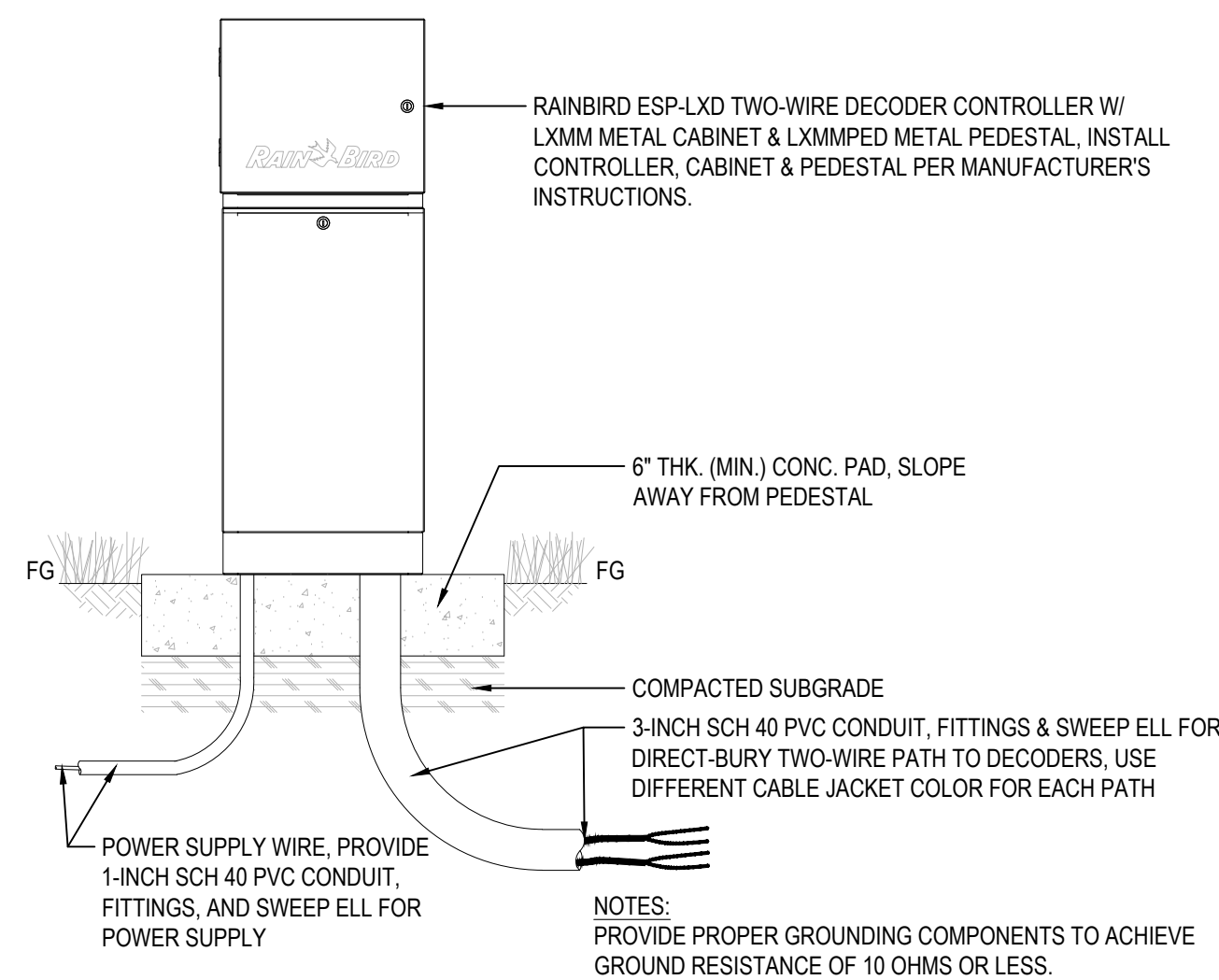
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L1.2 **ISOLATION BALL VALVE** NOT TO SCALE



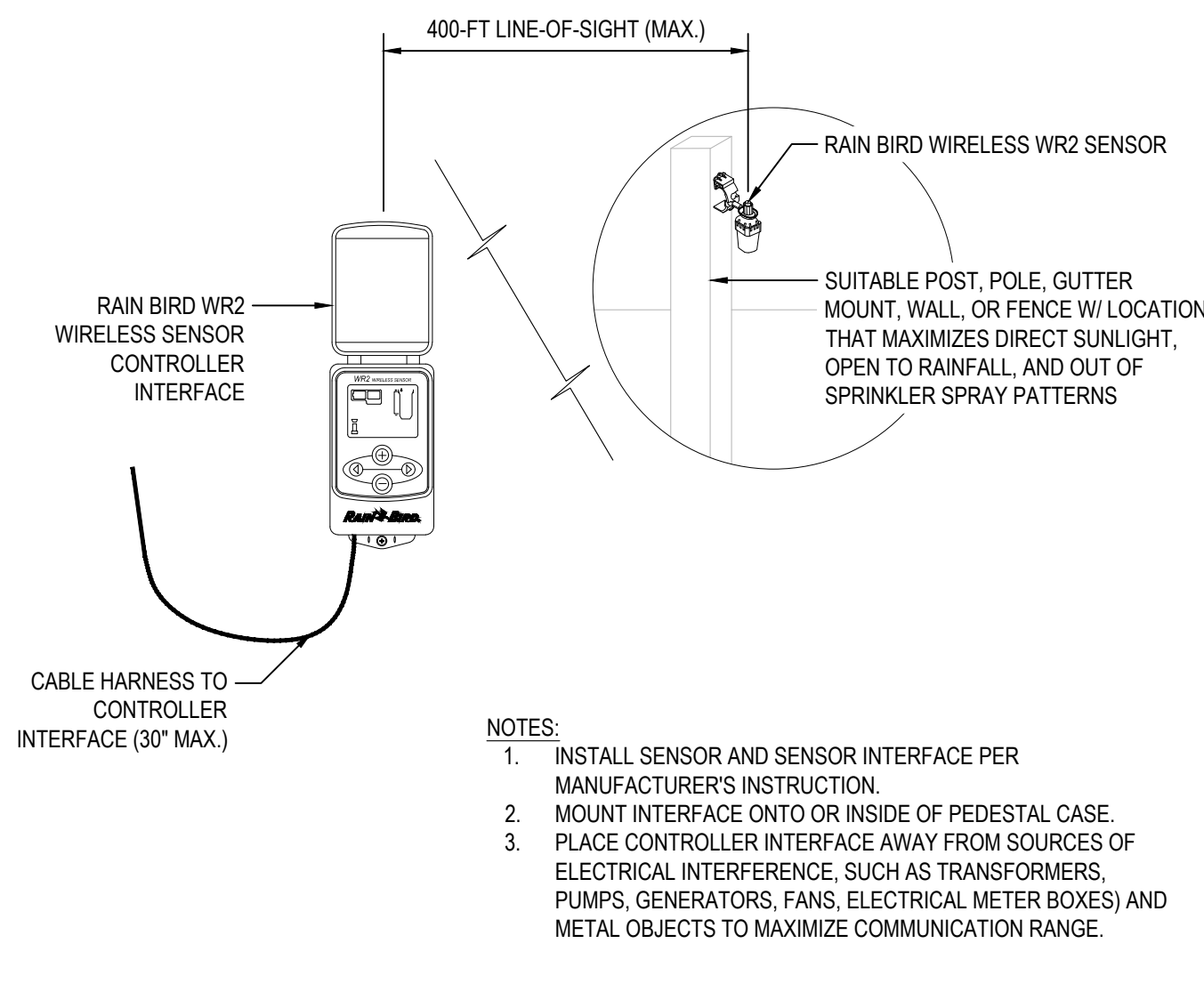
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L1.2 **QUICK COUPLER VALVE** NOT TO SCALE



8
L1.2 **MAINLINE DRAIN** NOT TO SCALE

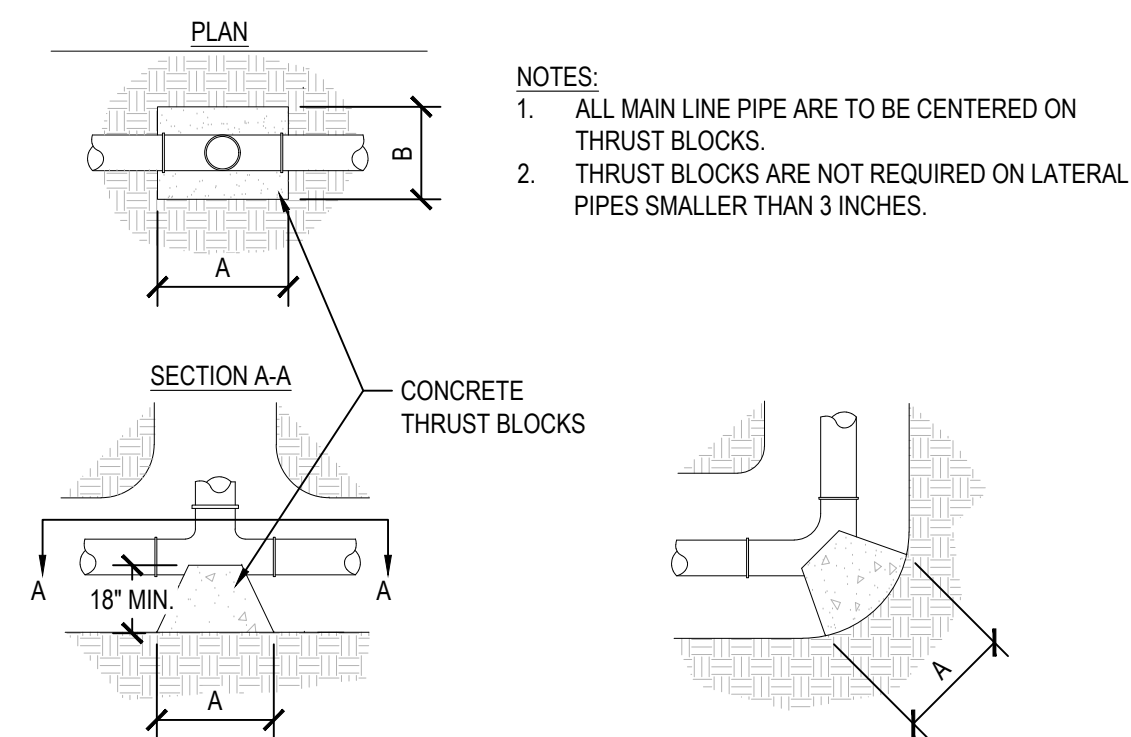


9
L1.2 **IRRIGATION CONTROLLER & PEDESTAL** NOT TO SCALE



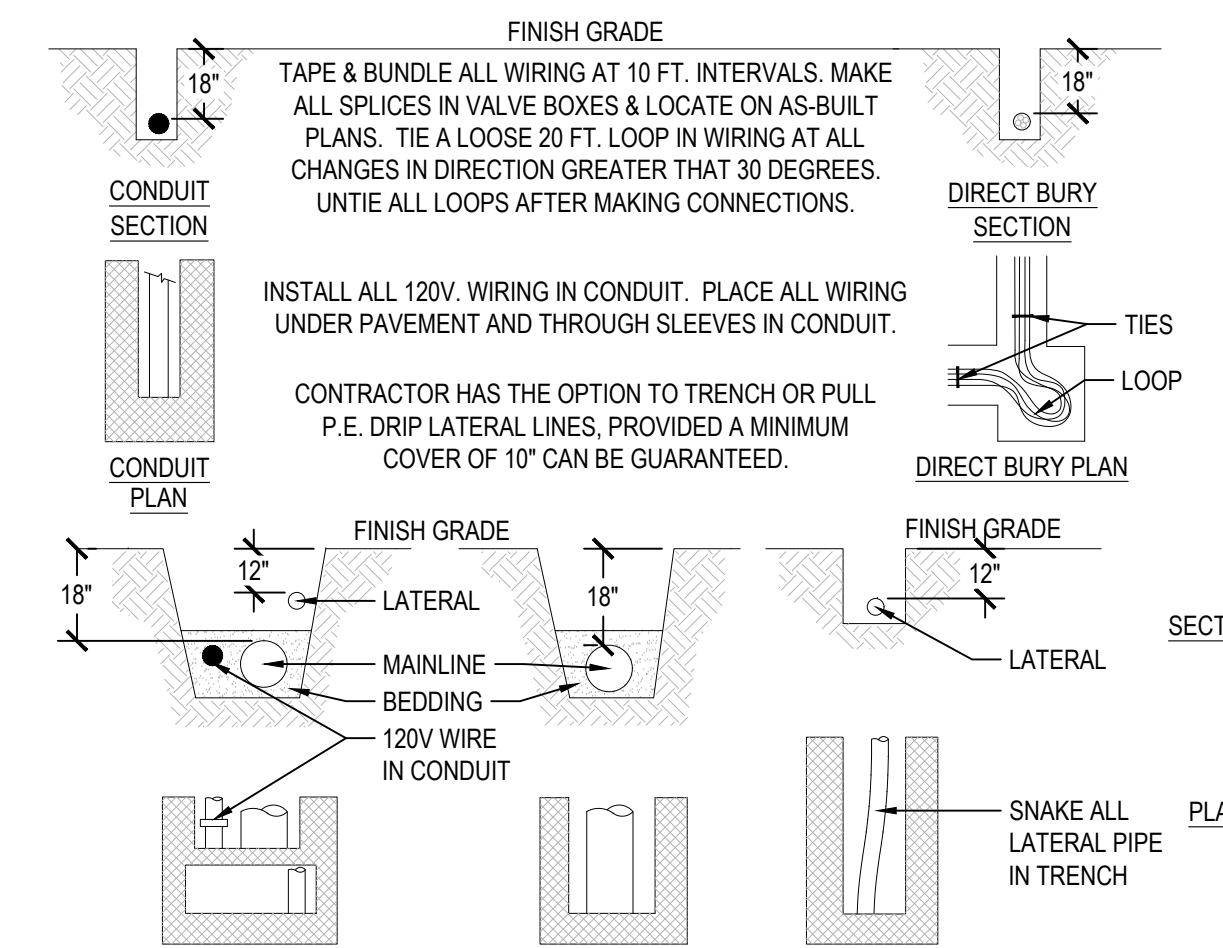
NOTES:
1. INSTALL SENSOR AND SENSOR INTERFACE PER MANUFACTURER'S INSTRUCTION.
2. MOUNT INTERFACE ONTO OR INSIDE OF PEDESTAL CASE.
3. PLACE CONTROLLER INTERFACE AWAY FROM SOURCES OF ELECTRICAL INTERFERENCE, SUCH AS TRANSFORMERS, PUMPS, GENERATORS, FANS, ELECTRICAL METER BOXES) AND METAL OBJECTS TO MAXIMIZE COMMUNICATION RANGE.

10
L1.2 **WIRELESS RAIN/FREEZE SENSOR** NOT TO SCALE



PIPE SIZE	TEES & PLUGS		ELBOWS					
	A	B	22-1/2°		45°		90°	
3" - 4"	24"	12"	9"	12"	17"	12"	21"	18"
6"	33"	18"	12"	18"	24"	18"	32"	24"
8"	40"	24"	16"	24"	30"	24"	45"	30"
10"	50"	30"	20"	30"	40"	30"	61"	36"
12"	61"	36"	18"	30"	56"	30"	87"	36"

11
L1.2 **THRUST BLOCK** NOT TO SCALE



12
L1.2 **TRENCH & BEDDING** NOT TO SCALE

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SECTION
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1.2
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