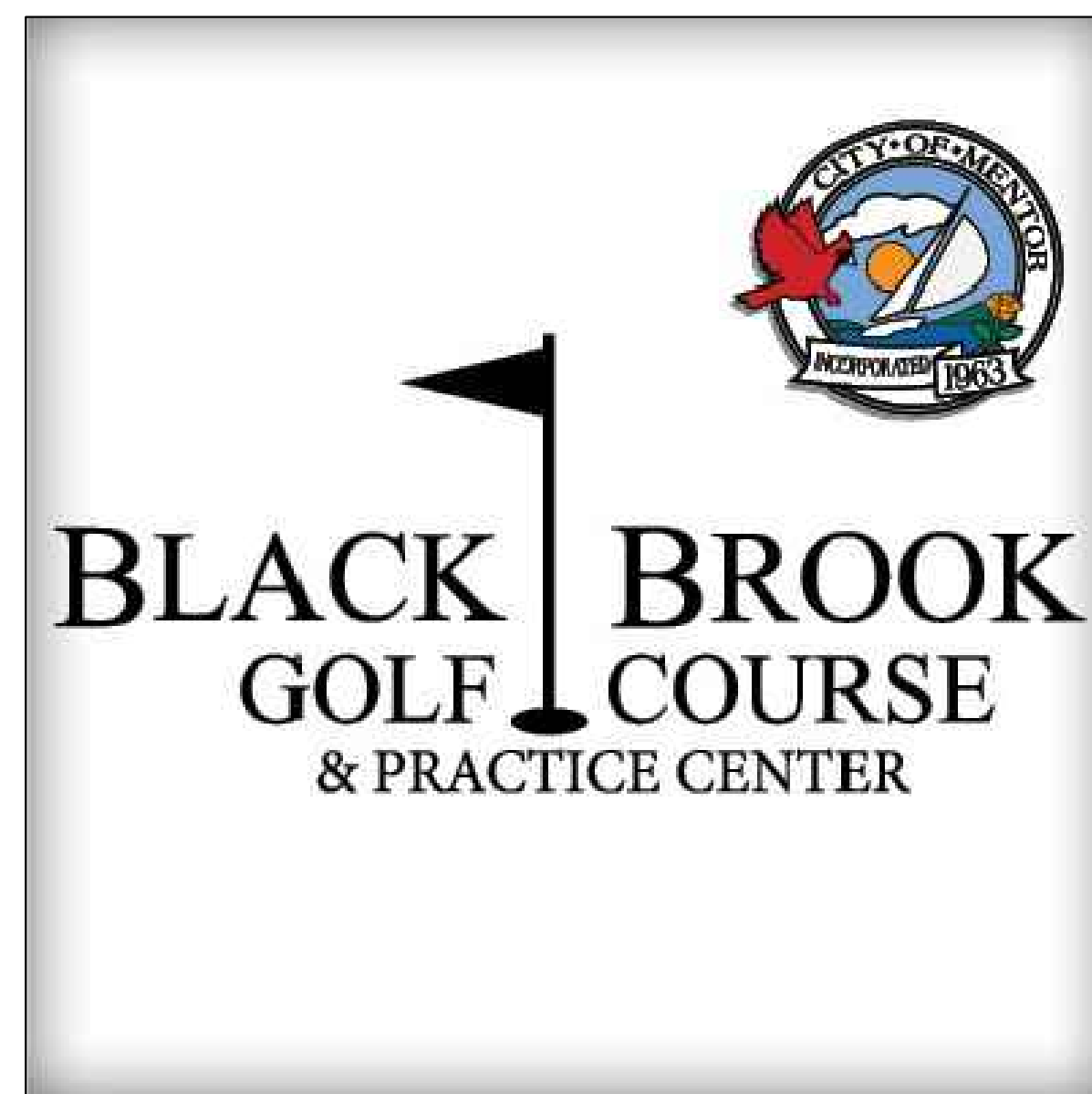


BLACK BROOK GOLF COURSE
8900 LAKESHORE BLVD.
MENTOR, OH 44060



PROJECT:
BLACK BROOK GOLF COURSE
AUTOMATIC IRRIGATION SYSTEM
BID DOCUMENTS

LOCATION MAP:



CONSULTANT:



SHEET INDEX

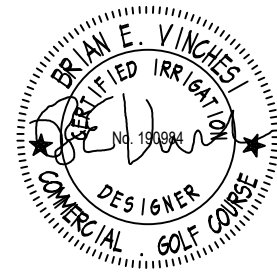
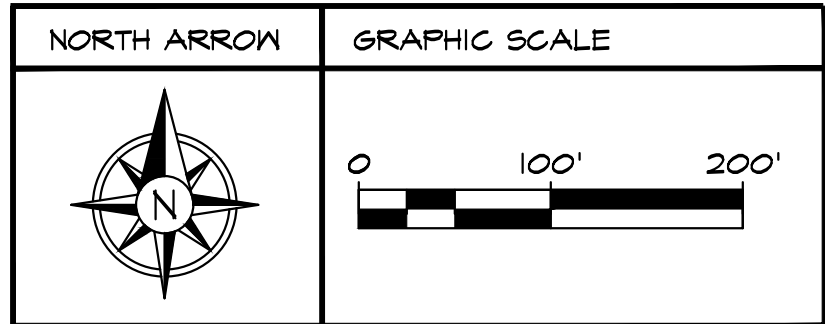
<u>SHEET TITLE:</u>	<u>SHEET NUMBER:</u>
SPRINKLER AND PIPING PLAN	IR-1.0
WIRING AND CONTROL PLAN - RAIN BIRD	IR-2.0
WIRING AND CONTROL PLAN - TORO	IR-3.0
IRRIGATION DETAILS	IR-4.0
PUMP STATION INTAKE AND COMPONENTS	P-1.0

JUNE 2023
FOR BIDDING NOT FOR CONSTRUCTION



- IRRIGATION LEGEND:**
- SPRINKLER TYPE A. FULL CIRCLE ROTARY SPRINKLER 80' SPACING
 - SPRINKLER TYPE B. ADJUSTABLE ARC ROTARY SPRINKLER 80' SPACING
 - SPRINKLER TYPE D. FULL CIRCLE ROTARY SPRINKLER 70' SPACING
 - SPRINKLER TYPE E. ADJUSTABLE ARC ROTARY SPRINKLER 70' SPACING
 - ▼ SPRINKLER TYPE F. FULL CIRCLE ROTARY SPRINKLER 65' SPACING
 - ▲ SPRINKLER TYPE G. ADJUSTABLE ARC ROTARY SPRINKLER 65' SPACING
 - SPRINKLER TYPE H. FULL CIRCLE ROTARY SPRINKLER 50' SPACING
 - SPRINKLER TYPE I. ADJUSTABLE ARC ROTARY SPRINKLER 50' SPACING
 - SPRINKLER TYPE M. ADJUSTABLE ARC ROTARY SPRINKLER 55' SPACING
 - ⊢ MAINLINE ISOLATION GATE VALVE (LINE SIZE)
 - ⊕ LATERAL ISOLATION GATE VALVE (LINE SIZE)
 - 1" QUICK COUPLING VALVE
 - 1" AIR / VACUUM RELEASE VALVE
 - ⊕ MANUAL DRAIN VALVE
 - ⊕ AUTOMATIC POND FILL VALVE
 - HDPE DR 13.5 (160 PSI) MAINLINE PIPE
 - - - HDPE DR 13.5 (160 PSI) MAINLINE PIPE (BORE)
 - HDPE DR 13.5 LATERAL PIPE (2-INCH IN SIZE UNLESS OTHERWISE NOTED)
 - ⋯ PVC CL200 PIPE SLEEVE (SIZE AS INDICATED)

- IRRIGATION NOTES:**
1. MANUAL DRAINS SHALL BE INSTALLED AT LOW POINTS IN IRRIGATION MAINLINE IN VICINITY OF WHERE SHOWN.
 2. AIR / VACUUM RELEASE VALVES SHALL BE INSTALLED AT HIGH POINTS IN IRRIGATION MAINLINE IN VICINITY OF WHERE SHOWN.



SPRINKLER HEADS, QUICK COUPLERS, LATERAL PIPING, LATERAL ISOLATION ISOLATION, AND COMMUNICATION CABLE THAT FOLLOWS THE LATERAL PIPING WITHIN THE DRIVING RANGE FAIRWAY ARE PART OF THE ALTERNATE IRRIGATION MAINLINE. L.A.G.'s AND COMMUNICATION CABLE THAT FOLLOWS THE MAINLINE IN THIS AREA ARE TO REMAIN PART OF THE BASE BID.

SCALE: 1" = 100'-0" STATUS: FOR BIDDING DATE: 6/2/2023 SHEET NUMBER: IR-1.0		REVISIONS: <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	DESCRIPTION										SHEET TITLE: SPRINKLER AND PIPING PLAN BLACK BROOK GOLF COURSE IRRIGATION DOCUMENTS	PROJECT NAME: BLACK BROOK GOLF COURSE 8900 LAKESHORE BLVD MENTOR, OH 44060	CLIENT NAME: BLACK BROOK GOLF COURSE 8900 LAKESHORE BLVD MENTOR, OH 44060	 20 Merritt Parkway 2nd Floor Nashua, NH 03062 (603) 435-8412 Fax (603) 435-2166 e-mail: bvn@blackbrookirrigationconsulting.com	112 S. Old Statesville Road Suite 104 Huntersville, NC 28078 (704) 843-3688 Fax (704) 843-3581 e-mail: sgr@blackbrookirrigationconsulting.com
NO.	DATE	DESCRIPTION																	



RAIN BIRD CONTROL LEGEND

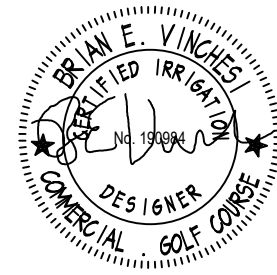
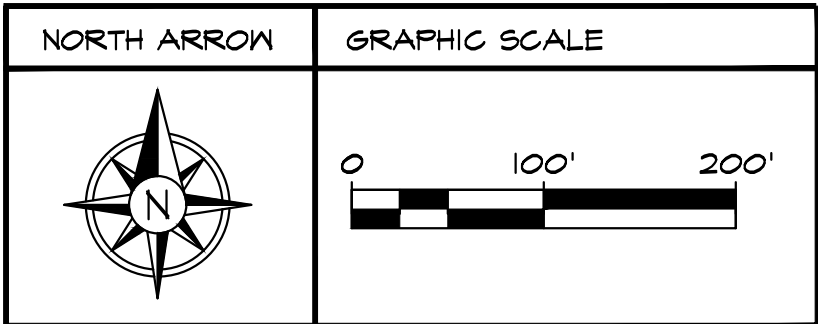
- Ⓢ CENTRAL CONTROLLER LOCATION
- Ⓟ POWER SOURCE 120 VOLT 60 HZ SINGLE PHASE
- Ⓜ REMOTE INTEGRATED CONTROL INTERFACE
- ⓁⓂⓈ LIGHTNING SURGE ARRESTOR IV GROUND
- Ⓡ RAIN GAUGE
- IC1+ - 1, BOARD - 1, PATH - 1, COMMUNICATION CABLE #14/2 EXCEPT WHERE NOTED #12/2
- IC1+ - 1, BOARD - 1, PATH - 2, COMMUNICATION CABLE #14/2
- Ⓢ AREA OF CONTROL

ELECTRICAL NOTES:

1. LIGHTNING ARRESTORS CONNECT TO THE COMMUNICATION PATH. THEY ARE SHOWN IN FAIRWAYS, TEES, BUNKERS, GREENS, WATER AND HARDSCAPE FOR DRAWING CLARITY ONLY. ALL EQUIPMENT TO BE INSTALLED OUTSIDE OF THESE AREAS IN ROUGH OR OTHER AREAS.
2. ON COMMUNICATION PATHS WITH LONG CABLE RUNS FROM IC1+ BEFORE REACHING LATERALS, CABLE SHALL BE ONE SIZE LARGER #12/2 AWG AND REDUCED TO #14/2 AWG ONCE LATERALS ARE REACHED. WHERE #12/2 AWG WIRES ARE REQUIRED THEY ARE MARKED ON THE PLAN.
3. COMMUNICATION CABLES SHALL FOLLOW MAINLINE AND LATERAL PIPING TO SPRINKLERS. LATERAL CABLE (RED) SHALL START AT THE GATE VALVE.

RAIN BIRD IC1+ SCHEDULE

INTERFACE/ BOARD/ PATH	NUMBER OF ICMS
I-1-1	384
I-1-2	488



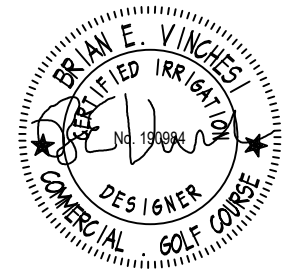
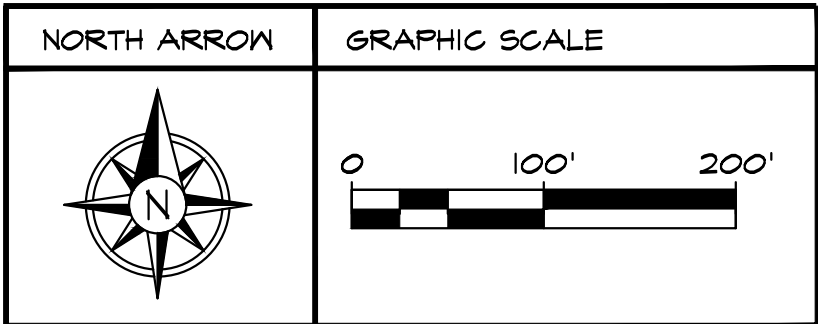


- TORO CONTROL LEGEND**
- Ⓢ CENTRAL CONTROLLER LOCATION
 - Ⓜ POWER SOURCE 120 VOLT 60 HZ SINGLE PHASE
 - Ⓜ SHI SMART HUB INTERFACE
 - LA/S LIGHTNING SURGE ARRESTOR W/ GROUND
 - Ⓡ TORO RAIN SENSOR (KIT REQUIRED)
 - SHI PATH 1 14/2 AWG COMMUNICATION CABLE EXCEPT WHERE NOTED 12/2
 - SHI PATH 2 14/2 AWG COMMUNICATION CABLE EXCEPT WHERE NOTED 12/2
 - SHI PATH 3 14/2 AWG COMMUNICATION CABLE EXCEPT WHERE NOTED 12/2
 - SHI PATH 4 14/2 AWG COMMUNICATION CABLE
 - AREA OF CONTROL

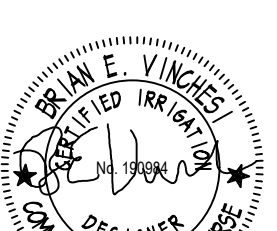
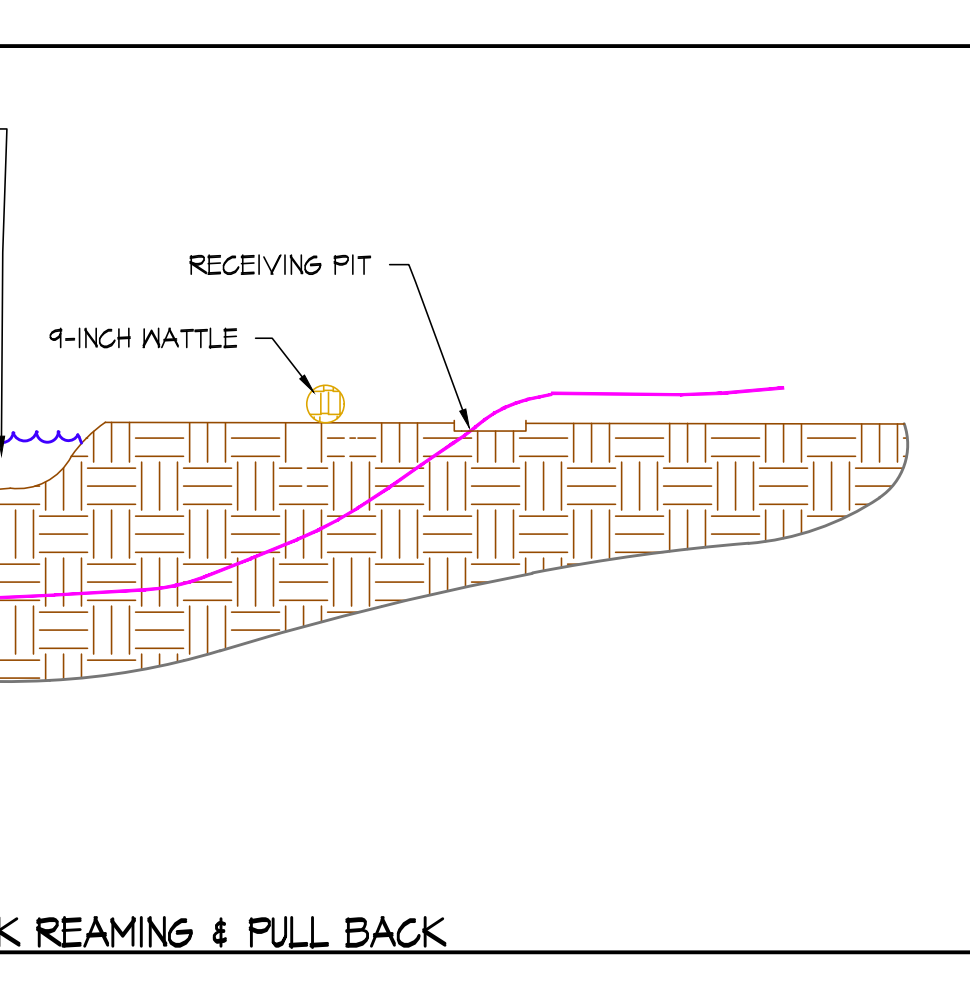
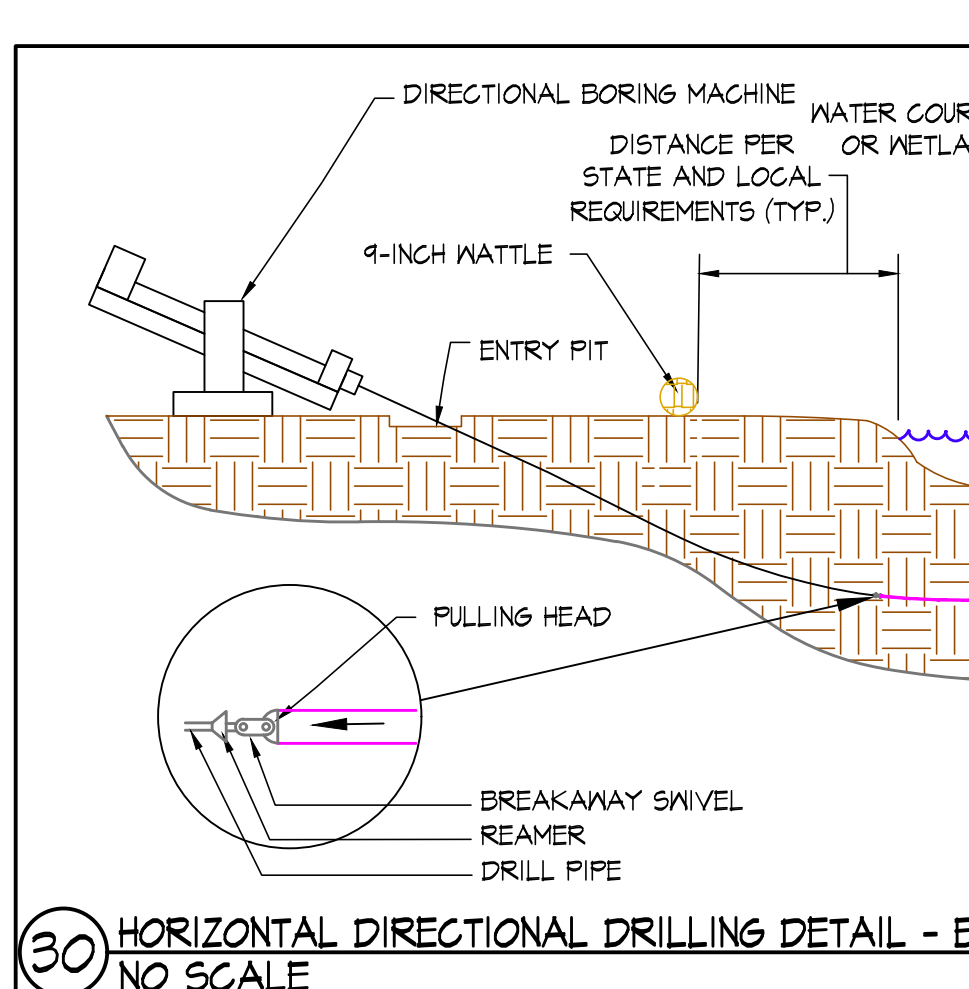
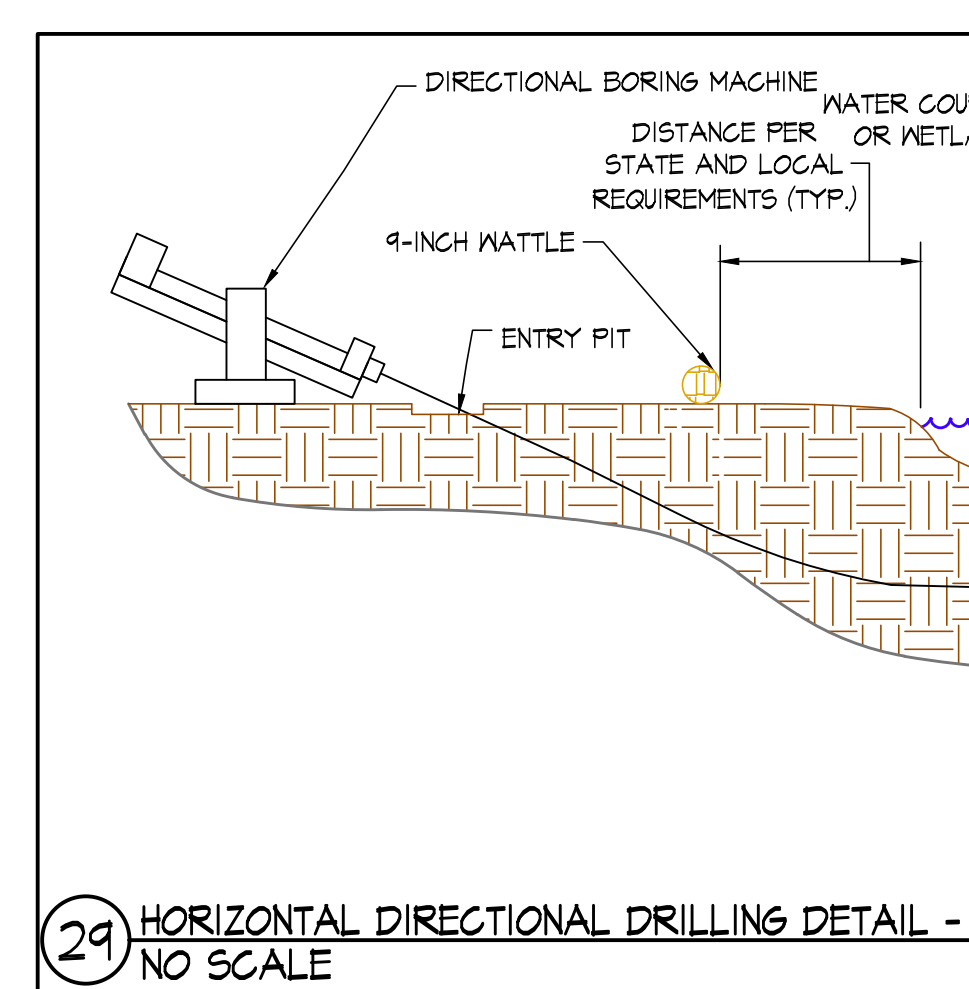
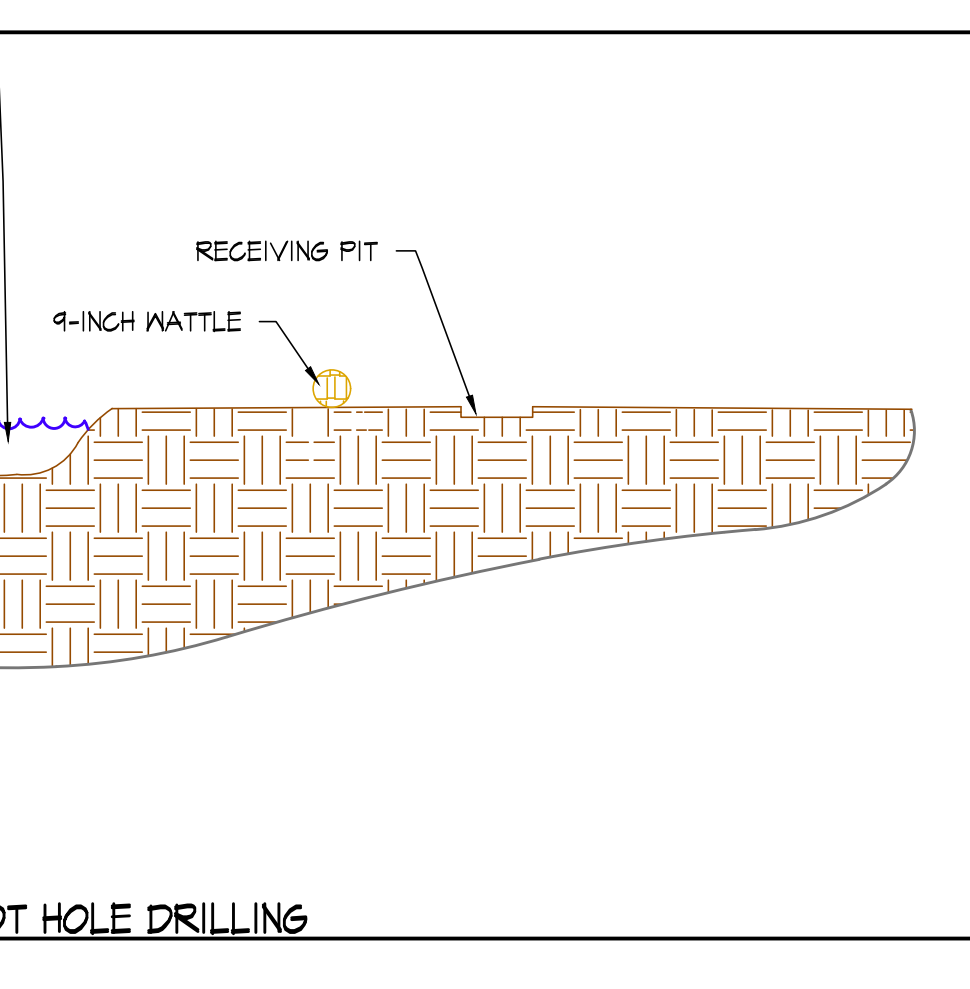
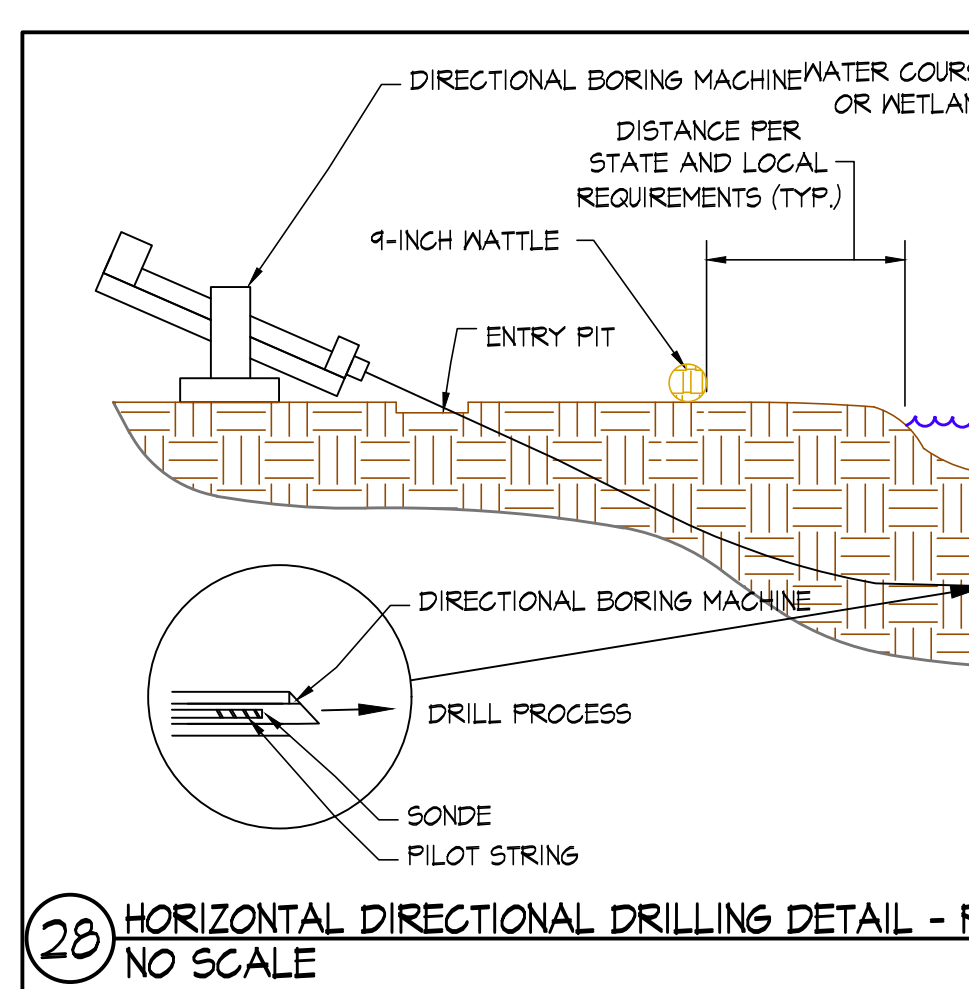
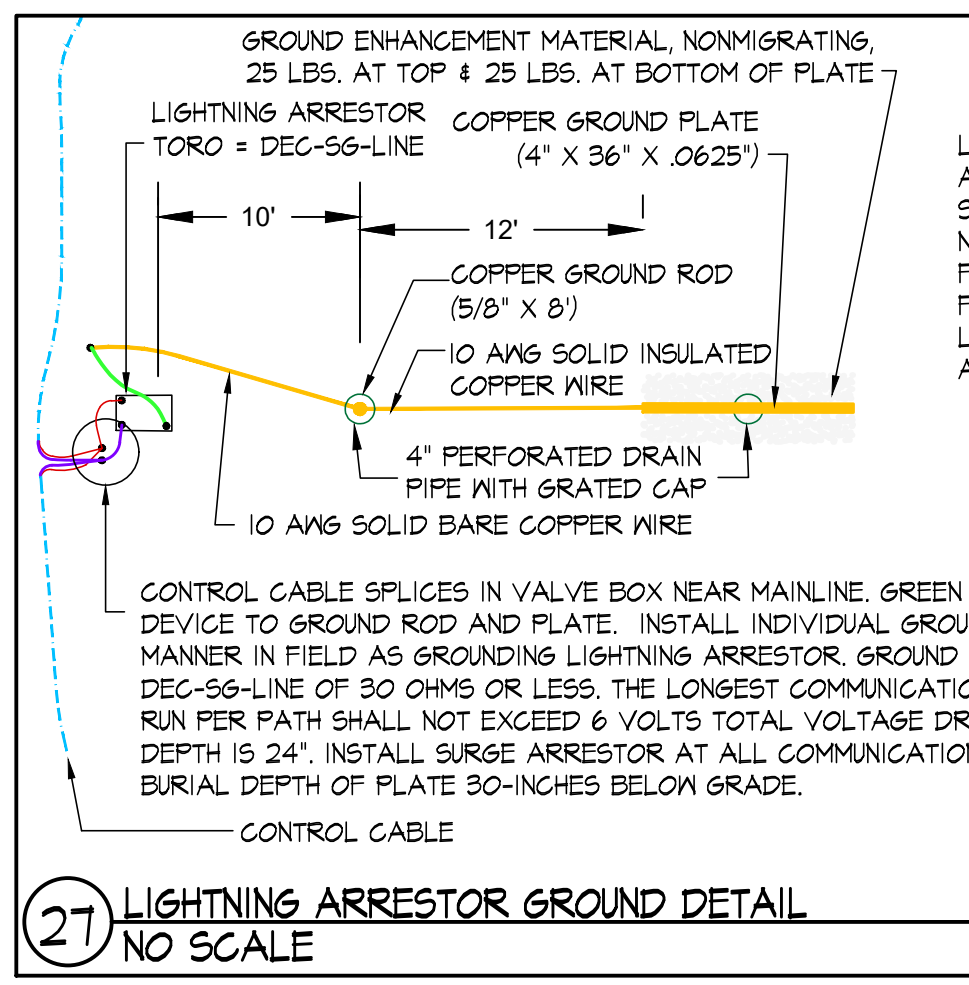
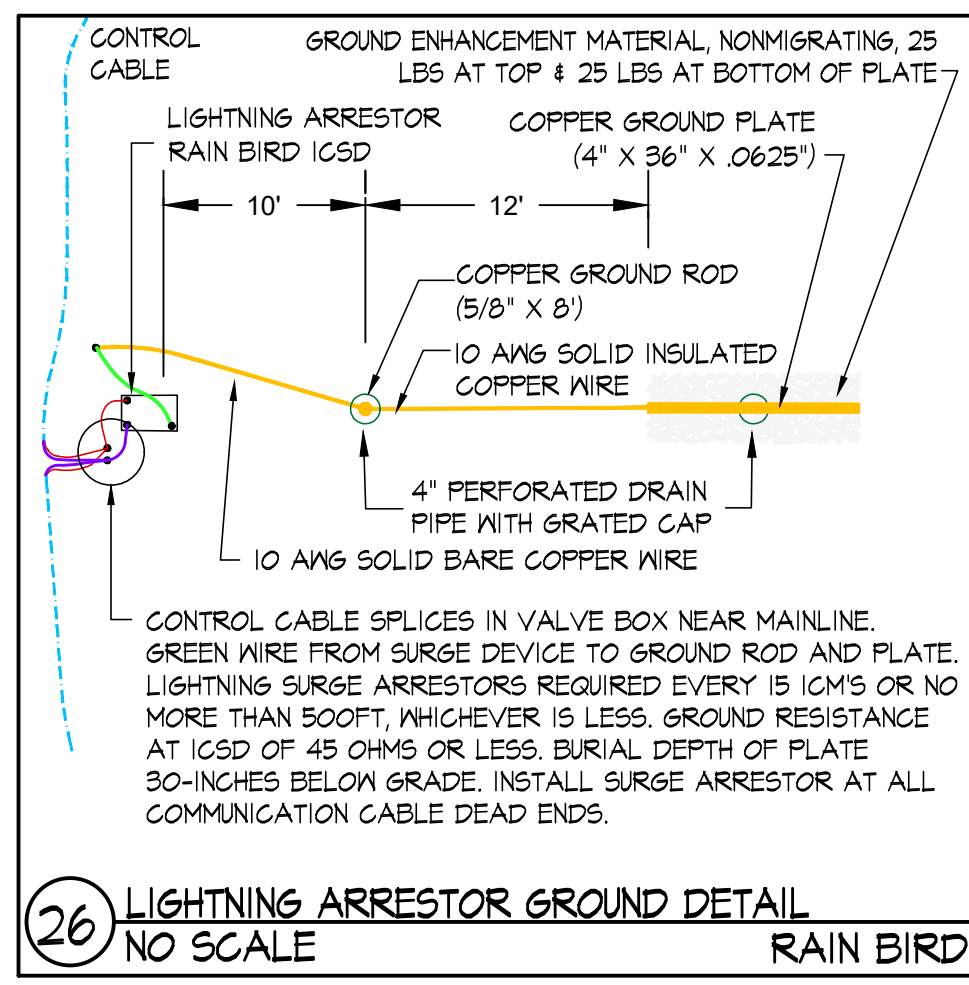
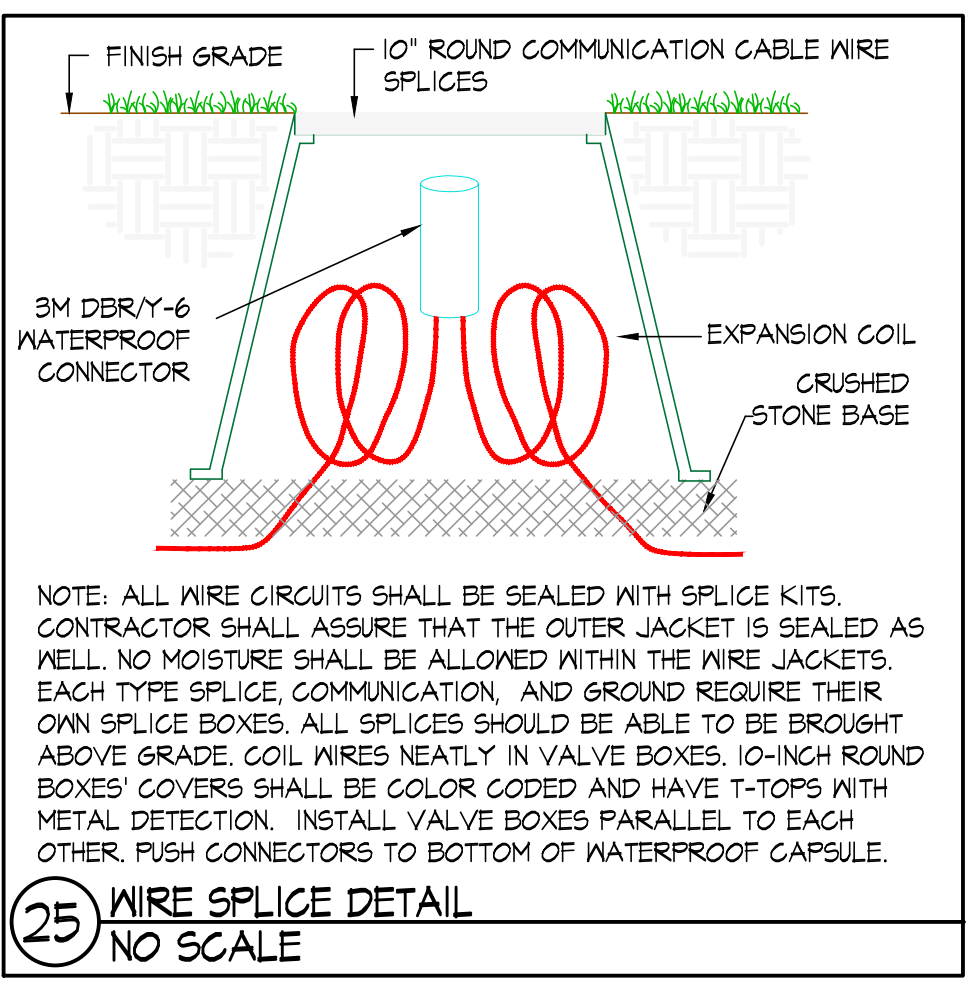
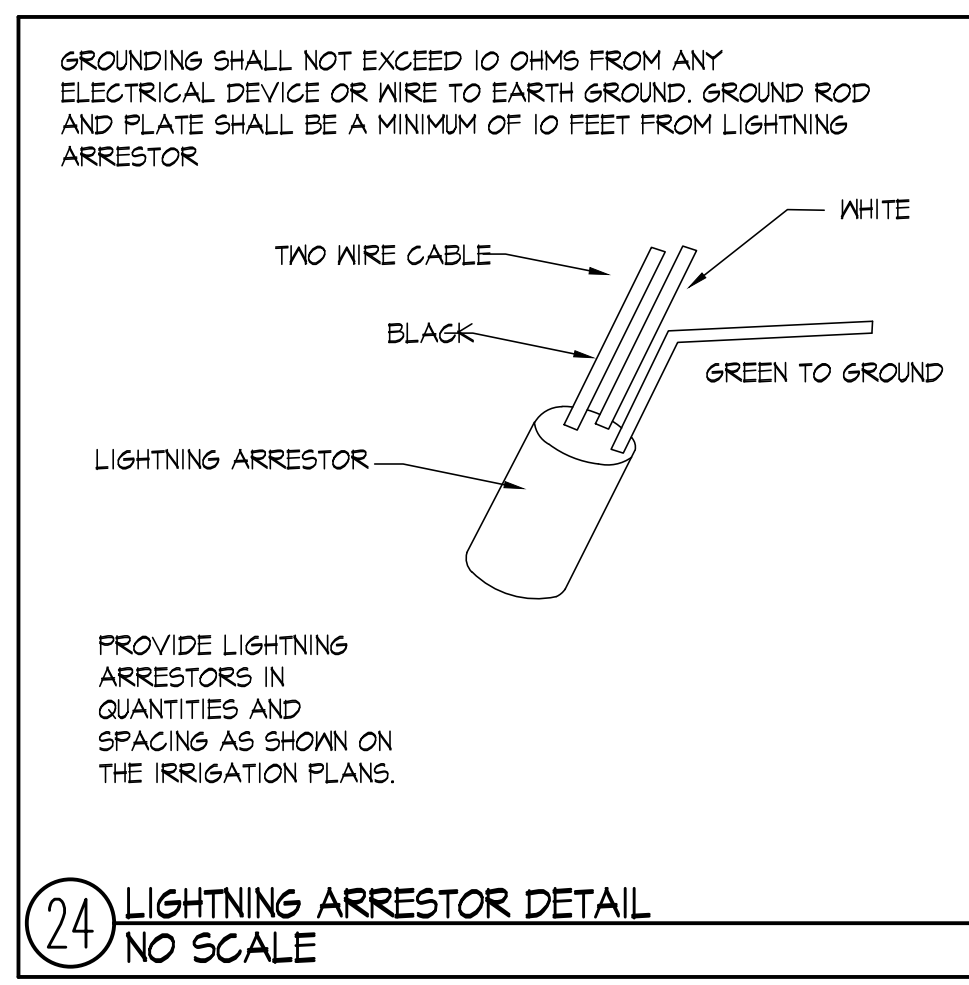
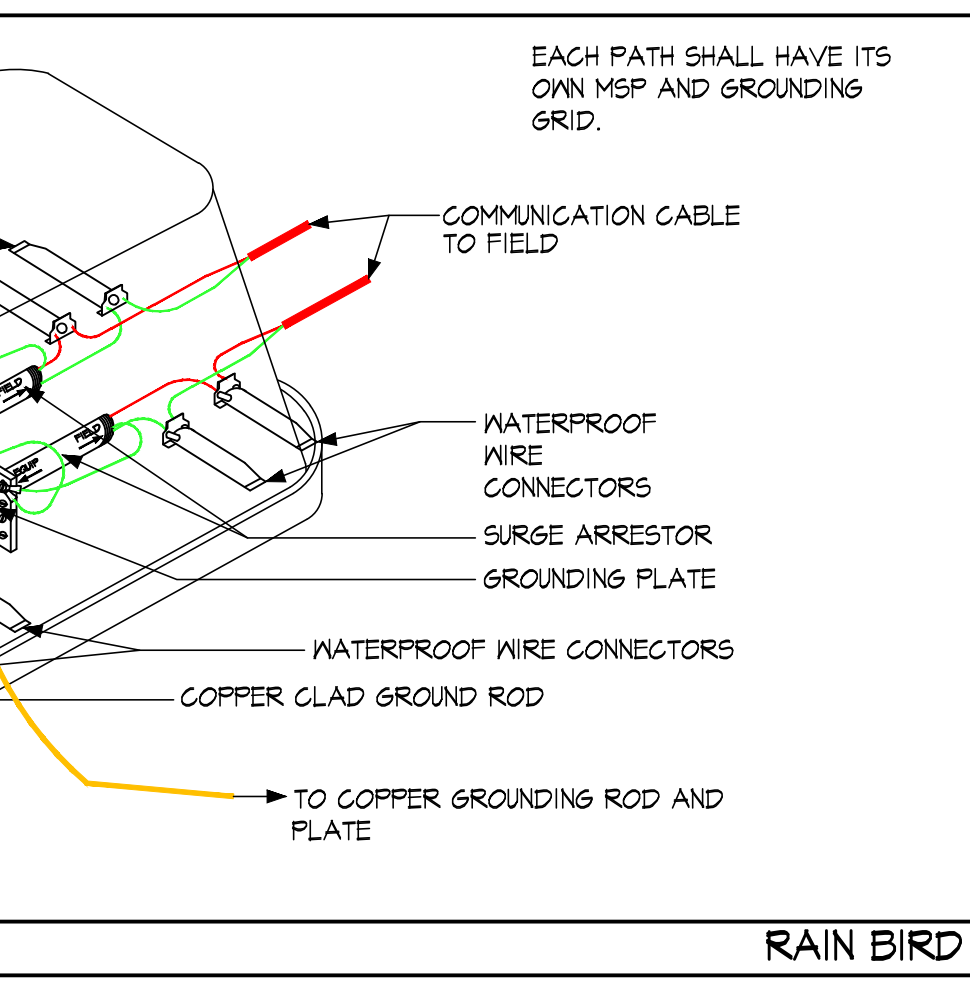
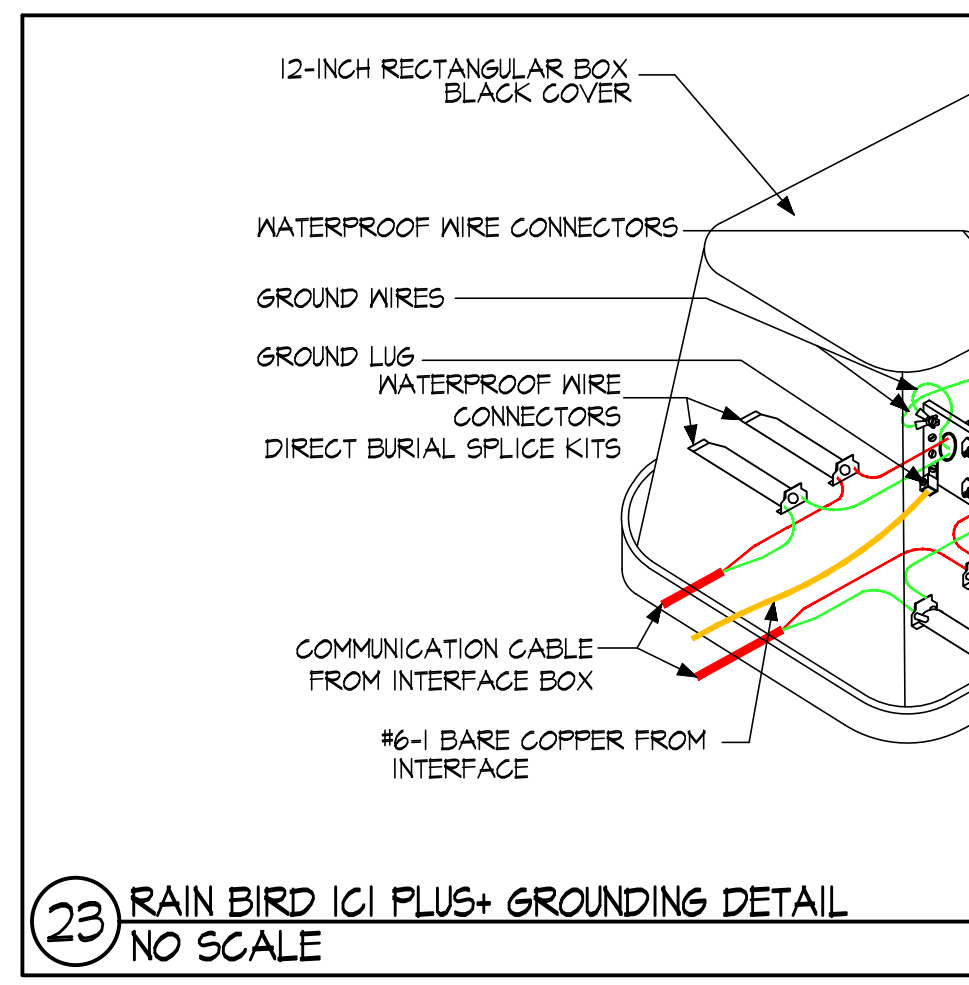
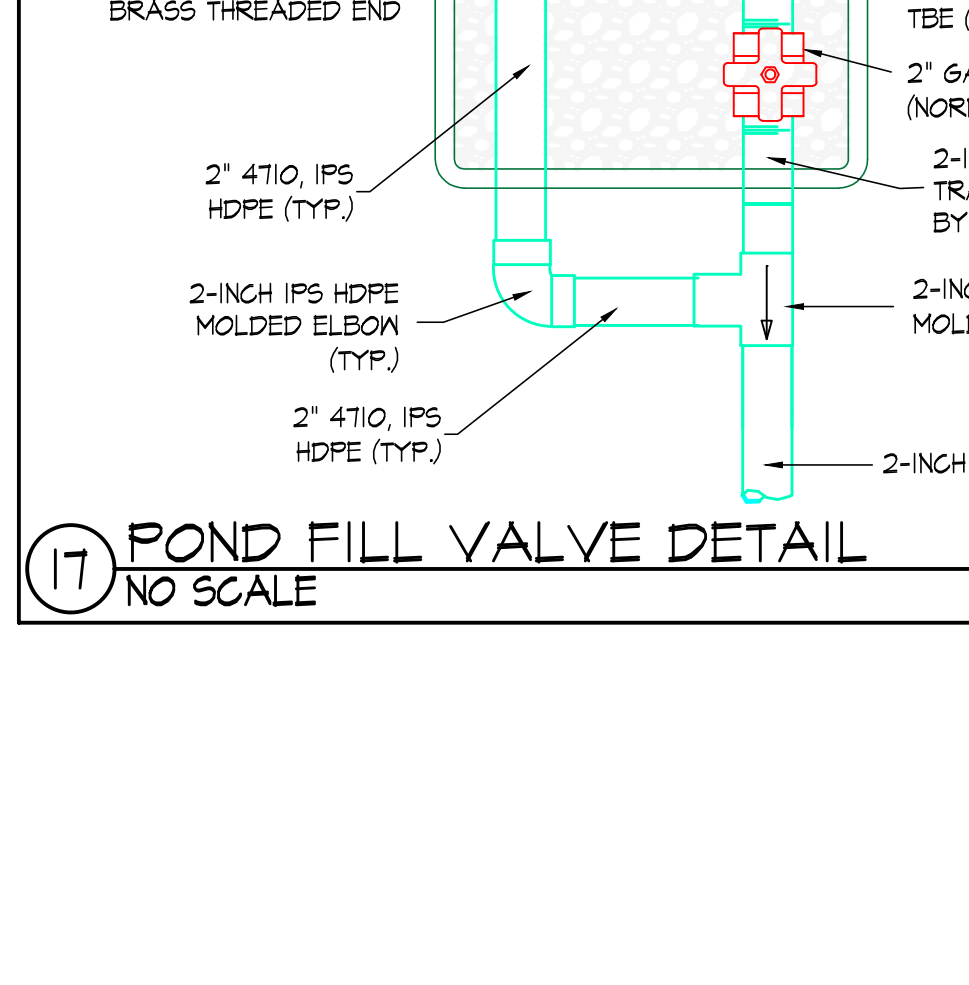
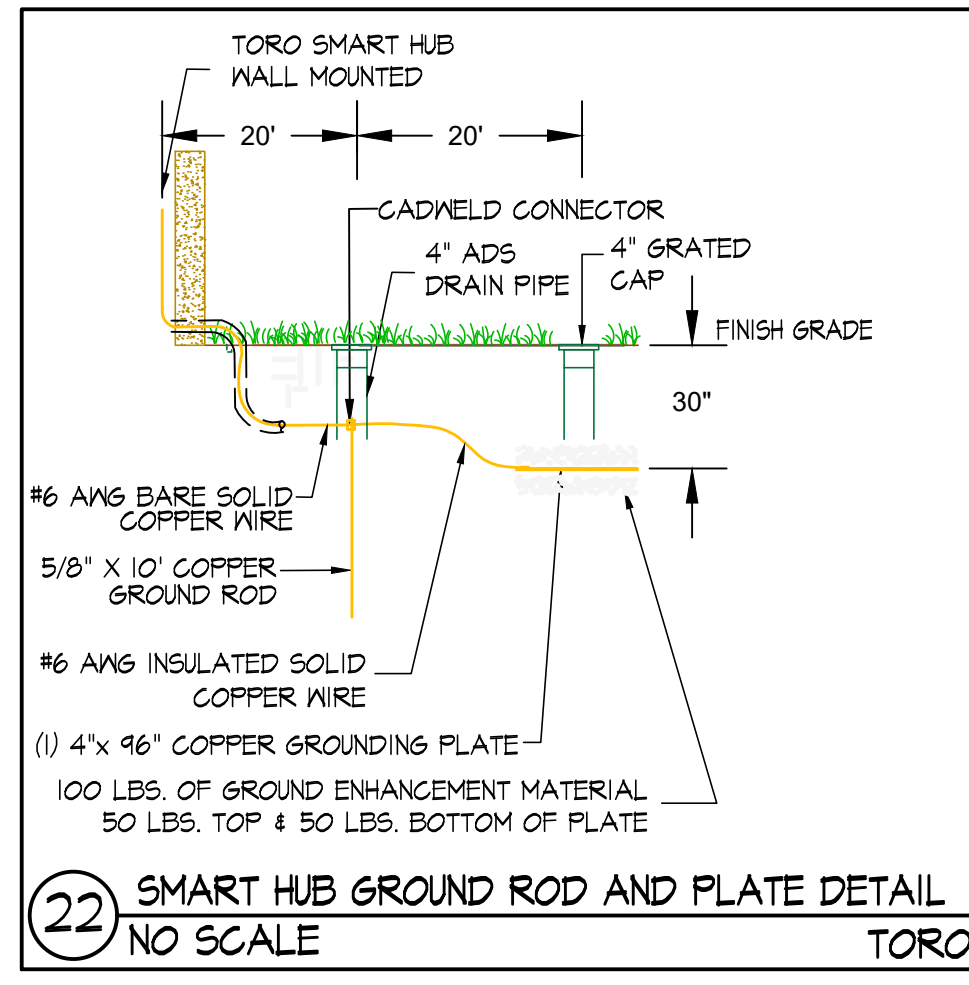
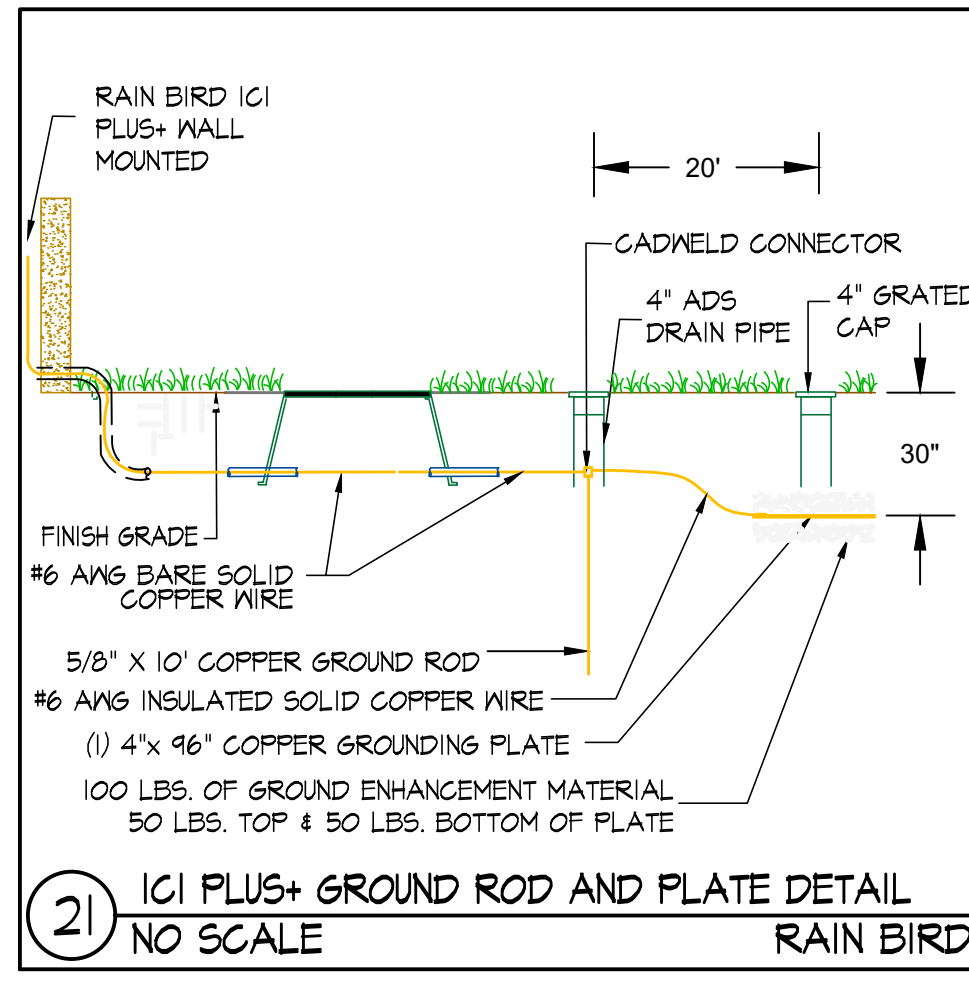
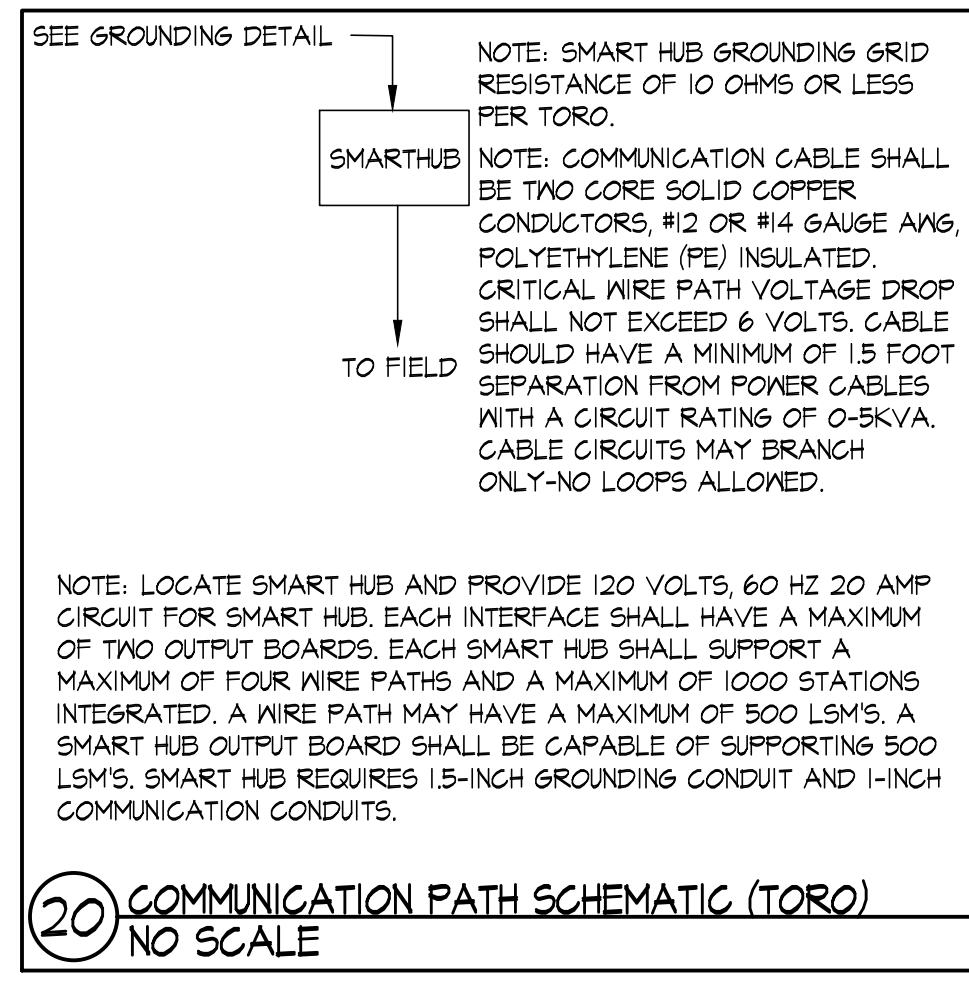
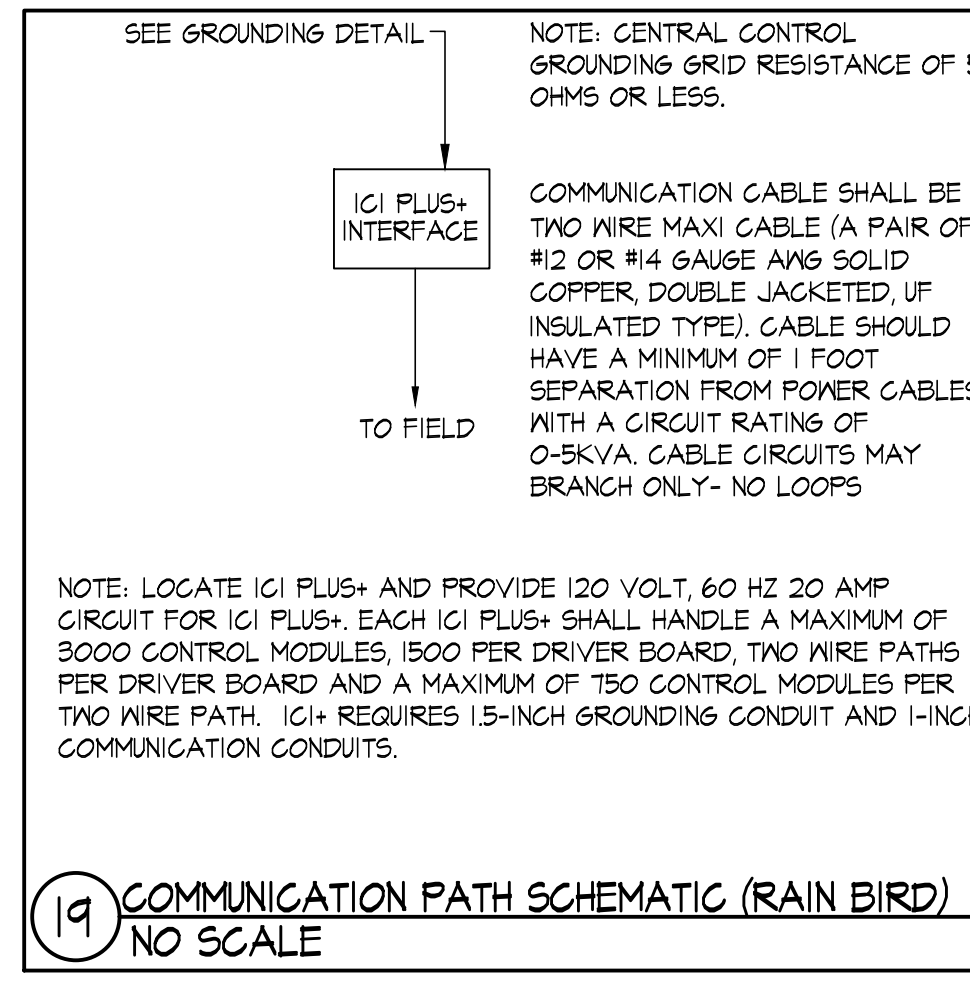
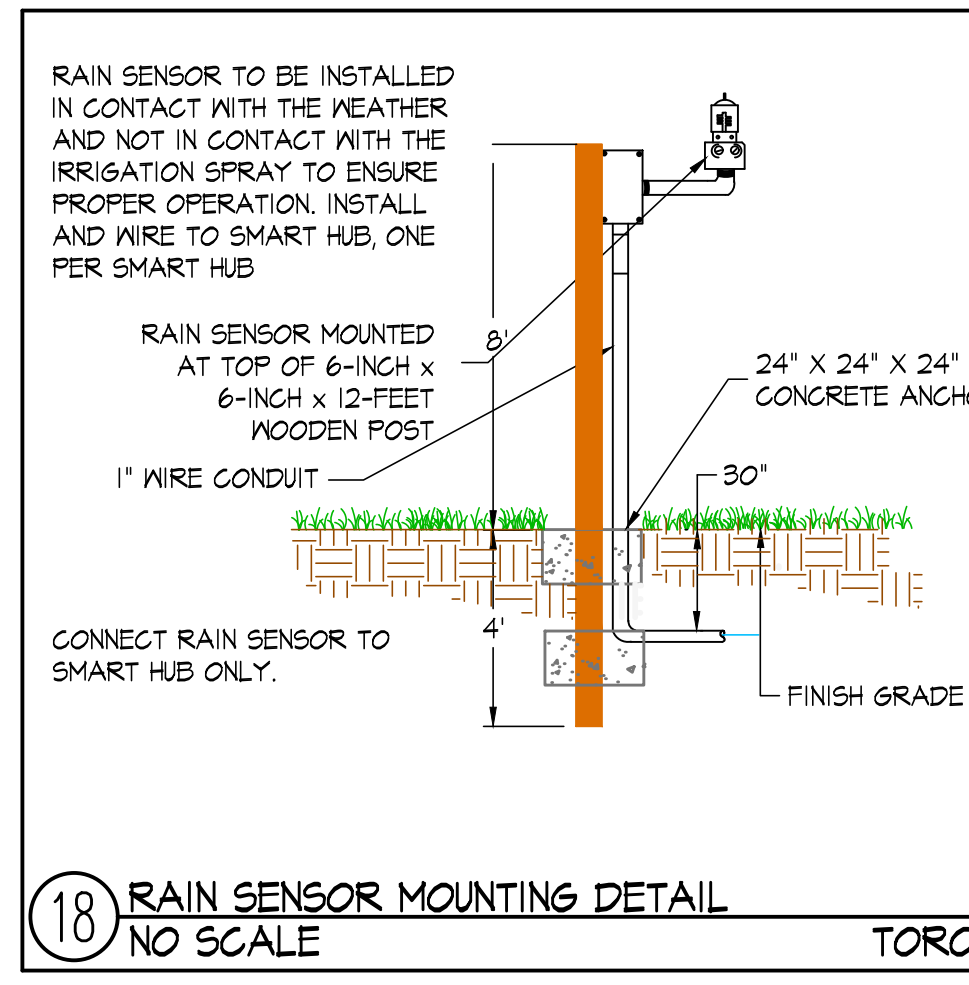
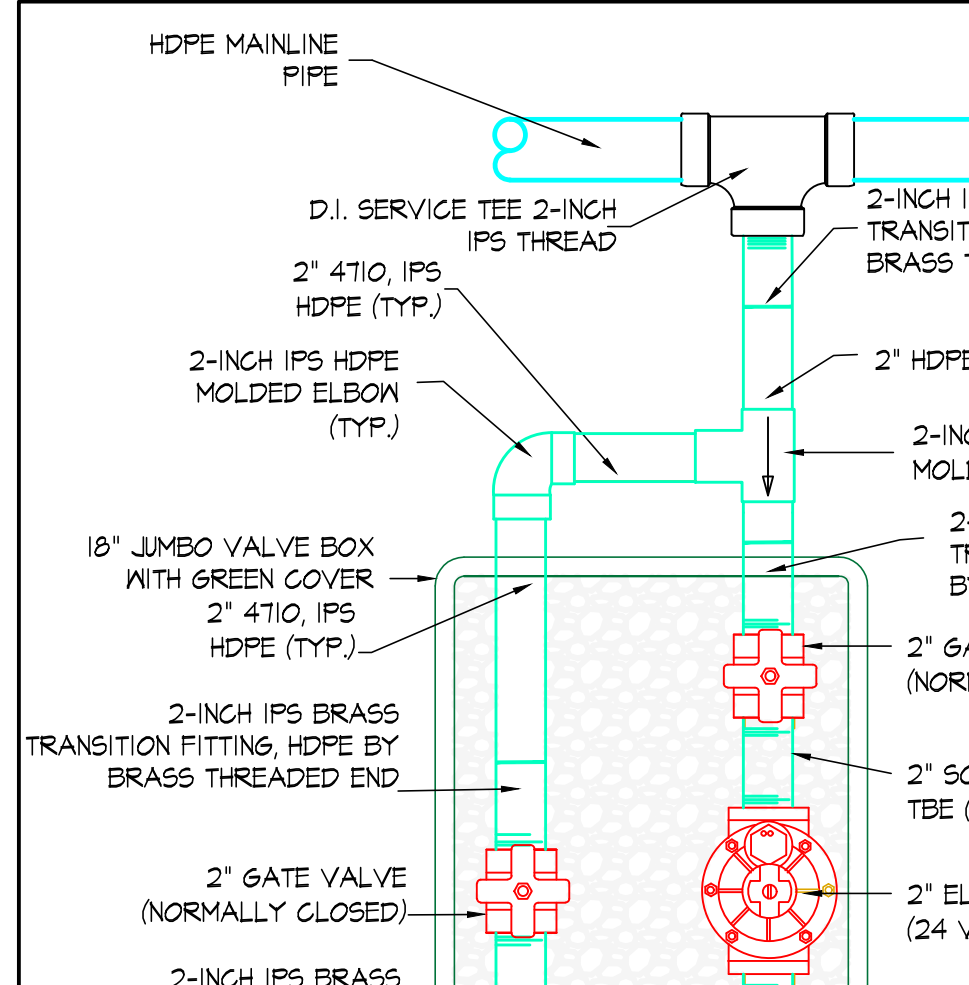
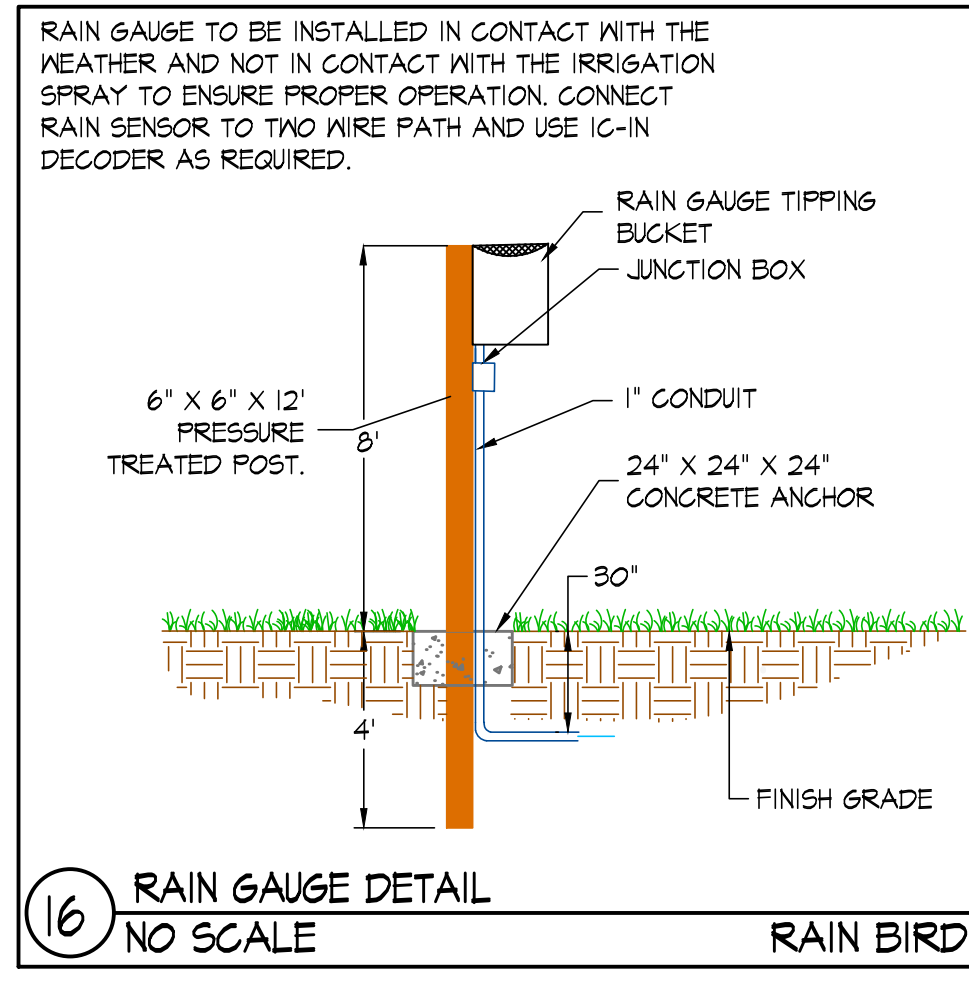
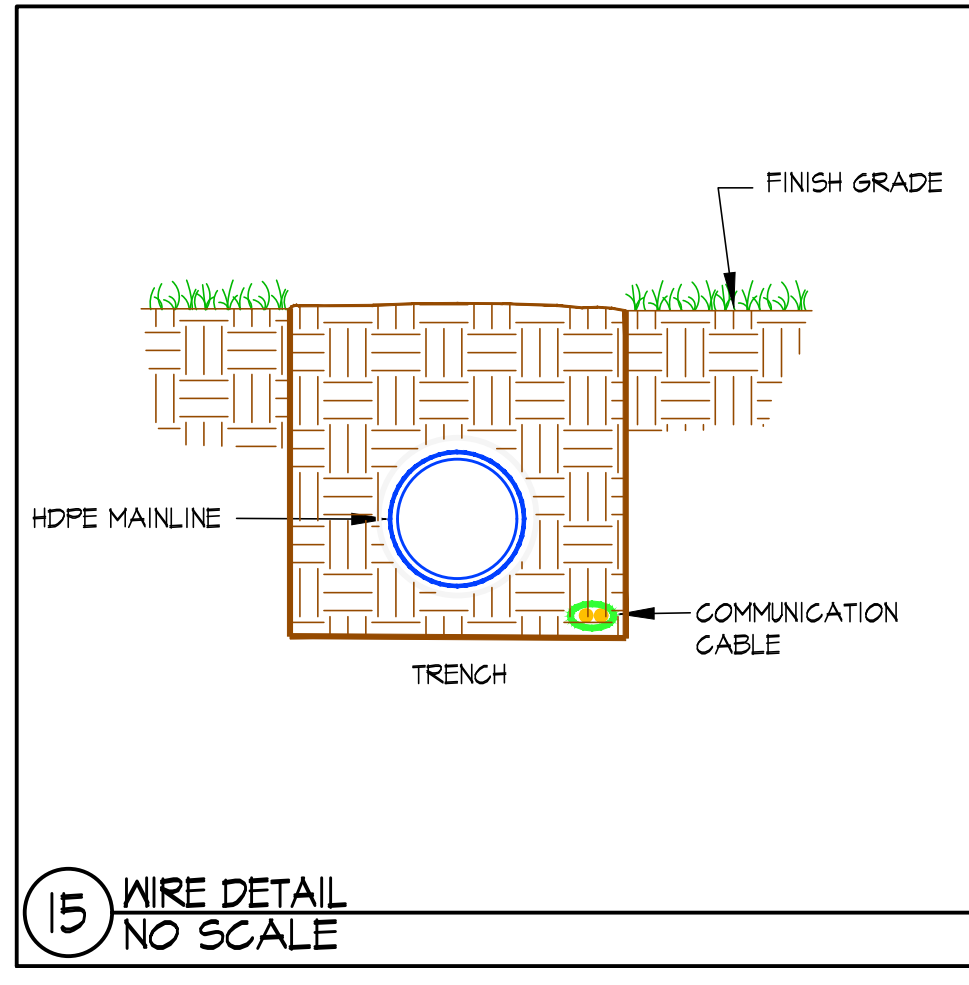
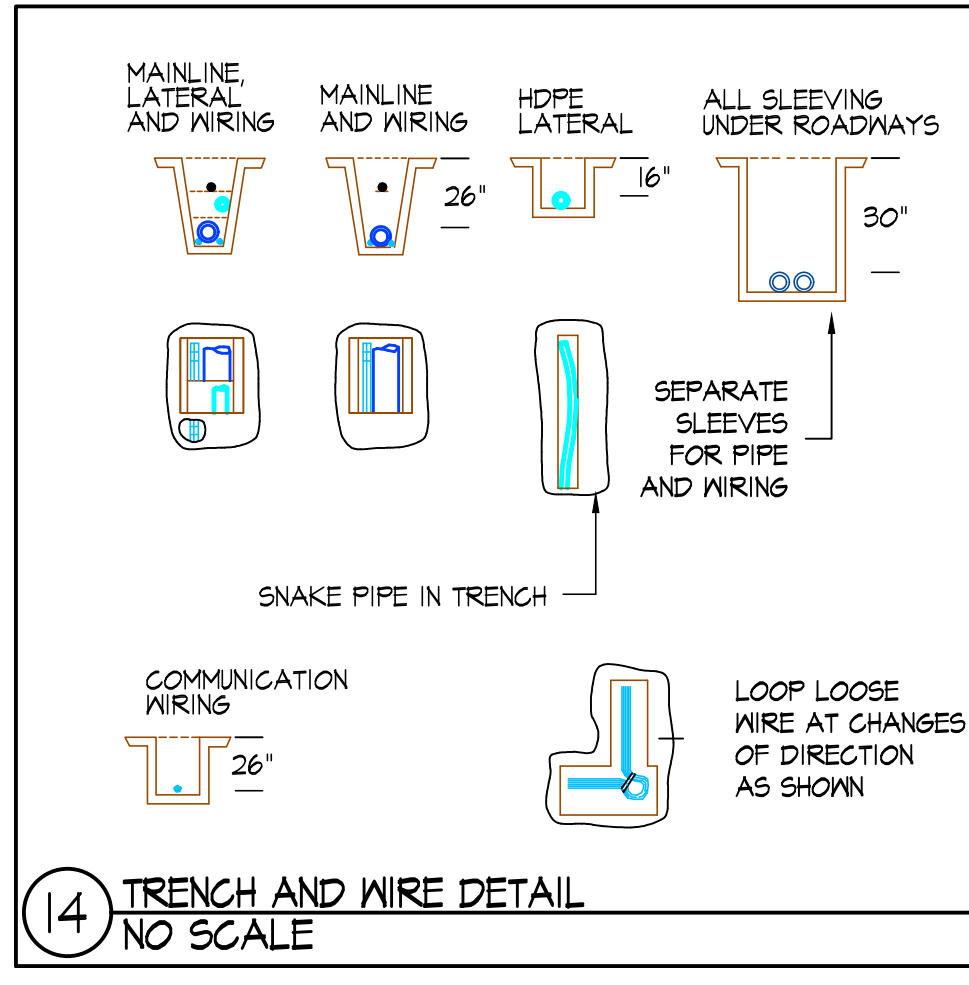
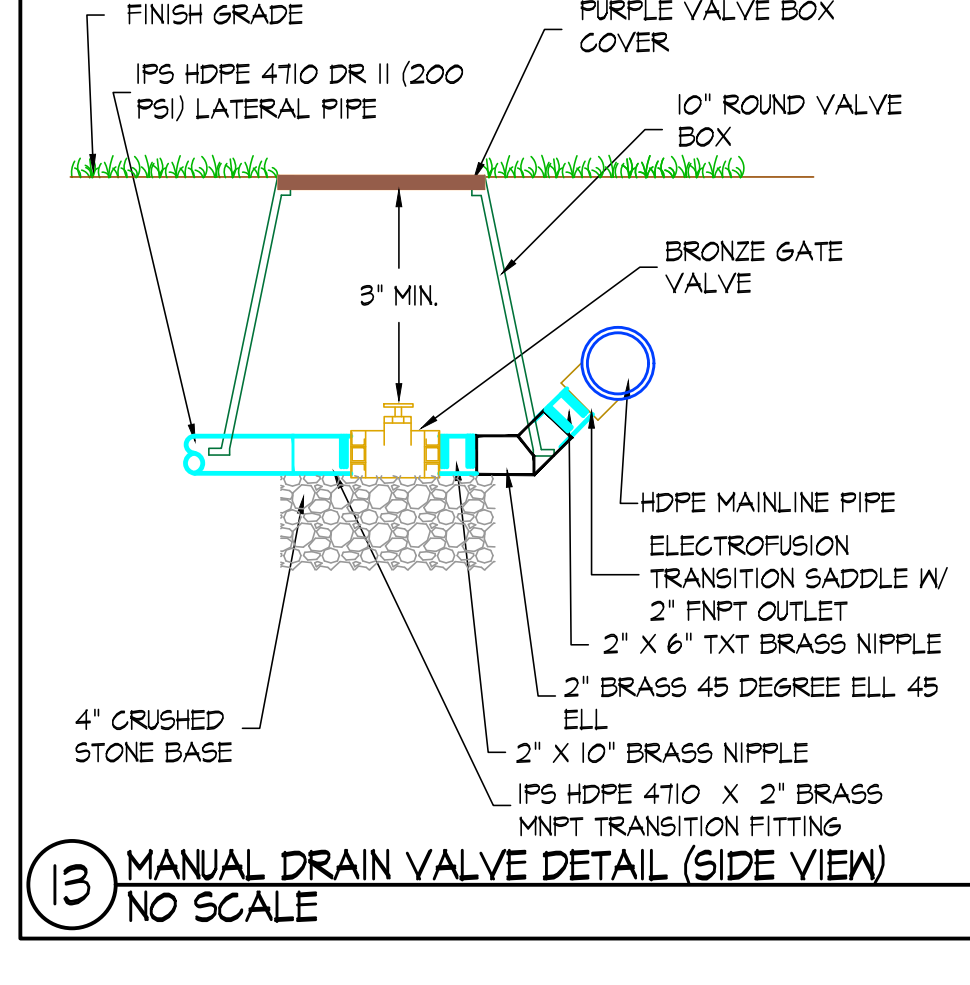
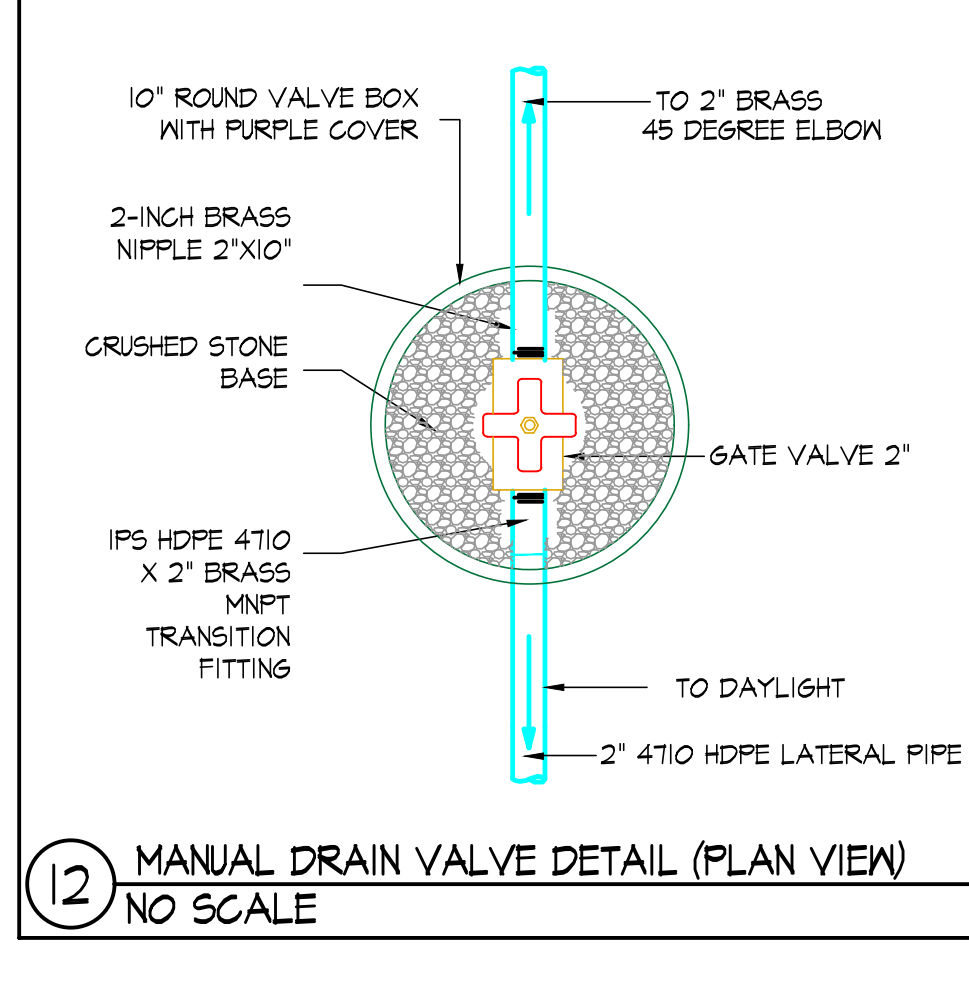
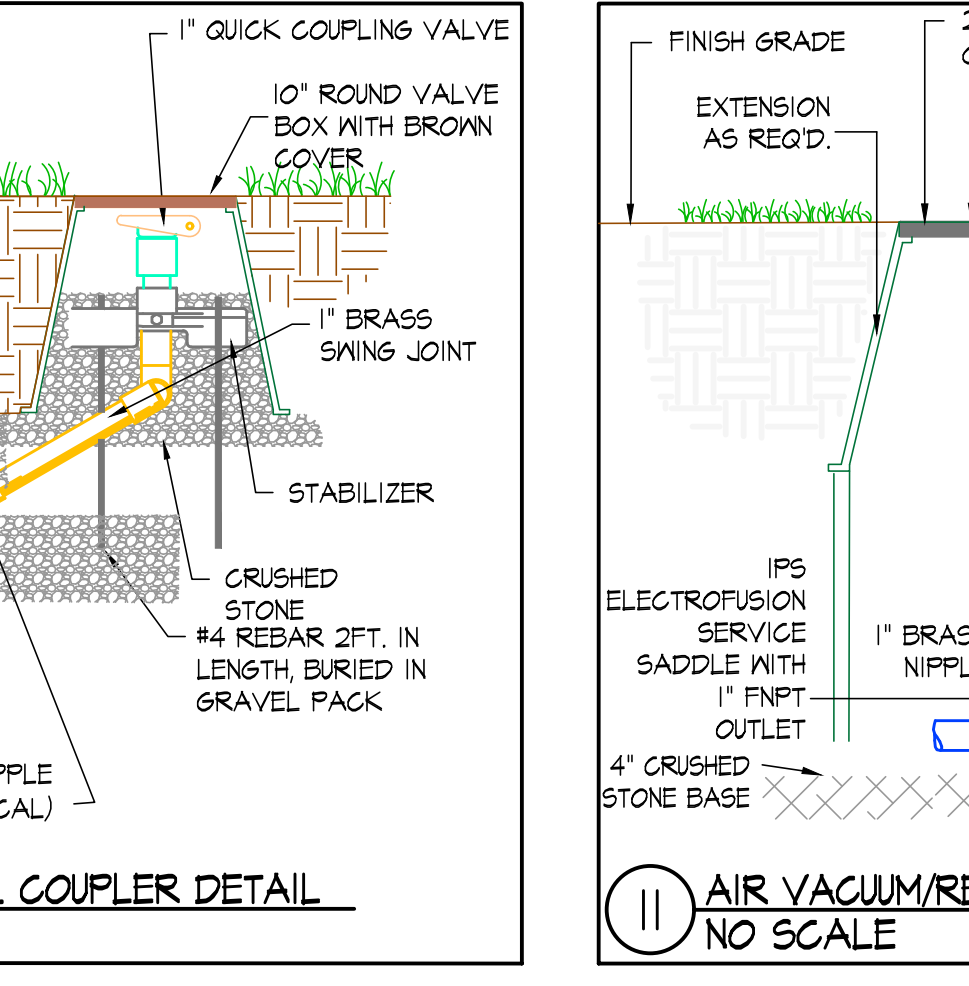
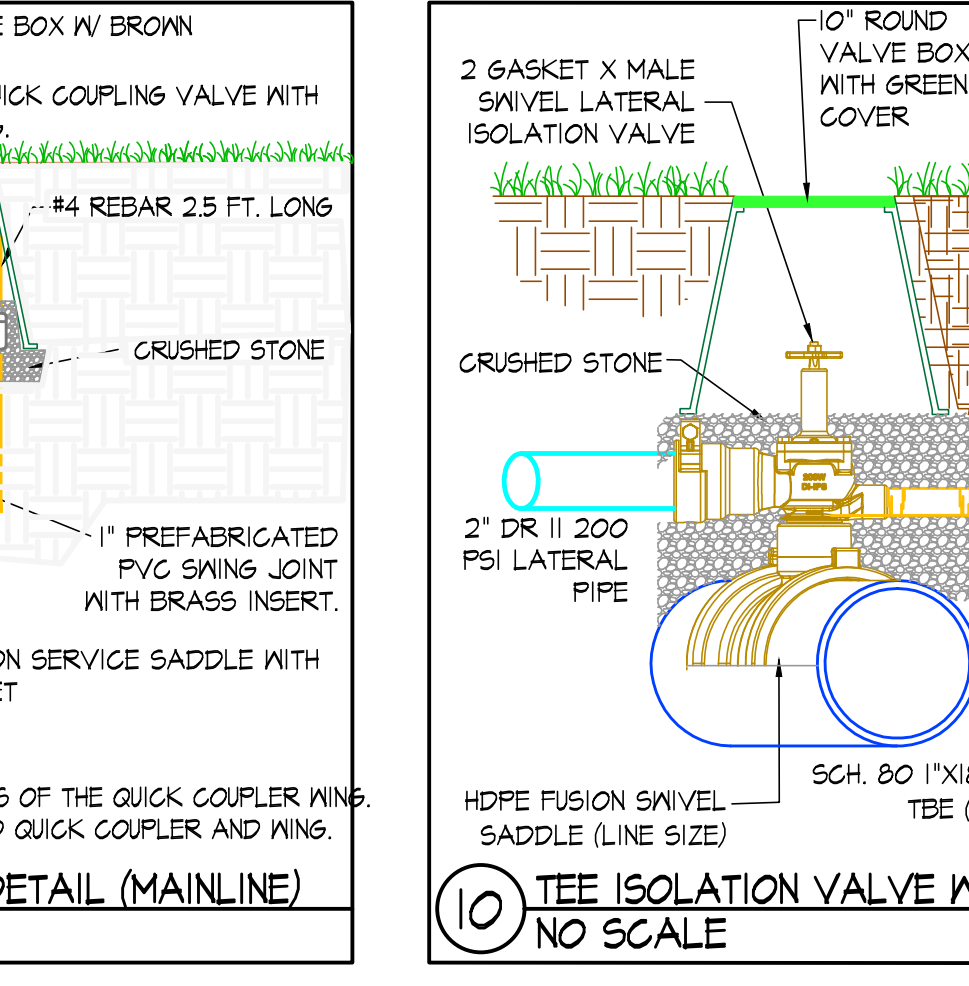
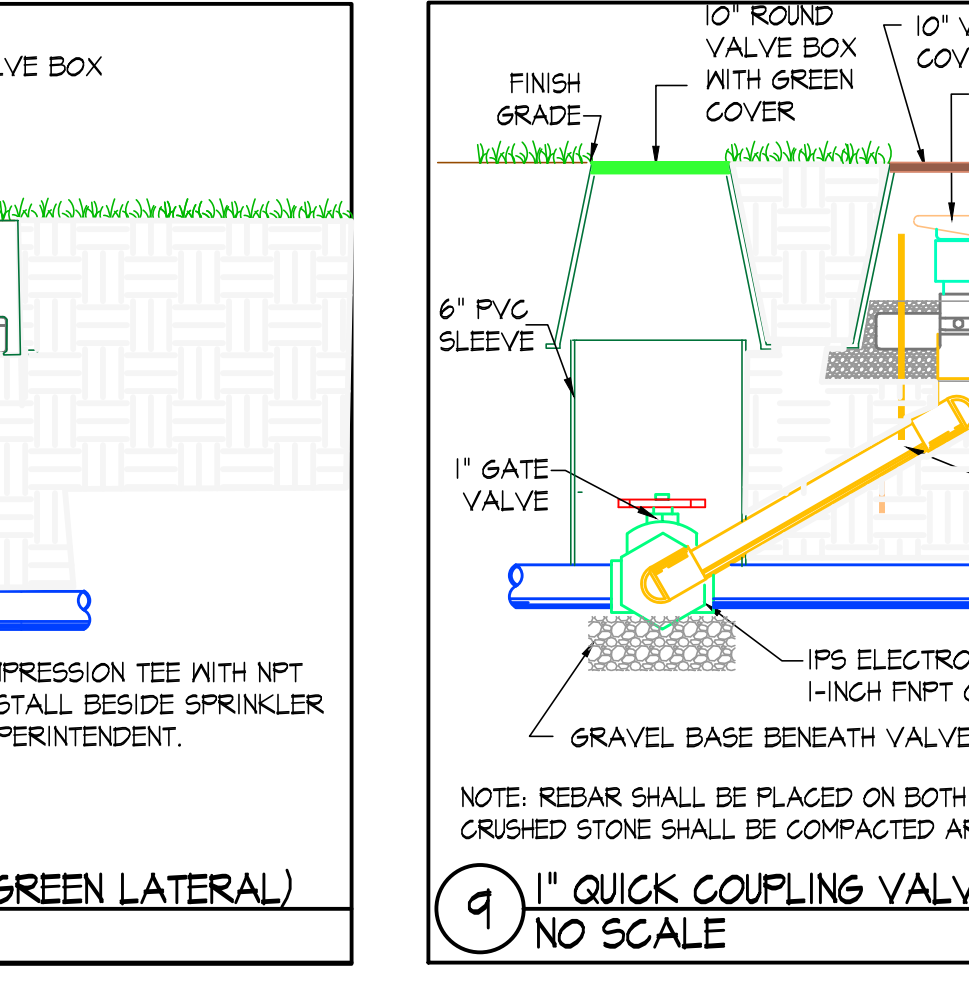
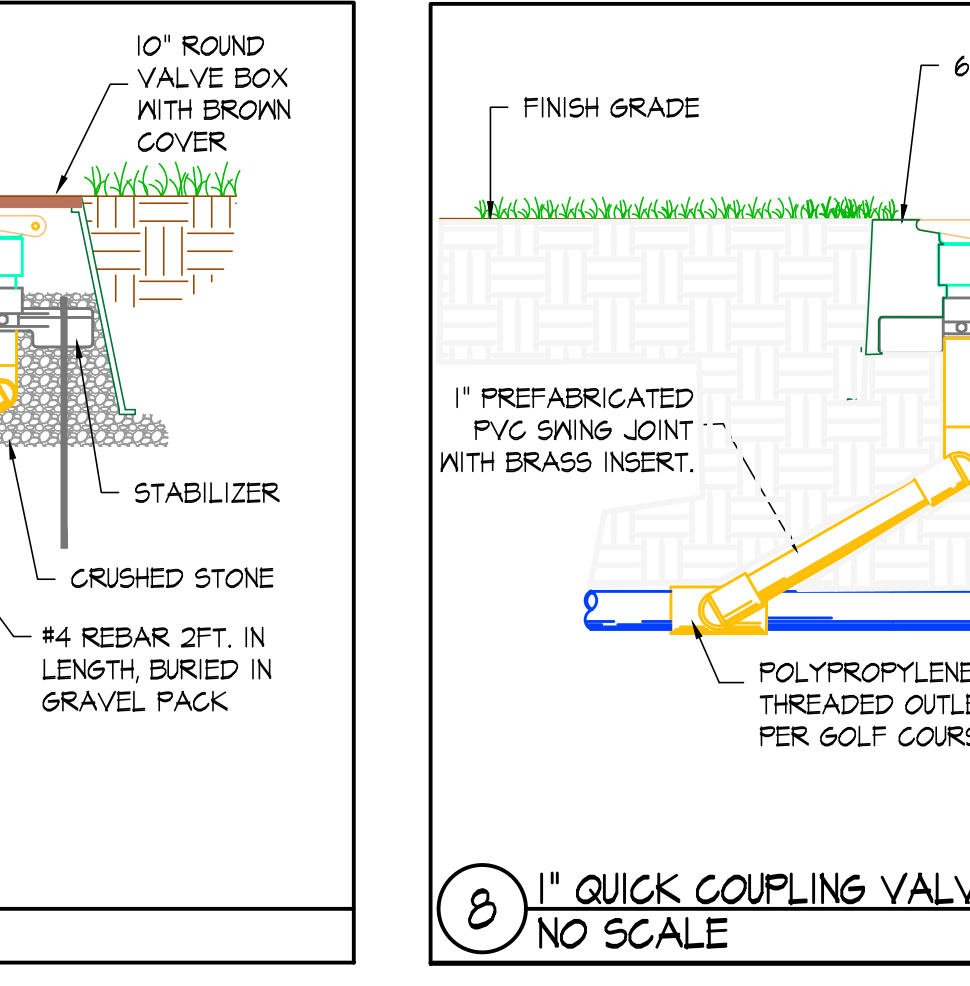
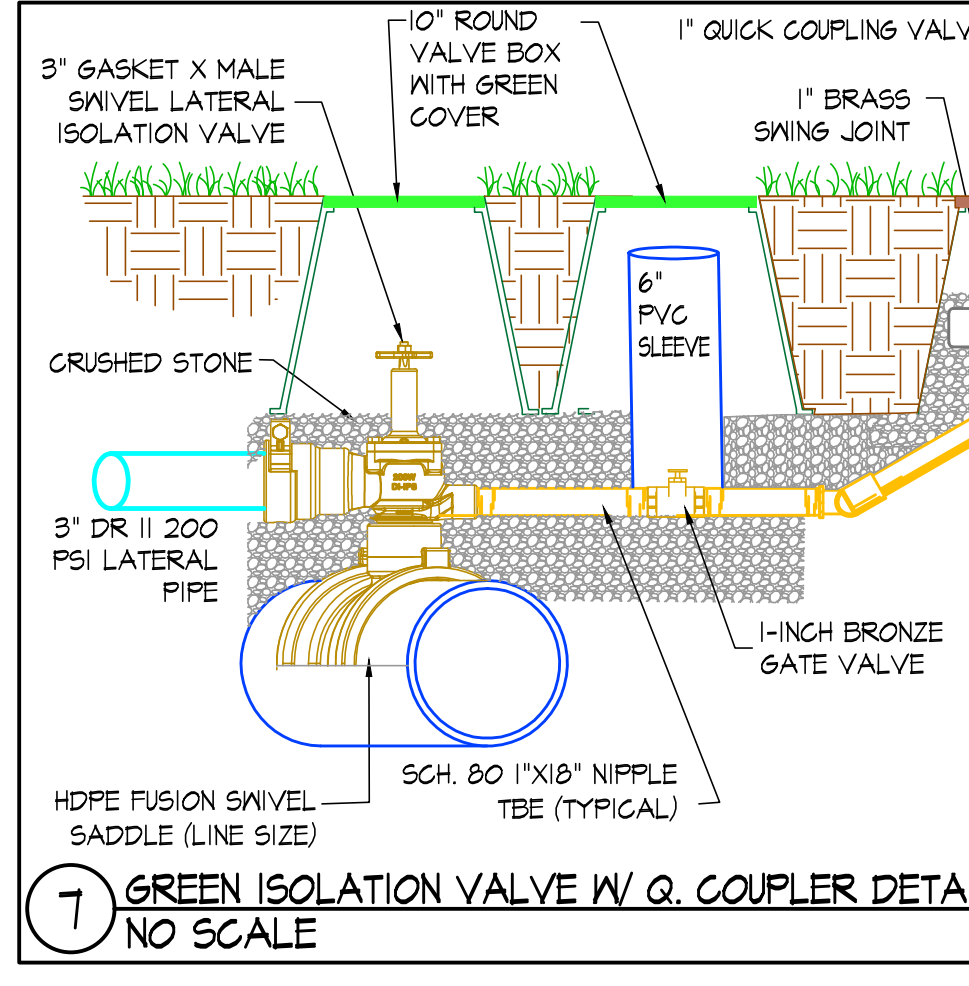
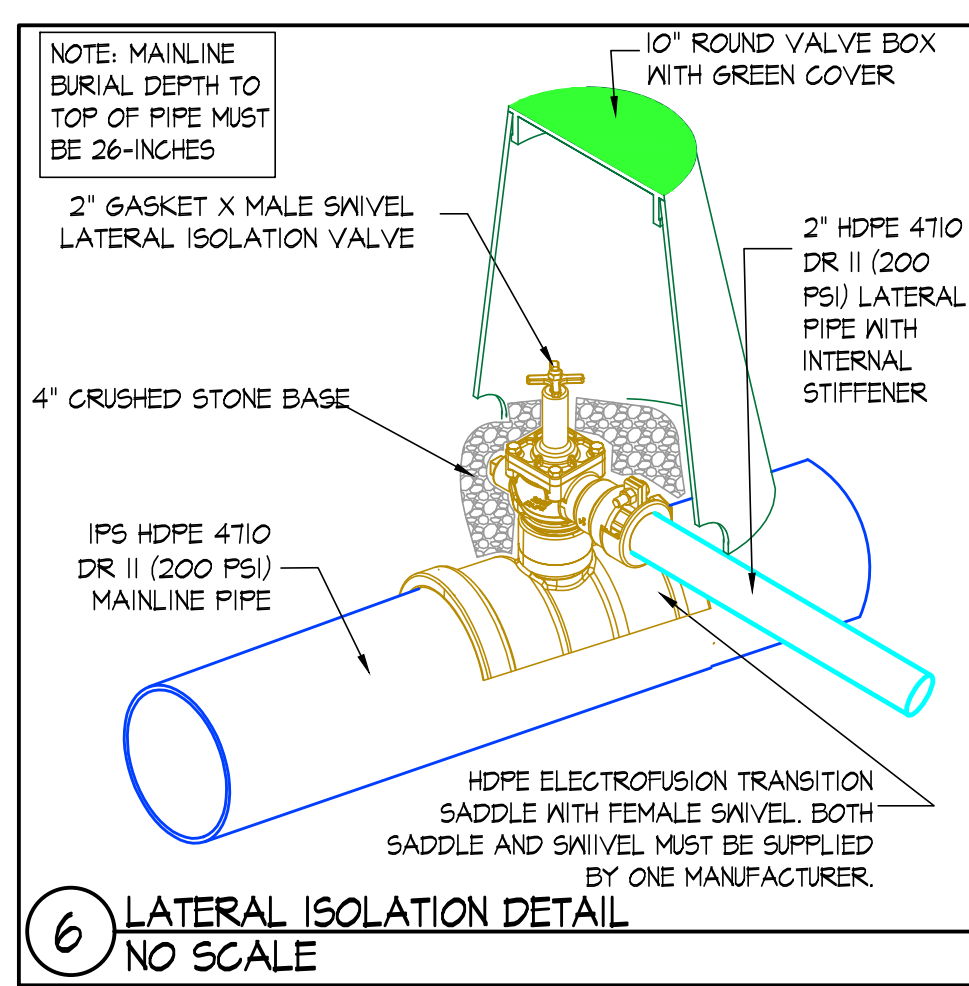
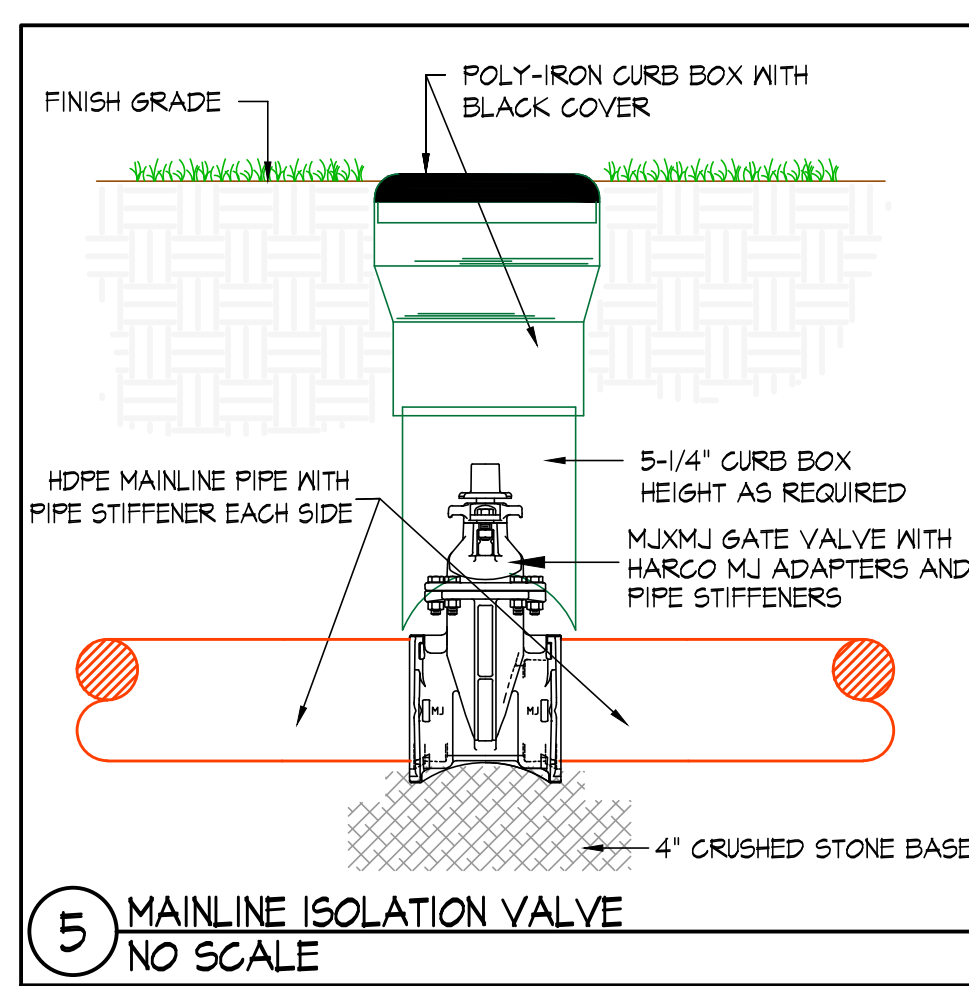
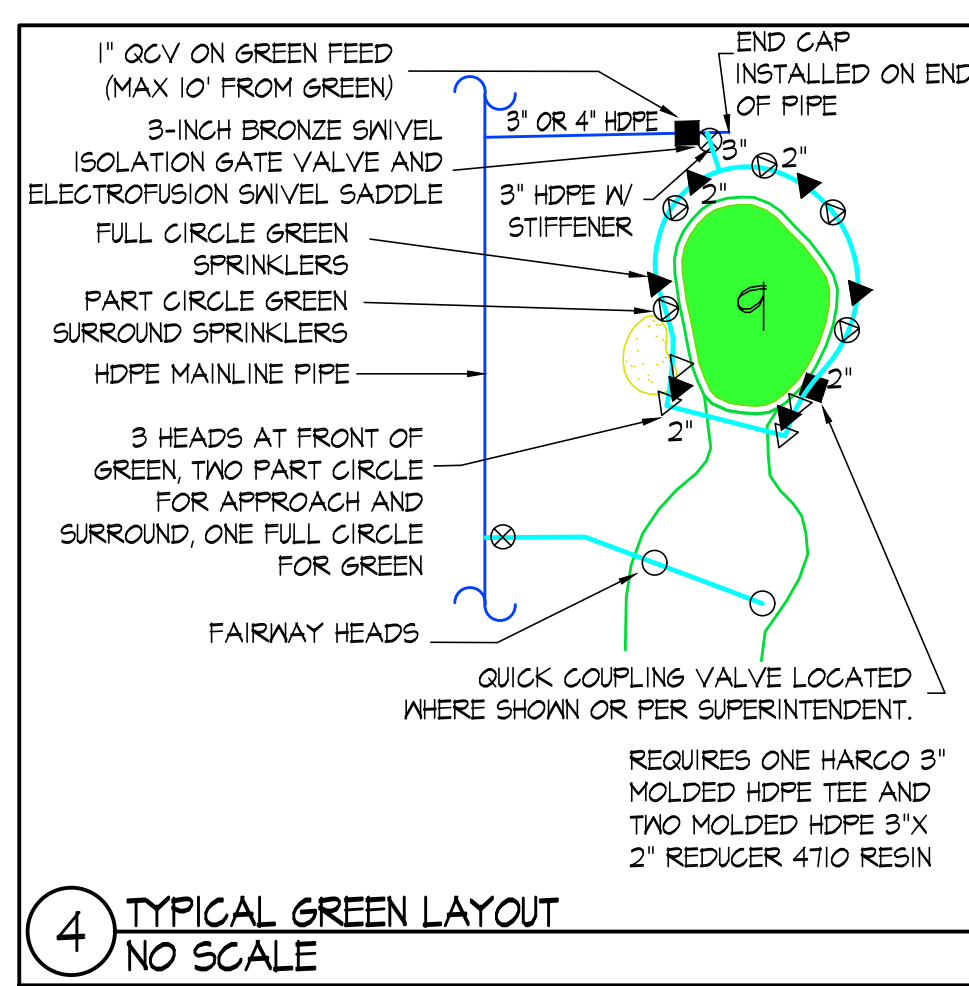
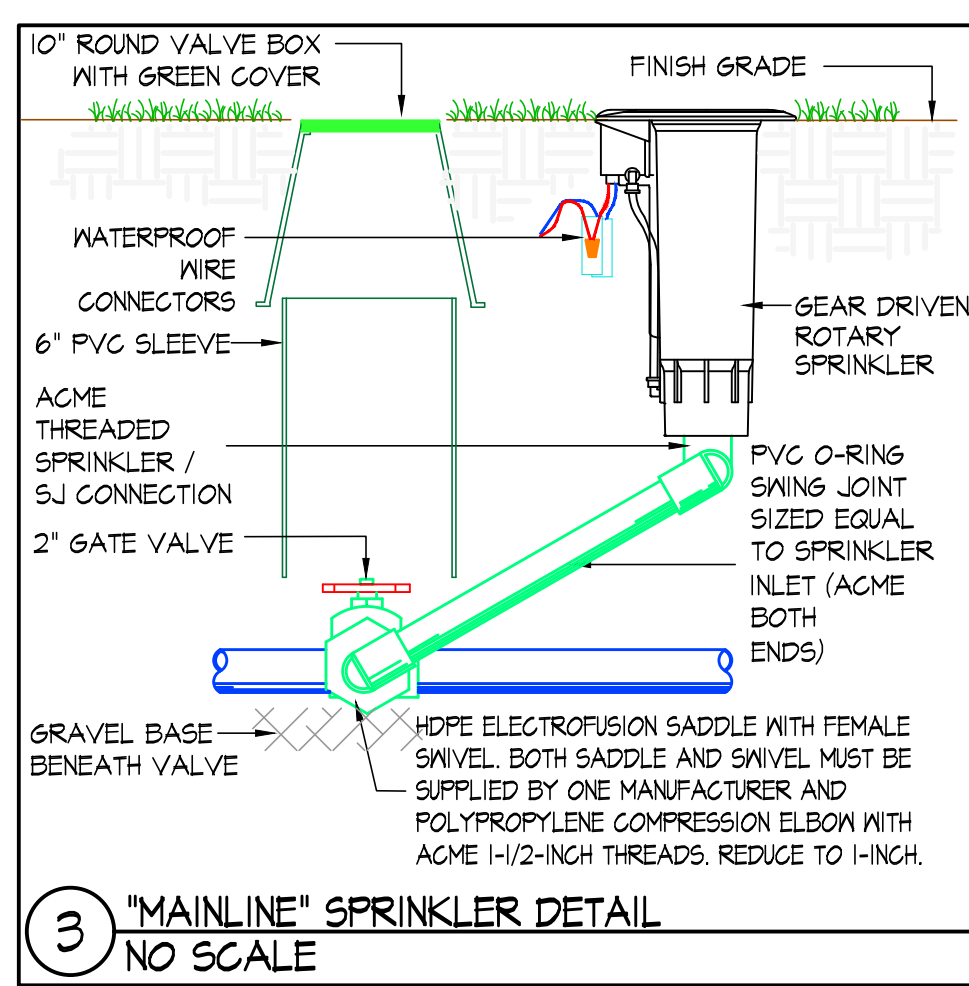
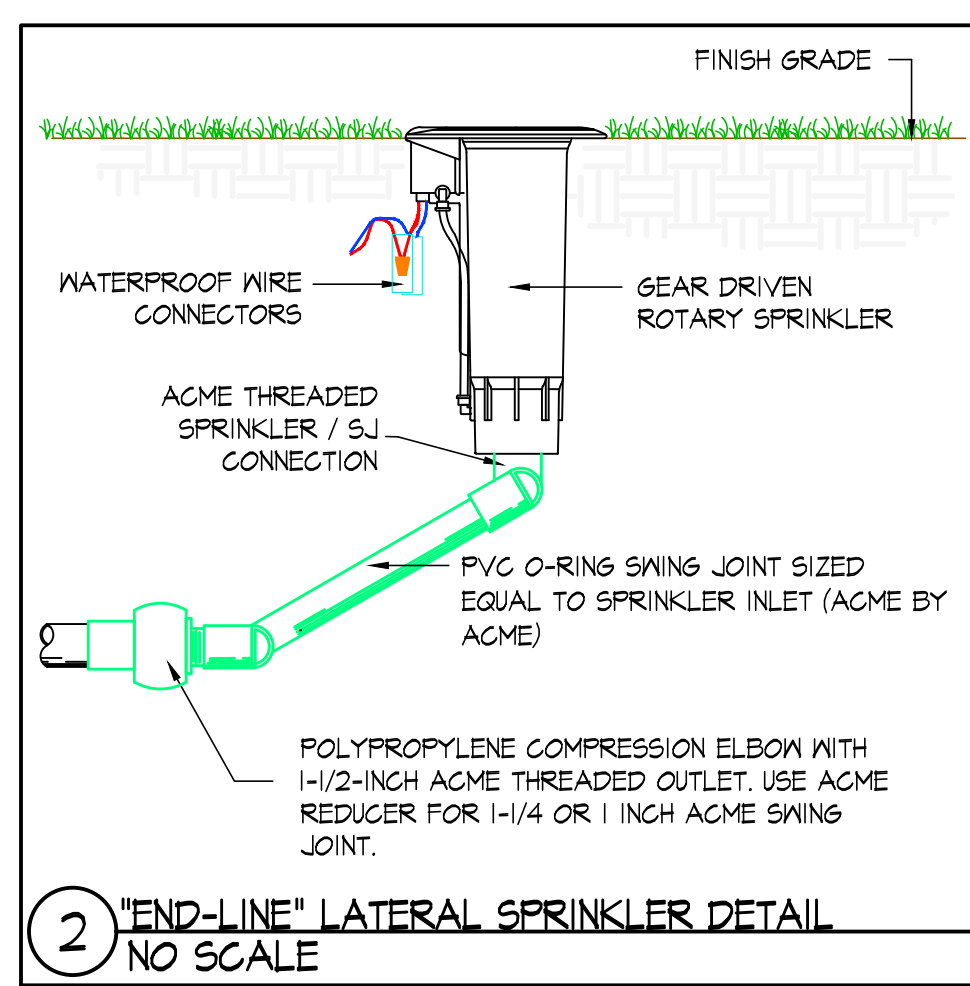
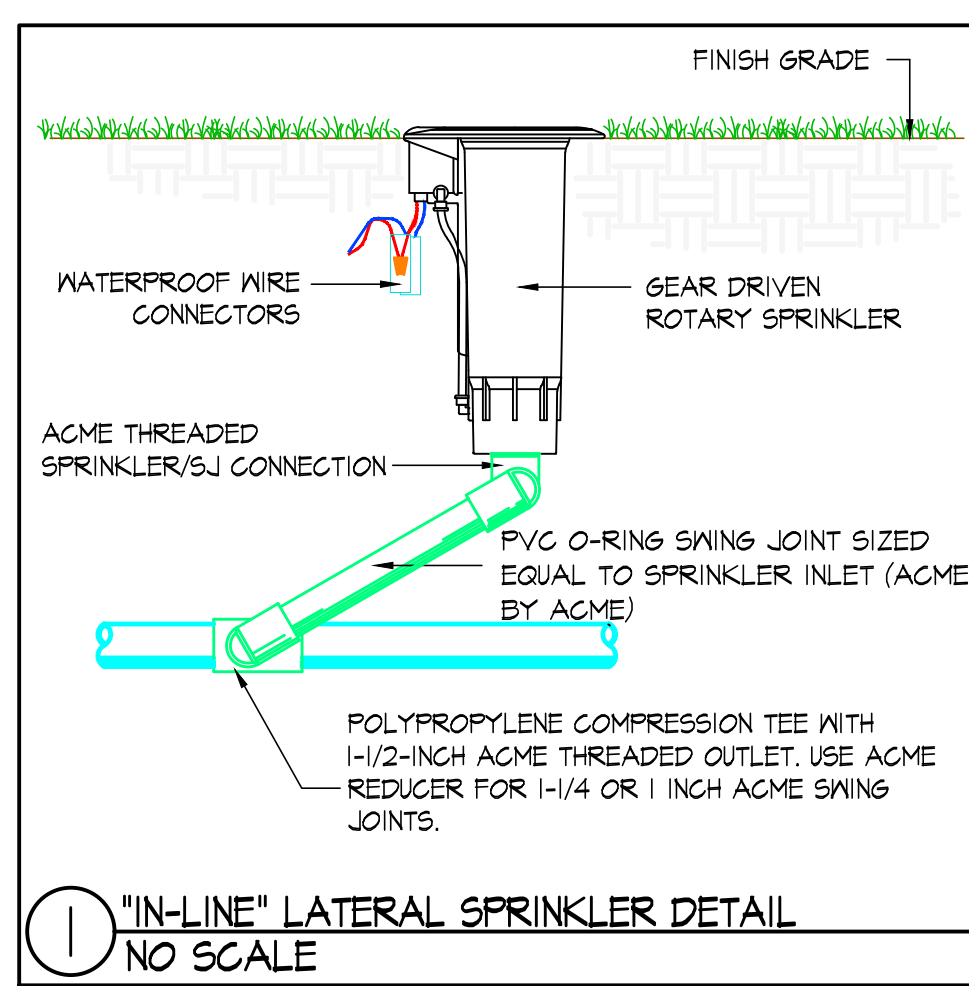
- ELECTRICAL NOTES:**
1. NO COMMUNICATION CABLE SHALL BE LOOPED. COMMUNICATION CABLES SHALL DEAD END.
 2. ON COMMUNICATION PATHS WITH LONG CABLE RUNS FROM SMART HUB BEFORE REACHING LATERALS, CABLE SHALL BE ONE SIZE LARGER #12/2 AWG AND REDUCED TO #14/2 AWG ONCE LATERAL CABLES ARE REACHED, WHERE #12/2 AWG CABLES ARE REQUIRED THEY ARE MARKED ON THE PLAN.
 3. NO GROUNDS OR LIGHTNING SURGE ARRESTORS ARE TO BE INSTALLED IN TEES, FAIRWAYS, BUNKERS, GREENS, WATER OR HARDSCAPE AREAS.
 4. COMMUNICATION CABLES SHALL FOLLOW MAINLINE AND LATERAL PIPING TO SPRINKLERS. LATERAL CABLE SHALL START AT THE GATE VALVE.

TORO SMART HUBS SCHEDULE

SMART HUB PATH	NUMBER OF DECODERS
1-1	252
1-2	220
1-3	226
1-4	204



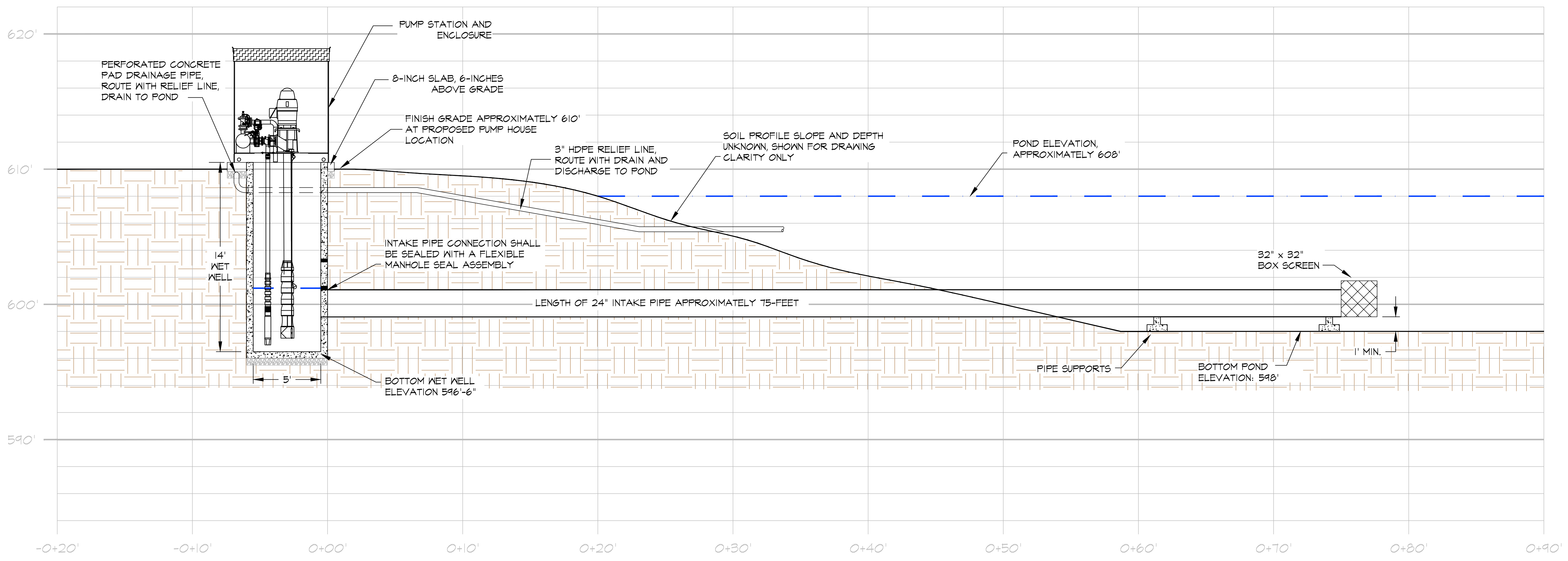
— SPRINKLER HEADS, QUICK COUPLERS, LATERAL PIPING, LATERAL ISOLATION AND COMMUNICATION CABLE THAT FOLLOWS THE LATERAL PIPING WITHIN THE DRIVING RANGE FAIRWAY ARE PART OF THE ALTERNATE IRRIGATION MAINLINE. LA/S'S AND COMMUNICATION CABLE THAT FOLLOWS THE MAINLINE IN THIS AREA ARE TO REMAIN PART OF THE BASE BID.



PUMP STATION INTAKE PROFILE

1/4" = 1'-0"

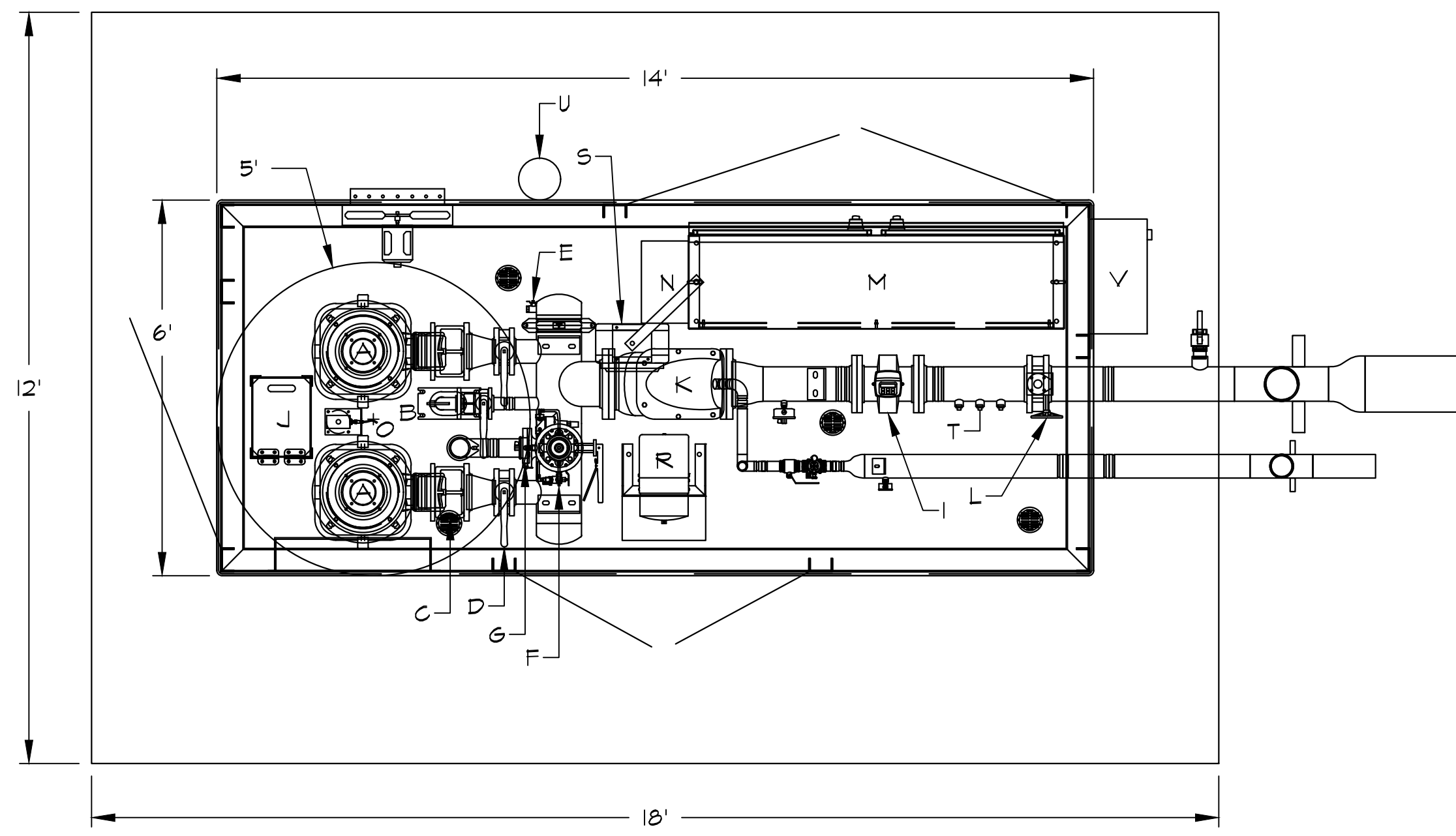
P-1.1



PUMP STATION PLAN VIEW

1/2" = 1'-0"

P-1.2



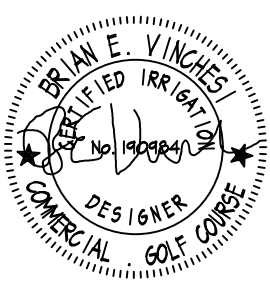
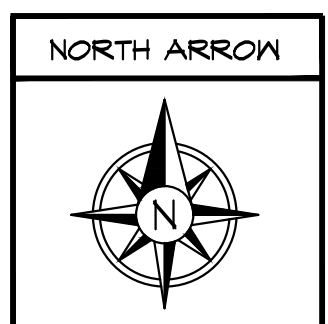
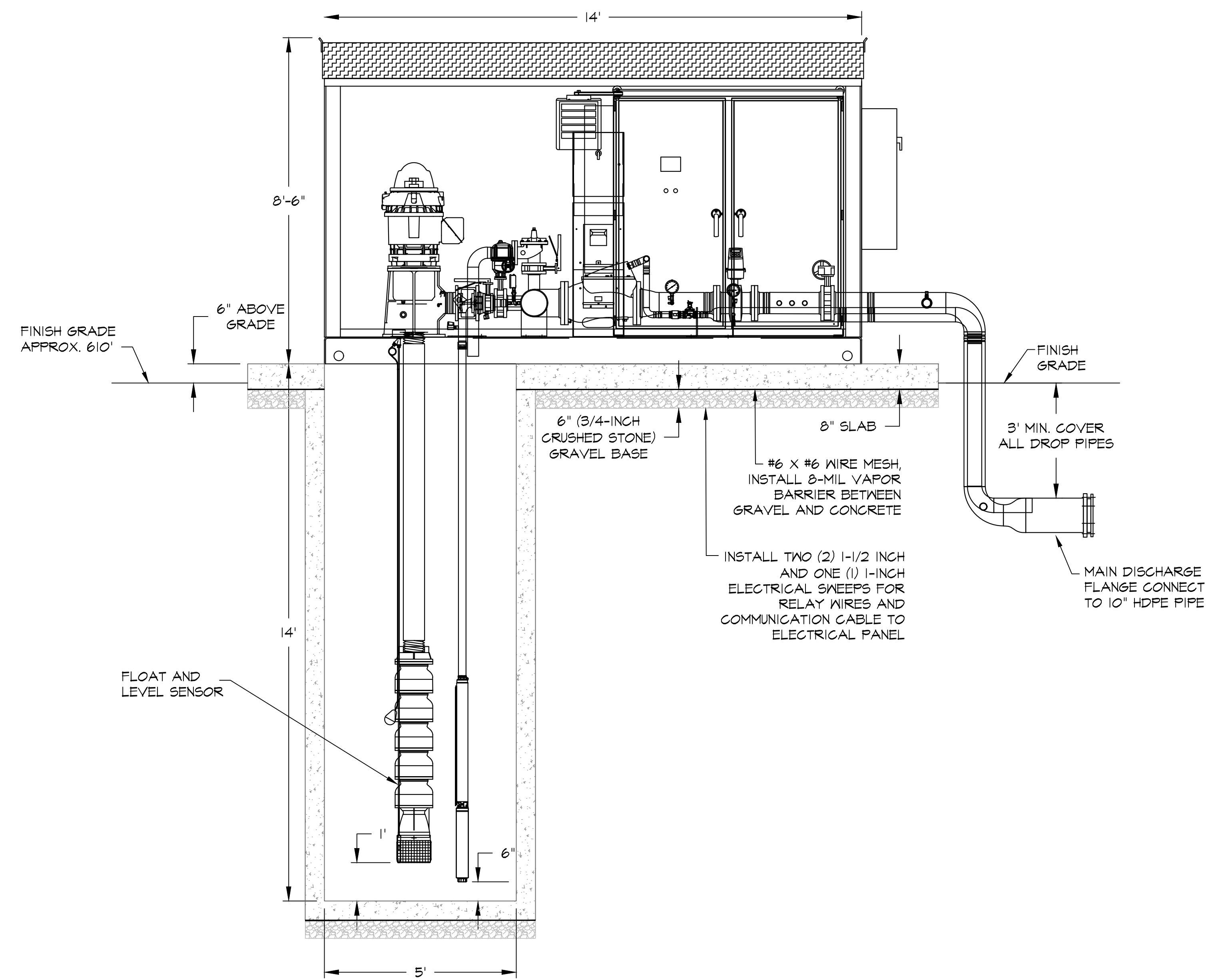
STATION COMPONENTS:

- A 50HP PUMP AND MOTOR
- B 5HP SUSTAIN PUMP AND MOTOR
- C CHECK VALVE
- D PUMP ISOLATION VALVE
- E DRAIN
- F PRESSURE RELIEF VALVE - 3"
- G PRESSURE TRANSDUCER W/ GAUGE
- H PAINTED STEEL BASE (SANDSTONE)
- I ELECTROMAGNETIC FLOW METER - 6" (SIEMENS W/ DISPLAY)
- J NET WELL VIEWING HATCH
- K NYE STRAINER (8") W/ AUTOFLUSH
- L STATION ISOLATION VALVE - 6"
- M CONTROL CABINET - 75X12X18
- N HEAT EXCHANGER, J-BOX UNDERNEATH H/E
- O LEVEL SENSOR W/ 2 POND FILL RELAYS
- P 4" GR X 4" PE X 36" BURY DROP PIPE
- Q 6" GR X 10" PE X 36" BURY DROP PIPE
- R 5KVA TRANSFORMER AND LOAD CENTER
- S 5KW HEATER (CABINET MOUNTED)
- T 3/4" CHEMICAL INJECTION TAPS - QTY. 3
- U 10W EXTERNAL DUSK TO DAWN LIGHT
- V 200A FUSED EXTERNAL DISCONNECT

PUMP STATION PROFILE VIEW

1/2" = 1'-0"

P-1.3



SCALE: AS NOTED	STATUS: FOR BIDDING NOT FOR CONSTRUCTION	REVISIONS: NO. DATE DESCRIPTION	SHEET TITLE: PUMP STATION INTAKE AND COMPONENTS BLACK BROOK GOLF COURSE	PROJECT NAME: BLACK BROOK GOLF COURSE 8900 LAKESHORE BLVD MENTOR, OH 44060	CLIENT NAME: BLACK BROOK GOLF COURSE 8900 LAKESHORE BLVD MENTOR, OH 44060	 20 Merritt Parkway, 2nd Floor Nashua, NH 03062 (603) 425-8412 Fax (603)-425-2155 e-mail: bvn@irrigationconsulting.com 112 S. Old Statesville Road, Suite 104 Huntersville, NC 28078 (704) 843-3688 Fax (704) 843-3581 e-mail: sgr@irrigationconsulting.com
DATE: 6/2/2023	SHEET NUMBER: P-1.0					