

WATER LINE CONSTRUCTION NOTES

1. ALL WATER LINE CONSTRUCTION IS SUBJECT TO THE GENERAL NOTES ON THE COVER SHEET OF THESE PLANS AS WELL AS THE WATER LINE CONSTRUCTION NOTES LISTED HEREIN.
2. ALL WATER LINES SHALL BE: 1) DUCTILE IRON PIPE (DIP), CONFORMING TO THE REQUIREMENTS OF AWWA C150, CL350 (6"-12"), CL250 (16" AND 20"), CL200 (>24"), WITH PUSH-ON GASKETED JOINTS OR MECHANICAL JOINT ENDS, IN CONFORMANCE WITH AWWA C111. PIPE SHALL BE CEMENT-LINED IN ACCORDANCE WITH AWWA C104, AND AN EXTERIOR COATING IN ACCORDANCE WITH C151; OR 2) PVC PIPE, CONFORMING TO AWWA C900 FOR 8" AND 12", CL305 (DR14) AND AWWA C905 FOR PIPE SIZE OF 18", CL235 (DR18). MINIMUM DISTRIBUTION MAIN SIZE SHALL BE 8". WATER LINES THAT ARE 10", 14", AND 18" IN DIAMETER ARE NOT PERMITTED.
3. WATER LINE FITTINGS SHALL BE DIP CONFORMING TO AWWA C153 OR C110 AND SHALL HAVE A PRESSURE RATING NOT LESS THAN THE PIPE. ALL FITTINGS SHALL BE MECHANICAL JOINT, UNLESS APPROVED BY CASTLE ROCK WATER.
4. ALL DIP AND FITTINGS SHALL BE ENCASED IN POLYETHYLENE TO PREVENT CORROSION. POLYETHYLENE WRAP, TAPE AND INSTALLATION SHALL MEET THE REQUIREMENTS OF AWWA C105.
5. GATE VALVES SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH AWWA C509-1 AND AWWA C515-01, AS APPROPRIATE, AND SHALL BE DUCTILE IRON BODY AND BONNET, RESILIENT-SEATED WEDGE GATE, NON-RISING STEM TYPE, O-RING SEALS, AND SUP-ON CONNECTIONS(TAPPING VALVES, WHERE ALLOWED, SHALL BE FLANGE X MJ). VALVE ENDS SHALL BE MECHANICAL JOINT, UNLESS OTHERWISE SPECIFIED IN THE PLANS. THE VALVES SHALL BE SUITABLE FOR A WORKING PRESSURE OF 200 PSI. THEY SHALL BE CLOSED BY TURNING CLOCKWISE AND SHALL HAVE TWO-INCH SQUARE CAST IRON OPERATING NUTS WITH AN ARROW CAST IN THE NUT INDICATING THE DIRECTION OF OPENING. VALVES SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE WITH AWWA C105. THEY SHALL BE OF SUCH DESIGN AS TO MAINTAIN THE FULL AREA OF THE PIPE THROUGH THE VALVE WHEN OPEN AND SHALL BE DESIGNED TO TAKE FULL PRESSURE ON EITHER FACE. VALVE SHALL HAVE TYPE 304 STAINLESS STEEL BONNET BOLTS AND NUTS AND TYPE 304 STAINLESS STEEL O-RING GLAND AND NUTS. VALVES SHALL BE MANUFACTURED BY AMERICAN FLOW CONTROL, KENNEDY OR MUELLER AND SHALL HAVE THE MANUFACTURER'S NAME OR INITIALS AND THE PRESSURE RATING CAST ON THE BODY.
6. ALL FIRE HYDRANTS SHALL BE "PACER WB67-250" BY WATEROUS CO. OR "SUPER CENTURION 250" BY MUELLER CO., OPENING TO THE LEFT. REFER TO TCR STANDARD DETAIL W-11.
7. ALL WATER LINES SHALL BE BURIED AN ABSOLUTE MINIMUM OF 5 FEET FROM FINAL GRADE TO THE TOP OF THE WATER MAIN. THE MAXIMUM BURY DEPTH SHALL BE 6 FEET, UNLESS ADDITIONAL DEPTH IS REQUIRED FOR UTILITY CROSSINGS OR OTHER CONFLICTS. WHEREVER SUCH CROSSINGS OR CONFLICTS OCCUR, THE TCR STANDARD DETAIL W-17 SHALL BE USED.
8. ALL WATER LINES SHALL BE BEDDED IN ACCORDANCE WITH TCR STANDARD DETAIL W-21.
9. CONTRACTOR SHALL MAINTAIN A MINIMUM 18-INCH VERTICAL CLEARANCE AND 10-FOOT HORIZONTAL CLEARANCE EDGE-TO-EDGE BETWEEN ALL WATER LINES AND ANY OTHER PIPED UTILITIES.
10. ALL BENDS, TEES, FIRE HYDRANTS AND PLUGS AT DEAD-END MAINS SHALL BE RESTRAINED FROM THRUST BY USING MEGALUG RESTRAINTS PER TCR STANDARD DETAIL W-18 IN COMBINATION WITH CONCRETE THRUST BLOCKS PER TCR STANDARD DETAIL W-22.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL FIRE HYDRANTS AND VALVE BOXES TO FINISH GRADE IN ACCORDANCE WITH TCR STANDARD DETAILS W-10 AND W-11.
12. PRIOR TO CONNECTING TO THE TOWN'S EXISTING WATER SYSTEM, ALL NEW WATERLINES AND/OR SEGMENTS OF WATERLINES SHALL BE DISINFECTED, PRESSURE TESTED, AND BACTERIOLOGICALLY TESTED IN ACCORDANCE WITH SECTION 450.5 OF THE TOWN OF CASTLE ROCK CONSTRUCTION METHODOLOGY AND MATERIALS MANUAL, AWWA C651-14 AND C900-5.2, AND DETAILS W-35A AND/OR W-35B. PLEASE NOTE THAT THIS DISINFECTION AND TESTING WILL BE PERFORMED WHILE THE NEW WATERLINES AND/OR SEGMENTS OF WATERLINES ARE NOT PHYSICALLY CONNECTED TO THE TOWN'S EXISTING WATER SYSTEM. TOWN AND CONTRACTOR SHALL FURNISH MATERIALS AS SHOWN ON DETAILS W-35A AND/OR W-35B. CONTRACTOR SHALL PERFORM ALL PROCEDURES FOR TESTING, FLUSHING AND DISINFECTING OF ALL WATER LINES. TESTING SHALL BE DONE IN THE PRESENCE OF THE TCR CONSTRUCTION INSPECTOR. CONTRACTOR SHALL PROVIDE A MINIMUM SEVENTY-TWO (72) HOUR NOTICE TO, AND OBTAIN APPROVAL FROM THE ON-SITE TCR CONSTRUCTION INSPECTOR, (720)733-2200, PRIOR TO DISINFECTION, PRESSURE TESTING, AND BACTERIOLOGICAL TESTING OF ANY NEW WATERLINES AND/OR SEGMENTS OF WATERLINES.
13. DISTANCES FOR WATER LINES ARE HORIZONTAL DISTANCE FROM THE CENTER OF THE FITTING TO CENTER OF THE FITTING. THEREFORE, DISTANCES SHOWN ON THE PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND FITTING DIMENSIONS.
14. ALL DOMESTIC WATER SERVICE LINES SHALL BE TYPE K COPPER INSULATED WITH POLYWRAP, FROM THE MAIN TO THE METER. THE WATER METER SHALL BE SUPPLIED BY THE TOWN AND INSTALLED BY THE CONTRACTOR. THE WATER METER WILL BE AVAILABLE FOR PICK UP AT CASTLE ROCK WATER. THE INDIVIDUAL PICKING UP THE WATER METER MUST HAVE PROOF OF A PERMIT AND MUST HAVE PAID ALL FEES ASSOCIATED WITH THE WATER METER.
15. WATER LINE TRENCHES SHALL BE SLOPED OR BRACED AND SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKERS AND THE PROTECTION OF OTHER UTILITIES. IN COMPLIANCE WITH ALL APPLICABLE STATE AND FEDERAL REQUIREMENTS. FOR ALL EXCAVATION OPERATIONS, SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR.
16. WATER LINES SHALL BE ALIGNED 6 FEET OFF THE NORTH AND EAST GUTTER FLOW LINES OF PUBLIC STREETS WHEREVER POSSIBLE. SEE DETAIL W-13.
17. WHERE WATER LINE IMPROVEMENTS ARE DIFFICULT TO LOCATE ON THE SURFACE, THE CONTRACTOR SHALL BE REQUIRED TO INSTALL PERMANENT WATER LINE MARKERS, IN ACCORDANCE WITH TCR STANDARD DETAIL W-23, OR AT THE DISCRETION OF THE TCR CONSTRUCTION INSPECTOR.
18. TRACER WIRE SHALL BE USED ON ALL DIP AND PVC WATER MAINS, AND WARNING TAPE SHALL BE PLACED 1 FOOT ABOVE ALL DIP AND PVC PIPE. REFER TO TOWN OF CASTLE ROCK STANDARD TRACER WIRE REQUIREMENTS, IN THESE GENERAL NOTES. TEST STATIONS SHALL BE CONSTRUCTED PER STANDARD DETAIL W-28.
19. THE MINIMUM DISTANCE BETWEEN TEES, CROSSES, VALVES, AND BENDS SHALL BE 10 FEET WHEREVER POSSIBLE.
20. MAXIMUM DEFLECTION FOR WATER MAINS SHALL NOT EXCEED ONE-HALF OF THE MANUFACTURER'S MAXIMUM ALLOWABLE DEFLECTION OR 2.5 DEGREES, WHICHEVER IS LESS.
21. ALL RESIDENTIAL WATER SERVICE LINES SHALL BE CONSTRUCTED PERPENDICULAR TO THE FRONT PROPERTY LINE IN CONFORMANCE WITH THE TOWN OF CASTLE ROCK WATER SYSTEM DESIGN CRITERIA MANUAL AND WATER DETAILS.
22. THE MAXIMUM DEFLECTION OF DOMESTIC WATER SERVICE LINES AND IRRIGATION LINES SHALL NOT EXCEED THE MANUFACTURER'S MAXIMUM ALLOWABLE DEFLECTION.
23. THE SIZE OF THE IRRIGATION TAP, LINE, METER AND BACK FLOW PREVENTION ASSEMBLY SHALL BE THE SAME TO A MINIMUM DISTANCE OF 10 PIPE DIAMETERS PAST THE WINTERIZATION TEE.
24. THE MINIMUM HORIZONTAL SEPARATION BETWEEN UTILITY LINES CARRYING THE SAME MATERIAL (E.G., WATER AND WATER) SHALL BE 5 FEET.
25. WHEN INSTALLING CUT IN TEES OR OTHER APPURTENANCES ON/IN AN EXISTING WATER LINE, THE PIPE MATERIAL BETWEEN THE EXISTING WATER LINE AND THE CUT IN TEE OR OTHER APPURTENANCE SHALL REMAIN CONSISTENT.
26. CONTRACTOR IS RESPONSIBLE TO PROVIDE BACKFLOW PREVENTION DOWNSTREAM OF THE METER. ACCEPTABLE BACKFLOW PREVENTION ASSEMBLIES ARE AS FOLLOWS:
 - COMMERCIAL POTABLE WATER SERVICE: REDUCED PRESSURE ASSEMBLY.
 - RESIDENTIAL POTABLE WATER SERVICE: DOUBLE CHECK VALVE ASSEMBLY, REDUCED PRESSURE ASSEMBLY.
 - COMMERCIAL FIRE SERVICE: REDUCED PRESSURE DETECTOR ASSEMBLY, DOUBLE CHECK VALVE DETECTOR ASSEMBLY.
 - RESIDENTIAL FIRE SERVICE: REDUCED PRESSURE DETECTOR ASSEMBLY, DOUBLE CHECK VALVE DETECTOR ASSEMBLY.
 - COMMERCIAL AND MULTIFAMILY IRRIGATION WATER SERVICE: REDUCED PRESSURE ASSEMBLY.

THE DOUBLE CHECK DETECTOR ASSEMBLY (DCCA) IS THE ONLY BACK FLOW PREVENTION DEVICE RATED FOR HORIZONTAL OR VERTICAL INSTALLATION.

STREET CONSTRUCTION NOTES

1. ALL STREET CONSTRUCTION IS SUBJECT TO THE GENERAL NOTES ON THE COVER SHEET OF THESE PLANS AS WELL AS THE STREET CONSTRUCTION NOTES LISTED HERE.
2. A PAVING SECTION DESIGN, SIGNED AND SEALED BY A COLORADO REGISTERED PROFESSIONAL ENGINEER, MUST BE SUBMITTED TO THE TCR PUBLIC WORKS DEPARTMENT FOR APPROVAL PRIOR TO ANY STREET CONSTRUCTION ACTIVITY (FULL-DEPTH ASPHALT SECTIONS ARE NOT PERMITTED AT A DEPTH GREATER THAN 8" ASPHALT). THE JOB MIX SHALL BE SUBMITTED FOR APPROVAL PRIOR TO PLACEMENT OF ANY ASPHALT.
3. WHERE PROPOSED PAVING ADJOINS EXISTING ASPHALT, THE EXISTING ASPHALT SHALL BE SAW CUT A MINIMUM DISTANCE OF 12" FROM THE EXISTING EDGE TO CREATE A CLEAN CONSTRUCTION JOINT. THE DEVELOPER SHALL BE REQUIRED TO REMOVE EXISTING PAVEMENT TO A DISTANCE WHERE A CLEAN CONSTRUCTION JOINT CAN BE MADE.
4. STREET SUBGRADES SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 12" AND RE-COMPACTED PRIOR TO SUB-BASE INSTALLATION. NO BASE MATERIAL SHALL BE LAID UNTIL THE SUBGRADE HAS BEEN INSPECTED AND APPROVED BY THE TCR CONSTRUCTION INSPECTOR.
5. VALVE BOXES ARE TO BE BROUGHT UP TO GRADE AT THE TIME OF PAVEMENT PLACEMENT OR OVERLAY. VALVE BOX ADJUSTING RINGS ARE NOT ALLOWED.

SIGNAGE AND STRIPING NOTES

1. ALL SIGNAGE AND STRIPING IS SUBJECT TO THE GENERAL NOTES ON THE COVER SHEET OF THESE PLANS AS WELL AS THE SIGNAGE AND STRIPING NOTES LISTED HERE.
2. ALL PAINT SHALL BE 15 MIL THICK UPON INSTALLATION AND 8 MIL THICK WHEN DRY.
3. ALL PERMANENT LONGITUDINAL PAVEMENT STRIPING ON ASPHALT SURFACES (CENTERLINES, LANE LINES, BAY LINES, ETC.) SHALL BE INSTALLED USING AN APPROVED REFLECTIVE TRAFFIC PAINT OR PAVEMENT MARKING TAPE. REFLECTIVE BEADS SHALL BE APPLIED IN ACCORDANCE WITH CDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE MANUFACTURER'S REQUIREMENTS. WHEN TAPE IS USED ON AN ASPHALT STREET, IT SHALL BE "ROLLED" INTO THE FINAL LIFT. ON CONCRETE SURFACES TAPE SHALL BE UTILIZED WITH A CONTRASTING BLACK EDGE AND GROOVED INTO THE PAVEMENT.
4. THERMO-PLASTIC APPLICATIONS SHALL BE AS SPECIFIED IN THE PLANS AND/OR PER TOWN CRITERIA.
5. ALL SURFACES THAT ACCEPT PAINT/THERMO-PLASTIC STRIPING OR PRE-FORMED MARKINGS SHALL BE FIRST SANDBLASTED AND THOROUGHLY CLEANED PRIOR TO INSTALLATION OF STRIPING OR MARKINGS.
6. ALL ARROW MARKINGS SHALL BE PRE-FORMED TAPE, THERMO-PLASTIC OR EPOXY-PAINTED.
7. STOP BARS SHALL BE 90 MIL THERMO-PLASTIC.
8. ALL ROADWAY SIGNAGE SHALL CONFORM TO THE MUTCD AND/OR THE TOWN'S CRITERIA.
9. ALL SIGNPOSTS SHALL UTILIZE BREAKAWAY ASSEMBLIES AND FASTENERS, PER THE TCR STANDARD DETAIL.

FIRE NOTES

1. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO MAINTAIN DRIVE LANES FOR EMERGENCY VEHICLE INGRESS AND EGRESS, INCLUDING SNOW REMOVAL.
2. EMERGENCY VEHICLE ACCESS ROAD IS REQUIRED TO ALLOW ACCESS WITHIN 150' OF ALL EXTERIOR OF THE BUILDING BY AN APPROVED ROUTE.
3. FIRE APPARATUS ACCESS ROADS SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRES APPARATUS AND SHALL BE PROVIDED WITH A SURFACE SO AS TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES. ACCESS ROAD SHALL BE EITHER CONCRETE, ASPHALT, OR OTHER APPROVED ALTERNATIVE MATERIAL ACCOMPANIED WITH AN ENGINEER'S STAMP STATING THE MATERIAL WILL SUPPORT A 75,000 POUND IMPOSED LOAD.
4. FIRE HYDRANT(S) ARE REQUIRED TO BE INSTALLED AND MADE SERVICEABLE PRIOR TO COMBUSTIBLE MATERIALS BEING BROUGHT ONTO THE SITE AND DURING THE TIME OF VERTICAL CONSTRUCTION.
5. "NO PARKING FIRE LANE" SIGNS ARE REQUIRED IN AREAS THAT MEET THE FOLLOWING CRITERIA AND IN AREAS DESIGNATED BY THE FIRE PREVENTION BUREAU. SIGNS SHALL BE POSTED ON BOTH SIDES OF FIRE DEPARTMENT ACCESS ROADWAYS, PUBLIC OR PRIVATE ROADWAYS AND DRIVEWAYS LESS THAN 26 FEET WIDE. SIGNS SHALL BE POSTED ON ONE SIDE ONLY OF FIRE DEPARTMENT ACCESS ROADWAYS, PUBLIC OR PRIVATE ROADWAYS OR DRIVEWAYS BETWEEN 26 FEET WIDE AND 32 FEET WIDE. NO SIGNAGE IS REQUIRED FOR ACCESS ROADWAY FIRE DEPARTMENT ACCESS ROADWAYS, PUBLIC OR PRIVATE ROADWAYS OR DRIVEWAYS EXCEEDING 32 FEET WIDE.
6. WHEN FIRE APPARATUS ACCESS ROADS OR A WATER SUPPLY FOR FIRE PROTECTION IS REQUIRED TO BE INSTALLED, SUCH PROTECTION SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO COMBUSTIBLE MATERIALS BEING BROUGHT ONTO THE SITE AND THE BUILDING CONSTRUCTION GOING VERTICAL.
7. TRACER WIRE SHALL BE INSTALLED ON ALL FIRE SERVICE LINES AND AT ALL FIRE HYDRANTS. REFER TO TOWN OF CASTLE ROCK STANDARD DETAILS, THE WATER LINE CONSTRUCTION NOTES, AND THE TRACER WIRE INSTALLATION NOTES LISTED HEREIN.

STORM DRAINAGE CONSTRUCTION NOTES

1. ALL STORM DRAINAGE CONSTRUCTION IS SUBJECT TO THE GENERAL NOTES ON THE COVER SHEET OF THESE PLANS AS WELL AS THE STORM DRAINAGE CONSTRUCTION NOTES LISTED HERE.
2. ALL STORM DRAINAGE PIPES SHALL BE REINFORCED CONCRETE PIPE (RCP) PER ASTM C76, CL III INSTALLED WITH FLEXIBLE PLASTIC (BITUMEN) GASKETS, ACCORDING TO THE MANUFACTURER'S INSTALLATION GUIDELINES. ANY STORM DRAINAGE PIPE UNDER A PROPOSED OR FUTURE TRAFFIC AREA SHALL BE RCP CL III AS A MINIMUM. RCP TO BE JACKED SHALL BE CL-V AS A MINIMUM.
3. ALL STORM DRAINAGE PIPES SHALL HAVE A MINIMUM COVER OF 24" UNLESS LOAD CALCULATIONS ARE PROVIDED. UNDER NO CIRCUMSTANCES WILL ANY PIPE HAVE LESS THAN 18" COVER FROM THE FINISH SURFACE TO THE OUTSIDE WALL OF THE PIPE.
4. ALL STORM DRAINAGE PIPES SHALL BE BEDDED IN ACCORDANCE WITH TCR STANDARD DETAIL SD-2.
5. ALL STORM DRAINAGE TRENCHES SHALL BE SLOPED OR BRACED AND SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKERS AND THE PROTECTION OF OTHER UTILITIES AND IN COMPLIANCE WITH ALL APPLICABLE STATE AND FEDERAL REQUIREMENTS. ALL EXCAVATION OPERATION SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR.
6. ALL MANHOLE RIM ELEVATIONS GIVEN ON THESE PLANS ARE TO BE CONSIDERED APPROXIMATE. THE CONTRACTOR SHALL SET THE FINAL RIM ELEVATION BASED ON THE COMPLETED FINISH SURFACE.
7. ALL STORM DRAINAGE PIPES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 10' FROM ALL WATER LINES. WHERE LINES CROSS, THERE SHALL BE A MINIMUM OF 18" CLEAR VERTICAL SEPARATION.
8. ALL INLETS AND MANHOLES SHALL BE PLACED ON A MINIMUM OF 1' OF 3/4" WASH ROCK. IF ADDITIONAL SUBGRADE IS DISTURBED, EXCAVATION SHALL BE BACKFILLED WITH 3/4" WASH ROCK OR OTHER APPROVED STRUCTURAL SOIL COMPACTED TO 95% OF ASTM D698 UNLESS OTHERWISE INSTRUCTED BY THE INSPECTOR

SANITARY SEWER CONSTRUCTION NOTES

1. ALL SANITARY SEWER CONSTRUCTION IS SUBJECT TO THE GENERAL NOTES ON THE COVER SHEET OF THESE PLANS AS WELL AS THE SANITARY SEWER CONSTRUCTION NOTES LISTED HEREIN.
2. ALL SANITARY SEWER PIPELINES SHALL BE PVC, SDR-35, IN ACCORDANCE WITH ASTM D-3034, BELL AND SPIGOT WITH ELASTOMERIC SEAL.
3. ALL SANITARY SEWER PIPELINES SHALL HAVE A MINIMUM COVER OF 5 FEET AND MAXIMUM COVER OF 20 FEET.
4. ALL SANITARY SEWER PIPELINES SHALL BE BEDDED IN ACCORDANCE WITH TCR STANDARD DETAIL SS-8.
5. ALL MANHOLE RIM ELEVATIONS GIVEN ON THESE PLANS ARE CONSIDERED APPROXIMATE. THE CONTRACTOR SHALL SET THE FINAL RIM ELEVATION BASED ON THE COMPLETE FINISH SURFACE AND PER TCR STANDARD DETAIL SS-3.
6. SANITARY SEWER PIPELINE SHALL BE ALIGNED 6 FEET OFF THE SOUTH AND WEST GUTTER FLOW LINES OF PUBLIC STREETS WHEREVER POSSIBLE.
7. ALL SEWER LINES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET EDGE-TO-EDGE FROM ALL WATER LINES. WHERE LINES CROSS, THERE SHALL BE A MINIMUM OF 18" CLEAR VERTICAL SEPARATION.
8. ALL SANITARY SEWER LINES MUST BE TESTED IN ACCORDANCE WITH SECTION 450.6 OF THE TOWN OF CASTLE ROCK CONSTRUCTION METHODOLOGY AND MATERIALS MANUAL IN THE PRESENCE OF A TCR CONSTRUCTION INSPECTOR.
9. ALL SANITARY SEWER LINE TRENCHES SHALL BE SLOPED OR BRACED AND SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKERS AND THE PROTECTION OF OTHER UTILITIES, IN COMPLIANCE WITH ALL APPLICABLE STATE AND FEDERAL REQUIREMENTS. ALL EXCAVATION OPERATION SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR.
10. SANITARY SEWER SERVICES SHALL BE CONNECTED A MINIMUM OF 5 FEET OUTSIDE OF MANHOLES WITH A WYE CONNECTION IN ACCORDANCE WITH TCR STANDARD DETAIL SS-2.
11. MINIMUM COVER FOR SANITARY SEWER SERVICE LINES SHALL BE 5 FEET AND THE MINIMUM SLOPE SHALL BE 2.0%.
12. ALL SANITARY SEWER SERVICE LINES SHALL BE CONSTRUCTED ALONG THE SHORTEST AND STRAIGHTEST ROUTE POSSIBLE IN CONFORMANCE WITH THE TOWN OF CASTLE ROCK WASTEWATER SYSTEM DESIGN CRITERIA MANUAL.
13. THE MINIMUM HORIZONTAL SEPARATION BETWEEN UTILITY LINES CARRYING THE SAME MATERIAL (E.G., WASTEWATER AND WASTEWATER) SHALL BE 5 FEET.
14. THE PLUM CREEK WASTEWATER AUTHORITY MUST APPROVE OIL AND GREASE INTERCEPTORS FOR COMMERCIAL INSTALLATIONS.
15. ALL MANHOLES SHALL BE PLACED ON A MINIMUM OF 1' OF 3/4" WASH ROCK. IF ADDITIONAL SUBGRADE IS DISTURBED, EXCAVATION SHALL BE BACKFILLED WITH 3/4" WASH ROCK OR OTHER APPROVED STRUCTURAL SOIL COMPACTED TO 95% OF ASTM D698 UNLESS OTHERWISE INSTRUCTED BY THE INSPECTOR.

LANDSCAPE NOTES

1. NON-IRRIGATED NATIVE SEED AREAS SHALL BE INSTALLED USING THE TOWN OF CASTLE ROCK GRADING EROSION AND SEDIMENT CONTROL MANUAL (GESC) STANDARD DETAIL #17.
 2. NO TURF AND/OR OVERHEAD IRRIGATION ON SLOPES 3:1.
 3. NO SLOPES GREATER THAN 3:1 ARE PERMITTED.
 4. TOP SOIL, IF DISTURBED SHALL BE STOCK PILED AND REUSED ON THE SITE.
 5. NO MORE THAN SIXTY PERCENT OF THE TOTAL COMMERCIAL LANDSCAPE AREA SHALL INCLUDE IRRIGATED TURF GRASS.
 6. NO INDIVIDUAL PLANT MAY HAVE SUPPLEMENTAL WATER DEMAND GREATER THAN 15" PER GROWING SEASON.
- IRRIGATION NOTES
1. THE IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A BACKFLOW PREVENTION ASSEMBLY APPROVED BY THE TOWN OF CASTLE ROCK.
 2. IRRIGATION TAP, LINE, METER AND BACKFLOW PREVENTION ASSEMBLY MUST BE THE SAME SIZE FROM THE TAP TO A MINIMUM DISTANCE OF 10 PIPE DIAMETERS PAST THE BACKFLOW PREVENTION ASSEMBLY AND WINTERIZATION TEE.
 3. WATER WASTE IS NOT ALLOWED PER THE TOWN OF CASTLE ROCK'S WATER USE MANAGEMENT PLAN. THEREFORE, ALL NOZZLES ARE TO BE FINE TUNE/ADJUSTED SO THAT OVER SPRAY ONTO HARD SURFACES IS ELIMINATED.
 4. IRRIGATION IS NOT PERMITTED ON 3:1 SLOPES.
 5. VELOCITY SHALL NOT EXCEED 7.5 FPS THROUGH THE WATER METER.
 6. NO OVERHEAD IRRIGATION IN AREAS LESS THAN 10 FEET WIDE.
 7. THERE IS TO BE NEITHER PLANT MATERIAL NOR IRRIGATION IN AREAS LESS THAN 4 FEET WIDE.

TRACER WIRE INSTALLATION NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT TOWN OF CASTLE ROCK STANDARD NOTES, DETAILS AND SPECIFICATIONS.
2. TRACER WIRE IS REQUIRED ON ALL UNDERGROUND PIPE. A MAINLINE TRACER WIRE MUST BE INSTALLED WITH ALL SERVICE LATERAL TRACER WIRES PROPERLY CONNECTED TO ENSURE FULL LOCATING CAPABILITIES FROM A SINGLE CONNECTION POINT.
3. TRACER WIRE COLORS FOR STORM SEWER, DRAIN LINES, SANITARY SEWER, AND WATER MAINS SHALL BE IN ACCORDANCE WITH AMERICAN PUBLIC WORKS ASSOCIATION (APWA) UNIFORM COLOR CODE. ALL GROUNDING WIRE SHALL BE RED OR BLACK.
4. "OPEN TRENCH" TRACER WIRE SHALL BE #8 OR #10 AWG COPPER SOLID OR #12 AWG COPPER CLAD HIGH STRENGTH WITH MINIMUM 30-MIL HDPE INSULATION THICKNESS COMPLYING WITH ASTM D-1248, AND A MINIMUM AVERAGE TENSILE BREAK LOAD OF 450 LBS.
5. TRACER WIRE SHALL BE SECURED EVERY 5 FEET TO THE TOP OF THE PIPE AND TO THE SIDES OF MANHOLES AND INLETS USING TAPE, PLASTIC TIES, OR APPROVED ADHESIVE AT 5-FOOT INTERVALS.
6. TRACER WIRE SHALL BE SECURELY BONDED TOGETHER AT ALL WIRE JOINTS WITH LOCKABLE, CORROSION PROOF, WATERTIGHT CONNECTORS SPECIFICALLY DESIGNED FOR DIRECT BURIAL, AND FILLED WITH NON-HARDENING DIELECTRIC SILICONE SEALANT.
7. ANY DAMAGE OCCURRING DURING INSTALLATION OF THE TRACER WIRE MUST BE IMMEDIATELY REPAIRED BY REMOVING THE DAMAGED WIRE AND INSTALLING A NEW SECTION OF WIRE WITH APPROVED CONNECTORS. TAPING AND/OR SPRAY COATING IS NOT ALLOWED.
8. A MINIMUM OF 2 FEET OF EXCESS/SLACK WIRE IS REQUIRED IN ALL TRACER WIRE TEST STATIONS, MANHOLES, AND INLETS AFTER MEETING FINAL ELEVATION.
9. TRACER WIRE MUST BE PROPERLY GROUNDLED AT ALL DEAD ENDS (MANHOLES, INLETS, OUTFALLS, FUTURE CONNECTIONS, ETC.) USING A MAGNESIUM GROUND ROD. THE GROUND ROD WILL BE CONNECTED TO 12- OR 14-AWG COPPER-CLAD STEEL WIRE WITH 30 MIL HDPE INSULATION AND RATED FOR DIRECT BURY USE AT 30 VOLTS WITH 21% CONDUCTIVITY.
10. TEST STATIONS SHALL PROVIDE PROTECTED ACCESS FOR A DIRECT CONNECTION TO THE TRACER WIRE SYSTEM AT GROUND SURFACE.
11. TRUNK LINE TRACER WIRE SHALL BE CONTINUOUS, AND PASS AROUND THE OUTSIDE OF VALVES AND OTHER STRUCTURES ON THE NORTH OR EAST SIDE.
12. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS (EXCAVATION, CONCRETE, TRAFFIC CONTROL, ETC.) AND PROVIDE A MINIMUM TWENTY-FOUR (24) HOURS' NOTICE TO THE ON-SITE TCR CONSTRUCTION INSPECTOR, (720) 733-2200, TO REQUEST A TRACER WIRE INSPECTION.
13. ALL NEW TRACER WIRE INSTALLATIONS SHALL BE TESTED AND LOCATED PRIOR TO ACCEPTANCE. TESTING AND LOCATING SHALL BE PERFORMED BY THE TCR CONSTRUCTION INSPECTOR AT THE COMPLETION OF ROUGH GRADING AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. ANY DEFICIENCIES SHALL BE CORRECTED PRIOR TO FINAL ACCEPTANCE.

TOWN APPROVAL BLOCK

TOWN OF CASTLE ROCK APPROVAL
PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM
DATE OF DEVELOPMENT SERVICES APPROVAL

APPROVED BY:

DEVELOPMENT SERVICES DATE

PROFESSIONAL ENGINEER CERTIFICATION

I HEREBY AFFIRM THAT THESE FINAL CONSTRUCTION PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION, IN ACCORDANCE WITH ALL APPLICABLE TOWN OF CASTLE ROCK AND STATE OF COLORADO STANDARDS AND STATUTES, RESPECTIVELY; AND THAT I AM FULLY RESPONSIBLE FOR ALL DESIGN AND REVISIONS RELATIVE TO SAID PLANS.

KYLE R. GOODWIN
REGISTERED PROFESSIONAL ENGINEER # 63208

8/22/2025
DATE



ASA ASA KRG PM PRN WOC89 8/21/2025 DATE REV-#

DRW DES

GENERAL NOTES
MURPHY USA (NTI)
186 METZLER DRIVE
CASTLE ROCK COLORADO

Galloway

1185 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.980.7220 Kyle Goodwin P.E.
GallowayUS.com

MURPHY OIL USA, INC.

200 PEACH STREET
EL DORADO, AR 71730



SHEET NO.

C-1

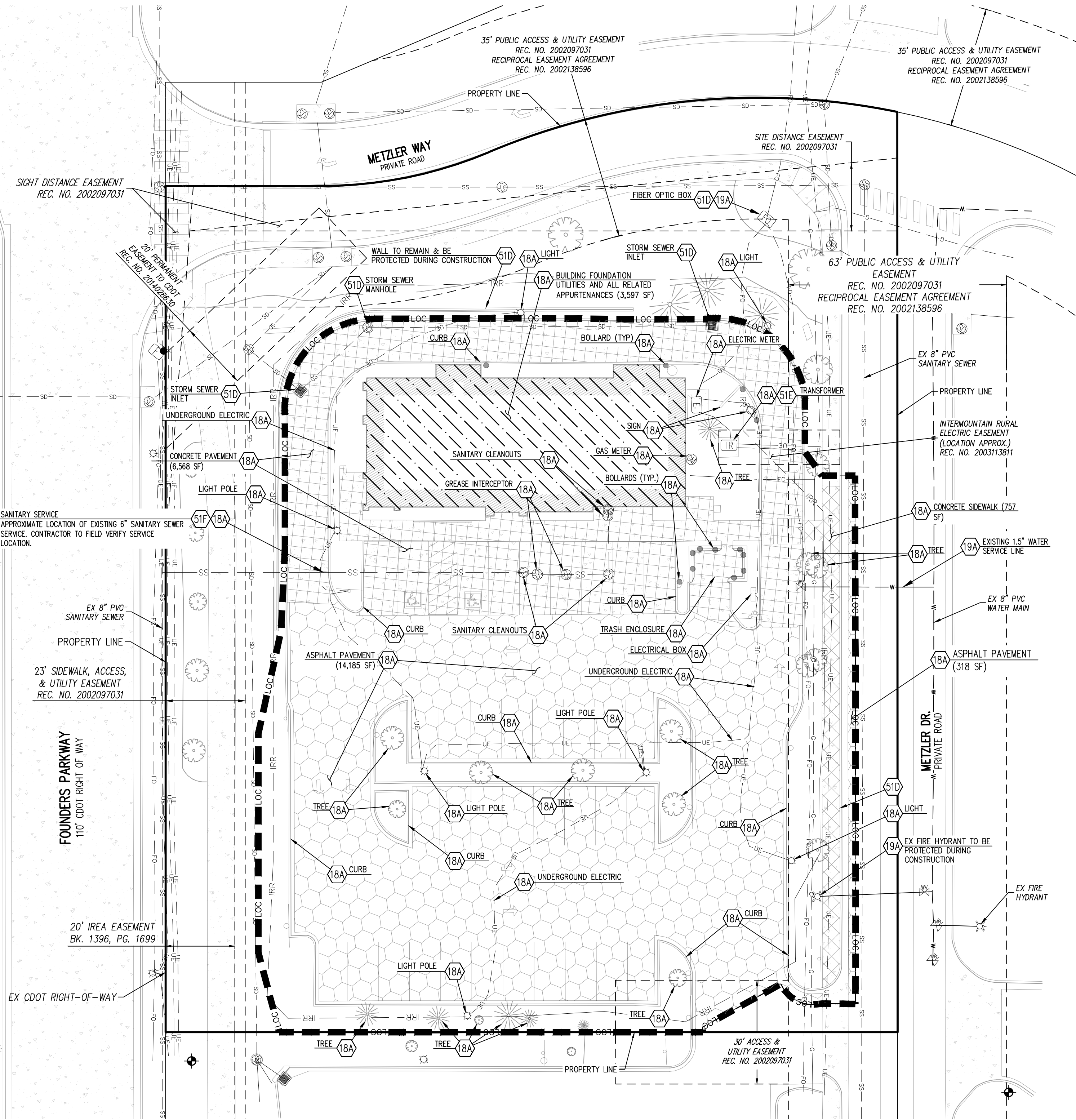
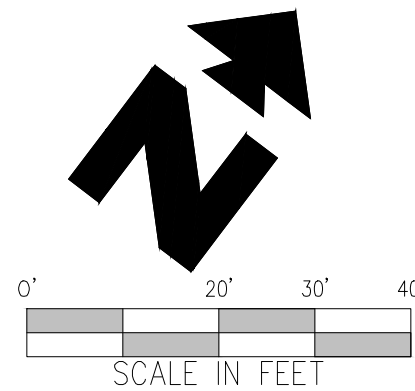
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CAUTION — NOTICE TO CONTRACTOR

- ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
- WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POT-HOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.



Know what's below.
Call before you dig.



EXISTING	
---	EXISTING MAJOR CONTOUR
---	EXISTING MINOR CONTOUR
---	EXISTING STORM SEWER
---	EXISTING SANITARY SEWER
---	EXISTING WATER
---	EXISTING UNDERGROUND ELECTRIC
---	EXISTING OVERHEAD ELECTRIC
---	EXISTING FIBER OPTIC
---	EXISTING GAS
---	EXISTING PROPERTY LINE
---	EXISTING PROPERTY LINE FOR PROPOSED SITE
---	EXISTING EASEMENT
---	EXISTING STREET LIGHT
---	EXISTING TRANSFORMER
---	EXISTING ELECTRIC METER
---	EXISTING ELECTRIC BOX
---	EXISTING FIBER OPTIC BOX
---	EXISTING GAS METER
---	EXISTING SANITARY SEWER MANHOLE
---	EXISTING WATER VALVE
---	EXISTING STORM INLET
---	EXISTING FIRE HYDRANT
---	EXISTING SIGN
---	EXISTING STORM DRAIN MANHOLE
---	EXISTING TREE

PROPOSED	
---	EXISTING ASPHALT TO BE REMOVED
---	EXISTING CONCRETE TO BE REMOVED
---	EXISTING BUILDING TO BE REMOVED
---	PROPOSED LIMITS OF CONSTRUCTION

GENERAL DEMOLITION NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF THE EXISTING STRUCTURES, RELATED UTILITIES, PAVING, UNDERGROUND STORAGE TANKS AND ANY OTHER EXISTING IMPROVEMENTS AS NOTED.
- CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
- THE GENERAL CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.

DEMOLITION NOTES
18A EXISTING TO BE REMOVED
18B EXISTING TO BE REMOVED AND RELOCATED
19A EXISTING TO REMAIN
51B LIMITS OF SAWCUT AND PAVEMENT REMOVAL
51D PROTECT EXISTING STRUCTURE AND/OR PIPES DURING DEMOLITION AND CONSTRUCTION PHASES
51E RETAIN FOR USE WITH PROPOSED BUILDING
51F CONTRACTOR TO CUT AND CAP EXISTING SERVICE 2 FEET FROM EXISTING MAIN.

THESE DRAWINGS DO NOT INCLUDE COMPONENTS FOR CONSTRUCTION SAFETY

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

TOWN APPROVAL BLOCK

TOWN OF CASTLE ROCK APPROVAL
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APPROVED BY:

DEVELOPMENT SERVICES DATE

PROFESSIONAL ENGINEER CERTIFICATION

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KYLE R. GOODWIN
REGISTERED PROFESSIONAL ENGINEER # 63208

8/22/2025
DATE



REV-#	8/21/2025	MOCK9	PRN	PM	DES	ASA	DRW
DEMOLITION PLAN							
MURPHY OIL USA (NTI)							
186 METZLER DRIVE							
CASTLE ROCK COLORADO							



MURPHY OIL USA, INC.

200 PEACH STREET
EL DORADO, AR 71730

MURPHY
USA

SHEET NO. C-2

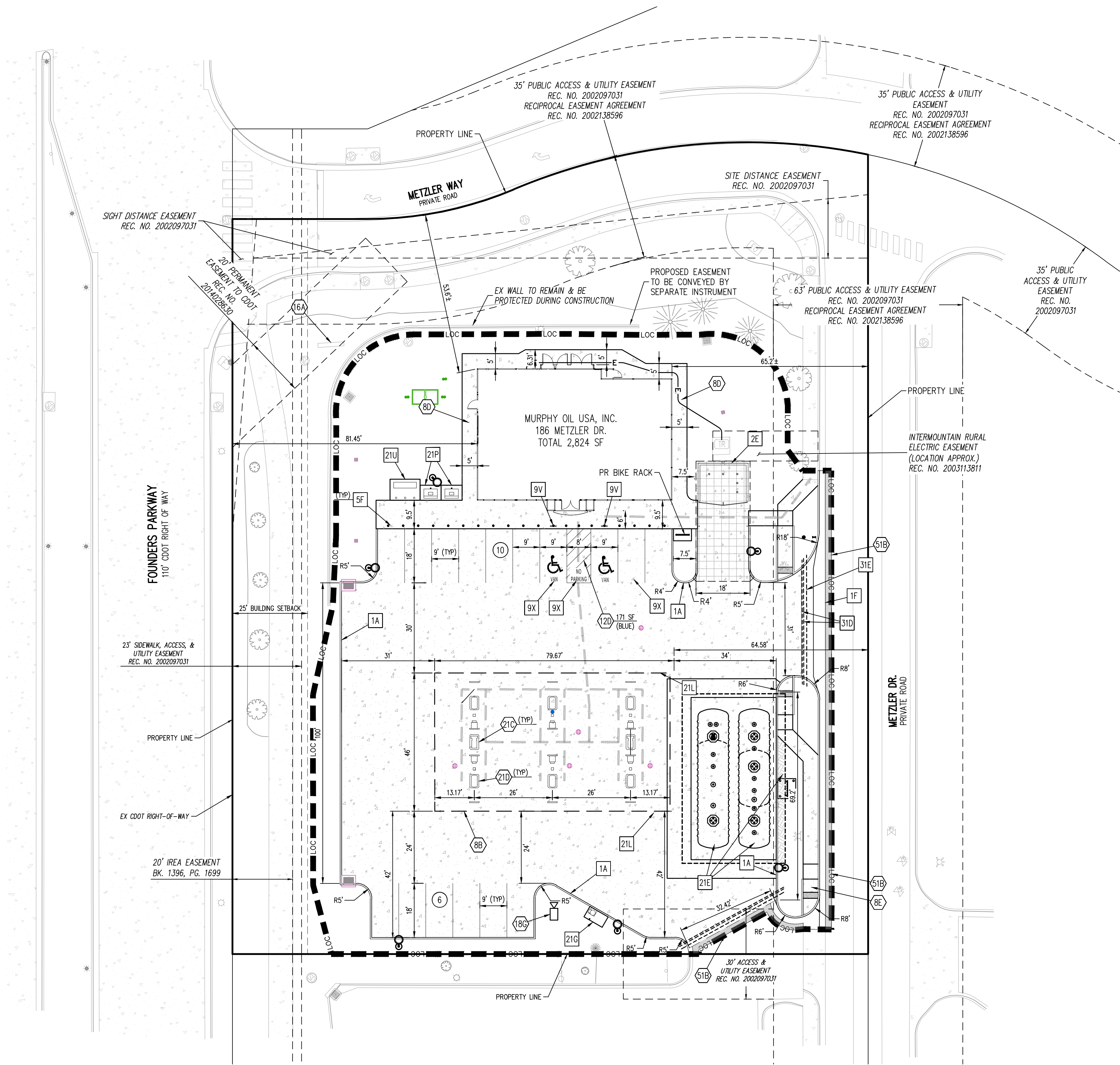
Sheet 3 of 27

CAUTION — NOTICE TO CONTRACTOR

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- WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.



Know what's below.
Call before you dig.



GENERAL SITE NOTES

- ALL DIMENSIONS SHOWN ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL CURB RETURN RADII SHALL BE 5', AS SHOWN TYPICAL ON THIS PLAN, UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE SHOWN, CALLED OUT OR SPECIFIED HEREON: ALL CURB AND GUTTER ADJACENT TO PAVING SHALL BE INSTALLED PER DETAIL.
- PAVEMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE PAVING PLAN OVER THE ENTIRE PARKING LOT AREA AND ALL APPROACH DRIVES.
- SEE ASSOCIATED PLANS FOR CANOPY, COLUMN, DISPENSER ISLAND DETAILS AND LAYOUT.
- CONTRACTOR SHALL BEGIN CONSTRUCTION OF ANY LIGHT POLE BASES FOR RELOCATED LIGHT FIXTURES AND RELOCATION OF ELECTRICAL SYSTEM AS SOON AS DEMOLITION BEGINS. CONTRACTOR SHALL BE AWARE THAT INTERRUPTION OF POWER TO ANY LIGHT POLES OR SIGNS SHALL NOT EXCEED 24 HOURS.
- ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND FOUR INCHES OF TOPSOIL APPLIED. IF ADEQUATE TOPSOIL IS NOT AVAILABLE ON SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE OWNER, AS NEEDED. THE AREA SHALL THEN BE SEEDED/SODDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL PURCHASE AND INSTALL A MAILBOX AND SHALL COORDINATE LOCATION OF MAILBOX WITH MURPHY CONSTRUCTION MANAGER AND/OR ON-SITE REPRESENTATIVE AND LOCAL POSTMASTER.
- ALL PROPOSED PAVEMENT STRIPING OR MARKINGS SHALL FOLLOW THE SPECIFICATIONS FOR PAINT INCLUDED IN DETAIL 10A.

SITE NOTES

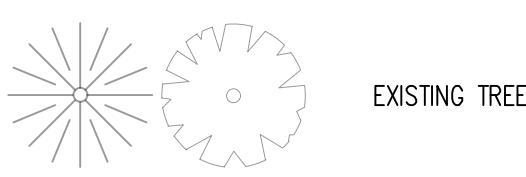
- 8B OVERHEAD CANOPY
- 8D PROPOSED 5' CONCRETE SIDEWALK
- 8E PROPOSED TYPE 2 DIRECTIONAL RAMP
- 12A 4" YELLOW LANE STRIPE (SEE SIZE INDICATED AT SYMBOL)
- 12D 4" WIDE PAINTED STRIPES, 2' O.C. @ 45' (SEE SIZE INDICATED AT SYMBOL)
- 14J GC TO INSTALL (1) 4" PVC SLEEVE FOR IRRIGATION LINE. (SEE UTILITY PLAN FOR INSTALLATION REQUIREMENTS)
- 14K GC TO INSTALL (2) 4" PVC SLEEVES FOR FUTURE USE (SEE UTILITY PLAN FOR INSTALLATION REQUIREMENTS)
- 16A MURPHY FREE STANDING SIGN
- 17A TRANSFORMER
- 18G CONSTRUCTION CAMERA (COORDINATE WITH MOUSA PM ON LOCATION)
- 21C DEF DISPENSER
- 21D MULTI-DISPENSER FUEL PUMP
- 21E UNDERGROUND STORAGE TANKS (1-25,000 GAL. & 1-26,000 GAL.)
- 21C AIR/VACUUM UNIT WITH 4'X7' CONCRETE SLAB
- 21K MURPHY EXPRESS ID SIGN PER APPROVED RENDERING
- 21L PRICE SIGN PER APPROVED ELEVATION
- 45G 1,000 GALLON GREASE INTERCEPTOR
- 51B LIMITS OF SAWCUT AND PAVEMENT REMOVAL

SITE DETAILS

- 1A INTEGRAL CONCRETE CURB
- 1E CURB CUT W/ SEDIMENT PAD (PER MHFD DETAIL RR-5)
- 1F CROSSSPAN (PER TOWN OF CASTLE ROCK, DTL CC-9)
- 2E DUMPSTER ENCLOSURE
- 3D CONCRETE SIDEWALK
- 3K CONCRETE SIDEWALK AROUND BUILDING
- 3L SEGMENTAL RETAINING WALL
- 3M GRASSED SWALE
- 5B TRAFFIC SIGN IN BOLLARD
- 5F STEEL BOLLARD W/COVER (SINGLE)
- 9U ACCESSIBLE PARKING SYMBOL (SEE PAINT COLOR INDICATED AT SYMBOL)
- 9V ACCESSIBLE PARKING SIGN MOUNTED IN BOLLARD
- 9X "NO PARKING" PAINTED ON PAVEMENT
- 12G "STOP" SIGN
- 21E UNDERGROUND STORAGE TANKS (1-25,000 GAL. & 1-26,000 GAL.)
- 21K MURPHY EXPRESS ID SIGN PER APPROVED RENDERING
- 21L PRICE SIGN PER APPROVED ELEVATION
- 21P 5'X7' ICE UNIT (SEE NUMBER INDICATED AT SYMBOL)
- 21U 7'X10' CONCRETE SLAB FOR PROPANE TANKS
- 31D INSTALL (2) PVC SCH. 40 (D2665) SLEEVES 30" BELOW FINAL GRADE UNDER DRIVEWAY. EXTEND SLEEVES 2 FEET BEYOND BACK OF PROPOSED CURB OR EDGE OF PAVEMENT. STAKE BOTH ENDS OF EACH SLEEVE WITH CAPPED VERTICAL PVC PIPE, 12" ABOVE GRADE. DO NOT ALLOW SOIL OR WATER TO ENTER SLEEVES DURING OR AFTER CONSTRUCTION.
- 31E INSTALL (1) PVC SCH. 40 (D2665) SLEEVES 30" BELOW FINAL GRADE UNDER DRIVEWAY FOR IRRIGATION LINE. EXTEND SLEEVES 2 FEET BEYOND BACK OF PROPOSED CURB OR EDGE OF PAVEMENT. STAKE BOTH ENDS OF SLEEVE WITH CAPPED VERTICAL PVC PIPE, 12" ABOVE GRADE. DO NOT ALLOW SOIL OR WATER TO ENTER SLEEVES DURING OR AFTER CONSTRUCTION.
- 45G 1,000 GALLON GREASE INTERCEPTOR
- 51B LIMITS OF SAWCUT AND PAVEMENT REMOVAL

EXISTING

- 5460 EXISTING MAJOR CONTOUR
- 52 EXISTING MINOR CONTOUR
- SD EXISTING STORM SEWER
- SS EXISTING SANITARY SEWER
- W EXISTING WATER
- UE EXISTING UNDERGROUND ELECTRIC
- OHE EXISTING OVERHEAD ELECTRIC
- FO EXISTING FIBER OPTIC
- G EXISTING GAS
- EXISTING PROPERTY LINE
- EXISTING PROPERTY LINE FOR PROPOSED SITE
- EXISTING EASEMENT
- EXISTING BUILDING SETBACK
- EXISTING STREET LIGHT
- EXISTING TRANSFORMER
- EXISTING ELECTRIC METER
- EXISTING ELECTRIC BOX
- EXISTING FIBER OPTIC BOX
- EXISTING GAS METER
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING STORM INLET
- EXISTING FIRE HYDRANT
- EXISTING SIGN
- EXISTING STORM DRAIN MANHOLE



PROPOSED

- CONCRETE PAVING
- REINFORCED CONCRETE PAVING
- PROPOSED ADA PATH
- PROPOSED CDOT TYPE 13 STORM INLET
- PROPOSED AREA INLET
- PROPOSED CONSTRUCTION CAMERA
- PROPOSED GREASE INTERCEPTOR
- PROPOSED SANITARY CLEANOUT
- PROPOSED STORM SEWER CLEANOUT
- PROPOSED LIGHT
- PROPOSED LIMITS OF CONSTRUCTION

PARKING INFORMATION: MURPHY USA

DESCRIPTION	BUILDING AREA (S.F.)	SPACES			
		REGULAR	UNDER CANOPY	ACCESSIBLE	TOTAL
MURPHY OIL	2,824	14	12	2	28
STALL DIMENSIONS:		SPACES			
9'x18' (MIN.)		REGULAR	UNDER CANOPY	ACCESSIBLE	TOTAL
		14	12	2	28
NO. OF FUEL ISLANDS: 6		NUMBER OF EMPLOYEES 4			
NO. OF VEHICLE FUELING POINTS: 12					

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KYLE R. GOODWIN
REGISTERED PROFESSIONAL ENGINEER # 63208

8/22/2025
DATE



REV.-# 8/21/2025 WOC89 DATE PRN PM DES ASA DRW

SITE PLAN
MURPHY USA (NTI)
186 METZLER DRIVE
CASTLE ROCK COLORADO

Galloway

1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.590.7220 Kyle Goodwin, P.E.
GallowayUS.com

MURPHY OIL USA, INC.

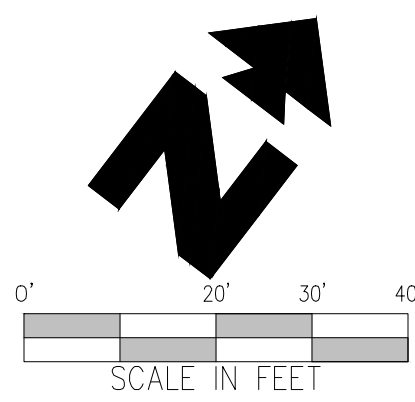
200 PEACH STREET
EL DORADO, AR 71730



SHEET NO.

C-3

Sheet 4 of 27



PROPOSED

4865 MAJOR CONTOUR

64 MINOR CONTOUR

29.99

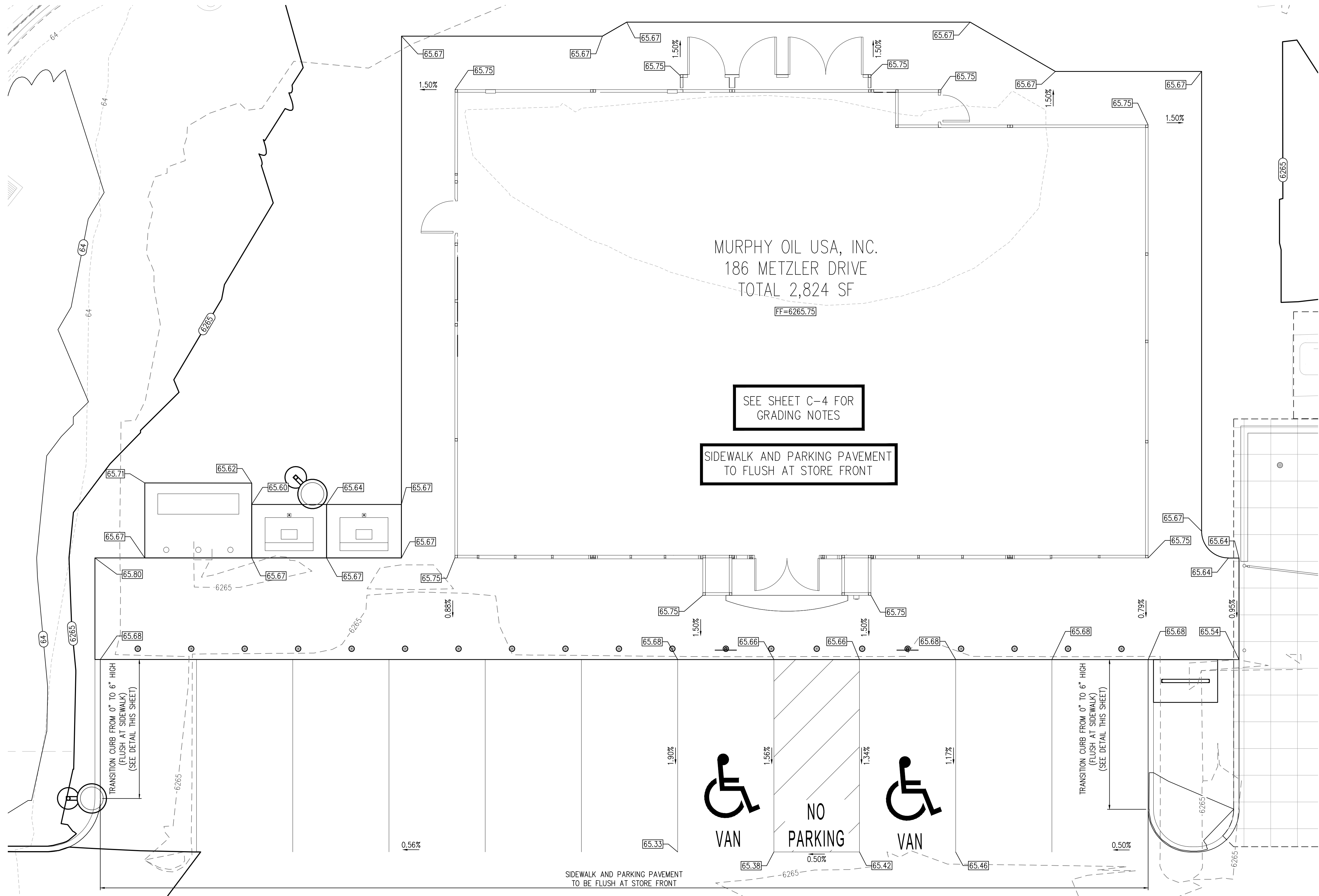
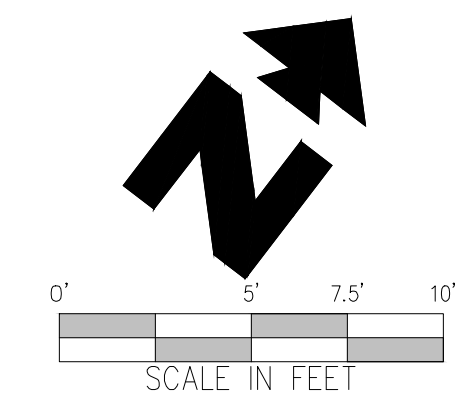
SPOT ELEVATIONS:
 XX.XX TBC = TOP BACK OF CURB
 XX.XX FL = FLOWLINE
 XX.XX TOI = TOP OF ISLAND
 XX.XX LP = LOW POINT
 XX.XX TW = TOP OF WALL
 XX.XX BW = BOTTOM OF WALL
 XX.XX = FINISHED GRADE

3.00% 4.0:1 DRAINAGE SLOPE AND DIRECTION

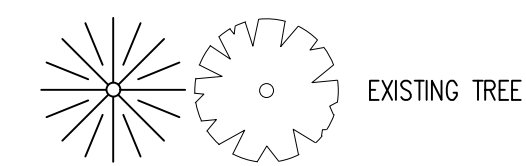
SD STORM SEWER (LESS THAN 12"ø)

SS SANITARY SERVICE

W WATER SERVICE

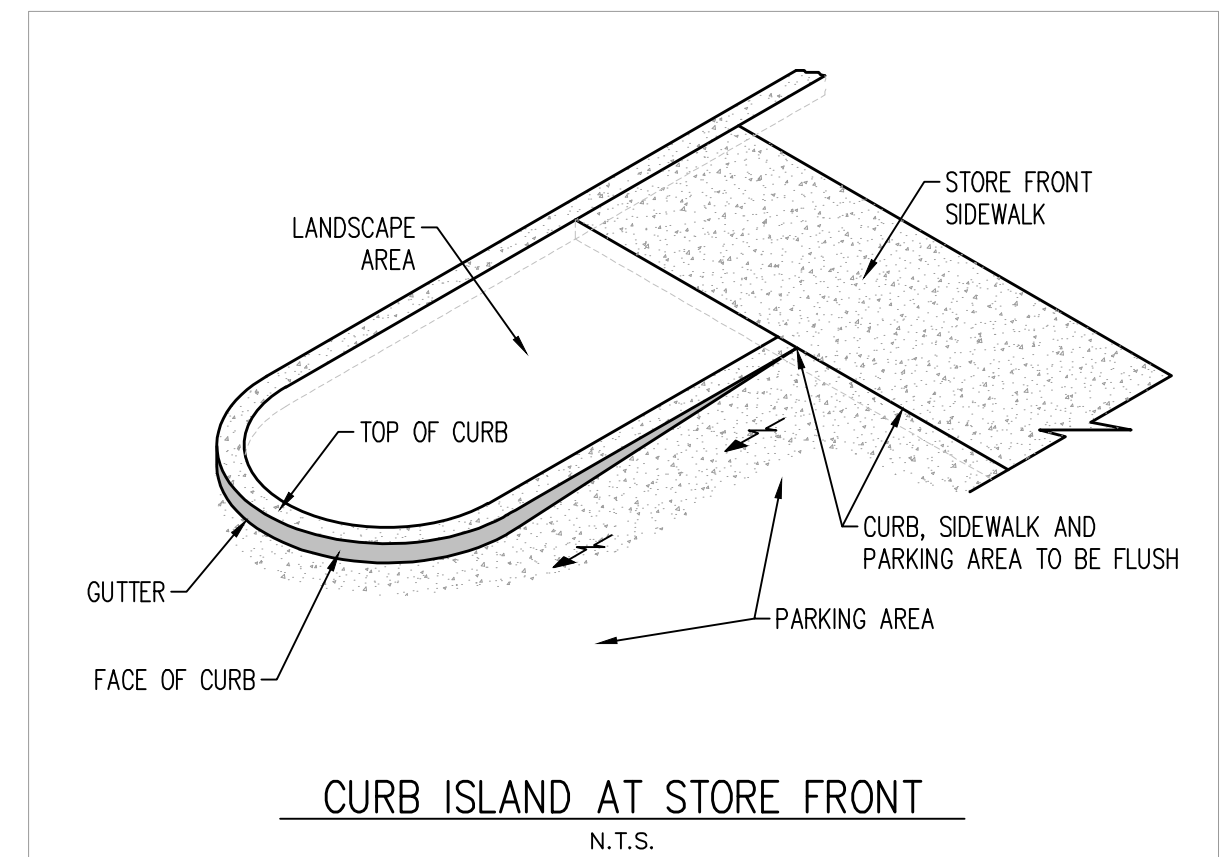


EXISTING	
---	5460 --- EXISTING MAJOR CONTOUR
---	52 --- EXISTING MINOR CONTOUR
---	SD --- EXISTING STORM SEWER (LESS THAN 12"Ø)
---	SS --- EXISTING SANITARY SEWER
---	W --- EXISTING WATER
---	UE --- EXISTING UNDERGROUND ELECTRIC
---	OHE --- EXISTING OVERHEAD ELECTRIC
---	FO --- EXISTING FIBER OPTIC
---	G --- EXISTING GAS
⊙	EXISTING STREET LIGHT
⊞	EXISTING TRANSFORMER
⊕	EXISTING ELECTRIC METER
⊞	EXISTING ELECTRIC BOX
⊞	EXISTING FIBER OPTIC BOX
⊕	EXISTING GAS METER
⊕	EXISTING SANITARY SEWER MANHOLE
⊕	EXISTING WATER VALVE
⊕	EXISTING STORM INLET
⊕	EXISTING FIRE HYDRANT
⊕	EXISTING SIGN
•	EXISTING BOLLARD



PROPOSED	
---	BOUNDARY LINE
---	4865 --- MAJOR CONTOUR
---	64 --- MINOR CONTOUR
---	XX.XX --- SPOT ELEVATIONS:
	XX.XX TBC = TOP BACK OF CURB
	XX.XX FL = FLOWLINE
	XX.XX TOI = TOP OF ISLAND
	XX.XX LP = LOW POINT
	XX.XX TW = TOP OF WALL
	XX.XX BW = BOTTOM OF WALL
	XX.XX = FINISHED GRADE
---	3.00% 4.0:1 --- DRAINAGE SLOPE AND DIRECTION

BUILDING/PAVEMENT ELEVATIONS
SCALE: 1"=5'



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Kyle R. Goodwin
KYLE R. GOODWIN
REGISTERED PROFESSIONAL ENGINEER # 63208

8/22/2025
DATE



ASA
ASA
KRG
PM
MOC89
PRN
8/21/2025
DATE
REV-#

ENLARGED GRADING PLAN
MURPHY OIL USA (NTI)
186 METZLER DRIVE
CASTLE ROCK COLORADO

Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.590.7220 Kyle Goodwin, P.E.
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MURPHY OIL USA, INC.
200 PEACH STREET
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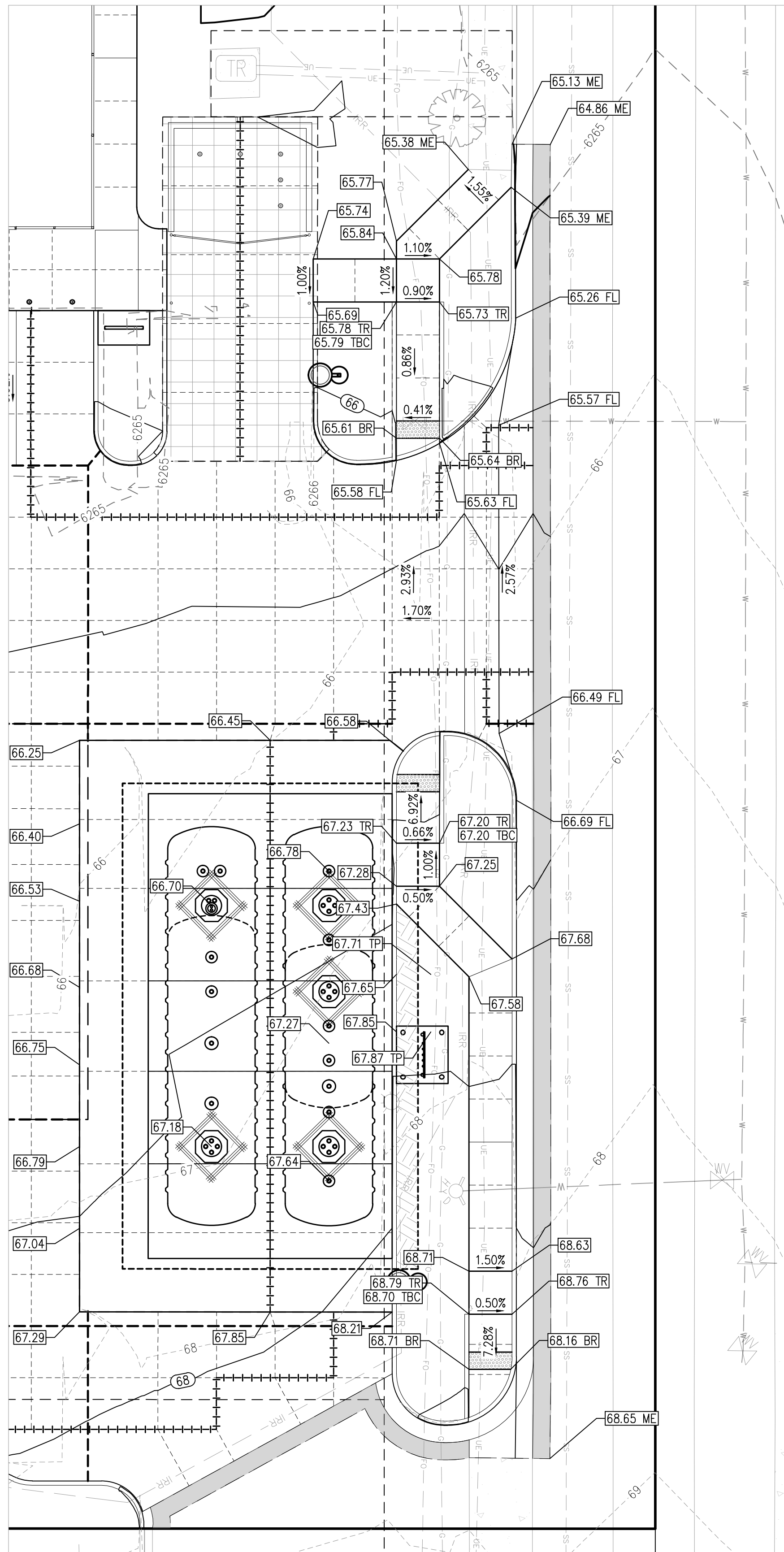
MURPHY
USA

SHEET NO.
C-4.1
Sheet C of 27

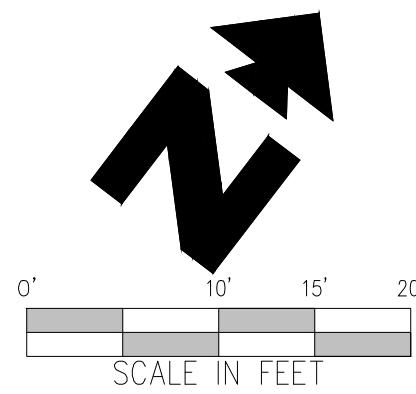
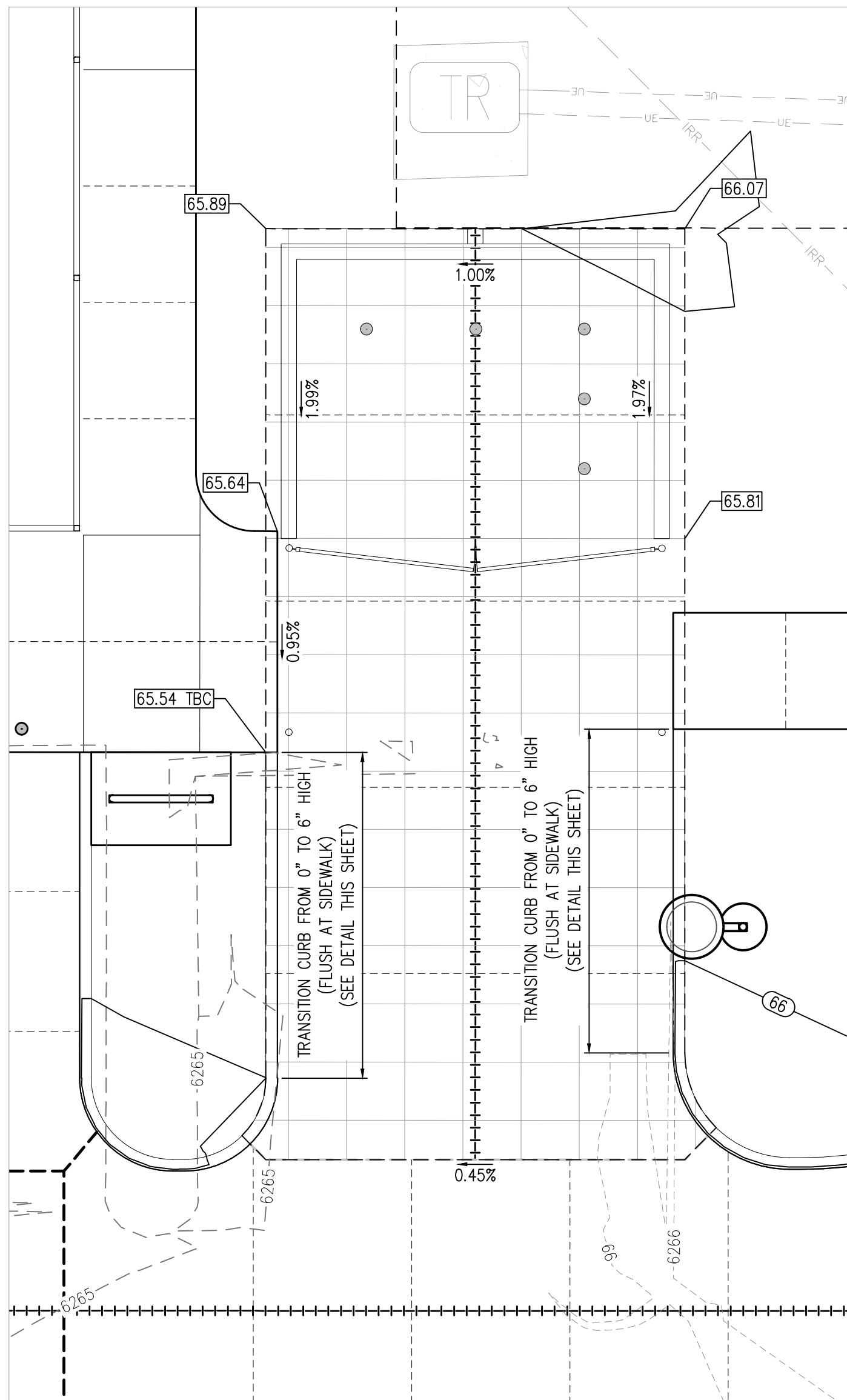
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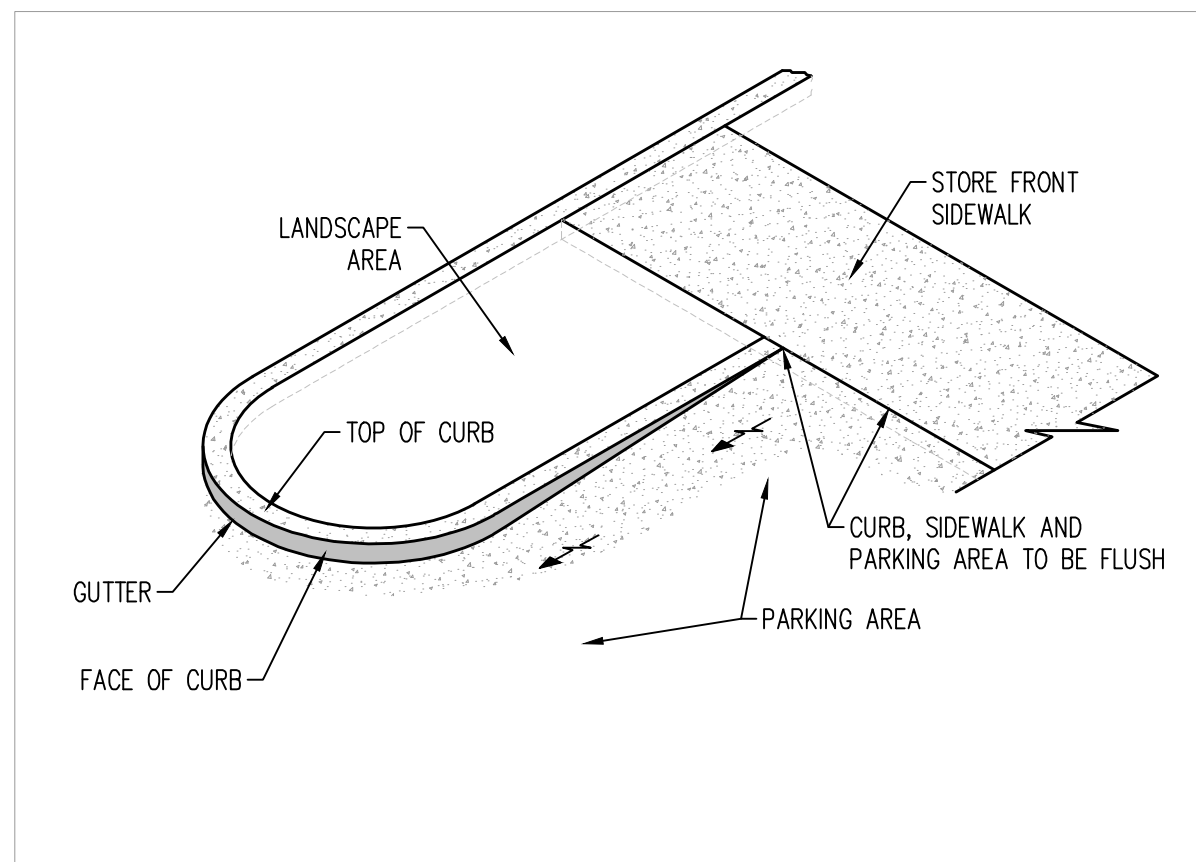




SIDEWALK AND PEDESTRIAN RAMPS
SCALE: 1" = 10'



DUMPSTER ENCLOSURE DRAINAGE
SCALE: 1" = 10'



CURB ISLAND AT STORE FRONT
N.T.S.

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8/22/2025
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MURPHY OIL USA, INC.

200 PEACH STREET
EL DORADO, AR 71730

MURPHY
USA

SHEET NO.

C-4.2

Sheet 7 of 27

REV-#

DATE

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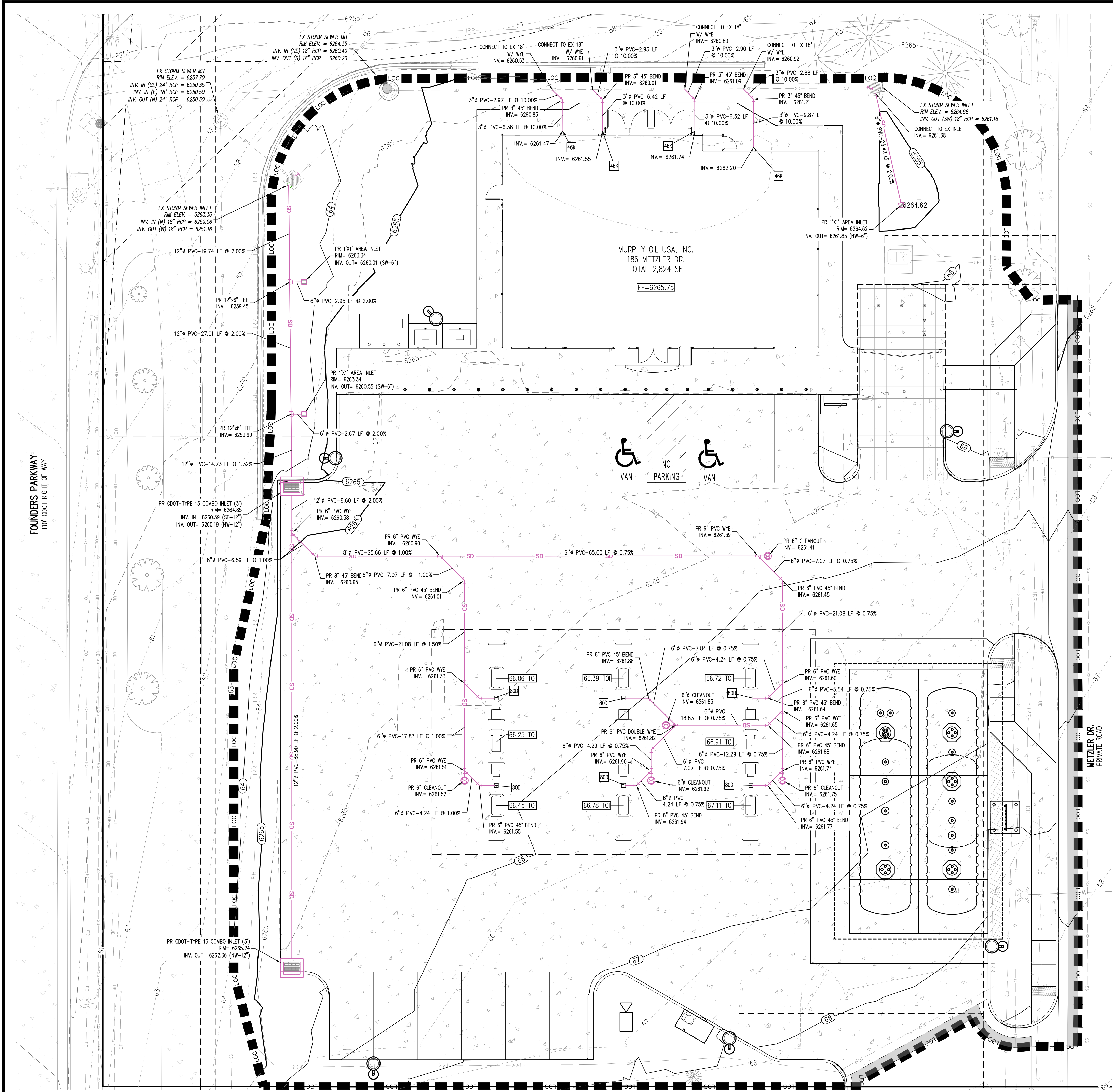
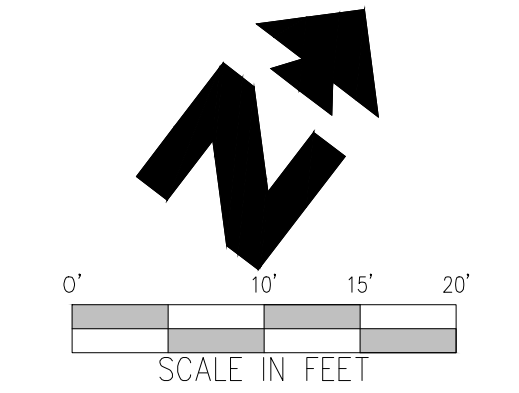
DRW

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THESE DRAWINGS DO NOT INCLUDE COMPONENTS FOR CONSTRUCTION SAFETY.

CONTRACTOR TO VERIFY ALL ELEVATIONS AND CONFLICTS PRIOR TO INSTALLING BUILDING AND CANOPY DRAINAGE.

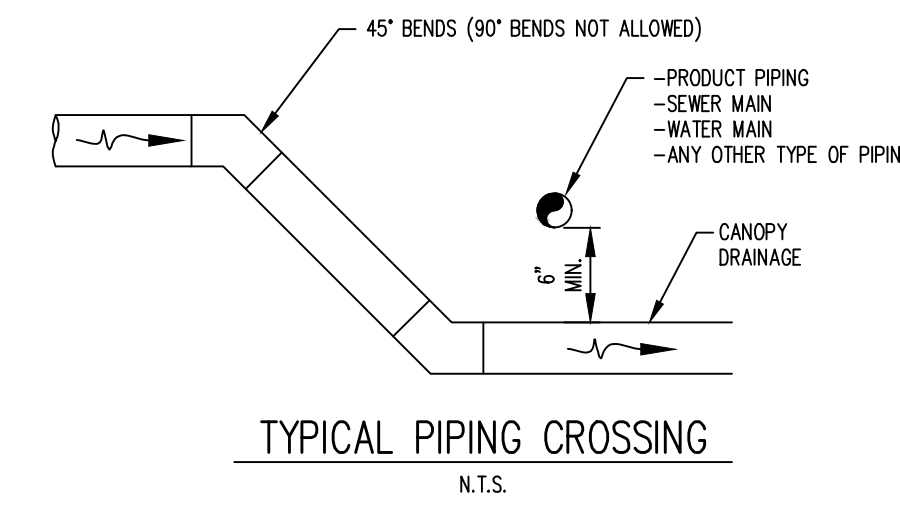
ALL CANOPY DRAINAGE TO BE A MIN. OF 6" BELOW ALL PRODUCT PIPING.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

EXISTING	
---	EXISTING MAJOR CONTOUR
---	EXISTING MINOR CONTOUR
---	EXISTING STORM SEWER
---	EXISTING SANITARY SEWER
---	EXISTING WATER
---	EXISTING UNDERGROUND ELECTRIC
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---	EXISTING SIGN
---	EXISTING TREE
PROPOSED	
---	MAJOR CONTOUR
---	MINOR CONTOUR
---	SPOT ELEVATIONS:
---	XX.XX FF = FINISH FLOOR
---	XX.XX TOI = TOP OF ISLAND
---	SD = STORM SEWER (LESS THAN 12")

- GENERAL STORM DRAINAGE NOTES**
- DRAINAGE PIPING AND FITTINGS FOR CANOPY DRAINAGE SHALL BE SOLVENT WELD PVC SCH. 40 (MIN).
 - REFER TO CLEANOUT DETAIL FOR REQUIRED HEAVY DUTY COVER.
 - DRAINAGE PIPING SHALL BE ROUTED BELOW PRODUCT PIPING (MIN. 6" VERTICAL SEPARATION). COORDINATE WITH TANK/PIPING PLANS.
 - ALL STORMWATER FACILITIES AND BMPs LOCATED IN CITY ROWS OR TYING INTO CITY STORMWATER SYSTEM NEED TO BE INSPECTED BY CITY STORMWATER PERSONNEL. PLEASE CONTACT INSPECTOR BEFORE CONSTRUCTION. 719-553-2291 OR 719-553-2285.
 - SLAG IS NOT AN ACCEPTABLE MATERIAL FOR PARKING OR DRIVING AREAS DUE TO ITS TOXIC COMPOSITION. PER THE COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT WATER QUALITY DIVISION. IT IS NOT ALLOWED ANYWHERE ON SITE.

STORM DRAINAGE DETAILS	
28A	STORM SEWER TRENCH & BEDDING
46K	ROOF DRAIN DOWNSPOUT LOCATION
80D	DOWNSPOUT COLLECTOR



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APPROVED BY: _____
DATE: 8/22/2025

DEVELOPMENT SERVICES _____
DATE: _____

PROFESSIONAL ENGINEER CERTIFICATION

I HEREBY AFFIRM THAT THESE FINAL CONSTRUCTION PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION, IN ACCORDANCE WITH ALL APPLICABLE TOWN OF CASTLE ROCK AND STATE OF COLORADO STANDARDS AND STATUTES, RESPECTIVELY, AND THAT I AM FULLY RESPONSIBLE FOR ALL DESIGN AND REVISIONS RELATIVE TO SAID PLANS.

Kyle R. Goodwin
KYLE R. GOODWIN
REGISTERED PROFESSIONAL ENGINEER # 63208

- CAUTION - NOTICE TO CONTRACTOR**
- ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
 - WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POT-HOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.



STORM DRAINAGE PLAN
MURPHY OIL USA (NTI)
186 METZLER DRIVE
CASTLE ROCK COLORADO

REV. # 8/21/2025
DATE 8/21/2025
MOC89
PRN
KRG
DES
ASA
DRW

1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.590.7220 Kyle Goodwin, P.E.
GallowayUS.com

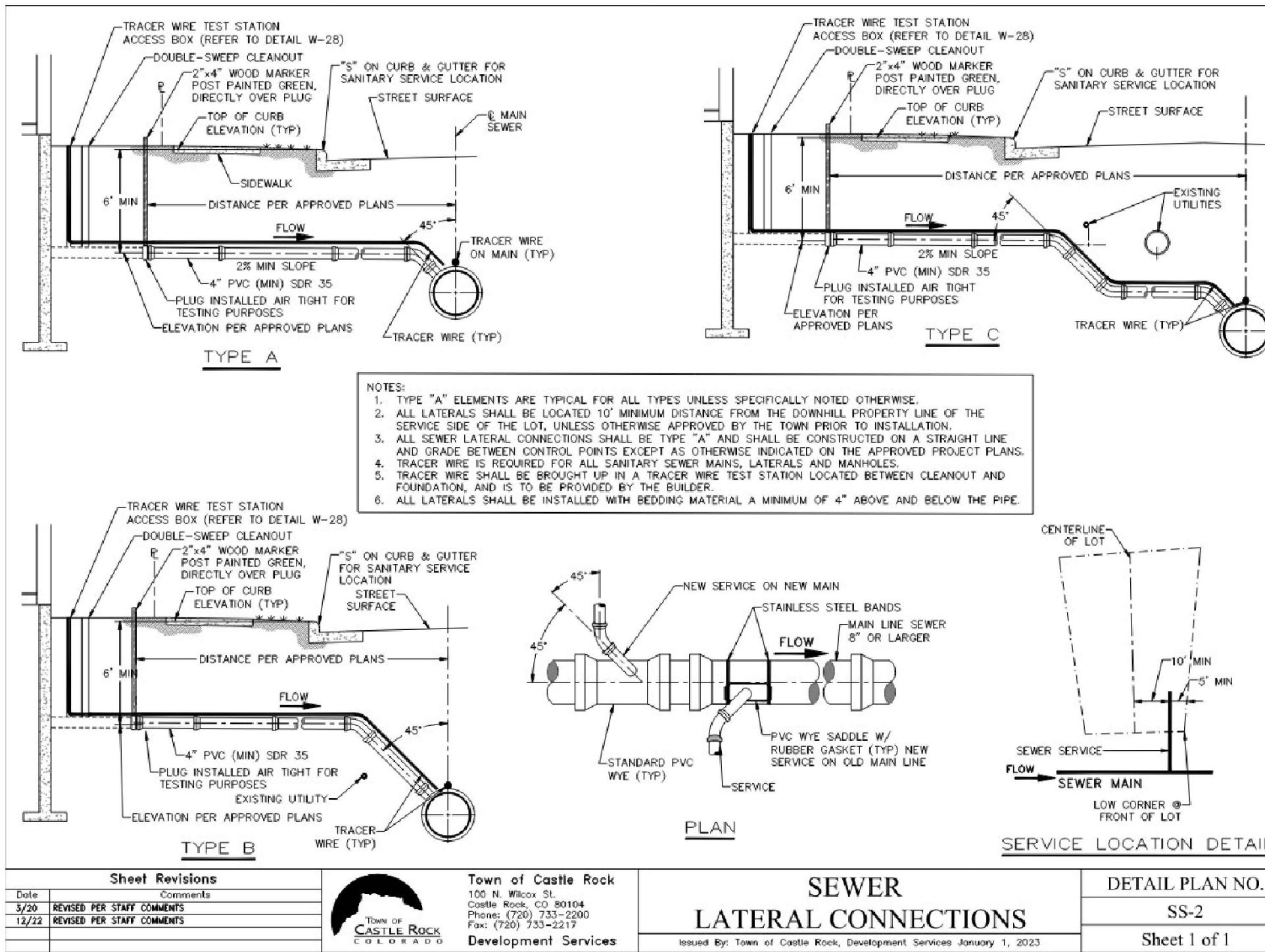
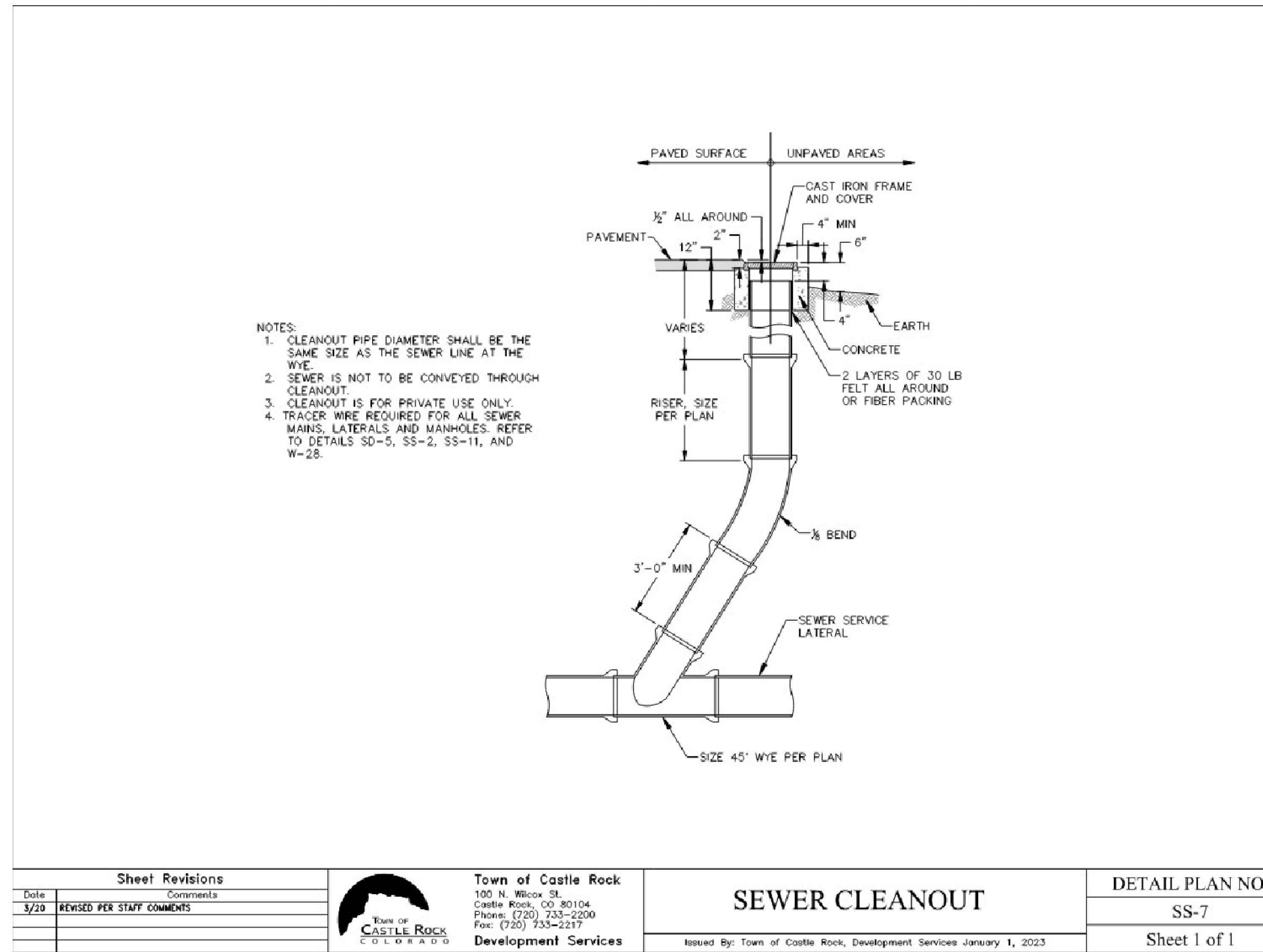
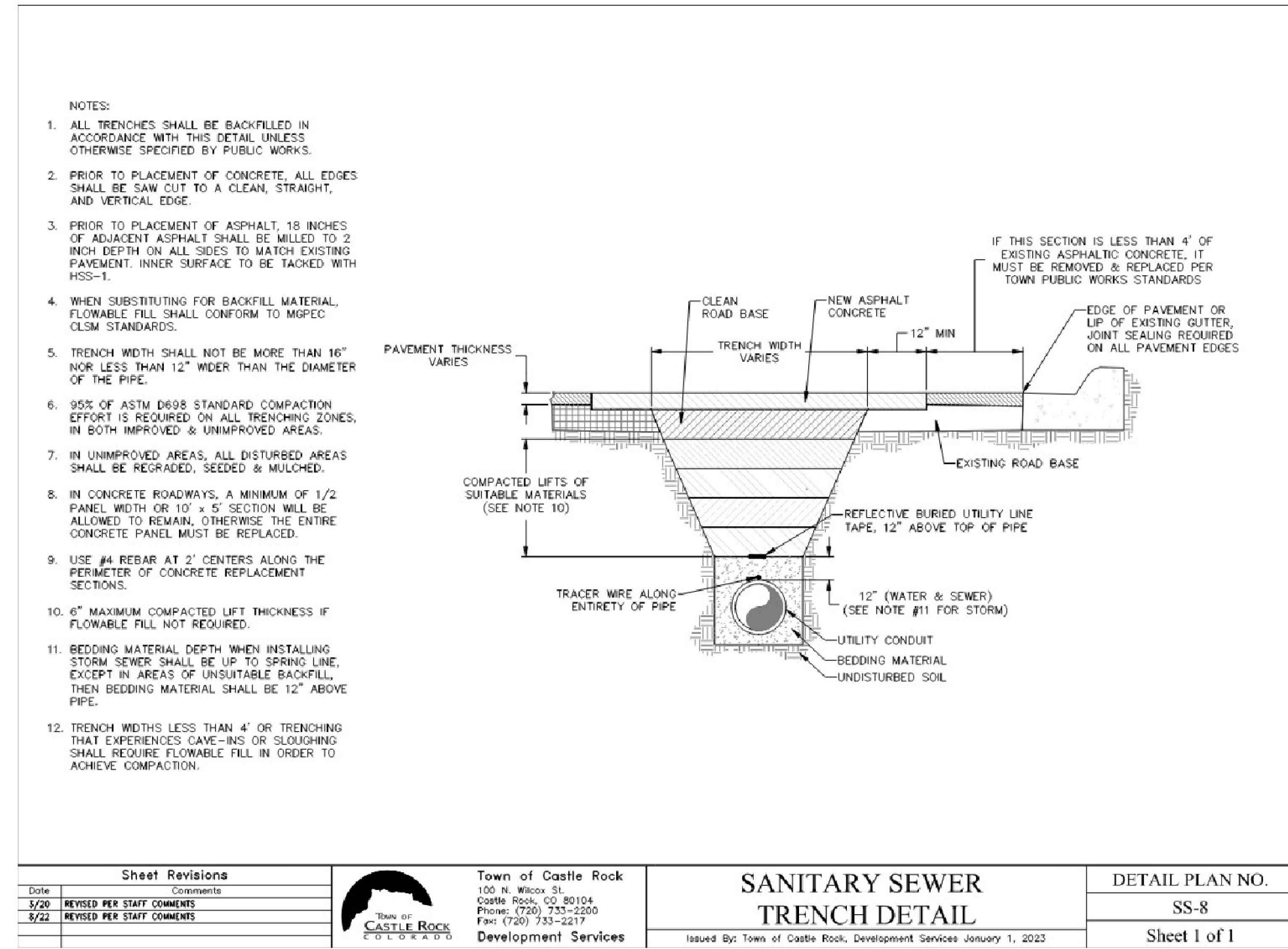
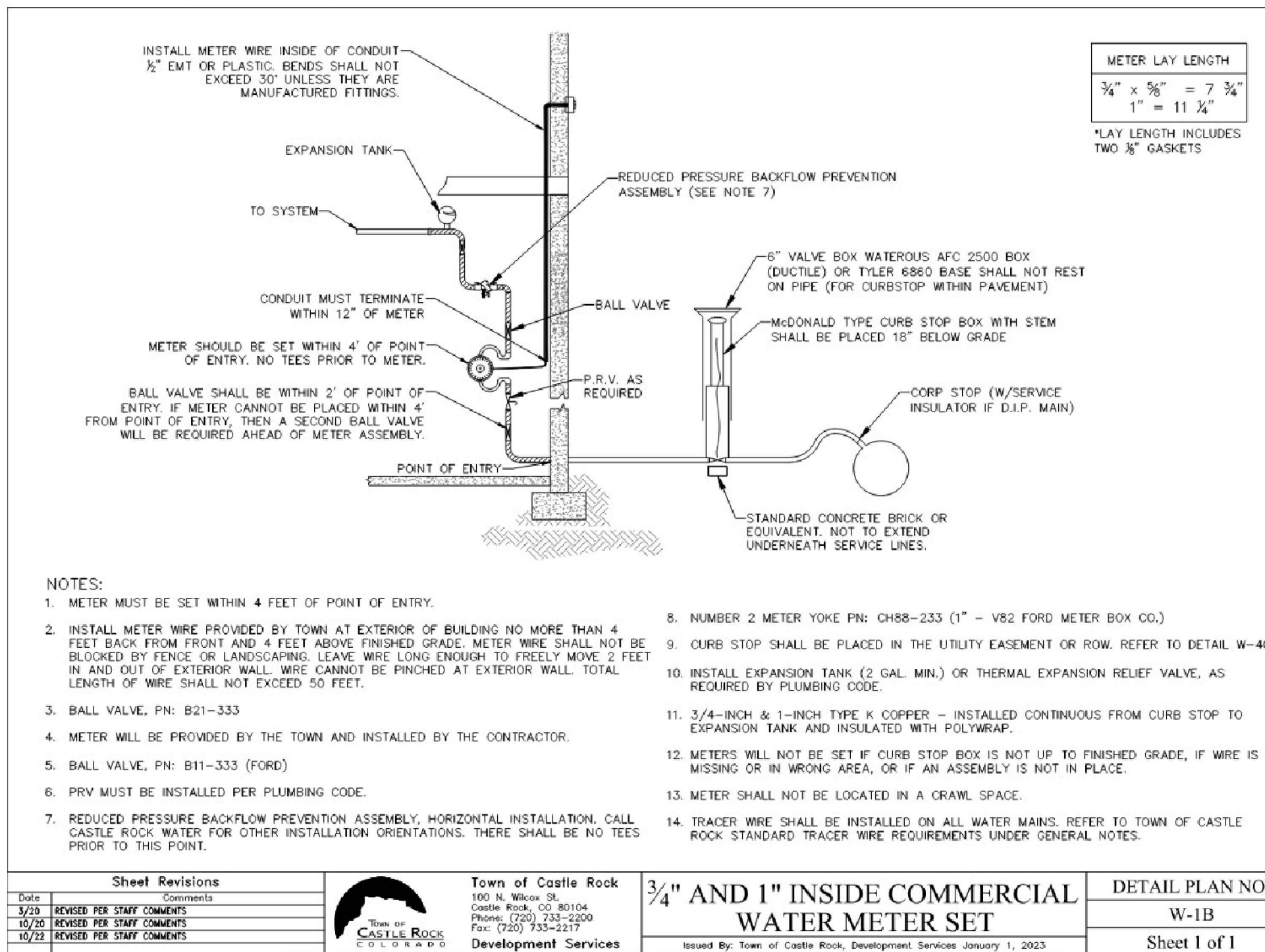
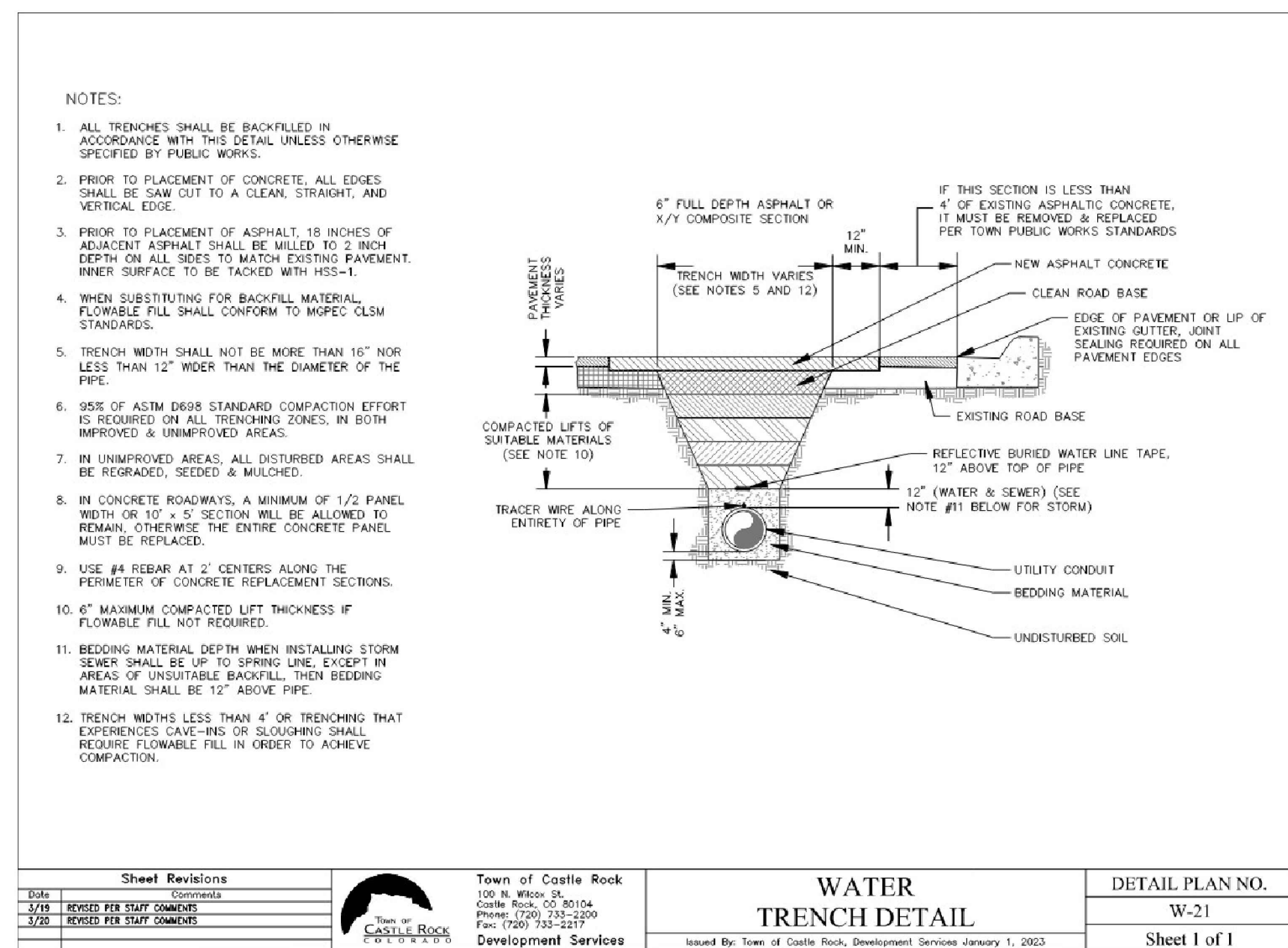
MURPHY OIL USA, INC.

200 PEACH STREET
EL DORADO, AR 71730

MURPHY OIL USA

SHEET NO. C-4.3

Sheet 3 of 27



TOWN APPROVAL BLOCK

TOWN OF CASTLE ROCK APPROVAL
PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM
DATE OF DEVELOPMENT SERVICES APPROVAL

APPROVED BY:

DEVELOPMENT SERVICES DATE

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KYLE R. GOODWIN
REGISTERED PROFESSIONAL ENGINEER # 63208

8/22/2025
DATE



REV-# 8/22/2025 MOC89 KRG PM DES DRW

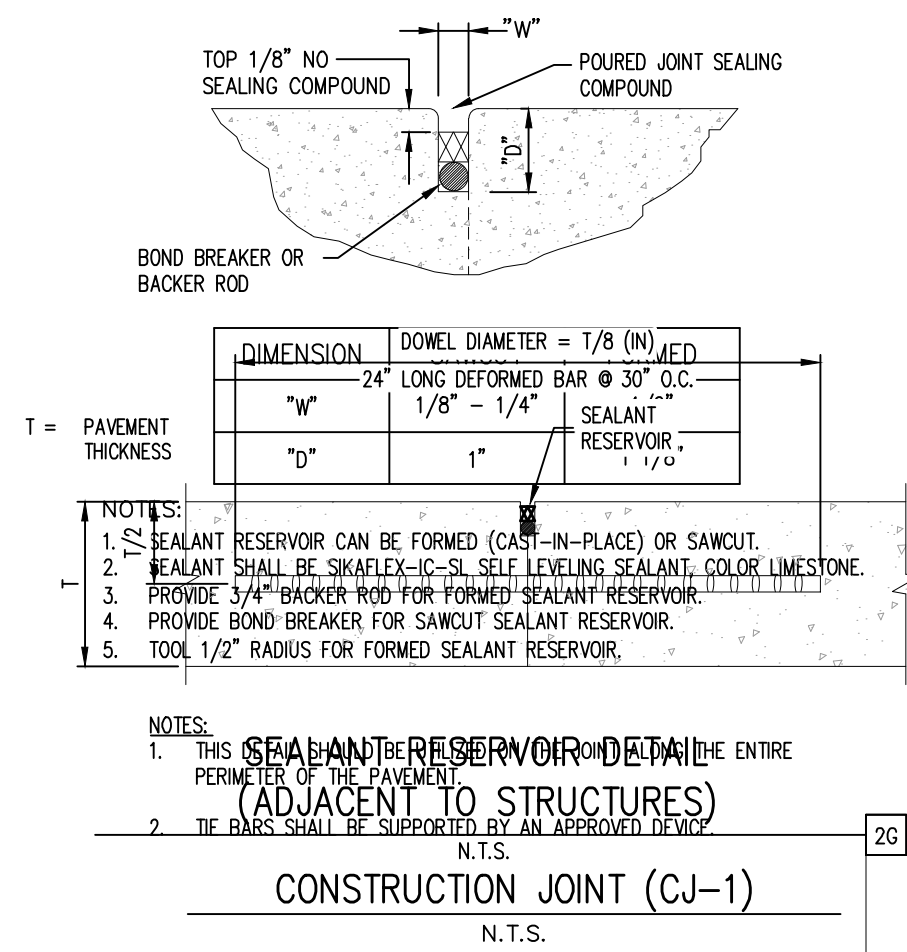
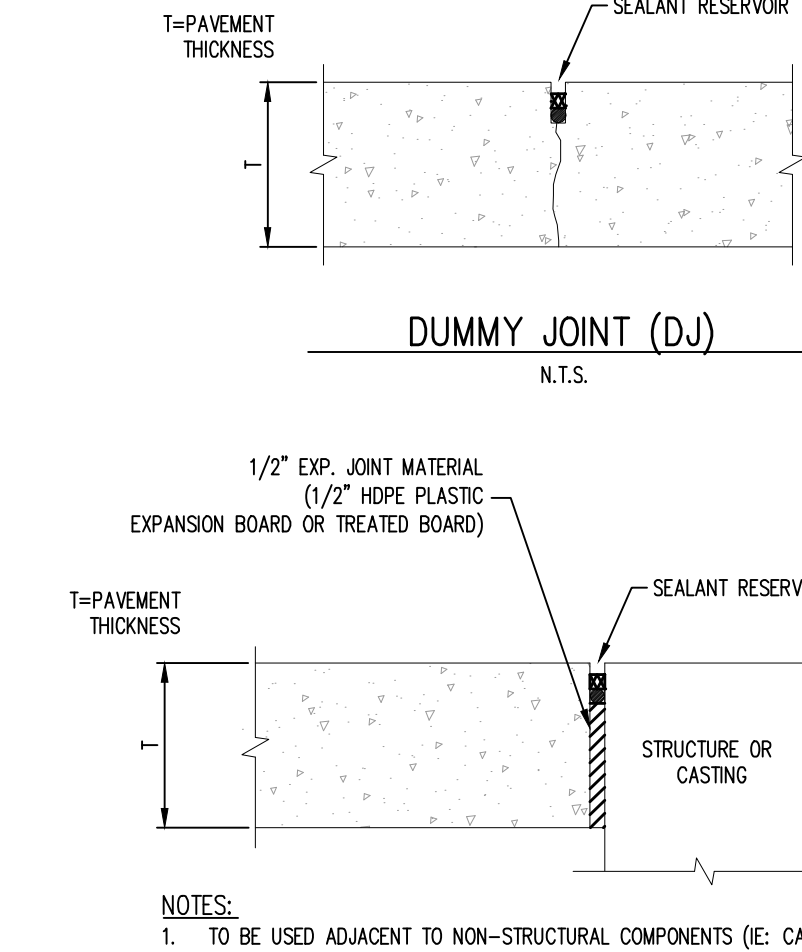
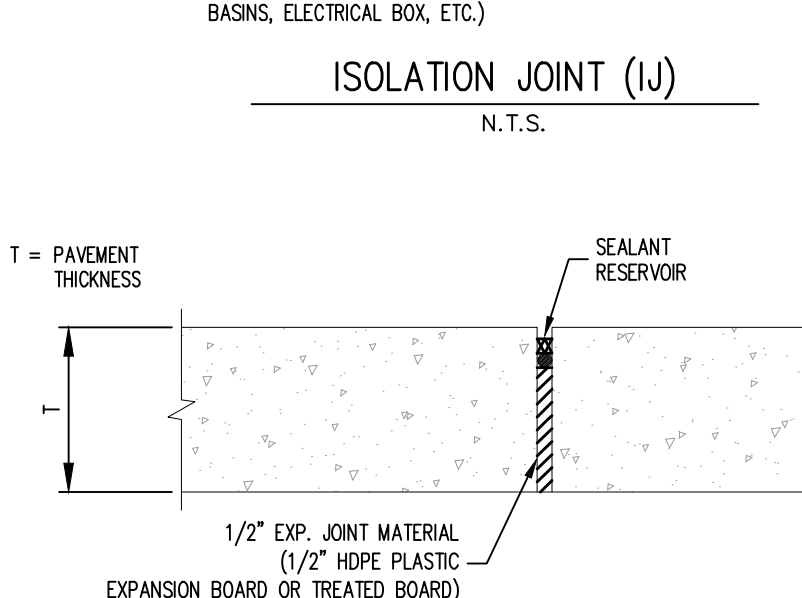
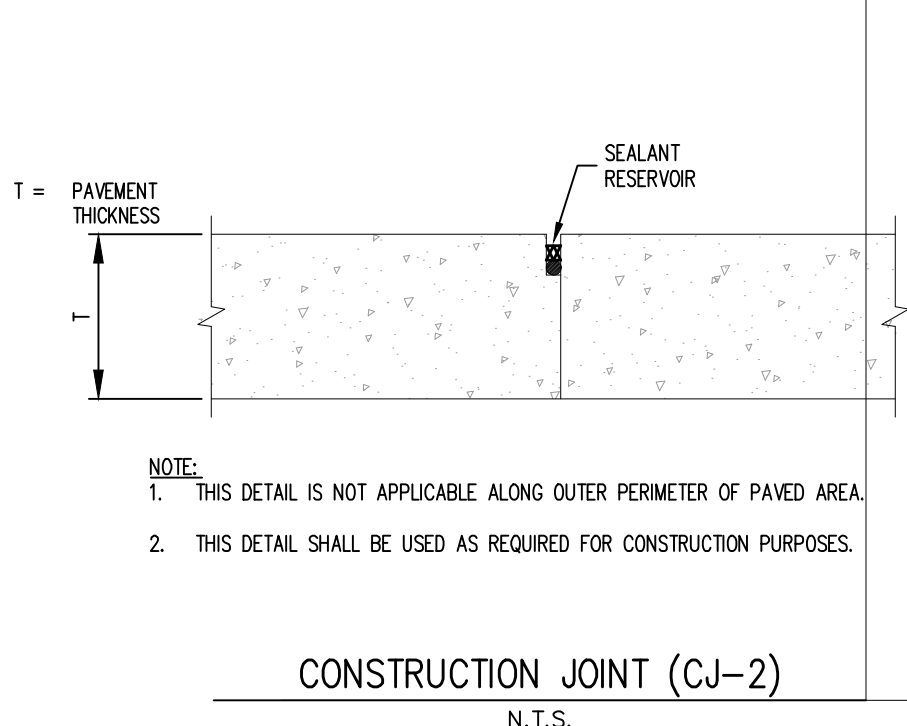
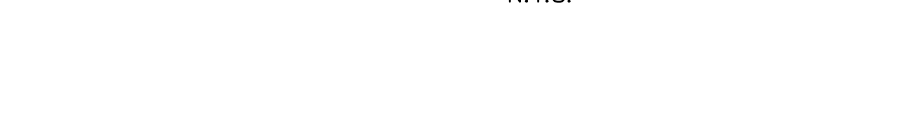
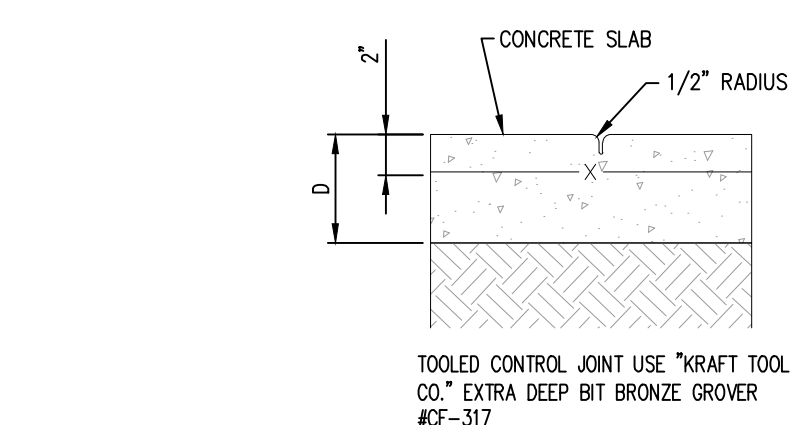
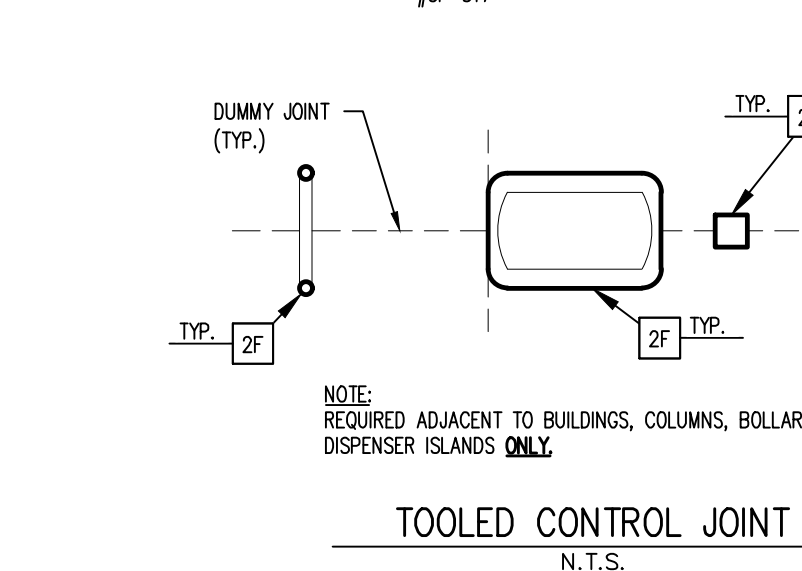
UTILITY DETAILS
MURPHY USA (NTI)
186 METZLER DRIVE
CASTLE ROCK COLORADO

Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.590.7220 Kyle.Galloway@G.com

MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730



SHEET NO. C5.1
Sheet 10 of 27



TOWN APPROVAL BLOCK

TOWN OF CASTLE ROCK APPROVAL
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KYLE R. GOODWIN
REGISTERED PROFESSIONAL ENGINEER # 63208

8/22/2025
DATE



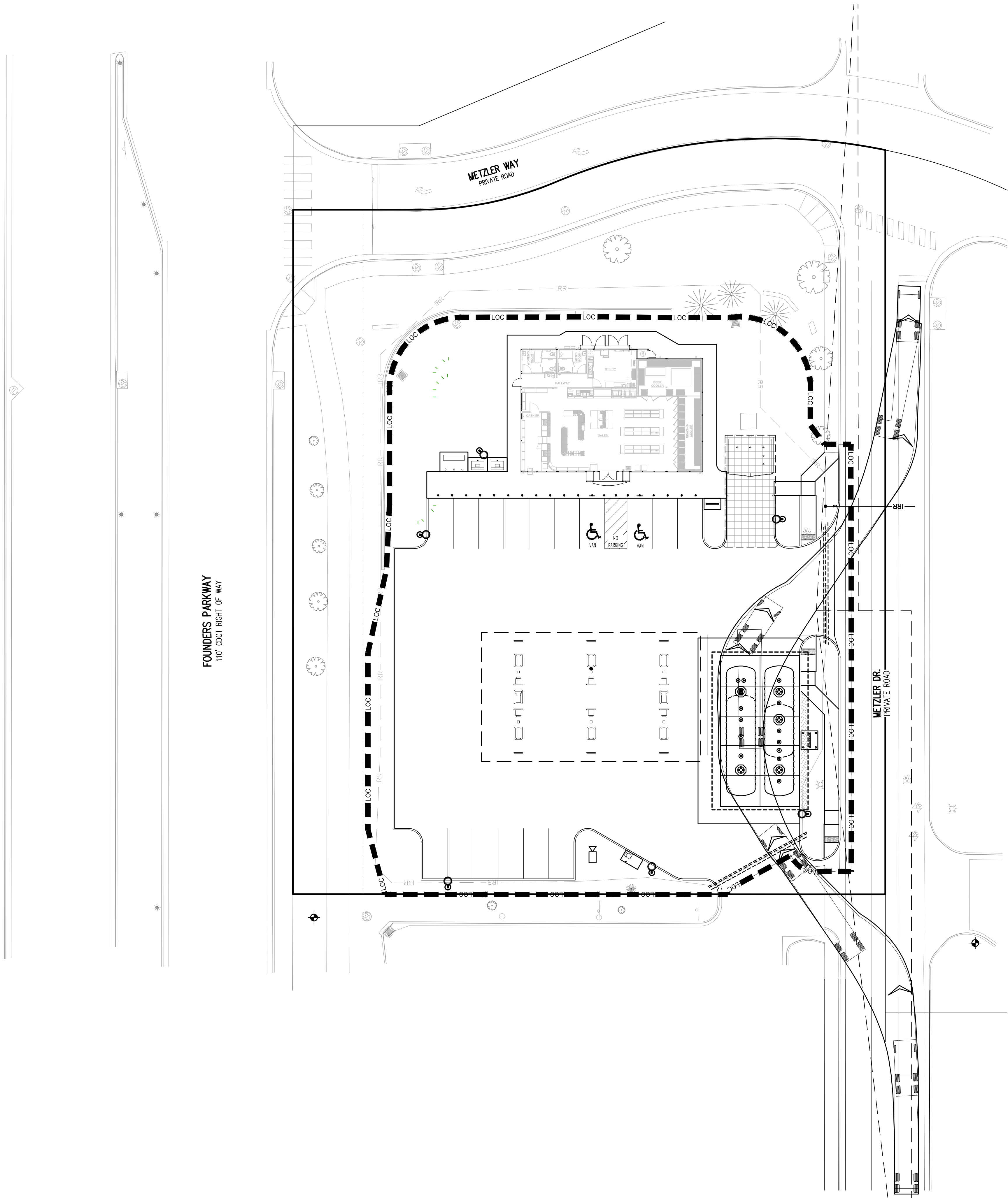
REV-#	DATE	PRN	PM	DES	DRW
8/21/2025	MO	8/21/2025	PM	DES	DRW

JOINT DETAILS
MURPHY USA (NTI)
186 METZLER DRIVE
CASTLE ROCK COLORADO

Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.590.7220 Kyle Goodwin, P.E.
GallowayUS.com

MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730
MURPHY USA

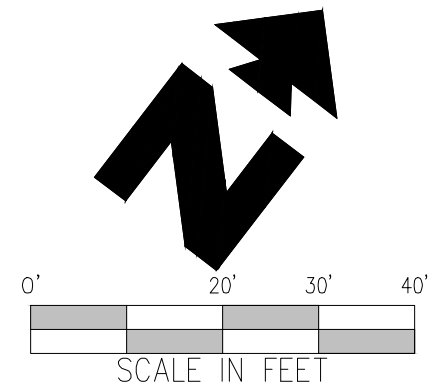
SHEET NO.
C-6.1
Sheet 12 of 27



FOUNDERS PARKWAY
110' CDOT RIGHT OF WAY

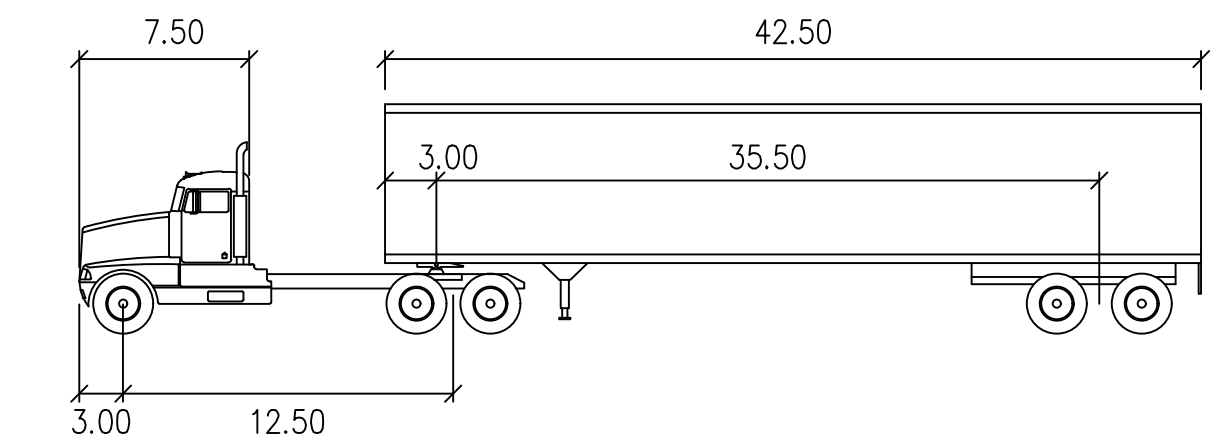
METZLER WAY
PRIVATE ROAD

METZLER DR.
PRIVATE ROAD



- EXISTING**
- OHE— EXISTING OVERHEAD ELECTRIC
 - ⊙ EXISTING STREET LIGHT
 - ⊕ EXISTING TRANSFORMER
 - ⊖ EXISTING ELECTRIC METER
 - ⊗ EXISTING ELECTRIC BOX
 - ⊘ EXISTING FIBER OPTIC BOX
 - ⊙ EXISTING GAS METER
 - ⊖ EXISTING SANITARY SEWER MANHOLE
 - ⊗ EXISTING WATER VALVE
 - ⊘ EXISTING STORM INLET
 - ⊙ EXISTING FIRE HYDRANT
 - ⊖ EXISTING SIGN
 - ⊗ EXISTING BOLLARD
 - ⊘ EXISTING TREE

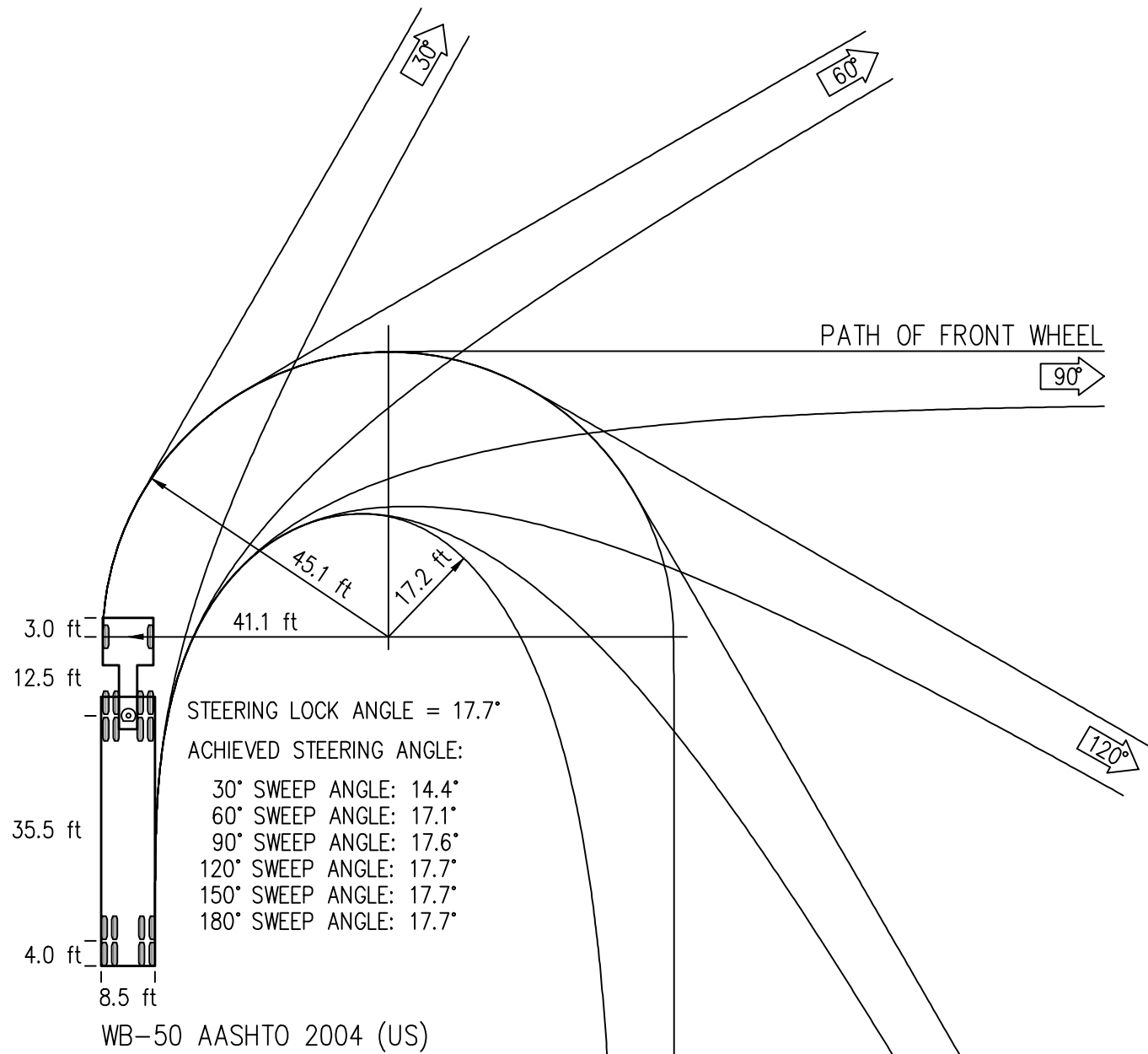
- PROPOSED**
- BOUNDARY LINE
 - CURB AND GUTTER



WB-50

feet

- TRACTOR WIDTH : 8.00
TRAILER WIDTH : 8.50
TRACTOR TRACK : 8.00
TRAILER TRACK : 8.50
- LOCK TO LOCK TIME : 6.0
STEERING ANGLE : 17.7
ARTICULATING ANGLE : 70.0



WB 50 TRUCK
PROFILE

TOWN APPROVAL BLOCK

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REGISTERED PROFESSIONAL ENGINEER # 63208

8/22/2025
DATE



REV-# 8/21/2025 MOC89 PRN PM DES ASA DRW

TRUCK TURN EXHIBIT
MURPHY USA (NTI)
186 METZLER DRIVE
CASTLE ROCK COLORADO

Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.590.7220 Kyle Goodwin, P.E.
GallowayUS.com

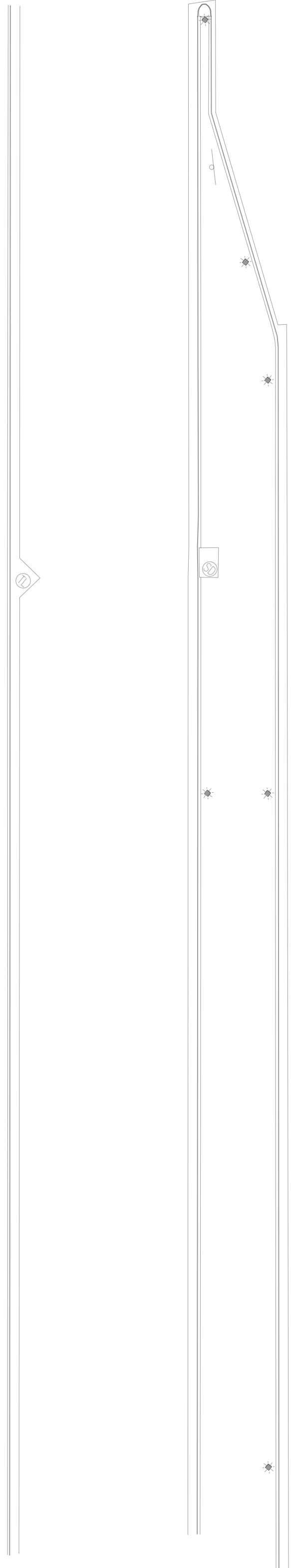
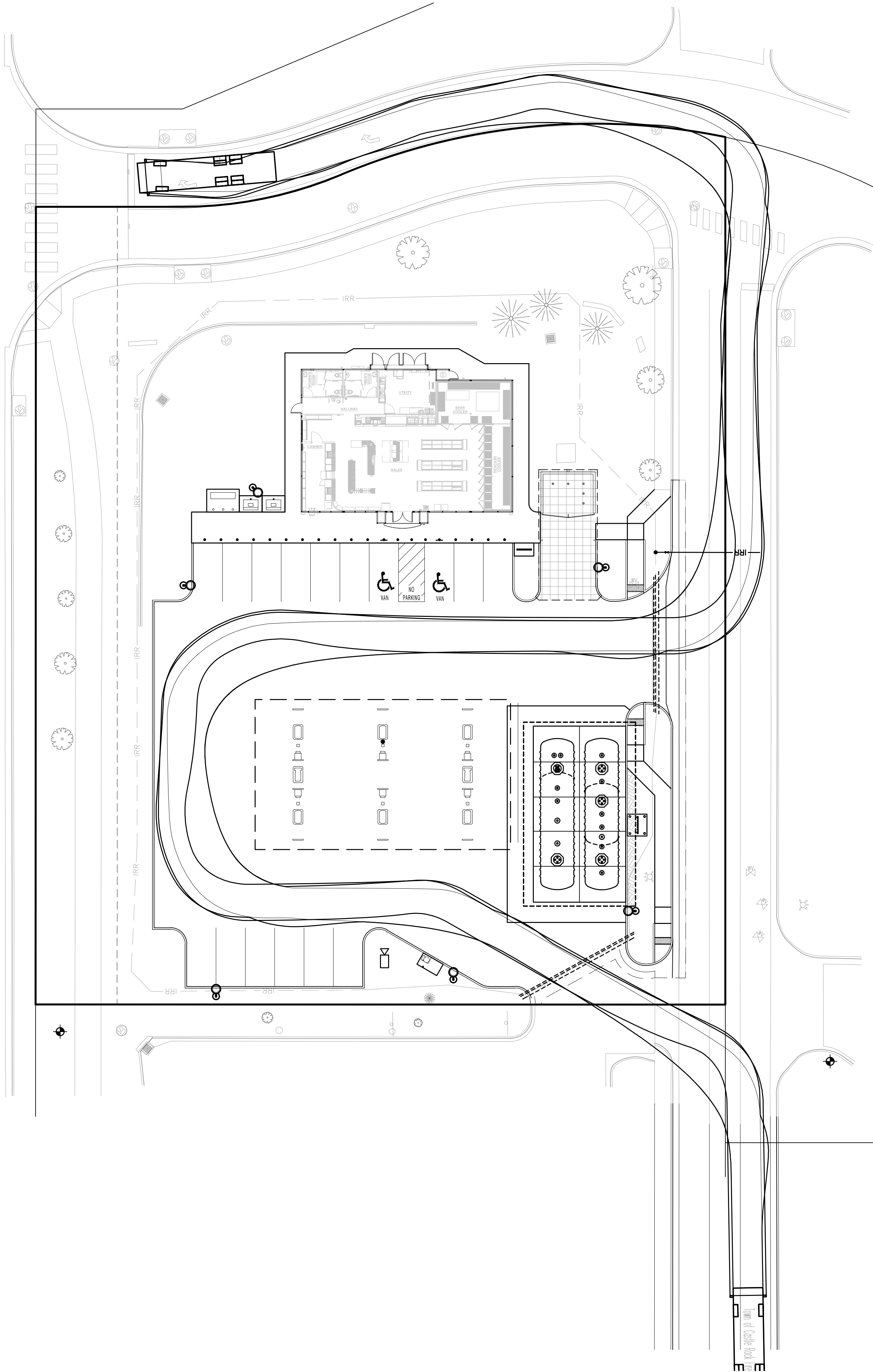
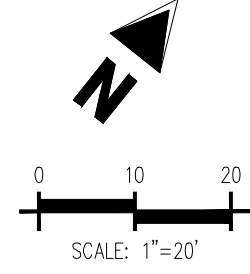
MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730

MURPHY USA

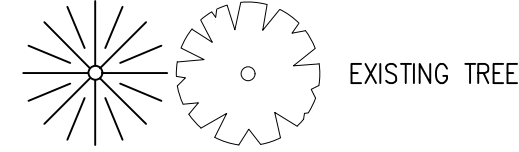
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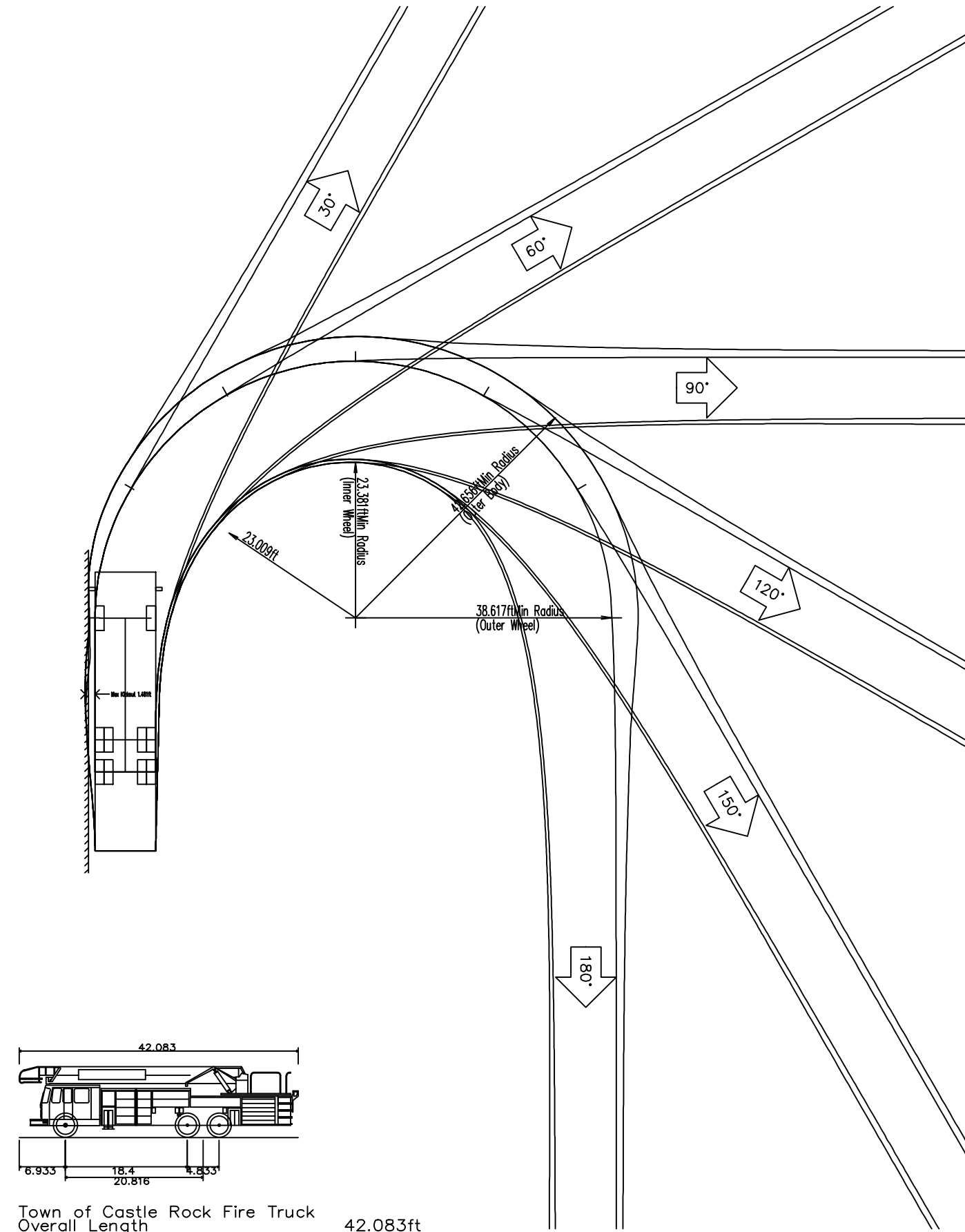
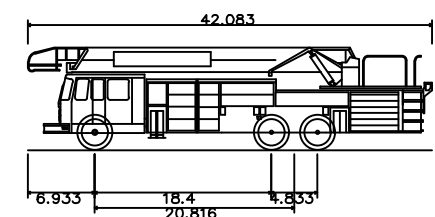
Sheet 13 of 27



- EXISTING
- OHE— EXISTING OVERHEAD ELECTRIC
 - ☆ EXISTING STREET LIGHT
 - ⊞ EXISTING TRANSFORMER
 - ⊞ EXISTING ELECTRIC METER
 - ⊞ EXISTING ELECTRIC BOX
 - ⊞ EXISTING FIBER OPTIC BOX
 - ⊞ EXISTING GAS METER
 - ⊞ EXISTING SANITARY SEWER MANHOLE
 - ⊞ EXISTING WATER VALVE
 - ⊞ EXISTING STORM INLET
 - ⊞ EXISTING FIRE HYDRANT
 - ⊞ EXISTING SIGN
 - EXISTING BOLLARD



- PROPOSED
- BOUNDARY LINE
 - CURB AND GUTTER



Town of Castle Rock Fire Truck

Overall Length	42.083ft
Overall Width	6.933ft
Overall Body Height	18.4ft
Min. Body Ground Clearance	20.816ft
Track Width	8.140ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	36.80°

TOWN APPROVAL BLOCK

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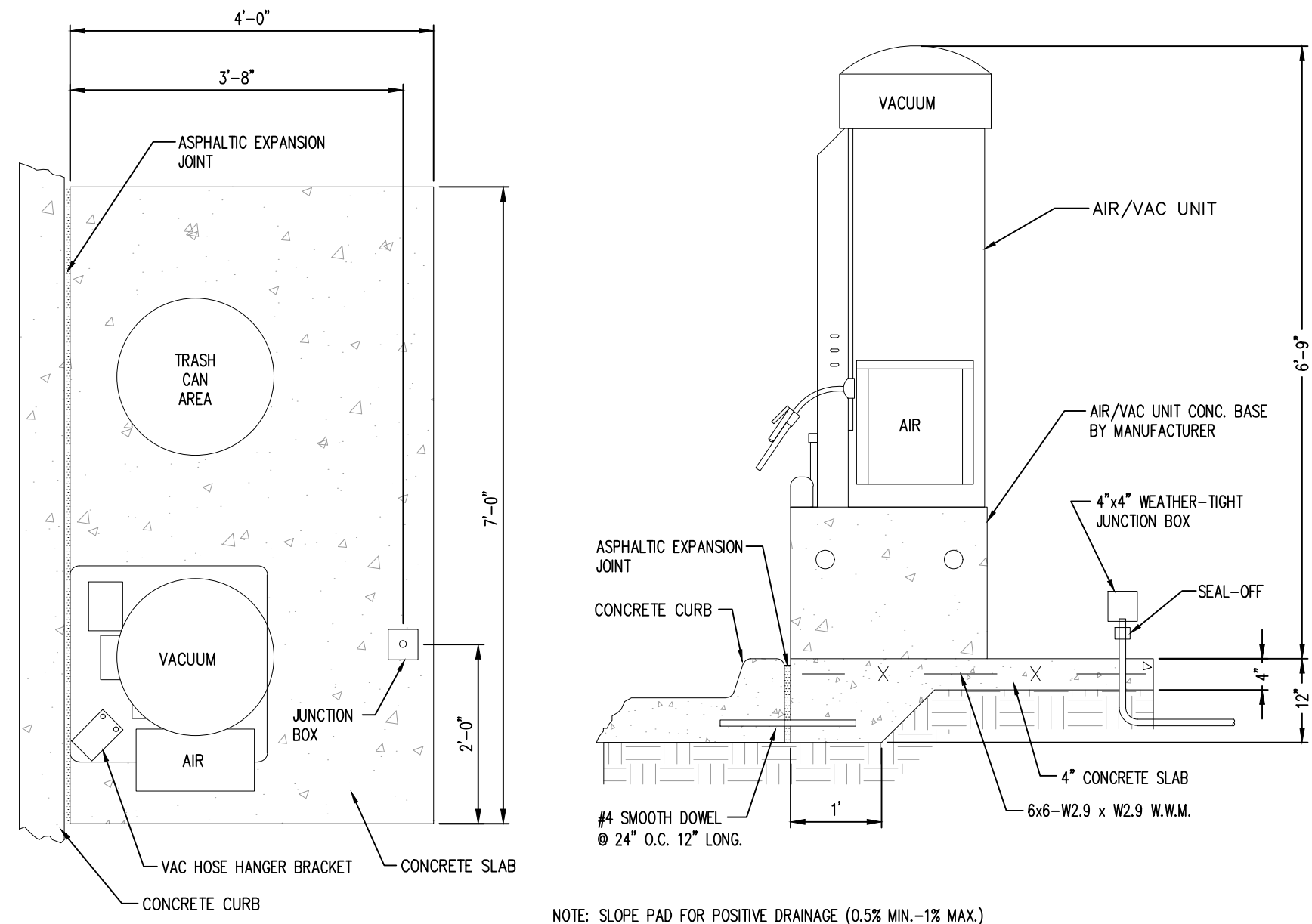
FIRE TRUCK TURN EXHIBIT
MURPHY USA (NTI)
186 METZLER DRIVE
CASTLE ROCK COLORADO

Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
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MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730

MURPHY USA

SHEET NO.
C-7.1
Sheet 14 of 27

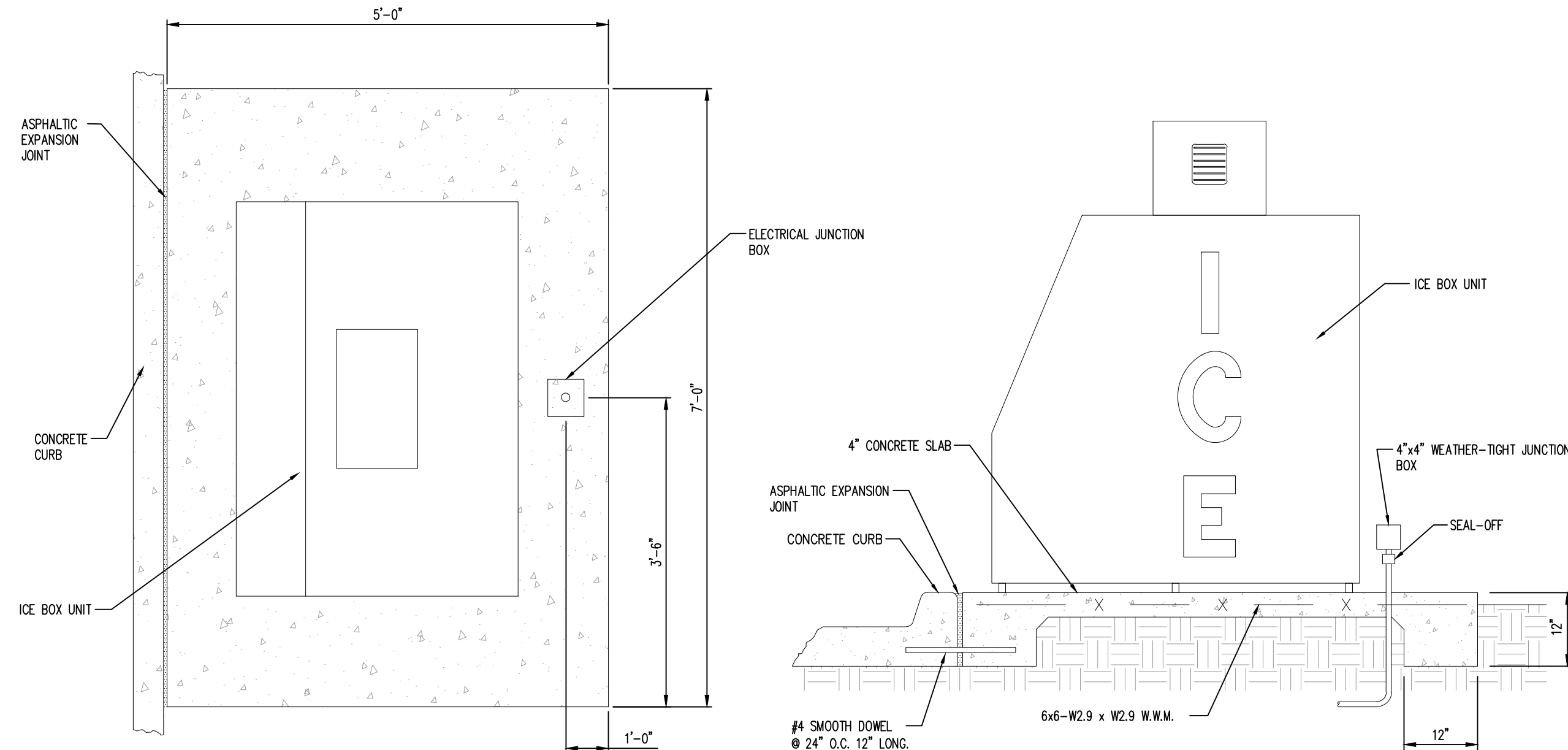


NOTE: SLOPE PAD FOR POSITIVE DRAINAGE (0.5% MIN.-1% MAX.)

AIR/VAC MOUNTING SLAB DETAIL

N.T.S.

21G

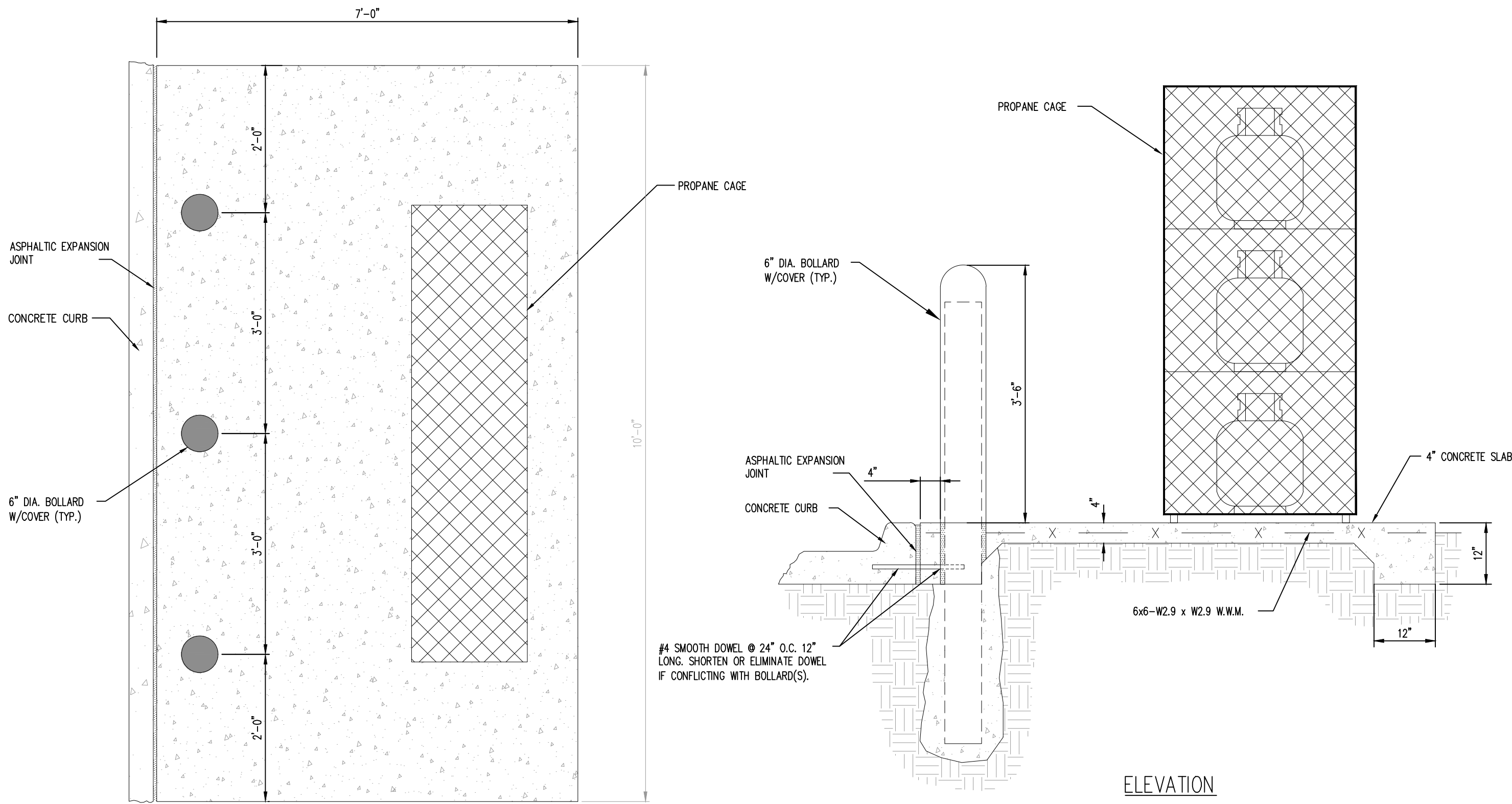


- NOTE:
1. SLOPE PAD FOR POSITIVE DRAINAGE (0.5% MIN.-1% MAX.)
2. SEE SITE PLAN FOR NUMBER OF ICE UNITS.

ICE BOX MOUNTING SLAB DETAIL

N.T.S.

21P

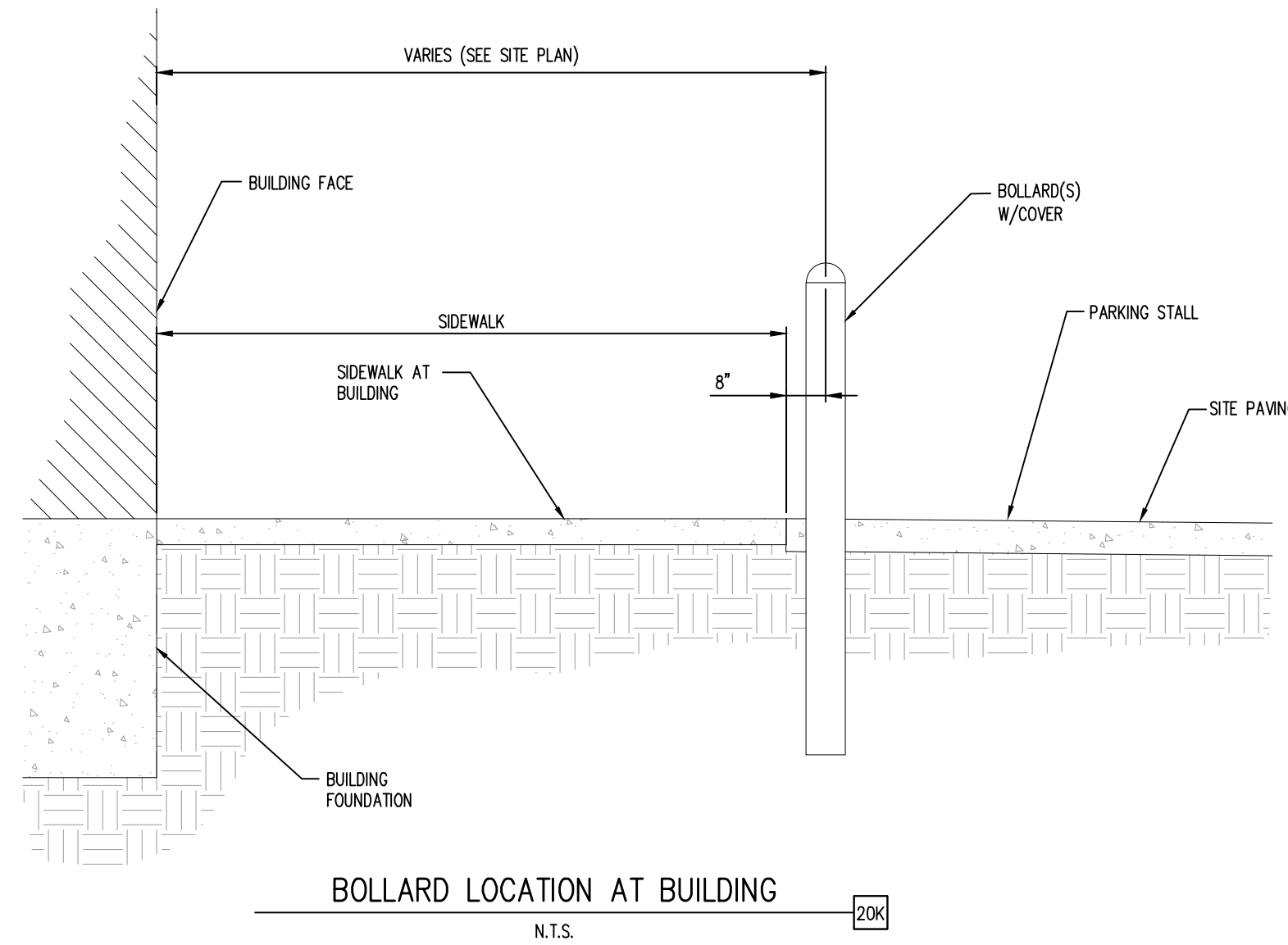


NOTE: SLOPE PAD FOR POSITIVE DRAINAGE (0.5% MIN.-1% MAX.)

PROPANE MOUNTING SLAB DETAIL

N.T.S.

21U



BOLLARD LOCATION AT BUILDING

N.T.S.

20K

TOWN APPROVAL BLOCK

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8/22/2025
DATE

MURPHY OIL USA, INC.

200 PEACH STREET
EL DORADO, AR 71730

MURPHY
USA

SHEET NO.

C-9

Sheet 16 of 27

Galloway

1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.590.7220 Kyle Goodwin, P.E.
GallowayUS.com

REV-#

8/21/2025

DATE

MOCS9

PRN

KRG

PM

ASA

DES

ASA

DRW

SITE DETAILS

MURPHY USA (NTI)

186 METZLER DRIVE

CASTLE ROCK COLORADO



CONCRETE SPECIFICATIONS

- A. CEMENT
1. PROVIDE AN APPROVED STANDARD BRAND PORTLAND CEMENT CONFORMING TO ASTM C 150.
 2. PROVIDE TYPE I NORMAL STRENGTH OR TYPE III HIGH EARLY STRENGTH.
- B. AIR ENTRAINMENT
1. PROVIDE AN APPROVED STANDARD BRAND TYPE A ADMIXTURE CONFORMING TO ASTM C 494.
 2. PROVIDE AIR ENTRAINED CONCRETE FOR ALL EXPOSED CONCRETE TO BE FINISHED INCLUDING FOUNDATIONS, WALKS, PAVEMENTS, AND RETAINING WALLS.
 1. AIR ENTRAINED IS TO BE A MINIMUM OF FIVE PERCENT (5%) AND MAXIMUM OF SEVEN PERCENT (7%) BY VOLUME. EVALUATE CONCRETE TEMPERATURE TO DETERMINE DOSAGE OF AIR ENTRAINING ADMIXTURE.
 2. MEASURE THE AIR CONTENT AT THE POINT OF DISCHARGE INTO FORMS OR AT TRUCK.
- C. FINE AGGREGATES
1. PROVIDE FINE AGGREGATES CONFORMING TO ASTM C 33 CONSISTING OF NATURAL SAND HAVING CLEAN, HARD, STRONG, DURABLE, UNCOATED GRAINS, FREE OF INJURIOUS AMOUNTS OF DUST, LUMPS, SOFT OR FLAKY PARTICLES, SHALE, ALKALI, ORGANIC MATTER, OR OTHER DELETERIOUS SUBSTANCES.
 2. FINE AGGREGATES RANGE PASSING THROUGH A NO. 100 SIEVE (0% TO 7%).
 3. IN ADDITION NOT MORE THAN 45 PERCENT IS TO BE RETAINED BETWEEN ANY TWO CONSECUTIVE SIEVES.
- D. COARSE AGGREGATES
1. PROVIDE COARSE AGGREGATES CONFORMING TO ASTM C 33 CONSISTING OF CRUSHED STONE OR WASHED GRAVEL HAVING A CLEAN, HARD, STRONG, DURABLE, UNCOATED, PARTICLE FREE FROM INJURIOUS AMOUNTS OF SOFT OR FLAKY PIECES, ALKALI, ORGANIC MATTER, OR OTHER DELETERIOUS SUBSTANCES.
 2. PROVIDE COARSE AGGREGATE WITH A MAXIMUM OF 1-1/2 INCHES, WITH A MINIMUM OF 95 PERCENT PASSING A 1-1/2 INCH SIEVE.
 3. NOT MORE THAN TEN PERCENT (10%) IS TO PASS A NO. 4 SIEVE.
- E. WATER
1. USE CLEAN WATER FREE OF INJURIOUS AMOUNTS OF OILS, ACIDS, ALKALI, SILTS, ORGANIC MATERIALS, OR OTHER SUBSTANCES THAT MAY BE DELETERIOUS TO CONCRETE OR STEEL.
- F. CONCRETE MIX DESIGN
1. REQUIRE BATCH TICKETS TO BE FURNISHED UPON DELIVERY OF THE CONCRETE TO ENSURE CONCRETE MEETS THE SPECIFICATION. CONTRACTOR TO PROVIDE PLANT BATCH CERTIFICATIONS TO OWNER'S FIELD REPRESENTATIVE.
 2. PROVIDE CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS (3,000 PSI FOR FOOTINGS/RETAINING WALLS) WITH A MINIMUM OF SIX BAGS (564 LBS.) OF CEMENT IN EACH CUBIC YARD OF CONCRETE CONFORMING TO ASTM C 94.
 3. DO NOT EXCEED THE MAXIMUM WATER CEMENT RATIO OF 0.53.
 4. PROVIDE CONCRETE WITH A FOUR INCH DESIGN SLUMP WHEN TESTED WITH A STANDARD SLUMP CONE CONFORMING TO ASTM C 143. SLUMP SHALL BE 3"-5".
 - a) IF CONCRETE DEVELOPS CONSISTENCY OF DIFFICULT WORKABILITY, THEN A SUPER PLASTICIZER ADMIXTURE MAY BE USED WHEN APPROVED BY OWNER.
 - b) DO NOT ADD WATER TO INCREASE SLUMP/EXCEED WATER CEMENT RATIO.
 5. CALCIUM CHLORIDE SHALL NOT BE USED.
 6. FLY ASH SHALL NOT EXCEED CEMENT QUANTITY BY MORE THAN 15% BY WEIGHT
- G. PLACING CONCRETE
1. MIX AND PLACE CONCRETE FOLLOWING ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
 2. SCHEDULE POUR THAT ONCE STARTED REMAINS A CONTINUOUS OPERATION UNTIL THE PARTICULAR SECTION OR PANEL HAS BEEN COMPLETED.
 3. PROVIDE CONSTRUCTION JOINT TYPE/LOCATION AS INDICATED ON PAVING PLAN.
 4. DEPOSIT CONCRETE INTO THE FINAL POSITION AT THE SPECIFIED SLUMPS WITHOUT SEGREGATION BY RE-HANDLING OR FLOWING.
 - a) DEPOSIT CONCRETE AT A RATE THAT CONCRETE REMAINS PLASTIC AND FLOWABLE INTO THE SPACES BETWEEN THE REINFORCING BARS.
 - b) DO NOT DEPOSIT FRESH CONCRETE ON CONCRETE THAT HAS HARDENED SUFFICIENTLY TO CAUSE FORMATION OF SEAMS OR PLANES OF WEAKNESS WITHIN THE SECTION OR PANEL.
 - c) DO NOT DEPOSIT PARTIALLY HARDENED CONCRETE OR CONCRETE THAT HAS BEEN CONTAMINATED BY FOREIGN MATERIALS.
 - d) DO NOT RE-TEMPER CONCRETE.
 5. **THOROUGHLY SCREED AND COMPACT CONCRETE BY MEANS OF MECHANICAL VIBRATORY POWER SCREED.** SUPERVISED BY EXPERIENCED PERSONNEL ON ALL FLATWORK.
 - a) PROVIDE SUFFICIENT VIBRATION INTENSITY TO CAUSE FLOW OR SETTLEMENT AROUND REINFORCEMENT, EMBEDDED ITEMS, AND CORNERS OF THE FORMS; BUT NOT LONG ENOUGH TO CAUSE SEGREGATION OF THE MIX.
 - b) SUPPLEMENT MECHANICAL VIBRATION BY HAND SPADING IN CORNERS AND ANGLES OF THE FORMS AND ALONG FORM SURFACES WHILE THE CONCRETE IS PLASTIC TO ENSURE EVEN DENSE SURFACES FREE FROM AGGREGATE POCKETS OR HONEYCOMBS.
 6. PROTECT CONCRETE FROM EXCESSIVE HEAT AND PREMATURE DRYING BY THE USE OF KRAFT PAPER AND WATER MIST WHEN SITE CONDITIONS DEMAND.
 7. COAT CONCRETE IMMEDIATELY AFTER FINISHING IS COMPLETE USING THE SPECIFIED CURATIVE AGENTS NO LONGER THAN 30 MINUTES FOLLOWING FINISHING IF EVAPORATION IS OCCURRING.
 - a) **CURING COMPOUND SHALL BE SAFECURE 1000 (WHITE PIGMENTED) BY CHEMISTERS APPLIED PER MANUFACTURER'S SPECIFICATIONS.**
 8. IF SAW CUTTING IS EMPLOYED, IT MUST OCCUR WITHIN 6 HOURS AFTER INITIAL SET.
 - a) SPALLING DUE TO SAW CUTTING ACTIONS MAY RESULT IN REJECTION OF THE CONCRETE WORK.
 9. PROTECT CONCRETE AREA STRUCTURALLY FROM WINDY CONDITIONS UNTIL PROPERLY CURED.
 10. **FINISH SHALL BE LIGHT BROOM.**
- H. FINISH
1. PAVEMENT SURFACE SHALL BE FINISHED BY EITHER MACHINE OR HAND SUITABLE FOR ACCEPTANCE BY OWNER. HAND FINISH SHALL ONLY BE ALLOWED FOR IRREGULAR DIMENSION AREAS WHERE MECHANICAL EQUIPMENT IS IMPRACTICAL OR IN CASE OF EQUIPMENT BREAKDOWN AFTER CONCRETE IS PLACED. TAKE CARE NOT TO "HARD" TROWEL OR OVER DENSIFY PAVEMENT (NO MORE THAN 2 PASSES).
 2. AFTER STRIKING OFF AND CONSOLIDATING CONCRETE, SMOOTH SURFACE BY MECHANICAL SCREEDING AND FLOATING TO MINIMIZE OR ELIMINATE HAND FINISHING. ADJUST FLOATING TO COMPACT SURFACE AND PRODUCE UNIFORM TEXTURE. AFTER FLOATING, TEST SURFACE FOR TRUENESS WITH 10'-0" STRAIGHTEDGE. DISTRIBUTE CONCRETE AS REQUIRED TO REMOVE SURFACE IRREGULARITIES AND REFLOAT REPAIRED AREAS TO PROVIDE CONTINUOUS SMOOTH FINISH WITH MECHANICAL TROWEL.
 3. WORK EDGES OF SLABS AND FORMED JOINTS WITH EDGING TOOL, ROUNDING EDGE TO 1/2-INCH RADIUS. ELIMINATE TOOL MARKS ON CONCRETE SURFACE. AFTER COMPLETION OF FLOATING AND TROWELLING, WHEN EXCESS MOISTURE OR SURFACE SHEEN HAS DISAPPEARED, COMPLETE SURFACE FINISHING, AS FOLLOWS:
 - a) INCLUDED SLAB SURFACES: PROVIDE COARSE, NONSLIP FINISH BY SCORING SURFACE WITH STIFF-BRISTLED BROOM PERPENDICULAR TO FLOW OF TRAFFIC SO AS TO PRODUCE REGULAR CORRUGATIONS NOT OVER 1/16 OF AN INCH DEEP.
 - b) PAVING: PROVIDE COARSE, NONSLIP FINISH BY SCORING SURFACE WITH STIFF-BRISTLED BROOM PERPENDICULAR TO FLOW OF TRAFFIC SO AS TO PRODUCE REGULAR CORRUGATIONS NOT OVER 1/16 OF AN INCH DEEP.
 - c) TINE FINISH: MAY BE UTILIZED AT EACH OF THE ENTRANCE DRIVES (SLOPE > 3%) AT THE OWNER'S DISCRETION AND SHALL PROVIDE FOR A 3/8 INCH MINIMUM SPACING AND 1 1/2 INCH MAXIMUM SPACING. GROOVES PRODUCED IN CONCRETE SHALL BE 3/16 INCH IN DEPTH WITH A MINIMUM DEPTH OF 1/8 INCH.
 4. DO NOT REMOVE FORMS FOR 24 HOURS AFTER CONCRETE HAS BEEN PLACED. AFTER FORM REMOVAL, CLEAN ENDS OF JOINTS, BACK OF CURBS AND POINT UP MINOR HONEYCOMBED AREAS. REMOVE AND REPLACE AREAS OR SECTIONS WITH MAJOR DEFECTS, AS DIRECTED BY OWNER.
 5. SWEEP CONCRETE PAVEMENT AND WASH FREE OF STAINS, DISCOLORATIONS, DIRT AND OTHER FOREIGN MATERIAL PRIOR TO FINAL INSPECTION.
 6. PROTECT CONCRETE FROM DAMAGE UNTIL ACCEPTANCE OF WORK. EXCLUDE TRAFFIC FROM PAVEMENT FOR AT LEAST 14 DAYS AFTER PLACEMENT OR UNTIL 75% OF SPECIFIED STRENGTH IS ACHIEVED.

CONCRETE (CONTINUED)

- I. COLD WEATHER REQUIREMENTS
1. FOLLOW THE REQUIREMENTS OF ACI 306.1-90 AND THE FOLLOWING
 - a) REFER TO: "RECOMMENDED PRACTICES FOR COLD WEATHER MASONRY CONSTRUCTION" AS PUBLISHED BY INTERNATIONAL MASONRY INDUSTRY ALL WEATHER COUNCIL FOR TYPICAL COLD WEATHER MASONRY PRACTICES TO BE FOLLOWED.
 - b) PROVIDE ADEQUATE EQUIPMENT FOR HEATING CONCRETE MATERIALS, AND FOR PROTECTION OF THE CONCRETE DURING FREEZING OR NEAR FREEZING WEATHER.
 - c) MAINTAIN CONCRETE MATERIALS, REINFORCEMENT, FORM WORK, FILLERS, AND GROUND TO BE IN CONTACT WITH THE CONCRETE FREE OF FROST. DO NOT USE FROZEN MATERIALS OR MATERIALS CONTAINING ICE.
 - d) PROVIDE CONCRETE, DELIVERED IN COLD WEATHER, WITH THE FOLLOWING TEMPERATURES

AIR TEMP.	MIN. CONCRETE TEMP.
30-40 °F	60 °F
0-30 °F	65 °F
BELOW 0 °F	70 °F
 - e) WHEN PRODUCING CONCRETE WITH HEATED AGGREGATES, HEATED WATER OR BOTH, DO NOT ALLOW CONCRETE TO EXCEED 90° DURING PRODUCTION OR TRANSPORTATION.
 - f) ALL CONCRETE SLABS PLACED AT AIR TEMPERATURES FROM 20°F TO 50°F MAY HAVE AN ACCELERATING WATER REDUCING ADMIXTURE ADDITIVE ADDED TO ACCELERATE SETTING TIME AND STRENGTH ADMIXTURE COMPLYING WITH ASTM C 494, TYPE C.
 - 1) ACCEPTABLE ADMIXTURES ARE EUCLID CHEMICAL COMPANY'S "ACCELGAURD 90", OR EQUAL PRODUCTS BY W.R. MEADOWS, INC. OR W.R. GRACE & CO.
 - a) ADD ACCELGAURD 80 W./ WATER & AGGREGATE TO THE READY MIX CONCRETE TRUCK, BUT DO NOT DISPENSE ONTO DRY CONCRETE.
 - b) FOR TEMPERATURES 32° F - 60° F, ADD AT A RATE OF 160Z./100 LBS. OF CONCRETE.
 - c) FOR TEMPERATURES BELOW 32° F, HEAT AGGREGATE AND USE WARM WATER SO THAT WHEN MIXED CONCRETE TEMPERATURE WILL BE ABOVE 60°.
 - 2) FOLLOW THE MANUFACTURER'S INSTRUCTION FOR THE QUANTITY TO BE ADDED TO THE CONCRETE MIX, DEPENDING UPON THE AMBIENT TEMPERATURE, DESIRED RATE OF ACCELERATION, EARLY STRENGTH GAIN, AND STRIPPING SCHEDULE.
 - g) MAINTAIN CONCRETE ABOVE 50°F IN A MOIST CONDITION FOR A MINIMUM OF SEVEN DAYS AFTER PLACEMENT FOLLOWING THE RECOMMENDATIONS OF ACI 308-92.
- J. HOT WEATHER REQUIREMENTS
1. FOLLOWING THE REQUIREMENTS OF ACI 305R.
 2. DURING HOT WEATHER, TAKE STEPS TO REDUCE CONCRETE TEMPERATURE AND WATER EVAPORATION BY PROPER ATTENTION TO INGREDIENTS, PRODUCTION METHODS, HANDLING, PLACING, PROTECTION, AND CURING.
 3. THE PREFERRED PROTECTION IS A COVERING OF KRAFT PAPER, CONFORMING TO ASTM C 171, FOR A TWENTY FOUR HOUR PERIOD AFTER PLACEMENT - VERIFY WITH PM.
- K. CONCRETE FORMWORK
1. PROVIDE DRESSED LUMBER OR MANUFACTURED FORMS CONFORMING TO THE SHAPE, LINES, AND DIMENSIONS OF CONCRETE STRUCTURES INDICATED ON THE DRAWINGS: FREE FROM DEFECTS AND SUFFICIENTLY TIGHT TO PREVENT LEAKAGE OF MORTAR.
 2. ALL WOODEN FORMS TO BE NO LESS THAN THE SPECIFIED DEPTH OF THE SLAB TO BE POURED, AND NOT LESS THAN NOMINAL 2" x 4" SIZE.
 3. STAKING FOR STRAIGHT SECTIONS SHALL OCCUR NOT LESS FREQUENTLY THAN EVERY FOUR FEET AND SHALL BE BOTH INSIDE AND OUTSIDE OF THE FORM.
 4. FOR CURVES, STAKING SHALL OCCUR NOT LESS THAN EVERY FOOT, AND SHALL BE BOTH INSIDE AND OUTSIDE OF THE FORM.
 5. STEEL FORMS SHALL BE STAKED ACCORDING TO THEIR DESIGN REQUIREMENTS.
 6. ALL REMOVABLE FORMS SHALL BE COATED WITH FORM - RELEASE OIL PRIOR TO PLACEMENT OF CONCRETE.
 7. CYLINDRICAL FORMS SHALL BE OF NEW SONOTUBE OR EQUIVALENT DISPOSABLE MATERIALS.
 - a) THESE MATERIALS MUST BE REMOVED COMPLETELY AFTER USE. ISLAND FORMS SHALL BE POSITIONED USING MASONRY BLOCKING AND STEEL STAKES BOTH INSIDE AND OUTSIDE OF THE FORM, TO ACHIEVE AN AVERAGE AS PER REVEAL HEIGHT AS MEASURED AT THE CENTER OF ANY LONG SIDE OF THE ISLAND.
 8. THE SIDES OF THE ISLAND FORM SHALL BE SHIMMED AGAINST THE STAKES TO PROVIDE A PERFECTLY PLUMB FREEBOARD.
 9. ALL EDGES CREATED BY REMOVABLE FORMS SHALL BE TOOL-RADIUSED AFTER SURFACE FINISHING TO PROVIDE A SMOOTH BORDER ON ALL SLABS.
 10. FORMS SHALL BE REMOVED NO SOONER THAN 24 HOURS FROM THE TIME OF THE POUR.
 11. PROPERLY BRACE OR TIE FORMS TOGETHER TO MAINTAIN SHAPE AND POSITION.
 12. PROVIDE SQUARE EDGE WOOD OR, IF AVAILABLE, METAL FORMS FOR FLOOR SLABS.
 13. BEFORE POURING CONCRETE, REMOVE ALL DEBRIS FROM THE FORMWORK.
 14. WET DOWN FORMWORK PRIOR TO PLACEMENT, OR APPLY A FORM RELEASE AGENT FOLLOWING MANUFACTURER'S RECOMMENDATIONS.
 15. DO NOT REMOVE FORMWORK AND BRACING UNTIL CONCRETE HAS GAINED SUFFICIENT STRENGTH TO CARRY ITS OWN WEIGHT, CONSTRUCTION LOADS, AND DESIGN LOADS WHICH ARE LIABLE TO BE IMPOSED ON IT.
 16. REMOVE FORMS IN A MANNER TO ASSURE THE COMPLETE SAFETY OF THE STRUCTURE.
 17. DO NOT PLACE ANY CONCRETE IF THE SUBGRADE HAS STANDING WATER OR IS MUDDY.
- L. STEEL REINFORCEMENT
1. PROVIDE REINFORCING BARS CONFORMING TO ASTM A 615, GRADE 60 FREE OF LOOSE FLAKY RUST, MUD, OIL, OR OTHER COATINGS WHICH WILL ADVERSELY AFFECT BONDING CAPACITY.
 2. PLACE REINFORCEMENT ACCURATELY AND ADEQUATELY SUPPORTED BY CONCRETE MASONRY UNITS OR OTHER APPROVED SPACERS.
 3. SECURE REINFORCEMENT AGAINST DISPLACEMENT WITHIN TOLERANCES SPECIFIED IN "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318).
 4. HOLD BARS IN PLACE USING A MINIMUM 18 GAUGE ANNEALED IRON WIRE.
 5. SPLICES IN DEFORMED REINFORCING BARS WILL NOT BE PERMITTED UNLESS APPROVED BY OWNER.
 6. REINFORCING ROD TO COMPLY WITH ASTM 615, GRADE 60.
- M. FOUNDATIONS
1. PROVIDE SMOOTH FINISH AT ALL EXPOSED SURFACES.
 2. CONSTRUCT CORNERS WITH A ONE INCH CHAMFER.
 3. INCREASE THE DEPTH OF FOUNDATIONS, IF REQUIRED BY FROST LINE CONDITIONS OR BY LOCAL CODES.
 4. OBTAIN OWNER APPROVAL OF ADDITIONAL DEPTH REQUIREMENTS BEFORE PLACING CONCRETE.
 5. CONSTRUCT TOP ELEVATION OF FOUNDATIONS TO WITHIN +1/4 INCH OF THE ELEVATION INDICATED ON THE DRAWINGS.
 6. INSTALL ANCHOR BOLTS WITH A HORIZONTAL TOLERANCE OF +1/8 INCH AND A VERTICAL ALIGNMENT OF +1/8 INCH OUT OF PLUMB.
- N. GROUT
1. PROVIDE NON-METALLIC, NON-SHRINK, PREMIXED NON-STAINING GROUT CONTAINING SELECTED SILICA SANDS, ASTM C 150 TYPE I PORTLAND CEMENT, AND SHRINKAGE COMPENSATING AGENTS.
 2. ACCEPTABLE PRODUCTS ARE "EMBECO" BY MASTER BUILDERS AND "FIVE STAR GROUT" BY U.S. GROUT CORPORATION.

CONCRETE (CONTINUED)

- O. FIELD QUALITY CONTROL
1. TESTING: OWNER WILL ENGAGE A QUALIFIED TESTING/INSPECTION AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS AND PREPARE TESTING AND INSPECTION REPORTS.
 2. TESTING AGENCY:
 - a) TESTING AGENCY SHALL IMMEDIATELY REPORT TO OWNER ANY FAILURE OF WORK TO COMPLY WITH CONTRACT DOCUMENTS.
 - b) TESTING AGENCY SHALL REPORT RESULTS OF TESTS AND INSPECTIONS, IN WRITING, TO OWNER.
 1. TEST REPORTS SHALL INCLUDE REPORTING REQUIREMENTS OF ASTM C31, ASTM C39, AND ACI 301, INCLUDING THE FOLLOWING AS APPLICABLE TO EACH TEST AND INSPECTION:
 - 1) PROJECT NAME
 - 2) NAME OF TESTING AGENCY
 - 3) NAMES AND CERTIFICATION NUMBERS OF FIELD AND LABORATORY TECHNICIANS PERFORMING INSPECTIONS AND TESTING
 - 4) NAME OF CONCRETE MANUFACTURER
 - 5) DATE AND TIME OF INSPECTION, SAMPLING, AND FIELD TESTING
 - 6) LOCATION IN WORK OF CONCRETE REPRESENTED BY SAMPLES
 - 7) DATE AND TIME SAMPLE WAS OBTAINED
 - 8) TRUCK AND BATCH TICKET NUMBERS
 - 9) DESIGN COMPRESSIVE STRENGTH AT 28 DAYS
 - 10) CONCRETE MIXTURE DESIGNATION
 - 11) FIELD TEST RESULTS
 - 12) TYPE OF FRACTURE AND COMPRESSIVE BREAK STRENGTHS AT SEVEN DAYS AND 28 DAYS
 3. CONCRETE TESTS: TESTING OF COMPOSITE SAMPLES OF FRESH CONCRETE OBTAINED IN ACCORDANCE WITH ASTM C 172 SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
 - a) TESTING FREQUENCY: OBTAIN ONE COMPOSITE SAMPLE OF EACH CONCRETE MIXTURE NOT LESS THAN ONCE A DAY; NOR LESS THAN ONCE FOR EACH 100 CUBIC YARD OR FRACTION THEREOF FOR SLABS, PAVEMENTS, AND WALLS, AND NOT LESS THAN ONCE FOR EACH 50 CUBIC YARDS OR FRACTION THEREOF FOR FOUNDATIONS.
 4. SLUMP: ASTM C143:
 - a) ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE.
 - b) PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.
 5. AIR CONTENT: ASTM C231
 - a) ONE TEST FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE.
 6. CONCRETE TEMPERATURE: ASTM C1064:
 - a) ONE TEST HOURLY WHEN AIR TEMPERATURE IS 40 DEG F AND BELOW OR 80 DEG F AND ABOVE, AND ONE TEST FOR EACH COMPOSITE SAMPLE.
 7. CURING COMPOUND:
 - a) VERIFY THAT SPECIFIED CURING COMPOUND IS BEING USED.
 - b) VISUALLY VERIFY THAT THE SPECIFIED CURING COMPOUND WAS APPLIED.
 8. COMPRESSION TEST SPECIMENS: ASTM C31:
 - a) CAST AND LABORATORY CURE ONE SET OF FOUR 6-INCH BY 12-INCH OR FIVE 4-INCH BY 8-INCH CYLINDER SPECIMENS FOR EACH COMPOSITE SAMPLE.
 9. COMPRESSIVE-STRENGTH TESTS: ASTM C39.
 - a) TEST ONE LABORATORY SPECIMEN AT SEVEN DAYS FOR INFORMATION, ONE SET OF TWO 6-INCH BY 12-INCH OR THREE 4-INCH BY 8-INCH SPECIMENS AT 28 DAYS AND HOLD ONE CYLINDER IN RESERVE.
 - b) A COMPRESSIVE-STRENGTH TEST SHALL BE THE AVERAGE COMPRESSIVE STRENGTH FROM THE SET OF SPECIMENS OBTAINED FROM SAME COMPOSITE SAMPLE AND TESTED AT 28 DAYS.
 10. FIELD VERIFY REINFORCING PLACEMENT, FORMWORK, GREENSTREAK LOCATIONS, AND EXPANSION MATERIAL. THESE ARE VISUAL INSPECTIONS PERFORMED PREPOUR.
 11. SOIL TESTS SHALL RECEIVE PASSING GRADE PRIOR TO CONCRETE PLACEMENT.

TOWN APPROVAL BLOCK

TOWN OF CASTLE ROCK APPROVAL
PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM
DATE OF DEVELOPMENT SERVICES APPROVAL

APPROVED BY:

DEVELOPMENT SERVICES _____ DATE _____

PROFESSIONAL ENGINEER CERTIFICATION

I HEREBY AFFIRM THAT THESE FINAL CONSTRUCTION PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION, IN ACCORDANCE WITH ALL APPLICABLE TOWN OF CASTLE ROCK AND STATE OF COLORADO STANDARDS AND STATUTES, RESPECTIVELY; AND THAT I AM FULLY RESPONSIBLE FOR ALL DESIGN AND REVISIONS RELATIVE TO SAID PLANS.


KYLE R. GOODWIN
REGISTERED PROFESSIONAL ENGINEER # 63208

8/22/2025
DATE



ASA

ASA

KRG

MOE89

PRN

DATE

REV-#

DRW

DES

PM

PRN

DATE

REV-#

Galloway

1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.590.7220 Kyle Goodwin P.E.
GallowayUS.com

MURPHY OIL USA, INC.

**200 PEACH STREET
EL DORADO, AR 71730**



SHEET NO.

C-10

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EARTHWORK SPECIFICATIONS

- A. GENERAL
1. REFERENCED PUBLICATIONS: THE FOLLOWING PUBLICATIONS ARE INCLUDED AS PART OF THESE EARTHWORK SPECIFICATIONS:
 - a) ASTM C 136 – METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES.
 - b) ASTM D 698 – TEST METHODS FOR MOISTURE-DENSITY RELATIONS OF SOIL AND SOIL-AGGREGATE MIXTURES, USING 5.5-LB (2.49 KG) RAMMER AND 12 INCH (305 MM) DROP.
 - c) ASTM D 1556 – TEST METHOD FOR DENSITY OF SOIL IN PLACE BY THE SAND-CONE METHOD.
 - d) ASTM D 4254 – TEST METHODS FOR MINIMUM INDEX DENSITY OF SOILS AND CALCULATION OF RELATIVE DENSITY.
 - e) ASTM D 1557 – TEST METHOD FOR MOISTURE-DENSITY ELEVATIONS OF SOILS AND SOIL-AGGREGATE MIXTURE USING 10 POUND (4.54 KG) RAMMER AND 18-IN. (457 MM) DROP.
 - f) ASTM D 2167 – TEST METHOD FOR DENSITY AND UNIT WEIGHT OF SOIL IN PLACE BY THE RUBBER BALLOON METHOD.
 - g) ASTM D 4253/ D4254 – STANDARD METHOD OF TEST FOR RELATIVE DENSITY OF COHESIONLESS SOILS. CARE SHALL BE USED WHEN OPERATING MECHANICAL EQUIPMENT IN LOCATIONS WHERE IT MAY CAUSE DAMAGE TO TREES, BUILDINGS, CULVERTS, OR OTHER EXISTING PROPERTY, UTILITIES, OR STRUCTURES ABOVE OR BELOW GROUND.
 2. PROVIDE SHORING, BARRIERS, LIGHTING, WARNING SIGNS, AND RAILINGS AS REQUIRED BY LAW OR REGULATIONS FOR THE PROTECTION OF EMPLOYEES, THE PUBLIC, AND ADJACENT PROPERTY.
 3. PROPERLY BARRICADE AND PROTECT AND MAINTAIN ANY OPEN TRENCH OR EXCAVATION TO PREVENT ACCIDENTAL OR UNAUTHORIZED ENTRANCE.
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UNDERGROUND PLUMBING, DRAINAGE, OR ELECTRICAL UTILITY LINES.
 - a) WHERE CERTAIN ON-SITE UTILITIES ARE INDICATED TO REMAIN, PROTECT AND MAINTAIN SUCH LINE, AND BE RESPONSIBLE FOR ALL DAMAGE UNTIL COMPLETION OF WORK.
 - b) COOPERATE WITH UTILITY COMPANIES TO MAINTAIN EXISTING UTILITY LINES IN CONTINUOUS OPERATION.
 - c) WHERE UNMARKED UTILITIES ARE UNCOVERED WITHIN THE WORK AREA, NOTIFY MURPHY OIL USA, INC. AND THE UTILITIES HAVING JURISDICTION, AND TAKE PRECAUTIONS TO PREVENT INTERRUPTION OF SERVICE.
 - 1) SHOULD SUCH LINES OR SERVICES BE DAMAGED, BROKEN OR INTERRUPTED THROUGH NEGLIGENCE, REPAIR AND RESTORE IMMEDIATELY WITHOUT ADDITIONAL COST TO UTILITY OR TO MURPHY OIL USA, INC.
 5. CLOSE OPEN ENDS OF ABANDONED UNDERGROUND UTILITIES WHICH ARE INDICATED TO REMAIN IN PLACE. FOLLOW PROCEDURES ESTABLISHED BY THE UTILITY COMPANY HAVING JURISDICTION.
- B. GRADING
1. REMOVE ALL DEBRIS FROM AREAS TO BE LANDSCAPED TO A DEPTH OF TWO FEET.
 - a) BACKFILL WITH CLEAN SOIL TO A DEPTH WITHIN SIX INCHES OF THE FINISHED GRADE.
 - b) BACKFILL TO SIX INCHES BELOW TOP OF EXISTING CURBS. UNIFORMLY COMPACT BACKFILL AND GRADE AREAS TO INDICATED SLOPE WITH A.
 2. TOLERANCE OF 1/4 INCH ABOVE OR BELOW INDICATED ELEVATIONS.
 3. PROTECT NEWLY GRADED AREAS FROM TRAFFIC AND EROSION.
 4. REPAIR, RE-GRADED, AND RE-COMPACT GRADES IN SETTLED, ERODED, AND RUTTED AREAS TO SPECIFIED TOLERANCES.
 5. LANDSCAPING WORK INCLUDING BACKFILLING LANDSCAPED AREAS TO GRADE WITH SIX INCHES OF TOPSOIL.
- C. EXCAVATING
1. EXCAVATION OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH OSHA GUIDELINES AND ALL APPLICABLE STATE AND LOCAL ORDINANCES.
 2. EXCAVATE SUBSOIL REQUIRED FOR FOUNDATIONS, CONSTRUCTION OPERATIONS, AND OTHER WORK.
 3. EXCAVATE FOUNDATIONS TO A DEPTH INDICATED ON THE DRAWINGS OR AS DEEP AS REQUIRED TO ATTAIN PROPER SOIL BEARING PRESSURE, OR MEET GOVERNING CODES.
 4. DEEPER FOUNDATIONS WILL BE APPROVED, IN WRITING, BY MURPHY OIL USA, INC.
 5. MACHINE SLOPE BANKS TO ANGLE OF REPOSE OR LESS UNTIL SHORED, AS REQUIRED BY ALL CURRENT OSHA STANDARDS.
 6. DO NOT ALLOW EXCAVATION TO INTERFERE WITH NORMAL 45 DEGREE BEARING SPLAY OF ANY FOUNDATION.
 7. HAND TRIM EXCAVATION AND LEAVE FREE OF LOOSE MATTER.
 8. EXCAVATED MATERIAL SHALL BE FIELD-SCREENED BY THE ENGINEER USING AMBIENT TEMPERATURE HEADSPACE ANALYSIS (ATHA) METHODS TO SEGREGATE POTENTIALLY CONTAMINATED SOILS FROM UNCONTAMINATED SOILS.
 - a) EXCAVATED MATERIALS WITH OBSERVED PHOTO IONIZATION DETECTOR (PIP) READINGS GREATER THAN 20 PARTS PER MILLION (PPM) DURING THE SCREENING WILL BE CONSIDERED POTENTIALLY CONTAMINATED AND DESIGNATED BY THE ENGINEER.
 - 1) THE ENGINEER WILL COORDINATE APPROVAL FOR DISPOSAL OF THE SOIL TRANSPORTATION OF CONTAMINATED SOIL TO AN APPROVED DISPOSAL SITE WILL BE PERFORMED BY THE CONTRACTOR UNDER THIS CONTRACT.
 - b) THE ENGINEER MAY COLLECT SAMPLES OF EXCAVATED MATERIAL FOR FIELD OR LABORATORY ANALYSES FOR THE PURPOSE OF VERIFYING CONTAMINANT CONCENTRATIONS.
 - 1) THE CONTRACTOR SHALL PROVIDE SAMPLES OF EXCAVATED MATERIAL TO THE ENGINEER, AS REQUESTED.
 - c) EXCAVATED MATERIAL WITH OBSERVED PIP READINGS LESS THAN 20 PPM DURING ATHA TESTING WILL BE CONSIDERED UNCONTAMINATED AND SHALL BE TEMPORARILY STOCKPILED ON SITE IN A LOCATION WHICH WILL NOT INTERFERE WITH TRAFFIC OR DAILY BUSINESS OPERATIONS.
 - 1) UNCONTAMINATED MATERIAL WILL NOT BE USED AS BACKFILL IF THE ENGINEER DETERMINES THAT EXCAVATED UNCONTAMINATED MATERIALS IS UNSUITABLE FOR USE AS BACKFILL.
 - (a) THE EXCAVATED MATERIAL WILL BE TRANSPORTED OFF SITE BY THE CONTRACTOR FOR RE-USE OR DISPOSAL.
 9. REPLACE ALL UNSATISFACTORY SOIL MATERIALS WITH AN ENGINEERED FILL CONSISTING OF ORDINARY SOIL AS EXCAVATED ON THE SITE, FREE FROM DEBRIS ROOTS, STONES LARGER THAN TWO INCHES, SILT, MUCK OR PEAT CAPABLE OF BEING COMPACTED TO THE DENSITIES SPECIFIED IN BACKFILL.
 - a) INSTALL FILL MATERIAL IN LAYERS NOT EXCEEDING 12 INCHES AND MOISTENED ONLY AS REQUIRED TO OBTAIN THE SPECIFIED DEGREE OF COMPACTING.
 10. CORRECT UNAUTHORIZED OVER-EXCAVATION AT NO COST TO THE OWNER.
 11. STOCKPILE SUFFICIENT CLEAN APPROVED SOIL MATERIALS FOR ALL BACKFILLING OR GRADING WORK.
 - a) STOCKPILE EXCAVATED MATERIAL IN AREA DESIGNATED ON-SITE OR WHERE DIRECTED AND REMOVE EXCESS SUBSOIL, NOT BEING REUSED, FROM SITE.
 - b) DO NOT USE UNTREATED OR STABILIZED TOPSOIL AS COMPACTED SUB-GRADE MATERIAL UNDER PAVING OR FOUNDATION STRUCTURES UNLESS SPECIFICALLY APPROVED BY MURPHY OIL USA, INC.
 12. IN THE EVENT THAT SOLID ROCK OR OTHER UNEXPECTED MATERIALS OVER ONE CUBIC YARD IN VOLUME ARE ENCOUNTERED, EXTRA COST WILL BE ALLOWED AFTER WRITTEN APPROVAL BY MURPHY OIL USA, INC. EXTRA COST WILL FOLLOW UNIT PRICES QUOTED IN THE CONTRACTOR'S BID, WITH QUANTITIES TO BE APPROVED BY MURPHY OIL USA, INC.

EARTHWORK (CONTINUED)

- C. EXCAVATING (CONTINUED)
13. FILL OVER-EXCAVATED AREAS UNDER STRUCTURE BEARING SURFACES BY EXTENDING INDICATED BOTTOM ELEVATION OF FOOTING OR BASE TO EXCAVATION BOTTOM WITHOUT CHANGING TOP ELEVATION OR BY FILLING UNAUTHORIZED EXCAVATION WITH 3000 PSI CONCRETE.
 14. TRENCHING
 - a) COMPLY WITH OSHA AND OTHER LOCAL REGULATIONS FOR TRENCHING REQUIREMENTS.
 - b) CONFORM EXCAVATIONS FOR PIPING TO LIMITS, DEPTHS, AND MATERIALS INDICATED ON THE DRAWINGS, AND TO APPLICABLE CODES AND REGULATIONS.
 - c) MECHANICAL EQUIPMENT SHALL BE DESIGNED AND OPERATED IN SUCH A MANNER THAT THE BOTTOM ELEVATION OF THE TRENCH CAN BE CONTROLLED WITH UNIFORM TRENCH WIDTHS AND VERTICAL SIDEWALLS WHICH EXTEND FROM THE BOTTOM OF THE TRENCH TO AN ELEVATION 1 FOOT ABOVE THE TOP OF THE INSTALLED PIPE.
 - d) TRENCHES SHALL BE EXCAVATED BY HAND IN LOCATION WHERE UNDERGROUND UTILITIES ARE KNOWN OR SUSPECTED.
 - e) DESIGN AND PROVIDE SHEETING, SHORING, OR BRACING AT ANY OPEN TRENCH.
 - f) EXCAVATE SUBSOIL REQUIRED TO INSTALL UNDERGROUND PIPING AND UTILITIES.
 - g) TRENCHES SHALL BE EXCAVATED BY OPEN-CUT METHODS, EXCEPT WHEN BORING OR TUNNELING IS INDICATED ON THE DRAWINGS OR APPROVED BY THE ENGINEER.
 - h) TRENCHES SHALL BE EXCAVATED TO A WIDTH NECESSARY TO PROVIDE A 1-PIPE DIAMETER MINIMUM WORKING SPACE BETWEEN THE PIPE AND THE TRENCH WALLS FOR PROPER PIPE INSTALLATION, JOINING, AND BEDDING.
 - i) TRENCH WIDTH SHALL BE MAINTAINED TO WITHIN THREE (3) INCHES OF THAT SPECIFIED ON PLANS.
 - 1) TRENCH ALIGNMENT SHALL BE SUFFICIENTLY ACCURATE TO PERMIT PIPE TO BE ALIGNED PROPERLY WITH A 6-INCH MINIMUM CLEARANCE BETWEEN THE PIPE AND THE SIDEWALLS OF THE TRENCH.
 - (a) THE TRENCH SIDEWALL SHALL NOT BE UNDERCUT IN ORDER TO OBTAIN CLEARANCE.
 - j) CONTRACTOR SHALL OVER-EXCAVATE A MINIMUM OF SIX (6) INCHES BELOW THE BOTTOM OF THE PIPE WHEREVER THE TRENCH BOTTOM IS CONSIDERED TO BE BEDROCK OR OTHER UNSUITABLE MATERIAL.
 - 1) OVER-EXCAVATED SHALL BE BACKFILLED AND COMPACTED WITH ACCEPTABLE STABILIZATION MATERIAL.
 - k) WHERE INSTALLING PIPE OR CONDUIT, EXCAVATE OR REMOVE ROCK TO SIX INCHES BELOW THE REQUIRED ELEVATION.
 - 1) BACKFILL WITH CRUSHED STONE OR GRAVEL.
 - 2) HAND TRIM FOR BELL AND SPIGOT PIPE JOINTS.
 - 3) SUPPORT PIPE DURING PLACEMENT.
 - l) BACKFILL SYSTEMATICALLY, AS EARLY AS POSSIBLE, TO ALLOW MAXIMUM TIME FOR NATURAL SETTLEMENT.
 - m) DO NOT BACKFILL TRENCHES UNTIL TESTING THAT IS REQUIRED BY APPLICABLE CODES HAS BEEN CONDUCTED AND APPROVED.
 - n) STOCKPILING EXCAVATED MATERIALS
 - 1) SUITABLE MATERIAL FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER, AND A MINIMUM OF TWO (2) FEET FROM THE EDGE OF THE TRENCH.
 - 2) EXCESS EXCAVATED MATERIALS NOT SUITABLE OR NOT REQUIRED FOR BACKFILLING SHALL BE REMOVED AND DISPOSE OF OFFSITE BY THE CONTRACTOR.
 - 3) EXCAVATED MATERIAL SHALL NOT BE STOCKPILED AGAINST EXISTING STRUCTURES OR APPURTENANCES.
 - o) PREPARATION OF TRENCH BOTTOM.
 - 1) TRENCH BOTTOMS SHALL BE GRADED UNIFORMLY TO PROVIDE CLEARANCE FOR EACH SECTION OF PIPE.
 - 2) LOOSE MATERIAL, WATER, AND FOREIGN OBJECTS SHALL BE REMOVED FROM THE TRENCH.
 - 3) THE CONTRACTOR SHALL PROVIDE A FIRM SUB GRADE, WHICH IS SUITABLE FOR APPLICATION OF BEDDING MATERIAL.
 - 4) WHEREVER UNSTABLE MATERIAL IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SAID MATERIAL SHALL BE OVER-EXCAVATED TO A DEPTH SUITABLE FOR CONSTRUCTION OF A STABLE SUB-GRADE.
 - (a) THE DEPTH SUITABLE FOR CONSTRUCTION OF A STABLE SUB GRADE SHALL BE DETERMINED BY THE ENGINEER.
 - (b) THE OVER-EXCAVATION SHALL BE BACKFILLED WITH STABILIZATION MATERIAL AND COMPACTED AS REQUIRED BY THE ENGINEER.
 - D. DEWATERING
 1. PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM FLOWING INTO EXCAVATIONS AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
 2. AT NO TIME WILL PERSONNEL BE ALLOWED IN THE TRENCH UNLESS SUCH ENTRY COMPLIES WITH OSHA GUIDELINES AND WITH APPLICABLE STATE AND LOCAL REGULATIONS.
 3. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS.
 4. ANY WATER SUSPECTED OF BEING CONTAMINATED IS TO BE BROUGHT TO THE ATTENTION OF MURPHY OIL USA, INC.
 5. REMOVE WATER TO PREVENT SOIL CHANGES DETRIMENTAL TO THE STABILITY OF SUB-GRADES.
 6. PROVIDE AND MAINTAIN PUMPS, WELL POINTS, SUMPS, SUCTION AND DISCHARGE LINE, AND OTHER DEWATERING SYSTEM COMPONENTS NECESSARY TO CONVEY WATER AWAY FROM EXCAVATIONS.
 7. ESTABLISH AND MAINTAIN TEMPORARY DRAINAGE DITCHES AND OTHER DIVERSIONS OUTSIDE EXCAVATION LIMITS TO CONVEY RAIN WATER AND REMOVED FROM EXCAVATIONS TO COLLECTION OR RUN-OFF AREAS.
 8. DO NOT USE TRENCH EXCAVATIONS AS TEMPORARY DRAINAGE DITCHES.
 9. MAINTAIN WATER ON SITE, IF REQUIRED BY THE LOCAL AUTHORITY.
 10. TRENCHING
 - a) ALTHOUGH IT IS NOT ANTICIPATED THAT PIPING TRENCHES WILL BE EXCAVATED BELOW THE WATER TABLE, ALL TRENCHES SHOULD BE KEPT FREE FROM EXCESS GROUNDWATER DURING CONSTRUCTION.
 - b) ANY WATER WHICH IS ENCOUNTERED IN THE TRENCH SHALL BE REMOVED TO THE EXTENT NECESSARY TO PROVIDE A FIRM SUB GRADE, TO PERMIT JOINTS TO BE MADE IN THE PIPING, AND TO PREVENT THE ENTRANCE OF WATER INTO THE PIPELINE.
 - c) SURFACE RUNOFF SHALL BE DIVERTED TO KEEP TRENCHES FREE FROM WATER, AS NECESSARY.
 - d) WATER SHALL NOT BE DISCHARGED FROM A TRENCH WITHOUT THE APPROVAL OF THE ENGINEER.
 - e) WATER SHALL BE PUMPED FROM THE TRENCH TO A HOLDING TANK FOR FUTURE TREATMENT, IF NECESSARY.
 - f) THE CONTRACTOR SHALL TREAT THE DISCHARGED WATER TO REMOVE VOLATILE CONTAMINANTS TO CONCENTRATIONS WITHIN LIMITS PRESCRIBED BY REGULATORY AUTHORITIES PRIOR TO DISPOSAL OF THE WATER.
 - g) THE CONTRACTOR MUST DISCHARGE TREATED WATER IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS AND ORDINANCES IN A MANNER WHICH PREVENTS DAMAGE TO PERSONAL PROPERTY.
 - h) THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 24 HOURS PRIOR TO HIS INTENT TO DISCHARGE WATER.
 - i) WATER SAMPLES MAY BE COLLECTED BY THE ENGINEER TO VERIFY CONTAMINANT CONCENTRATIONS.
 - j) THE CONTRACTOR SHALL PROVIDE DISCHARGE SAMPLES TO THE ENGINEER AS REQUESTED.
 - k) THE CONTRACTOR IS RESPONSIBLE FOR SECURING AND COMPLYING WITH ALL PERMITS AS REQUIRED BY f) ABOVE.

EARTHWORK (CONTINUED)

- E. BACKFILL
1. BEFORE COMPACTING, MOISTEN OR AERATE EACH LAYER OF BACKFILL AS REQUIRED TO OBTAIN OPTIMUM MOISTURE CONTENT TO ATTAIN REQUIRED COMPACTING DENSITY.
 - a) CINDERS, ASHES, ORGANIC MATTER, RUBBISH, OR OTHER DELETERIOUS MATERIALS WILL NOT BE PERMITTED.
 - b) PLACE FILL IN LAYERS NOT MORE THAN EIGHT INCHES IN LOOSE DEPTH.
 2. ROLL AREAS WITH SOILS CONTAINING CLAY OR SILT (COHESIVE SOILS) UNDER PAVING AND BUILDINGS WITH A SHEEP'S FOOT ROLLER.
 - a) COMPACT FILL WITH COHESIVE MATERIALS TO A DENSITY EQUAL TO 95 PERCENT OF RELATIVE DENSITY AS DETERMINED BY ASTM D 698.
 - b) DETERMINE FIELD DENSITY FOR COHESIVE SOILS BY THE SAND CONE METHOD FOLLOWING ASTM D 1556.
 3. ROLL AREAS WITH SOILS CONTAINING SAND AND GRAVEL (COHESION-LESS SOILS) UNDER PAVING AND BUILDINGS WITH EITHER A THREE WHEEL TEN TON VIBRATOR ROLLER OR SEVEN TON TRACTOR.
 - a) COMPACT FILL WITH COHESION-LESS SOILS TO A DENSITY EQUAL TO 65 PERCENT OF RELATIVE DENSITY AS DETERMINED BY ASTM D 4254.
 - b) DETERMINE FIELD DENSITY FOR COHESION-LESS SOILS BY THE RUBBER BALLOON METHOD FOLLOWING ASTM D 2167.
 4. THE OWNER MAY EMPLOY AND PAY FOR AN INDEPENDENT TESTING LABORATORY TO PERFORM ANY TEST OR INSPECTION TO SHOW COMPLIANCE WITH THESE SPECIFICATIONS.
 5. IF TESTS INDICATE WORK DOES NOT MEET SPECIFIED REQUIREMENTS, REMOVE WORK, REPLACE, AND RETEST WITHOUT ADDITIONAL COST TO THE OWNER.
 6. BACKFILL FOR UNDERGROUND STORAGE TANKS IS SPECIFIED ON THE TANK INSTALLATION DRAWING.
 7. TRENCHING
 - a) BACKFILLING WITH SAND OR PEA GRAVEL TO A DEPTH OF FOUR INCHES ABOVE THE TOP OF THE CONDUIT.
 - 1) DO NOT USE SAND IN CONJUNCTION WITH FILTER FABRIC.
 - 2) VOIDS BETWEEN CONDUITS WILL NOT BE PERMITTED.
 - 3) CLEAN EARTH MAY BE SUBSTITUTED FOR SAND WHEN THE TRENCH CONTAINS ONLY ONE CONDUIT.
 - b) COMPRESSED AIR AND POTABLE WATER PIPING
 - 1) LAY PIPING ON A FOUR INCH COMPACTED BEDDING OF CLEAN SAND OR PEA GRAVEL.
 - 2) CONTINUE SAND BACKFILL TO A DEPTH OF FOUR INCHES ABOVE THE TOP OF THE PIPE.
 - c) SEWER PIPING
 - 1) LAY SEWER PIPING SUPPORTED CONTINUOUSLY ON A SIX INCH COMPACTED BEDDING OF GRAVEL OR CRUSHED STONE OF WHICH 100 PERCENT WILL PASS THROUGH A 1/2 INCH SIEVE.
 - 2) SHAPE BEDDING FOR CLEARANCE OF ALL JOINTS AND FITTINGS, TAMPED IN PLACE, AND GRADED EVENLY TO ENSURE A UNIFORM BEARING FOR THE FULL LENGTH OF THE PIPE.
 - 3) DO NOT SUPPORT PIPING BY BLOCKS, PLANKS, OR MOUNDS OF BEDDING MATERIAL.
 - d) BACKFILL ONLY AFTER PIPING AND APPURTENANCES HAVE BEEN INSPECTED, TESTED AND APPROVED.
 - 1) PROVIDE GRANULAR BACKFILL MATERIAL FREE OF STONES LARGER THAN THREE INCHES IN DIAMETER, NON-CORROSIVE, AND NON-ORGANIC IN NATURE.
 - 2) DO NOT USE MATERIAL WITH CINDERS, BUILDING MATERIALS, WASTE, OR RUBBISH.
 - 3) DO NOT USE FROZEN OR SEMI-FROZEN BACKFILL MATERIALS.
 - 4) BACKFILL AROUND PIPE TO A DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE IN LAYERS.
 - 5) USE GRAVEL OR CRUSHED STONE OF WHICH 100 PERCENT WILL PASS THROUGH A 1/2 INCH SIEVE.
 - 6) INSTALL IN LAYERS NOT TO EXCEED SIX INCHES IN DEPTH.
 - 7) TAKE CARE NOT TO DISTURB THE PIPE OR DAMAGE ANY PIPE COATING.

TOWN APPROVAL BLOCK

TOWN OF CASTLE ROCK APPROVAL
PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM
DATE OF DEVELOPMENT SERVICES APPROVAL

APPROVED BY:

DEVELOPMENT SERVICES DATE

PROFESSIONAL ENGINEER CERTIFICATION

I HEREBY AFFIRM THAT THESE FINAL CONSTRUCTION PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION, IN ACCORDANCE WITH ALL APPLICABLE TOWN OF CASTLE ROCK AND STATE OF COLORADO STANDARDS AND STATUTES, RESPECTIVELY; AND THAT I AM FULLY RESPONSIBLE FOR ALL DESIGN AND REVISIONS RELATIVE TO SAID PLANS.


KYLE R. GOODWIN
REGISTERED PROFESSIONAL ENGINEER # 63208

8/22/2025
DATE



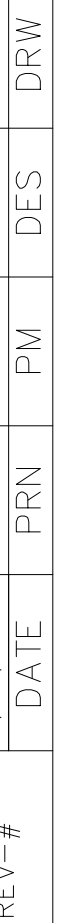
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DRW	DES	PM	DES	DES
8/21/2025	MOCS89	PRN	DATE	REV-#

EARTHWORK SPECIFICATIONS
MURPHY OIL USA (NTI)
186 METZLER DRIVE
CASTLE ROCK COLORADO


1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.580.7220 Kyle.Galloway@GUS.com

MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730


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C-11
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DUMPSTER DETAILS

MURPHY USA (NTI)
186 METZLER DRIVE

160 METZLER DRIVE
CASTLE ROCK COLORADO



1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.900.7220 Kyle Goodwin, P.E.
GallowayUS.com

GallowayUS.com

MURPHY OIL USA, INC.

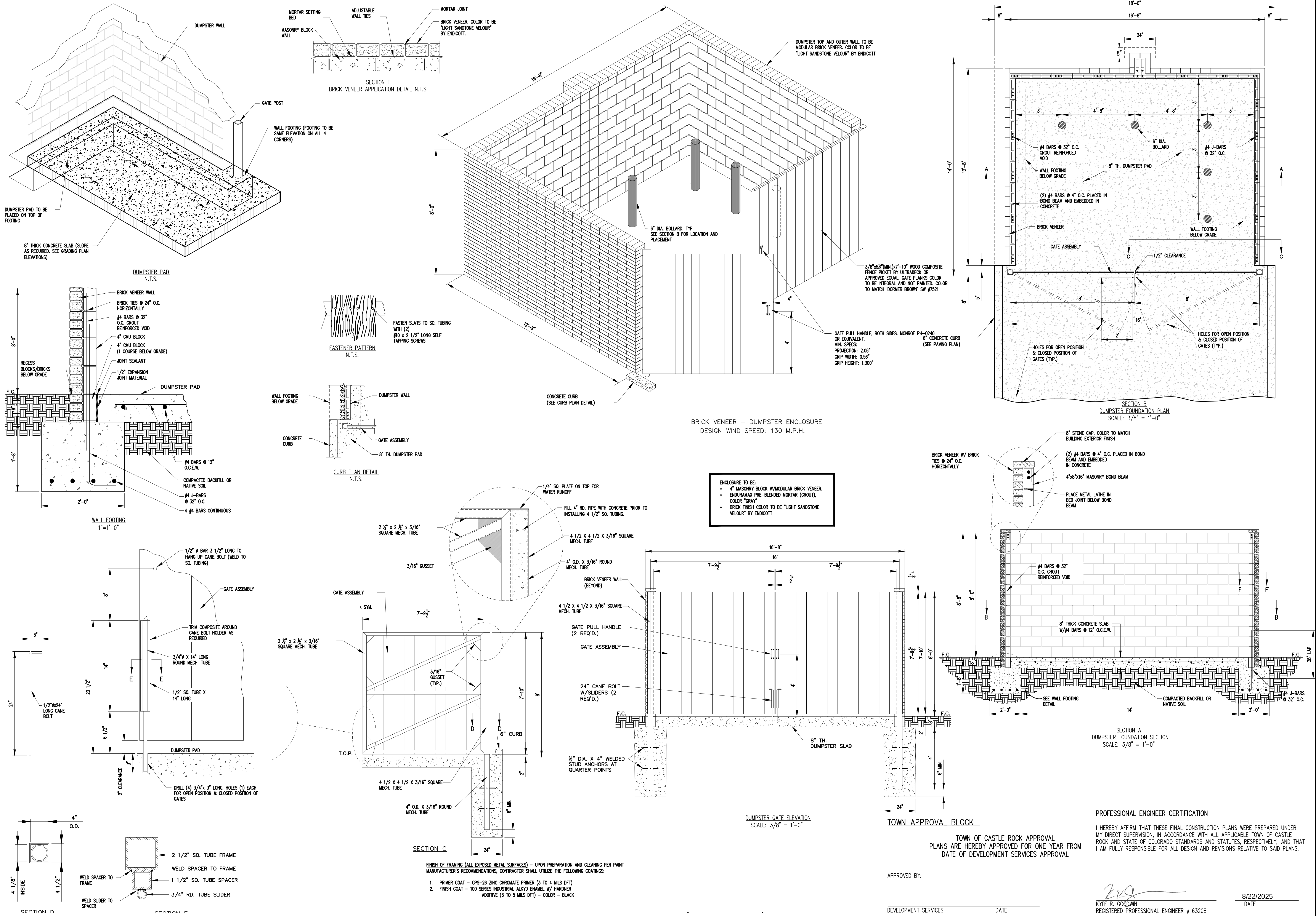
200 PEACH STREET
EL DORADO, AR 71730

MURPHY
USA 

SHEET / NO.

C-12

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NON-RESIDENTIAL SITE INVENTORY

Town of Castle Rock Registered Professional:

Town of Castle Rock Registration #

N/A with a Landscape Architecture license

State of Colorado License Landscape Architect #

1068

Company Name:

Galloway & Company, Inc.

Address: 1155 Kelly Johnson Blvd. Suite 305, Colorado Springs, CO 80920

Phone:

(719)900-7220

Email:

JonRomero@GallowayUS.com

Date: 7/16/2024

Project Name:

Murphy Oil, Founders & Metzlers

Please add values/quantity in the shaded areas. Provided values/quantity must be equal to or greater than the required value/quantity.

Gross Site Area	Required Landscape (10% of the gross site area)	BOA Existing Landscape Area	Provided Landscape Area	Required Trees (2 trees / 1,000 sqft)	Provided Trees	Required Shrubs (4 shrubs / 1,000 sqft)	Provided Shrubs	Soil Prep Amounts (cu.yds. Per 1000 SF)
51,619	5,162	8,651	18,437	10	10	21	21	4 cu. yds. / 1,000 SF
Turf Grass Square Footage (SF)*	Required Landscape Coverage Percentage (75% minimum)	BOA Existing Landscape Area	Provided Landscape Coverage at Maturity (SF)	Required Nonliving Ornamental Percentage (25% maximum)	Provided Nonliving Ornamental Area in Landscape (SF)	Required Large Canopy Deciduous Tree (50% minimum)	Provided Large Canopy Deciduous Shade Tree	Separate Irrigation Service Connections
N/A	3,871	2,952	3,871	1,290	473	5	15	Yes X No ____

Parking Lot*							
Parking Lot Area	Landscaping Area Required (10% of square footage)	Existing Landscape (If Applicable)	Landscaped Area Provided	Required Trees** (2 large canopy deciduous shade trees / 1,000 sqft)	Provided Trees	Required Shrubs** (4 shrubs / 1,000 sqft)	Provided Shrubs
2,686	269	0	1,103	1	2	1	18
Parking Lot Peninsula/Islands (40 Spaces or More)****							
Number of Parking Spaces	Number of Landscaped Islands Required (1 island per 15 spaces)		Number of Landscaped Islands Provided	Required Trees*** (Minimum of 1 large canopy deciduous shade tree per island/peninsula)	Provided Trees	Required Shrubs (Minimum of 4 shrubs per island/peninsula)	Provided Shrubs
	0			0		0	

*Parking Lot landscaping can count towards overall site landscape requirements.

**Parking Lot landscaping outside of landscaped islands/peninsulas should be located within 3 feet of the parking lot perimeter.

***Evergreens are not permitted in landscaped islands/peninsulas.

****Parking Lot Peninsula/Islands criteria for lots over 40 spaces can be found in Section 7.2.1.2(2)(c) of the Landscape and Irrigation Criteria Manual.

STREETSCAPE*

Street Name/Tract	Linear Feet (LF)**	Required Street Trees (1 tree per 40 LF)	Existing Street Trees (If applicable)	Provided Street Trees	Required Street Shrubs (4 shrubs per required tree)	Provided Street Shrubs
FOUNDERS PKWY.	244	6	5	1	24	24 (COUNT EXISTING)
METZLER WAY	212	5	1	4	20	20 (COUNT EXISTING)
METZLER DR.	266	7	3	4	28	28 (COUNT EXISTING)
		0			0	
		0			0	
		0			0	
		0			0	
		0			0	

*Streetscape requirements can be found in Section 8.2.1 of the Landscape and Irrigation Criteria Manual

**Streetscape does not count towards overall site landscape requirements

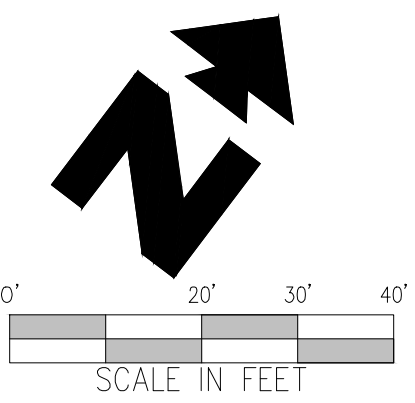
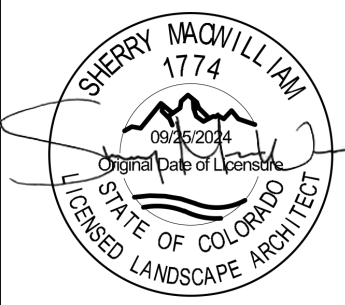
*Residential Only - On local streets, the required front yard tree shall meet the street tree requirements for that section of roadway.

**Please provide the linear footage and clearly show on the Site Development Plan for all streets/tracts.

PLANT LEGEND

SYMBOL	QTY	SYMBOL	QTY	SYMBOL	QTY	TYPE
DECIDUOUS TREES						
	3		6		489 SF	4"-6" GRAY ROCK COBBLE MULCH
	1		18		5,710 SF	EXISTING ROCK MULCH TO REMAIN
	1		53		9,325 SF	ROCK COBBLE MULCH - MATCH EXISTING
	1		6		2,952 SF	EXISTING SOD TO REMAIN
	7		23			
	1		30			
	1		6			
EVERGREEN TREES						
	11		49			
	4		8			
	4		12			
ORNAMENTAL GRASSES						
	15		9			
	14					

NOTE: LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EXISTING LANDSCAPE AND IRRIGATION MATERIAL DURING CONSTRUCTION



LANDSCAPE PLAN
MURPHY USA (NTI)
186 METZLER DRIVE
CASTLE ROCK COLORADO

Galloway
1155 Kelly Johnson Blvd. Suite 305
Colorado Springs, CO 80920
719.900.7220 Kyle Goodman, P.E.
GallowayUS.com

MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730
MURPHY USA

SHEET NO.
LP-1
Sheet 20 of 27

TOWN APPROVAL BLOCK

TOWN OF CASTLE ROCK APPROVAL
PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM
DATE OF DEVELOPMENT SERVICES APPROVAL

APPROVED BY:

DEVELOPMENT SERVICES DATE

CAUTION - NOTICE TO CONTRACTOR

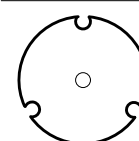
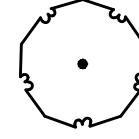
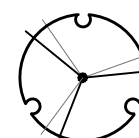
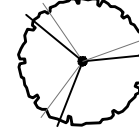
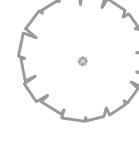
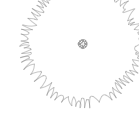
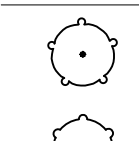
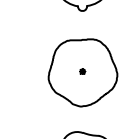
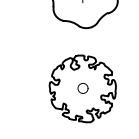
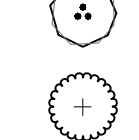
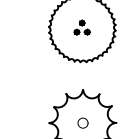
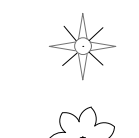
1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.



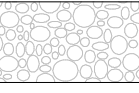
Know what's below.
Call before you dig.

2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POT-HOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

PLANT SCHEDULE

SYMBOL	CODE	QTY	COMMON / BOTANICAL NAME	CONT.	CAL / SIZE	HT. X SPD.	WATER USE
DECIDUOUS TREES							
	TICO	1	LITTLELEAF LINDEN / TILIA CORDATA	B&B	2" CAL	40' X30'	MODERATE
	GLTS	3	SHADEMASTER HONEY LOCUST / GLEDITSIA TRIACANTHOS INERMIS 'SHADEMASTER'	B&B	2" CAL	50' X35'	LOW
ORNAMENTAL TREES							
	ACTM	1	HOT WINGS TATARIAN MAPLE / ACER TATARICUM 'GARANN' TM	B&B	1.5" CAL	25' X20'	MODERATE
	ACGL	7	ROCKY MOUNTAIN MAPLE / ACER GLABRUM	B&B	1.5" CAL	15' X15'	MODERATE
	CRCR	1	THORNLESS COCKSPUR HAWTHORN / CRATAEGUS CRUS-GALLI INERMIS	B&B	2" CAL	15' X15'	LOW
EXISTING TREES							
	EXDT	11	EXISTING DECIDUOUS TREE / TO REMAIN	EXISTING			
	EXET	4	EXISTING EVERGREEN TREE / TO REMAIN	EXISTING			
SYMBOL	CODE	QTY	COMMON / BOTANICAL NAME	CONT.	HT. X SPD.	WATER USE	
DECIDUOUS SHRUBS							
	CACL	18	BLUE MIST SPIREA / CARYOPTERIS X CLANDONENSIS 'BLUE MIST'	#5 CONT.	3' X3'	VERY LOW	
	EDSR	53	EXISTING DECIDUOUS SHRUB TO REMAIN / EXISTING DECIDUOUS SHRUB TO REMAIN	#5 CONT.			
	AMCS	6	LEADPLANT / AMORPHA CANESCENS	#5 CONT.	4' X4'	VERY LOW	
	PHOP	6	LITTLE DEVIL DWARF NINEBARK / PHYSOCARPUS OPULIFOLIUS 'DONNA MAY' TM	#5 CONT.	4' X4'	LOW	
	SPJL	30	LITTLE PRINCESS JAPANESE SPIREA / SPIRAEA JAPONICA 'LITTLE PRINCESS'	#5 CONT.	2' X3'	MODERATE	
	SYPA	6	MISS KIM KOREAN LILAC / SYRINGA PATULA 'MISS KIM'	#5 CONT.	5' X5'	MODERATE	
	PBEP	28	PAWNEE BUTTES SAND CHERRY / PRUNUS BESSEYI 'P011S' TM	#5 CONT.	1.5' X6'	VERY LOW	
EVERGREEN SHRUBS							
	JNCH	8	ARMSTRONG JUNIPER / JUNIPERUS CHINENSIS 'ARMSTRONGII'	#5 CONT.	4' X4'	VERY LOW	
	JNSO	12	BUFFALO JUNIPER / JUNIPERUS SABINA 'BUFFALO'	#5 CONT.	1' X6'	VERY LOW	
	EESR	49	EXISTING EVERGREEN SHRUB TO REMAIN / EXISTING EVERGREEN SHRUB TO REMAIN	#5 CONT.			
	PIMM	9	MOPS MUGO PINE / PINUS MUGO 'MOPS'	#5 CONT.	5' X6'	LOW	
ORNAMENTAL GRASSES							
	BOGR	15	BLUE GRAMA GRASS / BOUTELOUA GRACILIS	#1 CONT.	1.5' X1.5'	VERY LOW	
	CAAK	14	KARL FOERSTER FEATHER REED GRASS / CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	#1 CONT.	5' X2'	LOW	

GROUNDCOVER SCHEDULE

SYMBOL	QTY	COMMON NAME
MULCH		
	469 SF	4"-6" GRAY ROCK COBBLE MULCH
	5,710 SF	EXISTING ROCK MULCH TO REMAIN
	9,325 SF	ROCK COBBLE MULCH - MATCH EXISTING
SOD/SEED		
	2,952 SF	EXISTING SOD TO REMIAN

LANDSCAPE MATERIALS SCHEDULE

SYMBOL	DESCRIPTION	QTY
	2'-3' DIA. DENVER GRANITE BOULDER	13

IRRIGATION CONCEPT

1. AN AUTOMATIC IRRIGATION SYSTEM SHALL BE INSTALLED AND OPERATIONAL BY THE TIME OF FINAL INSPECTION. THE ENTIRE IRRIGATION SYSTEM SHALL BE INSTALLED BY A QUALIFIED IRRIGATION CONTRACTOR.
2. THE IRRIGATION SYSTEM WILL HAVE APPROPRIATE BACKFLOW PREVENTION DEVICES INSTALLED TO PREVENT CONTAMINATION OF THE WATER SOURCE IF APPLICABLE.
3. ALL NON-TURF/SEED PLANTED AREAS WILL BE DRIP IRRIGATED.
4. ALL PLANTS SHARING SIMILAR HYDROZONE CHARACTERISTICS SHALL BE PLACED ON A VALVE DEDICATED TO PROVIDE THE NECESSARY WATER REQUIREMENTS SPECIFIC TO THAT HYDROZONE.
5. THE IRRIGATION SYSTEM SHALL BE DESIGNED AND INSTALLED, TO THE MAXIMUM EXTENT POSSIBLE, TO CONSERVE WATER BY USING THE FOLLOWING DEVICES AND SYSTEMS: MATCHED PRECIPITATION RATE TECHNOLOGY ON ROTOR OR SPRAY HEADS (WHEREVER POSSIBLE), RAIN SENSORS, AND SMART MULTI-PROGRAM COMPUTERIZED IRRIGATION CONTROLLERS FEATURING SENSORY INPUT CAPABILITIES.

LANDSCAPE GUARANTEE AND MAINTENANCE

1. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL TREES, SHRUBS, PERENNIALS, SOD, SEEDED AREAS, AND IRRIGATION SYSTEMS FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE OWNER'S ACCEPTANCE. THE CONTRACTOR SHALL REPLACE, AT HIS OWN EXPENSE, ANY PLANTS WHICH DIE IN THAT TIME, OR REPAIR ANY PORTIONS OF THE IRRIGATION SYSTEM WHICH OPERATE IMPROPERLY.
2. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE LANDSCAPE IN A NEAT, CLEAN, AND HEALTHY CONDITION FOR A PERIOD OF 90 DAYS. THIS SHALL INCLUDE PROPER PRUNING, MOWING AND AERATION OF LAWNS, WEEDING, REPLACEMENT OF MULCH, REMOVAL OF LITTER, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. IRRIGATION SHALL BE MAINTAINED IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON AND TO MAXIMIZE WATER CONSERVATION. IF SITE OPENS DURING WINTER, TO AVOID FREEZE DAMAGE ON PLANTINGS, THE 90 DAYS SHOULD BEGIN AFTER ACCEPTANCE OF THE WORK.
3. DURING THE LANDSCAPE MAINTENANCE PERIOD, THE LANDSCAPE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM STRUCTURES IN ALL LANDSCAPE AREAS AT THE MINIMUM SLOPE SPECIFIED IN THE GEOTECHNICAL REPORT. LANDSCAPE AREAS WHICH SETTLE AND CREATE THE POTENTIAL FOR PONDING SHALL BE REPAIRED TO ELIMINATE PONDING POTENTIAL AND BLEND IN WITH THE SURROUNDING GRADIES. SHOULD ANY CONFLICTS AND/OR DISCREPANCIES ARISE BETWEEN THE GEOTECHNICAL REPORT, THE GRADING PLANS, THESE NOTES, AND ACTUAL CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SUCH ITEMS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND OWNER.

UTILITY NOTES

1. THE LANDSCAPE CONTRACTOR IS REQUIRED TO CONTACT THE COUNTY PUBLIC WORKS DEPARTMENT, AND ANY OTHER PUBLIC OR PRIVATE AGENCY NECESSARY FOR UTILITY LOCATION PRIOR TO ANY CONSTRUCTION.
2. THIS DRAWING IS A PART OF A COMPLETE SET OF BID DOCUMENTS, SPECIFICATIONS, ADDITIONAL DRAWINGS, AND EXHIBITS. UNDER NO CIRCUMSTANCES SHOULD THESE PLANS BE USED FOR CONSTRUCTION PURPOSES WITHOUT EXAMINING ACTUAL LOCATIONS OF UTILITIES ON SITE, AND REVIEWING ALL RELATED DOCUMENTS.
3. THE LOCATION OF THE ALL UNDERGROUND UTILITIES ARE LOCATED ON THE ENGINEERING DRAWINGS FOR THIS PROJECT. THE MOST CURRENT REVISION IS HERE IN MADE PART OF THIS DOCUMENT. UNDERGROUND UTILITIES EXIST THROUGHOUT THIS SITE AND MUST BE LOCATED PRIOR TO ANY CONSTRUCTION ACTIVITY. WHERE UNDERGROUND UTILITIES EXIST, FIELD ADJUSTMENT MAY BE NECESSARY AND MUST BE APPROVED BY A REPRESENTATIVE OF THE OWNER. NEITHER THE OWNER NOR THE LANDSCAPE ARCHITECT ASSUMES ANY RESPONSIBILITY WHATSOEVER, IN RESPECT TO THE CONTRACTORS ACCURACY IN LOCATING THE INDICATED PLANT MATERIAL, AND UNDER NO CIRCUMSTANCES SHOULD THESE PLANS BE USED WITHOUT REFERENCING THE ABOVE MENTIONED DOCUMENTS.

TOWN OF CASTLE ROCK STANDARD LANDSCAPE AND IRRIGATION NOTES

- LANDSCAPE**
1. INSTALLING CONTRACTOR SHALL CONTACT CASTLE ROCK WATER AT 720-733-6017 TO SCHEDULE A PRE-CONSTRUCTION MEETING PRIOR TO THE BEGINNING OF LANDSCAPE INSTALLATION.
 2. LANDSCAPE AND IRRIGATION SHALL BE INSTALLED BY A TOWN OF CASTLE ROCK REGISTERED LANDSCAPE CONTRACT PROFESSIONAL.
 3. SOIL INSPECTION IS REQUIRED BEFORE PLANT INSTALLATION AND SCHEDULING OF THE SOIL INSPECTION SHOULD BE DISCUSSED AT THE LANDSCAPE PRE-CONSTRUCTION MEETING.
 4. INSTALLING CONTRACTOR SHALL PROVIDE SUBMITTALS FROM SUPPLIERS FOR SOD AND/OR NATIVE SEED MIX AT TIME OF LANDSCAPE INSPECTION.
 5. SOIL AMENDMENTS SHALL BE A MINIMUM OF FOUR (4) CUBIC YARDS OF APPROVED ORGANIC MATTER PER ONE THOUSAND (1,000) SQUARE FEET. THIS SOIL AMENDMENT SHALL BE ROTO-TILLED TO A DEPTH OF SIX (6) INCHES. CLASS I OR CLASS II COMPOST IS REQUIRED.
 6. TREES, LARGE SHRUBS AND PERMANENT OBJECTS ARE NOT PERMITTED IN N WATER, SANITARY OR STORM WATER UTILITY EASEMENTS.
 7. ALL LANDSCAPE INSTALLATIONS TO BE INSTALLED AS PER THE TOWN OF CASTLE ROCK PLANTING DETAILS. THESE CAN BE FOUND AT WWW.CRGOV.COM.
 8. PLANT SPECIES AND LOCATION SHOULD FOLLOW THE APPROVED PLAN. IF SITE CONDITIONS OR PLANT AVAILABILITY REQUIRE CHANGES TO THE PLAN, THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE TOWN OF CASTLE ROCK AND THE OWNERS REPRESENTATIVES.
 9. THE TOWN OF CASTLE ROCK IS NOT RESPONSIBLE FOR REPLACING LANDSCAPE OR IRRIGATION REMOVED IN UTILITY EASEMENTS DUE TO UTILITY LINE MAINTENANCE OR REPAIR. (PWR14.3.13)
 10. A TOWN OF CASTLE ROCK PERMIT AND TOWN OF CASTLE ROCK APPROVED LANDSCAPE PLANS ARE REQUIRED ON SITE DURING INSTALLATION OF THE LANDSCAPING AND IRRIGATION.
 11. THE TOWN OF CASTLE ROCK INSPECTORS WILL NOT APPROVE LANDSCAPE AND/OR IRRIGATION ON SLOPES STEEPER THAN 3:1
 12. OVERHEAD IRRIGATION IS NOT PERMITTED ON SLOPES EQUAL TO 3:1 OR IN AREAS LESS THAN TEN (10) FEET WIDE.
 13. DISTANCE OF TREES TO WET UTILITY LINES SHALL BE A MINIMUM OF TEN (10) FEET.
 14. FINAL LANDSCAPE AREA, COVERAGE AND PLANT QUANTITIES, SHALL MEET OR EXCEED QUANTITIES REPRESENTED IN THIS DRAWING AND SHALL CONFORM TO SUBSEQUENT SUBMITTAL REQUIREMENTS.
 15. ALL PLANTS ARE TO BE PROPERLY HYDRO ZONED PER TOWN OF CASTLE ROCK PLANT LIST.
 16. DESIGN MUST ACCOMMODATE THE WATERING RESTRICTIONS AS OUTLINED IN THE TOWN OF CASTLE ROCK WATER USE MANAGEMENT PLAN (WUMP).
 17. IF ANY TRANSFORMERS, GROUND-MOUNTED HVAC UNITS, UTILITY PEDESTALS, OR SIMILAR FEATURES EXISTING ON SITE, BUT NOT SHOWN ON THE SITE DEVELOPMENT PLAN, ADDITIONAL LANDSCAPING AND SCREENING MAY BE REQUIRED BASED UPON FIELD CONDITIONS DETERMINED DURING THE SITE INSPECTION. INSTALLATION WILL BE REQUIRED PRIOR TO THE FINAL INSPECTION AND THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY, AS APPLICABLE.
 18. NONLIVING LANDSCAPE MATERIAL, SUCH AS ROCK, STONE, BARK CHIPS, AND SHAVINGS WHICH NO LONGER COVER THE AREA IN WHICH THEY WERE ORIGINALLY INSTALLED, SHALL BE REGULARLY REPLENISHED TO MAINTAIN THE FULL COVERAGE TO A MINIMUM DEPTH OF TWO (2) INCHES FOR ROCK MULCH AND FOUR (4) INCHES FOR WOOD MULCH.
 19. PLANTS AND VEGETATION UNDER THE TOWN OF CASTLE ROCK'S PLANT LIST SHALL BE IN LINE WITH THE ADOPTED CWPP AND FIRE RESISTIVE VEGETATION FOR THE REGION TO MEET THE ADOPTED FIRE CODES BY THE TOWN OF CASTLE ROCK.
 20. DEAD PLANT MATERIALS SHALL BE REMOVED AND REPLACED WITH HEALTHY PLANTING MATERIALS OF COMPARABLE SIZE AND SPECIES THAT MEET THE ORIGINAL INTENT OF THE APPROVED LANDSCAPE DESIGN WITHIN FORTY-FIVE (45) DAYS OR SOONER IN THE EVENT OF A CONTAGIOUS DISEASE OR INVASIVE INSECT SPECIES. TOWN OF CASTLE ROCK IS NOT RESPONSIBLE FOR PLANT REPLACEMENTS.

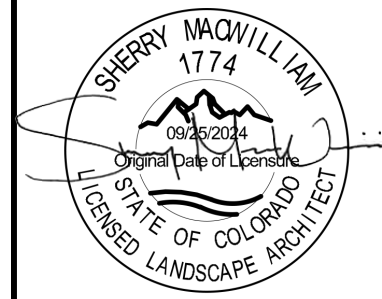
- IRRIGATION**
1. INSTALLING CONTRACTOR SHALL CONTACT CASTLE ROCK WATER AT 720-733-6017 TO SCHEDULE A PRE-CONSTRUCTION MEETING PRIOR TO BEGINNING THE IRRIGATION INSTALLATION
 2. IRRIGATION SHALL BE INSTALLED BY A TOWN OF CASTLE ROCK REGISTERED LANDSCAPE PROFESSIONAL.
 3. BACKFLOW TO BE TESTED BY A CERTIFIED BACKFLOW TECHNICIAN APPROVED BY THE UTILITY DEPARTMENT WITHIN TEN (10) DAYS OF THE IRRIGATION METER INSTALLATION AND ANNUALLY THEREAFTER.
 4. AN IRRIGATION EXEMPTION MUST BE OBTAINED FROM CASTLE ROCK WATER IF IRRIGATING NATIVE SEED OR SOD ON A DAILY BASIS FOR ESTABLISHMENT DURING THE MONTHS OF JUNE AND AUGUST. AN IRRIGATION EXEMPTION WILL NOT BE ISSUED DURING THE MONTH OF JULY.
 5. THE IRRIGATION SYSTEM MUST BE DESIGNED TO OPERATE WITHIN THE TOWN OF CASTLE ROCK WATER USE MANAGEMENT PLAN. CURRENT COMMERCIAL HOURS OF OPERATION ARE THREE (3) FIXED DAYS A WEEK FROM 10:00 PM - 6:00 AM
 6. OVERHEAD IRRIGATION AREAS LESS THAN TEN (10) FEET IN WIDTH OR ON SLOPES OF GREATER THAN 3:1 WILL NOT BE APPROVED BY THE TOWN OF CASTLE ROCK INSPECTORS.
 7. ALL IRRIGATION INSTALLATIONS MUST MEET THE TOWN OF CASTLE ROCK DETAILS.
 8. PLEASE NOTE THAT THE IRRIGATION TAP, LINE METER AND BACKFLOW PREVENTION ASSEMBLY MUST BE THE SAME SIZE FROM THE TOWN OF CASTLE ROCK WATER USE MANAGEMENT PLAN IS NOT ALLOWED.
 9. ALL SPRINKLER HEADS TO BE ADJUSTED TO MINIMIZE/ELIMINATE OVER-SPRAY ON TO HARD SURFACES AND/OR UNINTENDED AREAS, PER THE TOWN OF CASTLE ROCK WATER USE MANAGEMENT PLAN IS NOT ALLOWED.
 10. IRRIGATION SYSTEMS ARE TO BE WINTERIZED ANNUALLY IN THE FALL.

TOWN APPROVAL BLOCK

TOWN OF CASTLE ROCK APPROVAL
PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM
DATE OF DEVELOPMENT SERVICES APPROVAL

APPROVED BY:

DEVELOPMENT SERVICES _____ DATE _____



REV-#	8/20/2025	MOCS9	KRCG	ASA	ASA
DATE	PRN	PM	DES	DRW	

LANDSCAPE NOTES & SCHEDULE
MURPHY USA (NTI)
186 METZLER DRIVE
CASTLE ROCK COLORADO

Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.900.7220 Kyle Goodwin, P.E.
GallowayUS.com

MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730

MURPHY USA

SHEET NO. LP-2
Sheet 21 of 27

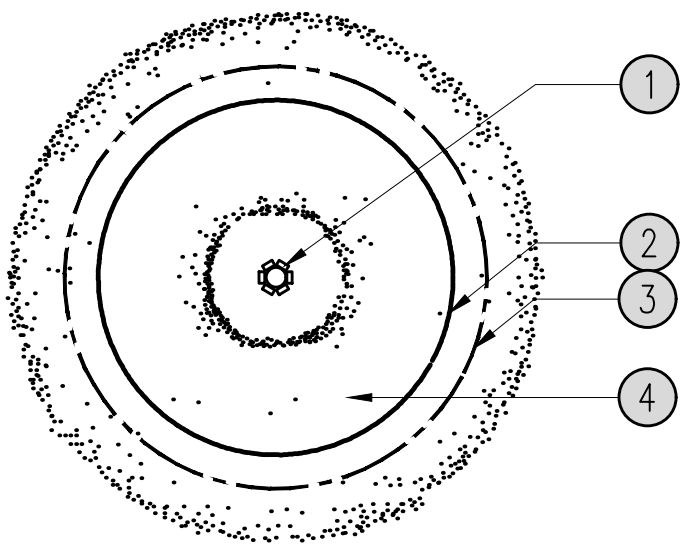
PLANTING NOTES

- GENERAL
- ALL WORK SHALL CONFORM TO ALL APPLICABLE STATE AND LOCAL CODES, STANDARDS, AND SPECIFICATIONS.
 - LANDSCAPE DESIGN IS DIAGRAMMATIC IN NATURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN TAKEOFFS AND QUANTITY CALCULATIONS. IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN AND THE LANDSCAPE LEGEND, THE PLANT QUANTITY AS SHOWN ON THE PLAN SHALL TAKE PRECEDENCE AND NOTIFY THE LANDSCAPE ARCHITECT OF THESE DISCREPANCIES. MINOR ADJUSTMENTS TO THE LANDSCAPE MATERIAL AND LOCATIONS MAY BE PROPOSED FOR CITY CONSIDERATION AT THE CONSTRUCTION DOCUMENT STAGE TO RESPOND TO MARKET AND FIELD CONDITIONS. HOWEVER, THERE SHALL BE NO REDUCTION IN THE NUMBER AND SIZE OF MATERIALS.
 - CONTRACTOR SHALL MAKE HIMSELF AWARE OF THE LOCATIONS OF EXISTING AND PROPOSED UTILITIES, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE UTILITIES AND/OR ANY INJURY TO ANY PERSON. THIS DRAWING IS PART OF A COMPLETE SET OF CONTRACT DOCUMENTS. UNDER NO CIRCUMSTANCES SHOULD THIS PLAN BE USED FOR CONSTRUCTION PURPOSES WITHOUT EXAMINING ACTUAL LOCATIONS OF UTILITIES ON SITE AND REVIEW ALL RELATED PLANS AND DOCUMENTS.
 - ALL UTILITY EASEMENTS SHALL REMAIN UNOBSTRUCTED AND FULLY ACCESSIBLE ALONG THEIR ENTIRE LENGTH FOR MAINTENANCE EQUIPMENT.
 - THE CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE ANY EXISTING PLANTS INDICATED AS "TO REMAIN". ANY SUCH PLANTS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED WITH THE SAME SPECIES, SIZE, AND QUANTITY AT THE CONTRACTOR'S OWN EXPENSE, AND AS ACCEPTABLE TO THE OWNER. REFER TO THE TREE PROTECTION NOTES ON THE PLANS (AS APPLICABLE).
 - LANDSCAPE CONTRACTOR SHALL EXAMINE THE SITE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED AND NOTIFY THE GENERAL CONTRACTOR IN WRITING OF UNSATISFACTORY CONDITIONS. IF SITE CONDITIONS OR PLANT AVAILABILITY REQUIRE CHANGES TO THE PLAN, THEN AN APPROVAL WILL BE OBTAINED FROM THE CITY. DO NOT PROCEED UNTIL CONDITIONS HAVE BEEN CORRECTED.
 - ALL CONSTRUCTION DEBRIS AND MATERIAL SHALL BE REMOVED AND CLEANED OUT PRIOR TO INSTALLATION OF TOPSOIL, TREES, SHRUBS, AND TURF.
 - FOR ALL INFORMATION ON SURFACE MATERIAL OF WALKS, DRIVES, AND PARKING LOTS, SEE THE SITE PLAN. SEE PHOTOMETRIC PLAN FOR FREE STANDING LIGHTING INFORMATION.
 - THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT ONE WEEK PRIOR TO BEGINNING CONSTRUCTION.
 - WINTER WATERING SHALL BE AT THE EXPENSE OF THE CONTRACTOR UNTIL SUCH TIME AS FINAL ACCEPTANCE IS RECEIVED.
 - ALL LANDSCAPE CONSTRUCTION PRACTICES, WORKMANSHIP, AND ETHICS SHALL BE IN ACCORDANCE WITH INDUSTRY STANDARDS SET FORTH IN THE CONTRACTORS HANDBOOK PUBLISHED BY THE COLORADO LANDSCAPE CONTRACTORS ASSOCIATION.
 - LANDSCAPE AND IRRIGATION WORK SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY.
- FINISH GRADING AND SOIL PREPARATION
- CONTRACTOR SHALL CONSTRUCT AND MAINTAIN FINISH GRADES AS RECOMMENDED BY THE GEOTECHNICAL REPORT. ALL LANDSCAPE AREAS SHALL HAVE POSITIVE DRAINAGE AWAY FROM STRUCTURES AT THE MINIMUM SLOPE SPECIFIED IN THE REPORT, AND AREAS OF POTENTIAL PONDING SHALL BE REGRADED TO BLEND IN WITH THE SURROUNDING GRADES AND ELIMINATE PONDING POTENTIAL. SHOULD ANY CONFLICTS AND/OR DISCREPANCIES ARISE BETWEEN THE GEOTECHNICAL REPORT, THE GRADING PLANS, THESE NOTES, AND ACTUAL CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SUCH ITEMS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND OWNER.
 - AFTER FINISH GRADES HAVE BEEN ESTABLISHED, IT IS RECOMMENDED THAT THE CONTRACTOR SHALL HAVE SOIL SAMPLES TESTED BY AN ESTABLISHED SOIL TESTING LABORATORY FOR THE FOLLOWING: GENERAL SOIL FERTILITY, PH, ORGANIC MATTER CONTENT, SALT (CEC), LIME, SODIUM ADSORPTION RATIO (SAR) AND BORON CONTENT. EACH SAMPLE SUBMITTED SHALL CONTAIN NO LESS THAN ONE QUART OF SOIL. CONTRACTOR SHALL ALSO SUBMIT THE PROJECT'S PLANT LIST TO THE LABORATORY ALONG WITH THE SOIL SAMPLES. THE SOIL REPORT PRODUCED BY THE LABORATORY SHALL CONTAIN RECOMMENDATIONS FOR THE FOLLOWING (AS APPROPRIATE): GENERAL SOIL PREPARATION AND BACKFILL MIXES, PRE-PLANT FERTILIZER APPLICATIONS, AND ANY OTHER SOIL RELATED ISSUES. THE REPORT SHALL ALSO PROVIDE A FERTILIZER PROGRAM FOR THE ESTABLISHMENT PERIOD AND FOR LONG-TERM MAINTENANCE.
 - THE CONTRACTOR SHALL RECOMMEND INSTALLATION OF SOIL AMENDMENTS AND FERTILIZERS PER THE SOILS REPORT FOR THE TOWN OWNER/OWNER'S REPRESENTATIVE CONSIDERATION.
 - AT A MINIMUM, ALL TOPSOIL SHALL BE AMENDED WITH NITROGEN STABILIZED ORGANIC AMENDMENT COMPOST AT A RATE OF 5.0 CUBIC YARDS AND AMMONIUM PHOSPHATE 16-20-0 AT A RATE OF 15 POUNDS PER THOUSAND SQUARE FEET OF LANDSCAPE AREA. COMPOST SHALL BE MECHANICALLY INTEGRATED INTO THE TOP 6" OF SOIL BY MEANS OF ROTOTILLING AFTER CROSS-RIPPING. GROUND COVER & PERENNIAL BED AREAS SHALL BE AMENDED AT A RATE OF 8 CUBIC FEET PER THOUSAND SQUARE FEET OF NITROGEN STABILIZED ORGANIC AMENDMENT AND 10 LBS. OF 12-12-12 FERTILIZER PER CU. YD., ROTOTILLED TO A DEPTH OF 6". NO MANURE OR ANIMAL-BASED PRODUCTS SHALL BE USED FOR ORGANIC AMENDMENTS.

- PLANTING
- ALL DECIDUOUS TREES SHALL HAVE FULL, WELL-SHAPED HEADS/ALL EVERGREENS SHALL BE UNSHEARED AND FULL TO THE GROUND; UNLESS OTHERWISE SPECIFIED. TREES WITH CENTRAL LEADERS WILL NOT BE ACCEPTED IF LEADER IS DAMAGED OR REMOVED. PRUNE ALL DAMAGED TWIGS AFTER PLANTING.
 - ALL PLANTS WITHIN A SPECIES SHALL HAVE SIMILAR SIZE, AND SHALL BE OF A FORM TYPICAL FOR THE SPECIES. ANY PLANT DEEMED UNACCEPTABLE BY THE LANDSCAPE ARCHITECT SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND SHALL BE REPLACED WITH AN ACCEPTABLE PLANT OF LIKE TYPE AND SIZE AT THE CONTRACTOR'S OWN EXPENSE. ANY PLANTS APPEARING TO BE UNHEALTHY, EVEN IF DETERMINED TO STILL BE ALIVE, SHALL NOT BE ACCEPTED. THE LANDSCAPE ARCHITECT SHALL BE THE SOLE JUDGE AS TO THE ACCEPTABILITY OF PLANT MATERIAL.
 - ALL TREES SHALL BE GUYED AND WOOD STAKED AS PER DETAILS. NO "T-STAKES" SHALL BE USED FOR TREES.
 - ALL PLANT MATERIALS SHALL BE TRUE TO TYPE, SIZE, SPECIES, QUALITY, AND FREE OF INJURY, BROKEN ROOT BALLS, PESTS, AND DISEASES, AS WELL AS CONFORM TO THE MINIMUM REQUIREMENTS DESCRIBED IN THE "AMERICAN STANDARD FOR NURSERY STOCK". FOLLOW GREENCO TREE PLANTING RECOMMENDATIONS FOR MINIMUM QUALITY REQUIREMENTS FOR TREES.
 - ALL TREE AND SHRUB BED LOCATIONS ARE TO BE STAKED OUT ON SITE FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
 - ALL TREES PLANTED ADJACENT TO PUBLIC AND/OR PEDESTRIAN WALKWAYS SHALL BE PRUNED CLEAR OF ALL BRANCHES BETWEEN GROUND AND A HEIGHT OF EIGHT (8) FEET FOR THAT PORTION OF THE PLAN LOCATED OVER THE SIDEWALK AND/OR ROAD.
 - ALL PLANT MATERIAL SHALL NOT BE PLANTED PRIOR TO INSTALLATION OF TOPSOIL.
 - ALL PLANT BEDS SHALL BE CONTAINED WITH STEEL EDGER. STEEL EDGER IS NOT REQUIRED ALONG CURBS, WALKS OR BUILDING FOUNDATIONS. ALL EDGING SHALL OVERLAP AT JOINTS A MINIMUM OF 6-INCHES, AND SHALL BE FASTENED WITH A MINIMUM OF 4 PINS PER EACH 10 FOOT SECTION. THE TOP OF ALL EDGING MATERIAL SHALL BE A ROLLED TOP AND 1/2 INCH ABOVE THE FINISHED GRADE OF ADJACENT LAWN OR MULCH AREAS. COLOR: GREEN.
 - THE DEVELOPER, HIS SUCCESSOR, OR ASSIGNEE SHALL BE RESPONSIBLE FOR ESTABLISHING AND CONTINUING A REGULAR PROGRAM OF MAINTENANCE FOR ALL LANDSCAPED AREAS. SEE LANDSCAPE GUARANTEE AND MAINTENANCE NOTE.
 - A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF ALL FIRE HYDRANTS.
 - LANDSCAPE CONTRACTOR TO SUBMIT SAMPLES OF MISCELLANEOUS LANDSCAPING MATERIALS TO THE LANDSCAPE ARCHITECTS AND OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION, I.E.: MULCH, EDGER, LANDSCAPE FABRIC, ETC.
- MULCHING
- AFTER ALL PLANTING IS COMPLETE, THE CONTRACTOR SHALL INSTALL A MINIMUM 4" THICK LAYER OF MULCH AS SPECIFIED IN THE PLANTING LEGEND. INSTALL A 4" THICK RING OF DOUBLE SHREDDED CEDAR BARK MULCH AROUND ALL PLANT MATERIAL IN ROCK MULCH BEDS WHERE LANDSCAPING IS SHOWN ON THE PLANS. WOOD MULCH RING SIZE SHALL BE THE CONTAINER SIZE OF THE SHRUBS, PERENNIALS, AND ORNAMENTAL GRASSES. TREE RING SIZE SHALL A MIN OF 3' DIA AND SHALL BE PROVIDED WITHIN LAWN AND ROCK MULCH BEDS.
 - ALL MULCH SHALL BE HARVESTED IN A SUSTAINABLE MANNER FROM A LOCAL SOURCE.
 - INSTALL DEWITT PRO-5 WEED BARRIER FABRIC UNDER ALL ROCK MULCH SHRUB BEDS SPECIFIED ON THE PLANS ONLY. NO LANDSCAPE FABRIC SHALL BE USED IN WOOD MULCH AREAS. NO PLASTIC WEED BARRIERS SHALL BE SPECIFIED.
 - ABSOLUTELY NO EXPOSED GROUND SHALL BE LEFT SHOWING ANYWHERE ON THE PROJECT AFTER MULCH HAS BEEN INSTALLED.
 - ALL PLANTING AREAS WITH LESS THAN A 4:1 GRADIENT SHALL RECEIVE A LAYER OF MULCH, TYPE AND DEPTH PER PLANS. SUBMIT 1 CUBIC FOOT SAMPLE OF MULCH (ONE SAMPLE PER TYPE) TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. THE MULCH SHALL BE SPREAD EVENLY THROUGHOUT ALL PLANTING AREAS EXCEPT SLOPES 4:1 OR STEEPER, OR AS OTHERWISE DENOTED ON THE PLAN. ABSOLUTELY NO EXPOSED GROUND SHALL REMAIN IN AREAS TO RECEIVE MULCH AFTER MULCH HAS BEEN INSTALLED.
 - ALL PLANTING AREAS ON SLOPES OVER 4:1 SHALL RECEIVE COCONUT FIBER EROSION CONTROL NETTING FROM ROLLS. NETTING SHALL BE #CT-125, AS MANUFACTURED BY NORTH AMERICAN GREEN (OR EQUAL). INSTALL AND STAKE PER MANUFACTURER'S SPECIFICATIONS. SEE ALSO THE CIVIL ENGINEER'S EROSION CONTROL PLAN.

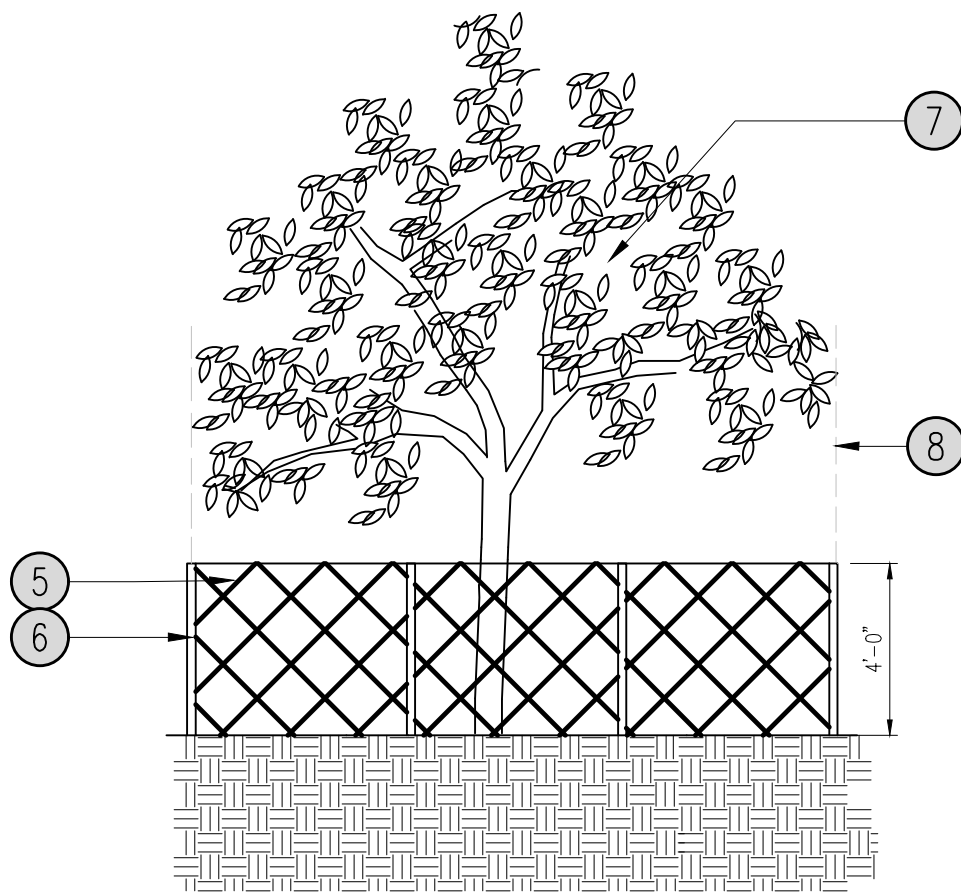
TREE PROTECTION NOTES:

- USE TOWN OF CASTLE ROCK TREE PROTECTION NOTES (IF AVAILABLE). TREE PROTECTION NOTES BELOW SHALL BE USED FOR FURTHER INTEGRATION.
- "PROTECTED ZONE" FOR EXISTING TREES: BEFORE BEGINNING ANY DEMOTION OR CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL INSTALL TEMPORARY FENCING AROUND ALL EXISTING TREES WITHIN THE CONSTRUCTION ZONE THAT ARE TO BE SAVED. THE FENCE SHALL BE INSTALLED NO CLOSER TO THE TREE THAN THE EDGE OF THE TREE'S PROTECTED ZONE, GENERALLY DEFINED AS THE AREA BEGINNING FIVE FEET OUTSIDE OF THE TREE'S DRIPLINE AND EXTENDING TOWARDS THE TREE (OR AS FAR AWAY FROM THE TRUNK AS PRACTICABLE). THE FENCING SHALL BE OF A MATERIAL AND HEIGHT ACCEPTABLE TO THE LANDSCAPE ARCHITECT. ALL CONTRACTORS AND THEIR CREWS SHALL NOT BE ALLOWED INSIDE THIS "PROTECTED ZONE" NOR SHALL THEY BE ALLOWED TO STORE OR DUMP FOREIGN MATERIALS WITHIN THIS AREA. NO WORK OF ANY KIND, INCLUDING TRENCHING, SHALL BE ALLOWED WITHIN THE PROTECTED ZONE EXCEPT AS DESCRIBED BELOW. THE FENCING SHALL REMAIN AROUND EACH TREE TO BE SAVED UNTIL THE COMPLETION OF CONSTRUCTION OPERATIONS.
- TEMPORARY MULCH: TO ALLEVIATE SOIL COMPACTION IN ANTICIPATED AREAS OF HIGH CONSTRUCTION TRAFFIC, AND ONLY WHERE FENCING CANNOT BE SET FIVE FEET OUTSIDE OF THE DRIPLINE, THE CONTRACTOR SHALL INSTALL A LAYER OF MULCH, 9"-12" THICK, OVER ALL EXPOSED EARTH FROM THE TREE TRUNK TO 5' OUTSIDE OF THE DRIPLINE. THIS LAYER SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. WHEN PLANTING OPERATIONS ARE COMPLETED, THE MULCH SHALL BE REDISTRIBUTED THROUGHOUT ALL PLANTING AREAS IN A 3" THICK "PERMANENT" MULCH LAYER.
- NECESSARY WORK: WHEN IT BECOMES NECESSARY TO ENTER THE "PROTECTED ZONE", SUCH AS FOR FINE GRADING, IRRIGATION INSTALLATION, AND PLANTING OPERATIONS, THE CONTRACTOR SHALL STRICTLY ADHERE TO THE FOLLOWING RULES:
 - EVERY EFFORT SHALL BE MADE TO PRESERVE THE EXISTING GRADE AROUND PROTECTED TREES IN AS WIDE AN AREA AS POSSIBLE.
 - TRENCHING WITHIN THE PROTECTED ZONE OF EXISTING TREES SHALL BE PERFORMED BY HAND, AND WITH EXTREME CARE NOT TO SEVER ROOTS 1-1/2" IN DIAMETER AND LARGER. WHERE ROOTS 1-1/2" IN DIAMETER AND LARGER ARE ENCOUNTERED, THE CONTRACTOR SHALL TUNNEL UNDER SAID ROOTS. EXPOSED ROOTS THAT HAVE BEEN TUNNELED UNDER SHALL BE WRAPPED IN WET BURLAP AND KEPT MOIST WHILE THE TRENCH IS OPEN.
 - WHERE ROOTS 1-1/2" IN DIAMETER OR LARGER MUST BE CUT DUE TO EXTENSIVE GRADE CHANGES, THOSE ROOTS MUST BE EXPOSED BY HAND DIGGING AND CUT CLEANLY. RAGGED CUTS GENERALLY DO NOT HEAL PROPERLY, AND MAY LEAVE THE TREE OPEN TO PESTS AND PATHOGENS.
 - WHERE TRENCHING NEAR TREES HAS ALREADY OCCURRED FROM PREVIOUS CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL MAKE EVERY EFFORT TO CONFINE HIS TRENCHING OPERATIONS TO THE PREVIOUSLY-CREATED TRENCHES, WHILE ADHERING TO THE CONDITIONS SET FORTH IN 3B.
- POTENTIAL CONFLICTS: THE CONTRACTOR SHALL NOTIFY THE OWNER AND ARBORIST SHOULD ANY POTENTIAL CONFLICTS ARISE BETWEEN THESE SPECIFICATIONS AND/OR LARGE ROOTS ENCOUNTERED IN THE FIELD, AND CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOT TAKE ANY ACTION IN SUCH CONFLICTS WITHOUT THE ARBORIST'S WRITTEN APPROVAL. THE ARBORIST SHALL HAVE FINAL AUTHORITY OVER ALL METHODS NECESSARY TO HELP ENSURE THE PROTECTION AND SURVIVAL OF EXISTING TREES.
- PRUNING: PRUNE ONLY THE TREES THAT ARE INDICATED ON THE PLANS AS REQUIRING PRUNING. PRUNE TREES ACCORDING TO INTERNATIONAL SOCIETY OF ARBORICULTURE / ANSI A300 STANDARDS:
 - REMOVE ALL DEAD WOOD.
 - PRUNE LIVE WOOD FOR HEALTH OR STRUCTURAL REASONS ONLY, INCLUDING THE NEED TO ELIMINATE DISEASED OR DAMAGED GROWTH, ELIMINATE STRUCTURALLY UNSOUND GROWTH, REDUCE THE POTENTIAL FOR WIND TOPPLING OR WIND DAMAGE, OR TO MAINTAIN GROWTH WITHIN LIMITED SPACE. DO NOT REMOVE MORE THAN 25% OF ANY TREE'S LIVE FOLIAGE IN ANY ONE GROWING SEASON. PRUNE ONLY TO INTERNATIONAL SOCIETY OF ARBORICULTURE/ANSI A300 STANDARDS, AND ONLY UNDER THE DIRECT SUPERVISION OF A CERTIFIED ARBORIST.
 - FINAL CUTS SHALL BE MADE JUST OUTSIDE THE SHOULDER RING AREA. EXTREMELY FLUSHED CUTS WHICH PRODUCE LARGE WOUNDS SHALL NOT BE MADE.
 - ALL TRIMMING CUTS SHALL BE PERFORMED IN SUCH A MANNER AS TO PROMOTE THE NATURAL GROWTH AND SHAPE OF EACH TREE SPECIES.
 - IMPROPER PRUNING METHODS INCLUDING, BUT NOT LIMITED TO, "TOPPING", "TIPPING", "HEADING BACK", "DEHORNING", AND "LIONTAILING" WILL NOT BE ALLOWED. THE CONTRACTOR SHALL PAY FOR ALL WORK NECESSARY TO CORRECT SUCH PRUNING WHEN PERFORMED BY HIS CREWS OR SUBCONTRACTORS.
 - SHOULD THE CONTRACTOR REQUIRE MORE INFORMATION, THE CONTRACTOR SHALL CONTACT THE ISA AT (217) 355-9411 FOR A COPY OF THE ANSI A300 PRUNING STANDARDS. CONTRACTOR SHALL ADHERE TO THE METHODS AND PRACTICES SET FORTH IN THIS DOCUMENT.
- LANDSCAPE AND IRRIGATION (NATIVE TREES ONLY): ANY FUTURE LANDSCAPE AND IRRIGATION SHOULD ADHERE TO THE FOLLOWING GUIDELINES:
 - NO IRRIGATION OR PLANTING SHOULD OCCUR CLOSER THAN 8'-10" FROM THE TRUNK.
 - WHERE IRRIGATION DOES OCCUR WITHIN THE PROTECTED ZONE, DRIP IRRIGATION SHOULD BE USED WHEREVER POSSIBLE. ADDITIONALLY, ONLY PLANTS WITH LOW WATER NEEDS SHOULD BE PLANTED WITHIN THE PROTECTED ZONE, SPACED FAR APART WHERE CLOSE TO THE TREE. PLANTS MAY BE SPACED CLOSER TOGETHER NEAR THE EDGE OF THE PROTECTED ZONE.



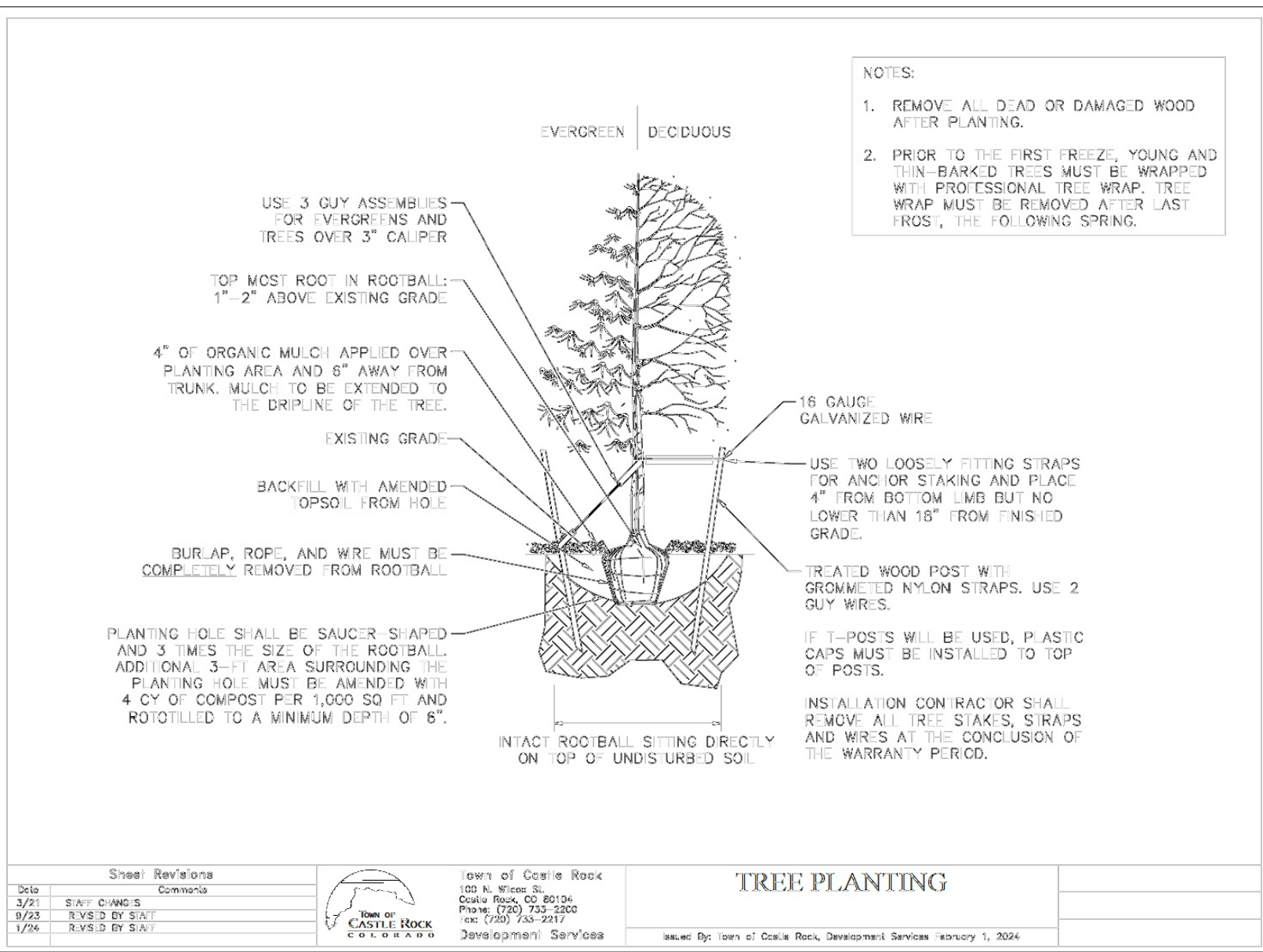
1. TRUNK PROTECTION: BOARDS MIN. 2" THICK. BENEATH BOARDS ARE 3-4 LAYERS OF BURLAP AROUND TRUNK. THE BOARDS SECURELY AT TOP, BOTTOM & CENTER WITH HEAVY DUTY CORD, WIRE, OR CABLE CHOKERS.
2. OUTLINE OF TREE CROWN (EDGE OF DRIPLINE) CORRESPONDS WITH ROOT SPREAD.
3. CONSTRUCTION FENCING (MIN. 4' HEIGHT)
4. WOOD MULCH - SEE MULCH
5. PLASTIC ORANGE CONSTRUCTION FENCE TIED TO T-POST
6. T-POST AT 8'-0" O.C. (TYP.)
7. EXISTING TREE
8. DRIPLINE

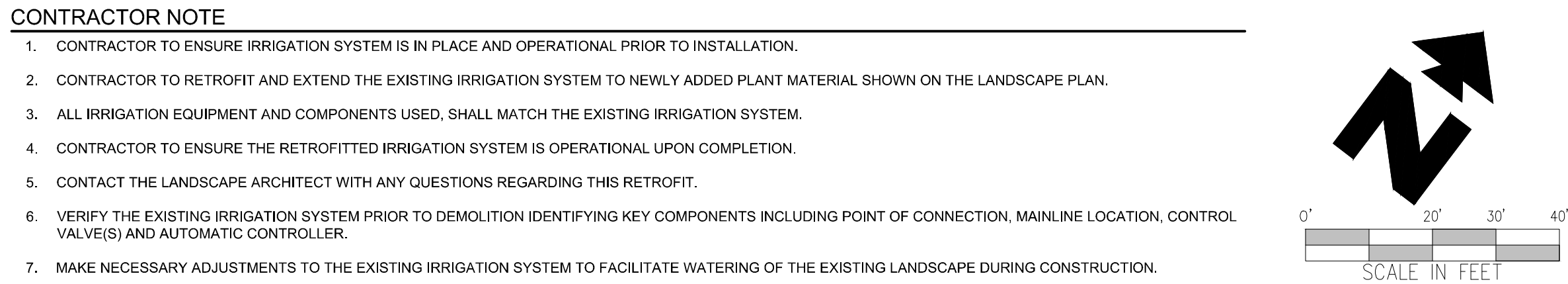
1 TREE PROTECTION DETAIL
N.T.S.



1. FINISH GRADE
2. 1/3 TO 1/2 OF BOULDER SHALL BE BURIED
3. COMPACTED SUBGRADE
4. HARVEST BOULDERS FROM A LOCAL SOURCE, REFERENCE SPECIFICATIONS FOR TYPE & PLANS FOR LOCATIONS.

2 LANDSCAPE BOULDER
N.T.S.





1. CONTRACTOR TO ENSURE IRRIGATION SYSTEM IS IN PLACE AND OPERATIONAL PRIOR TO INSTALLATION.
2. CONTRACTOR TO RETROFIT AND EXTEND THE EXISTING IRRIGATION SYSTEM TO NEWLY ADDED PLANT MATERIAL SHOWN ON THE LANDSCAPE PLAN.
3. ALL IRRIGATION EQUIPMENT AND COMPONENTS USED, SHALL MATCH THE EXISTING IRRIGATION SYSTEM.
4. CONTRACTOR TO ENSURE THE RETROFITTED IRRIGATION SYSTEM IS OPERATIONAL UPON COMPLETION.
5. CONTACT THE LANDSCAPE ARCHITECT WITH ANY QUESTIONS REGARDING THIS RETROFIT.
6. VERIFY THE EXISTING IRRIGATION SYSTEM PRIOR TO DEMOLITION IDENTIFYING KEY COMPONENTS INCLUDING POINT OF CONNECTION, MAINLINE LOCATION, CONTROL VALVE(S) AND AUTOMATIC CONTROLLER.
7. MAKE NECESSARY ADJUSTMENTS TO THE EXISTING IRRIGATION SYSTEM TO FACILITATE WATERING OF THE EXISTING LANDSCAPE DURING CONSTRUCTION.
8. MODIFY THE EXISTING IRRIGATION SYSTEM, UNIFYING IT WITH THE NEW LANDSCAPE AND IRRIGATION SYSTEM.
9. **SEE NOTE ON PLAN IN REFERENCE TO HYDRAULIC WORKSHEET AND LANDSCAPE IRRIGATION WORKSHEET.**

IN ADDITION TO PROVIDING SLEEVES FOR ALL PIPING UNDER ROADWAYS AND WALKWAYS, PROVIDE AND INSTALL SCH. 40 PVC SLEEVES FOR ALL CONTROLLER WIRES OCCURRING UNDER ALL ROADWAYS AND WALKWAYS. SLEEVES FOR CONTROLLER WIRES SHALL BE 1-1/2" DIA.

1. DRAWINGS ARE DIAGRAMMATIC. IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE OF PLANTING AREAS FOR CLARITY ONLY. CONTRACTOR SHALL AVOID CONFLICTS WITH PLANT MATERIALS AND ARCHITECTURAL FEATURES ALL PIPING AND WIRING SHALL BE INSTALLED IN PLANTING AREA OR IN SLEEVES, NO PIPING UNDER TREES OR SHRUBS WILL BE ACCEPTED.

2. CONTRACTOR SHALL INSTALL MAINLINES $\pm 12"$ FROM PAVEMENT EDGE IN PLANTING AREAS, ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS AS INDICATED ON THESE PLANS.

3. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE AND VISIBLE IRRIGATION EQUIPMENT (CONTROLLERS, BACKFLOW PREVENTERS, METER PITS, ETC.) WITH THE OWNER'S AUTHORIZED REPRESENTATIVE AND / OR LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. THE INSTALLATION OF THESE ITEMS SHALL BE INTEGRATED WITHIN DESIGNATED LANDSCAPE AREAS. FAILURE TO LOCATE THIS EQUIPMENT IN AN APPROVED LOCATION MAY RESULT IN THE IRRIGATION CONTRACTOR BEING REQUIRED TO MOVE SUCH ITEMS AT HIS OWN COST.
4. THE IRRIGATION SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE AND THE MAXIMUM FLOW DEMAND SHOWN ON THE DRAWINGS. THE IRRIGATION CONTRACTOR SHALL FIELD VERIFY THE STATIC & OPERATING WATER PRESSURE PRIOR TO CONSTRUCTION OF ANY COMPONENT OF THE IRRIGATION SYSTEM. AFTER FIELD VERIFICATION, THE IRRIGATION CONTRACTOR SHALL NOTIFY THE OWNER, OWNER'S REPRESENTATIVE, LANDSCAPE ARCHITECT, & IRRIGATION DESIGNER OF THE PRESSURE READING FOR THE TAP.
5. ALL PRESSURIZED MAINLINES, VALVES, DRIP, AND ROTOR AND SPRAY SHEDS SHALL BE INSTALLED A MINIMUM OF 8' AWAY FROM ANY BUILDING FOUNDATION. ADDITIONAL REQUIREMENTS MAY BE LISTED IN THE GEOTECHNICAL REPORT REGARDING IRRIGATION NEAR BUILDING FOUNDATIONS. CONTRACTOR IS RESPONSIBLE TO ABIDE BY THE 5' MINIMUM DISTANCE AND/OR THE GEOTECHNICAL REPORT REQUIREMENTS. IF THIS EQUIPMENT IS SHOWN WITHIN THE 5' OFFSET ON THESE PLANS, IT IS FOR THE PURPOSE OF GRAPHIC CLARITY ONLY.
6. REFER TO THIS SHEET AND IR-2 FOR IRRIGATION NOTES AND IRRIGATION DETAILS.

1. THE LANDSCAPE CONTRACTOR IS REQUIRED TO CONTACT THE COUNTY PUBLIC WORKS DEPARTMENT, AND ANY OTHER PUBLIC OR PRIVATE AGENCY NECESSARY FOR UTILITY LOCATION PRIOR TO ANY CONSTRUCTION.
2. THIS DRAWING IS A PART OF A COMPLETE SET OF BID DOCUMENTS, SPECIFICATIONS, ADDITIONAL DRAWINGS, AND EXHIBITS. UNDER NO CIRCUMSTANCES SHOULD THESE PLANS BE USED FOR CONSTRUCTION PURPOSES WITHOUT EXAMINING ALL LOCATIONS OF UTILITIES ON SITE, AND REVIEWING ALL RELATED DOCUMENTS.
3. THE LOCATION OF THE ALL UNDERGROUND UTILITIES ARE LOCATED ON THE ENGINEERING DRAWINGS FOR THIS PROJECT. THE MOST CURRENT REVISION IS HERE IN MADE PART OF THIS DOCUMENT. UNDERGROUND UTILITIES EXIST THROUGHOUT THIS SITE AND MUST BE LOCATED PRIOR TO ANY CONSTRUCTION ACTIVITY. WHERE UNDERGROUND UTILITIES EXIST, FIELD ADJUSTMENT MAY BE NECESSARY AND MUST BE APPROVED BY A REPRESENTATIVE OF THE OWNER. NEITHER THE LANDSCAPE ARCHITECT ASSUMES ANY RESPONSIBILITY WHATSOEVER, IN RESPECT TO THE CONTRACTORS ACCURACY IN LOCATING THE INDICATED PLANT MATERIAL, AND UNDER NO CIRCUMSTANCES SHOULD THESE PLANS BE USED WITHOUT REFERRING THE ABOVE MENTIONED DOCUMENTS.

1. IRRIGATION DESIGN IS BASED ON THEORIES, ASSUMPTIONS, AND/OR INFORMATION PROVIDED BY CIVIL MODELS/UTILITIES/MUNICIPAL ENTITIES AND THUS, IS DIAGRAMMATIC IN NATURE. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR GRAPHIC CLARIFICATION ONLY. AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORITY PRIOR TO INSTALLATION. OR IRRIGATION CONTRACTOR MAY BE REQUIRED TO MOVE SUCH ITEMS AT HIS OWN COST.
2. REFER TO SPECIFICATIONS (AS APPROPRIATE) FOR SUBMITTALS, INSPECTIONS AND OTHER APPLICABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE PROJECT SPECIFICATIONS PRIOR TO BIDDING. THE PROJECT SPECIFICATIONS ARE A PART OF THESE PLANS AND SHALL BE CONSULTED BY THE IRRIGATION CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING WORK AS SPECIFIED IN THE PROJECT SPECIFICATIONS AND ON THE PLANS.
3. THE IRRIGATION CONTRACTOR SHALL MEET WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK, AND SHALL OBTAIN ALL ENGINEERING, LANDSCAPE, AND OTHER APPLICABLE PLANS & DOCUMENTS. CONTRACTOR SHALL THOROUGHLY REVIEW PLANS & REPORT ANY CONFLICTS OR DISCREPANCIES TO OWNER'S REPRESENTATIVE IMMEDIATELY.
4. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, AND UTILITY LOCATIONS PRIOR TO BEGINNING WORK. DO NOT INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES, OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE EXISTED AT THE TIME OF THE IRRIGATION DESIGN PREPARATION. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE AND LANDSCAPE ARCHITECT. IN THE EVENT THIS NOTIFICATION IS NOT GIVEN, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REMEDIATION REQUIRED TO BRING THE SYSTEM TO A PROPER WORKING CONDITION, AND TO THE OWNER'S SATISFACTION.
5. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATIONS OF WALLS, RETAINING WALLS, ETC. THE IRRIGATION CONTRACTOR SHALL COORDINATE HIS WORK WITH THE GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES THROUGH WALL, UNDER ROADWAY PAVING, ETC.
6. THE CONTRACTOR SHALL MAKE NO SUBSTITUTIONS, DELETIONS, OR ADDITIONS TO THIS PLAN WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT.
7. SEE CIVIL ENGINEER'S DRAWINGS FOR IRRIGATION POINT OF CONNECTION (TAP) AND DOMESTIC WATER SUPPLY.
8. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS
9. THE IRRIGATION SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE AND THE MAXIMUM FLOW DEMAND SHOWN ON THE POINT OF CONNECTION NOTE TAG(S) ON THE DRAWINGS. THE IRRIGATION CONTRACTOR SHALL FIELD VERIFY THE STATIC & OPERATING WATER PRESSURE PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DIFFERENCES BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READINGS AT THE IRRIGATION POINT OF CONNECTION TO THE OWNER'S AUTHORIZED REPRESENTATIVE AND LANDSCAPE ARCHITECT. IF THE WATER PRESSURE IS NOT REPORTED OR PRESSURES HAVE GREATLY CHANGED PRIOR TO THE START OF THE IRRIGATION SYSTEM CONSTRUCTION, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR RECOMMENDING A SOLUTION AND PROVIDING AN ADD ALTERNATE BID FOR IRRIGATION COSTS.
10. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF AVAILABLE WATER PRESSURE EXCEEDS 5 PSI HIGHER OR LOWER THAN AVAILABLE WATER PRESSURE.
11. NO MORE THAN 90% OF AVAILABLE MINIMUM STATIC WATER PRESSURE WAS USED IN PREPARATION OF THESE PLANS. FURTHERMORE, THE MAXIMUM FLOW THROUGH THE METER SHOULD NOT EXCEED 75% OF THE MAXIMUM SAFE FLOW.
12. SUPPLY LINE AND METER TO BE PROVIDED BY GENERAL CONTRACTOR. BACKFLOW PREVENTER TO BE PROVIDED BY IRRIGATION CONTRACTOR. IRRIGATION CONTRACTOR'S POINT OF CONNECTION TO BEGIN AFTER THE IRRIGATION WATER METER.
13. INSTALL ALL MATERIALS AND EQUIPMENT AS SHOWN ON THE PLANS AND DETAILS. NO SUBSTITUTIONS OF EQUIPMENT WILL BE ACCEPTABLE WITHOUT PRIOR WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT OR THE OWNERS REPRESENTATIVE. THE IRRIGATION CONTRACTOR MAY BE REQUIRED TO REMOVE AND REPLACE ALL UNAPPROVED SUBSTITUTED EQUIPMENT AT HIS OWN COST IF SO DIRECTED BY THE OWNER.
14. WHEN INSTALLING IRRIGATION PIPE AND EQUIPMENT NEXT TO HARDSCAPE (SUCH AS WALLS, CURBS, OR WALKS), PLACE PIPE AS CLOSE AS POSSIBLE TO HARDSCAPE TO AVOID CONFLICTS WITH PLANTING. REFER TO MAINLINE TRENCHING DETAILS FOR ADDITIONAL INFORMATION.
15. THE IRRIGATION CONTRACTOR SHALL COORDINATE 120 V.A.C. ELECTRICAL POWER TO CONTROLLERS AND DEDICATE ONE (1) 20-AMP BREAKER FOR EACH CONTROLLER. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO MAKE THE FINAL HOOK-UP FROM THE ELECTRICAL SOURCE TO THE CONTROLLER UNIT ONLY.
16. THE RAIN SENSOR SHALL BE LOCATED NEAR THE IRRIGATION CONTROLLER, AND SHALL BE MOUNTED AS SHOWN ON THE DETAIL AND/OR LEGEND. LOCATE SENSOR AWAY FROM TALL TREES, SHRUBS, AND OTHER POTENTIAL OBSTRUCTIONS.
17. ALL VALVE CONTROL WIRE SHALL BE AWG 14 TYPE UF, 600 VOLT TEST, DIRECT BURIAL. NO SPLICES SHALL BE ALLOWED EXCEPT AT VALVES AND CONTROLLER. WHERE SPLICES MAY BE NECESSARY DUE TO EXCESSIVELY LONG WIRE RUNS, THE CONTRACTOR SHALL MAKE ALL SPLICES IN 6" ROUND VALVE BOXES WITH 3/4" ODBY-DIRECT BURIAL SPLICE KIT. THE CONTRACTOR SHALL LABEL ALL WIRES WITH WATERPROOF TAGS AND MARKERS AT ALL SPLICES AND VALVE MANIFOLDS, AND SHALL LEAVE A 24" COIL OF EXCESS WIRE AT EACH CONNECTION.
18. CONTRACTOR SHALL PROVIDE #10 COMMON WIRE, DIRECT BURIAL, TO ALL REMOTE CONTROL VALVES.
19. CONNECT ALL DIRECT BURIAL WIRES TO VALVES USING 3/4" ODBY-DIRECT BURIAL SPLICE KIT (UNLESS OTHERWISE SPECIFIED).
20. PROVIDE ADDITIONAL IRRIGATION CONTROL WIRES TO THE AMOUNT OF OPEN ZONES ON THE CONTROLLER ALONG EACH BRANCH OF MAINLINE FOR FUTURE EXPANSION. STUB ADDITIONAL CONTROL WIRES INTO BACK OF IRRIGATION CONTROLLERS.

LANDSCAPE

1. INSTALLING CONTRACTOR SHALL CONTACT CASTLE ROCK WATER AT 720-733-6017 TO SCHEDULE A PRE-CONSTRUCTION MEETING PRIOR TO THE BEGINNING OF LANDSCAPE INSTALLATION.
2. LANDSCAPE AND IRRIGATION SHALL BE INSTALLED BY A TOWN OF CASTLE ROCK REGISTERED LANDSCAPE CONTRACT PROFESSIONAL.
3. ANY WORK DONE BEFORE THE PLANT INSTALLATION AND SCHEDULING OF THE SOIL INSPECTION SHALL BE DISCUSSED AT THE LANDSCAPE PRE-CONSTRUCTION MEETING.
4. INSTALLING CONTRACTOR SHALL PROVIDE SUBMITTALS FROM SUPPLIERS FOR SOD AND/OR NATIVE SEED MIX AT TIME OF LANDSCAPE INSPECTION.
5. SOIL AMENDMENTS SHALL BE A MINIMUM OF FOUR (4) CUBIC YARDS OF APPROVED ORGANIC MATTER PER ONE THOUSAND (1,000) SQUARE FEET. THIS SOIL AMENDMENT SHALL BE CUT-TO-TILLED TO A DEPTH OF SIX (6) INCHES. CLOSS OR CLASS II COMPOST IS REQUIRED.
6. TREES, LARGE SHRUBS AND PERMANENT OBJECTS ARE NOT PERMITTED IN WATER, SANITARY OR STORM WATER UTILITY EASEMENTS.
7. LANDSCAPE INSTALLATIONS TO BE INSTALLED AS PER THE TOWN OF CASTLE ROCK PLANTING DETAILS, THESE CAN BE FOUND AT WWW.CRWGO.COM.
8. PLANT SPECIES AND LOCATION SHOULD FOLLOW THE APPROVED PLAN, IF SITE CONDITIONS OR PLANT AVAILABILITY REQUIRE CHANGES TO THE PLAN, THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE TOWN OF CASTLE ROCK REPRESENTATIVE.
9. THE TOWN OF CASTLE ROCK IS NOT RESPONSIBLE FOR REPLACING LANDSCAPE OR IRRIGATION REMOVED IN UTILITY EASEMENTS DUE TO UTILITY LINE MAINTENANCE OR REPAIR, (PWIR4.1.3.13)
10. A TOWN OF CASTLE ROCK PERMIT AND TOWN OF CASTLE ROCK APPROVED LANDSCAPE PLANS ARE REQUIRED ON SITE DURING INSTALLATION OF THE LANDSCAPING AND IRRIGATION.
11. THE TOWN OF CASTLE ROCK INSPECTORS WILL NOT APPROVE LANDSCAPE AND/OR IRRIGATION ON SLOPES STEEPER THAN 3:1
12. OVERHEAD IRRIGATION IS NOT PERMITTED ON SLOPES EQUAL TO 3:1 OR IN AREAS LESS THAN TEN (10) FEET WIDE.
13. DISTANCE OF TREES TO WET UTILITY LINES SHALL BE A MINIMUM OF TEN (10) FEET.
14. LANDSCAPE AND PLANT QUANTITIES SHALL BE AS SHOWN ON THE DRAWING AND THE QUANTITIES REPRESENTED IN THIS DRAWING AND SHALL CONFORM TO SUBSEQUENT SUBMITTAL REQUIREMENTS.
15. ALL PLANTS ARE TO BE PROPERLY HYDRO ZONED PER TOWN OF CASTLE ROCK PLANT LIST.
16. DESIGN MUST ACCOMMODATE THE WATERING RESTRICTIONS AS OUTLINED IN THE TOWN OF CASTLE ROCK WATER USE MANAGEMENT PLAN (WUMP).
17. THE TOWN OF CASTLE ROCK WILL NOT BE RESPONSIBLE FOR THE MAINTENANCE OF ANY FEATURES EXISTING ON THE SITE, BUT NOT SHOWING ON THE SITE DEVELOPMENT PLAN, ADDITIONAL LANDSCAPING AND SCREENING MAY BE REQUIRED BASED UPON FIELD CONDITIONS DETERMINED DURING THE SITE INSPECTION. INSTALLATION WILL BE REQUIRED PRIOR TO THE FINAL INSPECTION AND THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY, AS APPLICABLE.
18. NONLIVING LANDSCAPE MATERIAL SUCH AS ROCK, STONE, BARK CHIPS, AND SHAVINGS WHICH NO LONGER COVER THE AREA IN WHICH THEY WERE ORIGINALLY INSTALLED, SHALL BE REGULARLY REFRESHED TO MAINTAIN THE FULL COVERAGE TO A MINIMUM DEPTH OF TWO (2) INCHES FOR ROCK MULCH AND FOUR (4) INCHES FOR WOOD MULCH.
19. PLANTS AND VEGETATION UNDER THE TOWN OF CASTLE ROCK'S PLANT LIST SHALL BE IN LINE WITH THE ADOPTED CWPV AND FIRE RESISTIVE VEGETATION FOR THE REGION TO MEET THE ADOPTED FIRE CODES BY THE TOWN OF CASTLE ROCK.
20. DEAD PLANT MATERIALS SHALL BE REMOVED AND REPLACED WITH HEALTHY PLANTING MATERIALS OF COMPARABLE SIZE AND SPECIES THAT MEET THE ORIGINAL INTENT OF THE APPROVED LANDSCAPE DESIGN WITHIN FORTY-FIVE (45) DAYS OR SOONER IN THE EVENT OF A CONTAGIOUS DISEASE OR INVASIVE INSECT SPECIES. TOWN OF CASTLE ROCK IS NOT RESPONSIBLE FOR PLANT REPLACEMENTS.

1. ALL IRRIGATION INSTALLATIONS SHALL BE DESIGNED TO MEET THE TOWN OF CASTLE ROCK WATER USE MANAGEMENT PLAN, CURRENT COMMERCIAL HOURS OF OPERATION ARE THREE (3) FIXED DAYS A WEEK FROM 6:00 AM TO 6:00 PM. IRRIGATION SHALL BE TURNED OFF BY 6:00 PM.

2. INSTALLING CONTRACTOR SHALL CONVEY CASTLE ROCK WATER AT 720/344-0171 TO SCHEDULE A PRE-CONSTRUCTION MEETING PRIOR TO BEGINNING THE IRRIGATION INSTALLATION.

3. IRRIGATION SHALL BE DESIGNED TO MEET THE TOWN OF CASTLE ROCK WATER USE MANAGEMENT PLAN, CURRENT COMMERCIAL HOURS OF OPERATION ARE THREE (3) FIXED DAYS A WEEK FROM 6:00 AM TO 6:00 PM. IRRIGATION SHALL BE TURNED OFF BY 6:00 PM.

4. BACKFLOW TO BE TESTED BY A CERTIFIED BACKFLOW TECHNICIAN APPROVED BY THE UTILITY DEPARTMENT WITHIN TEN (10) DAYS OF THE IRRIGATION METER INSTALLATION AND ANNUALLY THEREAFTER.

5. ALL SPRINKLER HEADS TO BE ADJUSTED TO MINIMIZE OVER-SPRAY ON TO HARD SURFACES AND/OR UNWANTED AREAS, PER THE TOWN OF CASTLE ROCK WATER USE MANAGEMENT PLAN IS NOT ALLOWED.

6. AN IRRIGATION EXEMPTION WILL NOT BE ISSUED DURING THE MONTH OF JULY.

7. THE IRRIGATION SYSTEM MUST BE DESIGNED TO OPERATE WITHIN THE TOWN OF CASTLE ROCK WATER USE DAILY SCHEDULE PLAN. CURRENT COMMERCIAL HOURS OF OPERATION ARE THREE (3) FIXED DAYS A WEEK FROM 6:00 AM TO 6:00 PM. IRRIGATION SHALL BE TURNED OFF BY 6:00 PM.

8. OVERHEAD IRRIGATION AREAS LESS THAN TEN (10) FEET IN WIDTH OR ON SLOPES OF GREATER THAN 3:1 WILL NOT BE APPROVED BY THE TOWN OF CASTLE ROCK INSPECTORS.

9. ALL IRRIGATION INSTALLATIONS MUST MEET THE TOWN OF CASTLE ROCK DETAILS.

10. THE IRRIGATION TAP LINE AND THE IRRIGATION ASSEMBLY MUST BE THE SAME SIZE FROM THE TAP TO A MINIMUM DISTANCE OF TEN (10) PIPE DIAMETERS PAST THE BACKFLOW PREVENTION ASSEMBLY AND WINTERIZATION TEE.

11. ALL SPRINKLER HEADS TO BE ADJUSTED TO MINIMIZE OVER-SPRAY ON TO HARD SURFACES AND/OR UNWANTED AREAS, PER THE TOWN OF CASTLE ROCK WATER USE MANAGEMENT PLAN IS NOT ALLOWED.

12. IRRIGATION SYSTEMS ARE TO BE WINTERIZED ANNUALLY IN THE FALL.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
	HUNTER IC2-101-25-LF 1" DRIP CONTROL ZONE KIT. 1IN. ICV GLOBE VALVE WITH 1IN. HY100 FILTER SYSTEM. PRESSURE REGULATION: 25 PSI. FLOW RANGE: .5 GPM - 15 GPM. 150 MESH STAINLESS STEEL SCREEN.	SHEET IR-2 DETAIL IR-19
	NIBCO 4660-T 3/4" SCHEDULE 40 MANUAL FLUSH VALVE. CONNECT TO DRIP POLYTUBING FOR WINTERIZATION/BLOWOUT.	SHEET IR-2 DETAIL IR-19
	AREA TO EXISTING DRIP EMITTERS HUNTER HE-B POINT SOURCE DRIP EMITTER WITH SELF PIERCING BARB. COLOR CODED EMITTERS FOR FLOW RATES OF 0.5 GPH, 1.0 GPH, 2.0 GPH, 4.0 GPH, AND 6.0 GPH. CAN BE INSERTED INTO 1/2IN. AND 3/4IN. TUBING AND HAVE PRESSURE COMPENSATING FROM 15 PSI-50 PSI. OPTIONAL DIFFUSER CAP (HE) AVAILABLE.	SHEET IR-2 DETAIL IR-19
	EXISTING QUICK COUPLER VALVE EXISTING QUICK COUPLER VALVE. ENSURE PROPER OPERATION AND PRESENCE AT POC. PROTECT IN PLACE.	SHEET IR-2 DETAIL IR-6
	EXISTING ISOLATION GATE VALVE EXISTING ISOLATION GATE VALVE. ENSURE PROPER OPERATION AND PRESENCE AT POC. PROTECT IN PLACE.	SHEET IR-2 DETAIL IR-7
	EXISTING STOP AND WASTE VALVE EXISTING STOP AND WASTE VALVE. ENSURE PROPER OPERATION AND PRESENCE AT POC. PROTECT IN PLACE.	SHEET IR-2 DETAIL IR-7
	EXISTING MASTER VALVE EXISTING MASTER VALVE. ENSURE PROPER OPERATION AND PRESENCE AT POC. PROTECT IN PLACE.	SHEET IR-2 DETAIL IR-36A
	EXISTING MANUAL DRAIN VALVE EXISTING MANUAL DRAIN VALVE. ENSURE PROPER OPERATION AND PRESENCE AT POC. PROTECT IN PLACE.	SHEET IR-2 DETAIL IR-5A
	EXISTING BACKFLOW PREVENTOR WITH ENCLOSURE EXISTING BACKFLOW PREVENTOR WITH ENCLOSURE. ENSURE PROPER OPERATION AND PRESENCE AT POC. PROTECT IN PLACE.	SHEET IR-2 DETAIL IR-10A
	EXISTING FLOW SENSOR EXISTING FLOW SENSOR. ENSURE PROPER OPERATION AND PRESENCE AT POC. PROTECT IN PLACE.	SHEET IR-2 DETAIL IR-35
	WATER METER 1" USE EXISTING IRRIGATION METER LOCATED IN THE UTILITY ROOM. SEE CIVIL/BUILDING PLANS FOR FURTHER DETAILS.	SHEET IR-2 DETAIL IR-9
	IRRIGATION DRIP SUPPLY TUBING: POLYETHYLENE PIPE SIZE: 3/4"	SHEET IR-2 DETAIL IR-21
	ESTIMATED EXISTING MAINLINE LOCATION	N/A
	PIPE SLEEVE SIZE: DOUBLE THE SIZE OF PIPE INSERTED	SHEET IR-2 DETAIL IR-21
	EXISTING IRRIGATION SYSTEM	N/A

TOWN OF CASTLE ROCK APPROVAL
PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM
DATE OF DEVELOPMENT SERVICES APPROVAL

APPROVED BY: _____

CAUTION - NOTICE TO CONTRACTOR

BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.

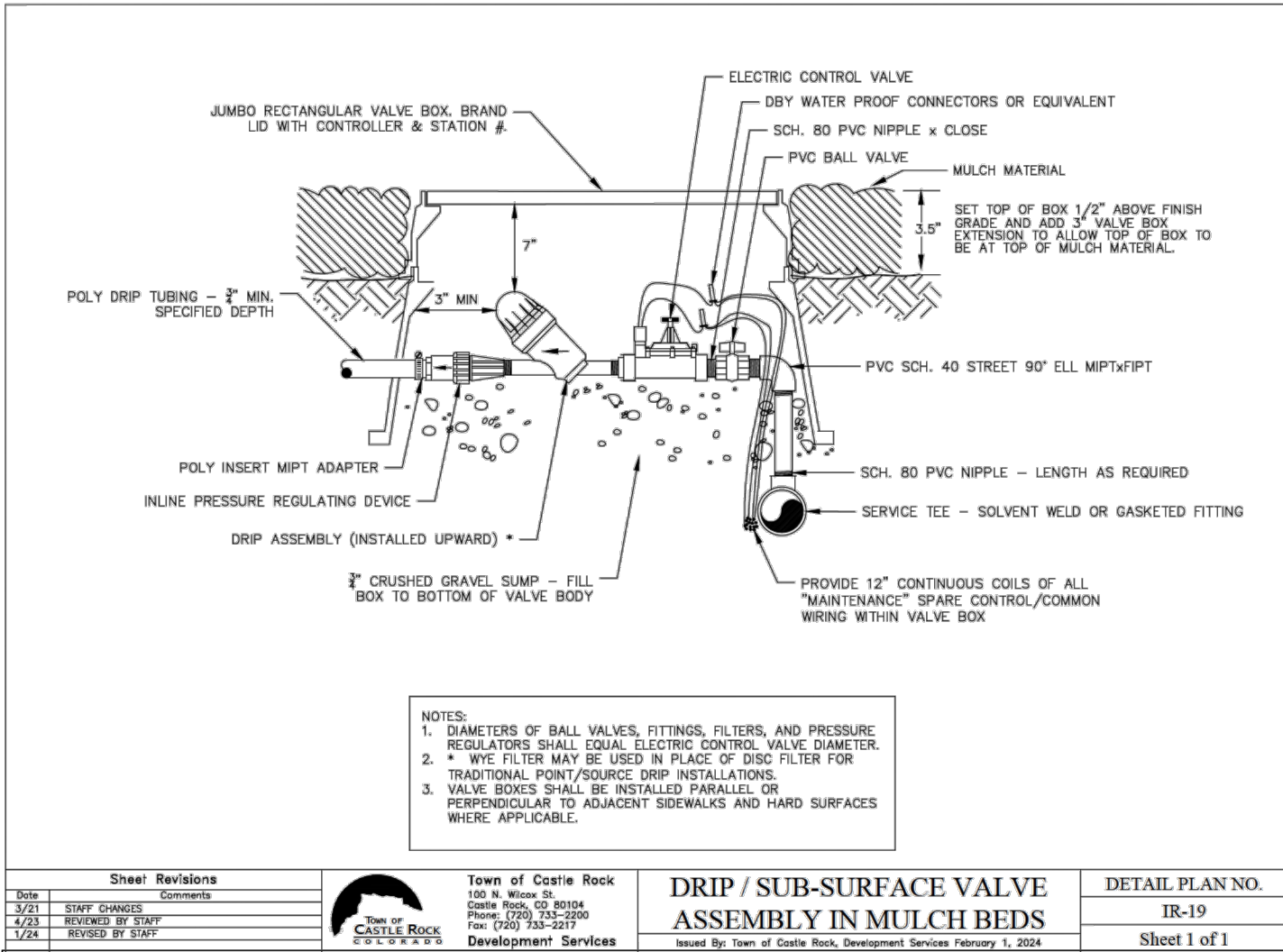
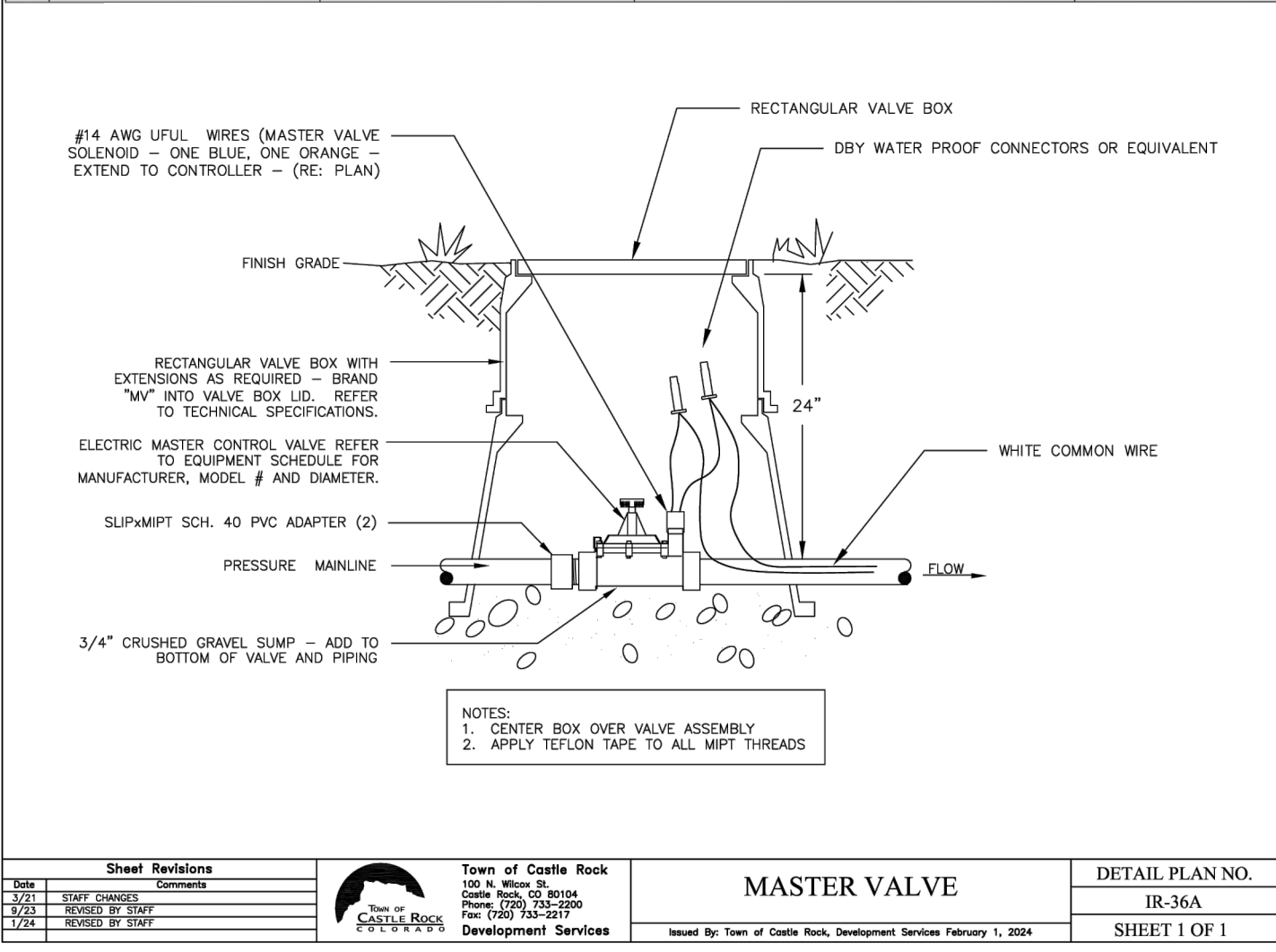
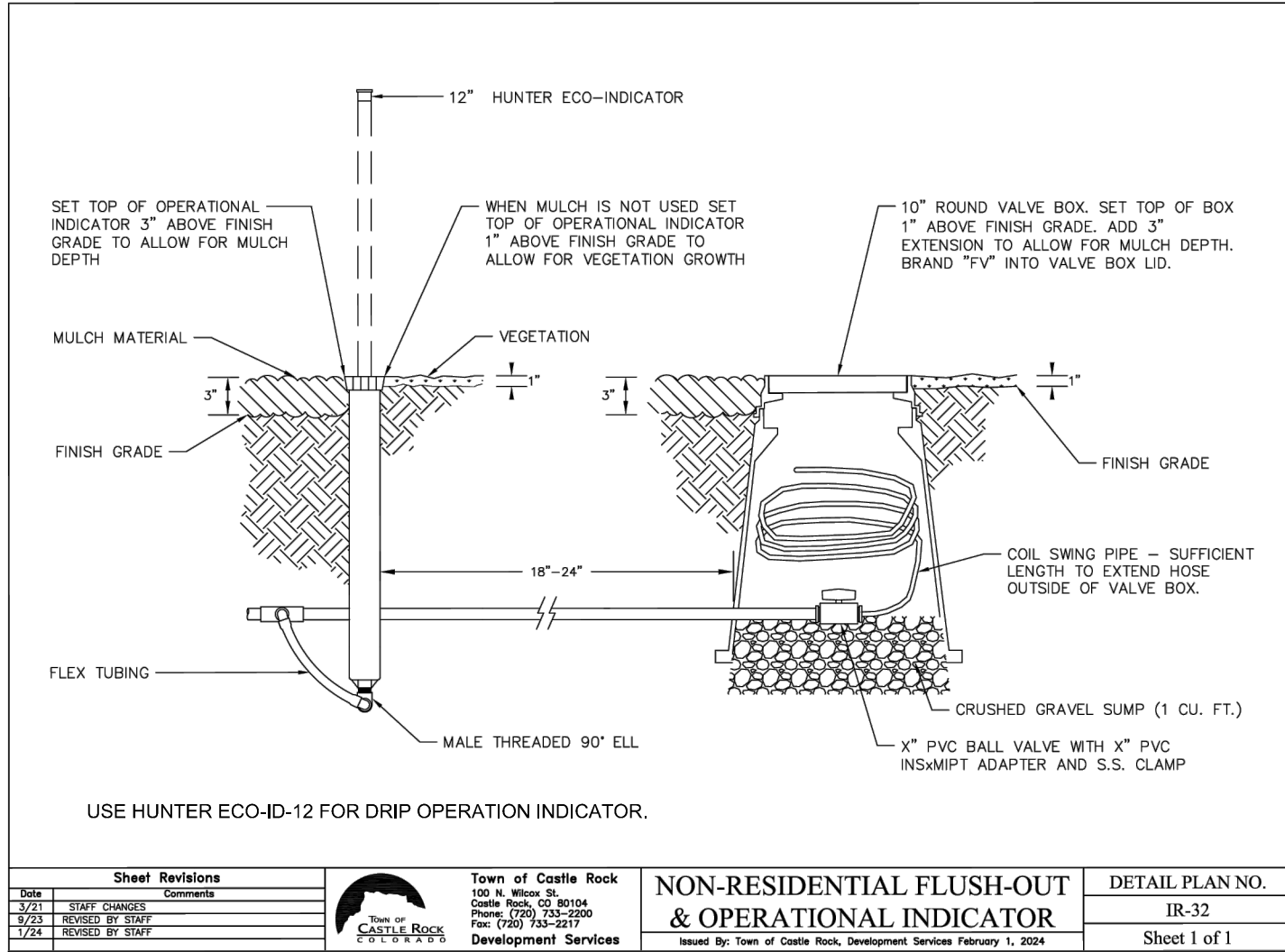
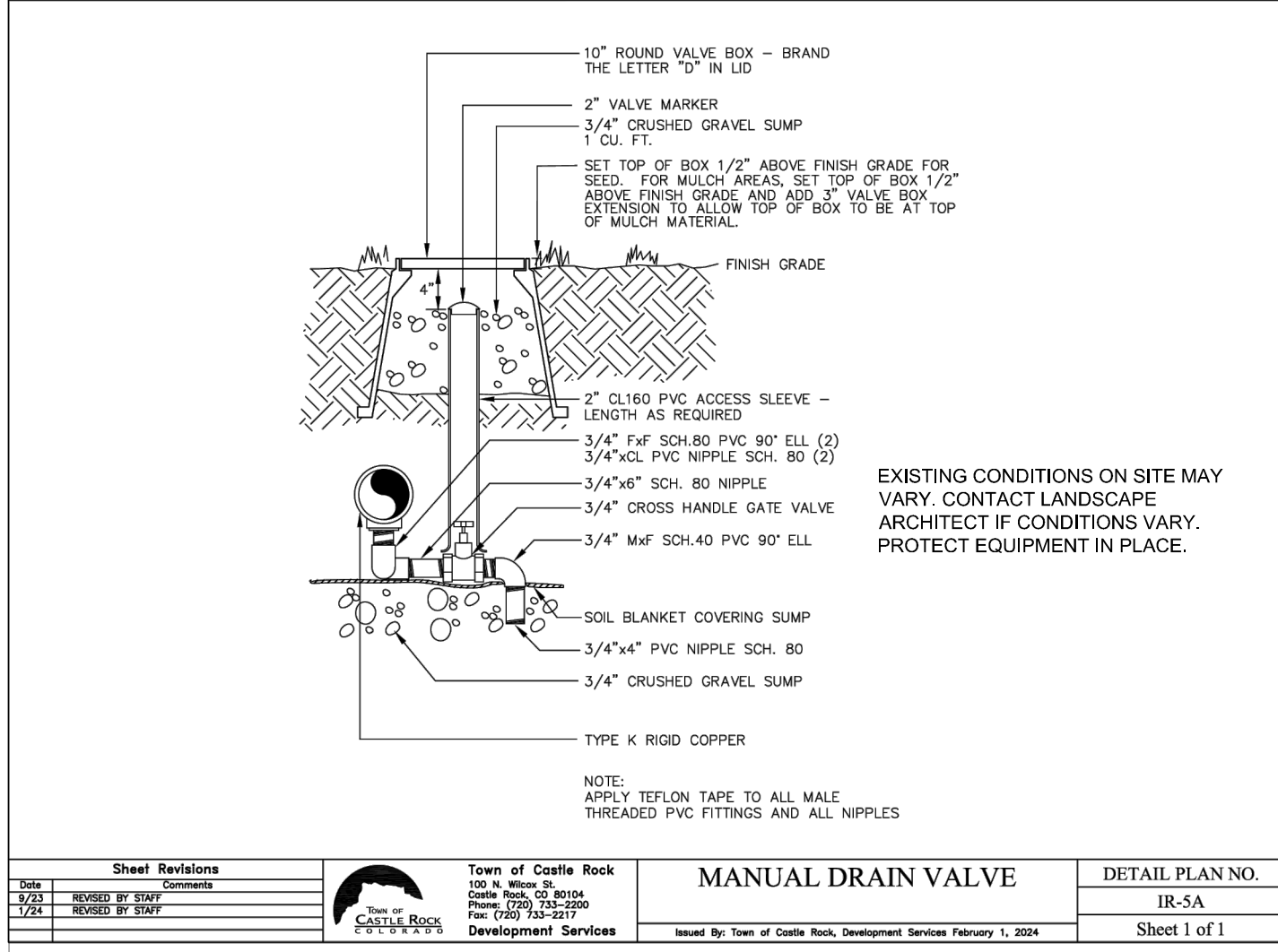
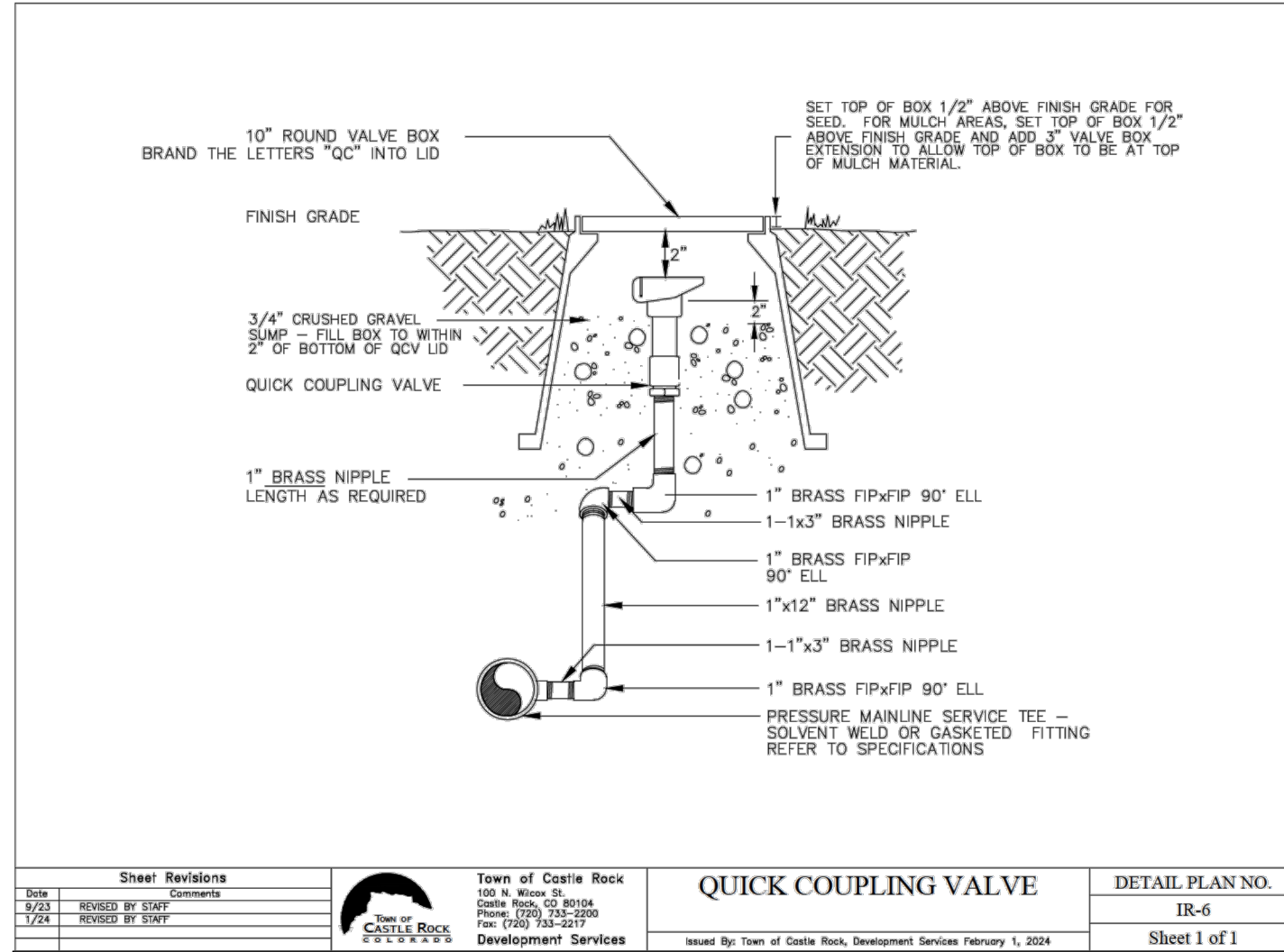
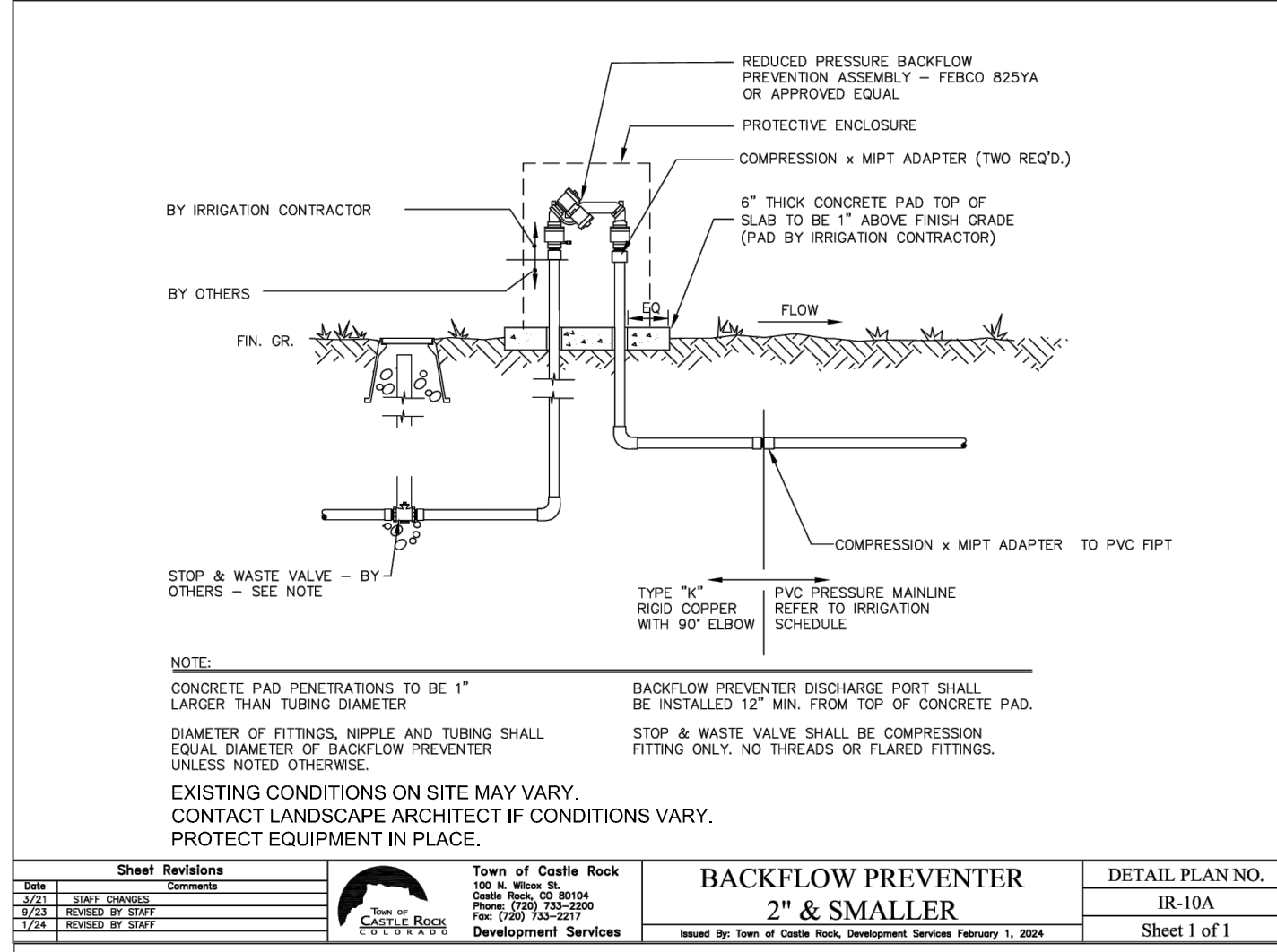
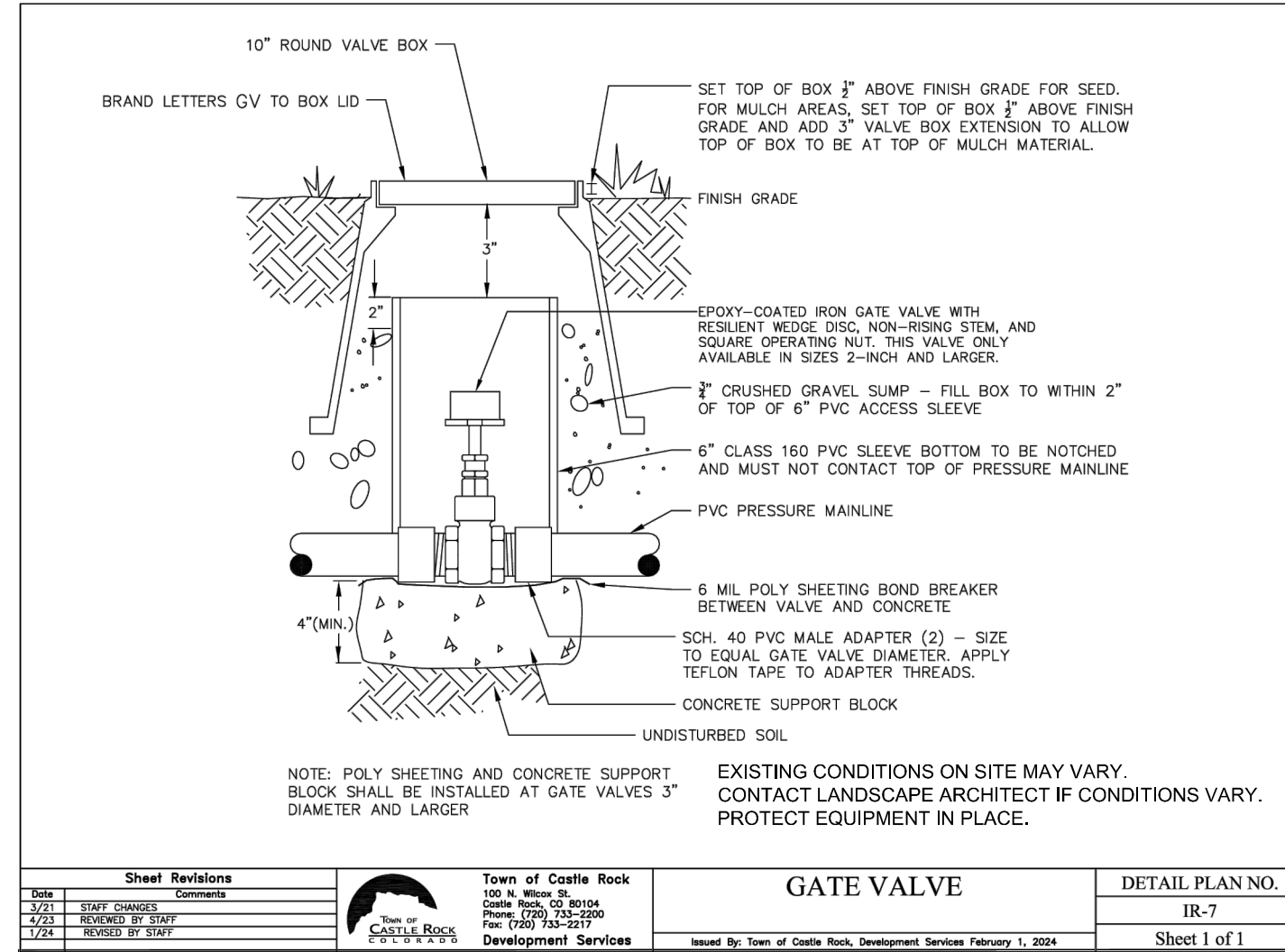
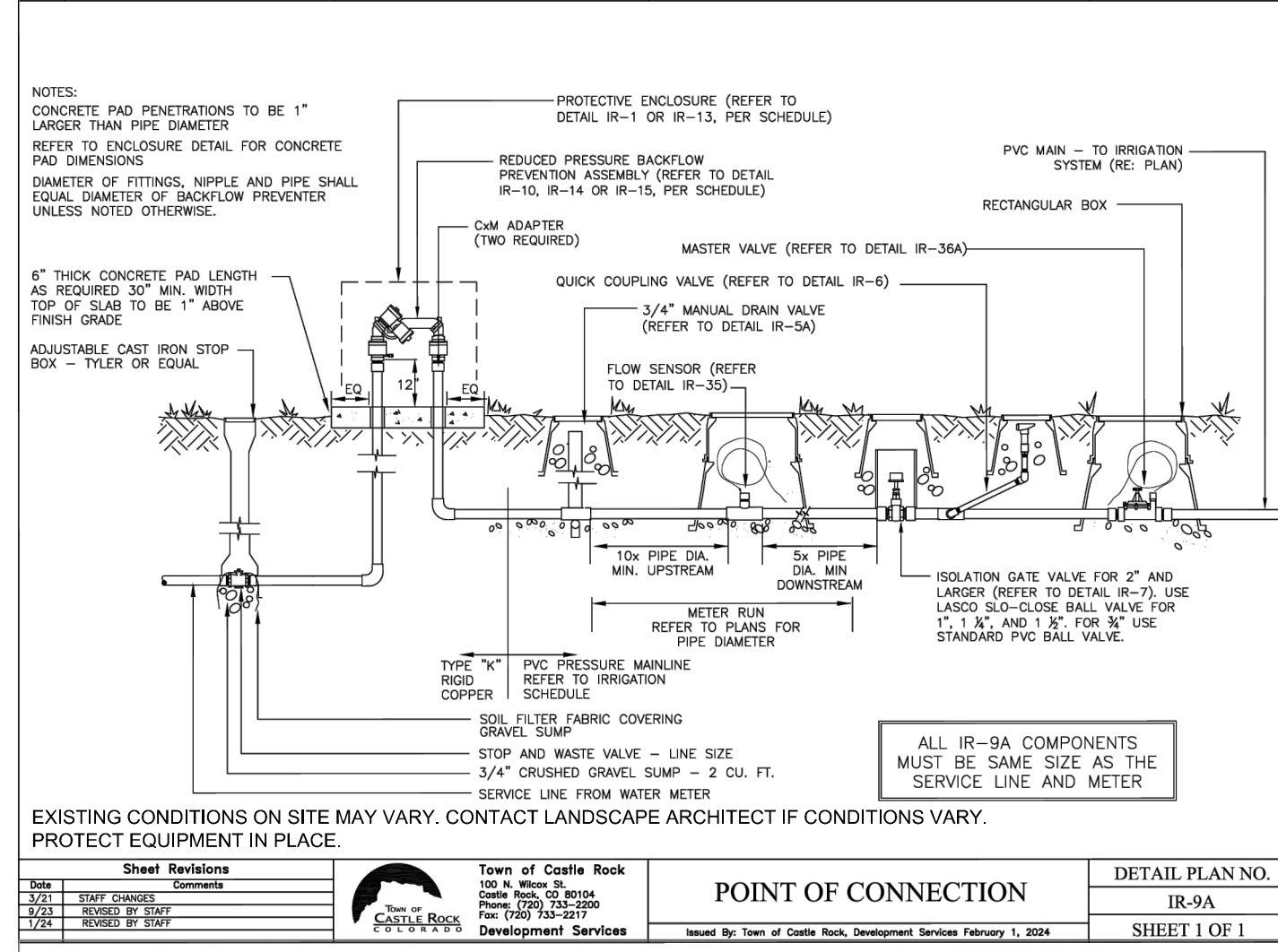
Know what's below.
Call before you dig.

2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

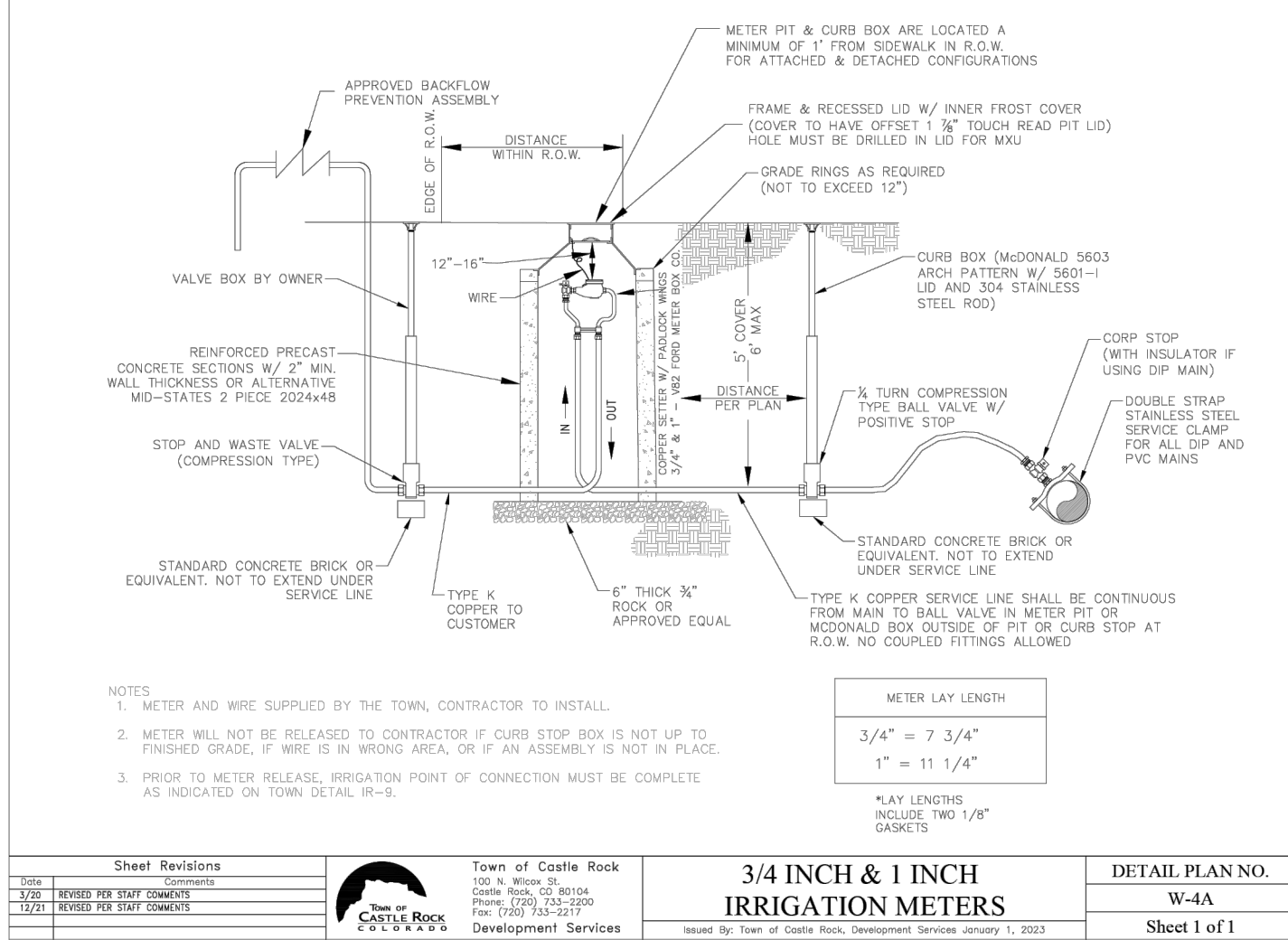
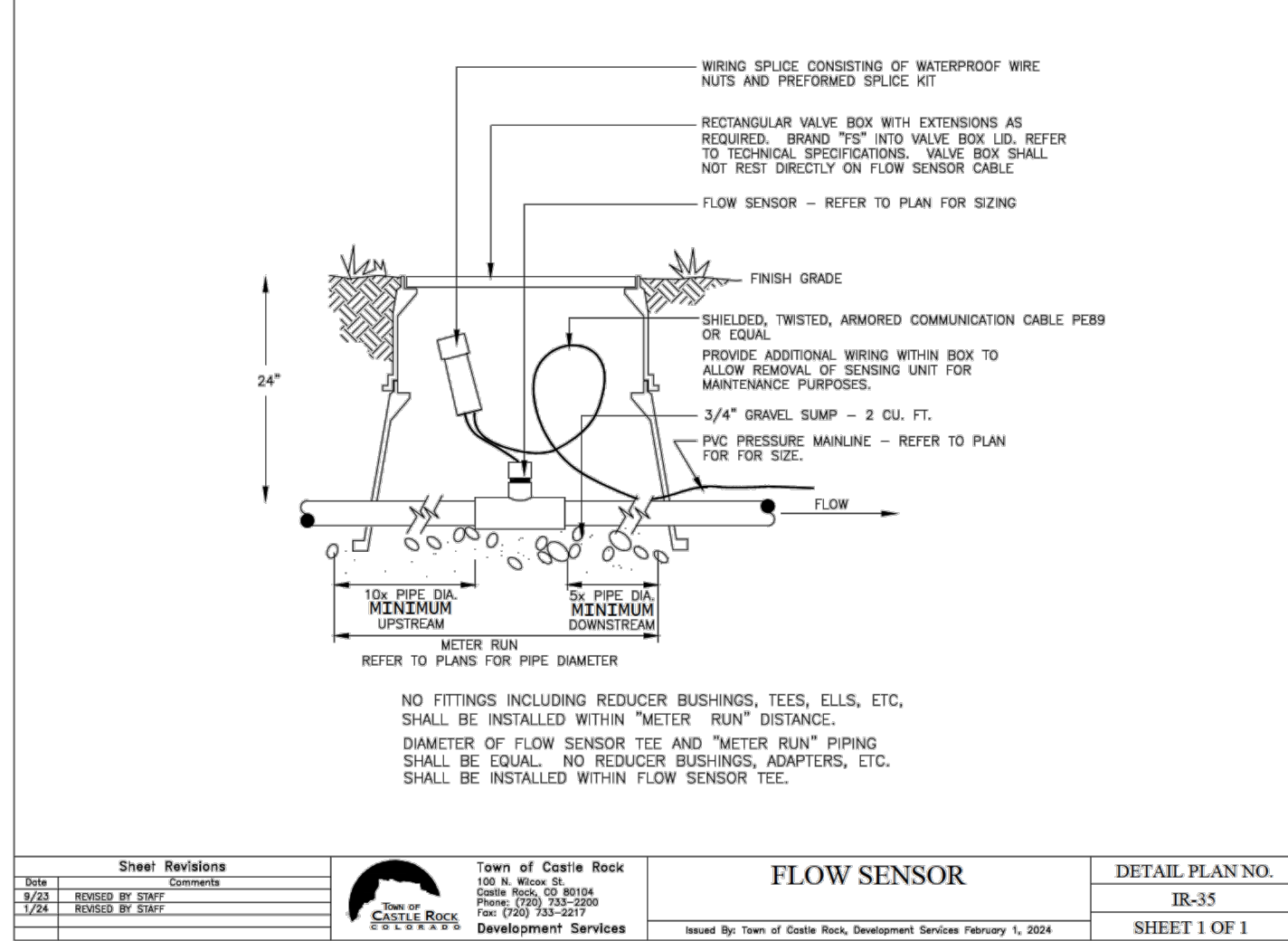
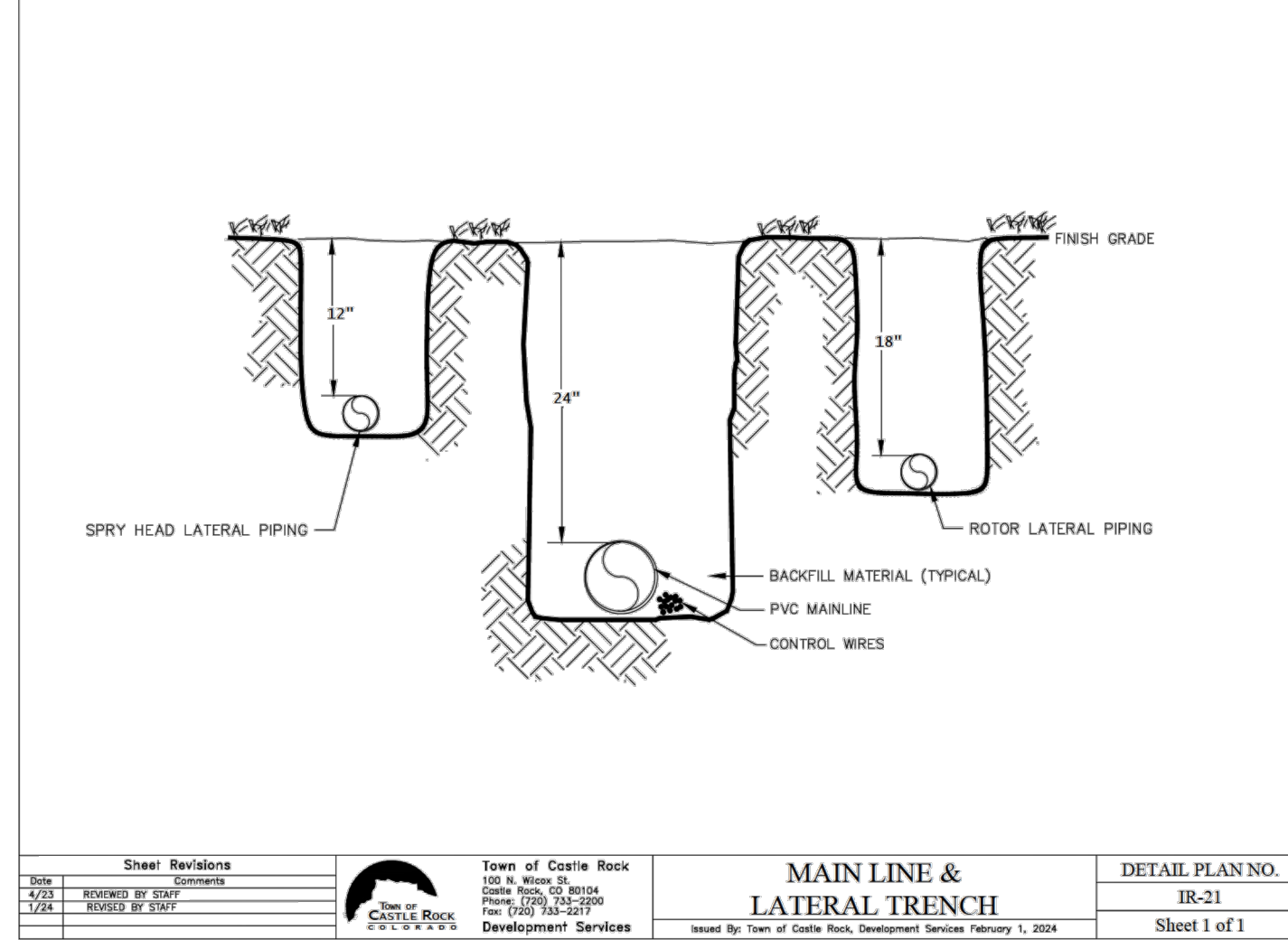


200 PEACH STREET
EL DORADO, AR 71730

SHEET NO.
IR-1



Irrigation System Hydraulic Worksheet									
Project Name:		Murphy Oil USA, Inc.			Date:		December 2, 2024		
Project Location:		186 Metzler Drive Castle Rock, CO							
Prepared by:		Galloway and Company			Current TOCR Registration #				
Tap Size		1.00"			Source of Pressure		Water Main		
Static Water Pressure:		80 psi							
Hydraulic Grade At Zone:		6285'			Company		Murphy Oil USA, Inc.		
Service Line to (meter):		Pipe Size (")		K Copper		Friction Loss (from chart)		Flow-GPM	
Water Meter:		15 LF		1.00		4.95 /100 FT		13	
Service Line (meter to backflow):		5 LF		1.00		4.95 /100 FT		13	
Backflow:		1.00		1		13		1.00	
Master Valve:		1		1		13		1.00	
Pressure Required at Head:								40	
Lateral Allowance:								1.50	
Control Valve Allowance:								1.50	
Mainline Allowances:								1.50	
Length of Mainline		Pipe Material		Size		Gals.		GPM	
195 LF CL2008E		195 LF CL2008E		1.000" @		13		3.58 /100 FT	
Elevation:		Tap elevation		6.266		High/Low:		6.264	
								-0.87	
Green shading indicates required information you must provide									
Total System requirements (PSI)		54.61							
Available System Pressure (PSI)		80.00							
Town of Castle Rock provides a minimum of 43 psi									
Total Irrigated area for tap # _____ is 18,437 sq. ft. 1									



IRRIGATION CHART									
Registered Professional: Galloway and Company Registration #: 15-1475 Date: 12/22/2023									
Company Name: Galloway & Company Address: 5200 Greenwood Plaza Blvd, Suite 200, Greenwood Village, CO 80111									
Phone: 303.773.8888 Email: gallowayandcompany@gmail.com Cook Note: EXISTING									
Monday, Wednesday, Friday (week ends of 1-2) & Tuesday, Thursday, Saturday (week ends of 1-2)									
Zone	Hydrozone	Plant Type	Head Type	Nozzle	App. Rate	GPM	Inches/Month	Run Time	Water Usage
E1	MEDIUM	TURF	Pico-Spray PRESS IRRIGATOR	0.4	12	3.5	326	81	3,605
E2	MEDIUM	TURF	Pico-Spray PRESS IRRIGATOR	0.4	12	3.5	326	81	3,605
E3	LOW	SHRUBS	CRIP	0.5	3	4	480	48	1,700
E4	LOW	SHRUBS	CRIP	0.5	4	4	480	48	2,001
E5	LOW	SHRUBS	CRIP	0.5	2	4	480	48	964
E6	LOW	SHRUBS	CRIP	0.5	1	4	480	48	480
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
Total							Min/month 2,010	Min/cycle 207	Gallons/month 10,341

TOWN APPROVAL BLOCK

TOWN OF CASTLE ROCK APPROVAL
PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM
DATE OF DEVELOPMENT SERVICES APPROVAL

APPROVED BY:

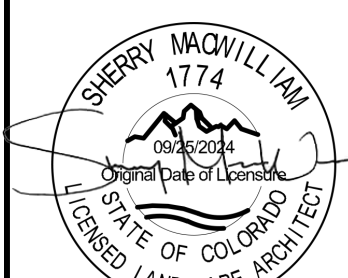
DEVELOPMENT SERVICES DATE

CAUTION - NOTICE TO CONTRACTOR

- ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT. PRIOR TO CONSTRUCTION, REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
- WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.



Know what's below.
Call before you dig.

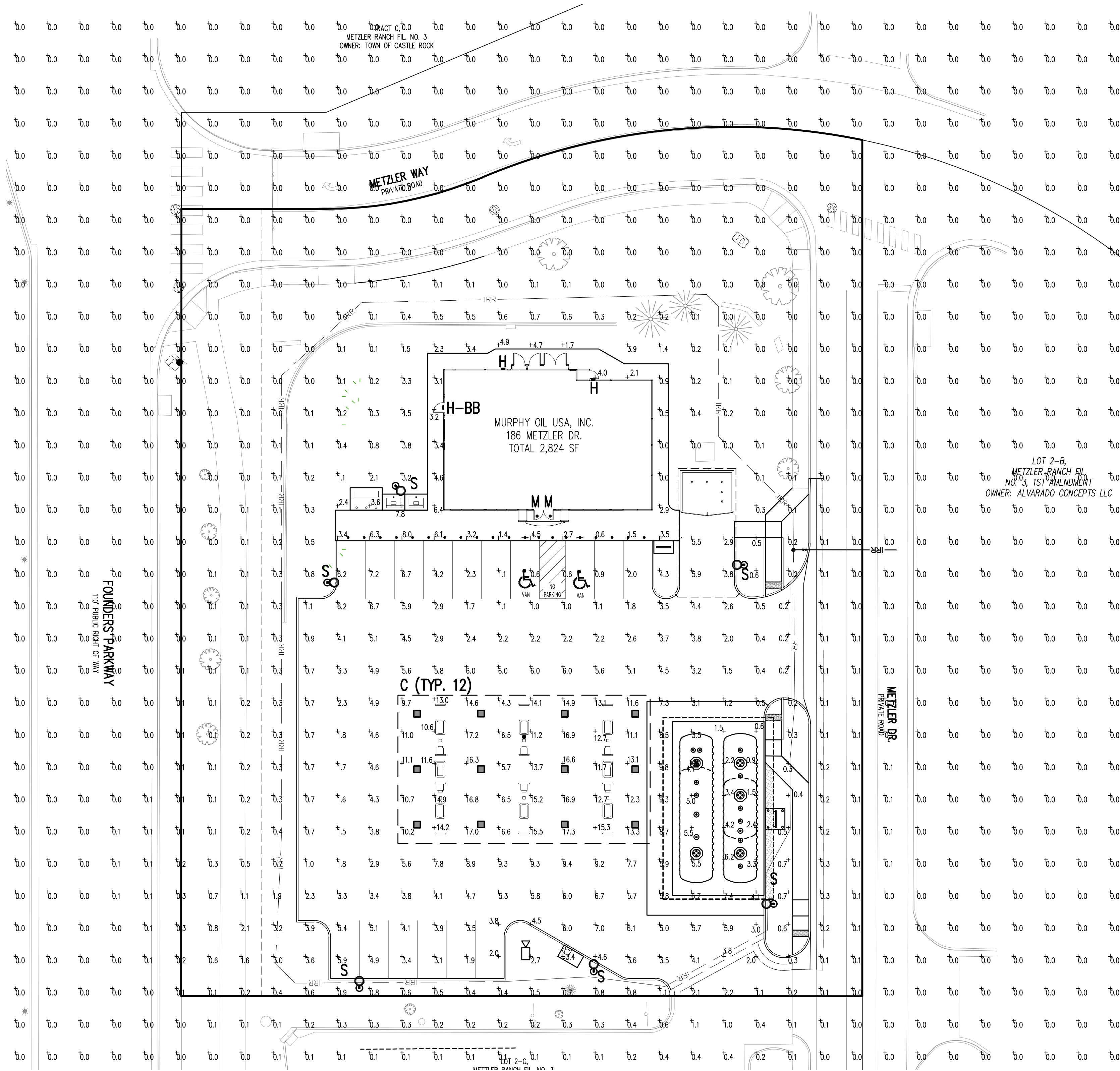
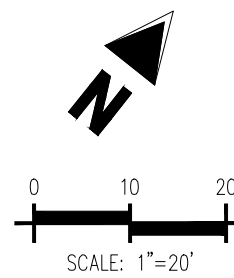


IRRIGATION NOTES
MURPHY USA (NTI)
186 METZLER DRIVE
CASTLE ROCK
COLORADO

Galloway
1155 Kelly Johnson Blvd, Suite 305
Colorado Springs, CO 80920
719.590.7220
Kyle Goodman, P.E.
GallowayUS.com

MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730

SHEET NO. IR-2
SHEET 24 of 27



- LIGHTING STANDARD NOTES:**
1. LIGHT LOSS FACTOR OF 1.0 USED FOR THIS STUDY. REFER TO LUMINARY SCHEDULE THIS SHEET
 2. ALL LIGHTS, EXCEPT THOSE REQUIRED FOR SECURITY PURPOSES, TO BE EXTINGUISHED BY A TIME CLOCK ONE HOUR AFTER CLOSE OF BUSINESS.
 3. ALL LIGHTING DESIGNED TO ENSURE PERSONAL SAFETY AND PREVENT MOTOR VEHICLE AND PEDESTRIAN CONFLICTS BY REDUCING THE NEGATIVE EFFECTS OF GLARE, LIGHT POLLUTION, AND LIGHT TRESPASS. FOR THIS SITE LIGHT ASSEMBLIES WERE PLACED TO ILLUMINATE THE AREAS OF GREATEST CONCERN FOR SAFETY. THESE AREAS ARE THE GASOLINE PUMPS UNDER THE CANOPY, THE AREA SURROUNDING THE TRASH ENCLOSURE, CUSTOMER PARKING, UNDERGROUND TANKS AREA TO ENSURE ILLUMINATION DURING ALL WEATHER FOR SAFE FILLING, THE VACUUM AND AIR STATION, AND ALL SITE APPURTENANCES THAT MAYBE UTILIZED BY CUSTOMER
 4. LIGHT TRESPASS TO ADJACENT PROPERTIES MITIGATED BY UTILIZING FULL CUT-OFF FIXTURES THROUGHOUT THE SITE AND ORIENTATING ALL FIXTURES IN TOWARDS THE SITE AND USING A TYPE III DISTRIBUTION WITH BACK LIGHT CONTROL OPTION ON ALL SITE AREA LIGHT FIXTURES.
 5. THE FOLLOWING TYPES OF LIGHTS ARE PROHIBITED:
FORWARD THROW (TYPE IV) DISTRIBUTION, POLE-MOUNTED LIGHTS AIMED AT A BUILDING FACADE, AND UNSHIELDED WALL PACKS



FIXTURE "S": AREA/SITE POLE ASSEMBLY
REFER TO LUMINARY SCHEDULE THIS SHEET FOR MORE INFORMATION



FIXTURE "C": CANOPY FIXTURE
REFER TO LUMINARY SCHEDULE THIS SHEET FOR MORE INFORMATION



FIXTURE "H" & "H-BB": WALL FIXTURE
REFER TO LUMINARY SCHEDULE THIS SHEET FOR MORE INFORMATION



FIXTURE "M": EGRESS SOFFIT FIXTURE
REFER TO LUMINARY SCHEDULE THIS SHEET FOR MORE INFORMATION

Calculation Summary							
Label	Calc Type	Units	Average (AVG)	Min	Max	AVG/Min	Max/Min
CANOPY INFLUENCE AREA	Illuminance	FC	12.75	7.3	17.3	1.75:1	2.37:1
PARKING AREA	Illuminance	FC	3.55	8.0	0.6	5.92:1	13.33:1

1 PHOTOMETRIC SITE PLAN
SCALE: 1"=20'-0"

LUMINAIRE SCHEDULE							
MOUNTING CONFIG	SYMBOL	QTY	ASSEMBLY HEIGHT	POLE HEIGHT	LUMENS	TOTAL WATTS	MODEL NUMBER
S		6	19'-6"	19'-6"	8469	159	RA252-72L-615-SK7-3-UNV-DBS-BC-HA11L-W
C		12	15'-0"	N/A	5539	38	CRUS-SC-LED-SLW-50-UE-WHT-DFL
H		2	8'-3"	N/A	3081	23	XWM 3 LED 03L 50 UE BRZ
H-BB		1					XWM 3 LED 03L 50 UE BRZ CWBB
M		2	8'-8"	N/A	2333	22	LC06LED25LUNVDM135WF
							TRSRWHHAZ EM

POLE SCHEDULE				
MOUNTING CONFIG	SYMBOL	QTY	POLE HEIGHT	MODEL NUMBER
S		6	19'-6"	HSA20-534188-SA-HA11LRA25-DBS

TOWN APPROVAL BLOCK

TOWN OF CASTLE ROCK APPROVAL
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DATE OF DEVELOPMENT SERVICES APPROVAL

APPROVED BY:

DEVELOPMENT SERVICES DATE:

PROFESSIONAL ENGINEER CERTIFICATION

I HEREBY AFFIRM THAT THESE FINAL CONSTRUCTION PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION, IN ACCORDANCE WITH ALL APPLICABLE TOWN OF CASTLE ROCK AND STATE OF COLORADO STANDARDS AND STATUTES, RESPECTIVELY; AND THAT I AM FULLY RESPONSIBLE FOR ALL DESIGN AND REVISIONS RELATIVE TO SAID PLANS.

KYLE R. GOODWIN
REGISTERED PROFESSIONAL ENGINEER # 63208

8/22/2025
DATE