SHELTER HILL
POWDER MOUNTAIN RESORT

LOCATED IN THE EAST HALF OF SECTION 8, AND THE WEST HALF OF SECTION 9,
TOWNSHIP 7 NORTH, RANGE 2 EAST,
SALT LAKE BASE AND MERIDIAN,
WEBER COUNTY, UTAH

SHEET INDEX

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
COVER SHEET

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
10/2
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 400'
0 100' 200' 400' 600'

CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

SHEET NUMBER
C000
1 OF 38

DATE: 1/13/2025 2:42 PM

PATH: N:\SLB\793\Cadd\24-210-01 - Shelter Hill\Cadd\Ip\C000 COVER SHEET.dwg

GENERAL NOTES

1. ALL CONSTRUCTION MUST STRICTLY FOLLOW THE STANDARDS AND SPECIFICATIONS SET FORTH BY: GOVERNING UTILITY MUNICIPALITY, GOVERNING CITY OR COUNTY (IF UN-INCORPORATED), INDIVIDUAL PRODUCT MANUFACTURERS, THE DESIGN ENGINEER, AND AMERICAN PUBLIC WORKS ASSOCIATION (APWA). THE ORDER LISTED ABOVE IS ARRANGED BY SENIORITY. IF A CONSTRUCTION PRACTICE IS NOT SPECIFIED BY ANY OF THE LISTED SOURCES, CONTRACTOR MUST CONTACT DESIGN ENGINEER FOR DIRECTION.
2. CONTRACTOR TO STRICTLY FOLLOW GEOTECHNICAL RECOMMENDATIONS FOR THIS PROJECT. ALL GRADING INCLUDING BUT NOT LIMITED TO CUT, FILL, COMPACTION, ASPHALT SECTION, SUBBASE, TRENCH EXCAVATION/BACKFILL, SITE GRUBBING, RETAINING WALLS AND FOOTINGS MUST BE COORDINATED DIRECTLY WITH THE PROJECT GEOTECHNICAL ENGINEER.
3. TRAFFIC CONTROL, STRIPING & SIGNAGE TO CONFORM TO CURRENT UDOT TRANSPORTATION ENGINEER'S MANUAL AND MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.
5. CONSULT ALL OF THE DRAWINGS AND SPECIFICATIONS FOR COORDINATION REQUIREMENTS BEFORE COMMENCING CONSTRUCTION.
6. AT ALL LOCATIONS WHERE EXISTING PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE.
7. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT, ADOPTED EDITION OF ADA ACCESSIBILITY GUIDELINES.
8. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED THOROUGHLY REVIEWED PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
9. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND NOTIFYING ENGINEER OR INSPECTING AUTHORITY 48 HOURS IN ADVANCE OF COVERING UP ANY PHASE OF CONSTRUCTION REQUIRING OBSERVATION.
10. ANY WORK IN THE PUBLIC RIGHT-OF-WAY WILL REQUIRE PERMITS FROM THE APPROPRIATE, CITY, COUNTY OR STATE AGENCY CONTROLLING THE ROAD, INCLUDING OBTAINING REQUIRED INSPECTIONS.
11. ALL DIMENSIONS, GRADES & UTILITY DESIGNS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES.
12. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING AND BRING UP ANY QUESTIONS BEFOREHAND.
13. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH BY THE GEOTECHNICAL ENGINEER.
14. CATCH SLOPES SHALL BE GRADED AS SPECIFIED ON GRADING PLANS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FLAGGING, CAUTION SIGNS, LIGHTS, BARRICADES, FLAGPERSONS, AND ALL OTHER DEVICES NECESSARY FOR PUBLIC SAFETY.
16. CONTRACTOR SHALL, AT THE TIME OF BIDDING AND THROUGHOUT THE PERIOD OF THE CONTRACT, BE LICENSED IN THE STATE OF UTAH AND SHALL BE BONDABLE FOR AN AMOUNT EQUAL TO OR GREATER THAN THE AMOUNT BID AND TO DO THE TYPE OF WORK CONTEMPLATED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PLANS AND SPECIFICATIONS.
17. CONTRACTOR SHALL INSPECT THE SITE OF THE WORK PRIOR TO BIDDING TO SATISFY THEM BY PERSONAL EXAMINATION OR BY SUCH OTHER MEANS AS THEY MAY PREFER OF THE LOCATION OF THE PROPOSED WORK AND OF THE ACTUAL CONDITIONS OF AND AT THE SITE OF WORK. IF, DURING THE COURSE OF THEIR EXAMINATION, A BIDDER FINDS FACTS OR CONDITIONS WHICH APPEAR TO THEM TO BE IN CONFLICT WITH THE LETTER OR SPIRIT OF THE PROJECT PLANS AND SPECIFICATIONS, THEY SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION AND EXPLANATION BEFORE SUBMITTING THEIR BID. SUBMISSION OF A BID BY THE CONTRACTOR SHALL CONSTITUTE ACKNOWLEDGMENT THAT, IF AWARDED THE CONTRACT, THEY HAVE RELIED AND ARE RELYING ON THEIR OWN EXAMINATION OF (1) THE SITE OF THE WORK, (2) ACCESS TO THE SITE, AND (3) ALL OTHER DATA AND MATTERS REQUISITE TO THE FULFILLMENT OF THE WORK AND ON THEIR OWN KNOWLEDGE OF EXISTING FACILITIES ON AND IN THE VICINITY OF THE SITE OF THE WORK TO BE CONSTRUCTED UNDER THIS CONTRACT. THE INFORMATION PROVIDED BY THE ENGINEER IS NOT INTENDED TO BE A SUBSTITUTE FOR, OR A SUPPLEMENT TO, THE INDEPENDENT VERIFICATION BY THE CONTRACTOR TO THE EXTENT SUCH INDEPENDENT INVESTIGATION OF SITE CONDITIONS IS DEEMED NECESSARY OR DESIRABLE BY THE CONTRACTOR. CONTRACTOR SHALL ACKNOWLEDGE THAT THEY HAVE NOT RELIED SOLELY UPON OWNER OR ENGINEER FURNISHED INFORMATION REGARDING SITE CONDITIONS IN PREPARING AND SUBMITTING THEIR BID.
18. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL WATER, POWER, SANITARY FACILITIES AND TELEPHONE SERVICES AS REQUIRED FOR THE CONTRACTOR'S USE DURING CONSTRUCTION.
19. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OWNER, ENGINEER, AND/OR GOVERNING AGENCIES.
20. CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCH MARKS, CONTROL POINTS, REFERENCE POINTS AND ALL SURVEY STAKES, AND SHALL BEAR ALL EXPENSES FOR REPLACEMENT AND/OR ERRORS CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.
21. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER; ALL RE-TESTING AND/OR RE-INSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.
23. IF EXISTING IMPROVEMENTS NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS TO BE CONSTRUCTED BY THESE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING OR REPAIRING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND/OR REPLACEMENT. THERE WILL BE NO EXTRA COST DUE TO THE CONTRACTOR FOR REPLACING OR REPAIRING EXISTING IMPROVEMENTS.
24. WHENEVER EXISTING FACILITIES ARE REMOVED, DAMAGED, BROKEN, OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE PLANS OR SPECIFICATIONS, SAID FACILITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITH MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL EXISTING FACILITIES. THE FINISHED PRODUCT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, THE ENGINEER, AND THE RESPECTIVE REGULATORY AGENCY.
25. CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL-SIZE AS-BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL STRUCTURES AND OTHER FACILITIES. AS-BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER ONE SET OF NEATLY MARKED AS-BUILT RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. AS-BUILT RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE AS-BUILT RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.
26. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.

GENERAL NOTES CONT.

27. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PROJECT PLANS AND SPECIFICATIONS. THEREFORE, THE OWNER IS RELYING UPON THE EXPERIENCE AND EXPERTISE OF THE CONTRACTOR. PRICES PROVIDED WITHIN THE CONTRACT DOCUMENTS SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THE TRUE INTENT AND PURPOSE OF THESE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE COMPETENT, KNOWLEDGEABLE AND HAVE SPECIAL SKILLS IN THE NATURE, EXTENT AND INHERENT CONDITIONS OF THE WORK TO BE PERFORMED. CONTRACTOR SHALL ALSO ACKNOWLEDGE THAT THERE ARE CERTAIN PECULIAR AND INHERENT CONDITIONS EXISTENT IN THE CONSTRUCTION OF THE PARTICULAR FACILITIES WHICH MAY CREATE, DURING THE CONSTRUCTION PROGRAM, UNUSUAL OR UNSAFE CONDITIONS HAZARDOUS TO PERSONS, PROPERTY AND THE ENVIRONMENT. CONTRACTOR SHALL BE AWARE OF SUCH PECULIAR RISKS AND HAVE THE SKILL AND EXPERIENCE TO FORESEE AND TO ADOPT PROTECTIVE MEASURES TO ADEQUATELY AND SAFELY PERFORM THE CONSTRUCTION WORK WITH RESPECT TO SUCH HAZARDS.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL STRIPING AND/OR PAVEMENT MARKINGS NECESSARY TO TIE EXISTING STRIPING INTO FUTURE STRIPING. METHOD OF REMOVAL SHALL BE BY GRINDING OR SANDBLASTING.
29. CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SLOPING OR OTHER PROVISIONS NECESSARY TO PROTECT WORKMEN FOR ALL AREAS TO BE EXCAVATED TO A DEPTH OF 4 FEET OR MORE. FOR EXCAVATIONS 4 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL COMPLY WITH INDUSTRIAL COMMISSION OF UTAH SAFETY ORDERS SECTION 68 – EXCAVATIONS, AND SECTION 69 – TRENCHES, ALONG WITH ANY LOCAL CODES OR ORDINANCES.
30. ALL EXISTING GATES AND FENCES TO REMAIN UNLESS OTHERWISE NOTED ON PLANS. PROTECT ALL GATES AND FENCES FROM DAMAGE.

UTILITY NOTES

1. CONTRACTOR SHALL COORDINATE LOCATION OF NEW "DRY UTILITIES" WITH THE APPROPRIATE UTILITY COMPANY, INCLUDING BUT NOT LIMITED TO: TELEPHONE SERVICE, GAS SERVICE, CABLE, POWER, INTERNET.
2. EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS USING A COMBINATION OF ON-SITE SURVEYS (BY OTHERS). PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD, THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY BLUE STAKES AT 1-800-662-4111 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE BLUE STAKES ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER AND ENGINEER PRIOR TO ANY EXCAVATION. IT WILL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DIRECTLY CONTACT ANY OTHER UTILITY COMPANIES THAT ARE NOT MEMBERS OF BLUE STAKES. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE PROJECT.
3. CONTRACTOR SHALL POT HOLE ALL UTILITIES TO DETERMINE IF CONFLICTS EXIST PRIOR TO BEGINNING ANY EXCAVATION. NOTIFY ENGINEER OF ANY CONFLICTS. CONTRACTOR SHALL VERIFY LOCATION AND INVERTS OF EXISTING UTILITIES TO WHICH NEW UTILITIES WILL BE CONNECTED. PRIOR TO COMMENCING ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE REQUIRED PROCEDURES.
4. CARE SHOULD BE TAKEN IN ALL EXCAVATIONS DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES. EXCAVATION REQUIRED WITHIN PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT THEIR EXPENSE.
5. ALL VALVES AND MANHOLE COVERS SHALL BE RAISED OR LOWERED TO MEET FINISHED GRADE.
6. CONTRACTOR SHALL CUT PIPES OFF FLUSH WITH THE INSIDE WALL OF THE BOX OR MANHOLE.
7. CONTRACTOR SHALL GROUT AT CONNECTION OF PIPE TO BOX OR MANHOLE WITH NON-SHRINKING GROUT, INCLUDING PIPE VOIDS LEFT BY CUTTING PROCESS, TO A SMOOTH FINISH.
8. CONTRACTOR SHALL GROUT WITH NON-SHRINK GROUT BETWEEN GRADE RINGS AND BETWEEN BOTTOM OF INLET LID FRAME AND TOP OF CONCRETE BOX.
9. SILT AND DEBRIS IS TO BE CLEANED OUT OF ALL STORM DRAIN BOXES. CATCH BASINS ARE TO BE MAINTAINED IN A CLEANED CONDITION AS NEEDED UNTIL AFTER THE FINAL BOND RELEASE INSPECTION.
10. CONTRACTOR SHALL CLEAN ASPHALT, TAR OR OTHER ADHESIVES OFF OF ALL MANHOLE LIDS AND INLET GRATES TO ALLOW ACCESS.
11. EACH TRENCH SHALL BE EXCAVATED SO THAT THE PIPE CAN BE LAID TO THE ALIGNMENT AND GRADE AS REQUIRED. THE TRENCH WALL SHALL BE SO BRACED THAT THE WORKMEN MAY WORK SAFELY AND EFFICIENTLY. ALL TRENCHES SHALL BE DRAINED SO THE PIPE LAYING MAY TAKE PLACE IN DEWATERED CONDITIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF DEWATERING AND NO COST CHANGE WILL BE PROVIDED.
12. CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES AMPLE MEANS AND DEVICES WITH WHICH TO REMOVE PROMPTLY AND TO PROPERLY DISPOSE OF ALL WATER ENTERING THE TRENCH EXCAVATION.
13. MAINTAIN A MINIMUM 18" VERTICAL SEPARATION DISTANCE BETWEEN ALL UTILITY CROSSINGS. AT WATER/SEWER CROSSINGS, WATER IS REQUIRED TO CROSS ABOVE SANITARY SEWER UNLESS AN EXCEPTION HAS BEEN GRANTED BY THE UTAH DIVISION OF DRINKING WATER.
14. CONTRACTOR SHALL START INSTALLATION AT LOW POINT OF ALL NEW GRAVITY UTILITY LINES.
15. ALL BOLTED FITTINGS MUST BE GREASED AND WRAPPED.
16. UNLESS SPECIFICALLY NOTED OTHERWISE, MAINTAIN AT LEAST 2 FEET OF COVER OVER ALL STORM DRAIN LINES AT ALL TIMES (INCLUDING DURING CONSTRUCTION).
17. ALL WATER LINES SHALL BE INSTALLED A MINIMUM OF 84" OF COVER TO TOP OF PIPE BELOW FINISHED GRADE AND BE INSULATED PER WATER DISTRICT STANDARDS..
18. ALL SEWER LINES AND SEWER SERVICES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET, PIPE EDGE TO PIPE EDGE, FROM THE WATER LINES.
19. CONTRACTOR SHALL INSTALL THRUST BLOCKING AT ALL WATERLINE ANGLE POINTS, CROSSES AND TEES.
20. ALL UNDERGROUND UTILITIES SHALL BE IN PLACE PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK AND STREET PAVING.
21. CONTRACTOR SHALL INSTALL MAGNETIC LOCATING TAPE CONTINUOUSLY OVER ALL NONMETALLIC PIPE.
22. THE CONTRACTOR SHALL NOTIFY TALISMAN CIVIL CONSULTANTS, LLC. IN WRITING AT LEAST 48 HOURS PRIOR TO BACKFILLING OF ANY PIPE WHICH STUBS TO A FUTURE PHASE OF CONSTRUCTION FOR INVERT VERIFICATION. TOLERANCE SHALL BE IN ACCORDANCE WITH THE REGULATORY AGENCY STANDARD SPECIFICATIONS.
23. UNDER NO CIRCUMSTANCE SHALL THE PIPE OR ACCESSORIES BE DROPPED INTO THE TRENCH.
24. THE CONTRACTOR SHALL MARK ALL UNDERGROUND UTILITIES IN LOCATIONS WHERE UTILITIES ARE NOT LOCATED WITHIN A ROADWAY. THE CONTRACTOR SHALL MARK UTILITIES AT ANGLE POINTS, PCs, AND PTs WITH A 2' REBAR STAKE INSTALLED FLUSH TO GRADE. SURVEY ALL LOCATIONS AND PROVIDE GPS COORDINATES WITH AS-BUILT DRAWINGS.
25. ANY CHANGES TO THE ROAD GRADE OR PROFILE NEED TO BE APPROVED BY POWDER MOUNTAIN AND PROJECT ENGINEER, AS THIS MAY AFFECT THE FINAL BURY DEPTH OF WATER LINES.
26. PROVIDE AND INSTALL FIRE HYDRANT IDENTIFICATION FLAGS ON ALL FIRE HYDRANTS WITHIN PROJECT PER POWDER MOUNTAIN RECOMMENDATIONS.
27. ALL FLUSHING SHALL BE OVERSEEN BY PMWSID. PROVIDE 48 HOURS NOTICE PRIOR TO FLUSHING.
28. ALL WORK ON WATER AND SEWER INFRASTRUCTURE REQUIRES INSPECTION BY PMWSID. PROVIDE 48 HOURS NOTICE PRIOR TO WORK COMMENCEMENT.
29. NO CONSTRUCTION WATER SHALL BE TAKEN FROM THE EXISTING WATER SYSTEM WITHOUT APPROVAL FROM THE DISTRICT.

LEGEND:

SYMBOL / LINETYPE	DESCRIPTION	DETAIL
—8"W—	PROPOSED 8"ø DR-13.5 HDPE WATER PIPE	PMWSID PLAN DW-1
—10"W—	PROPOSED 10"ø DR-13.5 HDPE WATER PIPE	PMWSID PLAN DW-1
—12"W—	PROPOSED 12"ø DR-13.5 HDPE WATER PIPE	PMWSID PLAN DW-1
—2"W—	PROPOSED 2"ø WATER SERVICE LATERAL	PMWSID PLAN DW-2
Ⓦ	PROPOSED AIR RELEASE ASSEMBLY	PMWSID PLAN DW-5
W	PROPOSED WATER METER	PMWSID PLAN DW-2
▲	PROPOSED WATER LINE REDUCER	PMWSID PLAN DW-1
⋈	PROPOSED WATER VALVE	PMWSID PLAN DW-1
	PROPOSED FIRE HYDRANT ASSEMBLY	PMWSID PLAN DW-4a
—8"SS PVC—	PROPOSED 8"ø SDR35 PVC SEWER PIPE	PMWSID PLAN SS-1
—(1)SS-P—	PROPOSED 6"ø DR-11 HDPE PRESSURE SEWER PIPE	N/A
—(2)SS-P—	PROPOSED (2) 6"ø DR-11 HDPE PRESSURE SEWER PIPES	N/A
—⊗—	PROPOSED PVC SANITARY SEWER LATERAL	PMWSID PLAN SS-3
Ⓢ	PROPOSED 4'ø SANITARY SEWER MANHOLE	PMWSID PLAN SS-2
SS	PROPOSED 5'ø SANITARY SEWER MANHOLE	PMWSID PLAN SS-2
—18"SD—	PROPOSED 18"ø CORRUGATED HDPE DRAINAGE PIPE	APWA PLAN NO. 381 & 382
—24"SD—	PROPOSED 24"ø CORRUGATED HDPE DRAINAGE PIPE	APWA PLAN NO. 381 & 382
—30"SD—	PROPOSED 30"ø CORRUGATED HDPE DRAINAGE PIPE	APWA PLAN NO. 381 & 382
Ⓓ	PROPOSED STORM DRAIN MANHOLE	APWA PLAN NO. 341.1
▤	PROPOSED CATCH BASIN	2'x3' OLDCASTLE PRECAST
▤▤	PROPOSED DOUBLE GRATE CATCH BASIN	APWA PLAN NO. 315.2
—(1)2"COM—	PROPOSED TELECOMMUNICATION CONDUIT (1)2"ø	N/A
TL	PROPOSED TELECOMMUNICATION PULL BOX	N/A
—(2) 6" P—	PROPOSED ELECTRICAL CONDUIT (2)6"ø	N/A
E	PROPOSED ELECTRICAL METER	N/A
TR	PROPOSED ELECTRICAL TRANSFORMER	N/A
— — — —	PROPOSED EASEMENT LINE	N/A
——— — — ———	PROPOSED LOT LINE	N/A
—8"W—	EXISTING 8"ø WATER LINE	N/A
—16"W—	EXISTING 16"ø WATER LINE	N/A
⋈	EXISTING WATER VALVE	N/A
	EXISTING FIRE HYDRANT	N/A
—15"SD—	EXISTING 15"ø STORM DRAIN LINE	N/A
Ⓓ	EXISTING STORM DRAIN MANHOLE	N/A
▤	EXISTING STORM DRAIN CATCH BASIN	N/A
—8"SS—	EXISTING 8"ø SANITARY SEWER LINE	N/A
Ⓢ	EXISTING SANITARY SEWER MANHOLE	N/A
—G—G—	EXISTING GAS PIPE/SLEEVE	N/A
—P—P—	EXISTING MISCELLANEOUS POWER CONDUIT	N/A
—(1)4"P—	EXISTING 4"ø POWER CONDUIT	N/A
—(1)2"COM—	EXISTING 2"ø COMMUNICATION CONDUIT	
+ + +	CLEAR AND GRUB	N/A
Ⓢ	EXISTING SANITARY SEWER MANHOLE TO BE REMOVED	N/A
🟩	PROPOSED SNOW STORAGE AREA	N/A

NOTE: LEGEND MAY CONTAIN SYMBOLS THAT ARE NOT USED IN PLAN SET.

EROSION CONTROL GENERAL NOTES

THE CONTRACTOR TO USE BEST MANAGEMENT PRACTICES FOR PROVIDING EROSION CONTROL FOR CONSTRUCTION OF THIS PROJECT. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO WEBER COUNTY ORDINANCES AND ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE COUNTY. INSPECTORS WILL HAVE THE RIGHT TO CHANGE THE FACILITIES AS NEEDED.

CONTRACTOR SHALL KEEP THE SITE WATERED TO CONTROL DUST. CONTRACTOR TO COORDINATE WITH PMWSID TO ARRANGE FOR CONSTRUCTION WATER AND WILL BE REQUIRED TO INSTALL TEMPORARY METER. CONSTRUCTION WATER COST TO BE INCLUDED IN BID.

WHEN GRADING OPERATIONS ARE COMPLETED AND THE DISTURBED GROUND IS LEFT "OPEN" FOR 14 DAYS OR MORE, THE AREA SHALL BE FURROWED PARALLEL TO THE CONTOURS.

THE CONTRACTOR SHALL MODIFY EROSION CONTROL MEASURES TO ACCOMMODATE PROJECT PLANNING.

ALL ACCESS TO PROPERTY WILL BE FROM PUBLIC RIGHT-OF-WAYS.

THE CONTRACTOR IS REQUIRED BY STATE AND FEDERAL REGULATIONS TO PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND FILE A "NOTICE OF INTENT" WITH THE UTAH DIVISION OF WATER QUALITY.

MAINTENANCE:

ALL BEST MANAGEMENT PRACTICES (BMP'S) SHOWN ON THIS PLAN MUST BE MAINTAINED AT ALL TIMES UNTIL VEGETATION IS RE-ESTABLISHED.

THE CONTRACTOR'S RESPONSIBILITY SHALL INCLUDE MAKING BI-WEEKLY CHECKS ON ALL EROSION CONTROL MEASURES TO DETERMINE IF REPAIR OR SEDIMENT REMOVAL IS NECESSARY. CHECKS SHALL BE DOCUMENTED AND COPIES OF THE INSPECTIONS KEPT ON SITE.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAIN EVENT. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF BARRIER.

SEDIMENT TRACKED ONTO PAVED ROADS MUST BE CLEANED UP AS SOON AS PRACTICAL, BUT IN NO CASE LATER THAN THE END OF THE NORMAL WORK DAY. THE CLEAN UP WILL INCLUDE SWEEPING OF THE TRACKED MATERIAL, PICKING IT UP, AND DEPOSITING IT TO A CONTAINED AREA.

EXPOSED SLOPES:

ANY EXPOSED SLOPE THAT WILL REMAIN UNTOUCHED FOR LONGER THAN 14 DAYS MUST BE STABILIZED BY ONE OR MORE OF THE FOLLOWING METHODS:

A) SPRAYING DISTURBED AREAS WITH A TACKIFIER VIA HYDROSEED
B) TRACKING STRAW PERPENDICULAR TO SLOPES
C) INSTALLING A LIGHT-WEIGHT, TEMPORARY EROSION CONTROL BLANKET

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

▨	HATCHING INDICATES AREAS TO RECEIVE 4" TOPSOIL AND TO BE SEEDED FOR NATURAL VEGETATION. AREAS RECEIVING SEEDING FOR NATURAL REVEGETATION MUST BE COVERED WITH AN EROSION CONTROL BLANKET AFTER THE FINAL GRADING AND SEEDING ARE FINISHED. INSTALL NORTH AMERICAN GREEN SC-150 BLANKET OR APPROVED EQUAL. FOLLOW MANUFACTURER'S SPECIFICATIONS. INSTALL NORTH AMERICAN GREEN P300 EROSION CONTROL BLANKET ON ALL SLOPES GREATER THAN 1.5:1.
▨	INSTALL 15' X 50' VEHICLE WASH DOWN AREA WITH 1"-2.5" COARSE AGGREGATE PLACED A MINIMUM 8" THICK. SUPPLY WATER FOR VEHICLE WASH DOWN.
▨	STABILIZED CONSTRUCTION ENTRANCE FOR SITE INGRESS/EGRESS. IF ALTERNATE ACCESS POINTS ARE APPROVED BY OWNER, ADDITIONAL STABILIZED CONSTRUCTION ENTRANCES WILL BE REQUIRED.
□	INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN.
—x—	INSTALL EARTH BERM ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN.
- - - -	INSTALL ORANGE SAFETY FENCING AROUND OUTER LIMITS OF PROJECT PRIOR TO GRADING.

EROSION CONTROL GENERAL NOTES CONT.

SEED MIX:

ANY EXPOSED SLOPE MUST BE RESEEDED BY SPRAYING DISTURBED AREAS WITH A TACKIFIER VIA HYDROSEED. USE THE FOLLOWING SEED MIXTURE.

i.	MOUNTAIN BROME	7.50 lb/AC
ii.	SLENDER WHEATGRASS	6.25 lb/AC
iii.	WESTERN WHEATGRASS	5.00 lb/AC
iv.	IDAHO FESCUE	2.50 lb/AC
v.	SANDBERG BLUEGRASS	1.25 lb/AC
vi.	BIG BLUEGRASS	1.25 lb/AC
vii.	BLUEBUNCH WHEATGRASS	1.25 lb/AC
viii	ROCKY MOUNTAIN PENSTEMON	1.00 lb/AC
ix.	MOUNTAIN LUPINE	2.00 lb/AC
x.	SHOWY GOLDENEYE	0.50 lb/AC
xi.	WESTERN YARROW	0.25 lb/AC
xii.	BLUE FLAX	1.25 lb/AC

CULINARY WATER NOTES

1. ALL MATERIALS THAT MAY COME IN CONTACT WITH DRINKING WATER, INCLUDING PIPES, GASKETS, LUBRICANTS AND O-RINGS, SHALL BE ANSI-CERTIFIED AS MEETING THE REQUIREMENTS OF ANSI/NSF STANDARD 61, DRINKING WATER SYSTEM COMPONENTS – HEALTH EFFECTS. TO PERMIT FIELD-VERIFICATION OF THIS CERTIFICATION, ALL COMPONENTS SHALL BE APPROPRIATELY STAMPED WITH THE NSF LOGO.
2. PIPE, JOINTS, FITTINGS, VALVES, AND FIRE HYDRANTS SHALL CONFORM TO ANSI/NSF STANDARD 61, AND APPLICABLE SECTIONS OF AWWA STANDARDS C104-A21.4-08 THROUGH C550-05 AND C900-07 THROUGH C950-07.
3. FOR PVC PIPE, ASTM D2774, RECOMMENDED PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING AND PVC PIPE AND AWWA MANUAL OF PRACTICE M23.
4. FOR HDPE PIPE, ASTM D2774, RECOMMENDED PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING AND AWWA MANUAL OF PRACTICE M55.
5. ALL TYPES OF INSTALLED PIPE SHALL BE PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C600-10.
6. THE OPEN ENDS OF ALL PIPELINES UNDER CONSTRUCTION SHALL BE COVERED AND EFFECTIVELY SEALED AT THE END OF THE DAY'S WORK.
7. ALL NEW WATER MAINS OR APPURTENANCES SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651-05 OR A METHOD APPROVED BY PMWSID.THE SPECIFICATIONS SHALL INCLUDE DETAILED PROCEDURES FOR THE ADEQUATE FLUSHING, DISINFECTION AND MICROBIOLOGICAL TESTING OF ALL WATER MAINS. ON ALL NEW AND EXTENSIVE DISTRIBUTION SYSTEM CONSTRUCTION, EVIDENCE OF SATISFACTORY DISINFECTION SHALL BE PROVIDED TO PMWSID. SAMPLES FOR COLIFORM ANALYSES SHALL BE COLLECTED AFTER DISINFECTION IS COMPLETE AND THE SYSTEM IS REFILLED WITH DRINKING WATER. A STANDARD HETEROTROPHIC PLATE COUNT IS ADVISABLE. THE USE OF WATER FOR PUBLIC DRINKING WATER PURPOSES SHALL NOT COMMENCE UNTIL THE BACTERIOLOGIC TESTS INDICATE THE WATER IS FREE FROM CONTAMINATION.

WEBER COUNTY

2380 WASHINGTON BLVD. #240
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(801) 399-8374

ROCKY MOUNTIAN POWER

1438 WEST 2550 SOUTH
OGDEN, UT 84401
(801) 629-4429

POWDER MOUNTAIN WATER & SEWER DISTRICT

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EDEN, UT 84310
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NO.	BY	DATE	REVISIONS:

POWDER MOUNTAIN
SHELTER HILL
GENERAL NOTES

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
1/10/25
STATE OF UTAH

SHEET NUMBER
C001
2 OF 37

DATE: 1/10/2025 11:37 AM

PATH: N:\SLB0793\Cadd\24-210-01 - Shelter Hill\Cadd\lp\C001 GENERAL NOTES.dwg

SEWER SPECIFICATIONS

PMWSID STANDARDS AND SPECIFICATIONS SHALL BE ADHERED TO THROUGHOUT CONSTRUCTION. BELOW ARE SUPPLEMENTAL SEWER SPECIFICATIONS THAT SHALL BE ADHERED TO.

303.7 CURVED GRAVITY FLOW MAIN LINES

A. GRAVITY FLOW MAIN LINES MAY BE DESIGNED AND CONSTRUCTED ON CURVILINEAR HORIZONTAL AND VERTICAL ALIGNMENTS ON A CASE BY CASE BASIS AS APPROVED BY PMWSID. IF THE USE OF CURVILINEAR LINES IS APPROVED THE FOLLOWING CRITERIA SHALL APPLY.

B. PIPE MATERIAL SHALL BE HDPE MEETING THE REQUIREMENTS OF SECTION 402.2.

C. THE NUMBER OF HORIZONTAL AND VERTICAL CURVES IN A LINE SEGMENT SHALL BE MINIMIZED.

D. ADDITIONAL CONSTRUCTION AND AS-CONSTRUCTED SURVEYING WILL BE REQUIRED TO PROVIDE ACCURATE LOCATION INFORMATION FOR THE AS-CONSTRUCTED LINE. THE INSTALLED PIPE MUST BE SURVEYED BY A QUALIFIED SURVEYOR EVERY 25' TO DETERMINE PROPER HORIZONTAL AND VERTICAL PLACEMENT. THIS INFORMATION SHALL BE INDICATED ON THE RECORD DRAWINGS.

E. MINIMUM SLOPE: 5% UNLESS THE FOLLOWING SPECIAL CONSTRUCTION PROCEDURES ARE USED IN WHICH CASE 3% MINIMUM.

1. INSTALLED PIPE MUST BE SURVEYED BY A QUALIFIED SURVEYOR EVERY 10' TO DEMONSTRATE THAT A 3% SLOPE IS MAINTAINED.
2. ANY LINE SEGMENT THAT HAS ANY PORTION OF THE SURVEYED LINE WITH A SLOPE LESS THAN 2.5% SHALL BE RE-INSTALLED.
3. SURVEY NOTES SHALL BE SUBMITTED TO PMWSID TO DEMONSTRATE COMPLIANCE WITH THESE REQUIREMENTS.
4. THE PARTY RESPONSIBLE FOR PERFORMING THE SURVEY AND SUBMITTING SURVEY NOTES SHALL BE DETERMINED DURING THE PRE-CONSTRUCTION MEETING.

G. MINIMUM RADIUS OF HORIZONTAL AND VERTICAL CURVES: 100' UNLESS SPECIFICALLY APPROVED BY THE DISTRICT ENGINEER IN WHICH CASE SPECIAL CONSTRUCTION PROCEDURES SIMILAR TO THOSE CONTAINED IN PARAGRAPH E SHALL BE USED. RADIUSES LESS THAN 50' SHALL NOT BE ALLOWED

H. THE CONSTRUCTION METHODS AND PROCEDURES THAT WILL BE USED TO ASSURE THAT THE LINES ARE CONSTRUCTED TO THE DESIGN HORIZONTAL AND VERTICAL ALIGNMENT SHALL BE SUBMITTED AND APPROVED BY PMWSID.

402.2 HIGH DENSITY POLYETHYLENE (HDPE) PIPE

A. MATERIALS: VIRGIN RESINS, CELL CLASSIFICATION MEETING OR EXCEEDING PE 345464C AS DEFINED IN ASTM D 3350, RESINS SHALL BE LISTED BY THE PLASTIC PIPE INSTITUTE IN ITS PIPE-GRADE REGISTRY TR-4.

B. PIPE AND FITTINGS:

1. ASTM MATERIAL DESIGNATION CODE: PE 3608/3408 OR PE 4710 HIGH DENSITY, EXTRA HIGH MOLECULAR WEIGHT.
2. SDR 17 IN ACCORDANCE WITH ASTM F 714.
3. OUTSIDE DIAMETER TO BE DUCTILE IRON PIPE SIZE (DIPS) OR IRON PIPE SIZE (IPS).
4. MARKED IN ACCORDANCE WITH ASTM F 714.
5. PIPE SHALL BE MANUFACTURED WITH AN INTEGRAL COLOR-CODED STRIPE OF HDPE, COLOR GREEN.

C. FITTINGS FOR PRIVATE LATERAL LINES:

1. NO MOLDED HDPE FITTINGS WILL BE ALLOWED.
2. 45-DEGREE BENDS SHALL BE FUSION WELDED SEAMLESS LONG RADIUS HDPE SWEEP BENDS, OR FUSION WELDED 3 SEGMENT FABRICATED HDPE FITTINGS.
3. WYES FOR CLEANOUTS SHALL BE FABRICATED FUSION WELDED FITTING.
4. THE SDR OF THE FITTING SHALL MATCH THE SDR OF THE ADJOINING PIPE.

D. JOINTS:

1. ZERO LEAK-RATE HEAT-FUSION JOINT CONFORMING TO ASTM D 3261.
2. HDPE GRAVITY LINES 8" AND LARGER SHALL HAVE THE INTERNAL BEAD RESULTING FROM THE HEAT-FUSION PROCESS REMOVED AND EXTRACTED FROM THE PIPE DURING THE COOLING STAGE OF THE FUSION PROCESS.
3. THE BEAD REMOVAL PROCESS SHALL BE IN ACCORDANCE WITH THE BEAD REMOVAL EQUIPMENT MANUFACTURER'S SPECIFICATIONS.
4. THE EXTRACTED FUSION BEAD SHALL BE SUBJECTED TO VISUAL INSPECTION AND VERIFICATION PER SECTION 516.8.

E. MINIMUM SLOPE REQUIREMENTS IN ACCORDANCE WITH SECTION 303.7 SHALL APPLY.

402.3 POLYVINYL CHLORIDE (PVC) PIPE

A. MATERIAL: PVC PLASTIC HAVING A CELL CLASSIFICATION OF 12364 OR 12454 AS DEFINED IN ASTM D1784

B. PIPE:

1. 4" THRU 15" DIAMETER: ASTM D 3034, SDR-35.
2. 18" THRU 48": ASTM F 679 (LARGE DIAMETER SOLID WALL), SDR 35.
3. MINIMUM PIPE STIFFNESS SHALL BE 46 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D 2412.

C. FITTINGS:

1. GASKETED SEWER FITTINGS CONFORMING TO ASTM F- 1336.
2. SOLVENT WELD PVC FITTINGS MEETING ASTM D3034 MAY BE USED ON 4" AND 6" PRIVATE LATERALS. GASKETED FITTINGS SHALL NOT BE USED FOR SOLVENT WELDING.

D. JOINTS:

1. INTEGRAL BELL GASKETED JOINTS CONFORMING TO ASTM D3212. RUBBER GASKETS SHALL BE FACTORY INSTALLED AND CONFORM TO ASTM F 477.
2. JOINTS ON 4" AND 6" DIAMETER PIPE MAY BE SOLVENT WELD JOINTS CONFORMING TO ASTM D 2855. A PURPLE PRIMER CONFORMING TO ASTM D 656 AND SOLVENT CEMENT NOT PURPLE IN COLOR AND CONFORMING TO ASTM 2564 SHALL BE USED.

E. PIPE LENGTHS SHALL NOT BE GREATER THAN 20 FEET.

F. PVC PIPE MEETING REQUIREMENTS OF ASTM D 1785, SCHEDULE 40 OR SCHEDULE 80, WITH EQUIVALENT GASKETED OR SOLVENT WELD FITTINGS, MAY BE USED FOR 4" AND 6" PRIVATE LATERAL WASTEWATER LINES.

516.8 VISUAL INSPECTION OF HEAT FUSED HDPE PIPE BEAD REMOVAL AND EXTRACTION

A. REMOVAL AND EXTRACTION OF THE HDPE PIPE INTERNAL BEAD RESULTING FROM THE HEAT FUSION JOINTING PROCESS SHALL BE REQUIRED FOR ALL GRAVITY FLOW HDPE PIPE.

B. AN PMWSID INSPECTOR MUST BE ON-SITE DURING THE FUSION OPERATION TO PERFORM THE VISUAL INSPECTION OF THE REMOVED AND EXTRACTED FUSION BEAD.

C. THE VISUAL INSPECTION SHALL INCLUDE:

1. VERIFICATION THAT COMPLETE INTERNAL FUSION BEAD REMOVAL WAS PERFORMED.
2. THE EXTRACTED INTERNAL FUSION BEAD APPEARANCE SHALL HAVE THE SAME DOUBLE ROLL BACK APPEARANCE AS THE EXTERNAL FUSION BEAD.
3. THE EXTRACTED INTERNAL FUSION BEAD SHALL POSSESS A SMOOTH ROOT CUT.
4. REMOVAL OF THE INTERNAL BEAD MAY INCLUDE PIPE WALL MASS. HOWEVER, ANY WALL MASS THAT IS REMOVED SHALL NOT EXCEED 1/10TH OF THE PIPE WALL THICKNESS.

D. ANY JOINTS NOT MEETING THE VISUAL INSPECTION REQUIREMENTS SHALL HAVE THE JOINT CUT OUT, A NEW HEAT FUSION JOINT MADE, AND THE INTERIOR BEAD REMOVED AND EXTRACTED.

TALISMAN
CIVIL CONSULTANTS
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NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
GENERAL NOTES

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
10/2
STATE OF UTAH

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NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
OVERALL SITE PLAN

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
BRYAN W. CATHEY
1/10/25
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 250'
0 62.5' 125' 250' 375'

SHEET NUMBER
C200
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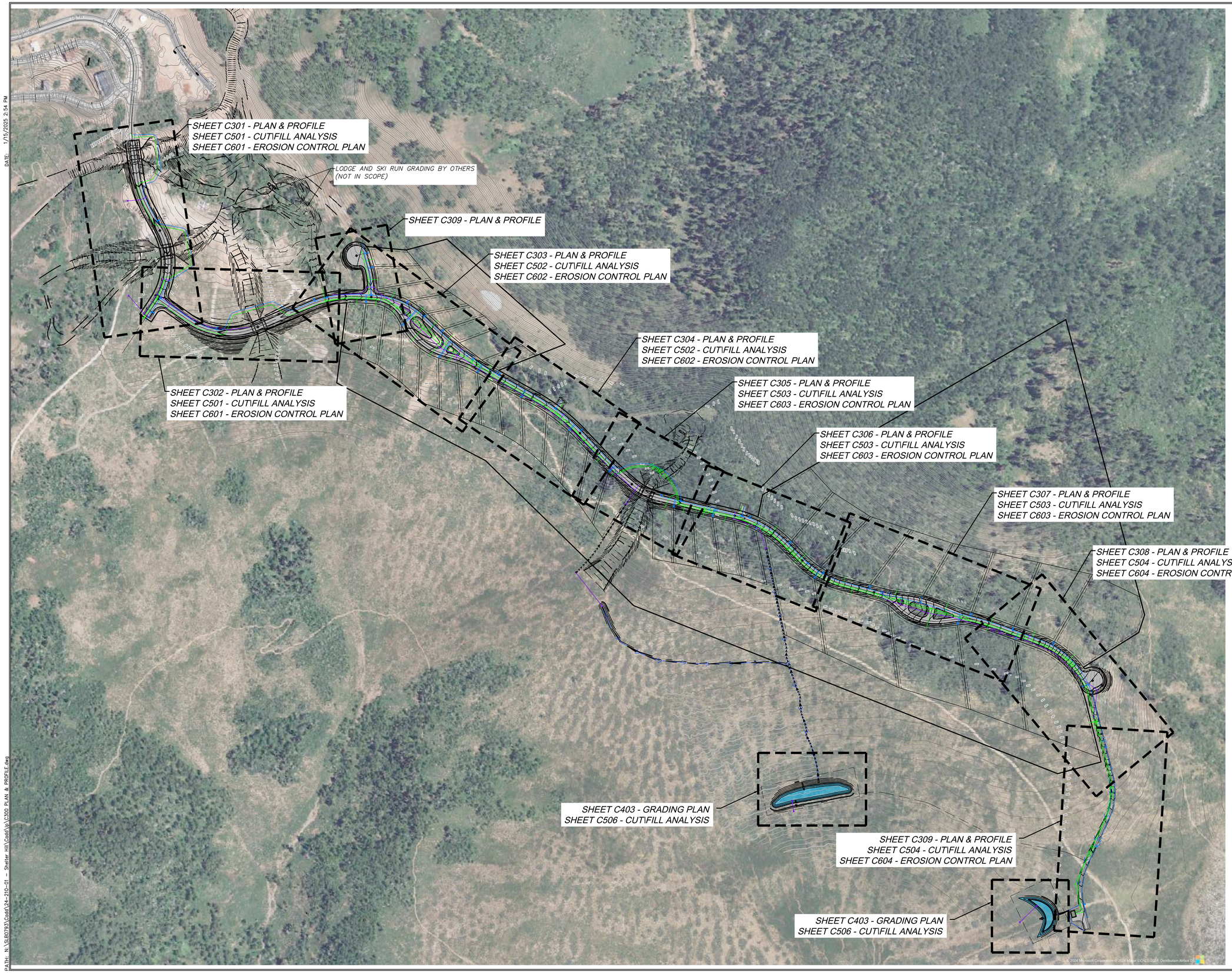

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NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
OVERALL ROADWAY PLAN & PROFILE KEY MAP

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
BRYAN W. CATHEY
10/22/24
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 200'
0 50' 100' 200' 300'

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SHEET NUMBER
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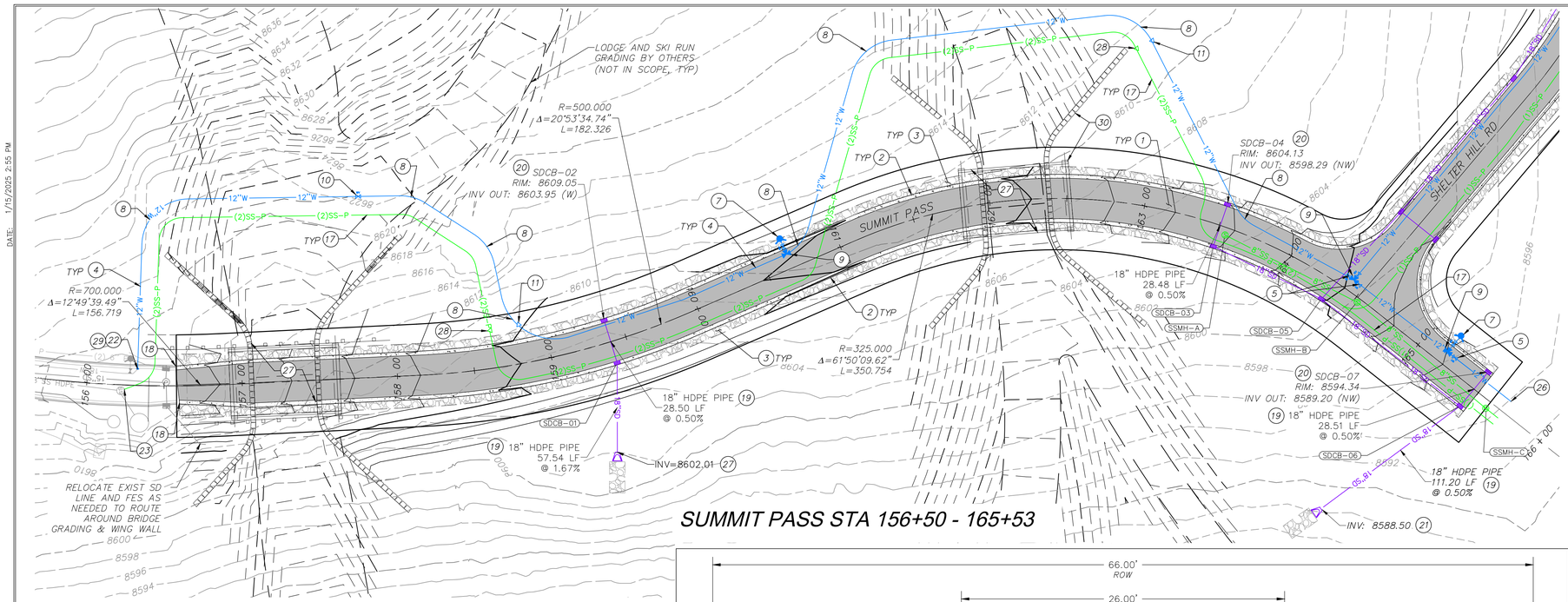

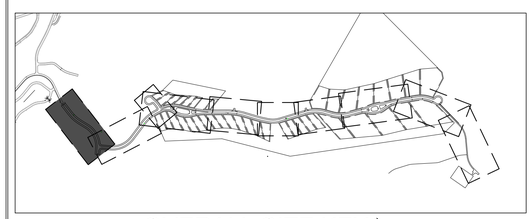

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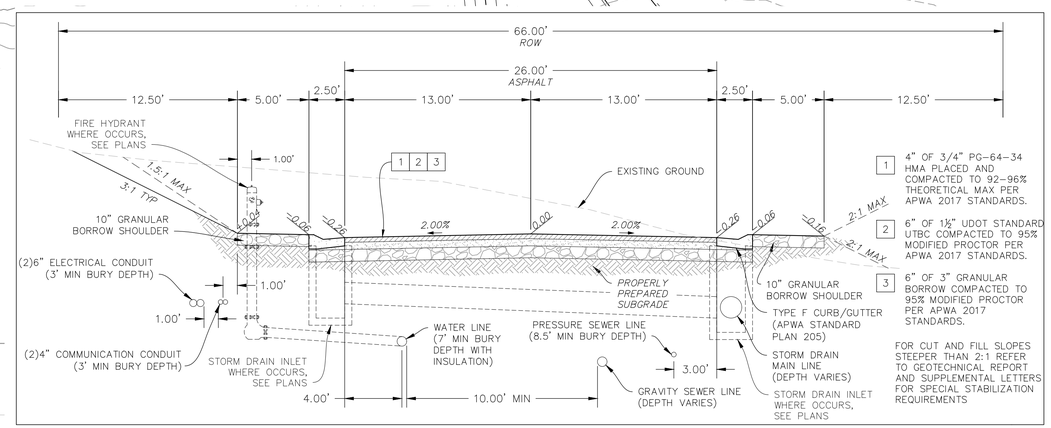
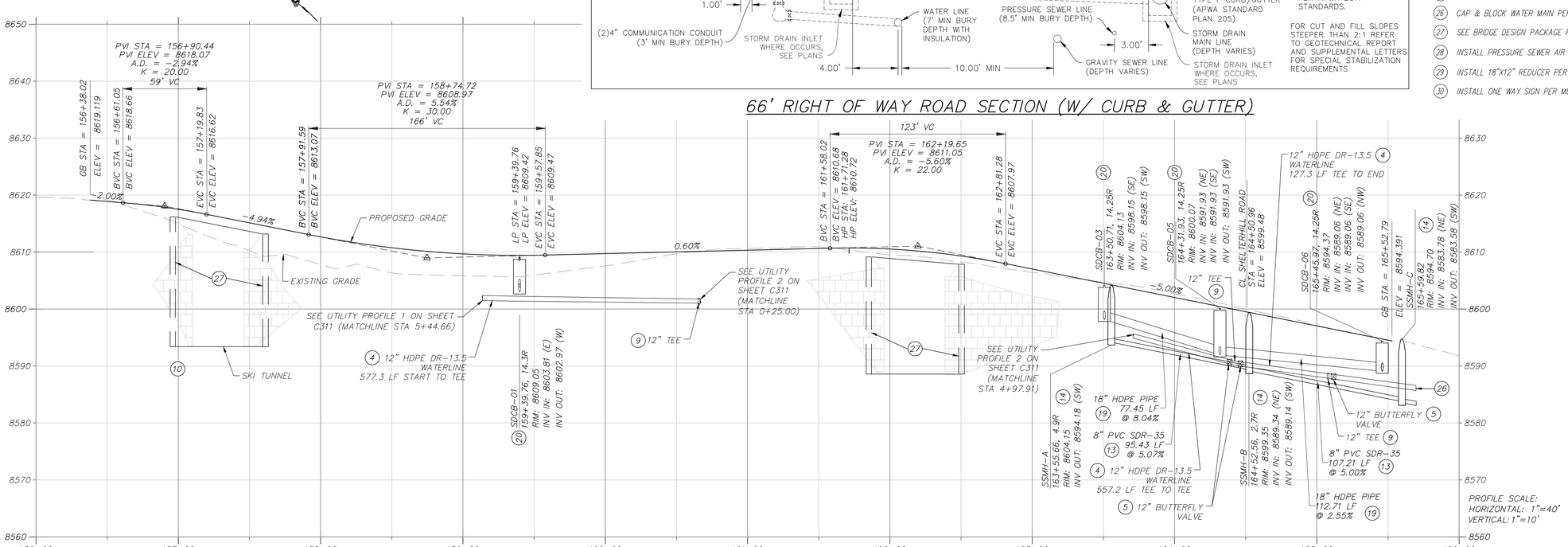


66' RIGHT OF WAY ROAD SECTION (W/ CURB & GUTTER)



GENERAL NOTES:

1. CONTRACTOR IS TO VERIFY CONNECTION POINTS WITH EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN.

KEYNOTES:

1. INSTALL ASPHALT PAVEMENT. SEE ROAD SECTION.
2. INSTALL TYPE F CURB & GUTTER. SEE APWA STANDARD PLAN 205.2, SHEET C902.
3. INSTALL 5' WIDE x 10" DEEP OF 3" GRANULAR BORROW SHOULDER, COMPACTED TO 95% MODIFIED PROCTOR PER APWA 2017 STANDARDS.
4. INSTALL HDPE DR-13.5 WATERLINE PER PMWSID DETAIL W-1, SHEET C900 & ROAD SECTION.
5. INSTALL WATER MAIN VALVE PER DETAIL W-1, SHEET C900.
6. INSTALL WATER SERVICE LATERAL AND METER PER PMWSID DETAIL W-2 & UT-1, SHEET C900.
7. INSTALL FIRE HYDRANT PER PMWSID DETAILS W-4 & W4A, SHEET C900, & ROAD SECTION.
8. 30' MINIMUM BEND RADIUS PER MANUFACTORS RECOMMENDATIONS.
9. INSTALL TEE WITH THRUST BLOCKING PER PMWSID DETAIL W-7, SHEET C900.
10. INSTALL 6" BLOW OFF ASSEBMLY PER PMWSID DETAIL W-15, SHEET C905.
11. INSTALL WATER AIR RELEASE ASSEMBLY (CAV) PER PMWSID DETAIL W-5, SHEET C901.
12. INSTALL WATER PRV VAULT PER PMWSID DETAILS W-9C & W-9D, SHEET C905.
13. INSTALL SANITARY SEWER, SEE PLAN & PROFILE SHEETS FOR PIPE MATERIAL, PER PMWSID DETAIL SS-1, SHEET C900.
14. INSTALL 48" SANITARY SEWER MANHOLE PER PMWSID DETAIL SS-2, SHEET C900.
15. INSTALL 60" SANITARY SEWER MANHOLE PER PMWSID DETAIL SS-2, SHEET C900.
16. INSTALL SANITARY SEWER LATERAL PER PMWSID SS-3 & UT-1, SHEETS C900 & C901.
17. INSTALL 6" IPS DR-11 PRESSURE SEWER HDPE PIPE (TOTAL LENGTH = 8,770 LF) PER ROAD SECTION. WHEN CROSSING WATER, LOOP AS NECESSARY TO PROVIDE 18" MIN. CLEARANCE BELOW WATER LINE. MAINTAIN 10' MIN CLEARANCE HORIZONTALLY FROM WATER AT ALL TIMES.
18. CONNECT NEW TYPE F CURB & GUTTER TO EXISTING CURB & GUTTER PER APWA STANDARD PLAN 206, SHEET C902.
19. INSTALL CORRUGATED HDPE STORM DRAIN PIPE PER APWA STANDARD DETAILS 381 & 382, SHEETS C904 & C905 & ROAD SECTION.
20. INSTALL SINGLE GRATE STORM DRAIN INLET WITH GRATE & FRAME PER D&L PART# I-3386 & APWA STANDARD PLAN 362, SHEETS C903 & C904.
21. INSTALL PIPE OUTFALL (FES) PER APWA STANDARD PLAN 323.1, SHEET C904, WITH 10' WIDE x 20' LONG D50=9" RIP RAP 18" DEEP.
22. CONNECT TO EXISTING WATER MAIN.
23. CONNECT PRESSURE SEWER PIPE TO EXISTING SEWER MANHOLE. INTERIOR OF EXISTING MANHOLE TO BE COATED WITH INEMEC SERIES 218 MORTARCLAD, SERIES 434 PERMA-SHIELD H2S AND SERIES 435 PERMA-GLAZE. APPLICATOR SHALL PROVIDE ALL ACCESSORY COMPONENTS SUCH AS POLYSULFIDE SEALANTS AND CURING COMPOUNDS AS RECOMMENDED BY MANUFACTURER FOR MAXIMUM PROTECTIVE LINING ADHESION TO SUBSTRATE AND LONG TERM SERVICE PERFORMANCE. INSTALL GRANULAR ACTIVATED CARBON AIR FILTER IN LID FOR ODOR PROTECTION.
24. INSTALL 10" OF 1-1/2" UDOT STANDARD UTBC COMPACTED TO 95% MODIFIED PROCTOR OVER 10" OF 3" GRANULAR BORROW COMPACTED TO 95% MODIFIED PROCTOR PER APWA 2017 STANDARDS.
25. INSTALL 4' WIDE x 1' DEEP SWALE, D50=6" RIP RAP LINED, PER DETAIL B, SHEET C904.
26. CAP & BLOCK WATER MAIN PER PMWSID DETAIL W-7, SHEET C900.
27. SEE BRIDGE DESIGN PACKAGE FOR BRIDGE, GUARDRAIL AND WING WALLS DESIGN.
28. INSTALL PRESSURE SEWER AIR RELEASE VALVE (CAV) PER DETAIL A, SHEET C904.
29. INSTALL 18"X12" REDUCER PER PMWSID DETAIL W-7, SHEET C900.
30. INSTALL ONE WAY SIGN PER MUTCD STANDARDS & SPECIFICATIONS.

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NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
ROADWAY PLAN & PROFILE

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY 10/25 STATE OF UTAH

SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

SHEET NUMBER
C301
5 OF 38

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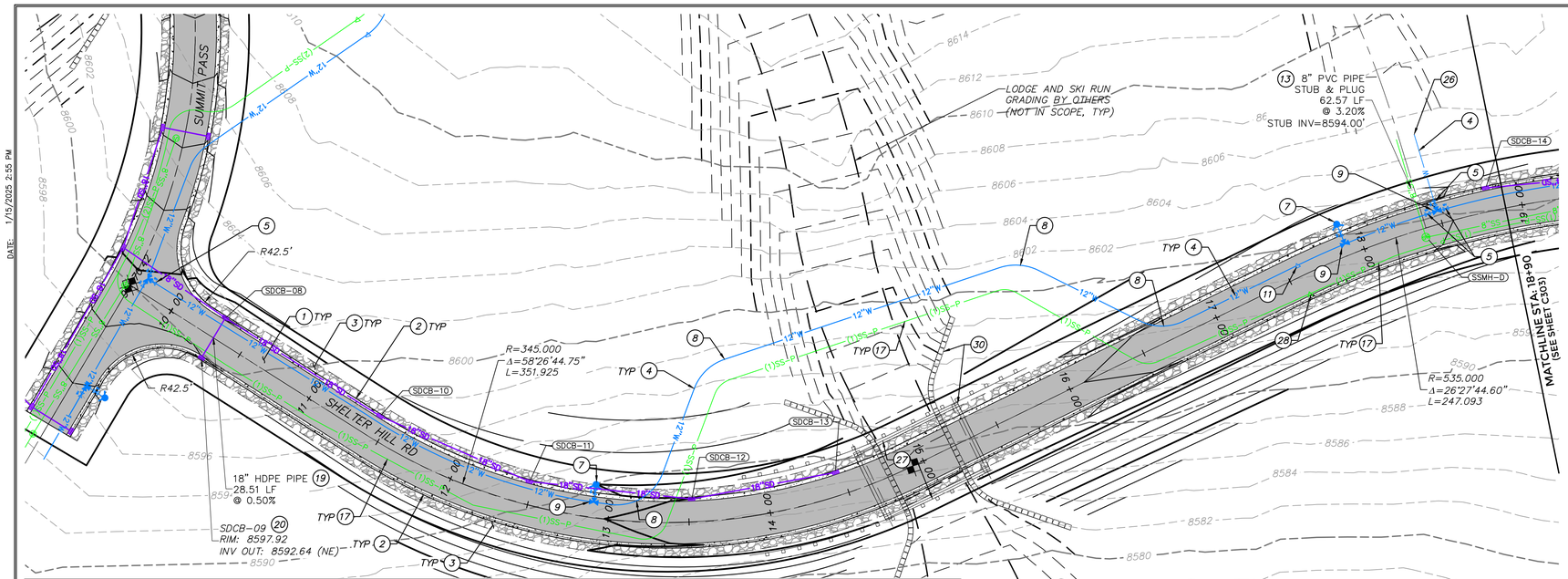
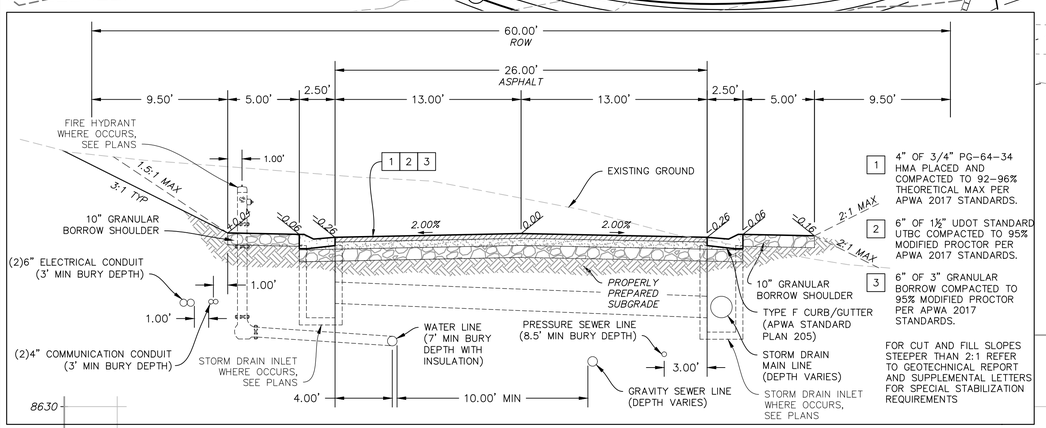
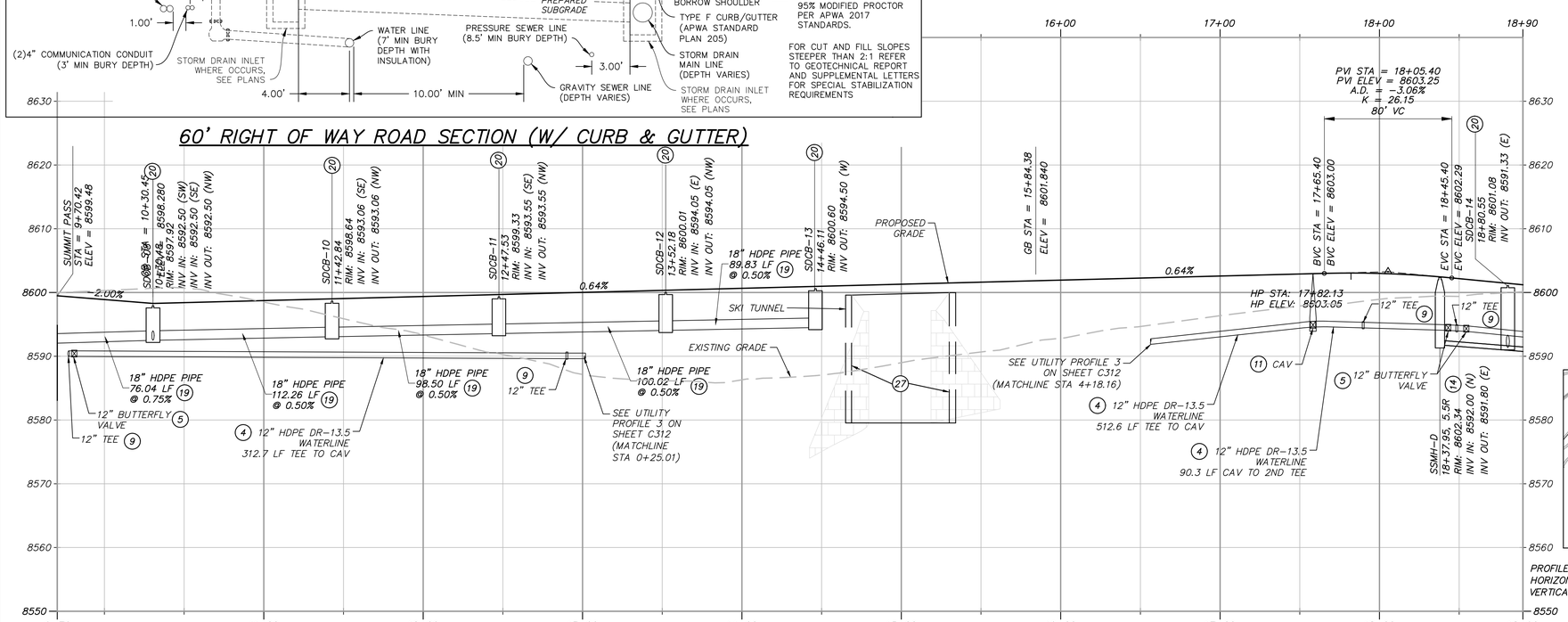


SHELTER HILL ROAD STA 9+70 - 18+90



60' RIGHT OF WAY ROAD SECTION (W/ CURB & GUTTER)



PROFILE SCALE:
HORIZONTAL: 1"=40'
VERTICAL: 1"=10'

GENERAL NOTES:

1. CONTRACTOR IS TO VERIFY CONNECTION POINTS WITH EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN.

KEYNOTES:

1. INSTALL ASPHALT PAVEMENT. SEE ROAD SECTION.
2. INSTALL TYPE F CURB & GUTTER. SEE APWA STANDARD PLAN 205.2, SHEET C902.
3. INSTALL 5' WIDE x 10" DEEP OF 3" GRANULAR BORROW SHOULDER, COMPACTED TO 95% MODIFIED PROCTOR PER APWA 2017 STANDARDS.
4. INSTALL HDPE DR-13.5 WATERLINE PER PMWSID DETAIL W-1, SHEET C900 & ROAD SECTION.
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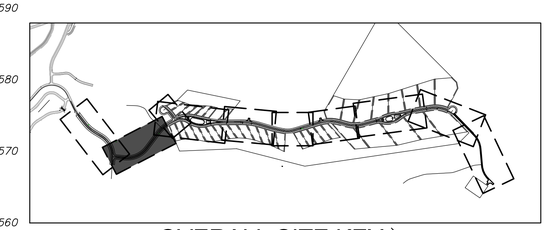

OVERALL SITE KEY

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1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
ROADWAY PLAN & PROFILE

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

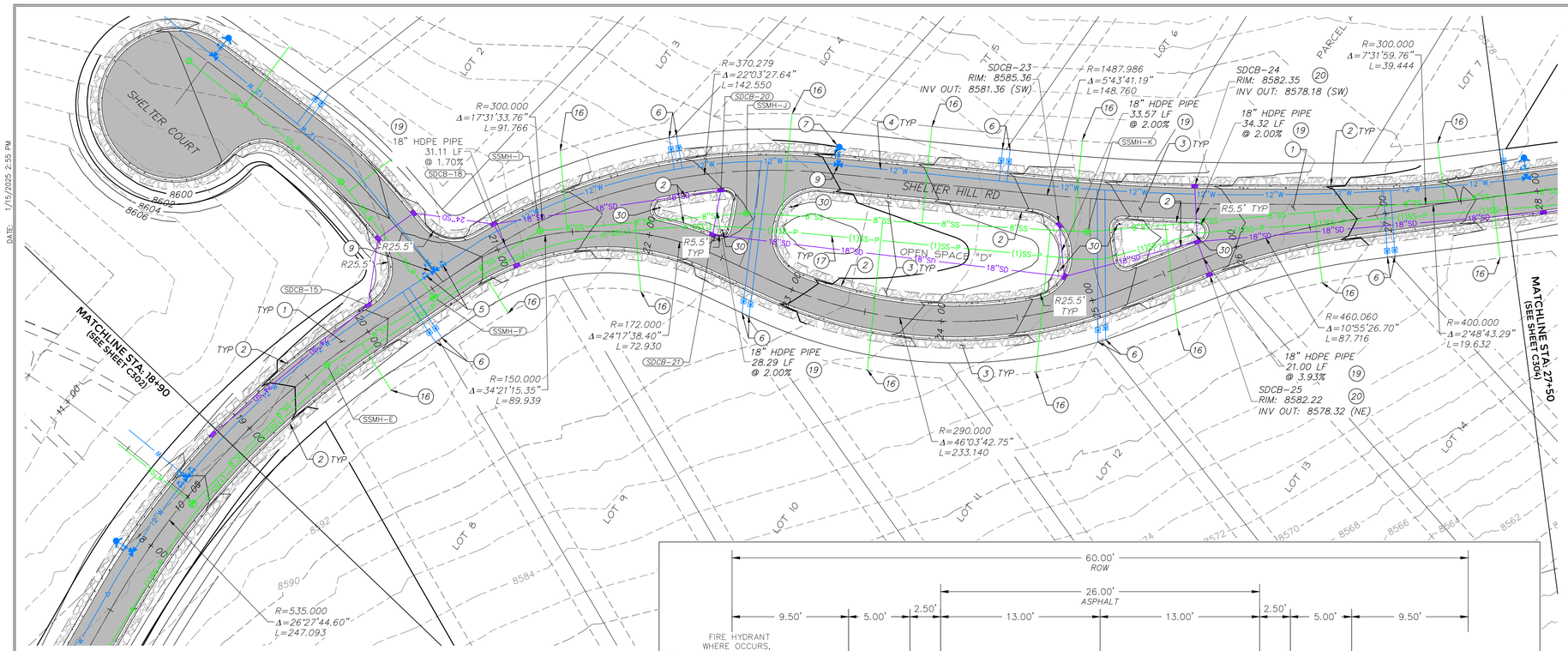
REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY 01/10/25 STATE OF UTAH

SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

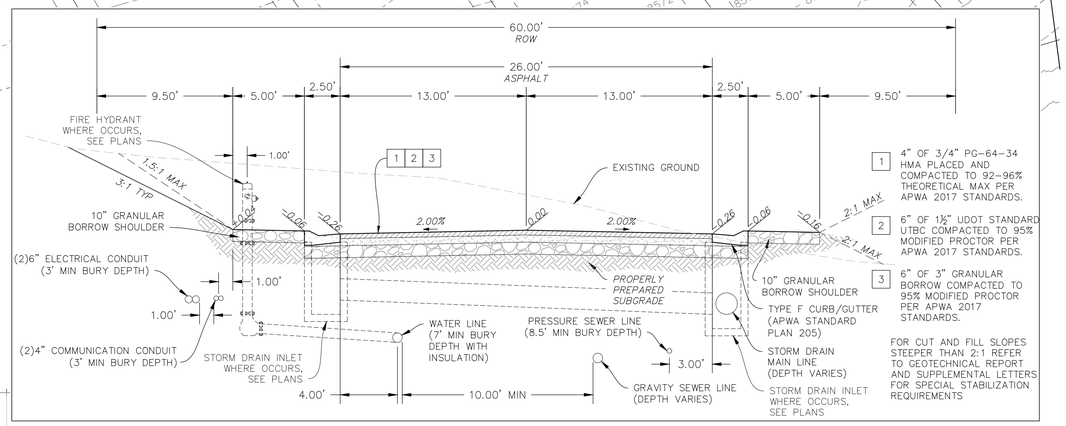
SHEET NUMBER
C302
6 OF 38

DATE: 1/15/2025 2:55 PM

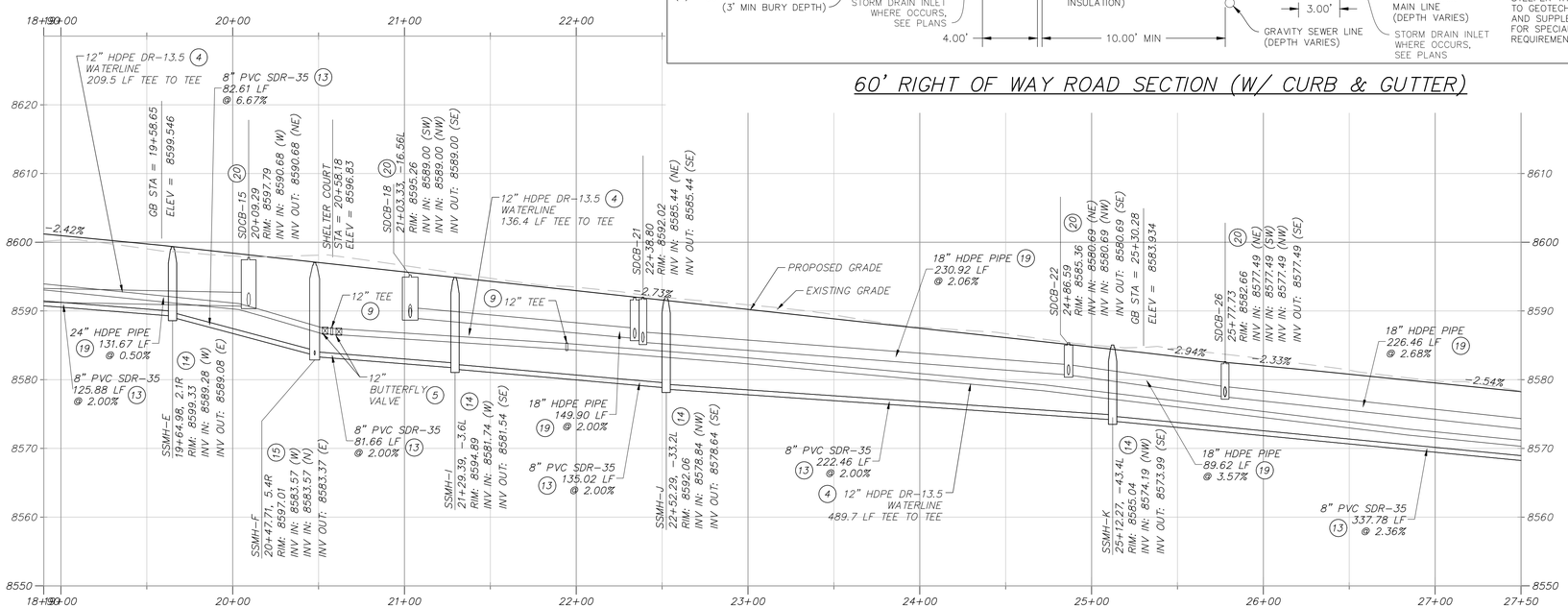
PATH: N:\S80793\Cads\24-210-01 - Shelter Hill\Cad\A\C300 PLAN & PROFILE.dwg



SHELTER HILL ROAD STA 18+90 - 27+50



60' RIGHT OF WAY ROAD SECTION (W/ CURB & GUTTER)



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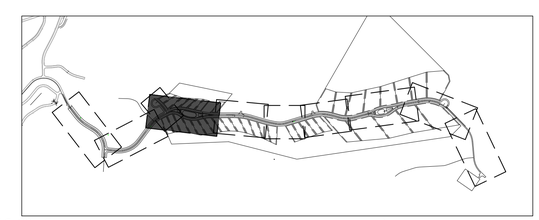

OVERALL SITE KEY

GENERAL NOTES:

1. CONTRACTOR IS TO VERIFY CONNECTION POINTS WITH EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN.

KEYNOTES:

1. INSTALL ASPHALT PAVEMENT. SEE ROAD SECTION.
2. INSTALL TYPE F CURB & GUTTER. SEE APWA STANDARD PLAN 205.2, SHEET C902.
3. INSTALL 5' WIDE x 10" DEEP OF 3" GRANULAR BORROW SHOULDER, COMPACTED TO 95% MODIFIED PROCTOR PER APWA 2017 STANDARDS.
4. INSTALL HDPE DR-13.5 WATERLINE PER PMWSID DETAIL W-1, SHEET C900 & ROAD SECTION.
5. INSTALL WATER MAIN VALVE PER DETAIL W-1, SHEET C900.
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8. 30' MINIMUM BEND RADIUS PER MANUFACTORS RECOMMENDATIONS.
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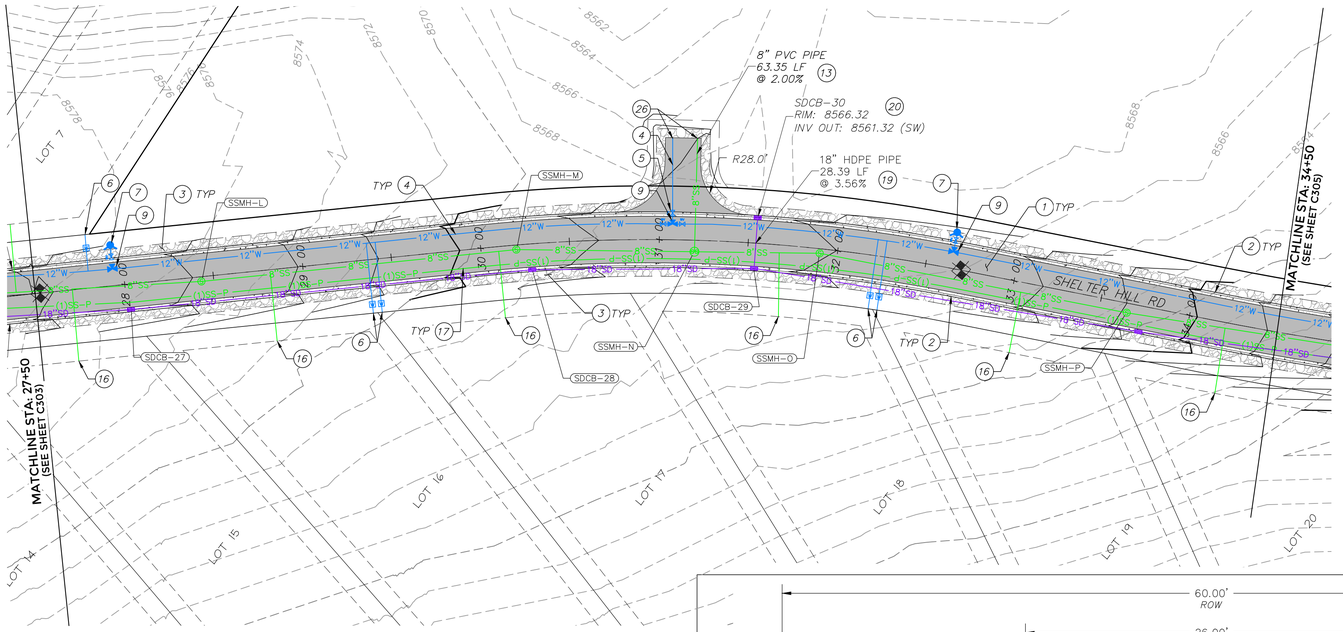
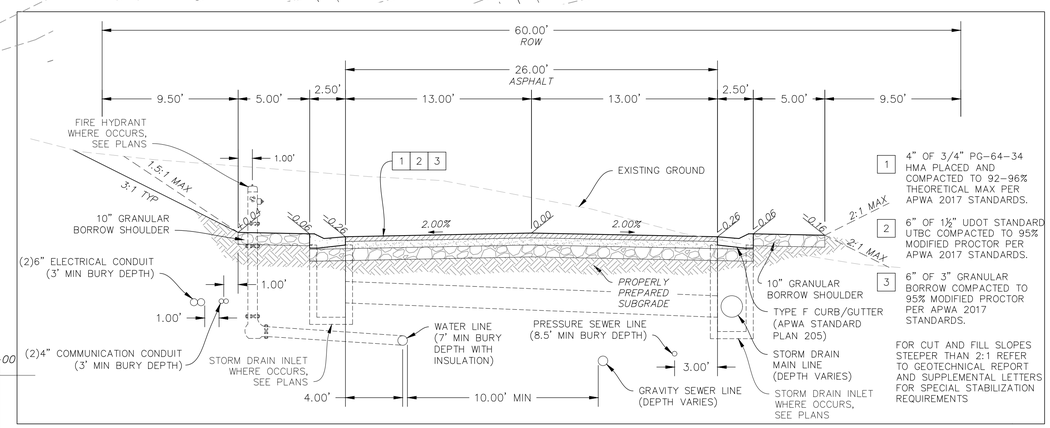


SHELTER HILL ROAD STA 27+50 - 34+50



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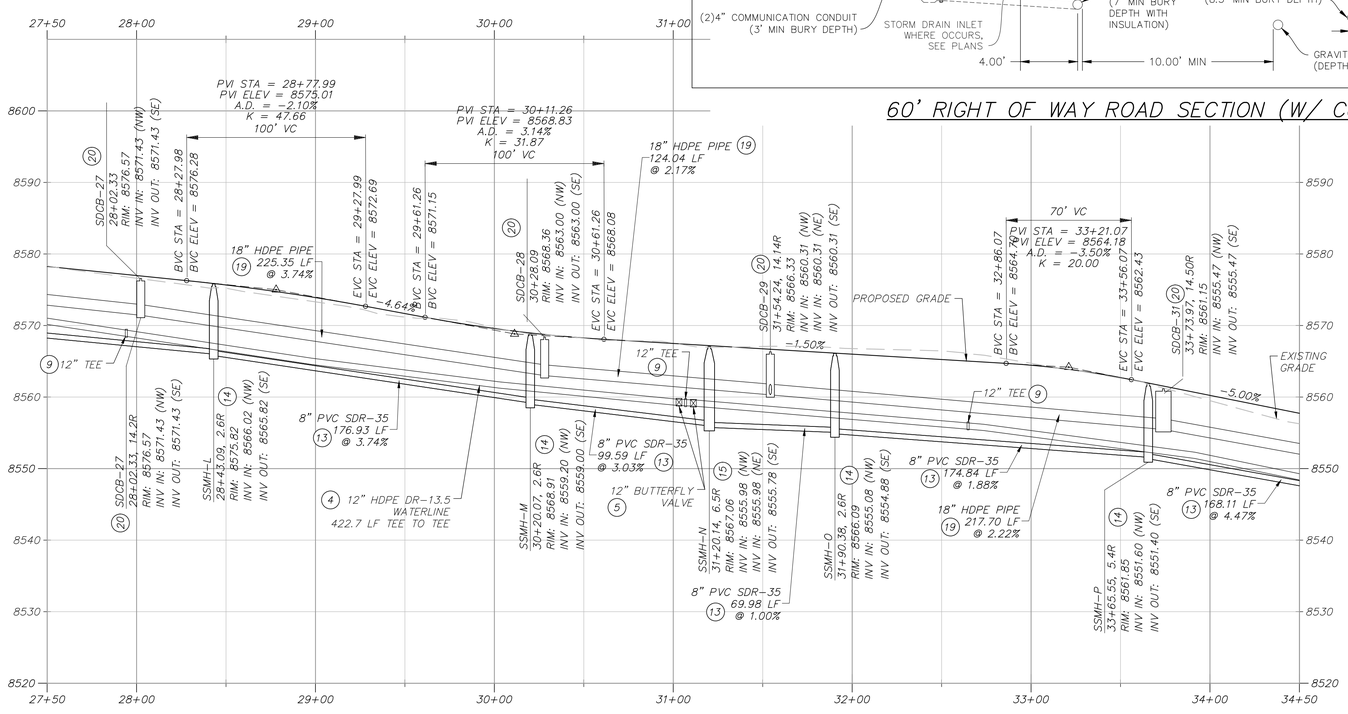

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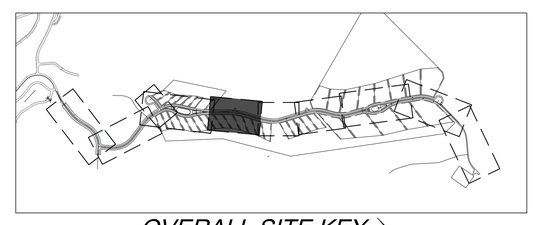

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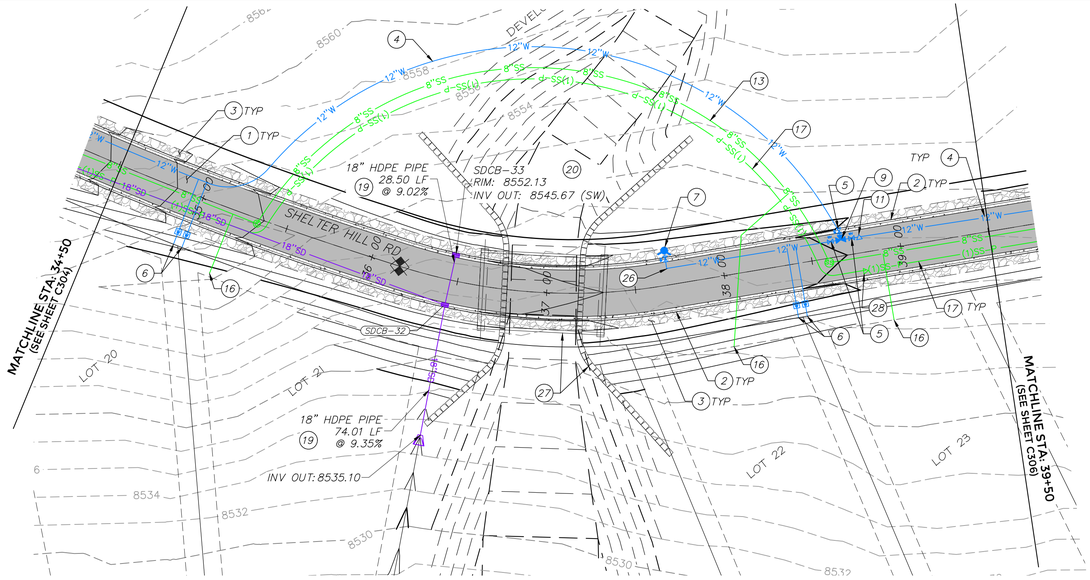
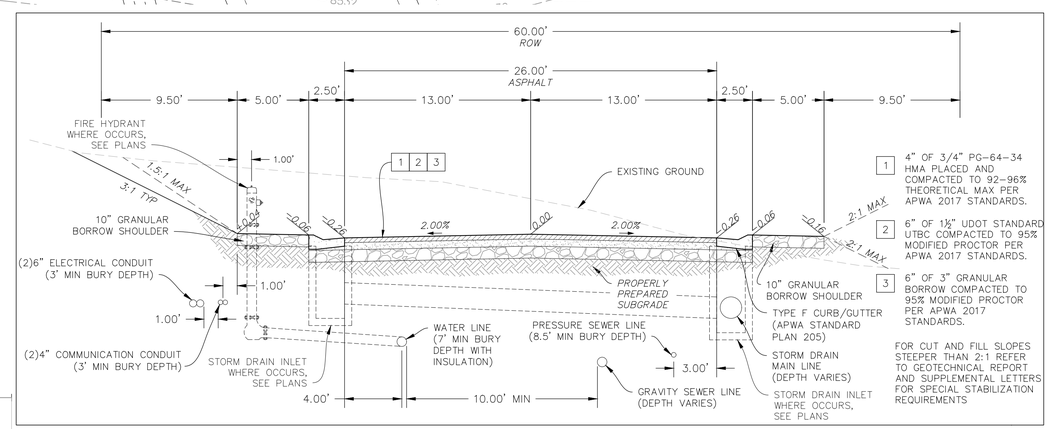


SHELTER HILL ROAD STA 34+50 - 35+50



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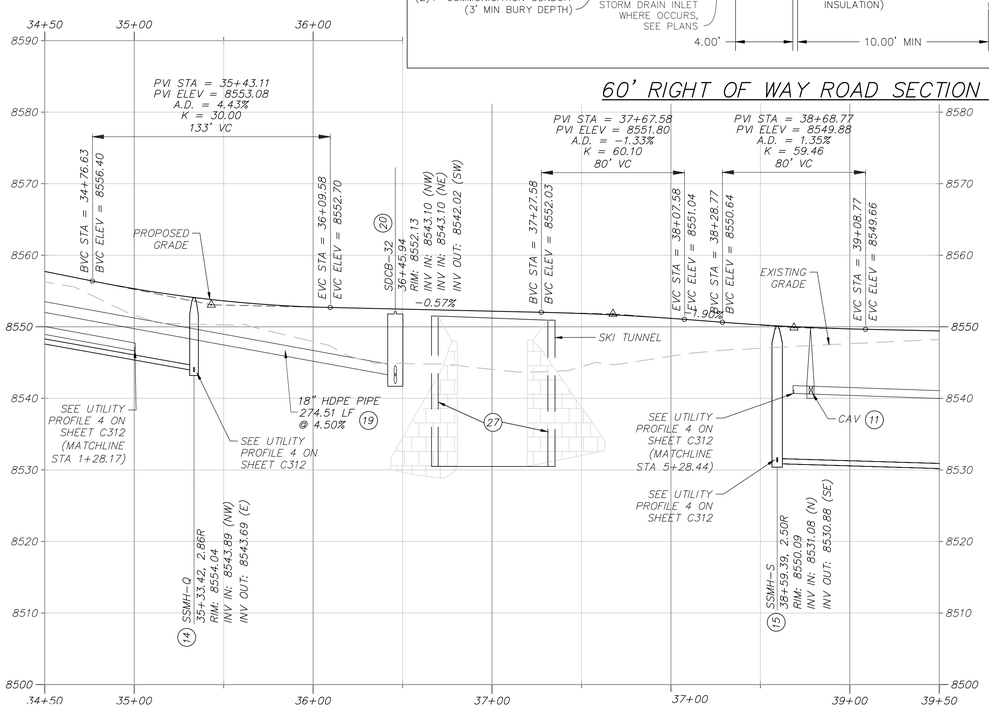

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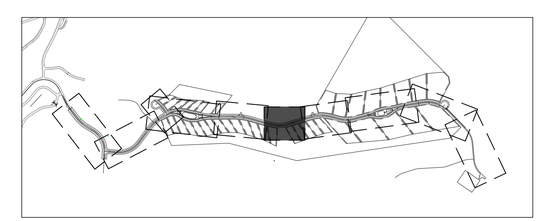

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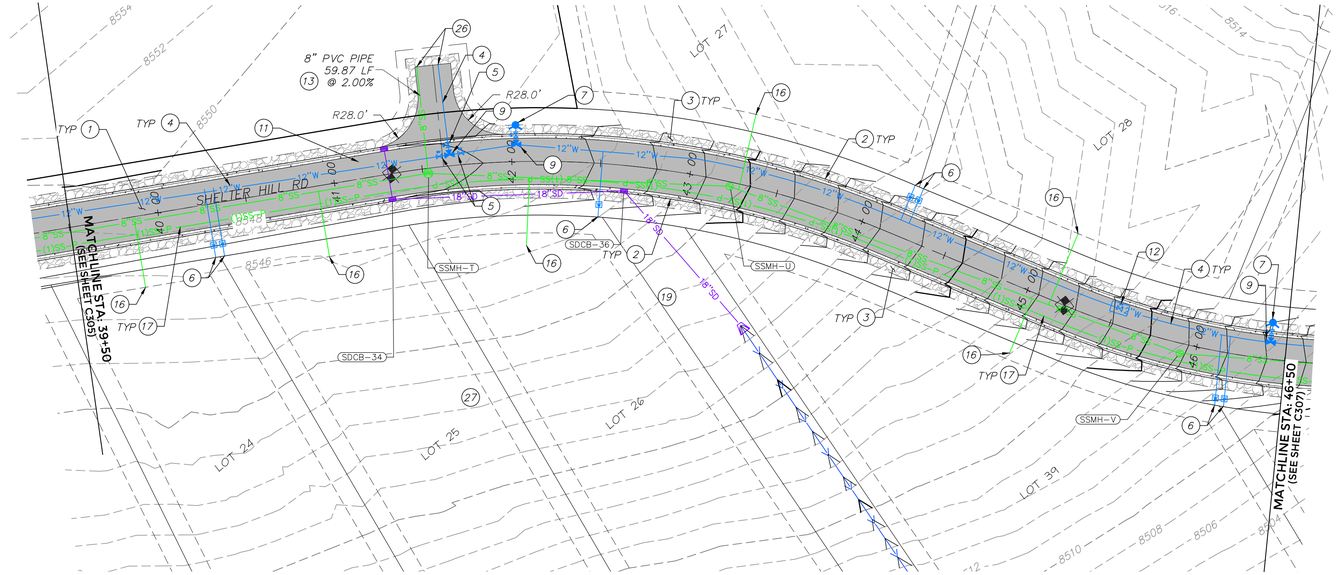
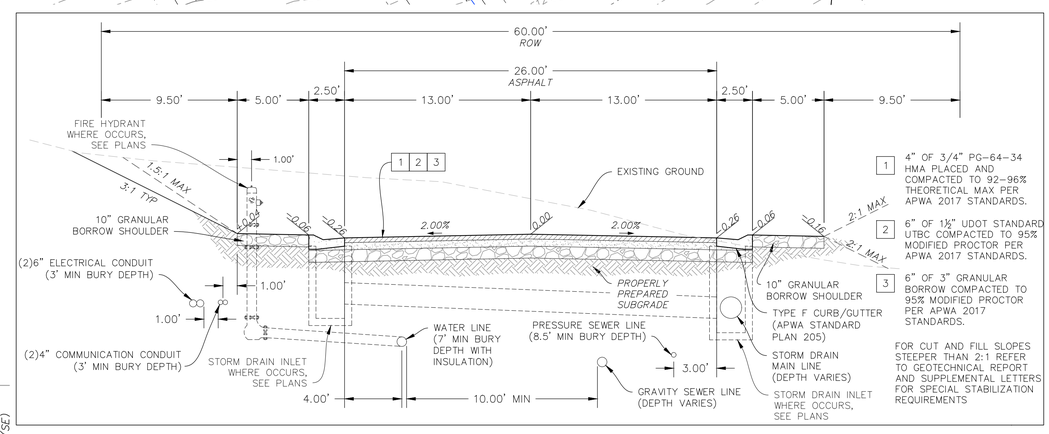


SHELTER HILL ROAD STA 39+50 - 46+50



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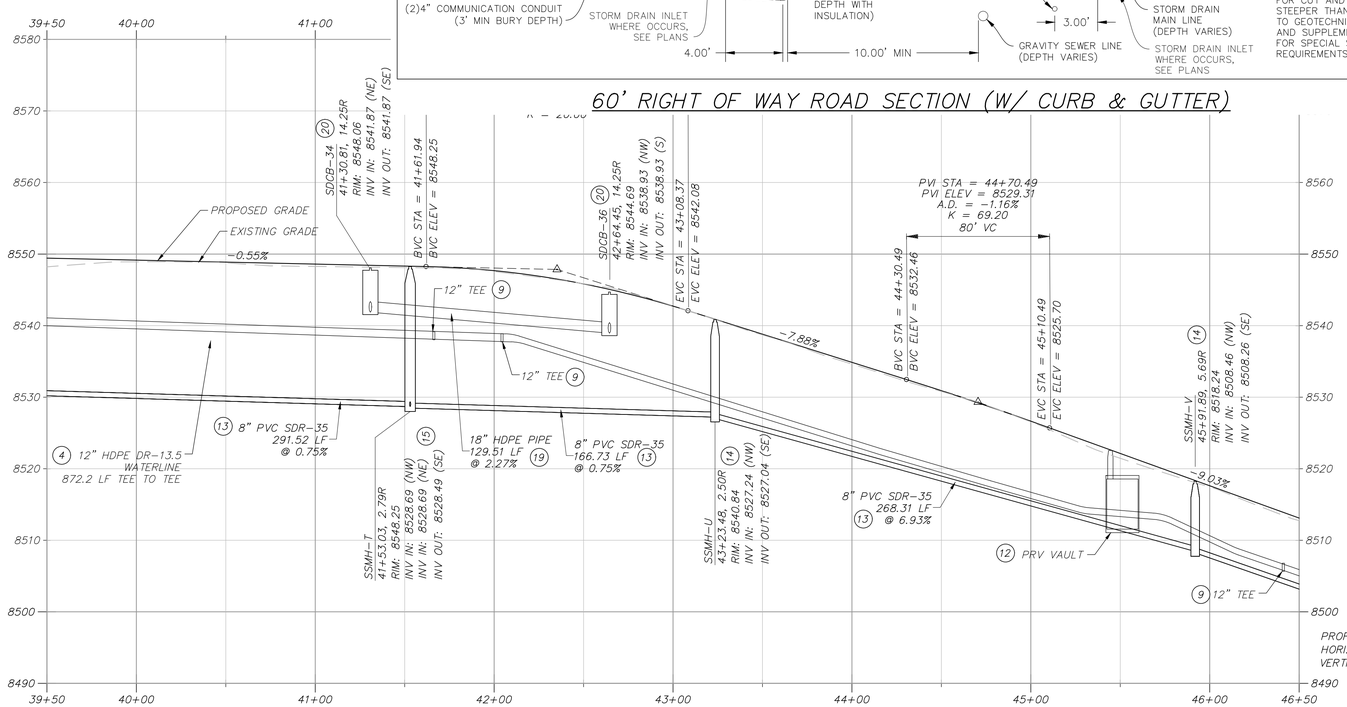

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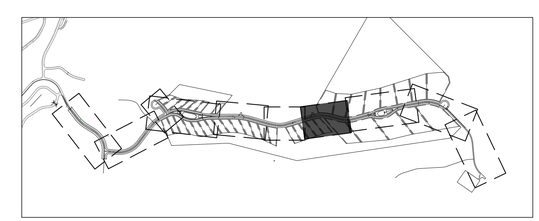


OVERALL SITE KEY

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
ROADWAY PLAN & PROFILE

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
1/10/25
STATE OF UTAH

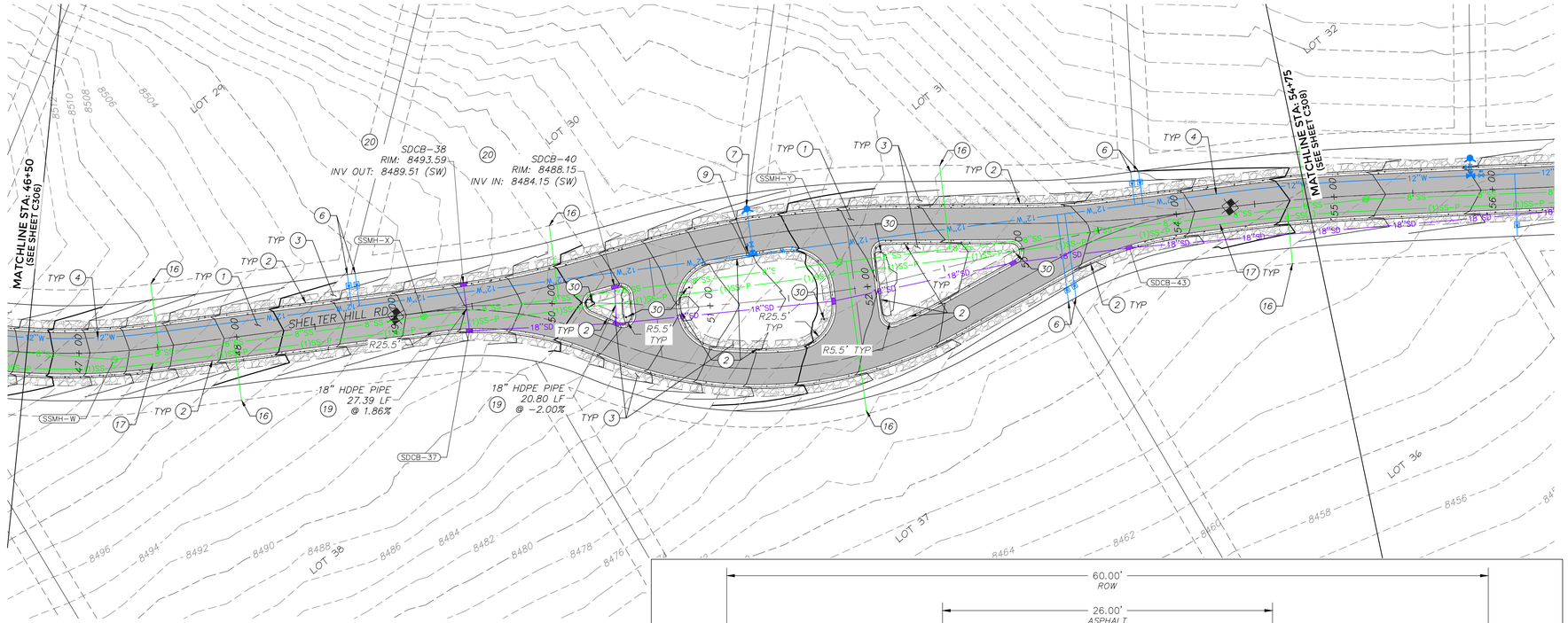
SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

SHEET NUMBER
C306
10 OF 38

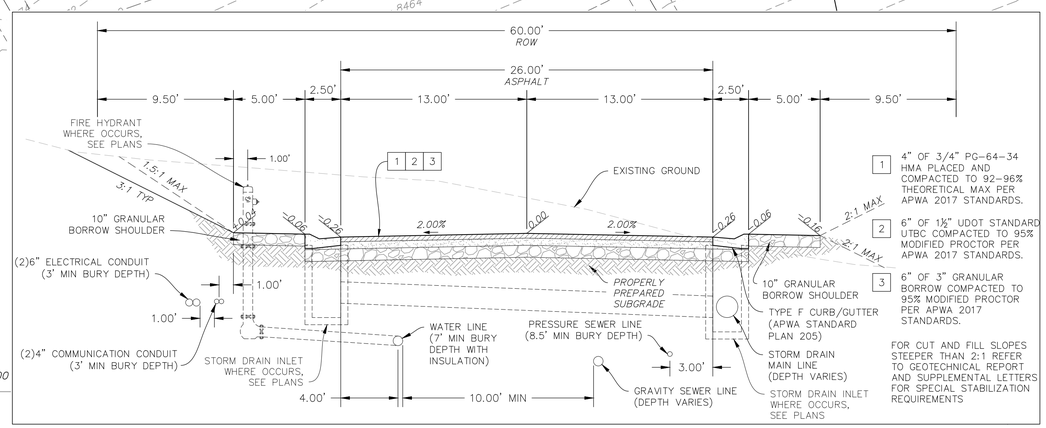
CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

DATE: 1/15/2025 2:57 PM

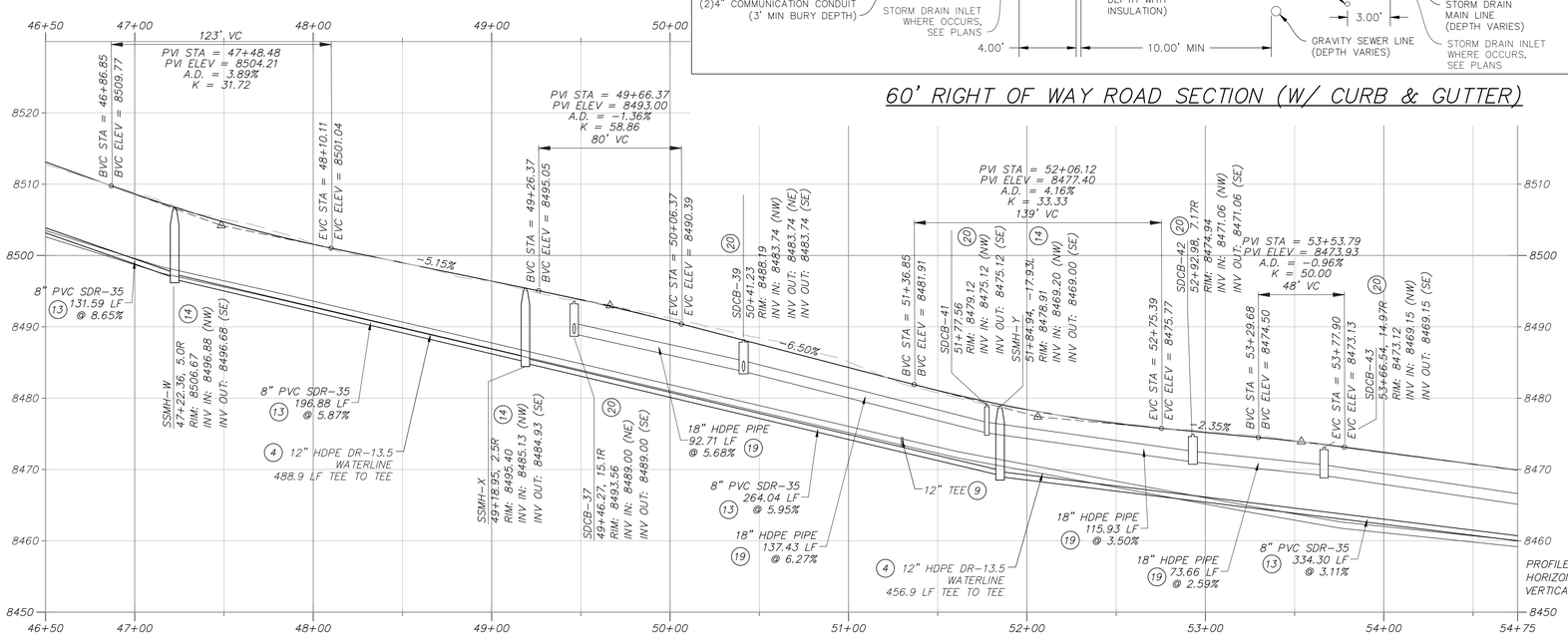
PATH: N:\SE80793\Cadd\24-210-01 - Shelter Hill\Cadd\p\C300 PLAN & PROFILE.dwg



SHELTER HILL ROAD STA 46+50 - 54+75



60' RIGHT OF WAY ROAD SECTION (W/ CURB & GUTTER)



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TCC JOB NUMBER: 24-210-01

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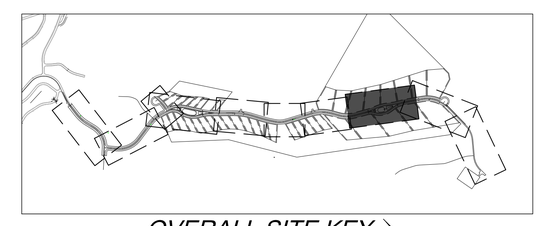
10/2/25
STATE OF UTAH



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C307
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DATE: 1/15/2025 2:57 PM

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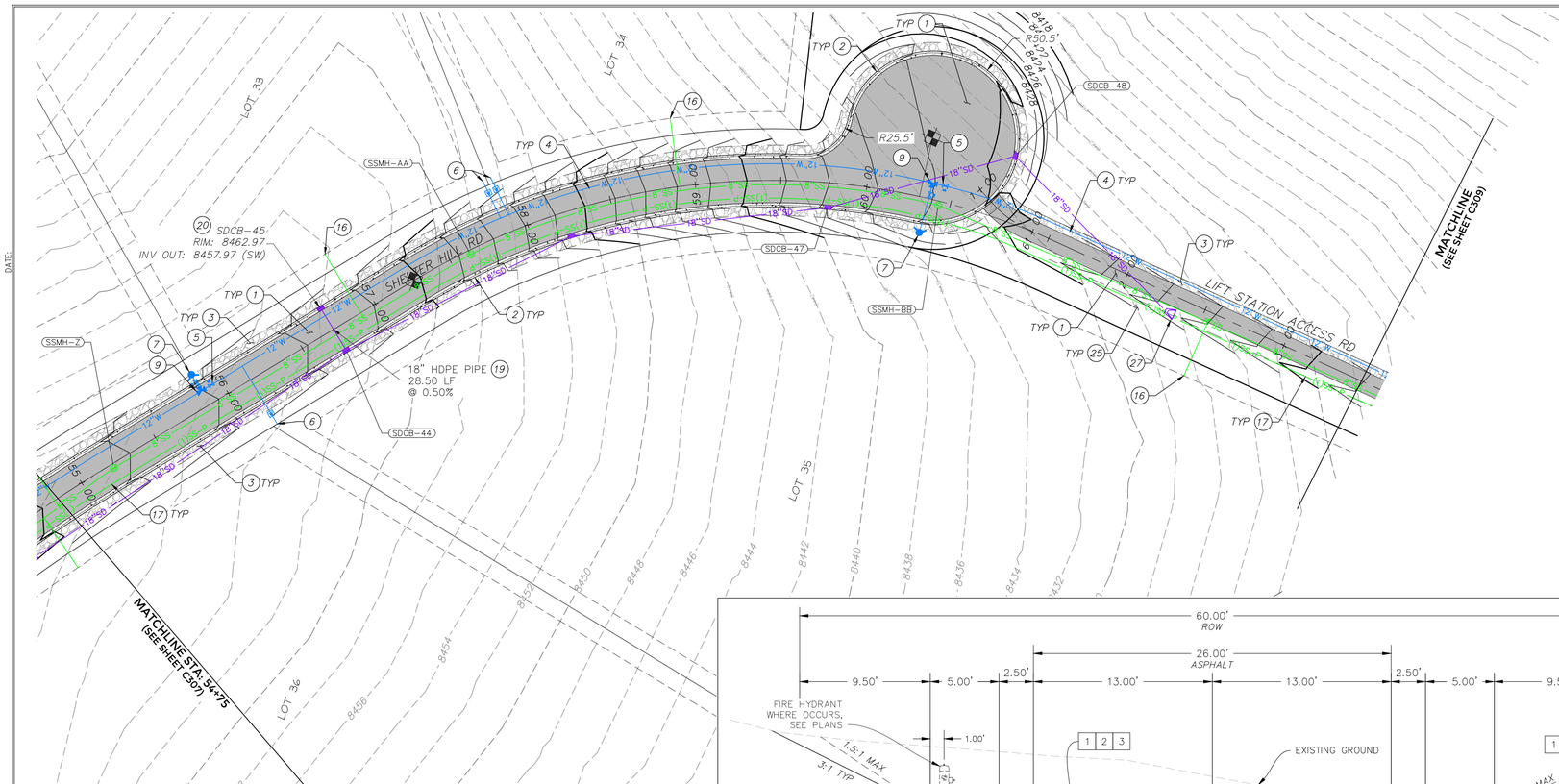
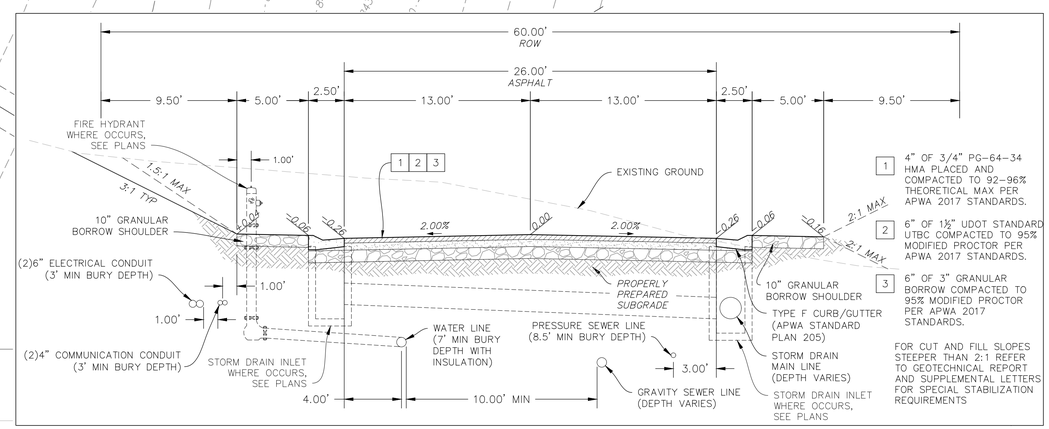


SHELTER HILL ROAD STA 54+75 - 61+00 & LIFT STATION ACCESS ROAD STA 1+00 - 3+50

(SEE SHEET C308 FOR LIFT STATION ACCESS ROAD SECTION)



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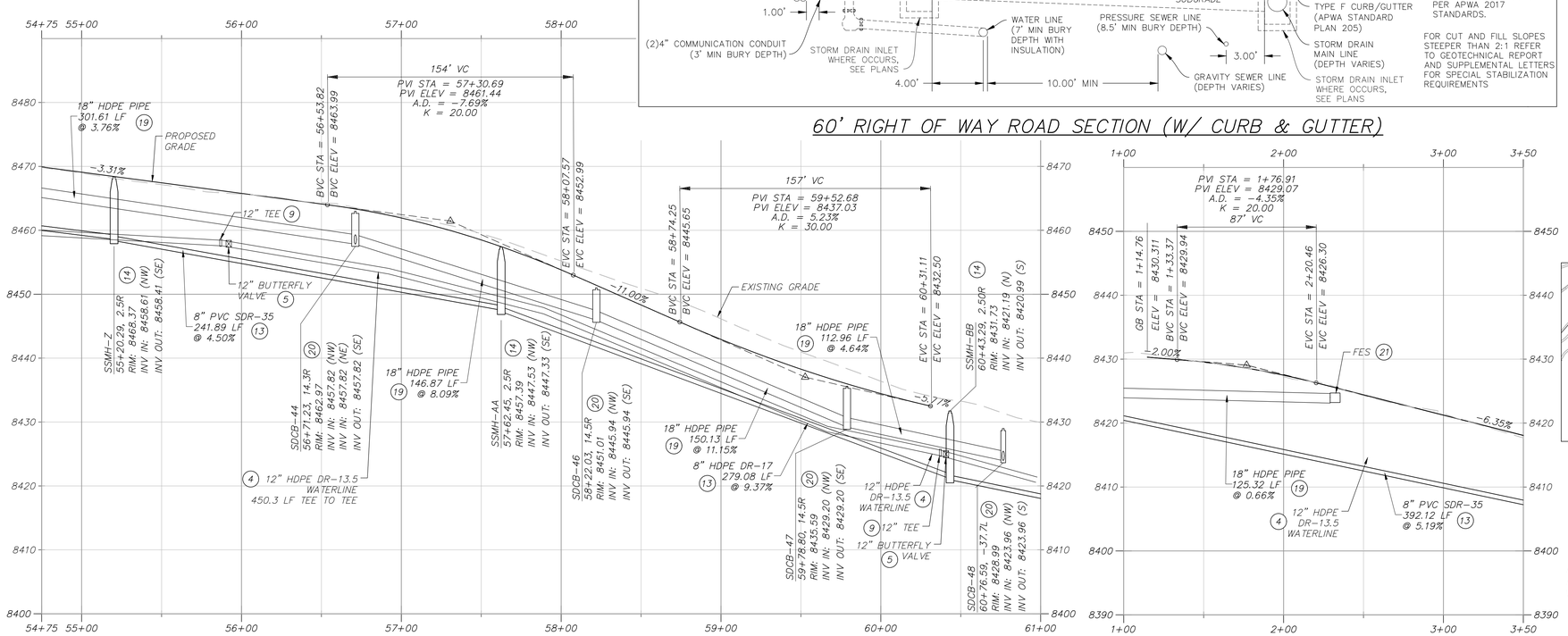

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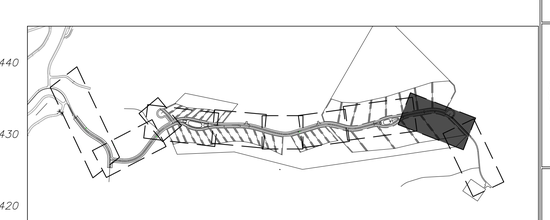

OVERALL SITE KEY

TALISMAN CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
ROADWAY PLAN & PROFILE

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY 10/25 STATE OF UTAH

SCALE
HORIZONTAL: 1" = 40'
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SHEET NUMBER
C308
12 OF 38

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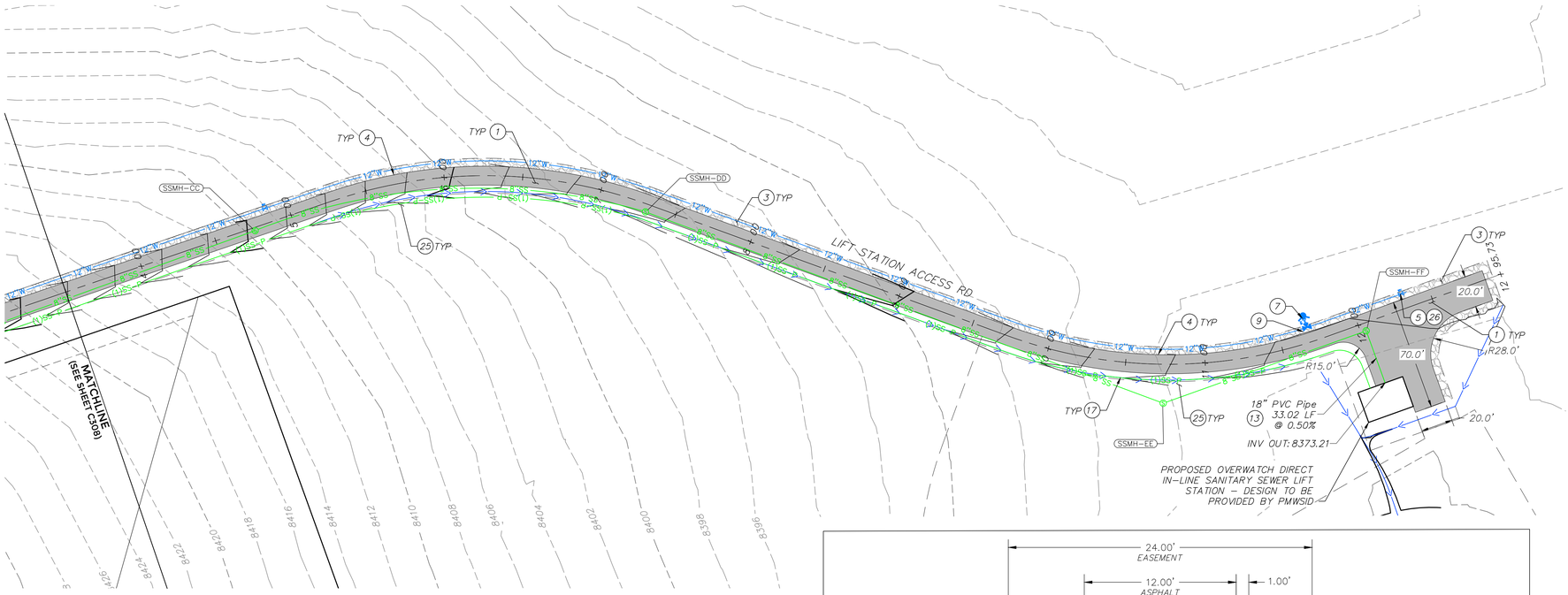
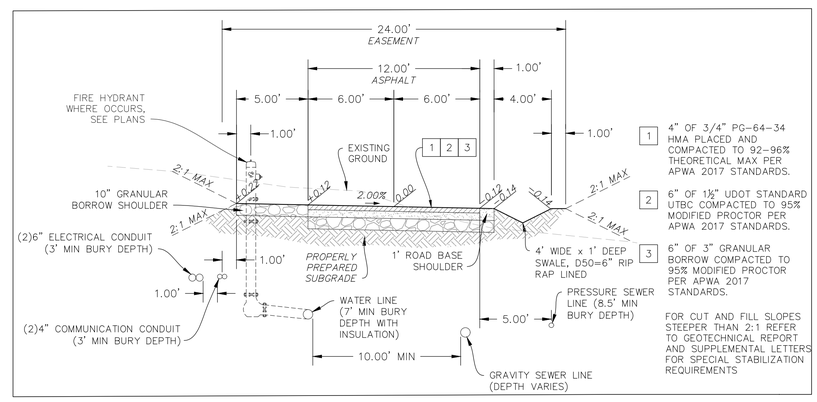
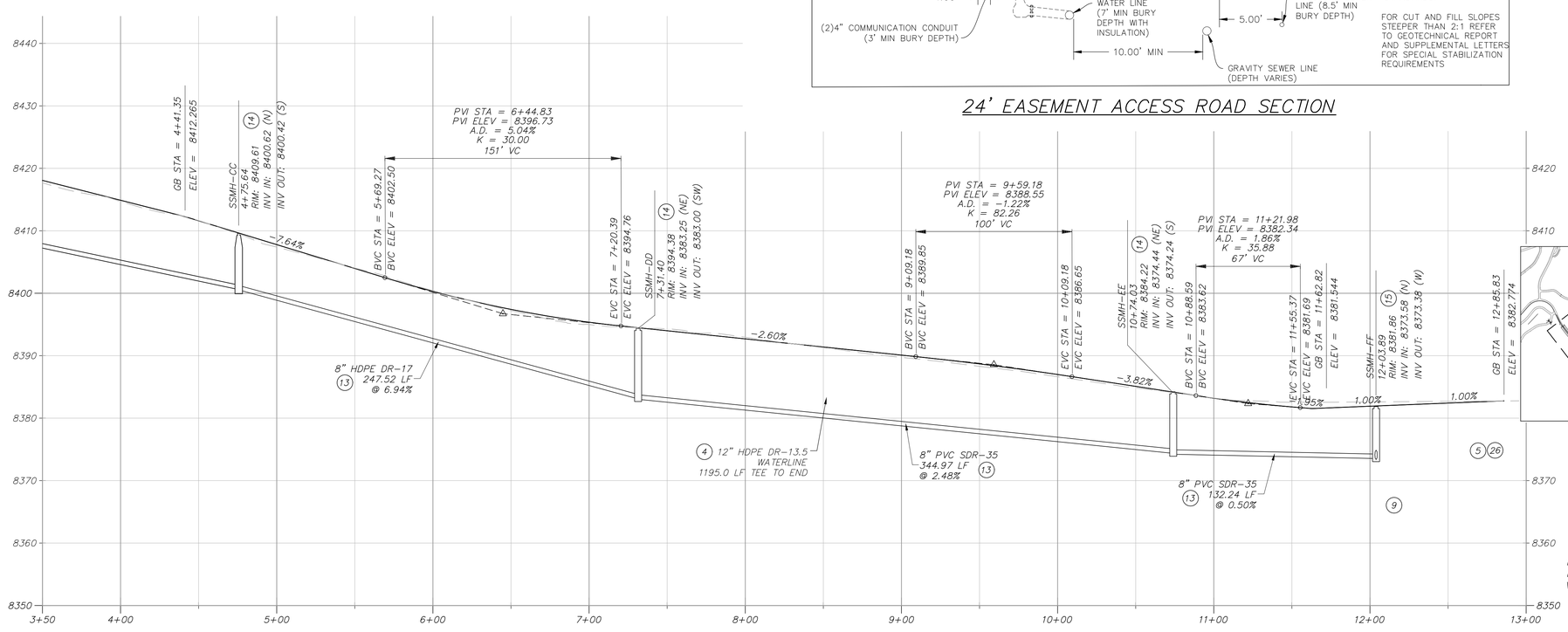


LIFT STATION ACCESS ROAD STA 3+50 - 12+95.73



24' EASEMENT ACCESS ROAD SECTION



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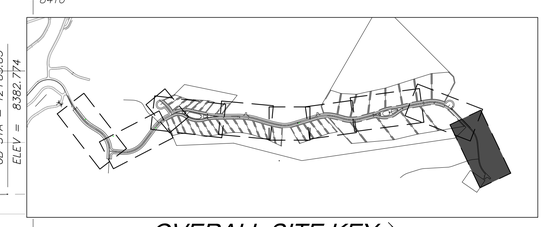

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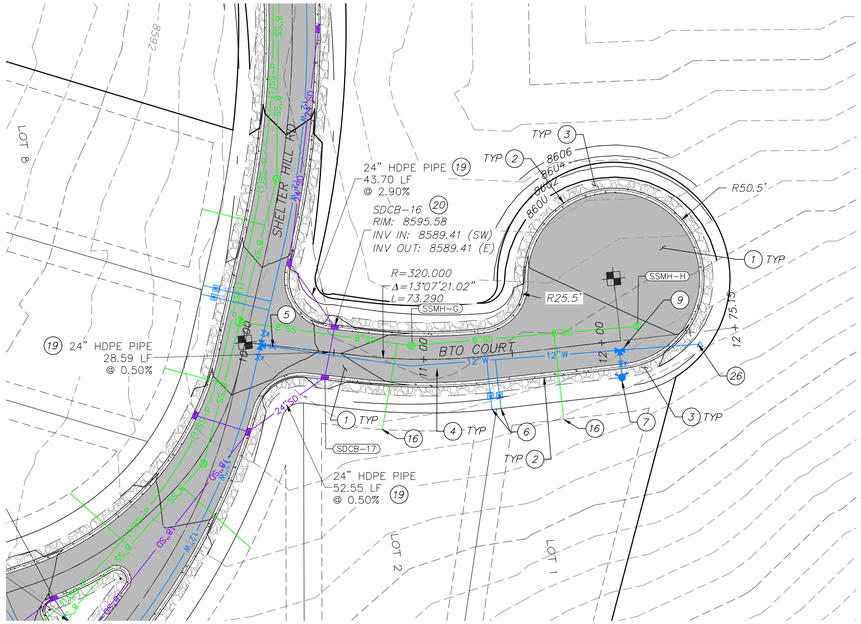
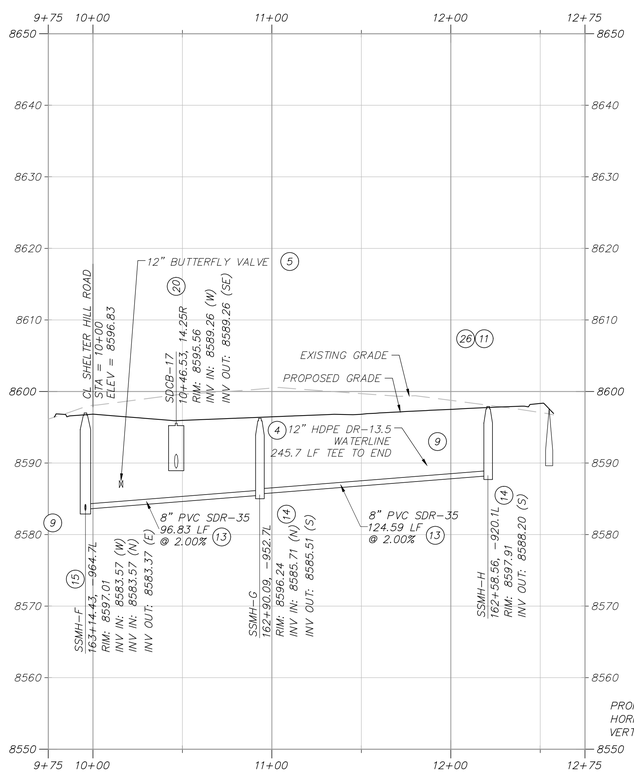


SHELTER COURT STA 10+00 - 12+75



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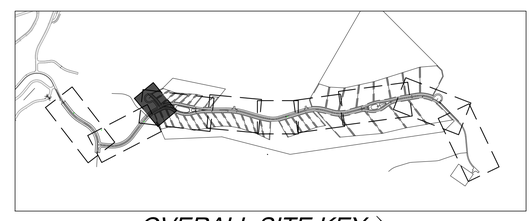
8. 30' MINIMUM BEND RADIUS PER MANUFACTORS RECOMMENDATIONS.
9. INSTALL TEE WITH THRUST BLOCKING PER PMWSID DETAIL W-7, SHEET C900.
10. INSTALL 6" BLOW OFF ASSEBMLY PER PMWSID DETAIL W-15, SHEET C905.
11. INSTALL WATER AIR RELEASE ASSEMBLY (CAV) PER PMWSID DETAIL W-5, SHEET C901.
12. INSTALL WATER PRV VAULT PER PMWSID DETAILS W-9C & W-9D, SHEET C905.
13. INSTALL SANITARY SEWER, SEE PLAN & PROFILE SHEETS FOR PIPE MATERIAL, PER PMWSID DETAIL SS-1, SHEET C900.
14. INSTALL 48" SANITARY SEWER MANHOLE PER PMWSID DETAIL SS-2, SHEET C900.
15. INSTALL 60" SANITARY SEWER MANHOLE PER PMWSID DETAIL SS-2, SHEET C900.
16. INSTALL SANITARY SEWER LATERAL PER PMWSID SS-3 & UT-1, SHEETS C900 & C901.
17. INSTALL 6" IPS DR-11 PRESSURE SEWER HDPE PIPE (TOTAL LENGTH = 8,770 LF) PER ROAD SECTION. WHEN CROSSING WATER, LOOP AS NECESSARY TO PROVIDE 18" MIN. CLEARANCE BELOW WATER LINE. MAINTAIN 10' MIN CLEARANCE HORIZONTALLY FROM WATER AT ALL TIMES.
18. CONNECT NEW TYPE F CURB & GUTTER TO EXISTING CURB & GUTTER PER APWA STANDARD PLAN 206, SHEET C902.
19. INSTALL CORRUGATED HDPE STORM DRAIN PIPE PER APWA STANDARD DETAILS 381 & 382, SHEETS C904 & C905 & ROAD SECTION.
20. INSTALL SINGLE GRATE STORM DRAIN INLET WITH GRATE & FRAME PER D&L PART# I-3386 & APWA STANDARD PLAN 362, SHEETS C903 & C904.
21. INSTALL PIPE OUTFALL (FES) PER APWA STANDARD PLAN 323.1, SHEET C904, WITH 10' WIDE x 20' LONG D50=9" RIP RAP 18" DEEP.
22. CONNECT TO EXISTING WATER MAIN.
23. CONNECT PRESSURE SEWER PIPE TO EXISTING SEWER MANHOLE. INTERIOR OF EXISTING MANHOLE TO BE COATED WITH TNEMEC SERIES 218 MORTARCLAD, SERIES 434 PERMA-SHIELD H2S AND SERIES 435 PERMA-GLAZE. APPLICATOR SHALL PROVIDE ALL ACCESSORY COMPONENTS SUCH AS POLYSULFIDE SEALANTS AND CURING COMPOUNDS AS RECOMMENDED BY MANUFACTURER FOR MAXIMUM PROTECTIVE LINING ADHESION TO SUBSTRATE AND LONG TERM SERVICE PERFORMANCE. INSTALL GRANULAR ACTIVATED CARBON AIR FILTER IN LID FOR ODOR PROTECTION.
24. INSTALL 10" OF 1-1/2" UDOT STANDARD UTBC COMPACTED TO 95% MODIFIED PROCTOR OVER 10" OF 3" GRANULAR BORROW COMPACTED TO 95% MODIFIED PROCTOR PER APWA 2017 STANDARDS.
25. INSTALL 4' WIDE x 1' DEEP SWALE, D50=6" RIP RAP LINED, PER DETAIL B, SHEET C904.
26. CAP & BLOCK WATER MAIN PER PMWSID DETAIL W-7, SHEET C900.
27. SEE BRIDGE DESIGN PACKAGE FOR BRIDGE, GUARDRAIL AND WING WALLS DESIGN.
28. INSTALL PRESSURE SEWER AIR RELEASE VALVE (CAV) PER DETAIL A, SHEET C904.
29. INSTALL 18"X12" REDUCER PER PMWSID DETAIL W-7, SHEET C900.
30. INSTALL ONE WAY SIGN PER MUTCD STANDARDS & SPECIFICATIONS.



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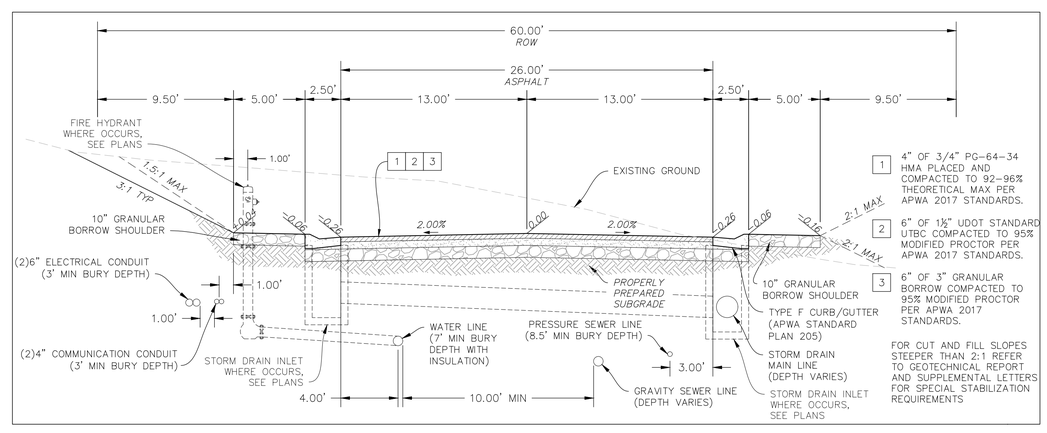


60' RIGHT OF WAY ROAD SECTION (W/ CURB & GUTTER)

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
ROADWAY PLAN & PROFILE

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
10/2/25
STATE OF UTAH

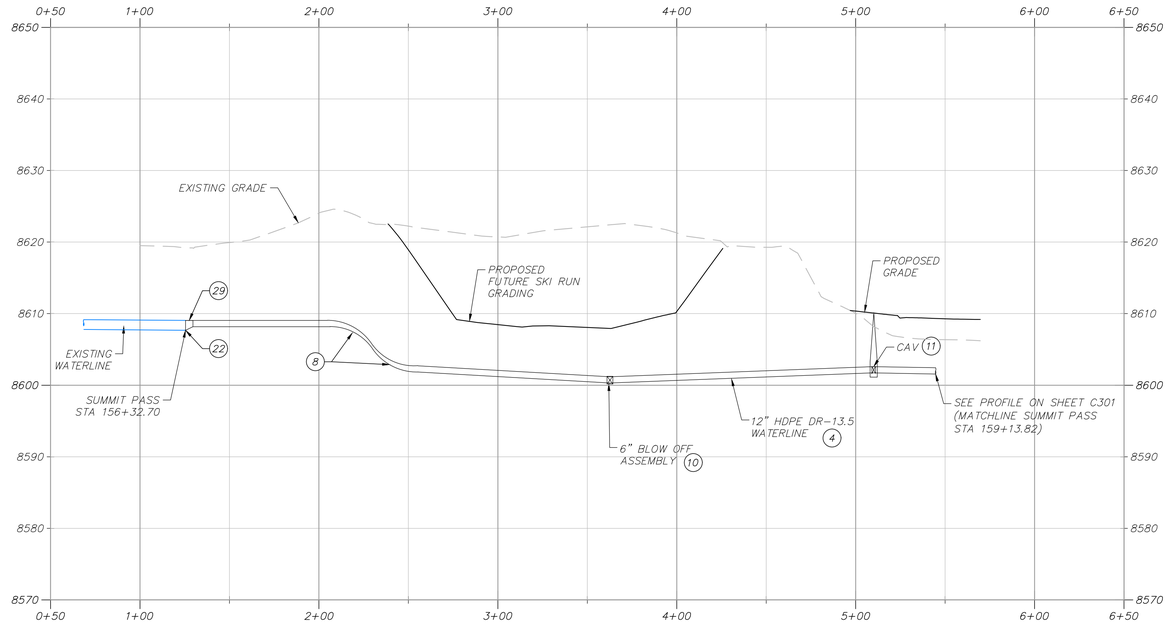
SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

SHEET NUMBER
C310
14 OF 38

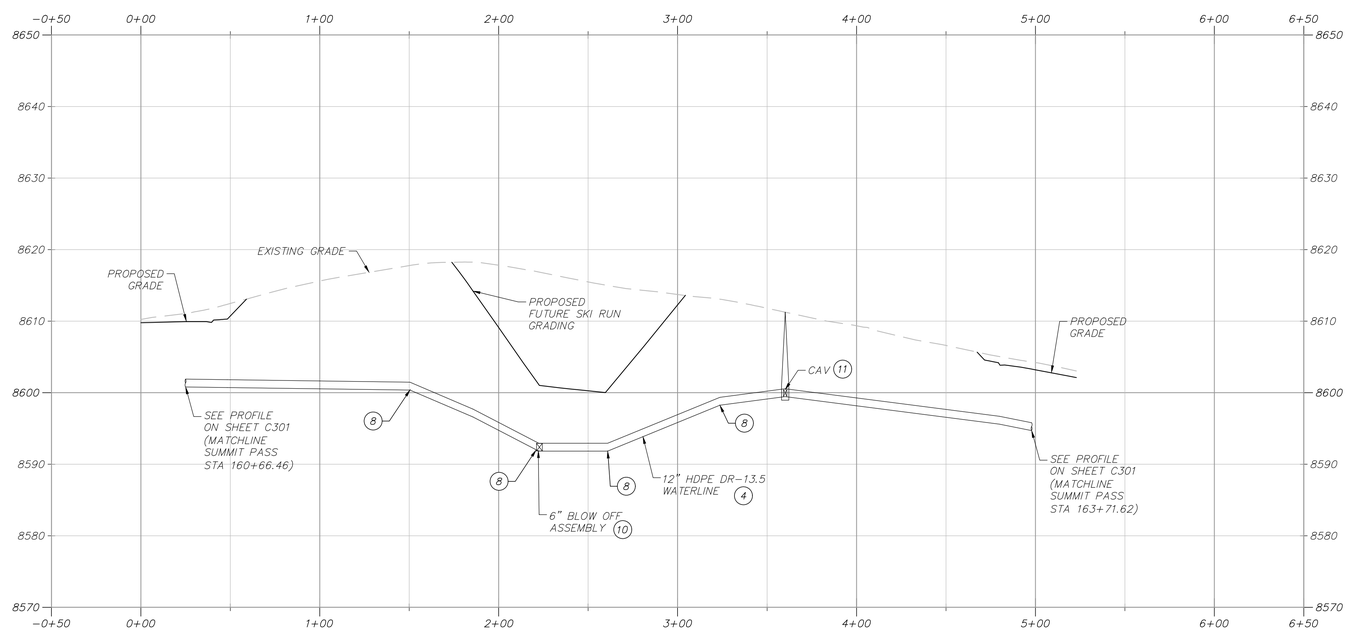
CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

DATE: 1/15/2025 2:59 PM

PATH: N:\S:\81793\Cadd\24-210-01 - Shelter Hill\Cadd\Up\C300 PLAN & PROFILE.dwg



BRIDGE 1 UTILITY ROUTING



BRIDGE 2 UTILITY ROUTING

GENERAL NOTES:

1. CONTRACTOR IS TO VERIFY CONNECTION POINTS WITH EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN.

KEYNOTES:

1. INSTALL ASPHALT PAVEMENT. SEE ROAD SECTION.
2. INSTALL TYPE F CURB & GUTTER. SEE APWA STANDARD PLAN 205.2, SHEET C902.
3. INSTALL 5' WIDE x 10" DEEP OF 3" GRANULAR BORROW SHOULDER, COMPACTED TO 95% MODIFIED PROCTOR PER APWA 2017 STANDARDS.
4. INSTALL HDPE DR-13.5 WATERLINE PER PMWSID DETAIL W-1, SHEET C900 & ROAD SECTION.
5. INSTALL WATER MAIN VALVE PER DETAIL W-1, SHEET C900.
6. INSTALL WATER SERVICE LATERAL AND METER PER PMWSID DETAIL W-2 & UT-1, SHEET C900.
7. INSTALL FIRE HYDRANT PER PMWSID DETAILS W-4 & W4A, SHEET C900, & ROAD SECTION.
8. 30' MINIMUM BEND RADIUS PER MANUFACTORS RECOMMENDATIONS.
9. INSTALL TEE WITH THRUST BLOCKING PER PMWSID DETAIL W-7, SHEET C900.
10. INSTALL 6" BLOW OFF ASSEBMLY PER PMWSID DETAIL W-15, SHEET C905.
11. INSTALL WATER AIR RELEASE ASSEMBLY (CAV) PER PMWSID DETAIL W-5, SHEET C901.
12. INSTALL WATER PRV VAULT PER PMWSID DETAILS W-9C & W-9D, SHEET C905.
13. INSTALL SANITARY SEWER, SEE PLAN & PROFILE SHEETS FOR PIPE MATERIAL, PER PMWSID DETAIL SS-1, SHEET C900.
14. INSTALL 48" SANITARY SEWER MANHOLE PER PMWSID DETAIL SS-2, SHEET C900.
15. INSTALL 60" SANITARY SEWER MANHOLE PER PMWSID DETAIL SS-2, SHEET C900.
16. INSTALL SANITARY SEWER LATERAL PER PMWSID SS-3 & UT-1, SHEETS C900 & C901.
17. INSTALL 6" IPS DR-11 PRESSURE SEWER HDPE PIPE (TOTAL LENGTH = 7845 LF) PER ROAD SECTION. WHEN CROSSING WATER, LOOP AS NECESSARY TO PROVIDE 18" MIN. CLEARANCE BELOW WATER LINE. MAINTAIN 10' MIN CLEARANCE HORIZONTALLY FROM WATER AT ALL TIMES.
18. CONNECT NEW TYPE F CURB & GUTTER TO EXISTING CURB & GUTTER PER APWA STANDARD PLAN 206, SHEET C902.
19. INSTALL CORRUGATED HDPE STORM DRAIN PIPE PER APWA STANDARD DETAILS 381 & 382, SHEETS C904 & C905 & ROAD SECTION.
20. INSTALL SINGLE GRATE STORM DRAIN INLET WITH GRATE & FRAME PER D&L PART# I-3386 & APWA STANDARD PLAN 362, SHEETS C903 & C904.
21. INSTALL PIPE OUTFALL (FES) PER APWA STANDARD PLAN 323.1, SHEET C904, WITH 10' WIDE x 20' LONG D50=9" RIP RAP 18" DEEP.
22. CONNECT TO EXISTING WATER MAIN.
23. CONNECT PRESSURE SEWER PIPE TO EXISTING SEWER MANHOLE. INTERIOR OF EXISTING MANHOLE TO BE COATED WITH TNEMEC SERIES 218 MORTARCLAD, SERIES 434 PERMA-SHIELD H2S AND SERIES 435 PERMA-GLAZE. APPLICATOR SHALL PROVIDE ALL ACCESSORY COMPONENTS SUCH AS POLYSULFIDE SEALANTS AND CURING COMPOUNDS AS RECOMMENDED BY MANUFACTURER FOR MAXIMUM PROTECTIVE LINING ADHESION TO SUBSTRATE AND LONG TERM SERVICE PERFORMANCE. INSTALL GRANULAR ACTIVATED CARBON AIR FILTER IN LID FOR ODOR PROTECTION.
24. INSTALL 10" OF 1-1/2" UDOT STANDARD UTBC COMPACTED TO 95% MODIFIED PROCTOR OVER 10" OF 3" GRANULAR BORROW COMPACTED TO 95% MODIFIED PROCTOR PER APWA 2017 STANDARDS.
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26. CAP & BLOCK WATER MAIN PER PMWSID DETAIL W-7, SHEET C900.
27. SEE BRIDGE DESIGN PACKAGE FOR BRIDGE, GUARDRAIL AND WING WALLS DESIGN.
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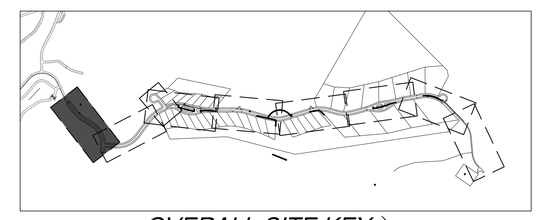
29. INSTALL 18"X12" REDUCER PER PMWSID DETAIL W-7, SHEET C900.



OVERALL SITE KEY

PROFILE SCALE:
HORIZONTAL: 1"=40'
VERTICAL: 1"=10'

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
UTILITY PLAN & PROFILES

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
1/10/25
STATE OF UTAH

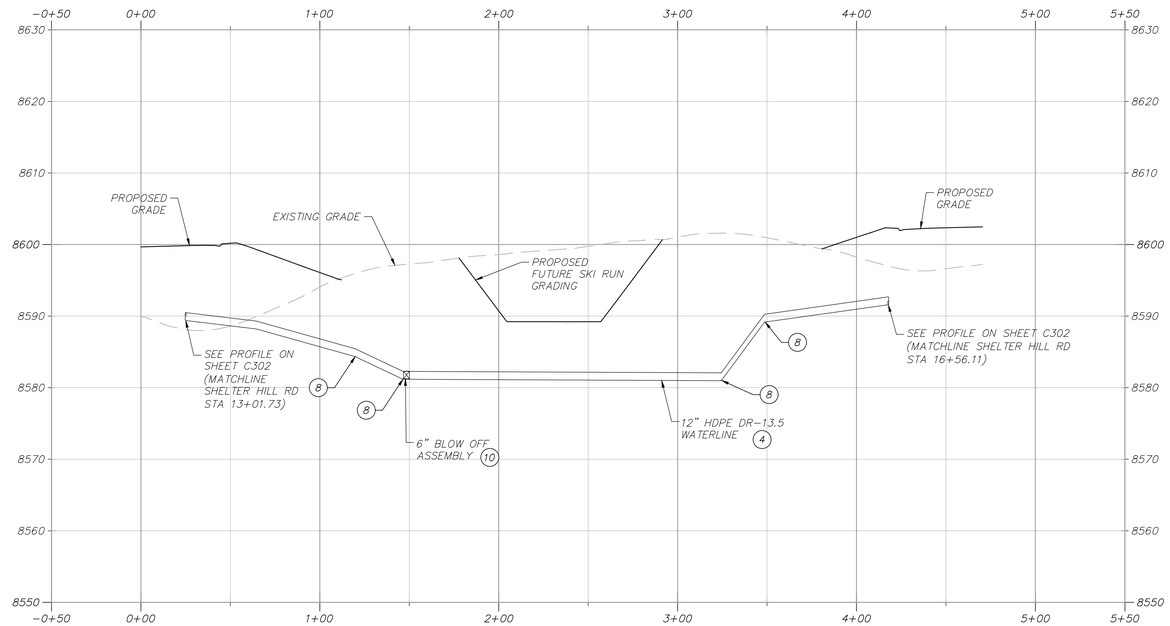
SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

SHEET NUMBER
C311
15 OF 37

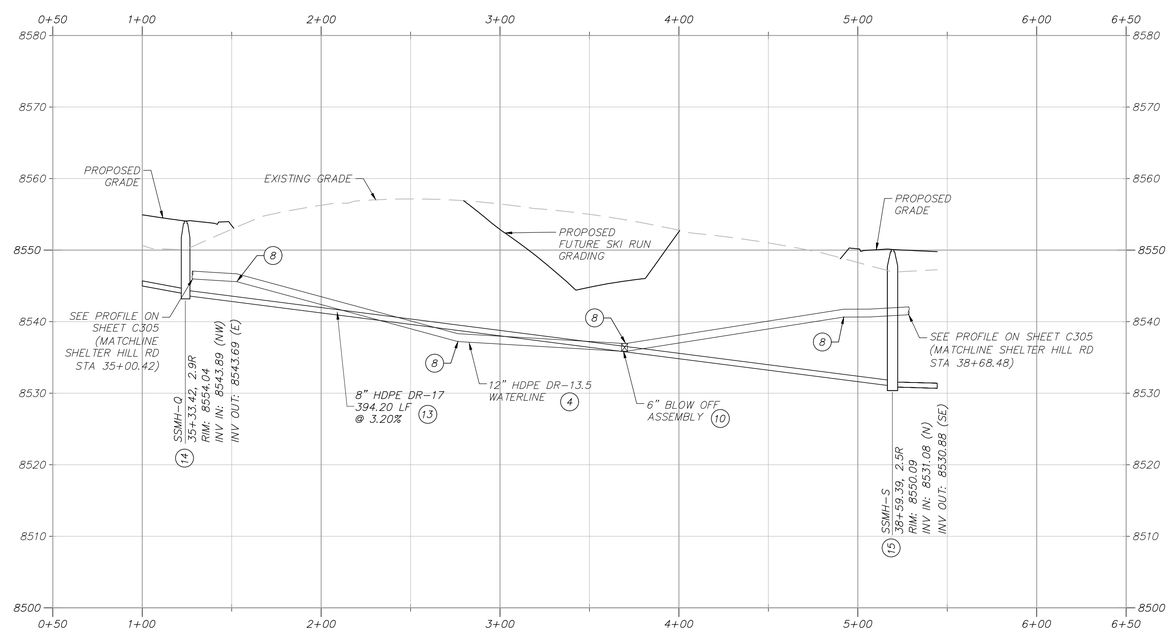
CALL 811 BEFORE YOU DIG
811 SAFE DIGGING PARTNER

DATE: 1/9/2025 9:11 PM

PATH: N:\SLB0793\Cadd\24-210-01 - Shelter Hill\Cadd\p\C310 PLAN & PROFILE.dwg



BRIDGE 3 UTILITY ROUTING



BRIDGE 4 UTILITY ROUTING

GENERAL NOTES:

1. CONTRACTOR IS TO VERIFY CONNECTION POINTS WITH EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN.

KEYNOTES:

1. INSTALL ASPHALT PAVEMENT. SEE ROAD SECTION.
2. INSTALL TYPE F CURB & GUTTER. SEE APWA STANDARD PLAN 205.2, SHEET C902.
3. INSTALL 5' WIDE x 10" DEEP OF 3" GRANULAR BORROW SHOULDER, COMPACTED TO 95% MODIFIED PROCTOR PER APWA 2017 STANDARDS.
4. INSTALL HDPE DR-13.5 WATERLINE PER PMWSID DETAIL W-1, SHEET C900 & ROAD SECTION.
5. INSTALL WATER MAIN VALVE PER DETAIL W-1, SHEET C900.
6. INSTALL WATER SERVICE LATERAL AND METER PER PMWSID DETAIL W-2 & UT-1, SHEET C900.
7. INSTALL FIRE HYDRANT PER PMWSID DETAILS W-4 & W4A, SHEET C900, & ROAD SECTION.
8. 30' MINIMUM BEND RADIUS PER MANUFACTORS RECOMMENDATIONS.
9. INSTALL TEE WITH THRUST BLOCKING PER PMWSID DETAIL W-7, SHEET C900.
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15. INSTALL 60" SANITARY SEWER MANHOLE PER PMWSID DETAIL SS-2, SHEET C900.
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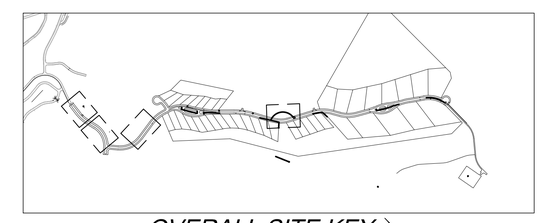

OVERALL SITE KEY

PROFILE SCALE:
HORIZONTAL: 1"=40'
VERTICAL: 1"=10'

TALISMAN CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
UTILITY PLAN & PROFILES

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
1/10/25
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

SHEET NUMBER
C312
16 OF 37

CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

DATE: 1/9/2025 9:12 PM

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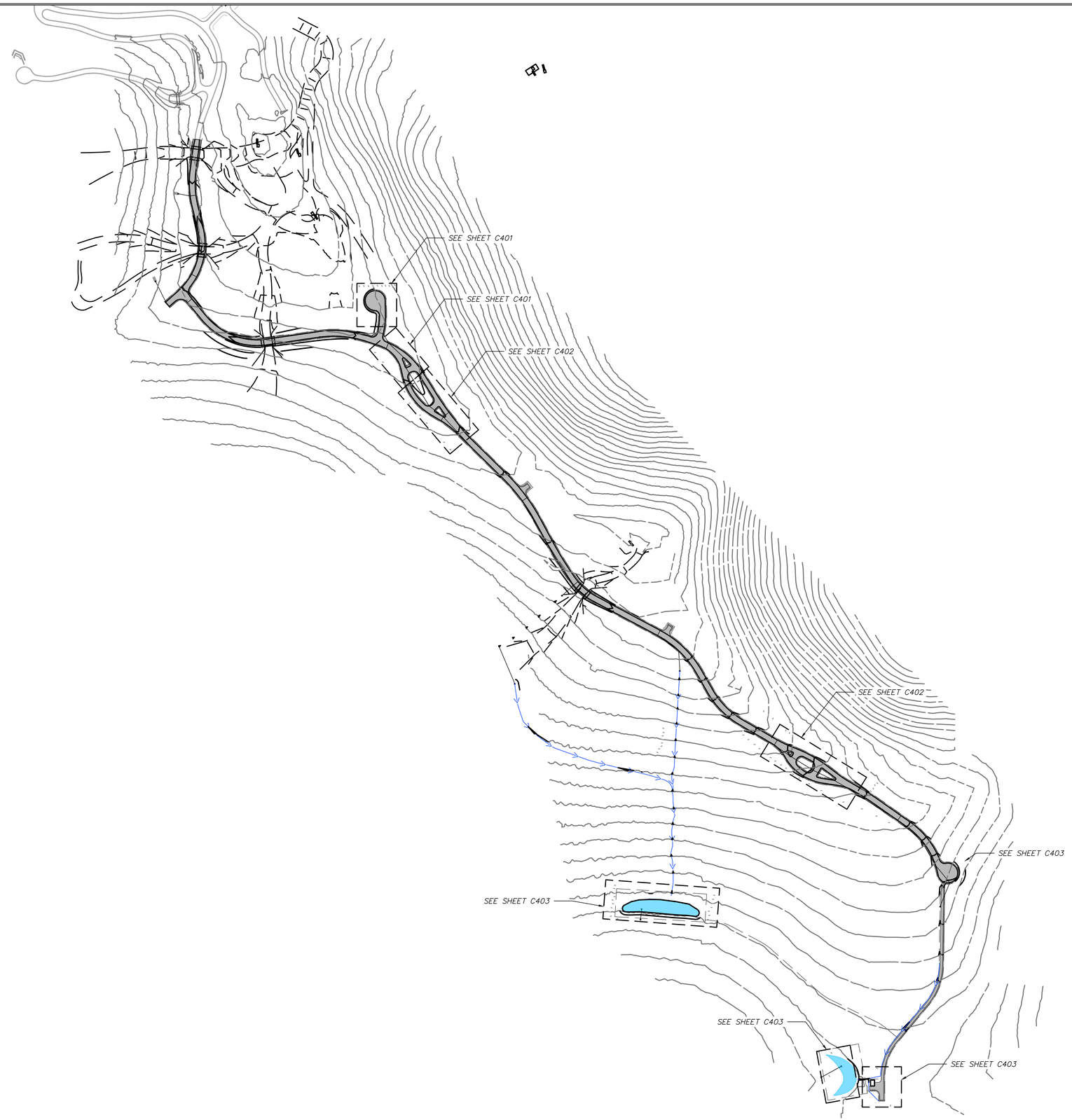

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CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
GRADING PLAN

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
1/10/25
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 250'
0 62' 125 250' 375'

CALL 811 BEFORE YOU DIG
811
SAFE DIGGING PARTNER

SHEET NUMBER
C400
17 OF 37

DATE: 1/9/2025 9:13 PM

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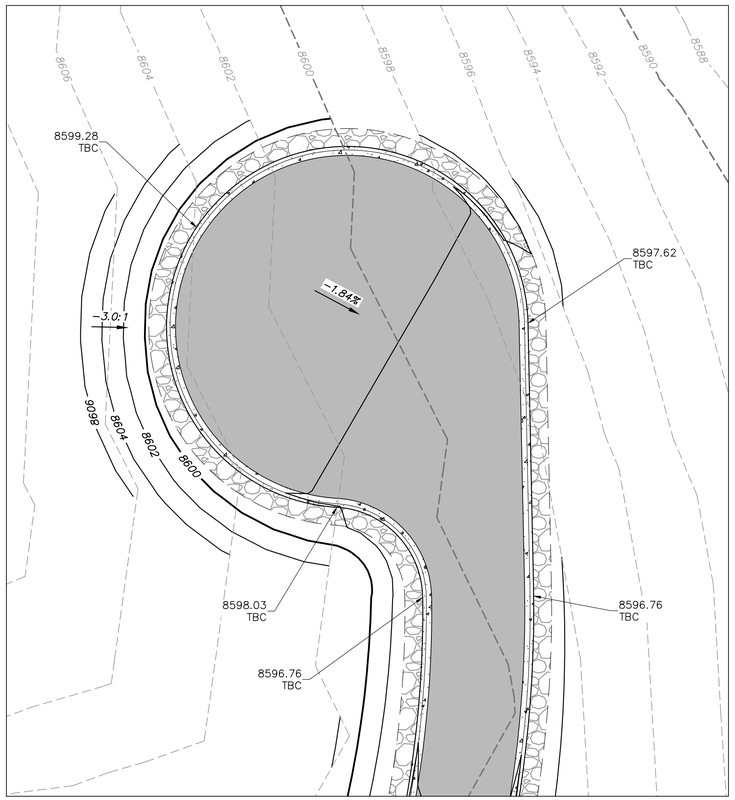
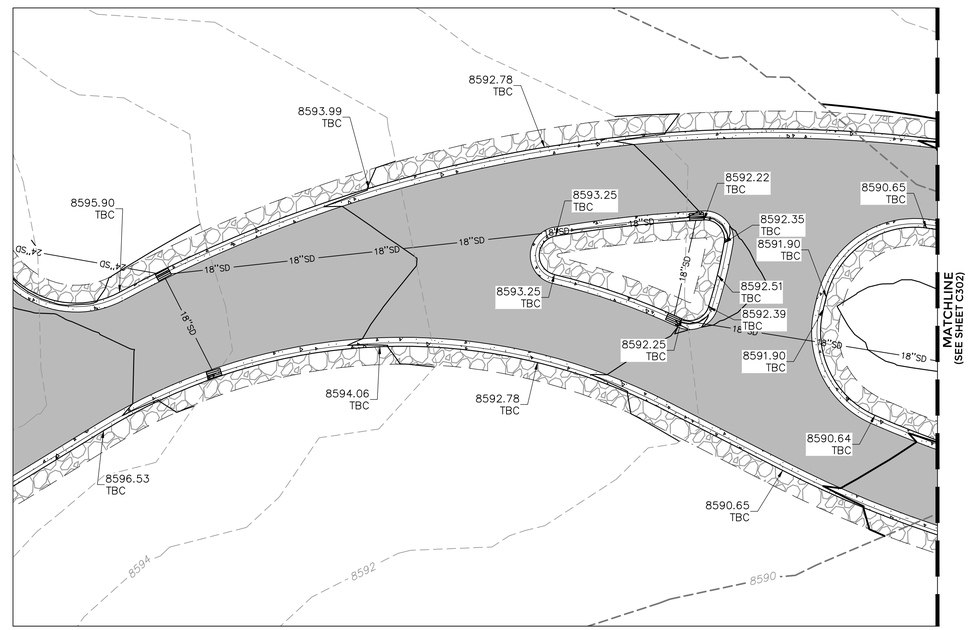


SHELTER HILL CUL-DE-SAC 1



SHELTER HILL MEDIAN

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL GRADING PLAN

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
1/10/25
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 20'
0 5' 10' 20' 30'

SHEET NUMBER
C401
18 OF 37

CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

DATE: 1/9/2025 9:13 PM

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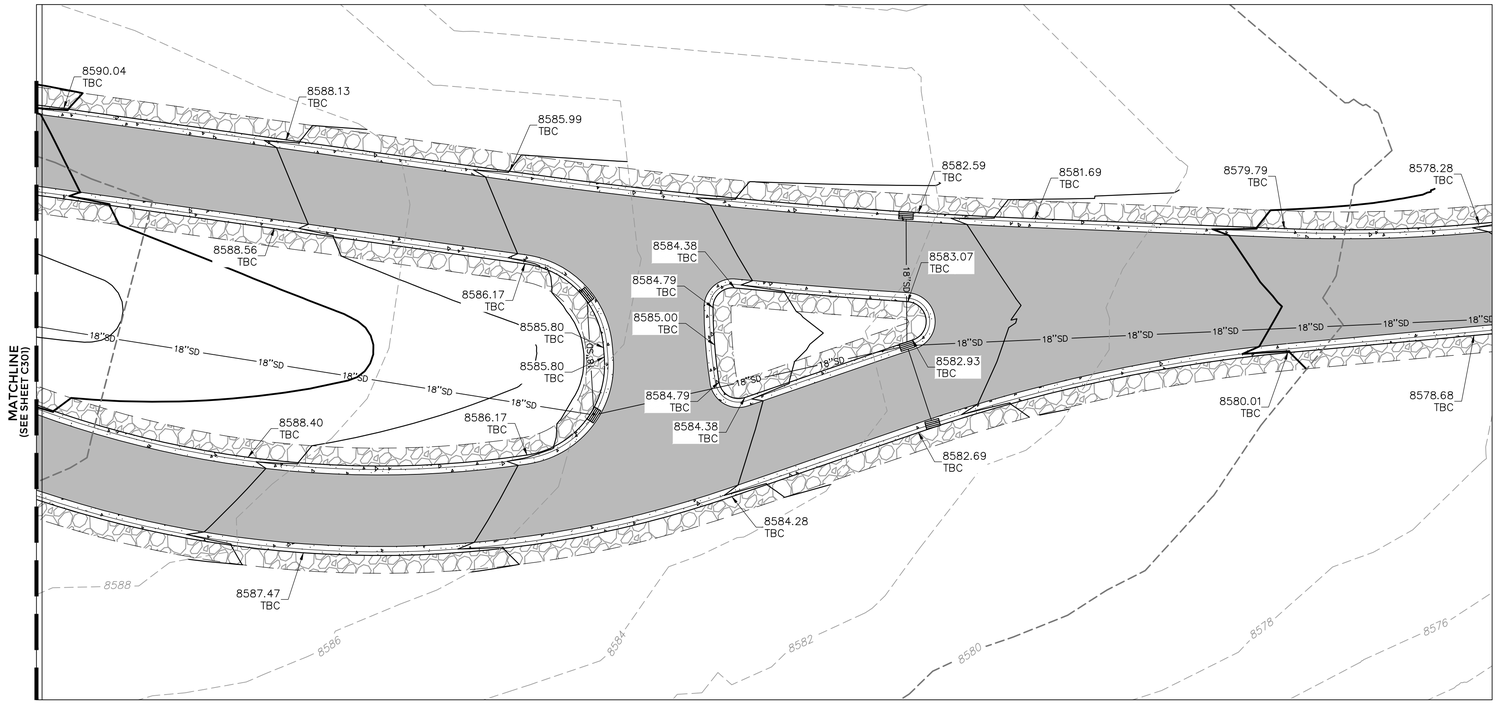
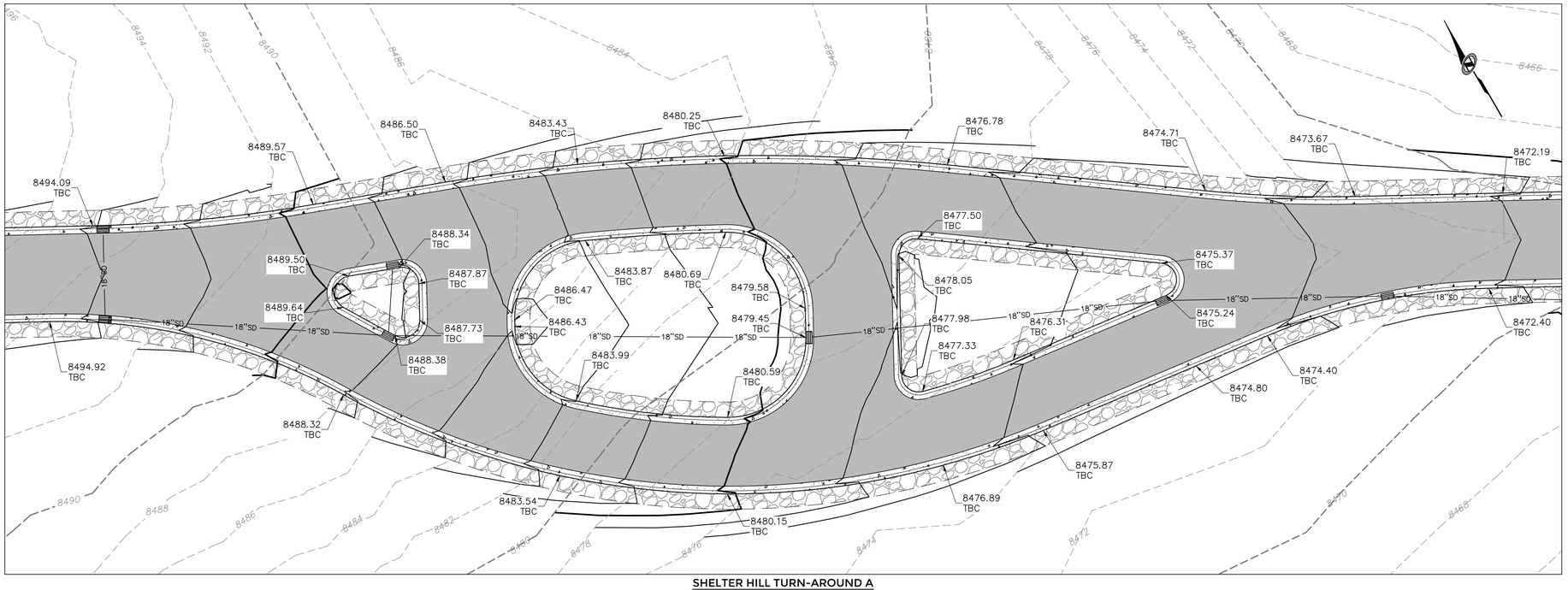


SHELTER HILL MEDIAN CONTINUED



SHELTER HILL TURN-AROUND A

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL GRADING PLAN

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
10/2
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 20'
0 5' 10' 20' 30'

SHEET NUMBER
C402
19 OF 37

CALL 811 BEFORE YOU DIG
811
SAFE DIGGING PARTNER

DATE: 1/9/2025 9:13 PM

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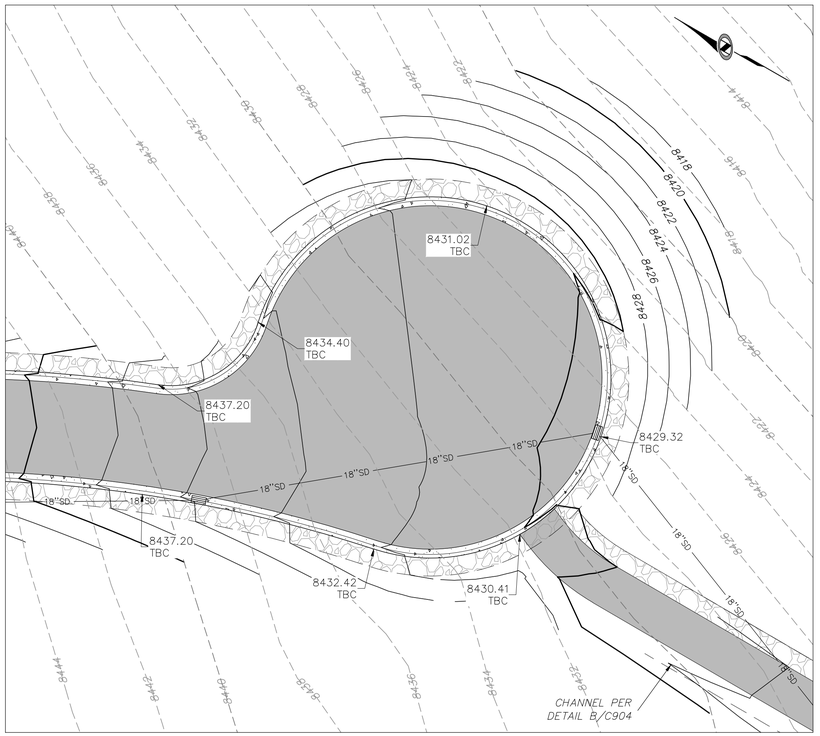

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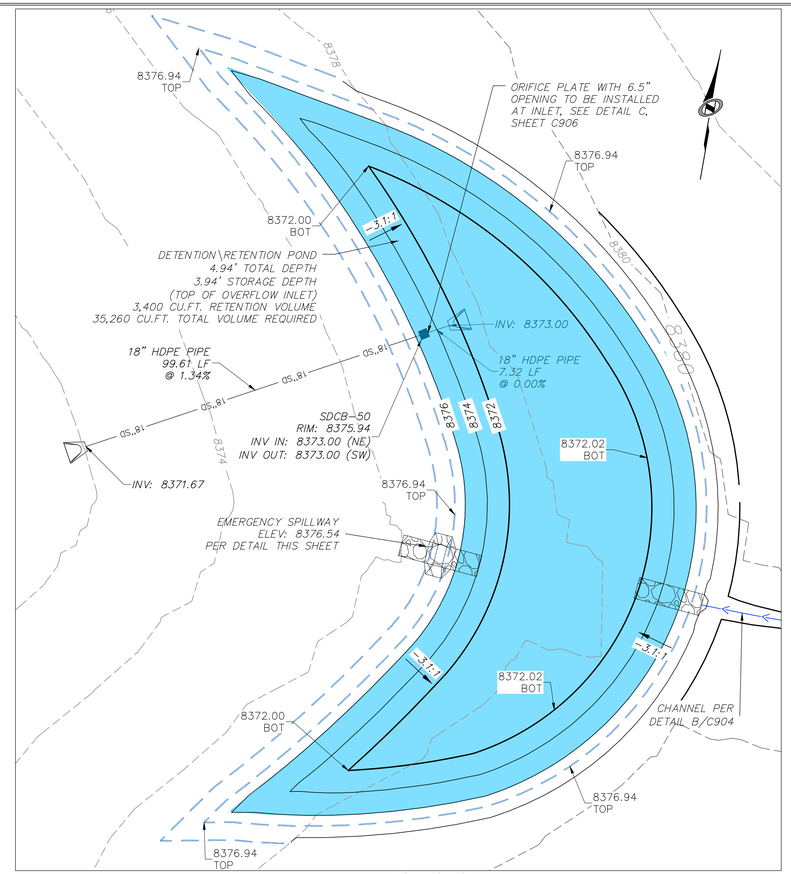
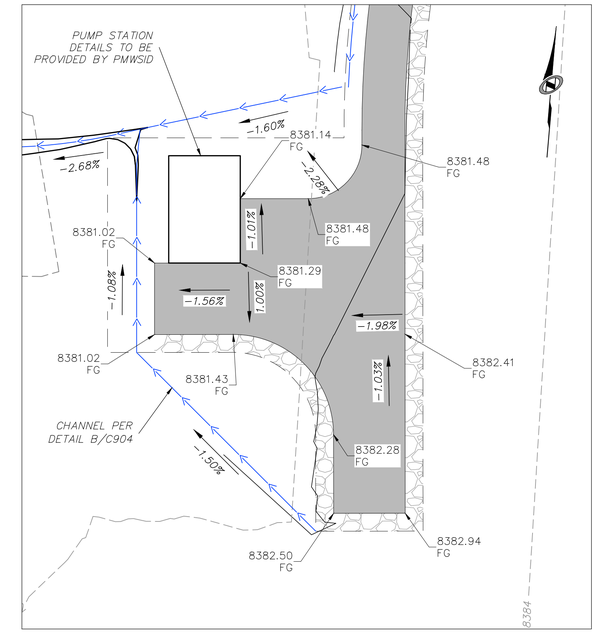
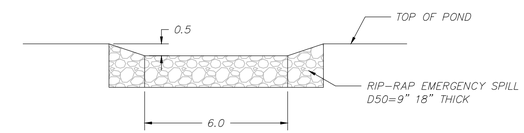


POND SH-2

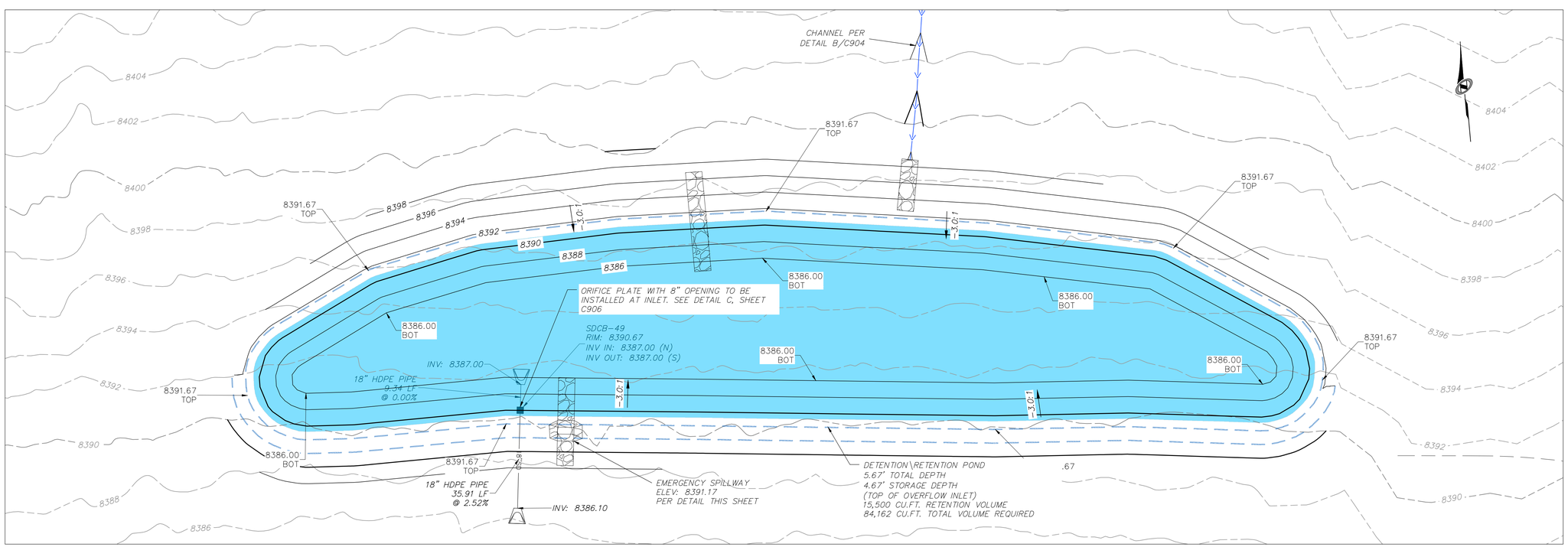


SEWER PUMP STATION SITE



EMERGENCY SPILLWAY

SCALE: 1" = N.T.S.



POND SH-1

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
GRADING PLAN

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
BRYAN W. CATHEY
10/2/25
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

SHEET NUMBER
C403
20 OF 38

CALL 811 BEFORE YOU DIG
SAFE DIGGING PRACTICES

DATE: 1/15/2025, 3:02 PM

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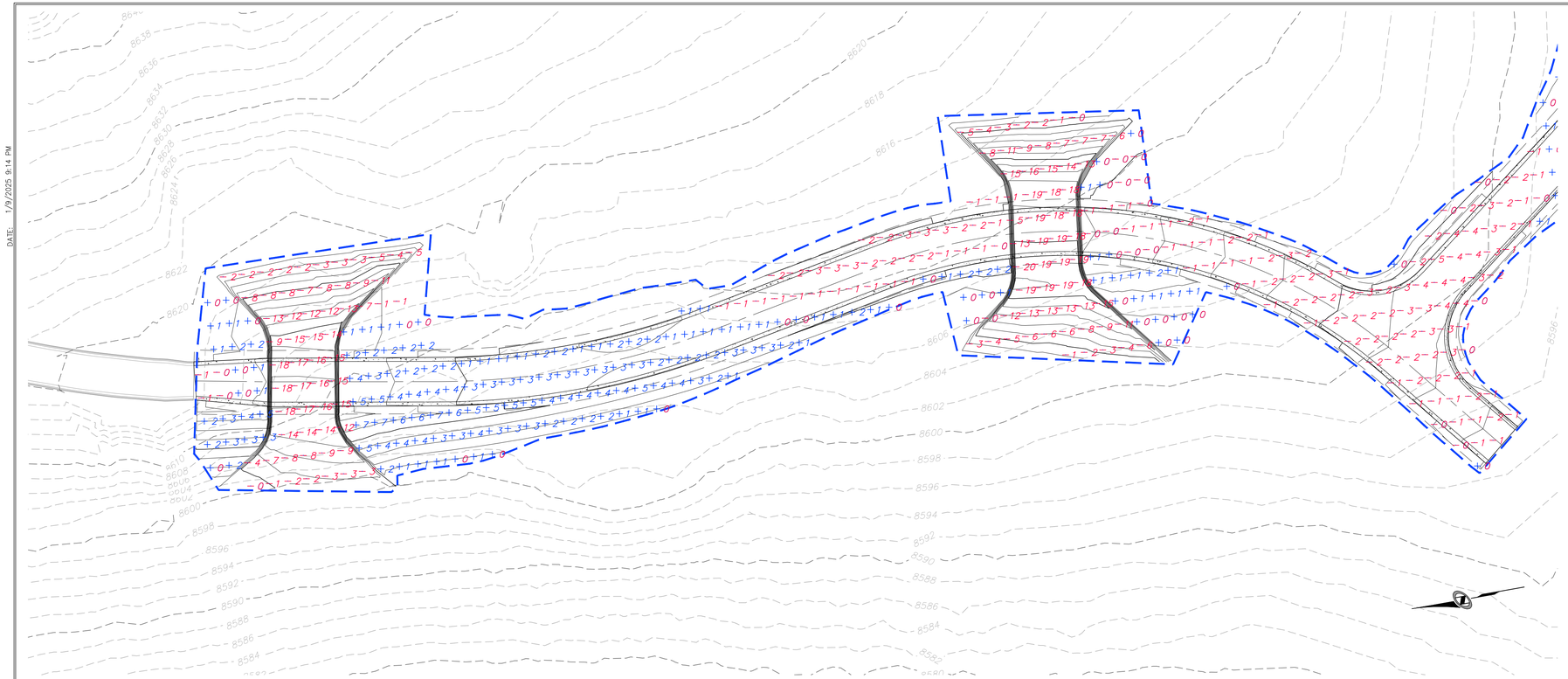
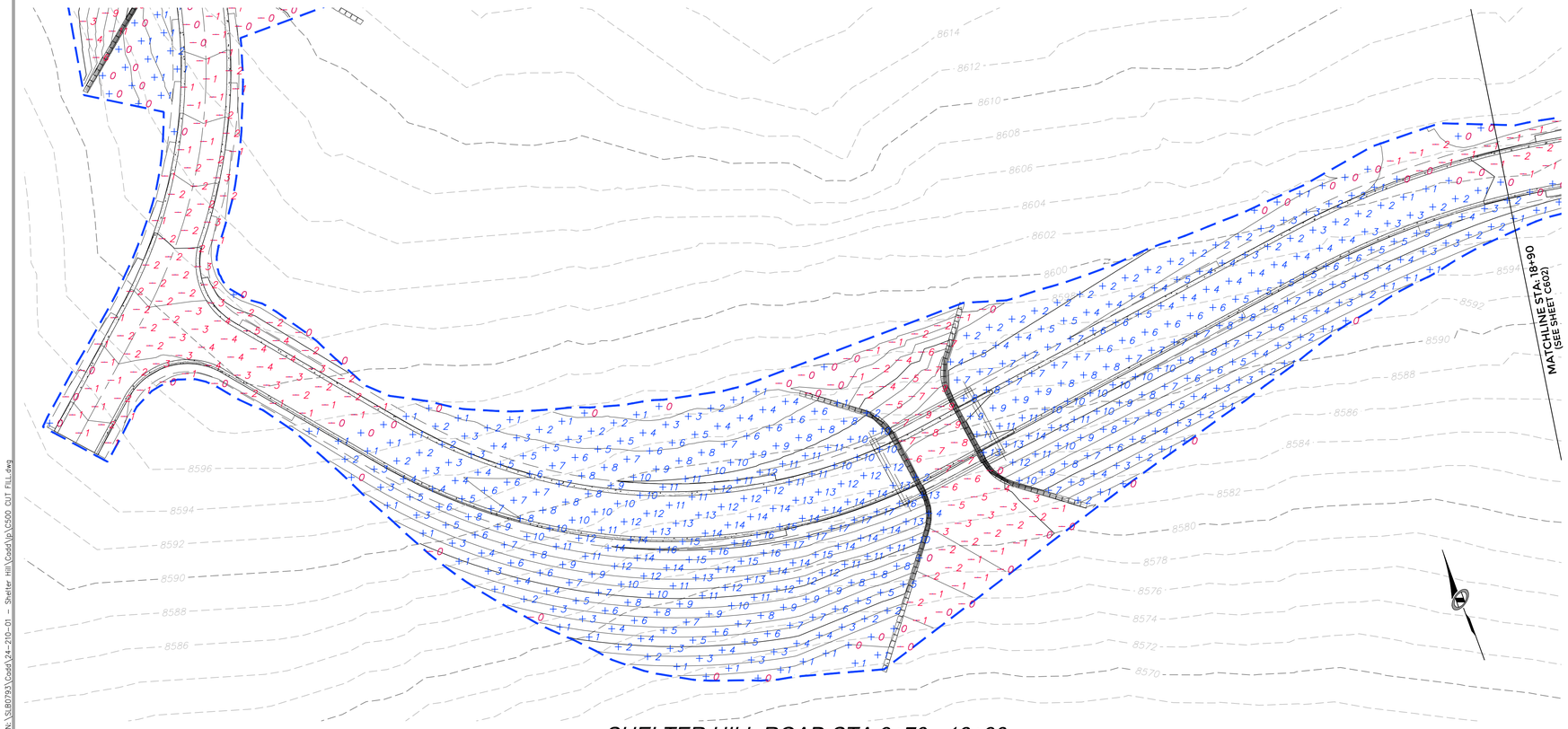


SUMMIT PASS STA 156+50 - 165+53

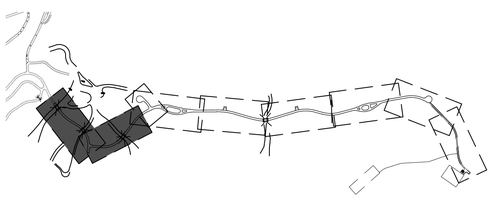


SHELTER HILL ROAD STA 9+70 - 18+90

TOTAL EARTHWORK QUANTITIES

AREA:	604,767.4 SF
CUT:	41,693 CY
FILL:	28,822 CY
NET:	12,871 CY (Cut)

* QUANTITIES ARE TO ROADWAY SUBGRADE



OVERALL SITE KEY

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
CUT FILL ANALYSIS

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
10/2
STATE OF UTAH

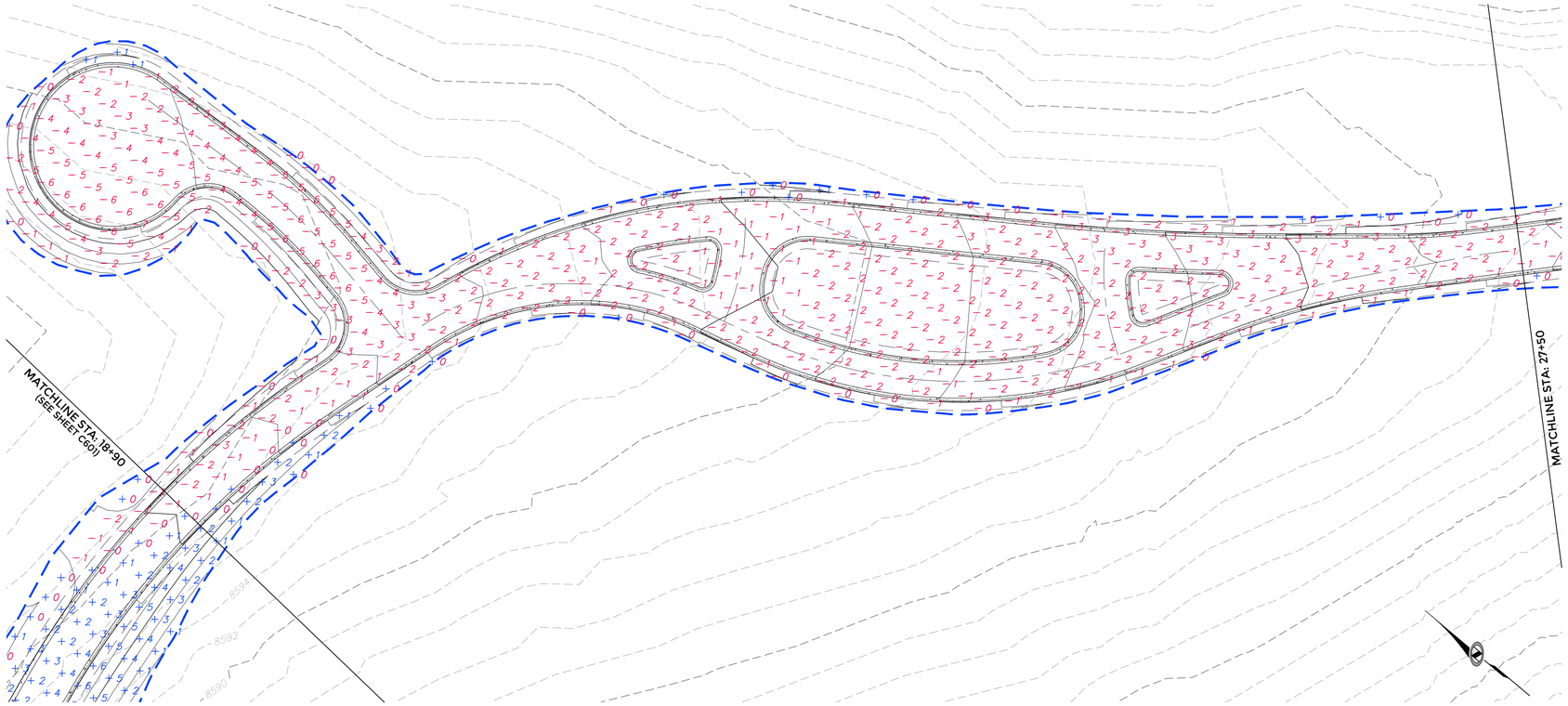
SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

CALL 811 BEFORE YOU DIG
811
SAFE DIGGING PARTNER

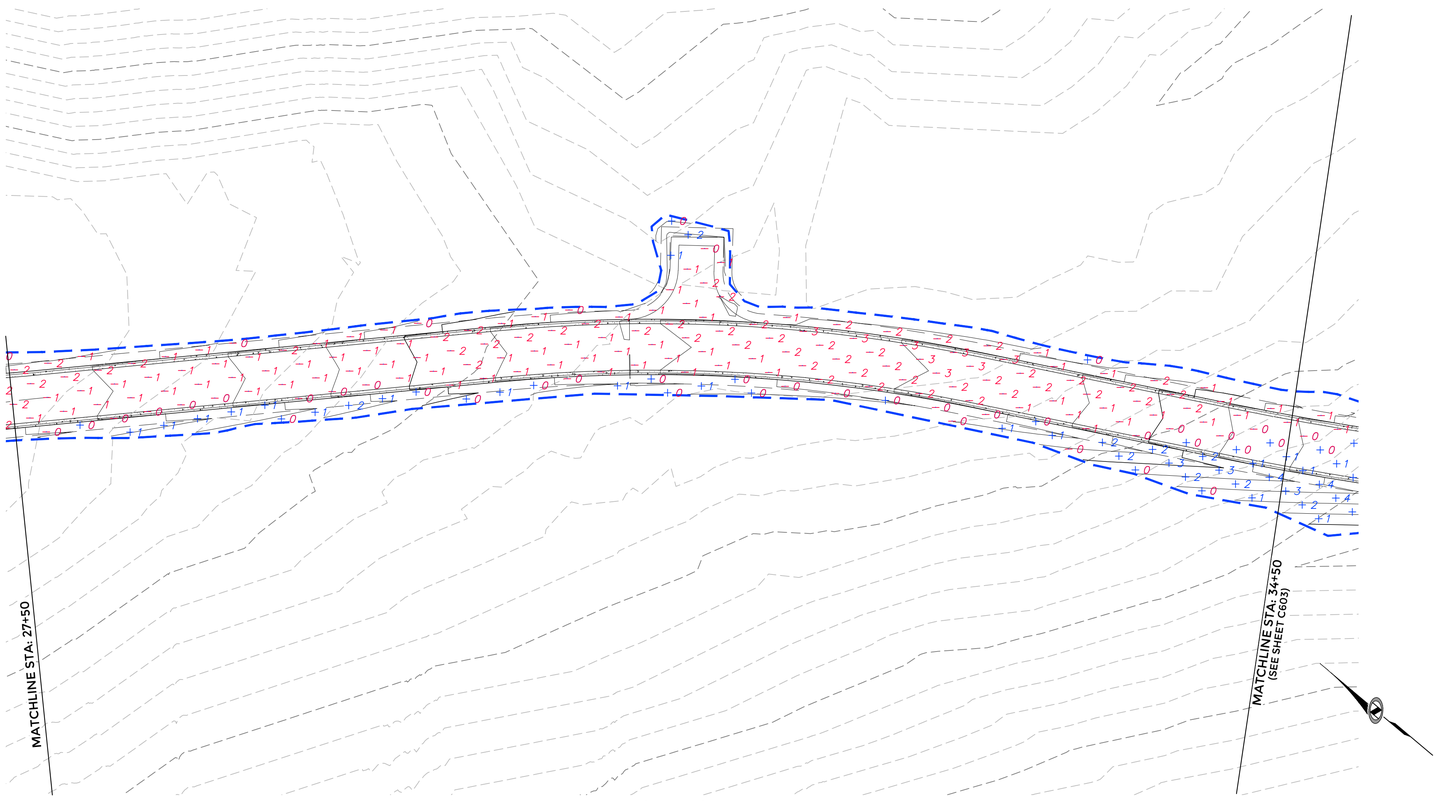
SHEET NUMBER
C501
21 OF 37

DATE: 1/9/2025 9:14 PM

PATH: K:\SB07931\Cadd\24-210-01 - Shelter Hill Cadd\p\C500 CUT FILL.dwg



SHELTER HILL ROAD STA 18+90 - 27+50



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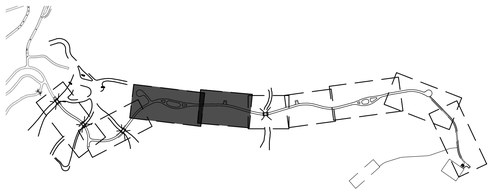

OVERALL SITE KEY

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
CUT FILL ANALYSIS

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
10/2
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

CALL 811 BEFORE YOU DIG
811
SAFE DIGGING PARTNER

SHEET NUMBER
C502
22 OF 37

DATE: 1/9/2025 9:14 PM

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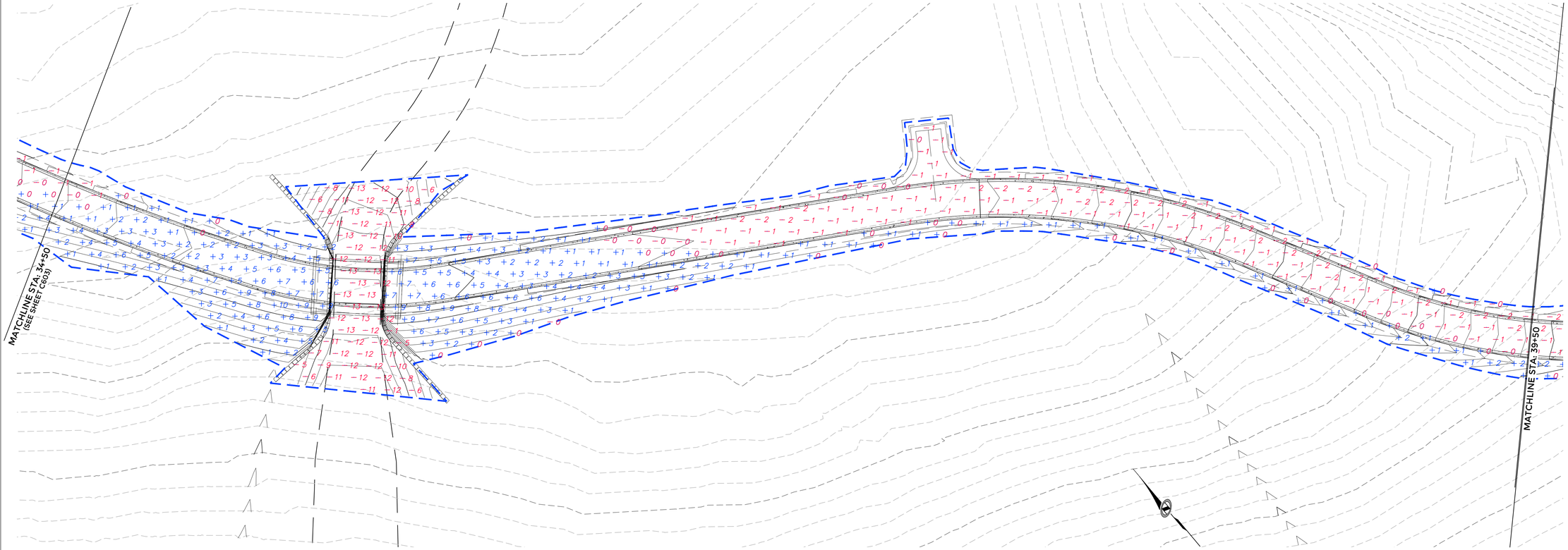
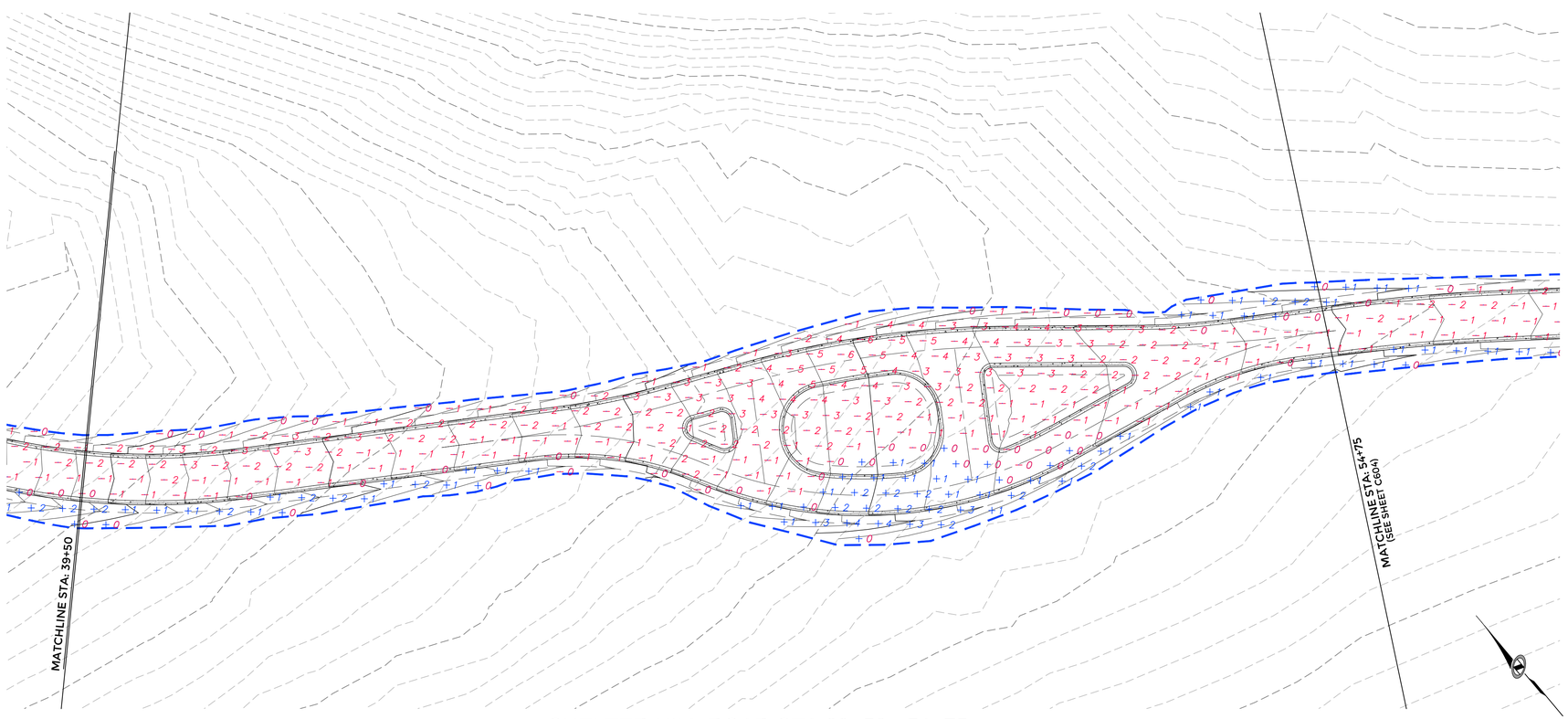
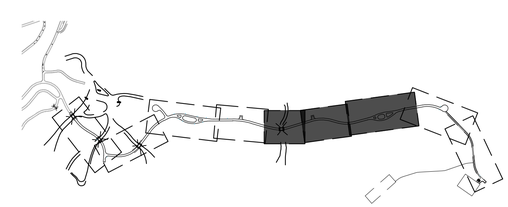


SHELTER HILL ROAD STA 34+50 - 39+50



SHELTER HILL ROAD STA 39+50 - 54+75



OVERALL SITE KEY

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
CUT FILL ANALYSIS

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
1/10/25
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

SHEET NUMBER
C503
23 OF 37

CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

DATE: 1/9/2025 9:15 PM

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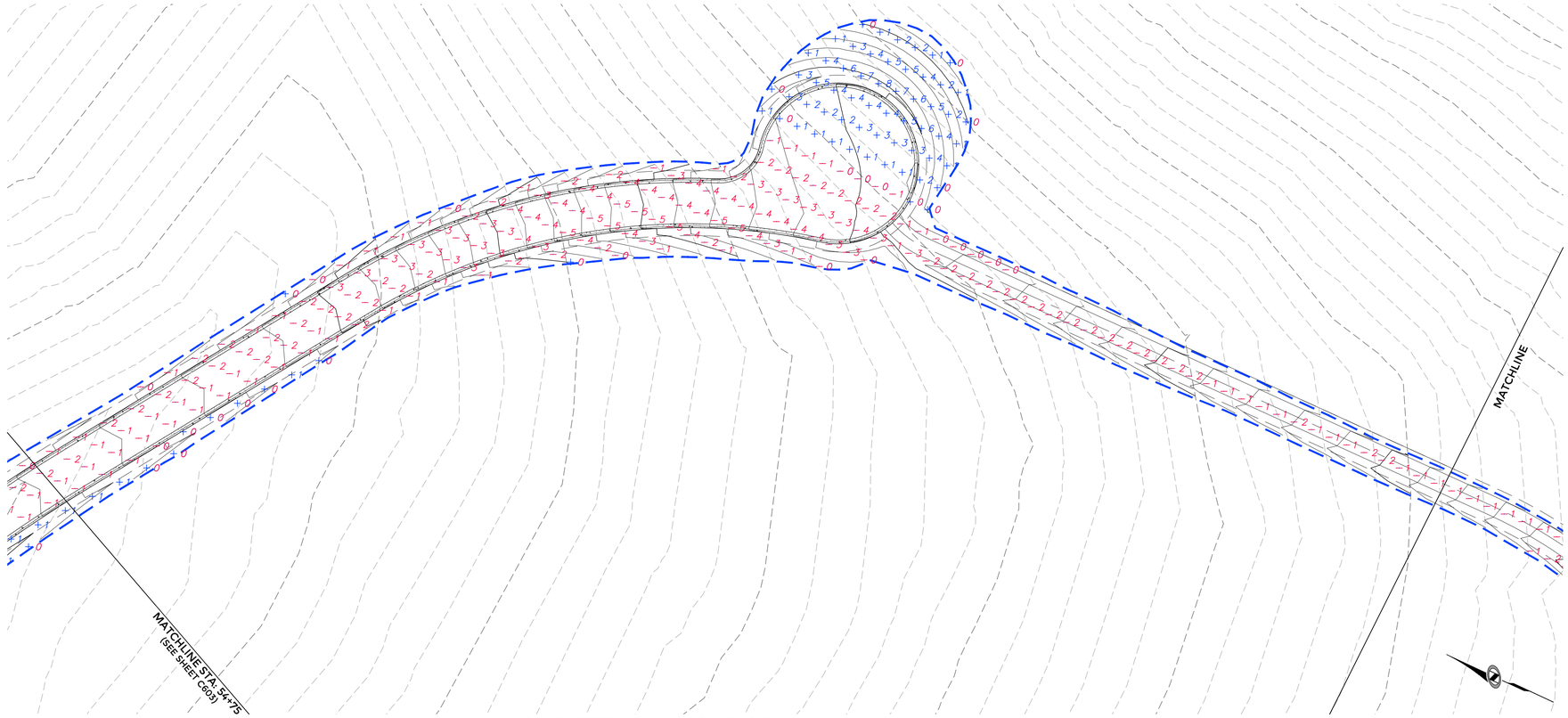
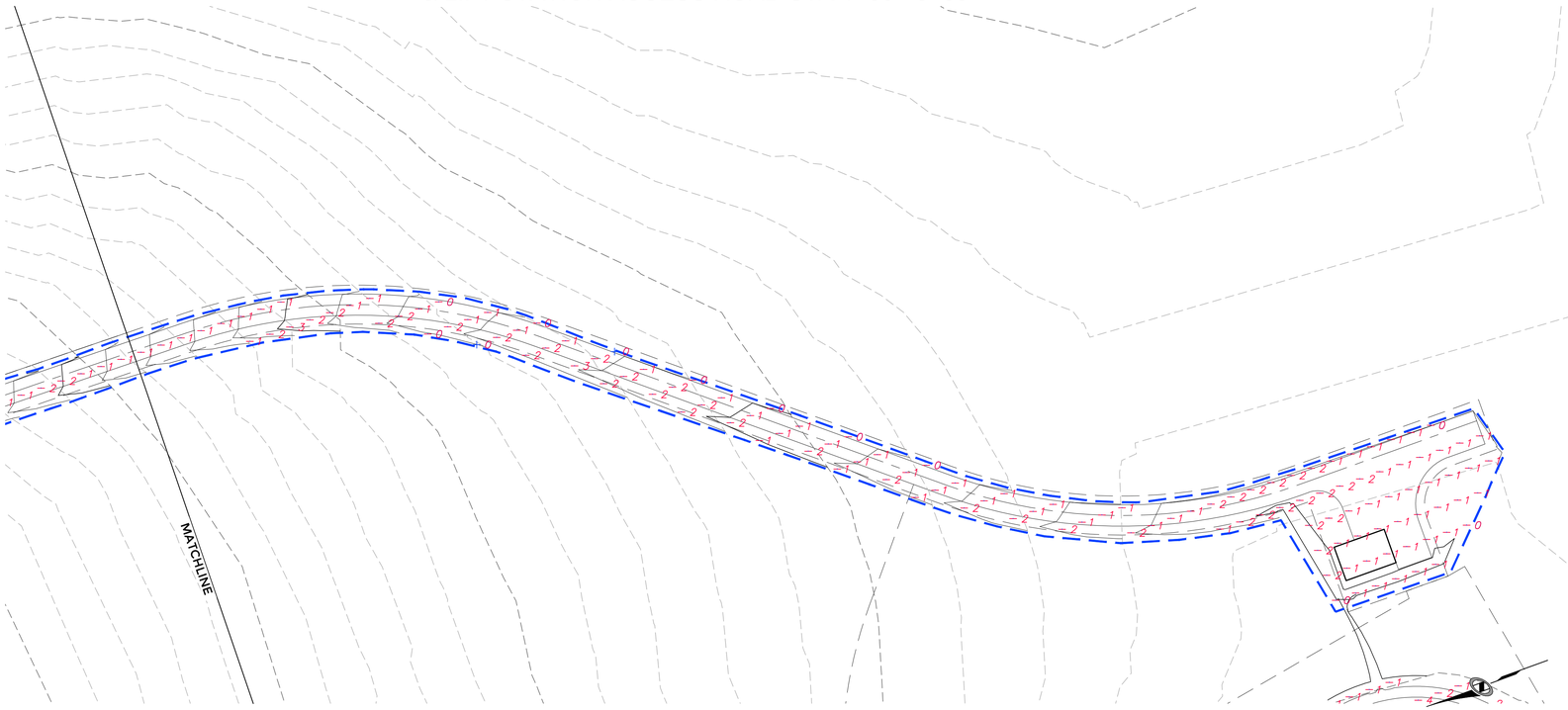
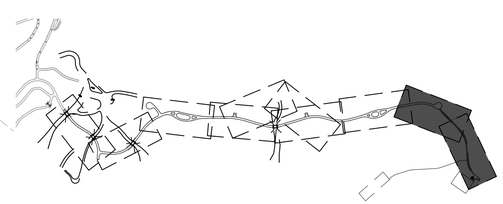


SHELTER HILL ROAD STA 54+75 - 61+00
& LIFT STATION ACCESS ROAD STA 1+00 - 3+50



LIFT STATION ACCESS ROAD STA 3+50 - 12+95.73



OVERALL SITE KEY

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
CUT FILL ANALYSIS

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
BRYAN W. CATHEY
10/25
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

SHEET NUMBER
C504
24 OF 37

CALL 811 BEFORE YOU DIG
SAFE DIGGING PRACTICES

DATE: 1/9/2025 9:15 PM

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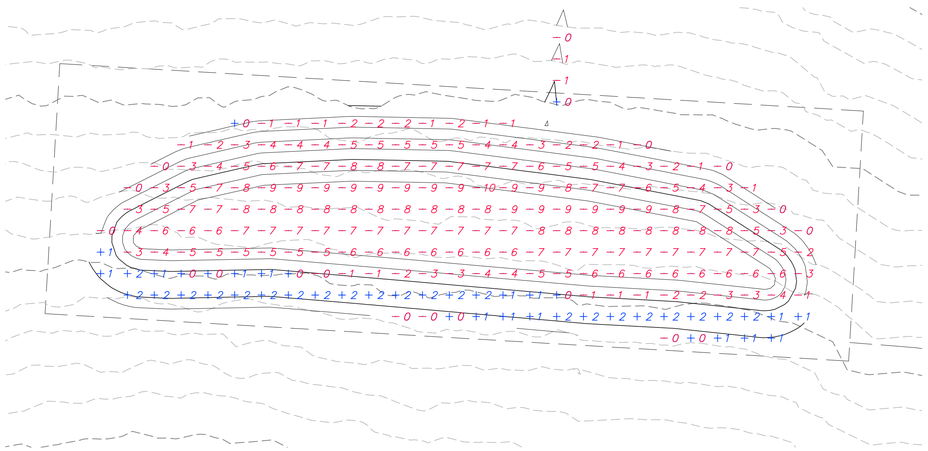

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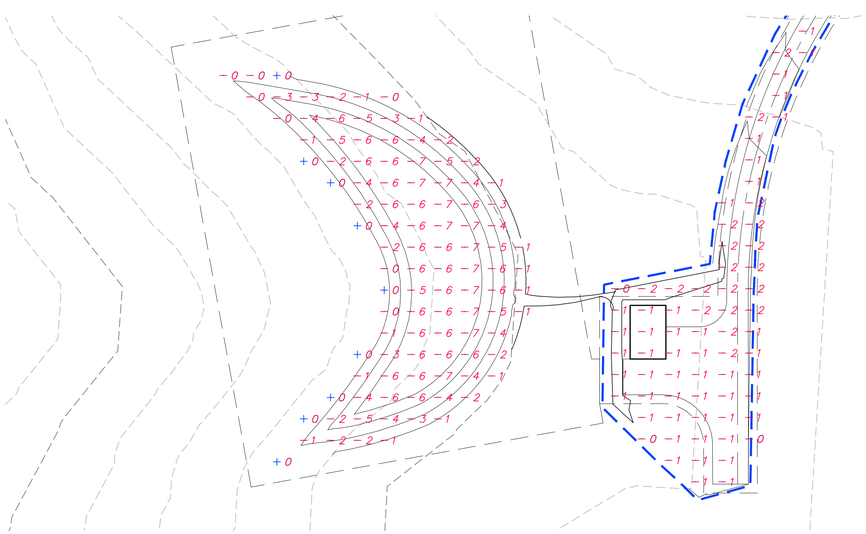

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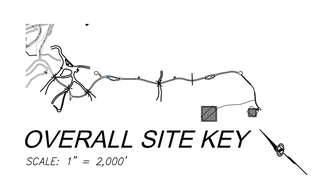


OVERALL SITE KEY

SCALE: 1" = 2,000'

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
CUT FILL ANALYSIS

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
1/10/25
STATE OF UTAH

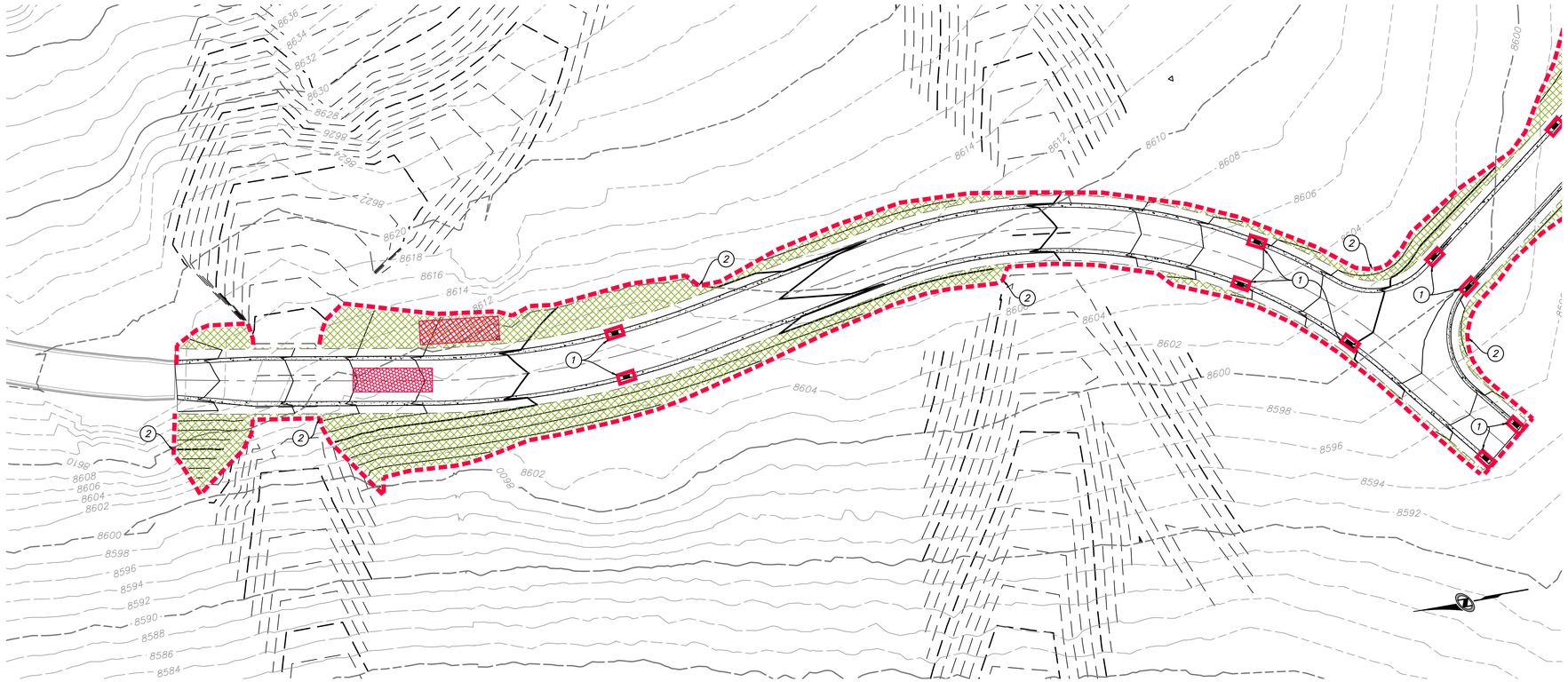
SCALE

HORIZONTAL: 1" = 40'

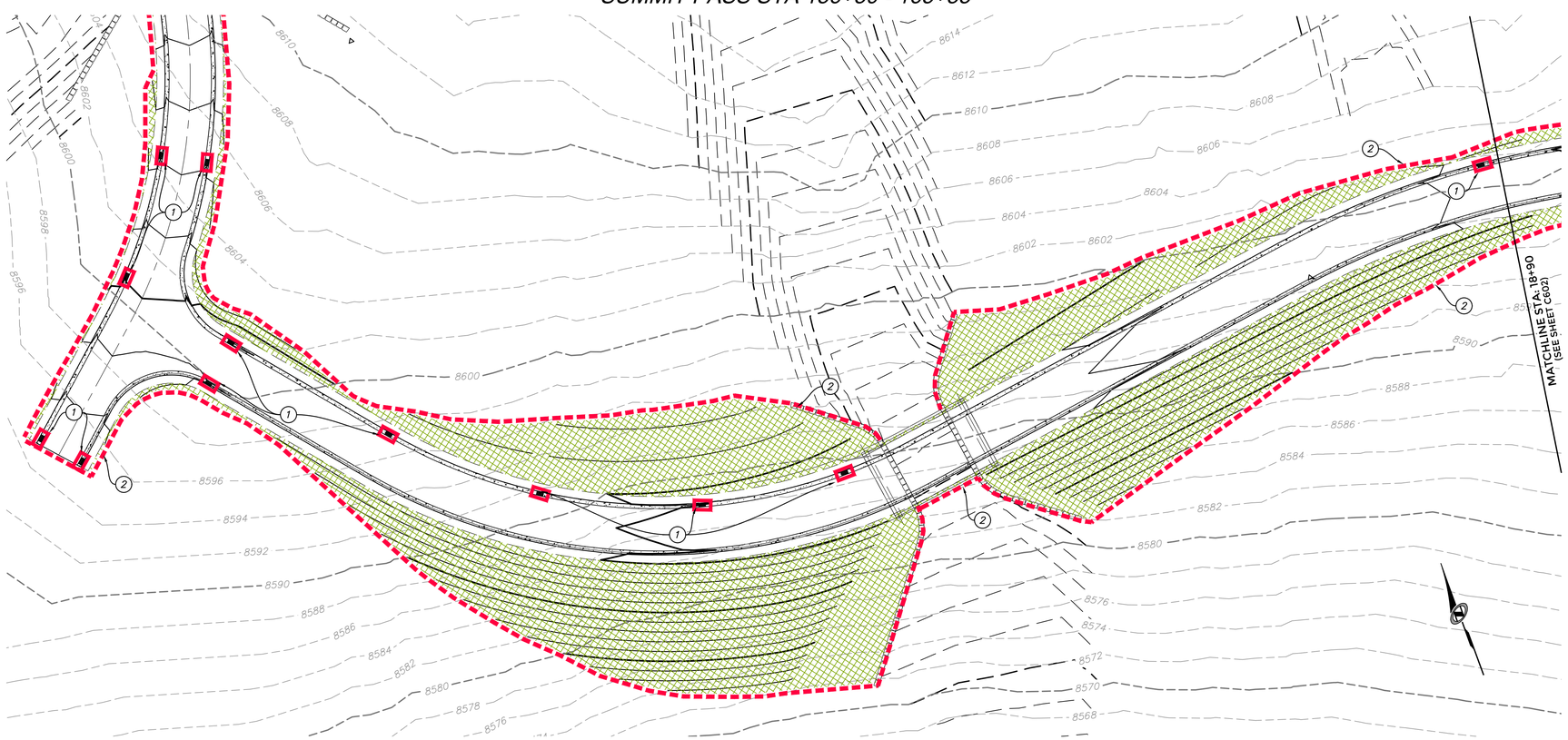
0 10' 20' 40' 60'

SHEET NUMBER

C505



SUMMIT PASS STA 156+50 - 165+53



SHELTER HILL ROAD STA 9+70 - 18+90

SCOPE OF WORK:

(1) INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN.

(2) INSTALL EARTH BERM ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN.

EXPOSED SLOPES:

ANY DISTURBED AREAS AND/OR EXPOSED SLOPE THAT WILL REMAIN UNTOUCHED FOR LONGER THAN 14 DAYS MUST BE STABILIZED BY ONE OR MORE OF THE FOLLOWING METHODS:

A) SPRAYING DISTURBED AREAS WITH A TACKIFIER VIA HYDROSEED. USE THE FOLLOWING SEED MIXTURE.

i.	MOUNTAIN BROME	7.50 LB/AC
ii.	SLENDER WHEATGRASS	6.25 LB/AC
iii.	WESTERN WHEATGRASS	5.00 LB/AC
iv.	IDAHO FESCUE	2.50 LB/AC
v.	SANDBERG BLUEGRASS	1.25 LB/AC
vi.	BIG BLUEGRASS	1.25 LB/AC
vii.	BLUEBUNCH WHEATGRASS	1.25 LB/AC
viii.	ROCKY MOUNTAIN PENSTEMON	1.00 LB/AC
ix.	MOUNTAIN LUPINE	2.00 LB/AC
x.	SHOWY GOLDENEYE	0.50 LB/AC
xi.	WESTERN YARROW	0.25 LB/AC
xii.	BLUE FLAX	1.25 LB/AC

B) TRACKING STRAW PERPENDICULAR TO SLOPES
C) INSTALLING A LIGHT-WEIGHT, TEMPORARY EROSION CONTROL BLANKET

UPON COMPLETION OF PROJECT ALL DISTURBED AREAS MUST BE RE-SEEDED PER METHOD A ABOVE.

LEGEND:

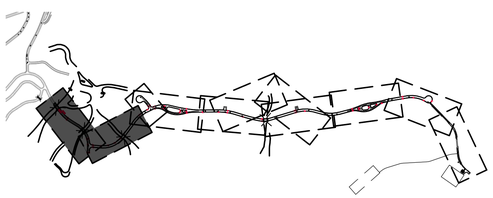
HATCHING INDICATES AREAS TO RECEIVE 4" TOPSOIL AND TO BE SEEDED FOR NATURAL VEGETATION. AREAS RECEIVING SEEDING FOR NATURAL REVEGETATION MUST BE COVERED WITH AN EROSION CONTROL BLANKET AFTER THE FINAL GRADING AND SEEDING ARE FINISHED. INSTALL NORTH AMERICAN GREEN SC-150 BLANKET OR APPROVED EQUAL. FOLLOW MANUFACTURER'S SPECIFICATIONS. INSTALL NORTH AMERICAN GREEN P300 EROSION CONTROL BLANKET ON ALL SLOPES GREATER THAN 1.5:1. SEE SHEET C001 EROSION CONTROL GENERAL NOTES.

INSTALL 15' X 50' VEHICLE WASH DOWN AREA WITH 1"-2.5" COARSE AGGREGATE PLACED A MINIMUM 8" THICK. SUPPLY WATER FOR VEHICLE WASH DOWN. SEE PLAN 125, SHEET C901.

STABILIZED CONSTRUCTION ENTRANCE FOR SITE INGRESS/EGRESS. IF ALTERNATE ACCESS POINTS ARE APPROVED BY OWNER, ADDITIONAL STABILIZED CONSTRUCTION ENTRANCES WILL BE REQUIRED. SEE PLAN 125, SHEET C901.

INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN. SEE PLANS 124.1 & 124.3, SHEET C901.

INSTALL EARTH BERM ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN. SEE PLAN 123, SHEET C901.



OVERALL SITE KEY

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
EROSION CONTROL PLAN

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
BRYAN W. CATHEY
10/2
STATE OF UTAH

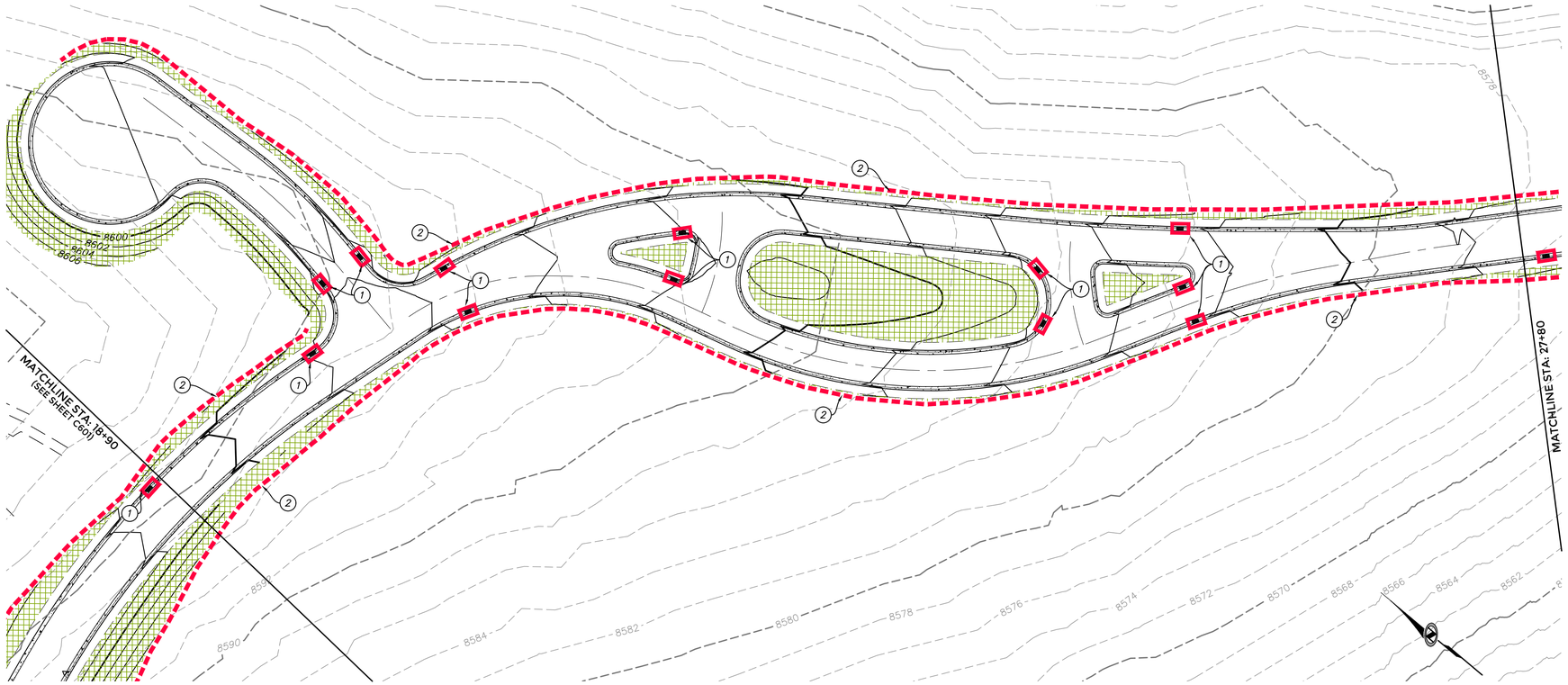
SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

SHEET NUMBER
C601
26 OF 37

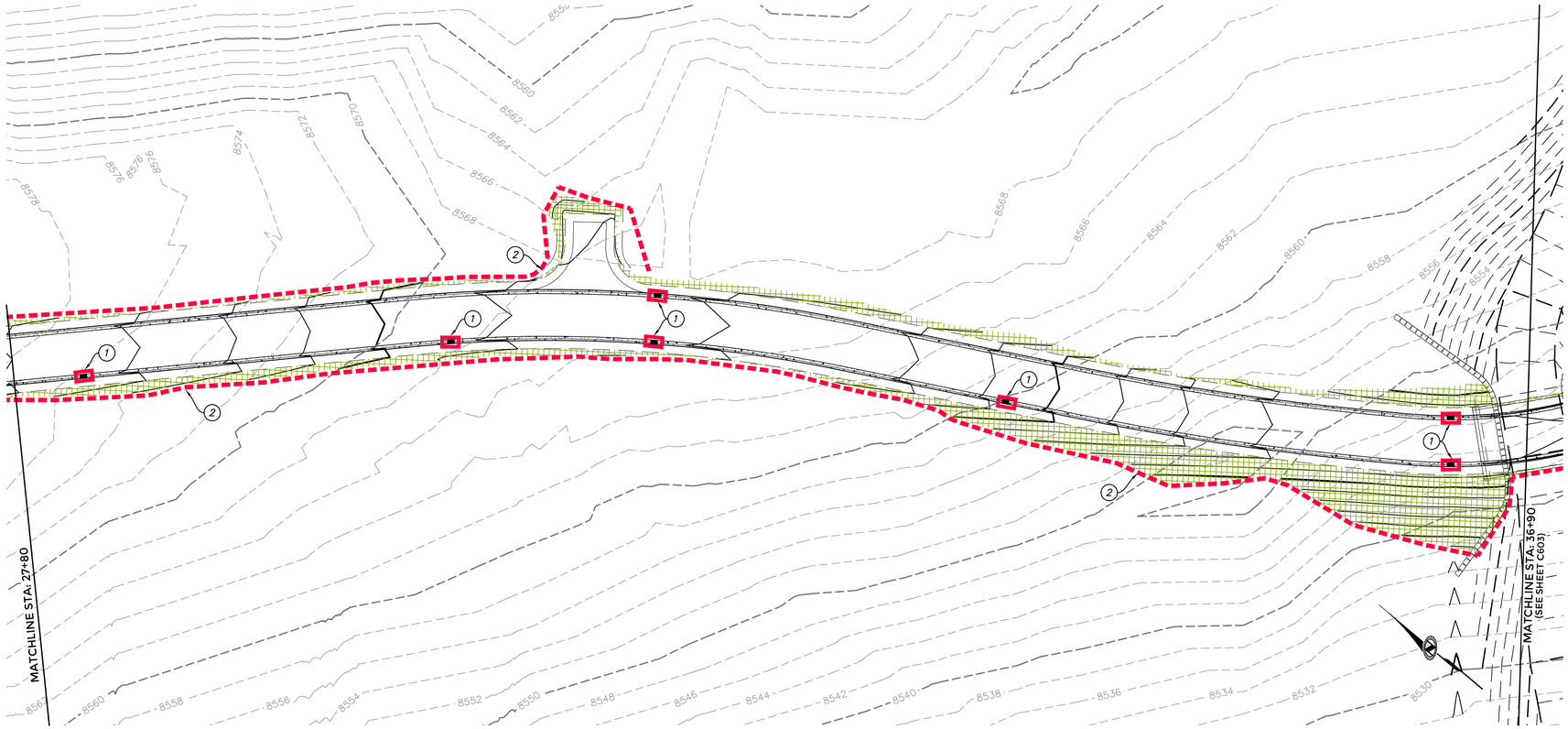
CALL 811 BEFORE YOU DIG
811
SAFE DIGGING PRACTICES

DATE: 1/9/2025 9:16 PM

PATH: N:\S80793\Cadd\24-210-01 - Shelter Hill\Cadd\p\C600 EROSION CONTROL PLAN.dwg



SHELTER HILL ROAD STA 18+90 - 27+80



SHELTER HILL ROAD STA 27+80 - 36+90

SCOPE OF WORK:

1. INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN.
2. INSTALL EARTH BERM ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN.

EXPOSED SLOPES:

ANY DISTURBED AREAS AND/OR EXPOSED SLOPE THAT WILL REMAIN UNTOUCHED FOR LONGER THAN 14 DAYS MUST BE STABILIZED BY ONE OR MORE OF THE FOLLOWING METHODS:

A) SPRAYING DISTURBED AREAS WITH A TACKIFIER VIA HYDROSEED. USE THE FOLLOWING SEED MIXTURE.

i.	MOUNTAIN BROME	7.50 LB/AC
ii.	SLENDER WHEATGRASS	6.25 LB/AC
iii.	WESTERN WHEATGRASS	5.00 LB/AC
iv.	IDAHO FESCUE	2.50 LB/AC
v.	SANDBERG BLUEGRASS	1.25 LB/AC
vi.	BIG BLUEGRASS	1.25 LB/AC
vii.	BLUEBUNCH WHEATGRASS	1.25 LB/AC
viii.	ROCKY MOUNTAIN PENSTEMON	1.00 LB/AC
ix.	MOUNTAIN LUPINE	2.00 LB/AC
x.	SHOWY GOLDENEYE	0.50 LB/AC
xi.	WESTERN YARROW	0.25 LB/AC
xii.	BLUE FLAX	1.25 LB/AC

B) TRACKING STRAW PERPENDICULAR TO SLOPES
C) INSTALLING A LIGHT-WEIGHT, TEMPORARY EROSION CONTROL BLANKET

UPON COMPLETION OF PROJECT ALL DISTURBED AREAS MUST BE RE-SEEDED PER METHOD A ABOVE.

LEGEND:

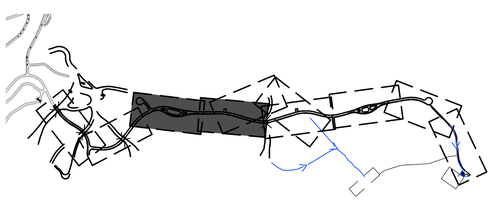
HATCHING INDICATES AREAS TO RECEIVE 4" TOPSOIL AND TO BE SEEDED FOR NATURAL VEGETATION. AREAS RECEIVING SEEDING FOR NATURAL REVEGETATION MUST BE COVERED WITH AN EROSION CONTROL BLANKET AFTER THE FINAL GRADING AND SEEDING ARE FINISHED. INSTALL NORTH AMERICAN GREEN SC-150 BLANKET OR APPROVED EQUAL. FOLLOW MANUFACTURER'S SPECIFICATIONS. INSTALL NORTH AMERICAN GREEN P300 EROSION CONTROL BLANKET ON ALL SLOPES GREATER THAN 1.5:1. SEE SHEET C001 EROSION CONTROL GENERAL NOTES.

INSTALL 15' X 50' VEHICLE WASH DOWN AREA WITH 1"-2.5" COARSE AGGREGATE PLACED A MINIMUM 8" THICK. SUPPLY WATER FOR VEHICLE WASH DOWN. SEE PLAN 125, SHEET C901.

STABILIZED CONSTRUCTION ENTRANCE FOR SITE INGRESS/EGRESS. IF ALTERNATE ACCESS POINTS ARE APPROVED BY OWNER, ADDITIONAL STABILIZED CONSTRUCTION ENTRANCES WILL BE REQUIRED. SEE PLAN 125, SHEET C901.

INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN. SEE PLANS 124.1 & 124.3, SHEET C901.

INSTALL EARTH BERM ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN. SEE PLAN 123, SHEET C901.



OVERALL SITE KEY

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
EROSION CONTROL PLAN

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
BRYAN W. CATHEY
10/2
STATE OF UTAH

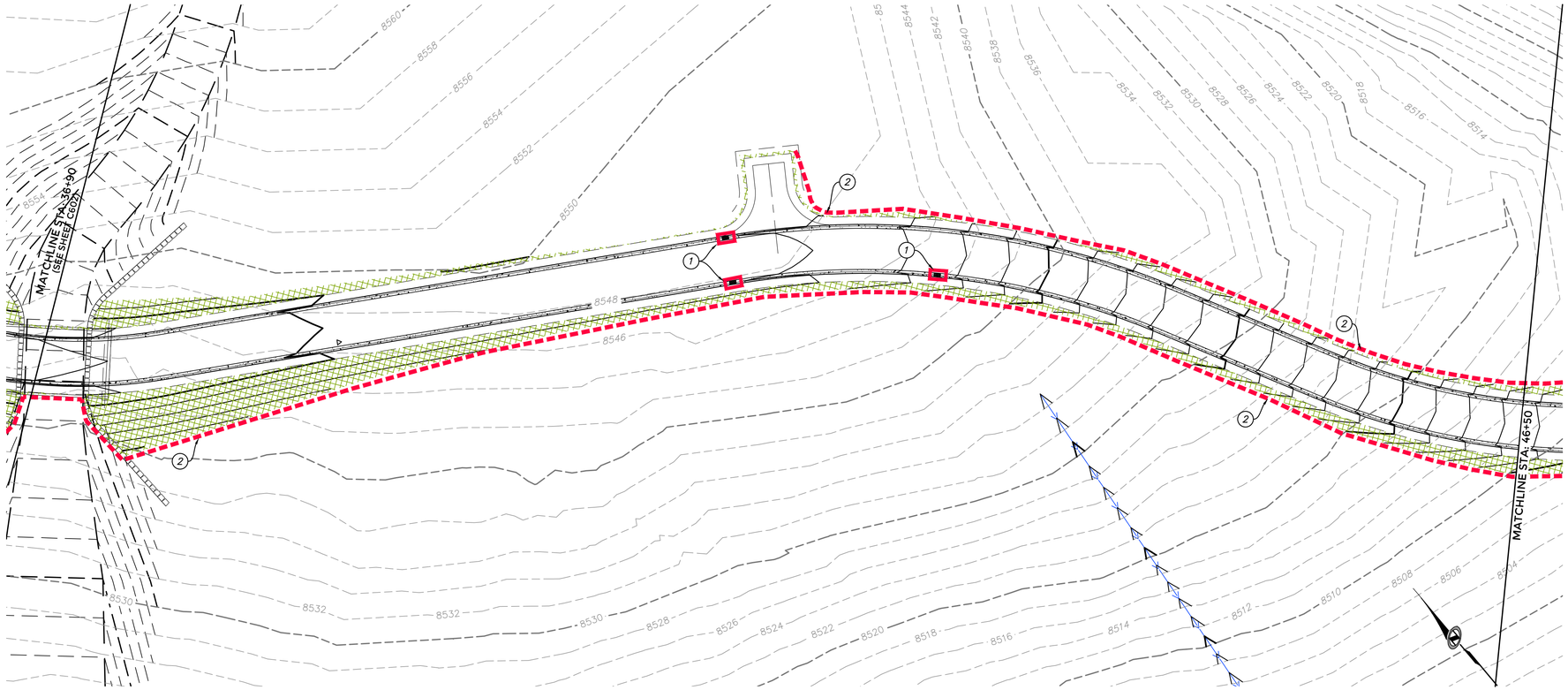
SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

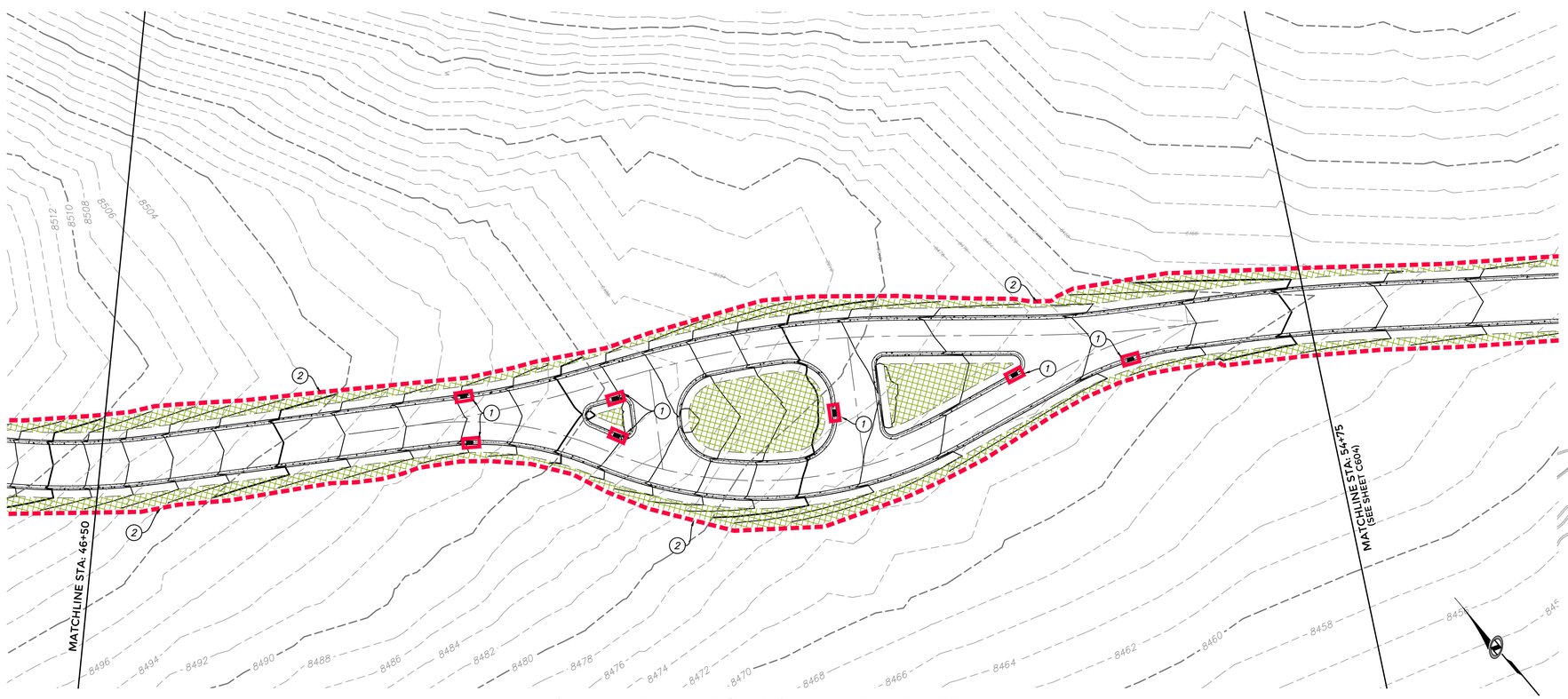
CALL 811 BEFORE YOU DIG
811
SAFE DIGGING PRACTICES

SHEET NUMBER
C602
27 OF 37

DATE: 1/9/2025 9:16 PM

PATH: N:\S80793\Cadd\24-210-01 - Shelter Hill\Cadd\dp\C600 EROSION CONTROL PLAN.dwg





SCOPE OF WORK:

1. INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN.
2. INSTALL EARTH BERM ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN.

EXPOSED SLOPES:

ANY DISTURBED AREAS AND/OR EXPOSED SLOPE THAT WILL REMAIN UNTOUCHED FOR LONGER THAN 14 DAYS MUST BE STABILIZED BY ONE OR MORE OF THE FOLLOWING METHODS:

A) SPRAYING DISTURBED AREAS WITH A TACKIFIER VIA HYDROSEED. USE THE FOLLOWING SEED MIXTURE.

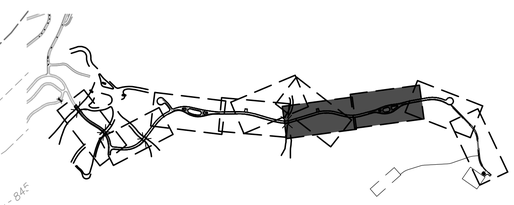
i.	MOUNTAIN BROME	7.50 LB/AC
ii.	SLENDER WHEATGRASS	6.25 LB/AC
iii.	WESTERN WHEATGRASS	5.00 LB/AC
iv.	IDAHO FESCUE	2.50 LB/AC
v.	SANDBERG BLUEGRASS	1.25 LB/AC
vi.	BIG BLUEGRASS	1.25 LB/AC
vii.	BLUEBUNCH WHEATGRASS	1.25 LB/AC
viii.	ROCKY MOUNTAIN PENSTEMON	1.00 LB/AC
ix.	MOUNTAIN LUPINE	2.00 LB/AC
x.	SHOWY GOLDENEYE	0.50 LB/AC
xi.	WESTERN YARROW	0.25 LB/AC
xii.	BLUE FLAX	1.25 LB/AC

B) TRACKING STRAW PERPENDICULAR TO SLOPES
C) INSTALLING A LIGHT-WEIGHT, TEMPORARY EROSION CONTROL BLANKET

UPON COMPLETION OF PROJECT ALL DISTURBED AREAS MUST BE RE-SEEDED PER METHOD A ABOVE.

LEGEND:

- HATCHING INDICATES AREAS TO RECEIVE 4" TOPSOIL AND TO BE SEEDED FOR NATURAL VEGETATION. AREAS RECEIVING SEEDING FOR NATURAL REVEGETATION MUST BE COVERED WITH AN EROSION CONTROL BLANKET AFTER THE FINAL GRADING AND SEEDING ARE FINISHED. INSTALL NORTH AMERICAN GREEN SC-150 BLANKET OR APPROVED EQUAL. FOLLOW MANUFACTURER'S SPECIFICATIONS. INSTALL NORTH AMERICAN GREEN P300 EROSION CONTROL BLANKET ON ALL SLOPES GREATER THAN 1.5:1. SEE SHEET C001 EROSION CONTROL GENERAL NOTES.
- INSTALL 15' X 50' VEHICLE WASH DOWN AREA WITH 1"-2.5" COARSE AGGREGATE PLACED A MINIMUM 8" THICK. SUPPLY WATER FOR VEHICLE WASH DOWN. SEE PLAN 125, SHEET C901.
- STABILIZED CONSTRUCTION ENTRANCE FOR SITE INGRESS/EGRESS. IF ALTERNATE ACCESS POINTS ARE APPROVED BY OWNER, ADDITIONAL STABILIZED CONSTRUCTION ENTRANCES WILL BE REQUIRED. SEE PLAN 125, SHEET C901.
- INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN. SEE PLANS 124.1 & 124.3, SHEET C901.
- INSTALL EARTH BERM ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN. SEE PLAN 123, SHEET C901.



OVERALL SITE KEY

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
EROSION CONTROL PLAN

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
10/2
STATE OF UTAH

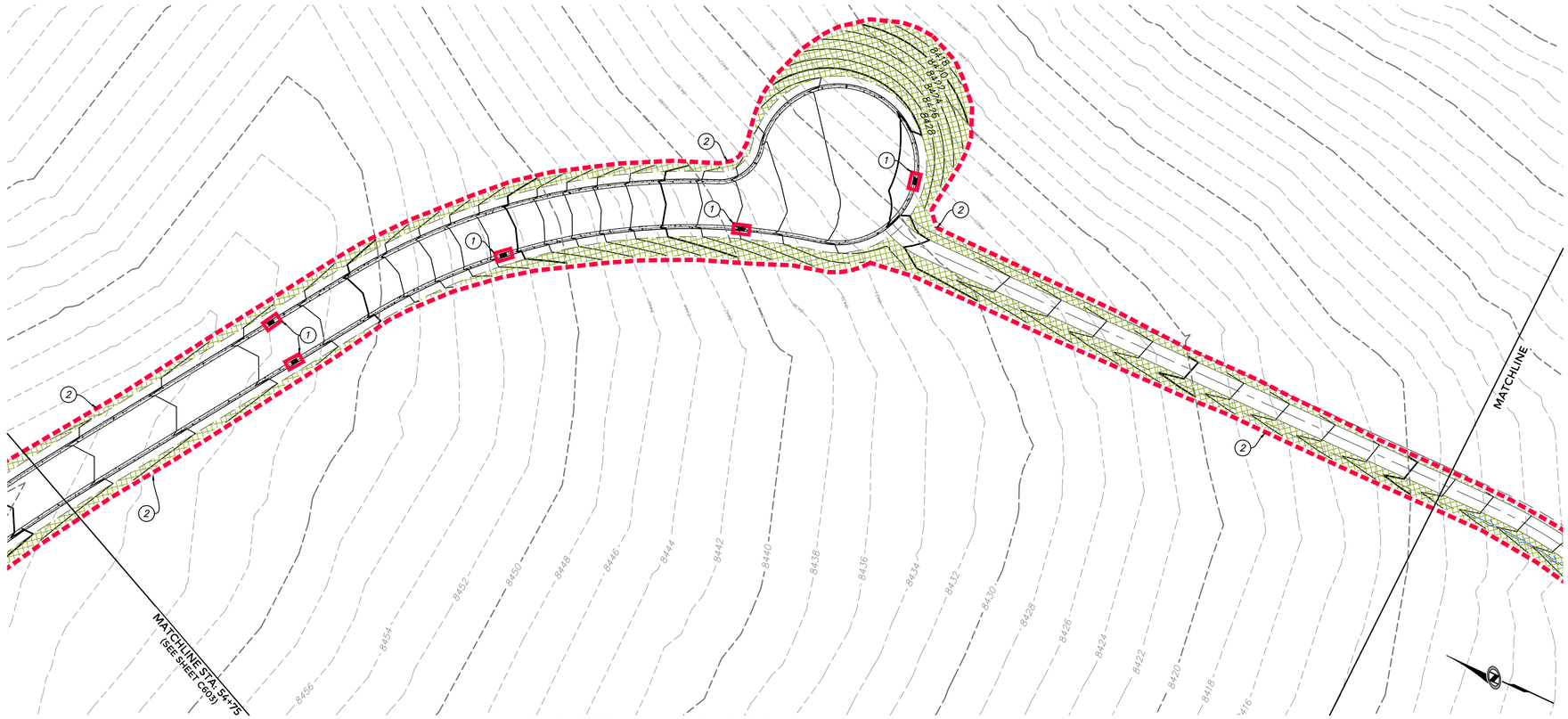
SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

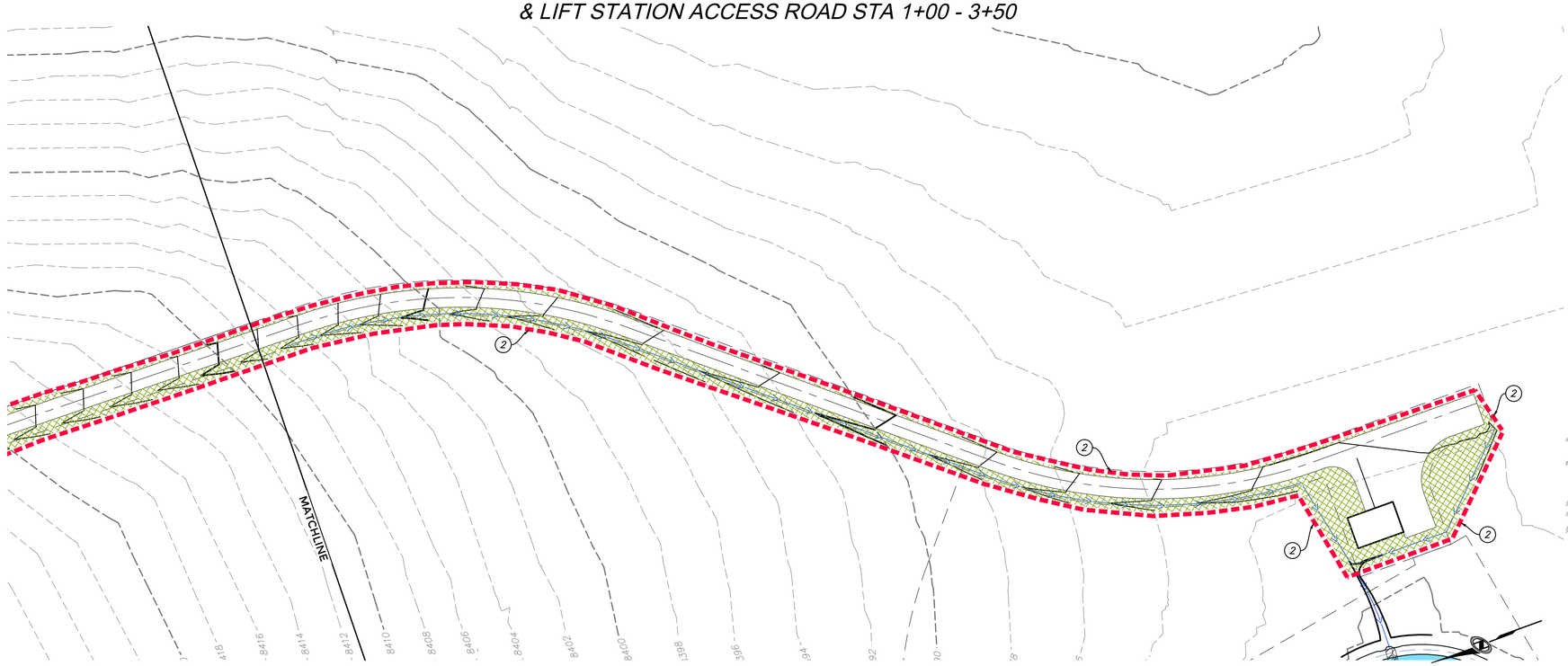
SHEET NUMBER
C603
28 OF 37

DATE: 1/9/2025 9:17 PM

PATH: W:\S:\80793\Cadd\24-210-01 - Shelter Hill\Cadd\p\C600 EROSION CONTROL PLAN.dwg



SHELTER HILL ROAD STA 54+75 - 61+00
& LIFT STATION ACCESS ROAD STA 1+00 - 3+50



LIFT STATION ACCESS ROAD STA 3+50 - 12+95.73

SCOPE OF WORK:

1. INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN.
2. INSTALL EARTH BERM ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN.

EXPOSED SLOPES:

ANY DISTURBED AREAS AND/OR EXPOSED SLOPE THAT WILL REMAIN UNTOUCHED FOR LONGER THAN 14 DAYS MUST BE STABILIZED BY ONE OR MORE OF THE FOLLOWING METHODS:

A) SPRAYING DISTURBED AREAS WITH A TACKIFIER VIA HYDROSEED. USE THE FOLLOWING SEED MIXTURE.

i.	MOUNTAIN BROME	7.50 LB/AC
ii.	SLENDER WHEATGRASS	6.25 LB/AC
iii.	WESTERN WHEATGRASS	5.00 LB/AC
iv.	IDAHO FESCUE	2.50 LB/AC
v.	SANDBERG BLUEGRASS	1.25 LB/AC
vi.	BIG BLUEGRASS	1.25 LB/AC
vii.	BLUEBUNCH WHEATGRASS	1.25 LB/AC
viii.	ROCKY MOUNTAIN PENSTEMON	1.00 LB/AC
ix.	MOUNTAIN LUPINE	2.00 LB/AC
x.	SHOWY GOLDENEYE	0.50 LB/AC
xi.	WESTERN YARROW	0.25 LB/AC
xii.	BLUE FLAX	1.25 LB/AC

B) TRACKING STRAW PERPENDICULAR TO SLOPES
C) INSTALLING A LIGHT-WEIGHT, TEMPORARY EROSION CONTROL BLANKET

UPON COMPLETION OF PROJECT ALL DISTURBED AREAS MUST BE RE-SEEDED PER METHOD A ABOVE.

LEGEND:

HATCHING INDICATES AREAS TO RECEIVE 4" TOPSOIL AND TO BE SEEDED FOR NATURAL VEGETATION. AREAS RECEIVING SEEDING FOR NATURAL REVEGETATION MUST BE COVERED WITH AN EROSION CONTROL BLANKET AFTER THE FINAL GRADING AND SEEDING ARE FINISHED. INSTALL NORTH AMERICAN GREEN SC-150 BLANKET OR APPROVED EQUAL. FOLLOW MANUFACTURER'S SPECIFICATIONS. INSTALL NORTH AMERICAN GREEN P300 EROSION CONTROL BLANKET ON ALL SLOPES GREATER THAN 1.5:1. SEE SHEET C001 EROSION CONTROL GENERAL NOTES.

INSTALL 15' X 50' VEHICLE WASH DOWN AREA WITH 1"-2.5" COARSE AGGREGATE PLACED A MINIMUM 8" THICK. SUPPLY WATER FOR VEHICLE WASH DOWN. SEE PLAN 125, SHEET C901.

STABILIZED CONSTRUCTION ENTRANCE FOR SITE INGRESS/EGRESS. IF ALTERNATE ACCESS POINTS ARE APPROVED BY OWNER, ADDITIONAL STABILIZED CONSTRUCTION ENTRANCES WILL BE REQUIRED. SEE PLAN 125, SHEET C901.

INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN. SEE PLANS 124.1 & 124.3, SHEET C901.

INSTALL EARTH BERM ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN. SEE PLAN 123, SHEET C901.

OVERALL SITE KEY

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
EROSION CONTROL PLAN

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
1/10/25
STATE OF UTAH

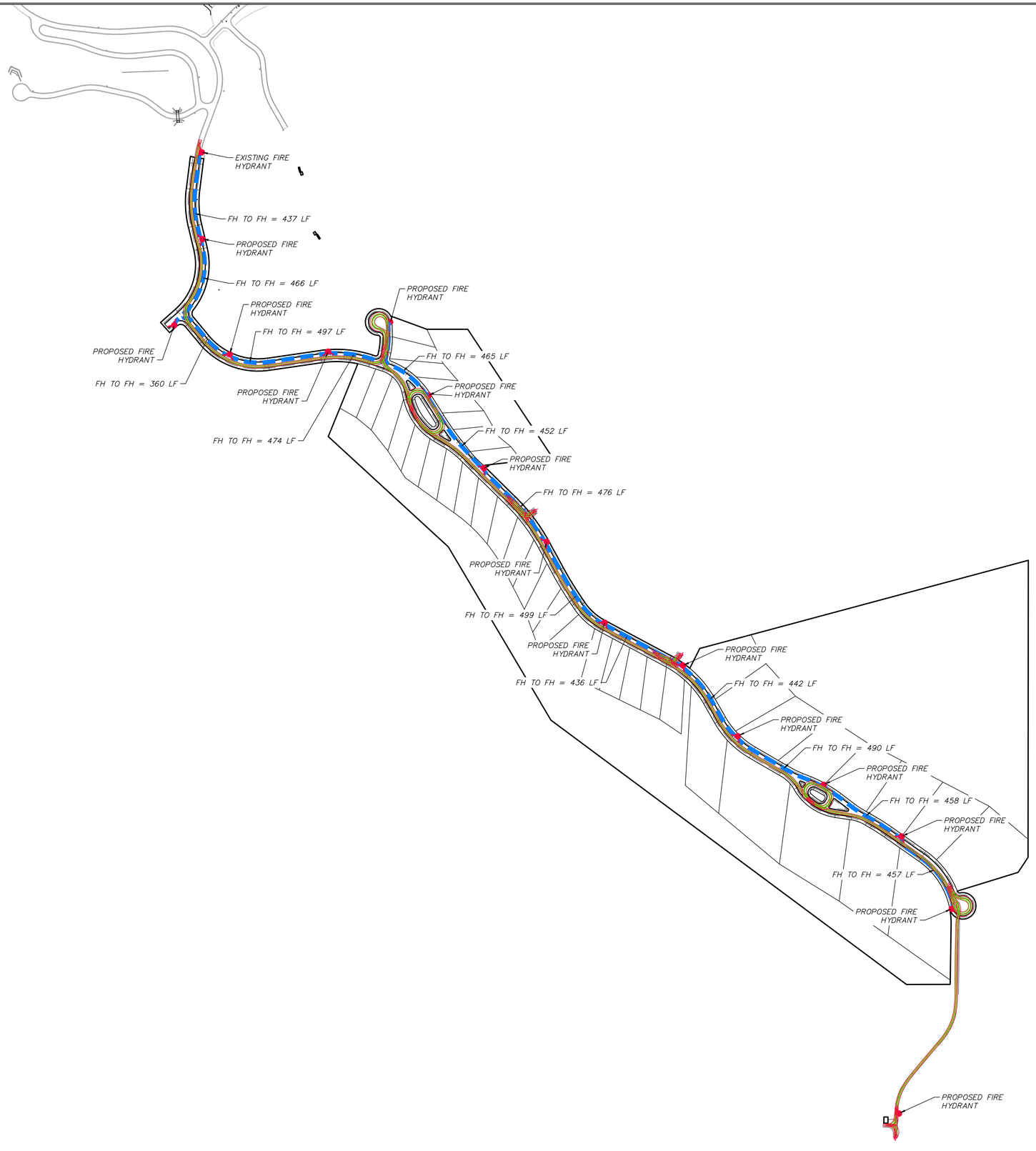
SCALE
HORIZONTAL: 1" = 40'
0 10' 20' 40' 60'

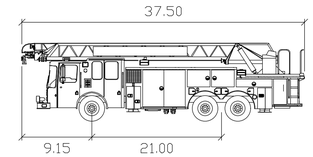
SHEET NUMBER
C604
29 OF 37

CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

DATE: 1/9/2025 9:17 PM

PATH: N:\SE80793\Cads\24-210-01 - Shelter Hill\Cadd\p\C600 EROSION CONTROL PLAN.dwg





Firetruck1

	feet
Width	: 12.00
Track	: 7.61
Lock to Lock Time	6.0
Steering Angle	: 41.3

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
FIRE ACCESS PLAN

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
1/10/25
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 250'
0' 62.5' 125' 250' 375'

SHEET NUMBER
C800
30 OF 37

CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

DATE: 1/9/2025 9:17 PM

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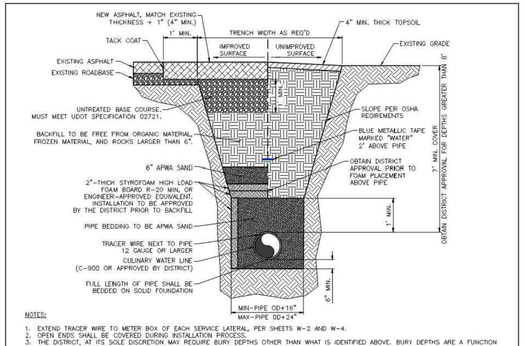
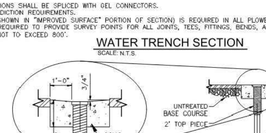


NOTES:

1. EXTEND TRACER WIRE TO METER BOX OF EACH SERVICE LATERAL, PER SHEETS W-2 AND W-4.
2. OPEN ENDS SHALL BE COVERED DURING INSTALLATION PROCESS.
3. THE DISTRICT, AT ITS SOLE DISCRETION MAY REQUIRE BURY DEPTHS OTHER THAN WHAT IS IDENTIFIED ABOVE. BURY DEPTHS ARE A FUNCTION OF ELEVATION, LOCATION, WATER DEMAND, AND PROXIMITY TO OTHER UTILITIES.
4. CONTRACTOR SHALL MEET ALL REQUIREMENTS ESTABLISHED FOR SAFE TRENCHING (SEE OSHA AND UOSH REQUIREMENTS, LATEST EDITIONS).
5. PRIOR TO LAYING PIPE WITHIN 50' OF UTILITIES THAT MAY BE CROSSED OR EXPOSED, AS SHOWN ON THE DRAWINGS OR "BLUE STAKED", CONTRACTOR SHALL LOCATE AND NOTIFY ENGINEER OF ANY POTENTIAL DESIGN CONFLICT.
6. SCREEN BACKFILL MATERIAL TO 4"-MINUS. COMPACT BACKFILL TO (#95 OF MAX. DRY DENSITY (UNDER ROADS AND STRUCTURES) OR 85% OF MAX. DRY DENSITY (OTHER LOCATIONS) PER ASTM D-1557. FOLLOW ALL LOCAL COMPACTION REGULATIONS. LOCAL REGULATIONS MAY BE MORE STRINGENT THAN PMWSID STANDARDS.
7. MAINTAIN 10' HORIZONTAL SPACING (OUTSIDE OF PIPE TO OUTSIDE OF PIPE) BETWEEN ALL SEWER AND WATER LINES.
8. MAINTAIN 18" VERTICAL SPACING (OUTSIDE OF PIPE TO OUTSIDE OF PIPE) BETWEEN ALL SEWER AND WATER CROSSINGS. ROUTE WATER LINES ABOVE SEWER.
9. TRACER CONNECTIONS SHALL BE SPLICED WITH GEL CONNECTORS.
10. SEE LOCAL JURISDICTION REQUIREMENTS.
11. INSULATION (AS SHOWN IN "IMPROVED SURFACE" PORTION OF SECTION) IS REQUIRED IN ALL PLOWED AREAS, INCLUDING UNPAVED AREAS.
12. CONTRACTOR IS REQUIRED TO PROVIDE SURVEY POINTS FOR ALL JOINTS, TEES, FITTINGS, BENDS, AND LATERALS.
13. VALVE SPACING NOT TO EXCEED 800'.

WATER TRENCH SECTION

SCALE: N.T.S.



NOTES:

1: LID FOR CULINARY WATER TO BE D&L SUPPLY M-8044. STAMPED "WATER".

VALVE/MANHOLE COLLAR

SCALE: N.T.S.

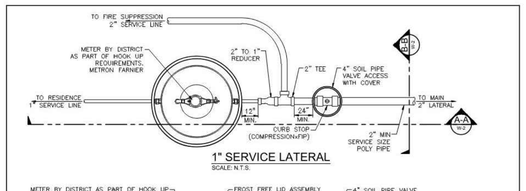
TYPICAL WATER MAIN VALVE

SCALE: N.T.S.

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

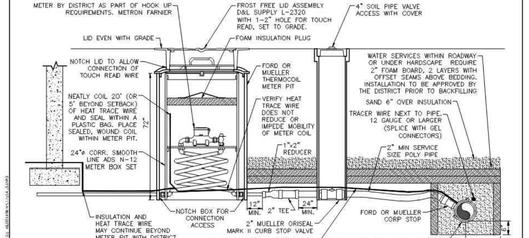
JUB ENGINEERS, INC.

TYPICAL CULINARY WATER LINE TRENCH DETAIL AND TYPICAL WATER MAIN VALVE DETAIL — STANDARD DEVELOPMENT DETAILS — SHEET W-1



1" SERVICE LATERAL

SCALE: N.T.S.



A-A TYPICAL LATERAL CONNECTION PROFILE

SCALE: N.T.S

B-B LATERAL INSULATION SECTION

SCALE:NTS

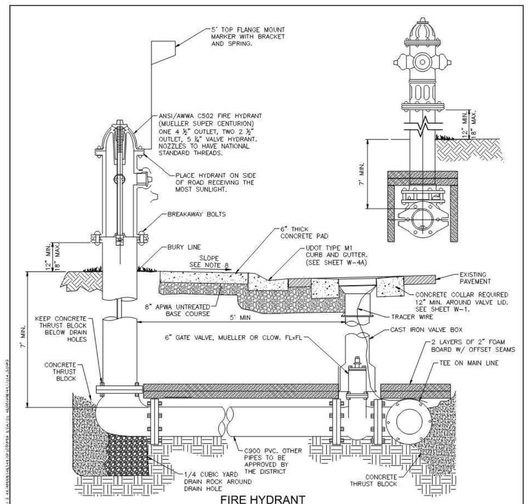
NOTES:

1. DEVELOPER IS RESPONSIBLE FOR FOR METER PIT INSTALLATION.
2. METER BOX SHALL BE SET PLUMB.
3. THREADS ON SERVICE CLAMP SHALL MATCH THREADS ON CORP STOP.
4. METERS ARE TO BE INSTALLED IN AN IMPROVED LANDSCAPE AREA; NOT IN SIDEWALK, ASPHALT OR DRIVEWAY UNLESS FIRST APPROVED BY THE DISTRICT.
5. COMPRESSION TYPE FITTINGS TO BE USED UNLESS APPROVED BY THE DISTRICT.
6. BY-PASS DEVICES SHALL NOT BE USED ON RESIDENTIAL SERVICES.
7. TAPS TO EXISTING MAIN LINES SHALL BE PERFORMED BY CONTRACTOR AND WITNESSED BY THE DISTRICT.
8. TRACER WIRE SHALL BE RAN INTO EVERY METER BOX AND TIED TO THE METER SETTER. ALL SPLICES OF TRACER WIRE SHALL BE CONNECTED WITH A GREASE FILLED CONNECTOR.
9. ALL CONNECTIONS SHALL HAVE THERMAL EXPANSION CONTROL AS OUTLINED IN THE CURRENT INTERNATIONAL PLUMBING CODE.
10. METER TO BE INCLUDED IN PRESSURE TESTS.
11. TEES, REDUCERS, AND FITTINGS MUST BE SOURCED FROM MUELLER OR FORD.
12. BLUE CTS POLYETHYLENE PIPE ONLY.

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

JUB ENGINEERS, INC.

TYPICAL 1" SERVICE LATERAL DETAIL — STANDARD DEVELOPMENT DETAILS — SHEET W-2



FIRE HYDRANT

SCALE:N.T.S.

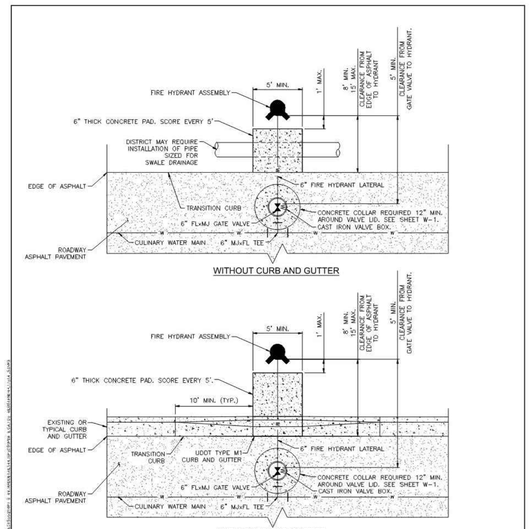
NOTES:

1. LOCATION OF HYDRANT AND TEE ON WATER MAINLINE SHALL BE DETERMINED BY THE DISTRICT.
2. HYDRANT SHALL STAND PLUMB WITH PUMPER NOZZLE FACING THE STREET.
3. VALVE TO BE PLACED WITH CONCRETE RING ENTIRELY SURROUNDED BY ASPHALT.
4. TRACER WIRE TO BE ATTACHED TO HYDRANT VALVE. ALL TRACER WIRE CONNECTIONS SHALL BE SPLICED WITH GEL CONNECTORS.
5. HYDRANT AND FITTINGS TO BE POLY WRAPPED & COATED WITH TRENTON WAX.
6. ALL BOLTS SHALL BE FREE OF CONCRETE AND FULLY ACCESSIBLE.
7. DO NOT COVER BARREL DRAIN WITH DIRT OR CONCRETE. USE GRAVEL.
8. DRAWING SHOWS CURB AND GUTTER. IF THERE IS CURB AND GUTTER, THE SLOPE MUST DRAIN TOWARDS ROAD INTO GUTTER. IF THERE IS NO CURB AND GUTTER, SLOPE MUST DRAIN AWAY FROM BUILDING.

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

JUB ENGINEERS, INC.

FIRE HYDRANT DETAIL — STANDARD DEVELOPMENT DETAILS — SHEET W-4



WITHOUT CURB AND GUTTER

WITH CURB AND GUTTER

FIRE HYDRANT PAD

SCALE: N.T.S.

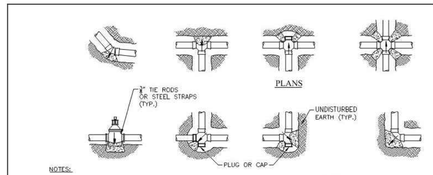
NOTES:

1. GATE VALVE MUST BE FLANGED DIRECTLY TO TEE FITTING.
2. LOCATION OF WATER MAIN MAY VARY FROM THE LOCATION SHOWN IN DRAWING. VALVE MAY BE PLACED IN THE CONCRETE PAD INSTEAD OF STREET WITH PRIOR DISTRICT APPROVAL.

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

JUB ENGINEERS, INC.

PLOWABLE FIRE HYDRANT APRON DETAIL — STANDARD DEVELOPMENT DETAILS — SHEET W-4A



NOTES:

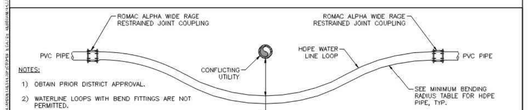
1: ARROW (/) INDICATES THRUST DIRECTION.
2: CONCRETE FOR THRUST BLOCKS TO HAVE MIN. STRENGTH OF 2000 P.S.I.
3: ALL MJ AND FLANGED FITTINGS TO BE WRAPPED WITH POLYETHYLENE WRAP AND COATED IN TRENTON WAX PRIOR TO POURING THRUST BLOCK.
4: NO PRECAST BLOCKS PERMITTED

MINIMUM BEARING AREA IN SQUARE FEET

PIPE DIAMETER	TEES, VALVES, AND DEAD-ENDS	90-DEGREE BENDS	45-DEGREE BENDS	22.5-DEGREE BENDS	11.25-DEGREE BENDS
4"	2.0	3.0	2.0	2.0	2.0
6"	4.0	5.5	3.0	1.5	1.0
8"	6.0	9.5	5.0	2.8	1.5
12"	14.0	20.0	11.0	5.5	3.0

THRUST BLOCK DETAIL

SCALE: N.T.S.



NOTES:

1) OBTAIN PRIOR DISTRICT APPROVAL.
2) WATERLINE LOOPS WITH BEND FITTINGS ARE NOT PERMITTED.
3) WATERLINE LOOPS SHALL ONLY BE USED WHEN RELOCATING THE EXISTING UTILITY IS INFEASIBLE.
4) SCREEN BACKFILL TO 4"-MINUS. COMPACT BACKFILL TO (#95 OF MAX. DRY DENSITY (UNDER ROADS AND STRUCTURES) OR 85% OF MAX. DRY DENSITY (OTHER LOCATIONS) PER ASTM D-1557. FOLLOW ALL LOCAL COMPACTION REGULATIONS. LOCAL REGULATIONS MAY BE MORE STRINGENT THAN PMWSID STANDARDS.
5) ROMAC ALPHA WIDE RANGE RESTRAINED JOINT COUPLING SHALL BE ACCURATELY SIZED FOR O.D. OF BOTH PIPES.

MINIMUM BENDING RADIUS - HDPE PIPE

PIPE DR	MINIMUM RADIUS FACTOR
41	52
32.5	40
26	36
21	32
17	26
15.5	24
11 OR LOWER	20

MULTIPLYING THE MINIMUM RADIUS FACTOR BY THE OUTSIDE DIAMETER OF THE PIPE (FT) WILL PROVIDE THE MINIMUM RADIUS (FT)

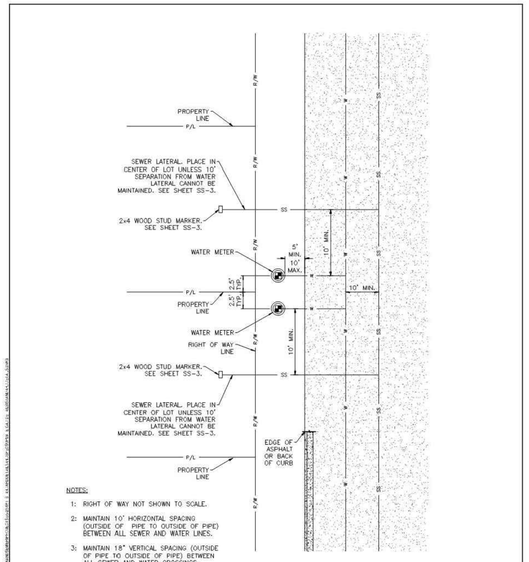
HDPE RADIUS WATER LINE LOOP

SCALE: NTS

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

JUB ENGINEERS, INC.

THRUST BLOCK DETAILS — STANDARD DEVELOPMENT DETAILS — SHEET W-7



NOTES:

1: RIGHT OF WAY NOT SHOWN TO SCALE.
2: MAINTAIN 10' HORIZONTAL SPACING (OUTSIDE OF PIPE TO OUTSIDE OF PIPE) BETWEEN ALL SEWER AND WATER LINES.
3: MAINTAIN 18" VERTICAL SPACING (OUTSIDE OF PIPE TO OUTSIDE OF PIPE) BETWEEN ALL SEWER AND WATER CROSSINGS. ROUTE WATER LINES ABOVE SEWER.

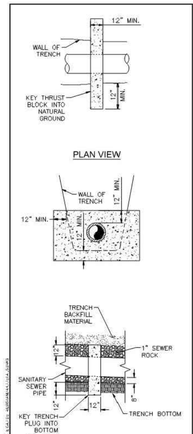
UTILITY LAYOUT

SCALE: N.T.S.

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

JUB ENGINEERS, INC.

UTILITY LAYOUT DETAIL — STANDARD DEVELOPMENT DETAILS — SHEET UT-1

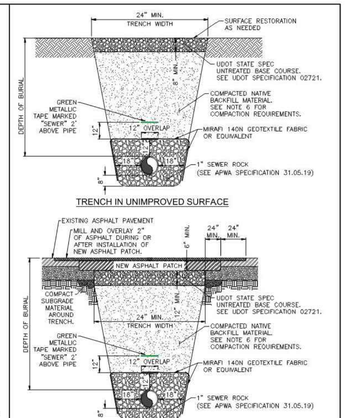


NOTES:

1. CONCRETE MATERIAL SHALL BE MIN. 1500 P.S.I. STRENGTH.
2. PLUG SHALL BE WATERTIGHT FOR ENTIRE TRENCH WIDTH.
3. PLUGS SHALL BE LOCATED AT A MAXIMUM OF 500 FOOT INTERVALS ALONG ENTIRE LENGTH OF PIPE, UNLESS OTHERWISE DIRECTED BY PMWSID.

TRENCH PLUG

SCALE: N.T.S.



NOTES:

1. CONTRACTOR SHALL MEET ALL REQUIREMENTS ESTABLISHED FOR SAFE TRENCHING (SEE OSHA AND UOSH REQUIREMENTS, LATEST EDITIONS).
2. PRIOR TO LAYING PIPE WITHIN 50' OF UTILITIES THAT MAY BE CROSSED OR EXPOSED, AS SHOWN ON THE DRAWINGS OR "BLUE STAKED", CONTRACTOR SHALL LOCATE AND NOTIFY ENGINEER OF ANY POTENTIAL DESIGN CONFLICT.
3. MINIMUM BURY DEPTH OF 9' IS RECOMMENDED IN LOCATIONS WHERE SEWER LATERALS ARE NEEDED TO SERVICE A BASEMENT. IF THE SEWER LINE DOES NOT HAVE 9' OF COVER, THE PLAT SHALL FEATURE THE FOLLOWING NOTE: "SHALLOW SEWER. CONTRACTOR TO VERIFY DEPTH PRIOR TO BASEMENT EXCAVATION"
4. MINIMUM 4' AND MAXIMUM 11' OF COVER, UNLESS OTHERWISE APPROVED BY DISTRICT ENGINEER.
5. SCREEN BACKFILL TO 4"-MINUS. COMPACT BACKFILL TO (#95 OF MAX. DRY DENSITY (UNDER ROADS AND STRUCTURES) OR 85% OF MAX. DRY DENSITY (OTHER LOCATIONS) PER ASTM D-1557. FOLLOW ALL LOCAL COMPACTION REGULATIONS. LOCAL REGULATIONS MAY BE MORE STRINGENT THAN PMWSID STANDARDS.
6. MAINTAIN 10' HORIZONTAL SPACING (OUTSIDE OF PIPE TO OUTSIDE OF PIPE) BETWEEN ALL SEWER AND WATER LINES.
6. MAINTAIN 18" VERTICAL SPACING (OUTSIDE OF PIPE TO OUTSIDE OF PIPE) BETWEEN ALL SEWER AND WATER CROSSINGS. ROUTE WATER LINES ABOVE SEWER.

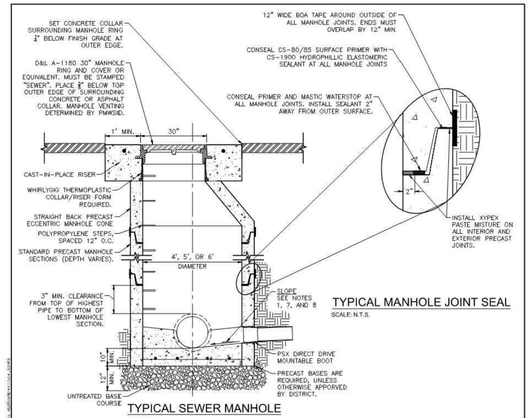
TYPICAL SEWER TRENCH SECTION

SCALE: N.T.S.

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

JUB ENGINEERS, INC.

SEWER TRENCH AND TRENCH PLUG — STANDARD DEVELOPMENT DETAILS — SHEET SS-1



TYPICAL MANHOLE JOINT SEAL

SCALE: N.T.S.

TYPICAL SEWER MANHOLE

SCALE: N.T.S.

NOTES:

1: MINIMUM 0.2' DROP THROUGH MANHOLE, OR SLOPE OF THE STEEPEST ENTERING PIPE CARRIED THROUGH MANHOLE, WHICHEVER IS GREATER.
2: ENSURE REMOVAL OF ALL DEBRIS, PLYWOOD, AND TEMPORARY PLUGS AFTER FINAL GRADING AND SURFACING OF MANHOLE IS COMPLETE.
3: CAST-IN-PLACE MANHOLE WALLS MUST BE AT LEAST 10" THICK.
4: MANHOLES DEEPER THAN 11' MUST RECIEVE PRIOR DISTRICT APPROVAL.
5: CONE AND WALL SECTIONS SHALL CONFORM WITH ASTM C-478 STANDARD.
6: ALL MANHOLES MUST BE M-20 RATED.
7: PIPE DEFLECTION SHALL NOT EXCEED 7 DEGREES WHEN ENTERING OR EXITING A MANHOLE.
8: SLOPES ENTERING/EXITING MANHOLE STEEPER THAN 10% GRADE REQUIRE SPECIAL DESIGN CONSIDERATIONS AND MUST HAVE PRIOR DISTRICT APPROVAL.
9: 5' DIAMETER MANHOLES SHALL BE USED IN THE FOLLOWING SITUATIONS:
   A. AT ALL INTERSECTIONS OF 3 OR MORE 8" OR LARGER PIPES
   B. WHERE THE DEFLECTION ANGLE OF THE PIPE IS EQUAL TO OR GREATER THAN 90 DEGREES
   C. MANHOLES WITH DEPTHS GREATER THAN 11 FEET
   D. A 6 FOOT DIAMETER MANHOLE IS REQUIRED WHEN MORE THAN ONE OF THE ABOVE CONDITIONS ARE MET IN THE SAME MANHOLE

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

JUB ENGINEERS, INC.

SEWER MANHOLE — STANDARD DEVELOPMENT DETAILS — SHEET SS-2

TALISMAN CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
DETAILS

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TCC JOB NUMBER: 24-210-01

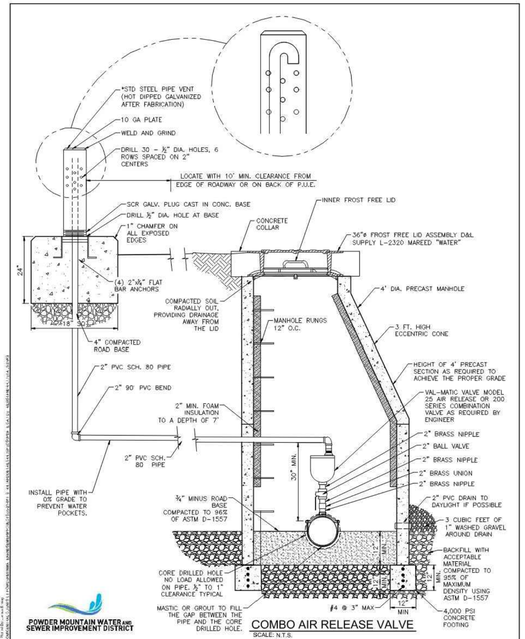
REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY 10/7/25 STATE OF UTAH

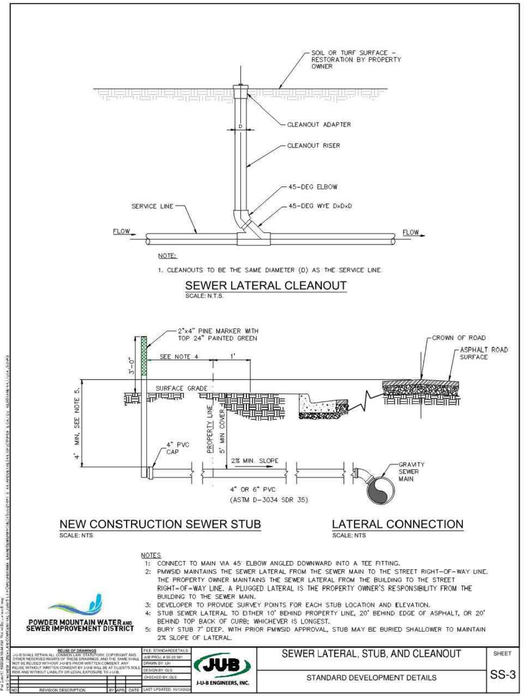
SHEET NUMBER
C900
31 OF 37

CALL 811 BEFORE YOU DIG. SAFE DIGGING PARTNER

DATE: 1/9/2025 9:18 PM

PATH: N:\S:\80793\Cadd\24-210-01 - Shelter Hill\Cadd\dwg\C900 DETAILS.dwg





Diversion dike

1. **GENERAL**
   A. Description: A temporary ridge of compacted soil located at the top or base of a sloping disturbed area.
   B. Purpose. To intercept up gradient runoff and convey around construction site and to divert sediment laden runoff.

2. **PRODUCT** (Not used)

3. **EXECUTION**
   A. Construct.
      1) Along midpoint of construction slope to intercept runoff and channel to controlled discharge point.
      2) Around base of soil stockpiles to capture sediment.
      3) Around perimeter of disturbed areas to capture sediment.
   B. Locate the dike to minimize damages by construction operations and traffic.
   C. Clear and grub area for dike construction. Build the dike before construction begins.
   D. Excavate channel and place soil on down gradient side.
   E. Shape and machine compact excavated soil to form ridge.
   F. Place erosion protection (rip rap, mulch) at outlet. Stabilize channel and ridge as required with mulch, gravel or vegetative cover. Temporary or permanent seeding and mulch shall be applied to the dike within 15 days of construction.
   G. Maintenance.
      1) Inspect immediately after each rainfall and at least daily during prolonged rainfall.
      2) Look for runoff breaching dike or eroding channel or side slopes.
      3) Check discharge point for erosion or bypassing of flows.
      4) Repair and stabilize as necessary.
      5) Inspect daily during vehicular activity on slope, check for and repair any traffic damage.

123

Inlet protection – gravel sock

1. **GENERAL**
   A. Description. Placement of gravel sock on grade.
      1) Upstream of, or in front of storm drain inlets to filter or pond water runoff.
      2) At inlets in paved or unpaved areas where up gradient area is to be disturbed by construction activities.

2. **PRODUCTS** (Not used)

3. **EXECUTION**
   A. On-grade inlet protection:
      1) Provide on-grade inlet protection when completely blocking a storm drain inlet box would result in forcing water further downstream would cause flooding or other undesirable results.
      2) Prepare filter media (gravel sock, straw waddle, or other approved media) in accordance with manufacturer's recommendations.
      3) Install filter media just upstream of the inlet box.
      4) Filter media shall butt tightly against the face of the curb and angle at approximately a 45-degree angle away from the curb to trap runoff between the media and the curb.
      5) Excessive flows will flow either over or around the filter media and into the inlet box.
      6) Expect ponding behind the filter media.
   B. Drop inlet protection:
      1) Use drop inlet protection at low points in the curb and when diverting flows further downstream will not cause undesirable results.
      2) Prepare filter media (gravel sock, straw waddle, or other approved media) in accordance with manufacturer's recommendations.
      3) Install filter media around the entire perimeter of the inlet grate.
      4) Filter media shall butt tightly against the face of the curb on both sides of the inlet grate.
      5) Excessive flows will either flow around the media or over the top and into the inlet box.
      6) Expect ponding around the inlet box.
   C. Maintenance
      1) Inspect inlet protection after every large storm event and at a minimum of once monthly.
      2) Remove sediment accumulated when it reaches 2-inches in depth.
      3) Replace filter medium when damage has occurred or when medium is no longer functioning as intended.

124.1

Inlet protection – fence or straw bale

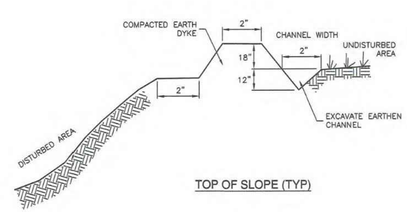
1. **GENERAL**
   A. Description. A temporary sediment barrier around storm drain inlet.
   B. Application. At inlets in paved or unpaved areas where up gradient area is to be disturbed by construction activities.

2. **PRODUCT** (Not used)

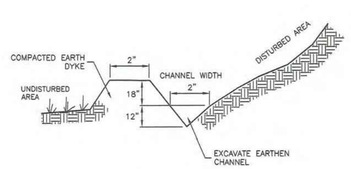
3. **EXECUTION**
   A. Installation and application criteria.
      1) Provide up gradient sediment controls, such as silt fence during construction of inlet.
      2) When construction of inlet is complete erect straw bale barrier, silt fence or other approved sediment barrier surrounding perimeter of inlet.
      3) Install filter fabric completely around grate.
   B. Maintenance.
      1) Inspect inlet protection after every large storm event and at a minimum of once monthly.
      2) Remove sediment accumulated when it reaches 4-inches in depth.
      3) Repair or re-align barrier or fence as needed.
      4) Look for bypassing or undercutting and re-compact soil around barrier or fence as required.

124.3

NARRATIVE: THIS PLAN MAY BE USED FOR THE CONSTRUCTION OF A STORM WATER BEST MANAGEMENT PRACTICE (BMP). IT IS NOT INCLUSIVE OF ALL PRACTICES AVAILABLE AND IS ONLY SPECIFIC TO THE CONSTRUCTION OF THIS TYPE. MAINTENANCE OF THIS TYPE OF INSTALLATION IS IMPORTANT AND SHOULD BE CONTINUOUSLY MONITORED BY THE CONTRACTOR AND ENGINEER. DETAILS SHOWN HERE HIGHLIGHT IMPORTANT PARTS OF CONSTRUCTION, AND SHOULD BE MODIFIED AS NEEDED.

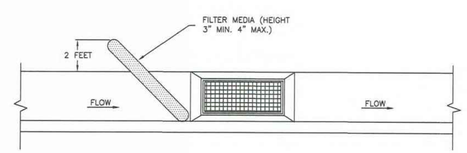


TOP OF SLOPE (TYP)

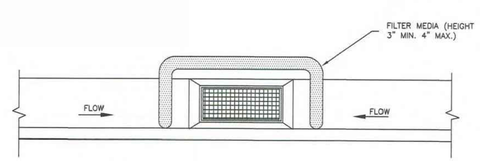


BASE OF SLOPE (TYP)

NARRATIVE: THIS PLAN MAY BE USED FOR THE CONSTRUCTION OF A STORM WATER BEST MANAGEMENT PRACTICE (BMP). IT IS NOT INCLUSIVE OF ALL PRACTICES AVAILABLE AND IS ONLY SPECIFIC TO THE CONSTRUCTION OF THIS TYPE. MAINTENANCE OF THIS TYPE OF INSTALLATION IS IMPORTANT AND SHOULD BE CONTINUOUSLY MONITORED BY THE CONTRACTOR AND ENGINEER. DETAILS SHOWN HERE HIGHLIGHT IMPORTANT PARTS OF CONSTRUCTION, AND SHOULD BE MODIFIED AS NEEDED.

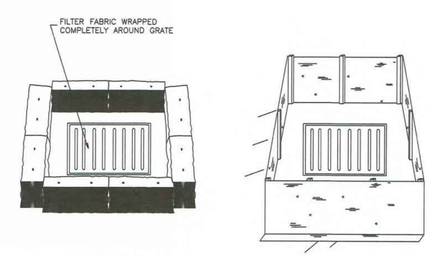


ON-GRADE INLET PROTECTION DETAIL



SUMP INLET PROTECTION DETAIL

NARRATIVE: THIS PLAN MAY BE USED FOR THE CONSTRUCTION OF A STORM WATER BEST MANAGEMENT PRACTICE (BMP). IT IS NOT INCLUSIVE OF ALL PRACTICES AVAILABLE AND IS ONLY SPECIFIC TO THE CONSTRUCTION OF THIS TYPE. MAINTENANCE OF THIS TYPE OF INSTALLATION IS IMPORTANT AND SHOULD BE CONTINUOUSLY MONITORED BY THE CONTRACTOR AND ENGINEER. DETAILS SHOWN HERE HIGHLIGHT IMPORTANT PARTS OF CONSTRUCTION, AND SHOULD BE MODIFIED AS NEEDED.



STRAW BALE BARRIER
(Plan No. 121)

SILT FENCE
(Plan No. 121)

APWA Utah Chapter — ***Diversion dike*** — Plan **123** February 2006

APWA Utah Chapter — ***Inlet protection - gravel sock*** — Plan **124.1** September 2006

APWA Utah Chapter — ***Inlet protection - fence or straw bale*** — Plan **124.3** February 2006

TALISMAN CIVIL CONSULTANTS
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SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL
DETAILS

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY 10/7/25 STATE OF UTAH

SHEET NUMBER
C901
32 OF 37

DATE: 1/9/2025 9:18 PM

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DATE: 1/9/2025 9:18 PM

Equipment and vehicle wash down area

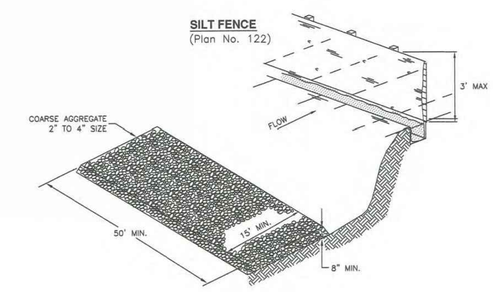
1. **GENERAL**
   A. Description. A temporary stabilized pad of gravel for general washing of equipment and construction vehicles.
   B. Application.
      1) At any site where regular washing of vehicles and equipment will occur.
      2) May also be used as a filling point for water trucks limiting erosion caused by overflow or spillage of water.

2. **PRODUCT** (Not used)

3. **EXECUTION**
   A. Clear and grub area and grade to provide maximum slope of 1 percent away from paved roadway.
   B. Compact subgrade.
   C. Place filter fabric under wash down area if desired (recommended for wash area that remains more than 3 months).
   D. Install silt fence down gradient (see Plan 122)
   E. Maintenance.
      1) Requires periodic top dressing with additional stones.
      2) Solely used to control sediment in wash water. Cannot be utilized for washing equipment or vehicles that may cause contamination of runoff (such as fertilizer equipment or concrete equipment).
      3) Keep the wash area in a condition which will prevent tracking or flow of mud onto public rights-of-way.
      4) Periodically dress the top with 2-inch stone may be required, as conditions demand, and repair any structures used to trap sediments.
      5) Inspect daily for loss of gravel or sediment buildup.
      6) Inspect adjacent area for sediment deposit and install additional controls as necessary.
      7) Expand stabilized area as required to accommodate activities.
      8) Maintain silt fence as outlined in Plan 122.

125

NARRATIVE: THIS PLAN MAY BE USED FOR THE CONSTRUCTION OF A STORM WATER BEST MANAGEMENT PRACTICE (BMP). IT IS NOT INCLUSIVE OF ALL PRACTICES AVAILABLE AND IS ONLY SPECIFIC TO THE CONSTRUCTION OF THIS TYPE. MAINTENANCE OF THIS TYPE OF INSTALLATION IS IMPORTANT AND SHOULD BE CONTINUOUSLY MONITORED BY THE CONTRACTOR AND ENGINEER. DETAILS SHOWN HERE HIGHLIGHT IMPORTANT PARTS OF CONSTRUCTION, AND SHOULD BE MODIFIED AS NEEDED.



WASH DOWN AREA

APWA Utah Chapter — *Equipment and vehicle wash down area* — Plan 125 — February 2006

Stabilized roadway entrance

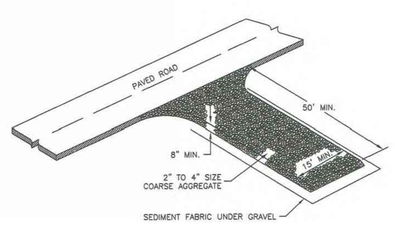
1. **GENERAL**
   A. Description. A temporary stabilized pad of gravel for controlling equipment and construction vehicle access to the site.
   B. Application. At any site where vehicles and equipment enter the public right of way.

2. **PRODUCT** (Not used)

3 **EXECUTION**
   A. Clear and grub area and grade to provide maximum slope of 1 percent away from paved roadway.
   B. Compact subgrade.
   C. Place filter fabric under stone if desired (recommended for entrance area that remains more than 3 months).
   D. Maintenance.
      1) Prevent tracking or flow of mud into the public right-of-way.
      2) Periodic top dressing with 2-inch stone may be required, as conditions demand, and repair any structures used to trap sediments.
      3) Inspect daily for loss of gravel or sediment buildup.
      4) Inspect adjacent area for sediment deposit and install additional controls as necessary.
      5) Expand stabilized area as required to accommodate activities.

126

NARRATIVE: THIS PLAN MAY BE USED FOR THE CONSTRUCTION OF A STORM WATER BEST MANAGEMENT PRACTICE (BMP). IT IS NOT INCLUSIVE OF ALL PRACTICES AVAILABLE AND IS ONLY SPECIFIC TO THE CONSTRUCTION OF THIS TYPE. MAINTENANCE OF THIS TYPE OF INSTALLATION IS IMPORTANT AND SHOULD BE CONTINUOUSLY MONITORED BY THE CONTRACTOR AND ENGINEER. DETAILS SHOWN HERE HIGHLIGHT IMPORTANT PARTS OF CONSTRUCTION, AND SHOULD BE MODIFIED AS NEEDED.



APWA Utah Chapter — *Stabilized roadway entrance* — Plan 126 — February 2006

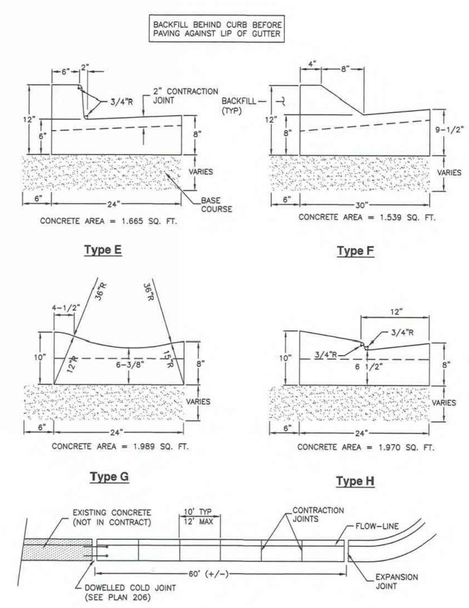
Curb and gutter

1. **GENERAL**
   A. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   B. Additional requirements are specified in APWA Section 32 16 13.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
   C. Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
   D. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

3. **EXECUTION**
   A. Base Course Placement: APWA Section 32 05 10. Thickness is 6-inches if flow-line grade is 0.5 percent (s=0.005) or greater. If slope is less, provide 8-inches. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Concrete Placement: APWA Section 03 30 10.
      1) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install at the start or end of a street intersection curb return. Expansion joints are not required in concrete placement using slip-form construction.
      2) Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Match joint location in adjacent Portland-cement concrete roadway pavement.
      3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   C. Protection and Repair: Protect concrete from deicing chemicals during cure. Repair construction that does not drain. If necessary, fill flow-line with water to verify.

205.2



JOINT DETAIL

APWA Utah Chapter — *Curb and gutter* — Plan 205.2 — April 2011

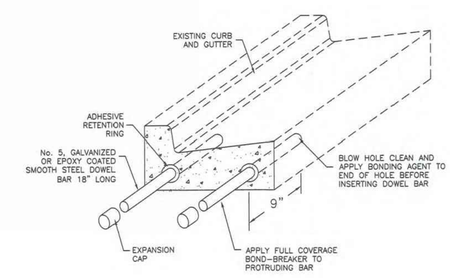
Curb and gutter connection

1. **GENERAL**
   A. Connect new curb and gutter to existing curb and gutter that has not been placed by CONTRACTOR.

2. **PRODUCTS**
   A. Reinforcement: Galvanized or epoxy coated, 60 ksi yield grade steel, ASTM A615.
   B. Adhesive: Epoxy adhesive grout, APWA Section 03 61 00.
   C. Bond Breaker: Paraffin wax, lithium grease, or other semi-solid, inert lubricant.
   D. Expansion Cap: Plastic, with bar movement allowance of 1/2-inch.

3. **EXECUTION**
   A. Ensure drill rigs (or jigs) are set at mid-depth of the gutter and horizontal to the surface. Make hole size large enough to account for dowel bar and adhesive.
   B. Clean holes and dowel bars of dirt, dust and particles. Ensure coating on bars have no surface defects.
   C. Place bonding agent in the back of each hole so adhesive flows out around each bar fully encasing it. DO NOT apply adhesive to end of the bar and then insert the bar into the hole.
   D. Insert dowels with at least one full turning motion and if necessary, place a grout retention disk on the dowel after insertion to contain adhesive.
   E. Apply complete coverage of bond-breaker on the protruding end of each dowel.
   F. Install expansion caps on protruding dowel bar ends.

206



APWA Utah Chapter — *Curb and gutter connection* — Plan 206 — June 2009

TALISMAN CIVIL CONSULTANTS
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SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL DETAILS

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY 10/25 STATE OF UTAH

CALL 811 BEFORE YOU DIG. SAFE DIGGING PARTNER

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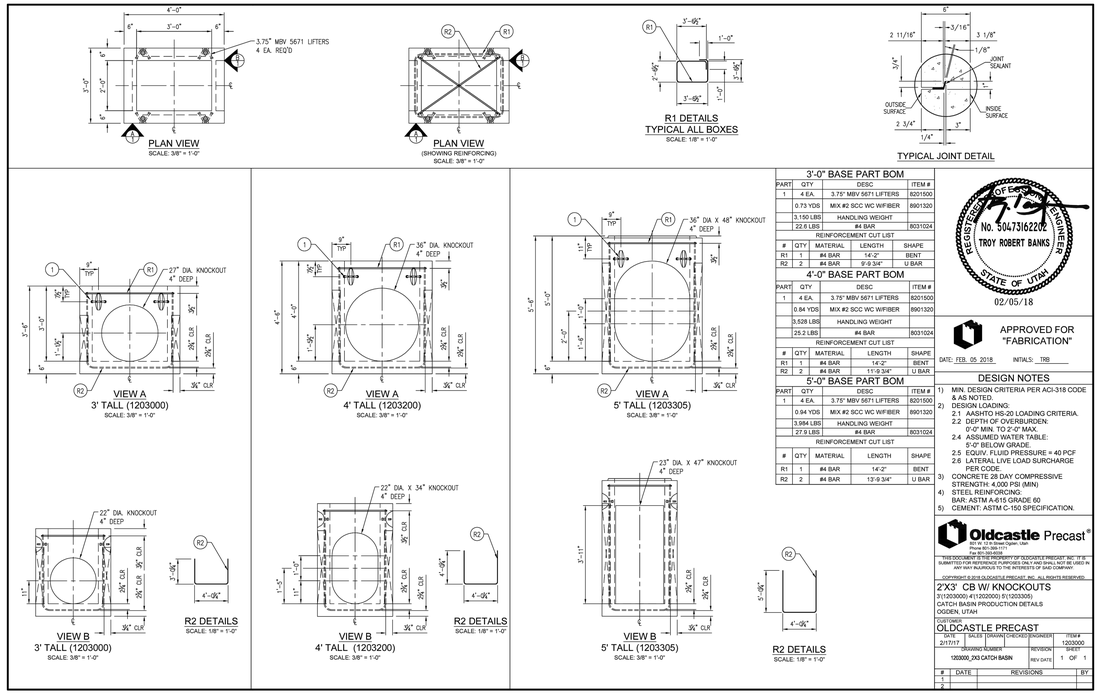

3'-0" BASE PART BOM

PART	QTY	DESC	ITEM #
1	4 EA.	3.75" MBV 5671 LIFTERS	8201500
	0.73 YDS	MIX #2 SCC WC W/FIBER	8901320
	3,150 LBS	HANDLING WEIGHT	
	22.6 LBS	#4 BAR	8031024

REINFORCEMENT CUT LIST

#	QTY	MATERIAL	LENGTH	SHAPE
R1	1	#4 BAR	14'-2"	BENT
R2	2	#4 BAR	9'-9 3/4"	U BAR

4'-0" BASE PART BOM

PART	QTY	DESC	ITEM #
1	4 EA.	3.75" MBV 5671 LIFTERS	8201500
	0.84 YDS	MIX #2 SCC WC W/FIBER	8901320
	3,528 LBS	HANDLING WEIGHT	
	26.2 LBS	#4 BAR	8031024

REINFORCEMENT CUT LIST

#	QTY	MATERIAL	LENGTH	SHAPE
R1	1	#4 BAR	14'-2"	BENT
R2	2	#4 BAR	11'-9 3/4"	U BAR

5'-0" BASE PART BOM

PART	QTY	DESC	ITEM #
1	4 EA.	3.75" MBV 5671 LIFTERS	8201500
	0.94 YDS	MIX #2 SCC WC W/FIBER	8901320
	3,984 LBS	HANDLING WEIGHT	
	27.9 LBS	#4 BAR	8031024

REINFORCEMENT CUT LIST

#	QTY	MATERIAL	LENGTH	SHAPE
R1	1	#4 BAR	14'-2"	BENT
R2	2	#4 BAR	13'-9 3/4"	U BAR

REGISTERED PROFESSIONAL ENGINEER No. 5047316220Z TROY ROBERT BANKS STATE OF UTAH
02/05/18

APPROVED FOR "FABRICATION"
DATE: FEB. 05. 2018 INITIALS: TRB

DESIGN NOTES

1) MIN. DESIGN CRITERIA PER ACI-318 CODE & AS NOTED.
2) DESIGN LOADING:
   2.1 AASHTO HS-20 LOADING CRITERIA.
   2.2 DEPTH OF OVERBURDEN: 0'-0" MIN. TO 2'-0" MAX.
   2.4 ASSUMED WATER TABLE: 5'-0" BELOW GRADE.
   2.5 EQUIV. FLUID PRESSURE = 40 PCF
   2.6 LATERAL LIVE LOAD SURCHARGE PER CODE.
3) CONCRETE 28 DAY COMPRESSIVE STRENGTH: 4,000 PSI (MIN)
4) STEEL REINFORCING: BAR: ASTM A-615 GRADE 60
5) CEMENT: ASTM C-150 SPECIFICATION.

Oldcastle Precast®
927 W. 12 N Street, Ogden, Utah
Phone 801-394-1171
Fax 801-394-1173

2'X3' CB W/ KNOCKOUTS
3'(1203000) 4'(1203200) 5'(1203305)
CATCH BASIN PRODUCTION DETAILS
OGDEN, UTAH

CUSTOMER: OLDCASTLE PRECAST

DATE	SALES	DRAWN	CHECKED	ENGINEER	ITEM #
2/17/17					1203000

DRAWING NUMBER	REVISION	SHEET
1203000_2X3 CATCH BASIN	REV DATE:	1 OF 1

#	DATE	REVISIONS	BY
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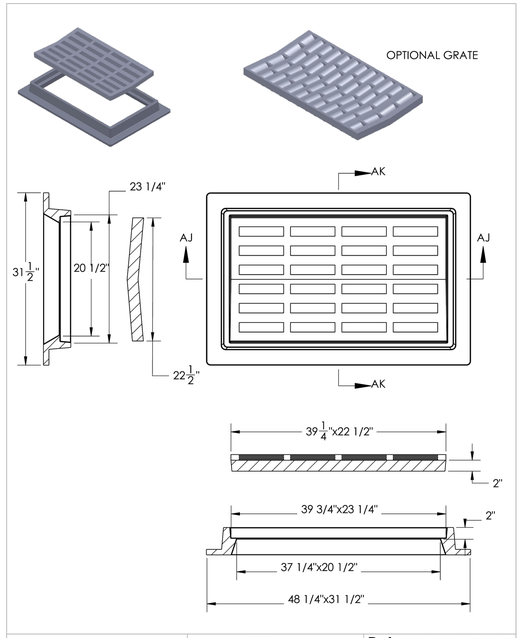


GREY IRON CONFORMS TO ASTM A-48, CLASS 35B MEETS H-20 WHEEL LOAD	D&L PART # I-3386	D&L FOUNDRY & SUPPLY
	PREPARED BY Mason Utter D&L FOUNDRY (NOT TO SCALE)	SALES CONTACT # CALIFORNIA (800)-422-0848 WASHINGTON (888)-765-0054 UTAH (800)-453-9802
	DATE: 06-02-09	

Precast box

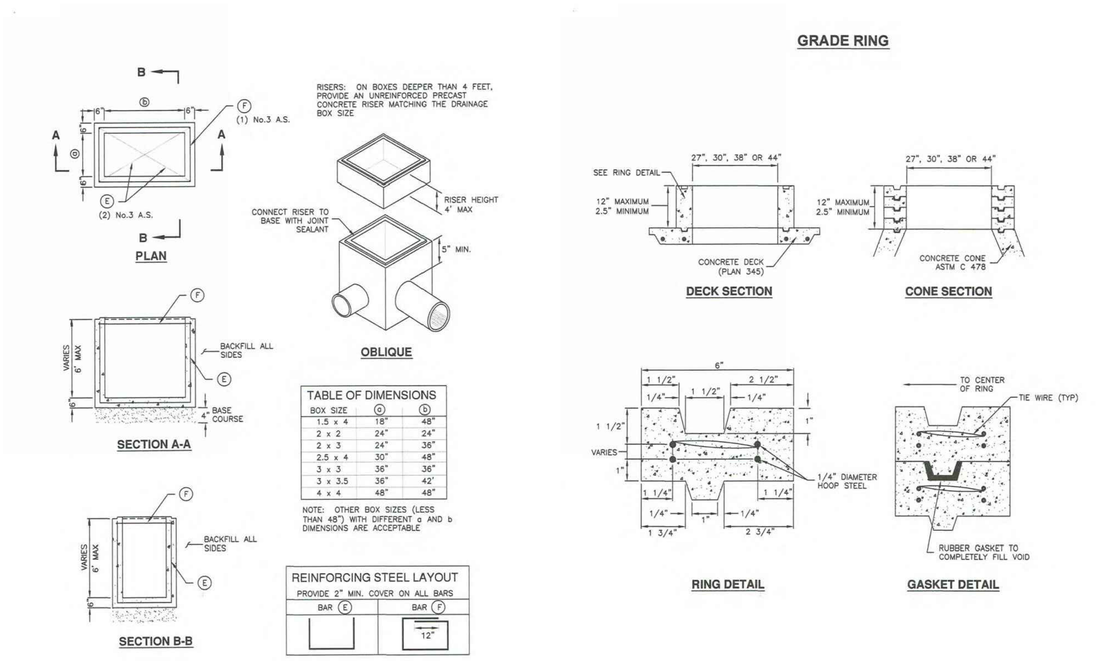
1. **GENERAL**
   A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the box.
   B. This drawing is acceptable where the water table elevation is less than 3 feet above the floor of the box. If elevation of water table is higher, engineering calculations and drawings must be submitted to and approved by the ENGINEER.
   C. Submit bar design detail for ENGINEER's review.
2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Precast Concrete: Class 4000 precast, APWA Section 03 40 00.
   D. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A615. Coated steel is not required for small drainage structures shown on this drawing.
   E. Frame and Cover (or Grate): Use the appropriate unit indicated in the Contract Documents.
   F. Joint Sealant: Rubber-based, compressible.
3. **EXECUTION**
   A. Concrete Placement: Provide 2-inches of concrete cover over reinforcing steel.
   B. Lifting Points: Provide at least 2 lifting points per section that avoid interference with the reinforcing steel and that are designed according to PCI (Prestressed Concrete Institute) design handbook. Lift only from the engineered lifting points.
   C. Depth: Drainage boxes and riser combinations that exceed 8-feet from finished grade to the bottom of the box requires ENGINEER's approval. Submit design calculations and shop drawings.
   D. Core Holes:
      1) Provide core holes that are at least 4" larger than attaching outer pipe diameter. Cut core holes at the manufacturing plant unless ENGINEER permits field core holes.
      2) Center core holes to leave 2" of concrete measured horizontally from inside wall of the box to core hole. Locate core hole vertically so bottom of core hole will be at or above floor elevation with at least 5-inches of concrete directly above the core hole to the top of the box.
      3) Deviations from core hole tolerances require shop drawings. Shop drawings will identify lifting point number and location.
   E. Precast Top: Design precast top for AASHTO HL-93 live loads and submit rebar detail and stamped design drawings to ENGINEER. Show connection detail for frame and grate or cover.

332

Raise frame to grade

1. **GENERAL**
   A. Grade rings are used in non-pressurized applications to adjust frame to grade.
2. **PRODUCTS**
   A. Concrete: Class 4000, APWA Section 03 30 04.
   B. Reinforcement: Deformed, 60 ksi yield grade hoop steel, ASTM A615.
      1) 2 1/2" High Rings: Provide two 1/4" diameter steel hoops tied with No. 14 AWS gage wire, 8" on center.
      2) 6" and 8" High Rings: Provide four 1/4" diameter steel hoops, tied with No. 14 AWS gage wire, 8" on center.
   C. Gasket: Rubber-based, compressible.
3. **EXECUTION**
   A. Ring Manufacture:
      1) Fabrication, APWA Section 03 30 10.
      2) Cure, APWA Section 03 39 00.
   B. Field Installation: Seat rings with a compressible gasket.

360.1



APWA Utah Chapter — ***Precast box*** — Plan **332** June 2010

APWA Utah Chapter — ***Raise frame to grade*** — Plan **360.1** May 2006

TALISMAN CIVIL CONSULTANTS
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801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
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DATE: 01.10.2025

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SHEET NUMBER
C903
34 OF 37

DATE: 1/9/2025 9:18 PM

PATH: N:\S:\80793\Cadd\24-210-01 - Shelter Hill\Cadd\Vp\C900 DETAILS.dwg

Pipe outfall

1. **GENERAL**
   A. Round concrete pipe application.
   B. Additional requirements are specified in APWA Section 33 05 02.

2. **PRODUCTS**
   A. Use the same quality of precast end section as the pipe.
   B. Use the joint material and connection that is the same as the joints in the pipeline.

3. **EXECUTION**
   A. General dimensions and geometric shapes may vary from manufacturer to manufacturer.
   B. Steel reinforcement is not required in the concrete end section shown.
   C. Provide joint restraint connectors if required by ENGINEER.

323.1

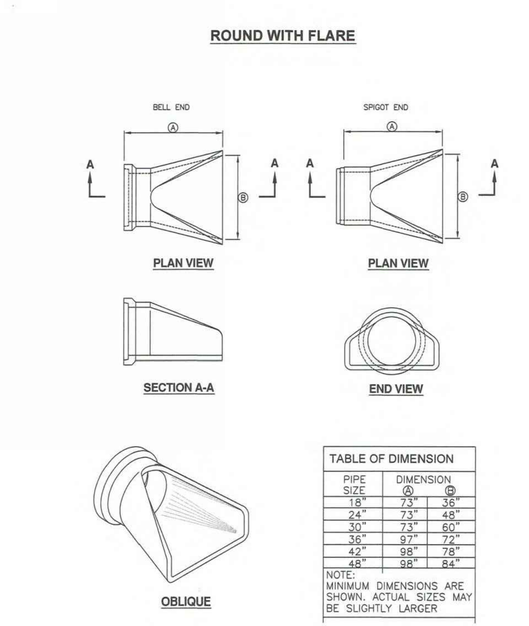


TABLE OF DIMENSION		
PIPE SIZE	DIMENSION Ⓐ	DIMENSION Ⓑ
18"	73"	36"
24"	73"	48"
30"	73"	60"
36"	97"	72"
42"	98"	78"
48"	98"	84"

NOTE:
MINIMUM DIMENSIONS ARE SHOWN. ACTUAL SIZES MAY BE SLIGHTLY LARGER

APWA Utah Chapter — *Pipe outfall* — Plan **323.1** November 2010

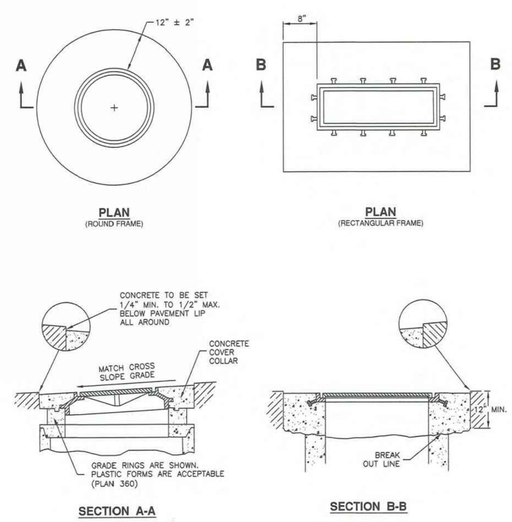
Cover collar for storm drains

1. **GENERAL**
   A. In a pavement surface, the concrete will support the frame under traffic loadings.

2. **PRODUCTS**
   A. Concrete: Class 4000, APWA Section 03 30 04.
   B. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

3. **EXECUTION**
   A. Pavement Preparation: Provide a neat vertical and concentric joint between concrete and existing bituminous concrete surfaces. Clean edges of all dirt, oil, and loose debris.
   B. Concrete Placement: APWA Section 03 30 10. Fill the annular space around the frame and cover casting with concrete. Apply a broom finish. Apply a curing agent.

362



APWA Utah Chapter — *Cover collar for storm drains* — Plan **362** December 2010

Trench backfill

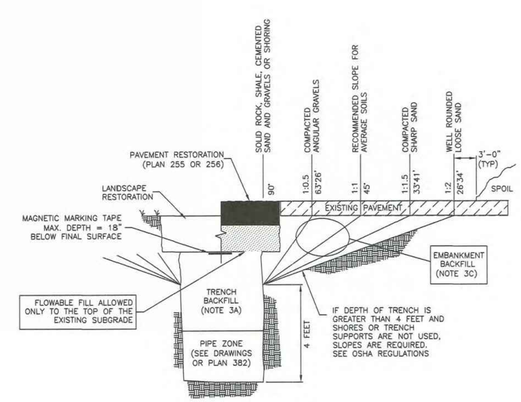
1. **GENERAL**
   A. The drawing applies to backfilling a trench (and embankment) above the pipe zone.

2. **PRODUCTS**
   A. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 3-inches.
   B. Flowable Fill: APWA Section 31 05 15. Target is 60 psi in 28 days with 90 psi maximum in 28 days, It must flow easily requiring no vibration for consolidation.

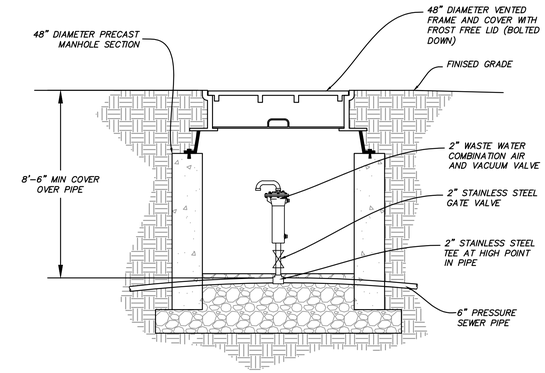
3. **EXECUTION**
   A. Trench Backfill Above the Pipe Zone: Follow requirement indicated in APWA Section 33 05 20 and the following provisions. See Standard Plan 382 for backfilling the pipe zone.
      1) DO NOT USE sewer rock, pea gravel, or recycled RAP aggregate as trench backfill.
      2) Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.
      3) Water jetting is NOT allowed.
   B. Flowable Fill: If controlled low strength material is placed in the trench. Cure the material before placing surface restorations.
   C. Embankment Backfill: When trench sides are sloped proceed as follows.
      1) Maximum lift thickness is 8-inches before compaction.
      2) Compact per APWA Section 31 23 26 to 95 percent or greater relative to a standard proctor density.
      3) Submission of quality control compaction test result data may be requested by ENGINEER at any time. Provide results of tests immediately upon request.
   D. Surface Restoration:
      1) Landscaped Surface: Follow APWA Section 32 92 00 (turf or grass) or APWA Section 32 93 13 (ground cover) requirements. Rake to match existing grade. Replace vegetation to match pre-construction conditions.
      2) Paved Surface: Follow APWA Section 33 05 25 (bituminous pavement surfacing), or APWA Section 33 05 25 (concrete pavement surfacing). Do not install surfacing until compaction density is acceptable to ENGINEER. .

381

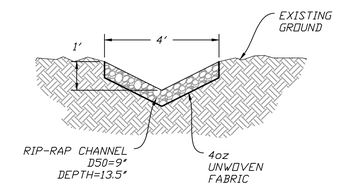
NARRATIVE: THIS PLAN SHOWS VARIOUS SLOPES RECOMMENDED FOR VARIOUS TYPES OF SLOPE STABILITY PROBLEMS. THE VERTICAL TEXT INDICATES VARIOUS MATERIALS THAT MAY BE ENCOUNTERED. THE SERVICES OF A PROFESSIONAL SOILS ENGINEER SHOULD BE USED TO VERIFY SLOPE STABILITY.



APWA Utah Chapter — *Trench backfill* — Plan **381** July 2016



A – *SEWER AIR RELEASE SECTION*
SCALE: 1" = N.T.S.



* D50=9" RIP RAP:	
13.5" SCREEN	100% PASSING
9" SCREEN	75% PASSING (MAX.)
6.75" SCREEN	50% PASSING (MAX.)
1" SCREEN	10% PASSING (MAX.)

B – *DRAINAGE SWALE DETAIL*
SCALE: 1" = N.T.S.

TALISMAN CIVIL CONSULTANTS
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SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL DETAILS

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY 10/7/25 STATE OF UTAH

CALL 811 BEFORE YOU DIG — SAFE DIGGING PARTNER

SHEET NUMBER
C904
35 OF 37

DATE: 1/9/2025 9:18 PM

PATH: N:\S:\80793\Cadd\24-210-01 - Shelter Hill\Cadd\p\C900 DETAILS.dwg

DATE: 1/9/2025 9:18 PM

Pipe zone backfill

1. **GENERAL**
   A. Install the pipe in the center of the trench or no closer than 6-inches from the wall of the pipe to the wall of the trench.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: APWA Section 03 30 04.
   D. Flowable Fill: Target is 60 psi in 28 days with 90 psi maximum in 28 days, APWA Section 31 05 15. It must flow easily requiring no vibration for consolidation.
   E. Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.

3. **EXECUTION**
   A. Excavate the Pipe Zone: Width is measured at the pipe spring line and includes any necessary sheathing. Provide width recommended by pipe manufacturer. Follow manufacturer's recommendations when using trench boxes.
   B. Foundation Stabilization: Get ENGINEER's permission before installing common fill. Vibrate to stabilize. Installation of stabilization-separation geotextile will be required to separate backfill material and native subgrade materials if common fill cannot provide a working platform or prevent soils migration.
   C. Bedding: Follow APWA Section 33 05 20 requirements and the following provisions.
      1) Furnish untreated base course material unless specified otherwise by pipe manufacturer.
      2) Maximum lift thickness is 8-inches.
      3) Bedding immediately under the pipe should not be compacted, but loosely placed.
      4) Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
      5) When using concrete, provide at least Class 2,000, APWA Section 03 30 04.
   D. Pipe Zone: DO NOT USE sewer rock, pea gravel, or recycled RAP aggregate in the pipe zone. Water jetting is NOT allowed.
      1) Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26 unless pipe manufacturer requires more stringent installation.
      2) Submission of quality control compaction test result data developed for the haunch zone may be requested by ENGINEER at any time. CONTRACTOR is to provide results of tests immediately upon request.
   E. Flowable Fill (when required and if allowed by pipe manufacturer):
      1) Place the controlled low strength material, APWA Section 31 05 15.
      2) Prevent pipe flotation by installing in lifts and providing pipe restraints as required by pipe manufacturer.
      3) Reset pipe to line and grade if pipe "floats" out of position.

382

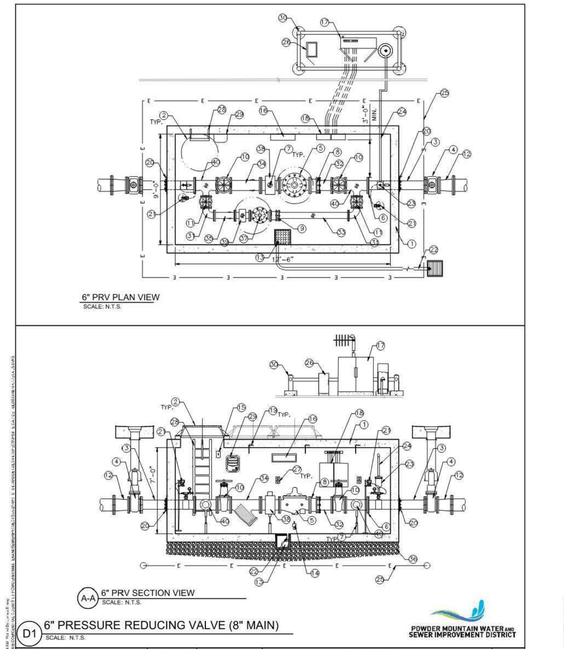
Precast manhole

1. **GENERAL**
   A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the manhole.
   B. Manhole size.
      1) Diameter is 4-feet: For pipe under 12" diameter.
      2) Diameter is 5-feet: For pipe 12" and larger, or when 3 or more drain pipes intersect the manhole.
   C. Wall thickness:
      1) Precast reinforced concrete walls 4 3/4" minimum.
      2) Cast-in-place concrete to be 8 inches thick minimum.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: Class 4000, APWA Section 03 30 04.
   D. Riser and Reducing Riser: ASTM C478.
   E. Joint Sealant: Rubber based, compressible.
   F. Grout: 2 parts sand to 1 part cement mortar, ASTM C1329.
   G. Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.

3. **EXECUTION**
   A. Foundation Stabilization: Get ENGINEER's permission to use a sewer rock or a sewer rock in a geotextile wrap to stabilize an unstable foundation.
   B. Base Course Placement: APWA Section 32 11 23. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   C. Invert cover. During construction, place invert covers over the top of pipe in manholes that currently convey sewerage. See Plan 412.
   D. Concrete Deck or Reducing Riser: When depth of manhole from pipe invert to finish grade exceeds 7 feet, use an ASTM C478 reducing riser.
   E. Pipe Connections: Grout around all pipe openings.
   F. Pipe Seal: Install rubber-based pipe seals on all plastic pipes when connecting plastic pipes to manholes. Hold water-stop in place with stainless steel bands.
   G. Joints: Place flexible sealant in all riser joints. Finish with grout.
   H. Adjustment: If the required manhole adjustment is more than 1'-0", remove the cone and grade rings and adjust the manhole elevation with the appropriate manhole section, the cone section, and the grade rings or plastic form to make frame and lid match finish grade.
   I. Finish: Provide smooth and neat finishes on interior of cones, shafts, and rings. Imperfect moldings or honeycombs will not be accepted.
   J. Backfill: Provide backfill against the manhole shaft. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

341.1



MATERIALS LIST			
NO.	DESCRIPTION	JOINT TYPE	SIZE
1	REINFORCED CONCRETE VAULT (17.5'L x 9'W x 7'D MIN. INTERIOR DIMENSIONS, SEE NOTE 9)	N/A	N/A
2	36"Ø DOUBLE LID FROST-FREE MANHOLE FRAME AND COVER, CENTERED ABOVE PRV3 OR ACCESS LADDER, SEE NOTE 12.	N/A	N/A
3	WALL SPOOL PIECE (LENGTH VARIES).	FL	10"
4	GATE VALVE W/ SQUARE NUT OPERATING NUT, VALVE BOX, AND CONCRETE COLLAR.	FL	10"
5	PRESSURE REDUCING AND SUSTAINING VALVE WITH ANTI CAVITATION TRIM AS REQUIRED BY DISTRICT AND SOLENOID SHUT OFF VALVE, CLA-VAL MODEL NO 92-07BYKO D/S 150 CL FLANGE.	FL	10"
6	PRESSURE RELIEF PIPING, SEE NOTE 11 AND DETAIL C1, SHEET W-9E.	–	–
7	ADJUSTABLE PIPE SUPPORT, SEE DETAIL A1, STANDARD DETAIL W-12.	–	–
8	ROMAC ALPHA DJ 400 DISMANTLING JOINT	FL×FL	10"
9	ROMAC ALPHA DJ 400 DISMANTLING JOINT	FL×FL	6"
10	GATE VALVE W/ HAND WHEEL OPERATOR	FL×FL	10"
11	GATE VALVE W/ HAND WHEEL OPERATOR	FL×FL	6"
12	D.I. REDUCER	FL×FL	12"×10"
13	18"x18"x18" SUMP W/ GRATE & SUMP PUMP, ROUTED TO EXTERIOR SUMP OR STORM DRAIN. WATERTIGHT SEAL BETWEEN SUMP BOX AND VAULT REQUIRED, SEE NOTE 13.	N/A	N/A
14	FLOAT SWITCH, SEE NOTE 13 AND DETAIL C1, STANDARD DETAIL W-11.	N/A	N/A
15	LIGHT SWITCH, MOUNTED ACCESSIBLE FROM EXTERIOR OF VAULT.	N/A	N/A
16	WALL MOUNTED 24" LED VAPOR TIGHT LIGHT FIXTURE.	N/A	N/A
17	NEMA 4X STAINLESS STEEL ENCLOSURE W/ DOUBLE DOORS & PADLOCK HATCH, SEE NOTES 3, 4, & 5 AND DETAIL D1, STANDARD DETAIL W-13	N/A	N/A
18	NEMA 4X STAINLESS STEEL ENCLOSURES (POWER AND CONTROLS BOXES) SEE NOTE 3, 4, & 5.	N/A	N/A
19	¾" MIN # 304SST LIFTING ANCHOR TIED TO REBAR, SIZED AND LOCATED FOR REMOVAL OF COMPONENTS DURING MAINTENANCE. MIN. 3, INLINE ABOVE PIPE. COORDINATE LOCATION AND ORIENTATION WITH PMWSID PRIOR TO ORDERING MATERIALS.	N/A	N/A
20	LINK-SEAL TRIPAC W/ THRUST RESTRAINT – STEEL PLATE WITH MEGALUG STYLE JOINT RESTRAINT. SEE DETAIL B2, STANDARD DETAIL W-11.	N/A	N/A
21	PRESSURE TRANSDUCER ASSEMBLY, SEE DETAIL B1, STANDARD DETAIL W-10. COORDINATE WITH PMWSID FOR MIN. AND MAX. EXPECTED PRESSURES.	N/A	N/A
22	HOPE DRAIN PIPE W/ CHECK VALVE ROUTED TO OUTSIDE STORM DRAIN.	N/A	N/A
23	AIRVAC ASSEMBLY, SEE DETAIL D1, STANDARD DETAIL W-10. INSTALL ON DOWNSTREAM SIDE OF PRV.	N/A	2"
24	SCH. 80 PVC AIR-VAC ASSEMBLY PIPING, SEE DETAIL D2, STANDARD DETAIL W-10.	N/A	2"
25	2/0 COPPER GROUND RING AROUND VAULT, SHOWN FOR PRE-CAST BOX, SEE NOTE 9.	N/A	2"
26	POWER METER, COORDINATE WITH ROCKY MOUNTAIN POWER, SEE DETAIL D1, STANDARD DETAIL W-13.	N/A	N/A
27	120 VOLT 20 AMP GFCI OUTLETS (48" FROM FLOOR TO TOP OF OUTLET).	N/A	N/A
28	ACCESS LADDER WITH EXTENDING SAFETY POST, SEE DETAIL B1, STANDARD DETAIL W-11.	N/A	N/A
29	MARKEL 3.7kW ELECTRIC HEATER, MODEL NUMBER 5105NH2B	N/A	N/A
30	4" x 8' BOLLARD BOX, SEE DETAIL A2, STANDARD DETAIL W-11.	N/A	N/A
31	D.I. 90 BEND	FL×FL	6"
32	D.I. SPOOL	FL×PE	10"
33	D.I. SPOOL	FL×PE	6"
34	WYE STRAINER	FL×FL	10"
35	WYE STRAINER	FL×FL	6"
36	2" APWA SEWER ROCK	–	–
37	PRESSURE REDUCING AND SUSTAINING VALVE WITH ANTI CAVITATION TRIM AS REQUIRED BY DISTRICT AND SOLENOID SHUT OFF VALVE, CLA-VAL MODEL NO 92-07BYKO D/S 150 CL FLANGE.	FL×FL	6"
38	ENDRESS HAUSER PROLINE PROMAG W400 FLOW METER	FL×FL	10"
39	ENDRESS HAUSER PROLINE PROMAG W400 FLOW METER	FL×FL	6"
40	D.I. REDUCING TEE	FL×FL	10"×6"

NOTES:
1. ALL EXPOSED PIPE INSIDE THE VAULT SHALL BE PRIMED AND PAINTED WITH TWO (2) COATS OF EPOXY PAINT COLOR TO BE ROYAL BLUE. USE TYPE 2 WAX TAPE INSIDE VAULT PER DISTRICT STANDARD.
2. VAULT SHALL BE SUPPLIED WITH POWER FOR ALL EQUIPMENT WHERE SHOWN AND/OR NOTED. FOR A COMPLETE AND OPERABLE INSTALLATION. DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE POWER COMPANY AND PROVIDING POWER SOURCE.
3. IF REQUIRED BY PMWSID, PLC AND ASSOCIATED TELEMETERING EQUIPMENT SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR IN COORDINATION WITH THE DISTRICT. CONTRACTOR SHALL FURNISH ABOVE GRADE CONTROL BOX AS SHOWN AND NOTED, AND SHALL INSTALL ALL NECESSARY WIRING FROM CONTROL BOX TO VAULT, LEAVING ONE (1) PULL STRING IN SPARE CONDUITS.
4. ALL CONNECTIONS TO ELECTRICAL ENCLOSURES TO BE BY A WATER-TIGHT 3-PIECE GASKETED HUB. ALL PENETRATIONS THROUGH CONCRETE AND ELECTRICAL FITTINGS THAT ARE DIRECT BURIED SHALL BE PVC COATED GRC TO A MINIMUM OF 12 INCHES BEYOND THE OUTSIDE WALL OF THE VAULT. TAPED FITTINGS WILL NOT BE ALLOWED. ALL ANALOG SIGNALS TO BE SPLIT AND ALL DIGITAL SIGNALS DUPLICATED WITH RELAYS TO PROVIDE A COPY OF ALL INPUTS AND OUTPUTS TO A FUTURE PLC WITHIN THE VAULT.
5. PRE-CAST BOX: GROUND RING TO BE BURIED 3' UNDER SURFACE, 2' AROUND BOX. CAST-IN-PLACE BOX: GROUND RING TO BE CAST INTO VAULT FOOTING. GROUND RING TO BE TIED TO TWO SEPARATE REBARS IN VAULT FOOTING. PLC POWER PANEL GROUND TO BE BONDED TO GROUND RING.
6. ALL PIPE PENETRATIONS TO BE SEALED WITH LINK SEAL. INSTALL LINK-SEAL WITH BOLT HEADS INSIDE VAULT. BOLTS SHALL BE STAINLESS STEEL.
7. THE DISTRICT APPROVED SCADA CONTRACTOR THAT IS ALLOWED TO WORK ON THIS SCADA SYSTEM IS:

   AUTOMATION CONTROLS:
   CLAYTON RICHARDSON (435) 213-7844

8. ALL MATERIAL SUBJECT TO PMWSID DISCRETION
   PLC ALLEN BRADLEY 1400 PART # (1766-L32AWA) OR (1766-L32BWAA)
   1762-IF4 ANALOG INPUT MODULE
   1762-OF4 ANALOG OUTPUT MODULE
8.1. RADIO
   MICROWAVE DATA SYSTEMS (MDS)
   (DEPENDS ON RADIO SURVEY)
8.2. LICENSED
   MICROWAVE DATA SYSTEMS RADIO (ECRL9CNNNNNS1D1USUNNN)
   ORBIT (DIN MOUNT)
   ECR RADIO 900 MHZ LICENSED
   MANAGED CONNECTED ROUTER:
   896-980 MHz RADIO COMMUNICATION ONLY WITH 1 ETHERNET PORT 2 SERIAL PORTS
8.3. SPREAD SPECTRUM
   MICROWAVE DATA SYSTEM RADIO TRANSNET 900
   MDS SL805 HL SPREAD SPECTRUM XCVR (HARD CASE)
9. CONCRETE VAULT MUST BE SIZED AND REINFORCED TO SUPPORT HL-93 LIVE LOAD AND PIPE THRUST. SIZING AND REINFORCEMENT CALCULATIONS SHALL BE SUBMITTED TO PMWSID AND APPROVED PRIOR TO ORDERING MATERIALS.
10. MAINLINE PRV TO INCLUDE STAINLESS STEEL PILOT SYSTEM. INLET/OUTLET PRESSURE TRANSDUCERS, AND TO BE POWER FAILURE OPTION "LAST POSITION".
11. PRESSURE RELIEF VALVE AND PIPING SHALL BE INSTALLED WHEN REQUIRED BY PMWSID PER STANDARD DETAIL W-9E. CONTRACTOR TO COORDINATE WITH PMWSID FOR FINAL ROUTING OF PRESSURE RELIEF VALVE WASTE PIPING. PRIOR APPROVAL BY DISTRICT ENGINEER REQUIRED.
12. WHEN MANHOLES ARE LOCATED OUTSIDE OF THE TRAVEL WAY, WATER TIGHT DUCTILE IRON ACCESS HATCHES SHALL BE USED IN PLACE OF MANHOLES. HATCHES SHALL BE EJ MODEL NO. 0981PR1801 OR DISTRICT APPROVED EQUAL.
13. SUMP PUMP AND ASSOCIATED PIPING AND FLOAT SWITCH MAY BE REPLACED WITH GRAVEL SUMP WHEN APPROVED BY PMWSID AND IN LOW WATER TABLE AREAS.

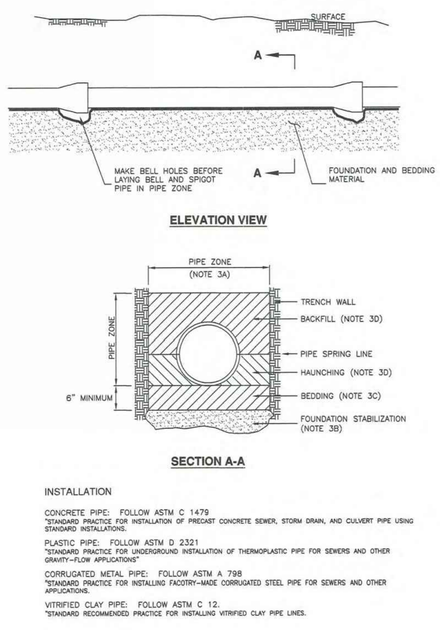
POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

J-U-B ENGINEERS, INC.

10" PRV VAULT, NOTES

STANDARD DEVELOPMENT DETAILS

SHEET W-9D



INSTALLATION

CONCRETE PIPE: FOLLOW ASTM C 1479
"STANDARD PRACTICE FOR INSTALLATION OF PRECAST CONCRETE SEWER, STORM DRAIN, AND CULVERT PIPE USING STANDARD INSTALLATIONS."

PLASTIC PIPE: FOLLOW ASTM D 2321
"STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS"

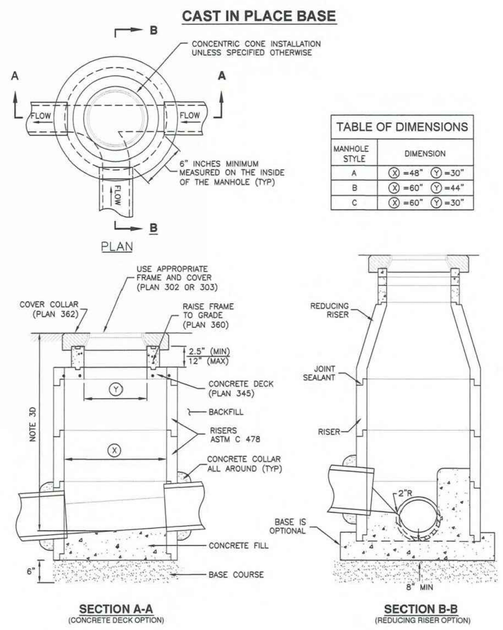
CORRUGATED METAL PIPE: FOLLOW ASTM A 798
"STANDARD PRACTICE FOR INSTALLING FACOTRY-MADE CORRUGATED STEEL PIPE FOR SEWERS AND OTHER APPLICATIONS.

VITRIFIED CLAY PIPE: FOLLOW ASTM C 12.
"STANDARD RECOMMENDED PRACTICE FOR INSTALLING VITRIFIED CLAY PIPE LINES.

APWA Utah Chapter

Pipe zone backfill

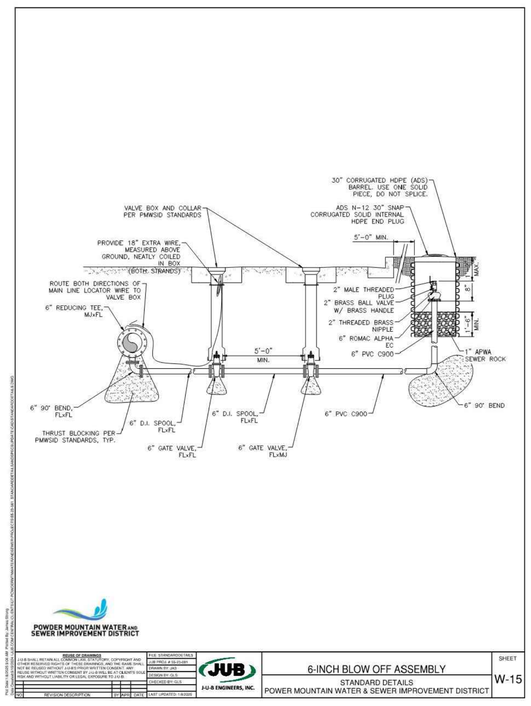
Plan **382**
January 2011



APWA Utah Chapter

Precast manhole

Plan **341.1**
November 2010



POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

J-U-B ENGINEERS, INC.

6-INCH BLOW OFF ASSEMBLY

STANDARD DETAILS
POWER MOUNTAIN WATER & SEWER IMPROVEMENT DISTRICT

SHEET W-15

TALISMAN CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL DETAILS

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY 10/7/25 STATE OF UTAH

SHEET NUMBER
C905
36 OF 37

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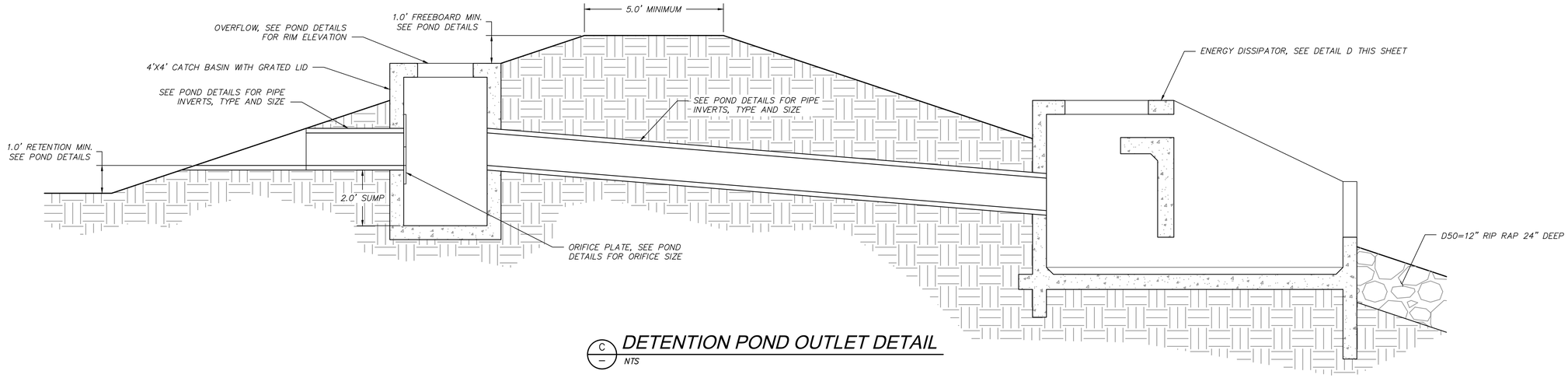
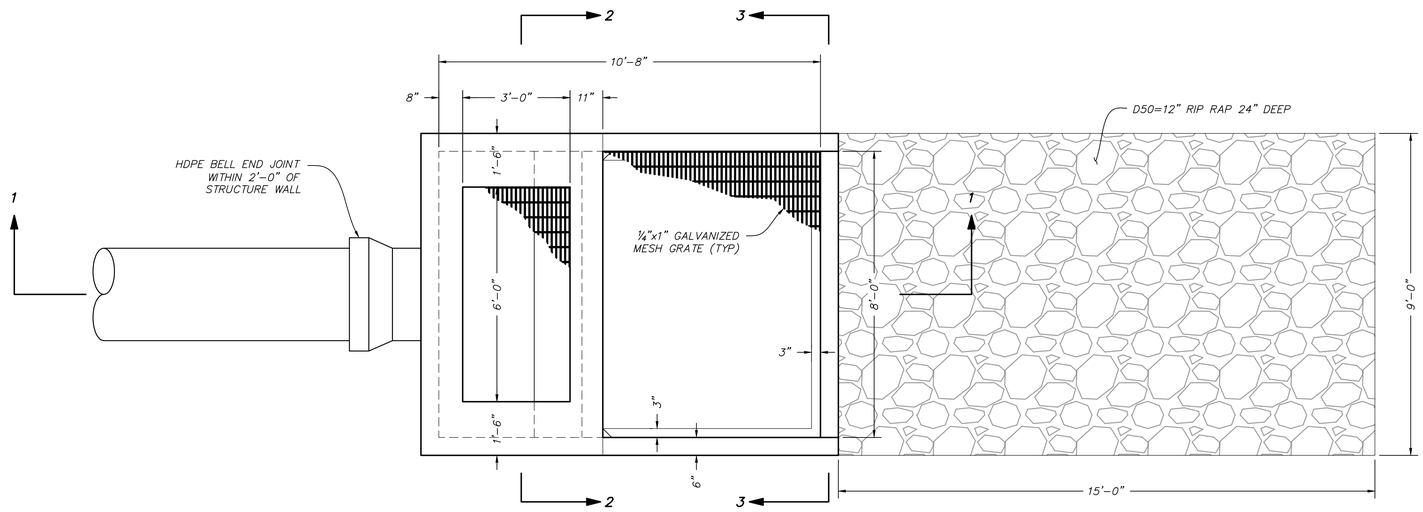


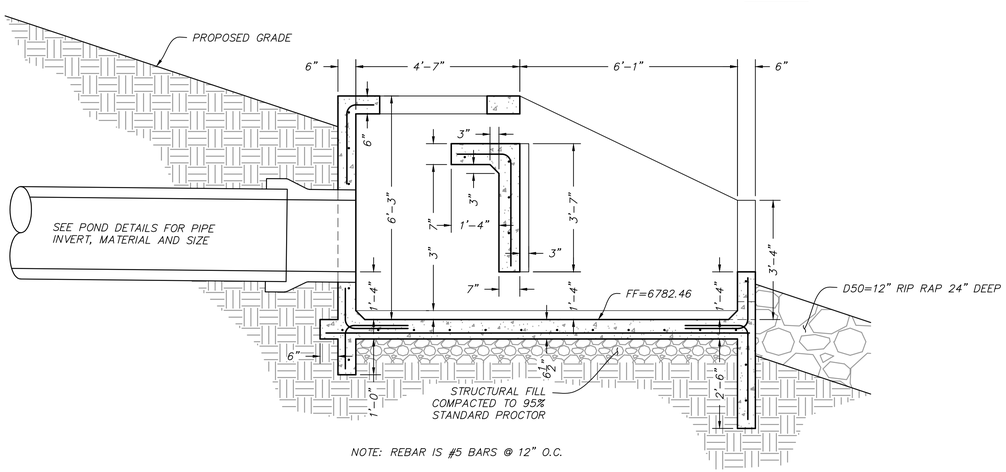
C — DETENTION POND OUTLET DETAIL

NTS

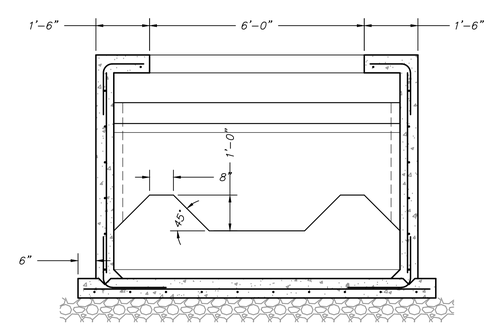


PLAN

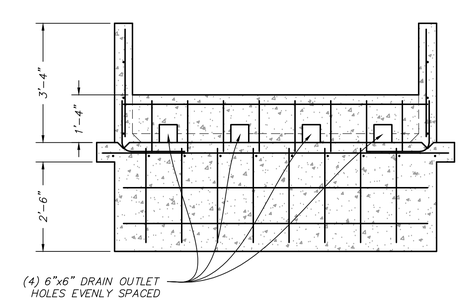
D50=12" RIP RAP GRADATION	
% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSIONS (INCHES)
70 – 100	21
50 – 70	18
35 – 50	12
2 – 10	4



SECTION 1-1



SECTION 2-2



SECTION 3-3

D — ENERGY DISSIPATOR

NTS

TALISMAN CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

POWDER MOUNTAIN
SHELTER HILL DETAILS

DATE: 01.10.2025

TCC JOB NUMBER: 24-210-01

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
10/2/25
STATE OF UTAH

SHEET NUMBER
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37 OF 37

DATE: 1/9/2025 9:18 PM
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