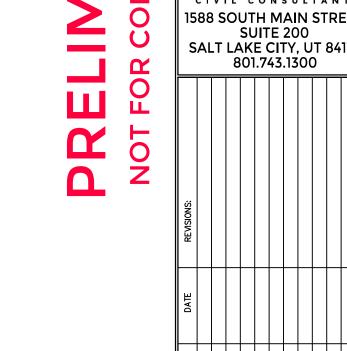
POWDER POINT AT POWDER MOUNTAIN DESIGN DEVELOPMENT DRAWINGS

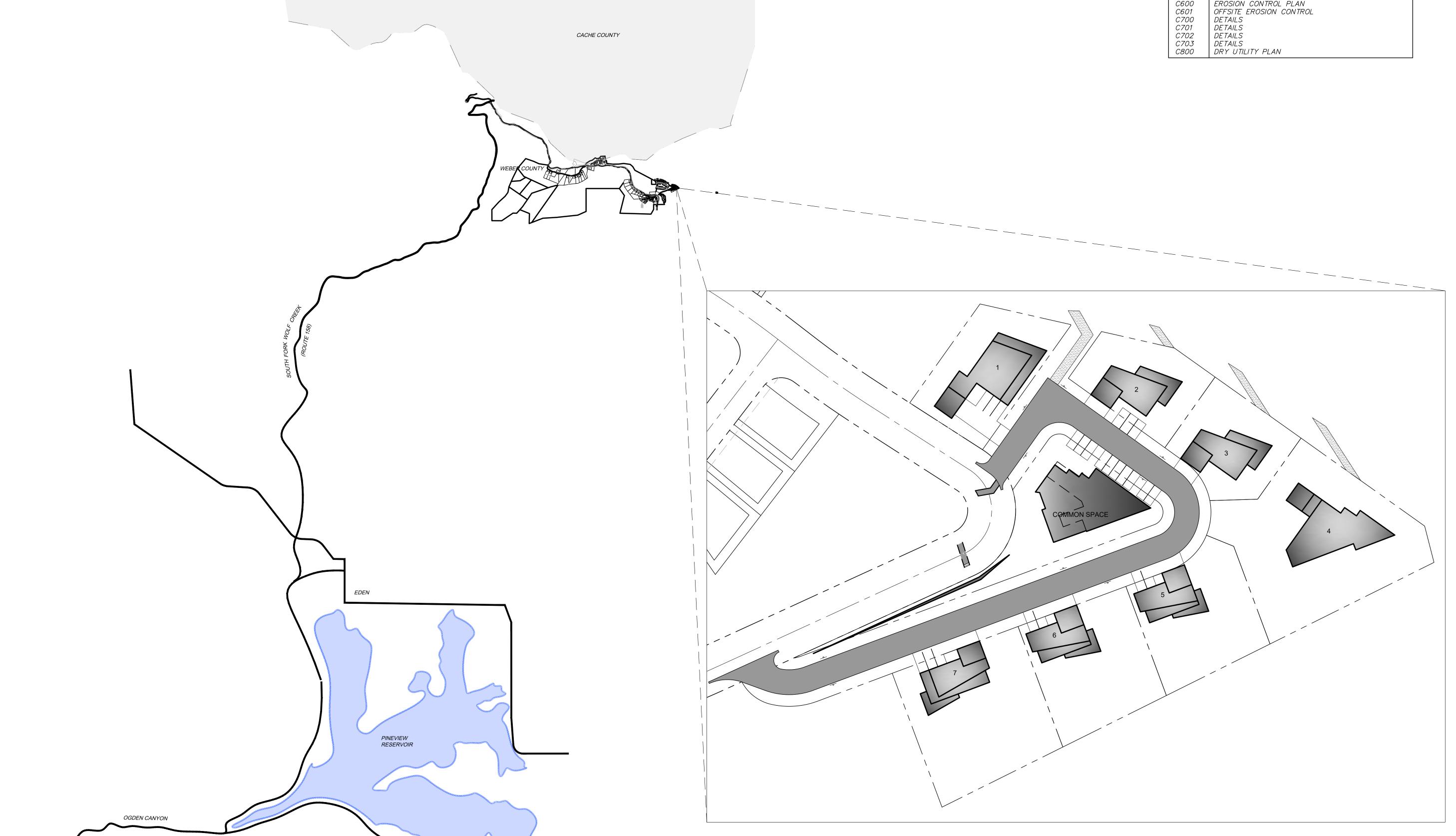
Located in Weber County, Utah



| SHEET NO. | SHEET DESCRIPTION |
|-----------|--|
| C000 | COVER SHEET |
| C001 | GENERAL NOTES |
| C002 | TYPICAL ROAD AND PAVEMENT SECTIONS |
| C200 | DEMOLITION & SITE PLAN |
| C300 | GRADING PLAN |
| C400 | UTILITY PLAN |
| C500 | PLAN AND PROFILE |
| C501 | OFFSITE SEWER LINE PLAN AND PROFILE |
| C502 | DRAINAGE CHANNEL PLAN AND PROFILE |
| C503 | STORMWATER CONVEYANCE PLAN AND PROFILE |
| C600 | EROSION CONTROL PLAN |
| C601 | OFFSITE EROSION CONTROL |
| C700 | DETAILS |
| C701 | DETAILS |
| C702 | DETAILS |
| C703 | DETAILS |
| | |



| NOT | NO. BY DATE REVISIONS: | | | | | | | | | | | | |
|-----|------------------------|--|--|--|--|--|--|--|--|--|----|--|--|
| | | | | | | | | | | | 23 | | |





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.

TRAFFIC CONTROL, STRIPING & SIGNAGE TO CONFORM TO CURRENT UDOT TRANSPORTATION ENGINEER'S MANUAL AND MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

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, FLAGMEN, 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 HIMSELF BY PERSONAL EXAMINATION OR BY SUCH OTHER MEANS AS HE 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 HIS EXAMINATION, A BIDDER FINDS FACTS OR CONDITIONS WHICH APPEAR TO HIM TO BE IN CONFLICT WITH THE LETTER OR SPIRIT OF THE PROJECT PLANS AND SPECIFICATIONS, HE SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION AND EXPLANATION BEFORE SUBMITTING HIS BID. SUBMISSION OF A BID BY THE CONTRACTOR SHALL CONSTITUTE ACKNOWLEDGMENT THAT, IF AWARDED THE CONTRACT, HE HAS RELIED AND IS RELYING ON HIS 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 HIS 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 HE HAS NOT RELIED SOLELY UPON OWNER- OR ENGINEER-FURNISHED INFORMATION REGARDING SITE CONDITIONS IN PREPARING AND

SUBMITTING HIS 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' 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 HIS 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 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

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.

BASINS ARE TO BE MAINTAINED IN A CLEANED CONDITION AS NEEDED UNTIL

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 108" OF COVER TO TOP

OF PIPE BELOW FINISHED GRADE. 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.

AND TEES. 20. ALL UNDERGROUND UTILITIES SHALL BE IN PLACE PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK AND STREET PAVING.

19. CONTRACTOR SHALL INSTALL THRUST BLOCKING AT ALL WATERLINE ANGLE POINTS

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

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

AS-BUILT DRAWINGS. 25. ANY CHANGES TO THE ROAD GRADE OR PROFILE NEED TO BE APPROVED BY

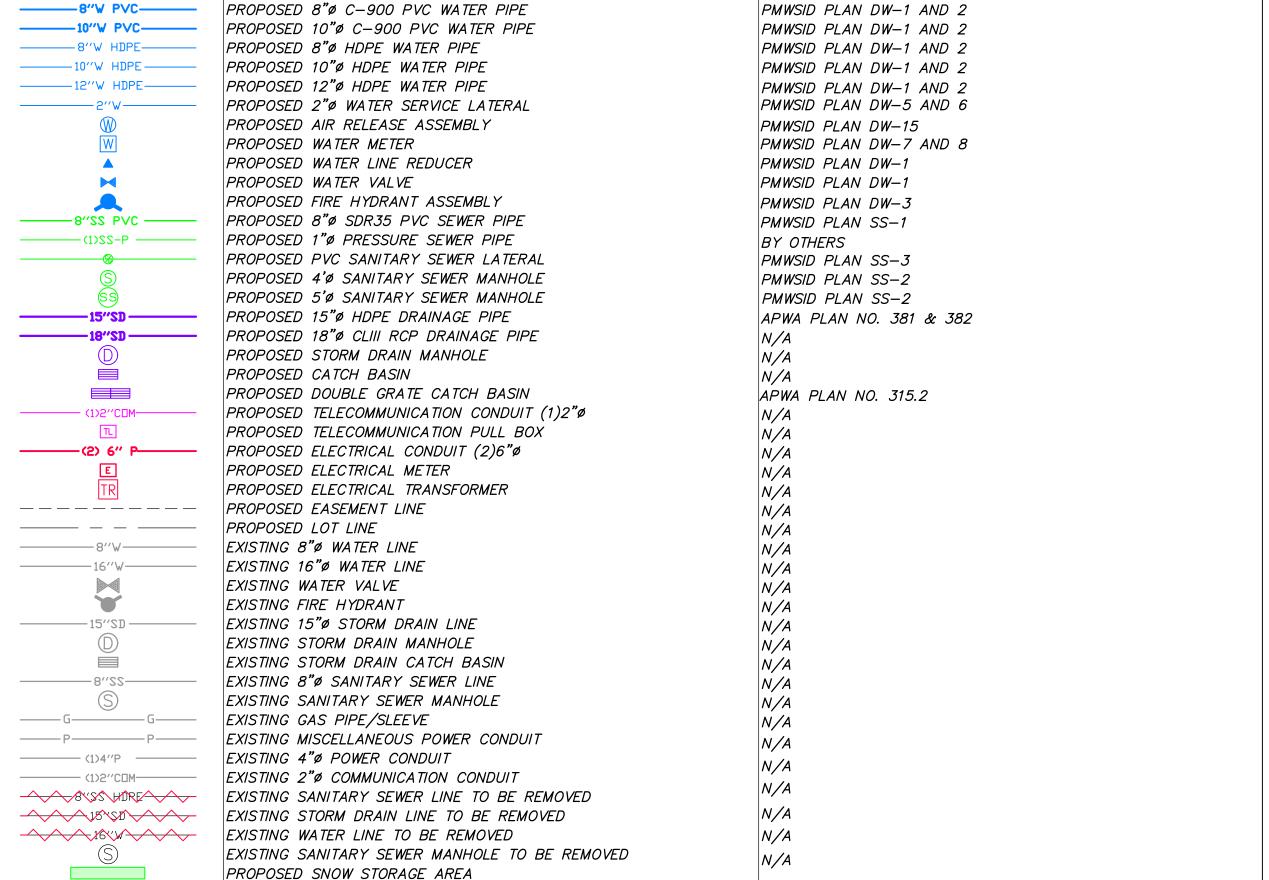
HYDRANTS WITHIN PROJECT PER POWDER MOUNTAIN RECOMMENDATIONS.

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.

LEGEND:

SYMBOL / LINETYPE DESCRIPTION **DETAIL** |PROPOSED 8"ø C-900 PVC WATER PIPE PMWSID PLAN DW-1 AND I PROPOSED 10" Ø C-900 PVC WATER PIPE PMWSID PLAN DW-1 AND 2 PROPOSED 8" # HDPE WATER PIPE PMWSID PLAN DW-1 AND 2 PROPOSED 10" HDPE WATER PIPE PMWSID PLAN DW-1 AND 2 PROPOSED 12" # HDPE WATER PIPE PMWSID PLAN DW-1 AND 2 PMWSID PLAN DW-5 AND 6 PROPOSED 2"Ø WATER SERVICE LATERAL



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 COUNTIES. ALSO, INSPECTORS WILL HAVE THE RIGHT TO CHANGE THE FACILITIES AS NEEDED.

CONTRACTOR SHALL KEEP THE SITE WATERED TO CONTROL DUST. CONTRACTOR TO LOCATE A NEARBY HYDRANT FOR USE AND 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 AND FILE A "NOTICE OF INTENT" WITH THE UTAH DIVISION OF WATER

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 RAINFALL. 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.

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:

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, 2003. 4. FOR HDPE PIPE, ASTM D2774, RECOMMENDED PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING AND AWWA MANUAL OF

PRACTICE M55, 2006. 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 THE DIRECTOR. 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 THE DIVISION.

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

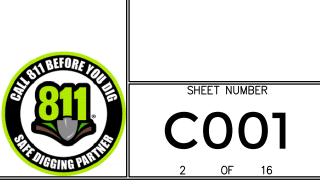
2380 WASHINGTON BLVD. #240 OGDEN, UT 84401 (801) 399-8374

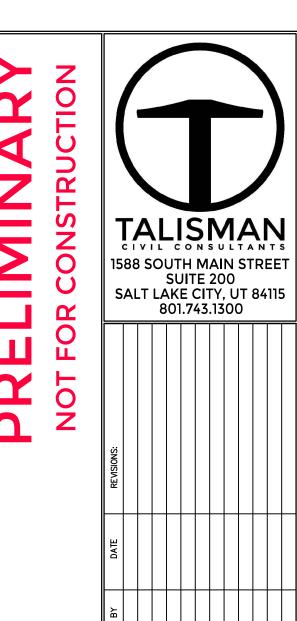
ROCKY MOUNTIAN POWER

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

POWDER MOUNTAIN WATER & SEWER DISTRICT

PO BOX 270 EDEN, UT 84310 (801) 745-0912





0 Ω

0

2 Ш

0

0

FUTURE PHASE OF CONSTRUCTION FOR INVERT VERIFICATION. TOLERANCE SHALL

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

POWDER MOUNTAIN, AS THIS MAY AFFECT THE FINAL BURY DEPTH OF WATER LINES. 26. PROVIDE AND INSTALL FIRE HYDRANT IDENTIFICATION FLAGS ON ALL FIRE

29. NO CONSTRUCTION WATER SHALL BE TAKEN FROM THE EXISTING WATER SYSTEM WITHOUT APPROVAL FROM THE DISTRICT.

TALISMAN

CIVIL CONSULTANTS

1588 SOUTH MAIN STREET

SUITE 200

SALT LAKE CITY, UT 84115

801.743.1300

TAIN

 $/3_2^1$ " HMA PLACED AND COMPACTED TO A MINIMUM OF 96% OF THE MARSHALL MAXIMUM DENSITY.

12" MINIMUM 70 CBR CRUSHED STONE ROAD BASE COMPACTED TO A MINIMUM OF 95%.

MINIMUM UPPER 4" OF NATIVE SOIL TO BE RE-WORKED AND COMPACTED TO A MINIMUM OF 93%.

NOTE: PAVEMENT SECTION DETERMINED BY IGES GEOTECHNICAL REPORT DATED

PAVEMENT SECTION A

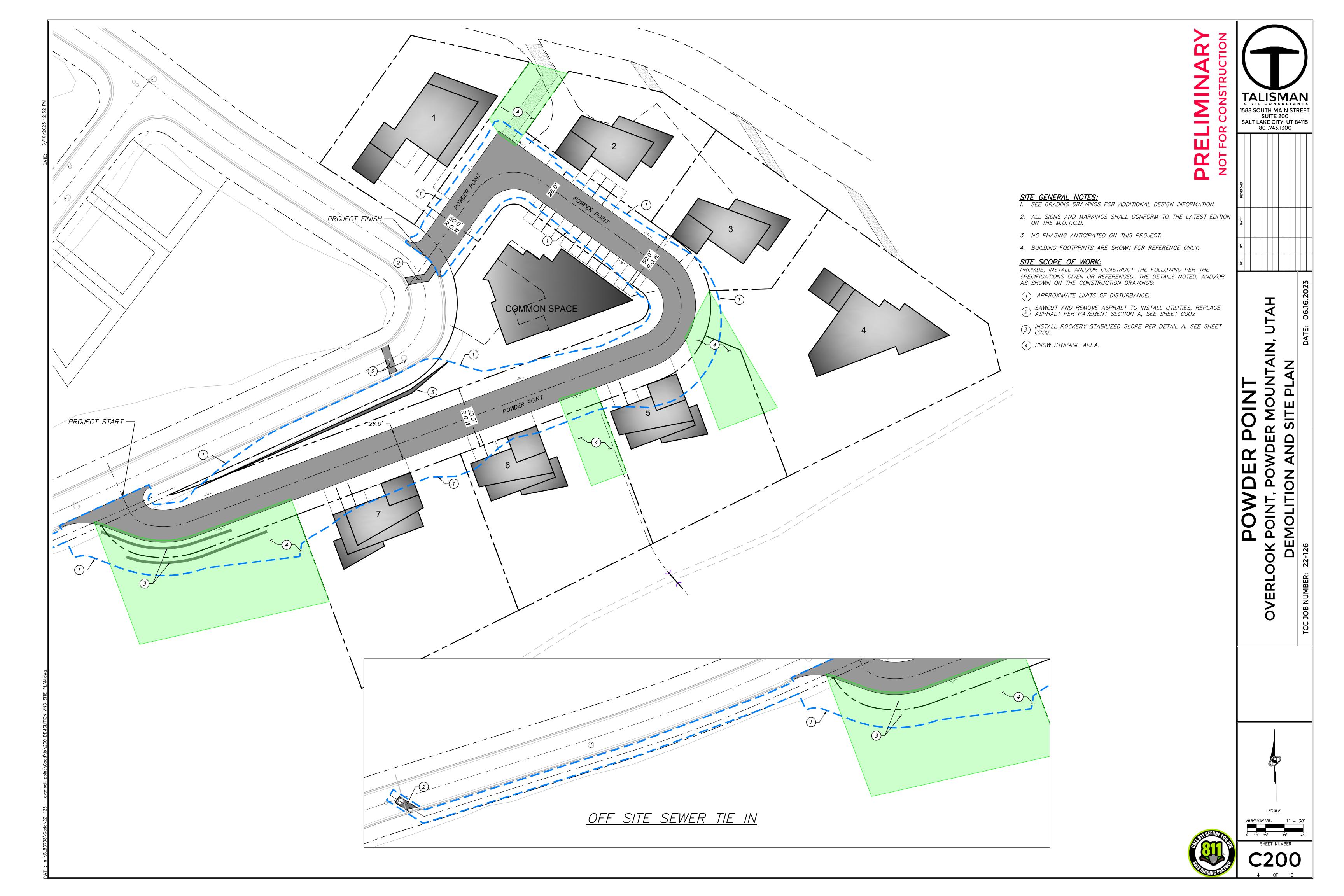
FEBRUARY 12, 2019 (REV.2).

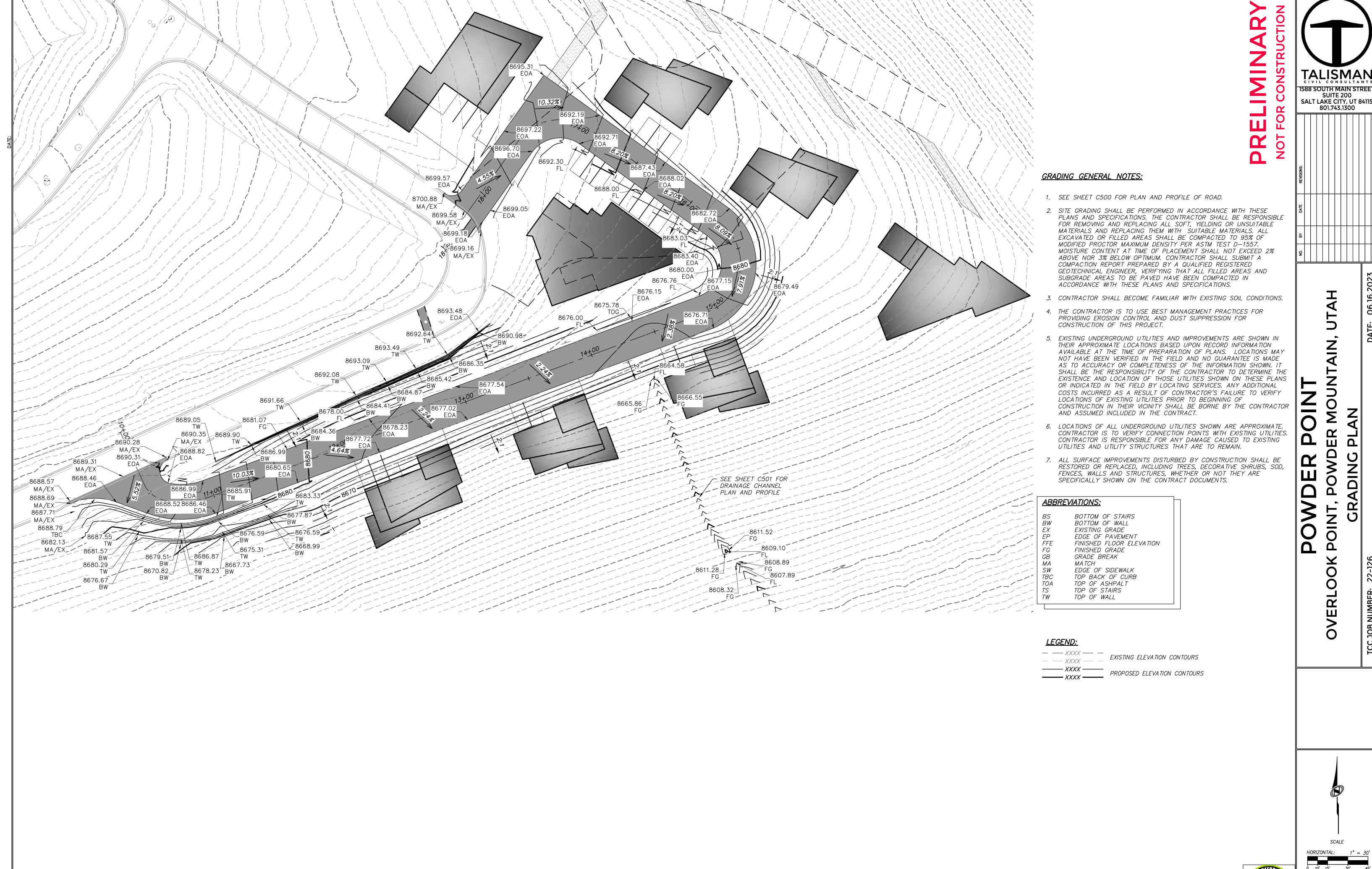
STABILIZATION FABRIC. MIRAFI RS380i
OR OR APPROVED EQUAL BY THE

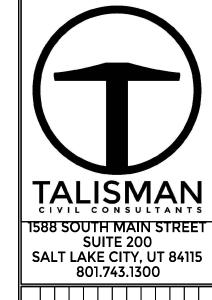
GEOTECHNICAL ENGINEERING (IGES).

_ 50.0' R.O.W. _ 26.0' ASPHALT 4.5' SHOULDER 4.5' SHOULDER - SEE PAVEMENT SECTION A 2.0% 2.0% V DITCH (2' WIDE 1' DEEP) RIP RAP LINED D50=4"

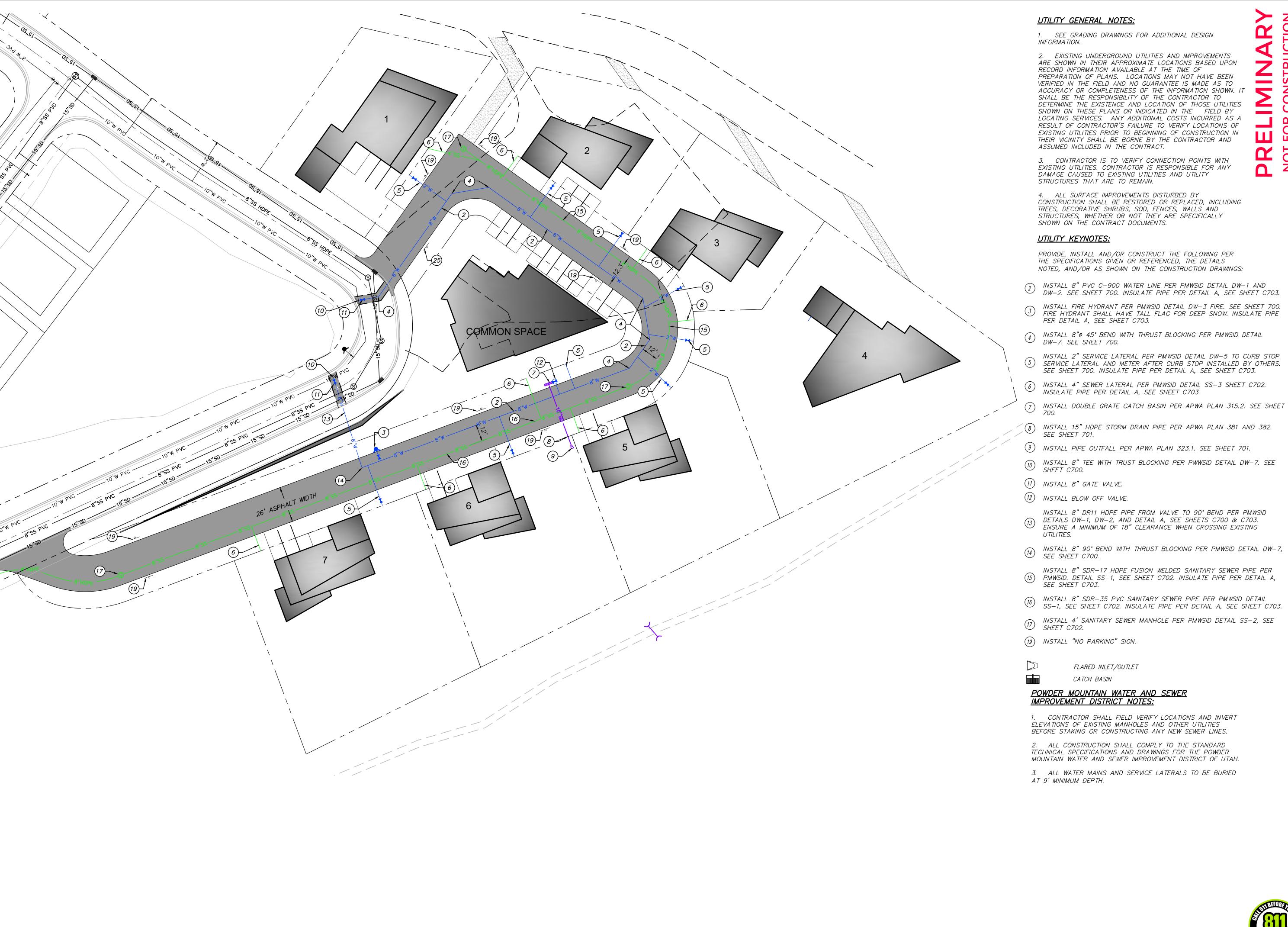
TYPICAL SECTION: POWDER POINT













-

AIN, C. AI

VDER MOUNTAI

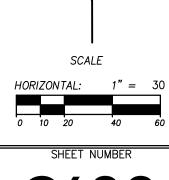
0

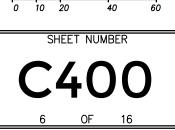
0

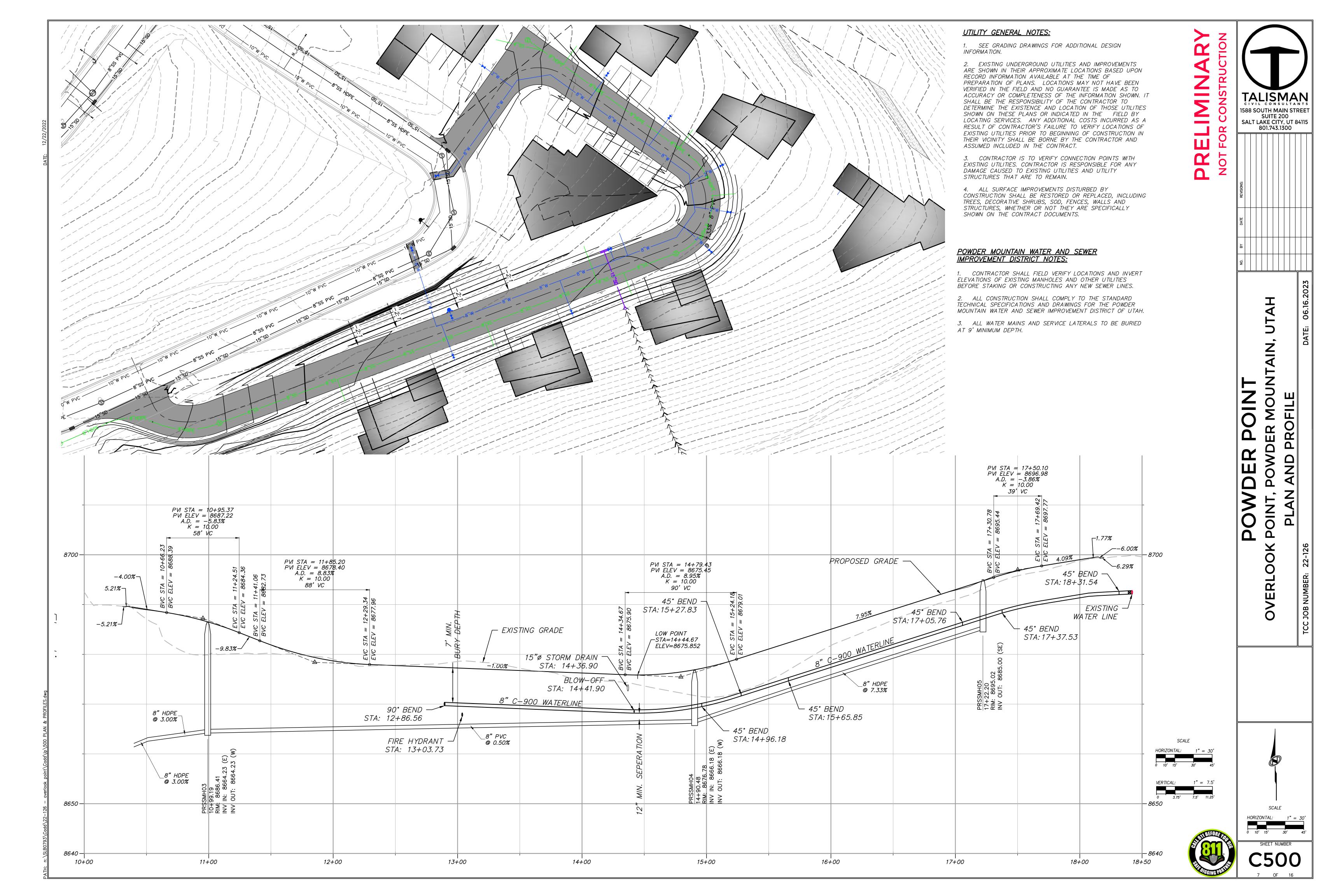
VER

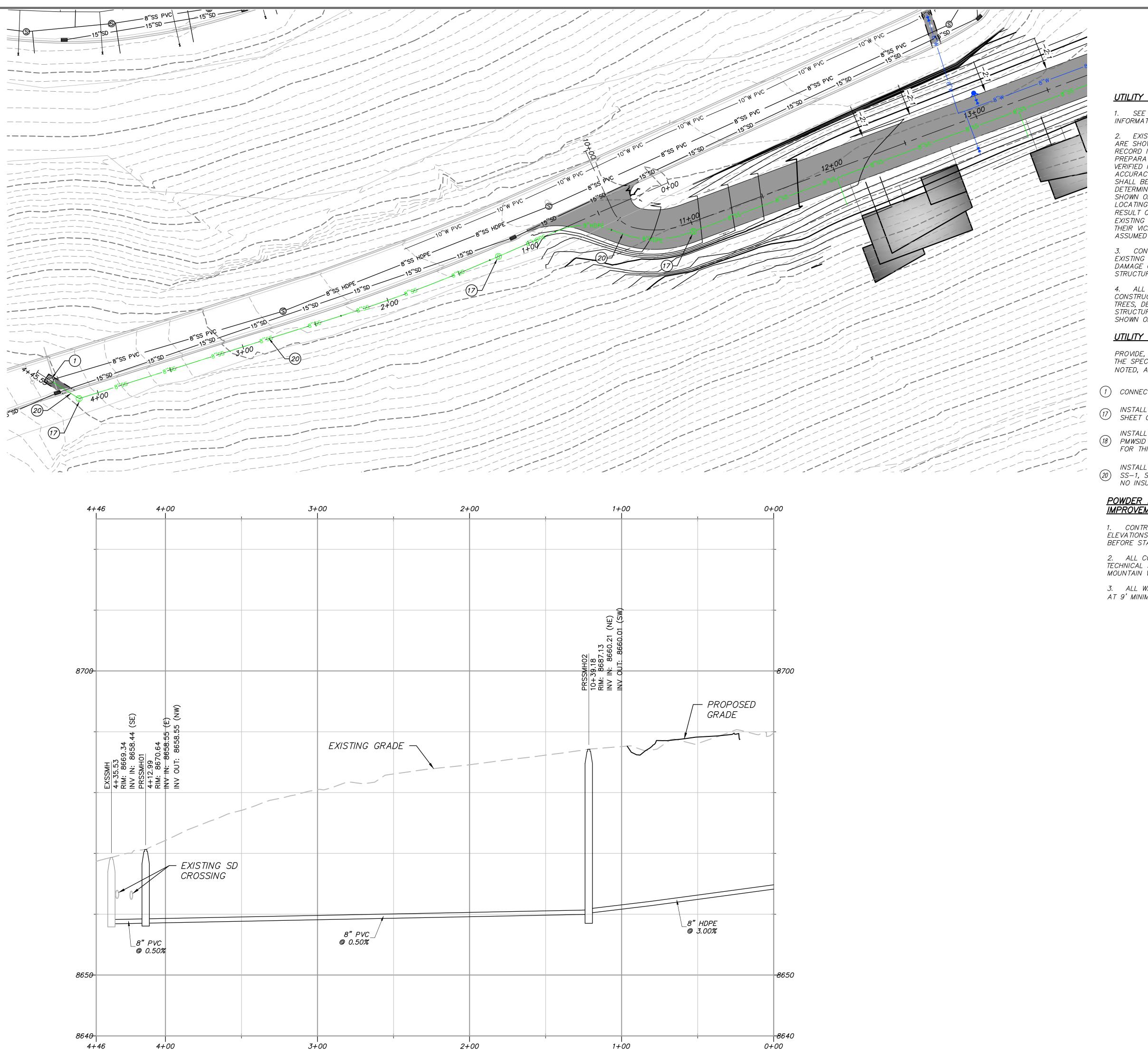
0

JOB NUMBER: 22-









UTILITY GENERAL NOTES:

1. SEE GRADING DRAWINGS FOR ADDITIONAL DESIGN INFORMATION.

- 2. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT.
- 3. 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.
- 4. ALL SURFACE IMPROVEMENTS DISTURBED BY CONSTRUCTION SHALL BE RESTORED OR REPLACED, INCLUDING TREES, DECORATIVE SHRUBS, SOD, FENCES, WALLS AND STRUCTURES, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.

UTILITY KEYNOTES:

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

- (1) CONNECT TO EXISTING SANITARY SEWER MANHOLE AND GROUT IN PLACE.
- INSTALL 4' SANITARY SEWER MANHOLE PER PMWSID DETAIL SS-2, SEE
- INSTALL 8" SDR-17 HDPE FUSION WELDED SANITARY SEWER PIPE PER (18) PHWSID DETAIL SS-1, SEE SHEET C702. NO INSULATION IS NECESSARY FOR THIS PORTION OF SEWER PIPE.
- INSTALL 8" SDR-35 PVC SANITARY SEWER PIPE PER PMWSID DETAIL SS-1, SEE SHEET C702. INSULATE PIPE PER DETAIL A, SEE SHEET C703. NO INSULATION IS NECESSARY FOR THIS PORTION OF SEWER PIPE.

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT NOTES:

- 1. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND INVERT ELEVATIONS OF EXISTING MANHOLES AND OTHER UTILITIES BEFORE STAKING OR CONSTRUCTING ANY NEW SEWER LINES.
- 2. ALL CONSTRUCTION SHALL COMPLY TO THE STANDARD TECHNICAL SPECIFICATIONS AND DRAWINGS FOR THE POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT OF UTAH.
- 3. ALL WATER MAINS AND SERVICE LATERALS TO BE BURIED AT 9' MINIMUM DEPTH.

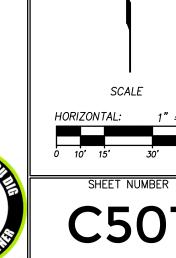


1588 SOUTH MAIN STREET

SUITE 200 SALT LAKE CITY, UT 84115

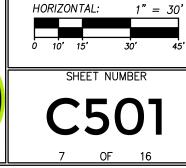
801.743.1300

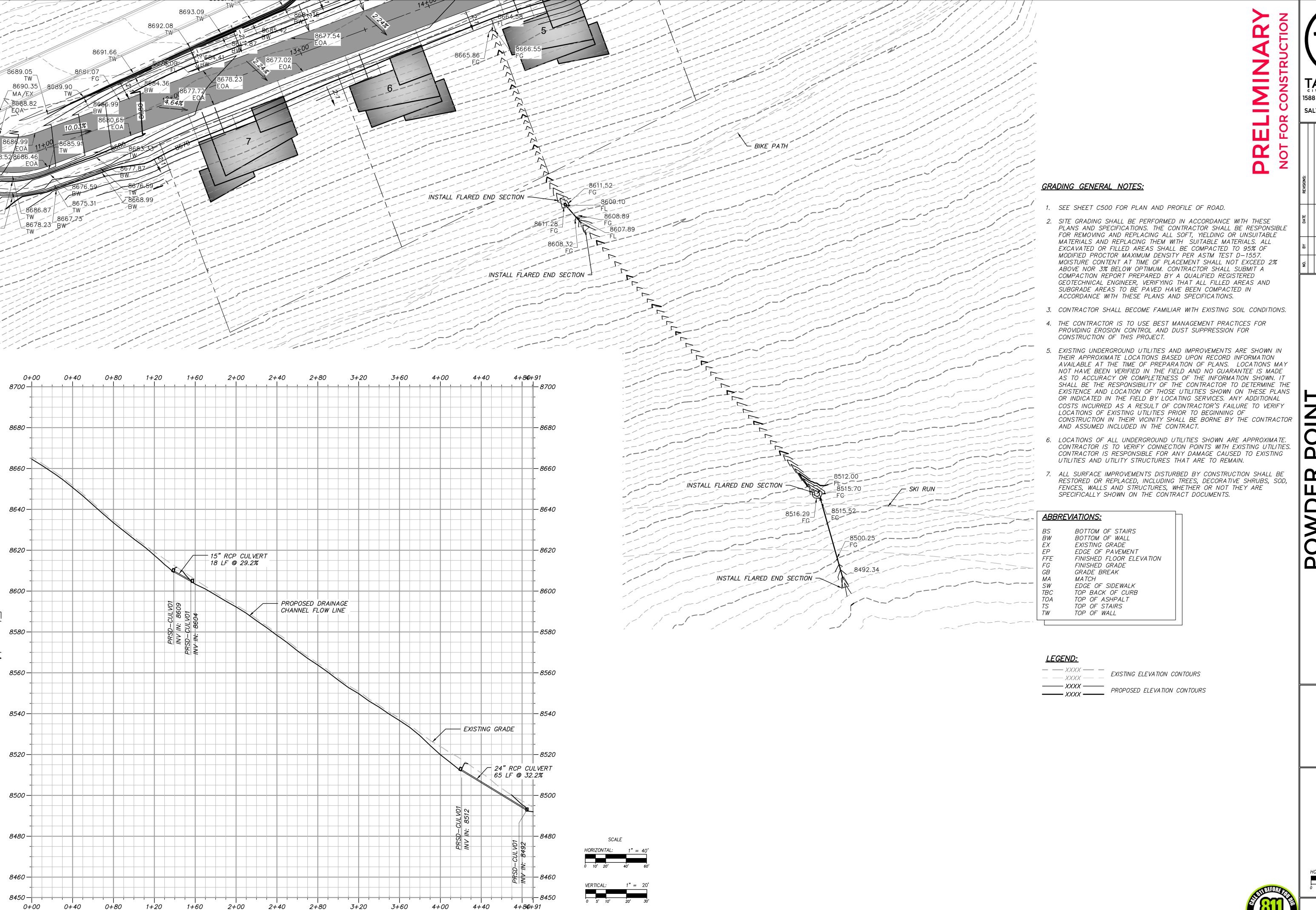
OT

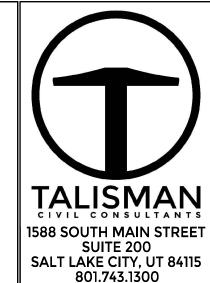


HORIZONTAL: 1" = 30'

VERTICAL: 1" = 7.5

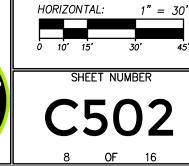


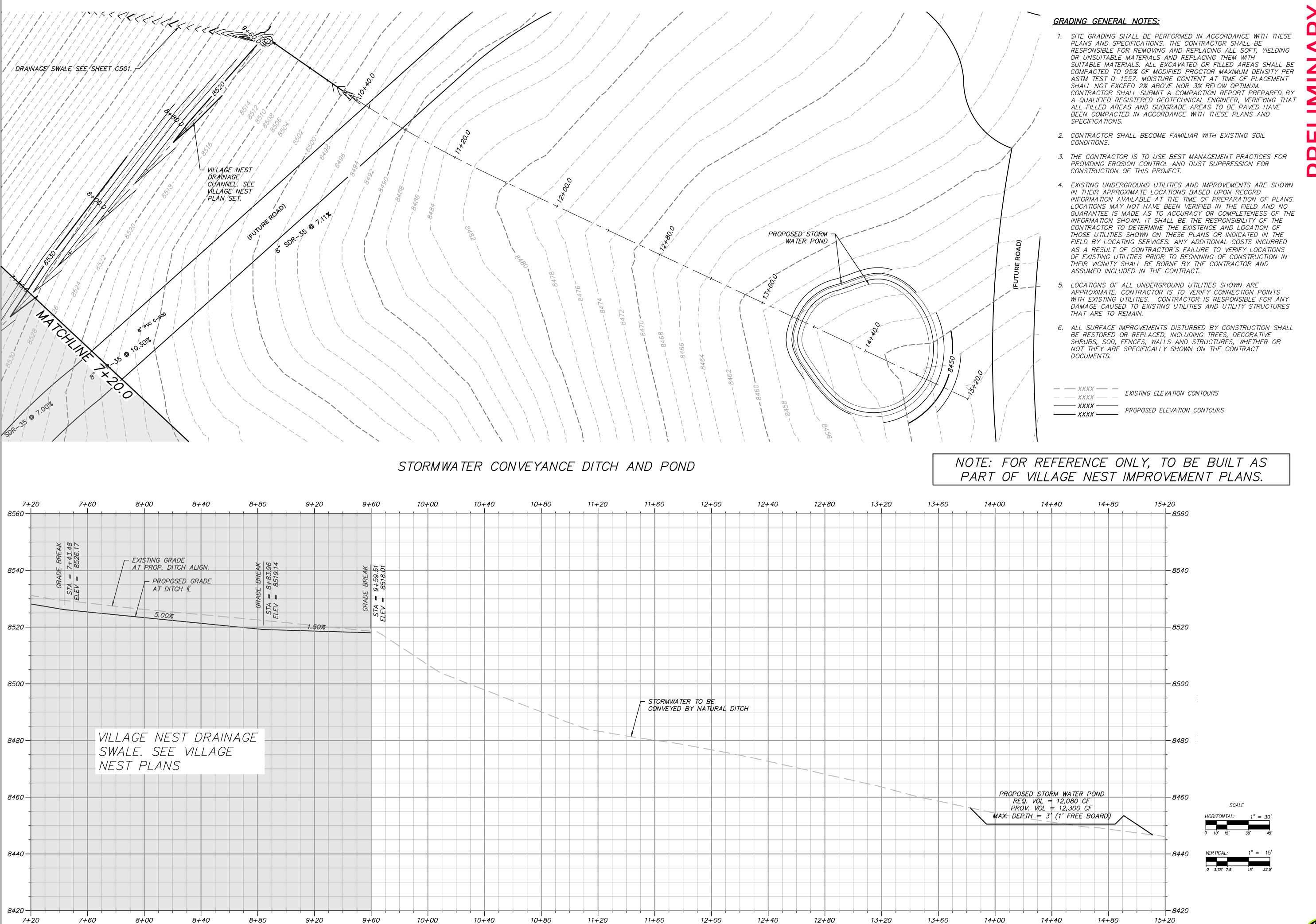




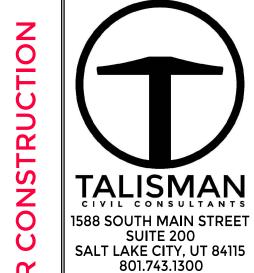
<u>N</u>0 O X

O





PROFILE VIEW



O BY DATE REVISIONS:

I, UIAH PROFILE

NTAIN, UT I AND PRO

POINT, POWDER MC

1WATER (

STORMW C JOB NUMBER: 2

SCALE
RIZONTAL: 1" = 30

SCALE

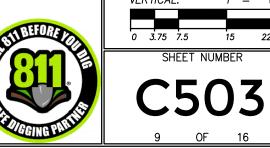
HORIZONTAL: 1" = 30

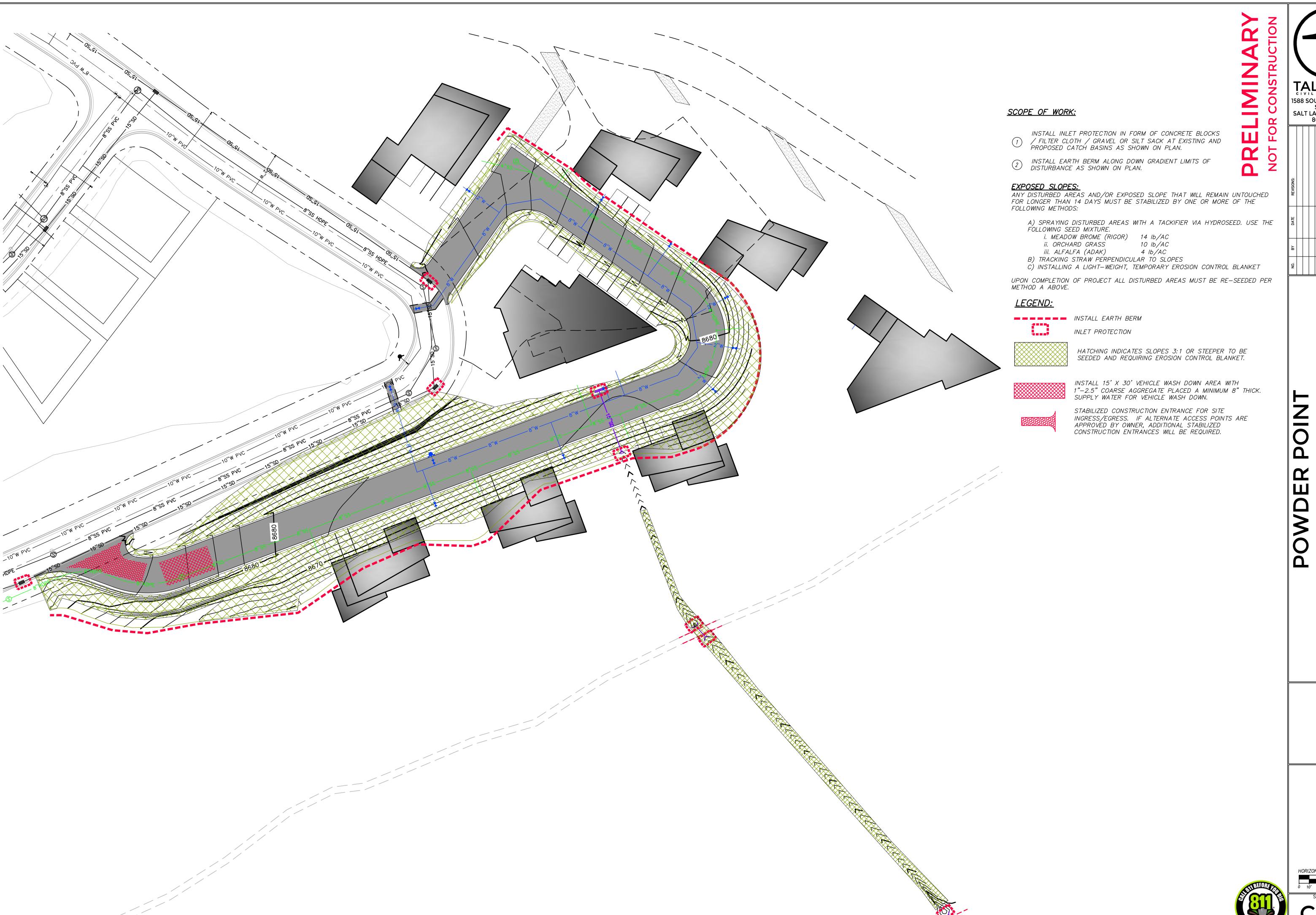
0 7.5 15 30 45

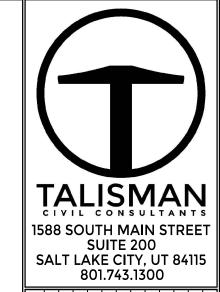
VERTICAL: 1" = 15

0 3.75 7.5 15 22.5

SHEET NUMBER







SALT LAKE CITY, UT 84115 801.743.1300

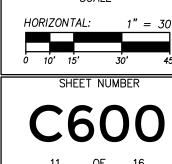
06.16.2023

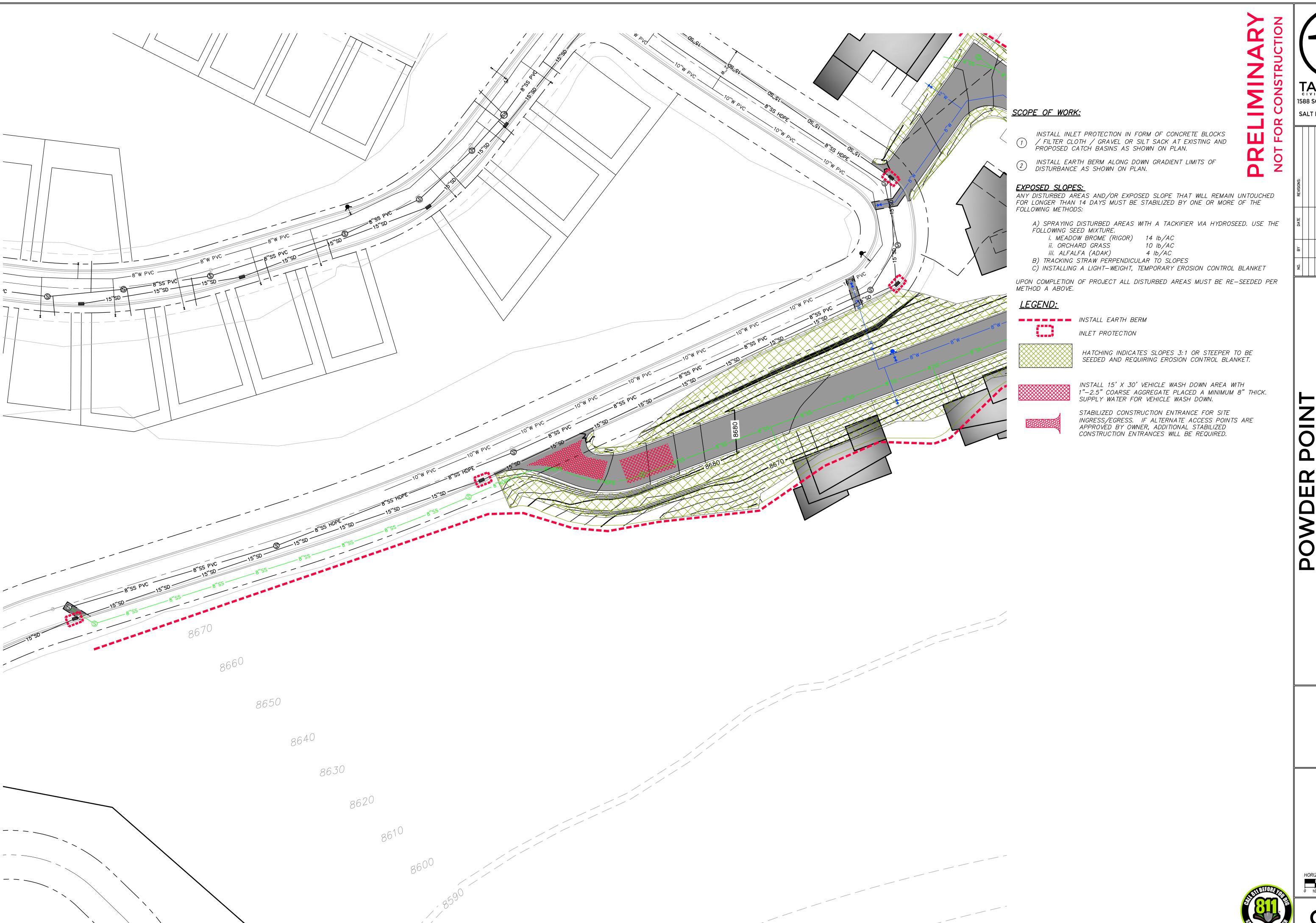
DATE: 06.16.

POINT, POWDER MOUNTEROSION CONTROL PLAN

308 NUMBER: 22-126

SCALE
ZONTAL: 1" = 30





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

OVERLOOK



SAND & GRAVEL CEMENTED WITH CLAY 107.5 152 82.4 41.7 216.4 117.2 59.4 153.1 SAFE BEARING LOAD FORMULA THRUST BLOCK AREA AGAINST FITTING LOAD OF SOIL 183.8 260.0 141.0 71.5 TRENCH WALL 92.7 237.8 336.3 182.8 (SQUARE FEET) 229.7 116.5 298.6 422.3 *MULTIPLY THRUST BY MAXIMUM WATER PRESSURE CAP OR PLUG REDUCER 90° ELBOW TEE WITH CAP **CROSS**

CONCRETE THRUST BLOCK DETAILS

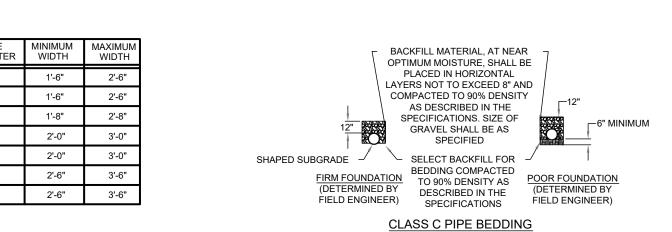
NOTES:

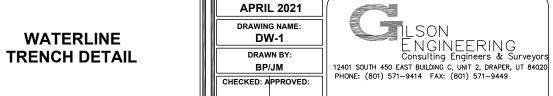
- 1. WATER LINES 12 INCHES AND LARGER SHALL BE DUCTILE IRON CLASS-51. 2. WATER LINES 10 INCHES AND SMALLER SHALL BE PVC AWWA C900 CLASS
- 3. VALVES 12 INCHES AND LARGER SHALL BE BUTTERFLY VALVES. 4. WHENEVER POSSIBLE "HOT TAP" CONNECTIONS REQUIRED. HOT TAP
- VALVE TO BE SUPPORTED DURING CONNECTION, CONTRACTOR TO NOTIFY DISTRICT 24 HOURS IN ADVANCE OF MAKING CONNECTION.
- 5. PIPE ZONE SHALL BE BACKFILLED WITH 3/4" GRAVEL MATERIAL 6. TRACING WIRE TO BE BROUGHT OUTSIDE OF BOTTOM PORTION OF VALVE

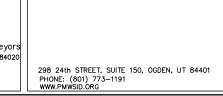
BOX AND INSIDE TOP TO SURFACE.

- 7. FURNISH AND INSTALL POLY-WRAP ON DUCTILE IRON PIPE, POLY-WRAP MAY BE DELETED WHERE DIRECTED BY DISTRICT ENGINEER 8. WHERE COLLAPSIBLE SOILS ARE ENCOUNTERED, FURNISH, PLACE AND COMPACT IMPORTED BACKFILL MATERIALS AS REQUIRED AND AS DIRECTED.
- 9. SEE DW-2 FOR PIPE BEDDING SPECIFICATIONS
- 10. 9'-0" MINIMUM COVER REQUIRED OVER PIPE. COVER REQUIREMENT MAY BE REDUCED PER RECOMMENDATION BY APPROVED GEOTECHNICAL REPORT. IN NO CASE SHALL MINIMUM COVER OVER PIPE BE I ESS THAN 7'-0" GEOTECHNICAL REPORT SHALL SPECIFICALLY ADDRESS FROST DEPTH AND PIPE FREEZING POTENTIAL.

MAXIMUM PAY WIDTH FOR SURFACING _ RESTORE SURFACING ½ TO 1 SLOPE ABOVE BOX OR SHORING. CUT SURFACE BEFORE EXCAVATION EXISTING GROUND GRAVEL SURFACING 8" DEEP SHALL BE PLACED WHERE SUBGRADE COMPACT OR CONSOLIDATE USE STANDARD BACKFILL ABOVE PIPE BITUMINOUS OR CONCRETE BASE BACKFILL WHERE AND TO THE ZONE WHEN STANDARD PIPE DEPTH IS ASPHALT WEARING SURFACES RESTORE SUBGRADE DENSITY DIRECTED BY THE USED. USE 1' THICK GEOFOAM (EPS-15) ARE TO BE RESTORED. ENGINEER OR AS DESCRIBED IN USE STANDARD BACKFILL ABOVE PER FOOT OF TRENCH DEPTH LESS TOP OF PIPE ZONE THE SPECIFICATIONS SECTIONS PIPE ZONE WHEN STANDARD PIPE THAN STANDARD DEPTH SELECT BEDDING AND FILL TO BE COMPACTED "COM-PACTION" OR DEPTH IS USED. USE 1' THICK PIPE ZONE - FROM "CONSOLIDATION" GEOFOAM (EPS-15) PER FOOT OF BACKFILL TO BE COMPACTED PIPE INVERT TO 12" TRENCH DÈPTH LÉSS THAN AS DESCRIBED IN THE ABOVE THE TOP OF TOP OF PIPE ZONE SPECIFICATIONS SECTIONS "BEDDING" AND "BACKFILL IN TRENCH-BOX SHORING FOR SELECT BEDDING AND BACKFILL TO PIPE ZONE. BE COMPACTED AS DESCRIBED IN TRENCHING 4' DEEP OR GREATER. SEE INDUSTRIAL THE SPECIFICATIONS SECTIONS COMMISSION OF UTAH "BEDDING" AND "BACKFILL IN PIPE CRUSHED GRAVEL SURFACING 8" GENERAL SAFETY ORDERS DEEP SHALL BE PLACED OVER THE SECTION 68 - EXCAVATIONS UNIMPROVED TERRAIN TRENCH SECTION TRENCH WHERE PIPE LINES ARE SECTION 69 - TRENCHES LOCATED ALONG ROAD SHOULDERS. IMPROVED TERRAIN TRENCH SECTION BACKFILL MATERIAL, AT NEAR MAXIMUM TRENCH AND OPTIMUM MOISTURE, SHALL BE CRADLE WIDTH AT BOTTOM OF PIPE OUTSIDE DIAMETER LAYERS NOT TO EXCEED 8" AND **COMPACTED TO 90% DENSITY** BACKFILL MATERIAL, AT NEAR OPTIMUM MOISTURE, SHALL AS DESCRIBED IN THE BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 8" SPECIFICATIONS. SIZE OF —6" MINIMUM AND COMPACTED TO 90% DENSITY AS DESCRIBED IN THE GRAVEL SHALL BE AS SPECIFICATIONS. SIZE OF GRAVEL SHALL BE AS SPECIFIED SPECIFIED - 1/4 OUTSIDE DIA. OF PIPE SELECT BACKFILL FOR - 1/4 INSIDE DIA OF PIPE BEDDING COMPACTED TO 90% DENSITY AS CONCRETE CRADLE DESCRIBED IN THE FIELD ENGINEER) FIELD ENGINEER) CLASS A PIPE BEDDING SPECIFICATIONS **CLASS B PIPE BEDDING**

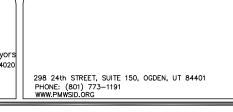


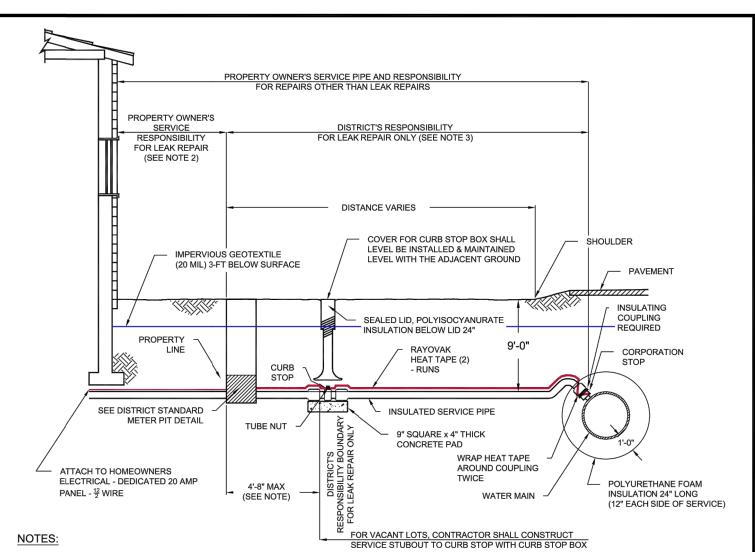




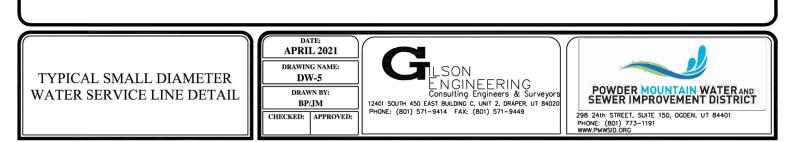


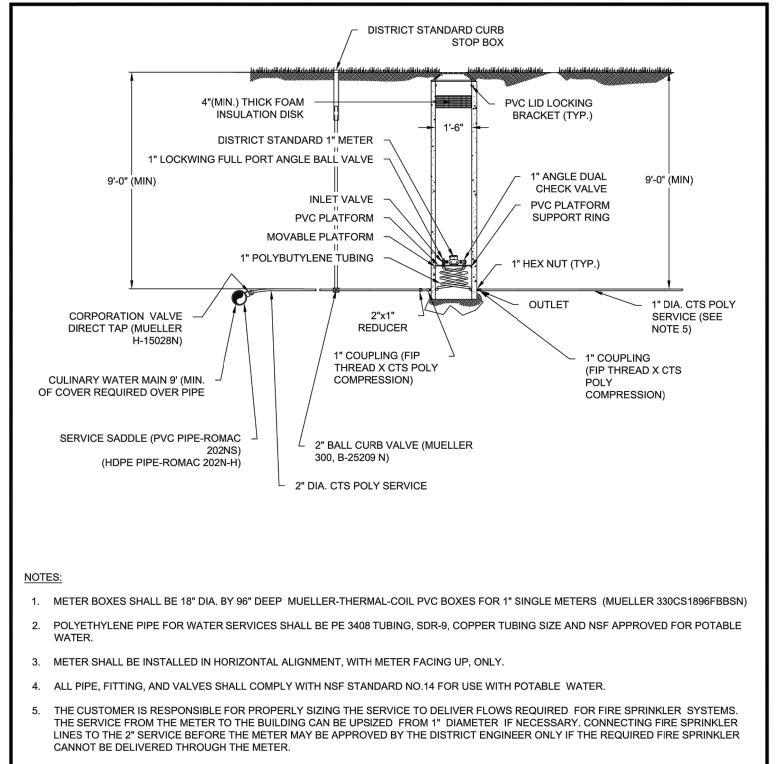


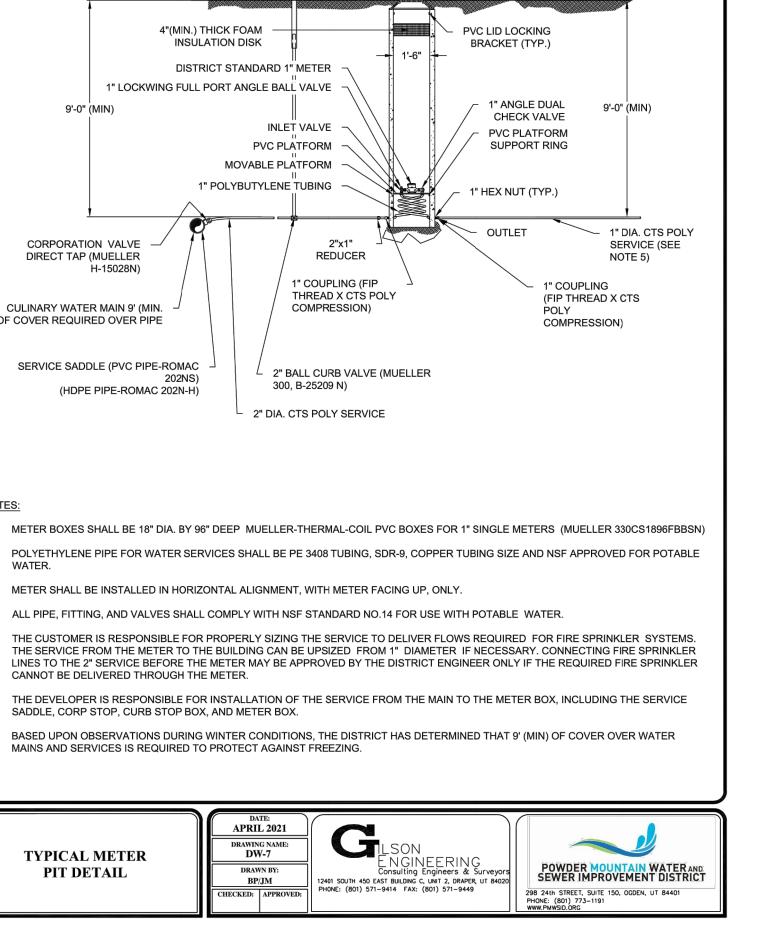




- 1. PLACEMENT OF CURB STOP SHALL BE A MAXIMUM OF 5 FEET OUTSIDE THE PROPERTY LINE INSIDE STREET RIGHT OF WAY.
- PROPERTY OWNER'S RESPONSIBILITY FOR LEAK REPAIR SHALL BE UP TO AND INCLUDING THE SERVICE PIPE WHICH THREADS ONTO THE WATER METER. PROPERTY OWNER'S RESPONSIBILITY FOR REPAIRS OTHER THAN LEAKS EXTENDS TO
- DISTRICT'S RESPONSIBILITY SHALL BE THE WATER MAIN, THE CORPORATION STOP, CURB STOP, WATER METER, AND WHERE NEEDED, THE DOUBLE STRAP TAPPING SADDLE. THE DISTRICT WILL ONLY REPAIR LEAKS OCCURRING BETWEEN THE CORPORATION STOP AND THE WATER METER.
- SEE STANDARD DETAIL WT-1 AND WT-2 FOR WATER TRENCH REQUIREMENTS
- 5. NO LATERAL ARE TO BE INSTALLED WITHIN 5' OF BEDROCK
- 12" THICK CLAY CUTOFF AT EACH END OF WATER SERVICE INSULATION FROM IMPERVIOUS GEOTEXTILE TO BOTTOM OF
- INSULATED SERVICE PIPE: SERVICE LINE ENCASED IN 8" SEAMLESS HDPE WITH CLOSED-CELL CROSS LINKED POLYETHYLENE FOAM AND HEAT TAPE
- 9'-0" MINIMUM COVER REQUIRED OVER PIPE. COVER REQUIREMENT MAY BE REDUCED PER RECOMMENDATION BY APPROVED GEOTECHNICAL REPORT. IN NO CASE SHALL MINIMUM COVER OVER PIPE BE LESS THAN 7'-0". GEOTECHNICAL REPORT SHALL SPECIFICALLY ADDRESS FROST DEPTH AND PIPE FREEZING POTENTIAL.







Catch basin

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.

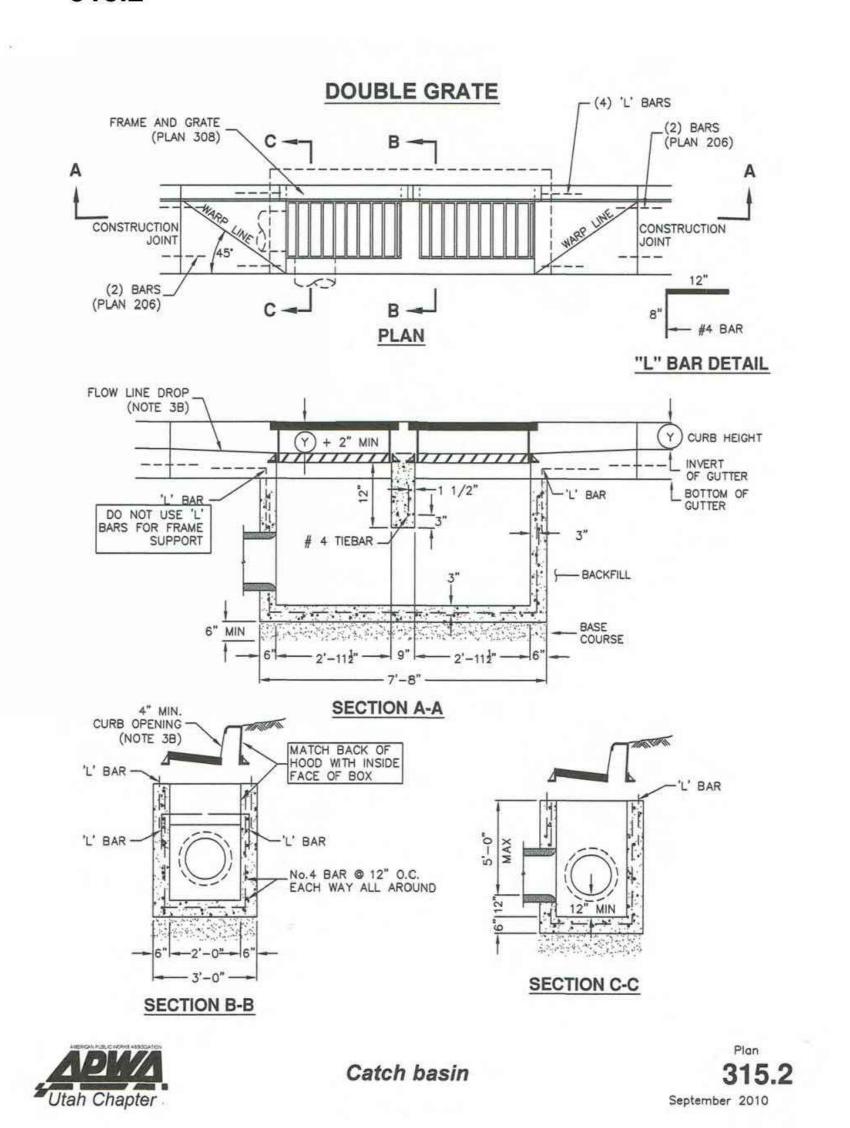
2. PRODUCTS

- 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. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A615.

3. EXECUTION

- A. Base Course Placement: APWA Section 32 11 23. Maximum lift thickness is 8inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
- B. Curb Face Opening: Make opening at least 4-inches high. Provide at least a 2-inch drop between the "warp line" in the gutter flow-line and the top of the grate at the curb face opening.
- C. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
- D. Backfill: Place backfill against the basin wall. 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.

315.2





TALISMAN

1588 SOUTH MAIN STREET

SUITE 200

SALT LAKE CITY, UT 84115

801.743.1300

Ш

0

0

0

Trench backfill

- 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

381

- 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
- 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
- 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.

Pipe zone backfill

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 surface 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
- 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.

Pipe outfall

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.

ROUND WITH FLARE

SPIGOT END

PLAN VIEW

END VIEW

TABLE OF DIMENSION

42" | 98" | 78"

48" 98" 84"

MINIMUM DIMENSIONS ARE

BE SLIGHTLY LARGER

SHOWN. ACTUAL SIZES MAY

November 2010

3. EXECUTION

323.1

BELL END

PLAN VIEW

SECTION A-A

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

S OT

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

TALISMAN CIVIL CONSULTANTS

TAH NATA

ER

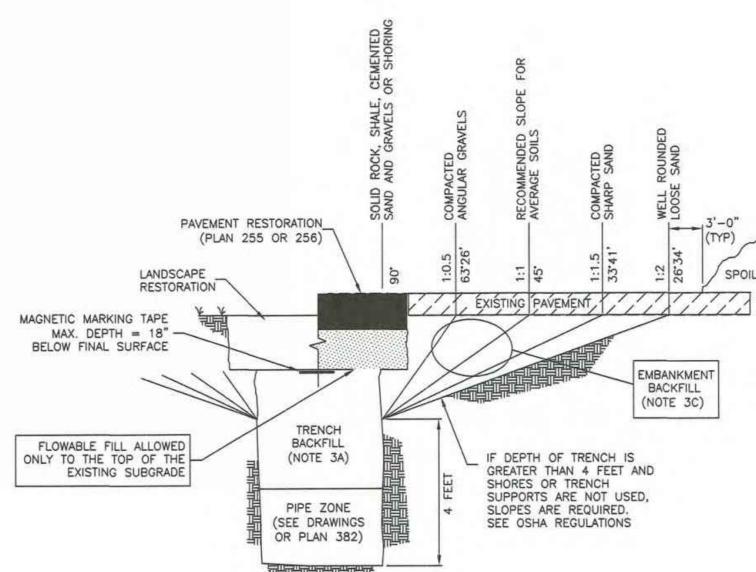
0

0

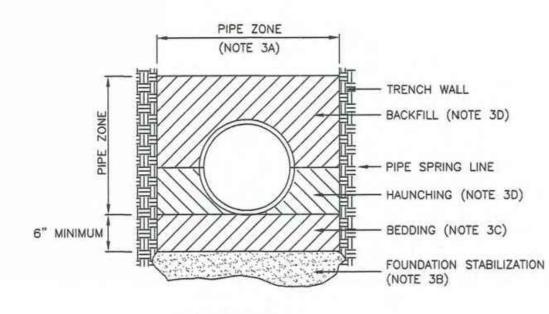
0

382

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.



FOUNDATION AND BEDDING MAKE BELL HOLES BEFORE LAYING BELL AND SPIGOT PIPE IN PIPE ZONE **ELEVATION VIEW**



SECTION A-A

INSTALLATION

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

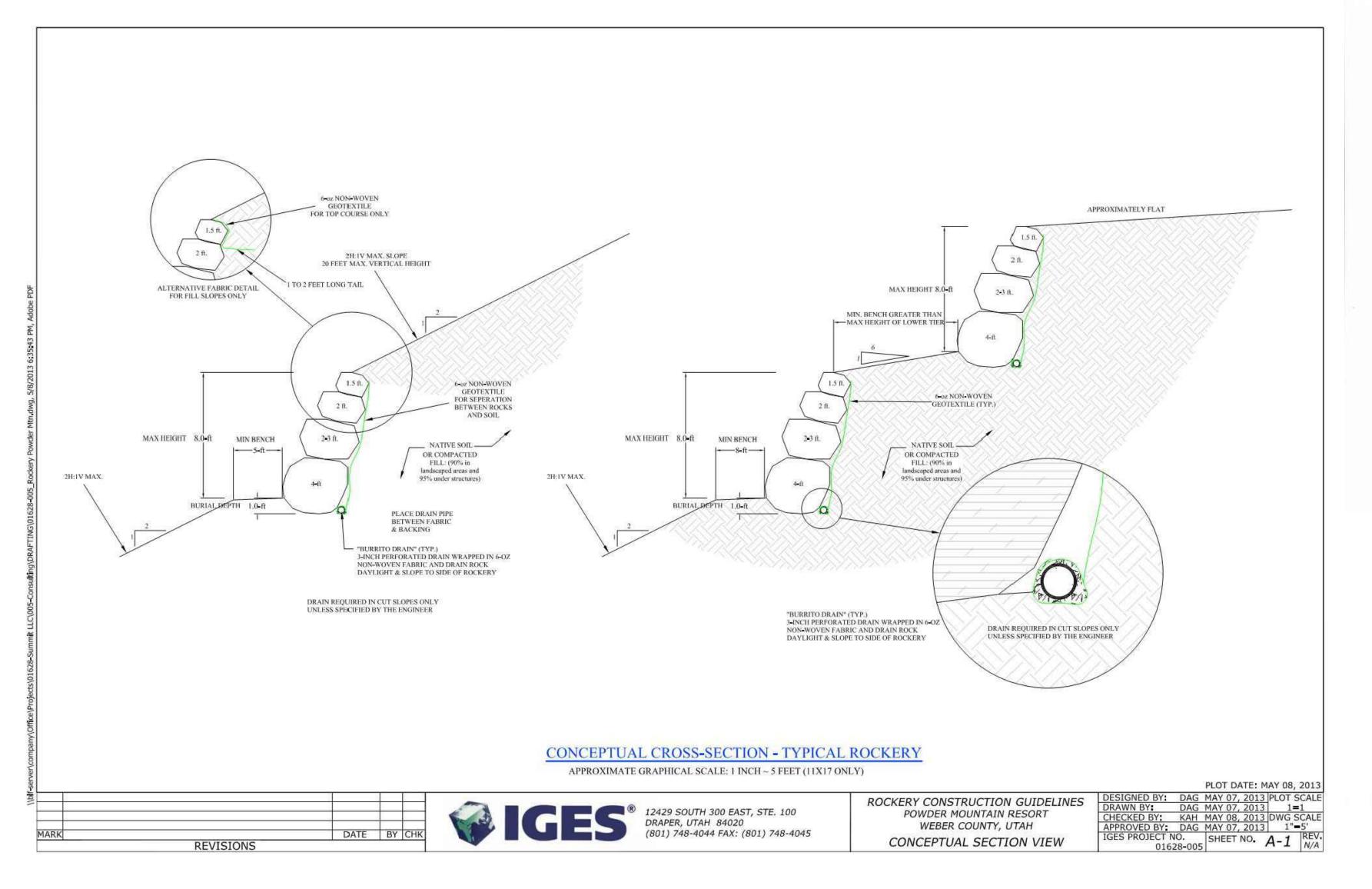
PLASTIC PIPE: FOLLOW ASTM D 2321 "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS"

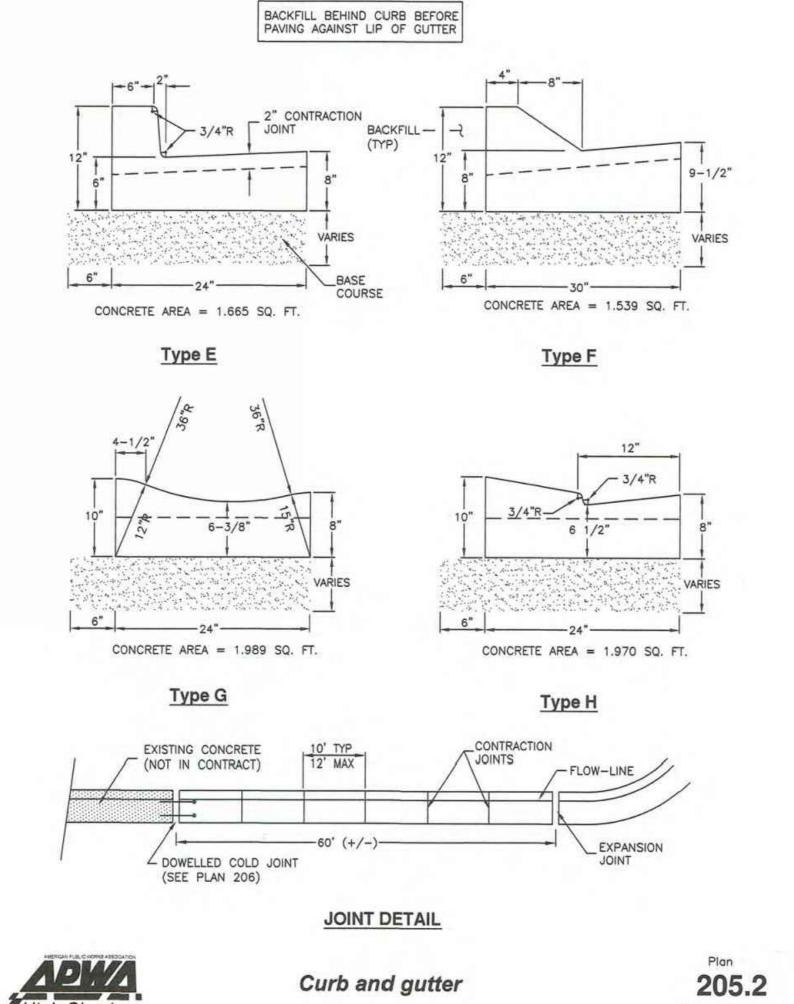
CORRUGATED METAL PIPE: FOLLOW ASTM A 798 "STANDARD PRACTICE FOR INSTALLING FACOTRY-MADE CORRUGATED STEEL PIPE FOR SEWERS AND OTHER

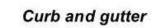
VITRIFIED CLAY PIPE: FOLLOW ASTM C 12. "STANDARD RECOMMENDED PRACTICE FOR INSTALLING VITRIFIED CLAY PIPE LINES.

OBLIQUE

July 2016







GENERAL

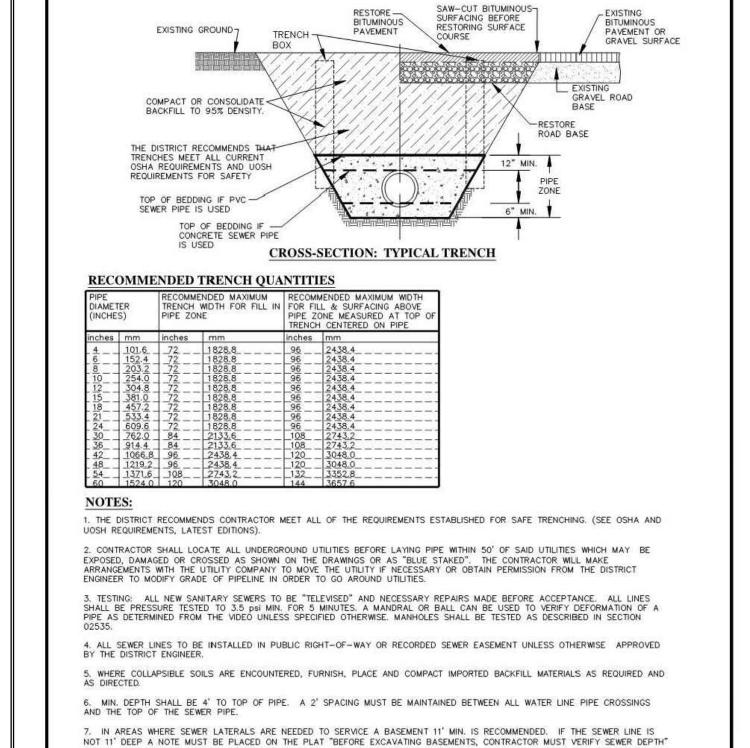
A. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion. B. Additional requirements are specified in APWA Section 32 16 13.

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 flowline 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.



8. MAX. DEPTH SHALL BE 20' TO THE TOP OF PIPE UNLESS APPROVED OTHERWISE BY THE DISTRICT ENGINEER.

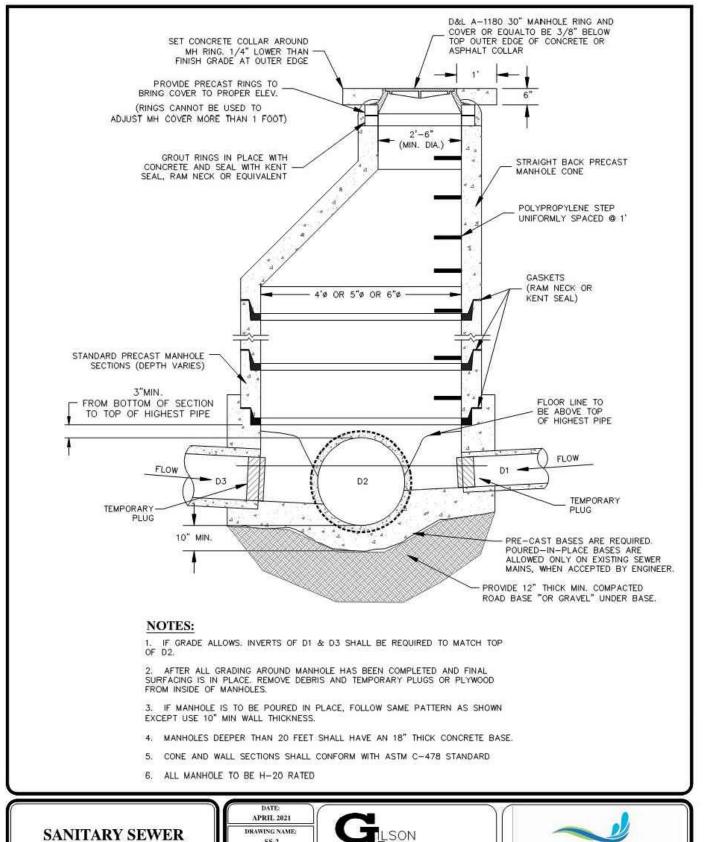
ENGINEERING
Consulting Engineers & Surveyors
12401 SOUTH 450 EAST BUILDING C, UNIT 2, DRAPER, UT 84020
PHONE: (801) 571–9414 FAX: (801) 571–9419

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

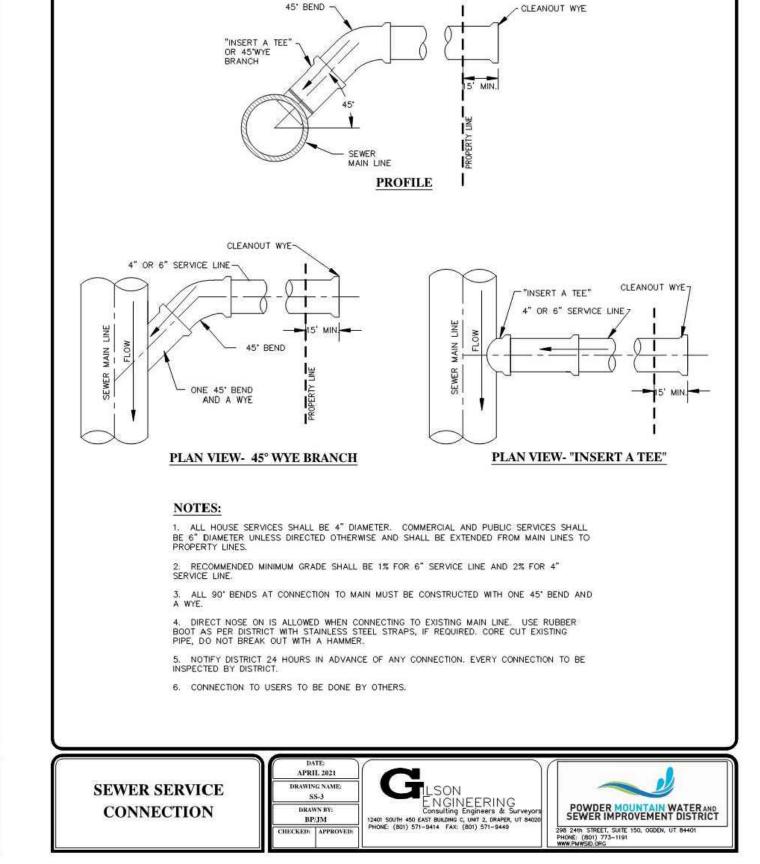
MANHOLE

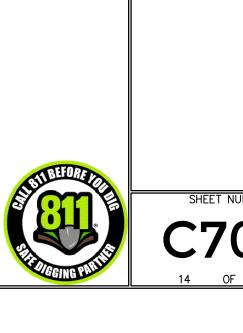
STANDARD

SEWER TRENCH

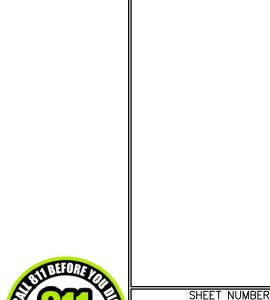


ENGINEERING CONSULTING Engineers & Surveyors 12401 SOUTH 450 EAST BUILDING C, UNIT 2, DRAFER, UT 84020 PHONE: (801) 571–9414 FAX: (801) 571–9449 PAGE 241h STREET, SUITE 150, OGGEN, UT 84401





205.3



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

Ш

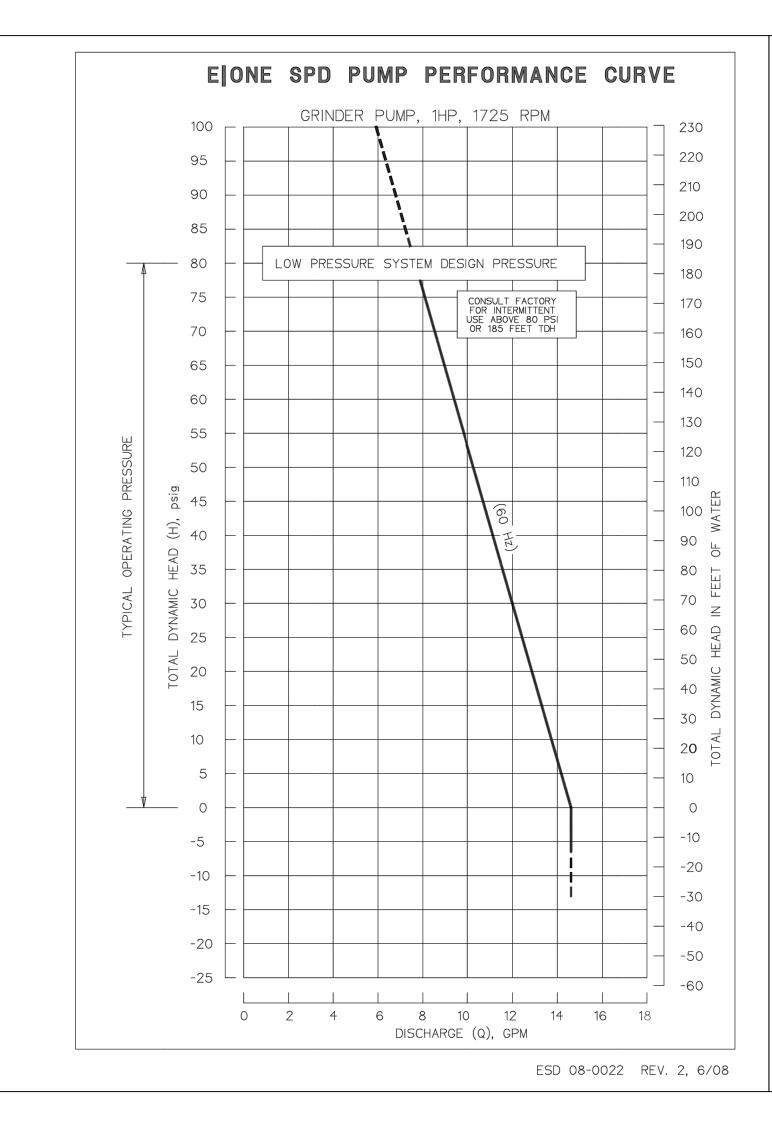
<u></u>

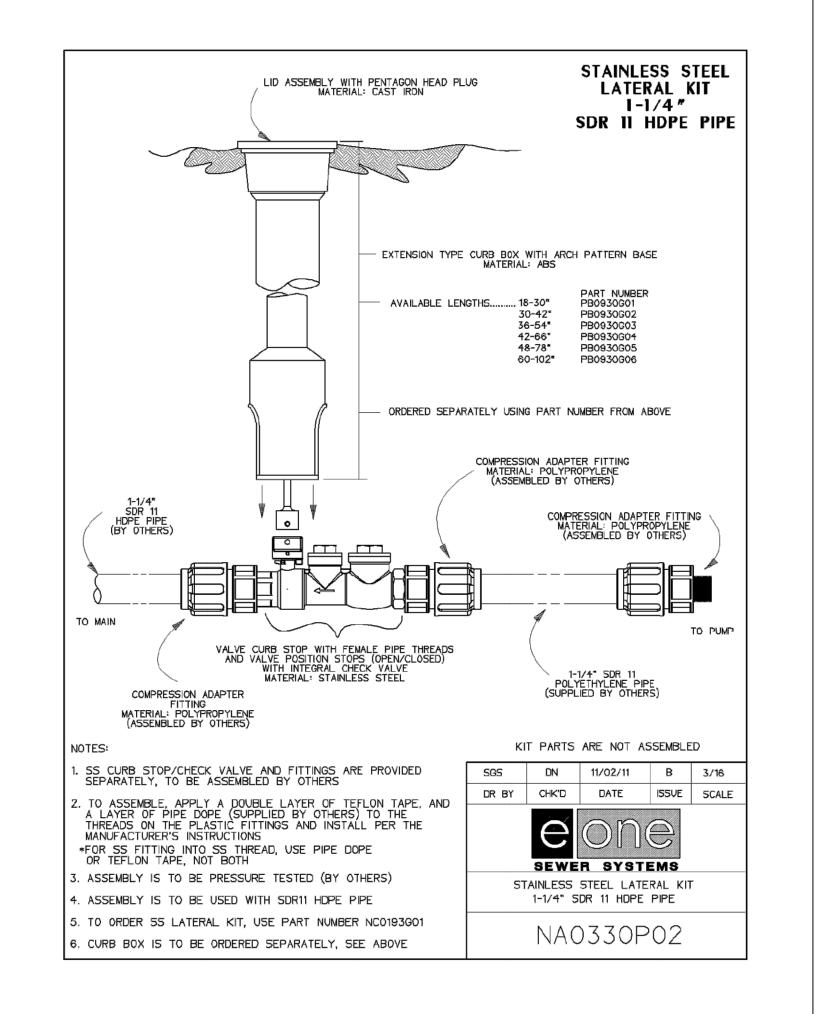
0

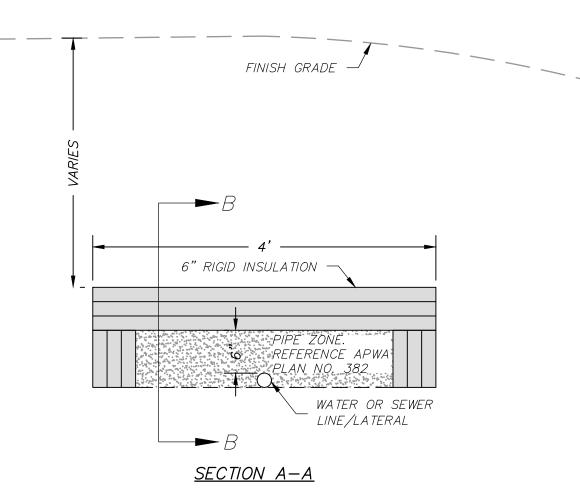
0

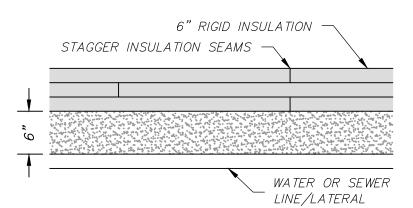
 \mathbf{C}

0









SECTION B-B





MOUNTAIN <u>Z</u>0 ER OVERLOOK

NOIL

O

OT

TALISMAN CONSULTANTS

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

801.743.1300

Z Σ

