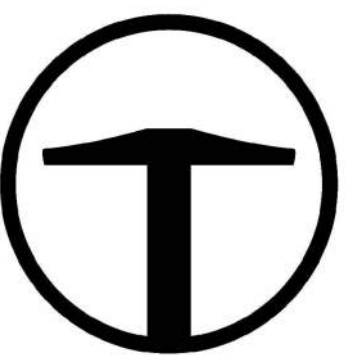


BOBCAT RIDGE

SITE CONSTRUCTION DRAWINGS

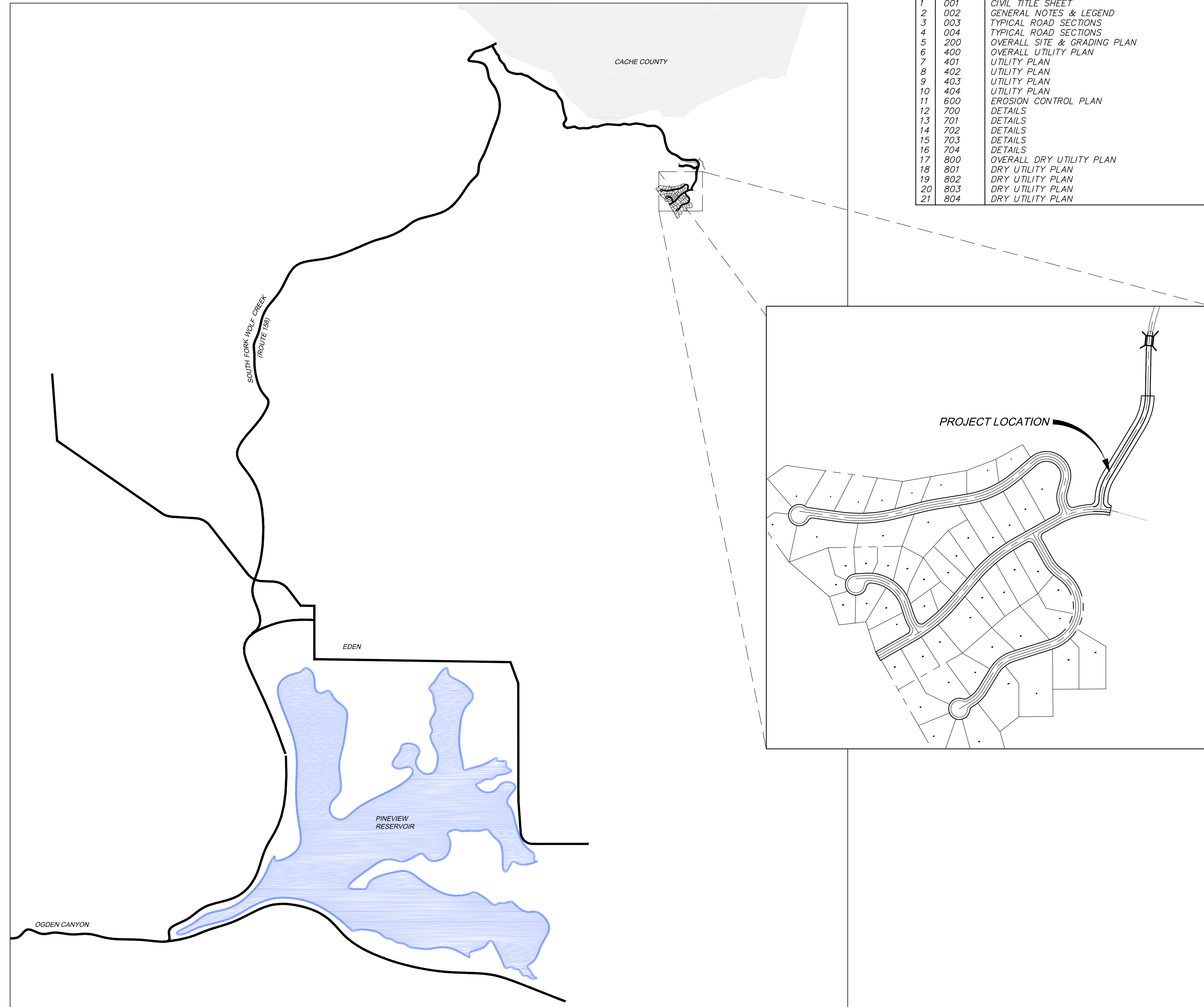
Located in Sec 08 T7N R2E
Weber County, Utah



TALISMAN
CIVIL CONSULTANTS
6217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

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BOBCAT RIDGE
CIVIL TITLE SHEET

DATE SUBMITTED: 06.01.2018

TCC JOB NUMBER: 18.200.22



SCALE
HORIZONTAL: 1" = 3000'
0 750' 1500' 3000' 4500'

SHEET NUMBER
001
1 OF #



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, 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 RESPONSIBILITY 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 THE 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 11-900-662-4111 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 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.
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 60" OF COVER TO TOP OF PIPE BELOW FINISHED GRADE.
18. ALL SEWER LINES AND SEWER SERVICES SHALL HAVE A MINIMUM SEPARATION OF 10 FEET, PIPE EDGE TO PIPE EDGE, FROM THE WATER LINES.
19. CONTRACTOR SHALL INSTALL THRUST BLOCKING AT ALL WATERLINE ANGLE POINTS 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

LEGEND:

Table with 3 columns: SYMBOL / LINETYPE, DESCRIPTION, DETAIL. Contains various utility symbols and their corresponding descriptions and detail references.

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 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 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.

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:

WEBER COUNTY

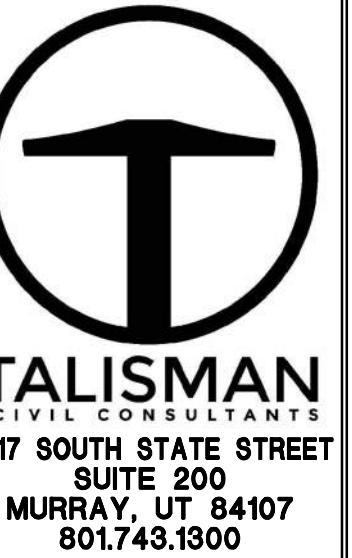
2380 WASHINGTON BLVD. #240
OGDEN, UT 84401
(801) 399-8374

ROCKY MOUNTIAN POWER

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

POWDER MOUNTAIN WATER & SEWER DISTRICT

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



5217 SOUTH STATE STREET SUITE 200 MURRAY, UT 84107 801.743.1900

Table with columns: REVISIONS, DATE, BY, NO.

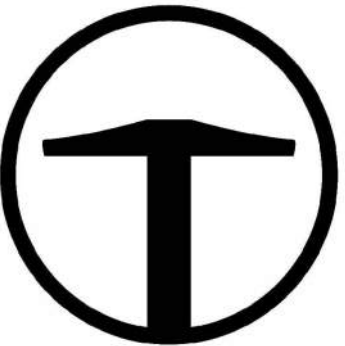
BOBCAT RIDGE GENERAL NOTES & LEGEND
DATE SUBMITTED: 06.01.2018
TCC JOB NUMBER: 18.200.22



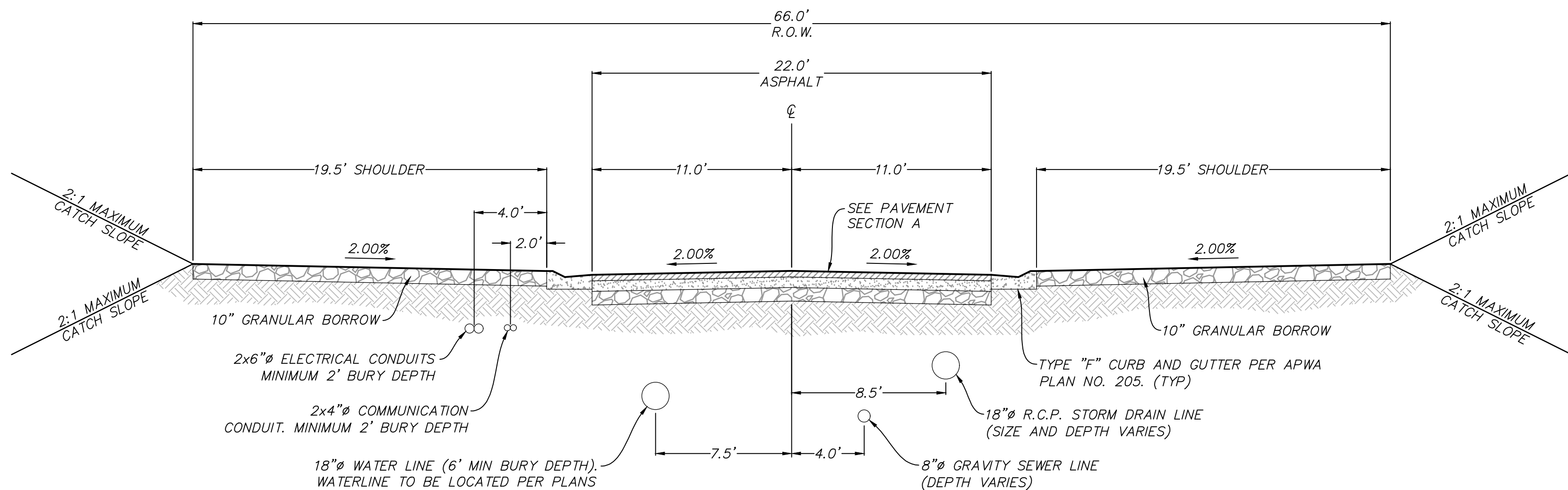
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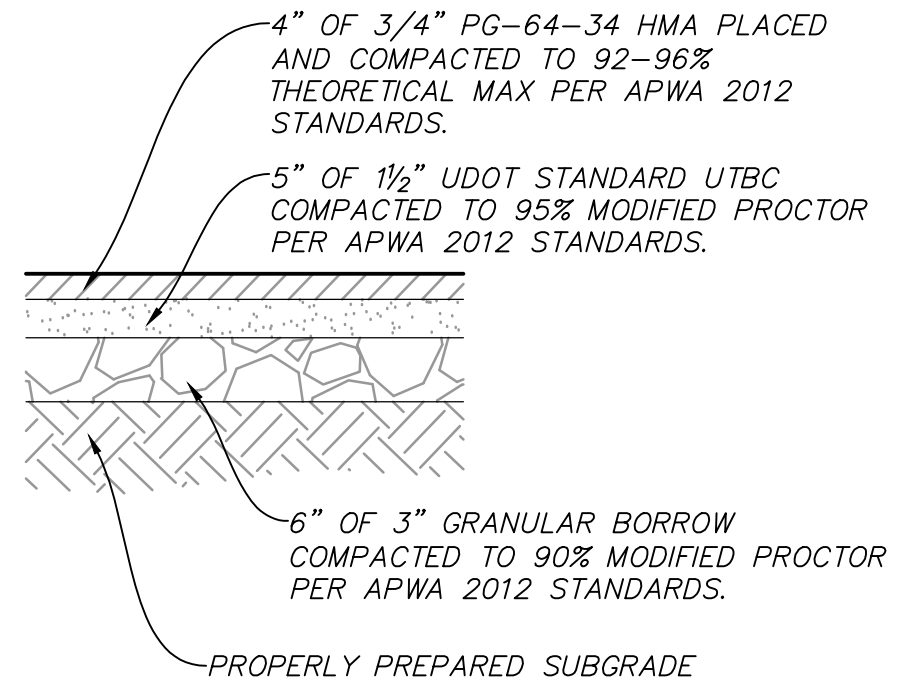
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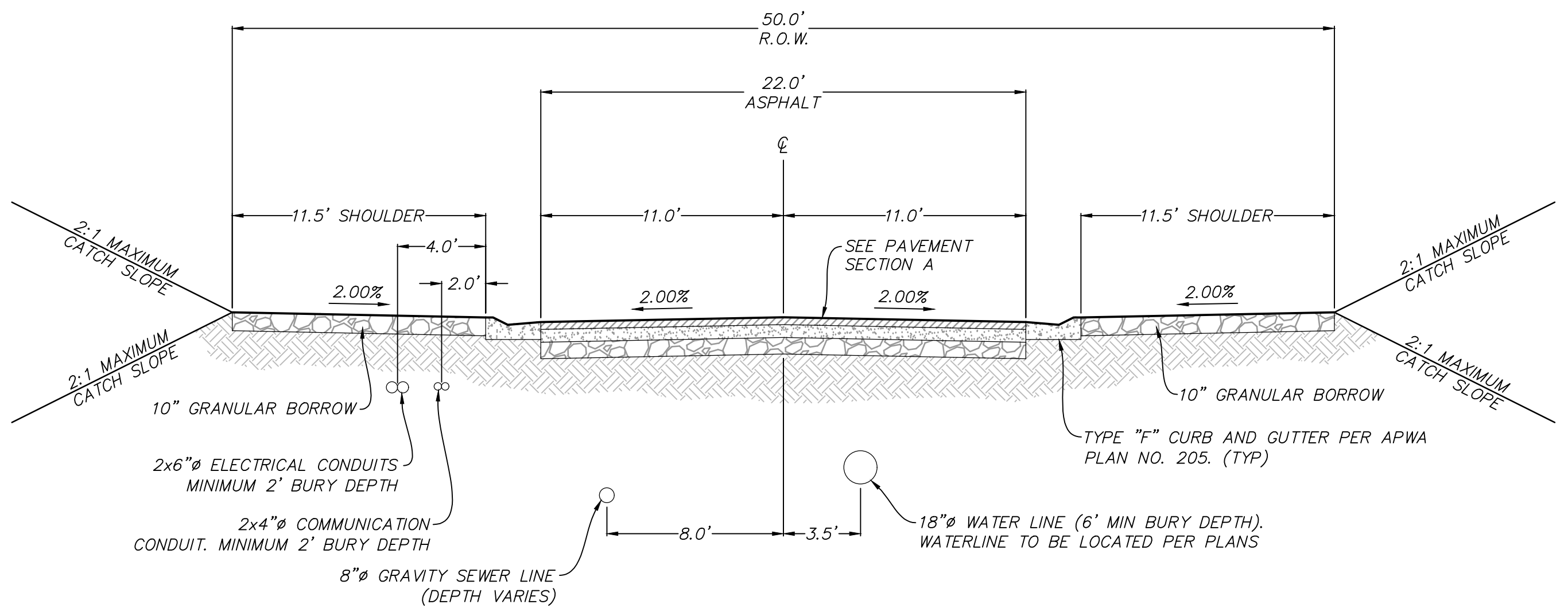
TALISMAN CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300



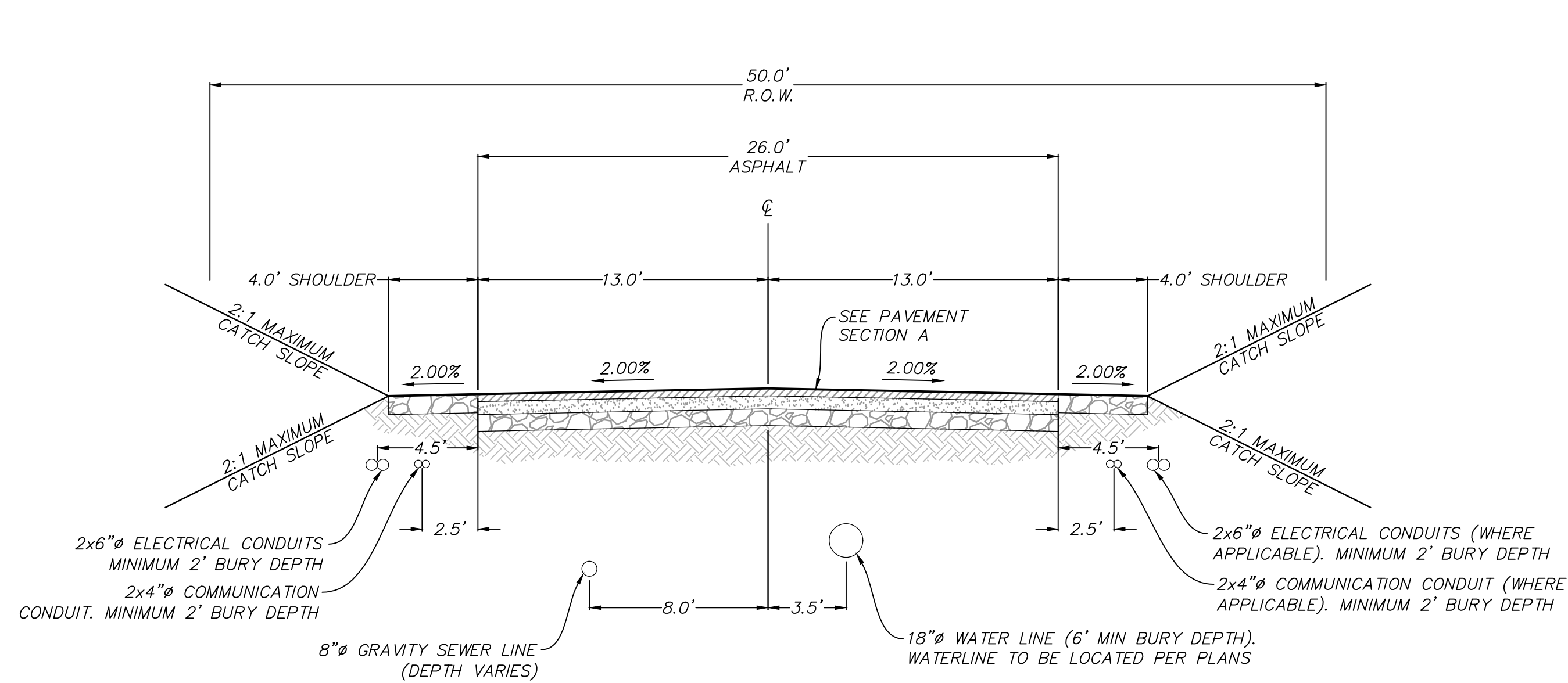
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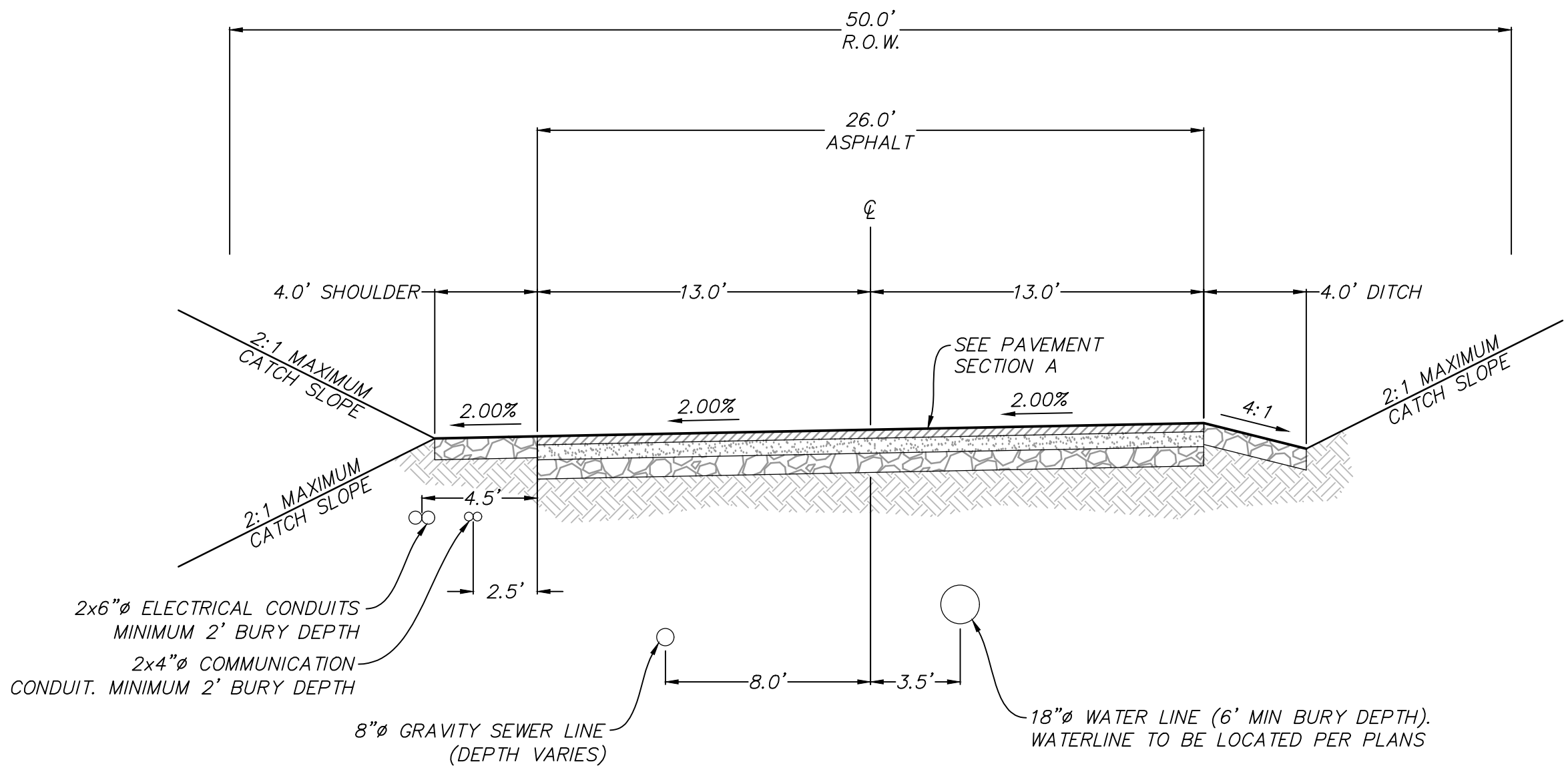
PAVEMENT SECTION A



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STA: 10+00 - 11+25.85



TYPICAL SECTION: WHITE PINE DRIVE
STA: 11+25.85 - 18+00



TYPICAL SECTION: WHITE PINE DRIVE
STA: 18+00 - 24+83.71

BOBCAT RIDGE
TYPICAL ROAD SECTIONS

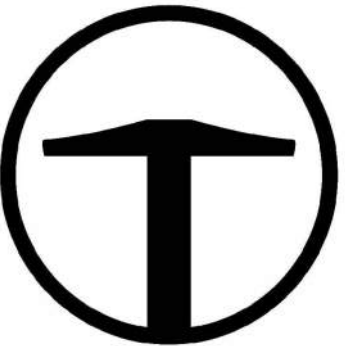
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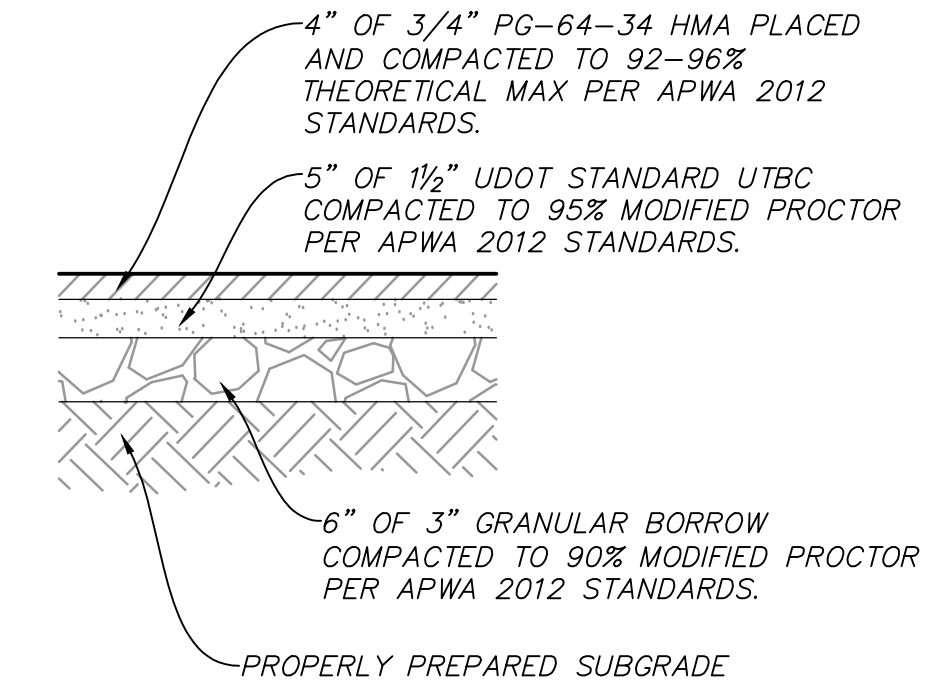


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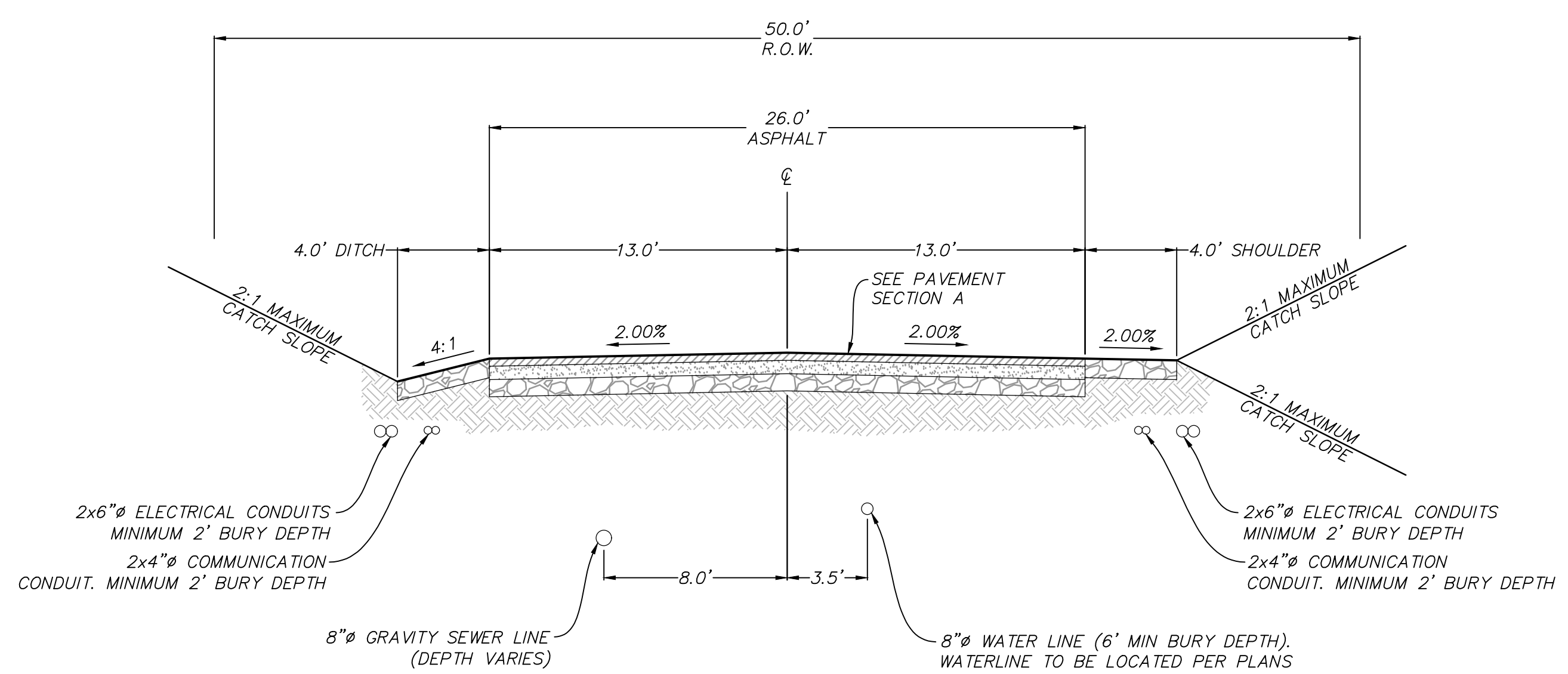
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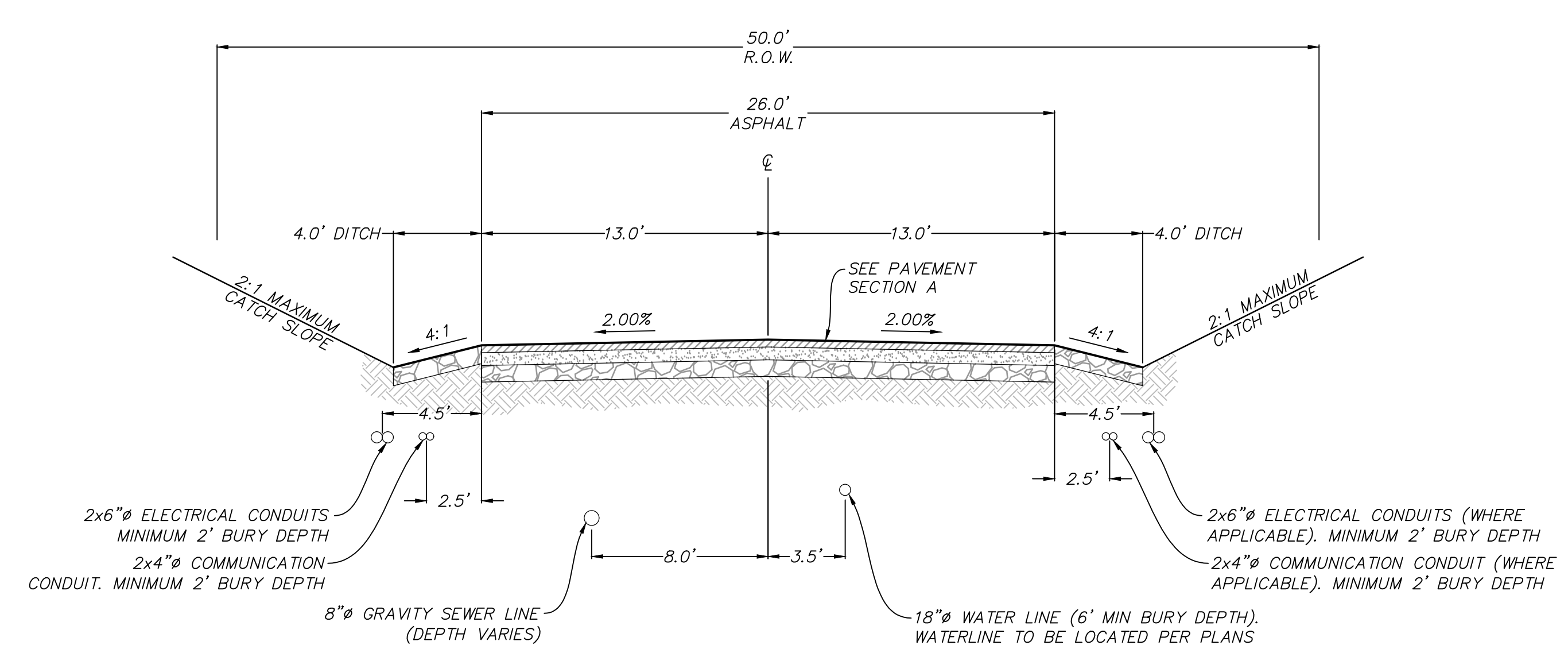
TALISMAN CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300



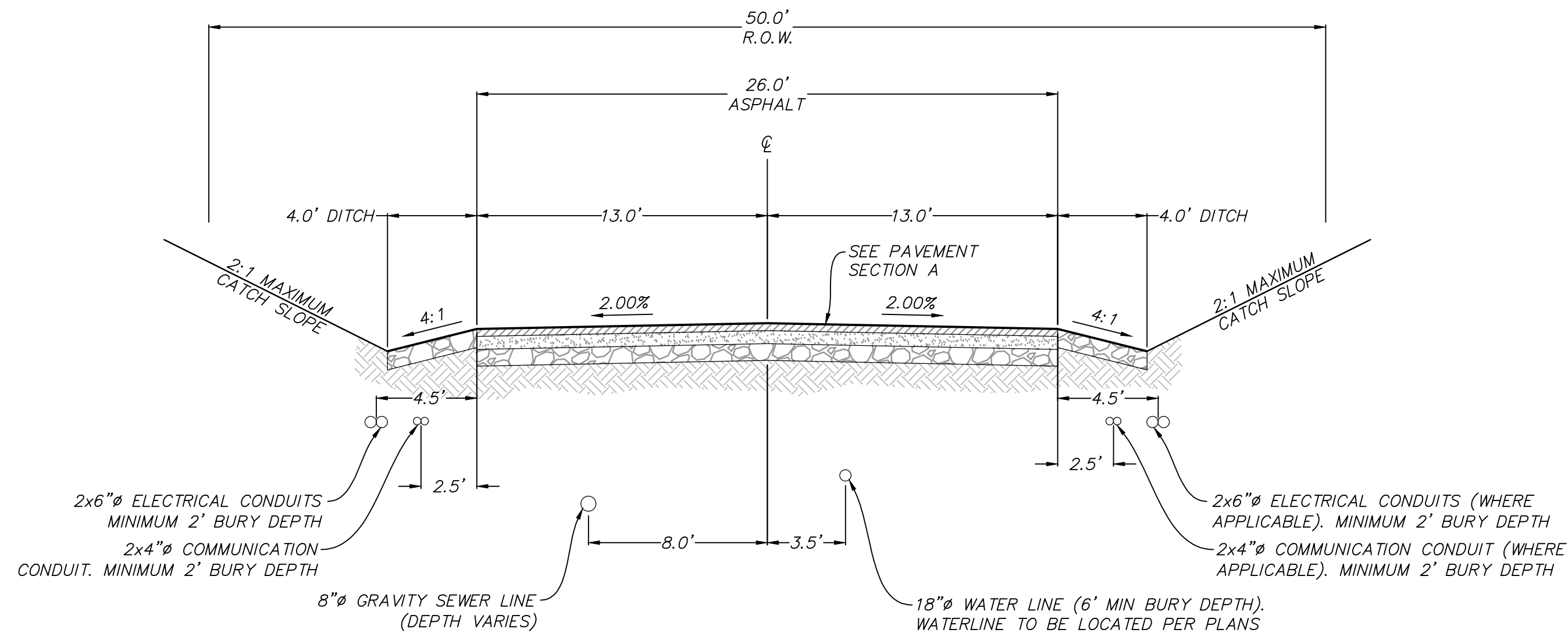
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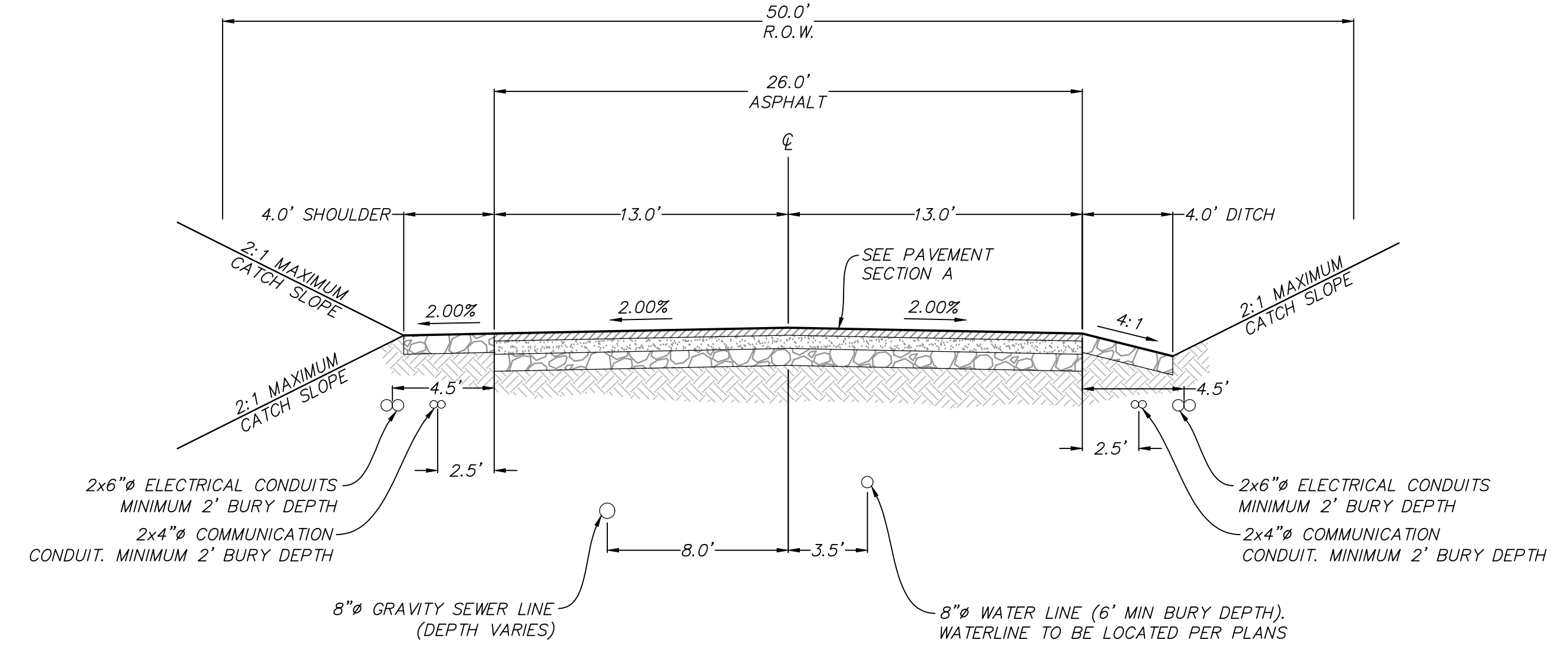
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STA: 10+50.18 - 13+93.28



TYPICAL SECTION: MEADOW DRIVE
STA: 10+48 - 15+40



TYPICAL SECTION: MEADOW DRIVE
STA: 15+40 - 22+43.49

BOBCAT RIDGE
TYPICAL ROAD SECTIONS

DATE SUBMITTED: 06.01.2018

TCC JOB NUMBER: 18-200.22



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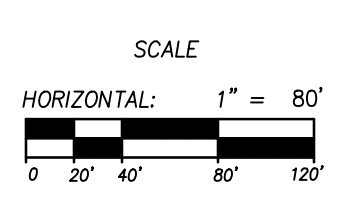
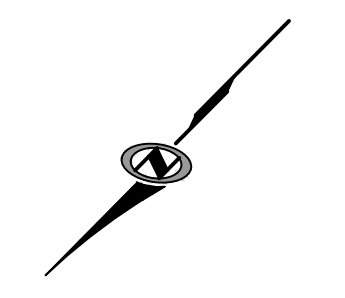
TALISMAN
CIVIL CONSULTANTS
6217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS

BOBCAT RIDGE OVERALL SITE & GRADING PLAN

DATE SUBMITTED: 06.01.2018

TCC JOB NUMBER: 18-200-22

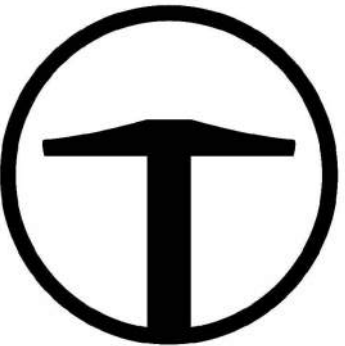
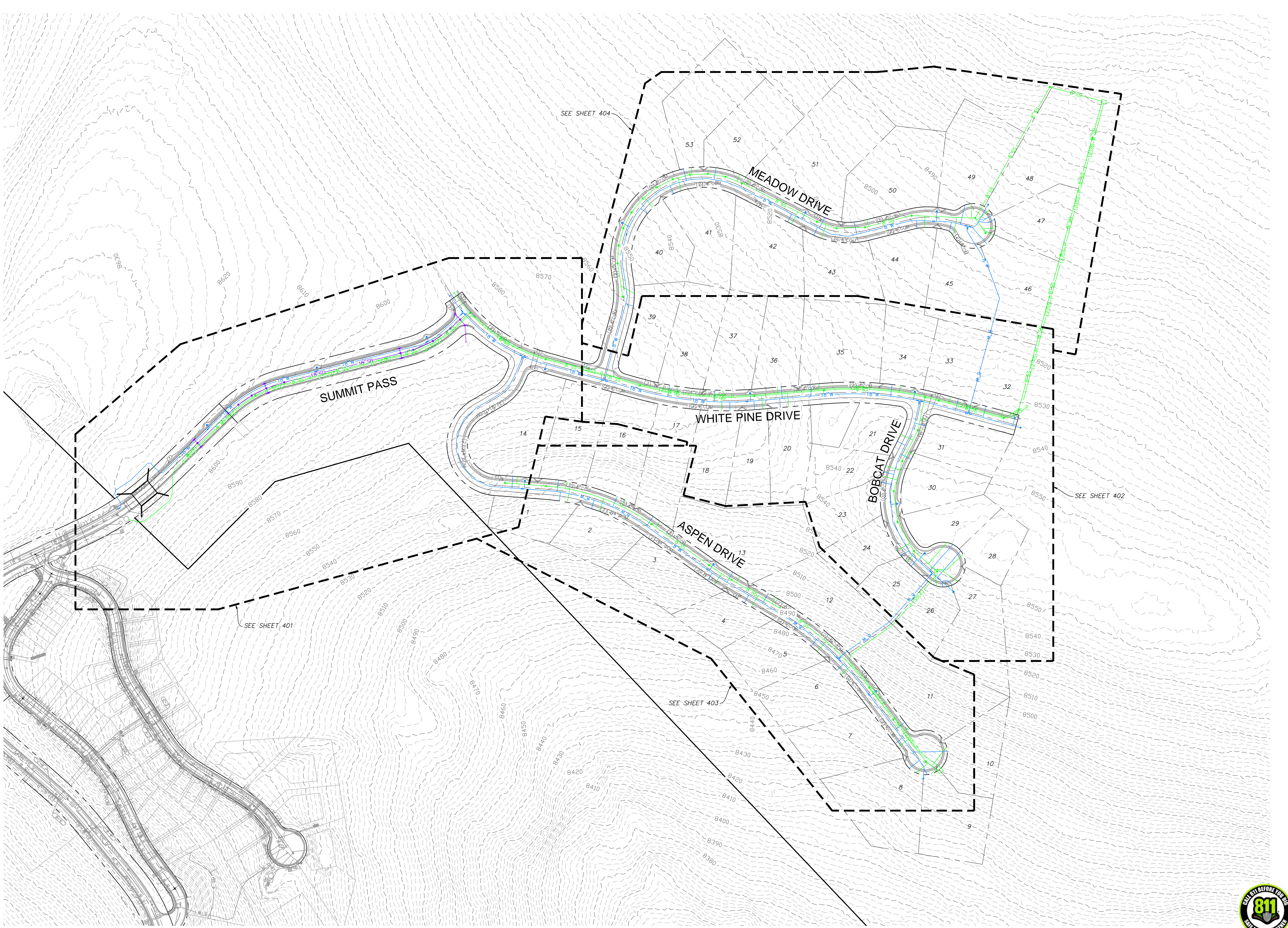


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4 OF #



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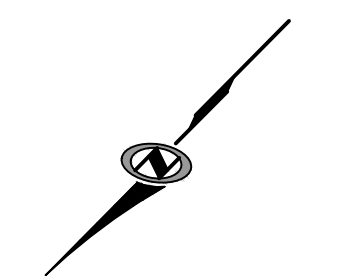
TALISMAN
 CIVIL CONSULTANTS
 5217 SOUTH STATE STREET
 SUITE 200
 MURRAY, UT 84107
 801.743.1300

NO.	BY	DATE	REVISIONS

BOBCAT RIDGE
 400 OVERALL UTILITY PLAN

DATE SUBMITTED: 06.01.2018

TCC JOB NUMBER: 18.200.22



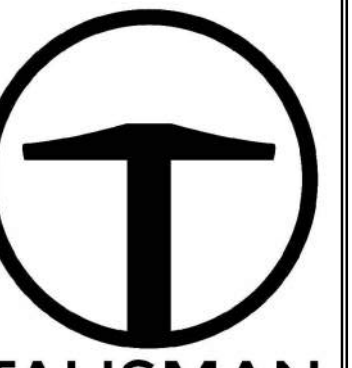
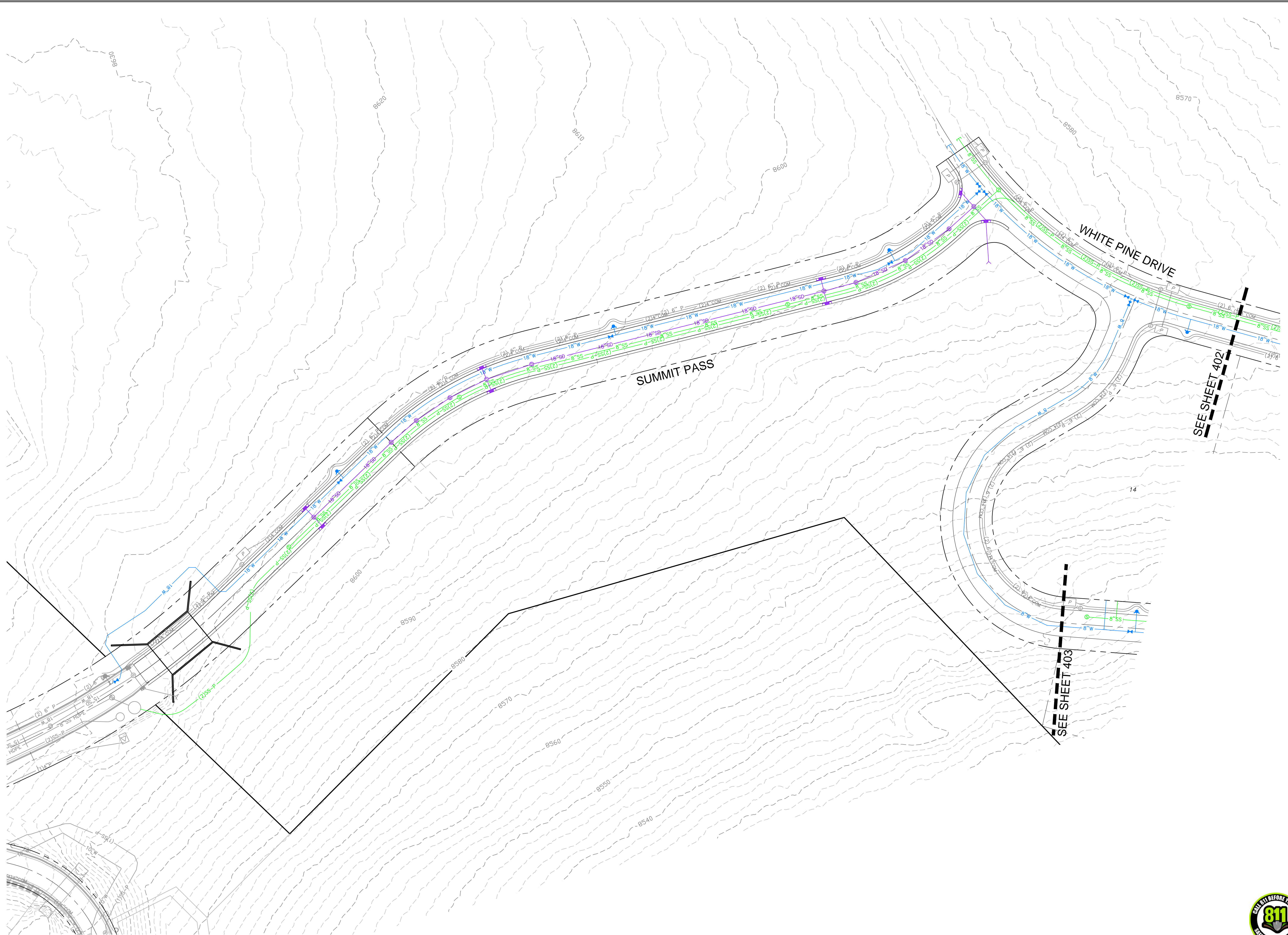
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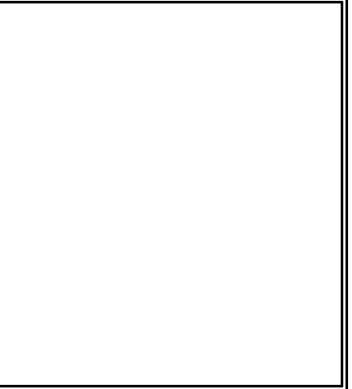


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NO.	BY	DATE	REVISIONS

BOBCAT RIDGE
 UTILITY PLAN

TCC JOB NUMBER: 18.200.22 DATE SUBMITTED: 06.01.2018



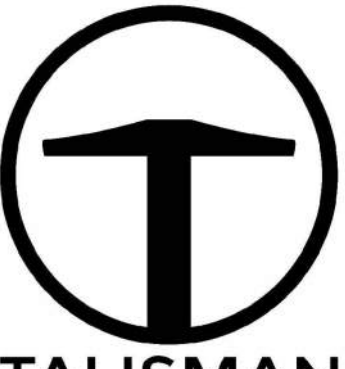
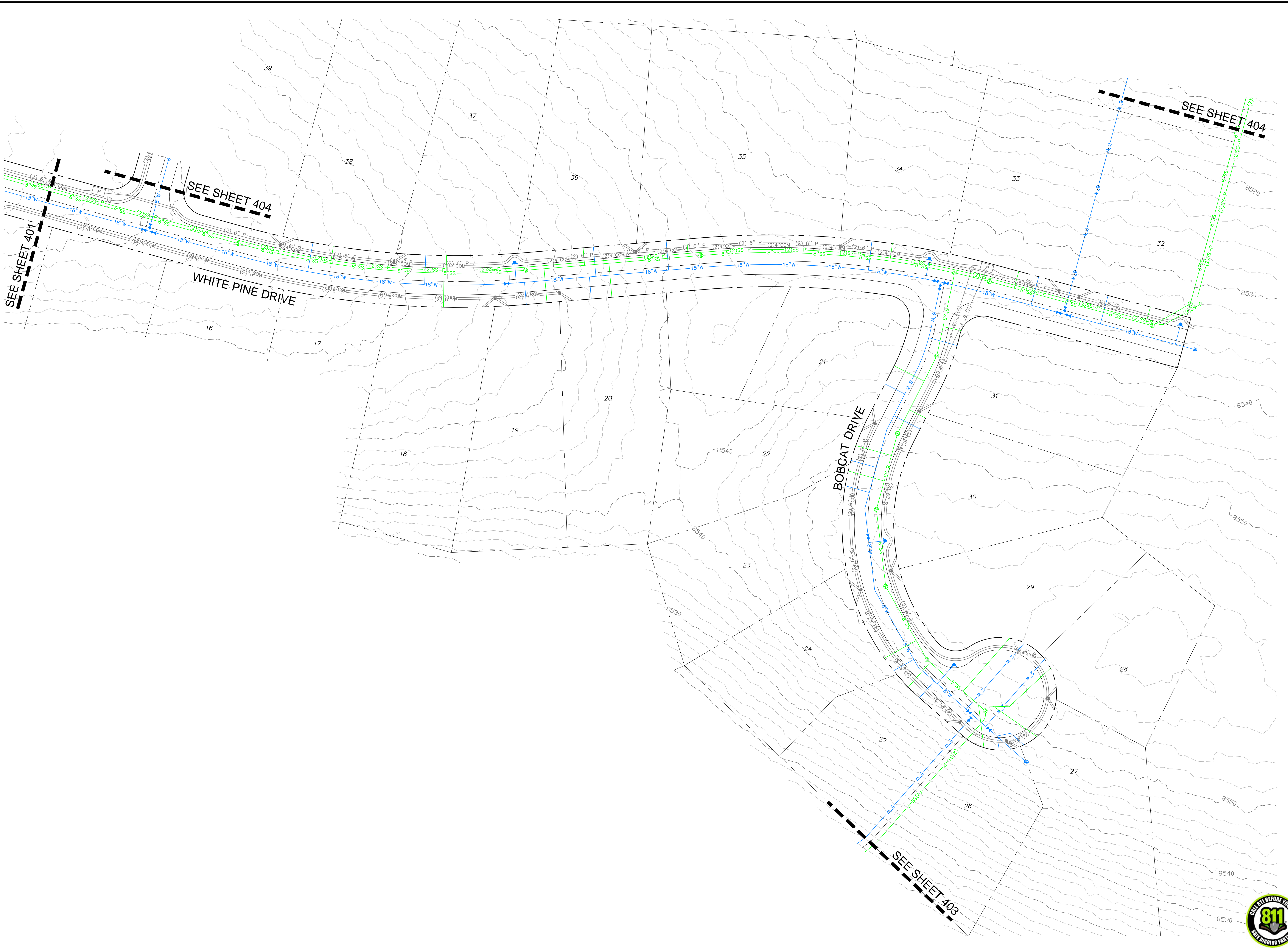
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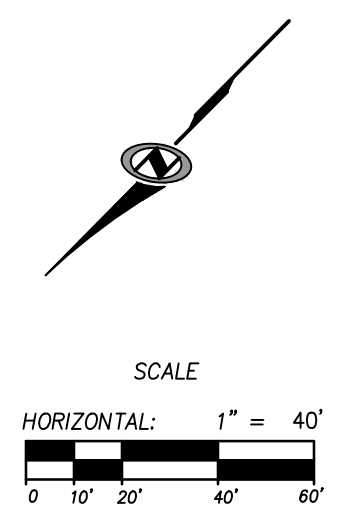
TALISMAN
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 SUITE 200
 MURRAY, UT 84107
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NO.	BY	DATE	REVISIONS

BOBCAT RIDGE UTILITY PLAN

DATE SUBMITTED: 06.01.2018

TCC JOB NUMBER: 18.200.22

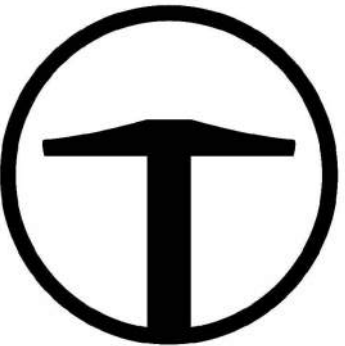
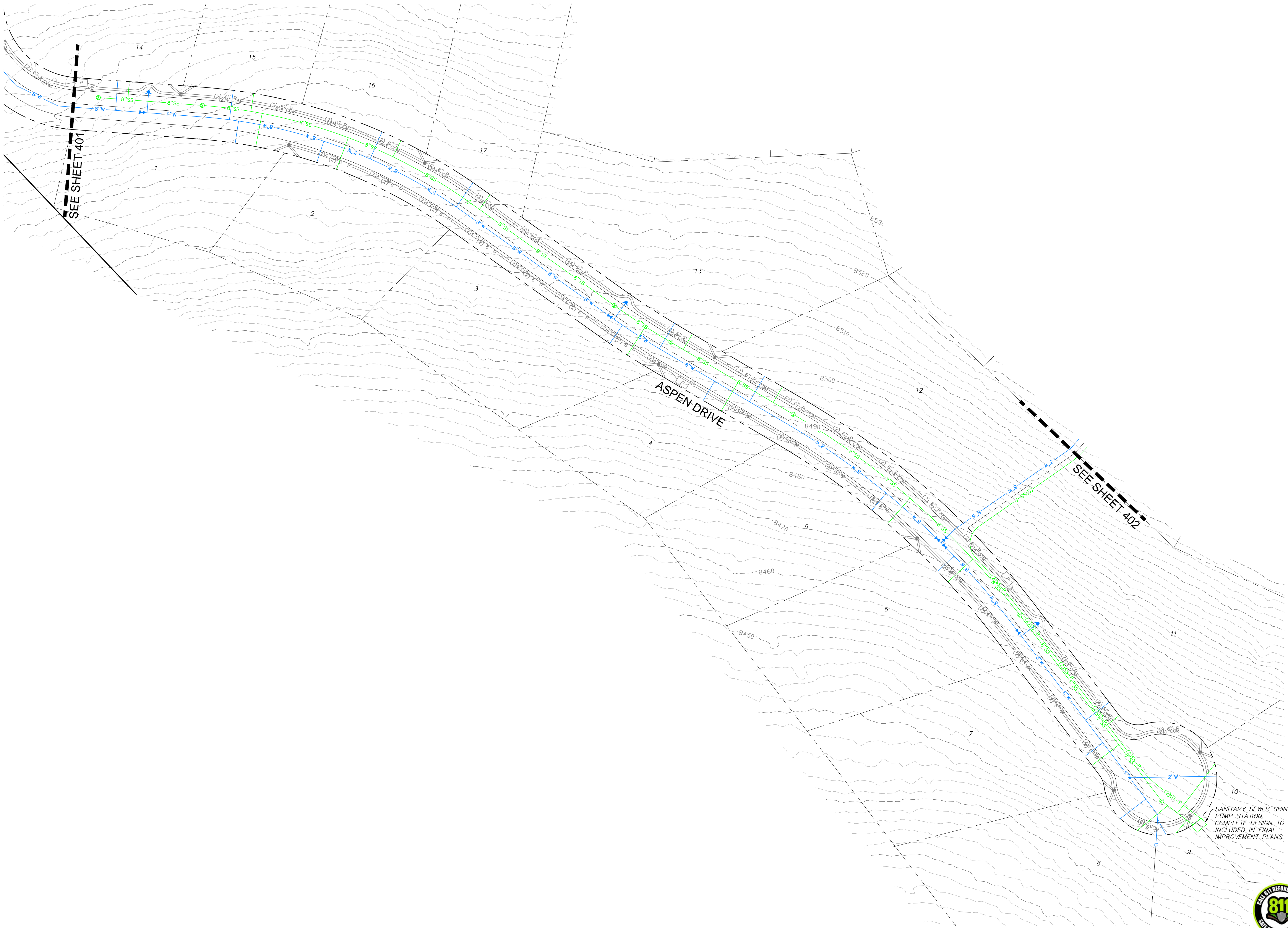


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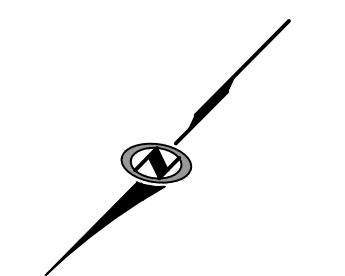


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BOBCAT RIDGE UTILITY PLAN

TCC JOB NUMBER: 18-200-22 DATE SUBMITTED: 06.01.2018



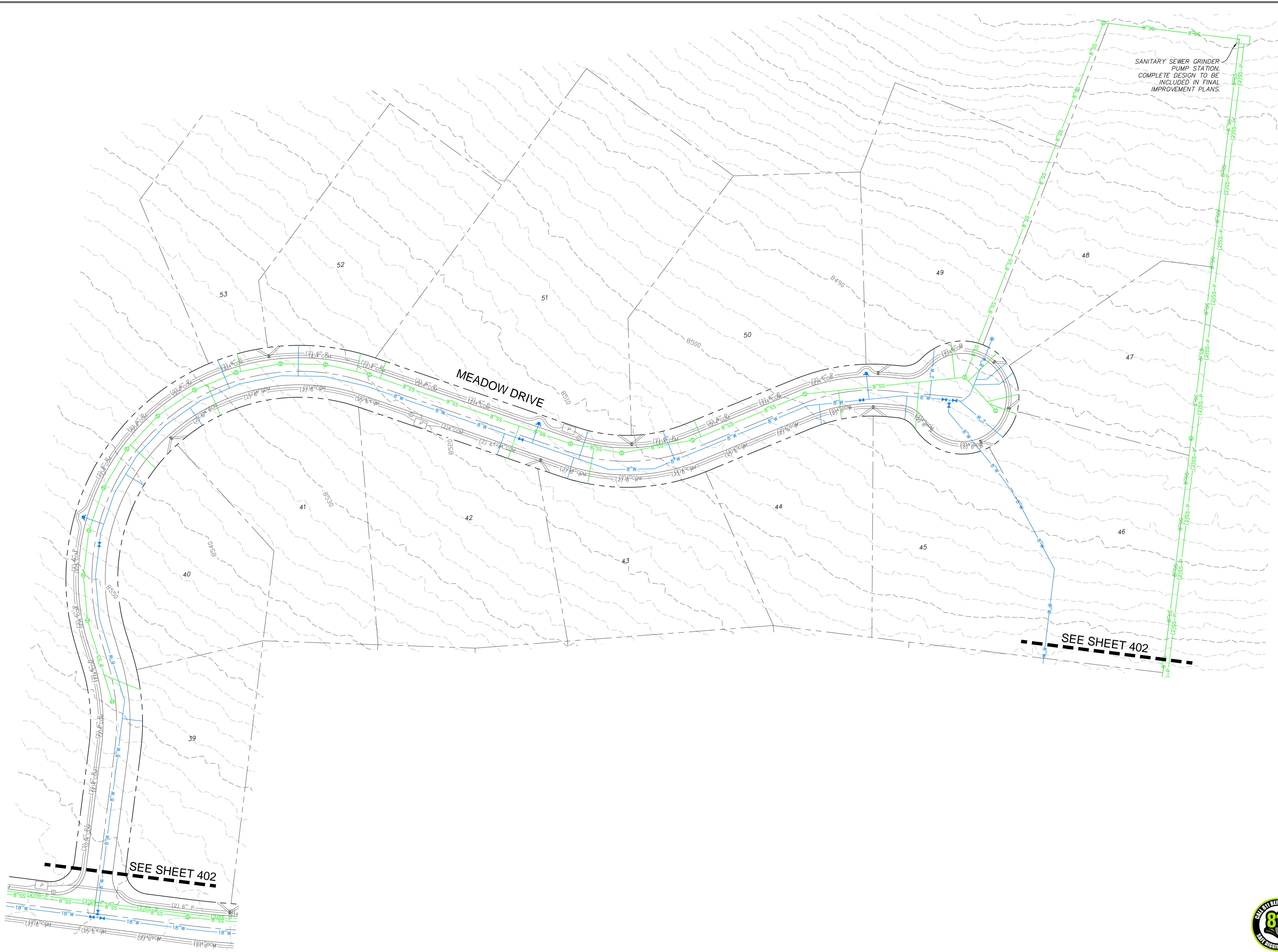
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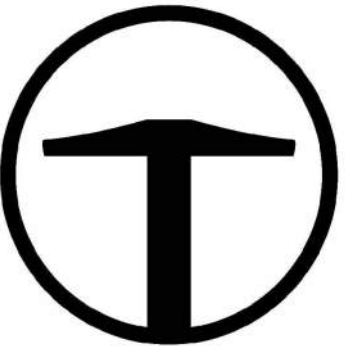


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SANITARY SEWER GRINDER
PUMP STATION.
COMPLETE DESIGN TO BE
INCLUDED IN FINAL
IMPROVEMENT PLANS.



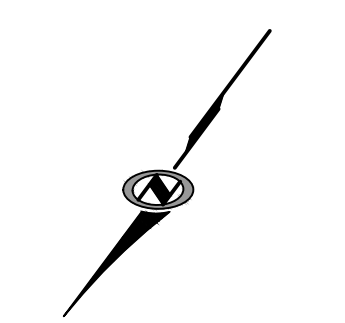
TALISMAN
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NO.	BY	DATE	REVISIONS

BOBCAT RIDGE UTILITY PLAN

DATE SUBMITTED: 06.01.2018

TCC JOB NUMBER: 18.200.22



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

SHEET NUMBER
404
OF

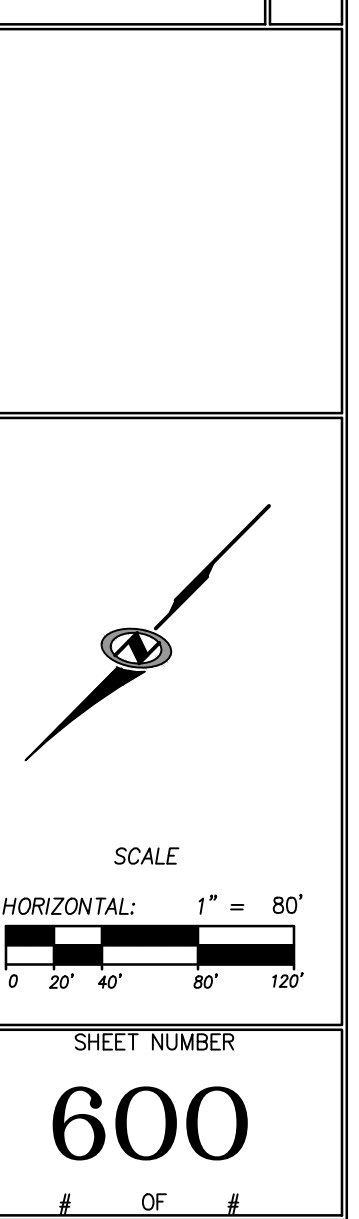


NO.	BY	DATE	REVISIONS

BOBCAT RIDGE
EROSION CONTROL PLAN

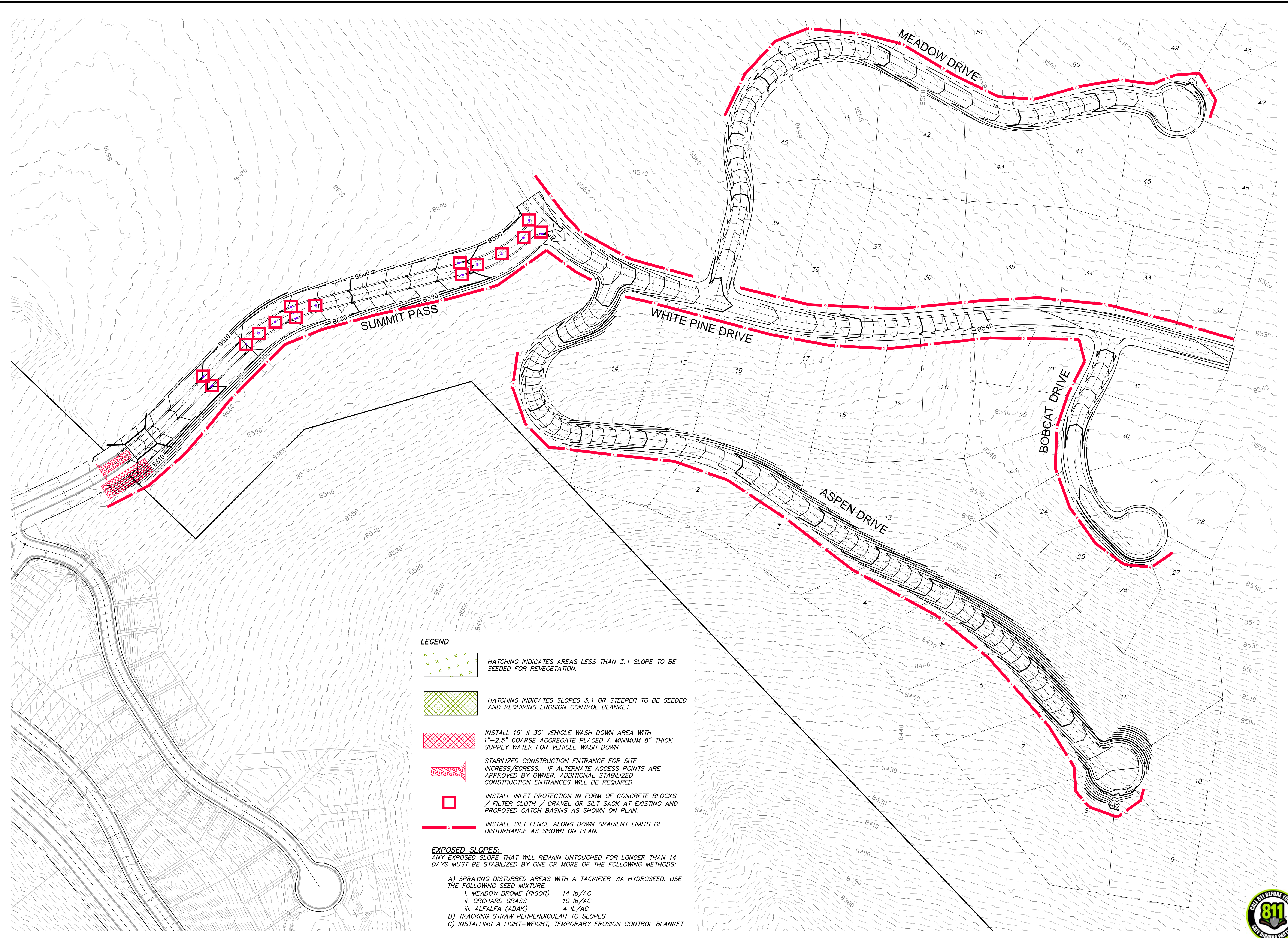
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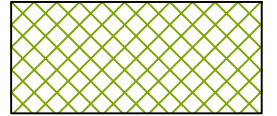
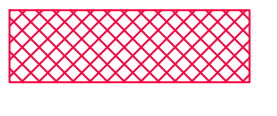



DATE SUBMITTED: 06.01.2018



SCALE
HORIZONTAL: 1" = 80'
0 20' 40' 80' 120'

SHEET NUMBER
600
OF



- LEGEND**
-  HATCHING INDICATES AREAS LESS THAN 3:1 SLOPE TO BE SEEDED FOR REVEGETATION.
 -  HATCHING INDICATES SLOPES 3:1 OR STEEPER TO BE SEEDED AND REQUIRING EROSION CONTROL BLANKET.
 -  INSTALL 15' X 30' 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.
 -  INSTALL SILT FENCE ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN.

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. USE THE FOLLOWING SEED MIXTURE.

i. MEADOW BROME (RIGOR)	14 lb/AC
ii. ORCHARD GRASS	10 lb/AC
iii. ALFALFA (ADAK)	4 lb/AC

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



Precast manhole

- GENERAL**
 - 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.
 - Manhole size.
 - Diameter is 4-feet: For pipe under 12" diameter.
 - Diameter is 5-feet: For pipe 12" and larger, or when 3 or more drain pipes intersect the manhole.
 - Wall thickness:
 - Precast reinforced concrete walls 4 3/4" minimum.
 - Cast-in-place concrete to be 8 inches thick minimum.
- PRODUCTS**
 - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
 - Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
 - Concrete: Class 4000, APWA Section 03 30 04.
 - Riser and Reducing Riser: ASTM C 478.
 - Joint Sealant: Rubber based, compressible.
 - Grout: 2 parts sand to 1 part cement mortar, ASTM C 1329.
 - Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.
- EXECUTION**
 - Foundation Stabilization: Get ENGINEER's permission to use a sewer rock or a sewer rock in a geotextile wrap to stabilize an unstable foundation.
 - 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.
 - Invert cover. During construction, place invert covers over the top of pipe in manholes that currently convey sewerage. See Plan 412.
 - Concrete Deck or Reducing Riser: When depth of manhole from pipe invert to finish grade exceeds 7 feet, use an ASTM C 478 reducing riser.
 - Pipe Connections: Grout around all pipe openings.
 - 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.
 - Joints: Place flexible sealant in all riser joints. Finish with grout.
 - 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.
 - Finish: Provide smooth and neat finishes on interior of cones, shafts, and rings. Imperfect moldings or honeycombs will not be accepted.
 - 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.

Trench backfill

- GENERAL**
 - The drawing applies to backfilling the trench above the pipe zone.
- PRODUCTS**
 - Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 3-inches.
 - 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.
- EXECUTION**
 - Trench Backfill:
 - DO NOT USE sewer rock, pea gravel, or recycled RAP aggregate as trench backfill.
 - 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.
 - Water jetting is NOT allowed.
 - Submission of quality control compaction test result data developed for haunching areas may be requested by ENGINEER at any time. Provide results of tests immediately upon request.
 - Flowable Fill: When required, place controlled low strength material in the trench, APWA Section 31 05 15. Cure the fill before placing surface restorations.
 - Surface Restoration:
 - Landscape Surface: Rake to match existing grade. Replace vegetation to match pre-construction conditions. Follow APWA Section 32 92 00 (turf or grass) or APWA Section 32 93 13 (ground cover) requirements.
 - Paved Surface: Do not install asphalt or concrete surfacing until trench compaction is acceptable to ENGINEER. Follow APWA Section 33 05 25 (asphalt surfacing), or APWA Section 33 05 25 (concrete surfacing).

Pipe zone backfill

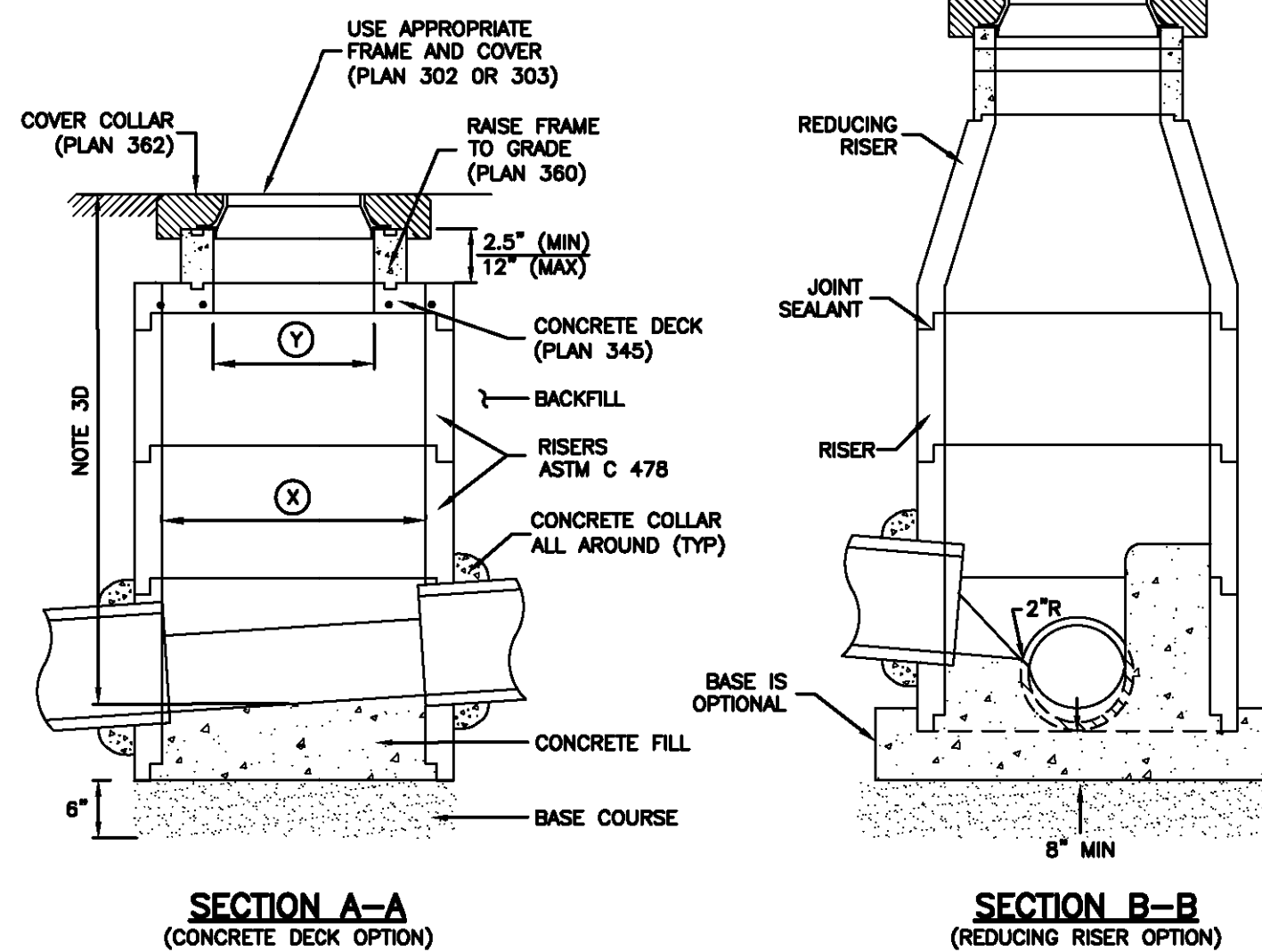
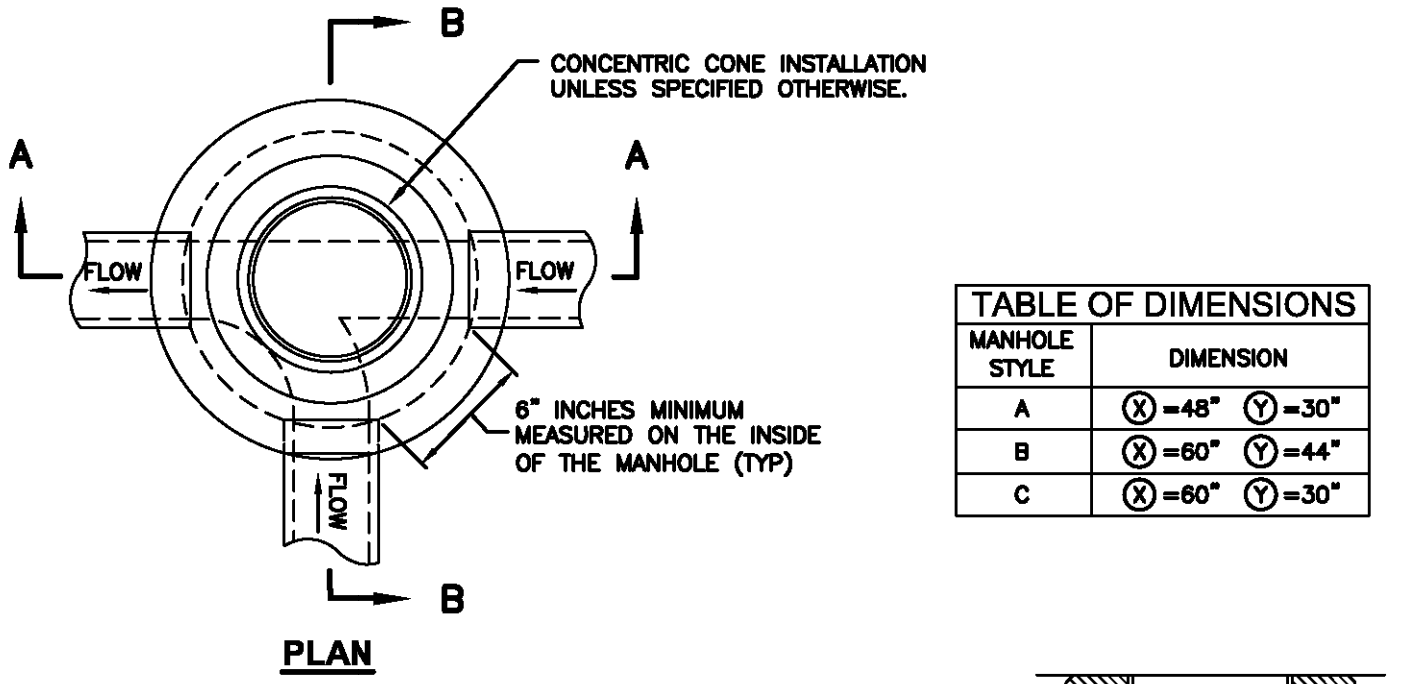
- GENERAL**
 - Install the pipe in the center of the trench or no closer than 6-inches from the wall of the pipe to the wall of the trench.
- PRODUCTS**
 - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
 - Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
 - Concrete: APWA Section 03 30 04.
 - 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.
 - Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.
- EXECUTION**
 - 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.
 - 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.
 - Base Course:
 - Furnish untreated base course material unless specified otherwise by pipe manufacturer.
 - 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.
 - When using concrete, provide at least Class 2,000 per APWA Section 03 30 04.
 - Pipe Zone: DO NOT USE sewer rock, pea gravel, or recycled RAP aggregate in the pipe zone. Water jetting is NOT allowed.
 - 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.
 - 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.
 - Flowable Fill (when required and if allowed by pipe manufacturer):
 - Place the controlled low strength material, APWA Section 31 05 15.
 - Prevent pipe flotation by installing in lifts and providing pipe restraints as required by pipe manufacturer.
 - Reset pipe to line and grade if pipe "floats" out of position.

Sanitary sewer manhole

- GENERAL**
 - 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.
 - Manhole size.
 - Diameter is 4 feet: For sewers under 12" diameter.
 - Diameter is 5 feet: For sewers 12" and larger, or when 3 or more pipes intersect the manhole.
- PRODUCTS**
 - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
 - Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
 - Concrete: Class 4000, APWA Section 03 30 04.
 - Riser and Reducing Riser: ASTM C 478.
 - Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A 615.
 - Grout: 2 parts sand to 1 part cement mortar, ASTM C 1329.
 - Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.
- EXECUTION**
 - Foundation Stabilization: Get ENGINEER's permission to use a sewer rock or a granular backfill borrow in a geotextile wrap to stabilize an unstable foundation.
 - 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.
 - Invert Cover. During construction, place invert covers over the top of pipe in manholes that currently convey sewerage. See Plan 412.
 - Pipe Connections: Grout around all pipe openings.
 - 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.
 - Joints: Place flexible gasket-type sealant in all riser joints. Finish with grout.
 - 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.
 - Finish: Provide smooth and neat finishes on interior of cones, shafts, and rings. Imperfect moldings or honeycombs will not be accepted.
 - 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.

186

CAST IN PLACE BASE



Precast manhole

Plan 341

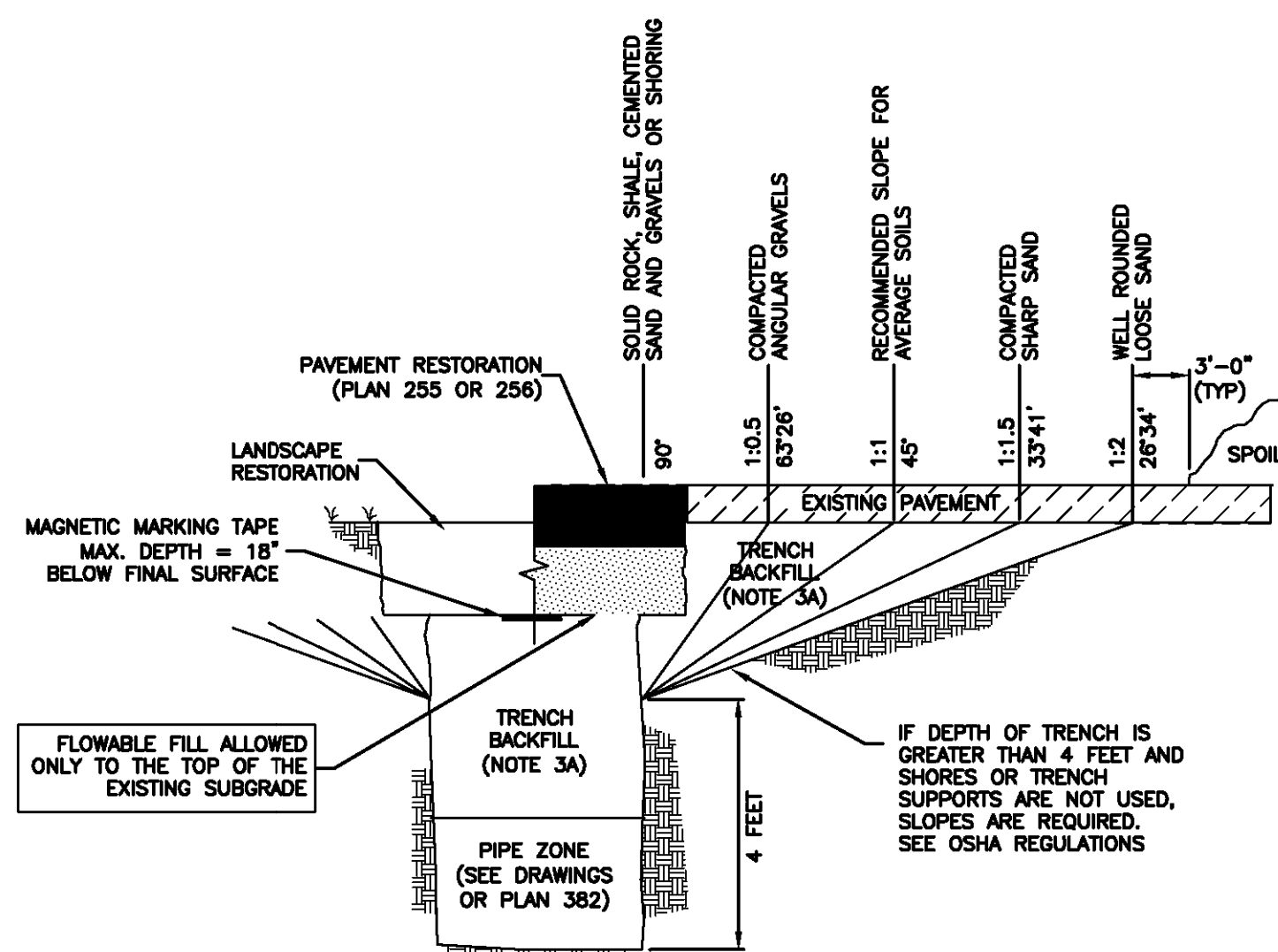
November 2010

187

Sheet 1 of 2

January 2011

202



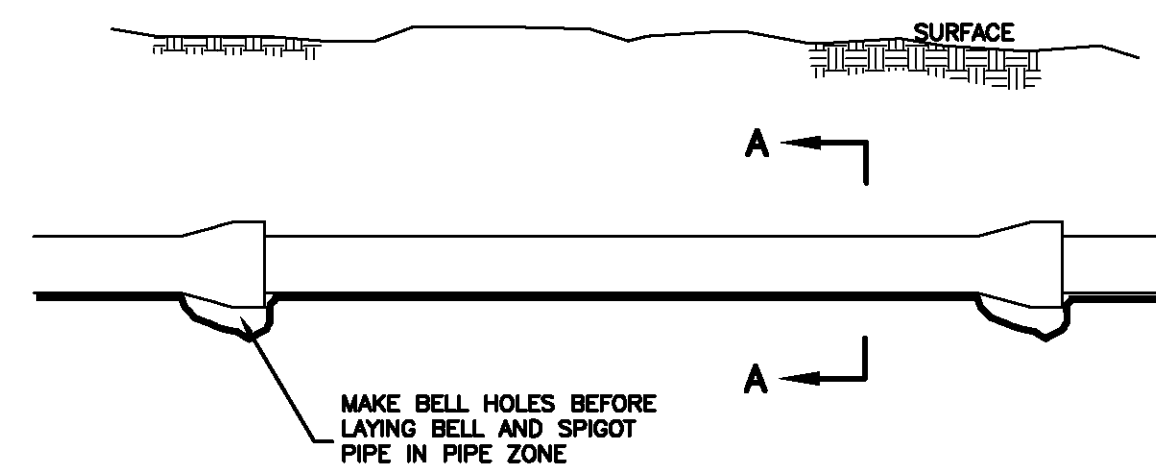
Trench backfill

Plan 381

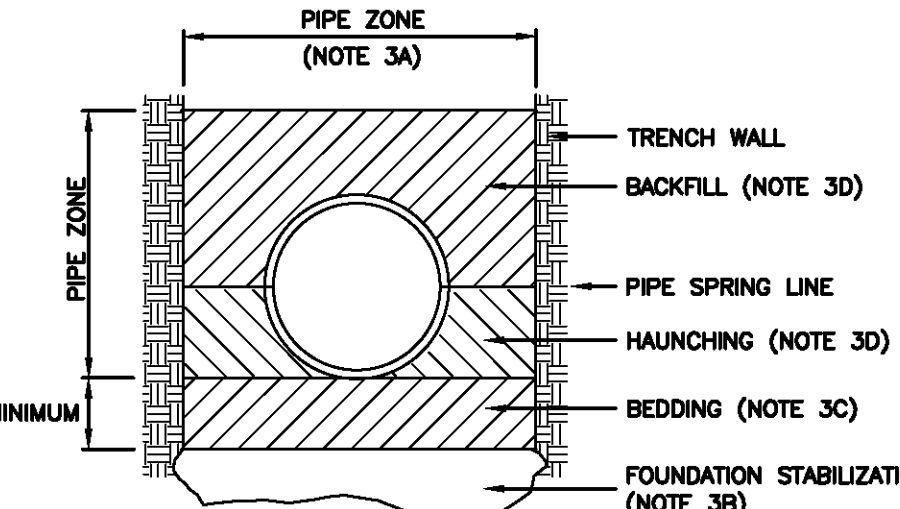
January 2011

203

204



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.
 PVC AND HDPE 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 FACTORY-WARE CORRUGATED STEEL PIPE FOR SEWERS AND OTHER APPLICATIONS.
 VITRIFIED CLAY PIPE: FOLLOW ASTM C 12.
 *STANDARD RECOMMENDED PRACTICE FOR INSTALLING VITRIFIED CLAY PIPE LINES.

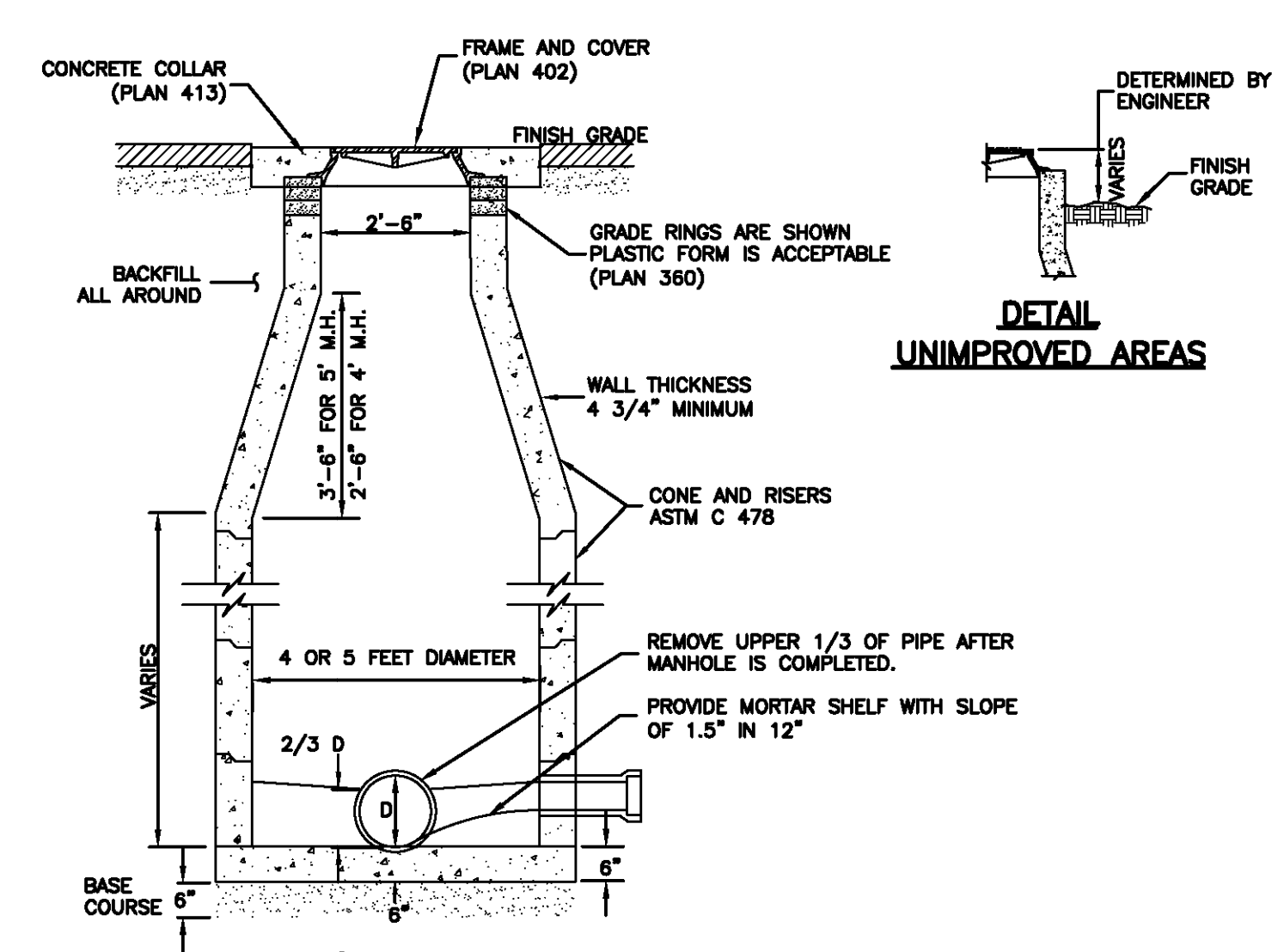
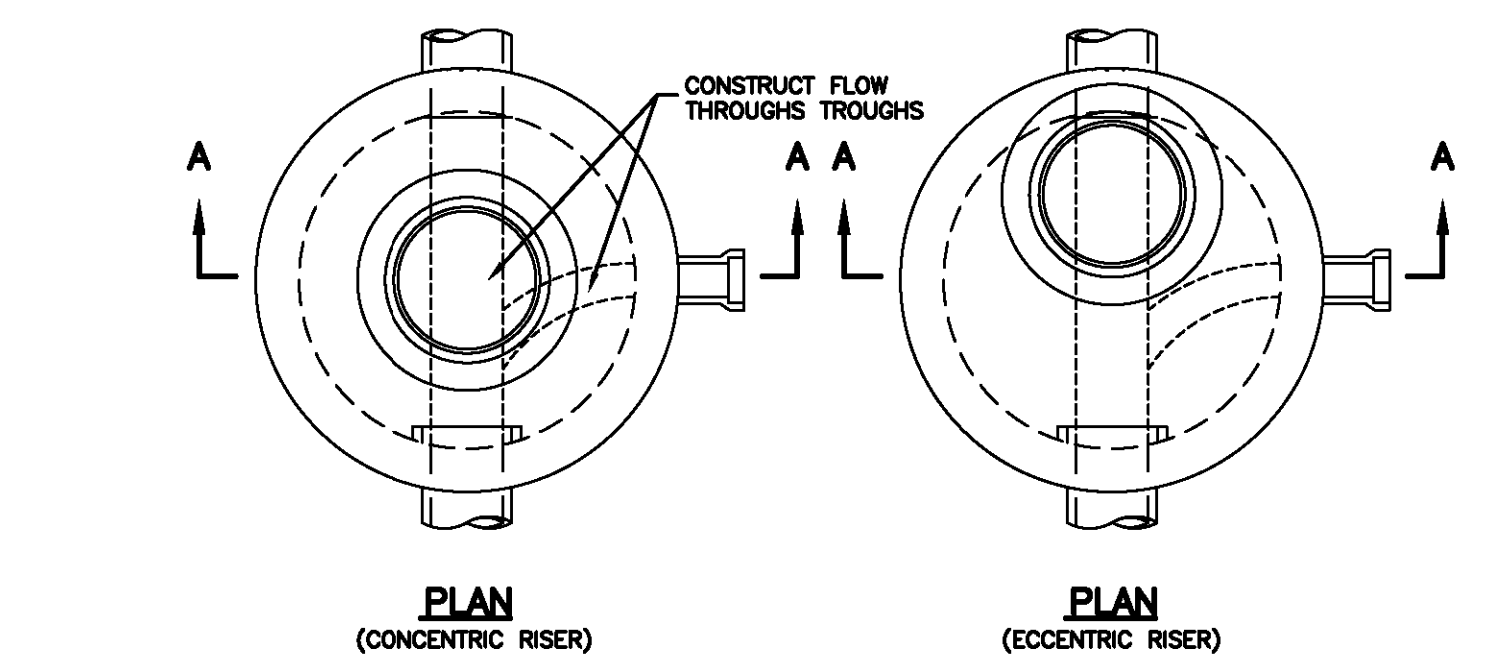
Pipe zone backfill

Plan 382

January 2011

205

212



SECTION A-A

Sanitary sewer manhole

Plan 411

April 2011

213



BOBCAT RIDGE
DETAILS

DATE SUBMITTED: 06.01.2018

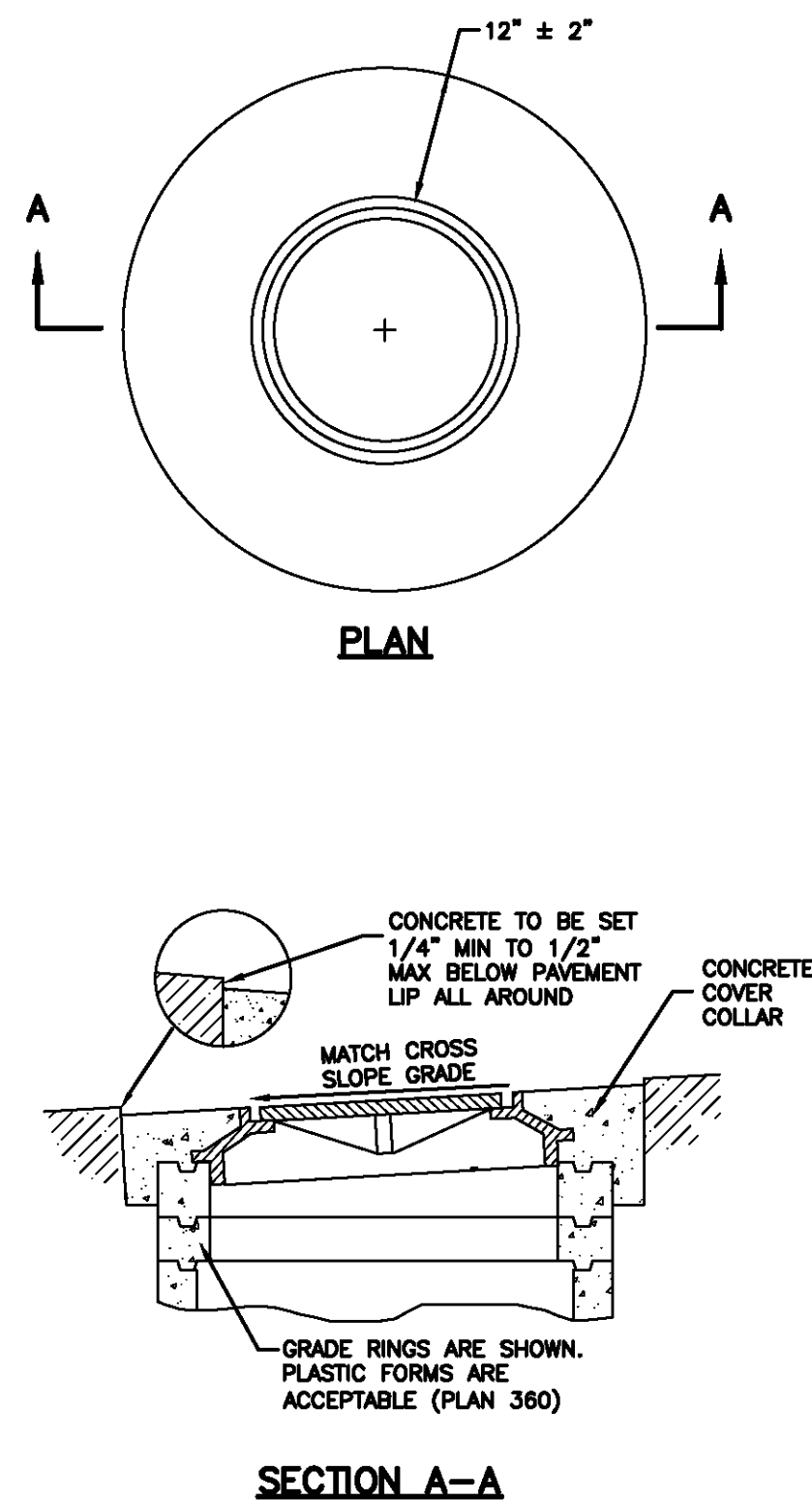
TCC JOB NUMBER: 18.200.22



SHEET NUMBER
700

Cover collar for sanitary sewer manhole

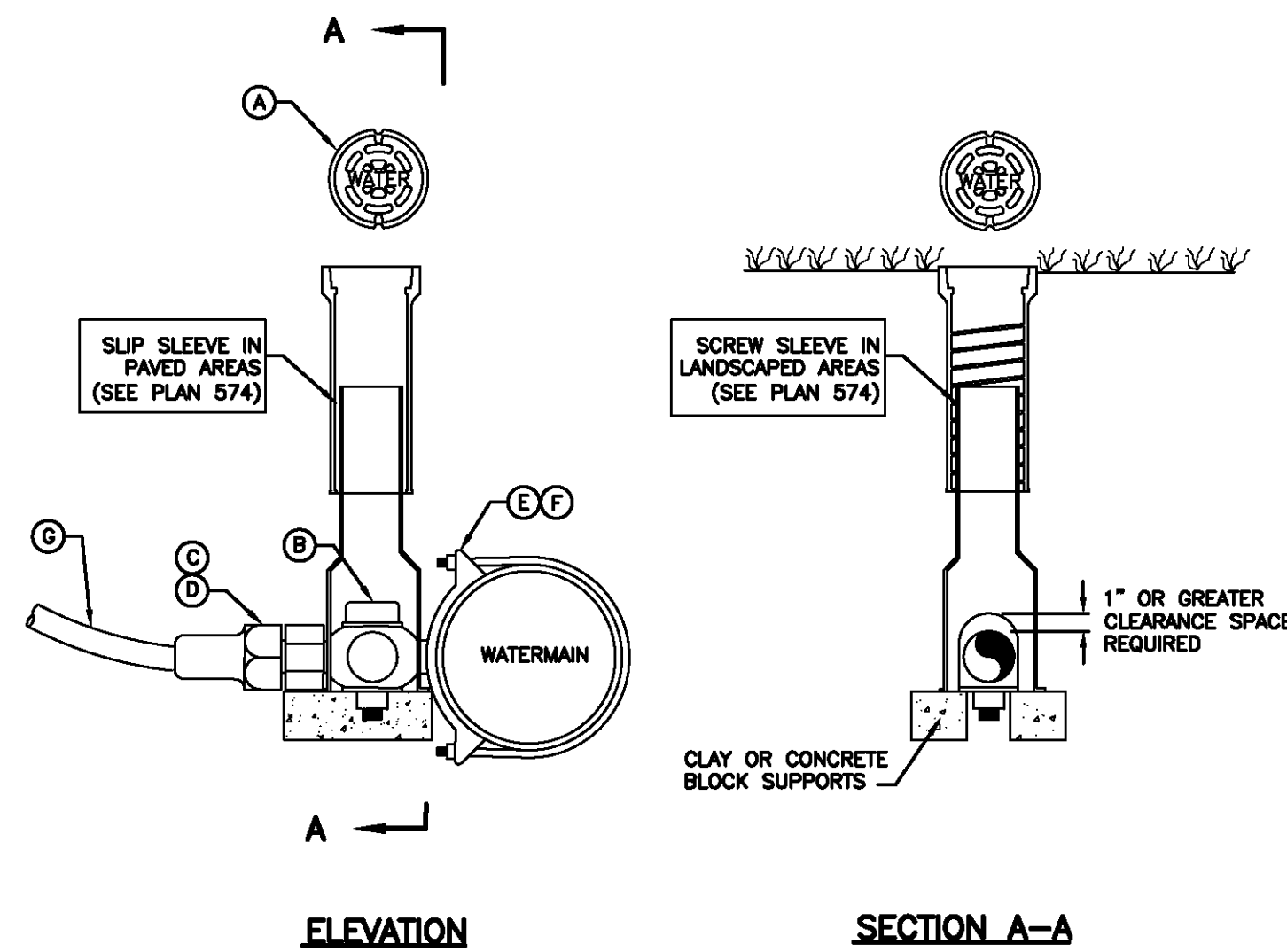
- GENERAL**
A. In a pavement surface, the concrete will support the frame under traffic loadings.
- PRODUCTS**
A. Concrete: Class 4000, APWA Section 03 30 04.
B. Concrete Curing Agent: Type ID Class A (clear with fugitive dye), membrane forming compound, APWA Section 03 39 00.
- EXECUTION**
A. Pavement Preparation: Provide a neat vertical and concentric joint between concrete and existing asphalt concrete surfaces. Clean edges of all dirt, oil, and loose debris.
B. Concrete Placement: Fill the annular space around the frame and cover casting with concrete. Apply a broom finish. Apply a curing agent.



Plan 413
Cover collar for sanitary sewer manhole
217

1 1/2" and 2" Service taps

- GENERAL**
A. Before backfilling around taps, secure inspection of installation by ENGINEER.
- 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. Tape: Teflon tape is required on all taps.
- EXECUTION**
A. Tapping: Place taps a minimum of 36-inches apart. Use a tapping tool that is sized corresponding to the size of the service line to be installed. No taps within 36-inches of end of pipe.
B. PVC or AC Pipe: A service saddle clamp is required on all PVC and AC pipe taps unless specified otherwise.
C. Backfill: 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.
D. Blocks: Clay brick or concrete block required under valve box to assure a 1" or greater space between the box and the corporation stop and pipe assembly.



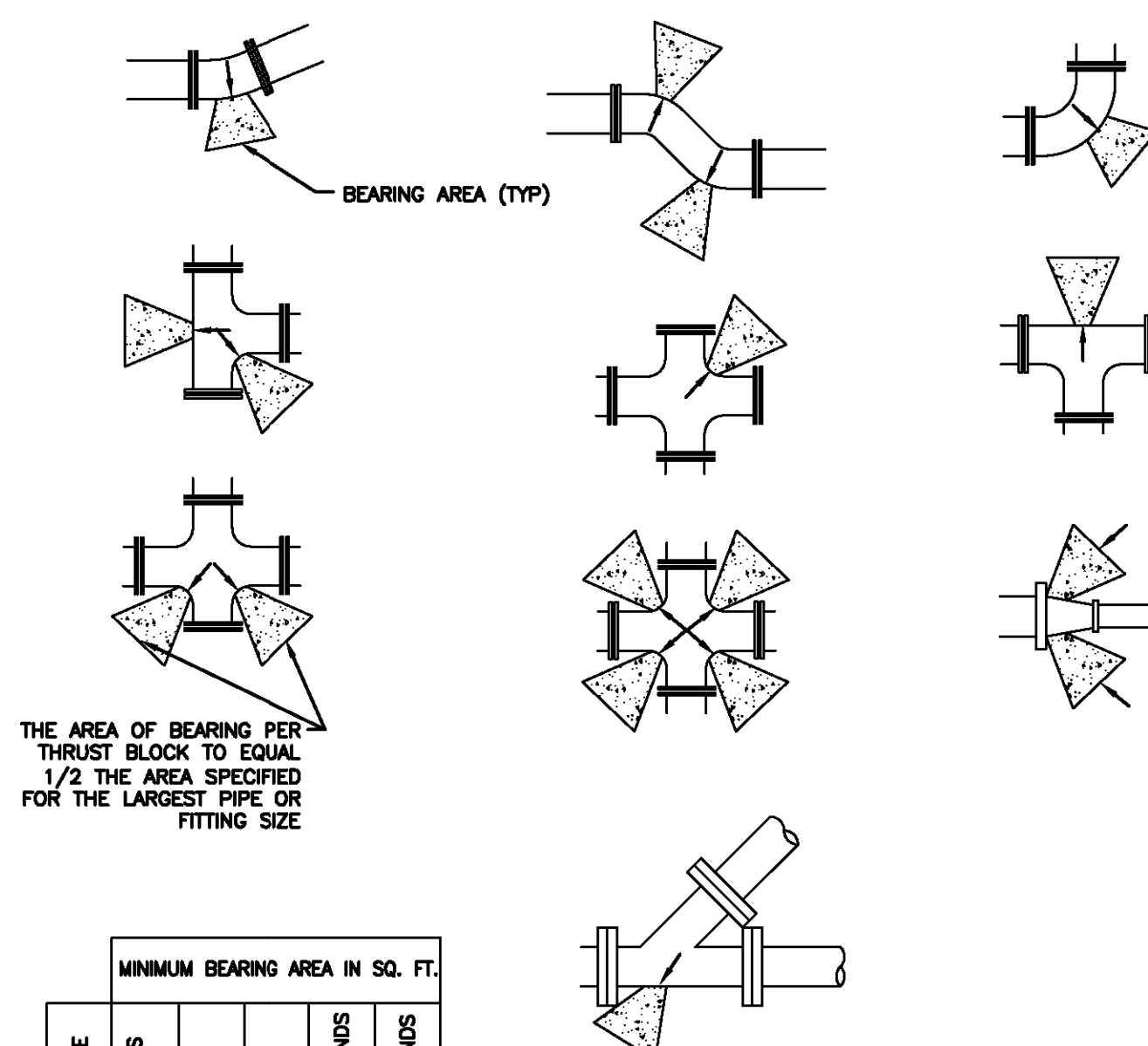
LEGEND			
No.	*	ITEM	DESCRIPTION
(A)		VALVE BOX WITH LID	2 PIECE CAST IRON
(B)		CORPORATION STOP	BRASS
(C)		COPPER ADAPTER	
(D)		FLARE OR PACK JOINT COPPER ADAPTER	
(E)		SERVICE SADDLE CLAMP	D.I., A.C., C.I.
(F)		SERVICE SADDLE CLAMP	P.V.C.
(G)		COPPER PIPE (SERVICE LINE)	TYPE K (SOFT)

* FURNISHED BY UTILITY AGENCY

Plan 552
1 1/2" and 2" Service taps
265

Direct bearing thrust block

- GENERAL**
A. Thrust design for pipe sizes or configurations not shown require special design.
B. Bearing areas, volumes, and special thrust blocking details shown on Drawings take precedence over this plan.
C. Restraint sizing is based upon a maximum operating pressure of 150 psi and a test pressure of 200 psi, and a minimum soil bearing strength of 2,000 psf. Operating pressures in excess of 150 psi or soils with less than 2,000 pound bearing strength will require special design.
D. Before backfilling around thrust block, secure inspection of installation by ENGINEER.
- 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. Thrust Blocks: Concrete Class 4000, APWA Section 03 30 04.
D. Grease: Non-oxide poly-FM.
- EXECUTION**
A. Pour concrete against undisturbed soil.
B. Pipe Joints: Do not cover with concrete. Leave completely accessible.
C. Grease: Apply grease to all buried metal surfaces. Wrap with polyethylene sheet and tape wrap.
D. Locking restraint devices may be used in conjunction with concrete thrust blocking (at discretion of ENGINEER).
E. Base Course and Backfill Placement: 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.

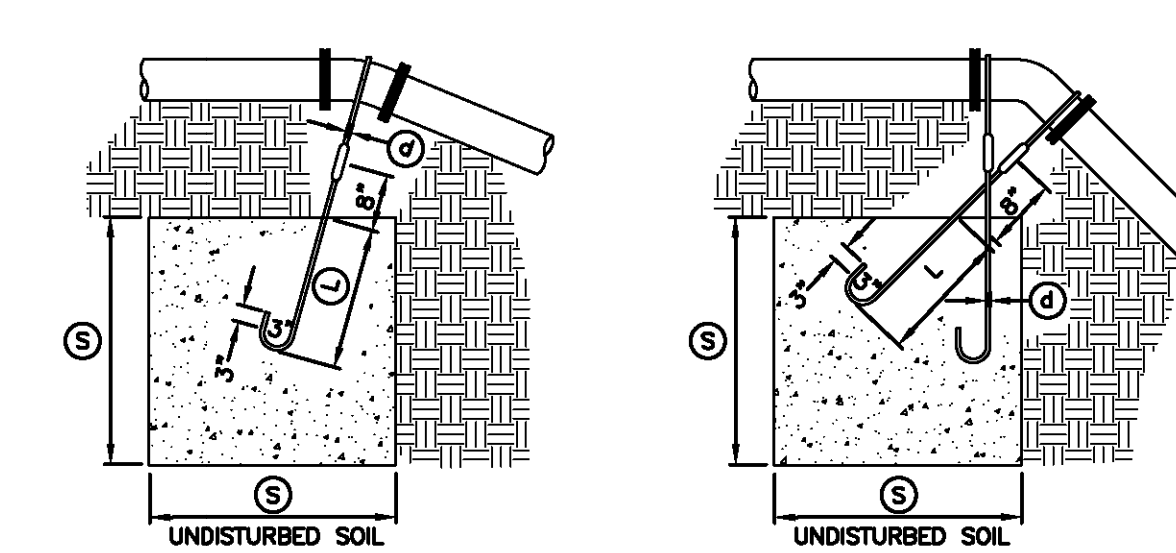


MINIMUM BEARING AREA IN SQ. FT.					
SIZE OF PIPE	TEES, VALVES	90° BENDS	45° BENDS	22 1/2° BENDS	11 1/4° BENDS
4"	2	3	2	2	2
6"	4	5.5	3	1.5	1
8"	6.5	9.5	5	2.75	1.5
12"	14	20	11	5.5	3
14"	19	26.5	14.5	7.5	4
16"	24	34	18.5	9.5	6
20"	27	52	28.5	14.5	16
24"	53	74	41	21	53
30"	81	114	62	32	16

Plan 561
Direct bearing thrust block
267

Tie-down thrust restraints

- GENERAL**
A. Thrust design for pipe sizes or configurations not shown require special design.
B. Bearing areas, volumes, and special thrust blocking details shown on Drawings take precedence over this plan.
C. Restraint sizing is based upon a maximum operating pressure of 150 psi and a test pressure of 200 psi, and a minimum soil bearing strength of 2,000 psf. Operating pressures in excess of 150 psi or soils with less than 2,000 pound bearing strength will require special design.
D. Before backfilling around thrust block, secure inspection of installation by ENGINEER.
- 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 4,000 minimum, APWA Section 03 30 04.
D. Reinforcement: Deformed, steel, ASTM A 615. Give bars an epoxy coating at least 15 mils thick. Minimum stress yield strength of steel tie-down bars is 70,000 ksi.
E. Grease: Non-oxide poly-FM.
- EXECUTION**
A. Pour concrete against undisturbed soil. Concrete must be allowed to cure in thrust restraints for 5 days before pressurizing water lines or have additional approved thrust restraints installed before pressurizing the water line.
B. Pipe Joints: Do not cover with concrete. Leave completely accessible.
C. Grease: Apply grease to all buried metal surfaces. Wrap with polyethylene sheet and tape wrap.
D. Locking restraint devices may be used in conjunction with concrete thrust blocking (at discretion of ENGINEER).
E. Base Course and Backfill Placement: 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.



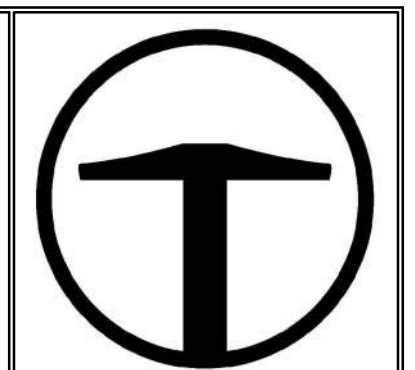
TYPE A RESTRAINT
FOR 11 1/4" - 22 1/2" VERTICAL BENDS

TABLE OF DIMENSIONS					
PIPE SIZE NOMINAL DIAMETER - INCH	VERTICAL BEND IN DEGREES	CONCRETE BLOCKING IN CUBIC FEET	SIDE OF CURVE - FEET	DIAMETER OF SHANK OR REBAR RODS - INCH	DEPTH OF ROD CONCRETE - FEET
4"	11 1/4"	8	2.0	5/8"	1.5
	22 1/2"	15.6	2.5	5/8"	2.0
6"	11 1/4"	15.6	2.5	5/8"	2.0
	22 1/2"	34.3	3.25	5/8"	2.0
8"	11 1/4"	27	3.0	5/8"	2.0
	22 1/2"	64	4.0	5/8"	2.0
12"	11 1/4"	64	4.0	5/8"	2.0
	22 1/2"	125	5.0	3/4"	3.0
16"	11 1/4"	107	4.25	7/8"	3.0
	22 1/2"	216	6.0	7/8"	3.0
20"	11 1/4"	138	5.17	1"	3.5
	22 1/2"	334	6.94	1"	4.0
24"	11 1/4"	240	6.22	1"	4.0
	22 1/2"	476	7.81	1"	4.0
30"	11 1/4"	369	7.17	1"	4.0
	22 1/2"	733	9.02	1"	4.0

TYPE B RESTRAINT
FOR 45° VERTICAL BENDS

TABLE OF DIMENSIONS					
PIPE SIZE NOMINAL DIAMETER - INCH	VERTICAL BEND IN DEGREES	CONCRETE BLOCKING IN CUBIC FEET	SIDE OF CURVE - FEET	DIAMETER OF SHANK OR REBAR RODS - INCH	DEPTH OF ROD CONCRETE - FEET
4"	45°	1	3.0	5/8"	2.0
6"		2.37	4.0	5/8"	2.5
8"		3.97	4.75	5/8"	3.0
12"		9.04	6.25	5/8"	4.0
16"		17.24	7.75	3/4"	4.0
20"		26.52	9.21	3/4"	4.0
24"		37.82	10.07	3/4"	4.0
30"		58.26	11.63	3/4"	4.0

Plan 562
Tie-down thrust restraints
269



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BOBCAT RIDGE
DETAILS

DATE SUBMITTED: 06.01.2018

TCC JOB NUMBER: 18.200.22

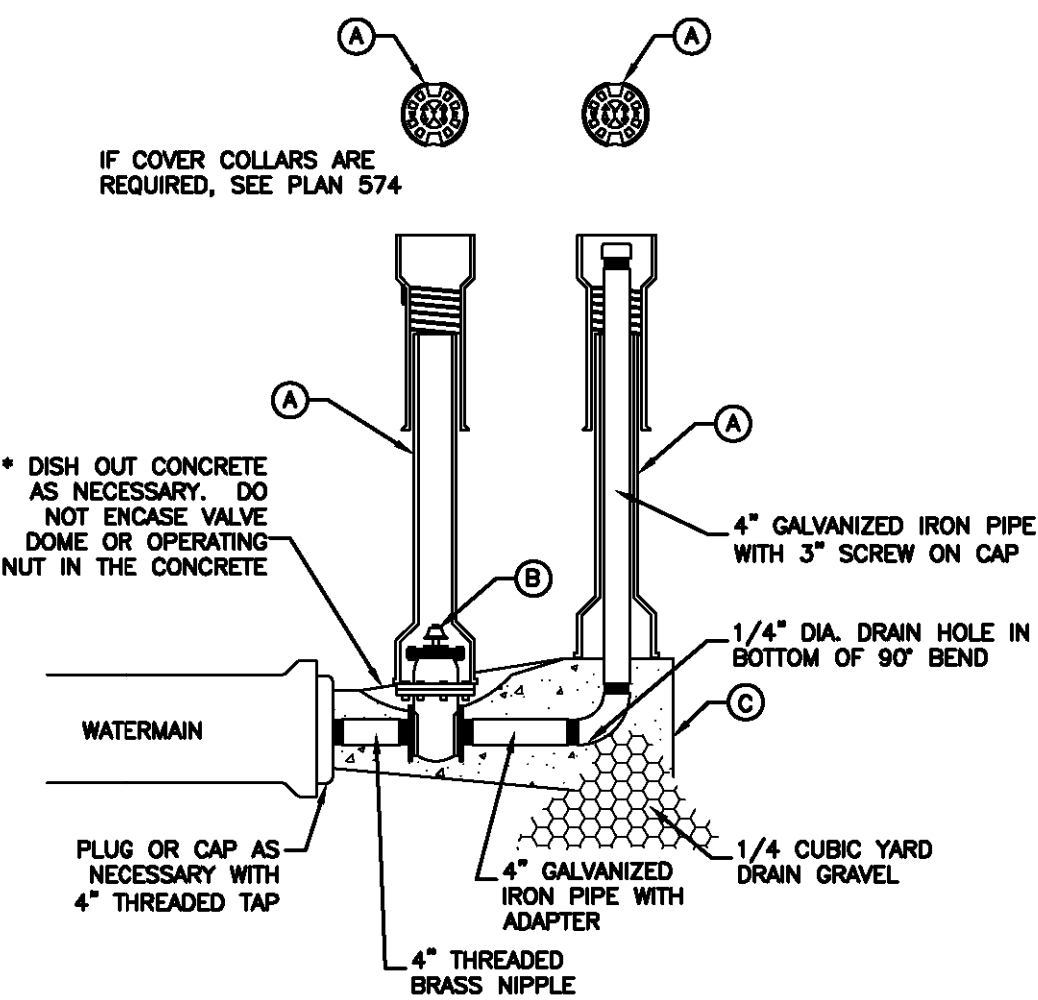


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701

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4" washout valve

1. GENERAL
 - A. Before backfilling, secure inspection of installation by ENGINEER.
 - B. Water mains 12-inches and larger will require a special washout assembly design.
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.
3. EXECUTION
 - A. Pour concrete against undisturbed soil.
 - B. Apply tape wrap to the exterior of all galvanized pipe per AWWA C209.
 - C. Place plastic sheet at least 6 mils thick over drain gravel to prevent silting.
 - D. After installation of washout valve assembly, verify the washout valve riser drains to gravel.
 - E. Backfill and Base Course Placement: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater of a modified proctor density, APWA Section 31 23 26.

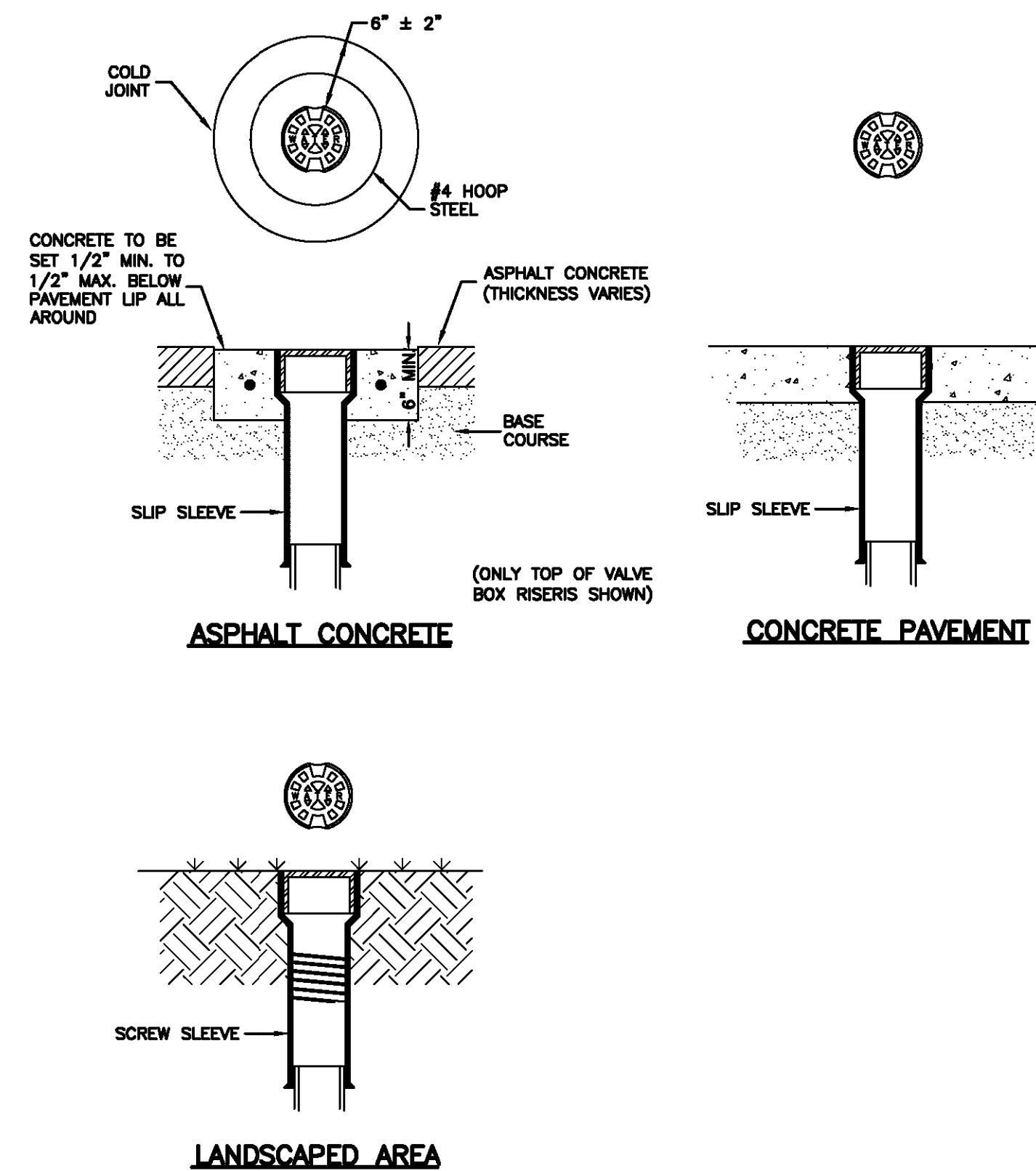


LEGEND		
No.	ITEM	DESCRIPTION
(A)	VALVE BOX WITH LID	2 PIECE CAST IRON
(B)	4" GATE VALVE WITH SCREW ENDS	2" x 2" OPERATING NUT
(C)	CONCRETE THRUST BLOCK	PLAN 561

4" Washout valve
271

Cover collar for water valve box

1. GENERAL
 - A. In a pavement surface, fill an annular space around a frame and cover casting with concrete. The concrete will support the casting under traffic loadings.
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. Concrete: Class 4000, APWA Section 03 30 04.
 - C. Concrete Curing Agent: Type ID Class A (clear with fugitive dye), membrane forming compound, APWA Section 03 39 00.
3. EXECUTION
 - A. Base Course: 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.
 - B. Pavement Preparation: Provide a neat vertical and concentric joint between concrete collar and existing asphalt concrete surface. Clean edges of all dirt, oil, and loose debris.

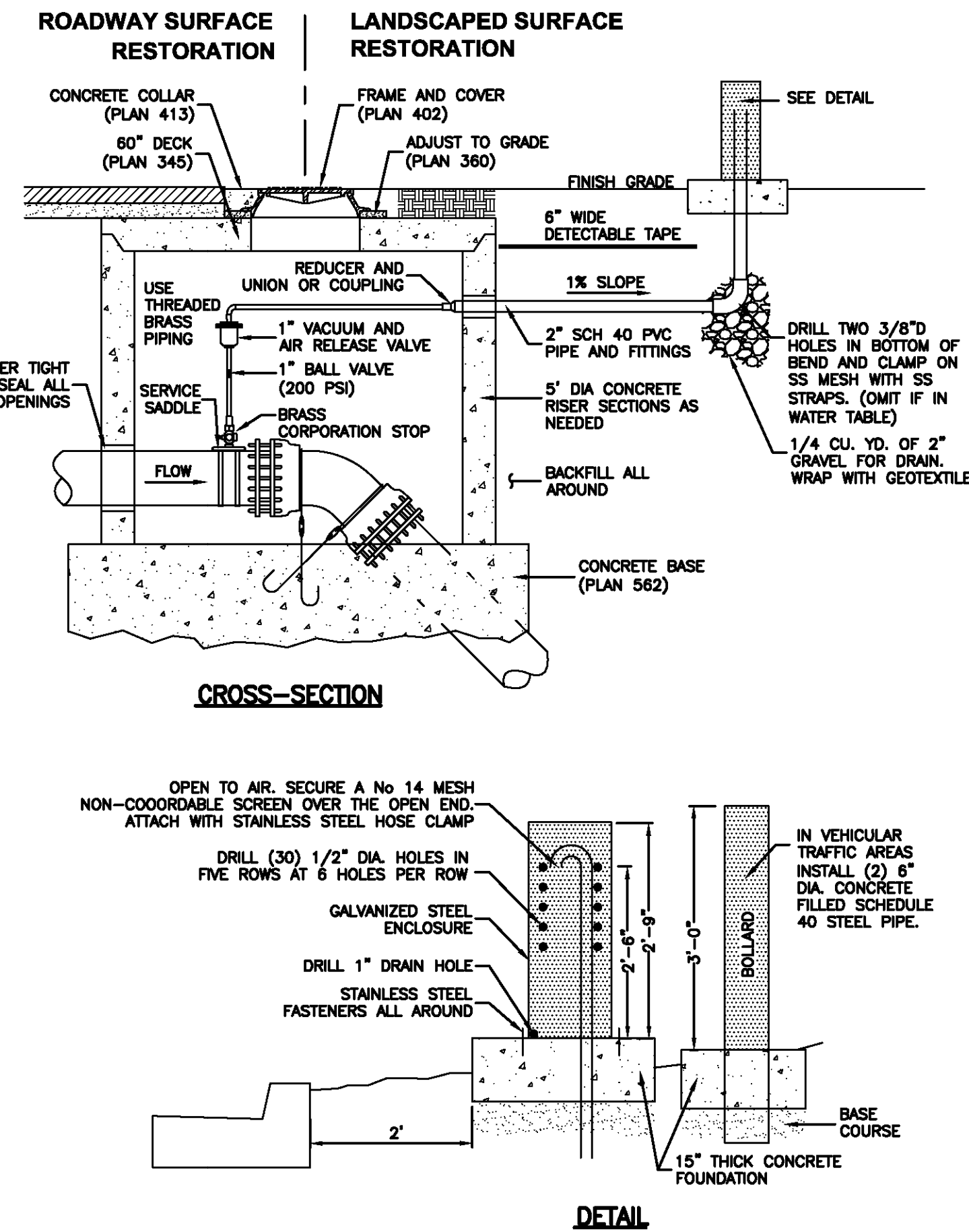


Plan 571

Cover collar for water valve box
277

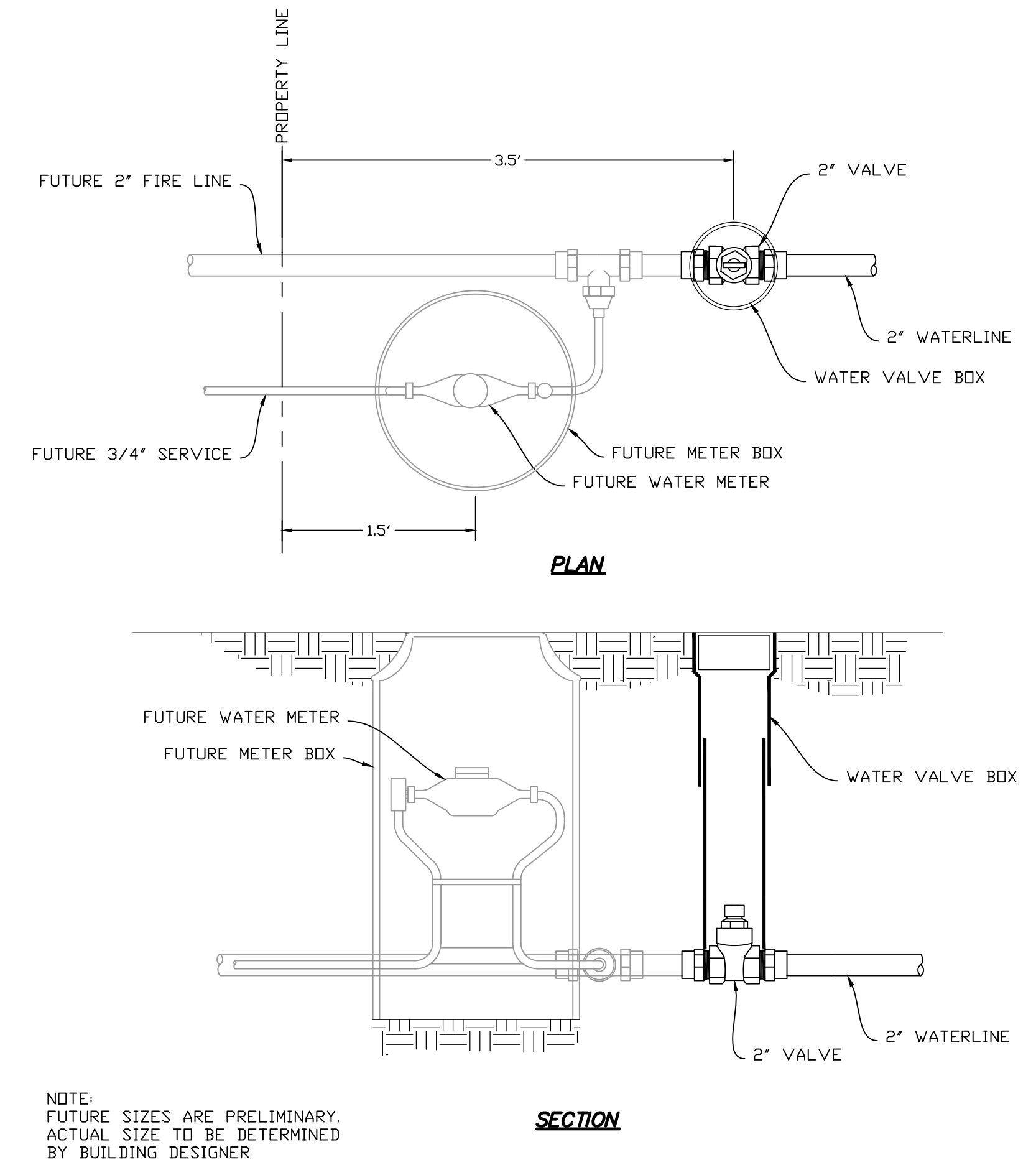
Air release assembly

1. GENERAL
 - A. This drawing detail is applicable to water main piping less than 16-inches diameter.
 - B. PCCP, steel, MLAC and other water main pipe materials will require special detail or design drawings. Submit the design and detail drawings and materials to the ENGINEER for review before installation.
 - C. Installation in areas of high ground water or potential for water entering the vent pipe will require a special design to be provided by the ENGINEER.
 - D. Before backfilling around the assembly, secure inspection of installation by ENGINEER.
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. Drain Gravel: Sewer rock, ASTM size no. 3 (2" to 1") or equal, APWA Section 31 05 13.
 - C. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
 - D. Concrete: Class 4000, APWA Section 03 30 04.
 - E. Manhole: Riser, ASTM C 478.
 - F. Reinforcement: Deformed steel, ASTM A 615. Give bars an epoxy coating at least 15 mils thick. Minimum stress yield strength of steel tie-down bars is 70,000 ksi.
 - G. Small Fittings: Brass. Do not use galvanized materials.
 - H. PVC Pipe and Fittings: Schedule 40, APWA Section 33 05 07.
 - I. Water Tight Wall Seal: Waterproof, compressible.
3. EXECUTION
 - A. Base Course and Backfill Placement: 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.
 - B. Apply tape wrap to the exterior of all buried steel pipe per AWWA C209.
 - C. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
 - D. Service saddle is required on all PVC and AC pipe taps unless specified otherwise. Ductile iron and cast iron pipe may be direct tapped.
 - E. Seal manhole joints water-tight and ground flush with interior wall.
 - F. Follow applicable AWWA and NSF standards when connecting piping.
 - G. If diameter of air relief valve is greater than 2-inches, provide piping to match its diameter from water main connection to open to air.

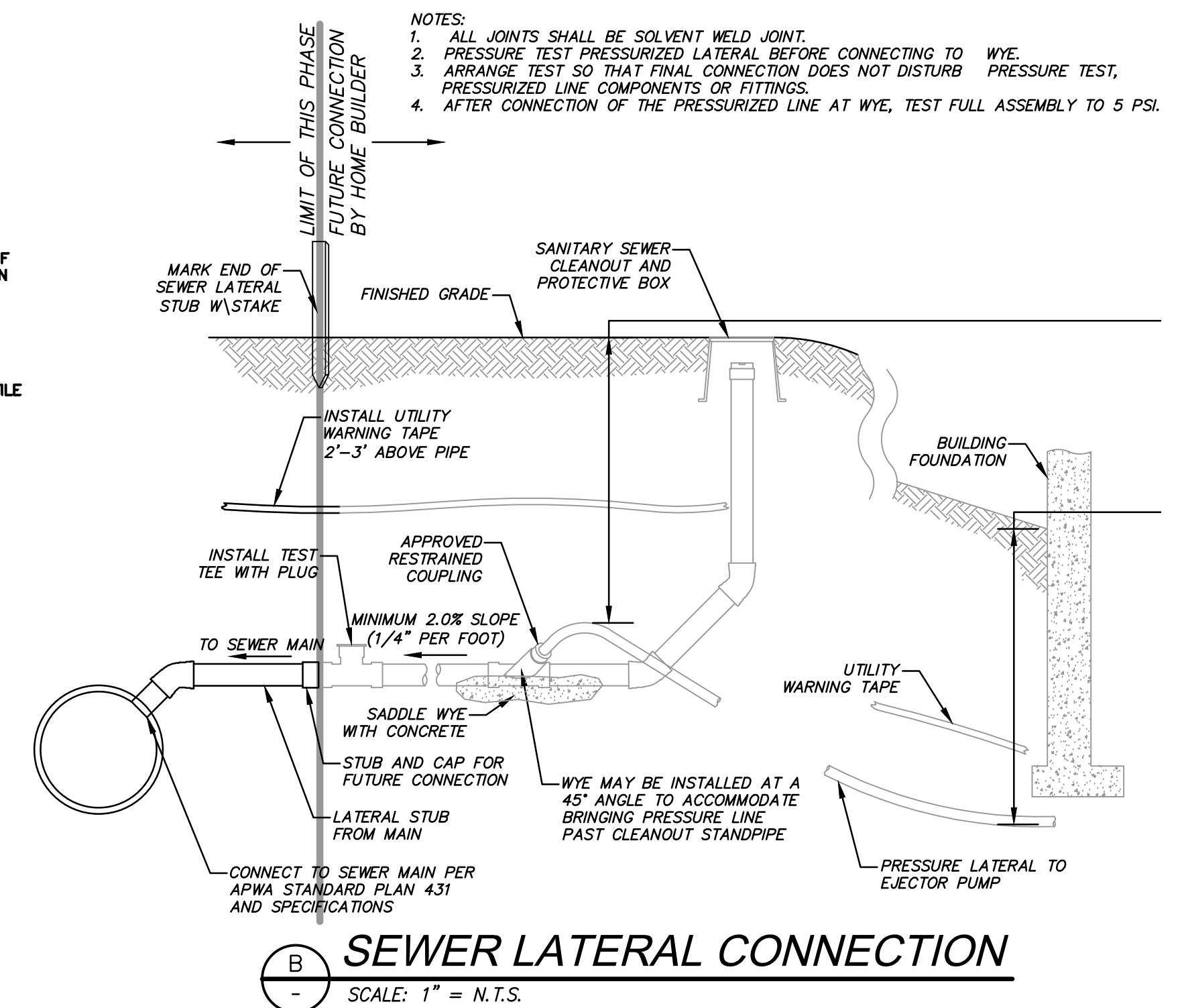


Plan 574

Air release assembly
279



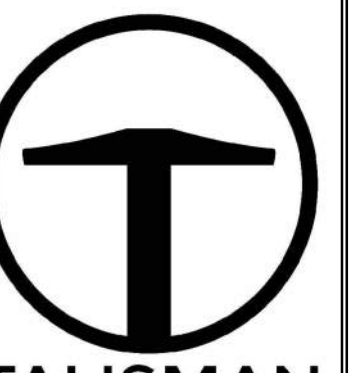
WATER LATERAL DETAIL
NO SCALE



SEWER LATERAL CONNECTION
SCALE: 1" = N.T.S.

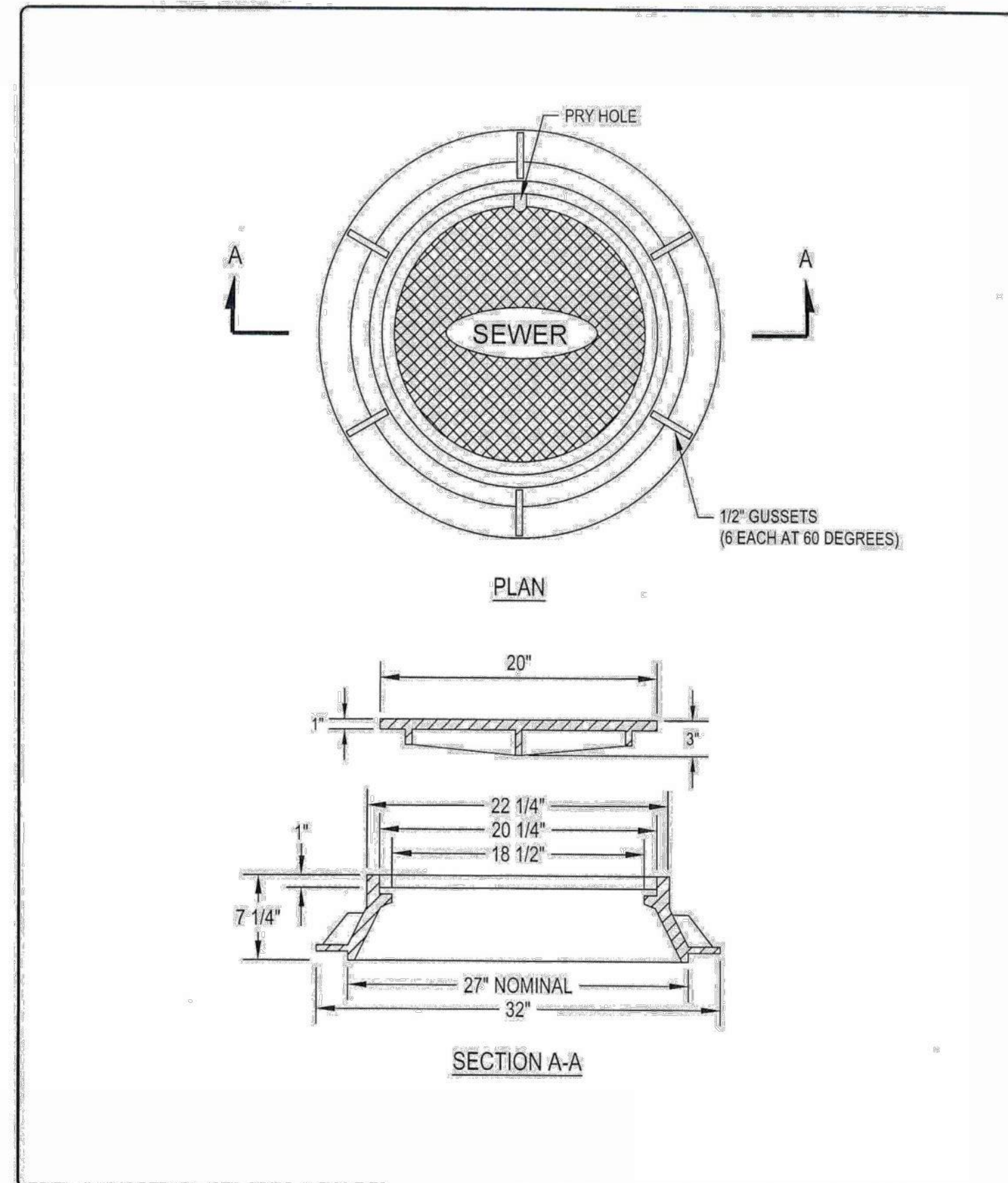
Plan 575



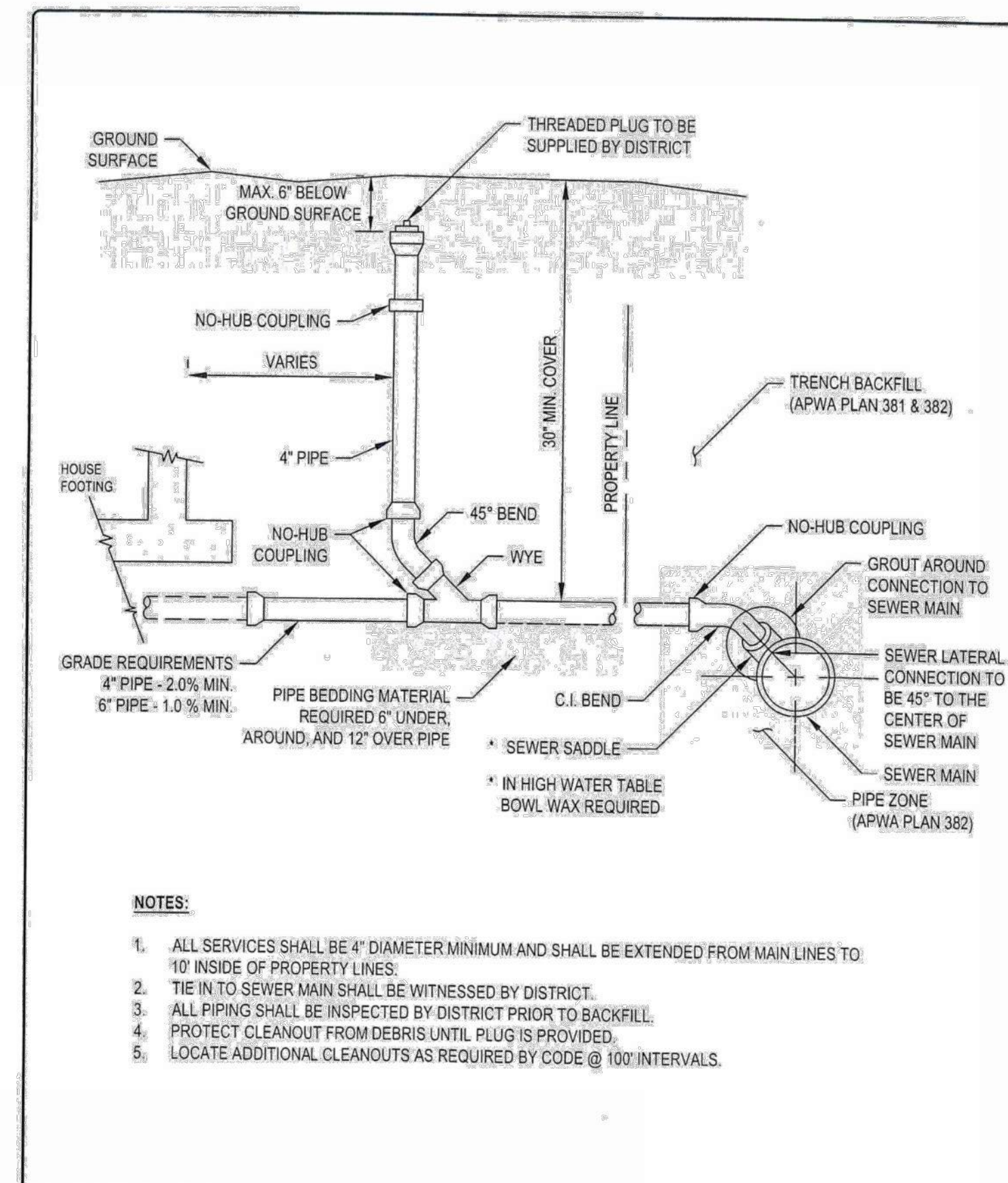


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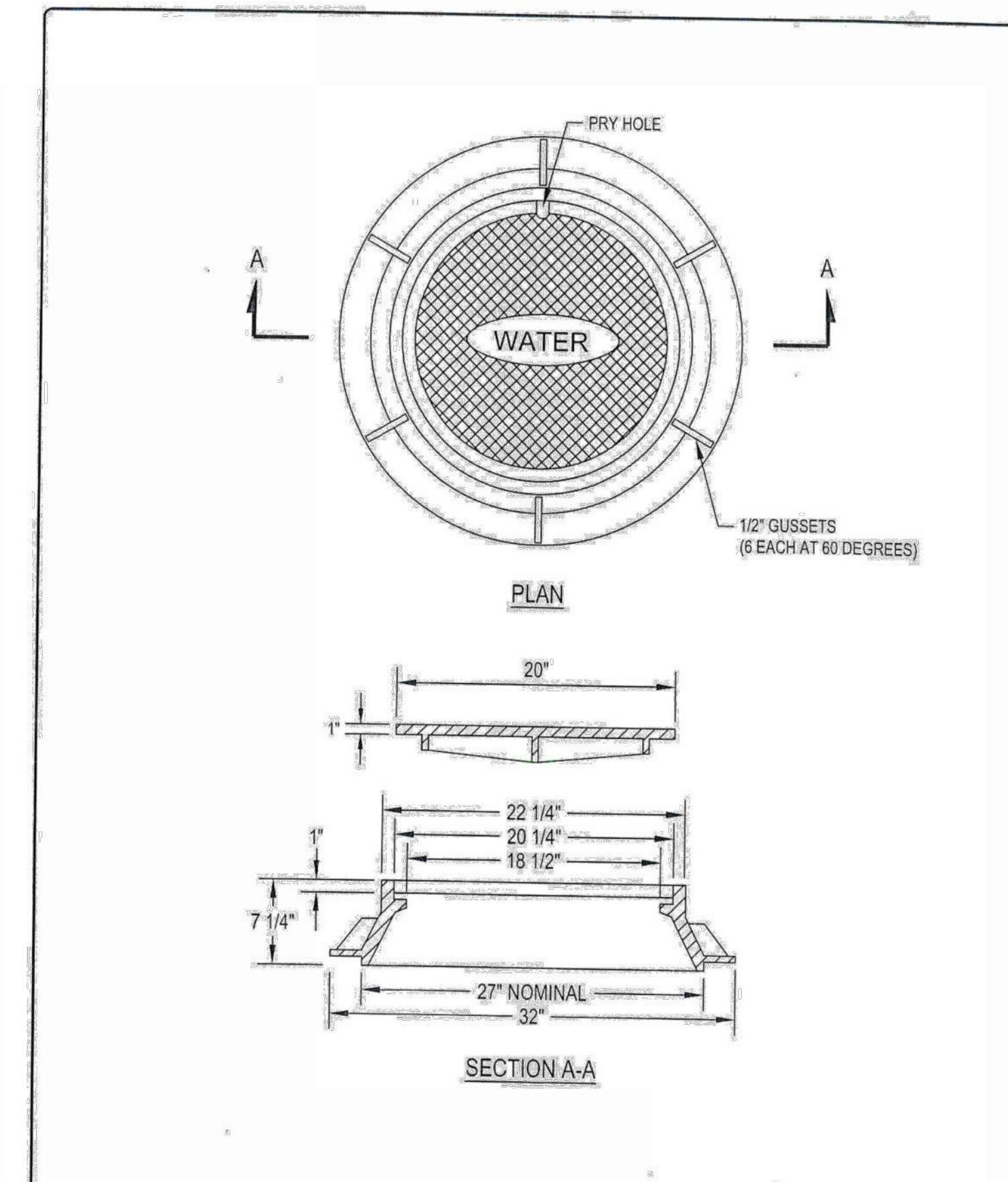
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POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT
27" FRAME AND SEWER COVER
PLAN NO. **402S**



POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT
SEWER LATERAL CONNECTION
PLAN NO. **431S**



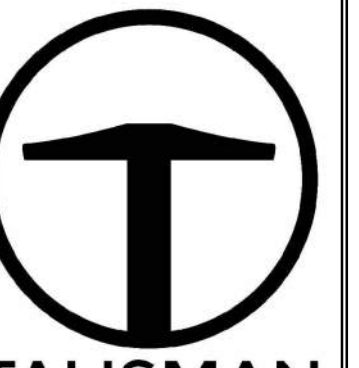
POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT
27" FRAME AND WATER COVER
PLAN NO. **502S**

BOBCAT RIDGE
DETAILS

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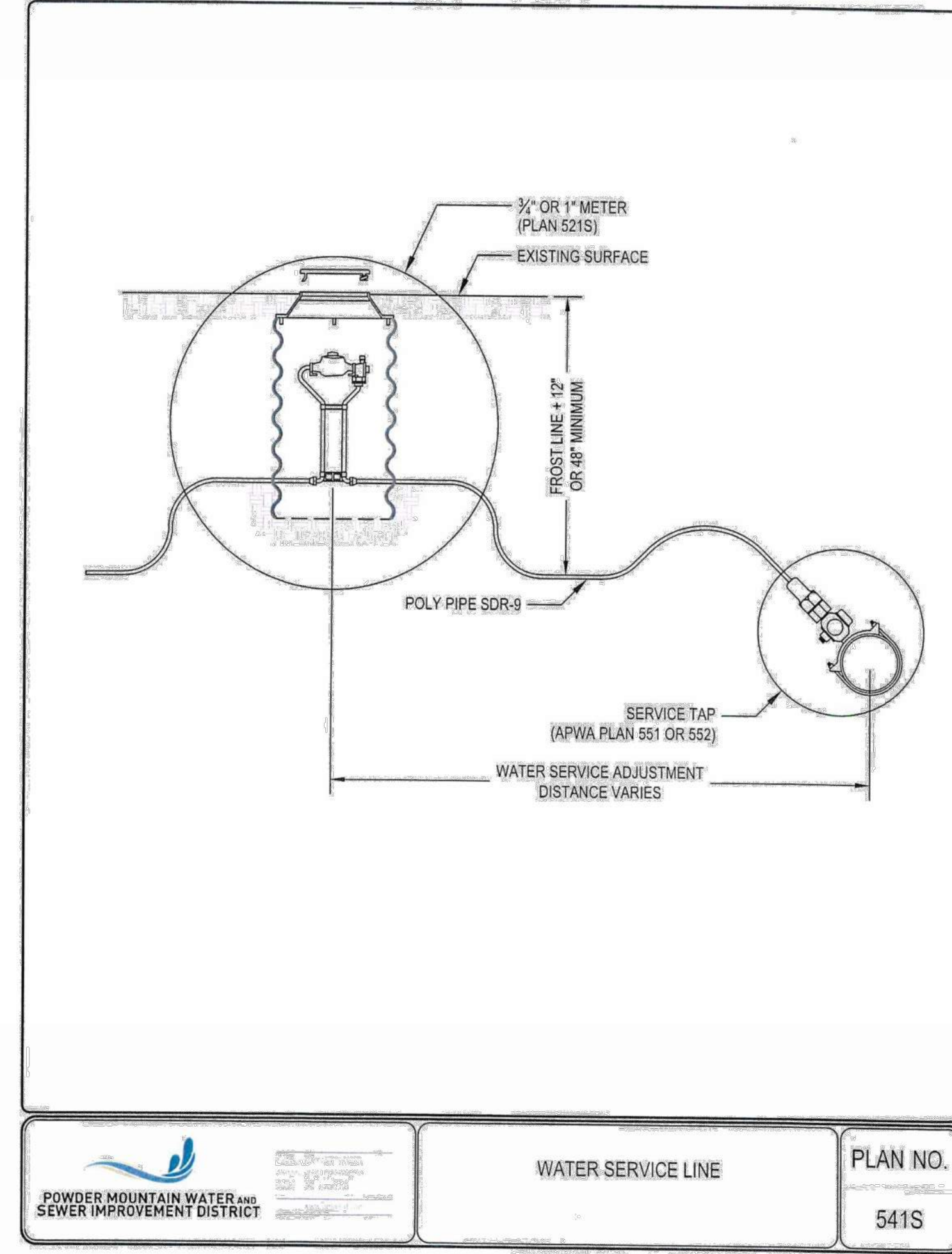
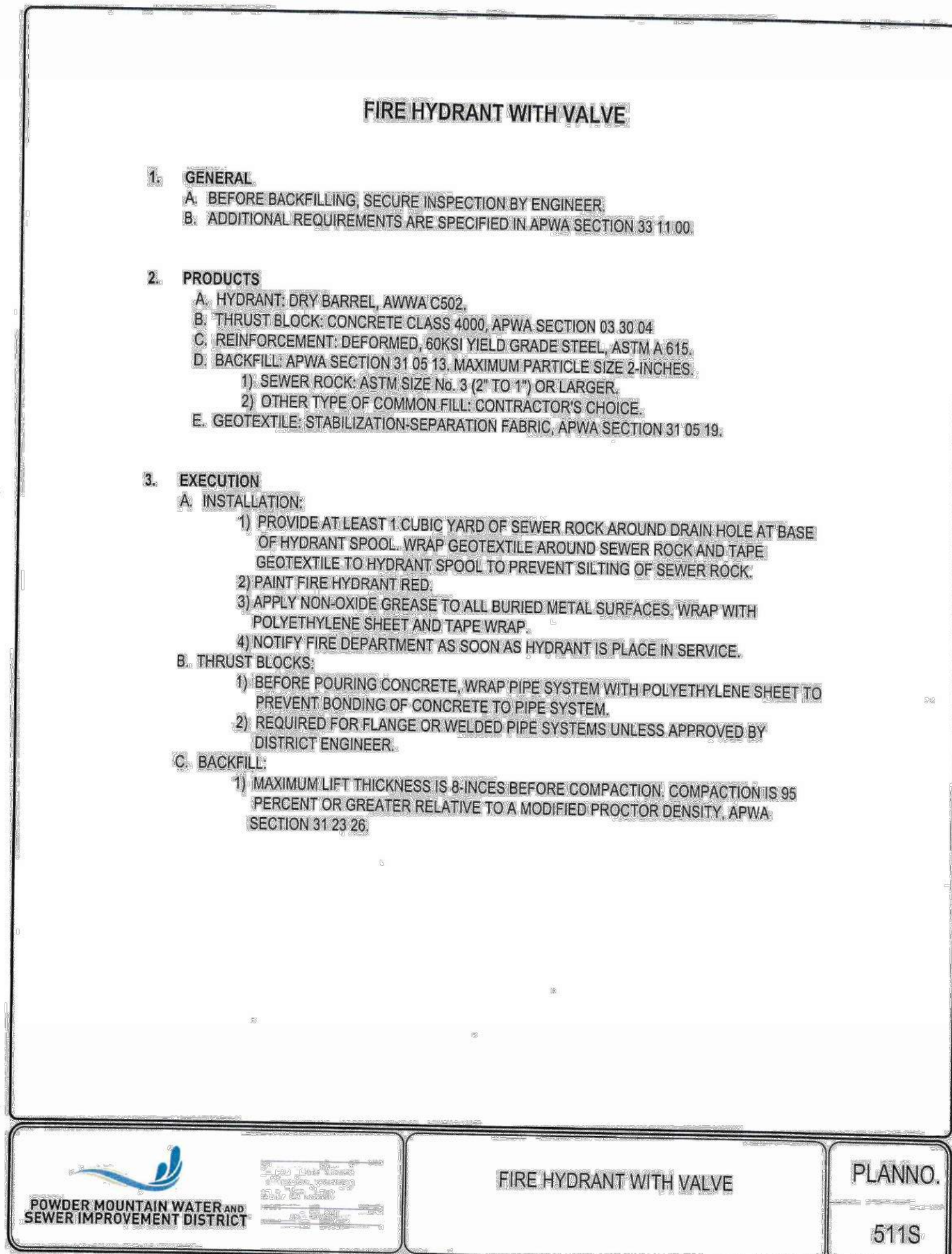
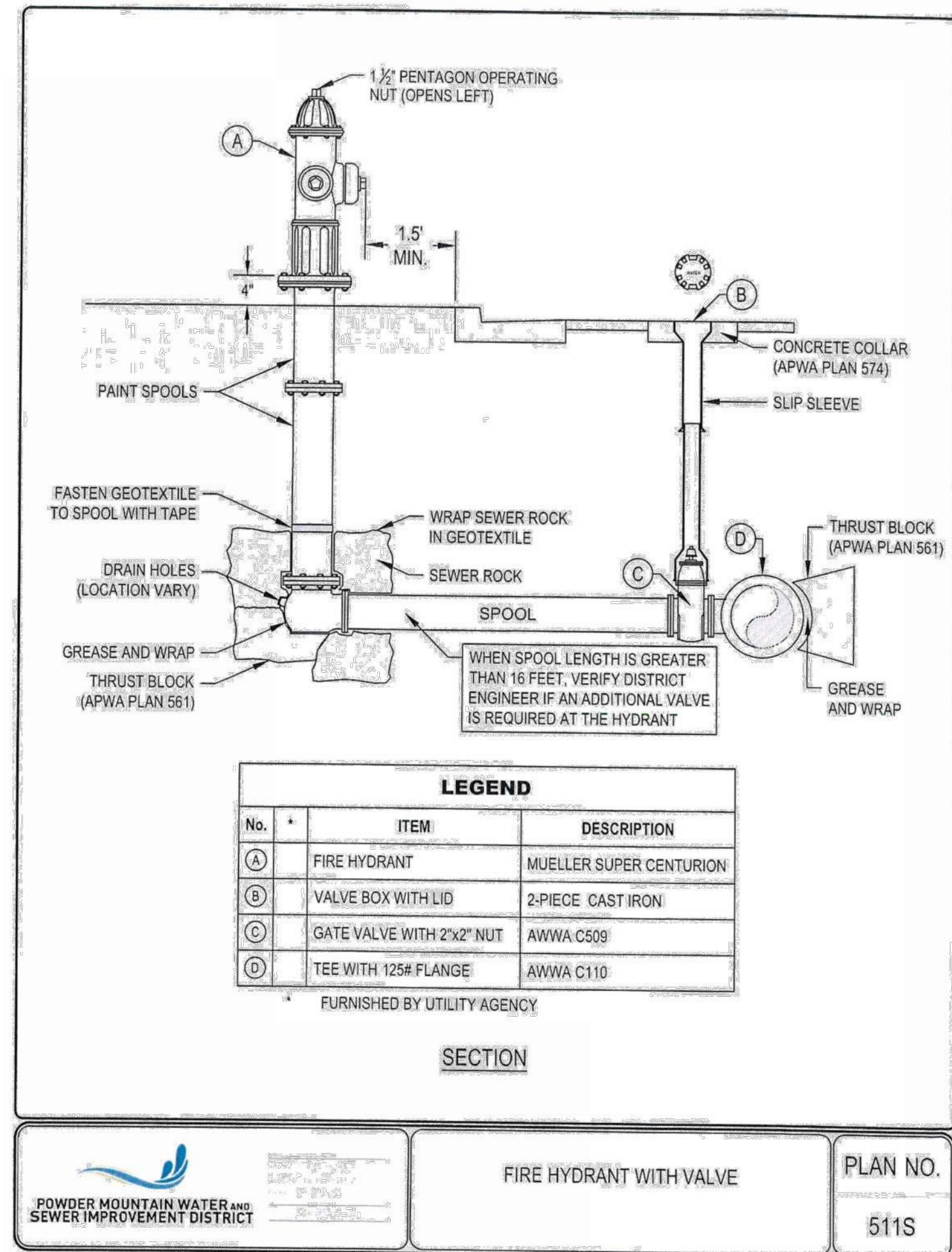
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BOBCAT RIDGE DETAILS

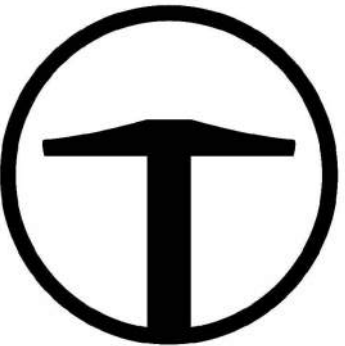
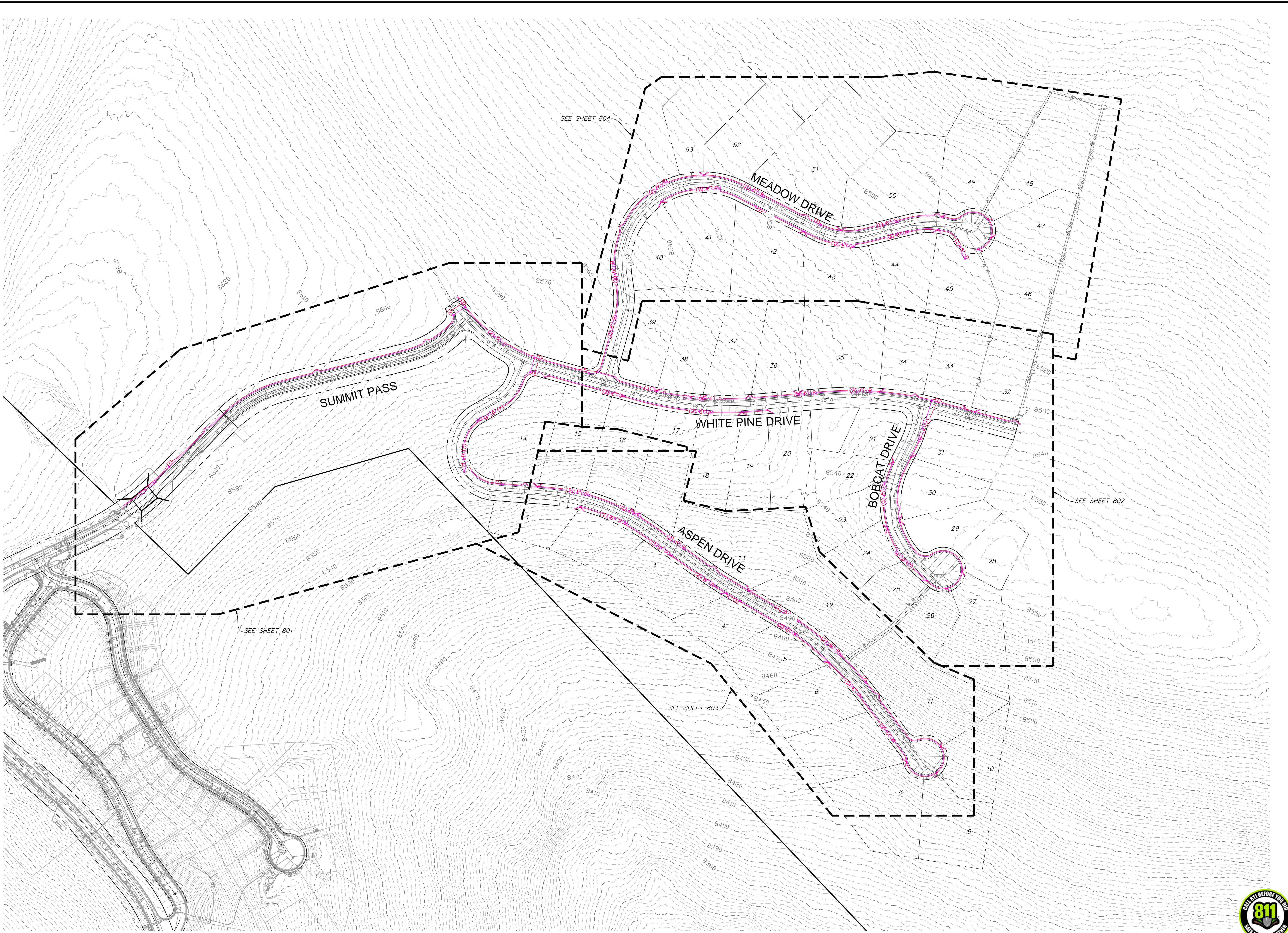
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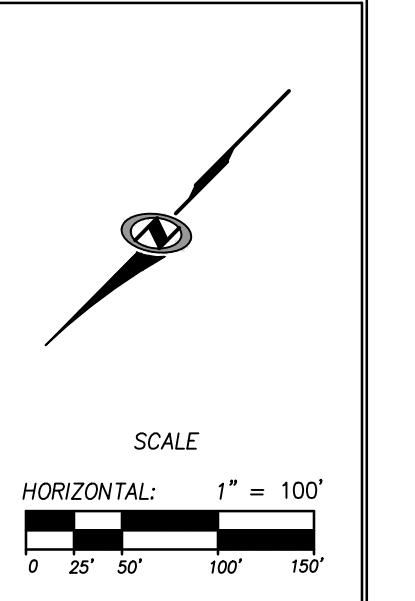
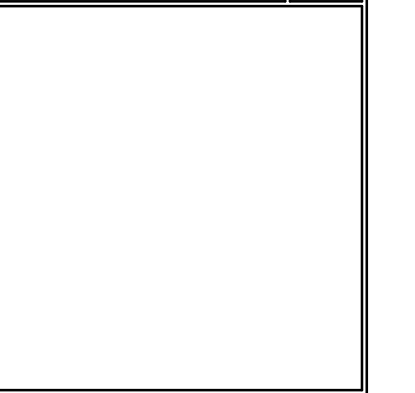
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BOBCAT RIDGE
 OVERALL DRY UTILITY PLAN

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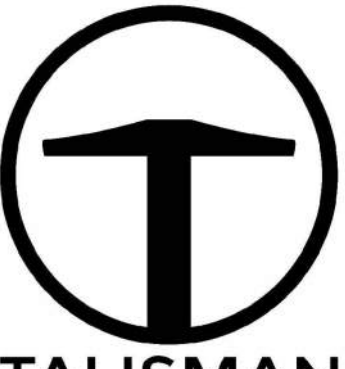
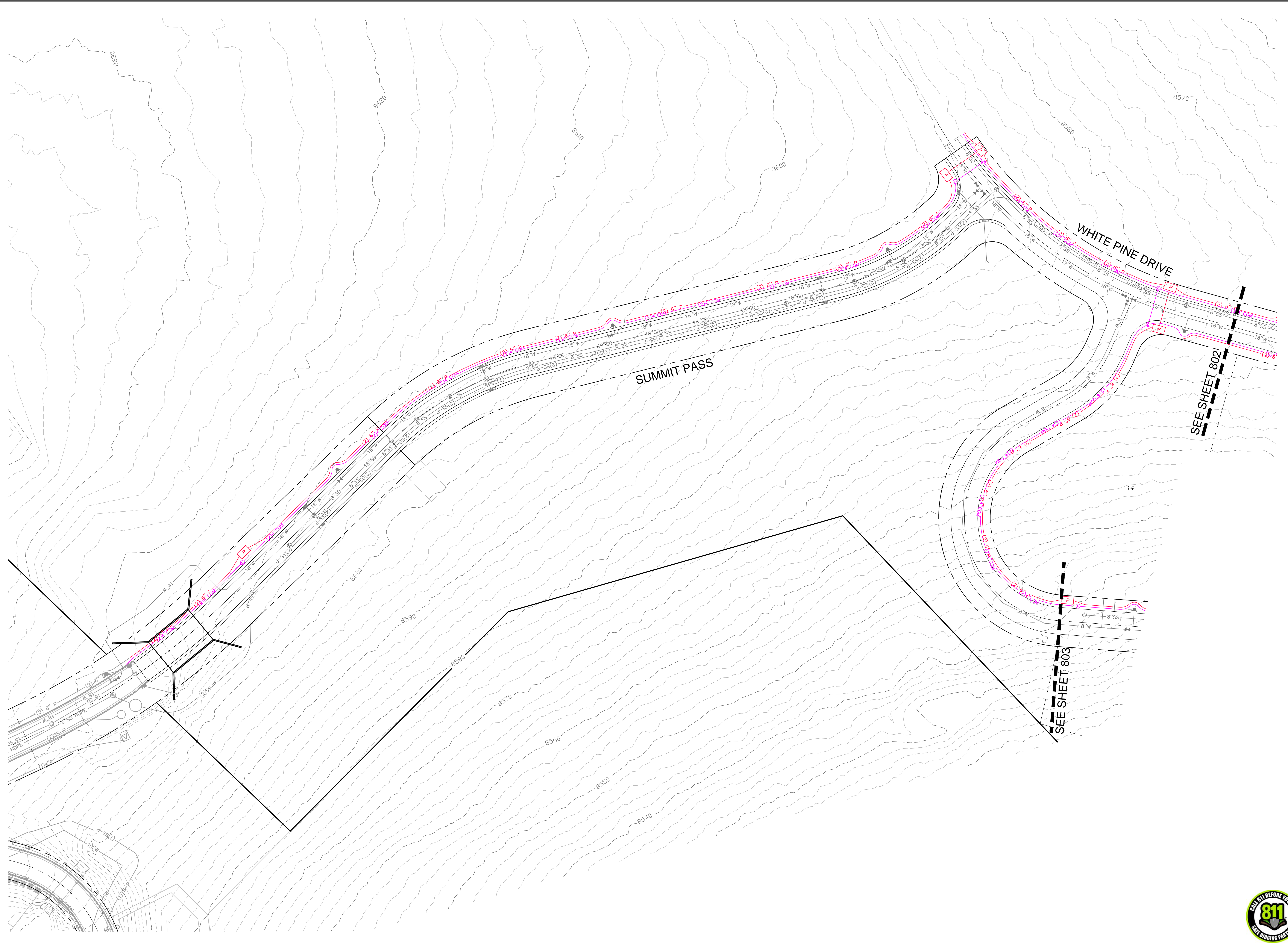


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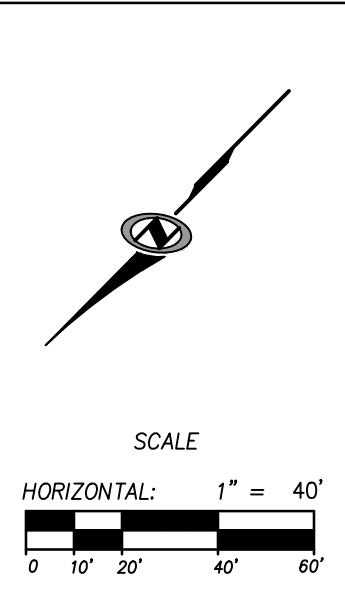


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 DRY UTILITY PLAN

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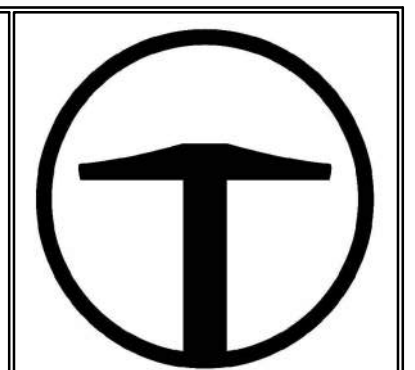
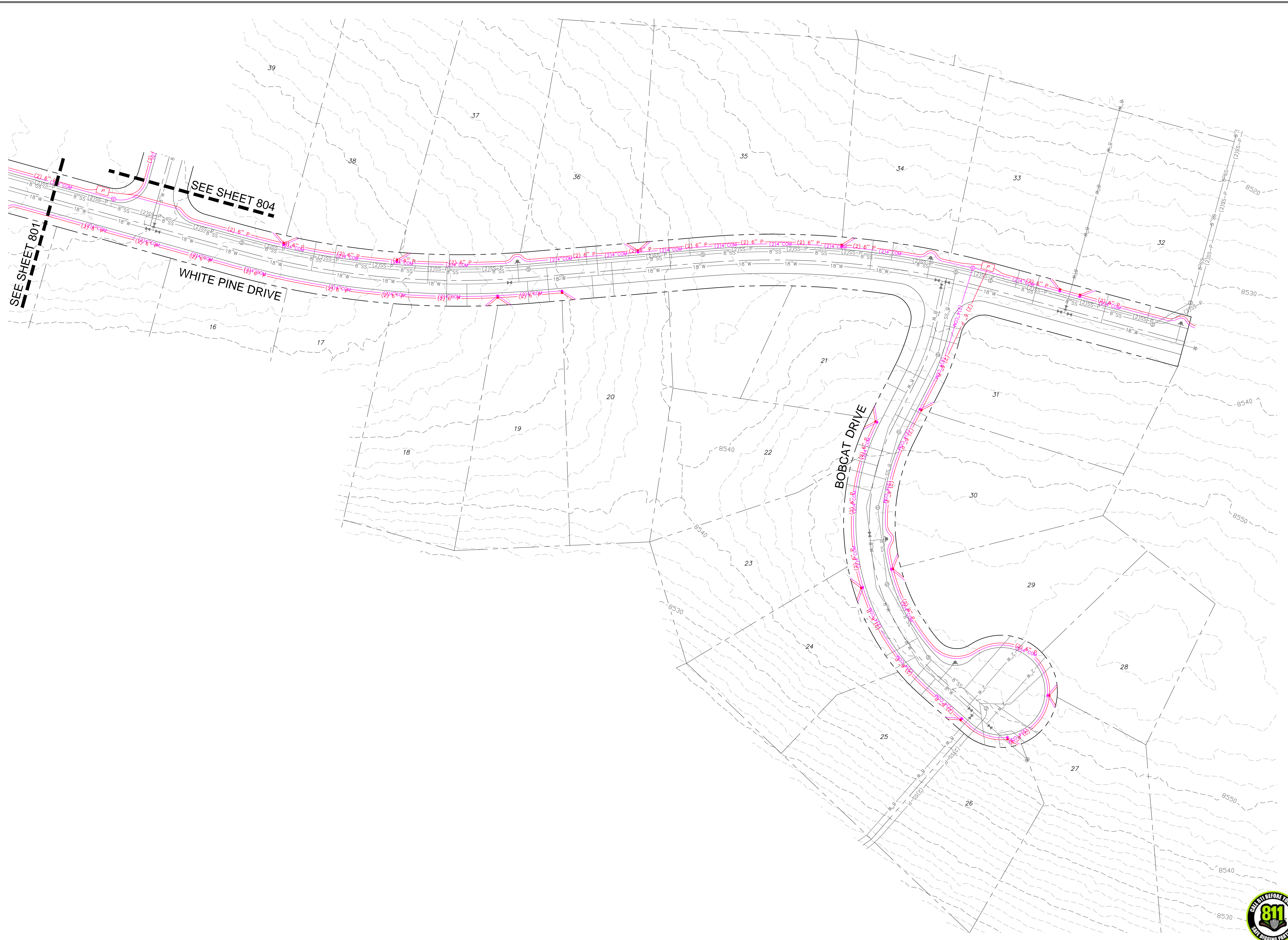


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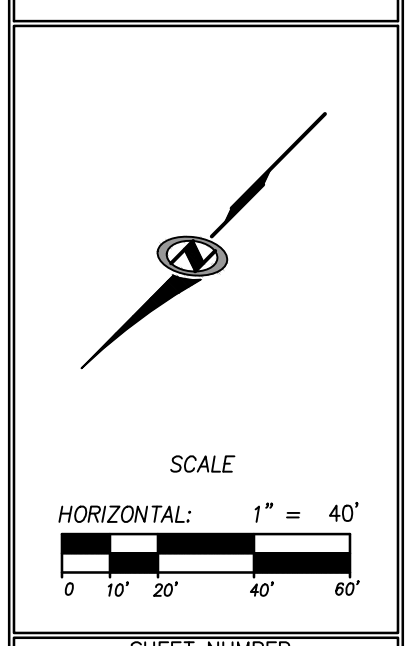
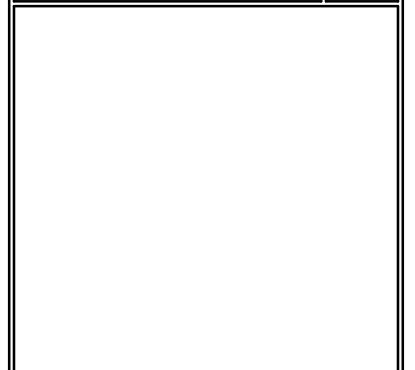
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 DRY UTILITY PLAN

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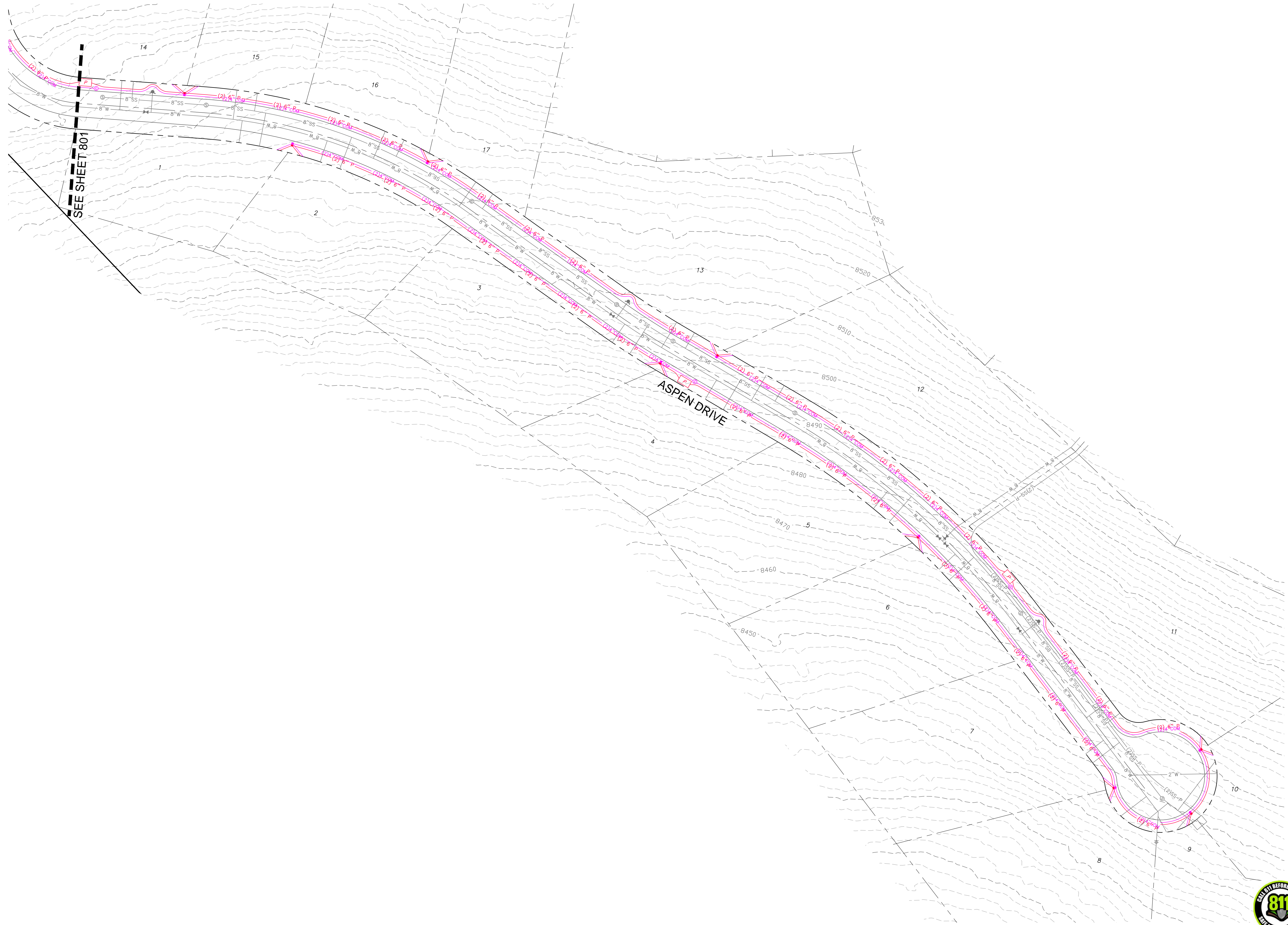


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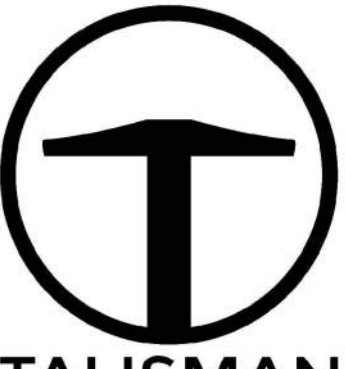


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SEE SHEET 801



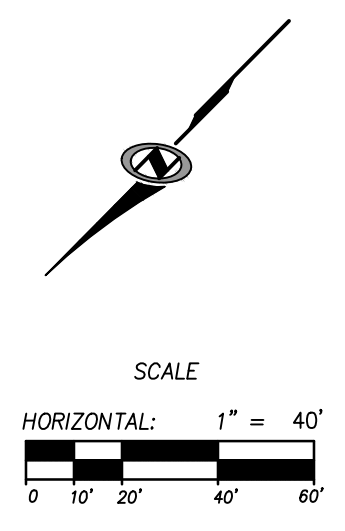
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DRY UTILITY PLAN

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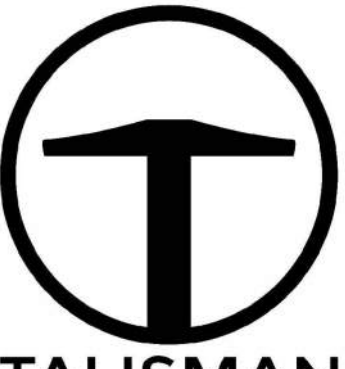
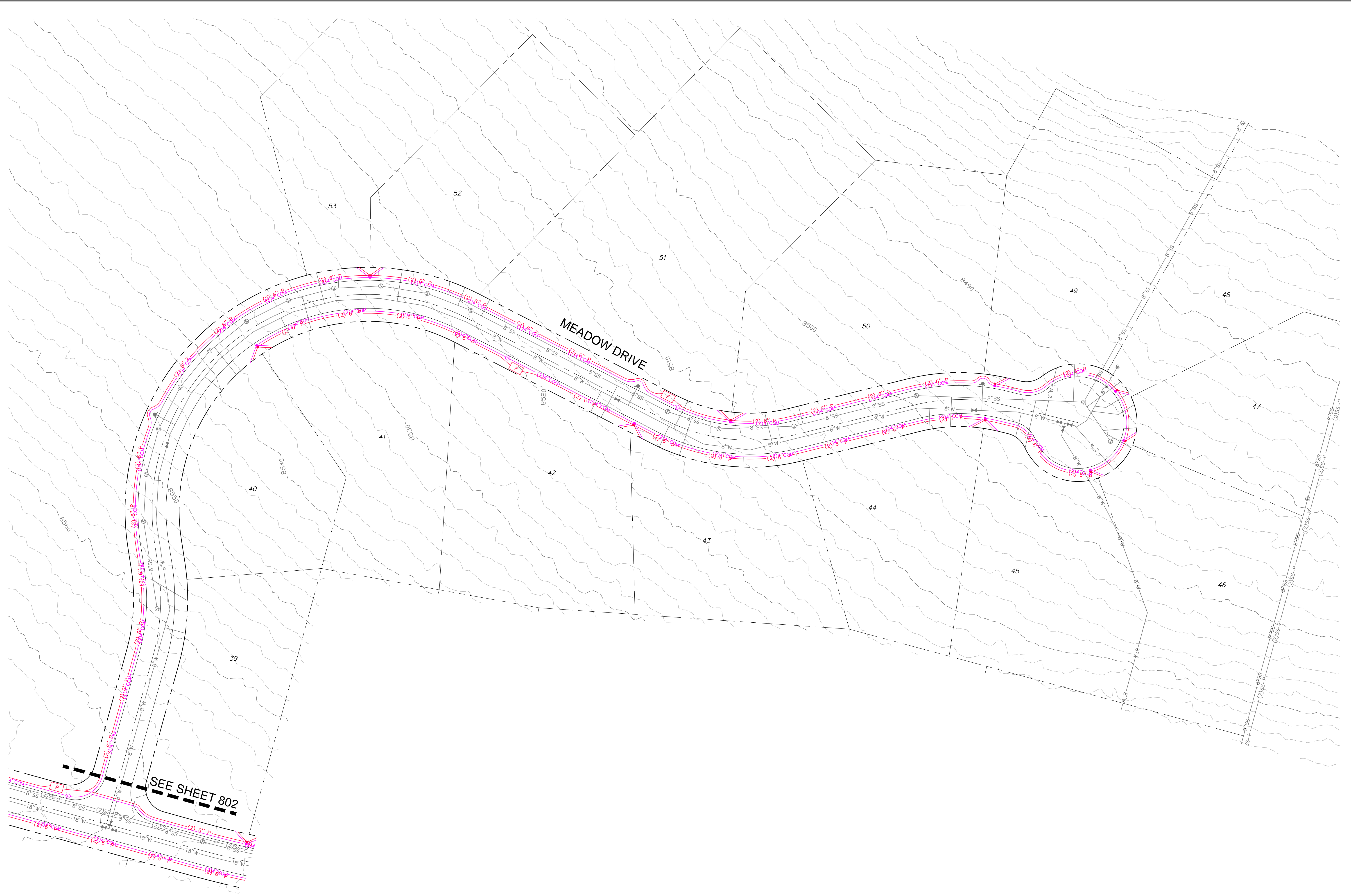
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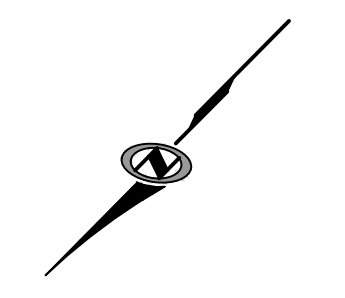
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BOBCAT RIDGE DRY UTILITY PLAN

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SCALE
 HORIZONTAL: 1" = 40'
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SHEET NUMBER
804
 OF

