# WIDEFIELD WATER AND SANITATION DISTRICT ROLLING HILLS TANK INLET PIPELINE

2019.829.2030

EL PASO COUNTY, COLORADO

### SURVEY DATA

TOPOGRAPHY SURVEY CONDUCTED BY CLARK LAND SURVEYING (DATED 01/24/20). SEE SURVEY FOR ESTABLISHED CONTROL THE FOLLOWING COORDINATE SYSTEM AND DATUM RECORD IS AS FOLLOWS:

HORIZONTAL DATUM:

VERTICAL DATUM:

EX PROPERTY LINE

EX RIGHT-OF-WAY

EX SANITARY SEWER LINE

EX WATER LINE

EX O.H. ELECTRIC EX U.G. GAS LINE

EX EASEMENT

EX GAS METER

BORE HOLE

EX UTILITY POLE

W

(G)

EX CONTOURS-MAJOR

FX CONTOURS-MINOR

EX WATER MANHOLE

OVERLAND FLOW ARROW

EX FENCE

MODIFIED COLO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM 1983. SCALE FACTOR 1.000321070

BASED ON OPUS SOLUTION RAN ON CONTROL POINT #100 (3-1/2" BRASS CAP IN CONCRETE, "EL PASO CALIBRATION BASELINE" "2003"). ELEVATION=5815.45' (NAVD1988)

- 5540 -

-UGE-

^\\\\SF/\\\\.

- BERM -

. . . . . .

~~~~~~

PP SANITARY SEWER LINE

PP CONTOURS-MAJOR

PP CONTOURS-MINOR

PP U.G. ELECTRIC LINE

PP EROSION CONTROL

PP EROSION CONTROL

PP EROSION CONTROL

PP EROSION CONTROL

PP WATER LINE FITTING

PP HYDRANT ASSEMBLY

(ISOLATION VALVE INCLUDED

PP WATER VALVE

PP TEMP. CONSTRUCTION

ALIGNMENT

PP WATER LINE

PP EASEMENT

EASEMENT

SILT FENCE

BALES

EARTHEN BERM

UTILITIES SHOWN WITHIN THE SURVEY HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, EXISTING DRAWINGS AND/OR UTILITY LOCATE MARKINGS. THE SURVEYOR NOR ENGINEER MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR AND ENGINEER FURTHER DO NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.

LEGEND



# FOR CONSTRUCTION



VICINITY MAP

# PRE-EXCAVATION CHECKLIST

- Gas and Other Utility Lines Shown on Construction
- Utility Notification Center of Colorado (UNCC)-Call at Least Two (2) Business Days Ahead-1-800-922-1987
- Utilities Located & Marked on the Ground
- Employees Trained on Excavation and Safety Procedures for Natural Gas Lines
- When Excavation Approaches Gas Lines, Employees must Expose Lines by Careful Probing and Hand-

# COLOR CODE FOR MARKING UNDERGROUND UTILITY LINES

WHITE MAGENTA TEMPORARY SURVE RED ELECTRIC

YELLOW GAS, DIL STEAM ORANGE COMMUNICATION BLUE POTABLE WATER

PURPLE PROGRATION, RECLAIMED WATER, SAURRY LINES GREEN SEWER

UNCC 3 Days Before You Dig: Call: 1-800-922-1987 Click: www.UNCC.org

# **PARTICIPANTS**

WIDEFIELD WATER AND SANITATION DISTRICT 8495 FONTAINE BLVD COLORADO SPRINGS, CO 80925 CONTACT: ROBERT BANNISTER, PE PHONE: (719) 955-6118

CONSULTING/DESIGN ENGINEER
JDS-HYDRO CONSULTANTS, INC.
5540 TECH CENTER DR, STE 100 COLORADO SPRINGS, CO 80903 CONTACT: GWEN DALL, PE PHONE: (719) 227-0072

# SIGNATURE BLOCKS

#### EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL, AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

#### **ACCEPTED for FILE Engineering Review**

JENNIFFR F IRVINE PF COUNTY ENGINEER / ECM ADMINISTRATOR 05/26/2021 9:24:00 AM

DISTRICT APPROVALS
THE WIDEFIELD WATER AND SANITATION DISTRICT RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN. THE WIDEFIELD WATER AND SANITATION DISTRICT HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

2019-829-2030 CIP NO.

IN CASE OF ERRORS OR OMISSIONS WITH THE WATER DESIGN AS SHOWN ON THIS DOCUMENT, THE STANDARDS AS DEFINED IN THE "RULES AND REGULATIONS FOR INSTALLATION OF WATER MAINS AND SERVICES" SHALL RULE. APPROVAL EXPIRES 180 DAYS FROM DESIGN APPROVAL.

#### **ENGINEER'S STATEMENT:**

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE APPLICABLE GOVERNING AGENCIES.

0051810

102.121 PROJECT NO.



- 2. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE WIDEFIELD WATER AND SANITATION DISTRICT. THE WIDEFIELD WATER AND SANITATION DISTRICT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS. WIDEFIELD WATER AND SANITATION DISTRICT CONSTRUCTION SPECIFICATIONS MAY BE OBTAINED FROM THEIR WEBSITE: www.wwsdonline.com
- 3. ALL CARBON STEEL AND DUCTILE IRON PIPE, TO INCLUDE FITTINGS, VALVES AND FIRE HYDRANTS WILL BE WRAPPED WITH POLYETHEYLENE TUBING, BONDED AT EACH JOINT AND ELECTRICALLY ISOLATED.
- 4. ALL CARBON STEEL AND DUCTILE IRON PIPE AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING NO. 6 WIRE WITH 17 LB. MAGNESIUM ANODES EVERY 400 FEET AND 1 LB. MAGNESIUM ANODES AT EVERY FITTING.
- 5. PVC MAIN LINES SHALL BE INSTALLED WITH COATED NO. 12 TRACER WIRE.
- 6. THE CONTRACTOR IS REQUIRED TO NOTIFY THE WIDEFIELD WATER AND SANITATION DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY WWSD A WEEK IN ADVANCE OF ANY REQUIRED BASIN OR UTILITY SHUTDOWNS.
- 7. THE LOCATION OF ALL UTILITIES AS SHOWN ON THESE DRAWINGS ARE APPROXIMATE ONLY. THE LOCATION OF ALL UTILITIES SHALL BE VERIFIED PRIOR TO CONSTRUCTION BY THE CONTRACTOR.
- 8. THE CONTRACTOR SHALL FIELD EXCAVATE AND VERIFY THE VERTICAL AND HORIZONTAL LOCATION OF ALL TIE-INS. CONTRACTOR SHALL NOTIFY THE WIDEFIELD WATER AND SANITATION DISTRICT AND THE ENGINEER OF THE FIELD VERIFIED INFORMATION PRIOR TO CONSTRUCTION.
- 9. ALL BENDS SHALL BE FIELD STAKED PRIOR TO CONSTRUCTION.
- 10. ANY WATER UTILITY MATERIAL REMOVED AND NOT REUSED SHALL BE RETURNED TO THE WIDEFIELD WATER AND SANITATION DISTRICT IF THE DISTRICT SO REQUESTS.
- 11. THE CONTRACTOR SHALL AT HIS EXPENSE SUPPORT AND PROTECT ALL UTILITY MAINS SO THAT THEY WILL FUNCTION CONTINUOUSLY DURING CONSTRUCTION. SHOULD A UTILITY MAIN FAIL AS A RESULT OF THE CONTRACTOR'S OPERATION, IT WILL BE REPLACED IMMEDIATELY BY EITHER THE CONTRACTOR OR THE WIDEFIELD WATER AND SANITATION DISTRICT AT FULL COST OF LABOR AND MATERIALS TO THE CONTRACTOR.
- 12. CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING EFFORTS. ANY PUMPING OR BYPASS OPERATIONS MUST BE REVIEWED AND APPROVED PRIOR TO EXECUTION BY BOTH THE WIDEFIELD WATER AND SANITATION DISTRICT AND THE ENGINEER.
- 13. CONTRACTOR MUST REPLACE OR REPAIR ANY DAMAGE TO ALL SURFACE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, CURB AND GUTTER AND/OR ASPHALT THAT MAY BE CAUSED DURING CONSTRUCTION.
- 14. ALL SITE UTILITIES AND IMPROVEMENTS SHALL HAVE AS "AS-BUILT" PLANS PREPARED AND APPROVED PRIOR TO FINAL ACCEPTANCE BY THE WIDEFIELD WATER AND SANITATION DISTRICT.
- 15. PRIOR TO CONSTRUCTION, A <u>PRE-CONSTRUCTION CONFERENCE IS REQUIRED</u> A MINIMUM OF 72 HOURS IN ADVANCE OF COMMENCEMENT OF WORK.
- 16. EL PASO COUNTY STORMWATER AND/OR EROSION CONTROL PERMITS, CDPHE STORMWATER CONSTRUCTION ACTIVITY AND DEWATERING PERMITS, AND CITY OF COLORADO SPRINGS WORK IN THE R.O.W. PERMIT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PRIOR TO CONSTRUCTION.
- 17. ALL MAIN LINES (PVC AND DUCTILE IRON) SHALL BE INSTALLED WITH COATED NO. 12 TRACER WIRE WITH TEST STATIONS EVERY 500 FT. CARSONITES TO BE INSTALLED TO INDICATE TRACER STATION LOCATIONS.
- 18. AERIAL BASEMAP IMAGERY, IF DEPICTED HEREIN, IS NOT TO SCALE AND IS SHOWN FOR CONCEPTUAL REFERENCE ONLY.
- 19. SEE WIDEFIELD WATER AND WASTEWATER SYSTEM STANDARD SPECIFICATIONS FOR ALL GENERAL AND DESIGN STANDARDS/CIVIL DRAWINGS DETAILS.
- 20. WATER MAIN INSTALLATION:

  THE UNIT PRICE SHALL INCLUDE ALL PIPE, PIPE INSTALLATION, TRENCHING, STABILIZATION, AND BEDDING AS SHOWN ON THE TYPICAL DETAIL, DEWATERING, BACKFILL, TRACER WIRE, COMPACTION, CLEAN—UP, REVEGETATION, FLUSHING, TESTING, GRADING AND ALL WORK INCIDENTAL THERTO TO COMPLETE THE WORK AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN

- 21. CONTRACTOR IS TO COORDINATE WITH THE RANCHER WHO RUNS CATTLE ON THE PROPERTY TO ENSURE NO CATTLE ARE HARMED DURING CONSTRUCTION.
- 22. NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL AFTER COMPLETION OF ALL PRESSURE TESTING, DISINFECTION, AND COMPACTION TESTING.

#### 23. SUBSURFACE UTILITY ENGINEERING

- 23.1. UTILITIES ARE DEPICTED ON THESE PLANS IN ACCORDANCE WITH THEIR ACHIEVED
  "QUALITY LEVELS" AS DEFINED IN THE AMERICAN SOCIETY OF CIVIL ENGINEER'S
  DOCUMENT ASCE 38, "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF
  EXISTING SUBSURFACE UTILITY DATA."
- 23.2. RELIANCE UPON THESE DATA FOR RISK MANAGEMENT PURPOSES DURING BIDDING DOES NOT RELIEVE THE EXCAVATOR OR UTILITY OWNER FROM FOLLOWING ALL APPLICABLE UTILITY DAMAGE PREVENTION STATUTES, POLICIES, AND/OR PROCEDURES DURING EXCAVATION. IT IS IMPORTANT THAT THE CONTRACTOR INVESTIGATES AND UNDERSTANDS THE SCOPE OF WORK BETWEEN THE PROJECT OWNER AND THEIR ENGINEER REGARDING THE SCOPE AND LIMITS OF THE UTILITY INVESTIGATIONS LEADING TO THESE UTILITY DEPICTIONS.

#### 24. DISINFECTION OF FACILITIES

- 24.1. THE CONTRACTOR SHALL DISINFECT ALL DOMESTIC WATER LINES ACCORDING TO AWWA C651-14 AND TANK ACCORDING TO AWWA C652-11.
- 24.2. THE CONTRACTOR SHALL COLLECT SAMPLES FROM THE PIPELINE AND TANK AFTER FINAL FLUSHING AND PRIOR TO PLACING FACILITIES IN SERVICE AND TEST FOR COLIFORM ORGANISMS. THE NUMBER AND FREQUENCY OF SAMPLES SHALL CONFORM WITH THE REQUIREMENTS OF THE PUBLIC HEALTH AGENCY HAVING JURISDICTION.
- 24.3. REPEAT DISINFECTION UNTIL SATISFACTORY SAMPLES HAVE BEEN OBTAINED IF INITIAL OR SUBSEQUENT DISINFECTION FAILS TO PRODUCE SATISFACTORY SAMPLES

# SHEET INDEX

|   | SHEET<br>NUMBER      | DESCRIPTION                                      |
|---|----------------------|--------------------------------------------------|
| l | OENEDAL              | COVER SHEET                                      |
| l | <u>GENERAL</u><br>G1 | GENERAL NOTES                                    |
|   | <u>CIVIL</u><br>C1   | OVERALL SITE PLAN                                |
| l | C2                   | PIPELINE PLAN & PROFILE<br>STA 0+00 TO 6+50      |
| l | C3                   | PIPELINE PLAN & PROFILE<br>STA 6+50 TO 12+50     |
| l | C4                   | PIPELINE PLAN & PROFILE<br>STA 12+50 TO 18+50    |
| l | C5                   | PIPELINE PLAN & PROFILE<br>STA 18+50 TO 23+50    |
| l | C6                   | PIPELINE PLAN & PROFILE<br>STA 23+50 TO 29+50    |
| l | C7                   | PIPELINE PLAN & PROFILE<br>STA 29+50 TO 35+50    |
| l | C8                   | PIPELINE PLAN & PROFILE<br>STA 35+50 TO 41+50    |
| l | C9                   | PIPELINE PLAN & PROFILE<br>STA 41+50 TO 46+50    |
| l | C10                  | PIPELINE PLAN & PROFILE<br>STA 46+50 TO 48+79.29 |
| ı | C11                  | PIPELINE CIVIL DETAILS                           |
| ı | C12                  | PIPELINE CIVIL DETAILS                           |
| ı | C13                  | PIPELINE EROSION CONTROL PLAN                    |
| ı | C14                  | PIPELINE EROSION CONTROL PLAN                    |
| 1 | C15                  | EROSION CONTROL DETAILS                          |
| l |                      |                                                  |
| ı |                      |                                                  |

### **ABBREVIATIONS**

| WWSD    | WIDEFIELD WATER AND SANITATION DISTRICT       |
|---------|-----------------------------------------------|
| VA PPNC | VETERANS AFFAIRS PIKES PEAK NATIONAL CEMETERY |
| RHBPS   | ROLLING HILLS BOOSTER PUMP STATION            |
| SDS     | SOUTHERN DELIVERY SYSTEM                      |
| PP      | PROPOSED                                      |
| EX      | EXISTING                                      |
| SCH     | SCHEDULE                                      |
| STA     | STATION                                       |
| FNPT    | FEMALE NATIONAL PIPE THREAD                   |
| MNPT    | MALE NATIONAL PIPE THREAD                     |
| FL      | FLANGE                                        |
| FH      | FIRE HYDRANT                                  |
| TB      | THRUST BLOCK                                  |
| MJ      | MECHANICAL JOINT                              |
| BV      | BUTTERFLY VALVE                               |
| GV      | CATE VALVE                                    |

SIDE OPERATED VALVE

ISTRICT (DS-HYDR) CONSULTANT 5540 TECH CENTER DR., SUI COLORADO SPRINGS, COLORADO (719) 227-0072

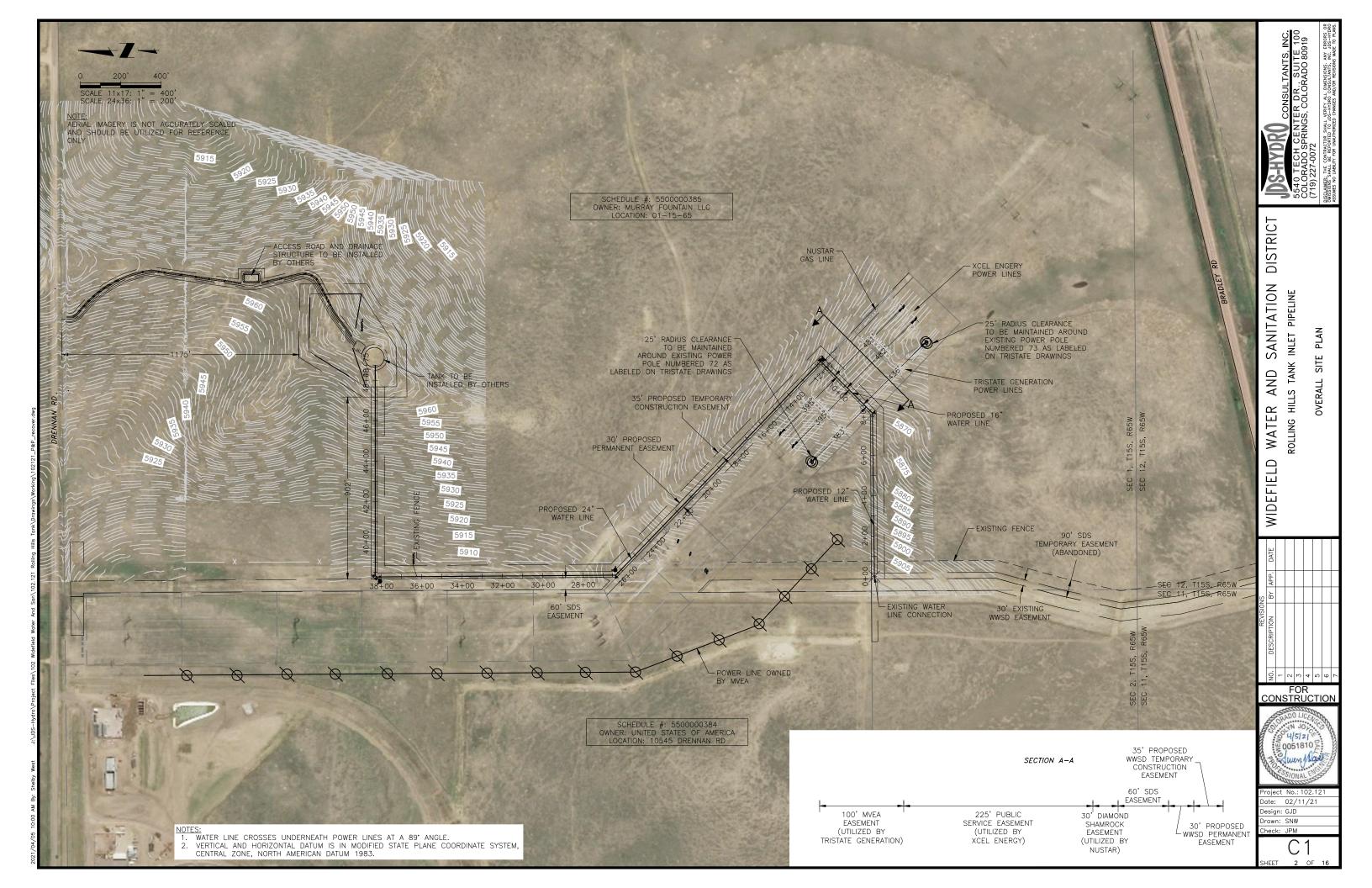
NOTES

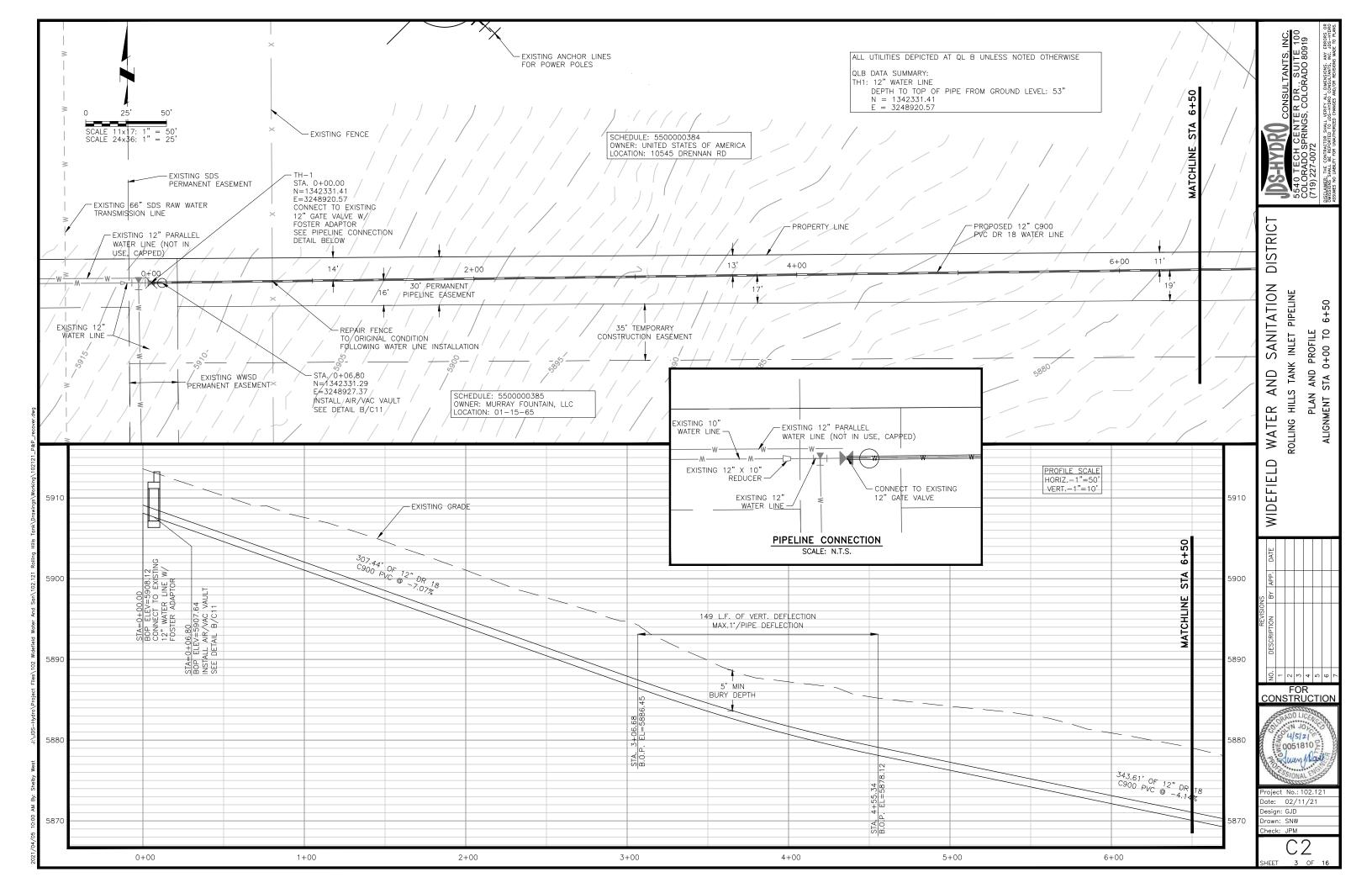


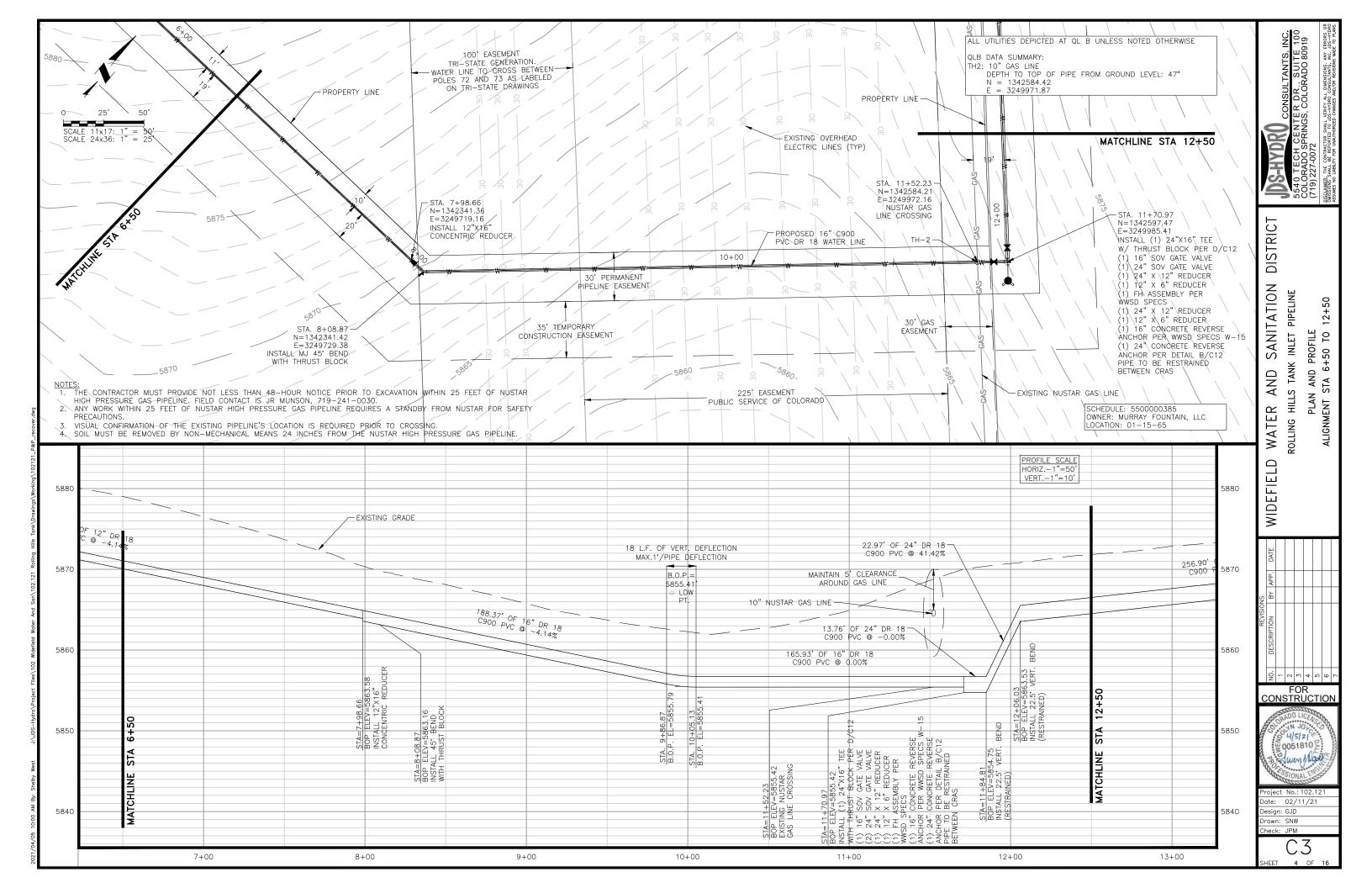
Project No.: 102.12°
Date: 02/11/21
Design: GJD
Drawn: SNW

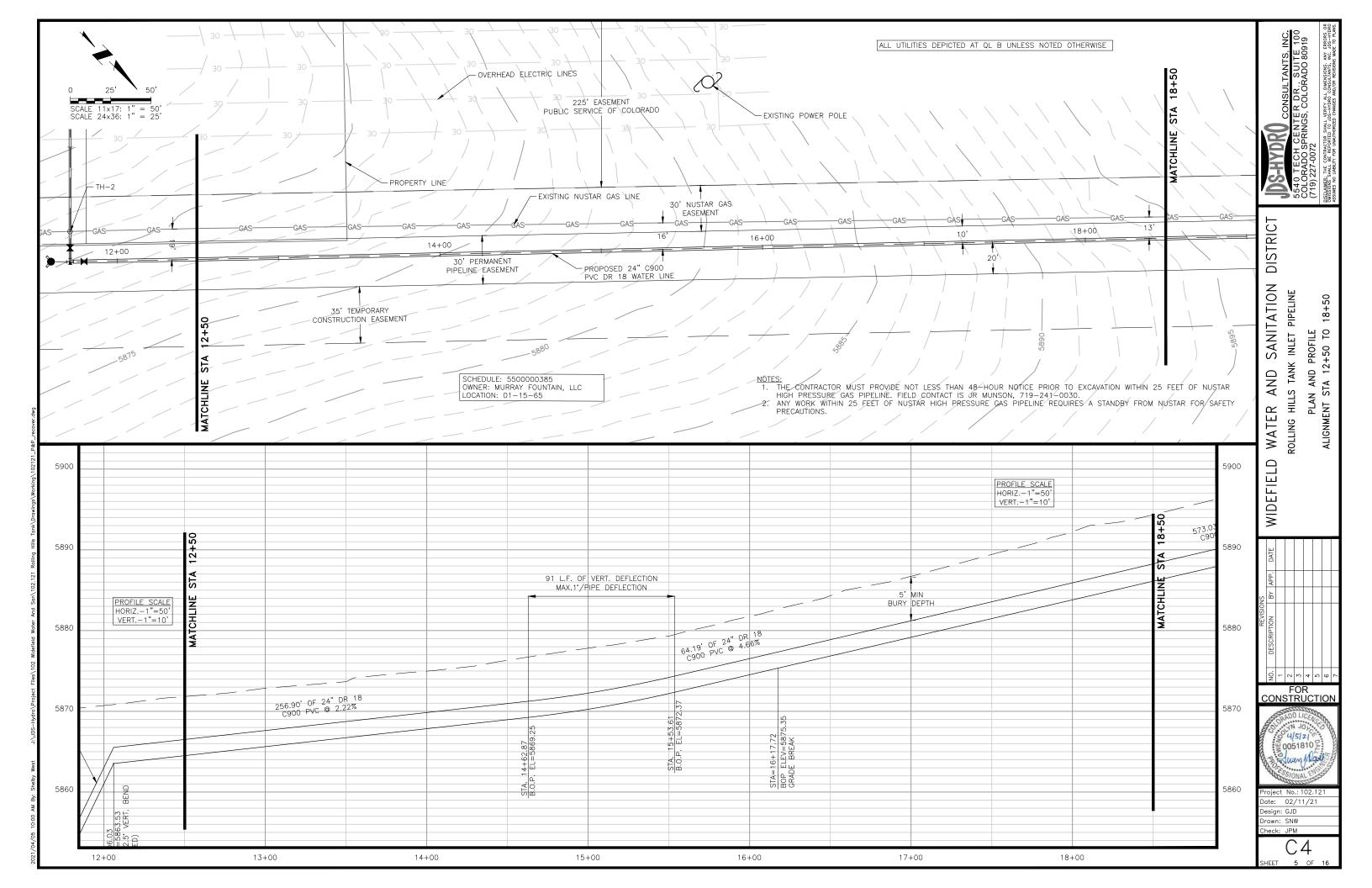
G1 SHEET 1 OF

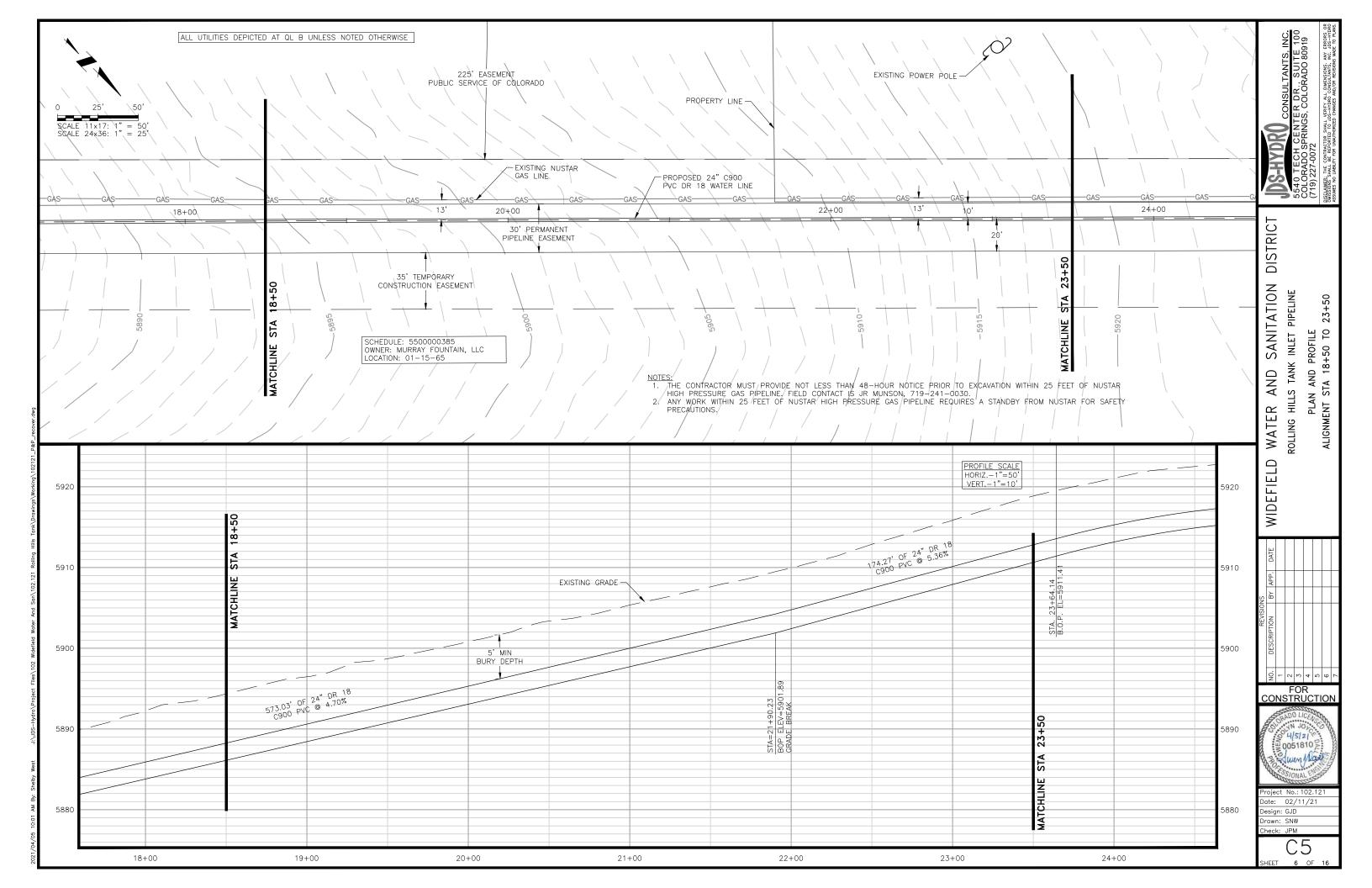
eck: JPM

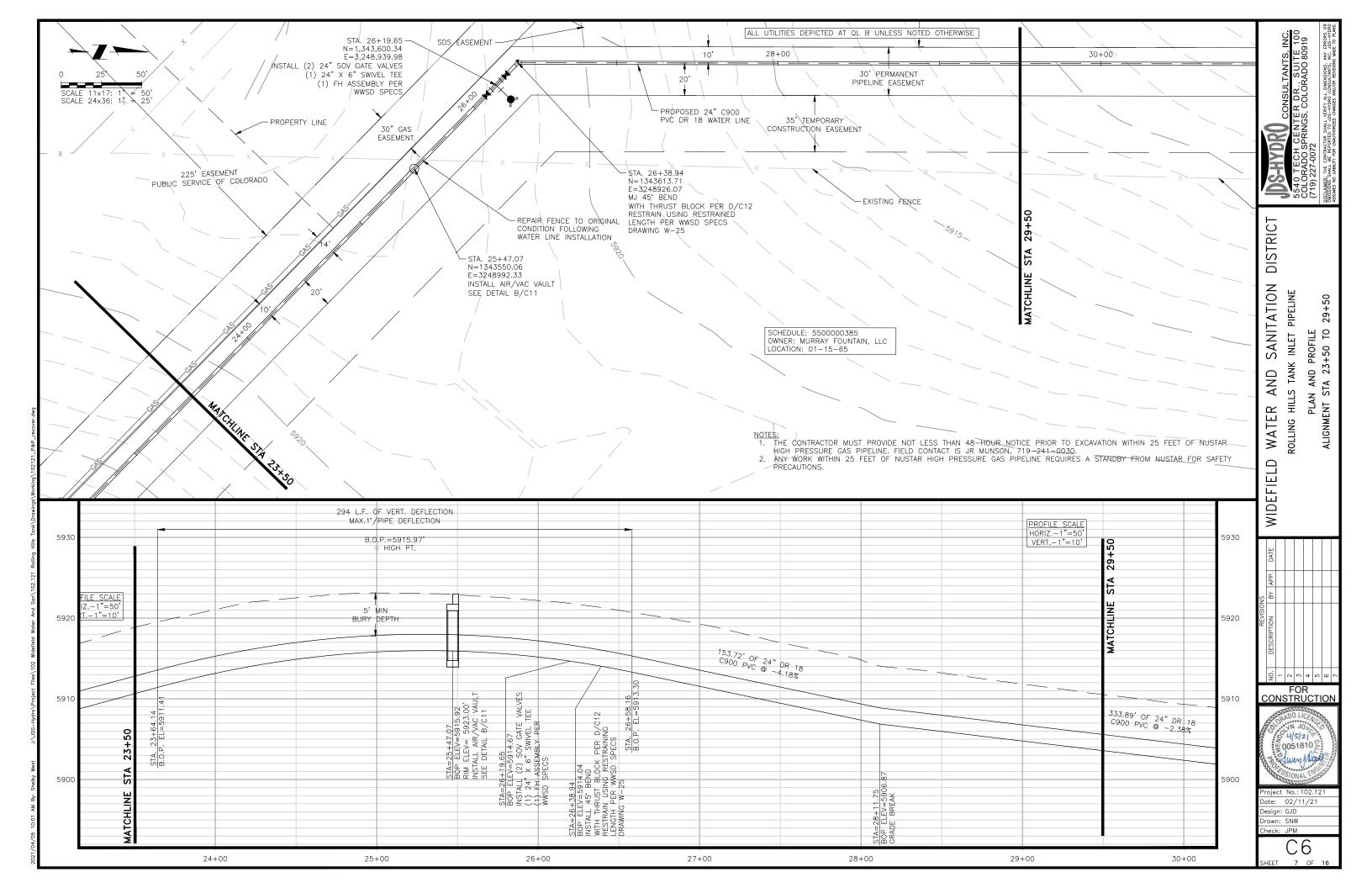


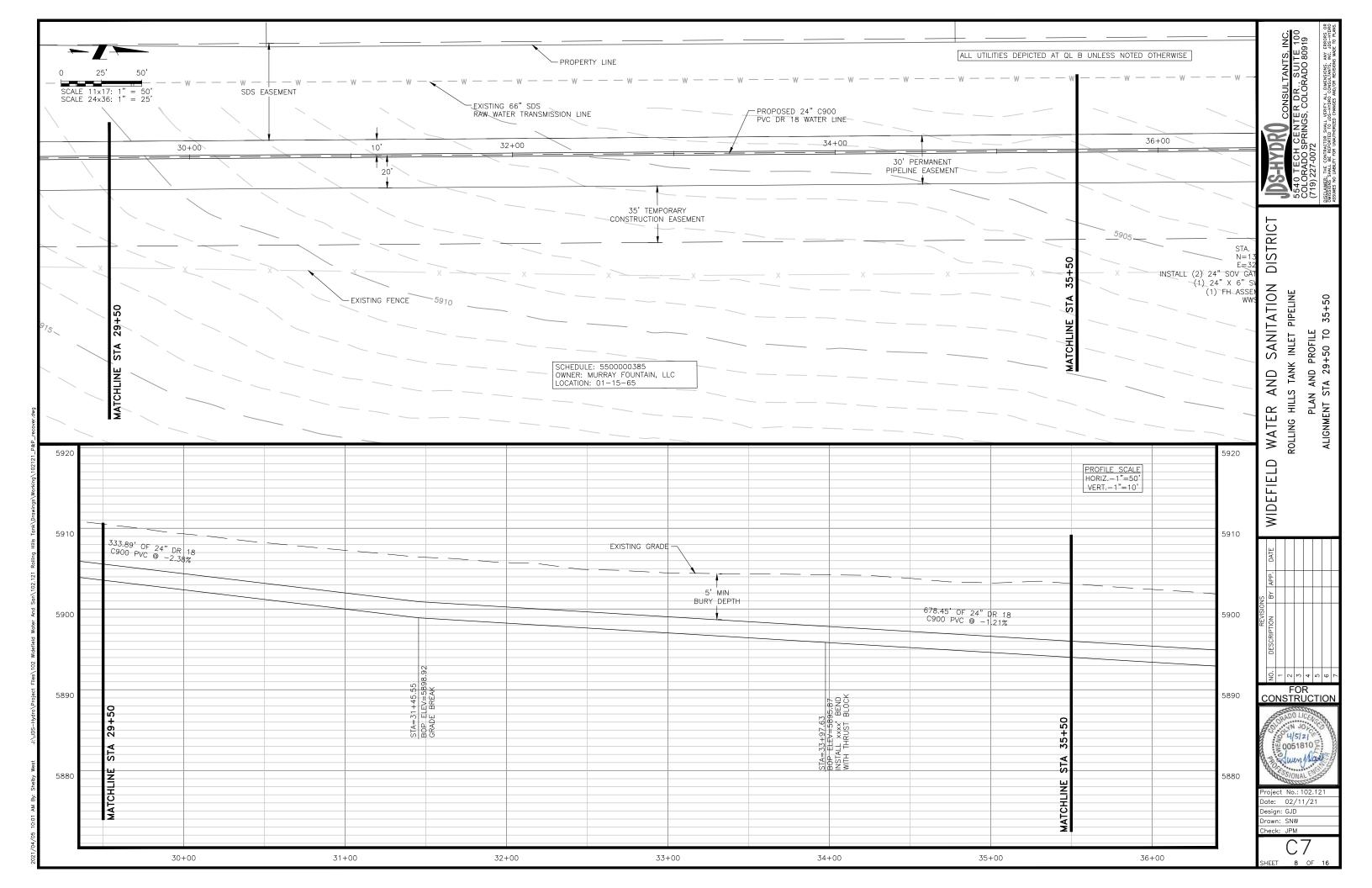


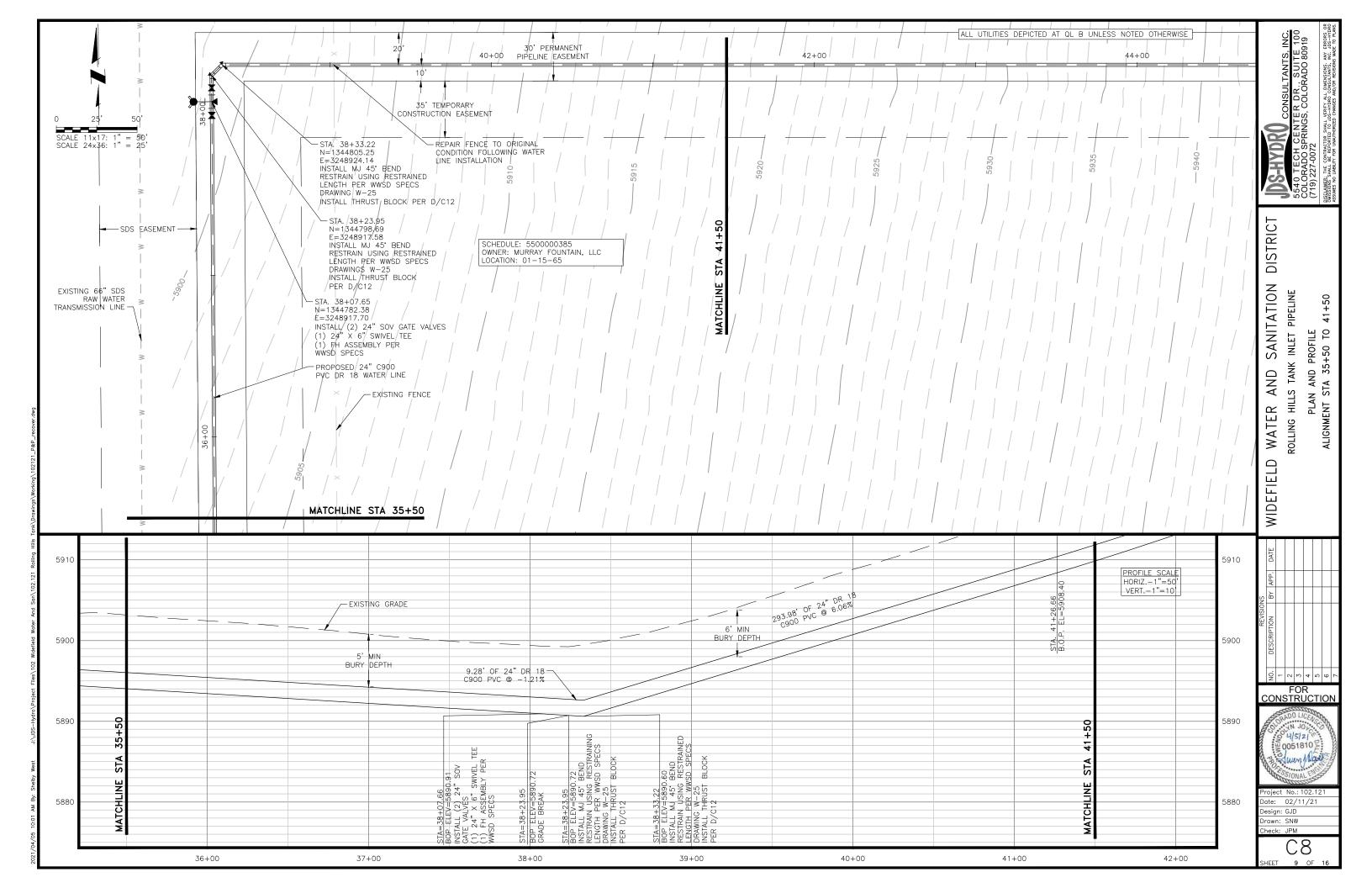


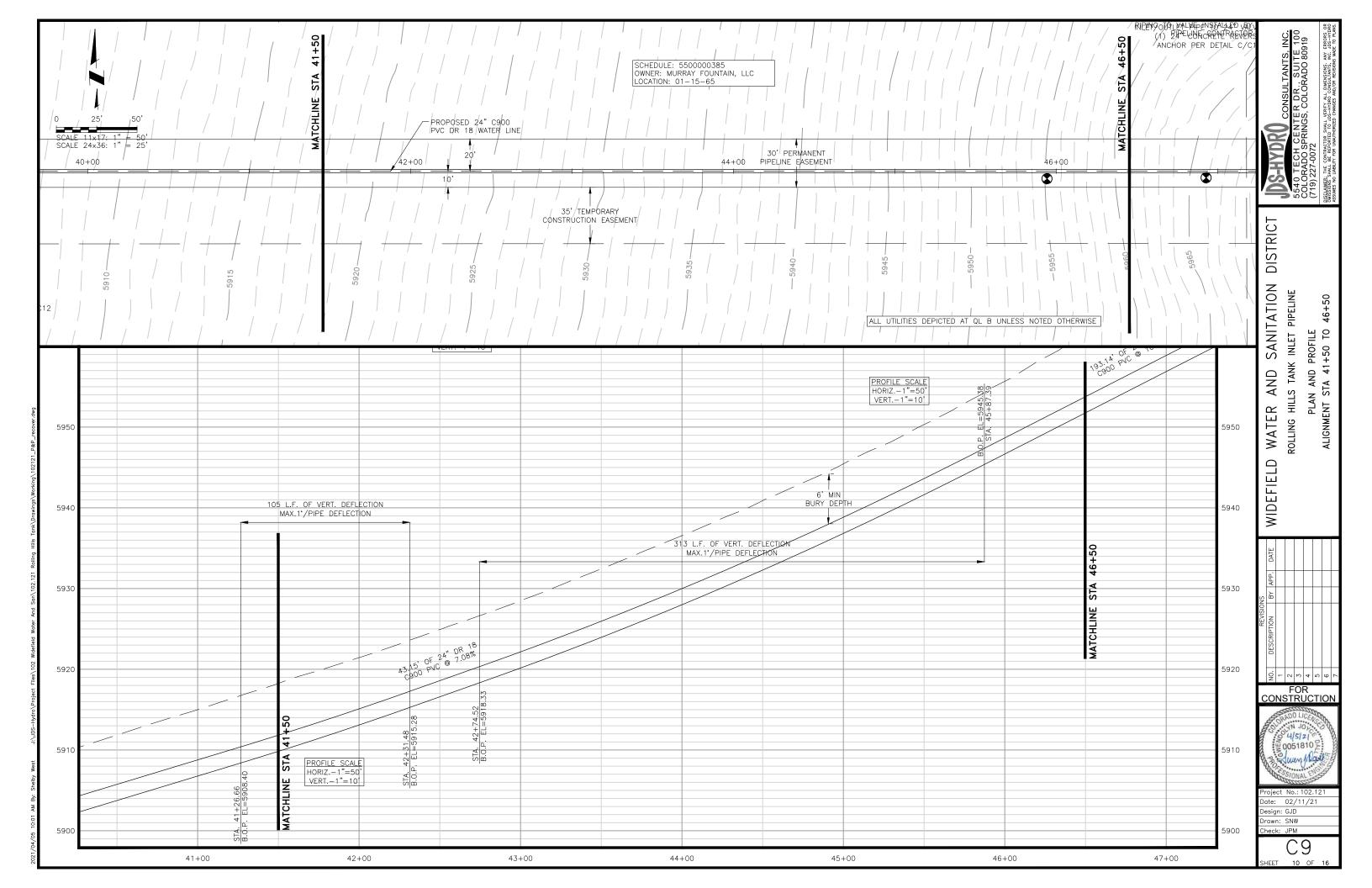


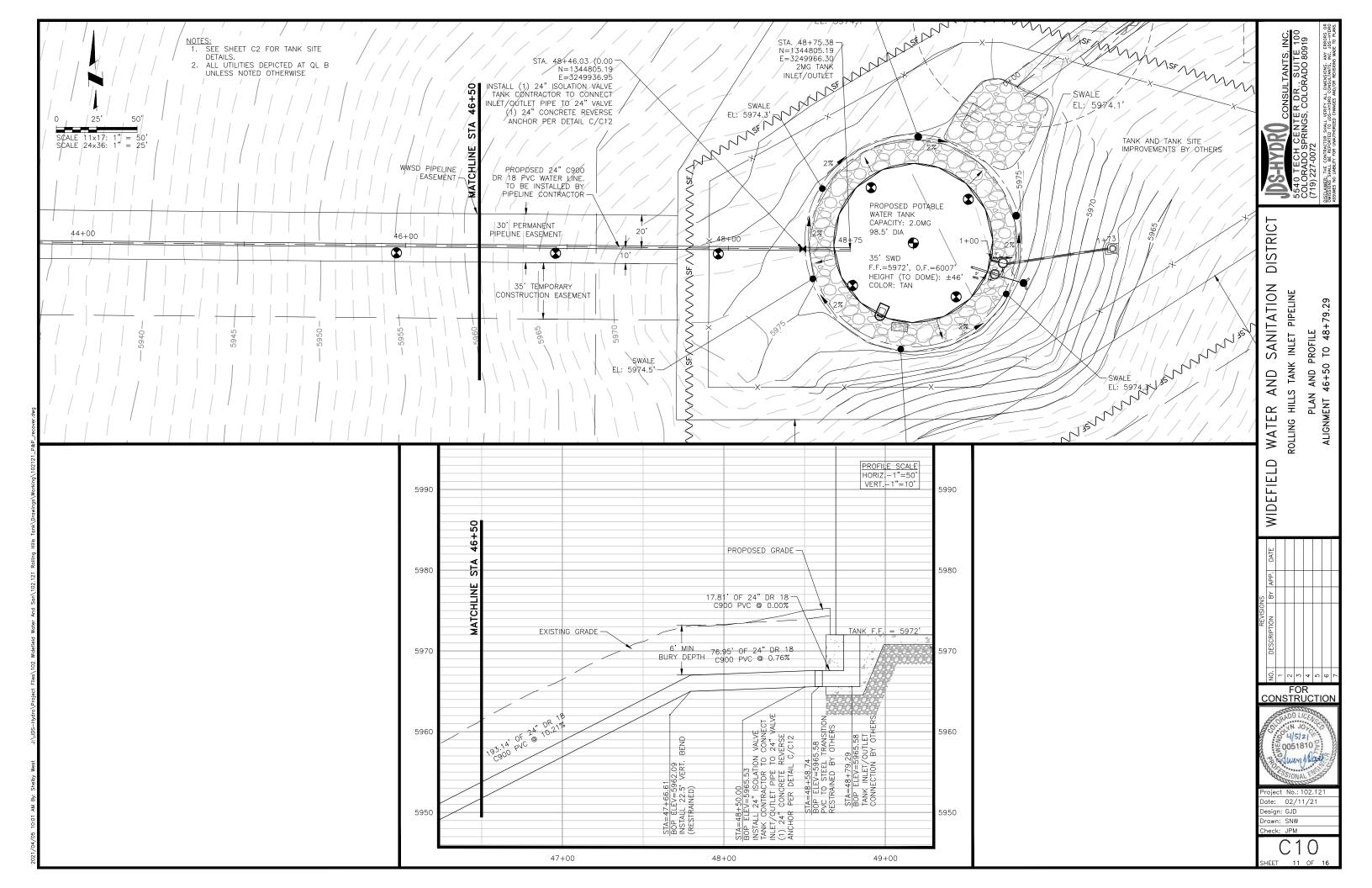




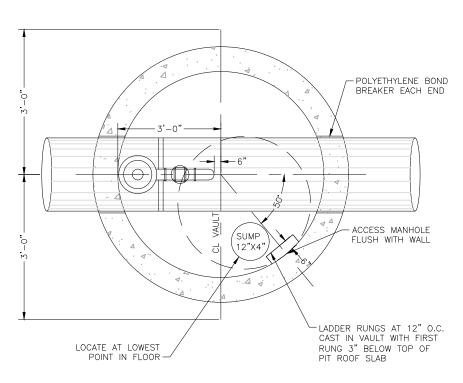




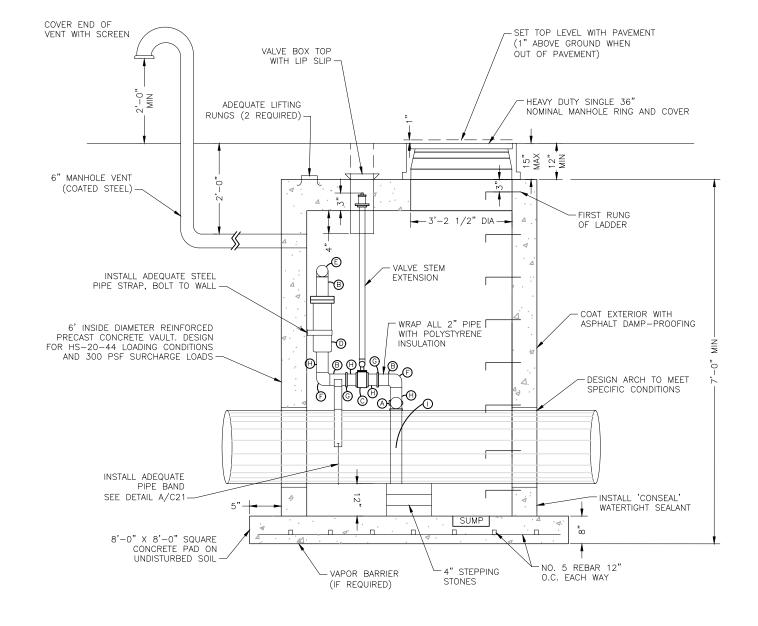




C11/SCALE: 1/8" = 1'-0"



TOP VIEW



B 2" AIR/VAC PRESSURE VALVE PIT C11 SCALE: 1/8" = 1'-0"

- NOTES:
  1. ALL CONCRETE WORK SHALL COMPLY WITH LATEST ACI-318 SPECIFICATIONS.
- 2. AIR VALVE ASSEMBLY LARGER THAN 2" SIZE OR FOR MAINS LARGER THAN 16" SHALL BE SPECIALLY
- DESIGNED AND MEET WATER DISTRICT REQUIREMENTS.

  3. ALL SUPPORT MATERIALS SHALL BE GIVEN 2 COATS OF RUST INHIBITIVE PAINT.
- 4. ALL LADDER RUNGS MUST LINE UP BOTH
- HORIZONTALLY AND VERTICALLY.
  5. ALL SMALL DIAMETER PIPE AND AIR RELEASE VALVE SHALL BE WRAPPED WITH INSULATION AND TAPED.



DISTRICT SANITATION PIPELINE DETAILS INLET CIVIL TANK

AND

WATER ROLLING

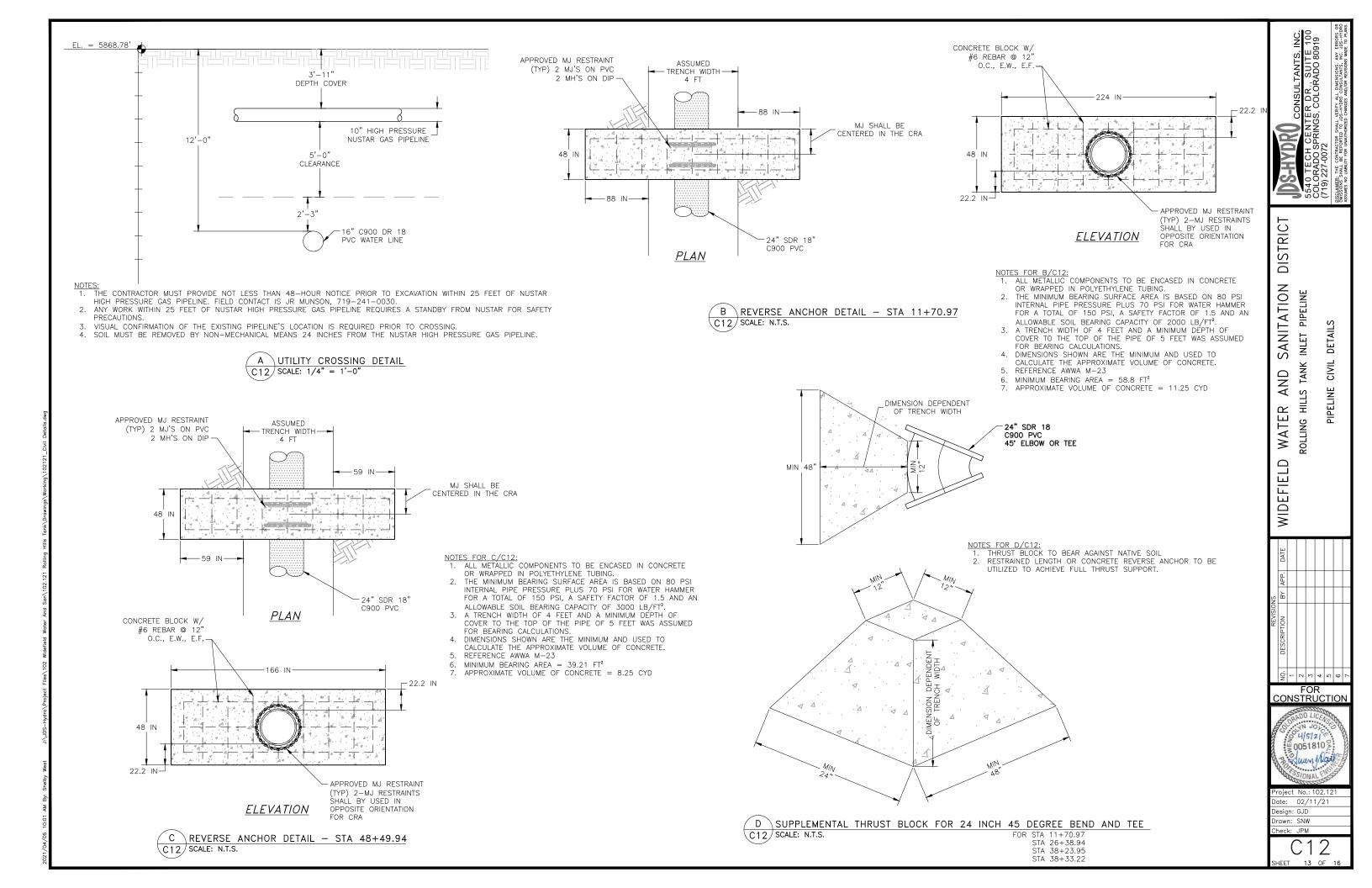
HILLS

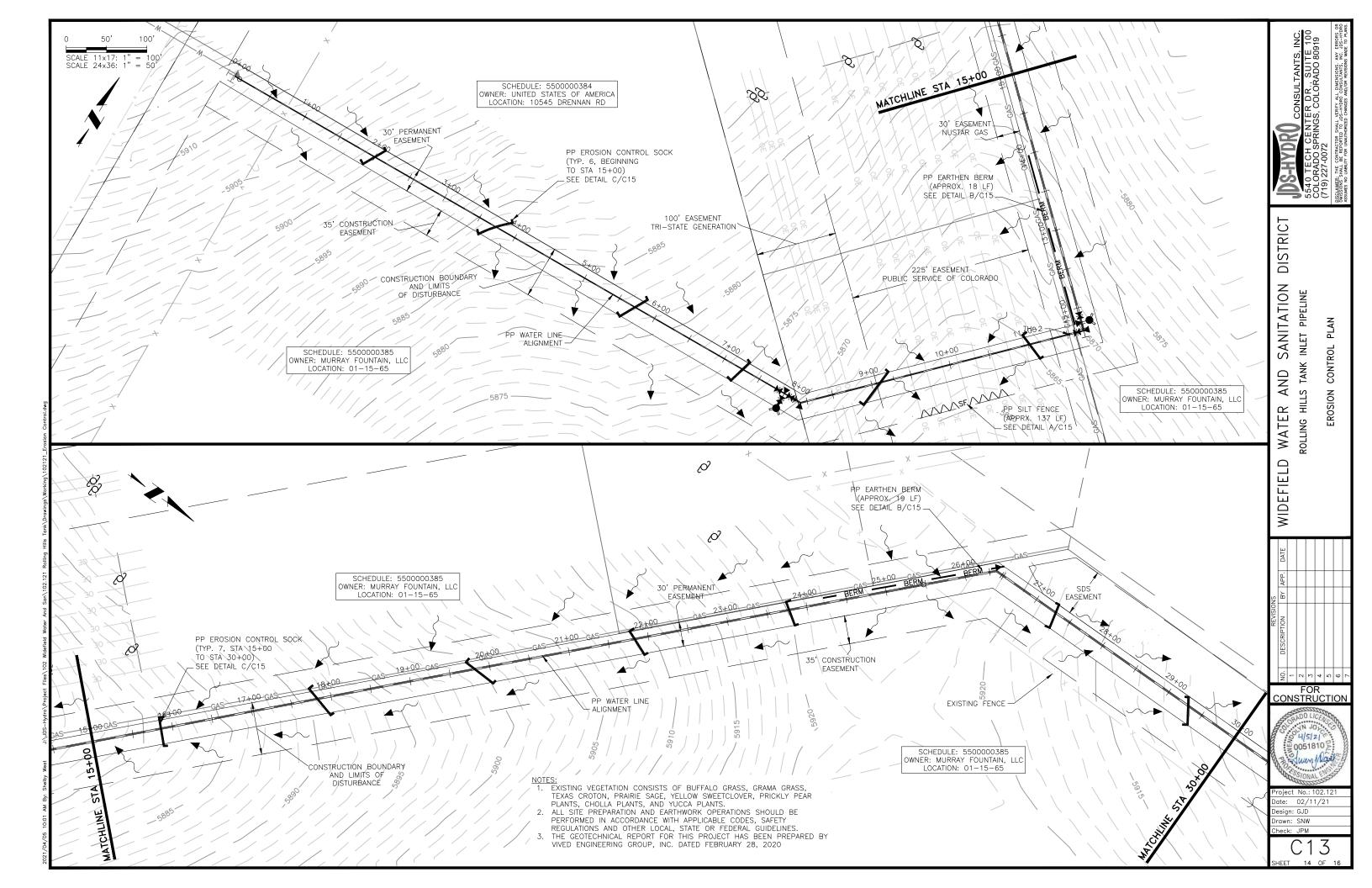
WIDEFIELD

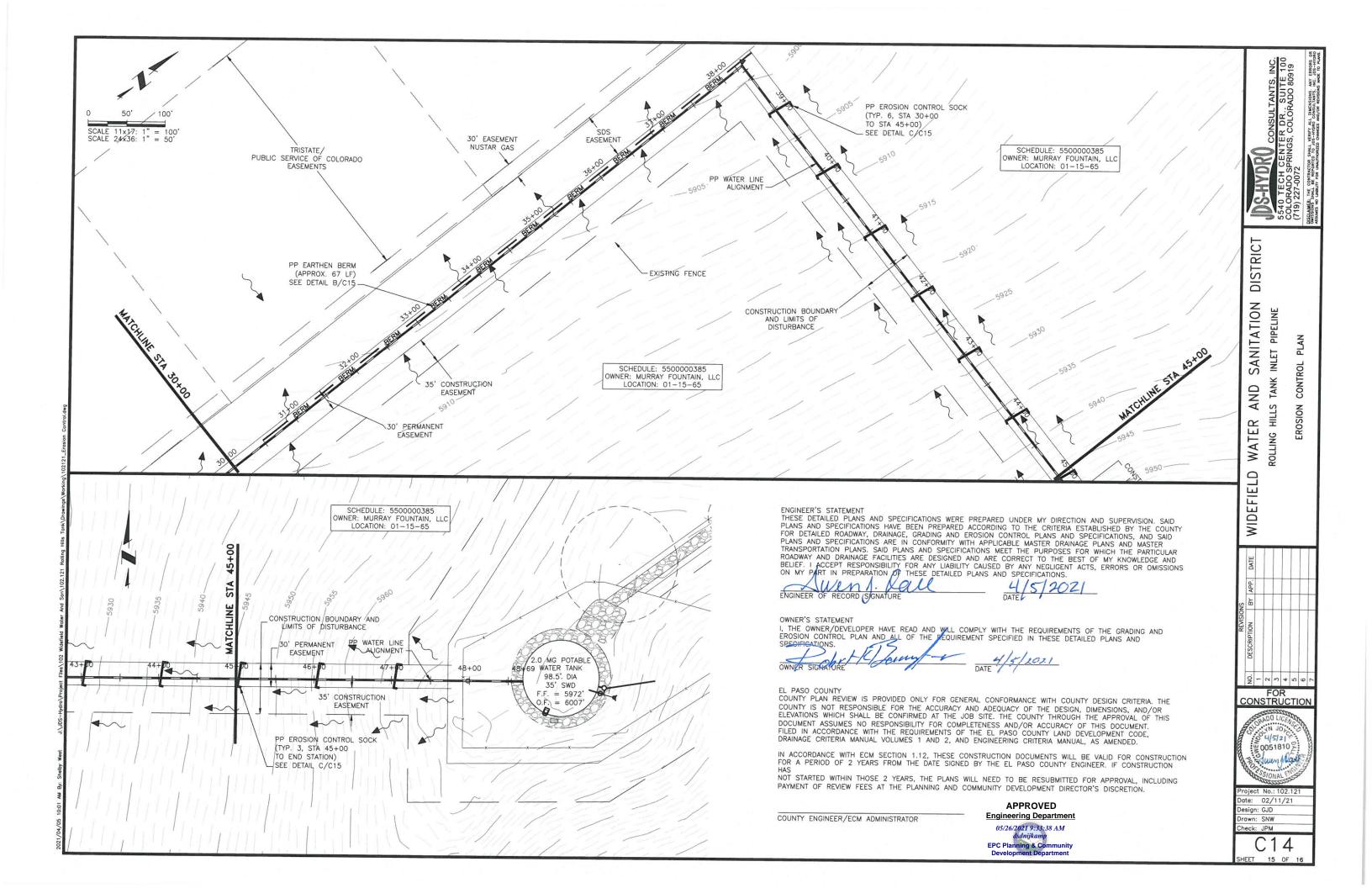
CONSTRUCTION 0051810 wen plais

ote: 02/11/21 esign: GJD awn: SNW eck: JPM

12 OF 16







EROSION CONTROL NOTES

1. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.

2. NOTWINITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OF GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE, AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL, AND STANDARDS AND THE DRAINAGE CRITERIA MANUAL, AND STANDARDS AND THE DRAINAGE CRITERIA MANUAL OVOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AN MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND

A SEPARATE STORMWATER MANAGEMENT PLAN (SMWO) FOR THIS PROJECT SHALL BE COMPLETED AND A SEPARATE STORMWATER MANAGEMENT PLAN (SMWO) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.

ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.

CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.

DISTURBANCE.
ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATION CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURE ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MOST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN. TEMPORARY STABLIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.

GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL
STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL
DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF
70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE
STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROON CONTROL
MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AD ESIGNED IN THE
APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT

STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO

IO. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE CACELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE
DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND
SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME, PRE-EXISTING VEGETATION SHALL
BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS

BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WAITERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.

COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATION COVER, AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION OF THE CONTROL WEST OF T

CONTROL MEASURES MUST BE LOOSENED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).

ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMMATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.

CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT DEL CONTET IN AN APPEN WATER SHALL WEEPE SALL OW CREUINIONATER MAY BE DEFECTED OF WITHIN 50.

NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50
FEET OF A SURFACE WATER BODY, CREEK OR STREAM.

14. DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE

EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.

16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.

WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR

OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.

SPECIFIC CONDITIONS AND CIRCUMSTANCES.

18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.

19. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.

THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON—SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.

21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.

CONDITIONS AND MONITORING MAY BE REQUIRED.

22. BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.

23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.

DIICH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.

24. OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OR OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, IN THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.

25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.

POINTS.

6. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.

27. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.

28. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY VIVID ENGINEERING GROUP AND SHALL BE CONSIDERED A PART OF THESE PLANS. (REV 2: 01/07/21)

29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ON (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION

MATERIALS CONTACT:

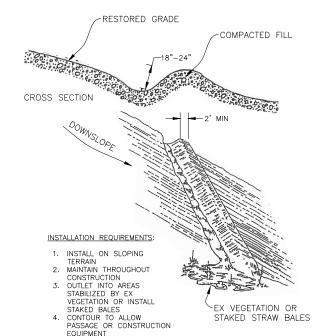
COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT WATER QUALITY CONTROL DIVISION WQCD - PERMITS 4300 CHERRY CREEK DRIVE SOUTH DENVER, CO 80246-1530 ATTN: PERMITS UNIT

#### SEED MIX

AREAS DISTURBED BY THE EARTHWORK SHALL BE PERMANENTLY REVEGETATED WITH NATIVE GRASSES. NATIVE SEED MIX FOR THIS PROJECT SHALL BE AS

| COMMON NAME                   | RECOMMENDED<br>CULTIVAR          | % OF<br>SEED MIX | RATE | RIGATED PLS<br>PER ACRE<br>BROADCAST |
|-------------------------------|----------------------------------|------------------|------|--------------------------------------|
| BIG BLUESTEM,<br>NATIVE       | KAW, BISON,<br>CHAMP             | 20.00%           |      | 11.0                                 |
| BLUE GRAMA, NATIVE            | LOVINGTON,<br>HACHITA, ALMA      | 10.00%           | 1.5  | 3.0                                  |
| GREEN NEEDLEGRASS,<br>NATIVE  | LODORM                           | 10.00%           | 5.0  | 10.0                                 |
| WESTERN<br>WHEATGRASS, NATIVE | ARRIBA, BARTON                   | 20.00%           | 8.0  | 16.0                                 |
| SIDEOATS GRAMA,<br>NATIVE     | VAUGHN, BUTTE,<br>EL RENO, NINER | 10.00%           | 4.5  | 9.0                                  |
| SWITHGRASS, NATIVE            | BLACKWELL,<br>GREENVILLE         | 10.00%           | 2.0  | 4.0                                  |
| PRAIRIE SANDREED,<br>NATIVE   | GOSHEN,<br>PRONGHORN             | 10.00%           | 3.5  | 7.0                                  |
| YELLOW INDIANGRASS,<br>NATIVE | CHEYENNE, HOLT,<br>LLANO         | 10.00%           | 5.0  | 10.0                                 |

SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL. IN AREAS INACCESSIBLE TO A DRILL, HAND BROADCAST AT DOUBLE THE RATE AND RAKE 1/4" TO 1/2" INTO THE TOPSOIL. MULCHING APPLICATION: 1-1/2 TONS NATIVE HAY PER ACRE, MECHANICALLY CRIMPED INTO THE TOPSOIL.



MATERIALS HANDLING SPECIFICATIONS:

1. DEBRIS, OVERBURDEN, SOIL STOCKPILES AND WASTE MATERIALS SHALL BE PLACED AWAY FROM AREAS OF

2. THERE ARE SEVERAL BEST MANAGEMENT PRACTICES THAN CAN BE EMPLOYED TO PREVENT OR MITIGATE THE SOURCE OF POLLUTANTS AND CONTAMINATION OF STORM WATER RUNOFF. THE CONTRACTOR IS NOT LIMITED TO THESE MEASURES WHICH MAY REQUIRE ADJUSTING THE BMP'S AS THE PROJECT PROGRESSES AND IMPLEMENT

BMP'S AS THE PROJECT PROGRESSES AND IMPLEMENT FURTHER CONTROLS AS PRUPBENCE AND GOOD JUDGMENT DEEM NECESSARY. SOME OF THESE ARE:

A. ALL REFUSE DUMPSTERS AND RECEPTACLES SHALL BE EQUIPPED WITH FUNCTIONAL LIDS TO PREVENT RAIN AND SNOW FROM ENTERING. LIDS MUST BE CLOSED WHEN DUMPSTERS AND RECEPTACLES ARE NOT ACTIVITY IN LISE ACTIVELY IN USE

CLUSED WHEN DOMPSIERS AND RECEPIACLES ARE NOT ACTIVELY IN USE

B. STORAGE CONTAINERS, DRUMS, AND BAGS SHALL BE STORED AWAY FROM DIRECT TRAFFIC ROUTES TO PREVENT ACCIDENTAL SPILLS. ENSURE PACKAGES AND CONTAINERS ARE INTACT.

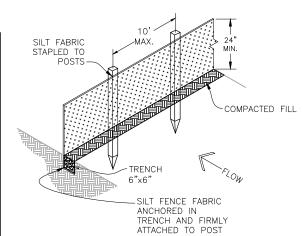
C. EMPTY DRUMS SHALL BE COVERED TO PREVENT COLLECTION OF PRECIPITATION

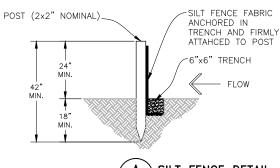
D. CONTAINERS SHALL BE STORED ON PALLETS TO PREVENT CORROSION OF CONTAINERS, WHICH CAN RESULT WHEN CONTAINERS COME IN CONTACT WITH MOISTURE ON THE GROUND

E. REGULARLY SCHEDULED REMOVAL OF CONSTRUCTION TRASH AND DEBRIS

F. WHERE APPLICABLE, TRACKING CONTROL MUST BE IMPLEMENTED BY THE CONTRACTOR TO PREVENT UNNECESSARY SOIL FROM ENTERING PAVED SURFACES. THE MEASURES TO BE USED WILL BE PREVENTING EQUIPMENT IN THE CONSTRUCTION AREA FROM MOVING OFF-SITE. IF THE CONTRACTOR CANNOT DO THIS, THEN A VEHICLE TRACKING PAD WILL BE REQUIRED ACCORDING A VEHICLE TRACKING PAD WILL BE REQUIRED ACCORDING TO COUNTY SPECIFICATIONS. BROOMS AND SHOVELS MAY BE REQUIRED FOR TRACKING CONTROL







SILT FENCE DETAIL SCALE: N.T.S.

#### INSTALLATION REQUIREMENTS:

1. SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

2. WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST AND SECURELY

5. MAINTAIN 2% LATERAL

SLOPE

3. METAL POSTS SHALL BE "STUDDED TEE" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION

4. THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD POSTS WITH 3/4" LONG #9 HEAVY-DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES.

5. WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED TO SUPPORT THE GEOTEXTILE. WIRE FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 3/4" LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 6" AND SHALL NOT EXTEND MORE THAN 3' ABOVE THE ORIGINAL GROUND SURFACE.

6. ALONG THE TOE OF FILLS, INSTALL THE SILT FENCE ALONG A LEVEL CONTOUR AND PROVIDE AN AREA BEHIND THE FENCE FOR RUNOFF TO POND AND SEDIMENT TO SETTLE. A MINIMUM DISTANCE OF 5 FEET FROM THE TOE OF THE FILL IS RECOMMENDED.

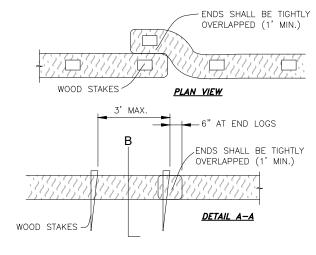
7. THE HEIGHT OF THE SILT FENCE FROM THE GROUND SURFACE SHALL BE MINIMUM OF 24 INCHES AND SHALL NOT EXCEED 36 INCHES; HIGHER FENCES MAY INPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.

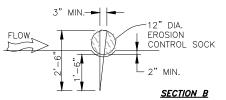
#### MAINTENANCE REQUIREMENTS:

1. CONTRACTOR SHALL INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL. DAMAGED, COLLAPSED, UNENTRENCHED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED.

2. SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.

3. SILT FENCES SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED





#### EROSION CONTROL SOCK INSTALLATION NOTES

SEE PLAN VIEW FOR THE LOCATION AND LENGTH OF EROSION

EROSION CONTROL SOCKS INDICATED ON THE PLANS SHALL BE INSTALLED AFTER ANY LAND-DISTURBING ACTIVITIES OCCUR. EROSION CONTROL SOCKS SHALL CONSIST OF STRAW, COMPOST,

EXCELSIOR, OR COCONUT FIBER

NOT FOR USE IN CONCENTRATED FLOW AREAS.
THE EROSION CONTROL SOCK SHALL BE TRENCHED INTO THE GROUND
A MINIMUM OF 3 OF THE DIAMETER OF THE ECS.

# EROSION CONTROL SOCK MAINTENANCE NOTES

CONTRACTOR SHALL INSPECT EROSION CONTROL SOCKS DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.

SEDIMENT ACCUMULATED UPSTREAM OF EROSION CONTROL SOCKS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN A THE PROPERTY OF LOCATION OF THE SOCIETY OF THE SOCIETY

½ THE HEIGHT OF THE CREST OF LOG.
EROSION CONTROL SOCKS SHALL BE REMOVED AT THE END OF
CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT
SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE OWNER.

> C EROSION CONTROL SOCK C15 SCALE: N.T.S. EPC 5/26/2021

ISTRIC<sup>-</sup>

DETAILS

AND

NOTES

CONTROL

SANITATION PIPELINE INLET TANK AND  $\sim$ ₫ WATER ROLLING WIDEFIE

 $\equiv$ 

CONSTRUCTIO 4/5/2 0051810 wen Mail

ite: 02/11/21

esign: GJD awn: SNW

ck: JPM 5