

# WIDEFIELD WATER AND SANITATION DISTRICT

## ROLLING HILLS TANK INLET PIPELINE

2019.829.2030

EL PASO COUNTY, COLORADO



# FOR CONSTRUCTION

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

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

---	EX PROPERTY LINE	=====	PP SANITARY SEWER LINE ALIGNMENT
- - -	EX RIGHT-OF-WAY	=====	PP WATER LINE ALIGNMENT
X	EX FENCE	=====	PP CONTOURS-MAJOR
W	EX WATER LINE	=====	PP CONTOURS-MINOR
SS	EX SANITARY SEWER LINE	=====	PP FENCE
OHE	EX O.H. ELECTRIC	=====	PP U.G. ELECTRIC LINE
GAS	EX U.G. GAS LINE	=====	PP EASEMENT
---	EX CONTOURS-MAJOR	=====	PP TEMP. CONSTRUCTION EASEMENT
---	EX CONTOURS-MINOR	=====	PP EROSION CONTROL SILT FENCE
---	EX EASEMENT	=====	PP EROSION CONTROL EARTHEN BERM
(W)	EX WATER MANHOLE	=====	PP EROSION CONTROL BALES
(G)	EX GAS METER	=====	PP EROSION CONTROL LOG
(U)	EX UTILITY POLE	=====	PP WATER LINE FITTING
(B)	BORE HOLE	=====	PP WATER VALVE
(A)	OVERLAND FLOW ARROW	=====	PP HYDRANT ASSEMBLY (ISOLATION VALVE INCLUDED)

### PARTICIPANTS

**OWNER**  
 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



VICINITY MAP  
N.T.S.

<p><b>PRE-EXCAVATION CHECKLIST</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Gas and Other Utility Lines Shown on Construction Plans</li> <li><input type="checkbox"/> Utility Notification Center of Colorado (UNCC)—Call at Least Two (2) Business Days Ahead—1-800-922-1987</li> <li><input type="checkbox"/> Utilities Located &amp; Marked on the Ground</li> <li><input type="checkbox"/> Employees Briefed on Marking and Color Codes*</li> <li><input type="checkbox"/> Employees Trained on Excavation and Safety Procedures for Natural Gas Lines</li> <li><input type="checkbox"/> When Excavation Approaches Gas Lines, Employees must Expose Lines by Careful Probing and Hand-Digging</li> </ul>	<p><b>COLOR CODE FOR MARKING UNDERGROUND UTILITY LINES</b></p> <p>(WHITE) PROPOSED EXCAVATION              (MAGENTA) TRIANGULAR SURVEY MARKERS              (RED) ELECTRIC              (YELLOW) GAS, OIL, STEAM              (ORANGE) COMMUNICATION, CABLE              (BLUE) POTABLE WATER              (PURPLE) IRRIGATION, RECLAIMED WATER, SALINITY LINES              (GREEN) SEWER</p> <p><b>UNCC</b>              QUALITY NOTIFICATION CENTER OF COLORADO  <b>3 Days Before You Dig:</b>              Call: 1-800-922-1987              Click: www.UNCC.org</p>
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### GEC SIGNATURE BLOCKS

**ENGINEER'S STATEMENT:**

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENCE ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

*Gwen Dall*  
 ENGINEER OF RECORD SIGNATURE

4/30/21  
 DATE

**OWNER'S STATEMENT:**

I, THE OWNER/ DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN AND ALL OF THE REQUIREMENT SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

*Robert Bannister*  
 OWNER SIGNATURE

April 30, 2021  
 DATE

**EL PASO COUNTY:**

COUNTY PLAN AND 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 VOLUME 1 AND 2, AND ENGINEERING CRITERIA MANUAL, AS AMENDED. IN ACCORDANCE WITH EMC 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.

COUNTY ENGINEER/ECM ADMINISTRATOR

DATE

### CONSTRUCTION SIGNATURE BLOCKS

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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 EMC 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.

JENNIFER E. IRVINE, P.E.,  
 COUNTY ENGINEER / ECM ADMINISTRATOR

DATE

**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.

WIDEFIELD WATER AND SANITATION DISTRICT DESIGN APPROVAL

*Robert Bannister*  
 BY: DATE:

April 30, 2021

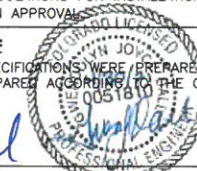
2019-829-2030  
 CIP NO.

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.

*Gwen Dall*  
 GWEN DALL, P.E. #50810  
 JDS-HYDRO CONSULTANTS, INC.



4/30/21  
 DATE

PROJECT NO. 102.121



## GENERAL NOTES

1. ALL UTILITY CONSTRUCTION TO BE CONDUCTED IN CONFORMANCE WITH THE CURRENT WIDEFIELD WATER AND SANITATION DISTRICT SPECIFICATIONS. COMPACTION REQUIREMENTS SHALL BE 95% STANDARD PROCTOR AS DETERMINED BY ASTM D698, UNLESS OTHERWISE APPROVED BY THE WIDEFIELD WATER AND SANITATION DISTRICT OR A HIGHER STANDARD IS IMPOSED BY ANOTHER AGENCY HAVING RIGHT-OF-WAY JURISDICTION. CONTRACTOR IS ALSO REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
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](http://www.wwsdonline.com)
3. ALL CARBON STEEL AND DUCTILE IRON PIPE, TO INCLUDE FITTINGS, VALVES AND FIRE HYDRANTS WILL BE WRAPPED WITH POLYETHYLENE 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 WWSA 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 PRE-CONSTRUCTION CONFERENCE IS REQUIRED 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 NUMBER	DESCRIPTION
	COVER SHEET
<u>GENERAL</u> G1	GENERAL NOTES
<u>CIVIL</u> C1	OVERALL SITE PLAN
C2	PIPELINE PLAN & PROFILE STA 0+00 TO 6+50
C3	PIPELINE PLAN & PROFILE STA 6+50 TO 12+50
C4	PIPELINE PLAN & PROFILE STA 12+50 TO 18+50
C5	PIPELINE PLAN & PROFILE STA 18+50 TO 23+50
C6	PIPELINE PLAN & PROFILE STA 23+50 TO 29+50
C7	PIPELINE PLAN & PROFILE STA 29+50 TO 35+50
C8	PIPELINE PLAN & PROFILE STA 35+50 TO 41+50
C9	PIPELINE PLAN & PROFILE STA 41+50 TO 46+50
C10	PIPELINE PLAN & PROFILE STA 46+50 TO 48+79.29
C11	PIPELINE CIVIL DETAILS
C12	PIPELINE CIVIL DETAILS
C13	PIPELINE EROSION CONTROL PLAN
C14	PIPELINE EROSION CONTROL PLAN
C15	EROSION CONTROL DETAILS

## ABBREVIATIONS

WWSA VA PPNC RHBPS SDS PP EX SCH STA FNPT MNPT FL FH TB MJ BV GV SOV RED	WIDEFIELD WATER AND SANITATION DISTRICT VETERANS AFFAIRS PIKES PEAK NATIONAL CEMETERY ROLLING HILLS BOOSTER PUMP STATION SOUTHERN DELIVERY SYSTEM PROPOSED EXISTING SCHEDULE STATION FEMALE NATIONAL PIPE THREAD MALE NATIONAL PIPE THREAD FLANGE FIRE HYDRANT THRUST BLOCK MECHANICAL JOINT BUTTERFLY VALVE GATE VALVE SIDE OPERATED VALVE REDUCER
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**JDS-HYDRO CONSULTANTS, INC.**  
 5640 TECH CENTER DR., SUITE 100  
 COLORADO SPRINGS, COLORADO 80919  
 (719) 227-0072  
DISCLAIMER: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

**WIDEFIELD WATER AND SANITATION DISTRICT**  
 ROLLING HILLS TANK INLET PIPELINE  
 GENERAL NOTES

REVISIONS	NO.	DESCRIPTION	BY	APP.	DATE
	1				
	2				
	3				
	4				
	5				
	6				
	7				

**FOR CONSTRUCTION**

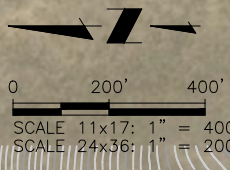


Project No.: 102.121  
 Date: 02/11/21  
 Design: GJD  
 Drawn: SNW  
 Check: JPM

G1

SHEET 1 OF 16





NOTE:  
AERIAL IMAGERY IS NOT ACCURATELY SCALED  
AND SHOULD BE UTILIZED FOR REFERENCE  
ONLY

SCHEDULE #: 5500000385  
OWNER: MURRAY FOUNTAIN LLC  
LOCATION: 01-15-65

SCHEDULE #: 5500000384  
OWNER: UNITED STATES OF AMERICA  
LOCATION: 10545 DRENNAN RD

NOTES:  
1. WATER LINE CROSSES UNDERNEATH POWER LINES AT A 89° ANGLE.  
2. VERTICAL AND HORIZONTAL DATUM IS IN MODIFIED STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM 1983.

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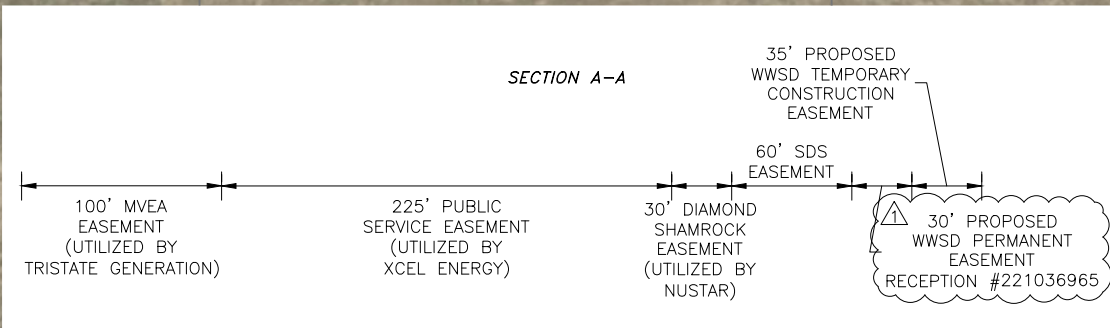
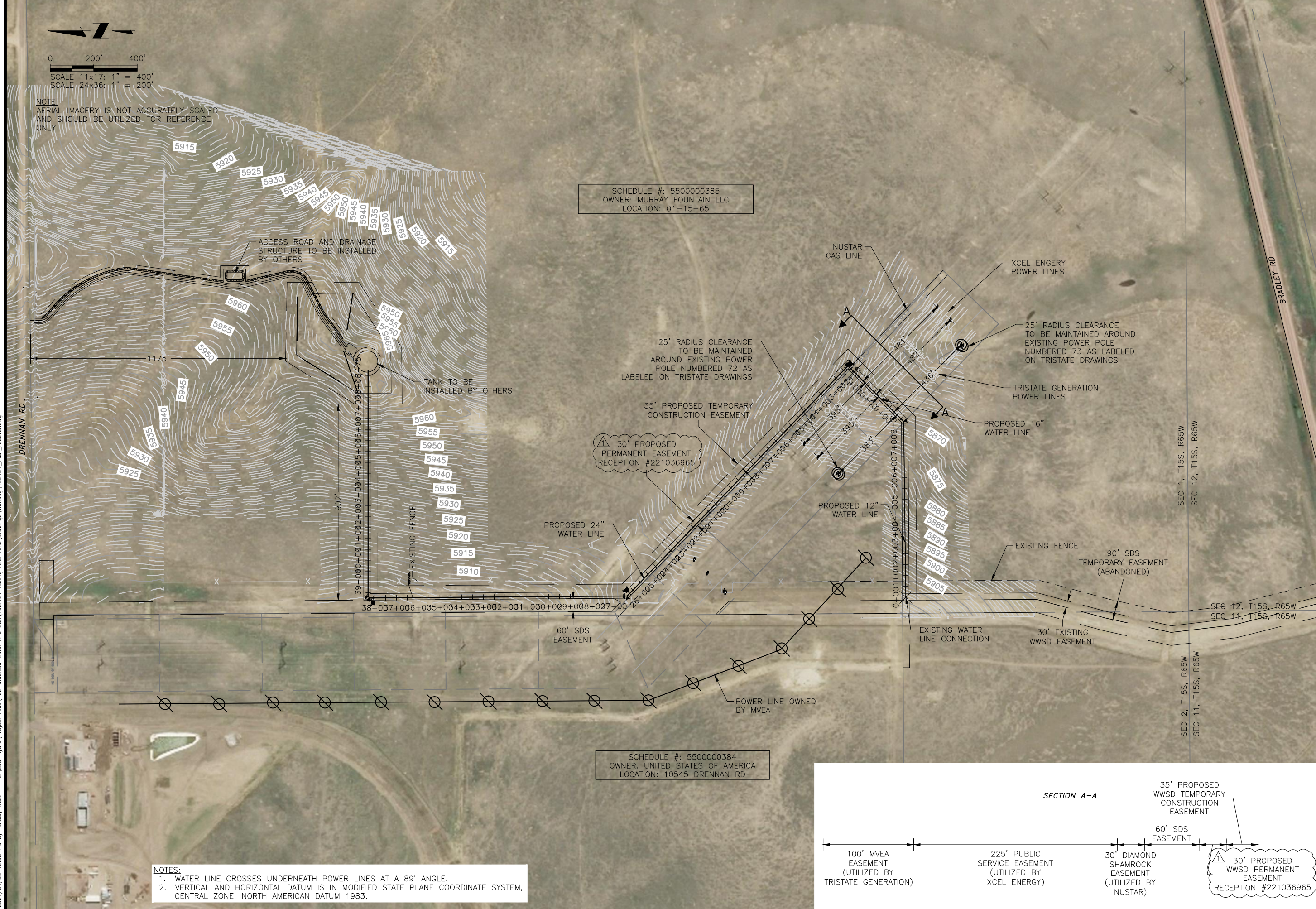
**WIDEFIELD WATER AND SANITATION DISTRICT**  
ROLLING HILLS TANK INLET PIPELINE  
OVERALL SITE PLAN

NO.	DESCRIPTION	BY	APP.	DATE
1	EPC REVISIONS	SNW	GJD	04/29/21
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FOR CONSTRUCTION

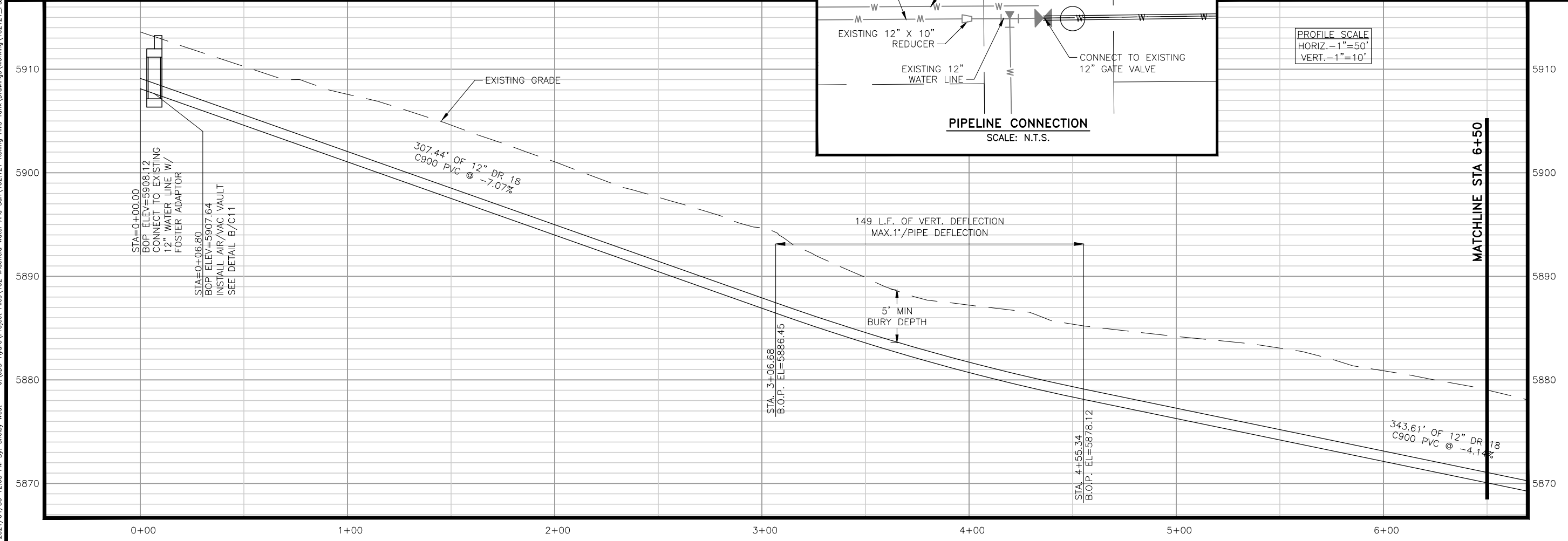
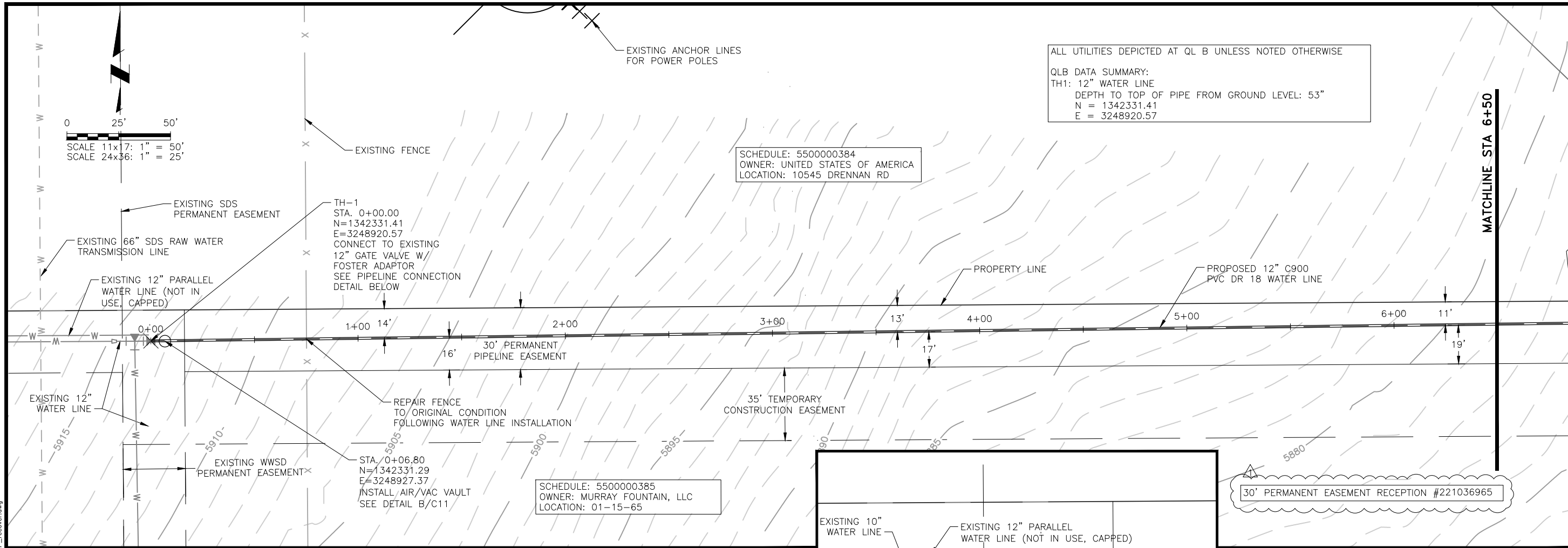


Project No.: 102.121  
Date: 02/11/21  
Design: GJD  
Drawn: SNW  
Check: JPM





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**WIDFIELD WATER AND SANITATION DISTRICT**  
 ROLLING HILLS TANK INLET PIPELINE  
 PLAN AND PROFILE  
 ALIGNMENT STA 0+00 TO 6+50

NO.	DESCRIPTION	BY	APP.	DATE
1	EPC REVISIONS	SNW	GJD	04/29/21
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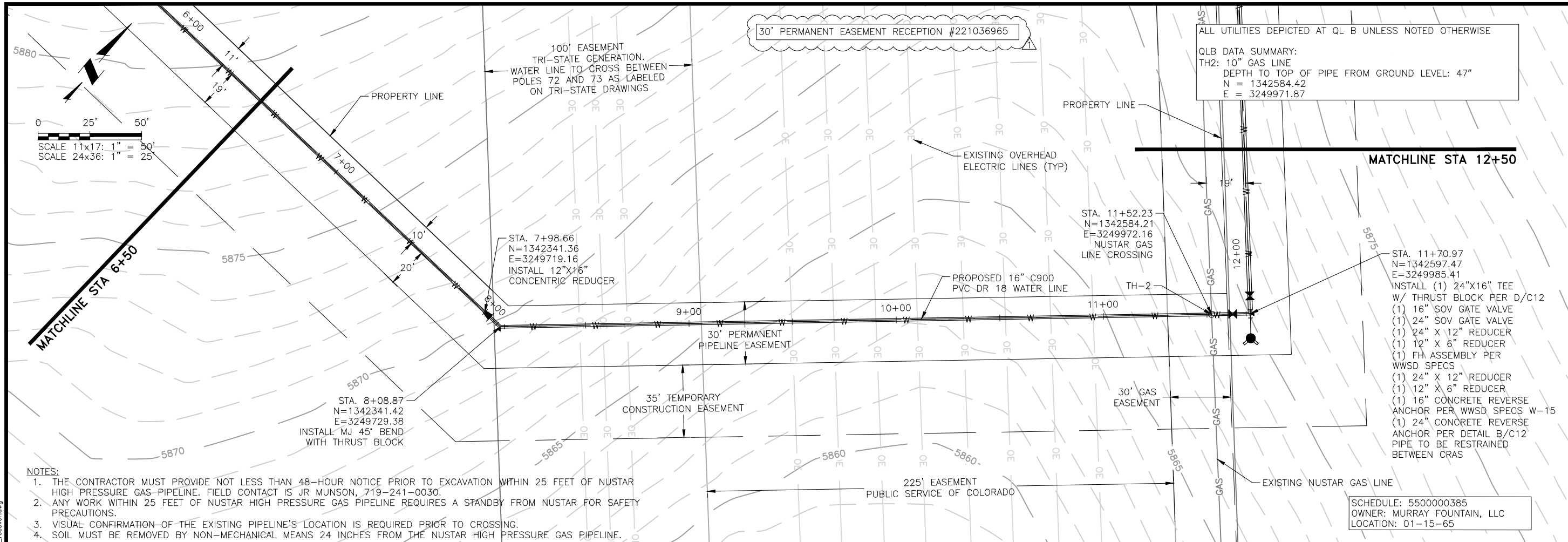
**FOR CONSTRUCTION**

Project No.: 102.121  
 Date: 02/11/21  
 Design: GJD  
 Drawn: SNW  
 Check: JPM

**C2**  
 SHEET 3 OF 16



J:\JDS-Hydro\Project Files\102 Widefield Water And San\102.121 Rolling Hills Tank Drawings\Working\102121\_P&P\_recover.dwg 2021/04/30 12:09 PM By: Shelby West

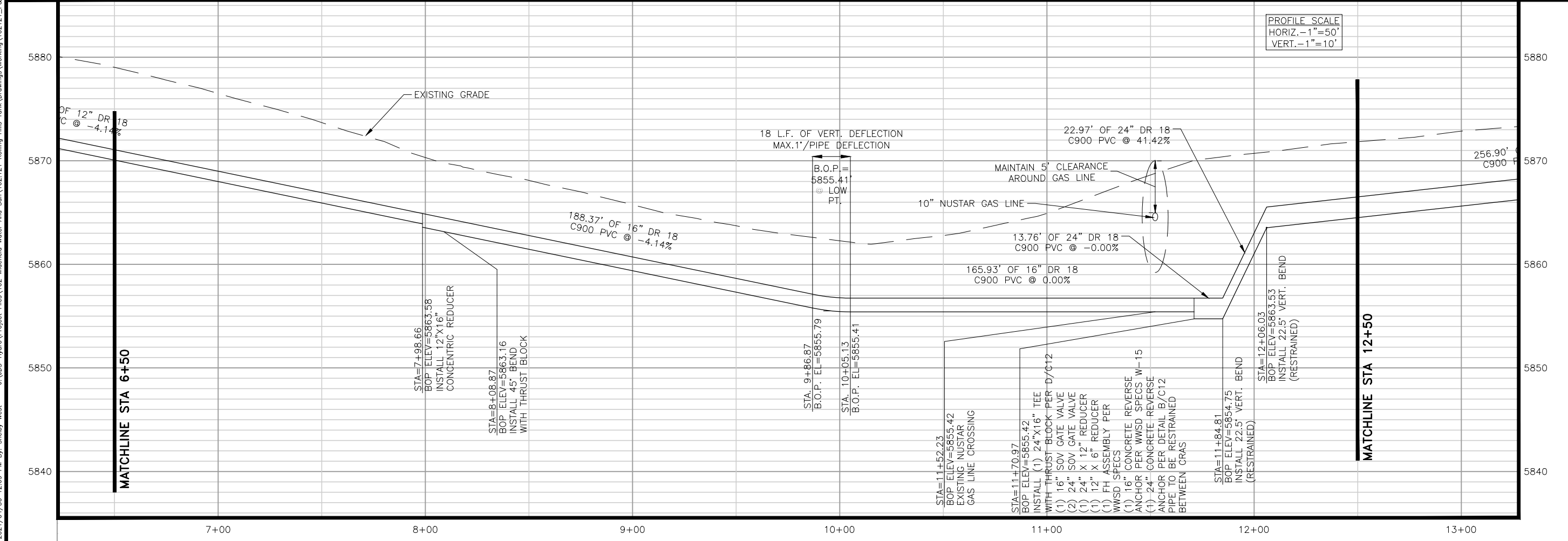


- NOTES:**
1. THE CONTRACTOR MUST PROVIDE NOT LESS THAN 48-HOUR NOTICE PRIOR TO EXCAVATION WITHIN 25 FEET OF NUSTAR HIGH PRESSURE GAS PIPELINE. FIELD CONTACT IS JR MUNSON, 719-241-0030.
  2. ANY WORK WITHIN 25 FEET OF NUSTAR HIGH PRESSURE GAS PIPELINE REQUIRES A STANDBY FROM NUSTAR FOR SAFETY PRECAUTIONS.
  3. VISUAL CONFIRMATION OF THE EXISTING PIPELINE'S LOCATION IS REQUIRED PRIOR TO CROSSING.
  4. SOIL MUST BE REMOVED BY NON-MECHANICAL MEANS 24 INCHES FROM THE NUSTAR HIGH PRESSURE GAS PIPELINE.

ALL UTILITIES DEPICTED AT QL B UNLESS NOTED OTHERWISE

QLB DATA SUMMARY:  
 TH2: 10" GAS LINE  
 DEPTH TO TOP OF PIPE FROM GROUND LEVEL: 47"  
 N = 1342584.42  
 E = 3249971.87

SCHEDULE: 5500000385  
 OWNER: MURRAY FOUNTAIN, LLC  
 LOCATION: 01-15-65



PROFILE SCALE  
 HORIZ. -1"=50'  
 VERT. -1"=10'

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**WIDEFIELD WATER AND SANITATION DISTRICT**  
 ROLLING HILLS TANK INLET PIPELINE  
 PLAN AND PROFILE  
 ALIGNMENT STA 6+50 TO 12+50

NO.	DESCRIPTION	BY	APP.	DATE
1	EPC REVISIONS	SNW	GJD	04/29/21
2				
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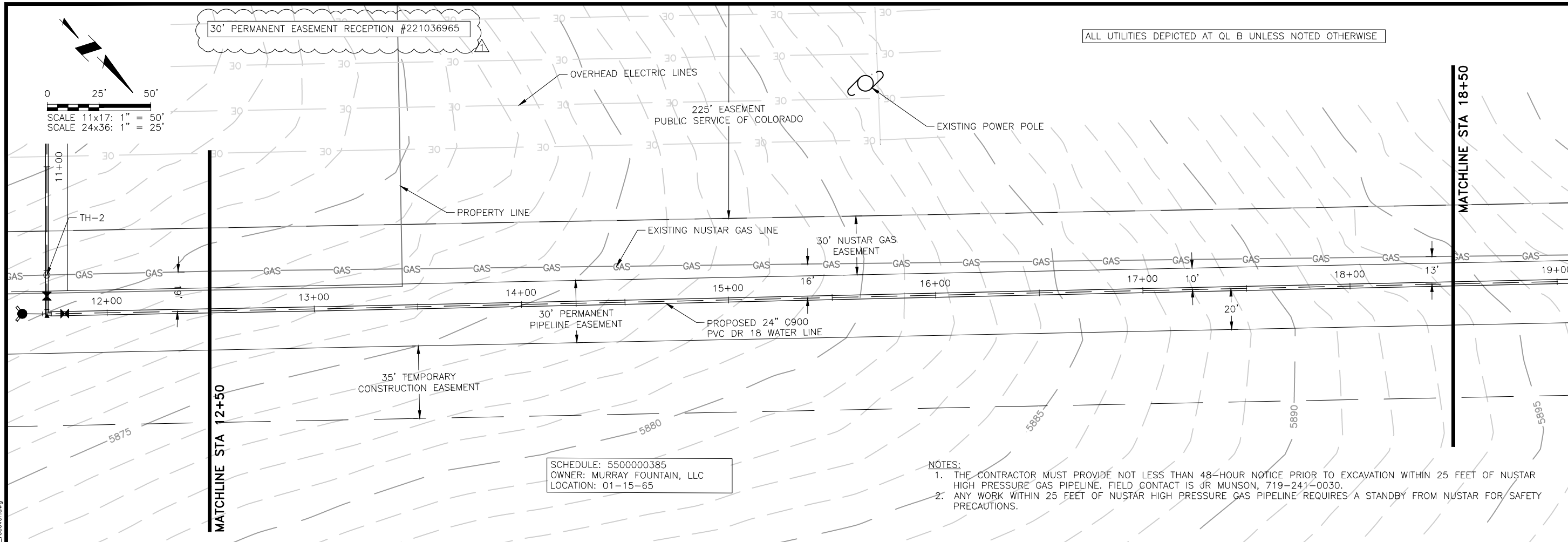
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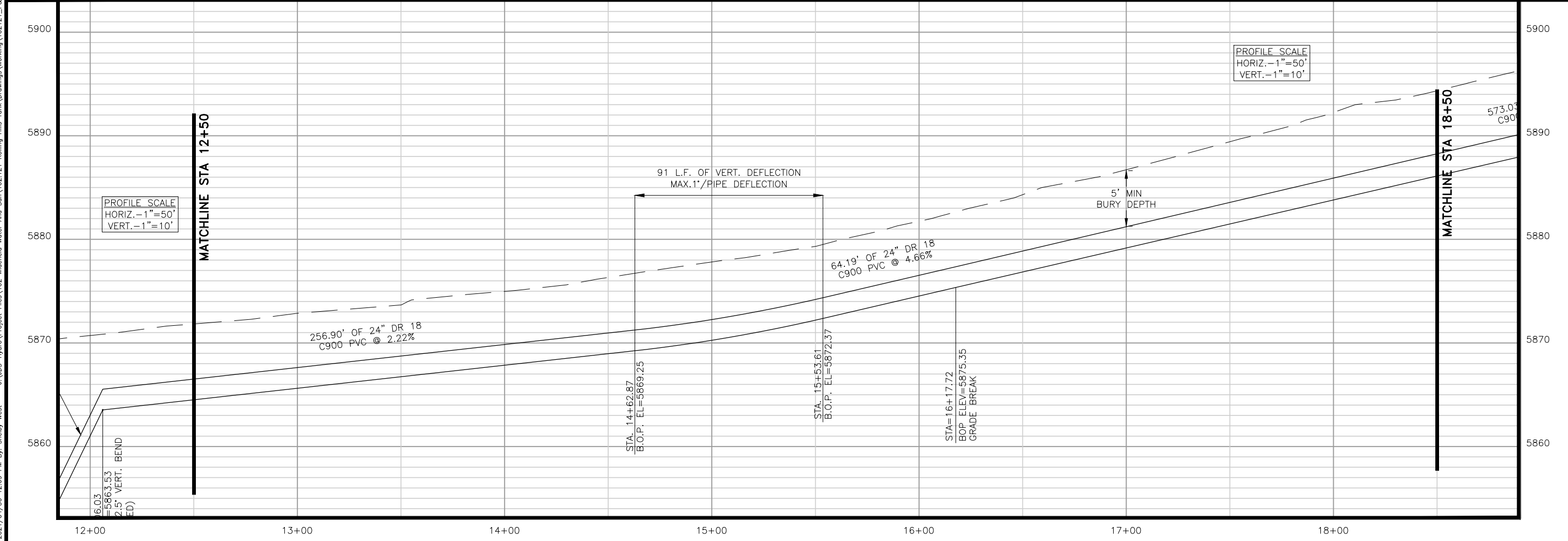
ALL UTILITIES DEPICTED AT QL B UNLESS NOTED OTHERWISE

0 25' 50'  
SCALE 11x17: 1" = 50'  
SCALE 24x36: 1" = 25'

30' PERMANENT EASEMENT RECEPTION #221036965

SCHEDULE: 5500000385  
OWNER: MURRAY FOUNTAIN, LLC  
LOCATION: 01-15-65

- NOTES:
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  2. ANY WORK WITHIN 25 FEET OF NUSTAR HIGH PRESSURE GAS PIPELINE REQUIRES A STANDBY FROM NUSTAR FOR SAFETY PRECAUTIONS.



PROFILE SCALE  
HORIZ. - 1" = 50'  
VERT. - 1" = 10'

PROFILE SCALE  
HORIZ. - 1" = 50'  
VERT. - 1" = 10'

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5540 TECH CENTER DR., SUITE 100  
COLORADO SPRINGS, COLORADO 80919  
(719) 227-0072

**WIDFIELD WATER AND SANITATION DISTRICT**  
ROLLING HILLS TANK INLET PIPELINE  
PLAN AND PROFILE  
ALIGNMENT STA 12+50 TO 18+50

NO.	DESCRIPTION	BY	APP.	DATE
1	EPC REVISIONS	SNW	GJD	04/29/21
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FOR CONSTRUCTION

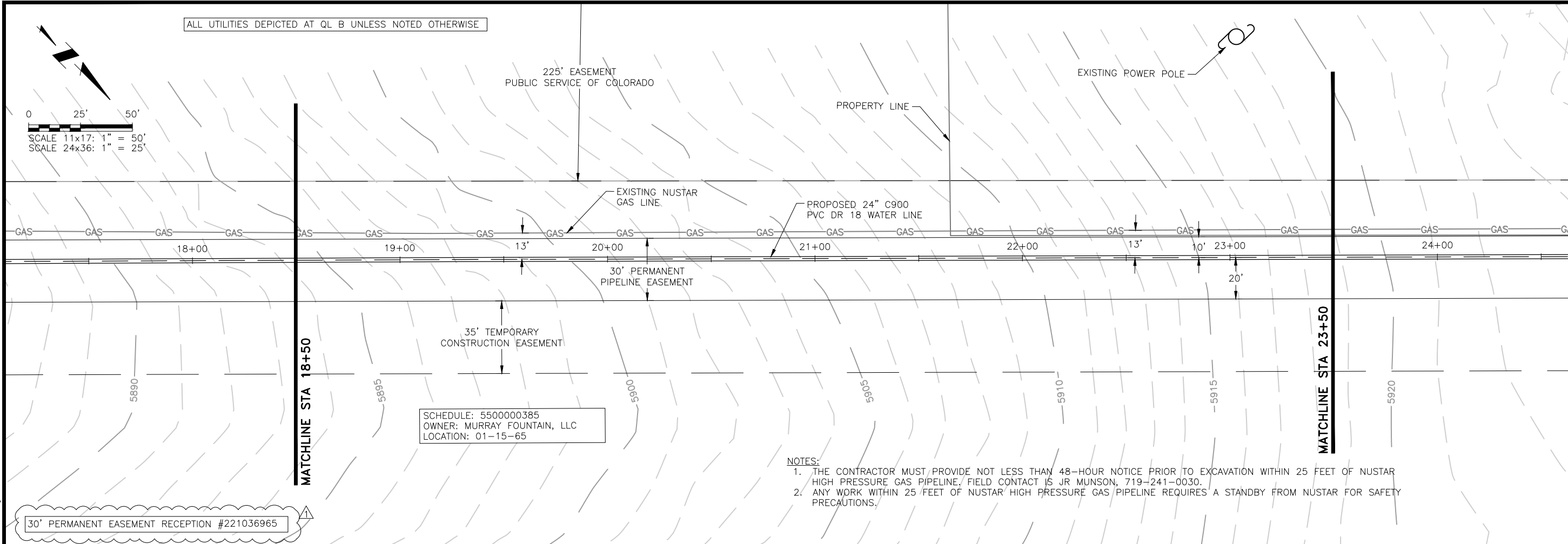


Project No.: 102.121  
Date: 02/11/21  
Design: GJD  
Drawn: SNW  
Check: JPM



ALL UTILITIES DEPICTED AT QL B UNLESS NOTED OTHERWISE

0 25' 50'  
 SCALE 11x17: 1" = 50'  
 SCALE 24x36: 1" = 25'

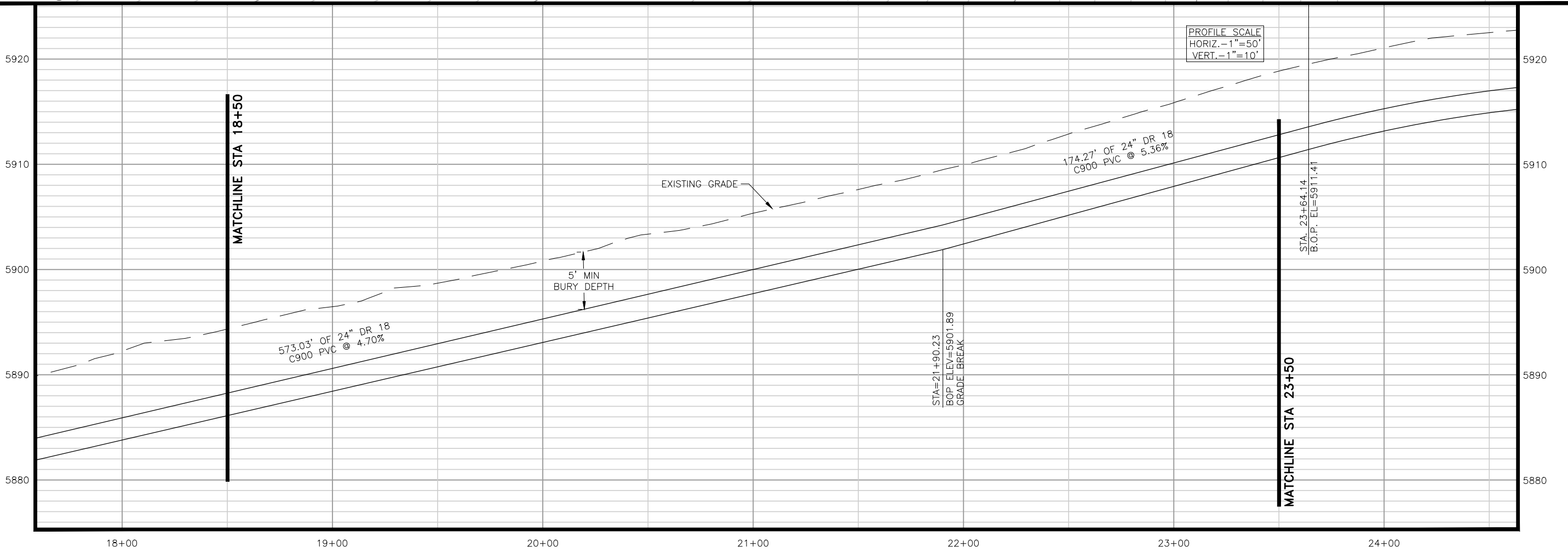


SCHEDULE: 5500000385  
 OWNER: MURRAY FOUNTAIN, LLC  
 LOCATION: 01-15-65

NOTES:

1. THE CONTRACTOR MUST PROVIDE NOT LESS THAN 48-HOUR NOTICE PRIOR TO EXCAVATION WITHIN 25 FEET OF NUSTAR HIGH PRESSURE GAS PIPELINE. FIELD CONTACT JS JR MUNSON, 719-241-0030.
2. ANY WORK WITHIN 25 FEET OF NUSTAR HIGH PRESSURE GAS PIPELINE REQUIRES A STANDBY FROM NUSTAR FOR SAFETY PRECAUTIONS.

30' PERMANENT EASEMENT RECEPTION #221036965



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**WIDEFIELD WATER AND SANITATION DISTRICT**  
 ROLLING HILLS TANK INLET PIPELINE  
 PLAN AND PROFILE  
 ALIGNMENT STA 18+50 TO 23+50

REVISIONS		BY	APP.	DATE
NO.	DESCRIPTION	SNW	GJD	04/29/21
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FOR CONSTRUCTION

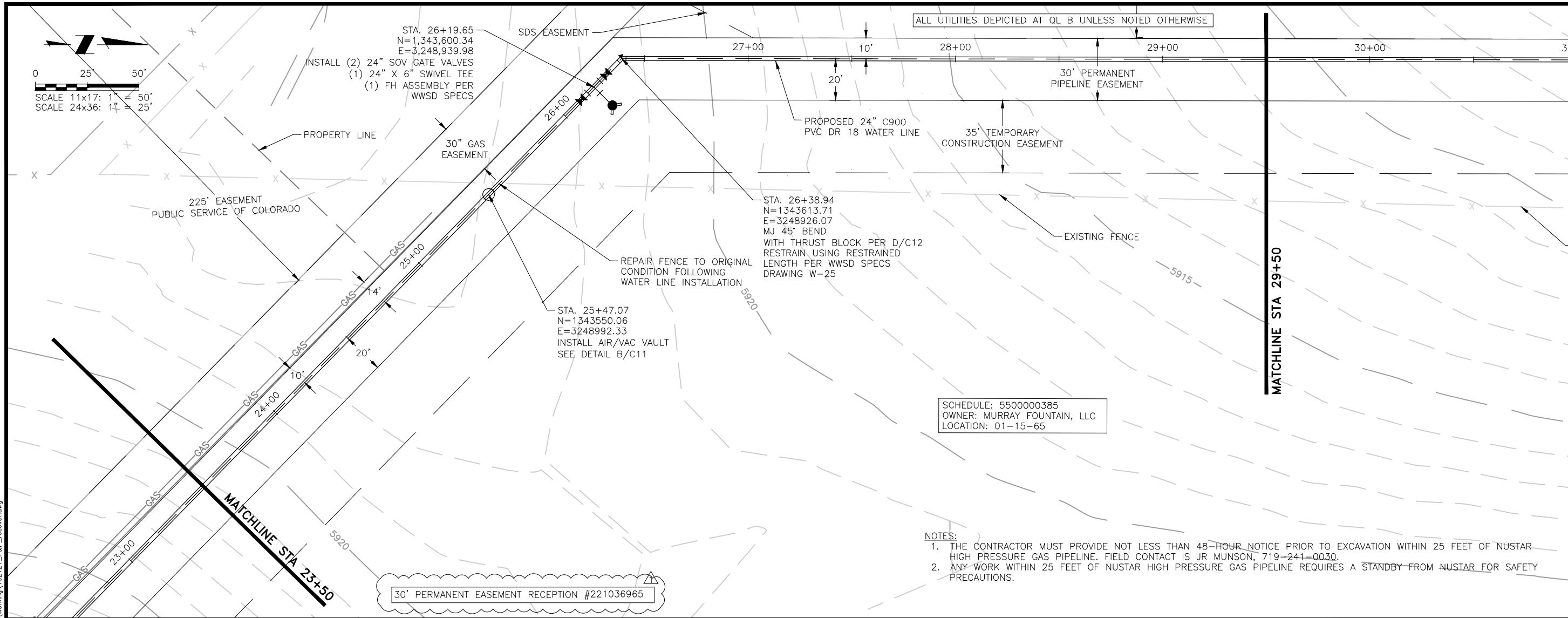


Project No.: 102.121  
 Date: 02/11/21  
 Design: GJD  
 Drawn: SNW  
 Check: JPM

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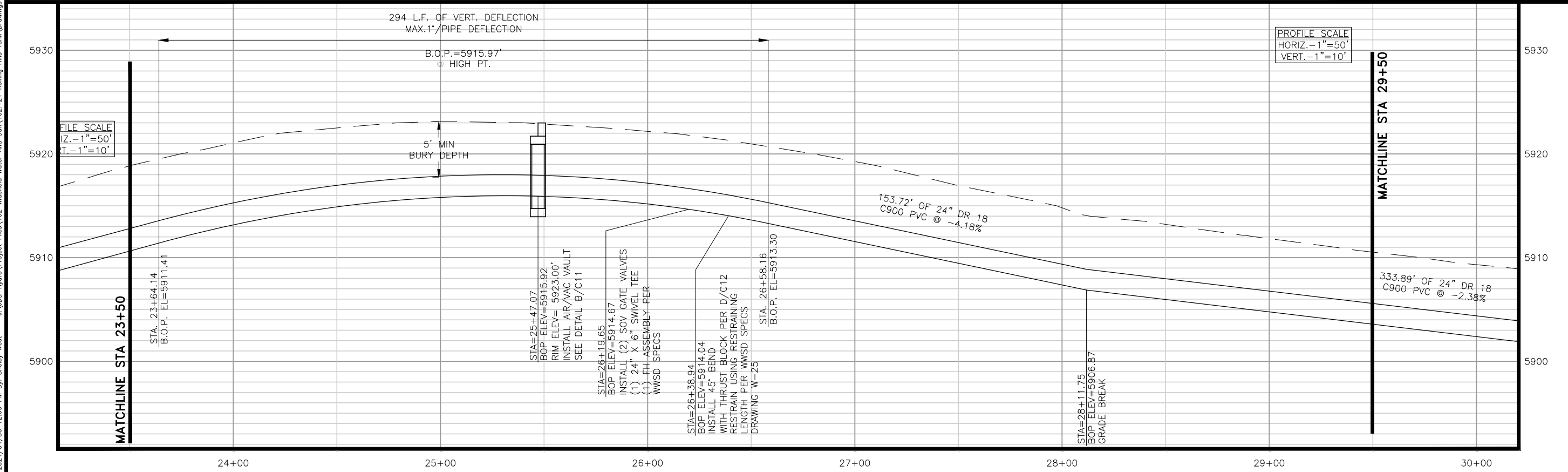


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SCHEDULE: 5500000385  
 OWNER: MURRAY FOUNTAIN, LLC  
 LOCATION: 01-15-65

- NOTES:
1. THE CONTRACTOR MUST PROVIDE NOT LESS THAN 48-HOUR NOTICE PRIOR TO EXCAVATION WITHIN 25 FEET OF MUSTAR HIGH PRESSURE GAS PIPELINE. FIELD CONTACT IS JR MUNSON, 719-241-0030.
  2. ANY WORK WITHIN 25 FEET OF MUSTAR HIGH PRESSURE GAS PIPELINE REQUIRES A STANDBY FROM MUSTAR FOR SAFETY PRECAUTIONS.



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**WIDEFIELD WATER AND SANITATION DISTRICT**  
 ROLLING HILLS TANK INLET PIPELINE  
 PLAN AND PROFILE  
 ALIGNMENT STA 23+50 TO 29+50

NO.	DESCRIPTION	BY	APP.	DATE
1	EPC REVISIONS	SNW	GJD	04/29/21
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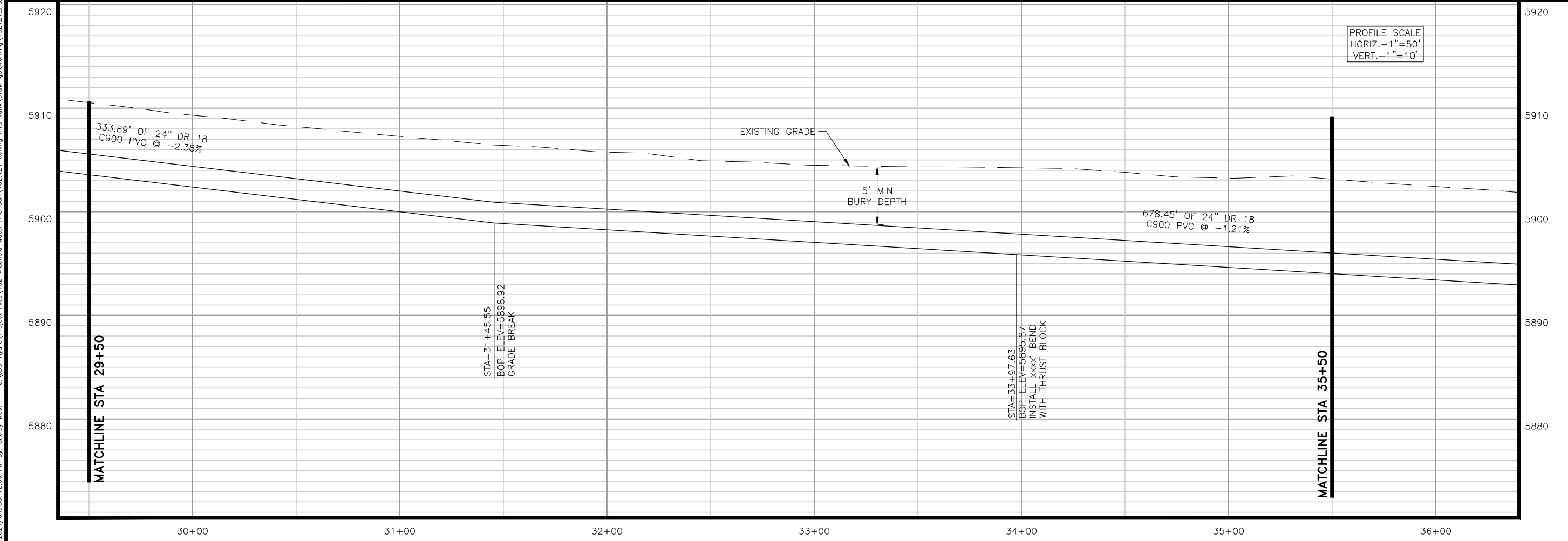
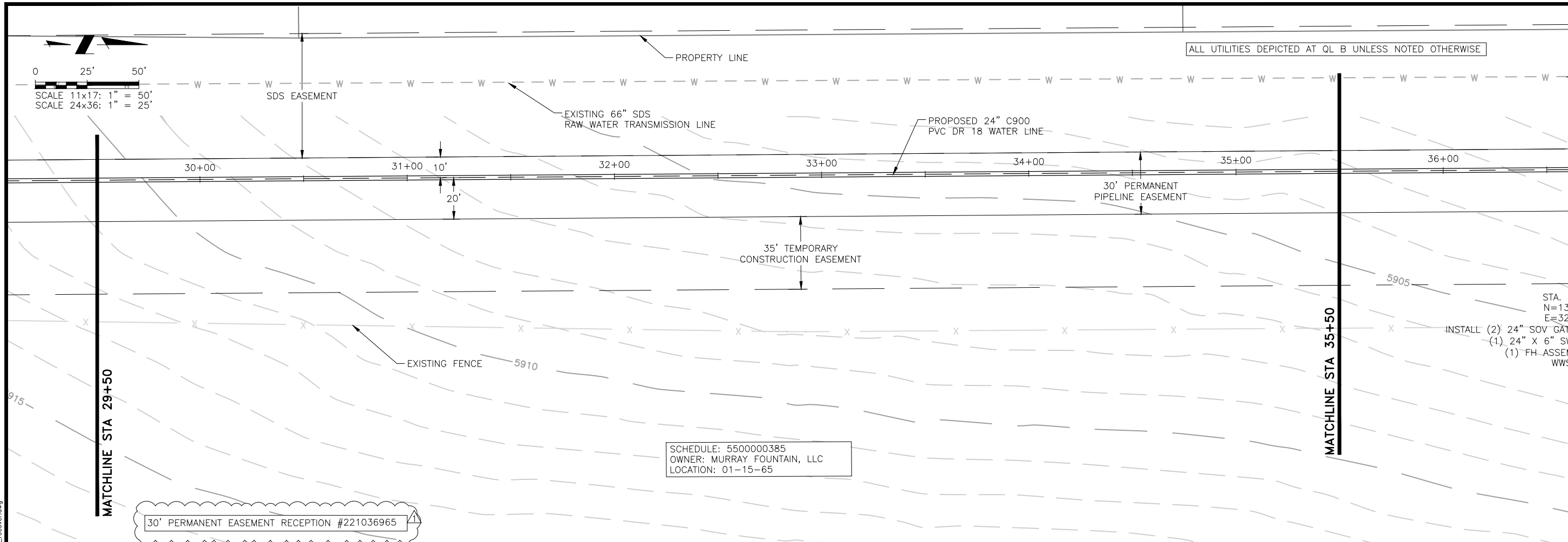
**FOR CONSTRUCTION**

PROFESSIONAL ENGINEER  
 COLORED LICENSED  
 4/30/21  
 0051810

Project No.: 102.121  
 Date: 02/11/21  
 Design: GJD  
 Drawn: SNW  
 Check: JPM



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**WIDEFIELD WATER AND SANITATION DISTRICT**  
 ROLLING HILLS TANK INLET PIPELINE  
 PLAN AND PROFILE  
 ALIGNMENT STA 29+50 TO 35+50

NO.	DESCRIPTION	BY	APP.	DATE
1	EPC REVISIONS	SNW	GJD	04/29/21
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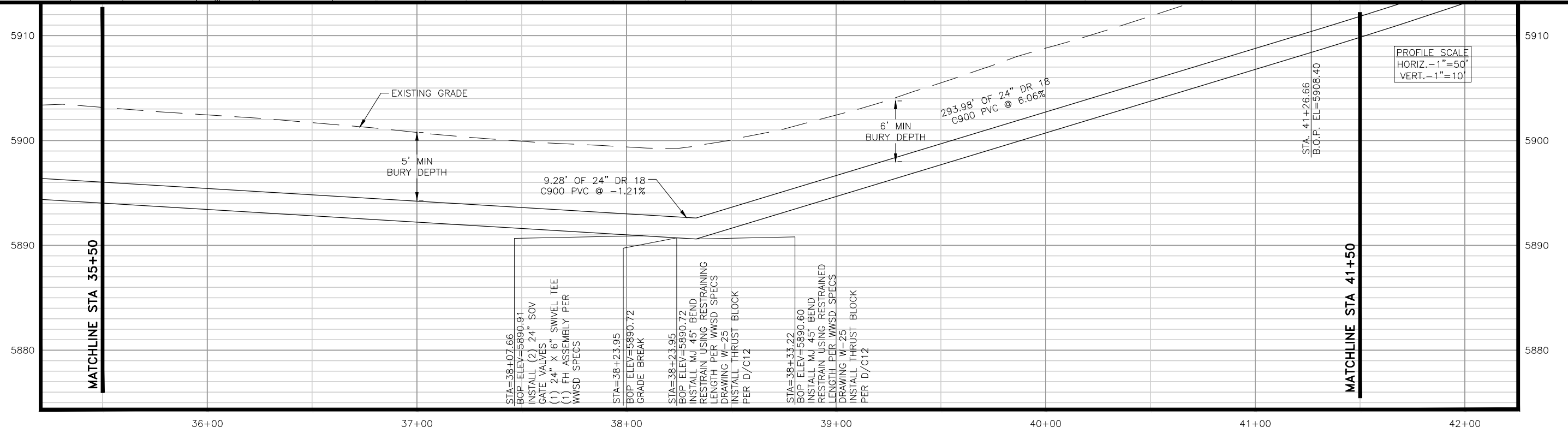
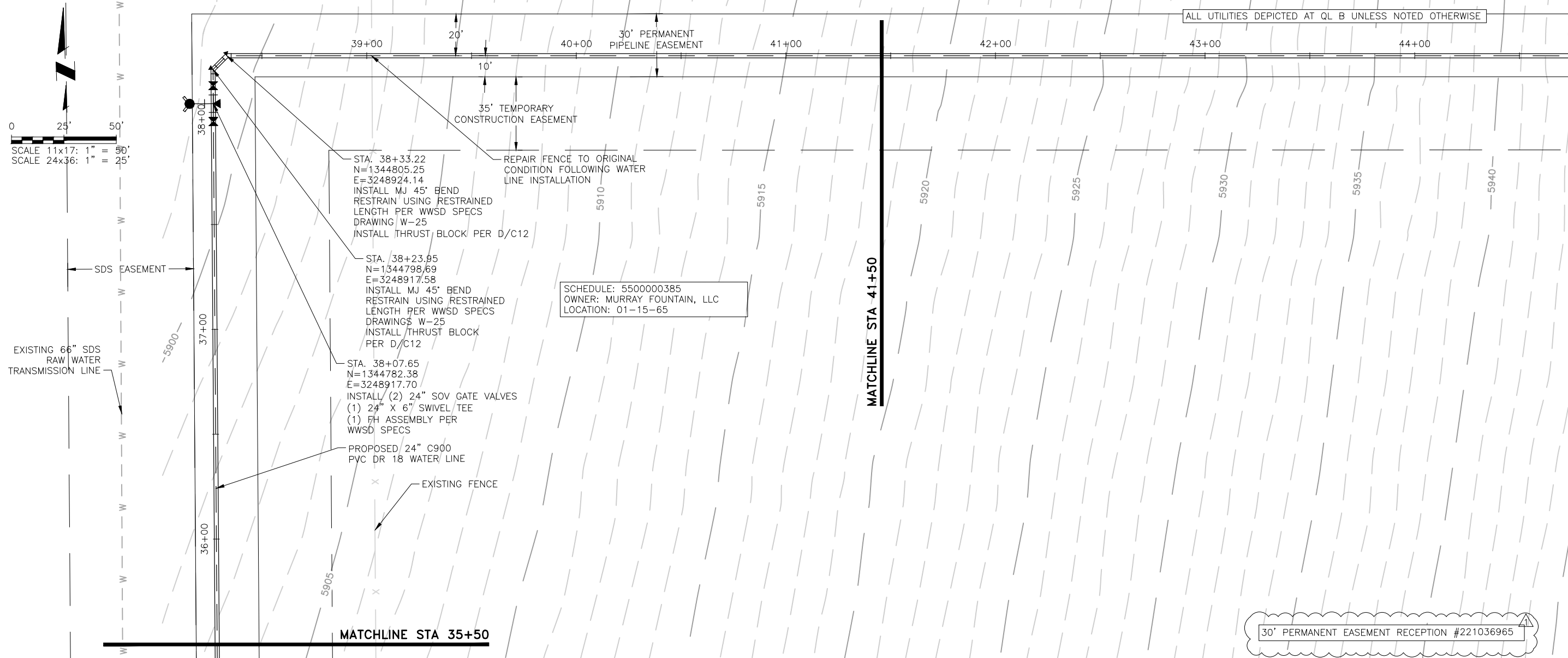
FOR CONSTRUCTION



Project No.: 102.121  
 Date: 02/11/21  
 Design: GJD  
 Drawn: SNW  
 Check: JPM



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**WIDEFIELD WATER AND SANITATION DISTRICT**  
 ROLLING HILLS TANK INLET PIPELINE  
 PLAN AND PROFILE  
 ALIGNMENT STA 35+50 TO 41+50

NO.	DESCRIPTION	BY	APP.	DATE
1	EPC REVISIONS	SNW	GJD	04/29/21
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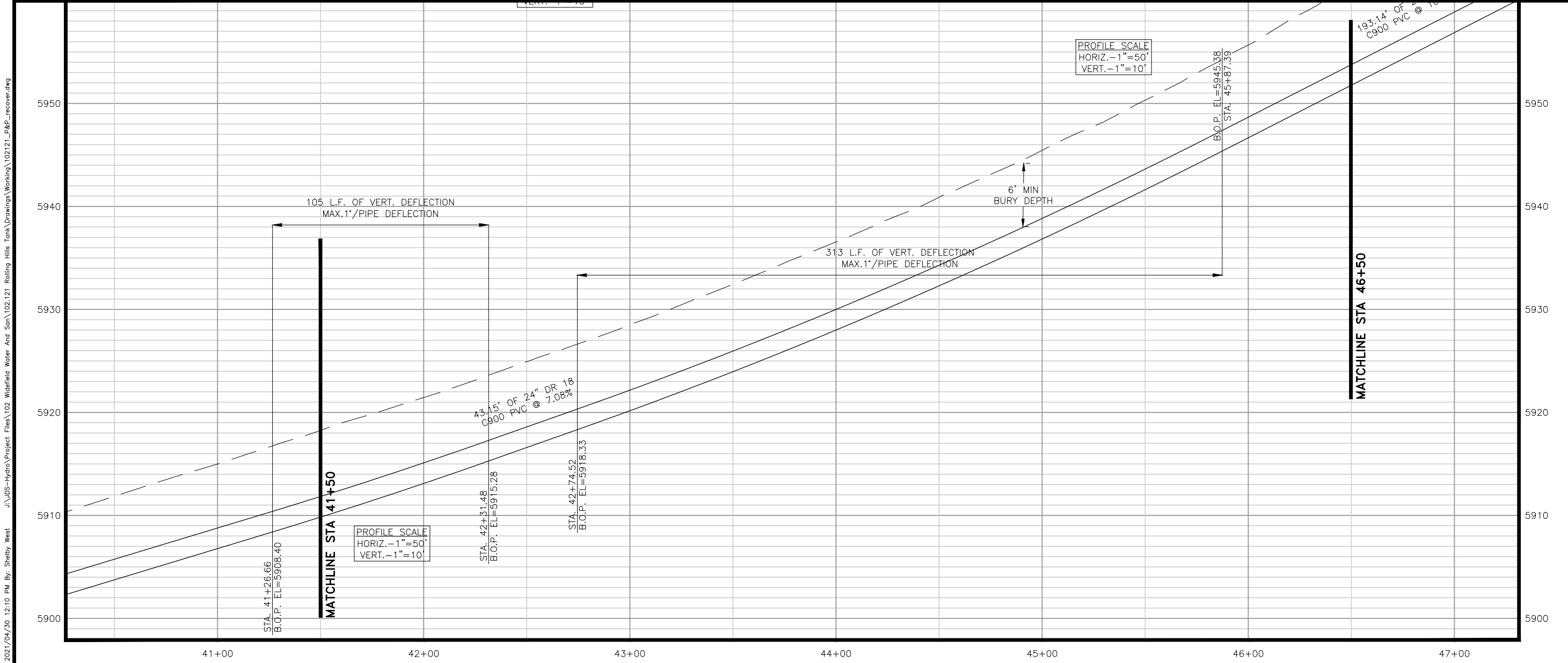
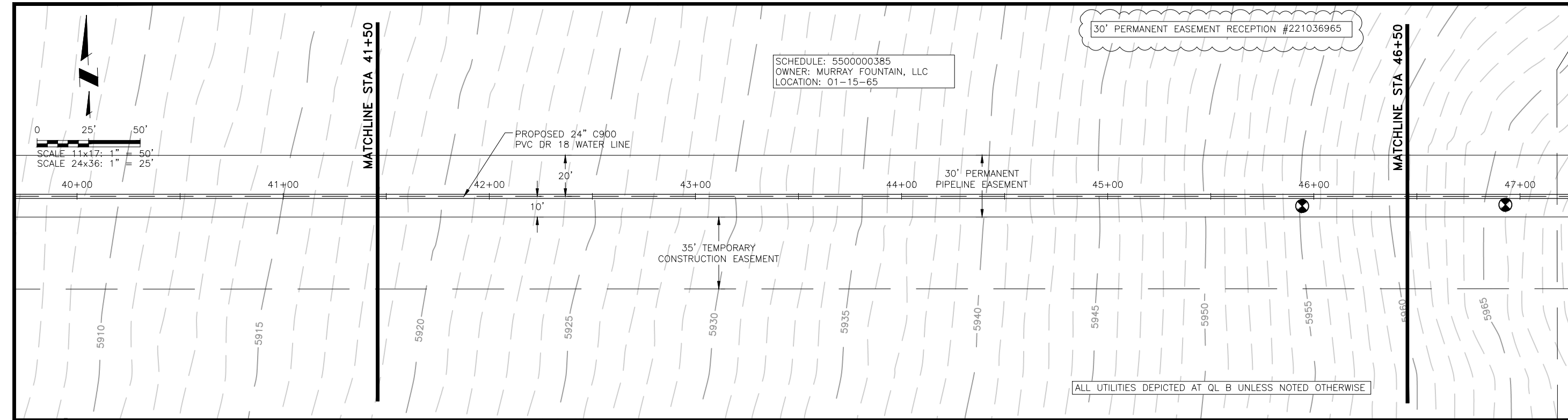
**FOR CONSTRUCTION**



Project No.: 102.121  
 Date: 02/11/21  
 Design: GJD  
 Drawn: SNW  
 Check: JPM



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**WIDEFIELD WATER AND SANITATION DISTRICT**  
 ROLLING HILLS TANK INLET PIPELINE  
 PLAN AND PROFILE  
 ALIGNMENT STA 41+50 TO 46+50

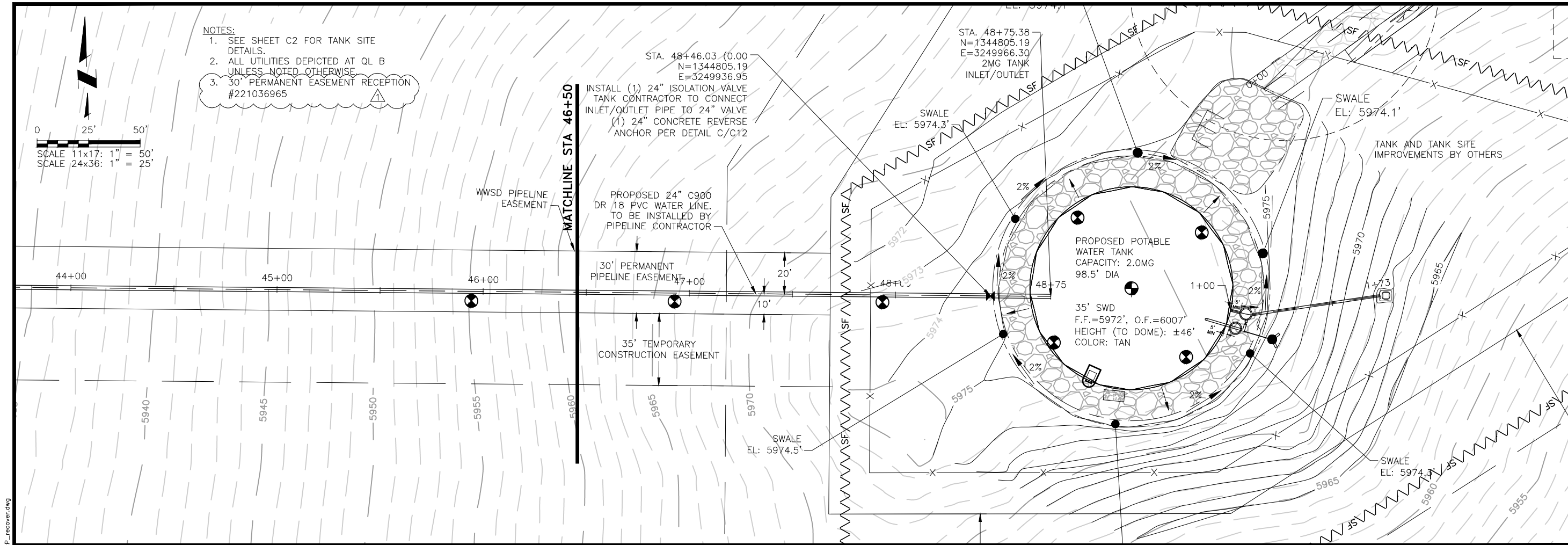
REVISIONS		BY	APP.	DATE
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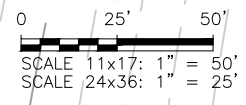
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 Date: 02/11/21  
 Design: GJD  
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- NOTES:
1. SEE SHEET C2 FOR TANK SITE DETAILS.
  2. ALL UTILITIES DEPICTED AT QL B UNLESS NOTED OTHERWISE.
  3. 30' PERMANENT EASEMENT RECEPTION #221036965



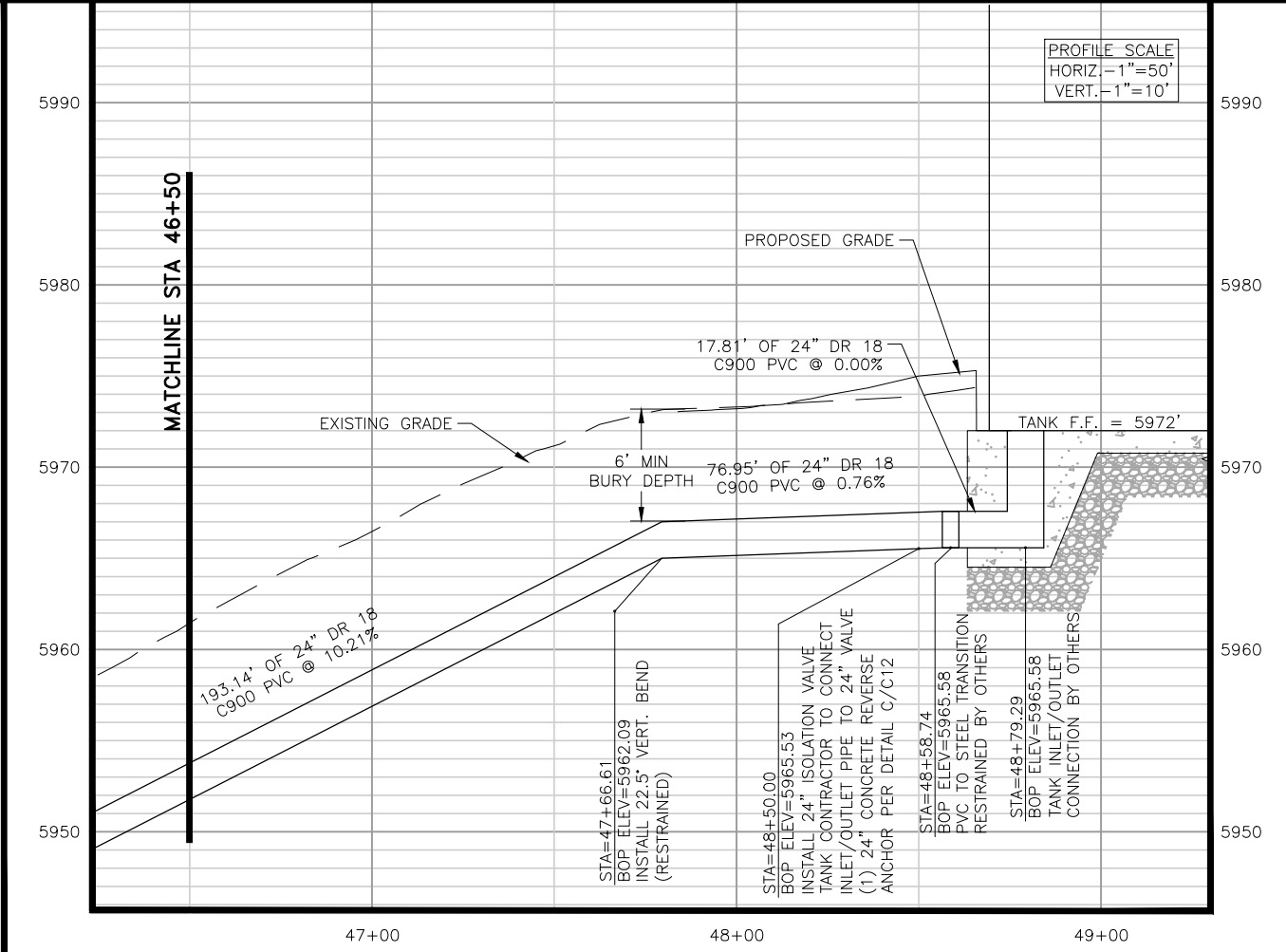
INSTALL (1) 24" ISOLATION VALVE  
TANK CONTRACTOR TO CONNECT  
INLET/OUTLET PIPE TO 24" VALVE  
(1) 24" CONCRETE REVERSE  
ANCHOR PER DETAIL C/C12

PROPOSED 24" C900  
DR 18 PVC WATER LINE.  
TO BE INSTALLED BY  
PIPELINE CONTRACTOR

30' PERMANENT  
PIPELINE EASEMENT

35' TEMPORARY  
CONSTRUCTION EASEMENT

PROFILE SCALE  
HORIZ. - 1" = 50'  
VERT. - 1" = 10'



MATCHLINE STA 46+50

193.14' OF 24" DR 18  
C900 PVC @ 10.21%

STA=47+66.61  
BOP ELEV=5962.09  
INSTALL 22.5' VERT. BEND  
(RESTRAINED)

STA=48+50.00  
BOP ELEV=5965.53  
INSTALL 24" ISOLATION VALVE  
TANK CONTRACTOR TO CONNECT  
INLET/OUTLET PIPE TO 24" VALVE  
(1) 24" CONCRETE REVERSE  
ANCHOR PER DETAIL C/C12

STA=48+58.74  
BOP ELEV=5965.58  
PVC TO STEEL TRANSITION  
RESTRAINED BY OTHERS

STA=48+79.29  
BOP ELEV=5965.58  
TANK INLET/OUTLET  
CONNECTION BY OTHERS

PROPOSED GRADE

17.81' OF 24" DR 18  
C900 PVC @ 0.00%

EXISTING GRADE

6' MIN  
BURY DEPTH

76.95' OF 24" DR 18  
C900 PVC @ 0.76%

TANK F.F. = 5972'

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**WIDFIELD WATER AND SANITATION DISTRICT**  
ROLLING HILLS TANK INLET PIPELINE  
PLAN AND PROFILE  
ALIGNMENT 46+50 TO 48+79.29

REVISIONS		BY	APP.	DATE
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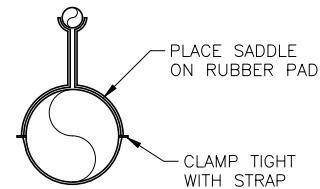
FOR CONSTRUCTION



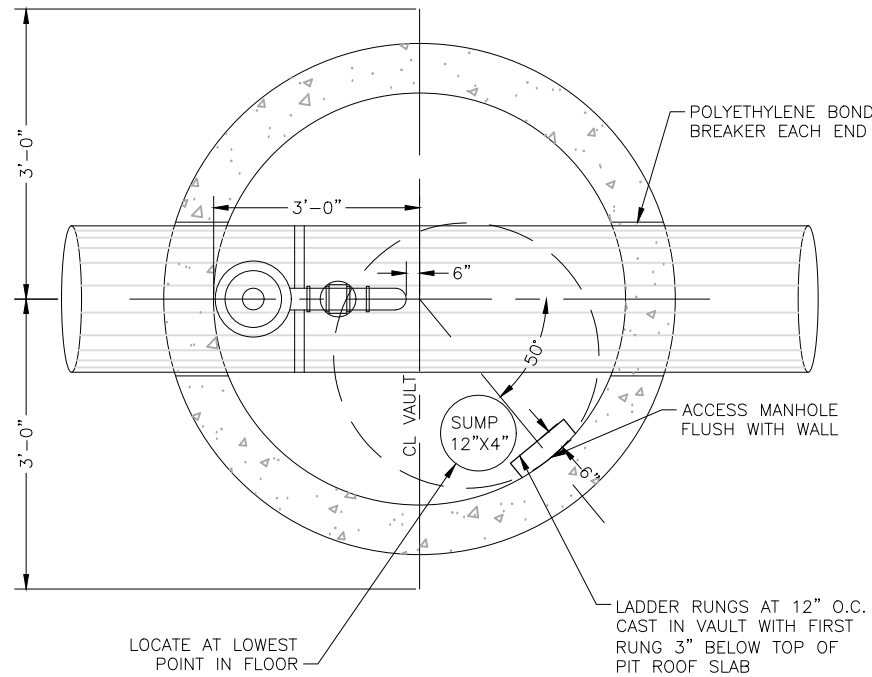
Project No.: 102.121  
Date: 02/11/21  
Design: GJD  
Drawn: SNW  
Check: JPM



2021/04/30 12:11 PM By: Shelby West J:\JDS-Hydro\Project Files\102 Widefield Water And San\102.121 Rolling Hills Tank\Drawings\Working\102121\_Civil\_Details.dwg



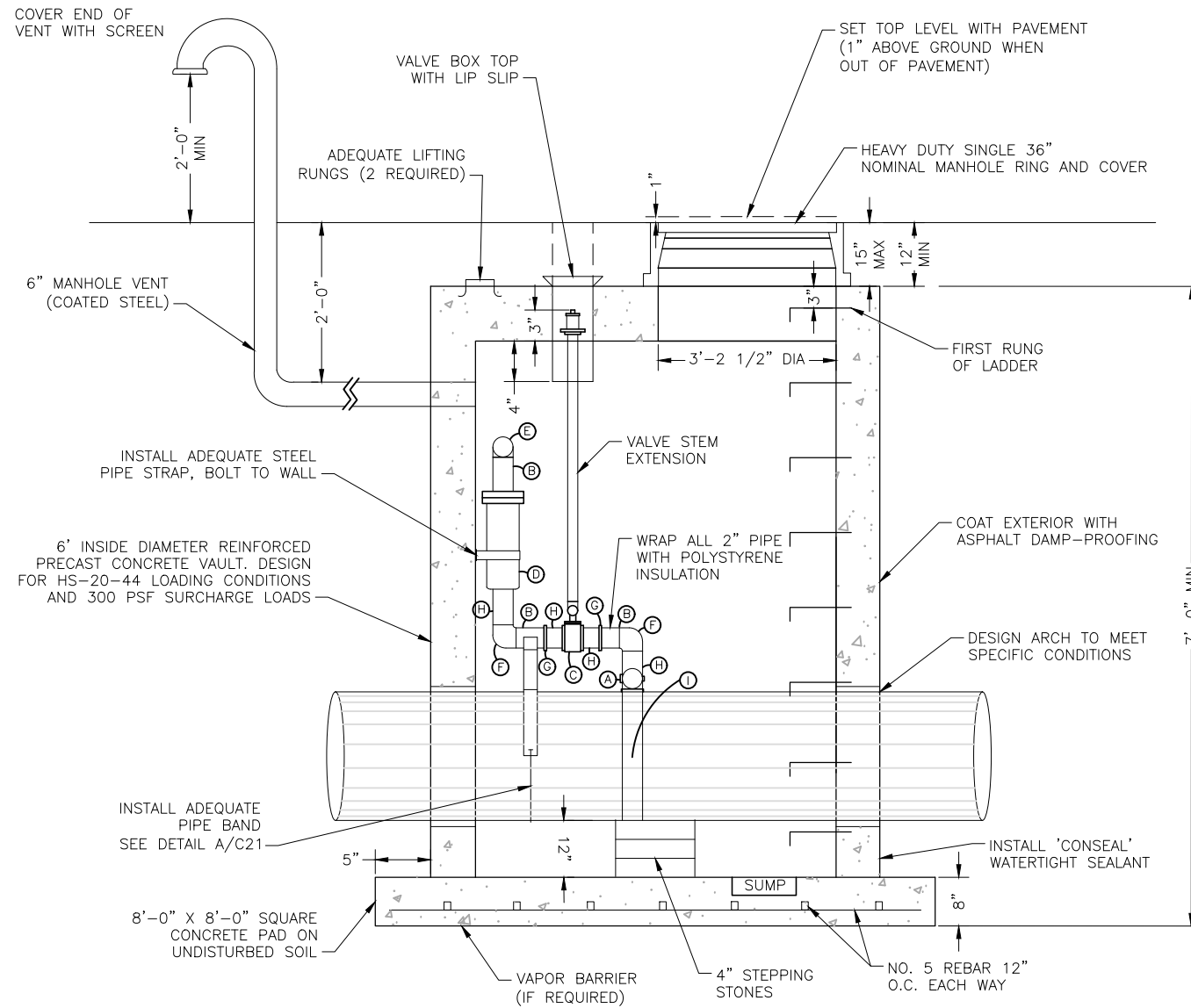
**A** PIPE STAND DETAIL  
C11 SCALE: 1/8" = 1'-0"



TOP VIEW

**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.



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

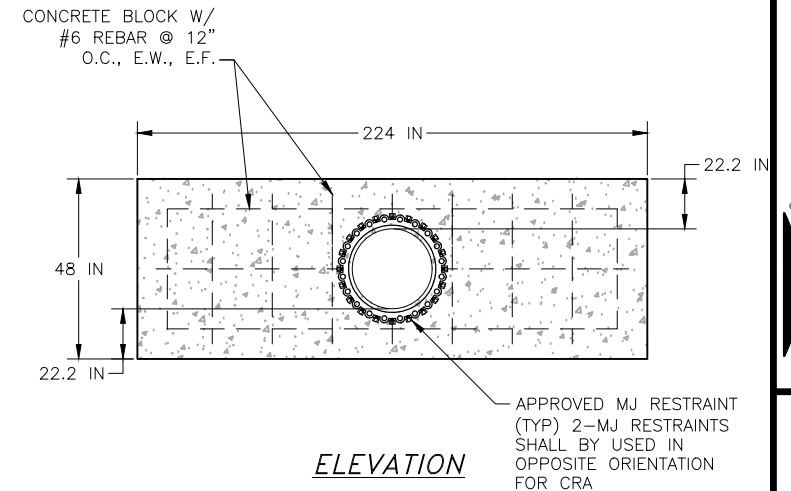
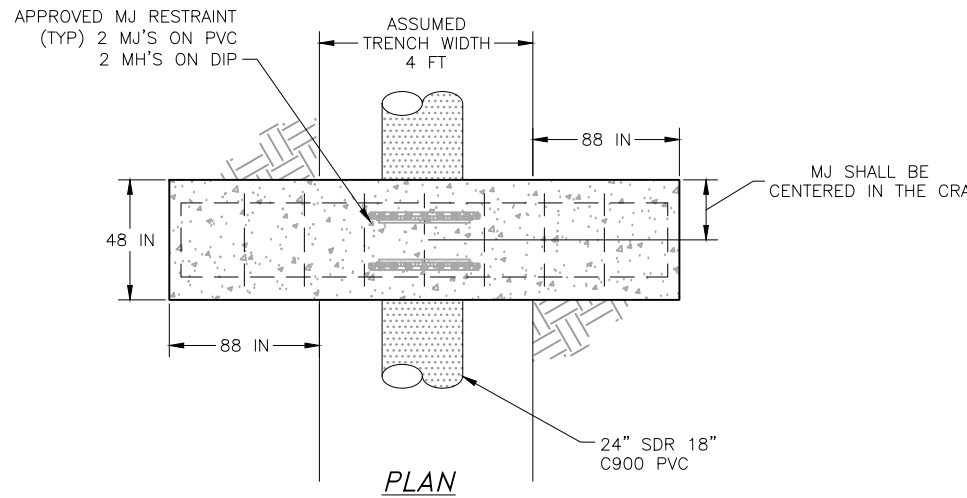
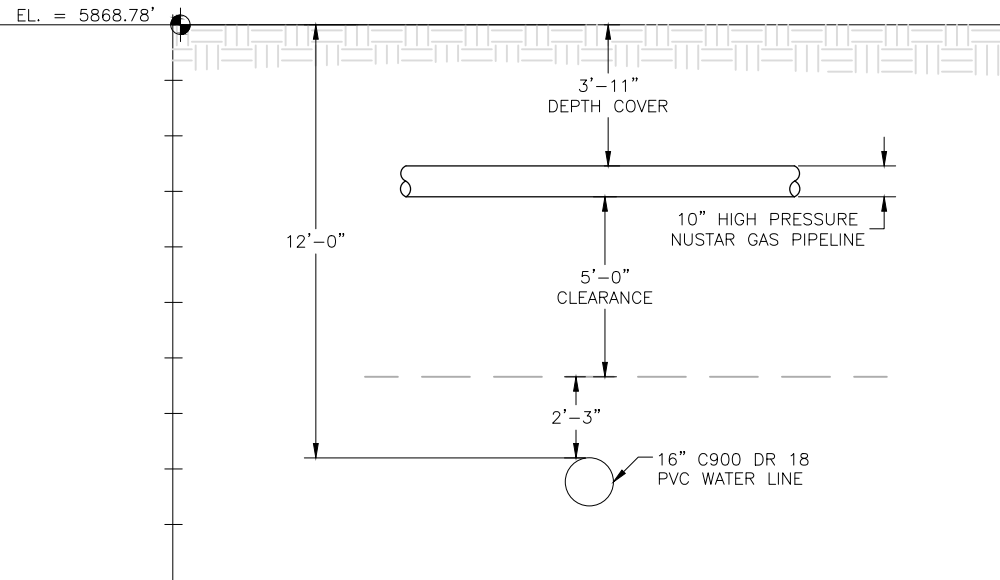
SCHEDULE	
A	2" CORPORATION TAPERED THREADS INLET WITH 2" FEMALE IRON PIPE OUTLET (MUELLER OR FORD)
B	2" CLOSE THREADED BRASS NIPPLE
C	2" THREADED GATE VALVE WITH STANDARD OPENING NUT
D	2" THREADED INLET VAL-MATIC AIR/VACUUM COMBINATION AIR VALVE, MODEL 202C
E	2" 90° PLASTIC ELBOW
F	2" 90° BRASS THREADED ELBOW
G	2" QUICK COUPLER
H	2" THREADED BRASS NIPPLE
I	2" ROMAC MODEL 202BS TAPPING SADDLE

NO.	DESCRIPTION	BY	APP.	DATE
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FOR CONSTRUCTION

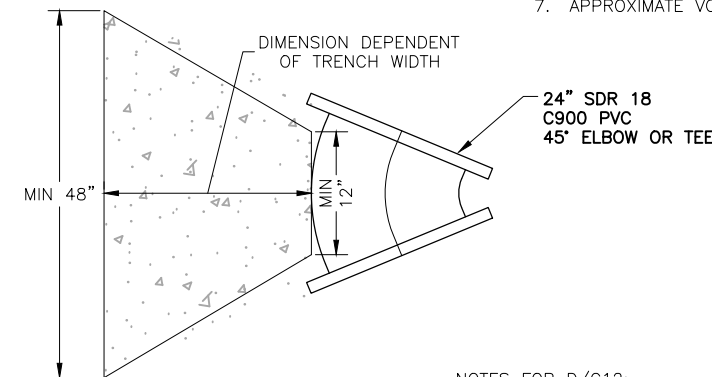
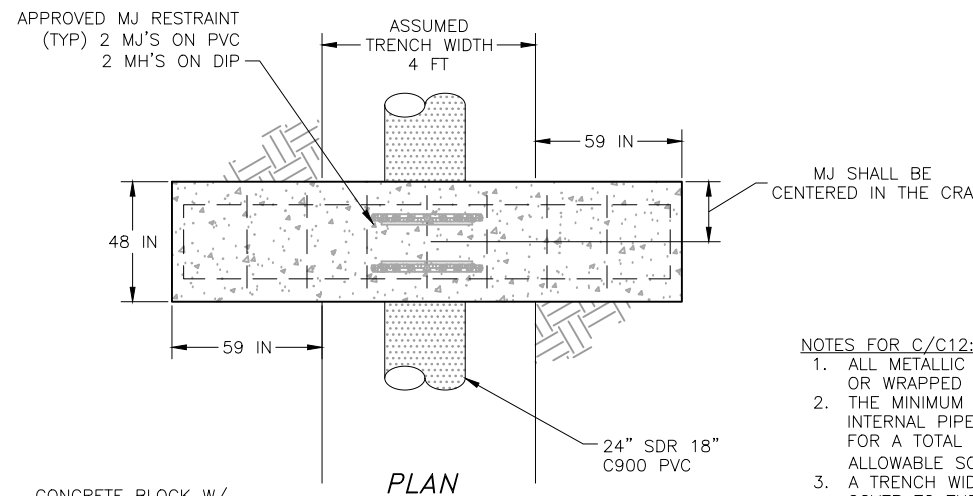


Project No.: 102.121  
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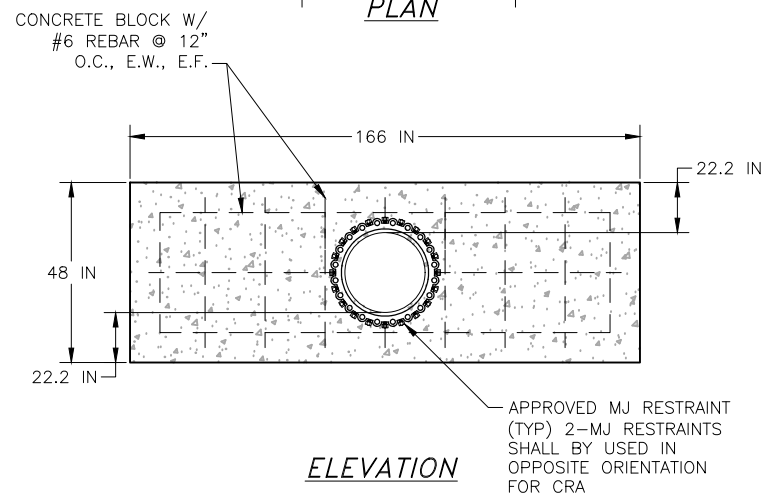
- NOTES:**
1. THE CONTRACTOR MUST PROVIDE NOT LESS THAN 48-HOUR NOTICE PRIOR TO EXCAVATION WITHIN 25 FEET OF NUSTAR HIGH PRESSURE GAS PIPELINE. FIELD CONTACT IS JR MUNSON, 719-241-0030.
  2. ANY WORK WITHIN 25 FEET OF NUSTAR HIGH PRESSURE GAS PIPELINE REQUIRES A STANDBY FROM NUSTAR FOR SAFETY PRECAUTIONS.
  3. VISUAL CONFIRMATION OF THE EXISTING PIPELINE'S LOCATION IS REQUIRED PRIOR TO CROSSING.
  4. SOIL MUST BE REMOVED BY NON-MECHANICAL MEANS 24 INCHES FROM THE NUSTAR HIGH PRESSURE GAS PIPELINE.

**A** UTILITY CROSSING DETAIL  
C12 SCALE: 1/4" = 1'-0"



- NOTES FOR C/C12:**
1. ALL METALLIC COMPONENTS TO BE ENCASED IN CONCRETE OR WRAPPED IN POLYETHYLENE TUBING.
  2. THE MINIMUM BEARING SURFACE AREA IS BASED ON 80 PSI INTERNAL PIPE PRESSURE PLUS 70 PSI FOR WATER HAMMER FOR A TOTAL OF 150 PSI, A SAFETY FACTOR OF 1.5 AND AN ALLOWABLE SOIL BEARING CAPACITY OF 3000 LB/FT<sup>2</sup>.
  3. A TRENCH WIDTH OF 4 FEET AND A MINIMUM DEPTH OF COVER TO THE TOP OF THE PIPE OF 5 FEET WAS ASSUMED FOR BEARING CALCULATIONS.
  4. DIMENSIONS SHOWN ARE THE MINIMUM AND USED TO CALCULATE THE APPROXIMATE VOLUME OF CONCRETE.
  5. REFERENCE AWWA M-23
  6. MINIMUM BEARING AREA = 39.21 FT<sup>2</sup>
  7. APPROXIMATE VOLUME OF CONCRETE = 8.25 CYD

- NOTES FOR D/C12:**
1. THRUST BLOCK TO BEAR AGAINST NATIVE SOIL
  2. RESTRAINED LENGTH OR CONCRETE REVERSE ANCHOR TO BE UTILIZED TO ACHIEVE FULL THRUST SUPPORT.



**D** SUPPLEMENTAL THRUST BLOCK FOR 24 INCH 45 DEGREE BEND AND TEE  
C12 SCALE: N.T.S.

FOR STA 11+70.97  
STA 26+38.94  
STA 38+23.95  
STA 38+33.22

**C** REVERSE ANCHOR DETAIL - STA 48+49.94  
C12 SCALE: N.T.S.

- NOTES FOR B/C12:**
1. ALL METALLIC COMPONENTS TO BE ENCASED IN CONCRETE OR WRAPPED IN POLYETHYLENE TUBING.
  2. THE MINIMUM BEARING SURFACE AREA IS BASED ON 80 PSI INTERNAL PIPE PRESSURE PLUS 70 PSI FOR WATER HAMMER FOR A TOTAL OF 150 PSI, A SAFETY FACTOR OF 1.5 AND AN ALLOWABLE SOIL BEARING CAPACITY OF 2000 LB/FT<sup>2</sup>.
  3. A TRENCH WIDTH OF 4 FEET AND A MINIMUM DEPTH OF COVER TO THE TOP OF THE PIPE OF 5 FEET WAS ASSUMED FOR BEARING CALCULATIONS.
  4. DIMENSIONS SHOWN ARE THE MINIMUM AND USED TO CALCULATE THE APPROXIMATE VOLUME OF CONCRETE.
  5. REFERENCE AWWA M-23
  6. MINIMUM BEARING AREA = 58.8 FT<sup>2</sup>
  7. APPROXIMATE VOLUME OF CONCRETE = 11.25 CYD

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**WIDEFIELD WATER AND SANITATION DISTRICT**  
ROLLING HILLS TANK INLET PIPELINE  
PIPELINE CIVIL DETAILS

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FOR CONSTRUCTION

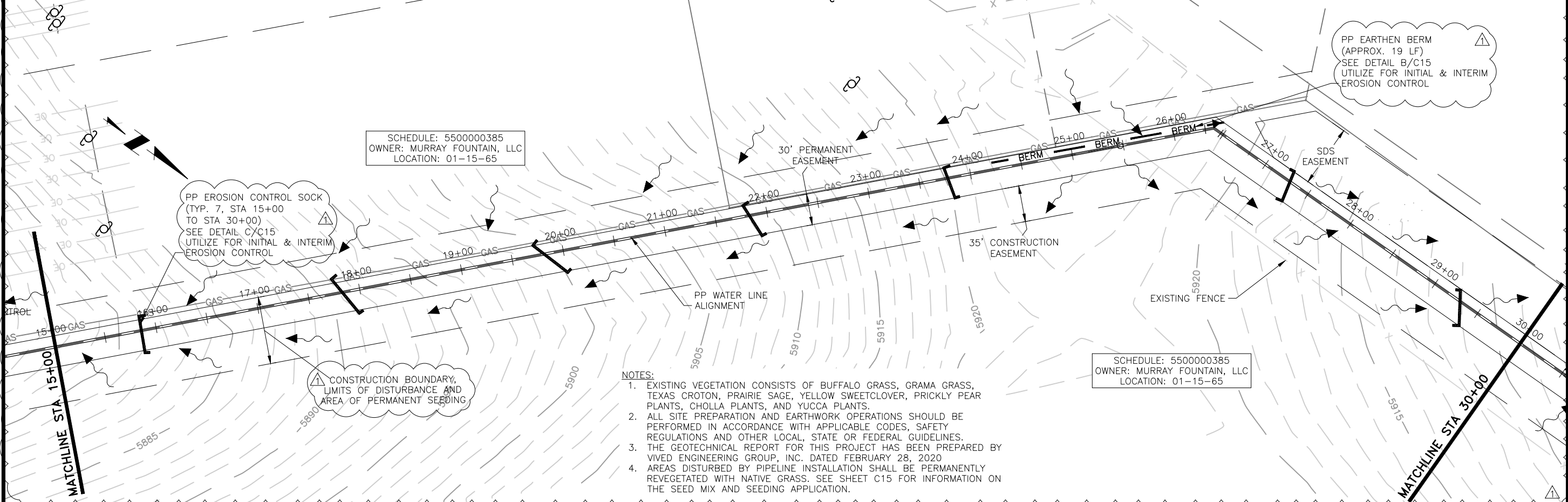
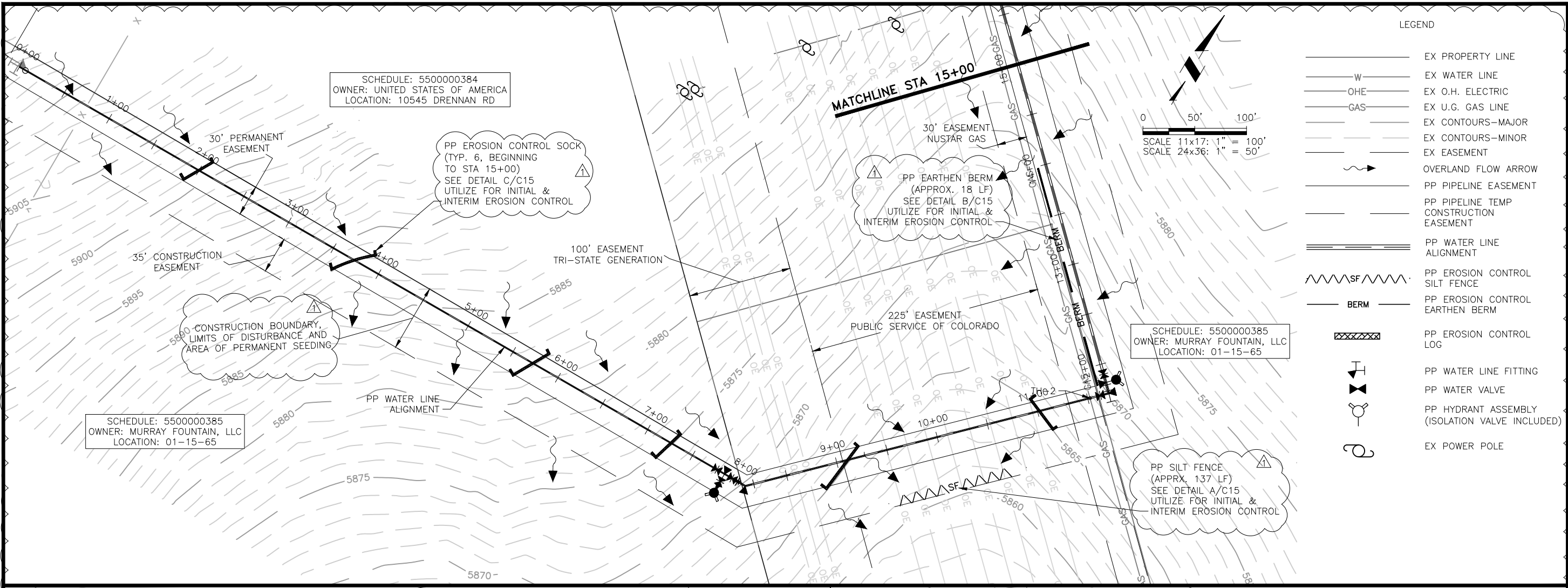


Project No.: 102.121  
Date: 02/11/21  
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**C12**  
SHEET 13 OF 16



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LEGEND

	EX PROPERTY LINE
	EX WATER LINE
	EX O.H. ELECTRIC
	EX U.G. GAS LINE
	EX CONTOURS-MAJOR
	EX CONTOURS-MINOR
	EX EASEMENT
	OVERLAND FLOW ARROW
	PP PIPELINE EASEMENT
	PP PIPELINE TEMP CONSTRUCTION EASEMENT
	PP WATER LINE ALIGNMENT
	PP EROSION CONTROL SILT FENCE
	PP EROSION CONTROL EARTHEN BERM
	PP EROSION CONTROL LOG
	PP WATER LINE FITTING
	PP WATER VALVE
	PP HYDRANT ASSEMBLY (ISOLATION VALVE INCLUDED)
	EX POWER POLE

SCHEDULE: 5500000385  
OWNER: MURRAY FOUNTAIN, LLC  
LOCATION: 01-15-65

SCHEDULE: 5500000384  
OWNER: UNITED STATES OF AMERICA  
LOCATION: 10545 DRENNAN RD

SCHEDULE: 5500000385  
OWNER: MURRAY FOUNTAIN, LLC  
LOCATION: 01-15-65

SCHEDULE: 5500000385  
OWNER: MURRAY FOUNTAIN, LLC  
LOCATION: 01-15-65

SCHEDULE: 5500000385  
OWNER: MURRAY FOUNTAIN, LLC  
LOCATION: 01-15-65

- NOTES:
- EXISTING VEGETATION CONSISTS OF BUFFALO GRASS, GRAMA GRASS, TEXAS CROTON, PRAIRIE SAGE, YELLOW SWEETCLOVER, PRICKLY PEAR PLANTS, CHOLLA PLANTS, AND YUCCA PLANTS.
  - ALL SITE PREPARATION AND EARTHWORK OPERATIONS SHOULD BE PERFORMED IN ACCORDANCE WITH APPLICABLE CODES, SAFETY REGULATIONS AND OTHER LOCAL, STATE OR FEDERAL GUIDELINES.
  - THE GEOTECHNICAL REPORT FOR THIS PROJECT HAS BEEN PREPARED BY VIVED ENGINEERING GROUP, INC. DATED FEBRUARY 28, 2020
  - AREAS DISTURBED BY PIPELINE INSTALLATION SHALL BE PERMANENTLY REVEGETATED WITH NATIVE GRASS. SEE SHEET C15 FOR INFORMATION ON THE SEED MIX AND SEEDING APPLICATION.

**JDS-HYDRO** CONSULTANTS, INC.  
 5640 TECH CENTER DR., SUITE 100  
 COLORADO SPRINGS, COLORADO 80919  
 (719) 227-0072  
DISCLAIMER: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

**WIDEFIELD WATER AND SANITATION DISTRICT**  
 ROLLING HILLS TANK INLET PIPELINE  
 EROSION CONTROL PLAN

NO.	DESCRIPTION	BY	DATE
1	EPC REVISIONS	SNW	GJD 04/29/21
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FOR CONSTRUCTION



Project No.: 102.121  
Date: 02/11/21  
Design: GJD  
Drawn: SNW  
Check: JPM



0 50' 100'  
 SCALE 11x17: 1" = 100'  
 SCALE 24x36: 1" = 50'

TRISTATE/  
 PUBLIC SERVICE OF COLORADO  
 EASEMENTS

30' EASEMENT  
 NUSTAR GAS

SDS  
 EASEMENT

PP WATER LINE  
 ALIGNMENT

PP EROSION CONTROL SOCK  
 (TYP. 6, STA 30+00  
 TO STA 45+00)  
 SEE DETAIL C/C15  
 UTILIZE FOR INITIAL &  
 INTERIM EROSION CONTROL

SCHEDULE: 5500000385  
 OWNER: MURRAY FOUNTAIN, LLC  
 LOCATION: 01-15-65

PP EARTHEN BERM  
 (APPROX. 67 LF)  
 SEE DETAIL B/C15  
 UTILIZE FOR INITIAL &  
 INTERIM EROSION CONTROL

EXISTING FENCE

CONSTRUCTION BOUNDARY,  
 LIMITS OF DISTURBANCE  
 AND AREA OF PERMANENT SEEDING

SCHEDULE: 5500000385  
 OWNER: MURRAY FOUNTAIN, LLC  
 LOCATION: 01-15-65

35' CONSTRUCTION  
 EASEMENT

30' PERMANENT  
 EASEMENT

MATCHLINE STA 30+00

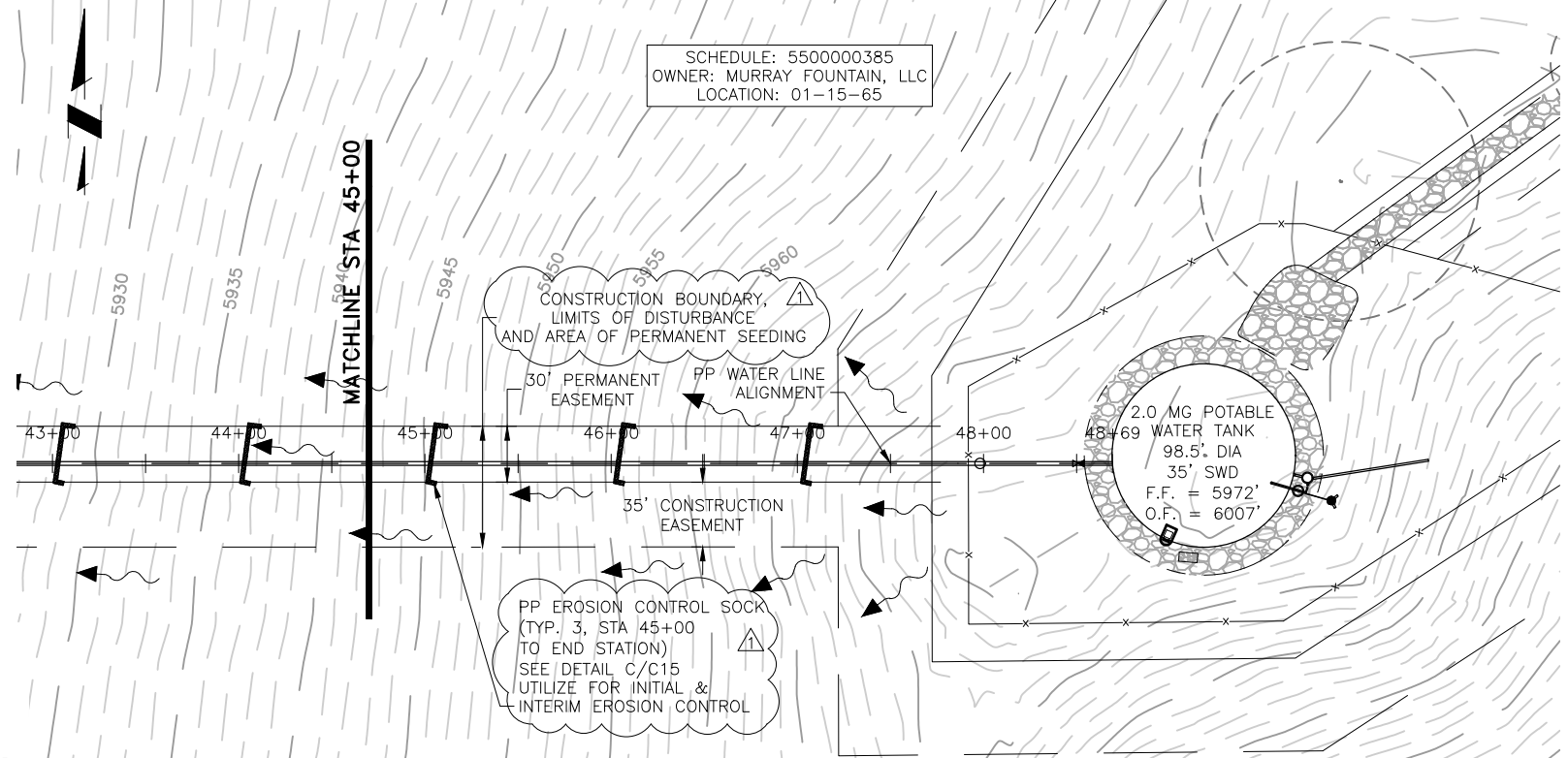
MATCHLINE STA 45+00

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WIDEFIELD WATER AND SANITATION DISTRICT  
 ROLLING HILLS TANK INLET PIPELINE  
 EROSION CONTROL PLAN

2021/04/30 12:10 PM By: Shelby West j:\JDS-Hydro\Project\_Files\102\_Widefield Water And San\102\_121\_Rolling Hills Tank Drawings\Working\102121\_Erosion Control.dwg

- NOTES:**
- EXISTING VEGETATION CONSISTS OF BUFFALO GRASS, GRAMA GRASS, TEXAS CROTON, PRAIRIE SAGE, YELLOW SWEETCLOVER, PRICKLY PEAR PLANTS, CHOLLA PLANTS, AND YUCCA PLANTS.
  - ALL SITE PREPARATION AND EARTHWORK OPERATIONS SHOULD BE PERFORMED IN ACCORDANCE WITH APPLICABLE CODES, SAFETY REGULATIONS AND OTHER LOCAL, STATE OR FEDERAL GUIDELINES.
  - THE GEOTECHNICAL REPORT FOR THIS PROJECT HAS BEEN PREPARED BY VIVED ENGINEERING GROUP, INC. DATED FEBRUARY 28, 2020
  - AREAS DISTURBED BY PIPELINE INSTALLATION SHALL BE PERMANENTLY REVEGETATED WITH NATIVE GRASS. SEE SHEET C15 FOR INFORMATION ON THE SEED MIX AND SEEDING APPLICATION.



SCHEDULE: 5500000385  
 OWNER: MURRAY FOUNTAIN, LLC  
 LOCATION: 01-15-65

CONSTRUCTION BOUNDARY,  
 LIMITS OF DISTURBANCE  
 AND AREA OF PERMANENT SEEDING

PP EROSION CONTROL SOCK  
 (TYP. 3, STA 45+00  
 TO END STATION)  
 SEE DETAIL C/C15  
 UTILIZE FOR INITIAL &  
 INTERIM EROSION CONTROL

**LEGEND**

- EX PROPERTY LINE
- W — EX WATER LINE
- OHE — EX O.H. ELECTRIC
- GAS — EX U.G. GAS LINE
- EX CONTOURS—MAJOR
- EX CONTOURS—MINOR
- EX EASEMENT
- ~> OVERLAND FLOW ARROW
- PP PIPELINE EASEMENT
- PP PIPELINE TEMP CONSTRUCTION EASEMENT
- PP WATER LINE ALIGNMENT
- PP EROSION CONTROL SILT FENCE
- BERM — PP EROSION CONTROL EARTHEN BERM
- PP EROSION CONTROL LOG
- PP WATER LINE FITTING
- PP WATER VALVE
- PP HYDRANT ASSEMBLY (ISOLATION VALVE INCLUDED)
- EX POWER POLE

NO.	DESCRIPTION	BY	APP.	DATE	REVISIONS									
					SNW	GJD	04/29/21							
1	EPC REVISIONS													
2														
3														
4														
5														
6														
7														

**FOR CONSTRUCTION**



Project No.: 102.121  
 Date: 02/11/21  
 Design: GJD  
 Drawn: SNW  
 Check: JPM



**EROSION CONTROL NOTES**

- 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.
- NOTWITHSTANDING 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 VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- 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 PRE-CONSTRUCTION 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.
- ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATION 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 MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
- TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE 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 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 EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
- ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED 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 IMPLEMENTATION.
- EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED 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 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 CONTROL MEASURES MUST BE LOOSENEED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
- ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER 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 DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
- 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.
- 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.
- TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- 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.
- NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ON-SITE 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.
- 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.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- 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.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- 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.
- 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)
- 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:**

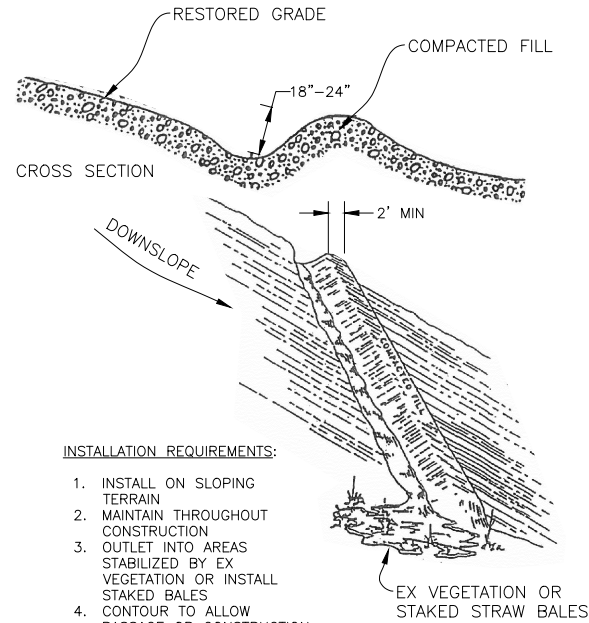
COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT  
 WATER QUALITY CONTROL DIVISION  
 WQCD - PERMITS  
 4300 CHERRY CREEK DRIVE SOUTH  
 DENVER, CO 80246-1530  
 ATTN: PERMITS UNIT

**SEED MIX**

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

COMMON NAME	RECOMMENDED CULTIVAR	% OF SEED MIX	NON IRRIGATED PLS RATE PER ACRE DRILL	BROADCAST
BIG BLUESTEM, NATIVE	KAW, BISON, CHAMP	20.00%	5.5	11.0
BLUE GRAMA, NATIVE	LOVINGTON, HACHITA, ALMA	10.00%	1.5	3.0
GREEN NEEDLEGRASS, NATIVE	LODORM	10.00%	5.0	10.0
WESTERN WHEATGRASS, NATIVE	ARRIBA, BARTON	20.00%	8.0	16.0
SIDEGOATS GRAMA, NATIVE	VAUGHN, BUTTE, EL RENO, NINER	10.00%	4.5	9.0
SWITHGRASS, NATIVE	BLACKWELL, GREENVILLE	10.00%	2.0	4.0
PRAIRIE SANDREED, NATIVE	GOSHEN, PRONGHORN	10.00%	3.5	7.0
YELLOW INDIANGRASS, NATIVE	CHEYENNE, HOLT, 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.



**INSTALLATION REQUIREMENTS:**

- INSTALL ON SLOPING TERRAIN
- MAINTAIN THROUGHOUT CONSTRUCTION
- OUTLET INTO AREAS STABILIZED BY EX VEGETATION OR INSTALL STAKED BALES
- CONTOUR TO ALLOW PASSAGE OR CONSTRUCTION EQUIPMENT
- MAINTAIN 2% LATERAL SLOPE

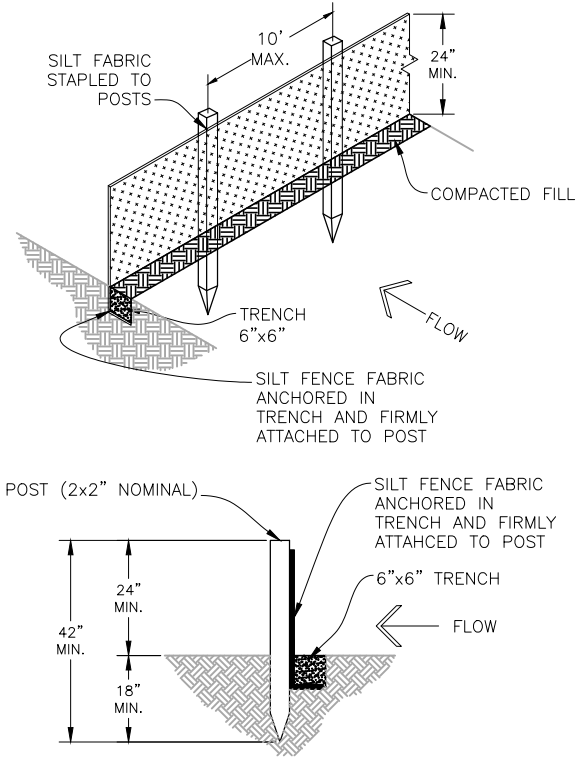
**B EARTHEN BERM**  
 C15 SCALE: N.T.S.

**INSTALLATION REQUIREMENTS:**

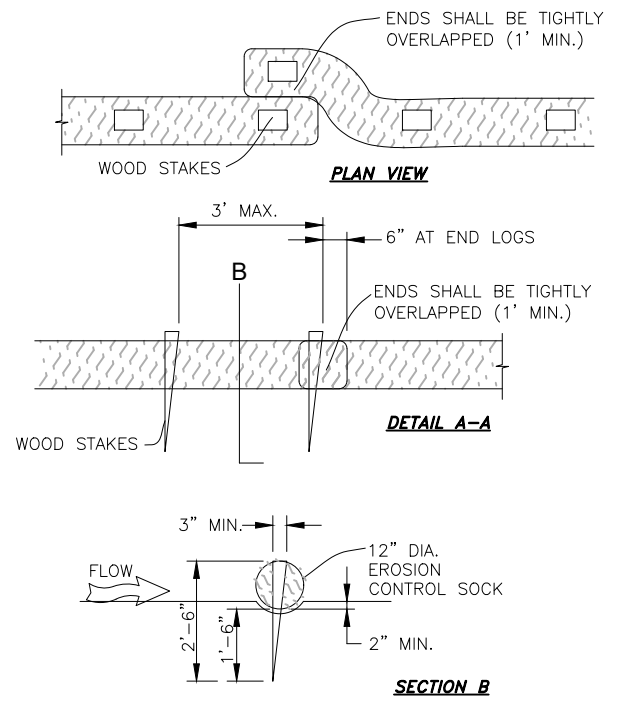
- SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.
- METAL POSTS SHALL BE "STUDDED TEE" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.
- 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.
- 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.
- 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.
- 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:**

- 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.
- SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.
- SILT FENCES SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED



**A SILT FENCE DETAIL**  
 C15 SCALE: N.T.S.



**EROSION CONTROL SOCK INSTALLATION NOTES**

- SEE PLAN VIEW FOR THE LOCATION AND LENGTH OF EROSION CONTROL SOCK.
- 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 1/3 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 1/2 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.

**JDS-HYDRO CONSULTANTS, INC.**  
 5640 TECH CENTER DR., SUITE 100  
 COLORADO SPRINGS, COLORADO 80919  
 (719) 227-0072

**WIDEFIELD WATER AND SANITATION DISTRICT**  
 ROLLING HILLS TANK INLET PIPELINE  
 EROSION CONTROL NOTES AND DETAILS

NO.	DESCRIPTION	BY	DATE
1			
2			
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**FOR CONSTRUCTION**



Project No.: 102.121  
 Date: 02/11/21  
 Design: GJD  
 Drawn: SNW  
 Check: JPM

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