



Appendices

Appendix 4 – Sand Dunes - Recycling Containment #1 Engineering Drawings



PROJECT ENGINEER: Claudius Sanchez Czystewski, PE
 PROJECT DESIGNER: Claudius Sanchez Czystewski, PE
 DRAWN BY: JCS

LEGEND

---	BARBED WIRE PERIMETER FENCE
- - - -	EXIST. GRADE 2.0' CONTOUR
- - - -	EXIST. GRADE 10.0' CONTOUR
- - - -	FINISHED GRADE 1.0' CONTOUR
- - - -	FINISHED GRADE 5.0' CONTOUR
▨	DRIVING SURFACE
~	3' FREEBOARD DEPTH
○	CONTAINMENT FENCE
□	ANCHOR TRENCH
- - - -	DITCH FLOWLINE
---	SILT FENCE

REVISIONS

No.	DATE	DESCRIPTION

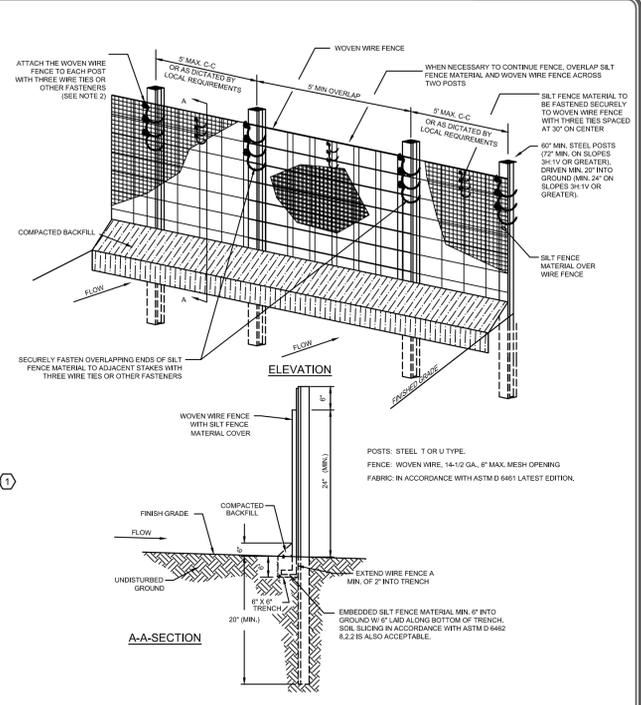
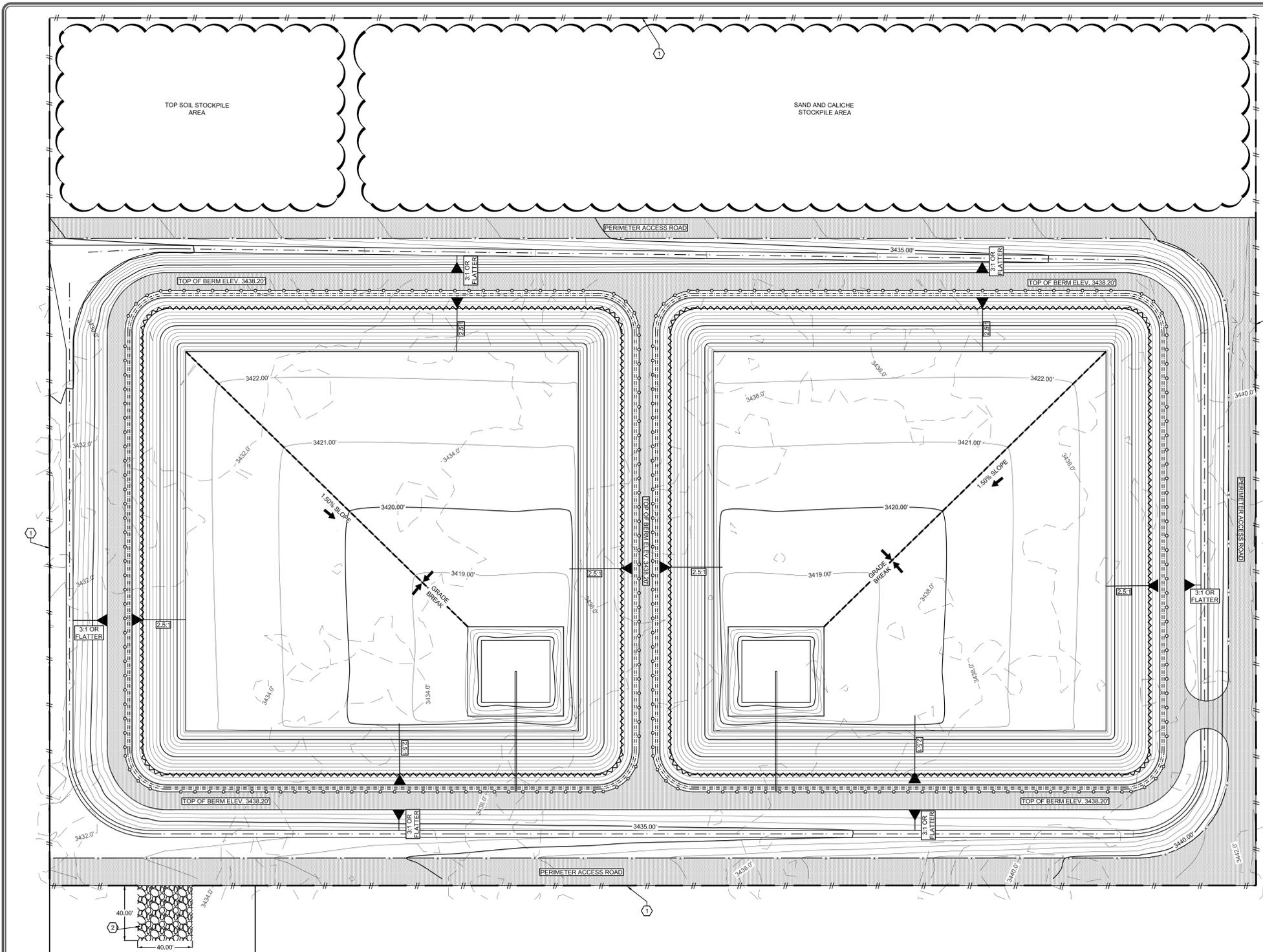
SEDIMENT CONTROL AND EROSION PROTECTION PLAN

SAND DUNES RECYCLING CONTAINMENT OXY U.S.A. INC.

S9 T24S R31E
 EDDY COUNTY, NEW MEXICO

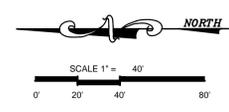
PROJECT NUMBER:
2017.1056

SHEET:
CS-201



- SILT FENCE NOTES**
- INSTALLATION SHALL COMPLY WITH ASTM D 6462 LATEST EDITION.
 - ATTACH THE WOVEN WIRE FENCE TO EACH POST AND THE GEOTEXTILE TO THE WOVEN WIRE FENCE (SPACED EVERY 30') WITH THREE WIRE TIES OR OTHER FASTENERS, ALL SPACED WITHIN THE TOP 8" OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1" VERTICALLY APART. ALSO, EACH TIE PLACED ON A POST SHOULD BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENED TO PREVENT SAGGING.
 - WHEN TWO SECTIONS OF SILT FENCE MATERIAL ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED A MINIMUM OF 60" ACROSS TWO POSTS, AS SHOWN.
 - MAINTENANCE SHALL BE PERFORMED AS NOTED IN THE SWPPP. DEPTH OF ACCUMULATED SEDIMENTS MAY NOT EXCEED ONE-HALF THE HEIGHT OF THE FENCE. MAINTENANCE CLEANOUT MUST BE CONDUCTED REGULARLY TO PREVENT ACCUMULATED SEDIMENTS FROM REACHING ONE-HALF THE HEIGHT OF THE SILT FENCE MATERIAL ABOVE GRADE.
 - ALL SILT FENCE SHALL INCLUDE WIRE SUPPORT UNLESS THE STATIC SLICING EQUIPMENT IS UTILIZED TO INSTALL THE FENCE.
 - WRAP APPROXIMATELY 6" OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.
 - COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SKID STEER, OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQ. INCH. COMPACT THE UPSTREAM SIDE FIRST. COMPACT EACH SIDE TWICE FOR A TOTAL OF FOUR TRIPS.
 - ADD POST CAPS AS NEEDED BASED ON SITE CONDITIONS AND APPLICABLE AGENCY REQUIREMENTS.

1 SILT FENCE DETAIL
 SCALE: N.T.S.

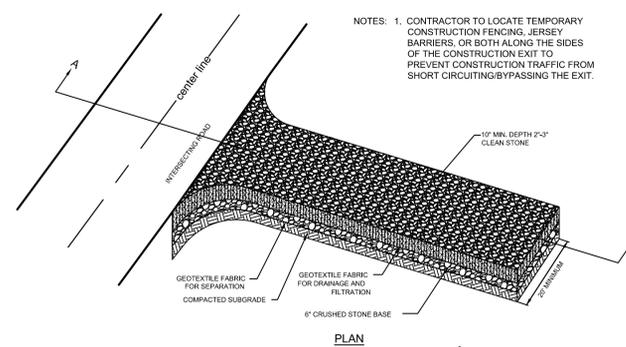


SWPPP GENERAL NOTES

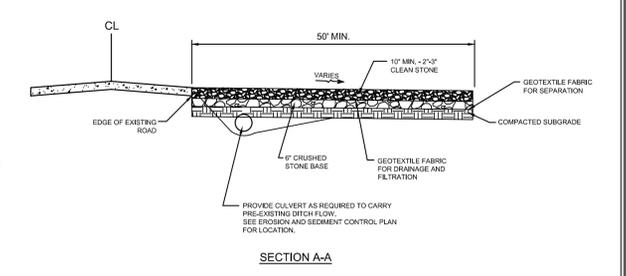
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO DEVELOP AND IMPLEMENT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT (CGP) OF THE EPA. THE STORM WATER POLLUTION PREVENTION PLAN SHALL INCLUDE DEVELOPING, PERMITTING, INSTALLING AND MAINTAINING SWPPP BMP'S AS WELL AS PERMANENT SEEDING WHEN THE PROJECT IS COMPLETED.
- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO OTHER PROPERTY BY CONSTRUCTING TEMPORARY EROSION CONTROL BERMS OR INSTALLING SILT FENCES AT THE PROPERTY LINES AS INDICATED ON THE SWPPP.
- THE CONTRACTOR SHALL MITIGATE EROSION OF TEMPORARY OR PERMANENT DIRT SWALES BY INSTALLING CHECK DAMS IN THE SWALES PERPENDICULAR TO THE DIRECTION OF FLOW, AND AT INTERVALS SPECIFIED ON THE SWPPP.
- THE CONTRACTOR SHALL PREPARE AND MAINTAIN A COPY OF THE SWPPP ON-SITE AT ALL TIMES, AND SHALL COMPLY WITH THE REQUIREMENTS INDICATED ON THAT PLAN. COST IS INCIDENTAL TO CONSTRUCTION.
- ALL DRAINAGE INFORMATION NEEDED TO COMPLETE THE NOTICE OF INTENT (NOI) ARE PROVIDED IN THIS PLAN.
- BEST MANAGEMENT PRACTICES (BMP'S) SHOWN ON TESP ARE DETERMINED USING THE EQUATIONS SHON ON THIS SHEET AND OTHER HYDROLOGICAL MODELS AS SPECIFIED IN THE DEPARTMENT'S DRAINAGE MANUALS LATEST EDITION. BMP'S CONTROL SEDIMENT SO THAT NO ADDITIONAL SEDIMENT RESULTING FROM CONSTRUCTION ACTIVITIES DISCHARGE TO WATERWAYS.
- THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE AND FEDERAL DUST AND EROSION CONTROL REGULATIONS. THE CONTRACTOR SHALL PREPARE AND OBTAIN ANY NECESSARY DUST OR EROSION CONTROL PERMITS FROM REGULATORY AGENCIES.
- THE CONTRACTOR SHALL PROMPTLY REMOVE ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY TO KEEP IT FROM WASHING OFF THE PROJECT SITE.

KEYED NOTES

- INSTALL APPROXIMATELY 3,000 FEET OF SILT FENCE PER DETAIL 1 ON THIS SHEET
- INSTALL STABILIZED CONSTRUCTION ENTRANCE PER DETAIL 2 ON THIS SHEET



2 CONSTRUCTION ENTRANCE DETAIL
 SCALE: N.T.S.

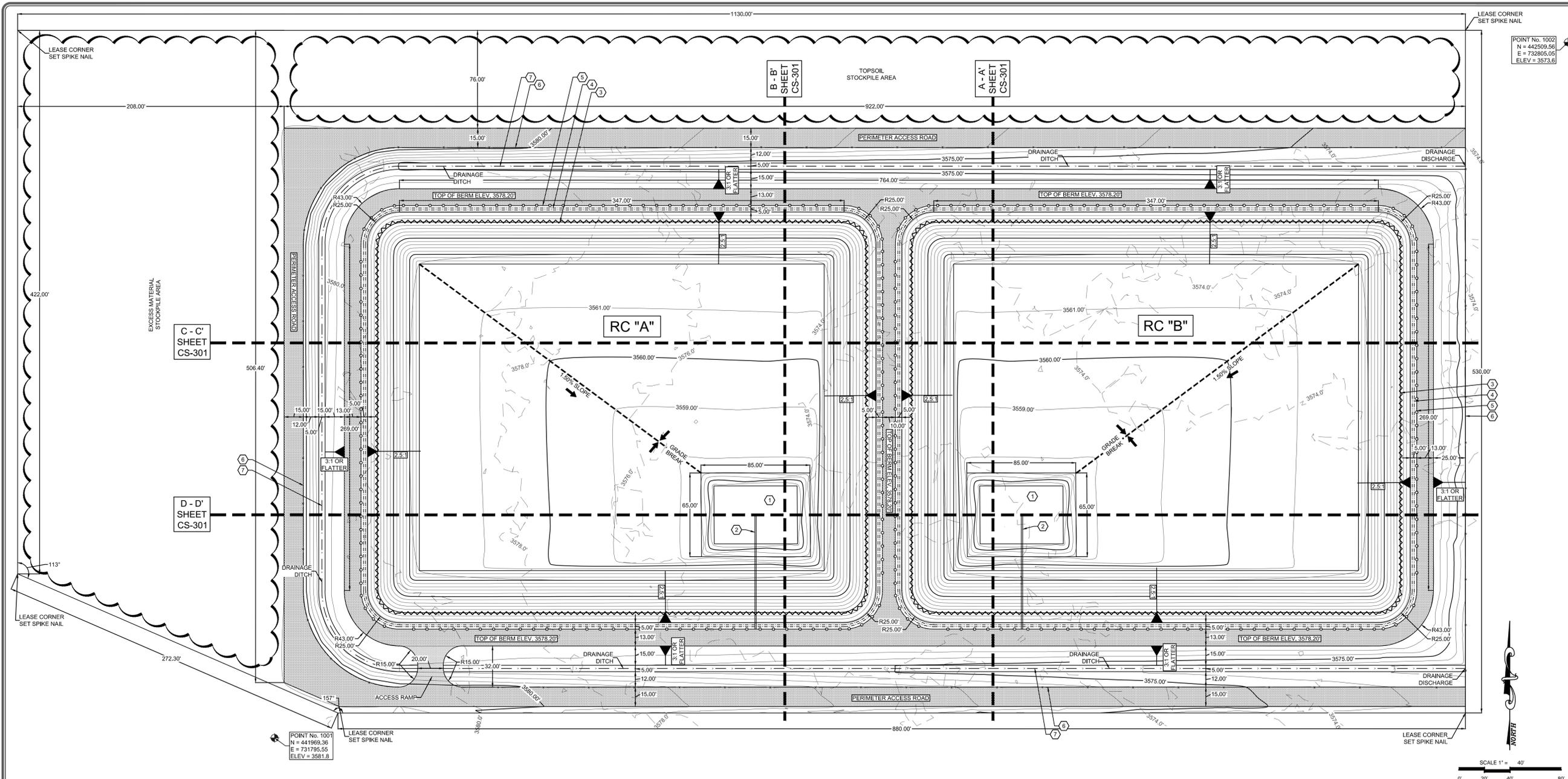


SECTION A-A



Appendices

Appendix 5 – Mesa Verde - Recycling Containment #2 Engineering Drawings



PETTIGREW & ASSOCIATES PA
 ENGINEERING | SURVEYING | TESTING
 DEFINING QUALITY SINCE 1965
 100 E. Navajo Drive Suite 100 Hobbs New Mexico 88240
 T 575 393 9827 F 575 393 1543
 Pettigrew.us

POINT No. 1002
 N = 442509.56
 E = 732805.05
 ELEV = 3573.6

POINT No. 1001
 N = 441969.36
 E = 731795.55
 ELEV = 3581.8

CLAUDIUS SANCHEZ CZYZEWSKA
 NEW MEXICO
 22897
 PROFESSIONAL ENGINEER
 04/22/2017

PROJECT ENGINEER: Claudius Sanchez Czyzewska, PE
 PROJECT DESIGNER: Claudius Sanchez Czyzewska, PE
 DRAWN BY: JCS

LEGEND

- BARBED WIRE PERIMETER FENCE
- - - EXIST. GRADE 2.0' CONTOUR
- - - EXIST. GRADE 10.0' CONTOUR
- - - FINISHED GRADE 1.0' CONTOUR
- - - FINISHED GRADE 5.0' CONTOUR
- DRIVING SURFACE
- 3' FREEBOARD DEPTH
- CONTAINMENT FENCE
- ANCHOR TRENCH
- DITCH FLOWLINE

REVISIONS

No.	DATE	DESCRIPTION

- KEYED NOTES**
- 1 POND SUMP PER DETAIL 1, SHEET CS-501
 - 2 LEAK DETECTION SYSTEM PER DETAILS 1, 2 AND 3, SHEET CS-501
 - 3 3' FREEBOARD DEPTH (ELEV. 3575.20)
 - 4 ANCHOR TRENCH PER DETAIL 5, SHEET CS-501
 - 5 CONTAINMENT FENCE WITH NETTING (BY OTHERS)
 - 6 4 STRAND BARBED WIRE PERIMETER FENCE PER DETAIL 6, SHEET CS-501
 - 7 DRAINAGE DITCH PER DETAIL 10, SHEET CS-501

- GENERAL NOTES**
- THE PROPOSED DESIGN IS BASED ON BOUNDARY INFORMATION OBTAINED FROM JOHN WEST SURVEYING COMPANY W.O. No. 17110252 DATED: 03-31-2017.
 - ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT CONSTRUCTION PLANS OF THE REGISTRATION/PERMIT. NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION LATEST EDITION SHALL APPLY TO THIS PROJECT.
 - ALL DATA SHOWN HEREIN CONCERNING EXISTING PRIVATE AND/OR PUBLIC OWNED UTILITIES HAVE BEEN OBTAINED FROM THE OWNERS AND/OR FIELD OBSERVATIONS. THESE MAY OR MAY NOT BE ACCURATE. THE CONTRACTOR IS CAUTIONED THAT HE IS RESPONSIBLE FOR THE EXACT LOCATION AND PROTECTION OF ALL LINES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING, IN ADVANCE OF HIGHER CONSTRUCTION OPERATIONS, IF OVERHEAD UTILITY LINES, SUPPORT STRUCTURES, POLES, GUYS, ETC. ARE AN OBSTRUCTION TO CONSTRUCTION OPERATIONS. IF ANY OBSTRUCTION IS EVIDENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE UTILITY OWNER TO REMOVE OR SUPPORT THE UTILITY OBSTRUCTION. ANY COST ASSOCIATED WITH THIS EFFORT IS INCIDENTAL TO THE PROJECT.
 - IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO SECURE AND SUPPLY WATER FOR THE PROJECT.
 - THE BOTTOM OF PIT SHALL BE SLOPED AT A MINIMUM 1.5% AS SHOWN.
 - THE PERIMETER OF PIT SHALL BE ENCLOSED WITH BARBED WIRE FENCE OR GAME FENCE AS PRESCRIBED BY DESIGN/CONSTRUCTION PLAN IN REGISTRATION/PERMIT APPLICATION.
 - STRIP AND STOCKPILE TOP SOIL FOR FUTURE CLOSURE USE. NEW MEXICO ADMINISTRATIVE CODE 19.15.34 SHALL APPLY TO THIS PROJECT.
 - THE RECYCLING CONTAINMENT SHALL HAVE A PROPERLY CONSTRUCTED FOUNDATION AND INTERIOR SLOPES CONSISTING OF A FIRM, UNYIELDING BASE, SMOOTH AND FREE OF ROCKS, DEBRIS, SHARP EDGES OR IRREGULARITIES TO PREVENT THE LINER'S RUPTURE OR TEAR. GEOTEXTILE IS REQUIRED UNDER AND OVER THE LINER WHEN NEEDED TO REDUCE LOCALIZED STRESS-STRAIN OR PROTUBERANCES THAT OTHERWISE MAY COMPROMISE THE LINER'S INTEGRITY.
 - AS DESCRIBED IN THE DESIGN/CONSTRUCTION PLANS OF THE REGISTRATION/PERMIT, ALL PRIMARY (UPPER) LINERS IN A RECYCLING CONTAINMENT SHALL BE GEOMEMBRANE LINERS COMPOSED OF AN IMPERVIOUS, SYNTHETIC MATERIAL THAT IS RESISTANT TO ULTRAVIOLET LIGHT, PETROLEUM HYDROCARBONS, SALTS AND ACIDIC AND ALKALINE SOLUTIONS. ALL PRIMARY LINERS SHALL BE 30-MIL FLEXIBLE PVC, 45-MIL LLDPE STRING REINFORCED OR 60-MIL HDPE LINERS. SECONDARY LINERS SHALL BE 30-MIL LLDPE STRING REINFORCED OR EQUIVALENT WITH A HYDRAULIC CONDUCTIVITY NO GREATER THAN 1 X 10-9 CM/SEC. LINER COMPATIBILITY SHALL MEET OR EXCEED THE EPA SW-846 METHOD 9090A OR SUBSEQUENT RELEVANT PUBLICATIONS.
 - LINER SEAMS SHALL BE MINIMIZED AND ORIENTED UP AND DOWN, NOT ACROSS, A SLOPE OF THE LEVEE. FACTORY WELDED SEAMS SHALL BE USED WHERE POSSIBLE.
 - UNLESS DIFFERENTLY STATED IN THE CONSTRUCTION PLAN OF THE REGISTRATION PERMIT, THE OPERATOR SHALL ENSURE FIELD SEAMS IN GEOSYNTHETIC MATERIAL ARE THERMALLY SEALED. PRIOR TO FIELD SEAMING, THE OPERATOR SHALL OVERLAP LINERS FOUR TO SIX INCHES. THE OPERATOR SHALL MINIMIZE THE NUMBER OF FIELD SEAMS AND CORNERS AND IRREGULARLY SHAPED AREAS. THERE SHALL BE NO HORIZONTAL SEAMS WITHIN FIVE FEET OF THE SLOPE'S TOE. QUALIFIED PERSONNEL SHALL PERFORM FIELD WELDING AND TESTING.
 - AT A POINT OF DISCHARGE INTO OR SUCTION FROM THE RECYCLING CONTAINMENT, THE OPERATOR SHALL INSURE THAT THE LINER IS PROTECTED FROM EXCESSIVE HYDROSTATIC FORCE OR MECHANICAL DAMAGE. EXTERNAL DISCHARGE OR SUCTION LINES SHALL NOT PENETRATE THE LINER.
 - THE OPERATOR SHALL POST AN UPRIGHT SIGN NO LESS THAN 12 INCHES BY 24 INCHES WITH LETTERING NOT LESS THAN TWO INCHES IN HEIGHT IN A CONSPICUOUS PLACE ON THE FENCE SURROUNDING THE CONTAINMENT. THE OPERATOR SHALL POST THE SIGN IN A MANNER AND LOCATION SUCH THAT A PERSON CAN EASILY READ THE LEGEND. THE SIGN SHALL PROVIDE THE FOLLOWING INFORMATION: THE OPERATOR'S NAME, THE LOCATION OF THE SITE BY QUARTER-QUARTER OR UNIT LETTER, SECTION, TOWNSHIP AND RANGE, AND EMERGENCY TELEPHONE NUMBERS.
 - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT NEW MEXICO 811 (FORMERLY NEW MEXICO ONE CALL) A MINIMUM OF 48 HOURS BEFORE EXCAVATION. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL DESIGNATED UNDERGROUND UTILITIES. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
 - DURING CONSTRUCTION OF THE CONTAINMENT, THE CONTRACTOR WILL REPORT AND RESPOND TO ANY SPILLS OF HAZARDOUS MATERIALS SUCH AS GASOLINE, DIESEL, MOTOR OILS, SOLVENTS, CHEMICALS, TOXIC OR CORROSIVE SUBSTANCES, ETC. A SPILL IS DEFINED AS ANY RELEASE OF A CORROSIVE, HAZARDOUS, TOXIC OR RADIOACTIVE SUBSTANCE THAT MAY BE A THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT. REPORTS OF SPILLS WILL BE MADE IMMEDIATELY TO BOTH THE NEW MEXICO ENVIRONMENT DEPARTMENT EMERGENCY RESPONSE TEAM (505-827-9239 OR 866-428-6535). THE CONTRACTOR WILL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF ANY SPILL ASSOCIATED WITH PROJECT CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPORTING ANY DISCOVERIES OF PAST SPILLS OR CURRENT SPILLS NOT ASSOCIATED WITH CONSTRUCTION.
 - CONTRACTOR MUST OBTAIN OWNER PERMISSION BEFORE SALVAGING ANY ITEMS SPECIFIED FOR REMOVAL AND DISPOSAL AFTER COMPLETION OF CONSTRUCTION OF THE CONTAINMENT.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING DISPOSAL SITES THAT ARE ENVIRONMENTALLY SUITABLE FOR DISPOSAL OF ITEMS NOT SPECIFIED TO BE SALVAGED. THE CONTRACTOR IS EXPECTED TO ABIDE BY ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS IN OBTAINING THE NECESSARY PERMITS FROM ALL APPLICABLE AGENCIES AND/OR PRIVATE PROPERTY OWNERS. ALL COSTS ASSOCIATED WITH OBTAINING THESE PERMITS SHALL BE INCIDENTAL TO THE COMPLETION OF THE PROJECT AND NO DIRECT MEASUREMENT OR PAYMENT WILL BE MADE THEREFOR. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH COPIES OF ALL PERTINENT INFORMATION, AGREEMENTS, AND PERMITS RELATED TO DISPOSAL SITES UTILIZED. BORROW MATERIAL, ROCK WASTE, AND VEGETATIVE DEBRIS SHALL NOT BE PLACED IN WETLANDS, ARROYOS, OR AREAS THAT MAY IMPACT THREATENED OR ENDANGERED SPECIES. ARCHEOLOGICAL AND ENVIRONMENTAL CLEARANCES MUST BE OBTAINED BEFORE DISPOSAL.

RECYCLING CONTAINMENT A

TOP OF BERM ELEVATION	3578.20 FT
HIGH WATER ELEVATION	3575.20 FT
BOTTOM OF POND ELEVATION	3562.00 FT
SUMP ELEVATION	3553.70 FT
TOTAL CONTAINMENT VOLUME	315,000 BBL
TOTAL FLUID VOLUME BELOW 3' FREEBOARD ELEVATION	251,000 BBL

RECYCLING CONTAINMENT B

TOP OF BERM ELEVATION	3578.20 FT
HIGH WATER ELEVATION	3575.20 FT
BOTTOM OF POND ELEVATION	3562.00 FT
SUMP ELEVATION	3553.70 FT
TOTAL CONTAINMENT VOLUME	315,000 BBL
TOTAL FLUID VOLUME BELOW 3' FREEBOARD ELEVATION	251,000 BBL

SITE GRADING PLAN AND GENERAL NOTES

MESA VERDE RECYCLING CONTAINMENT

OXY U.S.A. INC.

S18 T24S R32E
 LEA COUNTY, NEW MEXICO

PROJECT NUMBER:
2017.1056

SHEET:
CS-101

