west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Tuesday, October 20, 2026
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for Jollie Unit 1H
47-017-06997-00-00

Slip repair

ANTERO RESOURCES CORPORATION

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.

H. Jason Harmon
Chief

Operator's Well Number:	Jollie Unit 1H
Farm Name:	Betty L Wintill
U.S. WELL NUMBER:	47-017-06997-00-00
Horizontal 6A	New Drill
Date Modification Issued:	10-20-2026

10/23/2026

Sherman King

SLIDE EXHIBIT



SLIDE AREA 1 09-14-2026

PERMITTED LIMITS OF DISTURBANCE

RTW_WETLAND06

TM 11-25
ANTERO MIDSTREAM, LLC
DB 345 PG 377
34.6 AC

EX. OVERHEAD UTILITY

EX. 18" CULVERT

EX. GUARDRAIL

PP

INTERMITTENT RTW_STREAM32

GRID NORTH AND ELEVATIONS SHOWN HEREON WERE ESTABLISHED BY SURVEY GRADE GPS

YR-2

YR-3

YR-1

"A"

SLIDE AREA #3

PP TO REMAIN UNDISTURBED

2:1 SLOPE

10' WIDE (MIN.) BONDING BENCH

15' WIDE (MIN.) TOE BENCH (VERIFY DEPTH VIA TEST PITS) (2,595 CY)

DITCH & OUTLET PROTECTION TO BE REINSTALLED

PROPOSED HD (LF=82')

PROPOSED HD (LF=117')

0.17 ACRES ADDED TO PERMITTED LOD

MODIFICATION LIMITS OF DISTURBANCE

APPROX. PROPERTY LINE

INTERMITTENT RTW_STREAM31

EPHEMERAL RTW_STREAM30

INTERMITTENT RIGGINS RUN ROAD UPGRADES_ASE_STREAM02_MOD

EPHEMERAL RTW_STREAM01

EPHEMERAL RTW_STREAM28

EPHEMERAL RTW_STREAM27

RETTEW WETLAND DELINEATION STUDY AREA

TM 11-34
SHAWN A. GLASPELL
DB 271 PG 230
254.51 AC

APPROVED
WVDEP OOG
10/20/2026

25 0 25
GRAPHIC SCALE (IN FEET)

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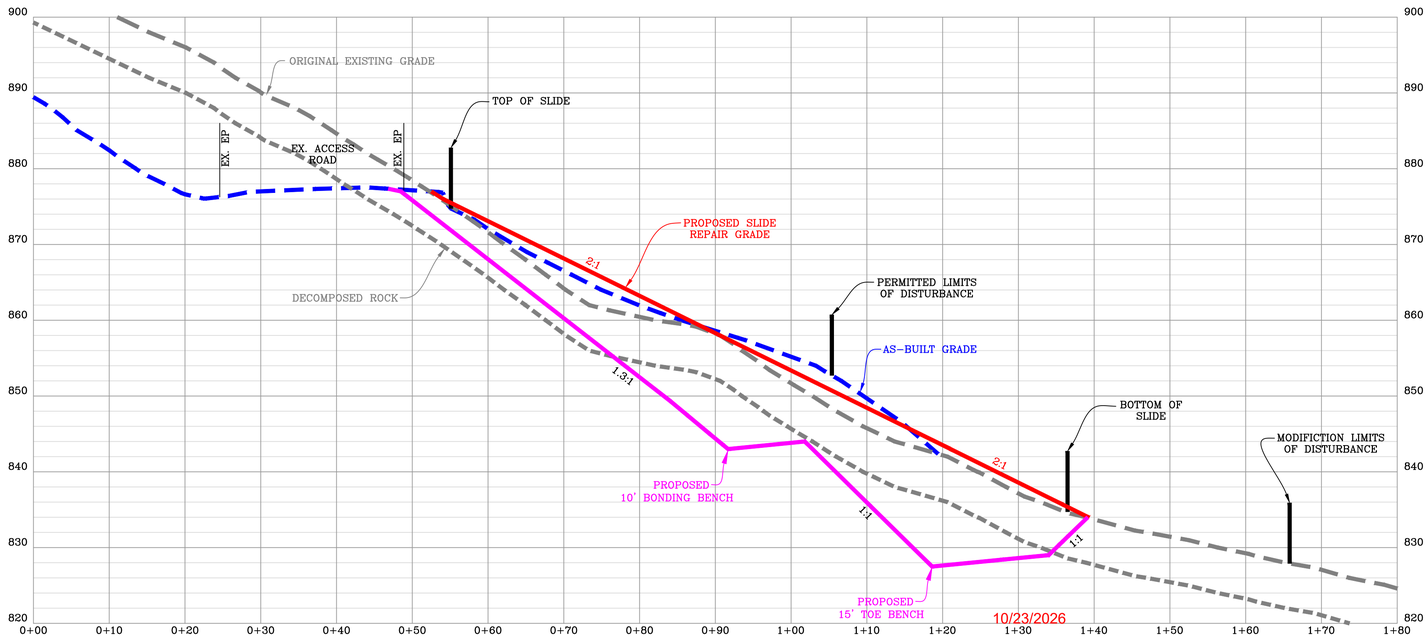
SLIDE EXHIBIT

YEATER

WELL PAD & WATER CONTAINMENT PAD

McCLELLAN DISTRICT
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 10/01/2026
SCALE: 1" = 25'
SHEET 1 OF 6



CROSS-SECTION "A-A"

SCALE: HORIZ. 1" = 10' VERT. 1" = 10'

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10/20/2026

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SECTIONS

YEATER

WELL PAD & WATER CONTAINMENT PAD

McCLELLAN DISTRICT

DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 10/01/2026

SCALE: AS SHOWN

SHEET 2 OF 6

LEGEND

EX. INDEX CONTOUR & CONTOUR LABEL	1000	PR. INDEX CONTOUR (10' INTERVAL) & CONTOUR LABEL	1000
EX. INTERMEDIATE CONTOUR		PR. INTERMEDIATE CONTOUR (2' INTERVAL)	
EX. PROPERTY LINE		PR. INTERMEDIATE CONTOUR (1' INTERVAL)	
EX. TOP OF BERM		PR. INDEX ROAD CONTOUR (10' INTERVAL) & CONTOUR LABEL	1000
EX. ROAD EDGE OF GRAVEL/DIRT		PR. INTERMEDIATE ROAD CONTOUR (2' INTERVAL)	
EX. ROAD EDGE OF PAVEMENT		PR. PADS/STOCKPILE TOPO LIMITS	
EX. ROAD CENTERLINE		PERMITTED LIMITS OF DISTURBANCE	
EX. GUARDRAIL		MODIFICATION LIMITS OF DISTURBANCE	
EX. BRIDGE		PR. ROAD/IMPOUNDMENT EDGE OF GRAVEL	
EX. DITCHLINE/DRAINAGE FEATURE		PR. ROAD EDGE OF PAVEMENT	
EX. RIP-RAP	RR	PR. ROAD CENTERLINE	
EX. CULVERT		PR. GUARDRAIL	
EX. TREELINE		PR. ROCK CONSTRUCTION ENTRANCE	
EX. BUILDING		PR. AIR BRIDGE	
EX. MISCELLANEOUS FEATURE		PR. CULVERT	CLV #1
EX. 100 YR FEMA FLOODPLAIN		PR. DITCH	DL #1
EX. DELINEATED STREAM		PR. RIP-RAP TRAPEZOIDAL DITCH	DL #1
EX. DELINEATED WETLAND/POND		PR. OUTLET PROTECTION	OP #1
100' WETLAND/STREAM BUFFER		PR. ROCK LEVEL SPREADER	
STREAM/WETLAND DELINEATION STUDY AREA		PR. COMPOST FILTER SOCK	CS #1 XX" X X
EX. FENCELINE	X X X	PR. SMART FENCE HD	HD #1 HD
EX. GATE		PR. WELL HEAD	
EX. PERIMETER SAFETY FENCE	X X X	PR. PAD DEWATERING SYSTEM	
EX. ACCESS GATE WITH EMERGENCY LIFELINE		PR. TOP OF PAD CONTAINMENT BERM	
EX. WELL HEAD ON DESIGNED PAD		PR. 220' X 320' PAD FOOTPRINT	
EX. GAS WELL		PR. SPOT SHOT	1000
EX. PIPELINE	G G	PR. PERIMETER SAFETY FENCE	X X X
EX. PIPELINE R/W		PR. ACCESS GATE WITH EMERGENCY LIFELINE	
EX. PIPELINE METER		PR. PIPELINE	G G
EX. PIPELINE VALVE		PR. PIPELINE R/W	
EX. SUMP PUMP LINE	S S	PR. OVERHEAD UTILITY	OHU
EX. OVERHEAD UTILITY	OHU	PR. POWER POLE/GUY WIRE	
EX. POWER POLE/GUY WIRE		PR. UNDERGROUND ELECTRIC	E E E
EX. UNDERGROUND ELECTRIC	E E E	PR. WATERLINE	W W W
EX. UNDERGROUND TELEPHONE	T T T	BORING LOCATION	
EX. UNDERGROUND FIBER OPTIC	FO FO FO	X-SECTION/PROFILE GRID INDEX	
EX. UTILITY R/W		X-SECTION/PROFILE GRID INTERMEDIATE	
EX. WATERLINE	W W W	X-SECTION/PROFILE PROPOSED GRADE	
EX. WATER WELL/EX. SPRING	W S	X-SECTION/PROFILE EXISTING GRADE	
EX. COMPOST SOCK	EX CS X X	X-SECTION/PROFILE WATER SURFACE	
EX. SMART FENCE HD	EX HD HD	X-SECTION/PROFILE CULVERT	
EX. SILT FENCE	EX SF X X	MATCHLINE	
APPROX. LOCATION OF SLIDE AREA		EX. METER	
APPROX. LOCATION OF BORROW/ SPOIL AREA		EX. TANK	
PR. TOE BENCH		EX. COMBUSTOR	
EX. APPROX. SURFACE & SUB-SURFACE ELECTRIC LINE AREA		EX. GPU	
EX. APPROX. SURFACE & SUB-SURFACE DUMP LINE AREA		EX. SEPARATOR	
EX. APPROX. SURFACE & SUB-SURFACE WELL LINE AREA		EX. VRT	
EX. APPROX. SURFACE & SUB-SURFACE SALES LINE AREA		EX. KNOCK-OUT VESSEL	
		EX. STAIRS/CATWALK	
		EX. DEWATERING SYSTEM	
		EX. PIG LAUNCHER	
		EX. SECONDARY CONTAINMENT	X
		EX. ABOVE-GND VAPOR LINE	G
		EX. ESD	ESD
		EX. CONTROL PT.	
		EX. MAILBOX	
		EX. MUSTER AREA	

10/23/2026

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LEGEND

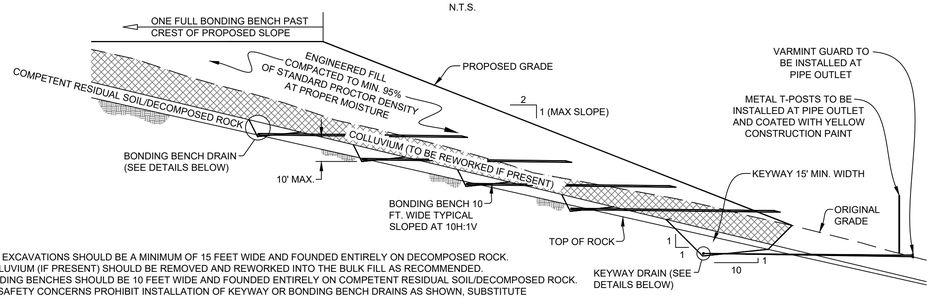
YEATER
WELL PAD & WATER CONTAINMENT PAD
McCLELLAN DISTRICT
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 10/01/2026

SCALE: N/A

D1 TYPICAL SLIDE REPAIR DETAIL

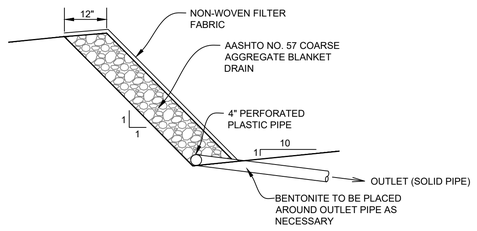
N.T.S.



NOTES:
1. KEYWAY EXCAVATIONS SHOULD BE A MINIMUM OF 15 FEET WIDE AND FOUNDED ENTIRELY ON DECOMPOSED ROCK.
2. ALL COLLUVIUM (IF PRESENT) SHOULD BE REMOVED AND REWORKED INTO THE BULK FILL AS RECOMMENDED.
3. ALL BONDING BENCHES SHOULD BE 10 FEET WIDE AND FOUNDED ENTIRELY ON COMPETENT RESIDUAL SOIL/DECOMPOSED ROCK.
4. WHERE SAFETY CONCERNS PROHIBIT INSTALLATION OF KEYWAY OR BONDING BENCH DRAINS AS SHOWN, SUBSTITUTE ALTERNATE DRAIN DETAIL.

D1 KEYWAY DRAIN - AGGREGATE

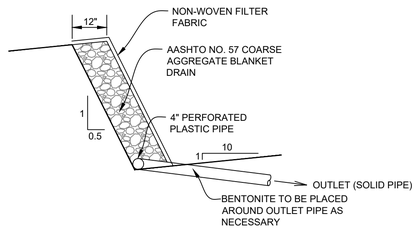
N.T.S.



*OUTLETS AT 100 FT. CENTERS MAX. OR AS DEEMED NECESSARY
*ALL OUTLET DRAINS TO BE COVERED WITH 12" OF NO. 57 AGGREGATE AND WRAPPED IN NON-WOVEN FILTER FABRIC

D1 BONDING BENCH DRAIN - AGGREGATE

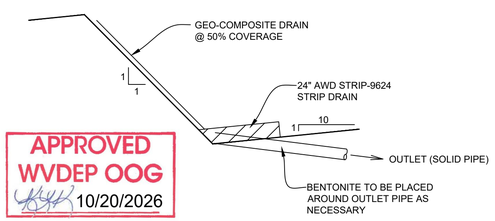
N.T.S.



*SLOPE OUTLET TO PROVIDE POSITIVE DRAINAGE TO SLOPE FACE
*OUTLETS AT 250 FT. CENTERS MAX. OR AS DEEMED NECESSARY
*ALL OUTLET DRAINS TO BE COVERED WITH 12" OF NO. 57 AGGREGATE AND WRAPPED IN NON-WOVEN FILTER FABRIC

D1 KEYWAY DRAIN - GEO-COMPOSITE

N.T.S.

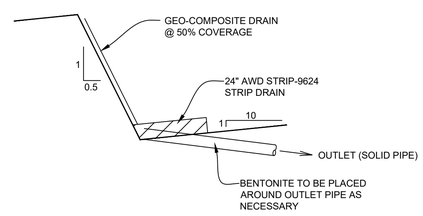


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*OUTLETS AT 100 FT. CENTERS MAX. OR AS DEEMED NECESSARY
*GEO-COMPOSITE DRAIN TO CONSIST OF HANES GEO COMPONENTS TERRADRAIN 104/2, MIRAFI G200N, OR EQUIVALENT.

D1 BONDING BENCH DRAIN - GEO-COMPOSITE

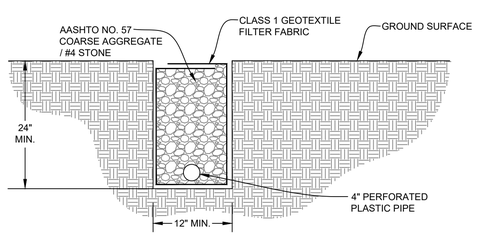
N.T.S.



*SLOPE OUTLET TO PROVIDE POSITIVE DRAINAGE TO SLOPE FACE
*OUTLETS AT 250 FT. CENTERS MAX. OR AS DEEMED NECESSARY
*GEO-COMPOSITE DRAIN TO CONSIST OF HANES GEO COMPONENTS TERRADRAIN 104/2, MIRAFI G200N, OR EQUIVALENT.

D3 TYPICAL SPRING DRAIN

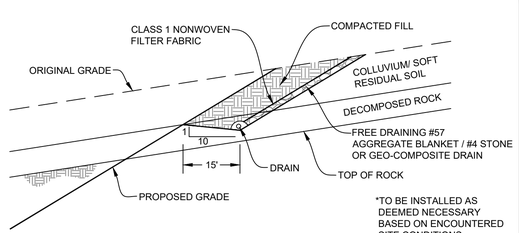
N.T.S.



NOTES:
1. 4" PERFORATED PLASTIC PIPE EXTENDED TO DRAIN AWAY FROM SLOPE AND WATER DIVERTED OR COLLECTED IF NECESSARY TO PREVENT EMBANKMENT DAMAGE.
2. PROVIDE DRAINAGE OUTLETS AT 50-FOOT HORIZONTAL INTERVALS.

D4 TYPICAL SLOPE PROTECTION

N.T.S.

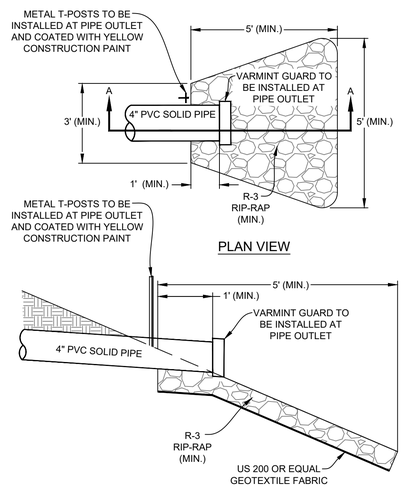


*TO BE INSTALLED AS DEEMED NECESSARY BASED ON ENCOUNTERED SITE CONDITIONS.

*OUTLET AT ENDS AND AT 250' CENTERS MAX SIMILAR TO KEYWAY DRAIN DETAIL
*ALL OUTLET DRAINS TO BE COVERED WITH 12" MINIMUM NO. 57 AGGREGATE AND WRAPPED IN NON-WOVEN FILTER FABRIC

TYPICAL KEYWAY / BONDING BENCH DRAIN OUTLET PROTECTION

N.T.S.

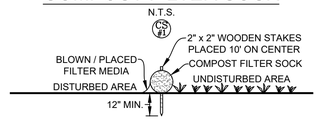


PLAN VIEW

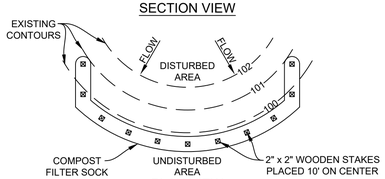
SECTION A-A

NOTES:
1. ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIP-RAP WITHIN THE APRON SHALL BE RESTORED IMMEDIATELY.
2. IF EROSION IS OCCURRING DOWNSTREAM OF OUTLET PROTECTION, CONTRACTOR TO EXTEND OUTLET PROTECTION TO DOWNSTREAM EROSION CONTROL DEVICES.
3. CONTRACTOR IS TO EXTEND ALL KEYWAY AND BONDING BENCH OUTLET DRAINS A MINIMUM OF ONE FOOT PAST THE FINISHED GRADE OF THE SLOPE.

COMPOST FILTER SOCK



SECTION VIEW



PLAN VIEW

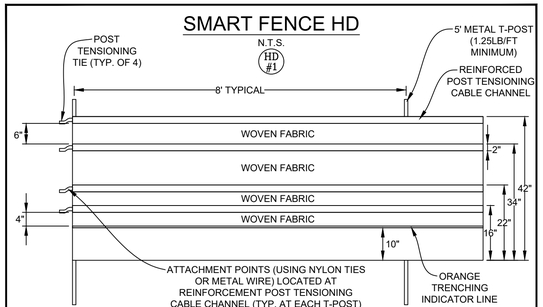
ADAPTED ~~10/20/2026~~ FROM NCDOT

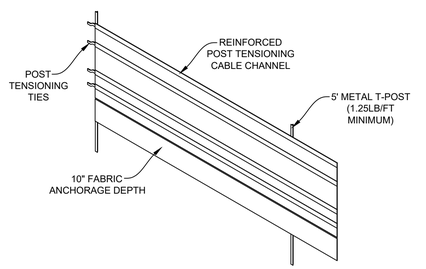
SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1. COMPOST SHALL MEET THE FOLLOWING STANDARDS.

ORGANIC MATTER CONTENT	80%-100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5-8.0
MOISTURE CONTENT	35%-55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS MAXIMUM

NOTES:
1. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8' UP THE SLOPE OR TO A HEIGHT EQUAL TO THE EFFECTIVE SOCK HEIGHT, WHICHEVER IS GREATER, AT 45° TO THE MAIN SOCK ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED MANUFACTURER'S MAXIMUM PERMISSIBLE SLOPE LENGTH.
2. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
4. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
5. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
6. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.
7. IN THE EVENT THE GROUND IS FROZEN, #5 REBAR WITH SAFETY CAPS SHALL BE USED INSTEAD OF WOODEN STAKES TO ANCHOR THE FILTER SOCK. ONCE THE GROUND THAWS, THE REBAR ANCHORS SHALL BE REMOVED AND REPLACED WITH 2" x 2" WOODEN STAKES AND INSTALLED AS SHOWN IN THE DETAIL ABOVE.

SMART FENCE HD





NOTES:
1. SMART FENCE HD SHOULD BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE.
2. ENDS SHALL BE EXTENDED UPHILL A MINIMUM OF 2 VERTICAL FEET.
3. SMART FENCE HD SHALL BE EMBEDDED A MINIMUM OF 10" INTO THE GROUND.
4. METAL POSTS AS SPECIFIED BY WV DOT CAN BE REPLACED BY PRESSURE-TREATED 4" x 4" POSTS.
5. ATTACHMENT NYLON TIES OR METAL WIRE FOR POSTS SHALL BE PLACED BELOW TENSIONING TIE LOCATION WITHIN LOWER 1" OF REINFORCEMENT POST TENSIONING CABLE CHANNEL.
6. SMART FENCE HD SHOULD BE INSPECTED AT A MINIMUM ONCE EVERY 7 CALENDAR DAYS OR WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

(MODIFIED) SOURCE: ACF ENVIRONMENTAL SMART FENCE HD INSTALLED WITH T-POSTS ADB 01-12-2016

GENERAL SITE EARTHWORK RECOMMENDATIONS

1. ALL FILL AREAS SHOULD BE CLEARED OF TREES, STUMPS, AND VEGETATION AND STRIPPED OF TOPSOIL/ORGANIC SOILS PRIOR TO THE START OF FILL PLACEMENT.
2. PRIOR TO ANY FILL PLACEMENT IN AREAS NOT SPECIFIED AS REQUIRING OVERBURDEN REWORKING, THE EXISTING SUBSURFACE SOILS SHALL BE PROFFROLLED USING A LOADED OFF-ROAD DUMP TRUCK, LARGE VIBRATORY ROLLER OR SIMILAR EQUIPMENT TO HELP IDENTIFY SOFT/YIELDING AREAS. AREAS FOUND TO BE UNSTABLE SHALL BE REWORKED AND STABILIZED IN-PLACE OR REMOVED AND REPLACED WITH SUITABLE FILL MATERIALS.
3. DURING INITIAL SITE PREPARATION AS WELL AS DURING BULK EARTHWORK OPERATIONS, SPRING DRAINS SHALL BE INSTALLED IN ALL EXISTING SITE DRAINAGE FEATURES. SPRING DRAINS SHOULD ALSO BE INSTALLED WHERE ADDITIONAL SEEPS/SPRINGS ARE ENCOUNTERED DURING EARTHWORK. ALL DRAINS SHOULD BE OUTLET AWAY FROM THE FILL EMBANKMENT AND DAYLIGHTED TO THE FACE OF THE SLOPE/GROUND SURFACE AND/OR TIED INTO THE EXISTING EMBANKMENT DRAINAGE SYSTEMS AS NEEDED.
4. PERIODIC TEST PITS SHALL BE EXCAVATED UPSLOPE OF THE KEYWAY EXCAVATIONS AND FILL BENCHES FILL MATERIAL IS PLACED, IN ORDER TO FURTHER IDENTIFY ANY SOFT OR YIELDING AREAS. POTENTIAL SLIP CLAYS AND/OR SLIDE PLANES, AND ANY GROUNDWATER SEEPAGE. ANY AREAS IDENTIFIED TO BE UNSAFE OR CONTAINING SLIP CLAYS SHALL BE REWORKED INTO THE BULK FILL EVEN IF BONDING BENCHES ARE NOT REQUIRED FOR THE SUBJECT EMBANKMENT, ANY AND ALL SLIP CLAYS AND SLIDE PLANES IDENTIFIED SHALL BE BENCHED INTO IN ORDER TO BREAK THE ENCOUNTERED SLIDE PLANES AND TO PREVENT THE FORMATION OF FUTURE SLIDE PLANES.
5. THE DISTRIBUTION AND GRADATION OF FILL MATERIALS SHALL BE SUCH THAT THE FILL WILL BE FREE OF LENSES, POCKETS, OR LAYERS OF MATERIALS DIFFERING SUBSTANTIALLY IN GRADATION FROM THE SURROUNDING MATERIALS WITHIN THE DESIGNATED FILL AREAS.
6. FILL SHALL BE PLACED AND SPREAD IN SUCCESSIVE AND APPROXIMATE HORIZONTAL LAYERS OF UNIFORM THICKNESS BASED ON THE NOMINAL PARTICLE SIZE OF MATERIAL AND THE SIZE AND TYPE OF THE AVAILABLE COMPACTION EQUIPMENT. IN GENERAL, SOIL SHOULD BE PLACED IN NOMINAL 12 INCH MAXIMUM LOOSE LIFTS. LARGER ROCK INCORPORATED INTO THE FILL SHOULD TYPICAL BE LIMITED TO 12 INCHES THICK X 3 FEET X 3 FEET, WITH ALL VOID SPACE CHOKED WITH SMALLER PARTICLE SIZE MATERIAL.
7. ADEQUATE COMPACTIVE EFFORT IS APPLIED BY UTILIZING THE PROPER COMPACTION EQUIPMENT FOR THE COMPOSITION OF THE FILL MATERIALS BEING PLACED. SEGMENTED, SHEEPSFOOT, AND/OR PADFOOT ROLLERS SHOULD BE USED WHEN PLACING PREDOMINATELY CLAYEY (COHESIVE) FILL MATERIALS. THESE TYPES OF ROLLERS ARE ALSO EFFECTIVE ON CLAYEY SHALES, CLAYSTONE, AND SOFTER SANDSTONE TO BREAK DOWN THE ROCK PARTICLES. SMOOTH DRUM VIBRATORY ROLLERS SHOULD BE UTILIZED ON PREDOMINATELY GRANULAR FILL MATERIALS AND TO SEAL CLAYEY SOILS TO HELP PREVENT SURFACE WATER INFILTRATION AND/OR TO PROMOTE DRAINAGE.
8. ALL FILL MATERIALS SHALL BE COMPACTED BY A SUFFICIENT NUMBER OF COMPLETE TRIPS (I.E. PASSES) OF THE APPROPRIATE COMPACTION EQUIPMENT TO ATTAIN A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM TEST DESIGNATION D698 (STANDARD PROCTOR). MAINTAIN THE MOISTURE CONTENT OF THE FILL MATERIALS AS NECESSARY TO ATTAIN THE DESIRED COMPACTION DENSITY.
9. UNDISTURBED AND/OR FILL MATERIALS PLACED WITHIN THE UPPER 12 INCHES OF FINAL GRADE SHOULD BE COMPACTED TO ATTAIN A MINIMUM OF 100% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM TEST DESIGNATION D698 (STANDARD PROCTOR) AT AN IN-PLACE MOISTURE WITHIN 3% OF THE MATERIAL'S OPTIMUM MOISTURE CONTENT. THE ENTIRE SUBGRADE SURFACE SHOULD BE THOROUGHLY SEALED USING A VIBRATORY SMOOTH DRUM ROLLER.
10. TO VERIFY THE SPECIFIED DEGREE OF COMPACTION AND TO DETERMINE THE IN-PLACE MOISTURE CONTENT AS STATED ABOVE, IN-PLACE FIELD DENSITY TESTS SHOULD BE PERFORMED IN ACCORDANCE TO THE PROCEDURES OF ASTM D2922 (NUCLEAR DENSOMETER).
11. IN ADDITION TO IN-PLACE FIELD DENSITY TESTING, ACCEPTANCE SHOULD ALSO BE PREDICATED ON A VISUAL PERFORMANCE CRITERIA. OBVIOUS SURFACE RUTTING AND/OR DEFLECTION THAT ARE JUDGED TO BE DETRIMENTAL TO THE OVERALL STABILITY OF THE FILL AREA SHOULD BE REMOVED, MOISTURE CONDITIONED AND RECOMPACTED, OR OTHERWISE ADDRESSED PRIOR TO ACCEPTING THE LIFT.
12. WHERE PREDOMINATELY "ROCKY" FILL MATERIALS ARE PLACED OR WHERE REPRESENTATIVE NUCLEAR DENSOMETER TESTS CANNOT BE OBTAINED, A VISUAL NON-DEFLECTION CRITERIA SHOULD BE DEVELOPED IN CONJUNCTION WITH AN ADEQUATE NUMBER OF ROLLER PASSES FOR ACCEPTANCE.

NOTE:

1. THE GEOTECHNICAL NOTES AND DETAILS SHOWN ON THIS SHEET ARE FOR THE GENERAL EARTHWORK AND SUBSURFACE DRAINAGE ASSOCIATED WITH THE CONSTRUCTION OF THIS SITE. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL INVESTIGATION REPORT FOR ADDITION GUIDANCE AND RECOMMENDATIONS.

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Telephone: (888) 662-4185 | www.NavitusEng.com

REVISION

DATE

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THIS DOCUMENT WAS PREPARED FOR: ANTERO RESOURCES CORPORATION

CONSTRUCTION DETAILS

YEATER

WELL PAD & WATER CONTAINMENT PAD

McCLELLAN DISTRICT
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 10/01/2026

SCALE: N/A

SHEET 4 OF 6

REVEGETATION

TAKEN FROM THE
WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL
WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION STORMWATER
CHARLESTON, W.VA.
SECTION IV

TEMPORARY SEEDING:

a. GENERAL CONDITIONS WHERE PRACTICE APPLIES
ALL DISTURBED AREAS THAT ARE NOT AT FINAL GRADE OR AREAS THAT WILL NOT BE WORKED AGAIN FOR 21 DAYS OR MORE MUST BE SEEDED AND MULCHED WITHIN SEVEN DAYS. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE SEVENTH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS CONDITIONS ALLOW. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G., THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY HALTED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE SEVENTH DAY AFTER CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED. AREAS WHERE THE SEED HAS FAILED TO GERMINATE ADEQUATELY (UNIFORM PERENNIAL VEGETATION COVER WITH A DENSITY OF 70%) WITHIN 30 DAYS AFTER SEEDING AND MULCHING MUST BE RESEEDED IMMEDIATELY, OR AS SOON AS WEATHER CONDITIONS ALLOW.

b. SEED MIXTURES AND PLANTING DATES
REFER TO TABLES IV-2 THROUGH IV-4 FOR RECOMMENDED DATES TO ESTABLISH VEGETATIVE COVER AND THE APPROVED LISTS OF TEMPORARY AND PERMANENT PLANT SPECIES AND PLANTING RATES. TABLE IV-3 GIVES RECOMMENDED TYPES OF TEMPORARY VEGETATION, RATES OF APPLICATION, AND OPTIMUM SEEDING DATES. IN SITUATIONS WHERE ANOTHER COVER IS DESIRED, CONTACT THE LOCAL SOIL CONSERVATION DISTRICT FOR SEEDING RECOMMENDATIONS.

c. SEED APPLICATION
APPLY SEED BY BROADCASTING, DRILLING, OR BY HYDROSEED ACCORDING TO THE RATES INDICATED IN TABLE IV-3. PERFORM ALL PLANTING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. NECESSARY SITE PREPARATION AND ROUGHENING OF THE SOIL SURFACE SHOULD BE DONE JUST PRIOR TO SEEDING. SEEDBED PREPARATION MAY NOT BE REQUIRED ON NEWLY DISTURBED AREAS.

PERMANENT SEEDING:

a. GENERAL CONDITIONS WHERE PRACTICE APPLIES
ALL DISTURBED AREAS THAT ARE AT FINAL GRADE OR AREAS THAT WILL NOT BE WORKED AGAIN FOR 21 DAYS OR MORE MUST BE SEEDED AND MULCHED WITHIN SEVEN DAYS. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE SEVENTH DAY AFTER CONSTRUCTION ACTIVITY PERMANENTLY CEASED IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS CONDITIONS ALLOW. AREAS WHERE THE SEED HAS FAILED TO GERMINATE ADEQUATELY (UNIFORM PERENNIAL VEGETATION COVER WITH A DENSITY OF 70%) WITHIN 30 DAYS AFTER SEEDING AND MULCHING MUST BE RESEEDED IMMEDIATELY, OR AS SOON AS WEATHER CONDITIONS ALLOW.

SOIL FERTILITY AND PH LEVEL SHOULD BE TESTED AND ADJUSTED ACCORDING TO SEED SPECIES PLANTED. PLANTING OF PERMANENT VEGETATIVE COVERS MUST BE PERFORMED ON ALL DISTURBED AREAS AFTER COMPLETION OF THE DRILLING PROCESS. ANY SITE THAT CONTAINS SIGNIFICANT AMOUNTS OF TOPSOIL SHALL HAVE THE TOPSOIL REMOVED AND STOCKPILED WHEN FEASIBLE. TOPSOIL SHOULD NOT BE ADDED TO SLOPES STEEPER THAN 2:1 UNLESS A GOOD BONDING TO THE SUB-LAYER CAN BE ACHIEVED. AFTER PROPER GRADING AND SEEDBED PREPARATION, THE VEGETATION WILL REESTABLISH GROUND COVER FOR THE CONTROL OF SURFACE WATER RUNOFF EROSION.

ALL REQUIRED SEEDBED PREPARATION AND LOOSENING OF SOIL BY DISKING OR DOZER TRACKING SHOULD BE PERFORMED JUST PRIOR TO SEEDING. IF SEEDBED PREPARATION IS NOT FEASIBLE, 50% MORE SEED SHALL BE ADDED TO THE RECOMMENDED RATES SHOWN IN TABLES IV-3 AND IV-4.
WHEN HYDROSEEDING, SEEDBED PREPARATION MAY NOT BE NECESSARY IF ADEQUATE SITE PREPARATION WAS PERFORMED. INCORPORATE THE APPROPRIATE AMOUNT OF LIME AND/OR FERTILIZER IN THE SLURRY MIX WHEN HYDROSEEDING.
WHEN HYDROSEEDING, FIRST MIX THE LIME, FERTILIZER, AND HYDRO-MULCH IN THE RECOMMENDED AMOUNT OF WATER. MIX THE SEED AND INOCULANTS TOGETHER WITHIN ONE HOUR PRIOR TO PLANTING, AND ADD TO THE SLURRY JUST BEFORE SEEDING. APPLY THE SLURRY UNIFORMLY OVER THE PREPARED SITE. ASSURE THAT AGITATION IS CONTINUOUS THROUGHOUT THE SEEDING OPERATION AND THE MIX IS APPLIED WITHIN ONE HOUR OF INITIAL MIXING.

b. LIME AND FERTILIZER
1. LIME SHALL BE APPLIED TO ALL PERMANENT SEEDINGS. THE PH OF THE SOIL IS TO BE DETERMINED AND LIME APPLIED ACCORDINGLY. ONCE THE PH IS KNOWN, SELECT THE AMOUNT OF LIME TO BE APPLIED FROM TABLE IV-5.
2. FERTILIZER SHALL BE APPLIED IN ALL PERMANENT SEEDINGS. APPLY THE EQUIVALENT FOR 500 LBS. MINIMUM 10-20-20 FERTILIZER PER ACRE OR USE THE AMOUNT OF FERTILIZER AND LIME RECOMMENDED BY A CERTIFIED SOIL TEST.
3. APPLICATION: FOR BEST RESULTS AND MAXIMUM BENEFITS, THE LIME AND FERTILIZER ARE TO BE APPLIED AT THE TIME OF SEEDBED PREPARATION.

c. PERMANENT SEED MIXTURES
PLANNERS SHOULD TAKE INTO CONSIDERATION THE SPECIES MAKEUP OF THE EXISTING PASTURE AND THE LANDOWNER'S FUTURE PASTURE MANAGEMENT PLANS WHEN RECOMMENDING SEED MIXTURES. SELECTION: FROM TABLES IV-4A AND IV-4B, PERMANENT SEEDING MIXTURES SUITABLE FOR ESTABLISHMENT IN WEST VIRGINIA.
NOTES:
1. ALL LEGUMES MUST BE PLANTED WITH THE PROPER INOCULANTS PRIOR TO SEEDING.
2. 'LATHCO' FLATPEA IS POTENTIALLY POISONOUS TO SOME LIVESTOCK.
3. ONLY ENDOPHYTE FREE VARIETIES OF TALL FESCUE SHOULD BE USED. TALL FESCUE AND CROWNVETCH ARE ALSO VERY INVASIVE SPECIES, NON-NATIVE TO WV.
4. FOR UNPREPARED SEEDBEDS OR SEEDING OUTSIDE THE OPTIMUM TIMEFRAMES, ADD 50% MORE SEED TO THE SPECIFIED RATE. MIXTURES IN TABLE IV-4B ARE MORE WILDLIFE AND FARM FRIENDLY; THOSE LISTED IN BOLD ARE SUITABLE FOR USE IN SHADED WOODLAND SETTINGS. MIXTURES IN ITALIC ARE SUITABLE FOR USE IN FILTER STRIPS.

d. SEEDING FOR WILDLIFE HABITAT
CONSIDER THE USE OF THE NATIVE PLANTS OR LOCALLY ADAPTED PLANTS WHEN SELECTING COVER TYPES AND SPECIES FOR WILDLIFE HABITAT. WILDLIFE FRIENDLY SPECIES OR MIXES THAT HAVE MULTIPLE VALUES SHOULD BE CONSIDERED. SEE WILDLIFE FRIENDLY SPECIES/MIXTURES IN TABLE IV-4B. CONSIDER SELECTING NO OR LOW MAINTENANCE LONG-LIVED PLANTS ADAPTABLE TO SITES WHICH MAY BE DIFFICULT TO MAINTAIN WITH EQUIPMENT.

MULCHING

a. GENERAL ORGANIC MULCHES
THE APPLICATION OF STRAW, HAY, OR OTHER SUITABLE MATERIALS TO THE SOIL SURFACE TO PREVENT EROSION. STRAW MADE FROM WHEAT OR OATS IS THE PREFERRED MULCH. THE USE OF HAY IS PERMISSIBLE, BUT NOT ENCOURAGED DUE TO THE RISK OF SPREADING INVASIVE SPECIES. MULCH MUST BE APPLIED TO ALL TEMPORARY AND PERMANENT SEEDING ON ALL DISTURBED AREAS. DEPENDING ON SITE CONDITIONS, IN CRITICAL AREAS SUCH AS WATERWAYS OR STEEP SLOPES, ADDITIONAL OR SUBSTITUTE SOIL PROTECTIVE MEASURES MAY BE USED IF DEEMED NECESSARY. EXAMPLES INCLUDE JUTE MESH AND SOIL STABILIZATION BLANKETS OR EROSION CONTROL MATTING.
AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHOULD BE MULCHED IMMEDIATELY FOLLOWING SEEDING. MULCHES CONSERVE DESIRABLE SOIL PROPERTIES, REDUCE SOIL MOISTURE LOSS, PREVENT CRUSTING AND SEALING OF THE SOIL SURFACE, AND PROVIDE A SUITABLE MICROCLIMATE FOR SEED GERMINATION.
AREAS THAT CANNOT BE SEEDED BECAUSE OF THE SEASON SHOULD BE MULCHED TO PROVIDE SOME PROTECTION TO THE SOIL SURFACE. AN ORGANIC MULCH, STRAW, OR HAY SHOULD BE USED AND THE AREA THEN SEEDED AS SOON AS WEATHER OR SEASONAL CONDITIONS PERMIT. DO NOT USE FIBER MULCH (CELLULOSE-HYDROSEED) ALONE FOR THIS PRACTICE; AT NORMAL APPLICATION RATES IT WILL NOT GIVE THE SOIL PROTECTION OF OTHER TYPES OF MULCH.
WOOD CELLULOSE FIBER MULCH IS USED IN HYDROSEEDING OPERATIONS AND APPLIED AS PART OF THE SLURRY. IT CREATES THE BEST SEED-SOIL CONTACT WHEN APPLIED OVER THE TOP OF (AS A SEPARATE OPERATION) NEWLY SEEDED AREAS. FIBER MULCH DOES NOT ALONE PROVIDE SUFFICIENT PROTECTION ON HIGHLY ERODIBLE SOILS, OR DURING LESS THAN FAVORABLE GROWING CONDITIONS. FIBER MULCH SHOULD NOT BE USED ALONE DURING THE DRY SUMMER MONTHS OR WHEN USED FOR LATE FALL MULCH COVER. USE STRAW MULCH DURING THESE PERIODS AND FIBER MULCH MAY BE USED TO TACK (ANCHOR) THE STRAW MULCH. FIBER MULCH IS WELL SUITED FOR STEEP SLOPES, CRITICAL AREAS, AND AREAS SUSCEPTIBLE TO WIND.

b. CHEMICAL MULCHES, SOIL BINDERS, AND TACKIFIERS
A WIDE RANGE OF SYNTHETIC SPRAY ON MATERIALS ARE MARKETED TO STABILIZE AND PROTECT THE SOIL SURFACE. THESE ARE MIXED WITH WATER AND SPRAYED OVER THE MULCH AND TO THE SOIL. THEY MAY BE USED ALONE IN SOME CASES AS TEMPORARY STABILIZERS, OR IN CONJUNCTION WITH FIBER MULCH, STRAW, OR HAY.
WHEN USED ALONE, MOST CHEMICAL MULCHES DO NOT HAVE THE CAPABILITY TO INSULATE THE SOIL OR RETAIN SOIL MOISTURE THAT ORGANIC MULCHES HAVE.

c. SPECIFICATIONS
FROM TABLE IV-6 SELECT THE TYPE OF MULCH AND RATE OF APPLICATION THAT WILL BEST SUIT THE CONDITIONS AT THE SITE.

d. ANCHORING
DEPENDING ON THE FIELD SITUATION, MULCH MAY NOT STAY IN PLACE BECAUSE OF WIND ACTION OR RAPID WATER RUNOFF. IN SUCH CASES, MULCH IS TO BE ANCHORED MECHANICALLY OR WITH MULCH NETTING.
1. MECHANICAL ANCHORING
APPLY MULCH AND PULL MULCH ANCHORING TOOL OVER THE MULCH. WHEN A DISK IS USED, SET THE DISK STRAIGHT AND PULL ACROSS SLOPE. MULCH MATERIAL SHOULD BE TUCKED INTO THE SOIL ABOUT 3".
2. MULCH NETTING
FOLLOW MANUFACTURER'S RECOMMENDATION WHEN POSITIONING AND STAPLING THE MULCH NETTING IN THE SOIL.

ANTERO'S PREFERRED SEED MIXTURE

HALL'S #1 PASTURE MIXTURE

Species/Contains	Pure Seed	Germ	Origin
Bestfor Intermediate Ryegras	29.95%	90%	OR
Climax Timothy	24.96%	90%	CAN
Annual Ryegrass *	24.92%	90%	OR
Medium Red Clover *	9.99%	90%	OR
Potomac Orchardgrass	9.46%	90%	OR
Other Crop Seeds:	*0.01%*		* Variety Not Stated
Inert Matter:	0.69%		AMS: 5143
Weed Seeds:	0.02%		

Table IV-1
Recommended Seeding Dates

Planting Dates	Suitability
March 1 - April 15 and August 1 - October 1	Best Seeding Periods
April 15 - August 1	HIGH RISK - moisture stress likely
October 1 - December 1	HIGH RISK - freeze damage to young seedlings
December 1 - March 1	Good seeding period. Dormant seeding

Table IV-2
Acceptable Fertilization Recommendation

Species	N (lbs/ac)	P2O5 (lbs/ac)	Example Rec. (per acre)
Cool Season Grass	40	80	400 lbs. 10-20-20
CS Grass & Legume	30	60	300 lbs. 10-20-20
Temporary Cover	40	40	200 lbs. 19-19-19

Table IV-3
Temporary Cover

Species	Seeding Rate (lbs/acre)	Optimum Seeding Dates	Drainage	pH Range
Annual Ryegrass	40	3/1 - 6/15 or 8/15 - 9/15	Well - Poorly	5.5 - 7.5
Field Bromegrass	40	3/1 - 6/15 or 8/15 - 9/15	Well - Mod. Well	6.0 - 7.0
Spring Oats	96	3/1 - 6/15	Well - Poorly	5.5 - 7.0
Sundangrass	40	5/15 - 8/15	Well - Poorly	5.5 - 7.5
Winter Rye	168	8/15 - 10/15	Well - Poorly	5.5 - 7.5
Winter Wheat	180	8/15 - 11/15	Well - Mod. Well	5.5 - 7.0
Japanese Millet	30	6/15 - 8/15	Well	4.5 - 7.0
Redtop	5	3/1 - 6/15	Well	4.0 - 7.5
Annual Ryegrass	26	3/1 - 6/15	Well - Poorly	5.5 - 7.5
Spring Oats	64	3/1 - 6/15	Well - Poorly	5.5 - 7.5

NOTE: *These rates should be increased by 50% if planted April 15 - August 1 and October 1 - March 1.*

Table IV-4A
Permanent Seeding Mixture

Species/Mixture	Seeding Rate (lbs/acre)	Soil Drainage preference	pH Range
Crownvetch / Tall Fescue	10 - 15 / 30	Well - Mod. Well	5.0 - 7.5
Crownvetch / Perennial Ryegrass	10 - 15 / 20	Well - Mod. Well	5.0 - 7.5
Flatpea or Perennial Pea / Tall Fescue	**20 / 15**	**Well - Mod. Well**	**4.0 - 8.0**
Ladino Clover / Serecia Lespedeza / Tall Fescue	30 / 25 / 2	Well - Mod. Well	4.5 - 7.5
Tall Fescue / Ladino Clover / Redtop	*40 / 3 / 3*	*Well - Mod. Well*	*5.0 - 7.5*
Crownvetch / Tall Fescue / Redtop	10 / 20 / 3	Well - Mod. Well	5.0 - 7.5
Tall Fescue / Birdsfoot Trefoil / Redtop	40 / 10 / 3	Well - Mod. Well	5.0 - 7.5
Serecia Lespedeza / Tall Fescue / Redtop	25 / 30 / 3	Well - Mod. Well	4.5 - 7.5
Redtop / Tall Fescue / Creeping Red	30 / 3 / 50	Well - Mod. Well	5.0 - 7.5
Tall Fescue	*50*	*Well - Poorly*	*4.5 - 7.5*
Perennial Ryegrass / Tall Fescue / Lathco Flatpea *	**10 / 15 / 20**	**Well - Poorly**	**5.8 - 8.0**

** 'Lathco' Flatpea is potentially poisonous to some livestock. All legumes should be planted with proper inoculants prior to seeding. For unprepared seedbeds or seeding outside the optimum timeframe, add 50% more seed to the specified rate.*
Mixtures listed in bold are suitable for use in shaded woodland settings; those in italics are suitable for use in filter strips.

Table IV-4B
Wildlife and Farm Friendly Seed Mixtures

Species/Mixture	Seeding Rate (lbs/acre)	Soil Drainage preference	pH Range
KY Bluegrass / Redtop / Ladino Clover or Birdsfoot Trefoil	20 / 3 / 2 / 10	Well - Mod. Well	5.5 - 7.5
Timothy / Alfalfa	5 / 12	Well - Mod. Well	6.5 - 8.0
Timothy / Birdsfoot Trefoil	5 / 8	Well - Poorly	5.5 - 7.5
Orchardgrass / Ladino Clover / Redtop	*10 / 2 / 3*	*Well - Mod. Well*	*5.5 - 7.5*
Orchardgrass / Ladino Clover	*10 / 2*	*Well - Mod. Well*	*5.5 - 7.5*
Orchardgrass / Perennial Ryegrass	*20 / 10*	*Well - Mod. Well*	*5.5 - 7.5*
Creeping Red Fescue / Perennial Ryegrass	**30 / 10**	*Well - Mod. Well*	**5.5 - 7.5**
Orchardgrass or KY Bluegrass	20	Well - Mod. Well	6.0 - 7.5
Birdsfoot Trefoil / Redtop / Orchardgrass	10 / 5 / 20	Well - Mod. Well	5.5 - 7.5
Lathco Flatpea */ Perennial Ryegrass	**30 / 20**	**Well - Mod. Well**	**5.5 - 7.5**
Lathco Flatpea */ Orchardgrass	30 / 20	Well - Mod. Well	5.5 - 7.5

** 'Lathco' Flatpea is potentially poisonous to some livestock. All legumes should be planted with proper inoculants prior to seeding. For unprepared seedbeds or seeding outside the optimum timeframe, add 50% more seed to the specified rate.*
Mixtures listed in bold are suitable for use in shaded woodland settings; those in italics are suitable for use in filter strips.

10/23/2026

Table IV-5
Lime and Fertilizer Application Table

pH of Soil	Lime in Tons per Acre	Fertilizer, Lbs. per Acre (10-20-20 or Equivalent)
Above 6.0	2	500
5.0 to 6.0	3	500
Below 5.0	4	500

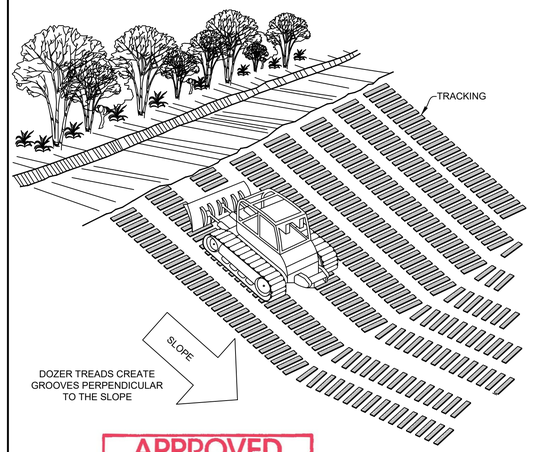
The pH can be determined with a portable pH testing kit or by sending the soil samples to a soil testing laboratory. When 4 tons of lime per acre are applied it must be incorporated into the soil by disking, backblading or tracking up and down the slope.

Table IV-6
Mulch Materials Rates and Uses

Material	Minimum Rates per acre	Coverage	Remarks
Hay or Straw	2 to 3 Tons 100 to 150 bales	Cover 75% to 90% of Surface	Subject to wind blowing or washing unless tied down
Wood Fiber Pulp Fiber Wood - Cellulose Reicirculated Paper	1000 to 1500 lbs	Cover all Disturbed Areas	For hydroseeding

SLOPE TRACKING

N.T.S.

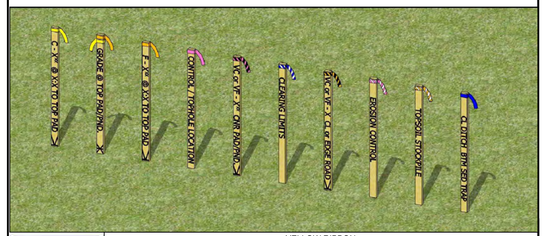


APPROVED
WVDEP OOG
10/20/2026

NOTES:
1. TRACKING SLOPES ARE DONE BY RUNNING TRACKED MACHINERY UP AND DOWN THE SLOPE, LEAVING TREAD MARKS PARALLEL TO THE CONTOUR. IF A BULLDOZER IS USED, THE BLADE SHOULD BE UP.

STANDARD STAKEOUT RIBBON COLOR SCHEME

N.T.S.



	YELLOW RIBBON: YELLOW RIBBON USED TO INDICATE TOP OF CUTS (C) CUT TO BE DETERMINED AT TIME OF STAKEOUT SLOPE DETERMINED BY SITE DESIGN
	YELLOW & ORANGE RIBBON: YELLOW AND ORANGE RIBBON USED TO INDICATE GRADE AT TOP OF PAD/POND/PIT
	ORANGE RIBBON: ORANGE RIBBON USED TO INDICATE TOES OF FILLS (F) FILL TO BE DETERMINED AT TIME OF STAKEOUT SLOPE DETERMINED BY SITE DESIGN
	PINK RIBBON: PINK RIBBON USED TO INDICATE TOP HOLE LOCATION PINK RIBBON USED TO INDICATE SURVEY CONTROL LOCATION
	PINK & BLACK STRIPE RIBBON: PINK & BLACK STRIPE RIBBON USED TO INDICATE VERTICAL CUT (VC) AT PAD/POND/PIT CORNER OR EDGE PINK & BLACK STRIPE RIBBON USED TO INDICATE VERTICAL FILL (VF) AT PAD/POND/PIT CORNER OR EDGE VERTICAL CUT/VERTICAL FILL TO BE DETERMINED AT TIME OF STAKEOUT
	BLUE & WHITE STRIPE RIBBON: BLUE & WHITE STRIPE RIBBON USED TO INDICATE CLEARING LIMITS/CONSTRUCTION LIMITS
	ORANGE & BLACK STRIPE RIBBON: ORANGE & BLACK STRIPE RIBBON USED TO INDICATE VERTICAL CUT (VC) AT CENTERLINE OR EDGE OF ACCESS ROAD ORANGE & BLACK STRIPE RIBBON USED TO INDICATE VERTICAL FILL (VF) AT CENTERLINE OR EDGE OF ACCESS ROAD
	PINK & WHITE STRIPE RIBBON: PINK & WHITE STRIPE RIBBON USED TO INDICATE EROSION AND SEDIMENT CONTROL STRUCTURES SILT FENCE (SF) REINFORCED FILTER FENCE (RFF) SUPER SILT FENCE (SSF) FILTER SOCK (FS)
	ORANGE & WHITE STRIPE RIBBON: ORANGE & WHITE STRIPE RIBBON USED TO INDICATE TOPSOIL STOCKPILE LOCATIONS
	BLUE RIBBON: BLUE RIBBON USED TO INDICATE CENTERLINE (CL) DITCH BLUE RIBBON USED TO INDICATE BOTTOM (BTM) SEDIMENT TRAPS

MODIFIED) SOURCE: ANTERO RESOURCES CORPORATION

NAVITUS ENERGY ENGINEERING
Telephone: (888) 662-4185 | www.NavitusEng.com

REVISION | DATE

Antero Resources

THIS DOCUMENT WAS PREPARED FOR: ANTERO RESOURCES CORPORATION

CONSTRUCTION DETAILS

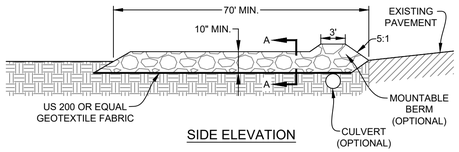
YEATER
WELL PAD & WATER CONTAINMENT PAD

McCLELLAN DISTRICT
DODDRIDGE COUNTY, WEST VIRGINIA

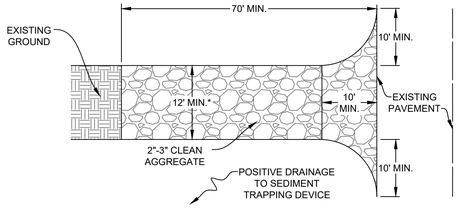
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SCALE: N/A
SHEET 5 OF 6

ROCK CONSTRUCTION ENTRANCE

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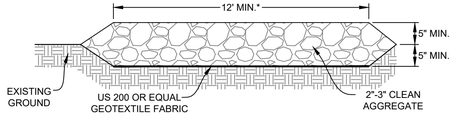


SIDE ELEVATION



*MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION

PLAN VIEW



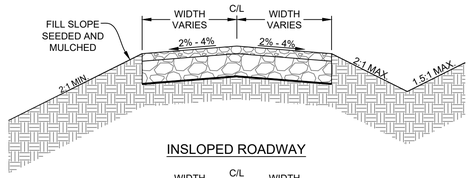
SECTION A-A

(MODIFIED) SOURCE: ADAPTED FROM THE 1983 MARYLAND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL AND VA. DSWC.

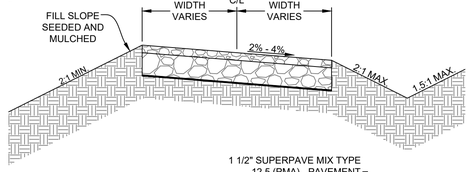
TYPICAL ROAD CROSS-SECTION

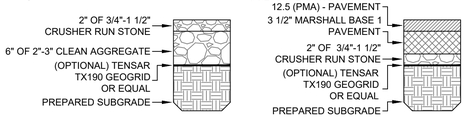
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CROWNED ROADWAY



INSLOPED ROADWAY





GRAVEL SECTION

PAVEMENT SECTION

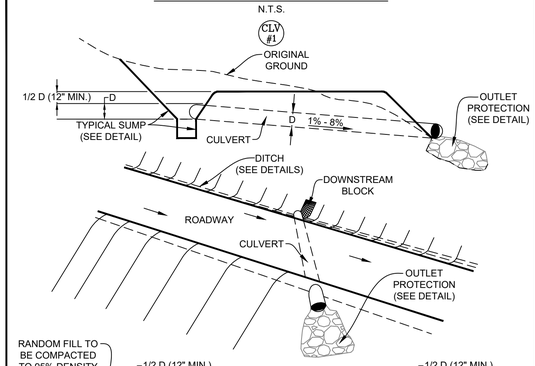
NOTES:
1. CUT AND FILL SLOPES SHALL BE STABILIZED IMMEDIATELY UPON COMPLETION OF ROADWAY GRADING.
2. A DURABLE TOP DRESSING SHALL BE PROVIDED FOR SOILS HAVING LOW STRENGTH.
3. ROADSIDE DITCHES SHALL BE PROVIDED WITH ADEQUATE PROTECTIVE LINING (SEE DETAIL).
4. ADEQUATELY SIZED CULVERTS (SEE DETAIL) OR OTHER SUITABLE CROSS DRAINS SHALL BE PROVIDED AT ALL SEEPS, SPRINGS, AND DRAINAGEWAYS.
5. ROADWAY SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED ROADWAYS, DITCHES, OR CROSS DRAINS SHALL BE REPAIRED IMMEDIATELY.
6. THE ASPHALT PAVEMENT SECTION SHOWN IS FOR BIDDING PURPOSES ONLY. AN ASPHALT PAVING DESIGN SHALL BE COMPLETED PRIOR TO INSTALLATION.

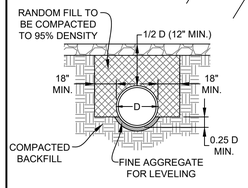
(MODIFIED) SOURCE: PA DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF OIL AND GAS MANAGEMENT 5500-FM-0G0111 APPENDIX A BMP CONSTRUCTION DETAILS.

DITCH RELIEF CULVERT

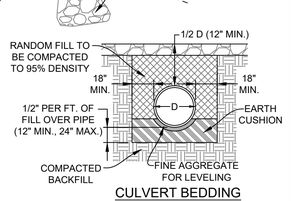
N.T.S.

CLV #1





CULVERT BEDDING



CULVERT BEDDING ON ROCK FOUNDATION

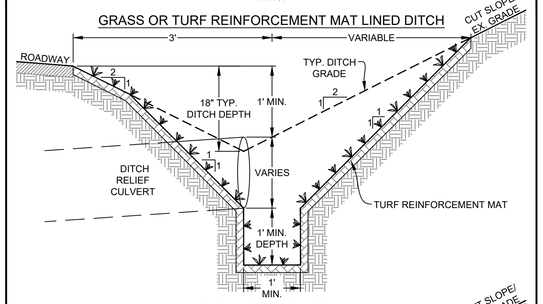
NOTES:
1. CULVERTS SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.
2. CULVERTS SHALL BE INSTALLED FROM 0°-30° TO THE CENTERLINE OF THE DITCH TO MINIMIZE TURBULENCE AT THE INLET.
3. ALL CULVERTS SHALL BE FOUNDED UPON A CLEAN EARTHEN SURFACE. A ROCK FOUNDATION SHALL BE OVER EXCAVATED A MINIMUM OF 12" AND BACKFILLED WITH EARTHEN MATERIAL.
4. THE EARTHEN TRENCH OF THE CULVERT SHALL BE SHAPED FOR THE CULVERT PRIOR TO PLACING.
5. LIMESTONE DUST OR SAND SHALL BE USED AS FINE AGGREGATE FOR LEVELING AND IF NECESSARY FOR FILLING AROUND CULVERT CORRUGATIONS.
6. ALL BACKFILL MATERIAL SHALL BE COMPACTED EARTHEN MATERIAL FOUND ONSITE. IF MATERIAL IS NOT AVAILABLE ONSITE, 1/2"-3/4" CRUSHER RUN STONE SHALL BE INSTALLED AND COMPACTED.
7. IF THE CULVERT TRENCH IS SATURATED OR HAS STANDING WATER, #57 STONE SHALL BE USED TO BED THE PIPE TO ACHIEVE THE DESIRED PIPE ELEVATION.

(MODIFIED) SOURCE: WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL, OFFICE OF OIL AND GAS AND WVDOH.

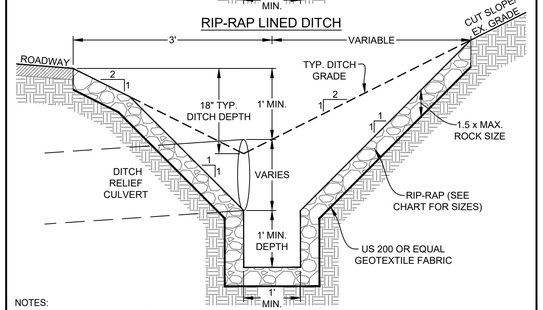
TYPICAL SUMP AT DITCH RELIEF CULVERT

N.T.S.

GRASS OR TURF REINFORCEMENT MAT LINED DITCH



RIP-RAP LINED DITCH

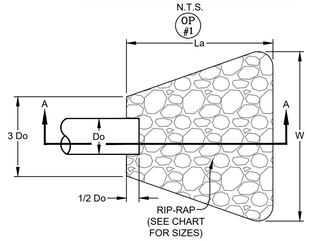


NOTES:
1. SUMP DIMENSIONS SHOWN ARE FOR COMPLETED SUMP AFTER LINING INSTALLATION. THE SUMP MUST BE OVER-EXCAVATED A SUFFICIENT AMOUNT TO ALLOW FOR THE REQUIRED LINING TO BE PLACED WITHIN THE SUMP SO THE CULVERT IS NOT BLOCKED OR CLOGGED, WHILE MAINTAINING THE SPECIFIED FINISHED DIMENSIONS.
2. SUMP DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. SUMP LINES SHALL BE CLEANED WHENEVER TOTAL SUMP DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO SUMP WITHOUT FURTHER DAMAGE.

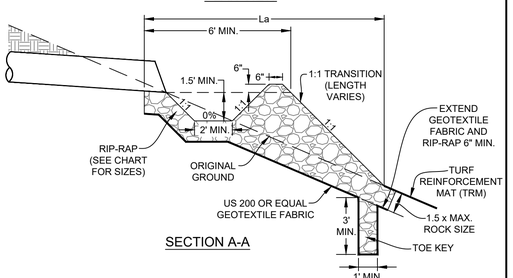
OUTLET PROTECTION

N.T.S.

OP #1



PLAN VIEW



SECTION A-A

NOTES:
1. AREA TO BE INSPECTED PRIOR TO FABRIC AND STONE PLACEMENT AND VERIFIED THAT FABRIC IS APPROPRIATELY TRENCHED PRIOR TO STONE PLACEMENT.
2. ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN IN CHART. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.
3. ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIP-RAP WITHIN THE APRON SHALL BE RESTORED IMMEDIATELY.
4. EXTEND RIP-RAP ON BACK SIDE OF APRON TO AT LEAST 1/2 DIAMETER OF PIPE ON BOTH SIDES TO PREVENT SCOUR AROUND THE PIPE.
5. TURF REINFORCEMENT MAT (TRM) SHALL BE INSTALLED FROM OUTLET PROTECTION TO DOWNSTREAM EROSION AND SEDIMENT CONTROL TO PREVENT SOIL RILLING.

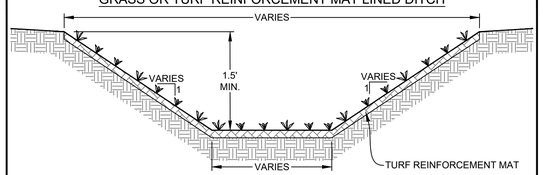
(MODIFIED) SOURCE: WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL.

TYPICAL TRAPEZOIDAL DITCH

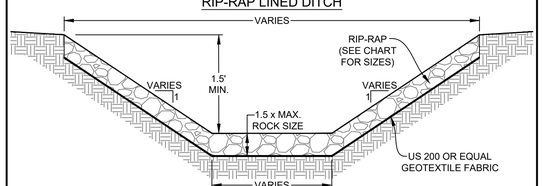
N.T.S.

DL #1

GRASS OR TURF REINFORCEMENT MAT LINED DITCH



RIP-RAP LINED DITCH



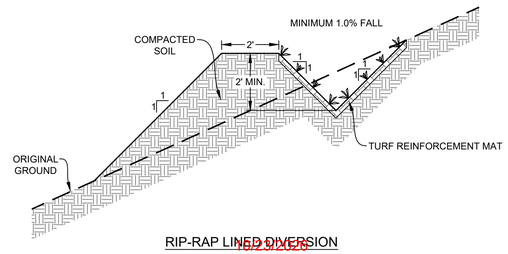
NOTES:
1. ALL DITCH LINE PROTECTION SHALL BE INSTALLED AS RECOMMENDED IN THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE (BMP) MANUAL. DITCH LINE PROTECTION SHALL BE BASED ON THE FOLLOWING GRADES:
   1.1. LESS THAN 3% = GRASS.
   1.2. 3%-9% = TURF REINFORCEMENT MAT OR GRASS WITH ROLLED EROSION CONTROL PRODUCTS (R.E.C.P.).
   1.3. GREATER THAN 9% = RIP-RAP. SEE CHART FOR SIZES.
2. TYPICAL OUTLET PROTECTION SHALL BE INSTALLED AT DOWNSTREAM END OF ALL DITCH LINES. SEE OUTLET PROTECTION DETAIL.
3. DITCH DIMENSIONS SHOWN ARE FOR COMPLETED DITCH AFTER LINING INSTALLATION. THE DITCH MUST BE OVER-EXCAVATED A SUFFICIENT AMOUNT TO ALLOW FOR THE REQUIRED LINING TO BE PLACED WITHIN THE DITCH WHILE MAINTAINING THE SPECIFIED FINISHED DIMENSIONS.
4. DITCH DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. DITCH LINES SHALL BE CLEANED WHENEVER TOTAL DITCH DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO DITCH WITHOUT FURTHER DAMAGE.
5. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.
6. IF HIGH EROSIVE SOILS ARE ENCOUNTERED DURING CONSTRUCTION, THE ENGINEER SHOULD BE CONTACTED FOR FURTHER EVALUATION.

DIVERSION

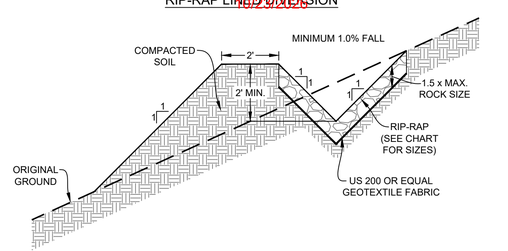
N.T.S.

DIV #1

GRASS OR TURF REINFORCEMENT MAT LINED DIVERSION



RIP-RAP LINED DIVERSION



NOTES:
1. DIVERSION DIMENSIONS SHOWN ARE FOR COMPLETED DIVERSION AFTER LINING INSTALLATION. THE DIVERSION MUST BE OVER-EXCAVATED A SUFFICIENT AMOUNT TO ALLOW FOR THE REQUIRED LINING TO BE PLACED WITHIN THE DIVERSION WHILE MAINTAINING THE SPECIFIED FINISHED DIMENSIONS.
2. DIVERSION DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. DIVERSION LINES SHALL BE CLEANED WHENEVER TOTAL DIVERSION DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO DIVERSION WITHOUT FURTHER DAMAGE.

APPROVED
WVDEP OOG
10/20/2026

NAVITUS
ENERGY ENGINEERING
Telephone: (888) 662-4185 | www.NavitusEng.com

REVISION

DATE

Antero Resources

THIS DOCUMENT WAS PREPARED FOR: ANTERO RESOURCES CORPORATION

CONSTRUCTION DETAILS

YEATER

WELL PAD & WATER CONTAINMENT PAD

McCLELLAN DISTRICT

DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 10/01/2026

SCALE: N/A

SHEET 6 OF 6

DBJ Vice President Geology Antero Resources

SLIDE EXHIBIT



SLIDE AREA 1 09-14-2026

PERMITTED LIMITS OF DISTURBANCE
TM 11-25 ANTERO MIDSTREAM LLC DB 345 PG 477 54.8 AC
RTW_WETLAND06
EX. 18" CULVERT
EX. OVERHEAD UTILITY
EX. GUARDRAIL
INTERMITTENT RTW_STREAM32
PF TO REMAIN UNDISTURBED
SLIDE AREA #3
YR-3
2:1 SLOPE
10' SIDE (MIN.) BENCHING BENCH
DITCH & OUTLET PROTECTION TO BE REINSTALLED
15' WIDE (MIN.) TOE BENCH (VERIFY DEPTH VIA TEST PITS) (2,565 CY)
PROPOSED HD (LP=82')
PROPOSED HD (LP=117')
0.17 ACRES ADDED TO PERMITTED LOD
MODIFICATION LIMITS OF DISTURBANCE
APPROX. PROPERTY LINE
INTERMITTENT RTW_STREAM31
EPHEMERAL RTW_STREAM30
INTERMITTENT RIGGINS RUN ROAD UPGRADES_ASE_STREAM02_MOD
EPHEMERAL RTW_STREAM01
EPHEMERAL RTW_STREAM28
RETTEW WETLAND DELINEATION STUDY AREA
TM 11-34 SHAWN A. GLASPELL DB 271 PG 230 254.51 AC.
EX. 60" CULVERT
EPHEMERAL RTW_STREAM27
YR-1
YR-2
25 0 75
GRAPHIC SCALE (IN FEET)

NAVITUS

REVISION

DATE

THIS DOC WAS PREPA ANTERO RE CORPOR

SLIDE EXHIBIT

YEATER

DATE: 10/

SCALE: 1"

SHEET 1