

**Continental Coal, Inc.  
Foster South Mine  
Surface Mining Permit 2015-01  
and Future Expansion Area**

**N/2 of Section 19, T39N, R32W and the N/2 of Section 24, T39N and R33W  
Bates County, Missouri**

**1. Watershed Approach to Compensatory Mitigation**

To maximize the coal resource recovery from the proposed mining area, the applicant has carefully considered the local impacts to the local wetland areas and Waters of the United States and; where feasible has attempted to avoid impacts. Additionally, CCI thru its consultant, Triad Environmental Services has met with Corps of Engineers Environmental Protection Specialist (Mr. Rodney Christensen) to delineate the onsite creek reaches and wetland areas to be affected. Further, they have consulted with the local landowners to develop a plan that would accommodate the future continued use of their properties (i.e. agricultural/pasture); yet provide the compensatory mitigation as required by the regulatory programs.

The proposed activities will be completed in two phases. Phase I will begin on the eastern portion of the proposed MoLRP Surface Mining Permit 2015-01 and will include the disturbance of the wetland areas and reconstruction of Stream 3 as proposed.

Thereafter as mining continues to the west Stream 2 on Permit 2015-01 and then Stream 1 on the Future Expansion Area will be reconstructed as proposed (Phase II). This activity will be completed only after the applicant receives appropriate MoLRP approvals to expand the permit area to the west.

This report has been prepared in general accordance with the applicable provisions of the April 2013 "State of Missouri Stream Mitigation" document. It is the Applicants desire to provide "permittee responsible mitigation" through on site and in kind efforts as outlined herein.

As concluded, the stream mitigation worksheets comparing the pre and post disturbance activities have illustrated that the "in kind restoration" credits are significantly greater for the proposed activity; and thus, should be allowed without further compensation under the Nationwide 21 permit action.

**2. Mitigation Plan Requirements for Permittee Responsible Mitigation**

**A. Objectives**

As further discussed herein, the primary objective will be to replace the poor quality wetland with a constructed marsh/pool wetland, and the impacted

stream reaches with newly constructed stable post mining drainage courses that restores the local drainage patterns to the pre mining conditions of general alignment, gradients, riffle/pool segments, and a diverse wildlife habitat grassy waterway with an adjacent mature riparian woodland buffer (Stream 3) and new wildlife habitat grass, shrub and tree corridor area that will provide for long term and stable stream 1 & 2 reaches.

## B. Site Selection

Phase I. The proposed post mining location for the new wetlands and Stream 3 corridor will be as illustrated on the enclosed drawings and will be located in a portion of the existing, abandoned mine area on the property. At this location, the wetlands (marsh and ponds) will be replaced higher in the watershed and then flow thru the existing spoil valley with appropriate cuts and fill to establish the restored grades. At this location the adjacent areas will be retained; except for the clearing required for establishment of the new stream corridor. The watershed (27 ac) from the adjacent and new mining area will be sufficient to provide adequate runoff to support the wetlands and will create an excellent wildlife habitat environment.

Phase 2. The proposed post mining location for the new Stream 1 and 2 corridor will be in approximately the same locations as pre-mining, but will also include the development of a large upland water resource (Laughlin FWI). Stream 1 will be routed into and out of the structure at grade without any stream obstructions. Stream 2 will be re-established to flow directly into the adjacent strip pit (DP-006). A 120' wide wildlife habitat corridor is also proposed for each drainage course.

## C. Site Protection Instruments

No specific site protection instruments are proposed (i.e. conservation easement/restrictive covenants) to protect the permittee mitigation efforts, since the proposed activities are deemed to be of a permanent nature and are not likely to be impacted due to future landowner agricultural activities.

## D. Baseline Information

1. Wetlands. As identified in coordination with the local environmental protection specialist on the field site inspection conducted on January 13, 2015, two low quality wetland seepage areas were identified in the bottom of the existing strip pit and ramp areas (see photos). At this location old abandoned coal strip mine pits and spoil ridges from the 1940's has created a mature woodland setting over most of the areas. The western site (0.16 ac) located along the Laughlin/Botkin property line was cattail dominated and surrounded by fescue grasses and woodland. The wetland was identified to be a very narrow (15-30' wide) strip traversing approximately 300' up an old access ramp within the mine spoil areas. The eastern site (1.35 ac) was also dominated by cattails and extended along the pit floor and up the adjacent ramp for a total length of

approximately 1400 LF. This zone has been created by seepage flow thru and adjacent dam that has impounded upstream water in the strip pit. This area was slightly wider measuring 30-70' in width.

2. Waters of the U.S. Also identified on the field inspection of January 13, 2015 were three stream segments concluded to exhibit bed and bank configurations supporting the concept of jurisdictional Waters of the U.S. (See Drawing). Each segment will be discussed as follows:

**Stream 1** lies along the western portion of the properties under review and immediately outside of the initial permit boundary but within the Future Expansion Area. The creek drains approximately 134 acres of adjacent cool season pasture land use. Waters of the U.S. were preliminarily determined from the discharge exit into the southern water filled strip pit (Sta. 0+00) north to the County Road 4508 culvert (Sta. 30+65). The creek is a predominately incised channel measuring 6-14' in width, 2-4' in depth and with even deeper incisement at some downstream locations. The gradient is fairly consistent at about 1.10% with a few steeper segments crossing a sandstone bottom at 3.5% and flat runs of .5 - .9% range. This creek has exhibited intermittent seasonal flow due to seepage of the perched upland soft sandstone unit, from about Sta. 21 + 00 to the south.

**Stream 2** lies to the east of Stream 1 and intersects at Sta. 3+ 25. The upland drainage area is also comprised of pasture land use. Based upon a comparison of the 1938 and 1991 U.S.G.S Watershed Maps the drainage areas are slightly different atop the hill; but have not been affected by previous mining activities. The upland watershed to the point of proposed disturbance is approximately 78 acres. As illustrated on the proposed Operations and Reclamation Plan Maps, this creek will be totally mined thru as shown. This smaller incised creek contains only ephemeral drainage, has a smooth gradient of approximately 1.10% with a typical 3-6' bottom width and 1-3' depth of incisement (see photos attached).

**Stream 3** lies along the eastern boundary of the property and its watershed has been significantly affected by the previous mining efforts and subsequent removal of much of the upland drainage course. Additionally, the landowner has constructed a 6.1 acre water impoundment in the stream course. Comparing the 1938 and 1991 U.S.G.S. Watershed Maps included herein, approximately 49 acres of the original 142 acre watershed was affected by the mining activities resulting in the diversion of the upland water to the west. Over time the landowner has since removed the former channel and developed the area into a smooth brome hayfield. As noted the Waters of the U.S. begins at Sta. 23+85. Using the 1938 water course symbol approximately 1,500 LF of possible Waters of the U.S. have been lost due to the previous mining disturbance action. The new mining activities propose to restore this drainage course to its original watershed; and will reroute the drainage

thru the existing wooded mine spoil valley to create an excellent permanent Stream 3 water course.

The upland soils for all three stream segments are comprised of moderately deep loam, moderately well drained soil on gentle (1-5%) slopes formed from the weathering of soft channel, sandstone and shale units of Pennsylvanian Age formations. The mine spoils (+65 years old) are primarily weathered shale with significant clay fractions, sand and are moderately to well drained.

The general water quality characteristics are shown in the chart below and are based upon field sampling activities conducted over the past several months.

	<u>Strip Pit below Stream 1 &amp; 2</u>	<u>Downstream Flow from Stream 3 (DP-003)</u>
pH	6.97-8.96	6.79-8.25
TDS (mg/l)	160-497	83-225
Total Alkalinity (mg/l)	71.8-136	50.1-323
Sulfate (mg/l)	43.5-103	1.1-4.4
Total Iron (mg/l)	<0.05-2.4	0.29-2.72
Total Manganese (mg/l)	0.035-0.289	0.08-0.37

It is anticipated that restored water quality to the system would be very similar to the existing.

#### E. Determination of Credits

As required, the Missouri Stream Mitigation Methods (April 2013) have been used to assess pre disturbance and post disturbance impacts. These forms are included herein. This procedure uses a debit/credit comparison of the baseline condition to a "typical" proposed stream replacement scenario. Since the reclaimed watersheds will be very similar in composition (i.e. size, gradient, slopes, soil, etc.) to those that existed prior to the mining activities, this approach for compensation comparisons is deemed as valid.

By using the prescribed methods the pre mine debit value to Streams 1 and 2 (Adverse Impact Worksheet) was calculated to be 19,076 credits required.

Using the In Stream and Riparian Buffer Worksheets for the post mining restoration of Stream 3 and reconstructed Streams 1 and 2 offset credits of 21,691 and 12,577 for a total of 34,268 credits indicates that the proposed plan can successfully mitigate the impacts.

As illustrated by the worksheet process adding significant new stream length along with the retention of adjacent riparian woodland (Stream 3) or tree/shrub planted corridor route (Stream 1 & 2), provides a substantial offset to the local impacts to the existing stream segment to be lost by the new mining activity.

## F. Mitigation Work Plan

The following restorative sequence and work plan is proposed for the compensatory site mitigation of disturbed wetland areas and the replacement of Waters of the U.S.

1. Design Concept. The proposed mining activities will eliminate the Stream 1 & 2 drainage corridor and identified wetland areas. During Phase I, reshaping of the upland watershed areas will direct approximately 27 acres of runoff from the reclaimed and adjacent areas to the new wetlands and Stream 3 corridor. These areas will be filled, excavated and shaped thru the existing spoil valleys found in the abandoned mined areas. The corridor will then exit into the existing Waters of the U.S. of Stream 3 at approximately Sta. 23+85.

The proposed wetland area will be comprised of forebay shallow pool at the entrance to the wetlands where the adjacent mining activities enter. This pool will provide initial trapping of sediment from the reclaimed mining area. Flow will meander across a shallow marsh area (6-18" deep) that will contain two small island areas that create additional edge within the marsh. Flow will then enter a deeper pool and mud flat area before exiting the wetland and into the new Stream 3 corridor. The deep pool (1.9 acres) will initially be approximately 8-10' deep in the center to allow for the calculated long term sediment storage thru the area (.50 ac. ft.) After sediment storage the final pool will be approximately 6-8' deep. From the edge of the pond a large flat shelf (6-12" deep) will be created to enhance wetland vegetation and aquatic aspects of the wetland environment.

The discharge outlet from the wetland (Sta. 46+00) will traverse the new Stream 3 corridor. The new creek configuration has incorporated a low flow incised channel based upon the peak flow from the watershed for the 1-2 year storm event. This channel will meander across the wider vegetated floodway that was designed to easily accommodate the 100 year storm. Creek gradients will vary from flat  $s = 0.003$  up to steeper segments of approximately  $s = 0.015$ . Also incorporated along the channel are four shallow rock riprap riffles and pools with small stepdowns (1.5') and one intermittent rock check dam at slope grade. Finally, from Sta. 28+00 to 23+85 a new low flow channel will be excavated thru the middle of the existing tree corridor to adjoin the existing headwater of the Waters of the U.S. Stream 2 will also be mined thru as mining progresses west on the Permit No. 2015-01 area.

For Phase II activities (assuming that a new surface mining permit is issued for the Future Expansion Area), Stream 1 will be mined thru as pits advance to the west where the final cut will be shaped into a 6 acre incised water impoundment. Stream 1 will be temporarily diverted around the mining activities, then reconstructed as shown. Additionally, Stream 2

will be reconstructed as a grass waterway thru the new prime farmland area; and then as a wildlife stream corridor to DP-006.

In the post mining configuration since both watersheds will be approximately the same size (111 ac. vs 96 ac.) the same corridor configuration is proposed to pass the design storm events. The new streams will incorporate a low flow incised channel based upon the 1-2 storm event and will meander across the wider (70') vegetated 100 yr floodway and all within the proposed 120' wide wildlife habitat corridor, which will be developed with brush piles and new tree/shrub planting as illustrated.

Creek gradients will vary from flatter runs of  $s=0.006$  to steeper segments of  $s=0.012$  and similar to the existing creeks. Additionally, several at grade or shallow rock riprap riffle and pool step downs (1.5 ft.) are proposed to provide stream checks and augment the newly created creek profile.

Throughout the entire project site, disturbance, clearing and grubbing of the existing adjacent habitat will be minimized to retain the positive aspects of the woodland corridor.

2. Site Hydrology, Stream and Hydraulic Characteristics. On the attached sheets, SEDCAD modeling has been completed to define the peak stormwater runoff rates from the watershed; and to size the receiving low flow and floodway zones. Thus by design adequate capacity is available at acceptable velocities such that the proposed vegetated channels and riffles remain stable over the long term with minimal to no maintenance required after establishment. Summarized below are the important aspects considered for the design.

<u>Parameters</u>	<u>Stream 1</u>	<u>Stream 2</u>	<u>Stream 3</u>
Design Watershed (Ac.)	111	96	27
Land Use (CN)	82	82	81
Low Flow Channel Qp1-2 (cfs)	115	95	21
100 yr. Floodway Qp100 (cfs)	382	313	75
Vegetation Design Velocity (fps)	<6	<6	1 - 3.5
Rock Channel Design Velocity (fps)	<8	<8	<7
Stream Gradient, Flat Runs Slope (%)	.6 - 1.2	.6 - 1.2	.3-1.5
Stream Gradient, Riffle Slope (%)	5.0	5.0	6.0
Low Flow Channel Ave. Width/Depth Ratio	6:1	6:1	2.5:1
Pond Support Ratio (Ws/Ac.)	18:1	---	14:1
Wetlands Length to Width Ratio	---	---	3:1
Wetland Support Ratio (Ws/Ac)	---	---	7:1

3. Construction and Site Materials. Construction of the features will be completed with mobile equipment which will be of the appropriate size to complete the tasks while minimizing the disturbance to the adjacent areas. Pit backfill materials will be comprised of both weathered abandoned mined land spoil and new rubblized shale, soft sandstone, clay and sandy materials from the active mining area. Excess materials will be hauled and disposed of in areas requiring fill. Wetland bottoms will be compacted by large truck tracking to obtain appropriate low density permeabilities to help prevent adverse seepage and improve retention characteristics.
4. Revegetation Measures. All previously mined land (PML) final graded areas will receive best available soil materials (i.e. clayey subsoil (+6") or spoil) to be used as the growing medium (see attached soil test results). Other mined and reclaimed areas will receive topsoil materials (+/- 11" thick).

All areas will receive appropriate soil amendments; and will be seeded and mulched (as necessary) to provide the permanent final cover. Also attached are the proposed seed mixes to be used for the stream waterway corridors, the wetland areas and wildlife habitat tree/shrub planting clusters. These mixes have been successfully used at other locations and will provide a diverse grass wildlife habitat to compliment the adjacent woodland environment.

#### G. Operation and Maintenance Plan

The disturbance of the existing wetlands is scheduled to occur when mining activities begin shortly after permit issuance. As illustrated on the Operations Plan Map the backfilling of the water impoundment adjacent to MB-1 and filling of the runway (Stream 3 Sta. 46+00 to 62+00) will be one of the first site activities. Thus, all proposed improvements to DP-003, the new wetlands construction and the entire Stream 3 corridor improvements will need to be completed in association with all initial mine opening activities (Phase I).

The taking of Stream 2 and construction of DP-004 will occur approximately 6-8 months later as mining progresses to the west. The taking of Stream 1 will occur thereafter upon the issuance of the new surface mining permit to the west.

During operations mode all water will be controlled and discharged thru a network of sedimentation structures located on the permit area and in accordance with all MoLRP regulations and N.P.D.E.S. permit requirements for water discharges. DP-006 will be retained in its existing condition; however, sediment curtains will be used at selected locations to provide a detention barrier to inhibit the migration of sediment laden water into and through the pit area (See Curtain Detail).

After the construction of all features, appropriate seeding stabilization measures will be employed and maintained accordingly over the life of the permit and reclamation period estimated to be approximately 8 years.

#### H. Performance Standards

The proposed project's primary objective for success is to complete the mining of the site coal reserves in a manner that minimizes the water quality impact to the downstream areas during the mining phase; and then, returns the natural release of water of proper quality to the system in a controlled, non-erosive and stable manner. Additionally, the proposed wetland and new stream channel system will provide excellent water resources for the property and will reintegrate the mined lands into the local flow system, thereby, creating a setting for long term stability and natural succession.

#### I. Monitoring Requirements

The execution of the plan will be accomplished by the applicant (mining company) with their equipment during the normal course of the surface mining and reclamation activities. The mining company has a fleet of mobile mining and reclamation equipment specific for a large scale earthwork project.

The Missouri Land Reclamation Program (MO-LRP) regulations require that the project be monitored for success throughout the construction and revegetation phases of the project. Monitoring efforts will include; erosion control measures, water quality testing, vegetation species success evaluations, and the overall reintegration of the stream system into the surrounding area.

#### J. Long-term Management Plan

As required by the surface coal mining and reclamation regulations administered by the MO-LRP, this project will be under MO-LRP routine observation for a minimum period of 5 years. During this period the MO-LRP regulations will insure that the project is completed in accordance with the proposed plans, including erosion control measures, vegetation establishment, and routine maintenance. During this period site grazing will only be allowed if a Mo-LRP grazing plan is approved and said plan will require the fencing off of the stream corridors and wetland areas.

The plan does not involve the dredging in Federal Navigable Waters of the United States.

The enclosed plan and detail sheets outline the areas to be affected and proposed plans for the completion of the new drainage system at the location illustrated.

The location of the discharge point (Stream 3 Sta.0+00) into the existing undisturbed system is Latitude  $38^{\circ} 09' 07.9''$ , Longitude  $-94^{\circ} 28' 55.8''$ , Stream 1 & 2 is Latitude  $38^{\circ} 09' 07.7''$  and Longitude  $-94^{\circ} 30' 11.3''$ . The upstream point of disturbance for the wetlands are located at approximately Latitude  $38^{\circ} 09' 10''$ , Longitude  $-94^{\circ} 29' 36''$ .

K. Adaptive Management Plan

Should the mining activities not enter the existing wetlands or stream system, it will remain undisturbed.

L. Financial Assurances

The MO-LRP requires that a substantial bond be posted to insure that all aspects are completed during the construction and long term liability period. It is anticipated that the bond will remain in place for approximately 8 years.

**July 2015**  
**ADVERSE IMPACT FACTORS**  
**WORKSHEET**

Stream Type Impacted	Ephemeral 0.3			Intermittent 0.4			Perennial 0.8		
Priority Waters	Tertiary 0.1			Secondary 0.4			Primary 0.8		
Existing Condition	Functionally Impaired 0.1			Moderately Functional 0.8			Fully Functional 1.6		
Impact Duration	Temporary 0.05			Permanent 0.3					
Impact Activity	Clearing 0.05	Utility Crossing/Bridge Footing 0.15	Below Grade Culvert 0.3	Armor 0.5	Detention facility 0.75	Morpho-logic Change 1.5	Impound-ment 2.0	Pipe 2.2	Fill 2.5
Linear Impact Calculation	0.0002 multiplied by linear feet of stream impact recorded in each column below								

Factor	Impact 1 <b>STREAM 1</b>	Impact 2 <b>STREAM 2</b>	Impact 3	Impact 4	Impact 5
Stream Type Impacted	0.4	0.3			
Priority Waters	0.1	0.1			
Existing Condition	0.8	0.8			
Impact Duration	0.3	0.3			
Impact Activity	2.5	2.5			
Linear Impact Calculation	0.6	0.235			
Sum of Factors (M)	4.7	4.235			
Linear Feet of Stream Impact (LF)	3,000	1,175			
Credits (C) = M X LF	14,100	4,976			
*Compensation Ratio X (C)	<b>Permittee Responsible on Site</b>				

**Total Credits Required from all Columns= 19,076**

*\* Compensation Ratio - when the Corps determines that a third party mitigation source is acceptable to fulfill compensatory mitigation requirements the total credits determined on this worksheet shall be applied to mitigation banks or in-lieu fee programs at a 1:1 ratio when the impact area is within an approved service area. However, an increased compensation ratio may be used at the Corps discretion when an impact occurs beyond the geographic service area of an approved mitigation bank or in-lieu fee program.*

**STREAM 1 Sta 0+00 to 30+00 = 3,000LF**  
**STREAM 2 Sta 3+25 to 15+00 = 1,175 LF**  
**STREAM 3 No Impacts**

**July 2015**

**IN-STREAM WORKSHEET**

Stream Type	Ephemeral 0.15	Intermittent 0.2	Perennial Stream 0.4		
Priority Waters	Tertiary 0.05		Secondary 0.2	Primary 0.4	
Net Benefit	Stream Relocation to Accommodate Authorized Project 0.5		Moderate 1.2	Good 2.4	Excellent 3.5
Site Protection	Corps approved site protection without third party grantee 0.1		Corps approved site protection recorded with third party grantee, or transfer of title to a conservancy 0.4		
Credit Schedule	Schedule 1 0.3		Schedule 2 0.1	Schedule 3 0	

Factors	Net Benefit 1 <b>STREAM 1</b>	Net Benefit 2 <b>STREAM 2</b>	Net Benefit 3 <b>STREAM 3</b>	Net Benefit 4	Net Benefit 5	Net Benefit 6
Stream Type	0.15	0.15	0.15			
Priority Waters	0.05	0.05	0.05			
Net Benefit	2.4	2.4	2.4			
Site Protection	0.1	0.1	0.1			
Credit Schedule	0	0	0			
Sum Factors (M)=	2.70	2.70	2.70			
Stream Length Benefited (do not count each bank separately or count same channel reach twice) (LF)=	3,350	1,589	3,095			
Credits (C) = M X LF	9,045	4,290	8,356			
<b>Total Instream Credits Generated C X LK Factor* =</b>	<b>@ 1.0 9,045</b>	<b>@ 1.0 4,290</b>	<b>@ 1.0 8,356</b>			

**Total Instream Credits Generated from all Columns = 21,691**

\* Location and Kind (LK) Factor only applies to permittee-responsible mitigation projects  
(see page 18 of document) .

**STREAM 1 Sta 0+00 to 33+50 = 3,350LF**  
**STREAM 2 Sta 1+41 to 17+30 = 1,589 LF**  
**STREAM 3 Sta 23+85 to 54+80 = 3,095 LF**

July 2015

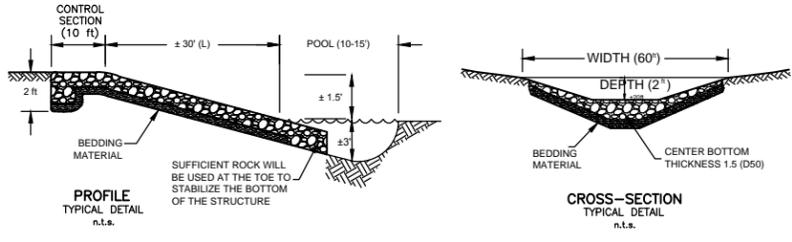
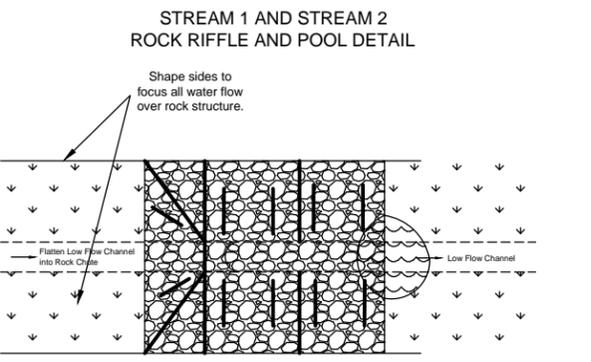
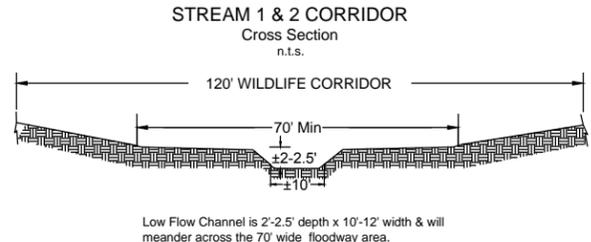
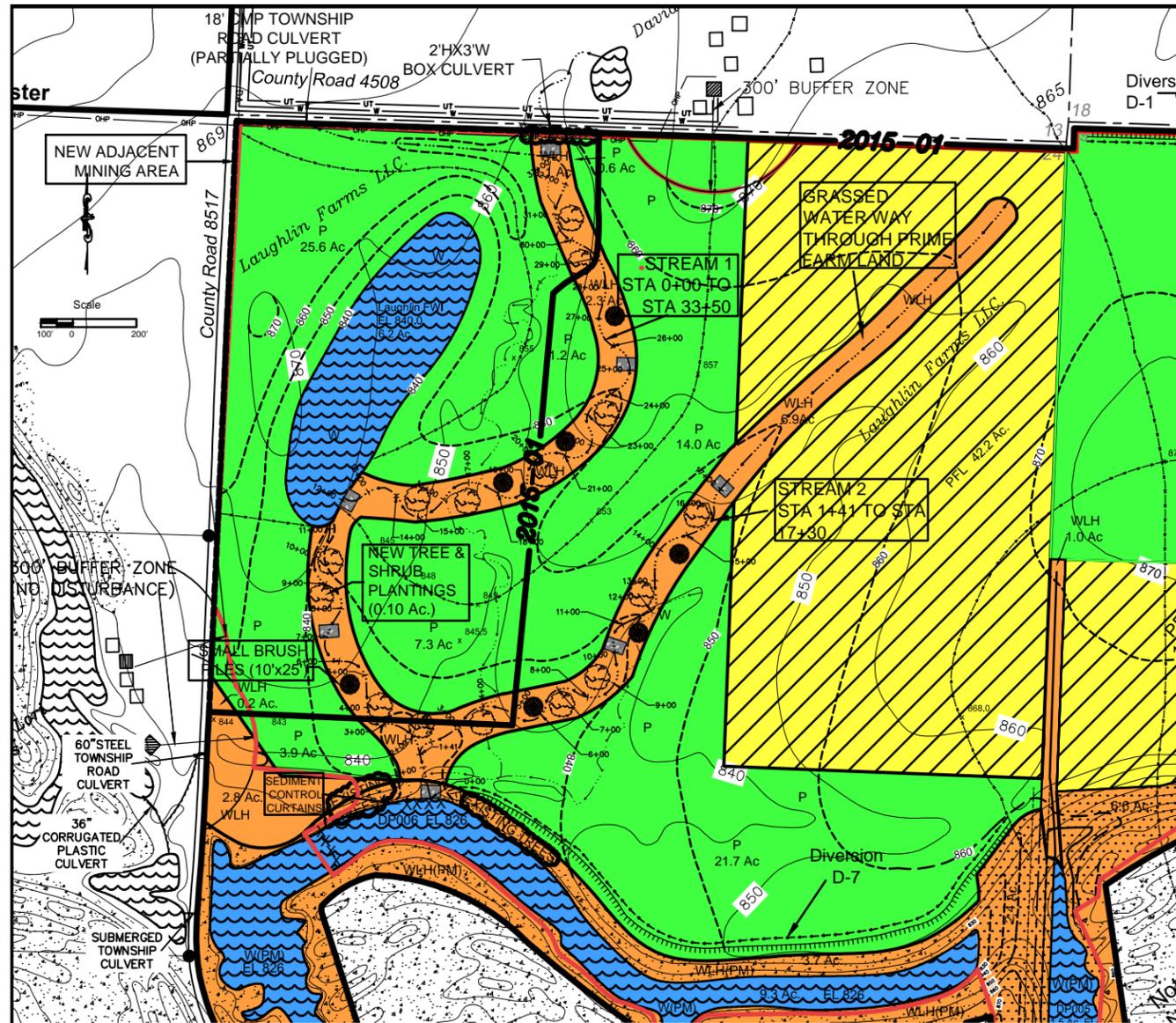
**RIPARIAN BUFFER WORKSHEET**

Stream Type	Ephemeral 0.15	Intermittent 0.2	Perennial 0.4
Priority Waters	Tertiary 0.05	Secondary 0.2	Primary 0.4
Net Benefit (for each side of stream)	Riparian Restoration/Establishment, Enhancement, and Preservation Factors (select values from Table 1) (also see Minimum Buffer Width (MBW) page 15)		
Supplemental Buffer Credit	Condition: Buffer established, enhanced or preserved on both streambanks To calculate:(Net Benefit Stream Side A + Net Benefit Stream Side B) / 2		
Site Protection	Corps approved site protection without third party grantee 0.05	Corps approved site protection recorded with third party grantee, or transfer of title to a conservancy 0.2	
Credit Schedule	Schedule 1 0.15	Schedule 2 0.05	Schedule 3 0
Temporal Lag (Years)	Over 20 -0.3	10 to 20 -0.2	5 to 10 -0.1
			0 to 5 0

Factors	Net Benefit 1	Net Benefit 2	Net Benefit 3	Net Benefit 4	Net Benefit 5	Net Benefit 6
Stream Type	0.15	0.15	0.15			
Priority Waters	0.05	0.05	0.05			
Net Benefit	Stream Side A	0.50	0.50	0.50		
	Stream Side B	0.50	0.50	0.50		
Supplemental Buffer Credit (Buffer on both sides)	0.50	0.50	0.50			
Site Protection	0.05	0.05	0.05			
Credit Schedule	Stream Side A	0	0	0		
	Stream Side B	0	0	0		
Temporal Lag	-0.3	-0.3	0			
Sum Factors (M)=	1.45	1.45	1.75			
Linear Feet of Stream Buffered (LF)= (do not count each bank separately or count same channel segment twice)	3,350	1,589	3,095			
Credits ( C ) =M X LF	4,857	2,304	5,416			
Total Credits Generated C X LK Factor * =	@ 1.0 4,857	@ 1.0 2,304	@ 1.0 5,416			

**Total Riparian Credits Generated from all Columns = 12,577**

\* Location and Kind (LK) Factor only applies to permittee-responsible mitigation projects (see page 18 of document) .



Note: Rock riprap may also be placed at grade or transition points for stabilization measures.

#### LEGEND

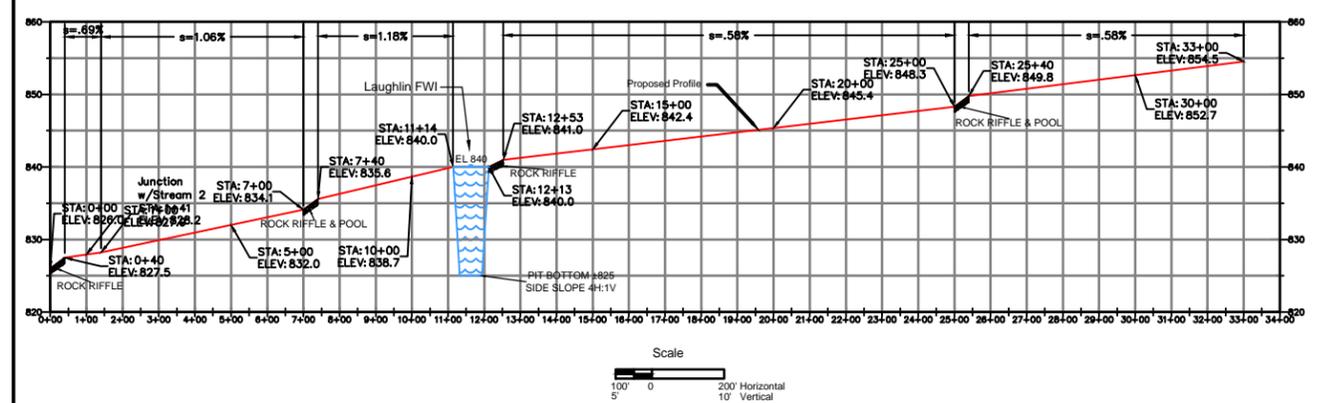
	PERMIT BOUNDARY
	APPROXIMATE FINAL CONTOUR
	EXISTING CONTOUR
	HIGHWAY
	TOWNSHIP ROAD
	DRAINAGE AREA BOUNDARY
	LAND USE BOUNDARY
	APPROX. DISTURBANCE LINE
	ACCESS LANE
	CROSS SECTION LOCATION
	DRAINAGE COURSE
	PROPERTY LINE
	CULVERT
	PERMANENT DIVERSION (D-1)
	EXISTING WATER OUTSIDE OF PERMIT
	SUITABLE SOIL COVER (i.e. CLAY MATERIAL)
	ROCK STRUCTURE
	OCCUPIED DWELLING
	UNOCCUPIED STRUCTURE
	TREE/SHRUB CLUSTER (APPROX 50 STEMS)
	BRUSH PILE (10' X 25')
	NEW ADJACENT MINING AREA

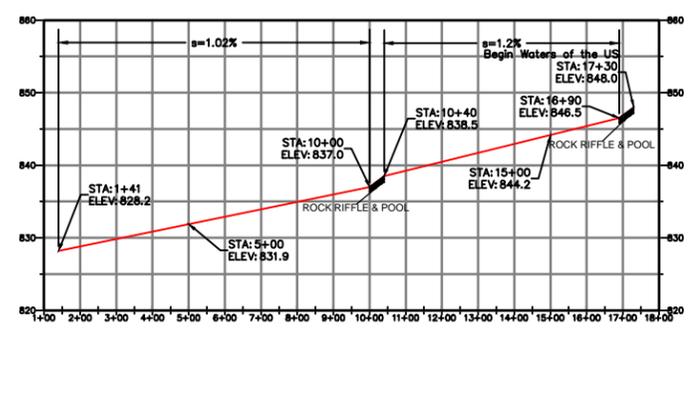
LAND USE	SYMBOL
PRIME FARMLAND	
PASTURE See Section 13 for wildlife enhancement	
WILDLIFE HABITAT (TOPSOIL)	
• WILDLIFE HABITAT (PM) (UNDISTURBED)	
• WILDLIFE HABITAT (PM) (DISTURBED w/ SUITABLE COVER)	
• WATER	
• WATER (PM)	

\* NO TOPSOIL AREAS (PM) DENOTES PREVIOUSLY-MINED LAND  
 \*\* INCLUDES 3.9 ACRES OF WETLANDS ON BOTTOM AND ACCESS LANES ON PARKER, ET AL.

STREAM 1 PROFILE



STREAM 2 PROFILE



1	CONTINENTAL COAL, INC.
2	FOSTER SOUTH MINE
3	PERMIT 2015-01
4	STREAM 1 AND 2
5	CORRIDORS

drawn by	MG	date	7/30/2015
title	FOSTER SOUTH MINE PERMIT 2015-01 STREAM 1 AND 2 CORRIDORS		
scale	AS SHOWN		

