BIOLOGICAL SYSTEMS
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December 5, 2011

Via email: (b) (6)

(b) (6)
U.S. Army Corps of Engineers
Louisville District Regulatory Office
848 Sassafras Creek Road
Sassafras, KY 41759

RE: Nally & Hamilton Enterprises, Inc. / LRL-2001-00340 / KDNR # 860-0380 / Doty Branch / 2011 Mitigation Monitoring Report / BSC#211046

(b) (6):

The following mitigation monitoring report for the referenced permit is submitted on behalf of Nally & Hamilton Enterprises, Inc. for your review.

If you have any questions please feel free to contact me.

Sincerely,

Invalid signature

X Shaun R. Laungani

Shaun R. Laungani
Project Manager / Scientist

BIOLOGICAL SYSTEMS CONSULTANTS, INC.

Nally & Hamilton Enterprises, Inc.
2011 Mitigation Monitoring Report
LRL-2001-00340
KDNR 860-0380
USACE Louisville District
BSC # 211046

P.O. Box 54954
Lexington, KY 40555
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US Army Corp of Engineers
CWA Section 404
2011 Mitigation Monitoring Report

Prepared For:

Nally & Hamilton Enterprises, Inc.
P.O. Box 2323
London, KY 40741

Applicable To:

USACE # LRL-2001-00340
Kentucky Department for
Natural Resources SMCRA Permit # 860-0380

December 2, 2011

By:

Biological Systems Consultants, Inc.
P.O. Box 54954
Lexington, KY 40555-4954

Table of Contents

List of Tables

List of Appendices

1.0 Project Overview

LRL-2001-00340, KDNR 860-0380 mitigation was assessed on August 18th and November 8th, 2011 by Biological Systems Consultants, Inc. on behalf of the permittee, Nally & Hamilton Enterprises Inc., for the purposes of providing mitigation status to the U.S. Army Corps of Engineers (USACE) of the referenced permit. The permit application was submitted to USACE on April 12, 2001. The permit was necessary for the purpose of coal resource extraction. The permit proposed that five sediment control structures S-4, S-11, S-15, S-23 and SS-27 would temporarily impact an unspecified stream length. All hollow-fills upstream of sediment structures were located in upland areas and did not require compensatory mitigation. Stream reconstruction was proposed for all sediment structures following pond removal. Status of pond removal is shown in Table 1.

The site can be located in Knott County, near the town of Redfox on the BLACKEY USGS Quadrangle; the center coordinates to the site are 37.1976335/82.9216420. The mitigation areas are delineated on the mitigation monitoring map (Appendix A).

The following document reports the second year of mitigation monitoring for LRL-2001-00340, KDNR 860-0380.

2.0 Mitigation Requirements

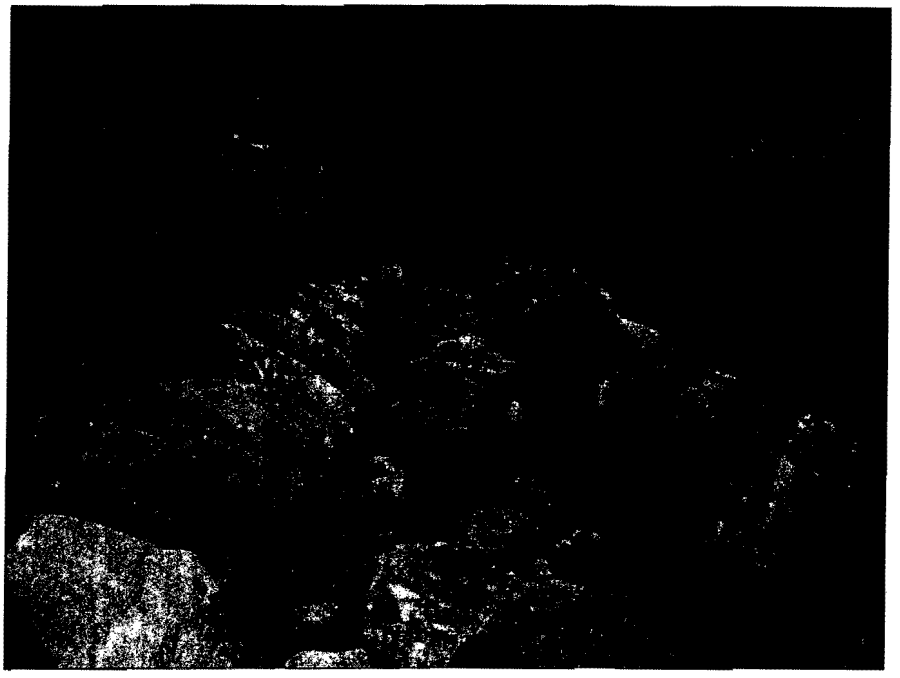
All hollow-fills were placed within upland settings, therefore requirements for mitigation for this permit is limited to stream restoration of sediment structure areas. This encompasses S-4, S-11, S-15, S-23, and S-27 areas to be restored after pond removal. The permit application authored by AP-Coal Engineering, Inc., in April 2001, states that "the stream channel will be re-established from the toe of the fill area to the sediment control structure." No lengths, total habitat scores, EII values, or EIU's were listed in the USACE permit application. So the performance standard for this permit is considered to be completion of the stream channel restoration in the pond areas. Pre-impact cross section drawings were included in mitigation plan.

2.1 Mitigation Status

Mitigation construction for this permit is partially completed as summarized in Table 1. Pond S-4 and Pond S-15 were removed and channel reconstructed in 2011. Pond S-15 was assessed, resulting in a Rapid bioassessment score of 99, Appendix C. Pond S-4 was removed in the fall of 2011 and was not assessed for this report. Pond S-23 is currently undergoing construction associated with its removal. Pre construction stream measurements proposed for post-construction in the mitigation plan are being used for the restoration construction, existing cross sections of constructed mitigation areas can be found in Appendix D. Pond S-11 and Pond S-23 are currently still in place and are anticipated to be removed in 2012. All mitigation status will be updated in the 2012 mitigation monitoring report.

Table 1. Status of Mitigation Areas	
MITIGATION AREA	**STATUS**
Pond (S-4)	Pond Removed 2011/ Channel Constructed Year 1 of Mitigation
Pond (S-11)	Pond in place /Anticipated removal in 2012
S-15 (S-15)	Pond Removed 2011 / Channel Constructed Year 1 of Mitigation
S-23 (S-23)	Pond removed 2011 / Channel Under Construction
S-27 (S-27)	Pond in place/Anticipated removal in 2012

3.0 Photographic Documentation



Assesment Site S-15: facing southwest

Assessment Site S-15: facing northeast

Pond S-23 - Pond removal and channel construction: facing south

4.0 Conclusions

This is the second monitoring report submitted for this LRL-2001-00340, KDNR 860-0380. Monitoring will continue in all areas after mitigation construction for a period of five years. Two ponds, S-11 and S-27 should be removed in 2012. All other mitigation areas are completed or under construction. S-15 has constructed mitigation has successfully created habitat for channel flow and macroinvertabrates, which were observed during the 2011 assessment. All mitigation sites appear to have adequate surface hydrology and drainage area to be successful mitigation sites.

APPENDIX A

Project Location Map

Legend

Mitigation Site Perimeter

BIOLOGICAL SYSTEMS
CONSULTANTS, INC.

0 500 1,000 2,000 Feet

N

1 inch = 1,000 feet

DRAWING NAME: Project Location Map
CLIENT: Nally & Hamilton Enterprises, Inc.
KDNR#: 860-0380
PROJECT#: 211046
DRAWN BY: ARB CHECKED BY: SRL
DATE: 8/25/2011
SCALE: 1:12,000

APPENDIX B

Mitigation Monitoring Map

Legend

Mitigation Site Perimeter

BIOLOGICAL SYSTEMS
CONSULTANTS, INC.

0 500 1,000 2,000 Feet

N

1 inch = 1,000 feet

DRAWING NAME: Migitation Monitoring Map
CLIENT: Nally & Hamilton Enterprises, Inc.
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DATE: 8/25/2011
SCALE: 1:12,000

APPENDIX C

High Gradient Stream Data Sheets

High Gradient Stream Data Sheet

STREAM NAME: UT to Doty Creek | LOCATION: Pond S-15

STATION #: X-1 | MILE: N/A | BASIN/WATERSHED: Doty

LAT.: 37.1913 | LONG.: 82.92982 | COUNTY: Knox | USGS 7.5 TOPO: Blackey

DATE: 11/7/14 | TIME: 3:20 ☐AM ☒PM | INVESTIGATORS: SL / JR

TYPE SAMPLE: θ P-CHEM θ Macroinvertebrate θ FISH θ BACT.

WEATHER: Now: θ θ θ (0) | Past 24 hours: θ Heavy rain, θ Steady rain, θ Intermittent showers, (θ) Clear/sunny | Has there been a heavy rain in the last 7 days? θ Yes θ No | Air Temperature ____ °C. Inches rainfall in past 24 hours ____ in. | ____ % Cloud Cover

P-Chem: Temp(°C)____ D.O. (mg/l)____ %Saturation____ pH(S.U.) 8.3 Cond. 1360 (Grab) TDS-996

INSTREAM WATERSHED FEATURES:

Stream Width	4-5 ft.
Range of Depth	1-3 ft.
Average Velocity	.7 ft/s
Discharge	— cfs
Est. Reach Length	—

LOCAL WATERSHED FEATUREES:

Predominant Surrounding Land Use:

(θ) Surface Mining	θ Construction	θ Forest
θ Deep Mining	θ Commercial	θ Pasture/Grazing
θ Oil Wells	θ Industrial	θ Silviculture
θ Land Disposal	θ Row Crops	θ Urban Runoff/Storm Sewers

Hydraulic Structures: θ Dams θ Bridge Abutments θ Island θ Waterfalls θ Other N/A

Stream Flow: θ Dry θ Pooled θ Low (θ) Normal θ High θ Very Rapid or Torrential

Stream Type: θ Perennial θ Intermittent θ Ephemeral θ Seep

Riparian Vegetation: Dom. Tree/Shrub Taxa

Dominate Type: θ Trees θ Shrubs (θ) Grasses (θ) Herbaceous

Number of strata 2

Canopy Cover: (θ) Fully Exposed (0-25%) θ Partially Exposed (25-50%) θ Partially Shaded (50-75%) θ Fully Shaded (75-100%)

Channel Alterations: θ Dredging (θ) Channelization (θ) Full θ Partial)

Substrate θEst. θP.C.	Riffle 60 %	Run ____ %	Pool 40 %
Silt/Clay (<0.06 mm)	20		40
Sand (0.06 – 2 mm)	—		20
Gravel (2-64 mm)	20		—
Cobble (64 – 256 mm)	30		—
Boulders (>256 mm)	30		40
Bedrock	—		—

Habitat Parameter	Condition Category: Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE 11	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1 0
2. Embeddedness	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.
SCORE 12	20 19 18 17 16	15 14 13 (12) 11	10 9 8 7 6	5 4 3 2 1 0
3. Velocity/Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Sow is < 0.3 m/s, deep is > 0.5 m.)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/ depth regime (usually slow-deep).
SCORE 11	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1 0

P-832-833

4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 5% (<20% for low-gradient streams) of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% (20-50% for low-gradient) of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% (50-80% for low-gradient) of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% (80% for low-gradient) of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 12	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE 8	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr.) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE 2	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
SCORE 16	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8.Bank Stability (score each bank) Note: determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE (LB) 7	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB) 8	Right Bank 10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE (LB) 2	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB) 2	Right Bank 10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.
SCORE (LB) 4	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB) 4	Right Bank 10 9	8 7 6	5 4 3	2 1 0

Total Score 99

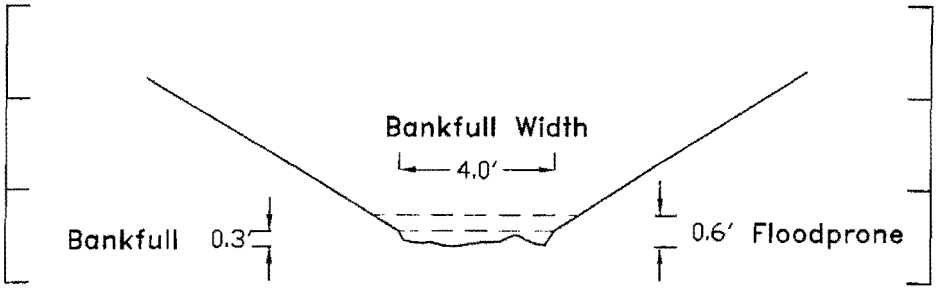
NOTES/COMMENTS: 7-832-853 55-15

APPENDIX D

Cross Section Drawings

Cross Section #1 (S-15)

Existing stream cross-section



NOT TO SCALE

Nally & Hamilton Enterprises, Inc.
LRL-2001-00340
KDNR # 860-0380
Stream Mitigation Cross Section Drawings
12/2/11