DYNEGY

DYNEYGY MIDWEST GENERATION, LLC
Vermilion Site
Oakwood, IL 61858

By UPS and E-Mail

February 28, 2017

(b) (6)
USACE – Louisville District
Indianapolis Regulatory Office
8902 Otis Avenue, Suite S106B
Indianapolis, IN 46216-1055

Dear (b) (6) :

Middle Fork Vermilion River
Stabilization of the Right Descending Bank at Approximate River Mile 36.2
Nationwide Permit #13; LRL-2008-1366-lcl
Project Completion Report

(b) (6) ,

In accordance with requirement no. 19 in the "Final Section 7(a) Determination" portion of the referenced permit, enclosed please find our "project completion report" for the stabilization of the right descending bank of the Middle Fork Vermilion River near our Vermilion site. The report describes the construction that was performed, and includes many photographs of the construction in progress and the stabilized river bank after construction was completed. Frankly, the project site looks very good.

I must bring to your attention that within one or two weeks after project completion, follow-up site inspections revealed that many of the staked plantings were being attacked by beaver. In response, we retained an IDNR-licensed beaver trapper to remove the beaver from the project area. Although many plantings were eaten above the ground surface, we believe the plantings will recover this spring and summer. Our progress report required to be submitted by November 30, 2017 will document the condition of all plantings.

We appreciate the cooperation of the Corp in enabling us to move forward in timely manner with this project. Please feel free to contact me if you have questions regarding its completion.

Sincerely,

Rick Diericx
Managing Director
Dynegy Operating Company

cc: Mr. Louis Yockey, IDNR

bcc: Liz Rainwater – Havana Station
Andreas Leskovsek – Houston Legal
B. Irwin – Collinsville Environmental
T. Davis – Collinsville Environmental

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Project Completion Report

DYNEGY MIDWEST GENERATION, LLC
VERMILION SITE
OAKWOOD, ILLINOIS

February 2017

Prepared for:
DYNEGY OPERATING COMPANY

SCI No. 2009-3006.35

SCI ENGINEERING, INC.
CONSULTANTS IN DEVELOPMENT,
DESIGN, AND CONSTRUCTION
GEOTECHNICAL
ENVIRONMENTAL
NATURAL RESOURCES
CULTURAL RESOURCES
CONSTRUCTION SERVICES

February 27, 2017

Mr. Thomas L. Davis, P.E.
Dynegy Operating Company
1500 Eastport Plaza Drive
Collinsville, Illinois 62234

RE: Project Completion Report
Dynegy Midwest Generation, LLC - Vermilion Site
Oakwood, Illinois
SCI No. 2009-3006.35

Dear Mr. Davis:

SCI has completed the following *Project Completion Report* for streambank stabilization activities at the Dynegy Vermilion Site. This report summarizes the streambank stabilization activities conducted along 485-feet of the right-descending bank of the Middle Fork Vermilion (MFV) River. This report is intended to fulfill the conditions and requirements of the United States Army Corps of Engineers (USACE) Section 404/401 Permit and the National Park Service (NPS) response letter issued for the project.

If you have any questions, or if we can be of further assistance, please contact Scott Billings at 618-206-3038 or at sbillings@sciengineering.com.

Respectfully,

SCI ENGINEERING, INC.

Mary K. Weatherford, EIT
Staff Engineer

Scott E. Billings
Project Scientist

MKW/SEB/tlw

Enclosure

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FIGURES

APPENDIX

Project Completion Report

DYNEGY MIDWEST GENERATION, LLC
VERMILION SITE
OAKWOOD, ILLINOIS

1.0 INTRODUCTION

SCI Engineering, Inc. (SCI) has prepared the following *Project Completion Report* to provide a written and photographic summary of construction activities for the above-referenced project. The *Project Completion Report* is intended to fulfil the conditions and requirements of the National Park Service (NPS) response letter and the United States Army Corps of Engineers (USACE) Section 404/401 Permit issued for the project. The Middle Fork Vermilion (MFV) River is a nationally-designated Scenic river that falls under the regulations of the National Wild and Scenic River Act and is used for recreational canoeing and kayaking. The stabilization techniques that were used were consistent with the Federal Act and recreational demands. A *Vicinity and Topographic* is included as Figure 1 and an *Aerial Photograph* Series is included as Figures 2A through 2C.

2.0 PROJECT OVERVIEW

SCI provided bioengineering streambank stabilization design and construction monitoring services along the right-descending bank of the MFV River at the Dynegy Midwest Generation (DMG) Vermilion Site. A 485-foot section of the river was experiencing significant lateral bank erosion. The project intended to stabilize the 485-foot bank in order to reduce the potential for the lateral migration of the river and streambank erosion in the area. The project was completed as detailed in the *Streambank Stabilization Report*, dated May 11, 2016. DMG received authorization from the USACE on July 21, 2016. The permit authorization was contingent on general terms and regional conditions of the Section 401 certification from the Illinois Environmental Protection Agency (IEPA) and the compliance NPS Response Letter and additional conditions. The project was completed during the last week of November, according to the schedule submitted to the USACE. An SCI representative was onsite for the duration of the project. A photographic summary of the construction activities is included as Appendix A.

2.1 Stone Toe Protection Construction

The project consisted of planted longitudinal peak stone toe protection (STP) that was constructed on the shale stream bed and backfilled up to the existing streambank elevation. The STP was placed on the shale channel bed up to an elevation of 576 mean sea level (msl) which was determined to be the ordinary high water mark (OHWM) for this reach of the MFV River (Photo 10). The entire length of the project was constructed from the shale bed or from specific areas directly above the key locations (Photos 13 and 14).

The STP was placed at a varying distance from the existing bankline in order to re-establish a smooth, uniform outer bankline. Approximately 1,200 tons of RR5 rock was used to construct the STP and keys.

A total of seven keys were constructed and keyed into the bank approximately 70 feet apart. The keys were angled so that the long axis was approximately 15 degrees upstream of a line perpendicular to flow. The top elevation of each key was constructed flush with the finished grade except for the portion in the undisturbed bank material, which had approximately one foot of soil material placed over it to allow for the establishment of vegetation. In some locations, the sideslope of the backfill was tied in directly with the existing bank, while at the other locations the top bank was extended to allow for the construction of a level bench. As the STP was moved away from the existing bankline, a level bench of varying width was established at elevation 576 msl in order to create a smooth alignment with the bank. The level bench was constructed from on-site fill. The backfill was covered with a Turf Reinforcement Mat (TRM) and seeded. The areas disturbed by the access road and key access were seeded and covered with straw. Approximately 700 cubic yards of backfill was used to construct the new bank. Construction debris and litter was removed and properly disposed of upon completion of the project.

2.2 Streambank Planting

Sandbar willow poles were placed at 574 msl on a 1-foot horizontal spacing into the STP. Additional sandbar willow poles were placed along the landward side of the STP at 576 msl on 18-inch intervals prior to backfilling (Photo 12). After the backfill was placed, sandbar willow poles, arrow wood, service berry, winterberry, sycamore, and red maple planting stock were placed in the backfill on an approximate 3-foot by 3-foot spacing up to the top of bank. In addition to purchased stakes, approximately 400 sandbar willows were harvested at a location just upstream of the project area. The sandbar willow poles were harvested during dormancy and were soaked for a minimum of 24 hours after harvest and before installation. The poles were approximately 6 to 10 feet in length and were planted with approximately 75 to 80 percent of length below ground. The poles were planted by a combination of driving in with a dead blow hammer or by opening a hole with a large drill. A certified arborist was on-site throughout the duration of the willow stake harvesting, planting, and seeding of the site.

A native seed mix was used to re-seed the top of streambank as well as any other disturbed areas. In addition, winter wheat was included with the mix to provide quick cover establishment. The finished slope was covered with Vmax, SC-250 TRM installed per the manufacturer's recommendation prior to installation of additional poles on the finished slope (Photo 15).

In addition, approximately 43 three-gallon RPM gallon trees were planted within the access road area and above the keys. Species planted included American Sycamore, Northern Red Oak, Hackberry, Black Walnut, Kentucky Coffeetree, and Ohio Buckeye.

2.3 Erosion Control

Although an Illinois National Pollution Discharge Elimination System (NPDES) permit was not required, the project was conduction using the guidance of NPDES permit requirements and in accordance with the Sediment and Erosion Control Plan developed for the project. Erosion control devices were used throughout the duration of the project. A combination of straw wattle and turbidity barrier curtain was used. The turbidity barrier curtain was secured on both ends of the project and remained in place until the rock and fill was in place (Photo 10). In addition, all equipment was kept out of the water during construction. The straw wattle was moved around the construction area as required. Construction debris was contained daily during construction activities and potential contaminants were handled and disposed of in a manner that reduced the potential for contamination of stormwater or the MFV River.

2.4 Threatened and Endangered Species Survey

At the request of the Illinois Department of Resources (IDNR), SCI performed a bat habitat assessment at the project location. Our scope of work included performing a site reconnaissance prior to construction to determine if suitable summer roosting habitat for the federally-listed endangered Indiana bat (Myotis sodalis) and the threatened northern long-eared bat (Myotis septentrionalis) existed within the proposed project boundaries. Additionally, bat habitat assessment forms were completed at select locations within the project area. One potential bat habitat tree was identified within the project area. This tree was marked with flagging tape. A perimeter barrier was established around the area and the tree was avoided during construction.

2.5 Mussel Survey

SCI performed a field survey to determine the presence or absence of mussel species within the limits of the stream stabilization work zone. The MFV River streambed at this location had a shale bed that was exposed through the channel thalweg and extended across the entire cross section. No deposited bedload material was observed at this location. There were no live or dead mussel individuals observed within the stream stabilization work zone.

3.0 CHANGES TO THE DESIGN

The project was completed as outlined in the *Stream Stabilization Report*, dated May 2016 with the exception of the level bench width at its widest location. Originally, all construction access was planned from the top of bank. However, the contractor was able to work between the water's edge and the stream bank with the equipment operating on the shale bed (Photo 7). This method allowed the contractor to save most of the existing vegetation from the top of bank. Therefore, the natural, existing riparian corridor was generally preserved. It also prevented the contractor from digging further in the bank than was necessary.

The main affect this had on the original design was the reduction of the width of the constructed bench by about 5 feet at its widest part. This alternative should not change the integrity of the design. The final slope on the stream bank before it reached the level bench generally remained the same.

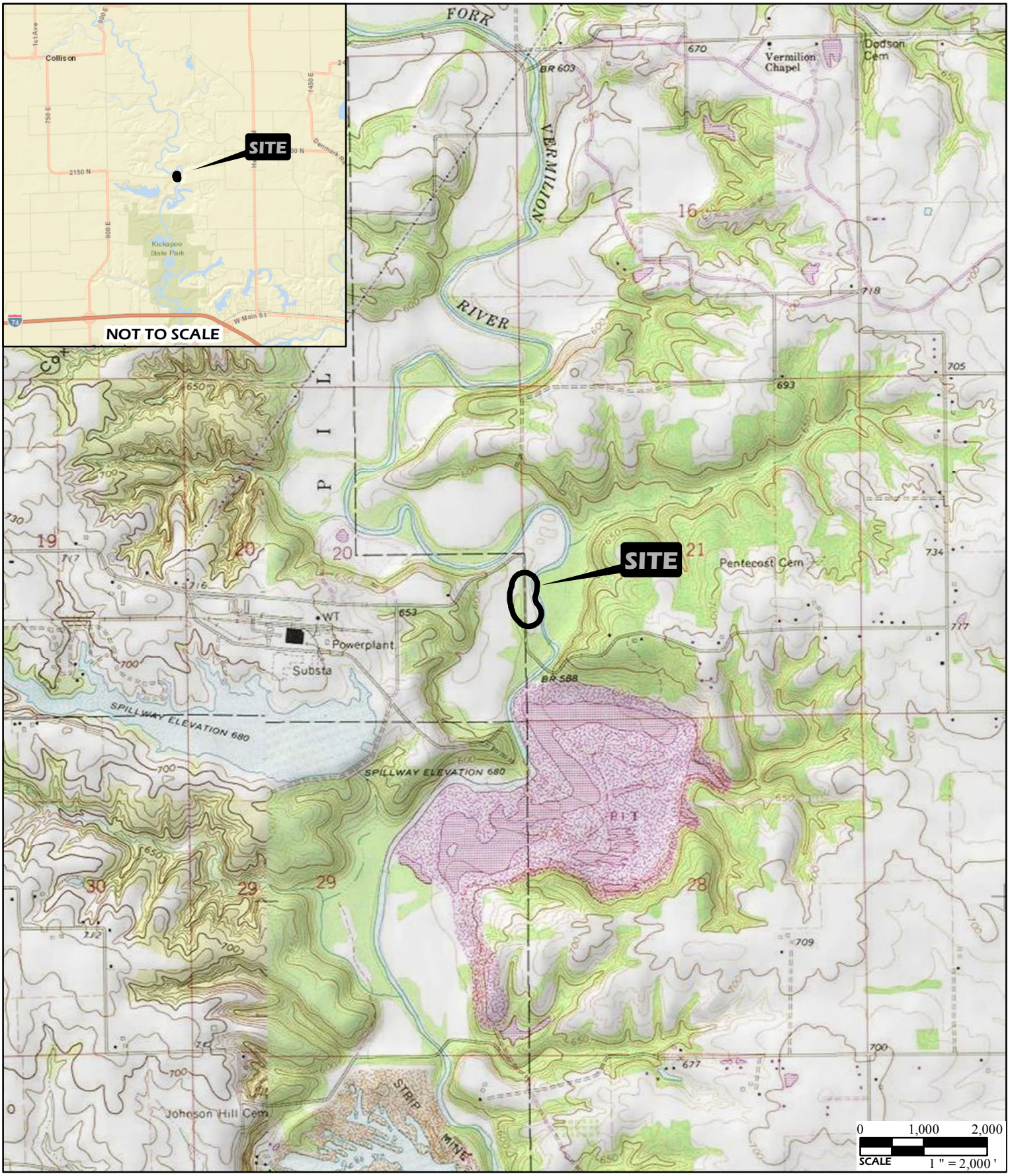
4.0 CONTINUING ACTION

A follow-up site visit was conducted on December 1, 2016. The project appeared to be functioning as designed and the winter wheat cover crop was beginning to emerge. The project area appeared to be stable with no major items of concern at this time. However, some of the planted stakes that were planted closest to the MFV River have experienced some damage due to beavers. The beavers have trimmed some stakes down to only about three to four inches above-ground. Trapping of the beaver has begun to help minimize loss. However, as long as some of the stake is still present above-ground, it is likely the stakes will sprout in the spring. DMG personnel will continue to monitor the situation.

Long-term mitigation monitoring of the streambank stabilization project will continue for the required five years as outlined in Appendix E of SCI's *Stream Stabilization Report*, dated May 2016. Three monitoring visits are proposed during Year 1, two monitoring visits during Year 2 and Year 3, and one annual site visit during Year 4 and Year 5. Results of each year's observation studies will be compiled in an annual report and submitted to USACE and NPS. The annual reports will include a summary of the existing site conditions, photographs, and suggestions to repair deficiencies that may exist, including supplemental seeding and planting. Stability of the re-vegetated and stabilized bank areas will be assessed by estimating the percent vegetative cover of the banks as well as observations to determine the presence of any erosion activity.

5.0 SUMMARY

The *Project Completion Report* summarizes the streambank stabilization activities completed at the DMG Vermilion Site. Approximately 485-feet of the right-descending bank of the MFV River was experiencing lateral bank erosion. The stabilization activities were completed under the conditions and requirements of the USACE Section 404/401 Permit and the NPS response letter issued for the project. The project was generally constructed according to the *Stream Stabilization Report* Dated May 11, 2016 and was completed according to schedule during the last week of November. A final site visit was conducted on December 1, 2016. At that time, the project appeared to be functioning as designed.



	PROJECT NAME DYNEGY MIDWEST GENERATION, LLC – VERMILION SITE OAKWOOD, ILLINOIS			GENERAL NOTES/LEGEND USGS TOPOGRAPHIC MAP COLLISON, ILLINOIS QUADRANGLE DATED 1968 DANVILLE NORTHWEST, ILLINOIS QUADRANGLE DATED 1966 10' CONTOURS
	VICINITY AND TOPOGRAPHIC MAP			STREET MAP http://goto.arcgisonline.com/maps/World_Street_Map
	DRAWN BY RCV CHECKED BY MKW	DATE 02/2017	JOB NUMBER 2009-3006.35	FIGURE 1

SCI	PROJECT NAME DYNEGY MIDWEST GENERATION, LLC – VERMILION SITE OAKWOOD, ILLINOIS			GENERAL NOTES/LEGEND
	AERIAL PHOTOGRAPH			
	DRAWN BY RCV	DATE	JOB NUMBER	AERIAL PHOTOGRAPH OBTAINED FROM SCI UAV OPERATIONS, 10/05/2016.
	CHECKED BY MKW	02/2017	2009-3006.35	

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FIGURE
2A

SCI	PROJECT NAME DYNEGY MIDWEST GENERATION, LLC – VERMILION SITE OAKWOOD, ILLINOIS			GENERAL NOTES/LEGEND
	AERIAL PHOTOGRAPH			
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FIGURE
2B

PROJECT NAME DYNEGY MIDWEST GENERATION, LLC – VERMILION SITE OAKWOOD, ILLINOIS				GENERAL NOTES/LEGEND
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DRAWN BY	RCV	DATE	JOB NUMBER	AERIAL PHOTOGRAPH OBTAINED FROM SCI UAV OPERATIONS, 12/01/2016.
CHECKED BY	MKW	02/2017	2009-3006.35	

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FIGURE
2C

Appendix A

Photo 1. Before construction, looking upstream

Photo 2. After construction looking upstream

Photo 3. Before construction, looking downstream

Photo 4. After construction, looking downstream

Photo 5. After construction, aerial view

Photo 6. Access road

Photo 7. Access on Shale Bed during low water

Photo 8. Clearing vegetation and preparing slope

Photo 9. Construction of stone toe protection

Photo 10. Stone toe completed up to OHWM

Photo 11. Soaking of stakes

Photo 12. Planted Stone Toe Protection

Photo 13. Key Construction from Top of Bank

Photo 14. Key construction

Photo 15. TRM and planted bank

Photo 16. Completion of the keys