

MODULE 1

**DEP USE ONLY**

Date Received

Permit Number

LARGE NONCOAL (INDUSTRIAL MINERALS) MINE PERMIT APPLICATION

Before completing this form, read the step-by-step instructions provided with this Permit Application Package.

SECTION A. APPLICANT INFORMATION			
Applicant Name Specialty Granules LLC		Applicant Type <input type="checkbox"/> Individual (INDIV) <input type="checkbox"/> PA Corporation (PACOR) <input checked="" type="checkbox"/> Non-PA Corporation (NPACO) <input type="checkbox"/> General Partnership (PARTG) <input type="checkbox"/> Limited Partnership (PARTL) <input type="checkbox"/> Municipality (MUNI) <input type="checkbox"/> Sole Proprietorship (SOLEP) <input type="checkbox"/> Other (OTHER)	
Mailing Address 1455 Old Waynesboro Road <small>(Street # and Name or P.O. Box)</small> <small>(Address Line 2)</small> Blue Ridge Summit PA 17214 <small>(City) (State) (Zip Code + Four)</small>		Surface Mining Operator's License # 6982 <input type="checkbox"/> Pending	
717-794-2184 Ext. 717-794-5248 <small>(Telephone #) (FAX #)</small>			
Applicant Contact McClure Matthew S. <small>(Last Name) (First Name) (MI)</small> Executive Director Operations <small>(Title)</small>			
Mailing Address <input type="checkbox"/> Check here if the address is the same as listed above 13424 Pennsylvania Ave., Suite 303 <small>(Street # and Name or P.O. Box)</small> Hagerstown MD 21742 <small>(City) (State) (Zip Code + Four)</small>			
MMclure@specialtygranules.com (301) 393-8825 Ext. 301.733.4003 <small>(Email Address) (Telephone #) (FAX #)</small>			
SECTION B. DESCRIPTION OF ACTIVITY			
Application Type <input checked="" type="checkbox"/> New <input type="checkbox"/> Revision/Modification <input type="checkbox"/> Renewal <input type="checkbox"/> Transfer Permit Number _____			
Type of Mining Activity(ies) <input checked="" type="checkbox"/> Surface Mining <input type="checkbox"/> Underground Mining (Includes Surface Effects of Underground Mining) <input type="checkbox"/> Incidental Coal Extraction <input type="checkbox"/> Other (specify) _____			
SECTION C. SITE INFORMATION			
Operation/Site Name Northern Tract Quarry			
Operation/Site Location <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Adams <small>County(ies)</small> </div> <div style="width: 45%;"> Hamiltonban Twp. <small>Municipality(ies)</small> </div> </div>			

SECTION C. (continued)**Operation/Site Location**U.S.G.S. Map Name(s) Iron Springs 7.5' Quadrangle

Map Coordinates (center of proposed permit area)

Latitude 39° 46' 03" Longitude -77° 26' 25"Method of latitude/longitude collection Google Earth

Horizontal accuracy (feet/inches) _____

Horizontal Reference Datum

☐ N.Am. 1927☐ N.Am. 1983☒ World Geodetic 1984Name or route number of nearest state/township road and a description of the location of the road that provides access to the operation Facility is accessed off of Charmian Road which is off of PA Route 16.**Name(s) of receiving stream(s)/Chapter 93 Classification**

Tom's Creek, Unnamed Tributaries to Tom's Creek: HQ-CWF, MF

MSHA Mine I.D. No

3603460

Extent of Mining**Mining Area**List Rock/Mineral to be Mined
(Include topsoil/overburden
to be sold)Acres of
Rock/Mineral RemovalMetabasalt66.3Total surface acres to be
affected by rock/mineral removal66.3Total underground acres to be
affected by rock/mineral removal0**Remining**Total acres of abandoned mine land
(i.e., open pits, refuse/spoil piles,
surface area affected by underground
mining) to be reaffected.0**Processing Facility**

Total acres to be affected

0**Wetlands**

Total acres of wetland to be affected by mining

0

Total acres of wetland to be replaced

0Permit Area (total acres of mining
and support)112.3 (see breakdown below)

66.3 acres of mining

18.7 acres of support/operational buffer (E&S controls, access
roads, etc.)27.3 acres of maintained buffer (only activity permitted is to
add/replace damaged/ dead trees).

SECTION D. PERMIT COORDINATION (or provide GIF form 8000-PM-IT0001)			
1.	Will this noncoal mining project involve the crushing and screening of noncoal minerals other than sand and gravel? <i>All material mined from this site will be crushed and screened at adjacent West Ridge Quarry, SMP 6477SM5, or Pitts Quarry SMP 01930302. (Mellott Company, a contract operator engaged by SGI, is currently conducting crushing operations using a mobile crushing unit on the area covered by SMP 01930302).</i>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2.	Will this noncoal mining project involve the crushing and/or screening of sand and gravel with the exception of wet sand and gravel operations (screening only) and dry sand and gravel operations (crushing and/or screening) processing unconsolidated materials with a rated capacity of less than 150 tons/hour?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
3.	Will this noncoal mining project involve the construction, operation and/or modification of a portable mineral processing plant?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
4.	Will underground tanks for storage of fuel or chemicals be located within the proposed permit area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
SECTION E. APPLICATION FEE			
	Item	Fee	Totals
New Permit Applications			
<input checked="" type="checkbox"/>	New large surface mining permit – with groundwater pumping	\$20,225	\$20,225
<input type="checkbox"/>	New large surface mining permit – without groundwater pumping	\$13,500	
<input type="checkbox"/>	New underground mining permit	\$20,225	
Permit Revisions			
<input type="checkbox"/>	Major amendment to large surface mining permit – with groundwater pumping	\$3,850	
<input type="checkbox"/>	Major amendment large surface mining permit – without groundwater pumping	\$1,600	
<input type="checkbox"/>	Minor amendment	\$700	
<input type="checkbox"/>	Major amendment underground mining permit	\$2,650	
<input type="checkbox"/>	Transfer of large surface or underground permit	\$900	
WATER OBSTRUCTIONS AND ENCROACHMENT (Fee is for each, include multiples in total)			
<input type="checkbox"/>	Stream enclosure	\$350	
<input type="checkbox"/>	Channel change	\$300	
<input type="checkbox"/>	Bridges and other water obstructions in a stream or floodway with a drainage area of greater than 100 acres	\$200	
<input type="checkbox"/>	Encroachments	\$200	
<input type="checkbox"/>	Small projects as defined in 25 Pa Code section 105.1	\$100	
<input type="checkbox"/>	General Permit for Temporary Road Crossings for Moving Surface Mining Equipment BMR-GP-101	\$0	
<input type="checkbox"/>	General Permit for Access Road Crossing BMR-GP-102	\$0	
<input type="checkbox"/>	Class C dam as defined in 25 Pa Code Section 105.91	\$1,500 ¹	
Total			\$20,225

¹ No fee is required if the dam has a contributing drainage of 100 acres or less, the greatest depth of water at maximum storage elevation is 15 or less and the maximum impounding capacity is 50-acre feet or less.

SECTION F. CONSULTANT

Shusko
(Last Name)
President
(Title)

Robert
(First Name)
D'appolonia
(Name of Consulting Firm)

M.
(MI)

Mailing Address701 Rodi Road, Floor 2

(Street # and Name or P.O. Box)

Pittsburgh
(City)
rmshusko@dappolonia.com
(E-mail Address)

PA
(State)
(412) 229 - 1585
(Telephone #)

15235-4559
(Zip Code + Four)
(412) 856 - 9535
(Fax #)

SECTION G. LAND USE INFORMATION

Complete the following for new permits and major revisions that include new surface area.

1. Is there an adopted county or multi-county comprehensive plan? ☒ Yes ☐ No2. Is there an adopted municipal or multi-municipal comprehensive plan? ☒ Yes ☐ No3. Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal ordinance? ☒ Yes ☐ No**If "Yes" is answered to questions 1, 2, or 3, complete 4, 5, and 6.**4. Does the project meet the provisions of the zoning ordinance or does the proposed project have zoning approval? ☒ Yes ☐ No5. Applicants are encouraged to submit copies of local land use approvals or other evidence of compliance with local comprehensive plans and zoning ordinances. Have you submitted local municipal and county approval letters* for this mining project with this permit application? ☒ Yes ☐ No

(If yes, please attach the local municipal and county approval letters.)

6. Have you addressed any concerns from the local municipal and county prior to submitting the application to the Department? ☒ Yes ☐ No

(If yes, please attach all correspondence addressing the concerns.)

* If Municipal and County Land Use Letters are not included, the applicant should demonstrate that they attempted to obtain the letters. A copy of correspondence sent by the applicant via Certified Mail to the municipality (addressed to the municipal secretary with a copy to the township supervisor chair) and to the county (addressed to the county planning office with a copy to the county commissioners) to request Municipal and County Land Use Letters within 30 days of receipt should be included with this form.

SECTION H. ADDITIONAL RELATED INFORMATION

Name and Address of Public Office where a copy of this application is on file for public review.

Adams Co. Conservation District
670 Old Harrisburg Road, Suite 201
Gettysburg, PA 17325

Have arrangements been made to publish notice of this application in a local newspaper of general circulation in the locality of the proposed mining activities? ☒ Yes ☐ NoName of newspaper where the public notice advertisement will appear: The Gettysburg Times

Attach a copy of the proposed public notice (see instructions for sample notice containing suggested wording and content).

PERSON(S) AUTHORIZED BY APPLICANT TO PREPARE THIS APPLICATION

The application, plans, reports and specifications shall be certified by a registered professional engineer, registered professional geologist or registered professional land surveyor, as appropriate. Geologic and hydrogeologic information must be certified by a registered professional geologist. Impoundments requiring a 25 Pa Code Chapter 105 permit or having a storage capacity of equal to or greater than 20 acre-feet; and final contours/grading other than approximate original contour in conjunction with achieving an alternate postmining land use must be certified by a registered professional engineer. Impoundments which do not require a Chapter 105 permit or have a storage capacity of less than 20 acre-feet must be certified by a registered professional engineer or a registered professional land surveyor.

Registered Professional Engineer

I, Robert M. Shusko do hereby certify to the best of my knowledge, information and belief, that the application, plans, specifications and reports have been prepared in accordance with accepted practice of engineering, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I further certify that it is within my professional expertise to verify the correctness of the information. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature

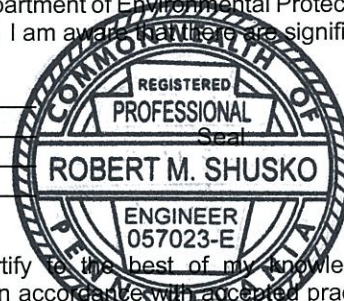
Address

701 Rodi Road, Floor 2

Pittsburgh, PA 15235-4559

Telephone No.

412-856-9440

**Registered Professional Geologist**

I, Douglas J. Hess do hereby certify to the best of my knowledge, information and belief, that the application, plans, specifications and reports have been prepared in accordance with accepted practice of geology and hydrology, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I further certify that it is within my professional expertise to verify the correctness of the information. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature

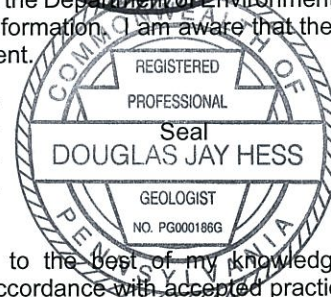
Address

449 Eisenhower Blvd., Suite 300

Harrisburg, PA 17111

Telephone No.

717-232-0593

**Registered Professional Land Surveyor**

I, _____ do hereby certify to the best of my knowledge, information and belief, that the application, plans, specifications and reports have been prepared in accordance with accepted practice of land surveying and engineering land surveys, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I further certify that it is within my professional expertise to verify the correctness of the information. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature

Address

Telephone No.

Seal

APPLICATION FORM CERTIFICATION

Complete the following if the application is submitted on forms other than the original Department Forms.

Registered Professional Engineer, Registered Professional Land Surveyor or Registered Professional Geologist

I, _____; being a registered professional
(Engineer's/Surveyor's/Geologist's Name - Print or Type)

engineer/registered professional land surveyor or registered professional geologist (circle as appropriate) do hereby certify that the forms used in the accompanying application have been reproduced under my supervision and are a facsimile of the forms prepared by the Department. I am aware that there are significant penalties for altering the content of the Department's forms, including the possibility of fine and imprisonment.

Signature

Date

Seal

PUBLIC NOTICE

Pursuant to the “Noncoal Surface Mining Conservation and Reclamation Act” and the “Clean Streams Law” notice is hereby given that Specialty Granules LLC at 13424 Pennsylvania Avenue, Suite 303 Hagerstown, Maryland 21742 has made application to the Pennsylvania Department of Environmental Protection (DEP) for a permit to conduct noncoal surface mining activities in Hamiltonban Township, Adams County, Pennsylvania. The mine site is located at 1455 Old Waynesboro Road, Blue Ridge Summit, Pennsylvania. The application includes a request to conduct blasting in support of the proposed mining activities. The proposed permit area is 112.3 acres and is situated immediately north of the existing Charmian Plant facility, and is bounded by Lower Gum Springs Road along the northern perimeter and Iron Springs Road along the eastern perimeter. The receiving stream for this proposed permit area is Toms Creek and an unnamed tributary, classified as HQ-CWF, MF per 25 Pa Code Chapter 93. The Iron Springs Pa., US Geological Survey 7.5 minute topographic map contains the area described. A copy of the application is available for public inspection at the:

Pennsylvania Department of Environmental Protection
Bureau of District Mining Operations
286 Industrial Park Road
Ebensburg, PA 15931

and

Adams County Conservation District
670 Old Harrisburg Road
Suite 201
Gettysburg, PA 17325

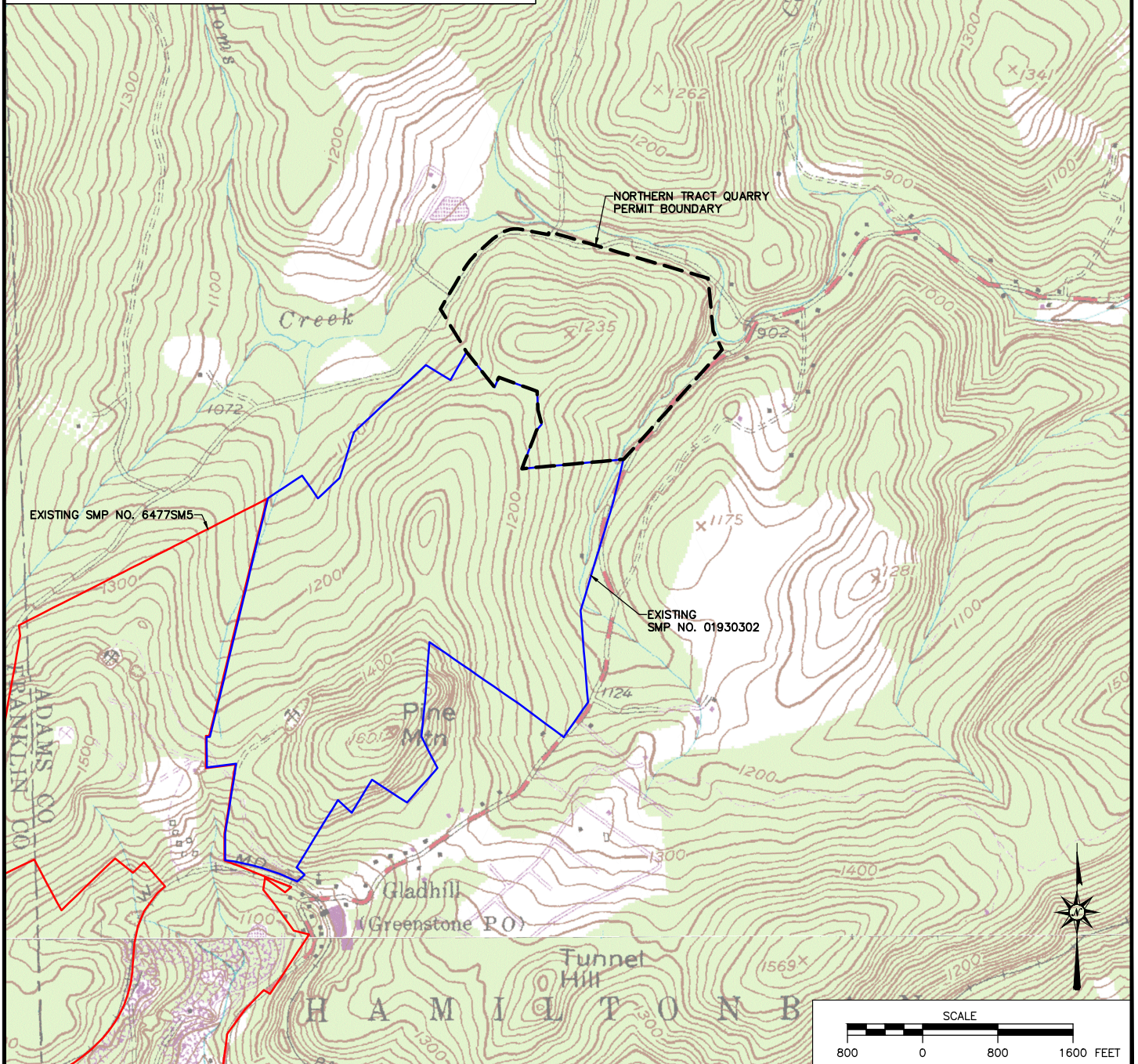
Written comments, objections, or a request for an informal conference or public hearing may be submitted to the DEP, Cambria District Mining Office at 286 Industrial Park Road, Ebensburg, Pennsylvania 15931 by **[30 days following the date of the last publication of this notice]** and must include the person’s name, address, telephone number, and a brief statement as to the nature of the objection(s).

LEGEND

- NORTHERN TRACT QUARRY PERMIT BOUNDARY
- EXISTING PERMIT BOUNDARY 6477SM5
- EXISTING PERMIT BOUNDARY 01930302

REFERENCE:

USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES
 BLUE RIDGE SUMMIT PENNSYLVANIA QUADRANGLE, DATED 1953, PHOTOREVISED 1985
 IRON SPRINGS PENNSYLVANIA QUADRANGLE, DATED 1953, PHOTOREVISED 1968 AND 1973
 SCALE: 1" = 1000'



D'APPOLONIA

701 RODI ROAD, FLOOR 2
 PITTSBURGH, PENNSYLVANIA 15235-4559
 (412) 856-9440 FAX (412) 856-9535



SPECIALTY GRANULES LLC

CHARMIAN SITE - NORTHERN TRACT QUARRY

FIGURE 1
 SITE LOCATION

PROJECT NUMBER: 152596A

DRAWN BY: AJM

DATE: 12/4/2017

FILE NAME: Municipal Notification Site Location Map-R0.dwg

CHECKED BY: MDW

DATE: 12/04/2017

SCALE: AS SHOWN

DRAWING NO. 1

REV 0

12/28/2017 2:56 PM

R:\2015\152596 - SQ Disposal Embankment\Drawings\Northern Tract\Municipal Notification Site Location Map-R0.dwg

COUNTY NOTIFICATION LETTER

D'APPOLONIA

701 RODI ROAD, FLOOR 2
PITTSBURGH, PENNSYLVANIA 15235-4559
(412) 856-9440 FAX (412) 856-9535

December 21, 2017

Project No. 152596A

CERTIFIED MAIL

Return Receipt No. 7009 1410 0001 0307 7046

Mr. Andrew Merkel, Assistant Director
Office of Planning & Development
Adams County Planning Commission
670 Old Harrisburg Road
Suite 1010
Gettysburg, PA 17325

**Act 67, 68 and 127 Municipal Notification
Northern Tract Quarry
Specialty Granules LLC
Blue Ridge Summit
Adams County, Pennsylvania**

Mr. Merkel:

The purpose of this letter is to provide notice of the proposed Northern Tract Quarry project, and request that a Land Use Letter be completed by your office to meet the requirements of the Pennsylvania Department of Environmental Protection (PADEP) discussed herein. A summary of the project is provided in the following sections.

- Permit Application: PADEP – Cambria District Mining Office
Large Noncoal (Industrial Minerals) Mine Permit
- Project Name: Charmian Plant – Northern Tract Quarry
Specialty Granules LLC
- Project Location: The proposed project is located in Hamiltonban Township,
Adams County, PA. See attached Site Location Map.
- Project Description: Specialty Granules LLC (SGI) extracts non-coal materials through existing Pennsylvania Department of Environmental Protection (PA DEP) Surface Mine Permits at the Charmian Quarry complex located north of the town of Blue Ridge Summit in Hamiltonban Township, Adams County, Pennsylvania. The Charmian Site generally consists of an active quarry (Pitts Quarry - SMP 01930302), an inactive quarry (West Ridge Quarry – SMP 6477SM5, which is in the reclamation phase), stockpile

storage areas, rock crushers, manufacturing plants, and related erosion and sediment control/stormwater control features (e.g. sediment ponds and traps, collection ditches, and other best management practices features). SGI extracts metabasalt and related lithologies at the Charmian Site to produce multiple rock products for SGI customers. The main product is manufactured roofing granules that are used to coat asphalt roofing shingles. SGI is currently applying for a new surface mine permit to expand its permitted quarry operations to the north onto the "Northern Tract," an approximately 112-acre parcel contiguous to the Pitts Quarry. The addition of this Northern Tract permit area will be a logical continuation of the existing quarry and processing area currently encompassing some 856± acres owned by SGI, including 620± acres which are authorized under the two above-referenced surface mine permits. The 112-acre Northern Tract permit area will essentially serve as an expansion of the active Pitts Quarry.

The permit limits of the Northern Tract Quarry are presented on the attached Site Location Map. The proposed mineral extraction area at the Northern Tract permit area will be limited by two surrounding buffers, referred to as a maintained buffer and an operational buffer. The maintained buffer is designed to protect the vegetated riparian buffer along Toms Creek and the unnamed tributaries to Toms Creek. No activities other than to add or replace damaged/dead trees will occur within this area. The Maintained Buffer is a minimum distance of 300 feet from Toms Creek. Within the additional 150-foot wide operational buffer, only non-extractive mine support activities will be permitted, such as stormwater/erosion control systems, access roads, and temporary stockpiles. The location of these buffer areas limits the area that will be disturbed for mineral extraction activities.

Acts 67, 68 and 127, which amended the Municipalities Planning Code, direct state agencies to consider comprehensive plans and zoning ordinances when reviewing applications for permitting of facilities and infrastructure, and specify that state agencies may rely upon comprehensive plans and zoning ordinances under certain conditions as described in Sections 619.2 and 1105 of the Municipalities Planning Code. The Pennsylvania Department of Environmental Protection's Policy for Consideration of Local Comprehensive Plans and Zoning Ordinances in DEP Review of Permits for Facilities and Infrastructure (DEP's Land Use Policy) provides direction and guidance to DEP staff, permit applicants, and local and county governments for the implementation

of Acts 67, 68 and 127 of 2000. This policy can be found at www.depweb.state.pa.us;
Keyword: Land Use.

In accordance with DEP's Land Use Policy, enclosed please find a Land Use Letter that is to be submitted with our permit application to DEP. Please complete the attached form and return within 30 days to:

Robert M. Shusko, P.E.
701 Rodi Road, Floor 2, Pittsburgh, Pennsylvania 15235-4559

Please do not send this form to DEP, as we must include the County Land Use Letter with our permit application. If we do not receive a response from you **within 30 days**, DEP will assume there are no substantive land use conflicts and proceed with the normal application review process.

If you require further information, please contact me at rmshusko@dappolonia.com or 412-856-9440.

Sincerely,

D'Appolonia Engineering Division of Ground Technology, Inc.



Robert M. Shusko, P.E.
Senior Principal Engineer

Enclosure: Site Location Map
 Land Use Letter (to be completed by your office)
 Pre-Addressed, Stamped Envelope

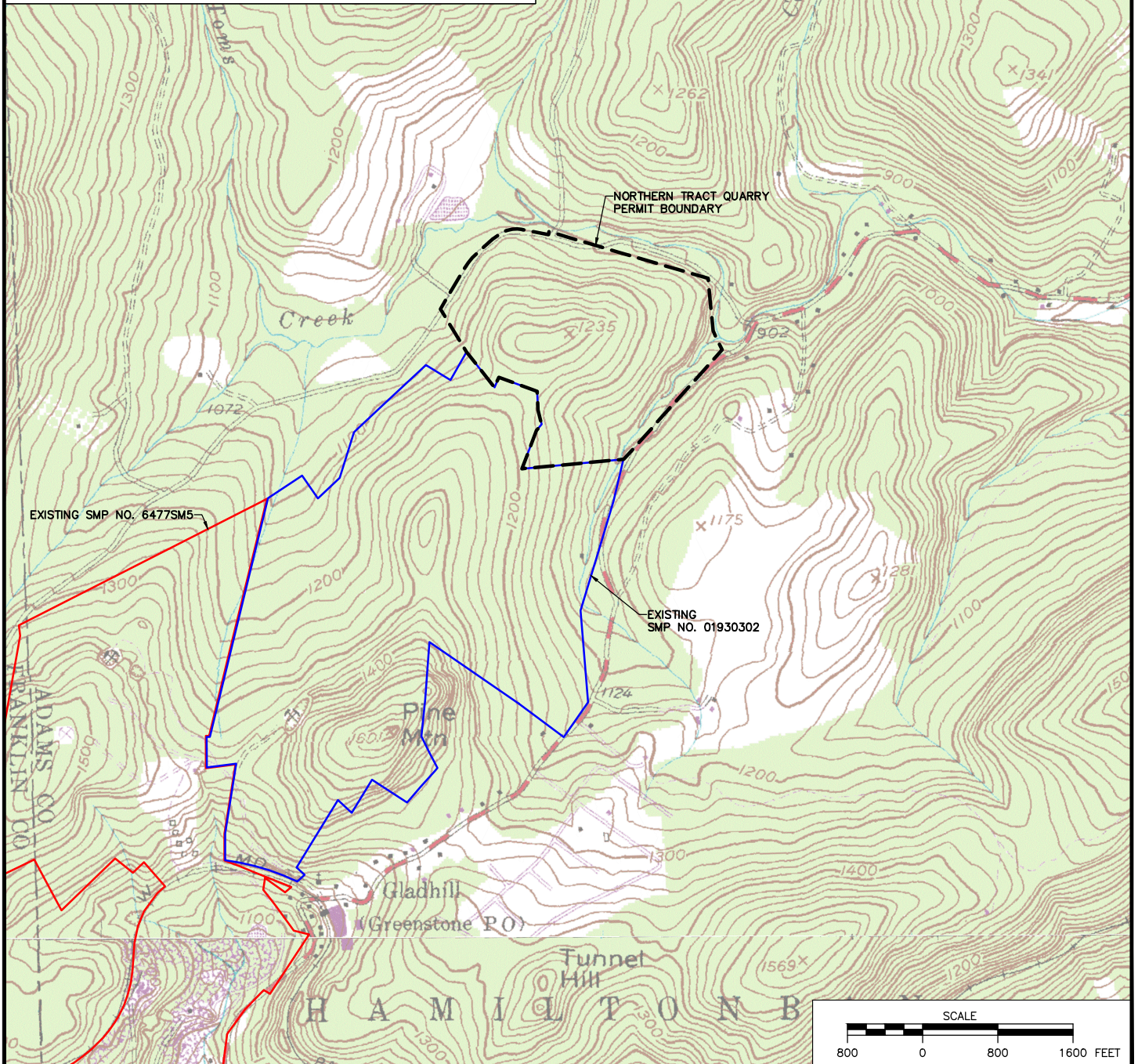
cc: Mr. Anthony Shepeck (SGI)
 Mr. Kevin Moore, P.E. (SGI)
 Mr. Matthew McClure (SGI)

LEGEND

- NORTHERN TRACT QUARRY PERMIT BOUNDARY
- EXISTING PERMIT BOUNDARY 6477SM5
- EXISTING PERMIT BOUNDARY 01930302

REFERENCE:

USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES
 BLUE RIDGE SUMMIT PENNSYLVANIA QUADRANGLE, DATED 1953, PHOTOREVISED 1985
 IRON SPRINGS PENNSYLVANIA QUADRANGLE, DATED 1953, PHOTOREVISED 1968 AND 1973
 SCALE: 1" = 1000'



D'APPOLONIA

701 RODI ROAD, FLOOR 2
 PITTSBURGH, PENNSYLVANIA 15235-4559
 (412) 856-9440 FAX (412) 856-9535



SPECIALTY GRANULES LLC

CHARMIAN SITE - NORTHERN TRACT QUARRY

FIGURE 1
 SITE LOCATION

PROJECT NUMBER: 152596A

DRAWN BY: AJM

DATE: 12/4/2017

FILE NAME: Municipal Notification Site Location Map-R0.dwg

CHECKED BY: MDW

DATE: 12/04/2017

SCALE: AS SHOWN

DRAWING NO. 1

REV 0

12/4/2017 4:54 PM

R:\2015\152596 - SQ Disposal Embankment\Drawings\Northern Tract\Municipal Notification Site Location Map-R0.dwg

LAND USE LETTER

Date: _____

To: Robert M. Shusko, P.E.

From: _____ County Planning Agency/Commission

Re: Specialty Granules LLC – Northern Tract Quarry

The County of _____ states that it:

_____ has adopted a county or multi-county comprehensive plan.
If yes, please provide date of adoption:

_____ has not adopted a county or multi-county comprehensive plan.

If applicable:

The above referenced project:

___ is consistent with the adopted county or multi-county comprehensive plan.
___ is not consistent with the adopted county or multi-county comprehensive plan.

Additional Comments (attach additional sheets if necessary):

Submitted By:

Name	
Title	
Contact Information (Address & Phone)	
Signature	
Date	

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<p>■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p>■ Print your name and address on the reverse so that we can return the card to you.</p> <p>■ Attach this card to the back of the mailpiece, or on the front if space permits.</p>	<p>A. Signature <div style="display: flex; align-items: center;"> X <div style="margin-left: 10px;"> <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee </div> </div> </p> <p>B. Received by (Printed Name) Trudy Giladhill </p> <p>C. Date of Delivery</p>
<p>1. Article Addressed to:</p> <p>Mr. Andrew Merkel, Asst. Director Office of Planning & Development Adams County Planning Commission 670 Old Harrisburg Road Suite 1010 Gettysburg, PA 17325</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>
<p>2. Article Number (Transfer from service label)</p>	<p>3. Service Type</p> <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Registered <input type="checkbox"/> Insured Mail </div> <div> <input type="checkbox"/> Express Mail <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> C.O.D. </div> </div> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>7009 1410 0001 0307 7046</p>	
PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540	

U.S. Postal Service™	
CERTIFIED MAIL™ RECEIPT	
(Domestic Mail Only; No Insurance Coverage Provided)	
For delivery information visit our website at www.usps.com	
OFFICIAL USE	
<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> Postage Certified Fee Return Receipt Fee (Endorsement Required) Restricted Delivery Fee (Endorsement Required) Total Postage & Fees </div> <div style="width: 50%; text-align: center;"> <div style="border: 1px solid black; padding: 2px;">\$ 1.40</div> <div style="border: 1px solid black; padding: 2px;">3.30</div> <div style="border: 1px solid black; padding: 2px;">2.70</div> <div style="border: 1px solid black; padding: 2px;"></div> <div style="border: 1px solid black; padding: 2px;">\$ 7.40</div> </div> </div>	Postmark Here <div style="font-size: 1.2em;">12/21/17</div>
<p>Sent To</p> <p>Mr. Andrew Merkel, Asst. Director</p> <p>Street, Apt. No., or PO Box No. 670 Old Harrisburg Rd, Ste. 1010</p> <p>City, State, ZIP+4 Gettysburg, PA 17325</p>	
PS Form 3800, August 2006 See Reverse for Instructions	

MUNICIPALITY NOTIFICATION LETTER

D'APPOLONIA

701 RODI ROAD, FLOOR 2
PITTSBURGH, PENNSYLVANIA 15235-4559
(412) 856-9440 FAX (412) 856-9535

December 21, 2017

Project No. 152596A

CERTIFIED MAIL

Return Receipt No. 7009 1410 0001 0307 7039

Mr. Bob Gordon, Chairman
Hamiltonban Township Board of Supervisors
23 Carrolls Tract Road
P.O. Box 526
Fairfield, PA 17320

**Act 67, 68 and 127 Municipal Notification
Northern Tract Quarry
Specialty Granules LLC
Blue Ridge Summit
Adams County, Pennsylvania**

Mr. Gordon:

The purpose of this letter is to provide notice of the proposed Northern Tract Quarry project, and request that a Land Use Letter be completed by your office to meet the requirements of the Pennsylvania Department of Environmental Protection (PADEP) discussed herein. A summary of the project is provided in the following sections.

- Permit Application: PADEP – Cambria District Mining Office
Large Noncoal (Industrial Minerals) Mine Permit
- Project Name: Charmian Plant – Northern Tract Quarry
Specialty Granules LLC
- Project Location: The proposed project is located in Hamiltonban Township,
Adams County, PA. See attached Site Location Map.
- Project Description: Specialty Granules LLC (SGI) extracts non-coal materials through existing Pennsylvania Department of Environmental Protection (PA DEP) Surface Mine Permits at the Charmian Quarry complex located north of the town of Blue Ridge Summit in Hamiltonban Township, Adams County, Pennsylvania. The Charmian Site generally consists of an active quarry (Pitts Quarry - SMP 01930302), an inactive quarry (West Ridge Quarry – SMP 6477SM5, which is in the reclamation phase), stockpile storage areas, rock crushers, manufacturing plants, and

related erosion and sediment control/stormwater control features (e.g. sediment ponds and traps, collection ditches, and other best management practices features). SGI extracts metabasalt and related lithologies at the Charmian Site to produce multiple rock products for SGI customers. The main product is manufactured roofing granules that are used to coat asphalt roofing shingles. SGI is currently applying for a new surface mine permit to expand its permitted quarry operations to the north onto the "Northern Tract," an approximately 112-acre parcel contiguous to the Pitts Quarry. The addition of this Northern Tract permit area will be a logical continuation of the existing quarry and processing area currently encompassing some 856± acres owned by SGI, including 620± acres which are authorized under the two above-referenced surface mine permits. The 112-acre Northern Tract permit area will essentially serve as an expansion of the active Pitts Quarry.

The permit limits of the Northern Tract Quarry are presented on the attached Site Location Map. The proposed mineral extraction area at the Northern Tract permit area will be limited by two surrounding buffers, referred to as a maintained buffer and an operational buffer. The maintained buffer is designed to protect the vegetated riparian buffer along Toms Creek and the unnamed tributaries to Toms Creek. No activities other than to add or replace damaged/dead trees will occur within this area. The Maintained Buffer is a minimum distance of 300 feet from Toms Creek. Within the additional 150-foot wide operational buffer, only non-extractive mine support activities will be permitted, such as stormwater/erosion control systems, access roads, and temporary stockpiles. The location of these buffer areas limits the area that will be disturbed for mineral extraction activities.

Acts 67, 68 and 127, which amended the Municipalities Planning Code, direct state agencies to consider comprehensive plans and zoning ordinances when reviewing applications for permitting of facilities and infrastructure, and specify that state agencies may rely upon comprehensive plans and zoning ordinances under certain conditions as described in Sections 619.2 and 1105 of the Municipalities Planning Code. The Pennsylvania Department of Environmental Protection's Policy for Consideration of Local Comprehensive Plans and Zoning Ordinances in DEP Review of Permits for Facilities and Infrastructure (DEP's Land Use Policy) provides direction and guidance to DEP staff, permit applicants, and local and county governments for the implementation of Acts 67, 68 and 127 of 2000. This policy can be found at www.depweb.state.pa.us; Keyword: Land Use.

In accordance with DEP's Land Use Policy, enclosed please find a Land Use Letter that is to be submitted with our permit application to DEP. Please complete the attached form and return within 30 days to:

Robert M. Shusko, P.E.
701 Rodi Road, Floor 2, Pittsburgh, Pennsylvania 15235-4559

Please do not send this form to DEP, as we must include the County Land Use Letter with our permit application. If we do not receive a response from you **within 30 days**, DEP will assume there are no substantive land use conflicts and proceed with the normal application review process.

If you require further information, please contact me at rmshusko@dappolonia.com or 412-856-9440.

Sincerely,
D'Appolonia Engineering Division of Ground Technology, Inc.

A handwritten signature in blue ink, appearing to read 'R M Shusko', with a stylized flourish at the end.

Robert M. Shusko, P.E.
Senior Principal Engineer

Enclosure: Site Location Map
 Land Use Letter (to be completed by your office)
 Pre-Addressed, Stamped Envelope

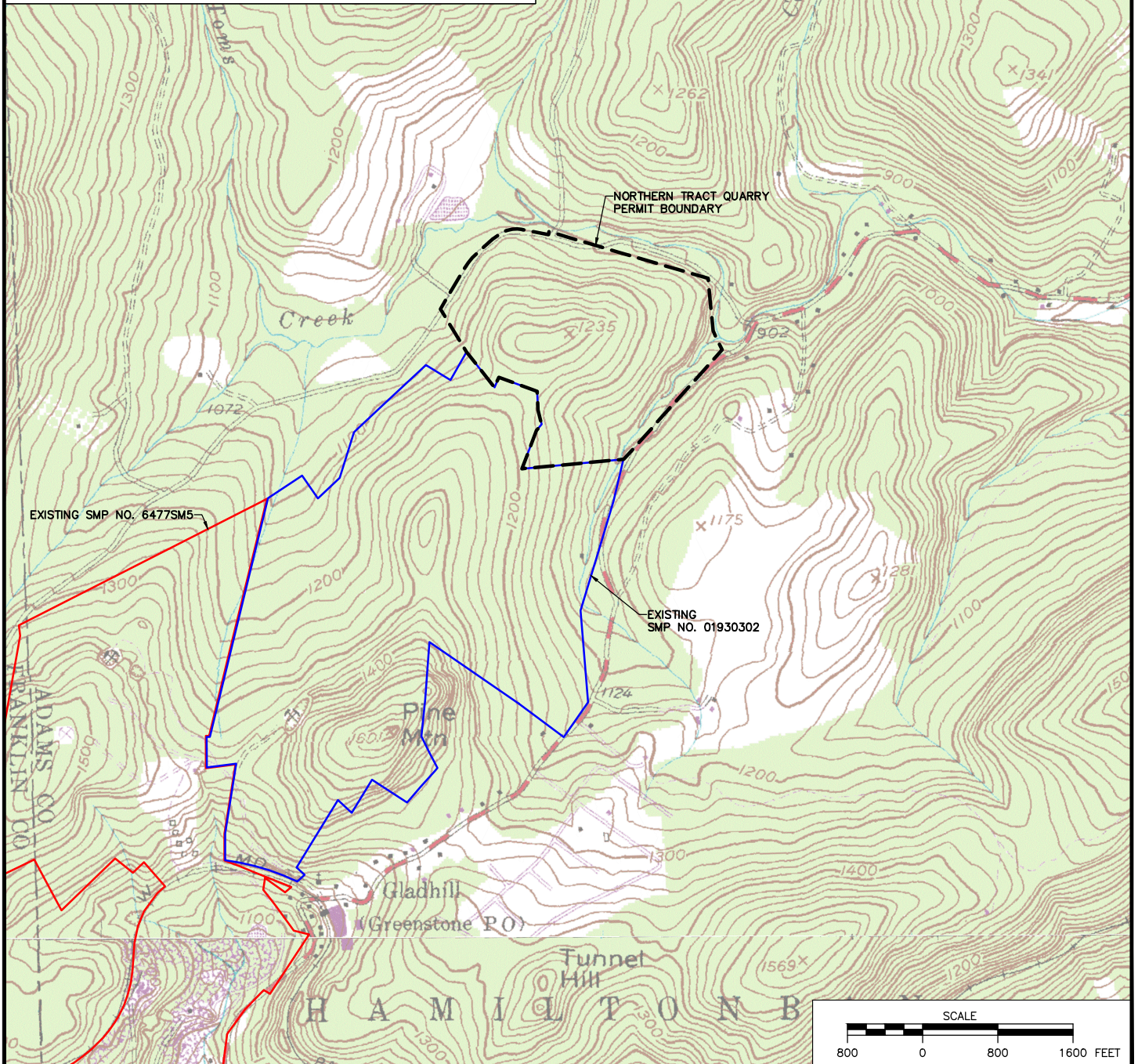
cc: Mr. Anthony Shepeck (SGI)
 Mr. Kevin Moore, P.E. (SGI)
 Mr. Matthew McClure (SGI)

LEGEND

- NORTHERN TRACT QUARRY PERMIT BOUNDARY
- EXISTING PERMIT BOUNDARY 6477SM5
- EXISTING PERMIT BOUNDARY 01930302

REFERENCE:

USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES
BLUE RIDGE SUMMIT PENNSYLVANIA QUADRANGLE, DATED 1953, PHOTOREVISED 1985
IRON SPRINGS PENNSYLVANIA QUADRANGLE, DATED 1953, PHOTOREVISED 1968 AND 1973
SCALE: 1" = 1000'



D'APPOLONIA

701 RODI ROAD, FLOOR 2
PITTSBURGH, PENNSYLVANIA 15235-4559
(412) 856-9440 FAX (412) 856-9535



SPECIALTY GRANULES LLC

CHARMIAN SITE - NORTHERN TRACT QUARRY

FIGURE 1
SITE LOCATION

PROJECT NUMBER: 152596A

DRAWN BY: AJM

DATE: 12/4/2017

FILE NAME: Municipal Notification Site Location Map-R0.dwg

CHECKED BY: MDW

DATE: 12/04/2017

SCALE: AS SHOWN

DRAWING NO. 1

REV 0

12/4/2017 4:54 PM

R:\2015\152596 - SQ Disposal Embankment\Drawings\Northern Tract\Municipal Notification Site Location Map-R0.dwg

LAND USE LETTER

Date: _____

To: Robert M. Shusko, P.E.

From: _____ Township/Borough/City

Re: Specialty Granules LLC – Northern Tract Quarry

The municipality of _____ states that it:
_____ has adopted a municipal or multi-municipal comprehensive plan.
If yes, please provide date of adoption:

_____ has not adopted a municipal or multi-municipal comprehensive plan.

The municipality of _____ states that it:
_____ has adopted a county zoning ordinance, or a municipal or joint-municipal zoning ordinance.
_____ has not adopted a county zoning ordinance, or a municipal or joint-municipal zoning ordinance.

If applicable:

The municipality of _____ states that its zoning ordinance is generally consistent with its municipal comprehensive plan and the county comprehensive plan.

The above referenced proposed project
_____ meets the provisions of the local zoning ordinance

If zoning approval is required for the project to proceed, the above referenced project:
_____ has received zoning approval.
_____ has not received zoning approval.

If the proposed project has not received zoning approval:

What is the status of the zoning request for the proposed project? (e.g., Special Exception Approval from the Zoning Hearing Board required, Conditional Use approval from the Governing Body required)

Is there a legal challenge by the applicant with regard to zoning for the proposed project?

Name and Contact Information for Municipal Zoning Officer:

Additional Comments (attach additional sheets if necessary):

Submitted By:

Name	
Title	
Contact Information (Address & Phone)	
Signature	
Date	

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Bob Gordon, Chairman
Hamiltonban Twp Board of
Supervisors
23 Carrolls Tract Road
P.O. Box 526
Fairfield, PA 17320

2. Article Number

(Transfer from service label)

7009 1410 0001 0307 7039

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-154

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☒ Agent
☐ Addressee

B. Received by (Printed Name)

N. CAULEYSON

C. Date of Delivery

12-26-17

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

U.S. Postal Service™

CERTIFIED MAIL™ RECEIPT

(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

OFFICIAL USE

Postage	\$ 1.40
Certified Fee	3.30
Return Receipt Fee (Endorsement Required)	2.70
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 7.40

Postmark
Here
12/21/17

Sent To

Mr. Bob Gordon, Chairman

Street, Apt. No.,
or PO Box No.

23 Carrolls Tract Rd, PO Bx 526

City, State, ZIP+4

Fairfield, PA 17320

PS Form 3800, August 2006

See Reverse for Instructions

7009 1410 0001 0307 7039

PNDI SUBMITTAL AND COORDINATION



January 29, 2016

Mr. Frederick Sechler
Pennsylvania Department of
Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, Post Office Box 8552
Harrisburg, Pennsylvania 17105-8552

Mr. Chris Urban
Pennsylvania Fish and Boat Commission
Division of Environmental Services, Natural Diversity Section
450 Robinson Lane
Bellefonte, Pennsylvania 16823-7437

Ms. Pamela Shellenberger
U.S. Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801

Re: Threatened and Endangered Species Coordination Letter, Specialty Granules LLC. Charmian Quarry Northern Tract Development Project, Hamiltonban Township, Adams County, Pennsylvania
PNDI #20151208541654

Dear Mr. Sechler, Mr. Urban, and Ms. Shellenberger:

Skelly and Loy, Inc. has been retained by Specialty Granules LLC (SGI) to initiate coordination with your respective agencies regarding potential effects on federally and/or state-listed species resulting from the future development of an approximate 112-acre parcel referred to as the Northern Tract for non-coal quarrying activities in Hamiltonban Township, Adams County.

SGI extracts non-coal materials through an existing Pennsylvania Department of Environmental Protection (PA DEP) Surface Mine Permit at the Charmian Site located north of the town of Blue Ridge Summit. The Charmian Site generally consists of an active quarry (Pitts Quarry - PA DEP Permit No. 01930302), an inactive quarry (West Ridge Quarry, which is in the reclamation phase), stockpile storage areas, a crushing plant, and a granule plant. SGI extracts metabasalt at the Charmian Site for the purpose of manufacturing roofing granules that are used to coat the wearing surface of asphalt roofing shingles.

Mr. Frederick Sechler
Mr. Chris Urban
Ms. Pamela Shellenberger
Page 2
January 29, 2016

SGL is currently conducting environmental planning studies and engineering design evaluations to expand its existing, permitted metabasalt quarry operations from the Pitts Quarry to the Northern Tract. A Pennsylvania Natural Diversity Inventory (PNDI) database screening of the Northern Tract was completed on December 8, 2015. The PNDI project environmental review receipt (PNDI #20151208541654) indicated potential conflicts with species under the jurisdiction of the Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Fish and Boat Commission, and United States Fish and Wildlife Service.

We are enclosing the PNDI project environmental review receipt and project location map for your use during this review.

Thank you in advance for your review of this project screening information. We look forward to receiving correspondence from your respective agencies at your earliest convenience. Please contact me at 717-574-2373 if you have any questions regarding this matter.

Sincerely yours,

SKELLY and LOY, Inc.



Andy M. Brookens
Biologist, Regional Director of
Natural Resources

Enclosures

cc: Celeste Levine, Esq., Specialty Granules, LLC
Matthew McClure, Specialty Granules, LLC
Bob Shusko, D'Appolonia
Laura Berra, Skelly and Loy
R15-0340.000
File: SGI PNDI Initiation Letter.docx

1. PROJECT INFORMATION

Project Name: **SGI Charmian**

Date of review: **12/8/2015 12:16:23 PM**

Project Category: **Mining, other non-coal minerals (limestone, shale)**

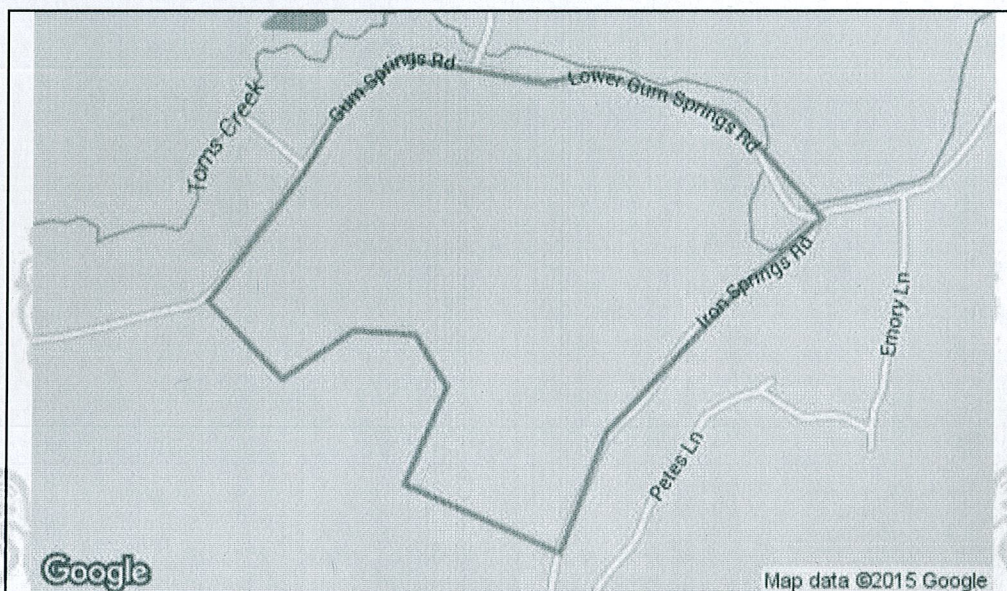
Project Area: **143.4** acres

County: **Adams** Township/Municipality: **Hamiltonban**

Quadrangle Name: **IRON SPRINGS** ~ ZIP Code: **17320**

Decimal Degrees: **39.763323 N, -77.441378 W**

Degrees Minutes Seconds: **39° 45' 48" N, -77° 26' 29" W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
PA Fish and Boat Commission	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
U.S. Fish and Wildlife Service	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

RESPONSE TO QUESTION(S) ASKED

Q1: "Will the entire project area (including any discharge), plus a 300 feet buffer around the project area, all occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, maintained (periodically mown) lawn, crop agriculture field or maintained orchard?"

Your answer is: **2. No**

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

DCNR Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here: http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_DCNR.aspx.)

Scientific Name: Herbaceous vernal pond

Common Name:

Current Status: Special Concern Resource*

Proposed Status: Special Concern Resource*

Scientific Name: Sensitive Species**

Common Name:**Current Status:** Special Concern Species***Proposed Status:** Threatened**Scientific Name:** Sensitive Species****Common Name:****Current Status:** Endangered**Proposed Status:** Threatened

PA Fish and Boat Commission

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

PFBC Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)

Scientific Name: Sensitive Species****Common Name:****Current Status:** Special Concern Species*

U.S. Fish and Wildlife Service

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, send the following information to the agency(s) seeking this information (see AGENCY CONTACT INFORMATION).

Check-list of *Minimum* Materials to be submitted:

- ☐ **SIGNED** copy of this Project Environmental Review Receipt
- ☐ Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
- ☐ Project location information (name of USGS Quadrangle, Township/Municipality, and County)
- ☐ USGS 7.5-minute Quadrangle with project boundary clearly indicated, and quad name on the map

The inclusion of the following information may expedite the review process.

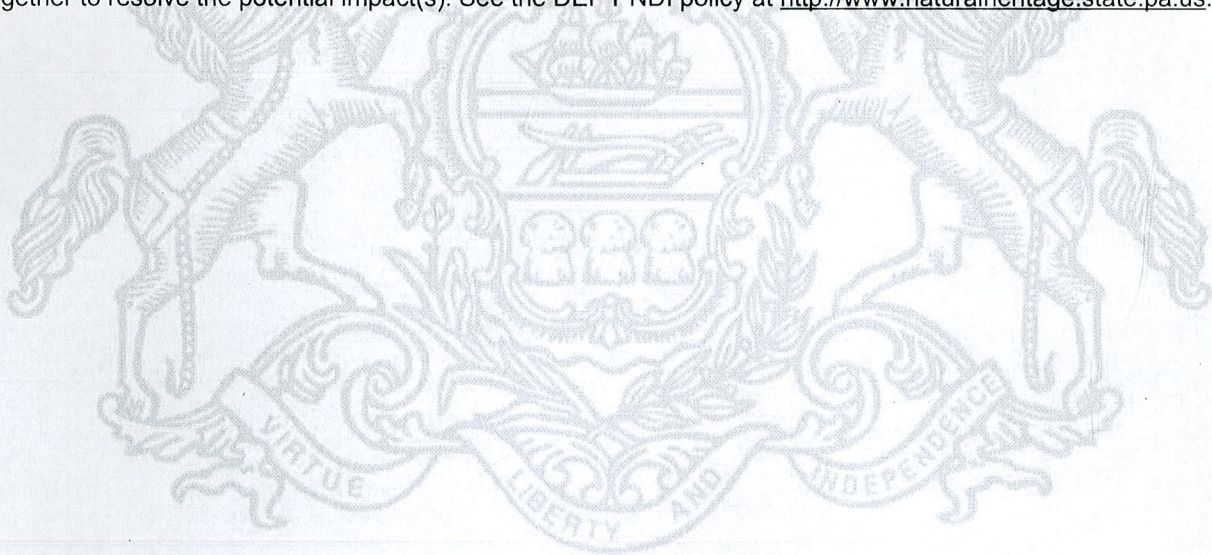
____ A basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)

____ Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)

____ Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.



5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552, Harrisburg, PA.
17105-8552
Fax: (717) 772-0271

U.S. Fish and Wildlife Service

Pennsylvania Field Office
110 Radnor Rd; Suite 101, State College, PA 16801
NO Faxes Please.

PA Fish and Boat Commission

Division of Environmental Services
450 Robinson Lane, Bellefonte, PA. 16823-7437
NO Faxes Please

PA Game Commission

Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
Fax: (717) 787-6957

7. PROJECT CONTACT INFORMATION

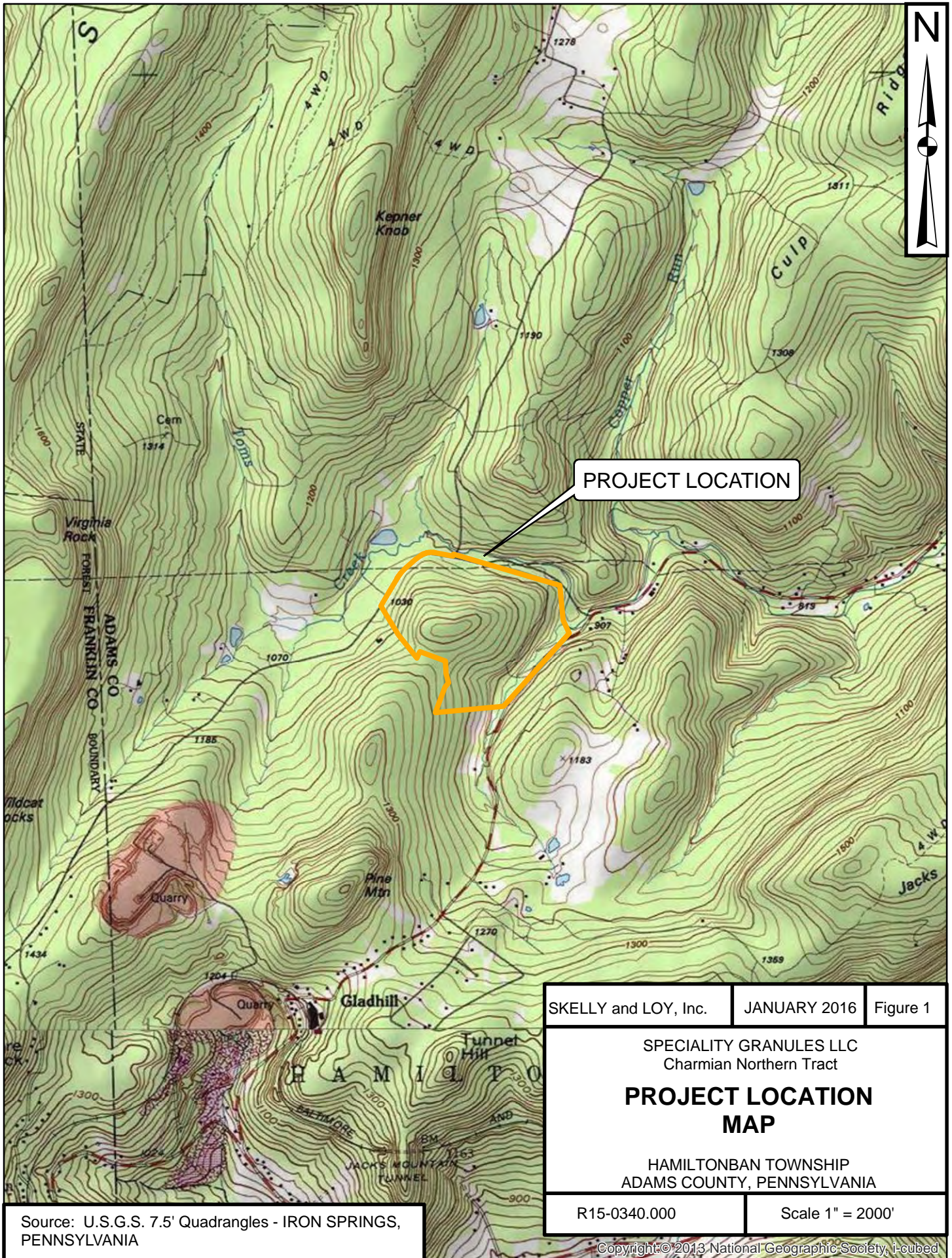
Name: Andrew Nevin
Company/Business Name: Skelly & Loy Inc.
Address: 449 Eisenhower Blvd. Suite 300
City, State, Zip: Harrisburg, PA 17111
Phone: (717) 232-0593 Fax: (717) 232-1799
Email: anevin@skellyloy.com

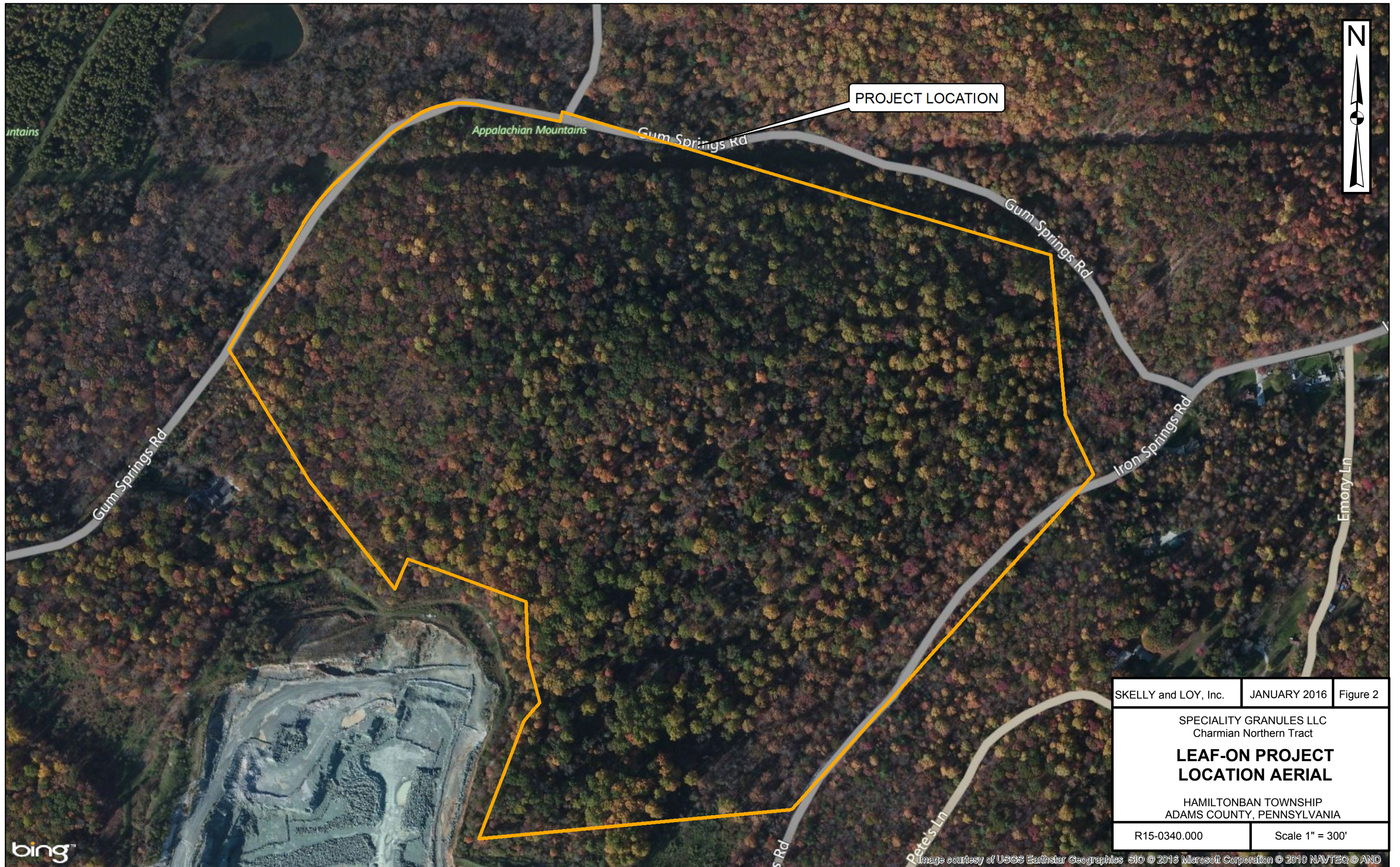
8. CERTIFICATION

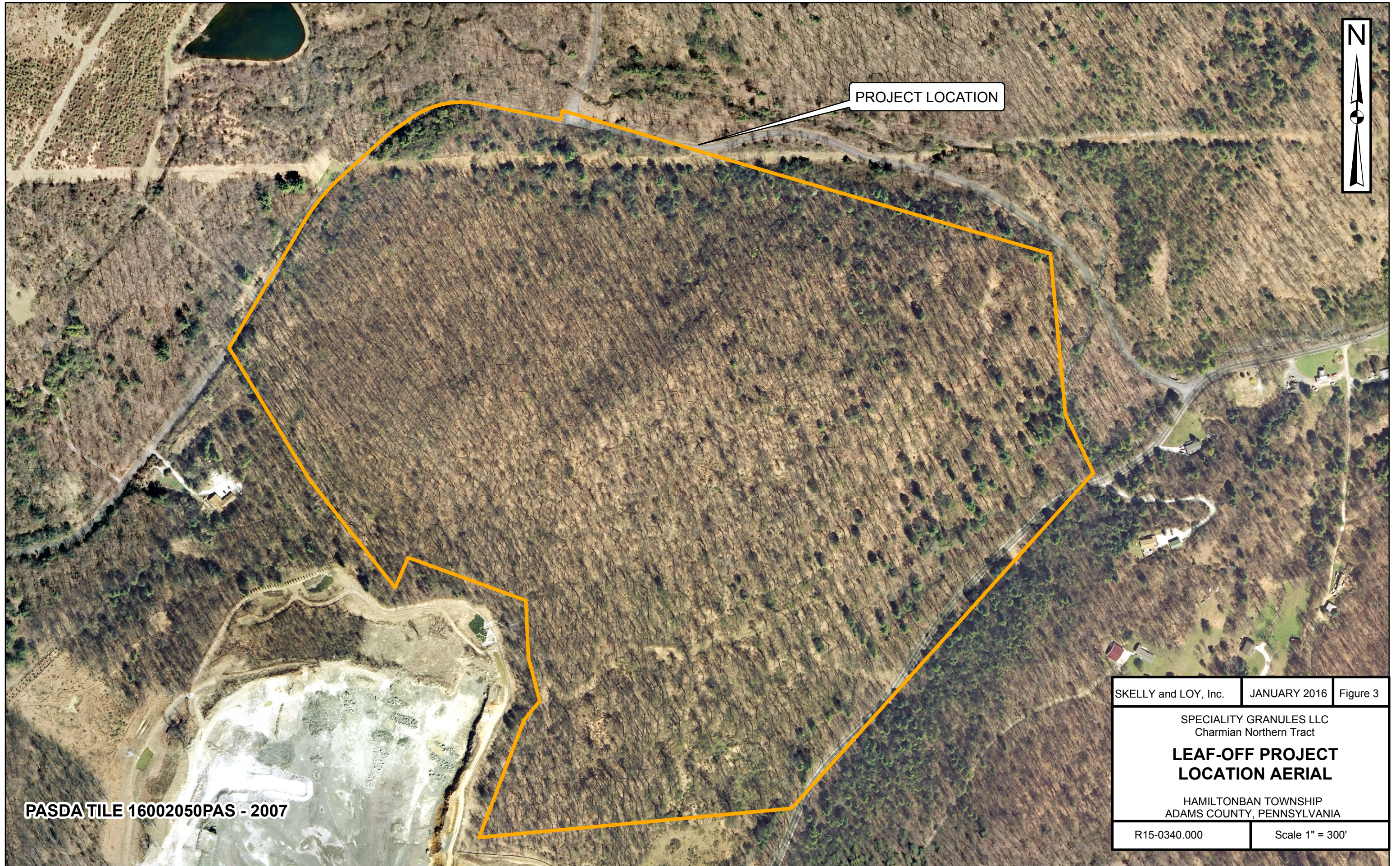
I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Andrew Nevin
applicant/project proponent signature

12/8/15
date





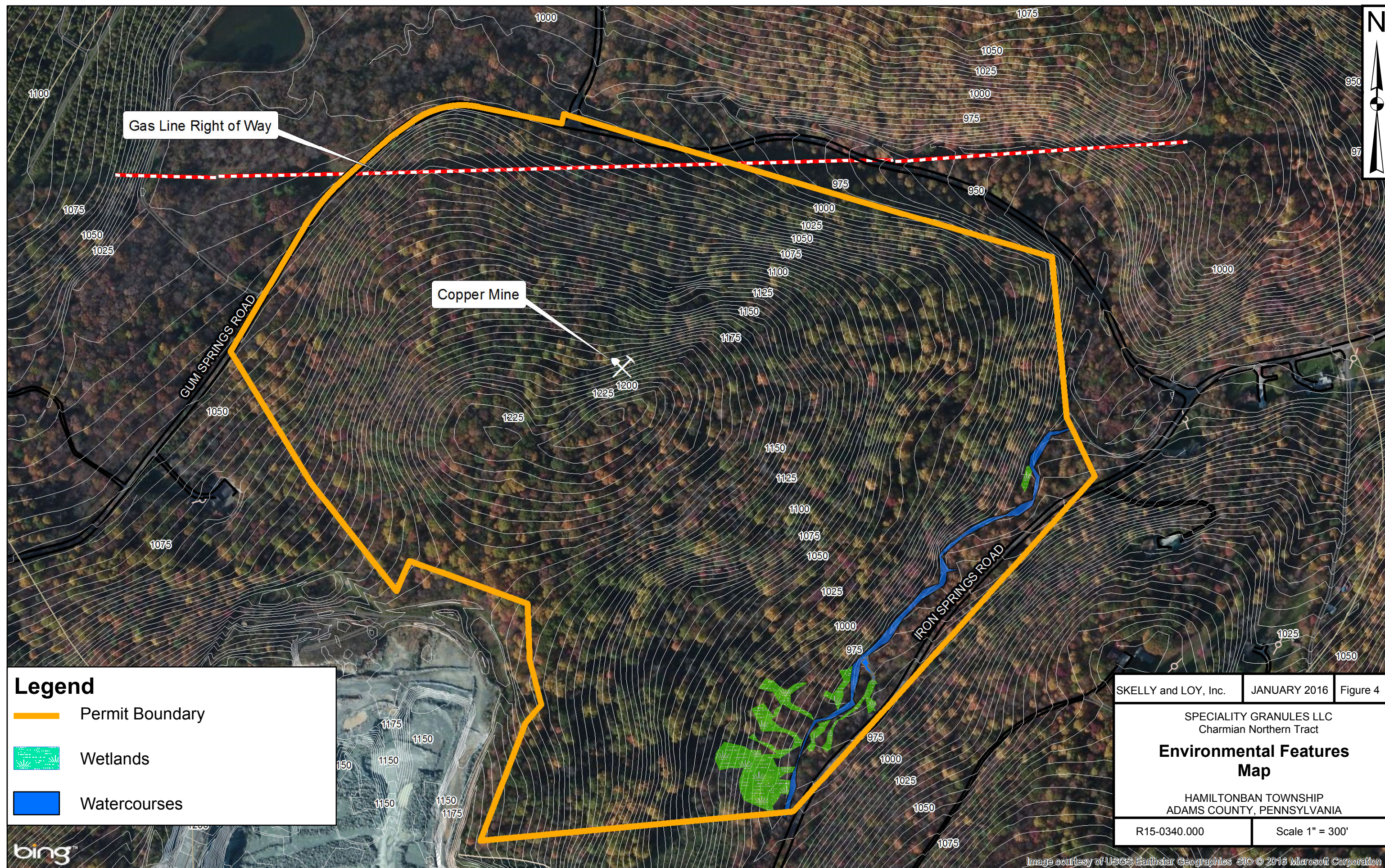


PROJECT LOCATION



PASDA TILE 16002050PAS - 2007

SKELLY and LOY, Inc.	JANUARY 2016	Figure 3
SPECIALITY GRANULES LLC Charmian Northern Tract LEAF-OFF PROJECT LOCATION AERIAL HAMILTONBAN TOWNSHIP ADAMS COUNTY, PENNSYLVANIA		
R15-0340.000	Scale 1" = 300'	



Photograph 1: Representative mature deciduous forest along moderate gradient



Photograph 2: Representative mature deciduous forest along steep gradient



Photograph 3: Historic copper mine shaft meeting criteria for potential bat hibernaculum; showing portal approach.



Photograph 4: Close-up of historic copper mine shaft meeting criteria for potential bat hibernaculum; showing portal entrance.



Photograph 5: Hemlock bottomland associated with UNT to Tom's Creek.



Photograph 6: Natural gas right-of-way intersecting the project area to the north.



TIMBER RATTLESNAKE



Pennsylvania Fish & Boat Commission

Division of Environmental Services
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823
814-359-5237

March 8, 2016

IN REPLY REFER TO
SIR# 45526

Skelly & Loy, Inc.
Andy Brookens
449 Eisenhower Blvd.
Harrisburg, Pennsylvania 17111

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. 20151208541654
SGI Charmian Quarry
ADAMS County: Hamiltonban Township

Dear Andy Brookens:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search “potential conflict” or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

Timber rattlesnake (*Crotalus horridus*, PA candidate)

Timber rattlesnakes occur in the forested, mountainous regions of the Commonwealth. They prefer forested areas to forage for small mammals (e.g., mice and chipmunks) and southerly-facing slopes for hibernating and other thermoregulatory activities. The timber rattlesnake is threatened by habitat loss/alteration, wanton killing, and poaching.

Given the proximity of the project to known critical timber rattlesnake habitat, we recommend that a timber rattlesnake habitat assessment be conducted in the project area by a qualified timber rattlesnake surveyor. We have included a list of qualified surveyors and habitat assessment protocol for your convenience. This list is not an exhaustive list of qualified rattlesnake surveyors in Pennsylvania as there may be qualified surveyors who have not asked to be placed on this list. It is not mandatory that you use someone on this list. Upon completion of the habitat survey, the qualified rattlesnake biologist is to submit a report to this office for review and comment. The habitat survey report should include color photographs of the project area (keyed to a site map or diagram) and a description of habitats occurring

Our Mission:

www.fish.state.pa.us

To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.

within the immediate area to be developed (including access roads), as well as the surrounding area. Potential timber rattlesnake critical habitat (denning/gestating areas) should be photographed and mapped accordingly. In addition, the report should also include detailed project plans and maps with a description of the proposed work (including access roads), project impacts and alternatives. Pending the review of this information, a survey targeting the presence of the timber rattlesnake in the project area and/or other project modifications may be requested.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Christopher A. Urban at 814-359-5113 and refer to the SIR # 45526. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

A handwritten signature in black ink that reads "Christopher A. Urban". The signature is written in a cursive, flowing style.

Christopher A. Urban, Chief
Natural Diversity Section

CAU/dn



June 27, 2016

Mr. Chris Urban
Pennsylvania Fish and Boat Commission
Division of Environmental Services
Natural Diversity Section
450 Robinson Lane
Bellefonte, Pennsylvania 16823-7437

Re: Timber Rattlesnake (*Crotalus horridus*) Habitat Assessment and Presence/Absence Survey Report, Specialty Granules LLC Northern Tract Development Project, Hamiltonban Township, Adams County, Pennsylvania
PNDI #20151208541654
PFBC SIR #45526

Dear Chris:

Correspondence from the Pennsylvania Fish and Boat Commission (PFBC) dated March 8, 2016 (SIR #45526), requested the completion of a habitat assessment for the timber rattlesnake (*Crotalus horridus*) to determine if potential critical habitat for the species exists within the vicinity of the proposed Specialty Granules LLC (SGI) Northern Tract Development Project. Subsequent to this correspondence, our telephone conversation of March 16, 2016, concluded that potential denning habitat conditions were likely to be present within the proposed land development area and that presence/absence surveys for the species could be initiated during the appropriate survey season April 15 through May 15 by a PFBC-recognized qualified surveyor for the species.

Wildlife Specialists LLC (Mr. Stan Boder, PFBC-recognized qualified timber rattlesnake surveyor) was retained to confirm potential critical habitat conditions and conduct presence/absence surveys for timber rattlesnake occurrence associated with the proposed non-coal quarry development project. We are enclosing for your review and concurrence the *SGI Northern Tract Timber Rattlesnake Habitat Assessment and Presence/Absence Survey Report, June 2016* prepared by Wildlife Specialists LLC.

Mr. Chris Urban
Page 2
June 27, 2016

Thank you in advance for your review of this report documentation. We look forward to receiving correspondence from your agency at your earliest convenience. Please contact me at 717-574-2373 if you have any questions regarding this matter.

Sincerely yours,

SKELLY and LOY, Inc.

A handwritten signature in black ink, appearing to read "Andy M. Brookens". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Andy M. Brookens
Biologist, Regional Director of
Natural Resources

Enclosures

cc: Stan Boder, Wildlife Specialists, LLC
Celeste Levine, Esq., Specialty Granules, LLC
Matthew McClure, Specialty Granules, LLC
Bob Shusko, D'Appolonia
Laura Berra, Skelly and Loy
R15-0340.000
File: SGI PFBC Rattlesnake Letter.docx

Timber Rattlesnake Habitat Assessment and Presence/Absence Survey Report

SGI Northern Tract

SIR# 45526

Prepared For:

D'Appolonia
275 Center Road
Monroeville, PA 15146

Submitted To:

Pennsylvania Fish and Boat Commission
Division of Environmental Services
450 Robinson Lane
Bellefonte, PA 16823

WILDLIFE SPECIALISTS, LLC

2785 Hills Creek Rd.

Wellsboro, PA 16901

(570) 787-3442

www.wildlife-specialists.com

June 2016





Table of Contents

Executive Summary.....	3
Introduction	3
Site and Project Description	3
Survey Methods	4
Results.....	5
Conclusions and Recommendations.....	8
Appendix I. PA Fish and Boat Commission PNDI Letter	9
Appendix II. Photo Documentation	11
Appendix III. PA Fish and Boat Commission Habitat Assessment Data Form	13

List of Figures

Figure 1. SGI Northern Tract Project showing potential timber rattlesnake critical habitat areas and habitat photo points	7
---	---

List of Tables

Table 1. Weather conditions for the 2016 timber rattlesnake denning habitat presence/absence surveys at the proposed Northern Tract Project, Adams County, PA	6
Table 2. Herpetofauna observed during the 2016 denning habitat presence/absence surveys for the proposed Northern Tract Project, Adams County, PA	6



Executive Summary

On 15 April, 2016, Wildlife Specialists, LLC conducted a timber rattlesnake habitat assessment on the proposed Northern Tract Development Project in Adams County, Pennsylvania. Potential denning habitat that was delineated during the assessment was subsequently surveyed 4 times, on non-consecutive days, for timber rattlesnake presence before 15 May, 2016. No timber rattlesnakes were observed during the surveys.

Introduction

Skelly and Loy, Inc. was retained by Specialty Granules, LLC (SGI) to coordinate species impact review (SIR) associated with environmental planning studies for an expansion of existing Metabasalt quarry operations known as the Northern Tract Development Project (the Project). Following a Pennsylvania Natural Diversity Inventory (PNDI) environmental review (PFBC SIR#: 45526, dated March 8, 2016; App. I), the Pennsylvania Fish and Boat Commission (PFBC) identified a potential impact from this Project on the timber rattlesnake (*Crotalus horridus*), a PA *Candidate* species. D'Appolonia, the principal engineering firm for the Project, contracted Wildlife Specialists, LLC to conduct the timber rattlesnake habitat assessment surveys that were requested by the PFBC. Where critical habitat was identified, Wildlife Specialists subsequently conducted presence/absence surveys of timber rattlesnake occurrence. The results of both the habitat assessment and presence/absence surveys are contained herein.

Site and Project Description

The SGI proposed Northern Tract Development Project is located in Hamiltonban Township, Adams County, Pennsylvania (Figure 1). The Northern Tract Project is proposed to be located north of an existing, permitted Metabasalt quarry known as the Pitts Quarry (PA DEP Permit No. 01930302). The timber rattlesnake survey area for the Project covers approximately 85 acres, which includes the Quarry Extraction limit and Operational Buffer. A 300 ft. buffer surrounding the Project was unable to be surveyed due to access constraints. An approximate central coordinate for the survey area is 39.76781°N, 77.44008°W. The survey area is located on a hill just south of Lower Gum Springs Road and just west of Iron Springs Road. Several homes are located within 0.5 miles of the survey area, predominantly to the east. A natural gas pipeline right-of-way crosses through 400 ft. of the extreme northern end of the survey area. Access roads associated with authorized exploratory drilling wind through the survey area at several locations, typically low on the slope. The existing, active quarry is located immediately to the south-southwest.

The survey area falls within the South Mountain Section of the Ridge and Valley Physiographic Province. The underlying bedrock is primarily Metabasalt, with minor Metarhyolite near the eastern edge. The survey area is comprised of a single low hill, which connects to higher terrain to the south via a saddle.

Elevation within the survey area varies from approximately 970 ft. to 1220 ft. above sea level. Slopes are moderate. Tom's Creek passes through the valley to the north.

The survey area is comprised of oak-hickory forest. Drier sites are dominated by chestnut oak (*Quercus montana*), pignut hickory (*Carya glabra*), and sweet birch (*Betula lenta*), with lesser components of hackberry (*Celtis occidentalis*), blackgum (*Nyssa sylvatica*), flowering dogwood (*Cornus florida*), white ash (*Fraxinus americana*) and red maple (*Acer rubrum*). More mesic sites are dominated by northern red oak (*Quercus rubra*), with lesser components of tuliptree (*Liriodendron tulipifera*), hophornbeam (*Ostrya virginiana*), basswood (*Tilia americana*), white pine (*Pinus strobus*), black cherry (*Prunus serotina*), witch-hazel (*Hamamelis virginiana*), devil's walkingstick (*Aralia spinosa*) and spicebush (*Lindera benzoin*). Japanese stiltgrass (*Microstegium vimineum*), mile-a-minute (*Persicaria perfoliata*), Japanese barberry (*Berberis thunbergii*), and privet (*Ligustrum* spp.) have all invaded the site and are prevalent in patches.

Survey Methods

Habitat Assessment – Timber rattlesnake habitat assessment protocols were based on PFBC guidelines, revised May 2014. Timber rattlesnake critical habitat within the Project area was evaluated and classified as potential gestation and/or denning habitat. Any areas of potential habitat were documented using handheld GPS units and geo-referenced digital photographs. GIS maps were generated to illustrate search areas, proposed development, digital photo locations and significant findings. Detailed information on site characteristics was recorded on PFBC data forms (App. II).

Presence/Absence Surveys – Standard timber rattlesnake presence/absence survey protocols were based on PFBC guidelines, which were updated in February 2015. For denning habitat surveys, at least four independent site surveys between 15 April and 15 May, on non-consecutive days, are required. Weather conditions and habitat parameters were recorded during all survey efforts. These data included cloud cover, air and ground temperatures, relative humidity, and wind speed. Field surveys were only conducted during favorable weather conditions, i.e. shaded air temperatures of at least 65°F (18.3°C) and sun-exposed ground temperatures of at least 75°F (23.9°C). Surveys were not conducted during rain events. We recorded basic information on all timber rattlesnakes observed, micro and macro habitat, and other herpetofauna observed.

PFBC qualified timber rattlesnake surveyor Stan J. Boder led the surveys and were assisted by biologists from Wildlife Specialists (Rex C. Everett and James A. Hart) with timber rattlesnake survey experience. Two rattlesnake surveyors were generally present for each survey.



Results

Habitat Assessment – The habitat assessment was completed on 15 April 2016. Potential denning habitat was delineated as 13 polygons totaling 9.9 acres (Figure 1; App. I for representative photos of habitat; App. III for PFBC Data Sheets). The majority of potential denning habitat was associated with outcrops surrounding the summit of the hill. The largest outcrops were located on the north-facing slope, where some outcrops exceeded 20ft. in height. Despite their northerly or north-northwest aspect, these outcrops were characterized by fissures and crevices typical of timber rattlesnake hibernacula.

The northeast quadrant of the survey area contained the most rock; there a series of outcrops ran down the slope to the northeast. Below these outcrops to the northwest were abundant chunks and slabs of mossy rock forming boulder fields where rocky cover surpassed 75%. Slopes were approximately 25° in the rocky areas.

Low on the slope on the east- and southeast-facing sides of the hill were a few examples of isolated outcrops on 15° slopes which provided potential denning habitat. Crevices under large, partially-embedded slabs provided potential entrances to dens. In some potential denning habitat polygons, thin soils and areas of exposed bedrock limited canopy cover to near 50%. Blackberry (*Rubus* spp.), grapevine (*Vitis* spp.), Japanese barberry, and other shrubs and vines filled the canopy gaps.

The west- and southwest-facing hillsides were generally rocky near the top of the hill, with low outcrops and scattered jumbles of rock in dry oak – hickory forest with a sparse understory. The leaf litter layer was thin, and bare soil was exposed in places. Many embedded rocks showed holes and crevices beneath. Descending the slope, the hillside continued to be rocky, but rocks tended to be smaller, on more gradual slopes, and with fewer crevices.

Potential gestating habitat was delineated as 5 small polygons. Potential gestating habitat was marginal in quality and represented by isolated rock slabs or small jumbles of rock along existing maintenance trails on the east-facing slope of the Project area receiving mainly morning sunlight through canopy gaps. Blackberry, mile-a-minute, and Japanese stiltgrass surrounded, and sometimes covered, the rocks.

Presence/Absence Surveys – All potential denning habitats were surveyed for timber rattlesnake presence in the spring of 2016 (Table 1). The first survey was conducted concurrently with the habitat assessment. No denning habitats were confirmed as being occupied by rattlesnakes, and no rattlesnakes were observed in the survey area. Five species of other herpetofauna were observed over the course of the surveys (Table 2). Surveys of potential gestating habitat were not conducted.



Table 1. Weather conditions for the 2016 timber rattlesnake denning habitat presence/absence surveys at the proposed Charmian Quarry Northern Tract Project, Adams County, Pennsylvania.

Date (2016)	Time	Start					End					
		Air	Ground	RH ^a (%)	Wind (mph)	Cloud Cover (%)	Air	Ground	RH (%)	Wind (mph)	Cloud Cover (%)	
		Temp (° F)	Temp (° F)				Temp (° F)	Temp (° F)				
4/15	1115	65.3	78.5	45.6	0.0	0	1510	67.0	83.5	32.9	0.0	0
4/22	1229	74.0	80.0	50.9	2.7	90	1640	70.7	79.0	64.2	1.4	90
5/7	1430	66.0	75.1	57.3	0.0	90	1730	65.0	76.7	59.6	0.0	75
5/12	1253	71.0	82.6	73.8	0.8	35	1709	68.7	75.5	80.4	0.0	100

^aRelative Humidity

Table 2. Herpetofauna observed during the 2016 denning habitat presence/absence surveys for the proposed Charmian Quarry Northern Tract Project, Adams County, Pennsylvania.

Date (2016)	Herpetofauna Species Observed	N
4/22	Gray Treefrog (<i>Hyla versicolor</i>)	~6 calling
4/22	Eastern Gartersnake (<i>Thamnophis sirtalis sirtalis</i>)	1
5/12	Gray Treefrog (<i>Hyla versicolor</i>)	~3 calling
5/12	American Toad (<i>Anaxyrus americanus</i>)	1
5/12	Northern Slimy Salamander (<i>Plethodon glutinosus</i>)	1
5/12	Common Five-Lined Skink (<i>Plestiodon fasciatus</i>)	1

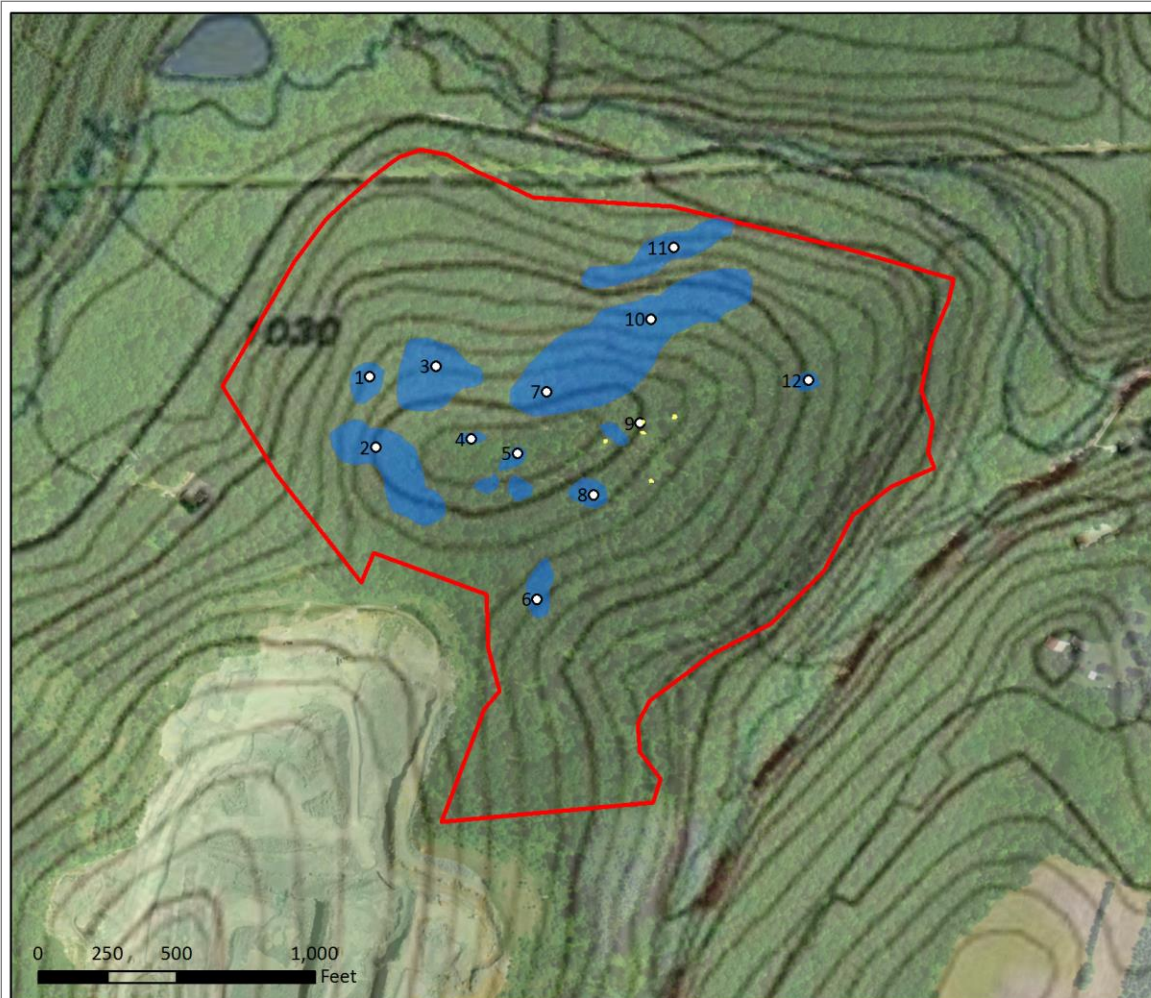


Figure 1.
SGI Northern Tract Project
Hamiltonbon Township, Adams County, Pennsylvania
Showing potential timber rattlesnake critical habitat
areas and habitat photo points.

- Photo Point
- Potential Gestating Habitat
- Potential Denning Habitat
- Survey Area



NAD 1983 StatePlane
Pennsylvania South
FIPS 3702 Feet
Projection



Basemap: Copyright 2014
National Geographic Society,
i-cubed, ESRI, USDA FSA,
USGS, AEX, GeoEye,
AeroGRID,
Getmapping,
IGP



Wildlife Specialists
the wildlife experts



Conclusions and Recommendations

During the timber rattlesnake habitat assessment, Wildlife Specialists determined that low potential/marginal potential denning and gestating habitat for *C. horridus* does exist within the disturbance area of the proposed Northern Tract Project. No timber rattlesnakes were observed during presence/absence surveys of the identified potential denning habitat. Timber rattlesnakes do not appear to be utilizing the proposed Project disturbance area for over-wintering/hibernacula. However, although there is no observed evidence of such, portions of the Project area may be utilized by timber rattlesnakes for basking and foraging. As such, Wildlife Specialists recommends that SGI employ the following mitigation measures:

- 1) Inform site workers about the potential proximity to rattlesnakes, the regulations addressing timber rattlesnake protection, and who to call to remove rattlesnakes that enter the construction zone.

Appendix I. PA Fish and Boat Commission PNDI Letter



Pennsylvania Fish & Boat Commission

Division of Environmental Services
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823
814-359-5237

March 8, 2016

IN REPLY REFER TO
SIR# 45526

Skelly & Loy, Inc.
Andy Brookens
449 Eisenhower Blvd.
Harrisburg, Pennsylvania 17111

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. 20151208541654
SIG Charmian Quarry
ADAMS County: Hamiltonban Township

Dear Andy Brookens:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search “potential conflict” or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

Timber rattlesnake (*Crotalus horridus*, PA candidate)

Timber rattlesnakes occur in the forested, mountainous regions of the Commonwealth. They prefer forested areas to forage for small mammals (e.g., mice and chipmunks) and southerly-facing slopes for hibernating and other thermoregulatory activities. The timber rattlesnake is threatened by habitat loss/alteration, wanton killing, and poaching.

Given the proximity of the project to known critical timber rattlesnake habitat, we recommend that a timber rattlesnake habitat assessment be conducted in the project area by a qualified timber rattlesnake surveyor. We have included a list of qualified surveyors and habitat assessment protocol for your convenience. This list is not an exhaustive list of qualified rattlesnake surveyors in Pennsylvania as there may be qualified surveyors who have not asked to be placed on this list. It is not mandatory that you use someone on this list. Upon completion of the habitat survey, the qualified rattlesnake biologist is to submit a report to this office for review and comment. The habitat survey report should include color photographs of the project area (keyed to a site map or diagram) and a description of habitats occurring

Our Mission:

www.fish.state.pa.us

To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.



SIR # 45526

Page 2

March 8, 2016

within the immediate area to be developed (including access roads), as well as the surrounding area. Potential timber rattlesnake critical habitat (denning/gestating areas) should be photographed and mapped accordingly. In addition, the report should also include detailed project plans and maps with a description of the proposed work (including access roads), project impacts and alternatives. Pending the review of this information, a survey targeting the presence of the timber rattlesnake in the project area and/or other project modifications may be requested.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Christopher A. Urban at 814-359-5113 and refer to the SIR # 45526. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Christopher A. Urban, Chief
Natural Diversity Section

CAU/dn

Appendix II. Photo Documentation



Photo 1. Potential denning habitat, facing south



Photo 2. Potential denning habitat, facing east



Photo 3. Potential denning habitat, facing SSW



Photo 4. Potential denning habitat, facing east



Photo 5. Potential denning habitat, facing north



Photo 6. Potential denning habitat, facing north



Photo 7. Potential denning habitat, facing south



Photo 8. Potential denning habitat, facing ESE



Photo 9. Potential gestating habitat, facing southeast



Photo 10. Potential denning habitat, facing southwest



Photo 11. Potential denning habitat, facing ESE



Photo 12. Potential denning habitat, facing north



Appendix III. PA Fish and Boat Commission Habitat Assessment Data Form

Pennsylvania Fish & Boat Commission, Natural Diversity Section Timber Rattlesnake Habitat Assessment Form (revised 02/11/10)

Project Information

Project/Property Name: SGI Northern Tract SIR# 45526

Project Type/Description: Metabasalt quarry

Project Size* (acreage): 85

Applicant/Landowner Name: Specialty Granules, LLC

County: Adams Quad: Iron Springs Township/Municipality: Hamiltonban

* Attach a copy of topographic map and a site sketch showing survey site and natural features identified.

Assessment Site Information [Areas within and at least 300 feet around the entire project area need to be assessed.]

Date: 4/15/15 Time: 1115

Site ID**: All habitats

Latitude: 39°46'5.39" N Longitude: 77°26'23.47" W

Map Datum Used: NAD 83

Assessment Size** (acreage): 10.6

** The surveyor should use his/her judgement on the size of the area that a single assessment encompasses. Additional assessment forms should be used to accurately describe and evaluate large contiguous areas by utilizing a separate form for separate habitat areas within the project boundaries. Each separate area assessed should be assigned a Site ID name that is referenced to the overall site sketch.

Weather Conditions (Note: Assessment cannot be conducted in snow cover.)

Air temperature (°F) 65 % Cloud Cover 0

Habitat Description

General description: Denning habitat is associated with large outcrops and surrounding rock near the top of a small hill in oak-hickory forest. Metabasalt rock outcrops have large, irregular scree beneath.

Level of remoteness/nearby disturbance (roads, homes, buildings, utility right-of-ways, etc.):

Active quarry immediately SW; roads immediately to N and E; ROW on N edge; access roads within survey area; homes to E

Topographical description: Low hill which is an extension of higher terrain to S; elev. 970ft. to 1220ft.

Slope (Degrees) 20-30

Aspect All directions (compass orientation, i.e., direction hillside faces)

Ground Cover:

% rocky ground cover: 60

% rocky ground cover that receives direct sunlight: 0

List size range and shape of rocks (round, flat, etc.): Outcrops up to 7m high surrounded by irregular rock fragments, some 3m or greater

Are there rock outcrops or ledges present? Yes

Are boulder fields, and/or talus/scree slopes present? Yes

Are flat gestation slabs present? Yes-marginal



Project Name SGL Northern Tract **Site ID #** All habitats (con't)

Vegetative Composition:

% Tree Canopy Cover 90

Dominant species present in and surrounding the described habitat:

Trees: Red oak, sweet birch, hickories, chestnut oak, blackgum, flowering dogwood

Shrubs: Witch-hazel, spicebush, privet, Japanese barberry

Other plant species of note: Japanese stiltgrass, mile-a-minute, grapevine

Species Observations

Were herpetofauna species or their signs (e.g., sheds, scat, "forms") observed on-site (include timber rattlesnake observations)? If so, what species and how many?

None

Additional Comments/Observations: (use additional sheets if necessary)

The habitats assessed in this form include 13 areas of potential denning habitat and 5 small areas of potential gestating habitat.

The majority of habitats surround the top of a small hill; hence, they face all directions. Most potential denning habitat is north-facing.

Potential gestating habitat was associated with isolated slabs of rock along access roads/trails which receive primarily morning sunlight.

INVESTIGATOR'S OPINION

In your opinion, is there timber rattlesnake critical habitat? Yes ☒ or No ☐

If Yes, what timber rattlesnake critical habitat occurs in this area? See below.

Hibernaculum/Den Yes ☒ or No ☐

Gestation/Birthing Yes ☒ or No ☐

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Stan Boder

Stanley D. Boder

4/15/16

Investigator's Name (print)

Investigator's Signature

Date

Reporting. The following items need to be submitted for review:

- (1) Timber rattlesnake habitat assessment form.
- (2) A project narrative/description, exact project location, equipment to be used in earth moving activities
- (3) Color photographs of surveyed area showing: general panorama, rocky areas, and specimens observed.
- (4) Site sketch showing the location and direction of photos taken.
- (5) Topographic map showing location of area surveyed, the identified potential habitat delineated, the proposed project and associated boundaries.

Please mail these items to:

Natural Diversity Section
PA Fish & Boat Commission
450 Robinson Lane
Bellefonte, PA 16823



Pennsylvania Fish & Boat Commission

Division of Environmental Services

Natural Diversity Section

450 Robinson Lane

Bellefonte, PA 16823

814-359-5237

July 11, 2016

IN REPLY REFER TO

SIR# 45526

Skelly & Loy, Inc.
Andy Brookens
449 Eisenhower Blvd.
Harrisburg, Pennsylvania 17111

RE: Secondary Species Impact Review – SIR#45526
PNDI Search No. 20151208541654
SGI Charmian Quarry
Timber Rattlesnake Habitat Evaluation and Presence/Inferred Absence Survey
ADAMS County: Hamiltonban Township

Dear Mr. Brookens:

In previous correspondence, given that known Timber Rattlesnake dens/gestation areas were known from the project vicinity, the Commission required a habitat evaluation of the subject property.

Stan Boder of Wildlife Specialists, LLC., a Pennsylvania Qualified Timber Rattlesnake Surveyor, was retained to conduct the habitat evaluation. According to Mr. Boder's report, Timber Rattlesnake potential denning habitat was found to occur within the SGI project area. Presence/Inferred absence surveys were then conducted using the appropriate protocols and conditions to confirm the potential presence of the species in the project area. According to Mr. Boder's report, Timber Rattlesnakes were not confirmed to be using the potential denning habitat. I concur with Mr. Boder's finding's.

As stated earlier, there have been observations of Timber Rattlesnakes in the vicinity of the project area, but based on our review of Mr. Boder's report, **we do not anticipate any direct adverse impacts to the Timber Rattlesnake from the proposed project.** However, the project areas could be used as foraging habitat for Timber Rattlesnakes venturing from other nearby areas and this warrants some concern about rattlesnake-human conflicts. Although the nature of the timber rattlesnake is rather docile, it can be dangerous if cornered or handled. Therefore, the workers should be mindful of the presence of the snakes in the area. Rattlesnakes are attracted to open, rocky, log-strewn areas for basking and forested areas with thick deciduous leaf litter that tend to support high populations of rodents. We recommend that the workers responsible for implementing this project be advised and/or briefed that Timber Rattlesnakes may be encountered and that avoidance is the best means of minimizing risks to personal safety. These workers should also be advised that the timber rattlesnake is a state protected species and is not to be harmed.

Our Mission:

www.fish.state.pa.us

To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.

Killing of timber rattlesnakes without a proper permit is prohibited by the Commission pursuant to 58 Pa. Code Section 79.6. If any Timber Rattlesnakes are observed on-site, please notify this office.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact me at 814-359-5113 or curban@pa.gov and refer to the SIR # 45526. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

A handwritten signature in black ink that reads "Christopher A. Urban". The signature is written in a cursive, flowing style.

Christopher A. Urban, Chief
Natural Diversity Section

CAU/dn

NODDING TRILLIUM



August 25, 2016

Mr. Jason Ryndock
Ecological Information Specialist
Pennsylvania Department of
Conservation and Natural Resources
Bureau of Forestry
Pennsylvania Natural Diversity Inventory
400 Market Street
Post Office Box 8552
Harrisburg, Pennsylvania 17015-8552

Re: Botanical Survey Update, Specialty
Granules LLC Proposed Northern
Tract, Hamiltonban Township,
Adams County, Pennsylvania
PNDI #20151208541654

Dear Mr. Ryndock:

Representatives of Skelly and Loy, Inc. redelineated the boundaries of an existing population of the following species of special concern known to occur within the vicinity of the proposed project area on April 20 and April 21, 2016.

- *Trillium cernuum* (Nodding Trillium), Pennsylvania species of special concern known to occur infrequently in moist woods

This previously characterized population was redelineated within the project study area in order to map the current boundary and provide updated population abundance estimates as they relate to the Northern Tract Development Project. Details of these findings are provided below.

INTRODUCTION

Specialty Granules LLC (SGI) has retained Skelly and Loy to continue ongoing coordination with the Pennsylvania Department of Conservation and Natural Resources (DCNR) regarding an existing population of *Trillium cernuum* (Nodding Trillium) as it relates to the future development of an approximate 112-acre parcel referred to as the Northern Tract for non-coal quarrying activities in Hamiltonban Township, Adams County. The general vicinity of the project area is identified on the enclosed Project Location Map (Figure 1). SGI's facility is zoned Industrial (I) with the non-grandfathered portion (Northern Tract) of the site governed by Conditional and Land Use permits through Hamiltonban Township. In 2013, SGI successfully rezoned the Northern Tract to Industrial (I) under which mining is an approved conditional use. In 2014, SGI received an approved Conditional Use Permit (CUP) for the Northern Tract from Hamiltonban Township. The approved CUP has a number of special conditions including setbacks and buffers with designated uses.

This known population was previously delineated and characterized by representatives from AECOM (formerly URS Corporation) on April 12-13, 2012, within the Northern Tract Project Study Area. In an attempt to update this information, representatives from Skelly and Loy visited the site on April 20 and April 21, 2016, and refined the population boundaries to reflect current conditions. Since a formal botanical survey was already conducted at this location in 2012, it was recommended by DCNR that only a redelineation of the population should occur. Therefore, supporting information such as composite plant lists and botanical survey field forms were not completed during this particular field effort but can be referenced via the URS Botanical Field Survey Report submitted to DCNR on May 7, 2012.

The field survey was conducted by Skelly and Loy qualified botanist Mr. Andrew Nevin (Wild Plant Management Permit #16-576) during the appropriate identification window for this species (April-May). Field methods for the redelineation survey closely adhered to the *Protocols for Conducting Surveys for Plant Species of Special Concern* prepared by DCNR (2015), where applicable.

METHODOLOGY

The project study area for the target species was defined by the permit area associated with the project and buffered within the Unnamed Tributary to Tom's Creek riparian corridor and confluence with Tom's Creek along Iron Springs Road and Gum Springs Road where the population was known to occur. These two roadways represented the study area boundary to the north and east. The proposed permit area is illustrated on the enclosed Species of Concern Nodding Trillium Survey Map. During the field investigations, the entire study area was traversed in a meander-style approach for evidence of the target species. A more focused effort was carried out within the previously delineated areas where the population was known to occur. This roughly corresponded to the riparian corridor and associated seep zones contributing hydrology to the Unnamed Tributary to Tom's Creek. Approximately 40 man-hours were devoted to this field effort.

Hand-held GPS equipment with sub-meter accuracy was utilized in the field to document point locations where the target species was located at the time of the field investigation. These points were labeled based on the number of stems present within each grouping of individuals. The points were then color-coded on the mapping to reflect the relative abundance within each grouping and to calculate an overall population estimate. Survey flagging was utilized in certain areas to aid in the delineation and to avoid duplication errors.

Documentation of the existing *Trillium cernuum* population included general notes and photographs but did not include the field collection of a voucher specimen or a robust characterization of the supporting community. As previously mentioned, this information was collected during the initial botanical survey conducted in the Spring of 2012 by representatives of AECOM.

Botanical references utilized in the field included *The Plants of Pennsylvania, 2nd Edition* (Rhoads & Block 2007); *Manual of Vascular Plants, 2nd Edition* (Gleason & Cronquist 1991); *An Illustrated Flora of the United States and Canada, Volume III, 2nd Edition* (Britton and

Brown 1970); *The Illustrated Book of Wildflowers and Shrubs* (Grimm 1993); *Newcomb's Wildflower Guide* (Newcomb 1977); *Peterson Field Guides Trees and Shrubs, 2nd Edition* (Petrides 1972); *Practical Guide to the Identification of Pennsylvania Grasses DRAFT* (Miller 2006); and DCNR PNHP Website Fact Sheets.

RESULTS

A few different habitat types occur within the project study area. The majority of the tract can be characterized as a moderate to steeply sloped mountainous mature deciduous forest community dominated by red oak (*Quercus rubra*), black oak (*Quercus velutina*), and chestnut oak (*Quercus montana*) along the steeper and more xeric slopes with tulip poplar (*Liriodendron tulipifera*), shagbark hickory (*Carya ovata*), and white oak (*Quercus alba*) dominating the canopy on the moderate and more mesic slopes. The understory along the north-facing slopes is comparatively sparse when compared with the southeast-facing slope which is dense and dominated by Japanese barberry (*Berberis thunbergii*) in upland areas and spicebush (*Lindera benzoin*) in wetter areas or mesic fringes. Exposed rocky outcropping is prevalent throughout sections of the tract.

Along the southeastern portion of the proposed development area paralleling Iron Springs Road a community similar to a hemlock bottomland occurs with dominant tree species including American beech (*Fagus grandifolia*) and eastern hemlock (*Tsuga canadensis*) with an understory dominated by muscle-wood (*Carpinus caroliniana*). Several groundwater seep wetlands occur in this area along the floodplain and riparian corridor of an Unnamed Tributary to Tom's Creek. The herbaceous stratum along these seep zones is dominated by skunk cabbage (*Symplocarpus foetidus*) and false hellebore (*Veratrum viride*).

The enclosed mapping shows the current extent of the *Trillium cernuum* (Nodding Trillium) population as it relates to the Northern Tract Development Permit Area, Maintained Buffer, Operational Buffer, and Quarry Extraction Limit (Figure 2). This population boundary closely resembles that which was mapped during the initial 2012 investigation with some minor exceptions. The population distribution appears to be somewhat divided among two relatively distinct subsets: one occurring along Gum Springs Road to the north and the second following the elevated floodplain and seep zones associated with the Unnamed Tributary to Tom's Creek to the east. A total of 1,522 individuals were located at the time of the field investigation based on the tallies of GPS point data. The population is scattered over a relatively large area encompassing approximately 13 acres. A total of 135 groupings of individual plants were located and mapped. Stem density ranged from 1 to 83 stems within a grouping with an average density of 11 stems per grouping.

The population was not in full flower at the time of the 2016 field investigations but was identifiable based on the diagnostic vegetative characteristics and the floral buds which were beginning to emerge. Photographs are provided with this letter report to document and describe the diagnostic characteristics of this particular species.

Variation in stem density within specific groupings of plants was categorized using color coding. The legend within the enclosed mapping shows how these categories are broken down.

As previously mentioned, two relatively distinct population cores emerge on this mapping at the eastern and northern edges of the Northern Tract parcel. These two areas most closely match the characteristic habitat conditions for the species; i.e., rich, moist woods. The target species population does extend upslope, however, within more xeric soil conditions outside of the preferred habitats. Potentially suitable habitat conditions begin to deteriorate upslope of the eastern population core associated with the riparian corridor of an Unnamed Tributary to Tom's Creek. This is partially due to significant gaps in the forest canopy which provide sufficient light infiltration for the establishment of several other dominant species including Japanese stiltgrass (*Microstegium vimineum*) and garlic mustard (*Alliaria petiolata*).

CONCLUSIONS AND RECOMMENDATIONS

A large previously characterized population of Nodding Trillium (*Trillium cernuum*) was redelineated within the confines of the project study area associated with the SGI Northern Tract Development Project. This effort was undertaken to update information collected in 2012 by representatives of AECOM and to map the current extent of the population. Results of this effort show a strong overlap between surveys with a few minor exceptions.

No individuals of *T. cernuum* were located within the proposed Quarry Extraction Limit associated with the project, which defines the limit for the extraction of mining byproducts (overburden, cap rock) and ore-grade rock. However, a few individuals (18 out of the total of 1,522 individuals surveyed) were found to occur along the outer fringes of the target species population within the proposed Operational Buffer mining support area (mandated by the CUP) associated with the Northern Tract parcel. The Operational Buffer represents a 150-foot-wide buffer beyond the Quarry Extraction Limit allocated for the conditional use of non-extractive mining support activities such as stormwater and erosion control systems, access roads, and temporary stockpiles. Site-specific engineering constraints, specifically related to erosion and sedimentation control measures and quarry access, limit the potential of avoidance measures for the 8 groupings of *T. cernuum* in this area (18 individuals). These constraints are exacerbated by the steep topography in the area which makes drainage control a limiting factor in the minimization of the erosion and sedimentation design footprint. Since the number of individuals in this Operational Buffer area is minimal in comparison with the total population and the topography of the Operational Buffer area is not conducive to supporting expanded populations, it is expected that impacts to these 18 individuals should not significantly degrade the long-term success of the overall population.

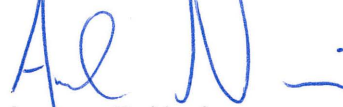
The remaining overwhelming majority of the surveyed population occurs within what is designated as the Maintained Buffer in the CUP and on the attached survey map. Pursuant to the CUP, no activities other than to add or replace damaged/dead trees are allowed to occur within this area. The Maintained Buffer is a minimum of 100 feet beyond the Operational Buffer and in most areas is significantly wider than this (see attached mapping, including the approved Conditional Use Plan Map). For example, along the Unnamed Tributary to Tom's Creek, a 150-foot offset from the Operational Buffer is required by the CUP. Under the terms of the CUP, the population occurring within the Maintained Buffer would remain under currently existing conditions.

Mr. Jason Ryndock
Page 5
August 25, 2016

Thank you in advance for your attention to this matter. Please contact me with any questions you may have regarding the contents of this letter report or if you require additional information.

Sincerely yours,

SKELLY and LOY, Inc.

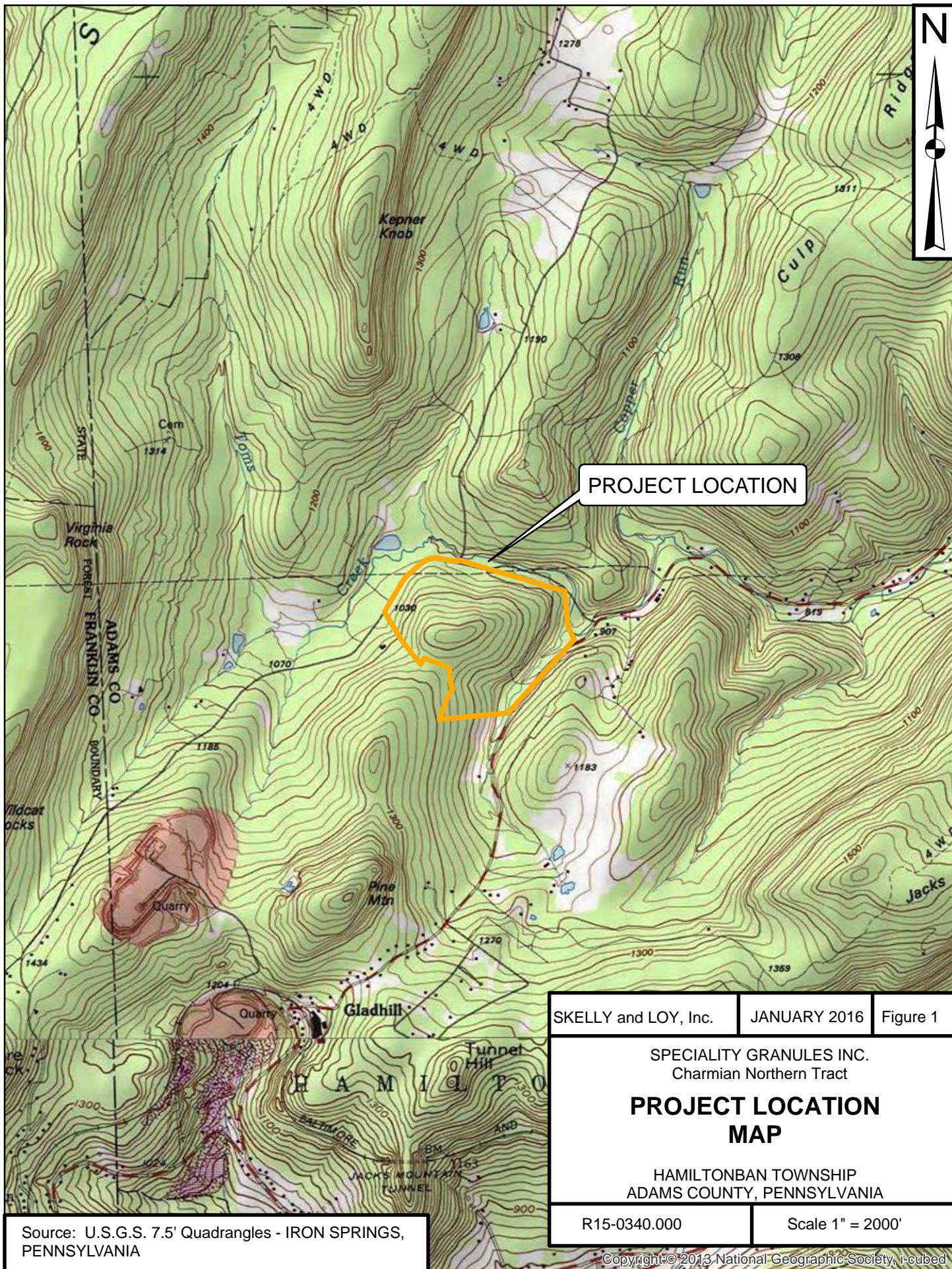
A handwritten signature in blue ink, appearing to read "A. P. Nevin", with a horizontal line extending to the right.

Andrew P. Nevin
Botanist

Enclosures

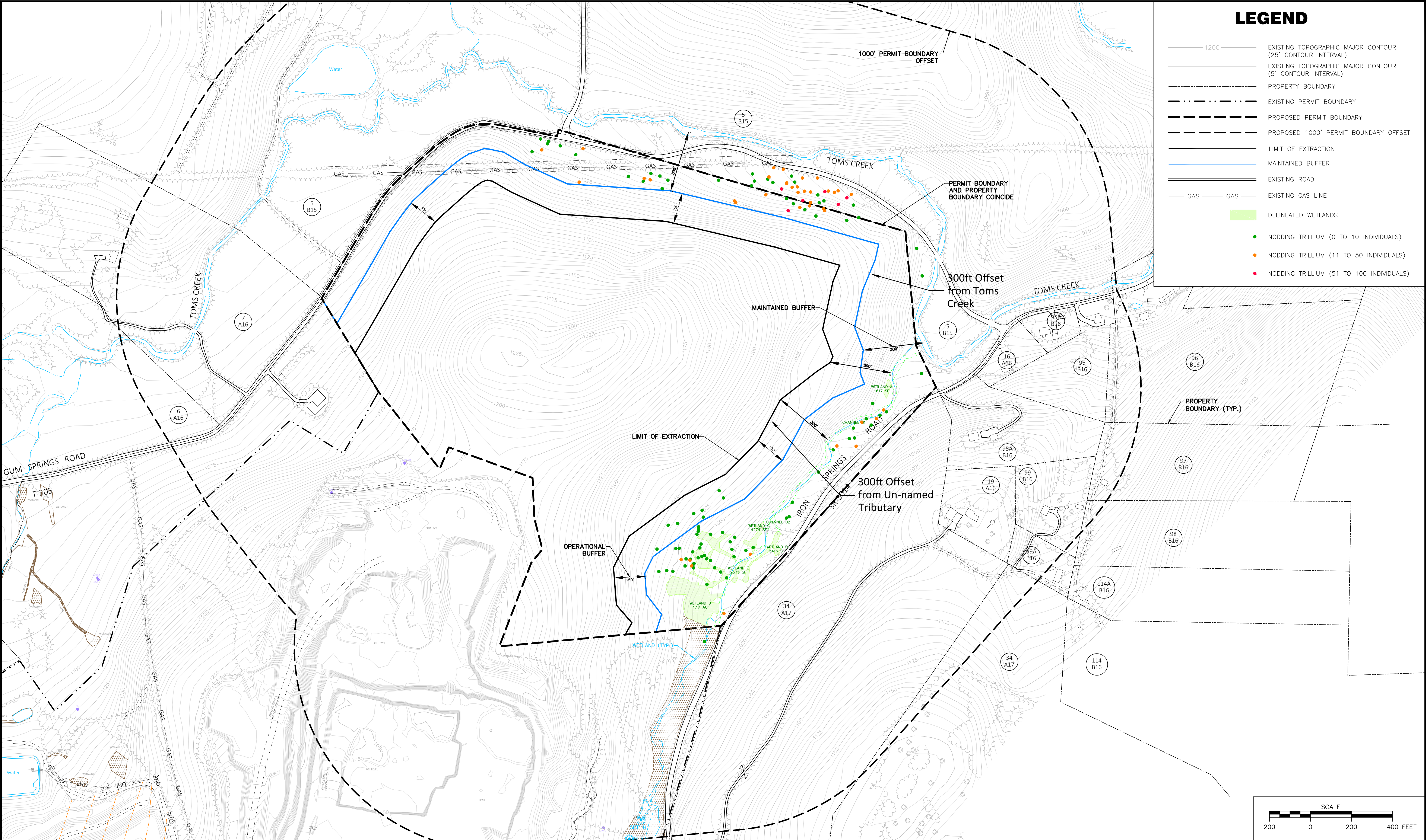
cc: Laura Berra
R15-0340.000

File: SGI_TRILLIUM_SURVEY_UPDATE.docx



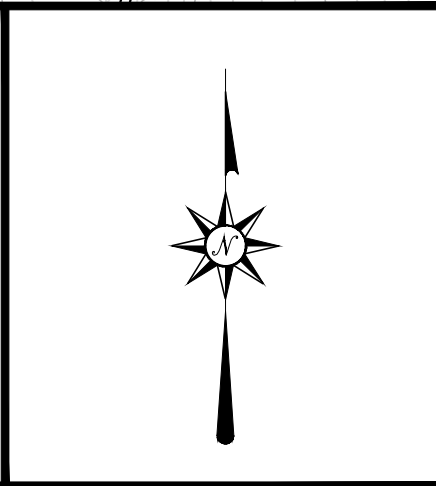
Thursday, August 25, 2016 11:58:02 AM

R: 2015\152596 - sgi disposal embankment\Drawings\Northern Tract\Trillium Survey Map-R0.dwg



NOTES / REVISIONS					
		4			
		5			
		2			
		1			
ISSUED FOR	DATE	REV.	REVISION DESCRIPTION	MADE BY	CHKD BY

SEAL:



D'APPOLONIA
101 ROOI ROAD, FLOOR 2
PITTSBURGH, PENNSYLVANIA 15225-4559
(412) 856-9440 FAX (412) 856-9535

SKELLY AND LOY
ENGINEERING - ENVIRONMENTAL
CONSULTANTS

PROJECT NUMBER: 152596A
FILE NAME: Trillium Survey Map-R0.dwg

DRAWN BY: AJM
CHECKED BY: CHKD BY

DATE: 5/5/2016
DATE: DATE

SPECIALTY GRANULES, LLC.
CHARMIAN - NORTHERN TRACT QUARRY

SPECIES OF CONCERN
FIGURE 2 – NODDING TRILLIUM SURVEY MAP

SCALE: AS SHOWN
DRAWING NO. 1
REV 0

PHOTOGRAPHS



Client:
Specialty Granules LLC

Project:
Charmian Northern Tract

Date:
April 20, 2016

Photo #
1

Description:

Trillium cernuum
(Nodding Trillium)
encountered near
Gum Springs Road
within the Northern
Tract Project Study
Area.




Photo #:
2

Description:

T. cernuum
grouping of two
reproductive stems
showing the onset
of diagnostic
“nodding” flower;
characteristic of
this particular
species.



<p>Photo #: 3</p>	
<p>Description:</p> <p>Population core showing supporting habitat. Pink survey flagging was utilized to aid delineation efforts and was removed prior to departure.</p>	

<p>Photo #: 4</p>	
<p>Description:</p> <p>Another grouping of seven reproductive <i>T. cernuum</i> stems encountered during field investigations.</p>	

<p>Photo #: 5</p>	
<p>Description:</p> <p><i>T. cernuum</i> individual showing supporting habitat conditions along the Unnamed Tributary to Tom's Creek.</p>	

<p>Photo #: 6</p>	
<p>Description:</p> <p>Showing an area of high population density along the floodplain of an Unnamed Tributary to Tom's Creek.</p>	

BUREAU OF FORESTRY

September 22, 2016

PNDI Number: 20151208541654

Andrew Nevin
Skelly and Loy, Inc.
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111
Email: anevin@skellyloy.com (hard copy will not follow)

Re: Specialty Granules, LLC – Proposed Northern Tract
Hamiltonban Township, Adams County, PA

Dear Mr. Nevin,

Thank you for the submission of your field survey for Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 20151208541654 for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

No Impact Anticipated per Survey (with Avoidance/Monitoring)

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. A botanical survey was conducted on this property by URS Corporation on April 12, 2012. An extensive population of nodding trillium (*Trillium cernuum*; proposed PA Threatened) was identified on site. Skelly and Loy redelineated the boundaries of the existing population on April 20 and 21, 2016.

No individuals of nodding trillium are located within the proposed Quarry Extraction Limit. A few individuals (18 out of the total of 1,522 individuals surveyed) were found within the 150-foot-wide Operational Buffer, allocated for non-extractive mining support activities. These individuals cannot be avoided. The remaining population occurs within the Maintained Buffer, where no activities other than tree replacement are allowed.

Impacts to the 18 individuals within the Operational Buffer will not significantly compromise the long-term success of the overall population. However, given that this nodding trillium population is the largest known in the state, and that the proposed mining and support activities are in very close proximity to the population boundaries, long-term monitoring of the remaining individuals is requested.

DCNR requests a 10-year monitoring program immediately following initiation of mining activities, with monitoring events at Years 1, 2, 3, 5, 7, and 10. A report should be issued to our office following each monitoring event. Invasive species management may be requested in the future based on the monitoring results. DCNR may also shorten or lengthen the monitoring period depending on the rate of mine expansion and monitoring results.

In addition, protective fencing is requested along the outer edge of the Operational Buffer to act as both a physical barrier and visual reminder to construction crews in an effort to safeguard adjacent individuals of nodding trillium. Appropriate Erosion and Sediment Controls should be implemented on the steep terrain.

With the avoidance of nodding trillium within the Maintained Buffer and the completion of a monitoring program, DCNR has determined that no impact is likely. DCNR looks forward to receiving monitoring reports in the future.

DCNR recommends the following steps to help prevent the spread of invasive species:

- The area of disturbance should be minimized to the fullest extent that would allow for construction. This will help to lessen the area of soil and vegetation disturbance associated with this project.
- If possible, please clean boot treads, construction equipment, and vehicles thoroughly (especially the undercarriage and wheels) before they are brought on site. This will remove invasive plant seeds and invasive earthworms/cocoons that may have been picked up at other sites.
- Do not transport unsterilized leaves, mulch, compost, or soil to the site from another location. Avoid using seed mixes that include invasive plant species (e.g. crown vetch) to re-vegetate the area. Please also use weed-free straw or hay mixes when possible. More information about invasive species in Pennsylvania can be found at the following link: <http://www.dcnr.state.pa.us/conservationscience/invasivespecies/index.htm>

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Jason Ryndock, Ecological Information Specialist, by phone (717-705-2822) or via email (c-jryndock@pa.gov).

Sincerely



Greg Podnieszinski, Section Chief
Natural Heritage Section

BOG TURTLE



April 8, 2016

Ms. Debby Nizer
United States Army Corps of Engineers
Baltimore District Office
Regulatory Branch
10 South Howard Street
Post Office Box 1715
Baltimore, Maryland 21203-1715

Mr. Jonathan Chripczuk
Pennsylvania Department of Environmental Protection
Bureau of Waterways Engineering and Wetlands
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, Pennsylvania 17110

Mr. Brian Scofield
United States Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801

Re: Jurisdictional Wetland-Watercourse
Identification and Delineation/Phase
I Bog Turtle Habitat Assessment
Report, Specialty Granules LLC,
Charmian Quarry Northern Tract
Development Project, Hamiltonban
Township, Adams County, Pennsyl-
vania
PNDI Environmental Review
#20151208541654
USFWS Project #2010-1050

Dear Ms. Nizer, Mr. Chripczuk, and Mr. Scofield:

Skelly and Loy, Inc. has been retained by Specialty Granules LLC (SGI) to initiate coordination with your respective agencies regarding the potential for effects on wetland and watercourse resources potentially under the jurisdiction of Section 404 of the Federal Clean Water Act and Pennsylvania Code Title 25, Chapter 105 resulting from the future development of an approximate 112-acre parcel referred to as the Northern Tract for non-coal quarrying activities in Hamiltonban Township, Adams County.

SGI extracts non-coal materials through an existing Pennsylvania Department of Environmental Protection (PA DEP) Surface Mine Permit at the Charmian Site located north of the town of Blue Ridge Summit. The Charmian Site generally consists of an active quarry (Pitts

Ms. Debby Nizer
Mr. Jonathan Chripczuk
Mr. Brian Scofield
Page 2
April 8, 2016

Quarry - PA DEP Permit No. 01930302), an inactive quarry (West Ridge Quarry, which is in the reclamation phase), stockpile storage areas, a crushing plant, and a granule plant. SGI extracts metabasalt at the Charmian Site for the purpose of manufacturing roofing granules that are used to coat the wearing surface of asphalt roofing shingles.

SGI is currently conducting environmental planning studies and engineering design evaluations to expand its existing, permitted metabasalt quarry operations from the Pitts Quarry to the Northern Tract.

We are enclosing the potential jurisdictional wetland-watercourse identification and delineation report documentation associated with the proposed Northern Tract expansion for your reference.

Adams County is located within the extant range of the northern population of the bog turtle (*Clemmys muhlenbergii*), a small semiaquatic turtle which is listed as federally threatened under the Federal Endangered Species Act and state endangered under the Pennsylvania Fish and Boat Code. In response to this potential constraint, a Phase I species habitat assessment has been conducted by a United States Fish and Wildlife Service/Pennsylvania Fish and Boat Commission-recognized qualified surveyor for the bog turtle on the identified wetland habitats as well as surrounding landscape extending to a distance of approximately 300 feet where possible to determine the presence/absence of conditions suitable for species support. The report provides the results of this habitat assessment evaluation for your reference.

Thank you in advance for your review of this project information. We look forward to receiving correspondence from your respective agencies at your earliest convenience. Please contact me at 717-574-2373 if you have any questions regarding this matter.

Sincerely yours,

SKELLY and LOY, Inc.



Andy M. Brookens
Biologist, Regional Director of
Natural Resources

Enclosures

cc: Celeste Levine, Esq., Specialty Granules, LLC
Matthew McClure, Specialty Granules, LLC
Bob Shusko, D'Appolonia
Laura Berra, Skelly and Loy
Andrew Nevin, Skelly and Loy
R15-0340.000
File: SGI Wetland - Phase I BT Cover Letter.docx

**SPECIALTY GRANULES LLC
NORTHERN TRACT**

**JURISDICTIONAL WETLAND-WATERCOURSE
IDENTIFICATION/DELINEATION AND PHASE I BOG
TURTLE HABITAT ASSESSMENT REPORT**

**HAMILTONBAN TOWNSHIP,
ADAMS COUNTY, PENNSYLVANIA**

**PREPARED FOR
SPECIALTY GRANULES LLC**

PREPARED BY



APRIL 2016

**SPECIALTY GRANULES LLC
NORTHERN TRACT**

**JURISDICTIONAL WETLAND-WATERCOURSE
IDENTIFICATION/DELINEATION-PHASE I BOG
TURTLE HABITAT ASSESSMENT REPORT**

**HAMILTONBAN TOWNSHIP,
ADAMS COUNTY, PENNSYLVANIA**

PREPARED FOR

**SPECIALTY GRANULES LLC
13424 PENNSYLVANIA AVE, SUITE 303
HAGERSTOWN, MARYLAND 21742**

PREPARED BY



**449 EISENHOWER BOULEVARD, SUITE 300
HARRISBURG, PENNSYLVANIA 17111**

APRIL 8, 2016

TABLE OF CONTENTS

		PAGE
I.	INTRODUCTION	1
II.	JURISDICTIONAL WETLAND-WATERCOURSE EVALUATIONS	1
III.	PHASE I BOG TURTLE HABITAT EVALUATIONS	10
IV.	APPENDICES	
	APPENDIX A - RESUMES	
	APPENDIX B - USACE ROUTINE ON-SITE WETLAND DETERMINATION DATA FORMS	
	APPENDIX C - WETLAND AND WATERCOURSE MAPPING	
	APPENDIX D - USFWS/PFBC BOG TURTLE HABITAT EVALUATION FIELD FORMS	
	APPENDIX E - REPRESENTATIVE PHOTOGRAPHS	

LIST OF FIGURES

NO.	DESCRIPTION	PAGE
1	PROJECT LOCATION MAP	2
2	AERIAL PHOTOGRAPH MAP LEAF-ON	3
3	AERIAL PHOTOGRAPH MAP LEAF-OFF	4
4	SOILS MAP	5
5	NWI MAP	6

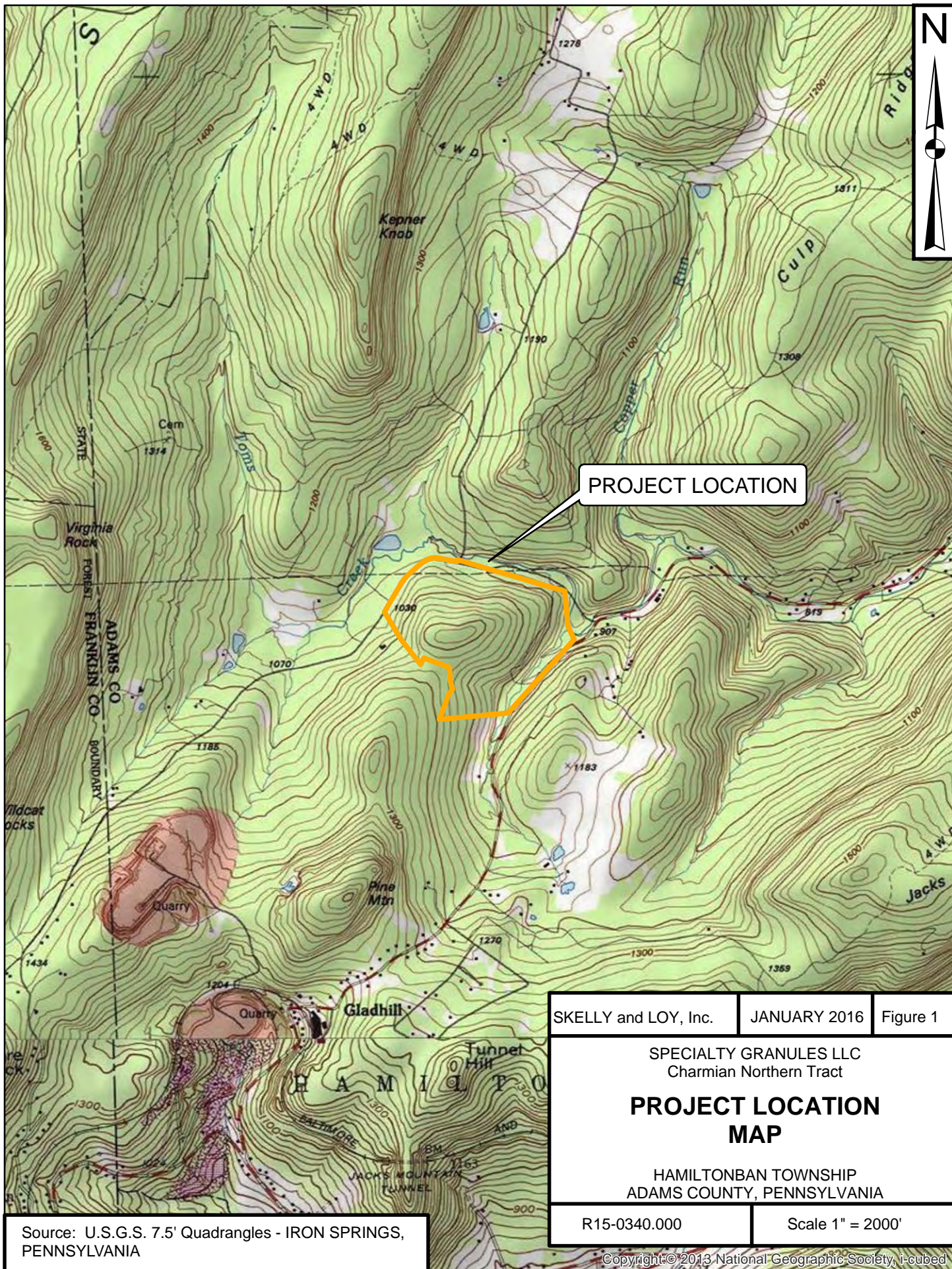
I. INTRODUCTION

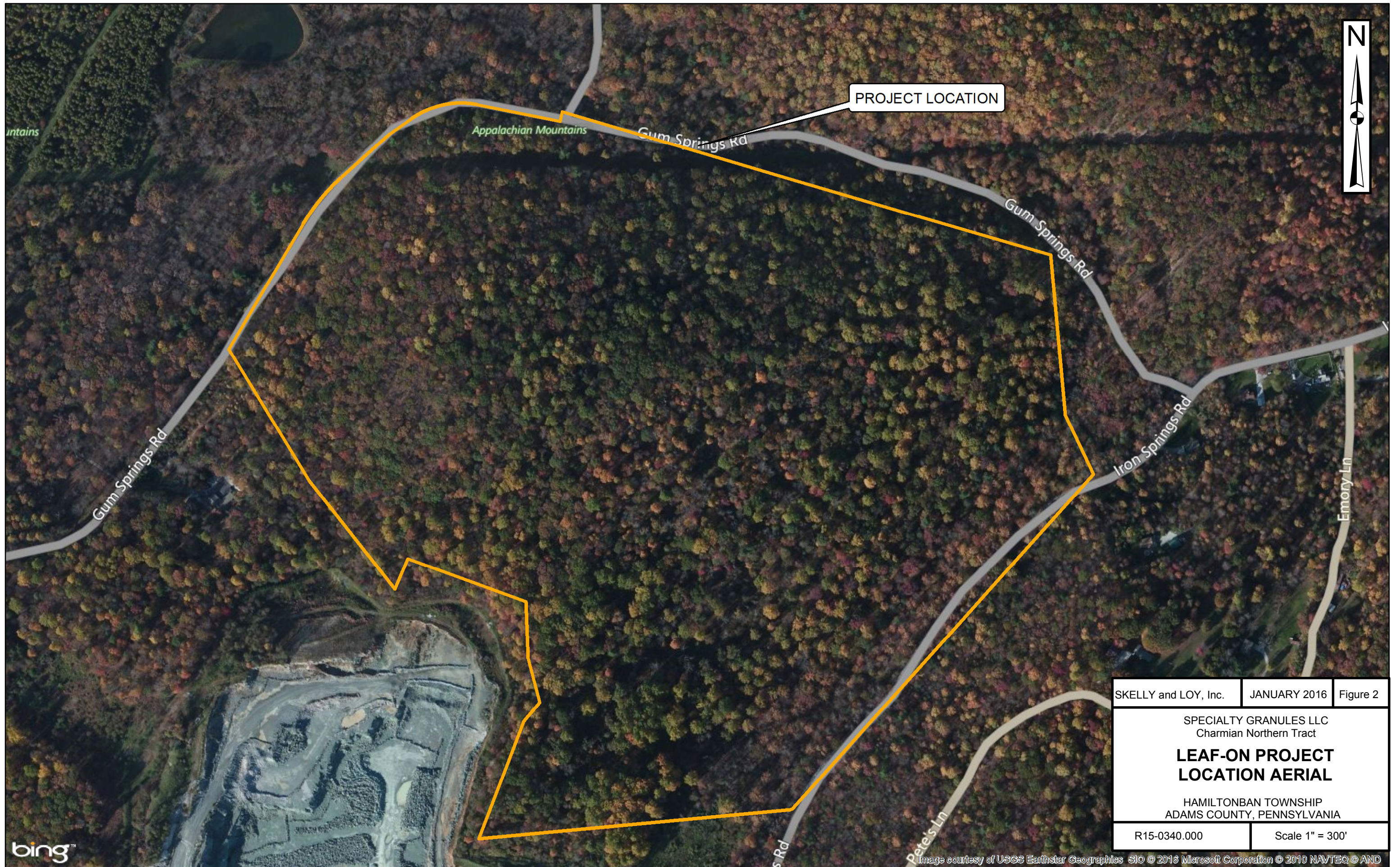
Specialty Granules LLC (SGI) extracts non-coal materials through existing Pennsylvania Department of Environmental Protection (PA DEP) Surface Mine Permits at the Charmian Quarry located north of the town of Blue Ridge Summit in Hamiltonban Township, Adams County, Pennsylvania. The Charmian Site generally consists of an active quarry (Pitts Quarry - PA DEP Permit No. 01930302), an inactive quarry (West Ridge Quarry, which is in the reclamation phase), stockpile storage areas, crusher plants, and a granule plant. SGI extracts metabasalt at the Charmian Site for the purpose of manufacturing roofing granules that are used to coat asphalt roofing shingles. SGI is currently conducting environmental planning studies and engineering design evaluations to expand its existing, permitted metabasalt quarry operations to the Northern Tract, an approximate 112-acre parcel contiguous to the Pitts Quarry.

The Northern Tract, centered at approximately 39.763323 North latitude and -77.441378 West longitude, is situated within a mountainous forested section of southwestern Adams County. The majority of the tract can be characterized as a moderate to steeply sloped mountainous mature deciduous forest community. Exposed rocky outcropping is prevalent throughout sections of the tract. The subject tract is generally bound on the north by Gum Springs Road (Township Road 300 [T-300]) and on the east by Iron Springs Road (State Route [S.R.] 3014).

II. JURISDICTIONAL WETLAND-WATERCOURSE EVALUATIONS

Potential jurisdictional wetland and watercourse habitats associated with the proposed Northern Tract were investigated through the combined use of existing information and field investigations. Existing information including 7.5-minute United States Geological Survey (USGS) topographic mapping (Iron Springs) (Figure 1), aerial photographic mapping (Figures 2 and 3), United States Department of Agriculture Natural Resources and Conservation Service (NRCS) Adams County Soil Survey, NRCS Web Soil Survey website (<http://websoilsurvey.nrcs.usda.gov>) (Figure 4), United States Fish and Wildlife (USFWS) National Wetland Inventory (NWI) mapping (<http://www.fws.gov/wetlands/Data/Mapper.html>) (Figure 5), Adams County Soil Conservation Service List of Hydric Soils, PA DEP eMapPA online application (www.emappa.dep.state.pa.us), and USGS StreamStats application were initially reviewed to identify high potential wetland/watercourse areas.





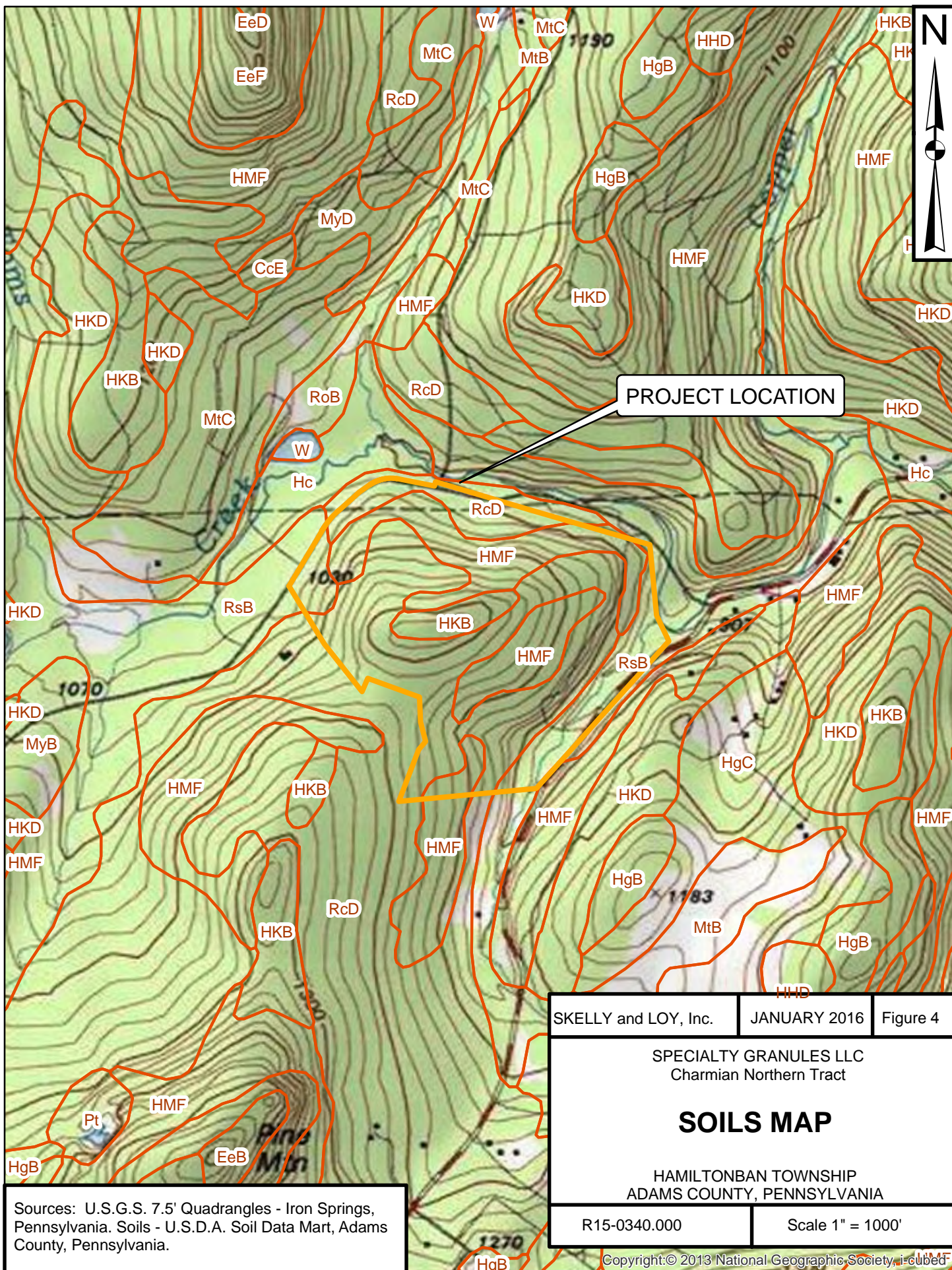


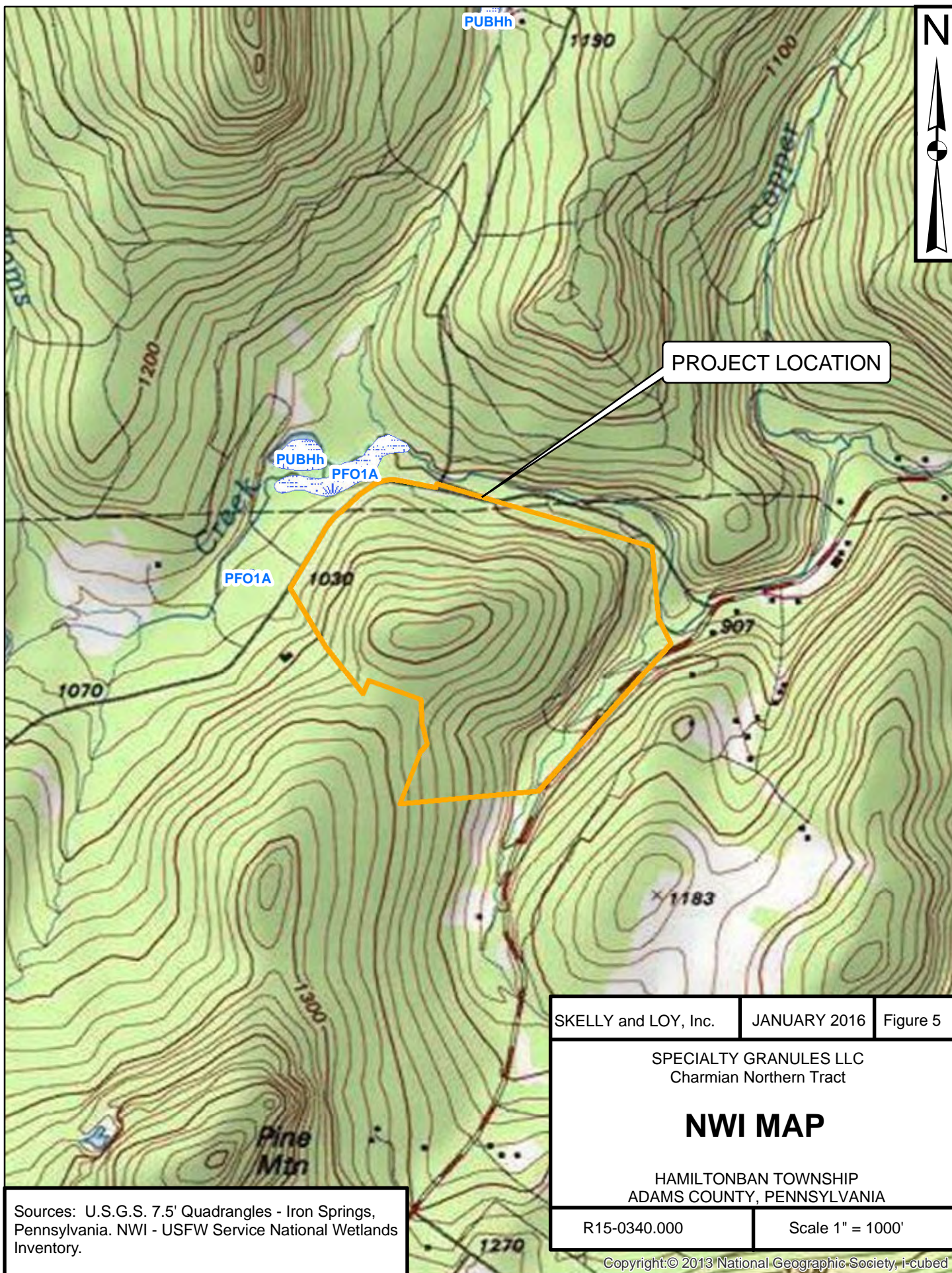
PROJECT LOCATION



PASDA TILE 16002050PAS - 2007

SKELLY and LOY, Inc.	JANUARY 2016	Figure 3
SPECIALTY GRANULES LLC Charmian Northern Tract LEAF-OFF PROJECT LOCATION AERIAL HAMILTONBAN TOWNSHIP ADAMS COUNTY, PENNSYLVANIA		
R15-0340.000	Scale 1" = 300'	





Sources: U.S.G.S. 7.5' Quadrangles - Iron Springs, Pennsylvania. NWI - USFW Service National Wetlands Inventory.

The NRCS Web Soil Survey website (<http://websoilsurvey.nrcs.usda.gov>) was reviewed in order to determine the soil types within the project area. The Adams County soil survey reports that the project area is located within the Edgemont-Highfield-Catoctin soil association. This association can be characterized as gently sloping to very steep, very deep to moderately deep, well-drained to somewhat excessively drained soils that formed in residuum derived from quartzite, metabasalt, and metarhyolite on the ridges and hills of the South Mountain range.

Characteristics of the mapped soil units within the proposed Northern Tract area and their potential for hydric components are summarized below.

SOIL UNIT	LANDFORM	HYDRIC COMPONENTS
Highfield, Catoctin, and Myersville soils, 0 to 8% slopes, very stony (HKB)	Mountainsides	Baile-Depression Landscape Positions
Highfield and Catoctin channery silt loams, 25 to 70% slopes, very stony (HMF)	Mountainsides	-
Ravenrock-Highfield-Rock outcrop complex, 15 to 25% slopes (RcD)	Mountainsides	-
Rohrersville silt loam, 0 to 15% slopes, very stony (RsB)	Drainageways	Lantz-Floodplain Landscape Positions

An off-site review of the NWI mapping (<http://www.fws.gov/wetlands/Data/Mapper.html>) did not reveal the presence of any palustrine or riverine habitats located within the boundaries of the Northern Tract identified through aerial photography review by the USFWS. A review of the floodplain layer on the eMapPA online application indicates that Channel-01, an Unnamed Tributary to Toms Creek, and the surrounding area on the eastern border of the Northern Tract is located within a mapped 100-year FEMA floodplain.

Jurisdictional wetland habitats were evaluated in the study area using the Routine Wetland Delineation Method for Small Areas described in the *U.S. Army Corps of Engineers' (USACE) Wetland Delineation Manual, Technical Report Y-87-1 (1987)* and *Regional Supplement to the USACE's Wetland Delineation Manual: Eastern Mountains and Piedmont Region (2012)*. Guidance documents from the United States Environmental Protection Agency and USACE concerning *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States (December 2008)* were referenced during the field delineation process.

Jurisdictional watercourses were evaluated during the field investigation as channels or conveyances of surface water having defined bed and banks, natural or artificial, hydrologically sorted substrate material, and the presence of an Ordinary High Water Mark. These resources

are potentially regulated under the Federal Clean Water Act as Waters of the United States of America and Pennsylvania Code Title 25, Chapter 105 as Waters of the Commonwealth of Pennsylvania.

Potential jurisdictional wetlands and watercourses were evaluated in the field on December 16, 2015. Ambient seasonal groundwater and surface water conditions were typical of the early winter hydrological period. Soil substrate conditions observed during the field investigation were pliable, unfrozen, and lacking snow cover.

The field investigation identified five potentially jurisdictional wetland habitats within the Northern Tract. Routine On-Site Wetland Determination Data Forms summarizing the characteristics of representative sample points associated with these habitats and the investigation area are included with this report (Appendix B). The location and extent of the identified habitats are illustrated on the enclosed mapping (Appendix C). Representative photographs of the identified aquatic resources have been included with this report (Appendix E). Characteristics of the identified wetland habitats are summarized in the following matrix.

POTENTIAL WETLAND HABITAT	HABITAT DESCRIPTION
Wetland A (Photograph 3)	Palustrine forest and emergent (PFO/PEM) habitat located in a depressional floodplain landscape position along the western bank of Channel-01 near the north-east tract boundary. The habitat is supported by a seasonal high groundwater table and elevated surface flow events/interflow from Channel-01.
Wetland B (Photograph 4)	PFO/PEM habitat located in a depressional floodplain landscape position along the eastern bank of Channel-01. The habitat is supported by a seasonal high groundwater table and elevated surface flow events/interflow from Channel-01.
Wetland C (Photograph 5)	Palustrine scrub-shrub and emergent (PSS/PEM) habitat located on hillside and floodplain landscape positions along the western bank of Channel-01. The habitat is supported by hillside seepage, seasonal high groundwater table conditions, and elevated surface flow events/interflow from Channel-01.
Wetland D (Photographs 6 and 7)	Large palustrine (PEM/PSS/PFO) habitat located on hillside and floodplain landscape positions along the western bank of Channel-01. The habitat extends to the southern tract boundary. This hillside habitat exposes seasonal groundwater seeps and conveys surface flow runoff to the floodplain/riparian corridor of Channel-01. The habitat is supported by hillside seepage, surface runoff conveyance/collection, seasonal high groundwater table conditions, and elevated surface flow events/interflow from Channel-01.

POTENTIAL WETLAND HABITAT	HABITAT DESCRIPTION
Wetland E (Photograph 8)	Palustrine scrub-shrub and emergent (PSS/PEM) habitat located in a depressional floodplain landscape position along the eastern bank of Channel-01. The habitat is supported by a seasonal high groundwater table and elevated surface flow events/interflow from Channel-01.

Two potentially jurisdictional watercourse habitats were identified within the Northern Tract during the on-site field investigation. The location and approximate extent of the identified habitats are illustrated on the enclosed mapping (Appendix C). Interpretation of the flow regimes associated with the watercourses is based on the presence of surface water flow and support of benthic macroinvertebrate life observed during the field investigation. Characteristics of the identified watercourse habitats are summarized below.

POTENTIAL WATERCOURSE HABITAT	HABITAT DESCRIPTION
Channel-01 Unnamed Tributary to Toms Creek (Photograph 1)	Perennial watercourse with a top-of-bank height of 1 to 8 feet, an approximate wetted width of 2 to 12 feet, and water depths ranging from 1 to 12 inches. Substrate consists of boulder and cobble with sand and silt making up minor components. Available microhabitats consist of riffles and runs with a few pools within the study tract. Biotic community support includes assemblages of benthic macroinvertebrates. A qualitative review of the substrate for benthic macroinvertebrates revealed the presence of caddisfly, mayfly, and stonefly taxa. No fish taxa were observed during the field investigation; however, surface flow characteristics and available physical habitat appear capable of supporting fish populations.
Channel-02 Unnamed Tributary to Channel-01 (Photograph 2)	Intermittent watercourse with a top-of-bank height of 1 to 3 feet, an approximate wetted width of 1 to 6 feet, and water depths ranging from 0 to 4 inches. Substrate was mixed and consisted of boulder, silt, and limited cobble. No benthic macroinvertebrate or fish taxa were observed during the field investigation. Surface flow characteristics and available physical habitat appear to limit the potential for aquatic biota.

Water uses within the drainage basin of Toms Creek from its source to the LR 01053 (S.R. 3021) bridge crossing are protected under Pennsylvania Code, Title 25, Chapter 93, Water Quality Standards for High Quality-Cold Water Fishes and Migratory Fishes (HQ-CWF/MF) with no exceptions to specific criteria. The identified Unnamed Tributaries to Toms Creek are not classified as Approved Trout Waters (2016) by the Pennsylvania Fish and Boat Commission (PFBC). The main stem of Toms Creek from the Mount Hope Road Bridge (T-300) downstream to S.R. 0116 is classified as Approved Trout Waters by the PFBC. Channel-01 confluences within this trout stocked section of the main stem. According to the PFBC, projects located less than 0.5 mile upstream of a trout stocked section of stream are subject to a time-of-

year restriction for instream disturbance (March 1 – June 15). Due to the fact that Channel-01 is located approximately 100 feet upstream of this stocked stream, a time of year restriction for instream disturbance may be applicable. The main stem of Toms Creek and the identified Unnamed Tributaries are not classified on the List of Pennsylvania Stream Sections Supporting Natural Reproduction of Trout (February 2016) by the PFBC.

Existing maintained stormwater management features including drainage swales, collection ditches, roadway inlets, and discharge pipes are associated with the Northern Tract. These stormwater features are generally associated with the Gum Springs Road and Iron Springs Road transportation corridors. The drainage swales, collection ditches, roadway inlets, and discharge pipes along these roadways were originally constructed in uplands and are part of a functioning waste treatment system for stormwater management. Maintained stormwater waste treatment systems are not typically regarded as federal jurisdictional resources pursuant to 33 CFR Part328.3. In addition, Pennsylvania Chapter 105.12 (6) waives the requirement for permit authorization regarding water obstructions or encroachments located in, along, across, or projecting into a stormwater management facility if the facility was constructed and continues to be maintained for the designated purpose.

The jurisdictional wetland and watercourse evaluation completed under the project Scope of Work embodies Skelly and Loy's interpretation of federal and state laws concerning these regulated resources. Skelly and Loy has completed to the best of its ability an accurate determination of jurisdictional resources and their approximate limits. This determination is founded on our understanding of the Federal Clean Water Act and Pennsylvania Dam Safety and Waterway Management Act as well as working experience with the regulatory agencies. The determination of jurisdictional resources in any specific location is subject to a final interpretation and verification by the United States Army Corps of Engineers, Pennsylvania Department of Environmental Protection, and the Courts.

III. PHASE I BOG TURTLE HABITAT EVALUATIONS

The bog turtle (*Clemmys muhlenbergii*) is a small semiaquatic turtle which is listed as federally threatened under the Federal Endangered Species Act and state endangered under the Pennsylvania Fish and Boat Code. Jurisdiction over the species under the Federal Endangered Species Act rests with the USFWS. Jurisdiction over the species under the Pennsylvania Fish and Boat Code rests with the PFBC.

Adams County is located within the extant range of the northern population of the species. The species typically inhabits emergent wetland in meadows and pastures with a persistent source of groundwater springs and seeps which induce the development of thick, organic, mucky soil conditions. Potential habitat for the species is typically recognized by the presence of three criteria: suitable hydrology, suitable soil conditions, and suitable vegetative characteristics. Suitable hydrology, soils, and vegetation are necessary to provide critical thermoregulation and wintering sites for hibernation (soft muck, peat, burrows, root systems of woody vegetation), escape cover from predators, and nesting habitats (open areas with tussock-forming vegetation) for this species. It is important to note that one or more of these criteria may be absent from portions of a wetland supporting bog turtles. The species has also been documented in some locations to become acclimated to disturbed wetland complexes with semi-closed forest canopies. Bog turtles have been observed to be transients in forested habitat associated with springs and small streams leading to more open marshes. These forested habitat areas may be utilized as dispersal corridors to other wetlands.

In response to this potential constraint, a Phase I species habitat assessment was conducted during the December 16, 2015, field investigation by Mr. Andy Brookens, a USFWS/PFBC-recognized qualified surveyor for the bog turtle within the Commonwealth of Pennsylvania, on the identified wetland habitats as well as surrounding landscape extending to a distance of approximately 300 feet where possible to determine the presence/absence of conditions suitable for species support. The habitat assessment was conducted in accordance with the USFWS Guidelines for Bog Turtle Surveys, Bog Turtle Northern Population Recovery Plan, April 2006. Three criteria were assessed within the vicinity of the Northern Tract for the potential occurrence of the species.

- 1) Suitable Hydrology – typically spring-fed with shallow surface water or saturated soils present year-round, although in summer the wet area(s) may be restricted to near spring head(s), or subterranean groundwater conduits
- 2) Suitable Soils – a bottom substrate of at least three inches of soft muck, although in summers of dry years mucky soils may be limited to near spring head(s), or subterranean groundwater conduits
- 3) Suitable Vegetation – dominant vegetation of low grasses, sedges, and forbs (emergent wetland), often with a scrub-shrub component, or possibly adjacent forested groundwater seeps

The following matrix provides a summary of conditions and assessments completed for the identified wetland habitats.

POTENTIAL WETLAND HABITAT	EXTENT OF MUCKY SOILS WITHIN HABITAT	RESOURCE DESCRIPTION	RATIONALE OF PHASE I BOG TURTLE HABITAT EVALUATION
Wetland A	Mucky soil substrate characteristics 2 to 4 inches in depth are associated with the groundwater seeps throughout the habitat.	Forested and emergent habitat located in a depressional floodplain landscape position supported by a seasonal high groundwater table and elevated surface flow events/interflow from Channel-01.	Despite groundwater sources, and marginal mucky substrate conditions, the habitat was not regarded as potential species habitat due to the lack of supporting vegetative structure, 80-100% canopy closure from mature forest setting, and lack of supporting soil structure/subterranean tunnels.
Wetland B	Mucky soil substrate characteristics 3 to 12 inches in depth are associated with the groundwater seeps throughout approximately 1/3 of the habitat.	Forested and emergent habitat located in a depressional floodplain landscape position supported by a seasonal high groundwater table and elevated surface flow events/interflow from Channel-01.	Despite groundwater sources and presence of mucky substrate conditions, the habitat was not regarded as potential species habitat due to the lack of supporting vegetative structure, 80-100% canopy closure from mature forest setting, and lack of supporting soil structure/subterranean tunnels.
Wetland C	Mucky soil substrate characteristics 2 to 4 inches in depth are associated with the groundwater seeps throughout the habitat.	Scrub-shrub and emergent habitat located in a depressional floodplain landscape position supported by a seasonal high groundwater table and elevated surface flow events/interflow from Channel-01.	Despite groundwater sources, and marginal mucky substrate conditions, the habitat was not regarded as potential species habitat due to the lack of supporting vegetative structure, 80-100% canopy closure from mature forest setting, and lack of supporting soil structure/subterranean tunnels.

POTENTIAL WETLAND HABITAT	EXTENT OF MUCKY SOILS WITHIN HABITAT	RESOURCE DESCRIPTION	RATIONALE OF PHASE I BOG TURTLE HABITAT EVALUATION
Wetland D	Mucky soil substrate characteristics 3 to 6 inches in depth are associated with the groundwater seeps throughout approximately 1/3 of the habitat.	Large palustrine hillside habitat conveys seasonal groundwater seeps and surface flow runoff to the floodplain/riparian corridor of Channel-01. The habitat is supported by hillside seepage, surface runoff conveyance/collection, seasonal high groundwater table conditions, and elevated surface flow events/interflow from Channel-01.	Despite groundwater sources and presence of mucky substrate conditions, the habitat was not regarded as potential species habitat due to the lack of supporting vegetative structure, 80-100% canopy closure from mature forest setting, and lack of supporting soil structure/subterranean tunnels.
Wetland E	Mucky soil substrate characteristics 3 to 12 inches in depth are associated with the groundwater seeps throughout approximately 1/3 of the habitat.	Scrub-shrub and emergent habitat located in a depressional floodplain landscape position supported by a seasonal high groundwater table and elevated surface flow events/interflow from Channel-01.	Despite groundwater sources and presence of mucky substrate conditions, the habitat was not regarded as potential species habitat due to the lack of supporting vegetative structure, 80-100% canopy closure from mature forest setting, and lack of supporting soil structure/subterranean tunnels.

Based on the landscape position and setting of these habitats, lack of supporting vegetative structure, 80-100% canopy closure from the mature forest setting, and the lack of supporting soil structure/subterranean tunnels, the aquatic resources identified within the Northern Tract were determined not to support typical habitat conditions for the bog turtle. Based on their nature as lotic headwater watercourses and lack of suitable mucky soil conditions for species support, Channel-01 and Channel-02 were determined not to support characteristic typical habitat conditions for the bog turtle.

USFWS/PFBC Phase I Bog Turtle Habitat Evaluation Field Forms documenting the characteristics of the identified wetland habitats on the Northern Tract are included with this report (Appendix D). No amphibian or reptile fauna were observed during the field investigation of December 16, 2015.

A cursory review of aquatic habitats within approximately 300 feet of the Northern Tract boundary identified potential supporting habitat conditions for the bog turtle within sections of a large wetland complex associated with the riparian corridor of Toms Creek on the Michaux State Forest property to the north.

APPENDICES

APPENDIX A - RESUMES

ANDREW M. BROOKENS, Aquatic Biologist/Regional Director of Natural Resources; Director of Threatened and Endangered Species Services



EDUCATION:

B.S., Biology, 1993,
Shippensburg University of
Pennsylvania

**PROFESSIONAL
REGISTRATIONS AND
CERTIFICATIONS:**

Recognized Qualified Bog
Turtle Surveyor, State of
Pennsylvania, U.S. Fish and
Wildlife Service (USFWS)
(PA)/Pennsylvania Fish and
Boat Commission (PFBC);
State of Maryland, Maryland
Department of Natural
Resources; State of Delaware,
Delaware Wildlife and
Fisheries

Recognized Qualified Dwarf
Wedgemussel Surveyor, State
of Maryland, MD Department
of Natural Resources/USFWS
(MD)

Recognized Qualified Eastern
Spadefoot Toad Surveyor,
State of Pennsylvania, PFBC

Recognized Qualified Northern
Cricket Frog Surveyor, State of
Pennsylvania, PFBC

Pennsylvania Department of
Environmental Protection (PA
DEP) Instream
Comprehensive Evaluation
(ICE) Freestone
Macroinvertebrate Sampling
Certification

North Carolina DENR, Section
401 Macroinvertebrate
Collection Certification

Maryland Department of
Natural Resources, Maryland
Biological Stream Survey
(MBSS) Certification Training
and Benthic Macroinvertebrate
Sampling Certification

YEARS OF EXPERIENCE:
22 Years

Throughout the past 22 years, Mr. Brookens' project experience has focused in the areas of jurisdictional wetland identification and delineation, the study and evaluation of aquatic ecosystems, wetland permitting, wetland mitigation design, completion of NEPA environmental documents, and threatened-endangered species evaluations/consultations for the Federal Endangered Species Act and allied state regulations.

Mr. Brookens has extensive experience conducting habitat assessments, presence-absence surveys, and agency consultation for federally and state threatened-endangered species including the bog turtle (*Clemmys muhlenbergii*), northeastern bulrush (*Scirpus ancistrochaetus*), small-whorled pogonia (*Isotria medeoloides*), running buffalo clover (*Trifolium stoloniferum*), harperella (*Ptilimnium nodosum*), bald eagle (*Haliaeetus leucocephalus*), Indiana bat (*Myotis sodalis*), small-footed bat (*Myotis leibii*), northern long-eared bat (*Myotis septentrionalis*), Virginia big-eared bat (*Corynorhinus townsendii virginianus*), northern cricket frog (*Acris crepitans*), eastern spadefoot toad (*Scaphiopus holbrookii*), green salamander (*Aneides aeneus*), southern leopard frog (*Lithobates sphenoccephalus utricularius*), wood turtle (*Clemmys insculpta*), and various freshwater Atlantic Slope mussel species.

Mr. Brookens has extensive experience in wetland identification/delineation and functional evaluations throughout Pennsylvania, Maryland, West Virginia, and New York. He has also completed field investigations and designs for various wetland mitigation and stream restoration/relocation projects throughout the Mid-Atlantic region. He has served as the principal biologist for aquatic ecosystem evaluations throughout this region as well as in Virginia, Tennessee, and North Carolina. This has entailed the completion of biological evaluations for benthic macroinvertebrates, fish, and freshwater mussel communities, ambient water quality evaluations, and physical aquatic habitat evaluations.

PROFESSIONAL EXPERIENCE

Bog Turtle Species Consultant - Mr. Brookens is recognized as a qualified surveyor and advisor on the bog turtle throughout the Mid-Atlantic Region by USFWS and state natural resource agencies. He has conducted identification of suitable habitat, field survey, trapping, and radiotelemetry research for the species throughout Pennsylvania, Maryland, Delaware, and New Jersey. This includes characterization of the existing vegetative community, hydrologic regime, evaluation of the soil composition, metapopulation analysis, and hydrologic connectivity assessments. Mr. Brookens authored the Biological Assessment Report for the Pennsylvania Department of Transportation (PennDOT) U.S. Route 222/Warren Street Highway Improvement Project located near Reading, Pennsylvania, under USFWS Section 7 Consultation. The project involved the identification of and engineered avoidance of four confirmed wetland habitats throughout the Little Muddy Creek metapopulation. Mr. Brookens authored the Biological Assessment Report for the PennDOT State Route 41 (S.R. 0041)/S.R. 0372 Highway Improvement Project located near Atglen, Pennsylvania, under USFWS 7 Consultation. The project involved the identification of and engineered avoidance of three confirmed wetland habitats throughout the Valley Creek metapopulation. Mr. Brookens authored the Biological Evaluation Report for the PennDOT S.R. 2003 Kemmertown Road Bridge Replacement Project located in Monroe County, Pennsylvania, under U.S. Fish and Wildlife Service Section 7 Consultation. The project involved the identification of and engineered avoidance of confirmed wetland habitats throughout the Cherry Creek Valley metapopulation. He also



participated in the review of the Biological Assessment Report for the Maryland SHA MD Route 30 Hampstead Bypass Project located in Carroll County, Maryland, under USFWS Section 7 Consultation. Mr. Brookens has been instrumental in developing many of the PennDOT project policies in dealing with the species and has conducted extensive survey efforts for PennDOT. He has identified numerous species individuals for both public and private sector projects and conducted federal Section 7/Section 10 ESA consultation and state coordination including the preparation of numerous Biological Evaluations/Biological Assessments on their behalves. He has participated in Bog Turtle Trapping Methodologies and Radio-Telemetry Training presented by the Maryland Department of Natural Resources during 2008 - 2013.

Aquatic Ecosystems - A lotic system specialist, Mr. Brookens evaluates physiochemical, aquatic habitat, and aquatic biota conditions. He performed aquatic habitat surveys/evaluations and aquatic ecology using the methods and techniques outlined in United States Environmental Protection Agency's (U.S. EPA) Rapid BioAssessment Protocol for Use in Stream and Rivers for Benthic Macroinvertebrates and Fish (1989/1998), PA DEP Standardized Protocol for Section 303/305/319 Aquatic Investigations, PA DEP Instream Comprehensive Evaluations (ICE), Maryland Department of Natural Resources-Maryland Biological Stream Survey (MBSS), West Virginia Stream Condition Index (WVSCI), West Virginia Stream and Wetland Valuation Metric (SWVM), Virginia DEQ Biological Monitoring Program QA Project Plan for Wadeable Streams and Rivers, and North Carolina DENR Bioassessments for State 401 Water Quality Certification. Mr. Brookens has extensive experience with aquatic biological sampling and analysis of Indices of Biotic Integrity (IBIs), as well as fish, amphibian, reptile, and benthic macroinvertebrate taxonomic identification.

Wetlands Management - Mr. Brookens completed numerous wetland identification and delineations throughout the Mid-Atlantic region using the 1987 U.S. Army Corps of Engineers' (USACE) Wetland Delineation Methodology, USACE's Wetland Delineation Regional Supplements, 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands, and the 1985 Food Security Act Manual. He completed the mandatory training on the 1987 USACE Wetland Delineation Method to be eligible for the Wetland Delineation Certification Program. He has experience in wetland function evaluation using the USACE Wetland Evaluation Technique II, Hydrogeomorphic Classification, and New England USACE Descriptive Method. Mr. Brookens has also managed wetland mitigation design and monitoring projects for clients, in both the public and private sectors throughout Pennsylvania, Maryland, and New York. Mr. Brookens has prepared and acquired numerous USACE 404 and allied state wetland permit authorizations throughout Pennsylvania and Maryland.

PROJECT EXPERIENCE

PennDOT - US Route 220/Interstate 99 Transportation Improvement Project, Centre County, PA - Mr. Brookens participated in the wetland delineations and aquatic surveying of all aquatic resources within the approximate 17-mile project length in the Upper Susquehanna River basin. This included evaluations of existing aquatic resources and assessments of impacts from the project to these resources. He coordinated the development of potential mitigation strategies for unavoidable impacts to aquatic resources and wetland resources. He currently supervises water chemistry and biological sampling of aquatic resources throughout the project for compliance with state-issued CWA 401 Water Quality Certification.

PennDOT - U.S. Routes 11/15 Central Susquehanna Valley Transportation Improvement Project, Snyder and Northumberland Counties, PA - Mr. Brookens coordinated and conducted wetland delineations and aquatic surveying of all surface water resources impacted by the highway transportation project within the 20-square-mile study area of the Middle Susquehanna River watershed. This included evaluations of existing aquatic resources and assessments of impacts from the project to these resources. He coordinated the development of potential mitigation strategies for unavoidable impacts to aquatic resources and wetland resources. Mr. Brookens authored the Biological Assessment Report to address potential project effects on the Indiana bat and Northern Long-eared bat, under U.S. Fish and Wildlife Service Section 7 Consultation. The project involved the identification, minimization, and conservation of potential summer bat roosting habitat throughout the action area. Mr. Brookens completed coordination with the Pennsylvania Fish and Boat Commission to address potential project effects on the eastern spadefoot toad under PFBC Code Chapter 75. The project involved the identification, minimization, and conservation of potential upland burrowing and breeding habitats throughout the action area.



PennDOT - U.S. Route 15 Transportation Improvement Project, Tioga County, PA, and Steuben County, NY - Mr. Brookens coordinated and conducted wetland delineations and aquatic surveying of all surface water resources impacted by the highway transportation project within the approximate 24-mile project length in the Upper Susquehanna River watershed. This included evaluations of existing aquatic resources and assessments of impacts from the project to these resources. He coordinated the development of potential mitigation strategies for unavoidable impacts to aquatic resources and wetland resources.

PennDOT - U.S. Route 322 Corridor O Transportation Improvement Project, Centre and Clearfield Counties, PA - Mr. Brookens participated in the wetland delineations and aquatic surveying of all aquatic resources within the approximate 25-mile project length in the Upper Susquehanna River basin. This included evaluations of existing aquatic resources and assessments of impacts from the project to these resources. He coordinated the development of potential mitigation strategies for unavoidable impacts to aquatic resources and wetland resources.

PennDOT - S.R. 6219, Section 20 Transportation Improvement Project, Somerset County, PA - Mr. Brookens coordinated and conducted aquatic surveying of surface water resources impacted by the 10-mile highway project within the Casselman River watershed. This included evaluations of existing water quality and benthic macroinvertebrate communities, as well as assessments of impacts from the project to these resources. These evaluations assisted in the development of the project Compensatory Mitigation Plan for unavoidable impacts to aquatic resources.

PennDOT - S.R. 405 Bridge Replacement Project Over Railway, Northumberland County, PA - Mr. Brookens conducted field assessments of potentially supporting habitat conditions for the eastern spadefoot toad, a Pennsylvania endangered species, as well as, project impact analysis on potential breeding microhabitat. Mr. Brookens also provided technical support and review of habitat assessment documentation and impact avoidance measures developed by the Department for implementation during project construction.

PennDOT - S.R. 35 Juniata River Bridge Replacement Project, Juniata County, PA - Mr. Brookens conducted an aquatic characterization of the Juniata River within the project area and evaluation of project impacts resulting from the replacement of the existing river bridge crossing. These tasks included evaluations and impact assessments of water chemistry conditions, physical aquatic habitat, benthic macroinvertebrate communities, fish communities, and freshwater mussel communities. Mr. Brookens assisted the PFBC in documenting inhabitant species of concern freshwater mussels within the Juniata River at this location, and developing avoidance measures for minimizing project impacts, including mussel translocation efforts.

PennDOT - U.S. Route 222/Warren Street Highway Improvement Project, Berks County, PA - Mr. Brookens authored the Biological Assessment Report for the PennDOT U.S. Route 222/Warren Street Highway Improvement Project located near Reading, Pennsylvania, under USFWS Section 7 Consultation. The project involved the identification of and engineered avoidance of four confirmed wetland habitats throughout the Little Muddy Creek metapopulation. Species habitat assessments, field surveys, multiple-year radio telemetry research of species individuals, and the preparation and implementation of habitat management plans were all conducted as components of the project.

PennDOT - S.R. 41/S.R. 372 Bridge Replacement Projects, Chester County, PA - Mr. Brookens authored the Biological Evaluation Report for the PennDOT S.R. 41/S.R. 372 Bridge Replacement Projects located near Atglen, Pennsylvania, under USFWS Section 7 Consultation. The project involved the identification of and engineered avoidance of three confirmed wetland habitats throughout the Valley Creek metapopulation. Species habitat assessments, field surveys, multiple-year radio telemetry research of species individuals, and the preparation and implementation of habitat management plans were all conducted as components of the project.

PennDOT - S.R. 6219, Section 20 Transportation Improvement Project, Somerset County, Pennsylvania - Endangered Bat Hibernaculum Surveys - Mr. Brookens coordinated and assisted in the evaluation/surveying of potential Indiana bat and small-footed bat hibernaculum impacted by the 10-mile highway transportation project within Somerset County. These efforts included secondary database source mining research, extensive field investigations of potentially suitable abandoned mine and cave features as well as extensive presence/absence surveys of identified potential hibernacula utilizing harp trapping, acoustic call monitoring, and infrared (IR) camera emergence surveillance.



PennDOT - S.R. 0322 Transportation Improvement Project, Centre County, Pennsylvania Northeastern Bulrush Presence/Probable Absence Field Survey - Mr. Brookens assisted in the performance of a large scale field survey effort to determine the presence/probable absence of northeastern bulrush within potential supporting wetland habitats encompassing 740 acres of study area. The project study area was associated with proposed improvements to a 3.5-mile-long section of existing highway in Centre County, Pennsylvania. The species in question was not encountered; however, three relatively common *Scirpus* species were observed.

PennDOT Environmental Quality Assurance Division Training Support - In conjunction with PennDOT EQAD, Mr. Brookens organized and developed specific procedures and protocols for conducting roadway maintenance projects throughout those counties within the extant range of the bog turtle. Mr. Brookens was also instrumental in developing measures with the Department which provided assistance to Engineering Districts in complying with the Federal Endangered Species Act and Pennsylvania Fish and Boat Code and acquiring the proper USACE/PA DEP authorizations to conduct maintenance activities associated with the species. Mr. Brookens has provided expert consultation to EQAD in the development and implementation of ESA Section 7 Programmatic Consultation for PennDOT Actions on the Bog Turtle. Mr. Brookens has assisted the Division in the development of Publication No. 546 *Threatened and Endangered Species Desk Reference Handbook*, including the completion of training sessions on the handbook throughout the various Engineering Districts. Mr. Brookens has conducted Phase I bog turtle habitat assessment training for Engineering Districts 5-0, 6-0, and 8-0 staff and consultants on behalf of EQAD.

Maryland SHA - Maryland Inter-County Connector (ICC) Transportation Project, Montgomery and Prince Georges Counties, MD - Mr. Brookens provided environmental construction monitoring services related to jurisdictional wetlands, vernal pools, RTE species, and aquatic biota/water quality monitoring for Construction Contracts C, D, and E, approximately six miles of highway construction alignment. Specific tasks undertaken during construction monitoring included automated water quality monitoring of headwater watercourses impacted by construction, vernal pool habitat assessment, fisheries relocation surveys, and habitat assessment/relocation surveys for the eastern box turtle (*Terrapene carolina*).

Maryland SHA - Maryland Route 5 Transportation Improvement Project, St. Mary's County, MD - Mr. Brookens coordinated and conducted necessary natural resource investigations including wetland delineations and aquatic assessments of all surface water resources potentially impacted by the highway project in the Lower Potomac River watershed. This included evaluations of potential impacts to the federally threatened dwarf wedgemussel (*Alasmidonta heterodon*) within the McIntosh Run drainage basin.

Maryland SHA - Keyzers Ridge Leachate Treatment System NPDES Permitting Project, Garrett County, MD - Mr. Brookens coordinated the NPDES permitting, monitoring, engineering re-design and re-construction of two wetland treatment systems for remediating the effects of the acidic leachate discharge from the highway embankments of Interstate 68 and US Route 219 interchange during the period from 1997-2013. NPDES permit conditions required weekly, monthly, and quarterly monitoring of treatment system effluent water quality conditions and biological toxicity. The effectiveness of the treatment systems has resulted in the biological recovery of Lake Louise and its associated headwater tributaries for supporting naturally reproducing trout populations.

West Virginia DOH - Tabler Station Industrial Park Access Road Project, Berkley County, WV - Mr. Brookens coordinated and conducted necessary natural resource investigations including jurisdictional wetland delineations and aquatic assessments of resources potentially impacted by the new highway connection route. The new two-lane industrial park access road would link the Tabler Station Connector (Berkley County Route 32) and Corning Way (County Route 11/21).

West Virginia DOH - Appalachian Corridor H Transportation Improvement Project, Kerens - Parsons Section, Randolph and Tucker Counties, WV - Mr. Brookens coordinated and conducted jurisdictional wetland delineations and aquatic surveying of surface water resources impacted by the 15-mile highway transportation project within the Cheat River watershed. This included evaluations of existing water quality, physical habitat, and benthic macroinvertebrate communities in accordance with the West Virginia Stream and Wetland Valuation Metric (SWVM) as well as assessments of impacts from the project to these resources. These evaluations assisted in the development of the project Compensatory Mitigation Plan for unavoidable impacts to aquatic resources.



Virginia DOT Route 603 Ironto-Elliston Connector Project, Montgomery County, VA - Mr. Brookens coordinated and conducted assessment of potential Indiana bat maternity roost tree habitat associated with the approximately two-mile transportation project connecting Interstate 81 to Route 460/US Route 11. He assisted the VDOT in project consultation with the USFWS concerning potential project impacts to maternity roost tree habitat.

Boyers Mill Road Transportation Improvement Project, Frederick County, MD - Mr. Brookens performed wetland delineation field investigations and completed wetland I&D and functional assessment reports for the proposed four mile county transportation improvement project. Mr. Brookens coordinated with the USACE and MDE concerning necessary encroachment authorizations to the identified aquatic resources, and compensatory mitigation, as well as, coordinated with Fredrick County and the Maryland Department of Natural Resources concerning forest stand assessments and conservation measures for the transportation project.

SEDA-COG JRA Buffalo Run Industrial Railroad Track Project, Centre County, PA - Mr. Brookens served as Project Manager for the assessment of existing natural resources and potential impacts for the railroad improvement project within the Upper Susquehanna River watershed. This involved the delineation of wetland habitats, assessment of surface water resources and terrestrial habitat, assessment of potential threatened and endangered species habitat, and preparation of a compensatory mitigation package of wetland mitigation and stream restoration for unavoidable impacts to wetland and stream resources. The project required the preparation of a Categorical Exclusion Evaluation and Joint Permit Application.

Metropolitan-Edison Company - First Energy Corporation, Transmission Line Projects, Adams, Bedford, and York Counties, PA - Mr. Brookens coordinated and conducted wetland delineation, USACE/PA DEP wetland/watercourse permitting, federal/state natural resource agency coordination, Phase I bog turtle habitat assessments/ Phase II bog turtle species surveys, and pre-construction monitoring/supervision for First Energy Corporation Transmission Line Projects within Adams, Bedford, and York Counties, Pennsylvania, according to USFWS and PFBC protocols. The Route 991 115 kV Transmission Line Improvement Project entailed Phase I habitat assessments, species avoidance best management practice development, and USACE/PA DEP wetland encroachment permitting for all wetland habitats identified along a 12.5-mile corridor of electric transmission line reconductoring and pole replacement in Adams County. The Shrewsbury Route 737 Transmission Line Project included wetland delineation, Phase I habitat assessments, and species avoidance best management practice development wetland habitats identified along a three-mile corridor of electric transmission line reconductoring and pole replacement in York County. The Newberry Route 975 Project included wetland delineation, Phase I habitat assessments, species avoidance best management practice development, and USACE/PA DEP wetland encroachment permitting for all wetland habitats identified along a 4.5-mile corridor of electric transmission line reconductoring and pole replacement in York County. The Dillsburg 973 pole relocation project entailed wetland delineation, Phase I habitat assessments, Phase II species surveys, and USACE/PA DEP wetland encroachment permitting for wetland habitat encroachment associated with a pole replacement project in York County. The Claysburg substation expansion project entailed wetland delineation and USACE/PA DEP wetland encroachment permit consultation for proposed wetland habitat encroachment activities associated with the expansion of an existing substation facility in Blair County. Expert consultation with the project engineer was undertaken on these projects for the development of potential avoidance strategies and best management practices to avoid adverse effects to the species and potential habitat areas.

PPL Renewable Energy Blue Ridge Landfill Express Generator Feeder Project, Franklin County, PA - Mr. Brookens coordinated and conducted natural resource impact analysis for the development of a gas-fired energy generator on the IESI Blue Ridge Landfill and connecting four miles of electric transmission corridor to the Borough of Chambersburg. Services conducted included jurisdictional wetland/watercourse delineation, threatened-endangered species coordination with the USFWS and PFBC, and USACE/PA DEP wetland encroachment permitting for the transmission corridor. Expert consultation with the project engineer was undertaken on the project for the development of avoidance and minimization strategies to address regulated natural resources.

Conectiv Power Delivery Transmission Line Projects, New Castle County, DE - Mr. Brookens coordinated and conducted Phase I bog turtle habitat assessments, Phase II species surveys, and specialized hibernacula microhabitat surveys for Conectiv Power Delivery Transmission Line Projects within New Castle County, Delaware, according to Delaware NREC and USFWS protocols. The Red Lion Substation to Indian River Power Plant 230 kV Transmission Line Project entailed Phase I habitat assessments and specialized hibernacula microhabitat surveys



for all freshwater wetland habitats identified along a 21-mile corridor of electric transmission line in New Castle County. The Lums Pond Substation to Mount Pleasant Substation Transmission Line Project included Phase I habitat assessments and Phase II species surveys for all freshwater wetland habitats identified along a 13-mile corridor of electric transmission line in New Castle County. Expert consultation with the project engineer was also undertaken on both projects for the development of potential avoidance strategies and best management practices to avoid adverse effects to the species and potential habitat areas.

El Paso Northeast Passage Natural Gas Transmission Line Project, Pennsylvania Section - As a subconsultant to ENSR, Mr. Brookens coordinated and conducted wetland delineations and aquatic assessments of surface water resources associated with the proposed natural gas transmission line of approximately 130 miles throughout southcentral and northeastern Pennsylvania. He coordinated and conducted Phase I bog turtle habitat assessments according to USFWS protocols for wetland habitats identified along the corridor. He advised the project engineer on the development of potential avoidance strategies and best management practices for avoiding adverse effects to the species and potential habitat areas.

Tygart Valley Pipeline Natural Gas Transmission Line Project, Randolph and Barbour Counties, WV - Mr. Brookens conducted habitat assessments and consultation with the USFWS for potential project impacts to the Indiana bat, Virginia big-eared bat, and running buffalo clover plant associated with the approximately 35 miles of proposed midstream natural gas transmission line throughout Randolph and Barbour Counties, WV. He also conducted wetland delineations and aquatic assessments of surface water resources throughout the proposed gas line corridor for compliance with Clean Water Section 404 authorization requirements.

Columbia Natural Gas Distribution Line Improvement Projects, Adams, Fulton, Franklin, and York Counties, PA, and Allegany County, MD - Mr. Brookens has conducted jurisdictional wetland delineations, aquatic assessments of surface water resources, threatened-endangered species habitat assessments/surveys, and resource agency coordination/permitting for numerous natural gas distribution line improvement projects and compressor station planning projects throughout southcentral Pennsylvania and western Maryland.

Cumberland-Franklin Joint Municipal Authority, Letterkenny Sanitary Sewer Project, Franklin County, PA - Mr. Brookens performed wetland identification and delineation field investigations and completed wetland I&D and functional assessment reports for the proposed 12-mile sanitary sewer improvement project. Mr. Brookens coordinated the proposed project with the USACE and PA DEP and acquired necessary encroachment authorizations to the identified aquatic resources. He coordinated the completion of Phase I habitat assessments and Phase II species surveys with the USFWS/PFBC for the bog turtle in identified wetland habitats that potentially supported the species.

Liberty Land Development Project, Adams County, PA - Mr. Brookens coordinated and conducted wetland delineations and aquatic assessments of all surface water resources associated with the proposed residential development of approximately 744 acres in Liberty Township, Adams County. The wetland and watercourse investigations for the proposed project resulted in the identification and delineation of approximately 124 acres of jurisdictional wetlands and approximately 21,500 feet of jurisdictional watercourses. A preliminary jurisdictional determination of the identified aquatic resources was completed for the project with representatives of the USACE, Baltimore District. He coordinated the completion of Phase I habitat assessments and Phase II species surveys with the USFWS/PFBC for the bog turtle in identified wetland habitats that potentially supported the species.

Whiskey Run Vistas Land Development Project, Franklin County, PA - Mr. Brookens coordinated and conducted wetland delineations and aquatic assessments of all surface water resources associated with the proposed residential development of approximately 350 acres in Hamilton Township, Franklin County. The wetland and watercourse investigations for the proposed project resulted in the identification and delineation of approximately 8 acres of jurisdictional wetland and approximately 13,500 feet of jurisdictional watercourse. A preliminary jurisdictional determination of the identified aquatic resources was completed for the project with representatives of the USACE, Baltimore District. He coordinated the completion of Phase I habitat assessments and Phase II species surveys with the USFWS/PFBC for the bog turtle in identified wetland habitats that potentially supported the species.



Shippensburg United Business Park Project, Franklin County, PA - Mr. Brookens coordinated and conducted wetland delineations and aquatic assessments of all surface water resources associated with the proposed development of an industrial business park / warehouse center on approximately 402 acres in Southampton Township, Franklin County. Preliminary jurisdictional determinations of the identified aquatic resources were completed for the project with representatives of the USACE, Baltimore District. Environmental assessments also included the coordination of Phase I species habitat assessments with the USFWS for the bog turtle in identified wetland habitats.

Woodland Hills Land Development Project, Franklin County, PA - Mr. Brookens coordinated and conducted threatened and endangered species evaluations for the federally endangered northeastern bulrush and federally endangered Indiana bat associated with the proposed residential development of approximately 289 acres in Greene Township, Franklin County. The threatened and endangered species coordination with the USFWS for the project included field surveys for the northeastern bulrush and mist netting field surveys for the Indiana bat to confirm their presence or probable absence in the project area.

Waterfall Farm Estates Land Development Project, Berkley County, WV - Mr. Brookens coordinated and conducted wetland delineations and aquatic assessments of all surface water resources associated with the proposed residential development of approximately 75 acres in Berkley County. He coordinated applicable permitting scenarios of the identified aquatic resources with representatives of the USACE, Pittsburgh District.

Bivouac Sow Farm Operation Land Development Project, Fulton County, PA - Mr. Brookens coordinated and conducted wetland delineations and aquatic assessments of all surface water resources associated with the proposed development of a concentrated livestock facility on approximately 36 acres in Ayr Township, Fulton County. He coordinated applicable permitting scenarios of the identified aquatic resources with representatives of the USACE, Baltimore District, and PA DEP.

United States Army - Letterkenny Army Depot MRAP/MILVAN Storage Project NEPA Analysis, Franklin County, PA - Mr. Brookens coordinated and conducted Environmental Assessment NEPA documentation on behalf of the USACE for the development of three Mine Resistant Ambush Protected (MRAP) Vehicle and MILVAN container storage areas in Letterkenny Army Depot. Letterkenny Army Depot's maintenance and reconditioning mission is one such transportation implement utilized within the Army's Missions and Operations. Detailed impact analysis of environmental factors including Air Quality; Noise; Geology and Soils; Aquatic Resources; Threatened/Endangered Species; Cultural Resources; Transportation; and Hazardous and Toxic Substances were required to evaluate the potential for significant environmental or socioeconomic impacts resulting from the development of the storage areas.

United States Army - Letterkenny Army Depot / Letterkenny Industrial Development Authority - Cumberland Valley Business Park Development Project, Franklin County, PA - Mr. Brookens coordinated and conducted natural resource evaluations and impact analysis for the planning/redevelopment of an approximate 290-acre tract of the former Letterkenny Army Depot realigned by the U.S. Army Base Realignment and Closure Proceedings (BRAC). Mr. Brookens coordinated and conducted jurisdictional wetland and watercourse delineation, USACE/PA DEP wetland/watercourse permitting, federal/state threatened and endangered species coordination, terrestrial habitat assessment, and habitat assessments for the federally threatened bog turtle, and state threatened eastern spadefoot toad. The natural resource evaluations and impact analysis were critical to the ultimate development of the property by the Letterkenny Industrial Development Authority for the Cumberland Valley Business Park Project.

United States Defense Logistics Agency - Defense Distribution Center Susquehanna Installation, Integrated Natural Resources Management Plan, York County, PA - Mr. Brookens conducted Phase I bog turtle habitat assessments of extensive wetland and aquatic resources distributed throughout the Defense Distribution Center Susquehanna Installation in support of the development of the Integrated Natural Resources Management Plan (INRPM). The findings of the habitat assessment were coordinated with the USFWS to identify potentially sensitive areas of the installation where actions could potentially result in adverse effects to the species.

United States Environmental Protection Agency - National Priority Site - Watson Johnson Landfill Site Remediation Plan, Bucks County, PA - Mr. Brookens conducted Phase I bog turtle habitat assessments of wetland and aquatic resources distributed throughout the Watson Johnson Landfill, a U.S. EPA National Priority Site. The



findings of the habitat assessment were coordinated with the USFWS to identify potentially sensitive areas of the priority site where actions associated with remediation planning could potentially result in adverse effects to the species.

Martin Marietta Pinesburg Quarry Expansion Project, Washington County, MD - Mr. Brookens conducted jurisdictional wetland identification and delineation field investigations and the completion of wetland identification, delineation, and functional assessment reports for the 77-acre quarry expansion project. This included the coordination of the jurisdictional verification process with the USACE and MDE for the identified aquatic resources as well as the necessary permitting activities associated with proposed encroachments.

Biological Assessments for NPDES Permit Applications; Looney/Wilson Permit, Number 13 Seam Mine, Red Ash Project, Middle Creek Refuse Recovery Project: Buchanan, Tazewell, and Wise Counties, VA - Mr. Brookens assisted in the field collection, processing, identification, metric calculation, and reporting of benthic macroinvertebrate kick samples for several proposed coal mining projects throughout southwestern Virginia. The purpose of these assessments was to document and assess reference baseline physiochemical, biological, and physical habitat conditions for the purpose of documenting potential impacts from the proposed projects. Benthic macroinvertebrate surveys were conducted in accordance with the protocols outlined in VA DEQ's *Biological Monitoring Program Quality Assurance Project Plan for Wadeable Streams and Rivers* (August 2008) and VA DMLR's *Permitting Guidance for Surface Coal Mining Operations to Protect Virginia's Narrative Water Quality Standards*. In addition, *A Stream Condition Index for Virginia Non-Coastal Streams* (September 2003) was referenced for all metric scores and all VSCI score calculations.

Freshwater Mussel Surveying - Mr. Brookens has conducted and participated in aquatic resource investigations for freshwater mussel species of concern throughout the Atlantic Slope drainages of Pennsylvania and Maryland. Resources surveyed have ranged from small headwater systems to large river systems such as the Susquehanna and Juniata Rivers. Species-specific experience includes surveys with the United States Geologic Survey for the federally endangered dwarf wedgemussel (*Alasmodonta heterodon*) and Maryland Department of Natural Resources for the brook floater (*Alasmodonta varicosa*), green floater (*Lasmigona subviridis*), and dwarf wedgemussel. Additional experience includes survey efforts for the green floater (*Lasmigona subviridis*), triangle floater (*Alasmodonta undulata*), rainbow (*Villosa iris*), yellow lampmussel (*Lampsilis cariosa*), and Atlantic spike (*Elliptio producta*) throughout Pennsylvania and Maryland. Mr. Brookens has also spent considerable time in taxonomy training, including collaboration with Dr. Guenter Scheuster and Dr. Arthur Bogan as well as unionid reference collection review at the Delaware Natural History Museum, Philadelphia Academy of the Sciences, and Carnegie Museum of Natural History.

PROFESSIONAL AFFILIATIONS

- Society of Wetland Scientists
- American Fisheries Society
- Freshwater Mollusk Conservation Society
- Maryland Water Monitoring Council
- MidAtlantic Water Pollution Biologists
- North American Benthological Society
- Partners in Amphibian and Reptile Conservation

RELEVANT TRAINING

- Freshwater Mussel Taxonomy, Dr. Arthur Bogan, MAWBP Conference, Presenter, 2010
- USACE Northcentral and Northeast Regional Supplement to the Corps of Engineers Wetland Delineation Manual, USACE Presenters, 2010
- Federal Endangered Species Act/Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act – Implications for Renewable Energy Development, Holland & Hart LLP Presenters, 2009

ANDREW M. BROOKENS, Aquatic Biologist/Regional Director of Natural Resources; Director of Threatened and Endangered Species Services



- Maryland Department of Natural Resources, Bog Turtle Trapping Methodologies and Radio Telemetry Training, May - September 2008/May 2009
- Federal Endangered Species Act Section 7 Interagency Consultation, USFWS, 2008
- PennDOT HRDS Instructor Certification Course, 2008
- Hydric Soils of the MidAtlantic Region, NRCS/US EPA/US ACOE, 2005
- Crayfish Taxonomy, Dr. Thomas Jones, Marshall University, Presenter, 2004
- Federal Endangered Species Act Section 10 Habitat Conservation Planning/Consultation, USFWS NCTC, 2003
- Maryland Department of Natural Resources: Family Benthic Macroinvertebrate Training, 2002
- Federal Endangered Species Act and Bog Turtle Consultation, USFWS, 2002
- Freshwater Biomonitoring Utilizing Stream Salamander Assemblages, Gian Rocco, Penn State, 2002
- Freshwater Biomonitoring Utilizing Periphyton Assemblages, Dr. Jan Stevenson, Presenter, 2002
- Freshwater Mussel Taxonomy, Dr. Guenter Scheuster, Eastern Kentucky University, Presenter, 2002
- Federal Endangered Species Act, Federal Highway Administration, 2001
- Aerial Photography Interpretation, USACE, Baltimore District, 2000
- Joint Meeting of Ichthyologists and Herpetologists, 1999
- Problem Area Wetland Delineations, USACE, Baltimore District, 1997
- Applied River Morphology, David Rosgen, Presenter, Izaak Walton League, York Chapter, 1996
- Aquatic Entomology, Shippensburg University of Pennsylvania, 1996

PUBLICATIONS

An Evaluation of Biotic Integrity Associated with Coal Mine Reclamation in the Dry Creek Drainage Basin, Tennessee, paper presented at the Stream Bioassessment Conference, St. Vincent's College, July, 2001

An Evaluation of Biotic Integrity Associated with Coal Mine Reclamation in the Dry Creek Drainage Basin, Tennessee, paper presented at the 2001 National Meeting of the American Society for Surface Mining and Reclamation, Albuquerque, New Mexico, June 2001

The Effectiveness of Utilizing Passive Treatment Technologies for Acidic Leachate Discharges in Western Maryland, paper presented at the 2000 National Meeting of the American Society for Surface Mining and Reclamation, Tampa, Florida, June 2000

Restoration of an Upper Headwaters Coldwater Ecosystem in Western Maryland Utilizing Passive Treatment Technologies, paper presented at the 2003 International Conference on Ecology and Transportation (ICOET), Lake Placid, New York, August 2003.

The Preservation of Bog Turtle Metapopulation Dynamics by a Transportation Improvement Project in Southeastern Pennsylvania, paper presented at the 2003 International Conference on Ecology and Transportation (ICOET), Lake Placid, New York, August 2003.

AWARDS

Skelly and Loy, Inc. Core Value Achievement Award, 2002

EDUCATION:

B.S., Biology, 2004, York
College of Pennsylvania

**PROFESSIONAL
REGISTRATIONS AND
CERTIFICATIONS:**

PA Department of
Environmental Protection
Freestone Macroinvertebrate
Collection Certification

Society for Freshwater
Science - Benthic
Macroinvertebrate Taxonomic
Certification

MD Department of Natural
Resources, Maryland
Biological Stream Survey
Certification

MD State Highway
Administration Erosion and
Sediment Control
Certification: Green
Card/Yellow Card/Design

MD Department of
Environment Drinking Water
Collection Certification

Intro to Arc GIS Certification

Society for Freshwater
Science (2008-present)

Mid-Atlantic Aquatic Biologists
(2007-present)

The Nature Conservancy
(2003-present)

YEARS OF EXPERIENCE:
9 Years

Mr. Nevin has accrued extensive field/laboratory experience within several diverse fields of environmental science. Over the past nine years, he has been involved with projects ranging from benthic macroinvertebrate sampling/identification, water quality monitoring, wetland delineation/functional assessment, and rare, threatened, and endangered species field surveys. He has assisted in both private and public sector projects with Maryland State Highways Administration (MDSHA), the Pennsylvania Department of Transportation (PennDOT), Virginia Department of Transportation (VDOT), and West Virginia Department of Highways (WVDOH) in Pennsylvania, Maryland, New York, Missouri, Tennessee, Virginia, and West Virginia.

Mr. Nevin is involved in the study of aquatic biology, specifically benthic macroinvertebrate assemblages within freshwater lotic ecosystems. Additionally, he has been involved with physiochemical evaluations and fluvial geomorphologic characterizations of both free-stone- and limestone-influenced streams. Mr. Nevin is familiar with several current methodologies used to measure biotic integrity including United States Environmental Protection Agency's (U.S. EPA) *Rapid Bioassessment Protocol for Use in Wadeable Streams and Rivers for Benthic Macroinvertebrates and Fish* (1999), *An Index of Biotic Integrity for Wadeable Freestone Riffle-Run Streams in Pennsylvania* (Pennsylvania Department of Environmental Protection [PA DEP], 2013), Virginia Department of Environmental Quality's (VA DEQ) *Biological Monitoring Program Quality Assurance Project Plan for Wadeable Streams and Rivers* (2008), and West Virginia Department of Environmental Protection's (WV DEP) *Watershed Assessment Branch Standard Operating Procedures* (2015). He is also well-versed in current wetland delineation protocols broadly outlined in the 1987 U.S Army Corps of Engineers' (USACE) *Wetland Delineation Methodology* as well as the more recent Regional Supplements.

Mr. Nevin has also been involved with numerous field surveys for various state and federally listed species including but not limited to Northeastern bulrush, Indiana bat, and the bog turtle.

PROFESSIONAL EXPERIENCE

Aquatic Biological Assessments - Mr. Nevin has extensive experience in utilizing biological indicators, specifically benthic macroinvertebrate assemblages, to assess the relative health of freshwater ecosystems. He is well-versed in various collection methods and processing procedures which vary from state to state. He is also proficient with family and genus level identification of macroinvertebrate taxa of the Middle Atlantic region. Mr. Nevin has conducted biological assessments for numerous public and private sector projects within Pennsylvania, Maryland, Tennessee, Virginia, and West Virginia.

Wetland Identification/Delineation/Functional Assessment - Mr. Nevin functions as a field crew leader for numerous public and private sector projects throughout the Middle Atlantic region. He is familiar with current wetland delineation protocols broadly outlined in the 1987 USACE's *Wetland Delineation Methodology* as well as the more recent Regional Supplements. He is also experienced in functional analysis using several different methods including Wetland Evaluation Technique II (WET 2.0) and the New England USACE Descriptive Method.

Threatened and Endangered Species - Mr. Nevin has extensive experience conducting habitat assessments, presence/absence surveys, and agency consultation for several federally and state listed species including Northeastern

bulrush (United States Fish and Wildlife Service [USFWS] Qualified Surveyor in Pennsylvania and Virginia), the Indiana bat (USFWS and Pennsylvania Game Commission [PGC] Qualified Bat Identifier), small-footed bat, Northern long-eared bat, gray bat, bog turtle, and various freshwater mussel species.

PROJECT EXPERIENCE

WVDOH Coalfields Expressway Project, Raleigh and Wyoming Counties, West Virginia (2015) - Mr. Nevin was responsible for the processing, identification, and West Virginia Stream Condition Index (WVSCI) calculations for several benthic macroinvertebrate samples collected throughout the study area associated with a large-scale highway project in southern West Virginia. This information was then used to develop the Stream and Wetland Valuation Metric for future mitigation requirements.

PennDOT Freedom Road Aquatic Characterization, Beaver County, Pennsylvania (2015) - Mr. Nevin processed and identified benthic macroinvertebrate samples for a roadway improvement project in order to calculate the Pennsylvania Index of Biotic Integrity (IBI) for several stream reaches. This information was then utilized during the permitting process.

WVDOH Buffalo Creek Connector Stream and Wetland Valuation Metric (SWVM) Analysis, Boone and Logan Counties, West Virginia (2014) - Mr. Nevin led field efforts in the characterization of several surface water resources occurring within a remote area associated with a proposed state roadway improvement project known as the Buffalo Creek Connector. Baseline chemical, physical, and biological data were collected in order to calculate SWVM scores for use in future mitigation requirements.

PennDOT S.R. 2027 over Nine Mile Run Benthic Survey, Westmoreland County, Pennsylvania (2013) - Mr. Nevin was responsible for the field collection, processing, and identification of benthic macroinvertebrate samples associated with an upstream/downstream baseline approach for a proposed bridge replacement project. The baseline field chemistry, physical habitat characteristics, and aquatic biota were assessed in order to identify any potential impacts from future project-related activities.

Virginia NPDES Permit Applications Biological Assessments, Buchanan, Tazewell, and Wise Counties, Virginia (2010-2014) - Mr. Nevin was the Task Manager for field collection, processing, identification, metric calculation, and reporting of benthic macroinvertebrate kick samples for several proposed coal mining projects throughout southwestern Virginia. The purpose of these assessments was to document and assess reference baseline physiochemical, biological, and physical habitat conditions for the purpose of documenting potential impacts from the proposed projects. Benthic macroinvertebrate surveys were conducted in accordance with the protocols outlined in VA DEQ's *Biological Monitoring Program Quality Assurance Project Plan for Wadeable Streams and Rivers* (August 2008) and VA DMLR's *Permitting Guidance for Surface Coal Mining Operations to Protect Virginia's Narrative Water Quality Standards*. In addition, *A Stream Condition Index for Virginia Non-Coastal Streams* (September 2003) was referenced for all metric scores and all VASCI score calculations.

PennDOT Route 70 Widening Project Benthic Survey and Baseline Aquatic Characterization, Washington County, Pennsylvania (2013) - Mr. Nevin was responsible for the field collection, processing, identification, and reporting of macroinvertebrate kick samples collected to describe baseline conditions of existing natural resources. *An Index of Biotic Integrity for Wadeable Freestone Riffle-Run Streams in Pennsylvania* (PA DEP, 2009) was utilized for field collection and laboratory processing protocols. Field chemistry and physical habitat parameters were also assessed during field investigations.

PennDOT S.R. 6219, Section 20 Benthic Survey and Baseline Aquatic Characterization, Somerset County, Pennsylvania (2012) - Mr. Nevin was responsible for the field collection of macroinvertebrate samples, water chemistry data, and RBP physical habitat assessments for an extensive highway improvement project in Somerset County, Pennsylvania. Mr. Nevin also assisted with a thermal impact analysis associated with the project.

WVDOH Melissa-Huntington Road Project Aquatic Assessment, Cabell County, West Virginia (2011) - Mr. Nevin was responsible for the field collection, processing, identification, and reporting of numerous macroinvertebrate kick samples throughout the Grapevine Branch watershed in order to assess and document baseline conditions within the project area. West Virginia Stream Condition Index (WVSCI) scores were calculated using *A Stream*

Condition Index for West Virginia Wadeable Streams developed by Tetra Tech Inc. (July 2000). Macroinvertebrate field sampling and laboratory processing procedures were conducted in accordance with WVDEP's *Watershed Assessment Branch Standard Operating Procedures* (2011).

WV DOH Route 2 Widening Project Benthic Macroinvertebrate Survey/Functional Assessment, Marshall County, West Virginia (2011) - Mr. Nevin was responsible for the field collection, processing, identification, and reporting of numerous macroinvertebrate kick samples throughout the Ohio River watershed in order to assess and document baseline conditions within the project area. Additionally, he carried out a series of functional assessments for several tributaries to the Ohio River utilizing the U.S. EPA's **Operational Draft Regional Guidebook for the Functional Assessment of High Gradient Ephemeral and Intermittent Headwater Streams in Western West Virginia and Eastern Kentucky** (July 2010).

Dual Valley Recreational Association Aquatic Assessment, Schuylkill County, Pennsylvania (2010-present) - Mr. Nevin is responsible for the field collection, processing, identification, and reporting of macroinvertebrate kick samples throughout the Nesquehoning Creek watershed for a baseline study. *An Index of Biotic Integrity for Wadeable Freestone Riffle-Run Streams in Pennsylvania* (PA DEP, 2009) was utilized for field collection and laboratory processing protocols.

West Point Stormwater Improvement Project-Aquatic Assessment, Westmoreland County, Pennsylvania (2011) - Mr. Nevin was responsible for the field collection, processing, identification, and reporting of macroinvertebrate kick samples throughout the Township Line Run watershed. The purpose of this assessment was to characterize the physical, chemical, and biological conditions of two tributaries to Township Line Run in order to establish baseline conditions prior to any rehabilitation efforts. *An Index of Biotic Integrity for Wadeable Freestone Riffle-Run Streams in Pennsylvania* (PA DEP, 2009) was utilized for field collection and laboratory processing protocols.

Rosebud-Coral Graceton Site Aquatic Assessment, Indiana County, Pennsylvania (2011) - Mr. Nevin was responsible for the field collection, processing, identification, and reporting of several macroinvertebrate kick samples throughout the Manowing Creek watershed. The purpose of this assessment was to characterize the physical, chemical, and biological conditions within several headwater systems in order to qualitatively document historic acid mine drainage (AMD) influences throughout the project area. *An Index of Biotic Integrity for Wadeable Freestone Riffle-Run Streams in Pennsylvania* (PA DEP, 2009) was utilized for field collection and laboratory processing protocols.

PennDOT U.S. 220 Roadway Improvement Project Surface Water Quality Monitoring/Benthic Macroinvertebrate Collection and Identification, Blair and Centre Counties, Pennsylvania (2007-2013) - Mr. Nevin was involved with surface water monitoring throughout the South Bald Eagle Creek, North Bald Eagle Creek, and Buffalo Run watersheds. Monitoring included evaluations of stream flow, ambient water quality, aquatic biota, and fluvial geomorphologic conditions. He measured field pH, conductivity, salinity, and dissolved oxygen using YSI field water quality equipment. Mr. Nevin collected and transported water chemical samples for dissolved metals. He also collected and identified benthic macroinvertebrates using rectangular/D-frame kicknets for multi-habitat sampling.

MD SHA Keyser's Ridge Leachate Treatment System NPDES Permitting Project, Garrett County, Maryland (2007-2013) - Mr. Nevin was involved with NPDES field monitoring for an active treatment system in conjunction with MD SHA near Keyser's Ridge, Maryland. Monitoring included stream flows, pH, total metals, and biotoxicity.

MD SHA Inter-County Connector (ICC) Project Maintenance of YSI In-Stream WQ Instrumentation (2008-2012) - Mr. Nevin installed and maintained sonde units in order to measure real-time water quality parameters such as turbidity, pH, dissolved oxygen, and specific conductance. Instruments were installed to monitor possible construction impacts for a portion (Contract C) of a large-scale highway project in Prince George's County, Maryland.

DYLAN J. WOODWORTH, Environmental Scientist/Biologist



EDUCATION:

B.S., Geography with
Concentration in Watershed
Management, 2013,
Mansfield University

PROFESSIONAL REGISTRATIONS AND CERTIFICATIONS:

CPR Training

YEARS OF EXPERIENCE:

2 Year

Mr. Woodworth's project experience has focused primarily in the area of jurisdictional wetland identification and delineation, but also includes the study and evaluation of aquatic ecosystems, water quality monitoring, and threatened/endangered/rare species investigations.

PROFESSIONAL EXPERIENCE

Wetland Identification/Delineation – Mr. Woodworth has participated in many wetland identification / delineation projects for transportation, developments, pipeline, and mining in Pennsylvania. He has experience in wetland function evaluation using the USACE Wetland Evaluation Technique II, Hydrogeomorphic Classification, and New England USACE Descriptive Method.

Bog Turtle Experience– Mr. Woodworth has been a part of numerous potential habitat evaluations and field surveys for the bog turtle (*Clemmys/Glyptemys muhlenbergii*), a federally listed threatened species and State listed endangered species. Investigations conducted include potential habitat investigations (Phase 1 Surveys) and field surveys for the species (Phase 2 Surveys), focusing on characterization of the existing vegetation community, hydrologic regime, evaluation of the soils composition, and hydrologic connectivity assessments.

Biological Evaluations – Mr. Woodworth participated in biological evaluations for benthic macroinvertebrates, ambient water quality evaluations, and physical aquatic habitat evaluations. He has assisted in the research of threatened and endangered bat species and their habitats, call surveys for the Northern Goshawk (*Accipiter gentilis*), trap checking for the Northern Cricket Frog (*Acris crepitans*), and pre-con structure surveys for the Spadefoot Toad (*Scaphiopus holbrookii*).

PROJECT EXPERIENCE

PennDOT Wetland and Watercourse Investigations, Pennsylvania – Assisted with numerous wetland and watercourse investigations throughout Pennsylvania for roadway improvement and bridge/culvert replacement projects. Activities associated with these projects include wetland and watercourse delineation, GPS survey, threatened and endangered species evaluations, and report preparation.

Pennsylvania Pipeline Project Wetland and Watercourse Investigations, Pennsylvania – Assistant with wetland and watercourse investigations throughout Pennsylvania for the installation of the ME2 pipeline for Sunoco. Activities associated with this project include wetland and watercourse delineation, GPS survey, threatened and endangered species evaluations, and data form completion.

Assistant Phase 2 Bog Turtle Surveyor, Pennsylvania – Team participant on Phase 2 Bog Turtle Surveys for various transportation and pipeline projects in Berks, Chester, Cumberland, Dauphin, Northampton, Lebanon, and York Counties.



Northeastern Bulrush Survey, Pennsylvania – Assisted in conducting plant surveys for the Northeastern Bulrush (*Scirpus ancistrochaetus*). An unknown population was found during the field efforts.

Northern Cricket Frog Survey, Cumberland County, Pennsylvania – Team participant on Phase 2 and 3 surveys for a Dominion Gas project. Activities included trapping/trap checking, opportunistic survey, and audio survey.

Rosebud Mining, Indiana and Clearfield County, Pennsylvania – Assisted in identifying/delineating wetlands and watercourses on several Rosebud Mining properties and report preparation for these sites.

Water Quality Monitoring, Tennessee – Assisted in collection of data and grab samples from surface water systems in Tennessee as part of strip mine continual monitoring. The data collection included pH, dissolved oxygen, specific conductance, and flow. Benthic macroinvertebrates were also collected and analyzed in order to determine the health of the insect communities living in the streams.

Field Crew Member for Mist Net Surveying, Harrison County, West Virginia – Participated on team identifying mist net survey locations and assisted with the actual mist net surveys. Bat handling, species identification, and data processing with a Qualified Indiana Bat Surveyor (QIBS) were key components to the project. Species caught included Eastern Small-Footed Myotis (*Myotis leibii*) and the Big Brown Bat (*Eptesicus fuscus*).

Harp Trap Surveying, Lackawanna County, Pennsylvania – Assisted with emergence harp trap surveying to determine presence or probable absence of the species within potential habitat sites.

Bat Emergence Surveys, Lackawanna County, Pennsylvania – Assisted on a bat emergence count survey to monitor activity of bats at a mitigation site. Activities included the use of infrared camera equipment and Anabat audio recording devices.

Bat Emergence Surveys, Lackawanna and Northumberland Counties, Pennsylvania – Assisted on bat emergence surveys to determine whether bats were occupying potential habitat sites. Activities included the use of infrared camera equipment and Anabat audio recording devices.

Northern Goshawk Survey, Randolph County, West Virginia – Assisted in a survey for the Northern Goshawk (*Accipiter gentilis*) associated with the Corridor H transportation project. Activities included following transects to predetermined locations from which call-back and visual surveys were conducted.

South Valley Parkway, Mitigation Site Selection, Luzerne County, Pennsylvania – Assisted with the selection of wetland mitigation sites and the installation of groundwater monitoring wells.

EDUCATION:

B.S., Biology, 2015,
Millersville University

YEARS OF EXPERIENCE:

2 Years

Over the past two years, Mr. Hoover has gained experience primarily focused in the area of jurisdictional wetland identification and delineation, and the study and evaluation of aquatic and terrestrial ecosystems. Mr. Hoover has also participated in several threatened and endangered species field surveys for Northeastern Bulrush (*Scirpus ancistrochaetus*), Running Buffalo Clover (*Trifolium stoloniferum*), Bog Turtle (*Clemmys/Glyptemys muhlenbergii*), Northern Cricket Frog (*Acris crepitans*), Eastern Small-footed Myotis (*Myotis leibii*), and the Northern Goshawk (*Accipiter gentilis*).

PROFESSIONAL EXPERIENCE

Wetland Identification/ Delineation – Participated in various wetland identification / delineation investigations for transportation, land development, and mining projects throughout Pennsylvania. Experienced in wetland functional evaluation using the United States Army Corps of Engineers (USACE) Wetland Evaluation Technique II, Hydrogeomorphic Classification and New England USACE Descriptive Method.

Threatened and Endangered Species – Mr. Hoover's threatened and endangered species experience is within several diverse fields. Botanically, he has been an assistant with the surveys for two federally listed species; Northeastern Bulrush (*Scirpus ancistrochaetus*) and Running Buffalo Clover (*Trifolium stoloniferum*). His survey experience has also extended to two listed amphibian species; presence/absence surveys for the Bog Turtle (*Clemmys/Glyptemys muhlenbergii*) and the Northern Cricket Frog (*Acris crepitans*). Mr. Hoover has also assisted in emergence surveys for the Eastern Small-footed Myotis (*Myotis leibii*) and acoustic call surveys for the Northern Goshawk (*Accipiter gentilis*).

PROJECT EXPERIENCE

PennDOT Wetland and Watercourse Investigations – Assisted with numerous wetland and watercourse investigations throughout Pennsylvania for roadway improvement and bridge/culvert replacement projects. Activities associated with these projects included wetland and watercourse delineation, GPS survey, threatened and endangered species evaluations, and report preparation.

Corridor H Project (WVDOT) Northern Goshawk Survey, Randolph County, West Virginia – Assisted in a survey for the Northern Goshawk (*Accipiter gentilis*) associated with the Corridor H project. Activities included following transects to predetermined call-points from which call-back and visual surveys were conducted.

Corridor H Project (WVDOT) Running Buffalo Clover Survey, Randolph County, West Virginia - Assisted in a survey for Running Buffalo Clover (*Trifolium stoloniferum*) associated with the Corridor H project. Related activities included traversing proposed access roads and developing composite plant lists for the associated area.



Valley View Bat Emergence Surveys, Lackawanna County, Pennsylvania – Mr. Hoover assisted on a bat emergence count survey to monitor activity of bats in an industrial development park. Activities included the use of infrared camera equipment, Anabat audio recording devices, and various forms of data collection.

PennDOT District 2-0, S.R. 0322 Northeastern Bulrush Presence/Probable Absence Survey, Center County, PA – Mr. Hoover assisted in a large scale field survey effort for this federally listed species within a project area encompassing 740 acres along a 3.5-mile-long section of existing highway in Centre County, Pennsylvania. The species in question was not encountered; however, three relatively common bulrush species were observed.

Phase 2 Bog Turtle Surveys, Pennsylvania – Mr. Hoover has assisted in various phase two bog turtle surveys associated with pipeline projects in Pennsylvania.

South Valley Parkway Project (PennDOT) Eastern Small-Footed Myotis Emergence Surveys, Luzerne County, PA – Mr. Hoover was responsible for assisting the USFWS Qualified Indiana Bat Surveyor (QIBS) with setting up equipment, emergence counts, and data collection.

Northern Cricket Frog Survey, Cumberland County, Pennsylvania – Team participant on Phase 2 and 3 surveys for a gas project for a confidential client. Activities included trapping/trap checking, opportunistic survey, and audio survey.

**APPENDIX B -
USACE ROUTINE ON-SITE WETLAND
DETERMINATION DATA FORMS**

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
 Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Wetland A
 Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
 Soil Map Unit Name: (RsB) Rohrersville silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Wetland A

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Liriodendron tulipifera</u>	<u>80%</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. <u>Betula lenta</u>	<u>10%</u>		<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Lindera benzoin</u>	<u>60%</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Fagus grandifolia</u>	<u>10%</u>		<u>FACU</u>	
3. <u>Fraxinus pennsylvanica</u>	<u>10%</u>		<u>FACW</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>80</u> = Total Cover 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Scirpus polyphyllus</u>	<u>50%</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Symplocarpus foetidus</u>	<u>40%</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Glyceria striata</u>	<u>10%</u>		<u>OBL</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland A

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
 Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Wetland A UPL
 Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
 Soil Map Unit Name: (RsB) Rohrersville silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Wetland A UPL

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Liriodendron tulipifera</u>	<u>80%</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. <u>Quercus alba</u>	<u>20%</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
$\frac{100}{50\% \text{ of total cover: } \underline{50}} = \text{Total Cover}$ $\frac{20\% \text{ of total cover: } \underline{20}}$				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by:
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
6. _____	_____	_____	_____	UPL species _____ x 5 = _____
7. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
8. _____	_____	_____	_____	Prevalence Index = B/A = _____
9. _____	_____	_____	_____	
$\frac{0}{50\% \text{ of total cover: } \underline{0}} = \text{Total Cover}$ $\frac{20\% \text{ of total cover: } \underline{0}}$				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators:
1. <u>Polystichum acrostichoides</u>	<u>20%</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Berberis thunbergii</u>	<u>20%</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	<input type="checkbox"/> 2 - Dominance Test is >50%
3. _____	_____	_____	_____	<input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$
4. _____	_____	_____	_____	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____	_____	_____	_____	Definitions of Four Vegetation Strata:
8. _____	_____	_____	_____	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
9. _____	_____	_____	_____	Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10. _____	_____	_____	_____	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11. _____	_____	_____	_____	Woody vine – All woody vines greater than 3.28 ft in height.
$\frac{40}{50\% \text{ of total cover: } \underline{20}} = \text{Total Cover}$ $\frac{20\% \text{ of total cover: } \underline{8}}$				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
$\frac{0}{50\% \text{ of total cover: } \underline{0}} = \text{Total Cover}$ $\frac{20\% \text{ of total cover: } \underline{0}}$				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

SOIL

Sampling Point: Wetland A UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Wetland B
Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0%
Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
Soil Map Unit Name: (RsB) Rohrersville silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>0</u>		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u>		
Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Wetland B

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Betula alleghaniensis</u>	<u>40%</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. <u>Tsuga canadensis</u>	<u>40%</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>80</u> = Total Cover 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Scirpus polyphyllus</u>	<u>50%</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Ranunculus repens</u>	<u>20%</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. <u>Symplocarpus foetidus</u>	<u>10%</u>	_____	<u>OBL</u>	
4. <u>Dichanthelium clandestinum</u>	<u>5%</u>	_____	<u>FAC</u>	
5. <u>Schedonorus arundinaceus</u>	<u>5%</u>	_____	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18"	10YR3/1	95%	7.5YR3/2	5%	C	M	Silt Clay Loam	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:						Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)					
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)					
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)					
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)					
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)					
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)					
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)					
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)						
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,						
<input type="checkbox"/> MLRA 147, 148)	<input type="checkbox"/> MLRA 136)						
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)						
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)						
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)						

Restrictive Layer (if observed):

Type: N/A

Depth (inches): -

Hydric Soil Present?

Yes ✓ No

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Wetland B UPL
Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0%
Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
Soil Map Unit Name: (RsB) Rohrsersville silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u>	Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u>	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Wetland B UPL

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Lindera benzoin</u>	<u>10%</u>	<u>✓</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Schedonorus arundinaceus</u>	<u>60%</u>	<u>✓</u>	<u>FACU</u>	
2. <u>Dichanthelium clandestinum</u>	<u>10%</u>	_____	<u>FAC</u>	
3. <u>Dactylis glomerata</u>	<u>20%</u>	<u>✓</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland B UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6"	10YR3/2	100%						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 6"

Hydric Soil Present?

Yes

No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
 Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Wetland C
 Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
 Soil Map Unit Name: (RsB) Rohrersville silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Water Marks (B1) _____ Presence of Reduced Iron (C4) _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Drift Deposits (B3) _____ Thin Muck Surface (C7) _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks) _____ Iron Deposits (B5) _____ _____ Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) _____ Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>0"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Wetland C

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Liriodendron tulipifera</u>	<u>80%</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>80</u> = Total Cover 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Lindera benzoin</u>	<u>10%</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Fraxinus pennsylvanica</u>	<u>10%</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Carpinus caroliniana</u>	<u>10%</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Symplocarpus foetidus</u>	<u>50%</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>50</u> = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

SOIL

Sampling Point: Wetland C

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Wetland C UPL
Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0%
Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
Soil Map Unit Name: (RsB) Rohrersville silt loam NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u>	Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u>	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Wetland C UPL

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Lindera benzoin</u>	<u>10%</u>	<u>✓</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>Problematic Hydrophytic Vegetation¹ (Explain)</u> ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Schedonorus arundinaceus</u>	<u>60%</u>	<u>✓</u>	<u>FACU</u>	
2. <u>Dichanthelium clandestinum</u>	<u>10%</u>	_____	<u>FAC</u>	
3. <u>Dactylis glomerata</u>	<u>20%</u>	<u>✓</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland C UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
 Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Wetland D Plot 1
 Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
 Soil Map Unit Name: (RsB) Rohrersville silt loam NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Wetland D Plot 1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Liriodendron tulipifera</u>	<u>80%</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60%</u> (A/B)
2. <u>Fagus grandifolia</u>	<u>20%</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
$\frac{100}{50\% \text{ of total cover: } \underline{50}} = \text{Total Cover}$ $\frac{100}{20\% \text{ of total cover: } \underline{20}}$				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Lindera benzoin</u>	<u>90%</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Berberis thunbergii</u>	<u>10%</u>		<u>FACU</u>	
3. _____				
4. _____				
5. _____				
$\frac{100}{50\% \text{ of total cover: } \underline{50}} = \text{Total Cover}$ $\frac{100}{20\% \text{ of total cover: } \underline{20}}$				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Carex sp.</u>	<u>30%</u>	<input checked="" type="checkbox"/>	<u>75% FAC-OBL</u>	
2. <u>Microstegium vimineum</u>	<u>70%</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
$\frac{100}{50\% \text{ of total cover: } \underline{50}} = \text{Total Cover}$ $\frac{100}{20\% \text{ of total cover: } \underline{20}}$				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
$\frac{100}{50\% \text{ of total cover: } \underline{0}} = \text{Total Cover}$ $\frac{100}{20\% \text{ of total cover: } \underline{0}}$				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland D Plot 1

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Wetland D UPL Plot 1
Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0%
Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
Soil Map Unit Name: (RsB) Rohrsersville silt loam NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u>	Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u>	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Wetland D UPL Plot 1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Liriodendron tulipifera</u>	<u>100%</u>	<u>✓</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____	_____	_____	_____	
$\frac{100}{50\% \text{ of total cover: } \underline{50}} = \text{Total Cover}$ $\frac{100}{20\% \text{ of total cover: } \underline{20}}$				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Berberis thunbergii</u>	<u>30%</u>	<u>✓</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
$\frac{30}{50\% \text{ of total cover: } \underline{15}} = \text{Total Cover}$ $\frac{30}{20\% \text{ of total cover: } \underline{6}}$				Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Microstegium vimenium</u>	<u>60%</u>	<u>✓</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
$\frac{60}{50\% \text{ of total cover: } \underline{30}} = \text{Total Cover}$ $\frac{60}{20\% \text{ of total cover: } \underline{12}}$				Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
5. _____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
$\frac{0}{50\% \text{ of total cover: } \underline{0}} = \text{Total Cover}$ $\frac{0}{20\% \text{ of total cover: } \underline{0}}$				Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland D UPL Plot 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)

- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

- ☐ 2 cm Muck (A10) **(MLRA 147)**
☐ Coast Prairie Redox (A16)
(MLRA 147, 148)
☐ Piedmont Floodplain Soils (F19)
(MLRA 136, 147)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 6"

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
 Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Wetland D Plot 2
 Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
 Soil Map Unit Name: (RsB) Rohrersville silt loam NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Water Marks (B1) _____ Presence of Reduced Iron (C4) _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Drift Deposits (B3) _____ Thin Muck Surface (C7) _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks) _____ Iron Deposits (B5) _____ _____ Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) _____ Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Wetland D Plot 2

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Microstegium vimineum</u>	<u>60%</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Impatiens capensis</u>	<u>30%</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Scirpus polyphyllus</u>	<u>5%</u>		<u>OBL</u>	
4. <u>Carex sp</u>	<u>5%</u>		<u>75%FAC-OBL</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland D Plot 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)

- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbritic Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

- ☐ 2 cm Muck (A10) **(MLRA 147)**
☐ Coast Prairie Redox (A16)
(MLRA 147, 148)
☐ Piedmont Floodplain Soils (F19)
(MLRA 136, 147)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 4"

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
 Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Wetland D UPL Plot 2
 Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
 Soil Map Unit Name: (RsB) Rohrsersville silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Wetland D UPL Plot 2

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Polystichum acrostichoides</u>	<u>20%</u>	<u>✓</u>	<u>FACU</u>	
2. <u>Microstegium vimineum</u>	<u>20%</u>	<u>✓</u>	<u>FAC</u>	
3. <u>Rubus phoenicolasius</u>	<u>20%</u>	<u>✓</u>	<u>FACU</u>	
4. <u>Alliaria petiolata</u>	<u>20%</u>	<u>✓</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>80</u> = Total Cover 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>

SOIL

Sampling Point: Wetland D UPL Plot 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)

- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbritic Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

- ☐ 2 cm Muck (A10) **(MLRA 147)**
☐ Coast Prairie Redox (A16)
(MLRA 147, 148)
☐ Piedmont Floodplain Soils (F19)
(MLRA 136, 147)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 6"

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Wetland E
Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5%
Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
Soil Map Unit Name: (RsB) Rohrsersville silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input checked="" type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u>		
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u>		
Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Wetland E

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Lindera benzoin</u>	<u>20%</u>	<u>✓</u>	<u>FAC</u>	
2. <u>Berberis thunbergii</u>	<u>10%</u>	<u>✓</u>	<u>FACU</u>	
3. <u>Fraxinus pennsylvanica</u>	<u>20%</u>	<u>✓</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Scirpus polyphyllus</u>	<u>30%</u>	<u>✓</u>	<u>OBL</u>	
2. <u>Carex sp.</u>	<u>10%</u>		<u>75% FAC-OBL</u>	
3. <u>Symplocarpus foetidus</u>	<u>30%</u>	<u>✓</u>	<u>OBL</u>	
4. <u>Allium vineale</u>	<u>10%</u>		<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>✓</u> No _____

SOIL

Sampling Point: Wetland E

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Wetland E UPL
Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 5%
Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
Soil Map Unit Name: (RsB) Rohrsersville silt loam NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u>		
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u>		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Wetland E UPL

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Lindera benzoin</u>	<u>10%</u>	<u>✓</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>Problematic Hydrophytic Vegetation¹ (Explain)</u> ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Schedonrus arundinaceus</u>	<u>60%</u>	<u>✓</u>	<u>FACU</u>	
2. <u>Dichanthelium clandestinum</u>	<u>10%</u>	_____	<u>FAC</u>	
3. <u>Dactylis glomerata</u>	<u>20%</u>	<u>✓</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland E UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Charmian Northern Tract City/County: Adams County Sampling Date: 12/16/2015
 Applicant/Owner: Specialty Granules LLC State: PA Sampling Point: Deciduous Forest
 Investigator(s): A. Nevin, A. Brookens, S. Hoover, D. Woodworth Section, Township, Range: Hamiltonban Township
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): MLRA 147 Lat: _____ Long: _____ Datum: WGS 84
 Soil Map Unit Name: (RsB) Rohrsersville silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: Deciduous Forest

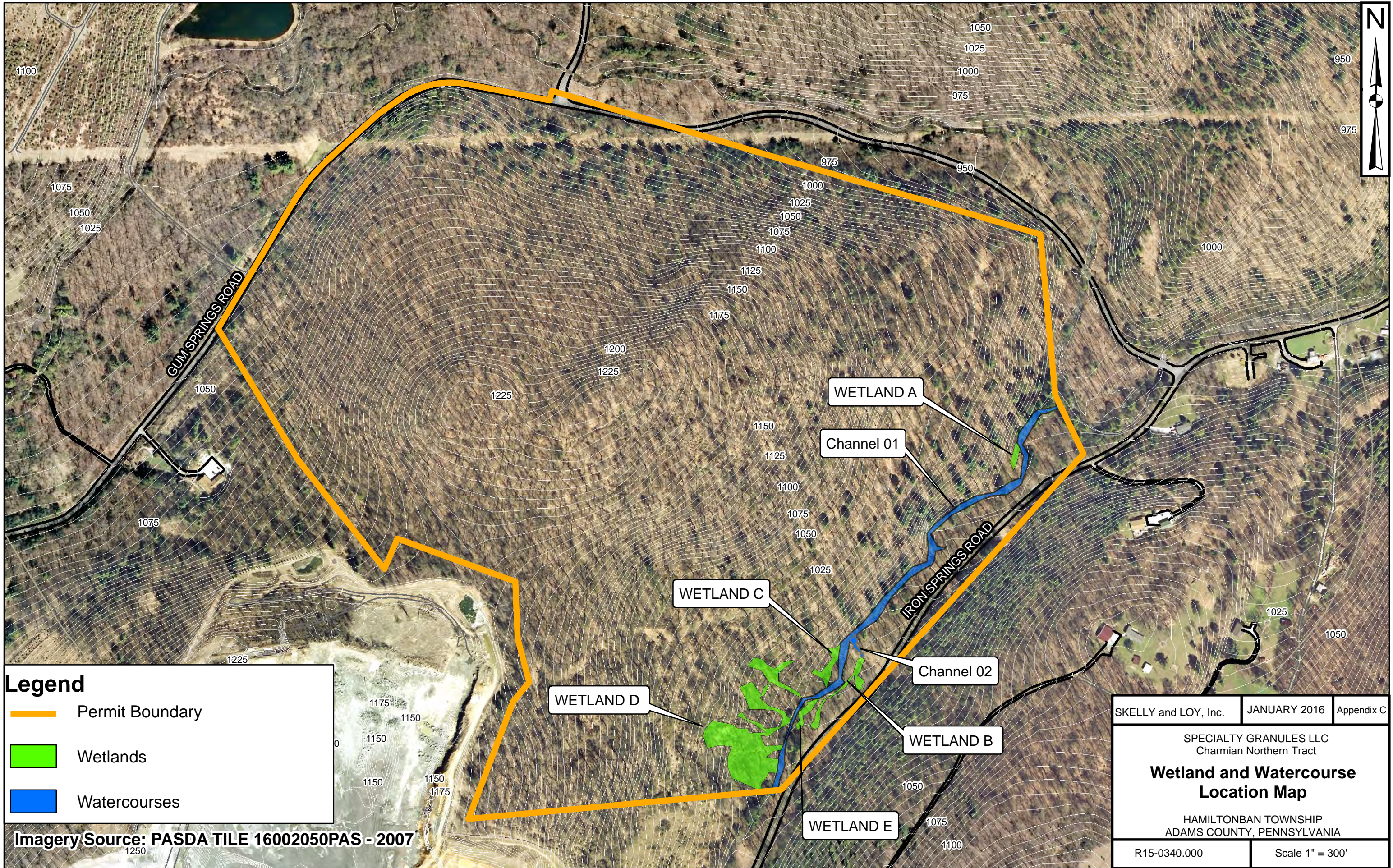
Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus rubra</u>	<u>30%</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3*</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. <u>Quercus montana</u>	<u>30%</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
3. <u>Quercus velutina</u>	<u>30%</u>	<input checked="" type="checkbox"/>	<u>ND</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Polystichum acrostichoides</u>	<u>50%</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Dryopteris sp.</u>	<u>15%</u>	<input checked="" type="checkbox"/>	<u>ND</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>65</u> = Total Cover 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.) ND- Not determined *Vegetation not ID'd down to species level not included in dominance test.				

SOIL

Sampling Point: Deciduous Forest

[illegible]

APPENDIX C - WETLAND AND WATERCOURSE MAPPING



Legend

- Permit Boundary
- Wetlands
- Watercourses

Imagery Source: PASDA TILE 16002050PAS - 2007

SKELLY and LOY, Inc.	JANUARY 2016	Appendix C
SPECIALTY GRANULES LLC Charmian Northern Tract		
Wetland and Watercourse Location Map		
HAMILTONBAN TOWNSHIP ADAMS COUNTY, PENNSYLVANIA		
R15-0340.000	Scale 1" = 300'	

**APPENDIX D -
USFWS/PFBC BOG TURTLE HABITAT
EVALUATION FIELD FORMS**

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form¹
(revised 06/01/2006)

Project/Property Name: SGT Charmian - Northern Tract
Project type: Non-Coal Quarry Expansion
Applicant/Landowner Name: Specialty Granules, Inc.
County: Adams Quad: Iron Springs Township/Municipality: Hamiltonban Twp.
PNDI # 20151208541654 Potential conflict with USFWS species? ☒ Y ☐ N

ACTION AREA²

Action area size: 112Ac. Does the Phase 1 survey include all wetlands in the action area? ☒ Y ☐ N³

WETLANDS: A1C PHOTOS TAKEN: ☒ Yes ☐ No WETLAND SIZE: _____ acres

Wetland size estimation - If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☒ 0.1-0.5 acre ☐ > 0.5 to < 1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat _____ Long _____
(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ☐ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: 12-16-15 Time In: 9:00 Time Out: 15:00
Last precipitation: ☐ < 24 hours ☒ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ☒ N ☐ Unknown

How much of this wetland is located *off-site* (i.e., outside the property boundaries or right-of-way)?
☒ none of it - the entire wetland is within the property boundaries (skip next 2 questions)
☐ some of it - _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?
☐ none of it ☐ all of it ☐ part of it (_____ % or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (e.g., from the subject property or from a public road)?
☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ☐ N ☒ Unknown
If yes, *could* they be potential bog turtle habitat? ☐ Y ☐ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Mixed forest riparian headwater corridor, mountainous mature forest, transportation corridor

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ☒ PEM 50 ☐ PSS _____ ☒ PFO 50 ☐ POW _____

☐ Y ☒ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe

☐ Y ☒ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe

Project Name

S&T Charmian - Northern Tract Wetlands A/C (con't)

Hydrology

- ☒ Y ☐ N Springs or seeps ☐ visible or ☒ likely? Watercress present? ☐ Yes ☒ No
- ☐ Y ☒ N Spring houses in or adjacent to wetland?
- ☒ Y ☐ N Saturated soils present? If yes, year-round? ☒ Likely ☐ Unlikely ☐ Unknown
- ☐ Y ☒ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
- ☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
- ☐ Y ☒ N Evidence of flooding? If yes, describe indicators _____

Soils Mapping Unit (optional):Field observations confirm mapped type? ☐ YES ☐ NO ☐ Unknown

Soils - PEM Portion of Wetland			
Mucky ⁴ ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	How much of it (PEM) is mucky? <input type="checkbox"/> <10% <input type="checkbox"/> 10-29% <input checked="" type="checkbox"/> 30-49% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70%	Mucky soils range in depth from: 2 to 4"	Most of the mucky part(s) of the wetland can be probed ⁵ : <input checked="" type="checkbox"/> 3-5" <input type="checkbox"/> 6-8" <input type="checkbox"/> 9-11" <input type="checkbox"/> ≥12"
Non-mucky ⁶ ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	How much of it (PEM) is non-mucky? <input type="checkbox"/> <10% <input type="checkbox"/> 10-29% <input type="checkbox"/> 30-49% <input checked="" type="checkbox"/> 50-70% <input type="checkbox"/> >70%		

Soils - PSS and PFO Portions of Wetland			
Mucky ⁴ ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	How much of it is mucky? <input type="checkbox"/> <10% <input type="checkbox"/> 10-29% <input checked="" type="checkbox"/> 30-49% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70%	Mucky soils range in depth from: 2 to 4"	Most of the mucky part(s) of the wetland can be probed ⁵ : <input checked="" type="checkbox"/> 3-5" <input type="checkbox"/> 6-8" <input type="checkbox"/> 9-11" <input type="checkbox"/> ≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).

- ☐ sedges ☐ rushes ☒ skunk cabbage ☐ cattail ☐ sweet flag ☒ jewelweed ☐ sphagnum moss
- ☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
- ☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ☐ _____

Additional dominant species: Schrosp. sp., Spicebush**Herptiles**Were any bog turtles observed? ☐ YES ☒ NO If yes, how many? _____Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

Despite groundwater sources and marginal mucky soil conditions, Wetlands A and C are not regarded as potential habitat due to the lack of supporting vegetative structure, 80-100% canopy closure from mature forest setting, and lack of supporting soil/structure/subterranean tunnels.

INVESTIGATOR'S OPINION

- ☐ YES ☒ NO ☐ UNSURE The hydrology criterion⁸ for bog turtle habitat is met.
- ☐ YES ☒ NO ☐ UNSURE The soils criterion⁸ for bog turtle habitat is met.
- ☐ YES ☒ NO ☐ UNSURE The vegetation criterion⁸ for bog turtle habitat is met.
- ☐ YES ☒ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Andy Brookens

Investigator's Name (print)

[Signature]

Investigator's Signature

12-16-15

Date

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form¹
(revised 06/01/2006)

Project/Property Name: SGI Charmian - Northern Tract
Project type: Non-Coal Quarry Expansion
Applicant/Landowner Name: Specialty Granules, Inc.
County: Adams Quad: Iron Springs Township/Municipality: Hamiltonban Twp.
PNDI # 2015/20854/654 Potential conflict with USFWS species? ☒ Y ☐ N

ACTION AREA²
Action area size: 112 Ac. Does the Phase 1 survey include all wetlands in the action area? ☒ Y ☐ N³

WETLAND ID: B/E PHOTOS TAKEN: ☒ Yes ☐ No WETLAND SIZE: _____ acres
Wetland size estimation - If actual acreage is not known at time of investigation, check one:
☐ < 0.1 acre ☒ 0.1-0.5 acre ☐ > 0.5 to < 1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat _____ Long _____
(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ☐ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: 12-16-15 Time In: 9:00 Time Out: 15:00
Last precipitation: ☐ < 24 hours ☒ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ☒ N ☐ Unknown

How much of this wetland is located *off-site* (i.e., outside the property boundaries or right-of-way)?
☒ none of it - the entire wetland is within the property boundaries (skip next 2 questions)
☐ some of it - _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?
☐ none of it ☐ all of it ☐ part of it (_____ % or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (e.g., from the subject property or from a public road)?
☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ☐ N ☒ Unknown
If yes, *could* they be potential bog turtle habitat? ☐ Y ☐ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Mixed forest riparian headwater corridor, mountainous mature forest, transportation corridor

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ☒ PEM 50 ☐ PSS _____ ☒ PFO 50 ☐ POW _____

☐ Y ☒ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe

☐ Y ☒ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe

Project Name SGI Charmion - Northern Tract Wetlands B/E (con't)

Hydrology

- ☒ Y ☐ N Springs or seeps ☐ visible or ☒ likely? Watercress present? ☐ Yes ☒ No
☐ Y ☒ N Spring houses in or adjacent to wetland?
☒ Y ☐ N Saturated soils present? If yes, year-round? ☒ Likely ☐ Unlikely ☐ Unknown
☐ Y ☒ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
☐ Y ☒ N Evidence of flooding? If yes, describe indicators _____

Soils Mapping Unit (optional): _____

Field observations confirm mapped type? ☐ YES ☐ NO ☐ Unknown

Soils - PEM Portion of Wetland			
Mucky ⁴ ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	How much of it (PEM) is mucky? <input type="checkbox"/> <10% <input type="checkbox"/> 10-29% <input checked="" type="checkbox"/> 30-49% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70%	Mucky soils range in depth from: <u>3</u> to <u>12</u> "	Most of the mucky part(s) of the wetland can be probed ⁵ : <input checked="" type="checkbox"/> 3-5" <input type="checkbox"/> 6-8" <input type="checkbox"/> 9-11" <input type="checkbox"/> ≥12"
Non-mucky ⁶ ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	How much of it (PEM) is non-mucky? <input type="checkbox"/> <10% <input type="checkbox"/> 10-29% <input type="checkbox"/> 30-49% <input checked="" type="checkbox"/> 50-70% <input type="checkbox"/> >70%		

Soils - PSS and PFO Portions of Wetland			
Mucky ⁴ ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	How much of it is mucky? <input type="checkbox"/> <10% <input type="checkbox"/> 10-29% <input checked="" type="checkbox"/> 30-49% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70%	Mucky soils range in depth from: <u>3</u> to <u>12</u> "	Most of the mucky part(s) of the wetland can be probed ⁵ : <input checked="" type="checkbox"/> 3-5" <input type="checkbox"/> 6-8" <input type="checkbox"/> 9-11" <input type="checkbox"/> ≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).

- ☐ sedges ☐ rushes ☒ skunk cabbage ☐ cattail ☐ sweet flag ☒ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ☐

Additional dominant species: Scirpus sp., Spicebush, hemlock

Herptiles

Were any bog turtles observed? ☐ YES ☒ NO If yes, how many? _____

Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

Despite groundwater sources and mucky soil conditions, Wetlands B and E are not regarded as potential habitat due to the lack of supporting vegetative structure, 80-100% canopy closure from mature forest setting, and lack of supporting soil structure/subterranean tunnels.

INVESTIGATOR'S OPINION

- ☐ YES ☒ NO ☐ UNSURE The hydrology criterion⁸ for bog turtle habitat is met.
☐ YES ☒ NO ☐ UNSURE The soils criterion⁸ for bog turtle habitat is met.
☐ YES ☒ NO ☐ UNSURE The vegetation criterion⁸ for bog turtle habitat is met.
☐ YES ☒ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Andy Brookens

Investigator's Name (print)

[Signature]

Investigator's Signature

12-16-15

Date

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form¹
(revised 06/01/2006)

Project/Property Name: SGI Chermian - Northern Tract
Project type: Non-Coal Quarry Expansion
Applicant/Landowner Name: Specialty Granules, Inc.
County: Adams Quad: Iron Springs Township/Municipality: Hami Honban Twp.
PNDI # 2015/20854/654 Potential conflict with USFWS species? ☒ Y ☐ N

ACTION AREA²

Action area size: 112 Ac. Does the Phase 1 survey include all wetlands in the action area? ☒ Y ☐ N³

WETLAND ID: D PHOTOS TAKEN: ☒ Yes ☐ No WETLAND SIZE: _____ acres

Wetland size estimation - If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ > 0.5 to < 1 acre ☒ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat _____ Long _____
(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ☐ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: 12-16-15 Time In: 9:00 Time Out: 15:00
Last precipitation: ☐ < 24 hours ☒ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ☒ N ☐ Unknown

How much of this wetland is located *off-site* (i.e., outside the property boundaries or right-of-way)?

☒ none of it - the entire wetland is within the property boundaries (skip next 2 questions)
☐ some of it - _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____ % or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (e.g., from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ☐ N ☒ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ☐ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Mixed forest riparian headwater corridor, mountainous mature forest,
transportation corridor

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ☒ PEM 33 ☒ PSS 33 ☒ PFO 34 ☐ POW _____

☐ Y ☒ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe

☐ Y ☒ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe

Date _____

APPENDIX E - REPRESENTATIVE PHOTOGRAPHS



Photograph No. 1

Channel 01 – Unnamed Tributary to
Toms Creek Facing Upstream



Photograph No. 2

Channel 02 Facing Confluence with
Channel 01



Photograph No. 3

Wetland A Facing South



Photograph No. 4

Wetland B Facing Southeast



Photograph No. 5

Wetland C Facing Northwest



Photograph No. 6

Wetland D Plot 1 Facing Southeast



Photograph No. 7

Wetland D Plot 2 Facing Southwest



Photograph No. 8

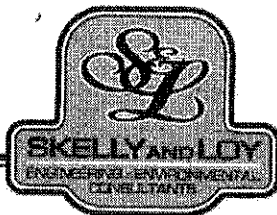
Wetland E Facing South

2010-1050

449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

Phone: 717-232-0593
800-892-6532

E-mail: skellyloy@skellyloy.com
Internet: www.skellyloy.com



Fax: 717-232-1799

April 8, 2016

Ms. Debby Nizer
United States Army Corps of Engineers
Baltimore District Office
Regulatory Branch
10 South Howard Street
Post Office Box 1715
Baltimore, Maryland 21203-1715

Mr. Jonathan Chripczuk
Pennsylvania Department of Environmental Protection
Bureau of Waterways Engineering and W
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, Pennsylvania 17110

Mr. Brian Scofield
United States Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801



U.S. FISH AND WILDLIFE SERVICE

Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850



On 12/16/2015, a qualified bog turtle surveyor determined that there is no potential bog turtle habitat in the project area. We concur with these survey results and conclude that implementation of the proposed project will have no effect on bog turtles.

Tha J. Z..., Supervisor 5/11/16

Re: Jurisdictional Wetland-Watercourse
Identification and Delineation/Phase
I Bog Turtle Habitat Assessment
Report, Specialty Granules LLC,
Charmian Quarry Northern Tract
Development Project, Hamiltonban
Township, Adams County, Pennsyl-
vania
PNDI Environmental Review
#20151208541654
USFWS Project #2010-1050

Dear Ms. Nizer, Mr. Chripczuk, and Mr. Scofield:

Skelly and Loy, Inc. has been retained by Specialty Granules LLC (SGI) to initiate coordination with your respective agencies regarding the potential for effects on wetland and watercourse resources potentially under the jurisdiction of Section 404 of the Federal Clean Water Act and Pennsylvania Code Title 25, Chapter 105 resulting from the future development of an approximate 112-acre parcel referred to as the Northern Tract for non-coal quarrying activities in Hamiltonban Township, Adams County.

SGI extracts non-coal materials through an existing Pennsylvania Department of Environmental Protection (PA DEP) Surface Mine Permit at the Charmian Site located north of the town of Blue Ridge Summit. The Charmian Site generally consists of an active quarry (Pitts

FOLLOW-UP CORRESPONDENCE WITH USFWS

449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

E-mail: skellyloy@skellyloy.com
Internet: www.skellyloy.com



Phone: 717-232-0593
800-892-6532

Fax: 717-232-1799

July 31, 2017

Ms. Lora Z. Lattanzi
Field Office Supervisor
U.S. Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801

Re: Threatened and Endangered
Species Coordination Letter;
Specialty Granules LLC, Charmian
Quarry Northern Tract Development
Project, Hamiltonban Township,
Adams County, Pennsylvania; PNDI
Renewal #635546 (Previously
Reviewed Under PNDI
#20151208541654; USFWS Project
#2010-1050)

Dear Ms. Lattanzi:

Skelly and Loy, Inc. has been retained by Specialty Granules LLC ("SGI") to coordinate with your agency regarding potential effects on federal listed species resulting from the proposed development of a non-coal mining operation on an approximately 112-acre area within SGI property located in Hamiltonban Township, Adams County, Pennsylvania, known as the "Northern Tract." The proposed Northern Tract project area is adjacent to existing non-coal mining operations currently operated by SGI.

This proposed project was previously reviewed by your agency in early 2016 under PNDI #20151208541654. **Attachment 1** is a copy of Skelly and Loy's original coordination letter dated January 29, 2016; and **Attachment 2** provides a copy of the USFWS's letter dated February 18, 2016, which requested a bog turtle study. A Jurisdictional Wetland-Watercourse Identification/Delineation and Phase I Bog Turtle Habitat Assessment Report dated April 8, 2016, prepared by Andrew M. Brookens, a Pennsylvania recognized-qualified bog turtle surveyor, was provided to your office. The USFWS responded via stamped letter on May 11, 2016, concurring on habitat survey results and concluding that implementation of the proposed project will have no effect on bog turtles. **Attachment 3** provides a copy of the USFWS's stamped letter dated May 11, 2016.

Planning for the Project has extended over a substantial period, and at this point it is anticipated that SGI will submit a Non-Coal Mining Permit Application to the Pennsylvania Department of Environmental Protection ("PADEP") in the first quarter of 2018. PADEP has requested that SGI update its PNDI and coordination efforts for several reasons, including for

Ms. Lora Z. Lattanzi
Page 2
July 31, 2017

the reason that the previous PNDI clearance expires after two years, and hence before completion of the review of the anticipated application.

As explained in our letter dated January 29, 2016, as well as in the enclosed Northern Tract Project Narrative (**Attachments 1 and 4, respectively**), SGI extracts non-coal natural materials at the Charmian Site located north of the town of Blue Ridge Summit through an existing PADEP Surface Mine Permit. The Charmian Site currently consists of an active quarry (Pitts Quarry – Noncoal Surface Mining Permit No. 01930302), an inactive quarry (West Ridge Quarry PADEP Permit No. 6477SM5 - which is in the reclamation phase), stockpile storage areas, a crushing plant, and a granule plant. SGI extracts a metabasalt rock at the Pitts Quarry Site for the purpose of manufacturing roofing granules that are used to coat the wearing surface of asphalt roofing shingles.

To update the PNDI/coordination process, SGI has submitted an updated PNDI form (PNDI #635546), a copy of which is provided in **Attachment 5**. SGI is aware that the Project area lies within the range of the Indiana Bat, and as indicated in SGI's response to PNDI Question 7, SGI will commit to a seasonal restriction on tree cutting within the proposed Project area. PADEP has also requested that we draw your attention to map and photographic information provided in our original January 29, 2016, submission concerning an opening in the ground discovered within the proposed Project area which may have been a shaft associated with an historic copper mine (Photographs 3 and 4 of **Attachment 1**). An additional map (**Attachment 6**) depicting more project information relative to environmental features has been enclosed to supplement the maps in the original correspondence.

Thank you in advance for your review of this project screening information. We look forward to working with you and to receiving from you correspondence regarding this matter at your earliest convenience. Should you have any questions regarding this Project, please contact me at 717-574-2373 or e-mail at abrookens@skellyloy.com.

Sincerely yours,

SKELLY and LOY, Inc.

Andrew M. Brookens
Biologist, Regional Director of
Natural Resources

Attachments (6)

cc: Celeste Levine, Esq., SGI
Matthew McClure, SGI
Robert Shusko, D'Appolonia ✓
Laura Berra, Skelly and Loy
R15-0340.000
File: LATTANZI_AMB.docx

ATTACHMENTS

ATTACHMENT 1

449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

E-mail: skellyloy@skellyloy.com
Internet: www.skellyloy.com



Phone: 717-232-0593
800-892-6532
Fax: 717-232-1799

January 29, 2016

Mr. Frederick Sechler
Pennsylvania Department of
Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, Post Office Box 8552
Harrisburg, Pennsylvania 17105-8552

Mr. Chris Urban
Pennsylvania Fish and Boat Commission
Division of Environmental Services, Natural Diversity Section
450 Robinson Lane
Bellefonte, Pennsylvania 16823-7437

Ms. Pamela Shellenberger
U.S. Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801

Re: Threatened and Endangered Species Coordination Letter, Specialty Granules LLC. Charmian Quarry Northern Tract Development Project, Hamiltonban Township, Adams County, Pennsylvania
PNDI #20151208541654

Dear Mr. Sechler, Mr. Urban, and Ms. Shellenberger:

Skelly and Loy, Inc. has been retained by Specialty Granules LLC (SGI) to initiate coordination with your respective agencies regarding potential effects on federally and/or state-listed species resulting from the future development of an approximate 112-acre parcel referred to as the Northern Tract for non-coal quarrying activities in Hamiltonban Township, Adams County.

SGI extracts non-coal materials through an existing Pennsylvania Department of Environmental Protection (PA DEP) Surface Mine Permit at the Charmian Site located north of the town of Blue Ridge Summit. The Charmian Site generally consists of an active quarry (Pitts Quarry - PA DEP Permit No. 01930302), an inactive quarry (West Ridge Quarry, which is in the reclamation phase), stockpile storage areas, a crushing plant, and a granule plant. SGI extracts metabasalt at the Charmian Site for the purpose of manufacturing roofing granules that are used to coat the wearing surface of asphalt roofing shingles.

Mr. Frederick Sechler
Mr. Chris Urban
Ms. Pamela Shellenberger
Page 2
January 29, 2016

SGI is currently conducting environmental planning studies and engineering design evaluations to expand its existing, permitted metabasalt quarry operations from the Pitts Quarry to the Northern Tract. A Pennsylvania Natural Diversity Inventory (PNDI) database screening of the Northern Tract was completed on December 8, 2015. The PNDI project environmental review receipt (PNDI #20151208541654) indicated potential conflicts with species under the jurisdiction of the Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Fish and Boat Commission, and United States Fish and Wildlife Service.

We are enclosing the PNDI project environmental review receipt and project location map for your use during this review.

Thank you in advance for your review of this project screening information. We look forward to receiving correspondence from your respective agencies at your earliest convenience. Please contact me at 717-574-2373 if you have any questions regarding this matter.

Sincerely yours,

SKELLY and LOY, Inc.



Andy M. Brookens
Biologist, Regional Director of
Natural Resources

Enclosures

cc: Celeste Levine, Esq., Specialty Granules, LLC
Matthew McClure, Specialty Granules, LLC
Bob Shusko, D'Appolonia
Laura Berra, Skelly and Loy
R15-0340.000
File: SGI PNDI Initiation Letter.docx

1. PROJECT INFORMATION

Project Name: **SGI Charmian**

Date of review: **12/8/2015 12:16:23 PM**

Project Category: **Mining, other non-coal minerals (limestone, shale)**

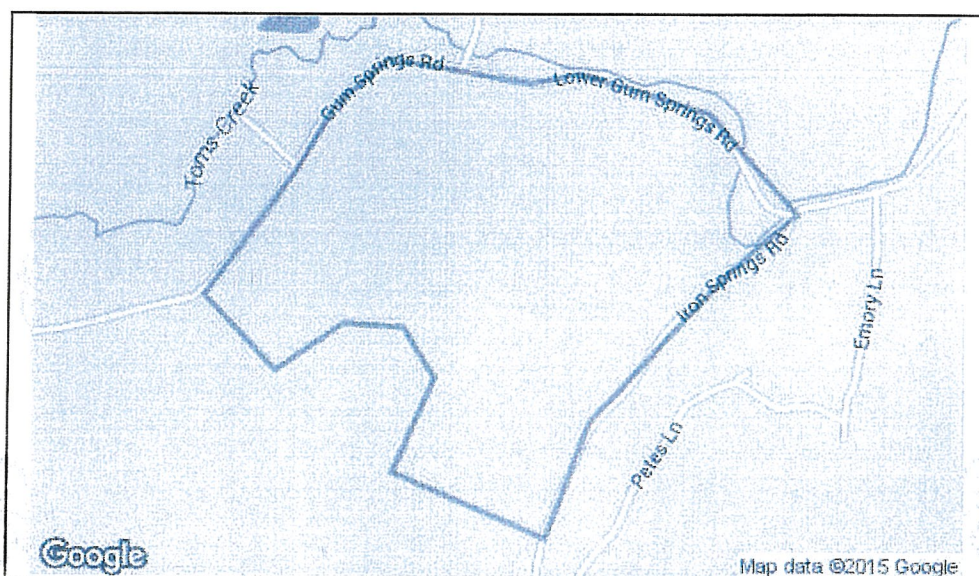
Project Area: **143.4** acres

County: **Adams** Township/Municipality: **Hamiltonban**

Quadrangle Name: **IRON SPRINGS** ~ ZIP Code: **17320**

Decimal Degrees: **39.763323 N, -77.441378 W**

Degrees Minutes Seconds: **39° 45' 48" N, -77° 26' 29" W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
PA Fish and Boat Commission	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
U.S. Fish and Wildlife Service	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

RESPONSE TO QUESTION(S) ASKED

Q1: "Will the entire project area (including any discharge), plus a 300 feet buffer around the project area, all occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, maintained (periodically mown) lawn, crop agriculture field or maintained orchard?"

Your answer is: **2. No**

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

DCNR Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here: http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_DCNR.aspx.)

Scientific Name: Herbaceous vernal pond

Common Name:

Current Status: Special Concern Resource*

Proposed Status: Special Concern Resource*

Scientific Name: Sensitive Species**

Common Name:**Current Status:** Special Concern Species***Proposed Status:** Threatened**Scientific Name:** Sensitive Species****Common Name:****Current Status:** Endangered**Proposed Status:** Threatened**PA Fish and Boat Commission**

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

PFBC Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)

Scientific Name: Sensitive Species****Common Name:****Current Status:** Special Concern Species***U.S. Fish and Wildlife Service**

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, send the following information to the agency(s) seeking this information (see AGENCY CONTACT INFORMATION).

Check-list of Minimum Materials to be submitted:

____ **SIGNED** copy of this Project Environmental Review Receipt

____ Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.

____ Project location information (name of USGS Quadrangle, Township/Municipality, and County)

____ USGS 7.5-minute Quadrangle with project boundary clearly indicated, and quad name on the map

The inclusion of the following information may expedite the review process.

____ A basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)

____ Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)

____ Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552, Harrisburg, PA.
17105-8552
Fax: (717) 772-0271

U.S. Fish and Wildlife Service

Pennsylvania Field Office
110 Radnor Rd; Suite 101, State College, PA 16801
NO Faxes Please.

PA Fish and Boat Commission

Division of Environmental Services
450 Robinson Lane, Bellefonte, PA. 16823-7437
NO Faxes Please

PA Game Commission

Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
Fax: (717) 787-6957

7. PROJECT CONTACT INFORMATION

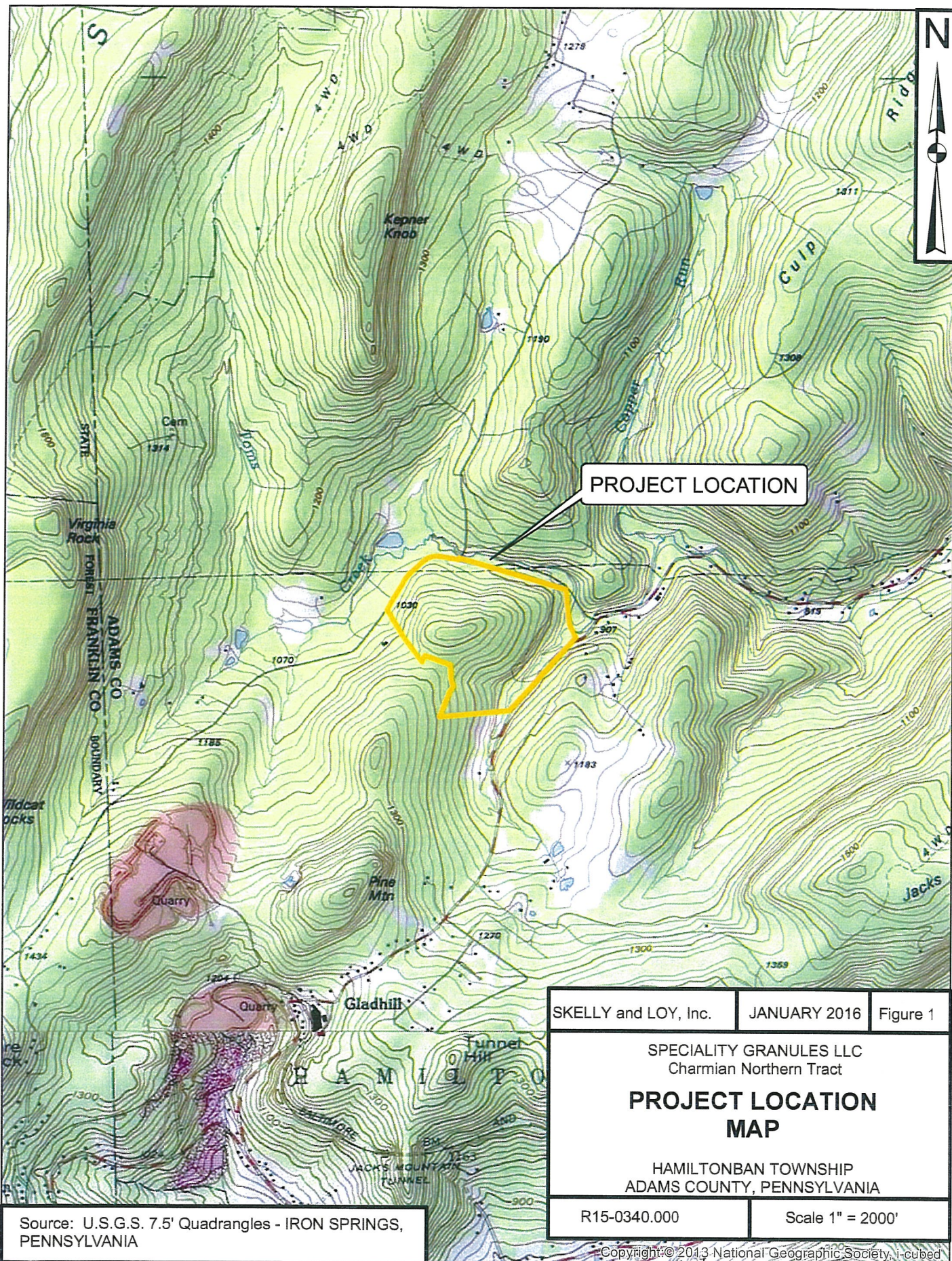
Name: Andrew Nevin
Company/Business Name: Skelly & Loy Inc.
Address: 449 Eisenhower Blvd. Suite 300
City, State, Zip: Harrisburg, PA 17111
Phone: (717) 232-0593 Fax: (717) 232-1799
Email: anevin@skellyloy.com

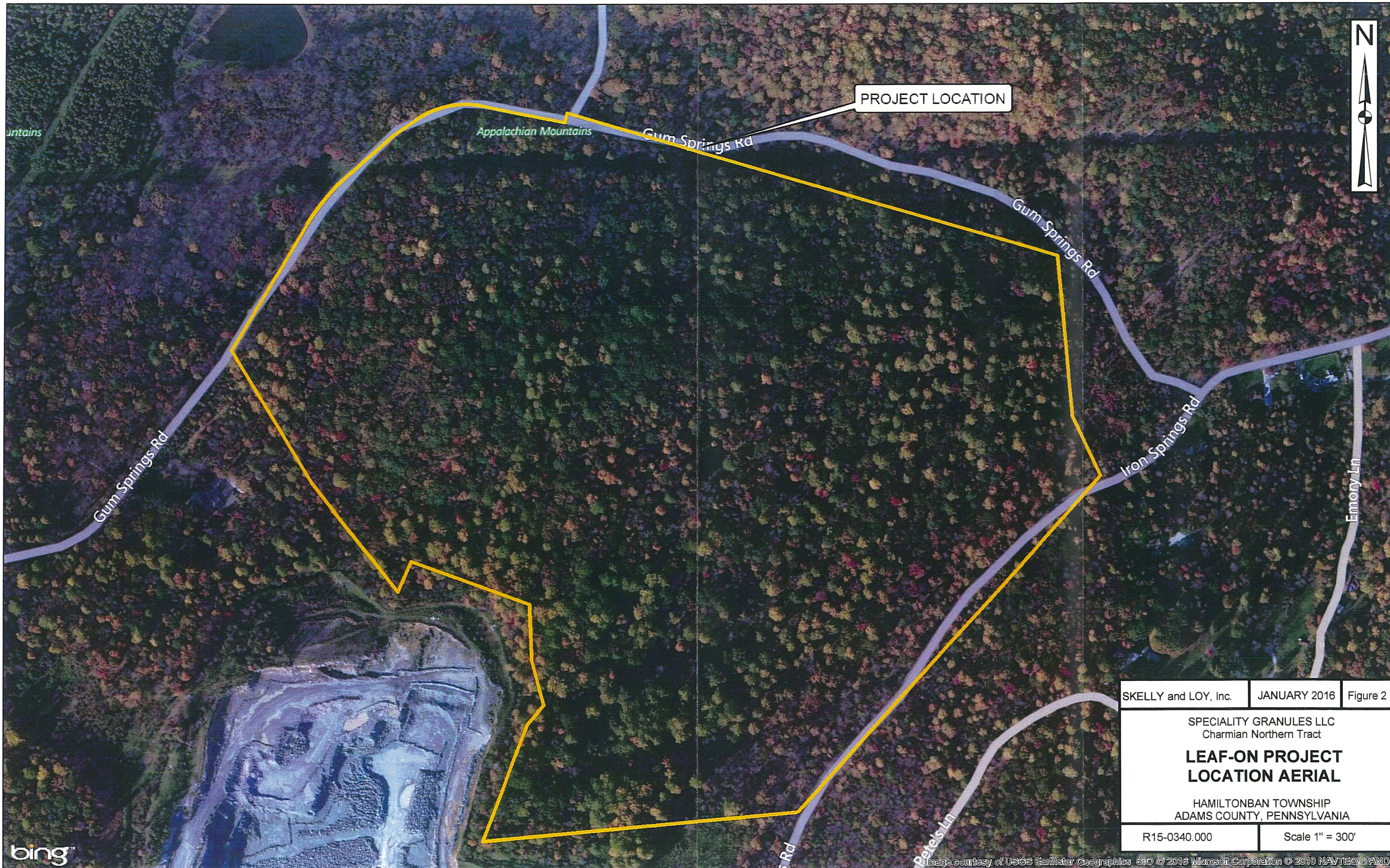
8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Andrew Nevin
applicant/project proponent signature

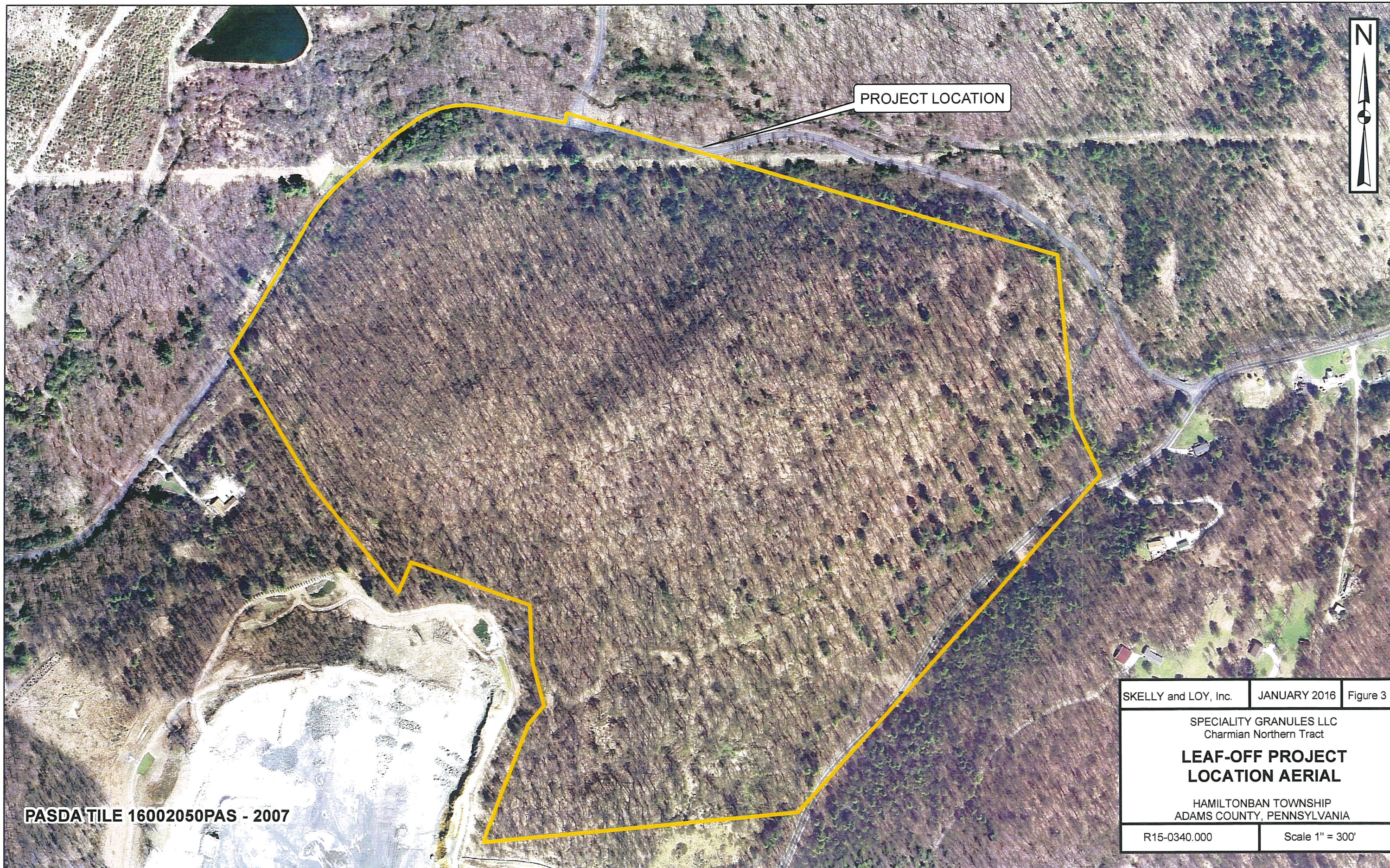
12/8/15
date

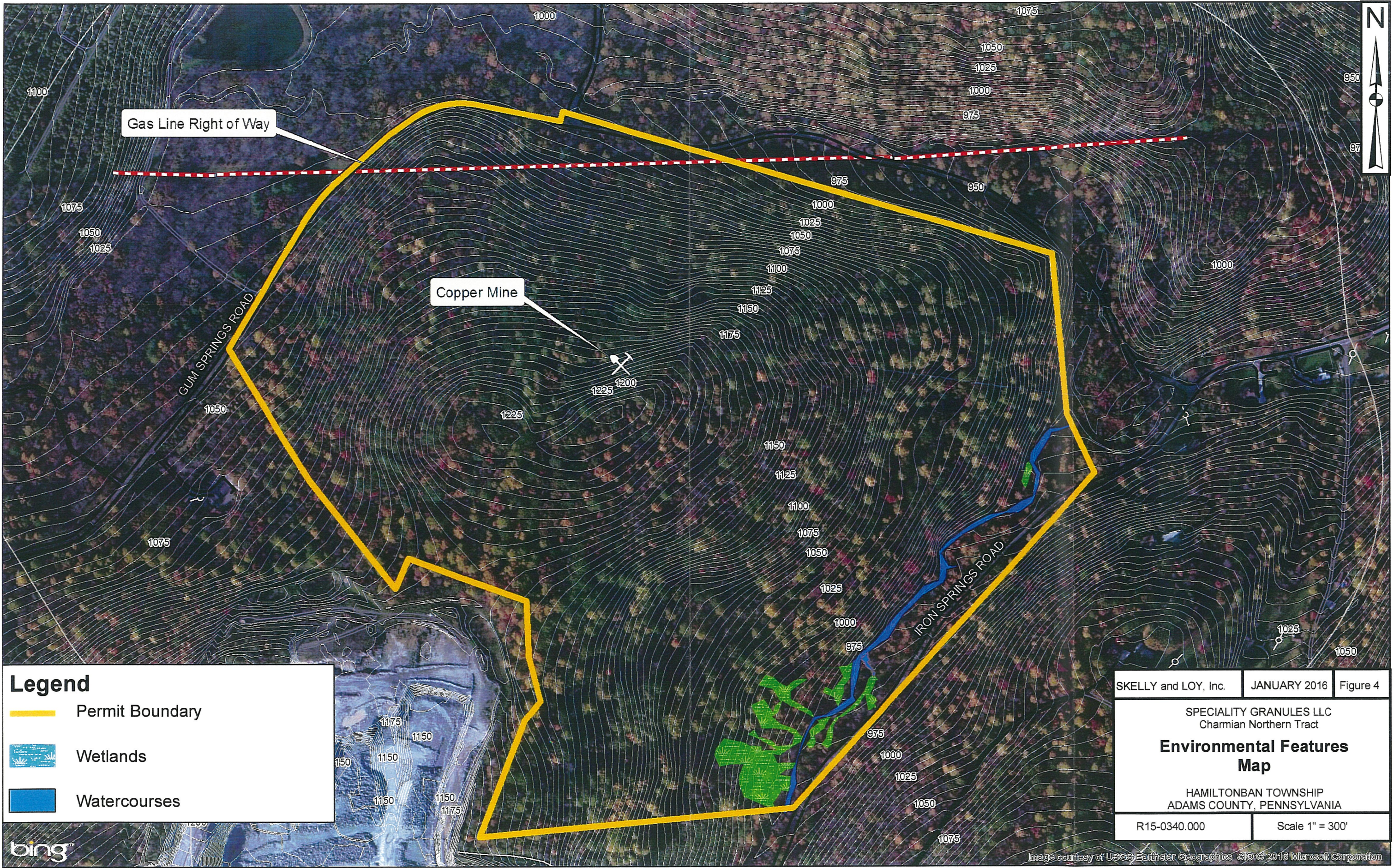




SKELLY and LOY, Inc.	JANUARY 2016	Figure 2
SPECIALITY GRANULES LLC Charmian Northern Tract		
LEAF-ON PROJECT LOCATION AERIAL		
HAMILTONBAN TOWNSHIP ADAMS COUNTY, PENNSYLVANIA		
R15-0340.000	Scale 1" = 300'	

Image courtesy of USGS Earthstar Geographics. SIO © 2016 Microsoft Corporation © 2010 NAVTEC, © AND





Legend

- Permit Boundary
- Wetlands
- Watercourses

SKELLY and LOY, Inc.	JANUARY 2016	Figure 4
SPECIALITY GRANULES LLC Charmian Northern Tract		
Environmental Features Map		
HAMILTONBAN TOWNSHIP ADAMS COUNTY, PENNSYLVANIA		
R15-0340.000	Scale 1" = 300'	

Image courtesy of USGS Earthstar Geographics SIO © 2016 Microsoft Corporation

Photograph 1: Representative mature deciduous forest along moderate gradient



Photograph 2: Representative mature deciduous forest along steep gradient



Photograph 3: Historic copper mine shaft meeting criteria for potential bat hibernaculum; showing portal approach.



Photograph 4: Close-up of historic copper mine shaft meeting criteria for potential bat hibernaculum; showing portal entrance.



Photograph 5: Hemlock bottomland associated with UNT to Tom's Creek.



Photograph 6: Natural gas right-of-way intersecting the project area to the north.



ATTACHMENT 2

R15-0340.000



United States Department of the Interior

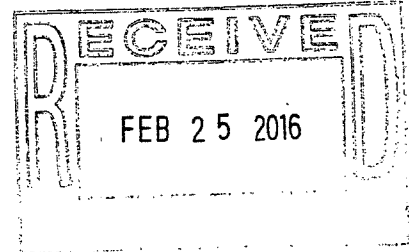


FISH AND WILDLIFE SERVICE

Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

February 18, 2016

Andy Brookens
Skelly and Loy, Inc.
449 Eisenhower Blvd, Suite 300
Harrisburg, PA 17111



RE: USFWS Project #2010-1050
PNDI Receipt #20151208541654

Dear Mr. Brookens:

Thank you for your letter dated January 29, 2016, which provided the Fish and Wildlife Service (Service) with information regarding the proposed Charmian Quarry Northern Tract Development project located in Hamiltonban Township, Adams County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) to ensure the protection of endangered and threatened species.

The project is within the known range of the bog turtle (*Clemmys muhlenbergii*), a species that is federally listed as threatened. Bog turtles inhabit shallow, spring-fed fens, sphagnum bogs, swamps, marshy meadows, and pastures characterized by soft, muddy bottoms; clear, cool, slow-flowing water, often forming a network of rivulets; high humidity; and an open canopy. Bog turtles usually occur in small, discrete populations occupying suitable wetland habitat dispersed along a watershed. The occupied "intermediate successional stage" wetland habitat is usually a mosaic of micro-habitats ranging from dry pockets, to areas that are saturated with water, to areas that are periodically flooded. Some wetlands occupied by bog turtles are located in agricultural areas and are subject to grazing by livestock.

To determine the potential effects of the proposed project on bog turtles and their habitat, begin by identifying all wetlands in, and within 300 feet of, the project area. The project area includes all areas that will be permanently or temporarily affected by any and all project features, including building, roads, staging areas, utility lines, outfall and intake structures, wells, stormwater retention or detention basins, parking lots, driveways, lawns, etc. The area of investigation should be expanded when project effects might extend more than 300 feet from the project footprint. For example, the hydrological effects of some projects (e.g., large residential or commercial developments; golf courses; community water supply wells) might extend well beyond the project footprint due to the effects that impervious surfaces or groundwater pumping may have on the hydrology of nearby groundwater-dependent wetlands. Wetlands should be included on a map showing existing as well as proposed project features.

If someone qualified to identify and delineate wetlands has, through a field investigation, determined that no wetlands are located in or within 300 feet of the project area (or within the expanded investigation area, as described above), it is not likely that your project will adversely affect the bog turtle. If this is the case, no further consultation with the Fish and Wildlife Service is necessary, although we would appreciate receiving a courtesy copy of the wetland investigator's findings for our files.

If wetlands have been identified in or within 300 feet of the project area (or in an expanded investigation area, as described above), assess their potential suitability as bog turtle habitat, as described under "*Bog Turtle Habitat Survey*" (Phase 1 survey) of the *Guidelines for Bog Turtle Surveys* (revised April 2006). Survey results should be submitted to the Service for review and concurrence. The survey guidelines, as well as a Phase 1 field form and report template, are available from the Service upon request.

Due to the skill required to correctly identify potential bog turtle habitat, we recommend that the Phase 1 survey be done by a qualified surveyor (see enclosed list). If the Phase 1 survey is done by someone who is not on this list, it is likely that a site visit by a Fish and Wildlife Service biologist will be necessary to verify their findings. *Due to the limited availability of staff from this office, such a visit may not be possible for some time. Use of a qualified surveyor will expedite our review of the survey results.*

If potential bog turtle habitat is found in or near the project area, efforts should be made to avoid any direct or indirect impacts to those wetlands (see enclosed *Bog Turtle Conservation Zones*). Avoidance of direct and indirect effects means no disturbance to or encroachment into the wetlands (e.g., filling, ditching or draining) for any project-associated features or activities. Adverse effects may also be anticipated to occur when lot lines include portions of the wetland; when an adequate upland buffer is not retained around the wetland (see *Bog Turtle Conservation Zones*); or when roads, stormwater/sedimentation basins, impervious surfaces, or wells affect the hydrology of the wetland.

If potential habitat is found, submit (along with your Phase 1 survey results) a detailed project description and detailed project plans documenting how direct and indirect impacts to the wetlands will be avoided. If adverse effects to these wetlands cannot be avoided, a more detailed and thorough survey should be done, as described under "*Bog Turtle Survey*" (Phase 2 survey) of the *Guidelines*. The Phase 2 survey should be conducted by a qualified biologist with bog turtle field survey experience (see enclosed list of qualified surveyors). Submit survey results to the Service for review and concurrence.

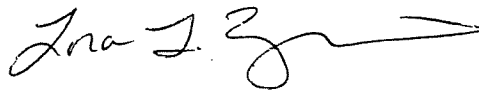
In cases where adverse effects to federally listed species cannot be avoided, further consultation with the Service would be necessary to avoid potential violations of section 9 (prohibiting "take" of listed species) and/or section 7 (requiring federal agencies to consult) of the Endangered Species Act. Information about the section 7 and section 10 consultation processes (for federal and non-federal actions, respectively) can be obtained by contacting this office or accessing the Service's Endangered Species Home Page (<http://endangered.fws.gov>).

This response relates only to endangered and threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities. A compilation of certain federal status species in Pennsylvania is enclosed for your information.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

Please contact Brian Scofield of my staff at 814-206-7471 if you have any questions or require further assistance regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Lora L. Zimmerman", with a long horizontal flourish extending to the right.

Lora L. Zimmerman
Field Office Supervisor

Enclosures

cc:
Readers file
ES file - active
Response type: BOG STD
ES:PAFO:
Filename:

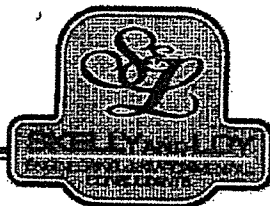
Enclosures (2):
list of qualified BT surveyors
BT conservation zones
BT SURVEY_April 2006

ATTACHMENT 3

2010-1050

449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

E-mail: skellyloy@skellyloy.com
Internet: www.skellyloy.com



Phone: 717-232-0593
800-892-6532
Fax: 717-232-1799

April 8, 2016

Ms. Debby Nizer
United States Army Corps of Engineers
Baltimore District Office
Regulatory Branch
10 South Howard Street
Post Office Box 1715
Baltimore, Maryland 21203-1715

Mr. Jonathan Chripczuk
Pennsylvania Department of Environmental Protection
Bureau of Waterways Engineering and W
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, Pennsylvania 17110

Mr. Brian Scofield
United States Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801



U.S. FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850



On 12/16/2015, a qualified bog turtle surveyor determined that there is no potential bog turtle habitat in the project area. We concur with these survey results and conclude that implementation of the proposed project will have no effect on bog turtles.

Shia J. Jones, Supervisor 5/11/16

Re: Jurisdictional Wetland-Watercourse
Identification and Delineation/Phase
I Bog Turtle Habitat Assessment
Report, Specialty Granules LLC,
Charmian Quarry Northern Tract
Development Project, Hamiltonban
Township, Adams County, Pennsyl-
vania
PNDI Environmental Review
#20151208541654
USFWS Project #2010-1050

Dear Ms. Nizer, Mr. Chripczuk, and Mr. Scofield:

Skelly and Loy, Inc. has been retained by Specialty Granules LLC (SGI) to initiate coordination with your respective agencies regarding the potential for effects on wetland and watercourse resources potentially under the jurisdiction of Section 404 of the Federal Clean Water Act and Pennsylvania Code Title 25, Chapter 105 resulting from the future development of an approximate 112-acre parcel referred to as the Northern Tract for non-coal quarrying activities in Hamiltonban Township, Adams County.

SGI extracts non-coal materials through an existing Pennsylvania Department of Environmental Protection (PA DEP) Surface Mine Permit at the Charmian Site located north of the town of Blue Ridge Summit. The Charmian Site generally consists of an active quarry (Pitts

ATTACHMENT 4

NORTHERN TRACT PROJECT NARRATIVE

Specialty Granules LLC (Specialty Granules) extracts non-coal natural materials through an existing Pennsylvania Department of Environmental Protection (PADEP) Surface Mine Permit at the Charmian Site, located north of the town of Blue Ridge Summit, in Hamiltonban Township, Adams County. The Charmian Site consists of an active quarry (Pitts Quarry - PA DEP Permit No. 01930302), an inactive quarry (West Ridge Quarry - PA DEP Permit No. 6477SM5 - which is in the reclamation phase), stockpile storage areas, crushing plant, and a granule plant. Specialty Granules extracts a metabasalt rock at the Pitts Quarry for the manufacture of roofing granules. They are currently conducting ongoing environmental studies, engineering design evaluations, and permitting activities to expand the existing, permitted quarry operations at the Charmian Site to the Northern Tract, an approximate 112-acre area contiguous to the area known as "Pitts Quarry."

The Northern Tract, centered at approximately 39.763323 North latitude and -77.441378 West longitude, is situated within a mountainous forested section of southwestern Adams County. The majority of the tract can be characterized as a moderate to steeply sloped mountainous mature deciduous forest community. Exposed rock outcroppings are prevalent throughout sections of the Northern Tract. The northwestern portion of the Northern Tract is bisected by an existing natural gas right-of-way under the ownership of Columbia Gas Company. The Northern Tract is generally bound on the north by Gum Springs Road (Township Road – 300), and on the east by Iron Springs Road (State Route 3014).

The proposed Northern Tract Quarry includes 66.3 acres of mineral extraction, 18.7 acres of operational buffer (access roads, erosion and sediment controls, etc.), and 27.3 acres of maintained buffer (only activity permitted is to add/replace damaged/dead trees).

ATTACHMENT 5

1. PROJECT INFORMATION

Project Name: **SGI Charmian - Northern Tract Quarry**
Date of Review: **7/26/2017 01:28:02 PM**
Project Category: **Mining, other non-coal minerals (limestone,shale)**
Project Area: **112.97 acres**
County(s): **Adams**
Township/Municipality(s): **HAMILTONBAN**
ZIP Code: **17320**
Quadrangle Name(s): **IRON SPRINGS**
Watersheds HUC 8: **Monocacy**
Watersheds HUC 12: **Upper Toms Creek**
Decimal Degrees: **39.767476, -77.439719**
Degrees Minutes Seconds: **39° 46' 2.9153" N, 77° 26' 22.9892" W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	Conservation Measure	No Further Review Required, See Agency Comments
PA Department of Conservation and Natural Resources	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
PA Fish and Boat Commission	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
U.S. Fish and Wildlife Service	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

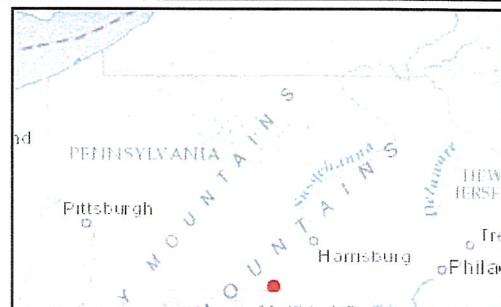
Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

SGI Charmian - Northern Tract Quarry

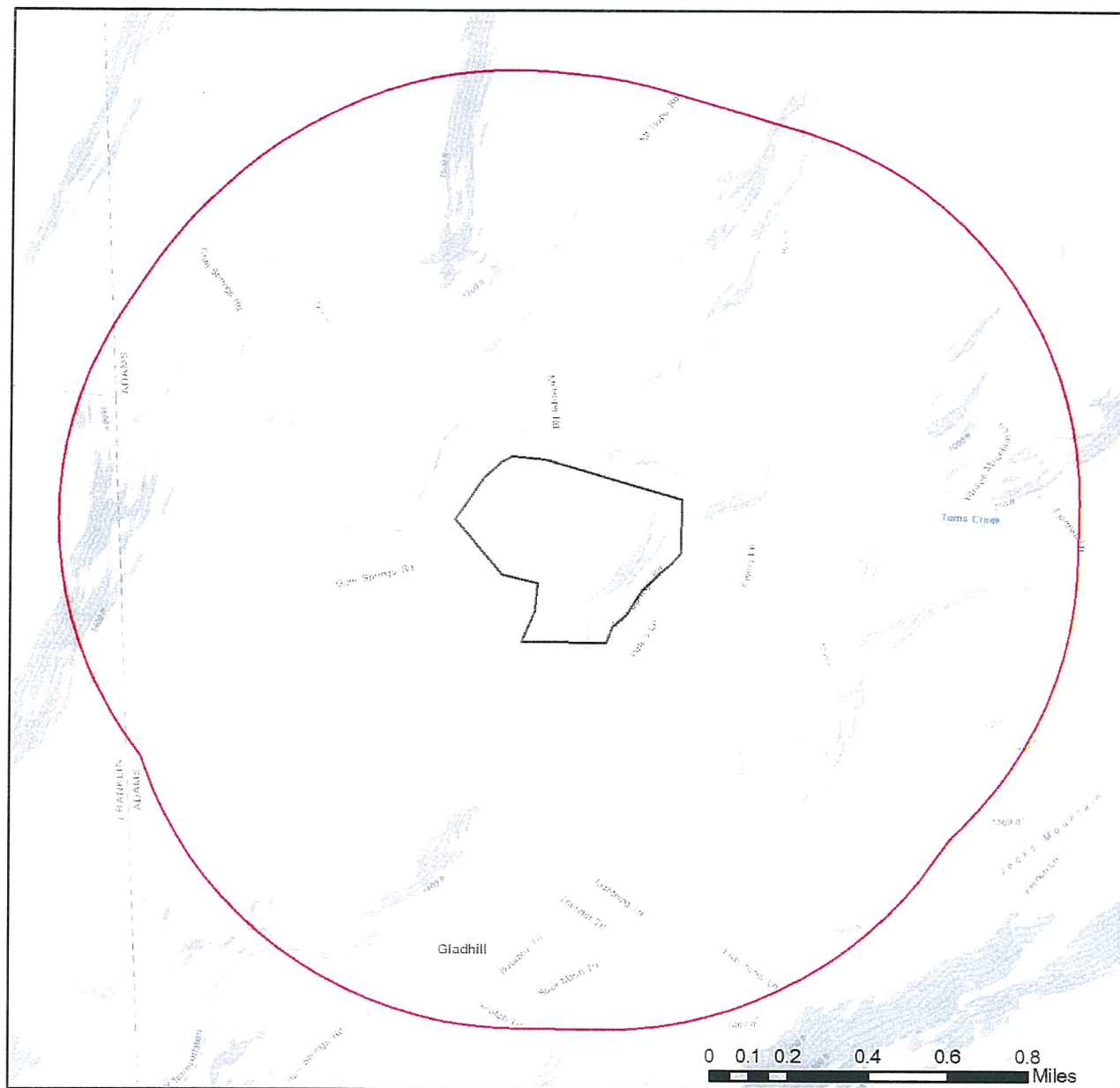


- ☐ Project Boundary
- ☐ Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user

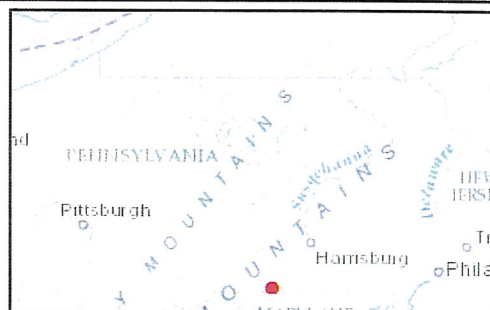


SGI Charmian - Northern Tract Quarry



- Project Boundary
- Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



RESPONSE TO QUESTION(S) ASKED

Q1: Which of the following closest describes the proposed project?

Your answer is: A well or other groundwater extraction (e.g., groundwater pumping to facilitate mining, pump-and-treat operation) is proposed as part of this project, or in order to support some aspect of the project, and more than 1000 gallons per day will be extracted.

Q2: Are there any perennial or intermittent waterways (rivers, streams, creeks, tributaries) in or near the project area, or on the land parcel?

Your answer is: Yes

Q3: Accurately describe what is known about the presence of wetlands and vernal pools in the project area or on the land parcel. "Project" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking areas, driveways, lawns, trails, recreation areas, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur.

Your answer is: Someone qualified to identify and delineate wetlands has investigated the site, and determined that wetlands or vernal pools ARE located in or within 300 feet of the project area. (A written report from the wetland specialist, and detailed project maps should document this.)

Q4: Will the entire project area (including any discharge), plus a 300 foot buffer around the project area, all occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, maintained (periodically mown) lawn, crop agriculture field or maintained orchard?

Your answer is: No

Q5: Accurately describe what is known about wetland presence in the project area or on the land parcel by selecting ONE of the following. "Project" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking lots, driveways, lawns, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur.

Your answer is: Someone qualified to identify and delineate wetlands has investigated the site, and determined that wetlands ARE located in or within 300 feet of the project area. (A written report from the wetland specialist, and detailed project maps should document this.)

Q6: The proposed project is in the range of the Indiana bat. Describe how the project will affect bat habitat (forests, woodlots and trees) and indicate what measures will be taken in consideration of this. Round acreages up to the nearest acre (e.g., 0.2 acres = 1 acre).

Your answer is: The project will affect 40 to 200 acres of forests, woodlots and trees AND a seasonal restriction on tree clearing will be implemented.

Q7: Is tree removal, tree cutting or forest clearing of 40 acres or more necessary to implement all aspects of this project?

Your answer is: Yes

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE:

Conservation Measure: Potential impacts to state and federally listed species which are under the jurisdiction of both the Pennsylvania Game Commission (PGC) and the U.S. Fish and Wildlife Service may occur as a result of this project. As a result, the PGC defers comments on potential impacts to federally listed species to the U.S. Fish and Wildlife Service. No further coordination with the Pennsylvania Game Commission is required at this time.

PA Department of Conservation and Natural Resources

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

DCNR Species: (Note: The Pennsylvania Conservation Explorer tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here: http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_DCNR.aspx.)

Scientific Name	Common Name	Current Status	Proposed Status	Survey Window
Sensitive Species**		Endangered	Threatened	
Sensitive Species**		Special Concern Species*	Threatened	

PA Fish and Boat Commission

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

PFBC Species: (Note: The Pennsylvania Conservation Explorer tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)

Scientific Name	Common Name	Current Status
Sensitive Species**		Special Concern Species*
Sensitive Species**		Special Concern Species*

U.S. Fish and Wildlife Service

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email* the following information to the agency(s). Instructions for uploading project materials can be found [here](#). This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies. Alternatively, applicants may email or mail their project materials (see AGENCY CONTACT INFORMATION).

***Note:** U.S.Fish and Wildlife Service requires applicants to mail project materials to the USFWS PA field office (see AGENCY CONTACT INFORMATION). USFWS will not accept project materials submitted electronically (by upload or email).

Check-list of Minimum Materials to be submitted:

____ Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.

____ A map with the project boundary and/or a basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)

In addition to the materials listed above, USFWS REQUIRES the following

____ **SIGNED** copy of a Final Project Environmental Review Receipt

The inclusion of the following information may expedite the review process.

____ Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)

____ Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <https://conservationexplorer.dcnr.pa.gov/content/resources>.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service

Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
NO Faxes Please

PA Fish and Boat Commission

Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission


Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Andy Brookens
Company/Business Name: SKelly and Loy, Inc.
Address: 449 Eisenhower Blvd Suite 300
City, State, Zip: Harrisburg, PA 17111
Phone: (717) 232-0593 Fax: (717) 232-1799
Email: abrookens@skellyloy.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

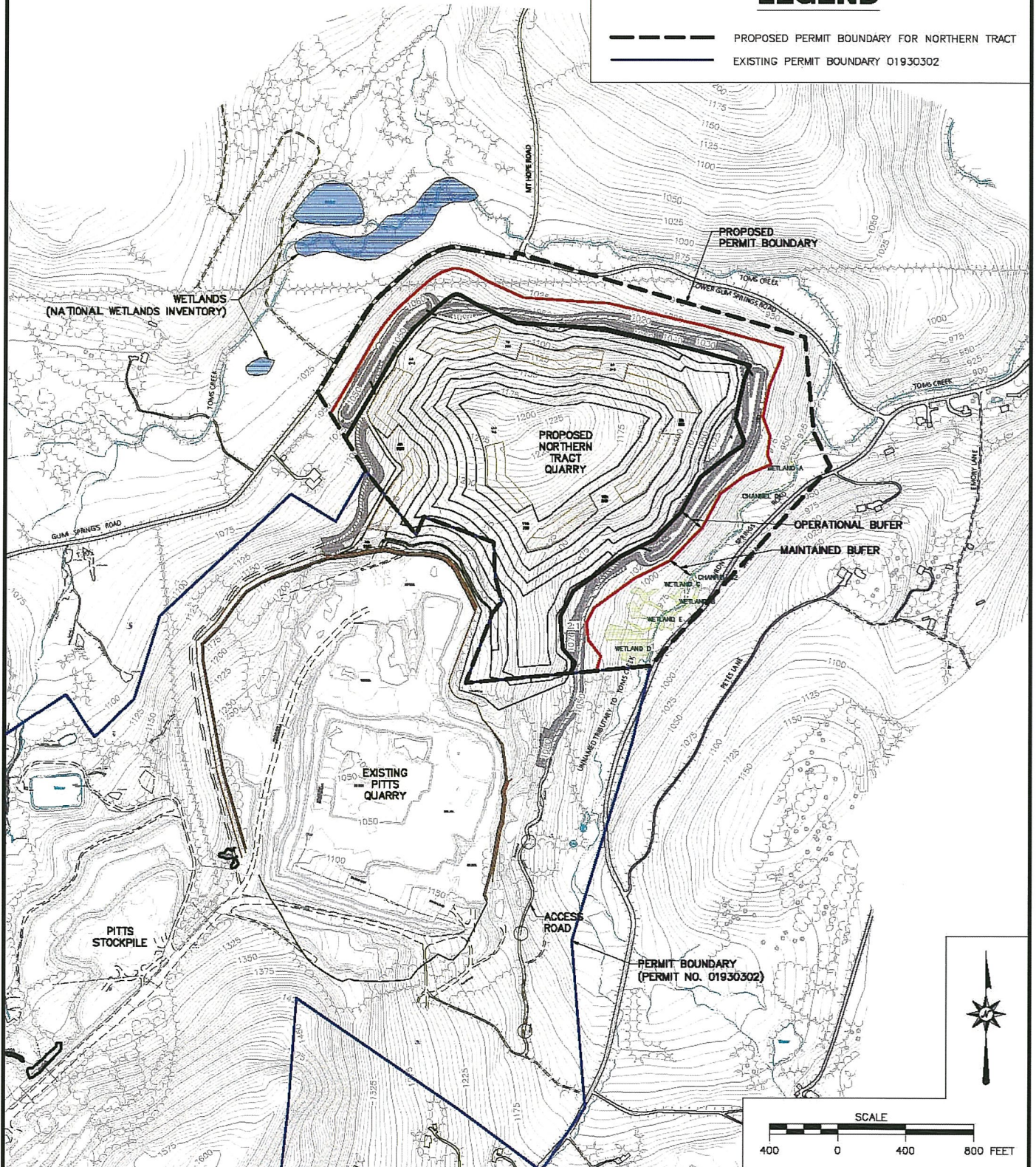

applicant/project proponent signature

07-26-17
date

ATTACHMENT 6

LEGEND

- PROPOSED PERMIT BOUNDARY FOR NORTHERN TRACT
- EXISTING PERMIT BOUNDARY 01930302



D'APPOLONIA



SPECIALTY GRANULES, LLC.

CHARMIAN SITE

PNDI MAP

PROJECT NUMBER: 152596A

DRAWN BY: AJM

DATE: 7/27/2017

FILE NAME: PNDI Map-R0.dwg

CHECKED BY: RMS

DATE: 7/27/2017

SCALE: AS SHOWN

DRAWING NO. 1

REV 0

7/28/2017 10:47 AM

R:\2015\152596 - SGI Disposal Embankment\Drawings\Northern Tract\PN01 Map-R0.dwg

RESPONSE FROM USFWS

2010-1050

449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

E-mail: skellyloy@skellyloy.com
Internet: www.skellyloy.com





Phone: 717-232-0593
800-892-6532

Fax: 717-232-1799

July 31, 2017

Ms. Lora Z. Lattanzi
Field Office Supervisor
U.S. Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801

	U.S. FISH AND WILDLIFE SERVICE Pennsylvania Field Office 110 Radnor Road, Suite 101 State College, Pennsylvania 16801-4850	
On <u>12/16/15</u> , a qualified bog turtle surveyor determined that there is no potential bog turtle habitat in the project area. We concur with these survey results and conclude that implementation of the proposed project will have no effect on bog turtles.		
<u>Sha Z. Lattanzi</u> , Supervisor <u>8/14/17</u>		

Re: Threatened and Endangered Species Coordination Letter; Specialty Granules LLC, Charmian Quarry Northern Tract Development Project, Hamiltonban Township, Adams County, Pennsylvania; PNDI Renewal #635546 (Previously Reviewed Under PNDI #20151208541654; USFWS Project #2010-1050)

Dear Ms. Lattanzi:

Skelly and Loy, Inc. has been retained by Specialty Granules LLC ("SGI") to coordinate with your agency regarding potential effects on federal listed species resulting from the proposed development of a non-coal mining operation on an approximately 112-acre area within SGI property located in Hamiltonban Township, Adams County, Pennsylvania, known as the "Northern Tract." The proposed Northern Tract project area is adjacent to existing non-coal mining operations currently operated by SGI.

This proposed project was previously reviewed by your agency in early 2016 under PNDI #20151208541654. **Attachment 1** is a copy of Skelly and Loy's original coordination letter dated January 29, 2016; and **Attachment 2** provides a copy of the USFWS's letter dated February 18, 2016, which requested a bog turtle study. A Jurisdictional Wetland-Watercourse Identification/Delineation and Phase I Bog Turtle Habitat Assessment Report dated April 8, 2016, prepared by Andrew M. Brookens, a Pennsylvania recognized-qualified bog turtle surveyor, was provided to your office. The USFWS responded via stamped letter on May 11, 2016, concurring on habitat survey results and concluding that implementation of the proposed project will have no effect on bog turtles. **Attachment 3** provides a copy of the USFWS's stamped letter dated May 11, 2016.

Planning for the Project has extended over a substantial period, and at this point it is anticipated that SGI will submit a Non-Coal Mining Permit Application to the Pennsylvania Department of Environmental Protection ("PADEP") in the first quarter of 2018. PADEP has requested that SGI update its PNDI and coordination efforts for several reasons, including for

SUPPLEMENTAL CORRESPONDENCE WITH USFWS



SPECIALTY GRANULES LLC

13424 Pennsylvania Ave, Suite 303 // Hagerstown, MD 21742 // Tel: 301-733-4000 // Fax: 301-733-4003 www.specialtygranules.com

December 21, 2017

Ms. Lora Z. Lattanzi
Field Office Supervisor
U.S. Fish & Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801

Re: Request for Reconfirmation of USFWS Response to July 31, 2017 Threatened and Endangered Species Coordination Letter; Specialty Granules LLC, Charmian Quarry Northern Tract Development Project, Hamiltonban Township, Adams County, PA; PNDI Renewal # 635546 (Previously Reviewed Under PNDI #20151208541654; USFWS Project #2010-1050)

Dear Ms. Lattanzi:

In response to questions raised by the Pennsylvania Department of Environmental Protection ("PADEP") as to whether issues relating to listed bat species have been addressed, we are requesting that the U.S. Fish and Wildlife Service reconfirm its prior response to the above-referenced July 31, 2017 Threatened and Endangered Species Coordination Letter (Attachment 1) to specifically confirm our understanding that there are no issues with respect to listed Northern Long-Eared Bat or Indiana Bat habitat.

As recited in the July 31, 2017, coordination letter submitted by our consultant, Skelly and Loy, Specialty Granules LLC ("SGI") has sought to coordinate with the USFWS regarding potential effects on federal listed species resulting from the proposed development of a non-coal mining operation on an approximately 112-acre area within SGI property located in Hamiltonban Township, Adams County, Pennsylvania, known as the "Northern Tract." The proposed Northern Tract project area is adjacent to existing non-coal mining operations currently operated by SGI. This proposed project was previously reviewed by your agency in early 2016 under PNDI #2015120854165, and most recently revised again by your agency under PNDI Renewal #635546.

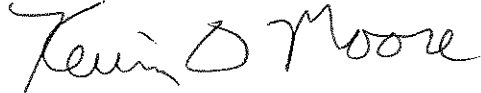
As indicated in the July 31, 2017 coordination letter, SGI is aware that the Project area lies within the range of the Indiana Bat, and as indicated in SGI's response to PNDI Question 7, SGI will commit to a seasonal restriction on tree cutting within the proposed Project area. PADEP had also requested that we draw your attention to map and photographic information provided in our original January 29, 2016 submission concerning an opening in the ground discovered within the proposed Project area which is believed to have been a shaft associated with an historic copper mine.

Out of an abundance of caution, SGI engaged qualified bat survey professionals employed by Western EcoSystems Technology, Inc. ("WEST") to perform an evaluation and mist-net survey to determine the presence or probable absence of federally-listed Indiana bat ("INBA"; *Myotis sodalis*) or northern long-eared bat ("NLEB"; *Myotis septentrionalis*) at the former mine shaft. The results of that evaluation are presented in the attached report entitled "Abandoned Mine Shaft Mist-Net Surveys Adams County, Pennsylvania" (Attachment 2). As set forth in that report, mist-net surveys conducted on three separate nights in October 2017 following USFWS and Pennsylvania Game Commission protocols found only one bat, which was not of a listed species. WEST's report concludes that: "Based on the results of this survey, there is no evidence that the abandoned mine shaft was utilized as a hibernaculum by INBA or NLEB."

Accordingly, to address PADEP's question, we would request that the USFWS specifically confirm that, subject to the stipulation that SGI will commit to a seasonal restriction on tree cutting within the proposed Project area, the USFWS requires no further clearance with respect to listed bat species.

We appreciate your consideration of this request and look forward to receiving from you correspondence regarding this matter at your earliest convenience. Should you have any questions regarding this Project, please contact me at (301) 393-8410.

Sincerely yours,

A handwritten signature in cursive script that reads "Kevin D. Moore".

Kevin D. Moore
Mine Planning Manager

Attachments (2)

cc: Celeste Levine, Esq., SGI
Matthew McClure, SGI
Robert Shusko, D'Appolonia
Laura Berra, Skelly and Loy

Attachment 1

449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

Phone: 717-232-0593
800-892-6532

E-mail: skellyloy@skellyloy.com
Internet: www.skellyloy.com



Fax: 717-232-1799

July 31, 2017

Ms. Lora Z. Lattanzi
Field Office Supervisor
U.S. Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801

Re: Threatened and Endangered
Species Coordination Letter;
Specialty Granules LLC, Charmian
Quarry Northern Tract Development
Project, Hamiltonban Township,
Adams County, Pennsylvania; PNDI
Renewal #635546 (Previously
Reviewed Under PNDI
#20151208541654; USFWS Project
#2010-1050)

Dear Ms. Lattanzi:

Skelly and Loy, Inc. has been retained by Specialty Granules LLC ("SGI") to coordinate with your agency regarding potential effects on federal listed species resulting from the proposed development of a non-coal mining operation on an approximately 112-acre area within SGI property located in Hamiltonban Township, Adams County, Pennsylvania, known as the "Northern Tract." The proposed Northern Tract project area is adjacent to existing non-coal mining operations currently operated by SGI.

This proposed project was previously reviewed by your agency in early 2016 under PNDI #20151208541654. **Attachment 1** is a copy of Skelly and Loy's original coordination letter dated January 29, 2016; and **Attachment 2** provides a copy of the USFWS's letter dated February 18, 2016, which requested a bog turtle study. A Jurisdictional Wetland-Watercourse Identification/Delineation and Phase I Bog Turtle Habitat Assessment Report dated April 8, 2016, prepared by Andrew M. Brookens, a Pennsylvania recognized-qualified bog turtle surveyor, was provided to your office. The USFWS responded via stamped letter on May 11, 2016, concurring on habitat survey results and concluding that implementation of the proposed project will have no effect on bog turtles. **Attachment 3** provides a copy of the USFWS's stamped letter dated May 11, 2016.

Planning for the Project has extended over a substantial period, and at this point it is anticipated that SGI will submit a Non-Coal Mining Permit Application to the Pennsylvania Department of Environmental Protection ("PADEP") in the first quarter of 2018. PADEP has requested that SGI update its PNDI and coordination efforts for several reasons, including for

Ms. Lora Z. Lattanzi
Page 2
July 31, 2017

the reason that the previous PNDI clearance expires after two years, and hence before completion of the review of the anticipated application.


As explained in our letter dated January 29, 2016, as well as in the enclosed Northern Tract Project Narrative (**Attachments 1 and 4, respectively**), SGI extracts non-coal natural materials at the Charmian Site located north of the town of Blue Ridge Summit through an existing PADEP Surface Mine Permit. The Charmian Site currently consists of an active quarry (Pitts Quarry – Noncoal Surface Mining Permit No. 01930302), an inactive quarry (West Ridge Quarry PADEP Permit No. 6477SM5 - which is in the reclamation phase), stockpile storage areas, a crushing plant, and a granule plant. SGI extracts a metabasalt rock at the Pitts Quarry Site for the purpose of manufacturing roofing granules that are used to coat the wearing surface of asphalt roofing shingles.

To update the PNDI/coordination process, SGI has submitted an updated PNDI form (PNDI #635546), a copy of which is provided in **Attachment 5**. SGI is aware that the Project area lies within the range of the Indiana Bat, and as indicated in SGI's response to PNDI Question 7, SGI will commit to a seasonal restriction on tree cutting within the proposed Project area. PADEP has also requested that we draw your attention to map and photographic information provided in our original January 29, 2016, submission concerning an opening in the ground discovered within the proposed Project area which may have been a shaft associated with an historic copper mine (Photographs 3 and 4 of **Attachment 1**). An additional map (**Attachment 6**) depicting more project information relative to environmental features has been enclosed to supplement the maps in the original correspondence.

Thank you in advance for your review of this project screening information. We look forward to working with you and to receiving from you correspondence regarding this matter at your earliest convenience. Should you have any questions regarding this Project, please contact me at 717-574-2373 or e-mail at abrookens@skellyloy.com.

Sincerely yours,

SKELLY and LOY, Inc.


Andrew M. Brookens
Biologist, Regional Director of
Natural Resources

Attachments (6)

cc: Celeste Levine, Esq., SGI
Matthew McClure, SGI
Robert Shusko, D'Appolonia
Laura Berra, Skelly and Loy
R15-0340.000
File: LATTANZI_AMB.docx

ATTACHMENTS

ATTACHMENT 1

449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

Phone: 717-232-0593
800-892-6532

E-mail: skellyloy@skellyloy.com
Internet: www.skellyloy.com



Fax: 717-232-1799

January 29, 2016

Mr. Frederick Sechler
Pennsylvania Department of
Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, Post Office Box 8552
Harrisburg, Pennsylvania 17105-8552

Mr. Chris Urban
Pennsylvania Fish and Boat Commission
Division of Environmental Services, Natural Diversity Section
450 Robinson Lane
Bellefonte, Pennsylvania 16823-7437

Ms. Pamela Shellenberger
U.S. Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801

Re: Threatened and Endangered Species Coordination Letter, Specialty Granules LLC, Charmian Quarry Northern Tract Development Project, Hamiltonban Township, Adams County, Pennsylvania
PNDI #20151208541654

Dear Mr. Sechler, Mr. Urban, and Ms. Shellenberger:

Skelly and Loy, Inc. has been retained by Specialty Granules LLC (SGI) to initiate coordination with your respective agencies regarding potential effects on federally and/or state-listed species resulting from the future development of an approximate 112-acre parcel referred to as the Northern Tract for non-coal quarrying activities in Hamiltonban Township, Adams County.

SGI extracts non-coal materials through an existing Pennsylvania Department of Environmental Protection (PA DEP) Surface Mine Permit at the Charmian Site located north of the town of Blue Ridge Summit. The Charmian Site generally consists of an active quarry (Pitts Quarry - PA DEP Permit No. 01930302), an inactive quarry (West Ridge Quarry, which is in the reclamation phase), stockpile storage areas, a crushing plant, and a granule plant. SGI extracts metabasalt at the Charmian Site for the purpose of manufacturing roofing granules that are used to coat the wearing surface of asphalt roofing shingles.

Mr. Frederick Sechler
Mr. Chris Urban
Ms. Pamela Shellenberger
Page 2
January 29, 2016


SGI is currently conducting environmental planning studies and engineering design evaluations to expand its existing, permitted metabasalt quarry operations from the Pitts Quarry to the Northern Tract. A Pennsylvania Natural Diversity Inventory (PNDI) database screening of the Northern Tract was completed on December 8, 2015. The PNDI project environmental review receipt (PNDI #20151208541654) indicated potential conflicts with species under the jurisdiction of the Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Fish and Boat Commission, and United States Fish and Wildlife Service.

We are enclosing the PNDI project environmental review receipt and project location map for your use during this review.

Thank you in advance for your review of this project screening information. We look forward to receiving correspondence from your respective agencies at your earliest convenience. Please contact me at 717-574-2373 if you have any questions regarding this matter.

Sincerely yours,

SKELLY and LOY, Inc.



Andy M. Brookens
Biologist, Regional Director of
Natural Resources

Enclosures

cc: Celeste Levine, Esq., Specialty Granules, LLC
Matthew McClure, Specialty Granules, LLC
Bob Shusko, D'Appolonia
Laura Berra, Skelly and Loy
R15-0340.000
File: SGI PNDI Initiation Letter.docx

1. PROJECT INFORMATION

Project Name: **SGI Charmian**

Date of review: **12/8/2015 12:16:23 PM**

Project Category: **Mining, other non-coal minerals (limestone, shale)**

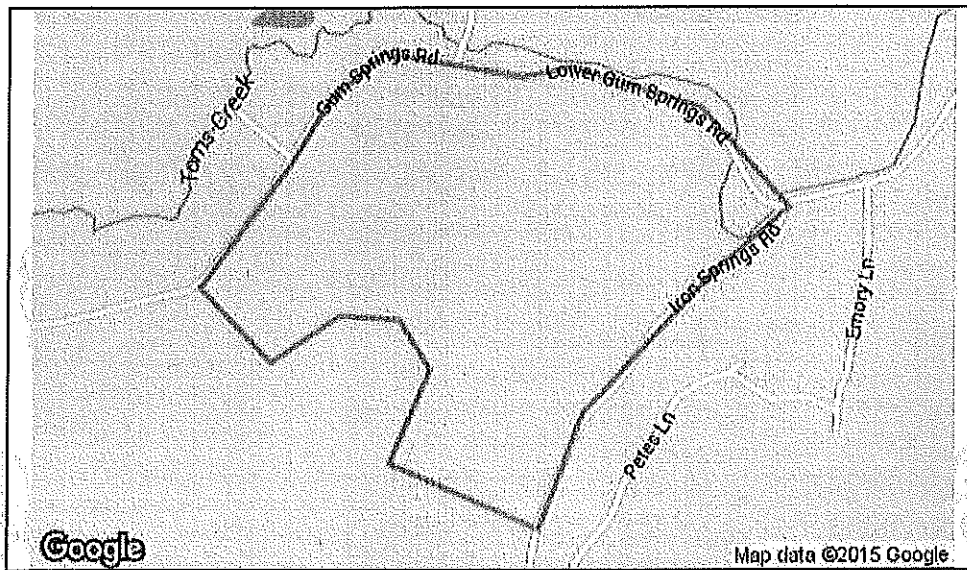
Project Area: **143.4** acres

County: **Adams** Township/Municipality: **Hamiltonban**

Quadrangle Name: **IRON SPRINGS** ~ ZIP Code: **17320**

Decimal Degrees: **39.763323 N, -77.441378 W**

Degrees Minutes Seconds: **39° 45' 48" N, -77° 26' 29" W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
PA Fish and Boat Commission	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
U.S. Fish and Wildlife Service	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

RESPONSE TO QUESTION(S) ASKED

Q1: "Will the entire project area (including any discharge), plus a 300 feet buffer around the project area, all occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, maintained (periodically mown) lawn, crop agriculture field or maintained orchard?"

Your answer is: **2. No**

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

DCNR Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here: http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_DCNR.aspx.)

Scientific Name: Herbaceous vernal pond

Common Name:

Current Status: Special Concern Resource*

Proposed Status: Special Concern Resource*

Scientific Name: Sensitive Species**

Common Name:

Current Status: Special Concern Species*

Proposed Status: Threatened

Scientific Name: Sensitive Species**

Common Name:

Current Status: Endangered

Proposed Status: Threatened

PA Fish and Boat Commission

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

PFBC Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)

Scientific Name: Sensitive Species**

Common Name:

Current Status: Special Concern Species*

U.S. Fish and Wildlife Service

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, send the following information to the agency(s) seeking this information (see AGENCY CONTACT INFORMATION).

Check-list of *Minimum* Materials to be submitted:

____ SIGNED copy of this Project Environmental Review Receipt

____ Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.

____ Project location information (name of USGS Quadrangle, Township/Municipality, and County)

____ USGS 7.5-minute Quadrangle with project boundary clearly indicated, and quad name on the map

The inclusion of the following information may expedite the review process.

____ A basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)

____ Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)

____ Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.



5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552, Harrisburg, PA,
17105-8552
Fax: (717) 772-0271

U.S. Fish and Wildlife Service

Pennsylvania Field Office
110 Radnor Rd; Suite 101, State College, PA 16801
NO Faxes Please.

PA Fish and Boat Commission

Division of Environmental Services
450 Robinson Lane, Bellefonte, PA. 16823-7437
NO Faxes Please

PA Game Commission

Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
Fax: (717) 787-6957

7. PROJECT CONTACT INFORMATION

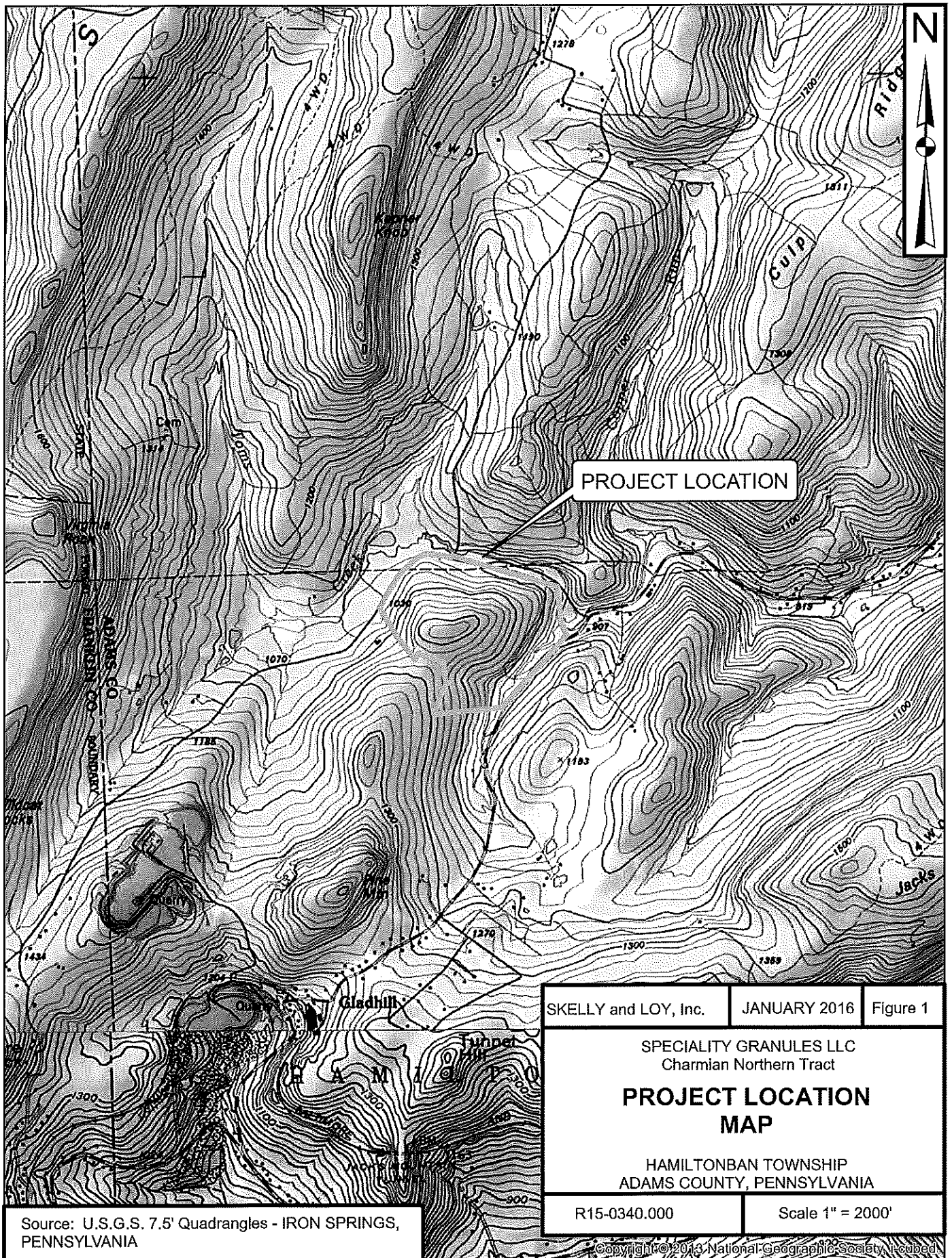
Name: Andrew Nevin
Company/Business Name: Skelly & Loy Inc.
Address: 449 Eisenhower Blvd. Suite 300
City, State, Zip: Harrisburg, PA 17111
Phone: (717) 232-0593 Fax: (717) 232-1799
Email: anevin@skellyloy.com

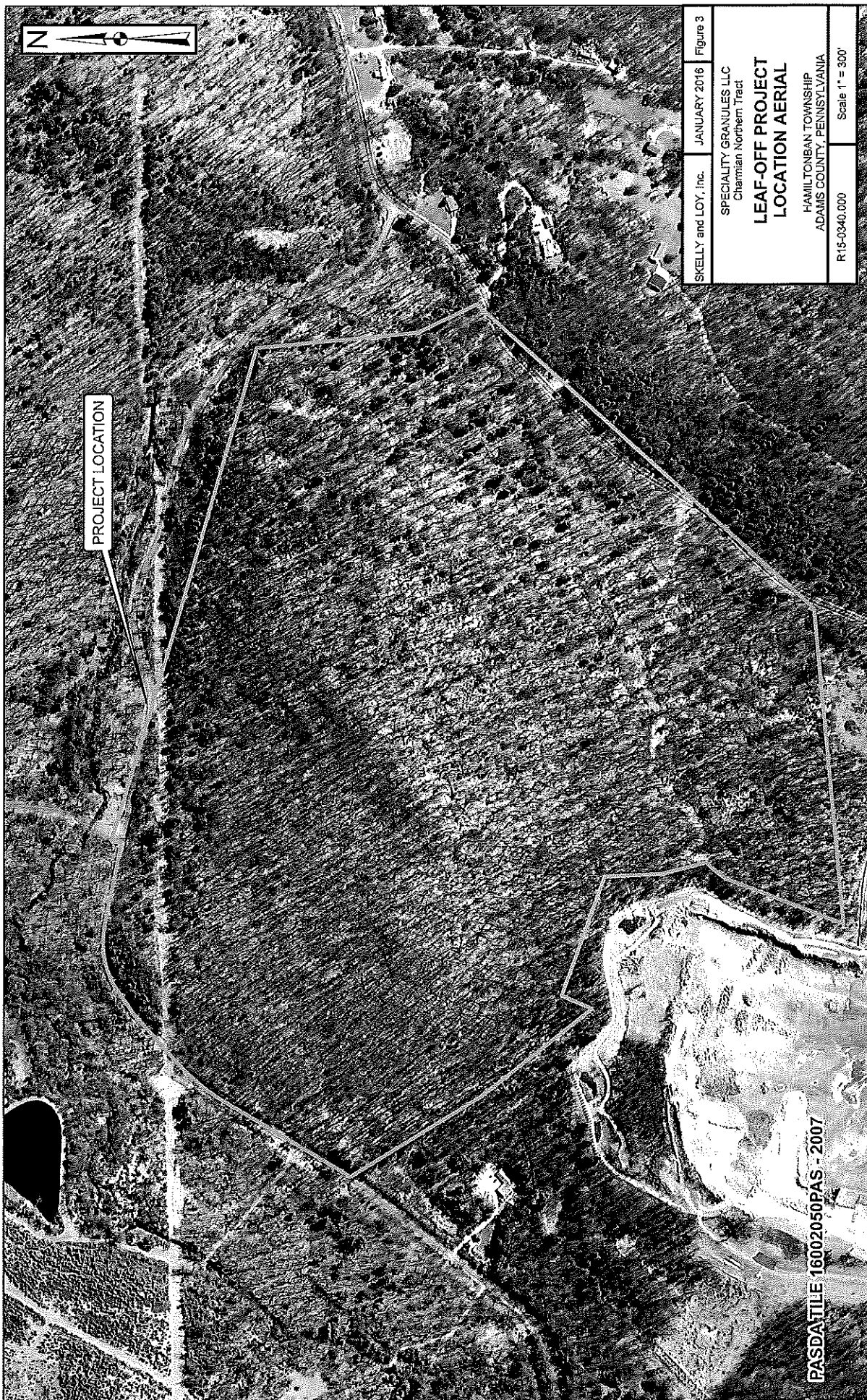
8. CERTIFICATION

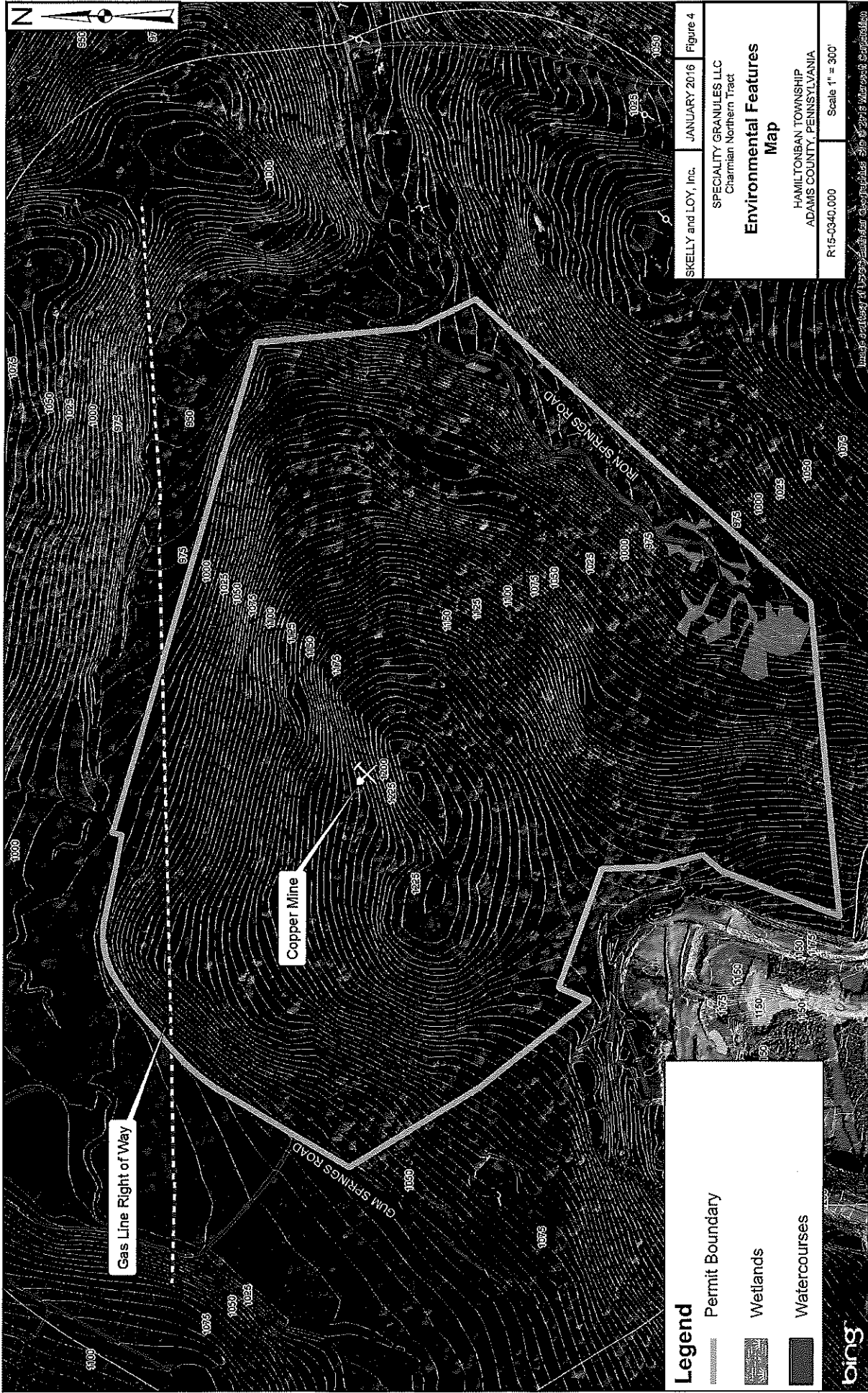
I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Ale N.
applicant/project proponent signature

12/8/15
date







Photograph 1: Representative mature deciduous forest along moderate gradient



Photograph 2: Representative mature deciduous forest along steep gradient



Photograph 3: Historic copper mine shaft meeting criteria for potential bat hibernaculum; showing portal approach.



Photograph 4: Close-up of historic copper mine shaft meeting criteria for potential bat hibernaculum; showing portal entrance.



Photograph 5: Hemlock bottomland associated with UNT to Tom's Creek.



Photograph 6: Natural gas right-of-way intersecting the project area to the north.



ATTACHMENT 2



United States Department of the Interior

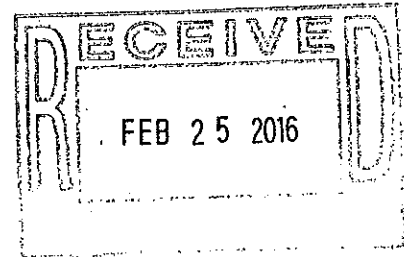
FISH AND WILDLIFE SERVICE

Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850



February 18, 2016

Andy Brookens
Skelly and Loy, Inc.
449 Eisenhower Blvd, Suite 300
Harrisburg, PA 17111



RE: USFWS Project #2010-1050
PNDI Receipt #20151208541654

Dear Mr. Brookens:

Thank you for your letter dated January 29, 2016, which provided the Fish and Wildlife Service (Service) with information regarding the proposed Charmian Quarry Northern Tract Development project located in Hamiltonban Township, Adams County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) to ensure the protection of endangered and threatened species.

The project is within the known range of the bog turtle (*Clemmys muhlenbergii*), a species that is federally listed as threatened. Bog turtles inhabit shallow, spring-fed fens, sphagnum bogs, swamps, marshy meadows, and pastures characterized by soft, muddy bottoms; clear, cool, slow-flowing water, often forming a network of rivulets; high humidity; and an open canopy. Bog turtles usually occur in small, discrete populations occupying suitable wetland habitat dispersed along a watershed. The occupied "intermediate successional stage" wetland habitat is usually a mosaic of micro-habitats ranging from dry pockets, to areas that are saturated with water, to areas that are periodically flooded. Some wetlands occupied by bog turtles are located in agricultural areas and are subject to grazing by livestock.

To determine the potential effects of the proposed project on bog turtles and their habitat, begin by identifying all wetlands in, and within 300 feet of, the project area. The project area includes all areas that will be permanently or temporarily affected by any and all project features, including building, roads, staging areas, utility lines, outfall and intake structures, wells, stormwater retention or detention basins, parking lots, driveways, lawns, etc. The area of investigation should be expanded when project effects might extend more than 300 feet from the project footprint. For example, the hydrological effects of some projects (e.g., large residential or commercial developments; golf courses; community water supply wells) might extend well beyond the project footprint due to the effects that impervious surfaces or groundwater pumping may have on the hydrology of nearby groundwater-dependent wetlands. Wetlands should be included on a map showing existing as well as proposed project features.

If someone qualified to identify and delineate wetlands has, through a field investigation, determined that no wetlands are located in or within 300 feet of the project area (or within the expanded investigation area, as described above), it is not likely that your project will adversely affect the bog turtle. If this is the case, no further consultation with the Fish and Wildlife Service is necessary, although we would appreciate receiving a courtesy copy of the wetland investigator's findings for our files.

If wetlands have been identified in or within 300 feet of the project area (or in an expanded investigation area, as described above), assess their potential suitability as bog turtle habitat, as described under "*Bog Turtle Habitat Survey*" (Phase 1 survey) of the *Guidelines for Bog Turtle Surveys* (revised April 2006). Survey results should be submitted to the Service for review and concurrence. The survey guidelines, as well as a Phase 1 field form and report template, are available from the Service upon request.

Due to the skill required to correctly identify potential bog turtle habitat, we recommend that the Phase 1 survey be done by a qualified surveyor (see enclosed list). If the Phase 1 survey is done by someone who is not on this list, it is likely that a site visit by a Fish and Wildlife Service biologist will be necessary to verify their findings. *Due to the limited availability of staff from this office, such a visit may not be possible for some time. Use of a qualified surveyor will expedite our review of the survey results.*

If potential bog turtle habitat is found in or near the project area, efforts should be made to avoid any direct or indirect impacts to those wetlands (see enclosed *Bog Turtle Conservation Zones*). Avoidance of direct and indirect effects means no disturbance to or encroachment into the wetlands (e.g., filling, ditching or draining) for any project-associated features or activities. Adverse effects may also be anticipated to occur when lot lines include portions of the wetland; when an adequate upland buffer is not retained around the wetland (see *Bog Turtle Conservation Zones*); or when roads, stormwater/sedimentation basins, impervious surfaces, or wells affect the hydrology of the wetland.

If potential habitat is found, submit (along with your Phase 1 survey results) a detailed project description and detailed project plans documenting how direct and indirect impacts to the wetlands will be avoided. If adverse effects to these wetlands cannot be avoided, a more detailed and thorough survey should be done, as described under "*Bog Turtle Survey*" (Phase 2 survey) of the *Guidelines*. The Phase 2 survey should be conducted by a qualified biologist with bog turtle field survey experience (see enclosed list of qualified surveyors). Submit survey results to the Service for review and concurrence.

In cases where adverse effects to federally listed species cannot be avoided, further consultation with the Service would be necessary to avoid potential violations of section 9 (prohibiting "take" of listed species) and/or section 7 (requiring federal agencies to consult) of the Endangered Species Act. Information about the section 7 and section 10 consultation processes (for federal and non-federal actions, respectively) can be obtained by contacting this office or accessing the Service's Endangered Species Home Page (<http://endangered.fws.gov>).

This response relates only to endangered and threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities. A compilation of certain federal status species in Pennsylvania is enclosed for your information.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

Please contact Brian Scofield of my staff at 814-206-7471 if you have any questions or require further assistance regarding this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read "Lora L. Zimmerman", followed by a long horizontal flourish.

Lora L. Zimmerman
Field Office Supervisor

Enclosures

cc:

Readers file

ES file - active

Response type: BOG STD

ES:PAFO:

Filename:

Enclosures (2):

list of qualified BT surveyors

BT conservation zones

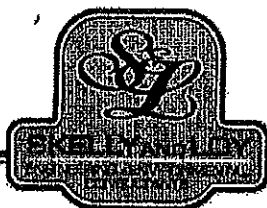
BT SURVEY_April 2006

ATTACHMENT 3

2010-1050

449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

E-mail: skellyloy@skellyloy.com
Internet: www.skellyloy.com



Phone: 717-232-0593
800-892-6532

Fax: 717-232-1799

April 8, 2016

Ms. Debby Nizer
United States Army Corps of Engineers
Baltimore District Office
Regulatory Branch
10 South Howard Street
Post Office Box 1715
Baltimore, Maryland 21203-1715

Mr. Jonathan Chripczuk
Pennsylvania Department of Environmental Protection
Bureau of Waterways Engineering and W
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, Pennsylvania 17110



U.S. FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850



Mr. Brian Scofield
United States Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801

On 12/16/2015, a qualified bog turtle surveyor determined that there is no potential bog turtle habitat in the project area. We concur with these survey results and conclude that implementation of the proposed project will have no effect on bog turtles.

John J. [Signature] Supervisor 5/11/16

Re: Jurisdictional Wetland-Watercourse
Identification and Delineation/Phase
I Bog Turtle Habitat Assessment
Report, Specialty Granules LLC,
Charmian Quarry Northern Tract
Development Project, Hamiltonban
Township, Adams County, Pennsyl-
vania
PNDI Environmental Review
#20151208541654
USFWS Project #2010-1050

Dear Ms. Nizer, Mr. Chripczuk, and Mr. Scofield:

Skelly and Loy, Inc. has been retained by Specialty Granules LLC (SGI) to initiate coordination with your respective agencies regarding the potential for effects on wetland and watercourse resources potentially under the jurisdiction of Section 404 of the Federal Clean Water Act and Pennsylvania Code Title 25, Chapter 105 resulting from the future development of an approximate 112-acre parcel referred to as the Northern Tract for non-coal quarrying activities in Hamiltonban Township, Adams County.

SGI extracts non-coal materials through an existing Pennsylvania Department of Environmental Protection (PA DEP) Surface Mine Permit at the Charmian Site located north of the town of Blue Ridge Summit. The Charmian Site generally consists of an active quarry (Pitts

ATTACHMENT 4

NORTHERN TRACT PROJECT NARRATIVE

Specialty Granules LLC (Specialty Granules) extracts non-coal natural materials through an existing Pennsylvania Department of Environmental Protection (PADEP) Surface Mine Permit at the Charmian Site, located north of the town of Blue Ridge Summit, in Hamiltonban Township, Adams County. The Charmian Site consists of an active quarry (Pitts Quarry - PA DEP Permit No. 01930302), an inactive quarry (West Ridge Quarry - PA DEP Permit No. 6477SM5 - which is in the reclamation phase), stockpile storage areas, crushing plant, and a granule plant. Specialty Granules extracts a metabasalt rock at the Pitts Quarry for the manufacture of roofing granules. They are currently conducting ongoing environmental studies, engineering design evaluations, and permitting activities to expand the existing, permitted quarry operations at the Charmian Site to the Northern Tract, an approximate 112-acre area contiguous to the area known as "Pitts Quarry."

The Northern Tract, centered at approximately 39.763323 North latitude and -77.441378 West longitude, is situated within a mountainous forested section of southwestern Adams County. The majority of the tract can be characterized as a moderate to steeply sloped mountainous mature deciduous forest community. Exposed rock outcroppings are prevalent throughout sections of the Northern Tract. The northwestern portion of the Northern Tract is bisected by an existing natural gas right-of-way under the ownership of Columbia Gas Company. The Northern Tract is generally bound on the north by Gum Springs Road (Township Road – 300), and on the east by Iron Springs Road (State Route 3014).

The proposed Northern Tract Quarry includes 66.3 acres of mineral extraction, 18.7 acres of operational buffer (access roads, erosion and sediment controls, etc.), and 27.3 acres of maintained buffer (only activity permitted is to add/replace damaged/dead trees).

ATTACHMENT 5

1. PROJECT INFORMATION

Project Name: **SGI Charmian - Northern Tract Quarry**
Date of Review: **7/26/2017 01:28:02 PM**
Project Category: **Mining, other non-coal minerals (limestone,shale)**
Project Area: **112.97 acres**
County(s): **Adams**
Township/Municipality(s): **HAMILTONBAN**
ZIP Code: **17320**
Quadrangle Name(s): **IRON SPRINGS**
Watersheds HUC 8: **Monocacy**
Watersheds HUC 12: **Upper Toms Creek**
Decimal Degrees: **39.767476, -77.439719**
Degrees Minutes Seconds: **39° 46' 2.9153" N, 77° 26' 22.9892" W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	Conservation Measure	No Further Review Required, See Agency Comments
PA Department of Conservation and Natural Resources	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
PA Fish and Boat Commission	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
U.S. Fish and Wildlife Service	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

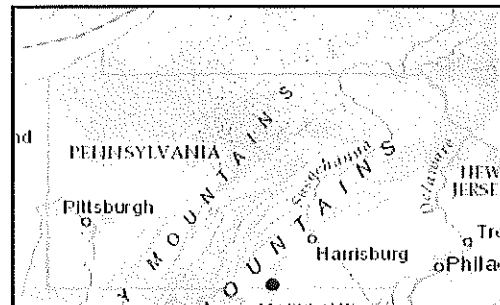
Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

SGI Charmian - Northern Tract Quarry

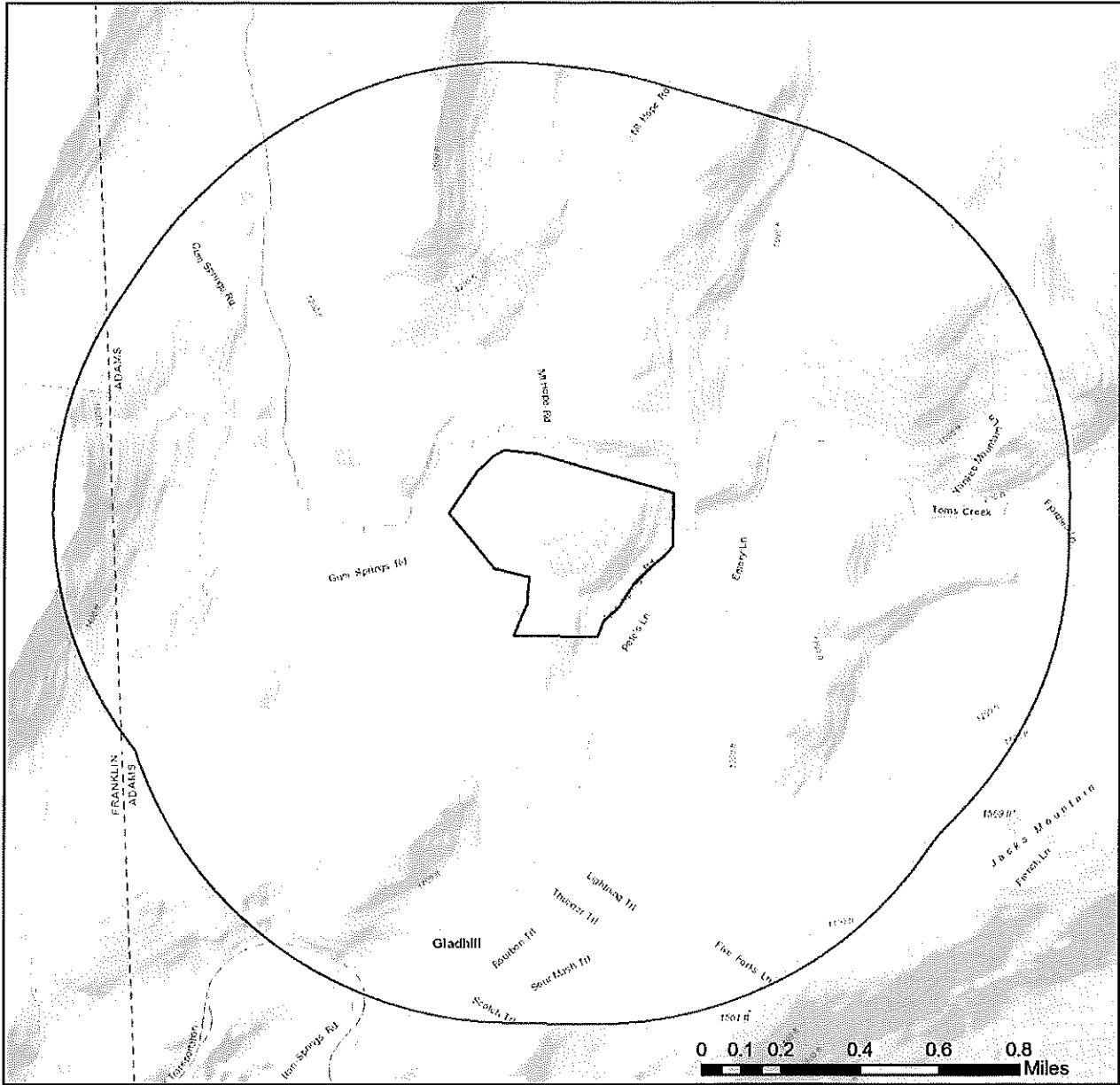


- ☐ Project Boundary
- ☐ Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user

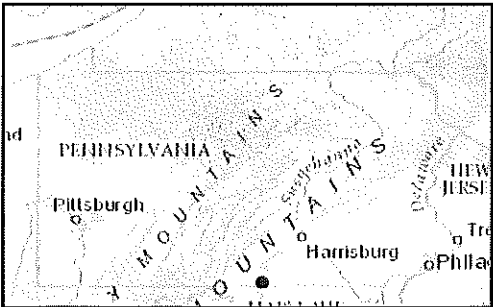


SGI Charmian - Northern Tract Quarry



- ☐ Project Boundary
- ☐ Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, Increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



RESPONSE TO QUESTION(S) ASKED

Q1: Which of the following closest describes the proposed project?

Your answer is: A well or other groundwater extraction (e.g., groundwater pumping to facilitate mining, pump-and-treat operation) is proposed as part of this project, or in order to support some aspect of the project, and more than 1000 gallons per day will be extracted.

Q2: Are there any perennial or intermittent waterways (rivers, streams, creeks, tributaries) in or near the project area, or on the land parcel?

Your answer is: Yes

Q3: Accurately describe what is known about the presence of wetlands and vernal pools in the project area or on the land parcel. "Project" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking areas, driveways, lawns, trails, recreation areas, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur.

Your answer is: Someone qualified to identify and delineate wetlands has investigated the site, and determined that wetlands or vernal pools ARE located in or within 300 feet of the project area. (A written report from the wetland specialist, and detailed project maps should document this.)

Q4: Will the entire project area (including any discharge), plus a 300 feet buffer around the project area, all occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, maintained (periodically mown) lawn, crop agriculture field or maintained orchard?

Your answer is: No

Q5: Accurately describe what is known about wetland presence in the project area or on the land parcel by selecting ONE of the following. "Project" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking lots, driveways, lawns, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur.

Your answer is: Someone qualified to identify and delineate wetlands has investigated the site, and determined that wetlands ARE located in or within 300 feet of the project area. (A written report from the wetland specialist, and detailed project maps should document this.)

Q6: The proposed project is in the range of the Indiana bat. Describe how the project will affect bat habitat (forests, woodlots and trees) and indicate what measures will be taken in consideration of this. Round acreages up to the nearest acre (e.g., 0.2 acres = 1 acre).

Your answer is: The project will affect 40 to 200 acres of forests, woodlots and trees AND a seasonal restriction on tree clearing will be implemented.

Q7: Is tree removal, tree cutting or forest clearing of 40 acres or more necessary to implement all aspects of this project?

Your answer is: Yes

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE:

Conservation Measure: Potential impacts to state and federally listed species which are under the jurisdiction of both the Pennsylvania Game Commission (PGC) and the U.S. Fish and Wildlife Service may occur as a result of this project. As a result, the PGC defers comments on potential impacts to federally listed species to the U.S. Fish and Wildlife Service. No further coordination with the Pennsylvania Game Commission is required at this time.

PA Department of Conservation and Natural Resources

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

DCNR Species: (Note: The Pennsylvania Conservation Explorer tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here: http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_DCNR.aspx.)

Scientific Name	Common Name	Current Status	Proposed Status	Survey Window
Sensitive Species**		Endangered	Threatened	
Sensitive Species**		Special Concern Species*	Threatened	

PA Fish and Boat Commission

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

PFBC Species: (Note: The Pennsylvania Conservation Explorer tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)

Scientific Name	Common Name	Current Status
Sensitive Species**		Special Concern Species*
Sensitive Species**		Special Concern Species*

U.S. Fish and Wildlife Service

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email* the following information to the agency(s). Instructions for uploading project materials can be found [here](#). This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies. Alternatively, applicants may email or mail their project materials (see AGENCY CONTACT INFORMATION).

***Note:** U.S.Fish and Wildlife Service requires applicants to mail project materials to the USFWS PA field office (see AGENCY CONTACT INFORMATION). USFWS will not accept project materials submitted electronically (by upload or email).

Check-list of Minimum Materials to be submitted:

____ Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.

____ A map with the project boundary and/or a basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)

In addition to the materials listed above, USFWS REQUIRES the following

____ **SIGNED** copy of a Final Project Environmental Review Receipt

The inclusion of the following information may expedite the review process.

____ Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)

____ Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <https://conservationexplorer.dcnr.pa.gov/content/resources>.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service

Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
NO Faxes Please

PA Fish and Boat Commission

Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission

Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Andy Brookens
Company/Business Name: SKelly and Loy, Inc.
Address: 449 Eisenhower Blvd Suite 300
City, State, Zip: Harrisburg, PA 17111
Phone: (717) 232-0593 Fax: (717) 232-1799
Email: abrookens@skellyloy.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.


applicant/project proponent signature

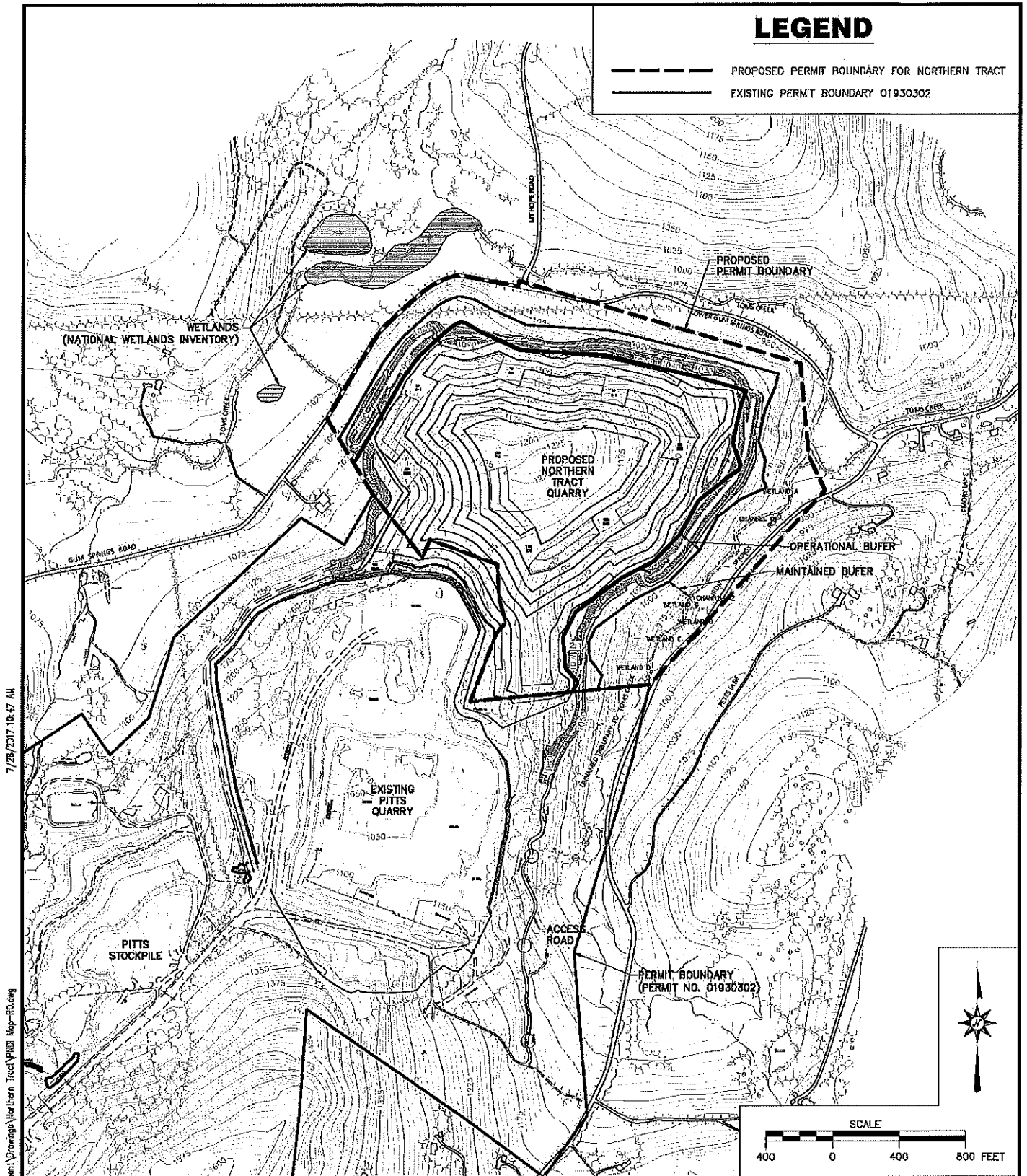
07-26-17

date

ATTACHMENT 6

LEGEND

- PROPOSED PERMIT BOUNDARY FOR NORTHERN TRACT
- ===== EXISTING PERMIT BOUNDARY 01930302



D'APPOLONIA



SPECIALTY GRANULES, LLC.

CHARMIAN SITE

PNDI MAP

PROJECT NUMBER: 152536A

DRAWN BY: AJW

DATE: 7/27/2017

FILE NAME: PNDI Map-R0.dwg

CHECKED BY: RWS

DATE: 7/27/2017

SCALE: AS SHOWN

DRAWING NO. 1

REV 0

7/28/2017 10:47 AM

R:\2015\152536 - SGI Disposal Embankment Drawings\Northern Tract PNDI Map-R0.dwg

Attachment 2

Abandoned Mine Shaft Mist-Net Surveys Adams County, Pennsylvania

**Final Report
October 7 – 14, 2017**



**Prepared for:
Specialty Granules, LLC**

**Prepared by:
Jason P. Ritzert, Scott Conover, and Michelle Ritzert
Western EcoSystems Technology, Inc.
1017 Mumma Road, Suite 103
Lemoyne, Pennsylvania 17043**

November 10, 2017



EXECUTIVE SUMMARY

Specialty Granules LLC is seeking to expand an existing non-coal surface mine (a hard rock quarry) in Adams County, Pennsylvania. Within a portion of the project site, an abandoned mine shaft was identified during on-site surveys. Western EcoSystems Technology, Inc. completed an on-site suitability assessment of the abandoned mine shaft per the Pennsylvania Game Commission (PGC) *Protocol for Assessing Abandoned Mines/Caves for Bat Surveys* and the US Fish and Wildlife Service (USFWS) *Bat Survey Protocol for Assessing Use of Potential Hibernacula*, and determined that the abandoned mine shaft met the minimum criteria to be considered potential bat hibernacula.

To determine the presence or probable absence of the federally endangered Indiana bat (INBA; *Myotis sodalis*) or federally threatened northern long-eared bat (NLEB; *Myotis septentrionalis*) at the abandoned mine shaft, fall mist-net surveys were completed per USFWS protocols. All surveys were completed and all bat captures verified by a WEST Pennsylvania Qualified Bat Surveyor (Permit #41740) who is also listed on WEST's USFWS Native Endangered and Threatened Species Recovery Permit (TE234121-8). The abandoned mine shaft was surveyed on three non-consecutive nights from October 7 – 14, 2017. A single male tricolored bat was captured on the interior of the mist-net on the first night of surveys, October 7, 2017. No INBA or NLEB were captured during the surveys. Based on the results of this survey, there is no evidence that the abandoned mine shaft was utilized as a hibernaculum by INBA or NLEB.

STUDY PARTICIPANTS

Western EcoSystems Technology

Jason P. Ritzert	Project Manager
Kevin Murray	Senior Bat Biologist Review
Scott Conover	Research Biologist/Qualified Bat Surveyor/Report Writer
Larisa Bishop-Boros	Research Biologist/Qualified Bat Surveyor
Wesley Conway	Mist-net Technician
Michelle Ritzert	GIS Technician/Technical Editor

REPORT REFERENCE

Ritzert, J., S. Conover, and M. Ritzert. 2017. Abandoned Mine Shaft Mist-Net Surveys, Adams County, Pennsylvania. Draft Report: October 7 – 14, 2017. Prepared for Specialty Granules, LLC. Prepared by Western EcoSystems Technology, Inc. (WEST), Lemoyne, Pennsylvania.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
BACKGROUND AND PROJECT OVERVIEW	1
METHODS	3
RESULTS	4
REFERENCES	5

LIST OF TABLES

Table 1. Locations and descriptions of mist-net site during the abandoned mine shaft mist-net survey, Adams County, PA, October 7 – 14, 2017.....	4
Table 2: Summary of bat captures during the abandoned mine shaft mist-net survey, Adams County, PA, October 7 – 14, 2017.....	5
Table 3. Details of bats captured during the abandoned mine shaft mist-net survey, Adams County, PA, October 7 – 14, 2017.....	5

LIST OF FIGURES

Figure 1. Location of the abandoned mine shaft portal mist-net site, Adams County, Pennsylvania.....	2
--	---

LIST OF APPENDICES

Appendix A. Pennsylvania Game Commission Section 1: Cover Page	
Appendix B. Pennsylvania Game Commission Section 2 and 3: Bat Netting/Trapping Site Survey Record and Bat Measurement and Capture Data Forms	
Appendix C. Pennsylvania Game Commission Section 4: Map and Photographs of Mist-Net Survey Site	
Appendix D. Pennsylvania Game Commission Section 5: Photo Documentation of Captured Bats	

BACKGROUND AND PROJECT OVERVIEW

Specialty Granules LLC is seeking to expand a non-coal surface mine (a hard rock quarry) in Adams County, Pennsylvania. On a portion of the project site, an abandoned mine shaft (Figure 1) was identified during on-site surveys. Western EcoSystems Technology, Inc. (WEST) completed an on-site suitability assessment of the abandoned mine shaft per the Pennsylvania Game Commission (PGC) *Protocol for Assessing Abandoned Mines/Caves for Bat Surveys* (PGC 2001) and the US Fish and Wildlife Service (USFWS) *Bat Survey Protocol for Assessing Use of Potential Hibernacula* (USFWS 2016a). The abandoned mine shaft met the minimum criteria to be considered potential bat hibernacula based on the assessment.

To determine the presence or probable absence of the federally endangered Indiana bat (INBA; *Myotis sodalis*) or federally threatened northern long-eared bat (NLEB; *Myotis septentrionalis*) at the abandoned mine shaft, fall mist-net surveys were completed per USFWS protocols (USFWS 2016a). A study plan for mist-netting surveys at the abandoned mine shaft was approved on October 4, 2017 by the USFWS (B. Scofield, pers. comm.) and on October 5, 2017 by the PGC (C. Eyler, pers. comm.)



Figure 1. Location of the abandoned mine shaft portal mist-net site, Adams County, Pennsylvania.

METHODS

Mist-net surveys were completed and all bats captured verified by a WEST Pennsylvania Qualified Bat Surveyor (QBS; Permit #41740) who is also listed on WEST's USFWS Native Endangered and Threatened Species Recovery Permit (TE234121-8).

The abandoned mine shaft was surveyed on three non-consecutive nights from October 7 – 14, 2017. A single 2.6 meter wide (m; 8.5 feet [ft]) standard two-ply, 50 denier, nylon mist-net with a mesh size of 38 millimeters (mm; 1.30 inches) was used at the portal of the mine. Plastic sheeting was placed around the portal and the mist-net to direct any bats entering or leaving the abandoned mine shaft into the mist-net. Mist-netting began 30 minutes prior to sunset and continued for five hours. The net was checked every 20 minutes.

Disturbances in the form of noise and movement were minimized. The survey protocol provided that if weather conditions such as persistent rain, drizzle, or fog (more than 120 minutes), strong winds (greater than 15 kilometers per hour [9 miles per hour] for more than 30 minutes), or cold temperature (below 10°C [50°F] during the first two hours) occurred during the netting period, then those net nights were to be resurveyed. Under this criteria, mist-net surveys were cancelled on the night of October 13 due to persistent rain and fog. Acceptable mist-net conditions occurred on the nights of October 7, 10 and 14, 2017.

For each mist-net night, the following data were recorded:

- Date,
- Start and end time,
- Site description,
- Site coordinates,
- Mist-net specifics, and
- Weather data (temperature, cloud cover, wind speed, precipitation, and moon phase).

Any captured bats had the following data recorded:

- Species,
- Sex,
- Age,
- Reproductive condition,
- Body mass (grams),
- Forearm length (mm),
- Capture status (new or recapture), and

- Reichard wind damage index score (0-3; Reichard 2009).

To prevent cross-contamination of captured bats with *Pseudogymnoascus destructans*, the fungus that causes white-nose syndrome (WNS), the USFWS WNS decontamination protocol was followed for the mist-netting effort (USFWS 2016b). Captured bats were measured, processed immediately, and released within 15-20 minutes. Species of bats captured were photo-documented with voucher photographs.

RESULTS

Surveys were completed during the period of October 7 – October 14, 2017. Mist-net surveys on October 13, 2017 were cancelled due to persistent rain and fog. A summary of the mist-net survey site location and habitat details is presented in Table 1 and Figure 1; photographs of the mist net site are included in Appendix C. Mist-netting site survey records (datasheets) are included in Appendix B.

Table 1. Locations and descriptions of mist-net site during the abandoned mine shaft mist-net survey, Adams County, PA, October 7 – 14, 2017.

Mist-Net Site	Net	Coordinates*		Site Description
		Latitude (N)	Longitude (W)	
abandoned mine shaft portal	1	39°46'6.066"	77°26'24.882"	Mine portal; entrance of hard rock mine prospect comprised of approximately 23 meters (75 feet) of horizontal workings within mature hardwood forest canopy cover.

*North American Datum 1983

A single bat was captured on the interior of the mist-net 0.75 m (2.5 ft) above the ground on the first night of mist netting (October 7, 2017) at 21:30. The bat was identified as an adult, scrotal, male tricolored bat (*Perimyotis subflavus*; Tables 2 and 3). Bat measurement and capture data forms are included in Appendix B. Bat Capture photographs are presented in Appendix D. No INBA or NLEB were captured during surveys. Based on the results of this survey, there is no evidence that the abandoned mine shaft was utilized as a hibernaculum by INBA or NLEB.

Table 2: Summary of bat captures during the abandoned mine shaft mist-net survey, Adams County, PA, October 7 – 14, 2017.

Date	Species Captured	# Individuals
10/7/2017	tricolored bat	1
10/10/2017	-	0
10/13/2017*	-	0
10/14/2017	-	0
Total Bats Captured		1

*incomplete survey due to weather

Table 3. Details of bats captured during the abandoned mine shaft mist-net survey, Adams County, PA, October 7 – 14, 2017.

Time (24:00)	Species*	Sex	Age	Reproductive Status	Reichard Score	Forearm Length (millimeters)	Weight (grams)
21:20	tricolored bat	Male	Adult	Scrotal	0	32.5	8.0

REFERENCES

- Pennsylvania Game Commission (PGC). 2001. Commonwealth of Pennsylvania. Pennsylvania Game Commission, Bureau of Wildlife Management, Wildlife Diversity Section. Appendix A: Protocol for Assessing Abandoned Mines/Caves for Bat Surveys.
- Reichard, J.E. 2009. Wing-Damage Index Used for Characterizing Wing Condition of Bats Affected by White-Nose Syndrome. Center for Ecology and Conservation, Boston University, Boston, Massachusetts.
- US Fish and Wildlife Service (USFWS). 2016a. Indiana Bat (*Myotis sodalis*). Bat Survey Protocol¹ for Assessing Use of Potential Hibernacula. Last updated July 2016. Available online at: https://www.fws.gov/midwest/endangered/mammals/inba/inba_srvyprtcl.html
- US Fish and Wildlife Service (USFWS). 2016b. National White-Nose Decontamination Protocol- Version 04.12.2016. Available online at: https://www.whitenosesyndrome.org/sites/default/files/resource/national_wns_decon_protocol_04.12.2016.pdf

Appendix A. Pennsylvania Game Commission Section 1: Cover Page

COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission
Bureau of Wildlife Protection, Special Permits Enforcement Division
2001 Elmerton Avenue, Harrisburg, PA 17110-9797

Section 1 - Cover

PERMITTEE BAT CAPTURE REPORT

Mail **hard copy** of reports to address on the heading of this page within 90 days of project completion.

Permit Number PGC #41740

Project Name: Adams County Mine Shaft

Company/
Organization/

Permittee Name: Western EcoSystems Technology/Jason Ritzert

Address: 1017 Mumma Road

Suite 103

Lemoyne, Pennsylvania 17043

Phone: (717) 525 - 9478 Fax: (717) 525 - 8748

E-Mail: jritzert@west-inc.com

Project Supervisor Name: Jason Ritzert

Supervisor Contact: Phone: () -

E-Mail:

If this is contracted work, provide the name & address of the individual/organization work is being performed for:

Mail **hard copy** of report to address on the heading of this page within 90 days of project completion.

**Appendix B. Pennsylvania Game Commission Section 2 and 3: Bat Netting/Trapping Site
Survey Record and Bat Measurement and Capture Data Forms**

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 10/7/17 2. Company Name: WEST, Inc
3. Bat Identifier: Scott Conover 4. Assistants: Wesley Conway
(Responsible Recorder)
5. Site Name and/or Number: Mineshaft
6. Site is (circle one): hibernation site summer habitat
- 7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - Prospect adit
- 7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
NA
8. County: Adams 9. 7.5' Quad.: Iron Springs
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39° - 46' - 6.066"N, Longitude: 77° - 26' - 24.882"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other: _____
12. Ownership and Access: (Who owns site or controls access? Give name and address.)
Specialty Granules Inc
13. Time (military) & Temperature: Start Time 1811 h Stop Time 2311 h Total Minutes: 300
Start Temp. 18 °C End Temp. 15 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one) Clear Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other: _____
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	1	2.6m x 2.6m	Across adit opening	6.76m

Total Capture Area: 6.76m sq. m

(Site Survey Record – Continued) Site Name/No.: Mineshaft Date: 10/7/17**17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)**

Mature forest, hilly with loose, exposed rock, Northern red oak/hickory spp dominant

18. Was reproductive status checked? ☒ YES / ☐ NO (if "NO" only enter numbers in **Total** columns)***CAPTURE RESULTS**

Species	Number of Adult Females				No. Juv. Fem.	Total No. Fem.	Number of Adult Males		No. Juv. Male	Total No. Males	Species Totals
	NR	PG	L	PL			SCR	NR			
<i>Eptesicus fuscus</i>	2		1			3	2	1	1	4	7
<i>Myotis lucifugus</i>											0
<i>Myotis septentrionalis</i>											0
<i>Myotis leibii</i>											0
<i>Myotis sodalis</i>											0
<i>Eptesicus fuscus</i>											0
<i>Perimyotis subflavus</i>							}				1
<i>Lasiurus borealis</i>											0
<i>Lasiurus cinereus</i>											0
<i>Lasionycteris noctivagans</i>											0
Other – specify:											0
Other – specify:											0
Reproductive Status: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen. Note: Pregnant is a category for females that are visibly pregnant. All others should be classified as NR. Visibly pregnant last year may be noted in comments. *Complete Measurement and Capture Data Form for all Captures Photo document all listed species, all species not considered residents, or abnormalities noted											Grand Total 1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS: 1 No detector used

Bat Measurement and Capture Data Form

Site Name Or Number: <u>Mineshaft</u>		Date: <u>10/7/17</u>	Set No. Captured In: <u>1</u>	Name of Person Identifying the Bat: <u>S. Conover</u>				*Capture Number: <u>1</u>						
Height in meters captured above ground surface: <u>0.75</u> m		Body Measurements (grams and millimeters)		Band Information (if banded) (Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)										
Species <u>PESU</u>	Sex <u>M</u>	Age <u>A</u>	Repro. Condition <u>SCR</u>	Wt. (g) <u>8.0</u>	Ear <u>10.5</u>	Tragus <u>3.5</u>	Fore- arm <u>32.5</u>	Hind Foot <u>7.2</u>	Recapture Yes/No <u>No</u>	Band Material <u>---</u>	Band Color <u>---</u>	Band Inscription <u>---</u>	Band on Left/Right <u>---</u>	Transmitter Attached? If so: Frequency (MHz) <u>---</u>
Time of Capture <u>2130</u>	Photo Taken <u>Yes</u> / No	WNS Wing Score <u>0</u>		Wing Photo ID: Remarks: <u>Caught on inside of net</u>										
Repro. Condition: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen														
Site Name Or Number:		Date:	Set No. Captured In:	Name of Person Identifying the Bat:				*Capture Number:						
Height in meters captured above ground surface: <u>---</u> m		Body Measurements (grams and millimeters)		Band Information (if banded) (Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)										
Species	Sex	Age	Repro. Condition	Wt. (g)	Ear	Tragus	Fore- arm	Hind Foot	Recapture Yes/No	Band Material	Band Color	Band Inscription	Band on Left/Right	Transmitter Attached? If so: Frequency (MHz)
Time of Capture	Photo Taken Yes / No	WNS Wing Score		Wing Photo ID: Remarks:										
Repro. Condition: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen														
Site Name Or Number:		Date:	Set No. Captured In:	Name of Person Identifying the Bat:				*Capture Number:						
Height in meters captured above ground surface: <u>---</u> m		Body Measurements (grams and millimeters)		Band Information (if banded) (Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)										
Species	Sex	Age	Repro. Condition	Wt. (g)	Ear	Tragus	Fore- arm	Hind Foot	Recapture Yes/No	Band Material	Band Color	Band Inscription	Band on Left/Right	Transmitter Attached? If so: Frequency (MHz)
Time of Capture	Photo Taken Yes / No	WNS Wing Score		Wing Photo ID: Remarks:										

*Capture Number = number in sequence by site.

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/10/17 2. Company Name: WEST, Inc
 (Night 2 of 3)
 3. Bat Identifier: Scott Conover 4. Assistants: _____
 (Responsible Recorder)
 5. Site Name and/or Number: Mineshaft
 6. Site is (circle one): hibernation site summer habitat
 7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
 other structure, describe - Prospect adit
 7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
NA
 8. County: Adams 9. 7.5' Quad.: Iron Springs
 10. Was site GPS'd (required)? YES - NO
 11. Geographic Coordinates (D-M-S): Latitude: 39° - 46' - 6.066"N, Longitude: 77° - 26' - 24.882"W
 Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other: _____
 12. Ownership and Access: (Who owns site or controls access? Give name and address.) _____
Specialty Granules Inc
 13. Time (military) & Temperature: Start Time 1820 h Stop Time 2320 h Total Minutes: 300
 Start Temp. 23 °C End Temp. 18 °C (must stay ≥10°C for summer netting)
 14. General Weather (circle one) Clear Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
 (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other: _____
 15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
 16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	1	2.6m x 2.6m	Across adit opening	6.76m

Total Capture Area: 6.76m sq. m

(Site Survey Record – Continued) Site Name/No.: Mineshaft Date: 10/10/17**17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)**

mature forest, hilly with loose, exposed rock, Northern red oak/hickory spp dominant

18. Was reproductive status checked? ☒ YES / ☐ NO (if "NO" only enter numbers in **Total** columns)***CAPTURE RESULTS**

Species	Number of Adult Females				No. Juv. Fem.	Total No. Fem.	Number of Adult Males		No. Juv. Male	Total No. Males	Species Totals
	NR	PG	L	PL			SCR	NR			
<i>Epptesicus fuscus</i>	2		1			3	2	1	1	4	7
<i>Myotis lucifugus</i>											0
<i>Myotis septentrionalis</i>											0
<i>Myotis leibii</i>											0
<i>Myotis sodalis</i>											0
<i>Epptesicus fuscus</i>											0
<i>Perimyotis subflavus</i>											0
<i>Lasiurus borealis</i>											0
<i>Lasiurus cinereus</i>											0
<i>Lasionycteris noctivagans</i>											0
Other – specify:											0
Other – specify:											0
Reproductive Status: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen. Note: Pregnant is a category for females that are visibly pregnant. All others should be classified as NR. Visibly pregnant last year may be noted in comments. *Complete Measurement and Capture Data Form for all Captures Photo document all listed species, all species not considered residents, or abnormalities noted											Grand Total 0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS: 1 No detector used

No Captures

Bat Measurement and Capture Data Form

Site Name Or Number: <u>Mineshaft</u>		Date: <u>10/10/17</u>		Set No. Captured In:		Name of Person Identifying the Bat: <u>S. Conover</u>		*Capture Number: <u>0</u>	
Height in meters captured above ground surface: _____ m		Repro. Condition		Wt. (g)		Ear		Tragus	
Species		Sex	Age	Fore-arm		Hind Foot	Recapture Yes/No		
							Band Information (if banded) (Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)		
							Material	Color	Band on Left/Right
Time of Capture		Photo Taken Yes / No		WNS Wing Score		Wing Photo ID:		Remarks:	
Repro. Condition: NR = nonreproductive, PG = pregnant, L = lactating, PL = post lactating, SCR = scrotal/epididymis swollen									
Site Name Or Number:		Date:		Set No. Captured In:		Name of Person Identifying the Bat:		*Capture Number:	
Height in meters captured above ground surface: _____ m		Repro. Condition		Wt. (g)		Ear		Tragus	
Species		Sex	Age	Fore-arm		Hind Foot	Recapture Yes/No		
							Band Information (if banded) (Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)		
							Material	Color	Band on Left/Right
Time of Capture		Photo Taken Yes / No		WNS Wing Score		Wing Photo ID:		Remarks:	
Repro. Condition: NR = nonreproductive, PG = pregnant, L = lactating, PL = post lactating, SCR = scrotal/epididymis swollen									
Site Name Or Number:		Date:		Set No. Captured In:		Name of Person Identifying the Bat:		*Capture Number:	
Height in meters captured above ground surface: _____ m		Repro. Condition		Wt. (g)		Ear		Tragus	
Species		Sex	Age	Fore-arm		Hind Foot	Recapture Yes/No		
							Band Information (if banded) (Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)		
							Material	Color	Band on Left/Right
Time of Capture		Photo Taken Yes / No		WNS Wing Score		Wing Photo ID:		Remarks:	
Repro. Condition: NR = nonreproductive, PG = pregnant, L = lactating, PL = post lactating, SCR = scrotal/epididymis swollen									

*Capture Number = number in sequence by site.

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

- (Incomplete night)
weather-out
1. Survey Date: 10/13/17 2. Company Name: WEST, Inc
3. Bat Identifier: Scott Conover 4. Assistants: Larisa Bishop-Boros
(Responsible Recorder)
5. Site Name and/or Number: Mineshaft
6. Site is (circle one): hibernation site summer habitat
- 7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - Prospect adit
- 7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
NA
8. County: Adams 9. 7.5' Quad.: Iron Springs
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39° - 46' - 6.066"N, Longitude: 77° - 26' - 24.882"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other: _____
12. Ownership and Access: (Who owns site or controls access? Give name and address.)
Specialty Granules Inc
13. Time (military) & Temperature: Start Time 1816 h Stop Time 20:40 h Total Minutes: 144
Start Temp. 15 °C End Temp. 14 °C (must stay ≥10°C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other: _____
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	1	2.6m x 2.6m	Across adit opening	6.76m

Total Capture Area: 6.76m sq. m

(Site Survey Record – Continued) Site Name/No.: Mineshaft Date: 10/13/17**17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)**

Mature forest, hilly with loose, exposed rock, Northern red oak/hickory spp dominant

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)***CAPTURE RESULTS**

Species	Number of Adult Females				No. Juv. Fem.	Total No. Fem.	Number of Adult Males		No. Juv. Male	Total No. Males	Species Totals
	NR	PG	L	PL			SCR	NR			
<i>Eptesicus fuscus</i>	2		1			3	2	1	1	4	7
<i>Myotis lucifugus</i>											0
<i>Myotis septentrionalis</i>											0
<i>Myotis leibii</i>											0
<i>Myotis sodalis</i>											0
<i>Eptesicus fuscus</i>											0
<i>Perimyotis subflavus</i>											0
<i>Lasiurus borealis</i>											0
<i>Lasiurus cinereus</i>											0
<i>Lasionycteris noctivagans</i>											0
Other – specify:											0
Other – specify:											0
Reproductive Status: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen. Note: Pregnant is a category for females that are visibly pregnant. All others should be classified as NR. Visibly pregnant last year may be noted in comments. *Complete Measurement and Capture Data Form for all Captures Photo document all listed species, all species not considered residents, or abnormalities noted											Grand Total <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">0</div>

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS: 1 No detector used

Bat Measurement and Capture Data Form

Site Name Or Number: <u>Mineshaft</u>		Date: <u>10/13/17</u>		Set No. Captured In:		Name of Person Identifying the Bat: <u>S. Conover</u>				*Capture Number:	
Height in meters captured above ground surface: _____m		Repro. Condition		Wt. (g)		Ear		Fore-arm		Hind Foot	
Species		Sex	Age	Repro. Condition		Wt. (g)		Ear		Fore-arm	
Time of Capture		Photo Taken Yes / No		WNS Wing Score		Wing Photo ID:		Remarks:			
Repro. Condition: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen											
Site Name Or Number:		Date:		Set No. Captured In:		Name of Person Identifying the Bat:				*Capture Number:	
Height in meters captured above ground surface: _____m		Repro. Condition		Wt. (g)		Ear		Fore-arm		Hind Foot	
Species		Sex	Age	Repro. Condition		Wt. (g)		Ear		Fore-arm	
Time of Capture		Photo Taken Yes / No		WNS Wing Score		Wing Photo ID:		Remarks:			
Repro. Condition: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen											
Site Name Or Number:		Date:		Set No. Captured In:		Name of Person Identifying the Bat:				*Capture Number:	
Height in meters captured above ground surface: _____m		Repro. Condition		Wt. (g)		Ear		Fore-arm		Hind Foot	
Species		Sex	Age	Repro. Condition		Wt. (g)		Ear		Fore-arm	
Time of Capture		Photo Taken Yes / No		WNS Wing Score		Wing Photo ID:		Remarks:			
Repro. Condition: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen											
Site Name Or Number:		Date:		Set No. Captured In:		Name of Person Identifying the Bat:				*Capture Number:	
Height in meters captured above ground surface: _____m		Repro. Condition		Wt. (g)		Ear		Fore-arm		Hind Foot	
Species		Sex	Age	Repro. Condition		Wt. (g)		Ear		Fore-arm	
Time of Capture		Photo Taken Yes / No		WNS Wing Score		Wing Photo ID:		Remarks:			
Repro. Condition: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen											

*Capture Number = number in sequence by site.

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

(Night 3 of 3)

1. Survey Date: 10/14/17 2. Company Name: WEST, Inc3. Bat Identifier: Scott Conover 4. Assistants: —
(Responsible Recorder)5. Site Name and/or Number: Mineshaft6. Site is (circle one): hibernation site summer habitat7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - Prospect adit "mine shaft"

7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):

NA8. County: Adams 9. 7.5' Quad.: Iron Springs10. Was site GPS'd (required)? YES - NO11. Geographic Coordinates (D-M-S): Latitude: 39° - 46' - 6.066"N, Longitude: 77° - 26' - 24.882"WDatum (circle one): NAD27 (Preferred), NAD83, WGS84, Other: —12. Ownership and Access: (Who owns site or controls access? Give name and address.) —Specialty Granules Inc13. Time (military) & Temperature: Start Time 18:22 h Stop Time 23:22 h Total Minutes: 300Start Temp. 20 °C End Temp. 17 °C (must stay ≥10 °C for summer netting)14. General Weather (circle one) Clear Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other: —15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).

16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA (m)
<u>1</u>	<u>Nets</u>	<u>4</u>	<u>12m x 2.6m</u>	<u>Stacked over trail</u>	<u>124.8 sq. m</u>
<u>1</u>	<u>Nets</u>	<u>1</u>	<u>2.6m x 2.6m</u>	<u>Across adit opening</u>	<u>6.76m</u>

Total Capture Area: 6.76m sq. m

(Site Survey Record – Continued) Site Name/No.: Mineshaft Date: 10/14/17**17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)**

Mature forest, hilly with loose, exposed rock, Northern red oak/hickory spp dominant

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)***CAPTURE RESULTS**

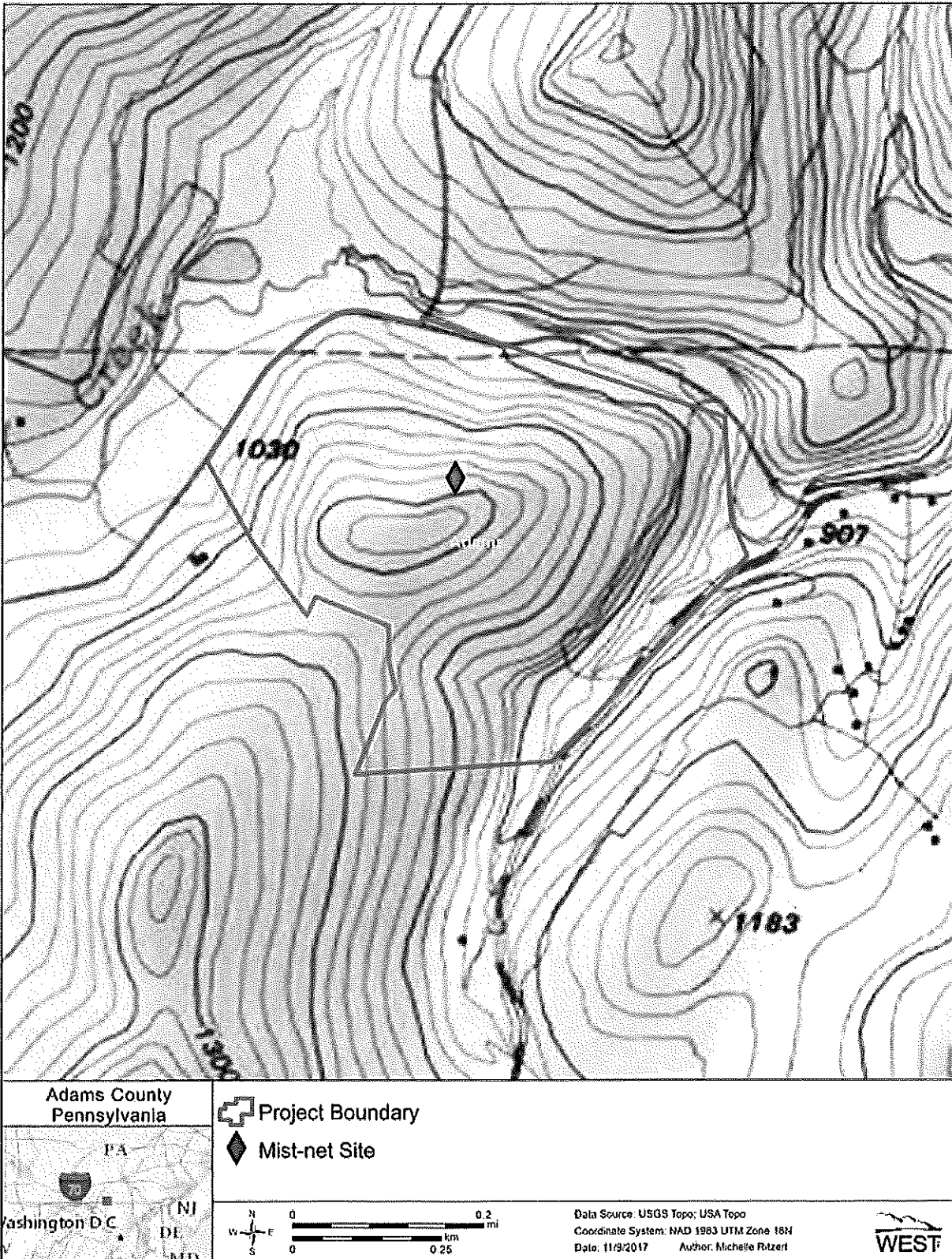
Species	Number of Adult Females				No. Juv. Fem.	Total No. Fem.	Number of Adult Males		No. Juv. Male	Total No. Males	Species Totals
	NR	PG	L	PL			SCR	NR			
<i>Eptesicus fuscus</i>	2		1			3	2	1	1	4	7
<i>Myotis lucifugus</i>											0
<i>Myotis septentrionalis</i>											0
<i>Myotis leibii</i>											0
<i>Myotis sodalis</i>											0
<i>Eptesicus fuscus</i>											0
<i>Perimyotis subflavus</i>											0
<i>Lasiurus borealis</i>											0
<i>Lasiurus cinereus</i>											0
<i>Lasionycteris noctivagans</i>											0
Other – specify:											0
Other – specify:											0
Reproductive Status: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen. Note: Pregnant is a category for females that are visibly pregnant. All others should be classified as NR. Visibly pregnant last year may be noted in comments. *Complete Measurement and Capture Data Form for all Captures Photo document all listed species, all species not considered residents, or abnormalities noted											Grand Total 0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS: 1 No detector used

**Appendix C. Pennsylvania Game Commission Section 4: Map and Photographs of Mist-
Net Survey Site**



Appendix C1. Topographic map of the abandoned mine shaft portal mist-net site, Adams County, Pennsylvania.



Appendix C2. Mist-net setup on abandoned mine shaft portal (Night 1 [top], Night 2 [bottom]).

**Appendix D. Pennsylvania Game Commission Section 5: Photo Documentation of
Captured Bats**



Appendix D. Tricolored bat (*Perimyotis subflavus*) captured 10/7/17.

HAMILTONBAN TOWNSHIP CUP

HAMILTONBAN TOWNSHIP SUPERVISORS
ADAMS COUNTY, PENNSYLVANIA
PUBLIC HEARING

IN RE: :
: :
SPECIALTY GRANULES, INC. :
Application for a Conditional Use :

The Supervisors of Hamiltonban Township enters the following findings and conditions of approval regarding the application for conditional use under §1501 and §1302 of the Hamiltonban Township Zoning Ordinance submitted by Special Granules, Inc. (hereinafter "SGI") for mining operations on the Northern Tract.

BACKGROUND

1. Applicant Specialty Granules, Inc.. submitted an application for a conditional use permit covering the "Northern Tract" on December 23, 2013.

2. A conditional use hearing was duly advertised on February 6, 2014 in the Gettysburg Times, landowners bordering the subject property were given notice by certified mail, return receipt, and notice was duly posted on the subject property.

3. The Board received a positive recommendation with conditions from the Township Planning Commission.

4. The Board received a review report from C. S. Davidson, Inc., the Township Engineer with recommendations.

5. The application was submitted to Adams County Planning for review, but no comments were received.

6. The conditional use hearing was held at 7:00 p.m. on February 17, 2014 in the auditorium of Fairfield Area High School.

7. Testimony was received from various witnesses on behalf of SGI. A public comment period was held at the closure of the hearing.

After considering all testimony and public comment, the Hamiltonban Township Board of Supervisors approves the conditional use application with the understanding that Applicant will implement all the conditions agreed upon in the Narrative attached to the Application and with the following additional conditions:

1. A Land Development Plan be submitted to the Township pursuant to the requirements of the Township Subdivision and Land Development and Stormwater Ordinances. Said plans will be subject to review, recommendation and comment by the Township Planning Commission, Adams County Planning Office, Township Engineer, Adams County Conservation District Office and final approval by the Board of Supervisors.

2. The Township requires the opportunity to review and comment on SGI's pre-application to the Department of Environmental Protection.

3. SGI will work with Columbia Gas Company to ensure that SGI's mining operation will not negatively impact the gas pipeline and will

a. confirm the location of the natural gas line in the field using a qualified, licensed utility locator firm with assistance and approval from Columbia Gas;

b. provide Columbia Gas with a description of the geological setting, proposed quarry operation, preliminary mine plan (benching configuration and sequencing), maximum depth of mining and blasting plans and methods and have said plans reviewed with Columbia Gas by SGI's licensed contract blaster;

c. provide and review with Columbia Gas the PA-DEP regulations regarding blasting near pipelines and utility lines as well as any other SGI blasting considerations;

d. complete any geo-technical ground vibration studies requested by Columbia Gas to address any potential impact to the gas line from the proposed quarry/blasting. If such studies are requested, said studies to be completed by a qualified independent civil engineering firm licensed in Pennsylvania, and the study results to be reviewed by the civil engineer with Columbia Gas and SGI's contract blaster.

e. incorporate the recommended blasting set-back and any monitoring requirements from Columbia Gas into the proposed mine plan to be submitted with the PA-DEP application for the mining permit; and

f. maintain a mining/blasting set-back from the gas line that is the greater of the PA-DEP regulations and the Columbia Gas recommendation.

4. New construction of any future stormwater facilities on the Northern Tract must be constructed in such a manner as not to allow overflow or direct discharge to any portion of Tom's Creek or its tributaries without a NPDS permit.

5. To ensure no contamination of Toms Creek for the life of the mining operations, SGI will continue to test the quality of the water in Tom's Creek once a year in the spring at a specific site agreed upon by DEP, and a designated agent of the Township, and SGI will provide the Township and the County Conservation District with the test results, in the same fashion and format that they have been doing.

6. Applicant will monitor the individual drinking water wells of the adjoining neighbors pursuant to DEP regulations.

7. If required by the Township, SGI will supplement the existing natural vegetation in the Maintained Buffer with additional trees and shrubs in the Operational Buffer, as appropriate, so as to provide an effective visual barricade within the combined buffer areas, and to maintain a minimum of three rows of trees, shrubs, and other vegetation or its equivalent. At least 50% of any new plantings will be evergreens.

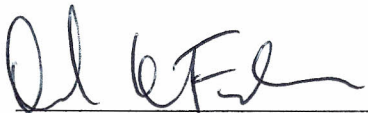
8. SGI shall continue to follow the conditions in the Agreement between DCNR, ISP and Adams County as contained in the July 19, 2011 letter. A copy of said letter is attached hereto.

9. At any time in the future should mining operations cease on the Northern Tract, a Reclamation Plan shall be filed with the Township. Said plan shall comply with all stormwater regulations, follow soil and erosion measures and be subject to approval by DEP in connection with issuance of a permit for a mining operation. The reclamation plan shall include the establishment of a wildlife habitat area. If a water reservoir is created, the water may be used for fire suppression and adequate access for fire and emergency services shall be provided

Based upon the foregoing, the Hamiltonban Township Board of Supervisors hereby approve SGI's conditional use of the Northern Tract for mining operations subject to the foregoing conditions.

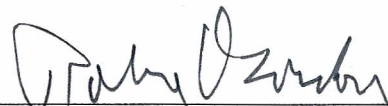
ATTEST:

HAMILTONBAN TOWNSHIP
BOARD OF SUPERVISORS

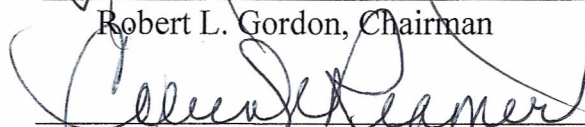


Deborah Feiler, Secretary

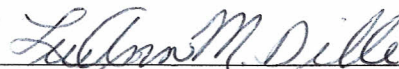
BY:



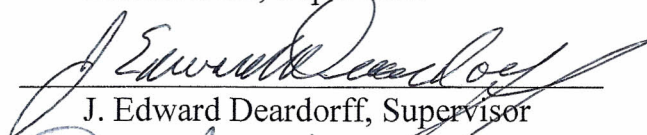
Robert L. Gordon, Chairman



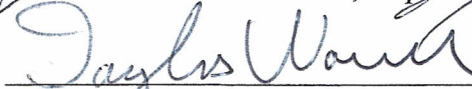
Coleen N. Reamer, Vice Chairperson



LuAnn Dille, Supervisor



J. Edward Deardorff, Supervisor



Douglas Woerner, Supervisor

Date: April 1, 2014



MINERALS INC.

1101 Opal Ct., Suite 315 • Hagerstown MD 21740-3899 • Tel: 301-733-4000 • Fax: 301-733-4003

July 19, 2011

Mr. Richard J. Allan
Secretary
Department of Conservation and Natural Resources
Rachel Carson State Office Building
Harrisburg, PA 17105-8767

Mr. George A. Weikert
Chairman
Adams County Commissioners
117 Baltimore Street, Room 201
Gettysburg, PA 17325-2391

RE: ISP Minerals Inc. Proposed Property Exchange with
the Department of Conservation and Natural Resources

Gentlemen,

The Adams County Board of Commissioners' July 13, 2011 written communication to Richard J. Allan, Secretary Department of Conservation and Natural Resources, acknowledged its support of the transfer of the 112 acre tract of land (the Exchange Tract) from DCNR to ISP Minerals Inc. (ISP) and rescinded its letter of February 28, 2011 based on the acceptance in writing by DCNR and ISP of a number of conditions. With the Board of Commissioners approval of the transfer of the Exchange Tract from DCNR to ISP and rescinding its letter of February 28, 2011, ISP will commit to the following conditions with regard to such tract:

1. ISP will provide on the Exchange Tract a 300 foot maintained buffer from the present center line of Tom's Creek and shall maintain the existing forest within this buffer.
2. With regard to the buffer from the un-named tributary to Tom's Creek on the eastern boundary of the Exchange Tract, ISP will provide on the Exchange Tract a 150 feet maintained buffer from the present center line of such un-named tributary, plus an additional 150 feet beyond that buffer where ISP may install its Erosion and Sediment Control (E&S) facilities.
3. ISP shall undertake the necessary efforts to maintain the quality rating of Tom's Creek and tributaries, based upon the PA DEP rating scheme, as it relates to ISP's operations. ISP will periodically monitor the streams so as to take appropriate action to maintain that standard. The URS Corporation proposal 1549-011-045 is part of that effort. The Adams County Conservation District may periodically monitor the stream quality and provide recommendations to ISP.

4. For lands owned by third parties that adjoin the Exchange Tract, ISP will provide on the Exchange Tract a minimum of 100 feet maintained buffer from the property lines with such adjoining lands, plus an additional 150 feet beyond that buffer wherein ISP may install its E&S Control facilities.
5. With regard to the buffer on the west side of the Exchange Tract, ISP will provide on the Exchange Tract a 100 feet maintained buffer from the boundary of the property line (which is the roadway and right of way) plus an additional 150 feet beyond that buffer where ISP may install its E&S Control facilities.
6. ISP, as part of its PA DEP Surface Mining Permit Application process, will develop an understanding of endangered flora & fauna on the Exchange Tract and will undertake appropriate mitigation strategies as required and approved by the PA DEP, if mining developments adversely impact any of these species.
7. ISP, as part of its PA DEP Surface Mining Permit Application process, will undertake an assessment to determine the existence of any unique cultural features on the Exchange Tract, which may include the former Pine Hill School. Any such features will be documented, and mitigation efforts, as required and approved by the PA DEP will be developed for mining development if any cultural features are deemed to be significant.
8. ISP has prepared the attached GIS map providing details of the property boundary lines of the Exchange Tract, as well as the maintained buffers and the additional buffers where ISP may install its E&S Control facilities.
9. ISP has not addressed the County's ninth bullet point because it does not impose any obligation on ISP.
10. ISP is in agreement that DCNR retain the timber rights for a one-time harvest of the timber that ISP needs removed in the areas to be disturbed for its mining operations and operations ancillary thereto on the Exchange Tract after appropriate environmental assessments are completed.
11. The commitments made herein by ISP will also bind any successors or assigns of ISP's interest in the Exchange Tract.

Agreed and Approved:

ISP Minerals Inc.



By: GENERAL MANAGER AND VICE-PRESIDENT

Name: WADE V. KEMP III

**NARRATIVE TO CONDITIONAL USE PERMIT APPLICATION
(THE “APPLICATION”) UNDER THE HAMILTONBAN TOWNSHIP ZONING
ORDINANCE (THE “ORDINANCE”)**

Specialty Granules Inc., formerly known as ISP Minerals, Inc. (together with its affiliates, “SGI”), owns and operates a non-coal surface mine (the “SGI Property”) located in Hamiltonban Township, Adams County, Pennsylvania (the “Township”). As the Supervisors are aware, a portion of the SGI Property was recently rezoned to be included within the Township’s Industrial (I) District (the “Industrial District”), with the express understanding that non-coal surface mining was contemplated for the area subject to that rezoning. The property in question consists of approximately 112 acres of land (hereinafter referred to as the “Northern Tract”), as is more particularly described in a Deed dated August 5, 2011, and recorded in Adams County Record Book 5621, page 290. Attached to the Deed is a plan of Preliminary/Final Subdivision of Land prepared by William A. Brindle Associates dated January 14, 2011, and last revised on February 23, 2011. This plan was approved by the Township on March 1, 2011, and is recorded in Adams County Record Book 5574, page 501 (Plat Book 98 at page 60). The Northern Tract is also depicted on the full scale Conditional Use Plan (the “Conditional Use Plan”) prepared in accordance with Section 1501.B.1 of the Zoning Ordinance and submitted concurrently with the Application and incorporated herein by reference. A reduced version of the Conditional Use Plan is attached to this narrative as Exhibit A, for purposes of convenient reference.

The Northern Tract is bounded on the North and West by Lower Gum Springs Road, on the East by Iron Springs Road, on the South by approximately 653 acres of land owned by SGI and dedicated to non-coal surface mining and mining support activities (the “Southern Tract”). The portion of the Southern Tract under active mining is known generally as the “Pitts Quarry”, which is shown on the Conditional Use Plan, and is included in the Industrial District. Surface mining is expressly permitted by right in the Industrial District as a conditional use pursuant to the terms set forth in Section 1302 of the Zoning Ordinance and the general terms of Section 1501 of the Zoning Ordinance. This correspondence is intended to supplement the Application, which requests that the Supervisors grant conditional use approval so as to permit SGI to conduct surface mining operations on the Northern Tract.

The requirements of Section 1501 and Section 1302 are enumerated below, in italicized print, with corresponding compliance demonstrated in bold type.

Section 1501- Conditional Uses

A. *Objectives*

Upon receiving an application, and following the receipt of recommendations by the Township and County Planning Commissions, and following a public hearing, the Board of Supervisors may authorize the issuance of building permits for any Conditional Use permitted by This Ordinance and approved by the Board of Supervisors. In approving any such use, the Board of Supervisors shall take into consideration the public health, safety, and welfare, the comfort and convenience of the public in general and of the residents of the immediate neighborhood in

particular, and may prescribe appropriate conditions and safeguards in addition to those specifically set forth in the Ordinance, as may be required in order that the result of its actions may, to the maximum extent possible, further the expressed intent of this Ordinance and the accomplishment of the following objectives in particular.

1. *That all proposed structures, equipment, or material shall be readily accessible for fire and police protection.*

As is presently the case with the Southern Tract and the Pitts Quarry, the Northern Tract, and any structures, equipment, or material located thereon, will be readily accessible for fire and police protection. The SGI Property is served by the Blue Ridge Mountain Volunteer Fire & Rescue Squad and the Fountaindale Volunteer Fire Department, and SGI supports both. Emergency services are also provided by Blue Ridge Mountain Volunteer Fire & Rescue Squad. Access to the SGI Property is coordinated with the Chiefs of both groups. Police protection is provided by the Pennsylvania State Police.

2. *That the proposed use shall be of such location, size and character that, in general, it will be in harmony with the appropriate and orderly development of the District in which it is proposed to be situated and will not be detrimental to the orderly development of adjacent properties in accordance with the zoning classification of such properties.*

The proposed use of the Northern Tract for surface mining activities is in harmony with the appropriate and orderly development of the Industrial District. Mining has been continuously conducted on the SGI Property for approximately 90 years. SGI intends to extend those operations into the Northern Tract as part of an effort to extend the operative life of the SGI Property in a manner consistent with historical use. SGI does not intend to expand the intensity of mining activities on the SGI Property. The nature of the desired extension of historical operations is in harmony with the appropriate and orderly development of the Industrial District. Moreover, the physical location of the Northern Tract, as shown on the Conditional Use Plan, coupled with the additional buffering on the Northern Tract agreed to by SGI by letter to the Pennsylvania Department of Conservation and Natural Resources and Adams County dated July 19, 2011 (the “DCNR Letter”), which is larger than the buffering required under current Township regulations, is such that the proposed use will not be detrimental to the orderly development of adjacent properties.

3. *That, in addition to the above, in the case of any use located in, or directly adjacent to, a Residential District; or existing residential uses:*
 - a. *The location and size of such use, the nature and intensity of operations involved in or conducted in connection therewith, its site layout and its relation to access streets shall be such that both pedestrian and vehicular*

traffic to and from the use and the assembly of persons in connection therewith will not be hazardous or inconvenient to, or incongruous with, said Residential District or existing residential uses or conflict with the normal traffic of the neighborhood; and

As shown on the Conditional Use Plan, SGI seeks to develop a portion of the Northern Tract as an extension and continuation of long standing surface mining activities currently conducted on the Southern Tract. The purpose is not to increase the intensity of that activity; rather, SGI intends to extend the life of the same operations that have been conducted for decades. Historical pedestrian and vehicular traffic patterns will not change as a result of development of the Northern Tract, and these historical patterns are not hazardous or inconvenient to, or incongruous with, existing residential uses. The only traffic generated by the proposed activities on the Northern Tract will be internal to the SGI Property.

- b. *The location and height of buildings, the location, nature and height of walls and fences, and the nature and extent of landscaping on the site shall be such that the use will not hinder or discourage the appropriate developments and use of adjacent land and buildings.*

It is not anticipated that buildings or walls will be erected on the Northern Tract. Fences will be constructed as a safety measure, and any landscaping and buffering proposed on the Northern Tract are such that the proposed use of the Northern Tract for surface mining will not hinder or discourage the appropriate development and use of adjacent land or building.

- 4. *That the proposed use shall be designed, constructed and used in such a manner so as not to create any dangerous, injurious, noxious, or otherwise objectionable fire, explosive, or other hazard; noise, or vibration; smoke dust, odor or other form of pollution; heat, cold, dampness, electromagnetic or other substance, condition or element in such a manner or in such an amount as to adversely effect the reasonable use of the surrounding area or adjoining premises.*

As stated above, SGI intends to utilize the Northern Tract to extend operations which have historically been conducted on the Southern Tract. As has been the case with the long use of the Southern Tract, surface mining operations on the Northern Tract will be conducted so as not to create any dangerous, injurious, noxious, or otherwise objectionable fire, explosive, or other hazard; noise, or vibration; smoke dust, odor or other form of pollution; heat, cold, dampness, electromagnetic or other substance, condition or element in such a manner or in such an amount as to adversely affect the reasonable use of the surrounding area or adjoining premises.

Additionally, special consideration should be given to assure that the following performance standard regulations are met:

- a. *An application for a building permit or certificate of occupancy for an industrial use subject to Conditional Use procedures shall include a plan for the proposed construction and a description of the proposed machinery, operations, and products and specifications for the mechanisms and techniques to be used in restricting the emission of any dangerous and objectionable elements. The applicant shall also file, with such plans and specifications, an affidavit acknowledging the understanding of any conditions or safeguards as may be required by the Township and stating his agreement to conform with the same at all times. No applicant shall be required to reveal any secret process and any information will be treated as confidential.*

SGI will comply with the above requirements in the event that a building permit or certificate of occupancy is required for the Northern Tract.

- b. *All activities involving, and all storage of, inflammable and explosive materials shall be provided at any point with adequate safety devices against the hazard of fire and explosion, and adequate fire fighting and fire suppression equipment and devices standard in the industry. The relevant provisions of State and Local laws and regulations shall also apply.*

All flammable and explosive materials will be protected with adequate safety devices and practices and shall comply with all applicable laws and regulations. Explosive materials will not be stored on the Northern Tract, and will be handled by independently licensed and bonded professionals when used.

- c. *The maximum sound level of any use shall not exceed, at any point along the boundary of the lot on which the use is to be undertaken, Federal standards of recommended decibel levels in the designated octave bands, except for emergency alarm systems. Sound levels shall be measured with a sound level meter and associated octave band analyzer manufactured according to standards prescribed by the American Standards Association. Measurements shall be made using the same measuring system which may now or hereafter be utilized by the United States Government for the purpose.*

There are no federal standards regulating sound levels at property boundaries for non-coal surface mining operations. All applicable Pennsylvania regulations pertaining to maximum sound levels associated with the proposed use of the Northern Tract will be

satisfied, including, without limitation, applicable provisions of the Pennsylvania Non-coal Surface Mining Conservation and Reclamation Act (the “Surface Mining Act”). All blasting shall be designed and conducted to comport with applicable regulations promulgated by the Pennsylvania Department of Environmental Protection (“DEP”). Sound and vibration levels during blasting will be monitored by calibrated seismographs provided and operated by a qualified independent professional contractor.

- d. *All activities involving the use of ground or surface waters, or impacting on said waters shall provide the Township with usage estimates and appropriate hydrogeological and engineering analyses as may be required by the Board to review the proposed Conditional Use.*

SGI’s proposed use of the Northern Tract will not require the use of any ground water. Natural stormwater runoff will be managed via approved stormwater management systems, and a portion of that runoff may be recycled and used for dust mitigation or other purposes. In addition, SGI previously agreed, in the DCNR Letter, to provide monitoring of Toms Creek at defined points under specific intervals.

- e. *There shall be no emission of odorous gases or other odorous material of any nature in such quantities as to be offensive to the average individual at any point on or beyond the lot boundary line within which the industrial operation is situated. This subsection shall not apply to the storage or application of manure or other materials by agricultural operations.*

The proposed use of the Northern Tract for surface mining will not create emission of odorous gases.

- f. *The emission of dust, dirt, flyash, fumes, vapors, or gases which can cause any damage to human health, animals, vegetation or other forms of property, or which can cause soiling or staining of persons or property at any point beyond the lot line of the use creating such emission is hereby prohibited. No emission of liquid or solid particulate from chimney, stack or otherwise shall exceed .03 grains per cubic foot of the covering gas at any point beyond the lot line of the use creating the emission. For measurement of the amount of particles discharged as set forth above, measurement procedures shall follow those then employed by the Pennsylvania Department of Environmental Protection for similar or identical measurements.*

The proposed use of the Northern Tract will not result in the detrimental emission of dust, dirt, flyash, fumes, vapors, or gases from the Northern Tract. In addition, as is set forth in the Air Quality Report prepared by Air Control Techniques, P.C. attached hereto as

Exhibit B and incorporated herein by reference, SGI will operate within the limits of the National Ambient Air Quality Standards and will not create dust emissions that would adversely affect adjoining properties. Furthermore, the previously agreed to buffering of the Northern Tract per the DCNR Letter, which is shown on the Conditional Use Plan, will further isolate activities on the Northern Tract from surrounding properties and ensure compliance with this provision.

- g. *No smoke shall be emitted from any chimney or any other source which has a visible gray opacity greater than number one (1) on the Ringlemann smoke chart as published by the U.S. Bureau of Mines, as amended the time of the application.*

The proposed use of the Northern Tract will not require the installation of any chimneys nor will any smoke be generated.

- h. *No operation shall discharge wastes of any kind into a surface water or a groundwater source. All methods of wastes disposal shall be approved by the Pennsylvania Department of Environmental Protection. Evidence of such approval shall be provided.*

The proposed use of the Northern Tract will not generate waste or wastewater; therefore, no waste wastewater will be discharged into a surface water or groundwater source.

- i. *No materials, fuels, wastes, or flammable substances may be deposited or stored on a lot in such a manner as to allow them to be transferred off the lot by natural causes or forces. No substances including, but not limited to, gasoline, oil, waste oil, or chemicals which can contaminate a stream or water course, or render such stream or water course unusable or undesirable as a source of water supply or damage aquatic life, shall be stored in such a location so that it could be introduced into the said stream or water course by natural causes or forces, or by rupture of storage containers or accidental discharge.*

As stated previously, the proposed use of the Northern Tract will not generate waste materials. No materials, fuels, and flammable substances will be stored so as to permit transfer off the Northern Tract by natural cause or force. No substances which could contaminate a stream or water source will be stored in such a manner so as to permit introduction of such substances to the said stream or water course. Storage protocols will be prescribed in an Integrated Preparedness, Prevention, and Contingency Plan, and Spill Prevention, Control, and Countermeasure Plan (the "Integrated PPC/SPCC Plan") which will be reviewed and approved by DEP as

part of the DEP Large Noncoal (Industrial Mineral) Surface Mine Permit review process. The Integrated PPC/SPCC Plan may be amended in the future to incorporate then current best practices.

- j. *No storm water or natural drainage which originates on the property or water generated by the activity, shall be diverted across property lines unless transported in an approved or existing drainage system.*

All stormwater and natural drainage originating on the Northern Tract will be managed on the Northern Tract or the Southern Tract via approved or existing drainage systems.

- k. *Electric or electronic equipment shall be shielded so there is no interference with any radio or television reception at the lot line or beyond as the result of the operation of such equipment.*

SGI does not intend to install any electric or electronic equipment on the Northern Tract that require RF shielding. If any electric or electronic equipment is installed in the future, it shall be shielded as required.

- l. *No use shall produce a strong dazzling light or a reflection of a strong dazzling light or glare beyond its lot lines. Exterior lighting shall be shielded, buffered, and directed so that glare will not become a nuisance to adjoining properties, adjoining districts, or streets.*

The proposed use of the Northern Tract will not generate strong dazzling light or glare. Any exterior lighting installed on the Northern Tract will be shielded, buffered, and directed so as not to create a nuisance to adjoining property.

- m. *Any proposed activity in this District shall not emit any dangerous radioactivity at any point of the site.*

The proposed use of the Northern Tract will not create the emission of dangerous radioactivity at the Northern Tract.

- n. *There shall be no vibration which is discernible to the human sense of feeling beyond the immediate site on which such use is conducted.*

Any vibration created by the proposed use of the Northern Tract will comply with the applicable requirements of the Surface Mining Act.

- o. *All activities shall be carried out in buildings, structures and improvements which conform to the standards of the National Board of Fire Underwriters. Furthermore, protection against fire and explosion shall be upon the advice of the Adams County Fire Marshal and the local*

fire company serving the area of the site.

Use of buildings, structures, and improvements erected on the Northern Tract, if any, shall conform to the standards of the National Board of Fire Underwriters. Any fire or explosion protection measures on the Northern Tract shall be subject to the advice of the Adams County Fire Marshall and the local fire companies serving the area.

B. Application

Each application of a Conditional Use shall be accompanied by a proposed plan showing:

1. *All property dimensions, existing locations of all buildings, structures, rights-of-way, easements, driveways, off-street parking facilities; utility lines, poles and appurtenances; entrances and exits on the site, and within one hundred (100') feet of the property; proposed locations and dimensions of proposed buildings, structures, walkways, buffer zones, parking areas, loading areas, storage areas, signs, sanitary sewer facilities, stormwater management facilities, water supply, waste disposal provisions, curbs, landscaping, exterior lighting, existing and proposed physical features such as water bodies, water courses, grades, woods, trees, soils, rock outcrops, subsurface formations, ecological habitats, vistas; all adjoining properties and uses within two hundred (200') feet of the site to include their historical, architectural and archaeological significance.*

The Conditional Use Plan was prepared and submitted in accordance with these requirements.

2. *Statement explaining the suitability of the site for development, and its compatibility and demand for the intended use of the type proposed in the particular location proposed; furthermore, its accessibility and availability of community facilities and services should be included, as well as the proposed project's impact on the Township Comprehensive Plan, planned capital improvements or proposed development regulations.*

The stated purpose of the Industrial District, as set forth in Section 1300 of the Zoning Ordinance, is, "...to encourage the construction on and continued use of the land for industrial purposes... and to prohibit any use which would substantially interfere with the development, continuation or expansion of industrial uses in the Industrial District." The proposed use of the Northern Tract is aligned with these purposes. In addition, the Township's Comprehensive Plan (at Page 35) specifically promotes industrial development in the area surrounding and including the SGI Property. Stated simply, the proposed use of the Northern Tract for surface mining purposes is aligned with the Township's Comprehensive Plan as well as the purposes of the Industrial District, and the Northern Tract is well situated

and suited for the proposed development. Moreover, there will be no impact to the Township's planned capital improvements or proposed development regulations.

3. *Description of existing and proposed machinery, processes and products.*

SGI intends to employ open pit best mining/engineering practices similar to the current practice on the existing Pitts Quarry in the Southern Tract. Standard drilling and blasting techniques, as well as secondary breakage, will be used to break down minerals to be loaded and transported by haul trucks to the Primary Crushing Facility located on the Southern Tract. As is the case with current operations, major equipment will include rock drills, secondary rock breakers, loaders, haul trucks, wheel loaders, dozers and track hoes, and other similar mining equipment and mining support equipment. Products used will include explosive materials for blasting, which will not be stored on the Northern Tract. These products, when used, will be by independently licensed and bonded blasting professionals.

4. *Specifications for the mechanisms and techniques used or to be used in restricting emission of any dangerous and objectionable elements, and in measurement of the potential emission if any is anticipated.*

SGI intends to operate the Northern Tract in accordance with all applicable DEP regulations. The proposed use of the Northern Tract is not expected to emit any dangerous or objectionable elements.

5. *Inventory and analysis of water quantity requirements and water yields and quality; traffic counts, road capacities, circulation patterns and considerations; market information; and, any other data that may be required.*

The proposed use of the Northern Tract will not require the use of community water; therefore, an inventory of water quantity requirements, yields, and quality is not relevant. The proposed use of the Northern Tract serves as an internal extension and continuation of the existing quarry operation located on the Southern Tract and is intended to extend the operating life of the SGI Property. All traffic associated with the proposed use will be internal to the SGI Property with no impact anticipated to public road capacities or circulation patterns.

6. *Designation of applicable Local, Commonwealth, and Federal approvals and permits required, and compliance with same.*

**Land Development Plan Approval by Hamiltonban Township
Large Non-Coal (Industrial Minerals) Surface Mine Permit – DEP
Stormwater Approvals - Adams County Conservation District**

C. *Referral to the Township and County Planning Commissions*

Any Conditional Use application shall be referred to the Township and County Planning Commissions for comment. The Secretary of the Board of Supervisors shall transmit to the Secretary of the Township and County Planning Commissions and the County Office of Planning and Development a copy of said application, together with a copy of the notice of the hearing at least ten (10) days prior to said hearing by the Board of Supervisors. The Township and County Planning Commissions shall report to the Board of Supervisors in writing their advisory opinions, findings, and recommendations on said application within thirty (30) days. Failure of the Township Planning Commission to report to the Board of Supervisors within the prescribed time period shall constitute a favorable opinion on said application by the Township Planning Commission. Failure of the County Planning Commission to report shall be considered a "neutral" position on the matter.

D. *Public Hearings*

The Board of Supervisors shall not approve any application for a Conditional Use without first holding a public hearing. Notice of said hearing and of the substance of the application shall be given by publication in a newspaper at least ten (10) days before the date of such hearing. Notice shall also be sent by certified mail, at least five (5) days before the hearing, to the following: All owners of property which lies adjacent to that owned by the applicant in the immediate area and all other owners as the Board may deem advisable. The following procedures shall be followed:

- 1. The names of the adjoining owners shall be taken as they appear on the last completed tax roll of the Township.*
- 2. The hearing shall be held within sixty days from the date of the applicant's request unless the applicant has agreed in writing to an extension of time.*
- 3. The Board shall render a written decision on the application within forty-five days after the last hearing before the Board of Supervisors.*
- 4. Provided that due notice shall have been published as above provided and that there shall have been substantial compliance with the remaining provisions of the paragraph, the failure to give notice in exact conformance herewith shall not be deemed to invalidate action taken by the Commission in connection with the approval of any Conditional Use.*

Section 1302- Conditional Uses in the Industrial District

2. *Surface Mining:*

All new surface mining operations as defined in Section 404 of this Ordinance shall be permitted as a conditional use in the Industrial District. Proposed surface mining facilities permitted by the Pennsylvania Department of

Environmental Protection following the date of adoption of this Ordinance, but with a pending application filed prior to said adoption, shall conform in all respects with the requirements of this Section. Said operation shall be located with vehicular access over a roadway with paving, a minimum of three (3") inches thick and at least twenty (20') feet in width connecting said operation to a roadway classified in the Township Comprehensive Plan as an Arterial roadway, and subject to the following conditions and performance standards:

- a. *Surface mining operations shall include sandpits, gravel pits, removal of topsoil or rock, or the removal of any natural resource or mineral from the land or ground.*

The proposed use of the Northern Tract will include the removal of naturally occurring overburden soils, weathered cap rock, and production rock, a natural resource, from the ground.

- b. *Any person, corporation or otherwise, engaged in, or proposing to engage in, surface mining operation as defined herein, shall be properly licensed by Pennsylvania Department of Environmental Protection to engage in such operations.*

SGI currently holds the following relevant license:

Mining License No. 6982

- c. *Surface mining operations including production, processing, excavation, extraction, reclamation, sedimentation ponds, stockpiling and related structures shall not be conducted or erected closer than 100 feet to any property line or outside line of right-of-way of any public highway and not closer than 300 feet to any occupied dwelling house, public building or commercial or industrial building, unless released by the owner thereof.*

As is shown on the Conditional Use Plan, no surface mining operations or related structures will be conducted or erected closer than 100 feet to any property line or outside line of right-of-way of any public highway and not closer than 300 feet to any occupied dwelling house, public building or commercial or industrial building. Indeed, based on prior agreement set forth in the DCNR Letter and as shown on the Conditional Use Plan, the proposed mining support area on the Northern Tract is located approximately 560 feet from the closest structure associated with the nearest residence. The area proposed for active excavation and extraction, the quarry extraction limit, is located approximately 780 feet from the closest structure associated with the nearest residence.

- d. *Vegetative screening shall be provided by the Owner along all of the property and street boundary lines separating the operation from adjacent*

uses. Said vegetative screening is exempt from the setback restrictions of Section 1202.2.c. The screening is to be in the form of vegetation and the following standards shall apply:

- (1) A minimum of 3 rows of trees, shrubs, or other vegetation not less than fifty (50%) percent evergreen material shall be planted to produce the effective visual barricade.*

As is shown on the Conditional Use Plan, and in accordance with the DCNR letter, SGI has provided a minimum 100 foot maintained buffer area (the “Maintained Buffer”), as measured from the property line of the Northern Tract, and the existing vegetation within that buffer area will be retained. As is also shown on the Conditional Use Plan, the area included within the Maintained Buffer has been expanded to provide a 300 foot maintained buffer from the centerline of Toms Creek and a 150 maintained buffer from an un-named tributary to Toms Creek, all in accordance with the DCNR Letter. In addition, and as is also set forth in the DCNR Letter, SGI will provide a 150-foot operational buffer area (the “Operational Buffer”) between the Maintained Buffer area and the limit of active quarry excavation. Active quarry excavation will not be conducted within the Operational Buffer, this area being dedicated to erosion and sedimentation control facilities and other mining support uses.

If necessary, SGI will supplement the existing natural vegetation in the Maintained Buffer with additional trees and shrubs in the Operational Buffer, as appropriate, so as to provide an effective visual barricade within the combined buffer areas, and to maintain a minimum of three rows of trees, shrubs, and other vegetation or its equivalent. At least 50% of any new plantings will be evergreens.

- (2) At least 2 different species of trees, shrubs or other vegetation shall be utilized. Selected species shall exhibit different tolerances to insect and disease.*

Any additional buffer plantings that may be required will include at least two species selected with different tolerances to insect and disease. A selection of proposed species is included in the Conditional Use Plan.

- (3) Species selected must be capable of producing the effective visual barrier, ten (10') feet in height, within 5 years of planting.*

Any additional buffer plantings that may be required will satisfy this requirement.

(4) *Prompt replacement of any dead species, shall be required.*

SGI will monitor and maintain all supplemental buffer plantings.

(5) *Earthen mounds may also be used as a form of screening but in no case shall be located closer than 50 feet from a property line or outside line of right-of-way of any public highway.*

In the event that earthen mounds are used for screening purposes, they will be located more than 50 feet from any property line.

e. *The following security measures shall be provided:*

(1) *Prior to the commencement of surface mining operations, a physical barricade shall be constructed enclosing the area actively being excavated in accordance with the following standards: Fencing shall be at least six (6') feet high and constructed of wire mesh fabric and barbed wire across the top. Alternative varieties of fencing may be used upon approval by the Township Board of Supervisors.*

As is shown on the Conditional Use Plan, the portion of the Northern Tract subject to active mining operations will be enclosed by a security fence meeting the standards stated above.

(2) *All access openings shall be provided with gates that can be locked to prevent unauthorized entry during periods of non-operation.*

Any openings in the security fence will be secured by a gate.

(3) *Warning signs stating the nature of the operation shall be conspicuously posted around the perimeter of the operation.*

Appropriate warning signs will be installed. Signs prohibiting trespassing and stating the private nature of the property will be installed along the boundary of the Northern Tract not adjoining the Southern Tract. In addition, warning signs relating to blasting activities will be installed along the interior border of the Operational Buffer area.

f. *A site plan of the entire property, clearly and legibly drawn at a scale of 1" = 100' or less, shall be provided and include the following items.*

(1) *North arrow, scale and date.*

(2) *Topographic contour lines.*

- (3) *All property lines including a metes and bounds description and the size of the property expressed in acres or square feet.*
- (4) *The location of all existing buildings, structures, cemeteries, streets, wells and streams within 500 feet of the property proposed for surface mining operation.*
- (5) *The location of the proposed surface mining operation and the staging of operations if applicable.*
- (6) *The location of proposed stockpiles, sedimentation ponds, access road and buildings associated with the proposed operation.*
- (7) *The location of security fences, gates, and signs.*
- (8) *The location and description of required screening.*
- (9) *The location and description of all erosion and sedimentation control measures.*

The Conditional Use Plan has been prepared and submitted in accordance with these requirements, as applicable. With respect to Subsection 5 above, the proposed surface mining operation will occur within the stated boundaries (Operational Buffer and Excavation Limit) as delineated on the Conditional Use Plan. The staging of the operation will generally follow the sequence provided. The timing of the sequence will be dependent on market business conditions, but will follow the following sequence:

- (a) **Remove timber for benefit of DCNR (includes installation of appropriate erosion and sedimentation control) as agreed in the DCNR Letter.**
- (b) **Install stormwater control/management systems. SGI will provide sufficient stormwater management and erosion and sedimentation control Best Management Practices (“BMPs”) to meet the requirements of PA Chapter 102 requirements. These features will be situated within the and/or on the interior of the Operational Buffer shown on the Conditional Use Plan. SGI intends to implement, to the extent practicable, BMPs which allow for subsurface infiltration of stormwater runoff back to the watershed.**
- (c) **Begin incremental removal of overburden soils.**
- (d) **Begin incremental development of the quarry. Open pit best mining/engineering practices similar to the existing quarry in the Southern Tract, will be employed.**

Standard drilling and best blasting techniques will be used for extraction of the rock.

- g. *A traffic circulation plan drawn at a suitable scale shall be provided indicating the following:*

(1) *The location of the proposed operation with respect to major traffic arteries.*

The location of the Northern Tract and its proximity to major traffic arteries are depicted in the Traffic Circulation Plan attached hereto as Exhibit C and incorporated herein by reference.

(2) *The proposed vehicular routing both to and from the proposed operation.*

The proposed use of the Northern Tract will not increase traffic or alter existing external traffic patterns on public roadways. All operational traffic from the Northern Tract will be to the Southern Tract, where materials will be processed. The general locations of internal haul/service roads are shown on the Conditional Use Plan as well as the Traffic Circulation Plan.

- h. *An operation plan shall be provided for all surface mining operations and shall include the following:*

(1) *Procedures to be followed for compliance with Section 102, Chapter 77 of the Department of Environmental Protection Rules and Regulations.*

These procedures will be prepared and ultimately submitted to DEP as part of the mining permit review process. The required Operation Plan and Reclamation Plan for the Northern Tract will ultimately be subject to approval by DEP. Following such approval, SGI will provide the Township with a copy of the approved Operation Plan and Reclamation Plan, together with any future amendments.

(2) *A schedule of operational hours provided that all required blasting shall be confined to the hours between 8:00 a.m. and 5:00 p.m. prevailing time.*

Operational Hours: 24 hours per day, 7 days per week, 52 weeks per year.

Blasting: 8:00 a.m. to 5 p.m. prevailing time.

(3) *Procedures for the removal of mud or debris on any public road resulting from the ingress or egress of vehicular traffic from the operation. Said mud or debris shall be removed at the end of each working day, or more frequently if needed during the working day.*

Not Applicable. All roads associated with the proposed use of the Northern Tract will be internal to the SGI Property and will not intersect any public roads.

(4) *Procedures for dust control shall include the following:*

(a) *Access roads shall be maintained with a dustless surface from the connecting public roadway to a point within 100 feet of any loading area.*

All roads associated with the proposed use of the Northern Tract will be internal to SGI and will not intersect any public roads. For the internal roads, consistent with current practice, SGI will utilize a water truck on a routine basis, as needed, to control dust.

(b) *Stockpiling of any materials shall be in such a manner as to prevent dust from blowing onto adjacent properties.*

Any stockpiling of materials shall be done so as to prevent dust from blowing onto adjacent properties.

(5) *Procedures for controlling erosion and sedimentation resulting from the proposed operation as required by the Department of Environmental Protection and consistent with erosion and sedimentation control measures included in this Ordinance.*

All permanent erosion and sedimentation controls will ultimately be designed in accordance with applicable DEP regulations, the Zoning Ordinance, and the Township Stormwater Management Ordinance, and will be subject to Township and Adams County approval as part of the land development plan to be submitted at a later date.

(6) *Procedures for the ultimate closing and reclamation of the proposed operation as required by the Department of Environmental Protection.*

The Reclamation Plan for the Northern Tract, including compliance with all stormwater regulations, will ultimately be subject to approval by DEP in connection with issuance of a Large Noncoal (Industrial Mineral) Surface Mine Permit. SGI intends to propose reclamation

practices that would allow reclaimed areas to be designated as wildlife habitat by DEP. Following DEP approval, SGI will provide the Township with a copy of the approved Reclamation Plan, together with any future amendments.

- i. *A maintenance bond not exceeding fifty (50%) percent of the full cost of repaving the Township roads servicing the operation, from the entry to the operation to the first utilized arterial roadway, as classified by the Township Comprehensive Plan, under such conditions, in form and with surety as shall be approved by the Township Board of Supervisors, shall be provided by the operator. In lieu of a bond, the operator may deposit cash or securities with the Township to secure said repaving under an escrow agreement approved by the Township Solicitor and Board of Supervisors.*

The amount of the bond or other guarantee shall be equal to fifty (50%) percent of the cost of the required repaving as estimated by the Township Engineer. The amount of financial security may be increased by up to an additional ten (10%) percent for each one-year period beyond the first anniversary date from posting of financial security. Said financial security amount shall be reviewed annually by the Township in an attempt to determine any appropriate adjustments.

The addition of the Northern Tract as an extension of SGI's operations on the Southern Tract will only impact the routing of operational traffic flow within the SGI Property. The proposed use of the Northern Tract will not increase traffic on public roadways. SGI has historically and continues to be willing to give due consideration to financial and other contributions to the Township relative to the maintenance and repair of Township roads.

Conclusion

SGI requests that its Application for Conditional Use Permit be forwarded to the Township Planning Commission and the Adams County Planning Commission for review and comment. Following such review and comment, SGI requests that the Board of Supervisors schedule and advertise a public hearing on its Application. As is set forth above, SGI has satisfied the requirements for the granting of conditional use approval, and requests the same.

Sean P. Delaney
Reed Smith LLP

Mark D. Pennell
URS Corporation

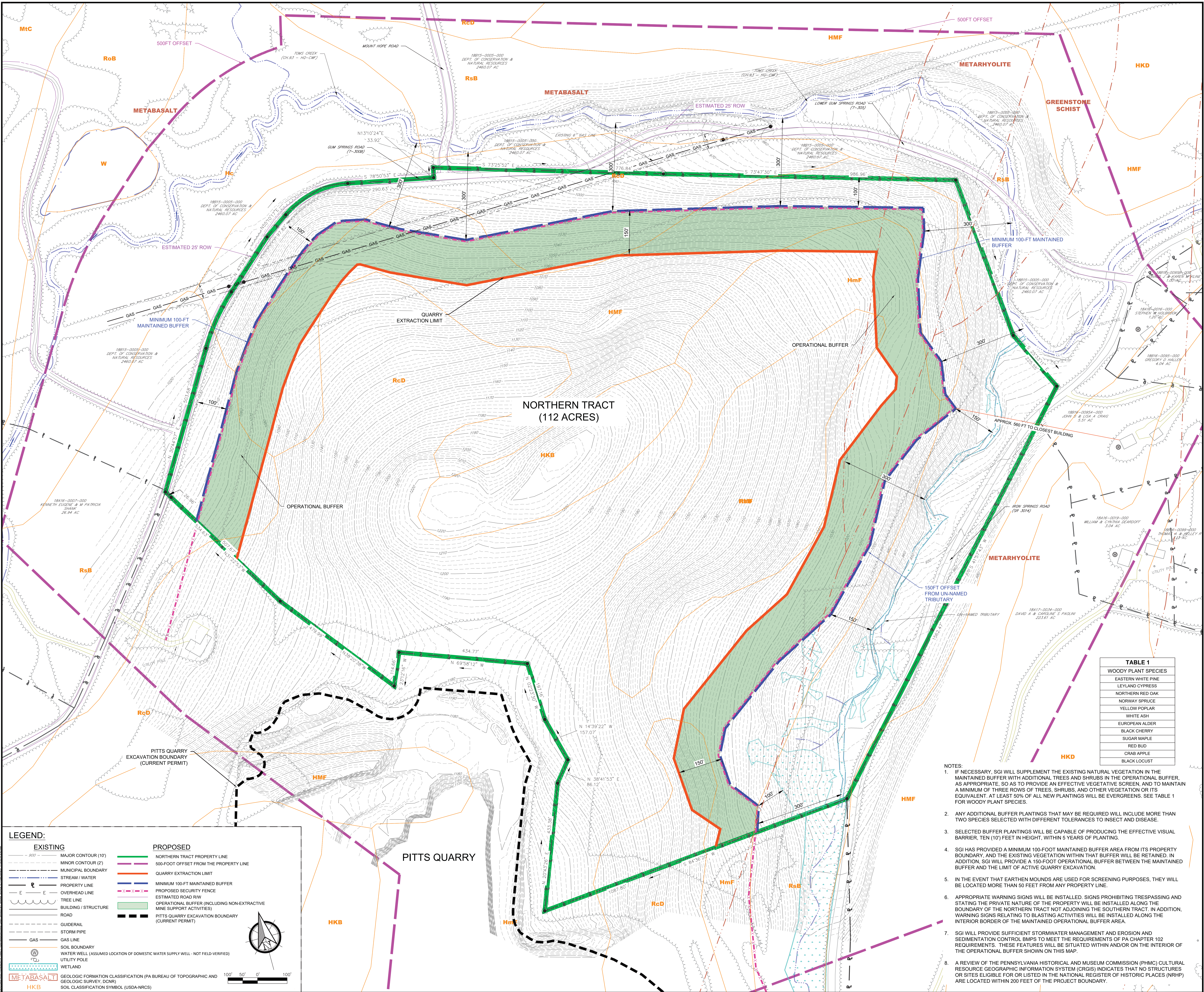


TABLE 1	
WOODY PLANT SPECIES	
EASTERN WHITE PINE	
LEYLAND CYPRESS	
NORTHERN RED OAK	
NORWAY SPRUCE	
YELLOW POPLAR	
WHITE ASH	
EUROPEAN ALDER	
BLACK CHERRY	
SUGAR MAPLE	
RED BUD	
CRAB APPLE	
BLACK LOCUST	

- NOTES:
- IF NECESSARY, SGI WILL SUPPLEMENT THE EXISTING NATURAL VEGETATION IN THE MAINTAINED BUFFER WITH ADDITIONAL TREES AND SHRUBS IN THE OPERATIONAL BUFFER, AS APPROPRIATE, SO AS TO PROVIDE AN EFFECTIVE VEGETATIVE SCREEN, AND TO MAINTAIN A MINIMUM OF THREE ROWS OF TREES, SHRUBS, AND OTHER VEGETATION OR ITS EQUIVALENT. AT LEAST 50% OF ALL NEW PLANTINGS WILL BE EVERGREENS. SEE TABLE 1 FOR WOODY PLANT SPECIES.
 - ANY ADDITIONAL BUFFER PLANTINGS THAT MAY BE REQUIRED WILL INCLUDE MORE THAN TWO SPECIES SELECTED WITH DIFFERENT TOLERANCES TO INSECT AND DISEASE.
 - SELECTED BUFFER PLANTINGS WILL BE CAPABLE OF PRODUCING THE EFFECTIVE VISUAL BARRIER, TEN (10) FEET IN HEIGHT, WITHIN 5 YEARS OF PLANTING.
 - SGI HAS PROVIDED A MINIMUM 100-FOOT MAINTAINED BUFFER AREA FROM ITS PROPERTY BOUNDARY, AND THE EXISTING VEGETATION WITHIN THAT BUFFER WILL BE RETAINED. IN ADDITION, SGI WILL PROVIDE A 150-FOOT OPERATIONAL BUFFER BETWEEN THE MAINTAINED BUFFER AND THE LIMIT OF ACTIVE QUARRY EXCAVATION.
 - IN THE EVENT THAT EARTHEN MOUNDS ARE USED FOR SCREENING PURPOSES, THEY WILL BE LOCATED MORE THAN 50 FEET FROM ANY PROPERTY LINE.
 - APPROPRIATE WARNING SIGNS WILL BE INSTALLED. SIGNS PROHIBITING TRESPASSING AND STATING THE PRIVATE NATURE OF THE PROPERTY WILL BE INSTALLED ALONG THE BOUNDARY OF THE NORTHERN TRACT NOT ADJOINING THE SOUTHERN TRACT. IN ADDITION, WARNING SIGNS RELATING TO BLASTING ACTIVITIES WILL BE INSTALLED ALONG THE INTERIOR BORDER OF THE MAINTAINED OPERATIONAL BUFFER AREA.
 - SGI WILL PROVIDE SUFFICIENT STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION CONTROL BMPs TO MEET THE REQUIREMENTS OF PA CHAPTER 102 REQUIREMENTS. THESE FEATURES WILL BE SITUATED WITHIN AND/OR ON THE INTERIOR OF THE OPERATIONAL BUFFER SHOWN ON THIS MAP.
 - A REVIEW OF THE PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION (PHMC) CULTURAL RESOURCE GEOGRAPHIC INFORMATION SYSTEM (CRGIS) INDICATES THAT NO STRUCTURES OR SITES ELIGIBLE FOR OR LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES (NRHP) ARE LOCATED WITHIN 200 FEET OF THE PROJECT BOUNDARY.

LEGEND:

EXISTING		PROPOSED	
	MAJOR CONTOUR (10')		NORTHERN TRACT PROPERTY LINE
	MINOR CONTOUR (2')		500-FOOT OFFSET FROM THE PROPERTY LINE
	MUNICIPAL BOUNDARY		QUARRY EXTRACTION LIMIT
	STREAM / WATER		MINIMUM 100-FT MAINTAINED BUFFER
	PROPERTY LINE		PROPOSED SECURITY FENCE
	OVERHEAD LINE		ESTIMATED ROAD R/W
	TREE LINE		OPERATIONAL BUFFER (INCLUDING NON-EXTRACTIVE MINE SUPPORT ACTIVITIES)
	BUILDING / STRUCTURE		PITTS QUARRY EXCAVATION BOUNDARY (CURRENT PERMIT)
	ROAD		
	GUIDELINE		
	STORM PIPE		
	GAS LINE		
	SOIL BOUNDARY		
	WATER WELL (ASSUMED LOCATION OF DOMESTIC WATER SUPPLY WELL - NOT FIELD-VERIFIED)		
	UTILITY POLE		
	WETLAND		
	METABASALT		
	HKB		
GEOLOGIC FORMATION CLASSIFICATION (PA BUREAU OF TOPOGRAPHIC AND GEOLOGIC SURVEY, DGNR)			
SOIL CLASSIFICATION SYMBOL (USDA-NRCS)			

REVISIONS					DESCRIPTION
NO	BY	CHKD	DATE		

DESIGNED BY:		DATE	
TEL	10-1-2013		
DRAWN BY:		DATE	
TEL	10-1-2013		
CHECKED BY:		DATE	
RKF	10-22-2013		
APPROVED BY:		DATE	
MDP	10-23-2013		
CLIENT APPROVED BY:		DATE	
XXX			

SGI SPECIALTY GRANULES INC.

URS

4507 NORTH FRONT STREET, SUITE 200
HARRISBURG, PENNSYLVANIA 17110
TEL: (717) 635-7900 FAX: (717) 635-7902
www.urscorp.com

NORTHERN TRACT

CONDITIONAL USE PLAN

CUP

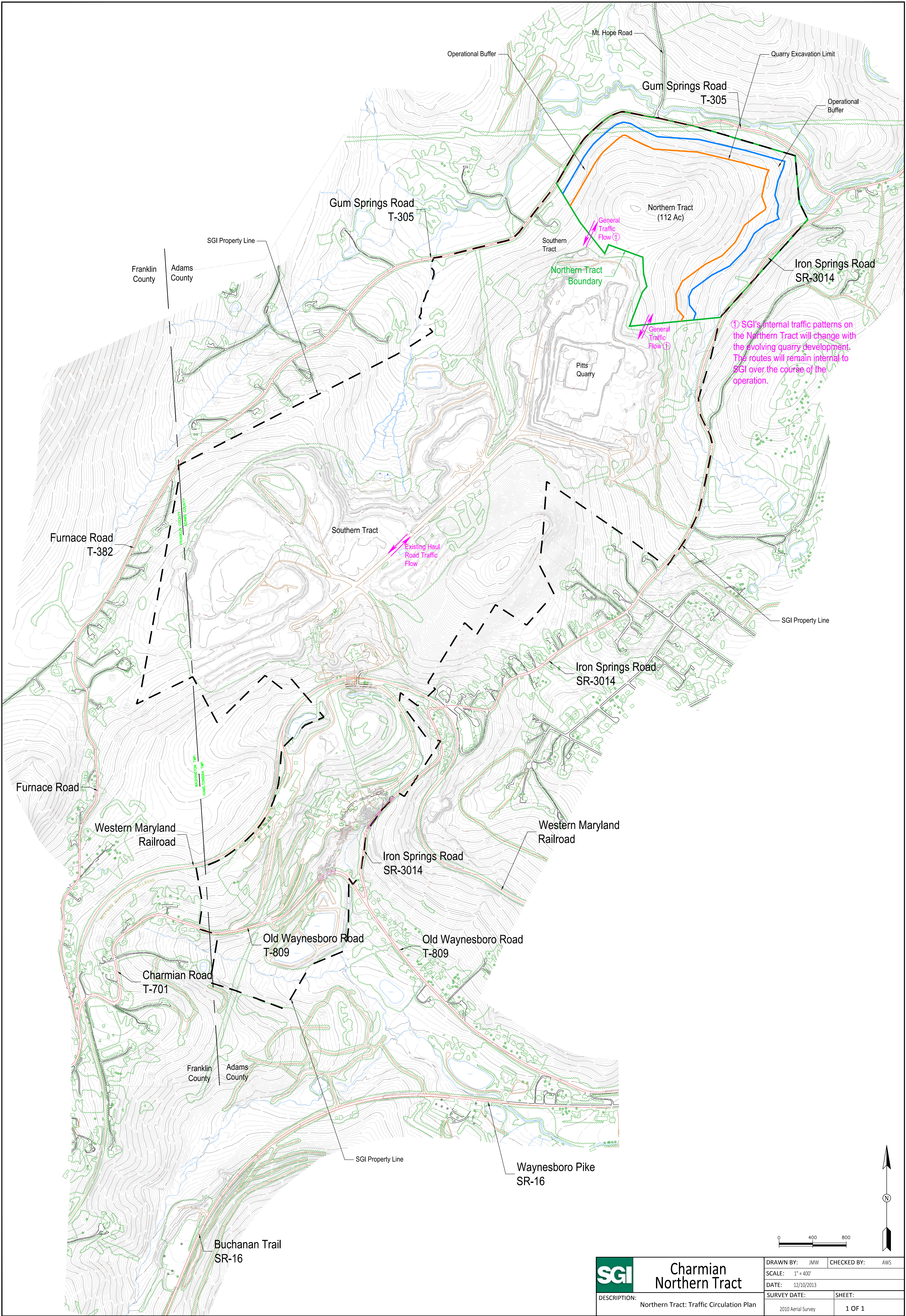
1 OF 1

DEC. 2013

20498122

1" = 100'

11/11/2013



<div>SGI</div> <div>DESCRIPTION: Northern Tract: Traffic Circulation Plan</div>	Charmian Northern Tract		DRAWN BY: JMW	CHECKED BY: AWS
	SCALE: 1" = 400'		DATE: 12/10/2013	
	SURVEY DATE: 2010 Aerial Survey		SHEET: 1 OF 1	