

**From:** [Scofield, Brian](#)  
**To:** [Schaeffer, Brad](#)  
**Cc:** [Shellenberger, Pamela](#); [Smith, Preston](#); [Gmec Consulting](#)  
**Subject:** Re: FW: PPP Vibration Monitoring Plan and HDD at A54/A55  
**Date:** Wednesday, October 26, 2016 1:57:53 PM

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Hi Brad,

The Service made an effects determination for the bog turtle regarding the proposed HDD under wetlands A54 and A55 in our letter to you dated September 15, 2016. If the HDD pilot hole is drilled when turtles are hibernating (even with all the avoidance and minimization measures) we feel "take" may occur; therefore, we do not agree with your "Not likely to adversely affect" determination.

The proposed Vibration Monitoring Plan is sufficient and it will be interesting to see the results.

Thanks,  
Brian

Brian Scofield  
Biologist  
U.S. Fish & Wildlife Service  
Pennsylvania Field Office

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On Wed, Oct 26, 2016 at 9:51 AM, Schaeffer, Brad <[Brad.Schaeffer@tetrattech.com](mailto:Brad.Schaeffer@tetrattech.com)> wrote:

Hi Brian and Pam,

Just checking on a concurrence in regards to the vibration study and with our Sept 15 letter conclusion. Any update you can provide would be great.

Thanks,

Brad

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**From:** Schaeffer, Brad  
**Sent:** Tuesday, October 04, 2016 10:22 AM

**To:** 'Scofield, Brian' <[brian\\_scofield@fws.gov](mailto:brian_scofield@fws.gov)>  
**Cc:** 'STYLES, MONICA L' <[MLSTYLES@sunocologistics.com](mailto:MLSTYLES@sunocologistics.com)>; EMBRY, CHRISTOPHER P <[CPEMBRY@sunocologistics.com](mailto:CPEMBRY@sunocologistics.com)>; Gmec Consulting <[gmeconsulting@aol.com](mailto:gmeconsulting@aol.com)>; GORDON, MATTHEW L <[MLGORDON@sunocologistics.com](mailto:MLGORDON@sunocologistics.com)>; Shellenberger, Pamela <[pamela\\_shellenberger@fws.gov](mailto:pamela_shellenberger@fws.gov)>; 'Anderson, Robert' <[robert\\_m\\_anderson@fws.gov](mailto:robert_m_anderson@fws.gov)>; Smith, Preston ([Preston.Smith@tetrattech.com](mailto:Preston.Smith@tetrattech.com)) <[Preston.Smith@tetrattech.com](mailto:Preston.Smith@tetrattech.com)>  
**Subject:** PPP Vibration Monitoring Plan and HDD at A54/A55

Hi Brian,

Outlined below are the procedures SPLP plans to implement as a Vibration Monitoring Plan to record and document the vibration levels at the horizontal directional drill (HDD) of wetlands identified as A54 and A55, of Sunoco's PA Pipeline Project.

- Two (2) unattended engineering geophones and seismographs will be used to measure the HDD vibrations transmitted through the ground. One geophone will be placed at each wetland as close as practical to the drill path. The geophones will be buried at a minimum 1ft below the surface and a maximum of 4ft, and are cabled to the seismograph. The cable is not buried.
- The seismographs measure three orthogonal channels of ground motion, with a peak particle velocity (PPV) range of 0.005 to 10.0 in/sec in a frequency range of 2 to 250 Hertz. The ground channels yield a complete time history of the motion, and are sampled at 4,096 samples per second.
- A histogram of the PPV versus every one-minute of the day will be recorded. Each seismograph can be communicated with via cellphone, so real time data can be collected if need be.
- Seismographs will be mounted on a 4X4 post in an upland location, that will be removed along with the geophones once monitoring is complete.
- Installation, removal, and any maintenance will be monitored by a bog turtle specialist.
- Approximately two weeks of ambient monitoring will be conducted before the HDD begins.
- A vibration monitoring summary report will be prepared and provided upon completion of the monitoring.

SXL will proceed with the implementation of this Vibration Monitoring Plan unless otherwise advised to modify.

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Regarding the attached September 15 letter and the HDD at A54 and A55: As discussed, the project schedule for drilling of the pilot hole will be after October 31 with the HDD likely to start after November 1. As indicated within our August 19 correspondence and discussed as an option during our August 10 meeting, SPLP will implement the bog turtle monitoring and vibration study as additional avoidance and conservation measures should it be necessary to start or complete the HDD after November 1st. Based on our previous discussions regarding the implementation of the additional avoidance and conservation measures, SPLP concluded that the September 15, 2016 'Not likely to adversely affect' determination remains valid. We respectfully request your concurrence.

Please let us know if you have any questions.

Thank you,

Brad Schaeffer

**Brad A. Schaeffer | Project Manager and Senior Biologist | PMP**

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