GENERAL DESCRIPTIONS OF THE AQUATIC ENVIRONMENT DIRECTLY AFFECTED

STREAMS

The proposed permit area is located in Wells Township, Jefferson County, Ohio and lies entirely within the Rush Run watershed (HUC Code: 05030106-010-020). The surface water from the permit area flows to Rush Run and eventually into the Ohio River.

Of the streams identified within the permit boundary, a total of twelve streams will be impacted. All of those streams were considered to be jurisdictional according to the Jurisdictional Determination letter dated 3/15/2011 (Army Corps ID # 2010-1242).

General descriptions of the streams within the delineation area are listed below.

Ephemeral Streams

Stream 5 - Ephemeral Stream 5 is a jurisdictional ephemeral stream with surface connectivity to Intermittent Stream 5. The stream length is approximately 158 linear feet. This channel was dry during numerous visits throughout the field investigation for the area, and subsequently conveys runoff from storm events. This stream scored 14 using the HHEI method as there was "no flow" present at the time of the delineation.

**All Ephemeral Streams within the delineation area receive runoff from storm events and are classified as ephemeral due to lack of groundwater connectivity. The dominant substrate is silt and detritus, with no sinuosity and poor channel morphology.*

Table 1 – Ephemeral Stream Totals	
Total Delineated Jurisdictional *Ephemeral* Stream Length	**354**
Jurisdictional *Ephemeral* Stream Length to be Impacted	**158**

Intermittent and Perennial Streams

Stream 3 - Stream 3 is a jurisdictional intermittent stream which originates below a spring (S-7.10) and flows north to discharge into Rush Run outside of the delineation area. The channel is somewhat developed throughout the observed reach of stream. The riparian vegetation is second growth woodland, including shrubs, saplings, and small trees. Total intermittent stream length is 483 linear feet. This stream scored 26 using the HHEI method.

Stream 4 - Stream 4 is a jurisdictional intermittent stream which originates below a spring (S-7.09) and Wetland A. It flows to the north to discharge into Rush Run. The channel is somewhat developed throughout the observed reach of stream, and was found to be flowing during the field investigation. The riparian vegetation is second growth woodland, including shrubs, saplings, and small trees. Total intermittent stream length is 522 linear feet. This stream scored 19 using the HHEI method.

Stream 5 - Stream 5 is a jurisdictional intermittent stream which originates below a spring (S-7.08) and flows to the northeast to discharge into Stream 2. The channel is somewhat developed and the riparian vegetation is second growth woodland. Total intermittent stream length is 225 linear feet. This stream scored 14 using the HHEI method.

Stream 6 - Stream 6 is a jurisdictional intermittent stream which originates below a spring (S-1.01) and flows to the northeast and discharges into Rush Run. The stream channel is well developed and the riparian vegetation is second growth woodland. Total delineated intermittent stream length is 702 linear feet. This stream scored 49 using the HHEI method.

Stream 7 - Stream 7 is a jurisdictional intermittent stream which originates below a spring (S-4.02) and flows to the northeast and discharges into Rush Run. The channel is somewhat developed and riparian vegetation is second growth woodland. Total stream length is 119 linear feet. The stream scored 25 using the HHEI method.

Stream 16 - Stream 16 is a jurisdictional intermittent stream which originates below Wetland B and flows south to discharge into Stream 13. The surrounding landuse for much of the lower reach of stream 11 is old field and pasture. Total delineated intermittent stream length is 2,948 linear feet. This stream scored 25 using the HHEI method.

Stream 17 - Stream 17 is a jurisdictional intermittent stream which originates from an impoundment (EWI- 3) and flows south out of the permit area and discharges into Stream 13. The stream channel is well developed and the riparian area is second growth woodland. The total delineated intermittent stream length is 365 linear feet. This stream scored 65 using the HHEI method.

Stream 18 - Stream 18 is a jurisdictional intermittent stream which originates from an impoundment (EWI-5) flows to the southeast to converge with Stream 13. The channel is somewhat developed and the riparian area is comprised of second growth woodland. Total delineated intermittent stream length is 362 linear feet. This stream scored 18 using the HHEI method.

Table 2 – Intermittent and Perennial Stream Totals	
Total Delineated Jurisdictional *Intermittent* Stream Length	**12,415**
Jurisdictional *Intermittent* Stream Length to be Impacted	**3,332**
Total Delineated Jurisdictional *Perennial* Stream Length	**10,817**
Jurisdictional *Perennial* Stream Length to be Impacted	**0**

Refer to the Stream, Wetland and Open Waters/Impoundment Summary located in the Jurisdictional Determination Report for descriptions of impacted resources. Also refer to Table 3 for the descriptions and locations of stream impacts. All of the listed aquatic resources are shown on the Preliminary Jurisdictional Determination Map.

WETLANDS

Within the delineation area a total of 6 jurisdictional wetlands were identified totaling 2.49 acres. Wetland A (0.04 ac.) will be impacted under the proposed preferred alternative. Wetland A is an emergent wetland located near the origin of stream 4. This wetland scored 45 on the Ohio Rapid Assessment Method for evaluating wetlands making it a Category 2 wetland.

IMPOUNDMENTS

Within the delineation area a total of 10 jurisdictional existing water impoundments were identified totalling 1.32 acres. Five of these impoundments totalling 0.50 acres will be impacted as a result of the preferred alternative.

Existing Water Impoundment 1- Existing Water Impoundment 1 (EWI-1) is 0.05 acres in size and is located on pre-law mine spoil in the south portion of the application area. This water impoundment will be backfilled during reclamation.

Existing Water Impoundment 2- EWI- 2 is 0.06 acres in size and is located on pre-law mine spoil in the south portion of the application area. This water impoundment will be backfilled during reclamation.

Existing Water Impoundment 3- EWI- 3 is 0.08 acres in size and is located on pre-law mine spoil in the south portion of the application area. This water impoundment will be backfilled during reclamation.

Existing Water Impoundment 4- EWI- 4 is 0.06 acres in size and is located on pre-law mine spoil in the south portion of the application area. This water impoundment will be backfilled during reclamation.

Existing Water Impoundment 5- EWI- 5 is 0.25 acres in size and is located on pre-law mine spoil in the south portion of the application area. This water impoundment will be backfilled during reclamation.

Table 3 -Impacted Stream Descriptions

Stream ID	HHEI Score	Flow Regime	Jurisdictional	Length Within Permit	Length of Impact	Type Of Impact
Intermittent Stream Impacts						
3	26	Intermittent	Yes	327	293	Mine Through, Temporary Diversion
4	19	Intermittent	Yes	479	479	Mine Through, Haul Road, Reclamation
5	14	Intermittent	Yes	225	225	Mine Through
6	49	Intermittent	Yes	436	322	Mine Through, Sediment Transport,
7	25	Intermittent	Yes	190	45	Mine Through, Sediment Transport
16	25	Intermittent	Yes	2,898	1,696	Mine Through, Reclamation
17	65	Intermittent	Yes	207	110	Temporary Stream Diversion, Reclamation
18	18	Intermittent	Yes	307	162	Reclamation, Temporary Stream Diversion
Ephemeral Stream Impacts						
5	14	Ephemeral	Yes	158	158	Mine Through
				***Total Impacts**	**3,490**	

**indicates impacts proposed under the preferred alternative.*