- Unnamed tributary E to Tenmile Creek in Deemston Borough. The encroachment is located approximately 1,860 upstream from its confluence with Tenmile Creek. The activity was placement of fill to allow construction of a haul road including a stream crossing. Approximately 0.7 acres of the 78-acre watershed will be affected. Please see Exhibit 14.1.D.

- Unnamed tributary E to Tenmile Creek below the 48" culvert in Deemston Borough. The encroachment begins approximately 1,400 feet upstream from the stream's confluence with Tenmile Creek and extends upstream approximately 400 feet. The activity was the relocation / reconstruction of the stream. The entire reconstructed channel is approximately 1,820 feet long, approximately 400 feet of which was permitted under SMP #63100101 and the remainder under SMP #63813210. The affected acreage was 1.1 acres of the 93.7 acres at this point in the stream. Please see Exhibits 14.1.E.1., 14.1.E.2. & 14.1.E.3.

- ST-11 is within approximately 70' of unnamed tributary E. This sed trap captures the flow of RD-11 which is taking flow from the eastern side of the haul road away from the scale house. The specifications of ST-11 are given in module 12 on page 12-55.

b) A narrative giving a description and the purpose and justification of the proposed activities;

- The encroachment on Tenmile Creek will allow for the removal of an old quarry highwall, the establishment of E&S controls (CD #1 and the installation of super filter fence, as needed), and the removal of a portion of the cropline of the Benwood Limestone.

- The proposed activity on Unnamed tributary D to Tenmile Creek is a stream crossing consisting of a 36" culvert for the haul road. The installation of the haul road and culvert are necessary to gain access to the mining area and allow for the transport of stone to market via Morey Road.

- The proposed activity on Unnamed tributary E South Branch to Tenmile Creek is placement of fill to allow construction of a haul road. The construction of the haul road is necessary to gain access to Morey Road for ingress to and egress from the site.

- The proposed activity on Unnamed tributary E to Tenmile Creek is a stream crossing consisting of a 48" culvert for the haul road. The installation of the haul road and culvert are necessary to gain access to the mining area and allow for the transport of stone to market via Morey Road.

- This variance on Unnamed tributary E to Tenmile Creek below the 48" culvert will allow the placement of fill to construct a haul road and re-construction of a non-erosive stream channel. Previous work carried out on gas lines in this area have impounded water from parts of the stream, obliterating parts of the original channel.

c) A description of the character of the stream bed and banks, and a profile of the stream for a reasonable distance above and below the proposed site showing bed slopes, normal and flood water surfaces and a description of the riparian vegetation including a characterization of the resident aquatic community, a description of the riparian vegetation and an assessment of the probable hydrologic consequences of the proposed activities on the water quality and quantity and the resident aquatic community. Provide the name(s), address(es) and telephone number(s) of the individual(s) responsible for the collection and analysis of this data and provide a description of the methodologies used to collect and analyze the data;

- Tenmile Creek watershed is greater than 10 square miles in size at this point. The mining activities will not result in any stream enclosures or channel constrictions which would affect the hydraulic capacity of the stream or the floodway. The bed and banks are forested. The primary

species are yellow oak, redbud, red maple, sycamore and black maple. See attached Cross Sections.

- The intermittent stream Unnamed tributary D to Tenmile Creek is incised in a steep ravine.

- Unnamed tributary E South Branch to Tenmile Creek originates as a discharge from a punch mine. It is wooded in this area. The primary species are ferns, grasses, and red maple, white oak and black locust.

- Unnamed tributary E to Tenmile Creek originates as a discharge from a punch mine and an old sediment pond. It is wooded in that area. The primary species are ferns, grasses, and red maple, white oak and black locust.

- Unnamed tributary E to Tenmile Creek below the 48" culvert originates as a discharge from a punch mine and an old sedimentation pond. The stream banks are wooded in the vicinity of the punch mine with red maple, white oak, and black locust. The understory is predominately ferns and grasses. The watershed to the old sedimentation pond is generally open fields with various field grasses as the dominant species. The stream below the wetland to the Equitrans gas line can best be described as ephemeral.

d) A stream profile for the existing and proposed channel for a reasonable distance upstream, downstream and within the proposed change, showing bed slopes, pool-riffle ratios, normal and flood water surfaces, and existing obstructions;

Stream cross sections that show the 100-year floodplain are attached.

e) A hydrologic and hydraulic analysis which shall include:
1. data on size, shape and characteristics of the watershed;
2. the size and frequency of the design storm;
3. the hydraulic capacity of any structures or replacement channel;
4. the hydraulic capacity of the channel upstream and downstream of the structure or the relocation/channel change;

- Tenmile Creek watershed is greater than 10 square miles in size at this point. The mining activities will not result in any stream enclosures or channel constrictions which would affect the hydraulic capacity of the stream or the floodway.

- Refer to Module 12 for culvert capacity calculations for Unnamed tributary D to Tenmile Creek.

- See attachment for this information on unnamed tributary E South Branch to Tenmile Creek.

- Unnamed tributary E to Tenmile Creek has previously been cut off by construction of a gas line. The stream is impounded and is currently infiltrating in to the subsurface. Therefore, it has no hydraulic capacity.

- Previous work carried out on gas lines in the area of Unnamed tributary E to Tenmile Creek below the 48" culvert has impounded water from parts of the stream and obliterated parts of the original channel. The stream is infiltrating into the subsurface where it is impounded except during extreme storm events.

- Mapping of the stream cross sections now include the 100-year floodplain as it was obtained from panel 0545E from the flood insurance rate maps for Washington County.