



March 9, 2020

West Virginia Department of Environmental Quality
Division of Water and Waste Management
601-57th Street
Charleston, WV 25304

RE: Request for Additional Groundwater Measures

Dear Department Official:

Roxul USA Inc. d/b/a ROCKWOOL respectfully responds to the request from the State of West Virginia Department of Environmental Protection, Division of Water and Waste Management, (WV DEP) regarding the implementation of two (2) additional groundwater protection measures beyond those required and currently complied with in its current environmental permit and applications. ROCKWOOL understands that the additional items requested by the WV DEP are to supplement the regulatory compliant groundwater protection measures already incorporated into the facility design to address local citizen concerns regarding potential affect upon existing groundwater conditions.

While it is ROCKWOOL's position that the ground water protection measures required, and currently complied with, in its current permits and permit applications, provide more than adequate protection to existing groundwater conditions, ROCKWOOL as a demonstration of good faith and its commitment to provide a meaningful response to local citizen concerns, sets forth the below response to WV DEP's request regarding the two (2) additional groundwater protection measures:

- 1. Establish a Groundwater Monitoring Network for the location** – ROCKWOOL has considered protecting groundwater conditions at the Site a top priority since the property was first identified for development. One example of our commitment to this effort is demonstrated through entering the West Virginia Voluntary Remediation Program (the "VRP"). Entering the VRP has resulted in removal of pesticide contamination at the Site from former apple orchard operations. It has also resulted in laboratory data being collected from groundwater in existing water wells at the property that were installed and used long before the site was taken over by ROCKWOOL. Following a corporate policy implemented at many of our manufacturing facilities around the globe, ROCKWOOL proposes to install four (4) groundwater monitoring wells consisting of one (1) up-gradient well and three (3) down-gradient wells based upon our understanding of the underlying geology. The exact location of the wells will be determined by geotechnical and geologic professionals based on the results of geotechnical borings and identified geologic conditions. ROCKWOOL anticipates that the up-gradient well will be on the southern end of the property



between the facility and State Route 9 while the three down-gradient wells will be installed relatively evenly spaced to the north and northeast of the raw material and manufacturing end of the facility. Groundwater flow is estimated to flow to the north and northeast at this location based on publicly available groundwater data and site specific geotechnical data. The proposed monitoring wells will be installed by a West Virginia Certified Groundwater Well Installer and information regarding installed conditions and well development logs will be maintained with the Groundwater Protection Plan developed for the Multi-Sector Stormwater Permit. ROCKWOOL will commit to sampling these wells on a quarterly basis for the first two (2) years of operation and semi-annually thereafter.

- 2. Install a double liner system with interstitial leak detection in both facility ponds –** ROCKWOOL has previously complied with and voluntarily gone two (2) steps further in complying with requirements for pond lining at the facility. In accordance with WVDEP policy of following Chesapeake Bay land development guidance for karst locations, ROCKWOOL installed a 60 mil (0.060 inches) geomembrane liner for containment of water in both ponds. In addition, ROCKWOOL voluntarily added two additional components to the liner system cross section to supplement the water retention characteristics. Under the 60 mil geomembrane, a geosynthetic clay liner (GCL) was installed to provide additional leak protection and sealing characteristics. A GCL is a manufactured liner consisting of a layer of highly impermeable and expansive clay known as bentonite, that is sealed between two layers of geotextile. This plastic liner placed on top of the GCL provides what is considered a variation of a “composite” liner system. Composite liners are recognized as efficient at resisting punctures and eliminating or minimizing subsequent leaks. Under the composite liner system, a high strength geotextile layer was installed over the soil subgrade. The geotextile consisted of a woven polyester yarn knitted into a stable network for dimensional stability. The geotextile layer was added as a supplemental layer to span small incidental areas of limited subsidence, generally < 2 feet in diameter.

ROCKWOOL understands that while this cross section does not provide an interstitial monitoring layer it does play an important role in providing a more robust primary containment for the water being retained. Further, it is much more comprehensive in scope than other known stormwater related ponds in the area. The cost and operational implications of adding an interstitial monitoring layer and second geomembrane are considerable and ROCKWOOL does not believe they will add any appreciable value. The water in the largest pond is only stormwater from the parking area and greenspace of the facility while the other pond will be primarily stormwater with only a potential for trace amounts of raw materials from the storage and handling areas.



As a result, and in summary, ROCKWOOL believes that the combination of composite liner systems in the facility ponds and a groundwater monitoring network within the manufacturing facility exceeds current permitting requirements and will provide value equal to or beyond the value of the double liner request made by WV DEP.

Sincerely,

A handwritten signature in blue ink, appearing to read 'K. Cammarato', written over the typed name and title.

Kenneth J. Cammarato
VP, General Counsel