

- **Introduction**

- This position paper presents OECs understanding and concern related to the potential Pilgrim Pipeline project, of which a small portion will pass through the northern portion of the Borough of Oakland.

- **Project Understanding**

- Two pipelines will be installed next to each other to convey petroleum material to and from a refinery in Linden, NJ. One pipeline will carry crude oil from a terminal in Albany, NY to the refinery in Linden, and the other will carry gasoline from the refinery back to Albany. These pipelines reportedly will be an 18” diameter pipe bringing crude oil south and 16 “diameter pipe would send refined petroleum back north and will be buried at least 4 feet underground. The pipeline will be mostly located in existing right of ways (ROWs) and in Oakland along the Ringwood/Mahwah border ROW in the Ramapo Mountains. In Oakland the proposed pipeline route could cross a few private properties and through a designated Open Space parcel. The ROW's exist entirely within the preservation area of the NJ Highlands.

- **Environmental Setting**

- **Geology**

- The primary bedrock geology is part of the Highlands Physiographic Province composed of four different units (Ybh) Hornblende Granite, (Yhm) Hornblende-Quartz-Feldspar Gneiss, (Ya) Amphibolite, and (Yb) Biotite-Quartz-Feldspar-Gneiss. These rocks are part of the Losee Metamorphic suite and metasedimentary rocks; classified as igneous and high grade metamorphic rock-types formed during the geological timeframe known as the Precambrian (1.2 billion years old). These crystalline bedrock formations are very hard and resistant to erosion and topographically, representing Oakland’s highest point in elevation.
- These formations have a low primary porosity and, therefore, are relatively impermeable. However, secondary porosity and permeability develop as a result of fracturing, weathering (e.g. frost action, plant roots) and fault lines. The Ramapo Fault is a major border fault that strikes NE/SW through Oakland and separates the Highlands and Piedmont Physiographic Provinces. This fault has a series of splays and fractures in Oakland. There are major splays of the Ramapo Fault within the Highlands crystalline bedrock which can influence the movement of groundwater; crystalline rocks discussed above have very low permeability so water moving through the site will travel through fractured bedrock.

- **Surficial Geology**

- The surficial geology or overburden is Netcong Till (Qwtn). It consists of yellow, yellowish brown, reddish-yellow, very pale brown (oxidized) to grayish brown and brown (unoxidized) silty sand to sandy silt with 10-40% pebbles and cobbles, and less than 10% boulders. Gravel is mainly gray to white gneiss and grey mudstone and sandstone with some red sandstone and conglomerate, basalt, and purple-to-gray quartzite, while boulders are primarily gneiss (Oakland NRI, Kratzer, 2014.). In the site area, there is minimal to no overburden. Based on Figure 4b from the Oakland Natural Resource Inventory, soil depth to bedrock in the site is predominantly zero inches.
- Soils that are shallow to bedrock mean the pipeline (buried to at least 4 ft.) will require frequent blasting of very resistant PreCambrian gneiss/granitoids. Sound waves from blasting can impinge on local housing, and weaken steep slopes that are already susceptible to landslides. To get machinery into these areas simply to dig will be problematic for our roads and may in some cases alter the landscape.

- **Habitat**

- According the Oakland NRI, 41% of Oakland has deciduous tree cover (>50% crown cover). The area containing the existing ROW's consists of areas that have a 0.2% annual chance flood hazard. It contains areas identified as having the potential for vernal pool habitat which is an endangered and protected wetland habitat. There are 6 endangered amphibian species associated with vernal ponds for breeding (Oakland NRI, Kratzer, 2014).

- **Concerns**

- **Loss of Habitat**

- Bergen County is one of the most densely populated counties in the country. Oakland is fortunate to still have large contiguous areas of open space. The pipeline will encroach on one of these areas fragmenting the area and greatly decreasing the ecologic value of the parcel. The New Jersey Comparative Risk Project from March 2003 listed habitat fragmentation and habitat loss as the highest ranking stressors of Statewide ecological quality. Certain species that require large expanses of intact habitat are becoming less common (Oakland NRI, Kratzer, 2014).
- The NJ Highlands have 72 New Jersey-listed endangered, threatened and rare animal species including mammals, birds, amphibians, reptiles, butterflies, dragonflies, damselflies and mussels. Two species—the Indiana bat and bog turtle—are Federally-listed. There are 137 endangered, imperiled and rare plant species.

- **Potential for Spill**

contamination from a spill would be drawn to our wells.

- **Contamination of surface water**

- There is also a high potential that a spill could impact the Ramapo River. The river is also a very important natural resource to Oakland. During droughts, the Ramapo River can supply as much as 150 million gallons of water per day to the Wanaque Reservoir, which supplies water to 3.5 million people. There are several unnamed tributaries that arise from the Ramapo Mountains that drain to the Ramapo River. These could potentially carry down any spills that reached surface water. Additionally the river is a great source of recreation that could be impacted. This includes impacts to trout fishing and any swimming activities.

- **New Jersey Highlands**

- The area of Oakland West of the Ramapo River is all Highlands Preservation area. The Highlands aquifers provides water for over 15 million people in NY and NJ alone. The Ramapo River Basin Aquifer System is part of the Highlands System. The Ramapo River Basin Aquifer System provides 100% of the water for Mahwah, Ramsey, Oakland, Franklin Lakes, Allendale, Pompton Lakes and Wayne as well as all or part of the water for 8 communities in NY.
- There are also cultural resources in the vicinity of the pipeline. Some of these historically significant areas require preservation and should not be disturbed by these activities.

- **NJDEP**

- The NJDEP will be the lead permitting agency for this project. Multiple permits will be required for the pipeline. During this process there will be public meeting and comment periods which will allow the public to be involved with the process. We should encourage our residents to be involved and be vocal if they have opinions on this project.

- **Summary**

- In summary the OEC feels the risks of this project greatly outweigh any benefit and recommends the Mayor and Council adopt a resolution against this pipeline.