

Soil Survey Review for Block 10, Lot 12, Holland Township, New Jersey and the Viability of Proposed Lots 12.15 and 12.16 for Agriculture

STBF:

Description- Steep stony land, Parker material has, on the surface, stones of gneiss larger than 10 inches in diameter and 3 to 5 feet apart. The soil between the stones is similar to Parker soils. * Slopes are 18 to 40 percent. In some areas stones have been removed from the surface, but below the surface layer stones make up more than 15 percent of the profile. Most of the surface is cobbly and gravelly.

Stones and steep slopes limit the use of this soil mainly to trees, wildlife habitat, and recreation.

* Parker series consists of deep, gently sloping to steep, somewhat excessively drained, gravelly or cobbly soils that formed in material weathered from granite gneiss. They occur on uplands and are underlain by gneiss bedrock. Available water capacity is low, fertility is moderate to low, and natural reaction is strongly acid. Plowing, cultivating, and harvesting are difficult because of the cobblestones.

Capability Unit VIIIs-67- Steep stony land, Parker material, is in areas in the northern part of the county. Large numbers of stones and boulders are on the surface. The abundance of stones and boulders precludes the use of these areas for cultivated crops or pasture.

Woodland 3fl- Soil containing much gravel, shale, or cobblestones; low available water capacity; slope range 2 to 40 percent; seedling mortality- moderate.

Limitations for Uses Related to Town & Country Planning-

Disposal of onsite sewage effluent- Severe: very steep; extremely high stone content.

Foundations for dwellings (with and without basements)- Severe: very steep; extremely high stone content.

Lawns and Landscaping- Severe: very steep; extremely high stone content.

Local Roads- Severe: very steep; extremely high stone content.

EdnC2:

Description- Edneyville gravelly loam, 8 to 15 percent slopes, eroded. This soil has a profile similar to the one described as representative for the series, except that erosion has thinned the original surface layer several inches, and the material from the more clayey subsoil is mixed with that of the plow layer. In a few areas the subsoil is exposed. Gullies are common.

Included with this soil in mapping are extensive areas of soil that is less eroded than this soil. Most of these areas are wooded and have not been farmed. A number of small areas of Parker soils* also have been mapped with this soil. Natural reaction is strongly acid.

Runoff is rapid, and the erosion hazard is moderately severe. Content of organic matter is low and is hard to maintain. The soil is a little more droughty than the less eroded Edneyville soils. Erosion control is needed.

Capability Unit IIIe-58- This unit consists of deep, well drained, moderately steep soils of the Edneyville series. These soils are on upland and are eroded. They formed in material weathered from granite gneiss, sand stone, diabase, red shale conglomerate, and sandy glacial deposits.

These soils are low in organic-matter content, moderate to low in natural fertility, and strongly acid to very strongly acid in reaction. Available water capacity is low.

Nursery crops are not well suited because the large amounts of gravel and cobblestones interfere with digging operations

If farmed, the hazard of erosion is a major limitation of these soils.

Woodland 2ol- Limitations- plant competition is moderate for conifers and severe for hardwoods.

Limitations for Uses Related to Town & Country Planning-

Disposal of onsite sewage effluent- Moderate: hard bedrock normally at a depth of 3 ½ to 6 feet.

Foundations for dwellings- With basements- Moderate: hard bedrock normally at a depth of 3 ½ to 6 feet. Without basements- Moderate: strong slopes.

*Lawns and Landscaping-*Moderate: gravel content exceeds 20 percent in most places; strong slopes.

*Local Roads-*Moderate: frost-action potential; strong slopes.

EdnD:

Description- Edneyville gravelly loam, 15 -25 percent slopes, eroded. Many small areas of this soil are stony. The erosion hazard is severe. Small areas of severely eroded soil, some cut by shallow gullies, are included in mapping. Also included are small areas of soils that slope more than 25 percent and areas of Parker soils*.

This unit is about equally divided between cultivated and wooded areas. Severe erodibility, rapid runoff, and steepness limit the use of this soil for farming and many other uses. It is not suited to continuous row crops.

Capability unit IVe-58- This unit consists of deep, well drained steep soils of the Edneyville series. These soils formed in material weathered from granite gneiss, sandstone, diabase, and quartzose conglomerate.

These soils are low in organic-matter content, low to moderate in nature fertility, and strongly acid in reaction. Available water capacity is moderately low.

Because of the steep slopes and the severe erosion hazard, these soils are not well suited to cultivated crops.

Woodland-2rl- Deep well drained soils; moderately low water capacity; slope range more than 15 percent. Limitations- plant competition, equipment limitation, erosion hazard.

Limitations for Uses Related to Town & Country Planning-

Disposal of onsite sewage effluent- Severe: moderately steep slopes.

Foundations for dwellings- With and without basements- Severe: moderately steep slopes

Lawns and Landscaping- Severe: moderately steep slopes.

Local Roads- Severe: moderately steep slopes.

CalB:

Description- Califon loam, 3-8 percent slopes, very stony. The Califon series consists of deep, nearly level to gently sloping, moderately well drained to somewhat poorly drained soils. They have a mottled clayey subsoil that is gravelly in places. These soils formed in gneissic glacial till or colluvium. They are on concave slopes in the Highland section of the county. Scattered stones are common. The surface layer is moderately permeable, and the firm subsoil is slowly permeable. The available water capacity is high. Natural fertility is moderate, and natural reaction is strongly acid.

Most areas of Califon soils are wooded. In their natural state, these soils dry slowly in spring. This is caused by a perched water table, lateral seepage, and the surface water that flows from surrounding slopes. A moderately high seasonal water table and excessive runoff result from impeded drainage in the subsoil. In addition, the runoff causes an erosion hazard.

Capacity unit IIe-71- These soils are medium in organic-matter content, low to moderate in natural fertility, and very strongly acid. Permeability is moderate to slow in the subsoil. Califon soil has a fragipan in the lower part of the subsoil at a depth of about 2 feet. This limits the depth of the rooting zone and restricts the movement of air and water. Water generally moves laterally over the fragipan. Seepage is common where there is an excavation in these soils.

Woodland-2wl- Deep, somewhat poorly drained soils on uplands; high or moderate available water capacity; slope range, 0 to 12 percent. Plant competition- Moderate for hardwoods; Severe for conifers. Equipment limitations.

Limitations for Uses Related to Town & Country Planning-

Disposal of onsite sewage effluent- Moderate: slow permeability; seasonal high water at a depth of ½ to 2 ½ feet; lateral seepage over pan; deep ditches needed in places.

Foundations for dwellings- With basements- Moderate: seasonal high water perched over pan; lateral seepage over pan.

Without basements- Moderate: seasonal high water perched over pan.

Lawns and Landscaping- Moderate: seasonal high water perched at a depth of ½ to 2 ½ feet.

Local Roads- Severe: high frost-action potential; seasonal high water perched over pan.

AnoC2:

Description- Annandale gravelly loam, 8-15 percent slopes, eroded. Erosion has thinned the original surface layer by several inches, and the more clayey subsoil is mixed into the plow layer. Gullies are common. Included in mapping are areas of other loamy soils and small areas of woodland where stones have not been removed.

The plow layer of this soil is lower in content of organic matter than the plow layer of less eroded soil, and is therefore more difficult to work. Runoff is rapid, and the erosion hazard is moderately severe.

Capability unit IIIe-53- Consists of deep, well drained, sloping or strongly sloping, eroded soils. It has a firm, compact, and brittle fragipan at a depth of 24 to 36 inches. This restricts the movement of air and water and limits the depth of the rooting zone. These soils are on uplands. They formed in material weathered predominately of granite gneiss.

These soils are medium to low in organic-matter content, medium in natural fertility, and medium to strongly acid in reaction. Available water capacity is moderate to high. Permeability is moderately slow in the fragipan.

Woodland-201- Deep soils; high or moderate available water capacity; slope range 0 to 18 percent. Plant competition: Moderate for conifers; Severe for hardwoods.

Limitations for Uses Related to Town & Country Planning-

Disposal of onsite sewage effluent- Moderate: moderately slow permeability in pan; deep trenches generally needed.

Foundations for dwellings- With or without basements- Moderate: strong slopes.

Lawns and Landscaping- Moderate: strong slopes; gravel in places.

Local Roads- Moderate: strong slopes; frost-action potential.

FN:

Description- Fluvaquents and U difluvents; Alluvial land, loamy is on flood plains and is subject to frequent overflow. In most places the surface layer is loam and the underlying material is loam or sandy loam in texture and is 15 to 50 percent gravel and cobbles. In most places the underlying rock is gneiss, and the soil material generally contains gravel and cobbles of gneiss, limestone and slate that were washed from the adjacent uplands.

Flooding is most common in early spring. The water table is at a depth of 1 to 2 feet in spring and several feet deeper in summer. Available water capacity is high. Permeability is moderate to moderately rapid. Reaction ranges from strongly acid to neutral. Drainage in most areas is moderately good to somewhat poor in most places.

Capacity unit IIw-79- Only Alluvial land, loamy is in this unit. It is deep, moderately well drained to somewhat poorly drained, nearly level land on flood plains. It is subject to occasional stream overflow. It is medium in organic-matter content, medium to high in natural fertility, and strongly acid to neutral in reaction. Available water capacity is high, and permeability is moderate to moderately rapid throughout the profile. The water table is moderately high. Wetness and flooding are the main limitations of use.

Woodland 2w2- Deep, moderately well drained or somewhat poorly drained, soils on flood plains; subject to occasional or frequent flooding; slope range 0 to 2 percent. Plant competition- Moderate for hardwoods; Severe for conifers. Equipment limitation.

Limitations for Uses Related to Town & Country Planning-

Disposal of onsite sewage effluent- Severe: Flooding.

Foundations for dwellings- With or without basements- Severe: Flooding.

Lawns and Landscaping-Moderate: seasonal high water table at a depth of ½ to 3 feet; flooding.

Local Roads- Severe: flooding.

EdnB:

Description- Edneyville, gravelly loam, 3 to 8 percent slopes. This soil has a profile described as representative for the series.

Capacity unit IIe-58- Deep, well-drained, gently sloping soils. These soils are on uplands. Formed in material weathered from granite gneiss, sandstone, diabase, and red shale conglomerate.

The soils are medium in organic-matter content, low to moderate in natural fertility, and strongly acid to medium acid in reaction. Available water capacity is moderate to moderately low, and permeability is moderate to moderately rapid in the subsoil.

Nursery crops are not well suited, because the large amount of shale and gravel make digging difficult. The hazard of erosion is moderate on these soils.

Woodland-2ol- - Deep soils; high or moderate available water capacity; slope range 0 to 18 percent. Plant competition: Moderate for conifers; Severe for hardwoods.

Limitations for Uses Related to Town & Country Planning-

Disposal of onsite sewage effluent- Moderate: hard bedrock normally at a depth of 3 ½ to 6 feet.

Foundations for dwellings- With basements- Moderate: hard bedrock at a depth of 3 ½ to 6 feet. Without basements- Slight..

Lawns and Landscaping- Moderate: gravel content exceeds 20 percent in most places.

Local Roads- Moderate: frost-action potential

The following two soils do not occur in the proposed agriculture lots, but in the lot proposed for development:

EdPCC:

Description- Edneyville and Parker loams, 8 to 15 percent slopes, extremely stony. In wooded areas. In most places Edneyville soils make up about 60 percent of the area and Parker* soils the rest, but in some places, Parker soils predominate. Rounded and semi rounded stones of gneiss 10 to 24 inches or more in diameter, are 3 to 5 feet apart on the surface. Between the stones, the profile is similar to that of Edneyville or Parker soils with similar slopes. Included in mapping are small areas of Califon and Cokesbury soils.

Although stones generally are concentrated near the surface, they are also numerous throughout the profile.

Capability unit VIIs-61- The soils in this unit are deep, well drained to excessively drained, gently sloping to very steep soils of the Edneyville and Parker series. Extremely

stony. They formed on uplands in material weathered from granite gneiss sandstone, diabase, and granite gneiss.

These soils are medium in organic-matter content, low to high in natural fertility, and medium acid to strongly acid in reaction. Available water capacity is low to high, and permeability is moderately slow to moderately rapid in the subsoil.

These soils generally are wooded, and they are better suited to growing trees than to other uses. The operation of machinery on these soils is difficult and, in places, impossible because of steep slopes, rock outcroppings, or numerous stones.

Woodland- 2xl- Deep, well drained, extremely stony soils and very rocky land that have moderate to low available water capacity; slope range 3 to 40 percent. Plant competition and equipment limitations.

Limitations for Uses Related to Town & Country Planning-

*Disposal of onsite sewage effluent-*Severe: extremely stony.

Foundations for dwellings- With or without basements-Moderate: extremely stony.

Lawns and Landscaping-: Severe: extremely stony.

Local Roads- Severe: extremely stony.

CakBb:

Description- Califon very stony loam, 0 to 8 percent slopes. This soil has more stones and boulders on the surface and throughout the profile than the soil described as representative for the series. The Califon series consists of deep, nearly level to gently sloping, moderately well drained to somewhat poorly drained soils. They have a mottled clayey subsoil that is gravelly in places. These soils formed in gneissic glacial till or colluvium. They are on concave slopes in the Highland section of the county. Scattered stones are common. The surface layer is moderately permeable, and the firm subsoil is slowly permeable. The available water capacity is high. Natural fertility is moderate, and natural reaction is strongly acid.

Stones and boulders of gneiss are 3 to 30 feet apart on the surface. Between the stones the soil is similar to Califon loam, but it generally is more than 15 percent gravel. Included in mapping are a few small areas of very similar soil in which coarse fragments are almost entirely Quartzite. Most of such areas are wooded. Also included are many areas of seeps and areas of soil that have grey mottling closer to the surface than is normal for the series.

Capability unit VI_s-75- This unit consists of deep, moderately well drained to somewhat poorly drained, nearly level to moderately steep soils of the Califon series. The lower part of the subsoil is a firm, compact, and brittle fragipan that restricts movement of water. Available water capacity is high, and permeability is slow in the subsoil.

Woodland- Deep, somewhat poorly drained soils on uplands; high or moderate water available water capacity; slope range, 0 to 12 percent. Plant competition- Moderate for hardwoods; Severe for conifers. Equipment limitations.

Limitations for Uses Related to Town & Country Planning-

*Disposal of onsite sewage effluent-*Severe: slow permeability; seasonal high water at a depth of ½ to 2 ½ feet; lateral seepage over pan; high stone content.

Foundations for dwellings- With basements-Severe: seasonal high water perched over the pan; high stone content. Without basements- Moderate: seasonal high water perched over the pan; high stone content.

Lawns and Landscaping-: Severe: high stone content.

Local Roads- Severe: high frost-action potential; seasonal high water perched over the pan; high stone content.

