

# ***ENGINEER'S REPORT***

***FOR***

# ***FISHERS COVE***

***RESIDENTIAL DEVELOPMENT***

***LEWES & REHOBOTH HUNDRED***

***SUSSEX COUNTY, DELAWARE***



**Karins Job No. 2897**

**KARINS AND ASSOCIATES  
128 WEST MARKET STREET GEORGETOWN, DE 19947**

**OWNER / DEVELOPER  
BURKE & UTECKI, LLC  
18949 COASTAL HIGHWAY  
REHOBOTH BEACH, DE 19971**

**September 2018  
AMENDED 12-07-18**

September 17, 2018, [AMENDED 12-07-18](#)

**Engineer's Report**

The properties being proposed for consideration for Major Subdivision is comprised of three parcels of land;

**Tax parcels:**

- 335-4.14-100.00 containing 0.20 acres located along the east side of Pilottown, adjacent to the canal. The parcel currently has a boardwalk and six boat slips, a boat house, predominately lawn with trees along both side property lines and Pilottown Road. City utilities are available along Pilottown Road
- 335-4.14-103.00 containing 1.03 acres located along the west side of Pilottown Road. The parcel is the historic Fisher's Paradise house, driveway and parking, outbuildings and landscaping. A portion of the property is within a FEMA designated floodplain. The property is served by City utilities from Pilottown Road.
- 335-4.00-15.00 containing 10.83 acres and is located behind parcel 103 and is accessible from the west end of Rodney Avenue. The Parcel is partially wooded and meadow. The wooded portion of the property also has a small portion of tidal wetlands and non-tidal wetlands. A portion of the property is within a FEMA designated floodplain. City utilities are located at the end of Rodney Avenue. The parcel is encumbered by a 50 foot wide 'easement for ingress and egress from Pilottown Road', between the end of Rodney Avenue and the lands of the State of Delaware, tax parcel 335-4.00-13.04, also referred to as the 'Great Marsh Preserve' on the Sussex County GIS Map. The property is bordered by existing residential properties along the south and east, the University of Delaware to the north and the lands of the State to the west.

**Suitability:**

With minimal clearing, grading, and extension of streets and utilities, the properties are suitable for development, based on and in consideration of;

- The properties are zoned R-2. Low density residential, which requires a minimum;
  - 75 feet of street frontage,
  - 10,000 square feet of lot area,
  - 75 feet of lot width,
  - 100 feet of lot depth,
  - 30 foot front yard depth,
  - 8 foot side yard width, and
  - 15 foot rear yard depth.
- The 2015 Comprehensive Plan supports the property as a future residential land use and is designated as Level 1 on the State Strategies Map, which supports residential development.
- FEMA:
  - The property is located on FEMA Map number 10005C0191K, March 16, 2015.
  - A portion of the property is designated Zone AE with the base flood elevation determined to be elevation 7, and 8.
  - Portions of the property are designated Zone X, areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

**Proposed Development:**

- Total Development area: 12.06 acres
- Total number of lots: 19
- Total area in lots: ~~8.23~~ acres 7.53
- Total area in streets: ~~1.61~~ acres 1.55
- Total area in open space: ~~2.22~~ acres 2.97
- Number of construction phases: 1

**Existing property assessment, 2018:**

Tax parcel number	Land	Building	Total
335-4.14-100.00	10,450	1,150	11,600
335-4.14-103.00	16,300	11,300	27,600
335-4.00-15.00	27,100	1,850	28,950
Total	53,850	14,300	68150

**Post development assessment**

Tax parcel number	Land	Building	Total
335-4.14-100.00	10,450	1,150	11,600
335-4.14-103.00	16,300	11,300	27,600
335-4.00-15.00	6,300,000	10,800,000	17,100,000
Total			

**Estimate of utility extensions:**

- Water mains: ~~1656~~ feet AMENDED 12-07-18 SEE CONCEPT PLAN SHEET 3
- Sewer mains: ~~910~~ feet AMENDED 12-07-18 SEE CONCEPT PLAN SHEET 3
- Sewer pump station: 1
- Sewer force main: ~~282~~ feet AMENDED 12-07-18 SEE CONCEPT PLAN SHEET 3
- Electric: 1660 feet

**Easements:**

- Existing easement for ingress and egress to State lands: 0.22 acres
- Proposed walkway easement across Parcel 335-4.14-103.00: 0.16 acres
- Proposed easement over Open Space Parcel D for pump station and utilities: 0.20 acres
- Proposed easement over Open Space Parcel A for tree and wetland preserve: 0.32 acres
- Proposed easement over Open Space Parcel C for tree and wetland preserve: 0.95 acres
- Proposed 15 feet across rear of Lots 9 thru 18 for tree preserve: 0.37 acres
- ~~Proposed 15 feet across rear of Lots 4 thru 8 for landscape buffer: 0.23 acres~~

**Street names:**

- BURKE ROAD
- PATCHY WAY
- JACKS COURT
- TYLERS COURT

**Preliminary Geological assessment:**

The property has been investigated using the United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey. This site is required by DNREC for providing the initial assessment for stormwater management. The Web Soil Survey also provide data which rates the suitability of construction based on soil conditions for the property.

**Summary of data:**

- **Hydrologic Soil Data** (Exhibit 1) – Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.
- **Depth to Water Table** (Exhibit 2) - "Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table;
  - portion of lots 5 thru 8; 3.7 feet to 5.4 feet below the surface during the months of January thru May and greater than 6.6 feet for the remainder of the year
  - remainder of the property greater than 6.6 feet annually
- **Local Roads and Streets** (Exhibit 3) - "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.
- **Dwellings without Basements** (Exhibit 4) - "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.

**Owner / Developer:**

Burke & Rutecki, LLC

**Members:**

Justin Healy & Chris Schell

18949 Coastal Highway

Rehoboth Beach, DE 19971

PH. 302-227-3573

### Traffic

Traffic impact study procedure is based on the procedure in Appendix 'M' of the DeIDOT Development Coordination Manual. Site trip generation diagram summary:

- Traffic count data (AADT) is derived from DeIDOT's Vehicle Volume Summary, dated 2017. Site traffic report uses traffic data for Pilottown Road, Lewes (S-267) at the intersection of Rodney Avenue, beginning point at New Road (county Rd. 266).
- Design vehicle information is derived from chapter 5.2.3 of the DeIDOT Development Coordination Manual.
- Traffic pattern group and associated data is derived from DeIDOT's Vehicle Volume Summary Book Introduction, dated 2017.
- Site trip generation counts (ADT) are calculated for 18 single family detached homes, based on data and formula from the ITE Trip Generation Manual, 10<sup>th</sup> Edition.

A reasonable assumption for the traffic counts along Pilottown Road of 50% in either direction of the intersection of Rodney Avenue was decided based on the Geographic location of the site relative to other high traffic density sites in the area.

### Fire and Emergency Services access:

- Road A begins at the end of Rodney Avenue as a Tee intersection per State Fire Marshal standards and ends in a Tee intersection with Road B, for the same.
- Road B is a standard Tee intersection with Road C, east and west.
- Road C, east and west terminate with a cul-de-sac conforming with State Fire Marshal standards.

### Other considerations:

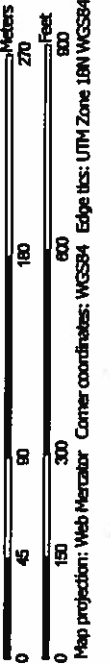
- Delaware Department of Natural Resources and Environmental Control, Division of Watershed Stewardship, Sediment and Stormwater Management Program;
  - DNREC's 'GIS Web Application' is another source of data provided by the State for determining development constraints deemed important to the property. Our review of their data only noted that a portion of the property is within an 'Aquifer Recharge' overlay, an area suitable for recharging stormwater into the ground.
  - The State data indicates that the 'tidal wetlands' on the property are within 200 feet of a stream, unnamed, that flows through three culvert pipe under Park Road, and continues to Canary Creek.
- United States Geological Survey, USGS, Stream Stats, is a Web-based tool that provides streamflow statistics, drainage-basin characteristics, and other information for USGS stream gaging stations and for user-selected un-gaged sites on streams. When users select the location of a stream gaging station, Stream Stats provides previously published information from a database. When users select a site on an un-gaged stream, Stream Stats will determine the drainage-basin boundary for the site, compute a variety of drainage-basin characteristics, and solve regression equations to estimate streamflow statistic for the site. This information is needed by engineers, land and water-resource managers, biologists, and many others to help guide decisions in their everyday work.

- Stream Stats calculates that the un-named stream, that the property drains to, is ~~15~~ 0.5 % of the Canary Creek watershed, at their point of intersection.
- Based on our experience, any stormwater runoff from the site will not cause additional downstream flooding.

Hydrologic Soil Group—Sussex County, Delaware  
(FISHERS PARADISE)



Map Scale: 1:3,250 if printed on A landscape (11" x 8.5") sheet.






































Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

Soil Map may not be valid at this scale.



## MAP LEGEND

 Area of Interest (AOI)	 C
 Soil Rating Polygons A	 C/D
 A/D	 D
 B	 Not rated or not available
 B/D	 Water Features
 C	 Streams and Canals
 C/D	 Transportation
 D	 Rails
 Not rated or not available	 Interstate Highways
 Soil Rating Lines A	 US Routes
 A/D	 Major Roads
 B	 Local Roads
 B/D	 Background
 C	 Aerial Photography
 C/D	
 D	
 Not rated or not available	
 Soil Rating Points A	
 A/D	
 B	
 B/D	

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sussex County, Delaware  
Survey Area Data: Version 18, Nov 13, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Mar 19, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
DoA	Downer sandy loam, 0 to 2 percent slopes, Northern Tidewater Area	A	4.5	37.0%
DodB	Downer sandy loam, 2 to 5 percent slopes, Northern Tidewater Area	A	6.2	50.3%
leA	Ingleside loamy sand, 0 to 2 percent slopes	A	1.2	10.0%
leB	Ingleside loamy sand, 2 to 5 percent slopes	A	0.0	0.2%
TP	Transquaking and Mispillion soils, very frequently flooded, tidal	A/D	0.3	2.5%
<b>Totals for Area of Interest</b>			<b>12.3</b>	<b>100.0%</b>

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

**Group A.** Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

**Group B.** Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

**Group C.** Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

**Group D.** Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

## Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
DoA	Downer sandy loam, 0 to 2 percent slopes, Northern Tidewater Area	>200	4.5	37.0%
DodB	Downer sandy loam, 2 to 5 percent slopes, Northern Tidewater Area	>200	6.2	50.3%
leA	Ingleside loamy sand, 0 to 2 percent slopes	114	1.2	10.0%
leB	Ingleside loamy sand, 2 to 5 percent slopes	114	0.0	0.2%
TP	Transquaking and Mispillion soils, very frequently flooded, tidal	5	0.3	2.5%
<b>Totals for Area of Interest</b>			<b>12.3</b>	<b>100.0%</b>

### Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

### Rating Options

*Units of Measure:* centimeters

*Aggregation Method:* Dominant Component

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Lower

*Interpret Nulls as Zero:* No

*Beginning Month:* January

*Ending Month:* December

Local Roads and Streets—Sussex County, Delaware  
(FISHERS PARADISE)
























Map Scale: 1:3,250 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

Soil Map may not be valid at this scale.

## MAP LEGEND

 Area of Interest (AOI)	 Background	 Aerial Photography
<b>Soils</b>		
<b>Soil Rating Polygons</b>		
 Very limited		
 Somewhat limited		
 Not limited		
 Not rated or not available		
<b>Soil Rating Lines</b>		
 Very limited		
 Somewhat limited		
 Not limited		
 Not rated or not available		
<b>Soil Rating Points</b>		
 Very limited		
 Somewhat limited		
 Not limited		
 Not rated or not available		
<b>Water Features</b>		
 Streams and Canals		
<b>Transportation</b>		
 Rails		
 Interstate Highways		
 US Routes		
 Major Roads		
 Local Roads		

## MAP INFORMATION

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Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

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Survey Area Data: Version 18, Nov 13, 2017

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Date(s) aerial images were photographed: Dec 31, 2009—Mar 19, 2017

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### Local Roads and Streets

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
DoA	Downer sandy loam, 0 to 2 percent slopes, Northern Tidewater Area	Somewhat limited	Downer (80%)	Frost action (0.50)	4.5	37.0%
			Ingleside (5%)	Frost action (0.50)		
			Hammonton (5%)	Frost action (0.50)		
				Depth to saturated zone (0.19)		
DodB	Downer sandy loam, 2 to 5 percent slopes, Northern Tidewater Area	Somewhat limited	Downer (80%)	Frost action (0.50)	6.2	50.3%
			Ingleside (5%)	Frost action (0.50)		
			Hammonton (5%)	Frost action (0.50)		
				Depth to saturated zone (0.19)		
leA	Ingleside loamy sand, 0 to 2 percent slopes	Not limited	Ingleside (75%)		1.2	10.0%
leB	Ingleside loamy sand, 2 to 5 percent slopes	Not limited	Ingleside (75%)		0.0	0.2%
TP	Transquaking and Mispillion soils, very frequently flooded, tidal	Very limited	Transquaking (40%)	Depth to saturated zone (1.00)	0.3	2.5%
				Flooding (1.00)		
				Low strength (1.00)		
				Subsidence (1.00)		
				Frost action (0.50)		
			Mispillion (40%)	Depth to saturated zone (1.00)		
				Flooding (1.00)		
				Low strength (1.00)		
				Subsidence (1.00)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Frost action (0.50)		
			Sunken (10%)	Ponding (1.00)		
				Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Flooding (1.00)		
				Low strength (1.00)		
			Othello, undrained (5%)	Ponding (1.00)		
				Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Low strength (1.00)		
			Honga (5%)	Depth to saturated zone (1.00)		
				Flooding (1.00)		
				Low strength (1.00)		
				Subsidence (1.00)		
				Frost action (0.50)		
<b>Totals for Area of Interest</b>					<b>12.3</b>	<b>100.0%</b>

Rating	Acres in AOI	Percent of AOI
Somewhat limited	10.7	87.3%
Not limited	1.2	10.1%
Very limited	0.3	2.5%
<b>Totals for Area of Interest</b>	<b>12.3</b>	<b>100.0%</b>



## Description

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

## Rating Options

*Aggregation Method: Dominant Condition*

*Component Percent Cutoff: None Specified*

*Tie-break Rule: Higher*





















Dwellings Without Basements—Sussex County, Delaware  
(FISHERS PARADISE)



Map Scale: 1:3,250 if printed on A landscape (11" x 8.5") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge lbs: UTM Zone 18N WGS84

## MAP LEGEND

Area of Interest (AOI)	Background
Area of Interest (AOI)	Aerial Photography
	
<b>Soils</b>	
<b>Soil Rating Polygons</b>	
 Very limited	
 Somewhat limited	
 Not limited	
 Not rated or not available	
<b>Soil Rating Lines</b>	
 Very limited	
 Somewhat limited	
 Not limited	
 Not rated or not available	
<b>Soil Rating Points</b>	
 Very limited	
 Somewhat limited	
 Not limited	
 Not rated or not available	
<b>Water Features</b>	
 Streams and Canals	
<b>Transportation</b>	
 Rails	
 Interstate Highways	
 US Routes	
 Major Roads	
 Local Roads	

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

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Survey Area Data: Version 18, Nov 13, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Mar 19, 2017

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### Dwellings Without Basements

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
DoA	Downer sandy loam, 0 to 2 percent slopes, Northern Tidewater Area	Not limited	Downer (80%)		4.5	37.0%
			Galestown (10%)			
			Ingleside (5%)			
DodB	Downer sandy loam, 2 to 5 percent slopes, Northern Tidewater Area	Not limited	Downer (80%)		6.2	50.3%
			Galestown (10%)			
			Ingleside (5%)			
leA	Ingleside loamy sand, 0 to 2 percent slopes	Not limited	Ingleside (75%)		1.2	10.0%
leB	Ingleside loamy sand, 2 to 5 percent slopes	Not limited	Ingleside (75%)		0.0	0.2%
TP	Transquaking and Mispillion soils, very frequently flooded, tidal	Very limited	Transquaking (40%)	Flooding (1.00)	0.3	2.5%
				Depth to saturated zone (1.00)		
				Organic matter content (1.00)		
				Subsidence (1.00)		
			Mispillion (40%)	Flooding (1.00)		
				Depth to saturated zone (1.00)		
				Organic matter content (1.00)		
				Subsidence (1.00)		
			Sunken (10%)	Ponding (1.00)		
				Flooding (1.00)		
				Depth to saturated zone (1.00)		
			Othello, undrained (5%)	Ponding (1.00)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Depth to saturated zone (1.00)		
			Honga (5%)	Flooding (1.00)		
				Depth to saturated zone (1.00)		
				Organic matter content (1.00)		
				Subsidence (1.00)		
<b>Totals for Area of Interest</b>					<b>12.3</b>	<b>100.0%</b>

Rating	Acres In AOI	Percent of AOI
Not limited	12.0	97.5%
Very limited	0.3	2.5%
<b>Totals for Area of Interest</b>	<b>12.3</b>	<b>100.0%</b>

## Description

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper.

The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification of the soil. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.



## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher