2013 Phase 6 Mapped Land Use Definitions

Mapped Land Use Classes (10m-resolution rasters):

Water (WAT) = streams, ponds, canals, ditches, detention basins, reservoirs (all generally greater than 1- acre) mapped from the high-resolution imagery, NWI ponds & lakes, and synthetic streams derived from a 10m-resolution National Elevation Dataset using at similar density to those mapped in the 1:24,000- scale National Hydrography Dataset and with widths inferred from published relationships between drainage area and stream width.

Impervious Roads (IR) = paved and unpaved roads, bridges, and some driveways.

Impervious Non-Roads (INR) = buildings, driveways, sidewalks, parking lots, runways, some private roads, most railyards, and barren lands within industrial, transitional (early stages of construction), and warehousing land uses. This class includes 30% of herbaceous and barren lands within industrial, transitional (early stages of construction), and warehousing land uses. This class excludes rail rights-of-way because the spatial accuracy of the rail data is insufficient to align with the 1m-resolution land cover data informing the land use classification.

Tree Canopy over Impervious Surfaces (TCI) = trees over roads and non-road impervious surfaces.

Water (WAT) = streams, ponds, swimming pools, canals, ditches, wet detention basins, reservoirs, etc. mapped from the high-resolution imagery, National Wetlands Inventory (NWI) ponds & lakes, large waterbodies identified in the 1:24,000-scale National Hydrography Dataset, and synthetic streams derived from a 10m-resolution National Elevation Dataset.

Floodplain Wetlands (WLF) = National Wetlands Inventory (NWI) non-pond, non-lake wetlands, emergent wetlands mapped from high-resolution imagery outside Virginia, state designated wetlands, and state identified potential non-tidal wetlands located within the FEMA designated 100-year floodplain or on frequently flooded soils (SSURGO).

Other Wetlands (WLO) = National Wetlands Inventory (NWI) non-pond, non-lake wetlands, emergent wetlands mapped from high-resolution imagery outside Virginia, state designated wetlands, and state identified potential non-tidal, non-floodplain wetlands. These are typically headwater wetlands or isolated wetlands.

Tidal Wetlands (WLT) = wetlands classified as marine and estuarine wetland systems (E2EM, ESFO, W2SS) according to the NWI Wetlands and Deepwater Habitats Classification chart (https://www.fws.gov/wetlands/Documents/Wetlands-and-Deepwater-Habitats-Classificationchart.pdf), NWI palustrine wetlands (PEM, PFO, PSS) with water regime modifiers associated with tidal hydrological conditions (e.g., saltwater tidal or freshwater tidal), and all wetlands mapped from imagery that could be influenced by tidal characteristics/processes by having an elevation less than or equal to 2 meters above sea level according to the 10m-resolution NED (downloaded July 2015). Note: Tidal Wetlands are excluded from the watershed model but are being mapped for input to the hydrodynamic water quality model.

Forest (FOR) = all standing trees and areas of tree harvest farther than 30' to 80' from non-road impervious surfaces and forming contiguous patches >=1-acre in extent. The variable distances are a 2

result of filtering algorithms1 (e.g., focal moving windows) applied to the high-resolution non-road impervious surface class to separate developed from undeveloped areas.

<u>Tree Canopy over Turf Grass</u> (TCT) = trees within 30' to 80' of non-road impervious surfaces where the understory is assumed to be turf grass or otherwise altered through compaction, removal of surface organic material, and/or fertilization.

<u>Mixed Open</u> (MO) = Small patches of trees (< 1 acre) outside developed areas, and all scrub-shrub, herbaceous, and barren lands that have been minimally disturbed (e.g., periodically bush hogged, meadows, etc.), reclaimed, or that have internal and/or regulated drainage. Small patches of trees < 1 acre are classed are These include active, abandoned and reclaimed mines, landfills, Unconventional Oil & Gas, beaches, waterbody margins, natural grasslands, and utility rights-of-way. This class includes 70% of herbaceous and barren lands within industrial, transitional (early stages of construction), and warehousing land uses, and 30% of herbaceous and barren lands within large developed parcels (> 10 acres and >= 10% impervious), institutional properties, universities, parks, and federal facilities.

<u>Turf Grass</u> (TG) = Herbaceous and barren lands that have been altered through compaction, removal of organic material, and/or fertilization. These include all herbaceous and barren lands within road rights-of-way and residential, commercial, recreational, and other turf-dominated land uses (e.g., cemeteries, shopping centers) and a portion of herbaceous and barren lands within federal facilities, parks, institutional campuses, and large developed parcels. This class includes 70% of herbaceous and barren lands within large developed parcels (> 10 acres and >= 10% impervious), institutional properties, universities, parks, and federal facilities.

<u>Cropland</u> (CRP) = Herbaceous and barren lands that are not classed as turf grass or mixed open. The portion of such lands that are crops is determined by the frequency at which the lands are classified as crops in the NASS Cropland Data Layers (2008 through 2015). In Virginia, cropland was mapped directly as part of the high-resolution land cover product developed for the state.

<u>Pasture/Hay</u> (PAS) = Herbaceous and barren lands that are not classed as turf grass or mixed open. The portion of such lands that are pasture/hay is determined by the frequency at which the lands are classified as pasture/hay in the NASS Cropland Data Layers (2008 through 2015). In Virginia, pasture was mapped directly as part of the high-resolution land cover product developed for the state. Hay is grouped with pasture because they are difficult to differentiate through interpreting aerial imagery.