Section 3A Compliance Model Land Maps: Sources and Methods

This document outlines the procedures followed to develop the "Land Database" component of the compliance model that will be used by MBTA communities to measure and document a zoning district relative to the compliance requirements set forth in the guidelines for Section 3A of MGL c. 40A (guidelines can be found <u>here</u>).

Questions and comments on the compliance model or the contents of this document should be directed to the Executive Office of Housing and Livable Communities (EOHLC) at DHCD3A@mass.gov.

Data Sources and Preparation of Layers

Lot Information

MassGIS: Property Tax Parcels

The land database is built on existing parcel boundaries. To ensure a consistent data set across all MBTA communities, the land database utilizes assessors' data as collected and standardized by MassGIS in its statewide data set (<u>link</u>). This data set includes the most recently-submitted data from each municipality in the Commonwealth, but the effective date of the information for each municipality varies based on the last time the community submitted information.

Steps taken to prepare parcel information for the land database:

- Removed all non-MBTA communities
- Joined data from parcel records
- Removed certain records that will not be modeled for unit capacity:
 - Marked as WATER, ROAD, RR, OR STREAM
 - Missing MAP_PAR_ID and USE_CODE and SITE_ADDR
- Calculated lot area in acres and square feet using "Calculate Geometry" feature in ArcGIS.
 Geometries were calculated using the NAD 1983 State Plane Massachusetts Mainland FIPS 2001 projected coordinate system.
- Reduced the data set to necessary fields only:
 - o LOC_ID
 - SITE ADDRESS
 - USE_CODE
 - USE_DESCRIPTION
 - OWNER
- Summarized data for multi-parcel locations. Some lots include information on multiple parcels. For example, a condo development with ten units will have a parcel record for each unit, each

associated with the same lot (LOC_ID). To ensure we are capturing this information, certain fields needed to be summarized:

- OWNER –all owner names associated with the LOC_ID are listed and separated by semicolons
- USE_CODE all use codes associated with the LOC_ID are listed and separated by semicolons
- USE_DESC all use descriptions associated with the LOC_ID are listed and separated by semi-colons

Excluded Land Layers

Definition of Excluded Land from Section 3A Guidelines:

"Excluded land" means land areas on which it is not possible or practical to construct multifamily housing. For purposes of these guidelines, excluded land is defined by reference to the ownership, use codes, use restrictions, and hydrological characteristics in MassGIS and consists of the following:

i.All publicly-owned land, except for lots or portions of lots determined to be developable public land.

ii.All rivers, streams, lakes, ponds and other surface waterbodies.

- iii.All wetland resource areas, together with a buffer zone around wetlands and waterbodies equivalent to the minimum setback required by title 5 of the state environmental code.
- iv.Protected open space and recreational land that is legally protected in perpetuity (for example, land owned by a local land trust or subject to a conservation restriction), or that is likely to remain undeveloped due to functional or traditional use (for example, cemeteries).
 v.All public rights-of-way and private rights-of-way.
- vi.Privately-owned land on which development is prohibited to protect private or public water supplies, including, but not limited to, Zone I wellhead protection areas and Zone A surface water supply protection areas.
- vii.Privately-owned land used for educational or institutional uses such as a hospital, prison, electric, water, wastewater or other utility, museum, or private school, college or university.

Excluded and Developable Public land

There is no comprehensive data set of land owned by a public entity. To capture as many publicly owned parcels as possible, the research team processed assessor data from the MBTA communities, using the assessor-defined use codes, use descriptions, owner names, and other fields to generate a public land dataset. The research team used the most recent assessor records that are compiled and made available publicly through MassGIS <u>here</u> as of July 2022.

To identify the tax parcels that are publicly owned, the research team started by isolating the use codes that start with '9' or '09' which are reserved for tax-exempt uses. The research team further refined this list by combing through all the unique use code/use description combinations that occur in the data set and deciding which combinations represent a public use that is *not* a housing use (the guidelines consider land owned and operated by a housing authority as "developable public land").

Further refinement was achieved through keyword searches on owner names, focused on identifying federal, state, and local entities that are common landowners in Massachusetts. Examples of keyword search terms are "city of," "town of," "U.S. Dept," "Commonwealth of Massachusetts," "MBTA" and others.

The list of public land was then summarized and reviewed by use code and owner name to ensure that private land was not being captured in this data set. Overall, 81,692 parcels of publicly owned land were identified. These parcels overlap quite a bit with other excluded land categories, particularly protected recreational and open space and certain institutional uses.

This methodology is imperfect, and there are certainly errors where the methodology failed to pick up some publicly owned parcels. As a check, the research team compared our assessor-based results to the MassREAL database, a state-led effort to catalogue state-owned parcels. We found our methodology identified all those parcels (100% match) and caught some additional state-owned parcels. We also feel confident that the success rate for locally and federally owned parcels is high.

Despite this confidence, we also know that there are likely public parcels that we did not properly identify. Furthermore, the guidelines state that any public land that has been identified and approved for disposition or has already been used for housing development may be considered developable. There is no comprehensive data set for these locations.

This underscores the importance of having municipalities examine these data and identify any properties that were miscategorized as either excluded public land or developable public land. The compliance model builds this function into the process by allowing municipalities to document and request an override of the public land determination when calculating unit capacity within a proposed district.

Institutional Uses

Institutional uses include schools, colleges and universities, hospitals, museums, libraries, cemeteries, and prisons. There is no comprehensive parcel-based data set of institutional land. To capture as many parcels with institutional uses as possible, the research team processed assessor data from the MBTA communities, using the assessor-defined use codes, use descriptions, owner names, and other fields to generate an institutional land dataset. The research team used the most recent assessor records that are compiled and made available publicly through MassGIS <u>here</u> as of July 2022.

To identify the tax parcels that are publicly owned, the research team combed through all the unique use code/use description combinations that occur in the data set and determined which combinations represent the aforementioned institutions. Further refinement was achieved through keyword searches on owner names. Examples of keyword search terms are "school," "education," "museum," "library," "hospital," and many others.

The list of institutional land was then summarized and reviewed by use code and owner name to ensure that non-institutional land was not being captured in this data set. Overall, an additional 6,635 parcels that were not already identified as publicly owned land were identified as institutional uses.

This methodology is imperfect, and there are certainly errors where the methodology failed to pick up some institutional uses. However, the guidelines state that any institutional uses that have been identified and approved for disposition/redevelopment or that have already been used for housing development may be considered developable. There is no comprehensive data set for these locations.

This underscores the importance of having municipalities examine these data and identify any properties that were miscategorized. The compliance model builds this function into the process by allowing municipalities to document and request an override of the public land determination when calculating unit capacity within a proposed district.

Title 5 Setbacks and Zone A Surface Water Protection Areas

Wetland buffer areas required by Title 5 of the State's environmental code and Zone A surface water supply protection areas are defined as excluded land in the Compliance Guidelines. MassDEP's Title 5 Setback Areas layer captures the 25-foot buffer area around hydrological features and wetlands as defined in Title 5 of the environmental code, as well as the Zone A surface water supply protection areas where they are applicable. Zone A buffers vary depending on the different protected features as follows: 100 feet around protected wetland features, 200 feet around protected streams, and 400 feet around public surface water supply reservoirs. All the above protected areas are represented in the MassDEP Title 5 Setback Areas layer from MassGIS, and no additional analysis was needed to identify these areas.

Rights of Way

The Compliance Guidelines categorize public and private rights of way as excluded land on which housing is not developable. There is no comprehensive data set of land area occupied by rights of way. The Property Tax Parcels dataset from MassGIS was the primary data source used to approximate the amount of land area consumed by public and private rights of way across the MBTA communities, with respect to the tax parcel boundaries of developable land. This dataset allowed us to reliably identify most right of way parcels. However, due to variations in assessors' data reporting, some common parcel attributes that were used to identify right-of-way parcels were not present across the entire dataset.

Right-of-way parcels were primarily identified by their "POLY_TYPE" (Polygon Type) attribute if they had any of the following attributes: "ROW" (Right of Way), "PRIV_ROW" (Private Right of Way), or "RAIL_ROW" (Rail Right of Way).



selected parcel represents a road network in the Town of Sudbury. The parcel has "ROW" as it's "POLY_TYPE," which is used to identify the majority of road parcels in the state.

As mentioned previously, some road parcels **do not have a Right of Way value in their POLY_TYPE attribute field**.



selected parcel which represents a road network in Littleton has a "TAX" value in the "POLY_TYPE" category, meaning that the parcel was categorized as a tax parcel rather than a right-of-way parcel. This parcel was correctly identified through our methodology as being a right-of-way parcel.

This highlighted parcel is clearly a road network, but it is not classified as one in the POLY_TYPE attribute column. With this miscategorized road parcel in mind, we developed a methodology to identify other road parcels that were not categorized as ROWs by comparing other common features that we would associate with a road network parcel, primarily considering characteristics of road parcel geometry compared to other non-road parcels, and attribute table patterns.

Our methodology estimates the "Road Likelihood" of any given parcel in the tax parcel dataset, by considering a combination of geometric features and attribute table patterns that may help us identify them as road parcels. The following parcel characteristics were included in the calculation:

1. **Perimeter/Area** – This calculation gives us an approximation of how irregular a shape is. If a shape has a large perimeter but a small area, this is a good indicator that the shape is more irregular compared to a more basic shape like a square with equal length sides.

2. **Number of Vertices** – Complex shapes have significantly more vertices compared to more basic shapes. Road parcels tend to have the largest number of vertices out of the shapes in

the parcel layer since they have the most curves and complex features.

3. (Perimeter/Area) * Vertices – This derived value gives us a combination of information from the above values. Higher values indicate a shape is both more "irregular" and has a high number of vertices.

4. **Major Roads Intersection** – This is an MHP-derived Yes/No field that states whether a parcel intersects with the "EOTMAJROADS_ARC" (MassDOT Major Roads from MassGIS) layer.

5. Attribute Coefficient – Many unidentified road parcels can be identified by common attribute patterns. These patterns that we observed through our own exploration of the data and are by no means hard rules that can be used to determine whether a parcel is a road or not, however, we did incorporate this information into our decision rules by creating an "Attribute Coefficient," which will positively or negatively influence a parcel's "Road Likelihood" based on the certain attribute patterns. The Major Roads Intersection y/n value is also included in this coefficient to preference parcels that intersect with the major roads layer. Further details regarding the decision rules in attribute coefficient calculation can be found below.

Finally, the "Road Likelihood" value is calculated using the following values:

Road Likelihood = (Perimeter/Area) * Number of Vertices * Attribute Coefficient

Road parcels with a Road Likelihood value above a specified value (*through our analysis and experimentation, we found that 350 was an appropriate cut-off*) were determined to have a high likelihood of being a right-of-way parcel.

The main purpose of this calculation was to patch existing holes in the data through our best approximation. Identifying parcels by their POLY_TYPE alone netted us 6265 right of way parcels. **Our methodology was able to identify 913 additional parcels** representing road networks, highway networks, and private roadway networks in municipalities where road parcels were either differently coded or miscategorized.

Since this is an approximation, a small number of parcels which appear to be rights-of-way were not identified correctly due to a lack of information; these parcels are generally very small compared to road network parcels, do not intersect with a major roadway, and lack attribute table information that could be used to identify them as road parcels.



The green parcels are those identified by our methodology as right-of-way parcels. Unidentified road parcels are highlighted in light blue on the map – these parcels are very small compared to the road network and have little attribute information that allows us to differentiate them from non-ROW parcels.

Lastly, some other rights-of-way were not identifiable if they were not defined as a separate parcel polygon within the Property Tax Parcels layer.



In this example, a small network of rights-of-way was not identified by our methodology simply because this network was not demarcated as its own parcel like many other public and private rights-of-way. The road network is fully contained within a parcel with a private owner and a residential land use.



y, a part of "Birchmeadow Road" is not identified as a right-of-way through our methodology. As we can see, the portion of Birchmeadow Road on the right-hand side is demarcated as its own parcel and was accurately identified through our methodology, while another portion is not demarcated at all and crosses several privately-owned parcels.

For the purposes of the constrained land database, our Rights of Way layer derived from the tax parcel dataset was used to approximate land area occupied by rights of way.

Attribute Coefficient Calculation:

```
///v is the attribute coefficient - it is set to 1 as default and is modified positively or negatively depending on the
presence of other attribute patterns
var v = 1
///soft decision rules
if(isEmpty($feature.MAP_PAR_ID)){
  v = v + 0.3
}
if(isEmpty($feature.CAMA_ID)){
  v = v + 0.4
}
if($feature.SOURCE == "ASSESS"){
  v = v + 0.05
}
if($feature.POLY TYPE == "TAX"){
  v = v + 0.05
}
if(!isEmpty($feature.PLAN_ID)){
  v = v - 0.2
}
if(!isEmpty($feature.PROP ID)){
  v = v - 0.1
}
if(!isEmpty($feature.MAP_NO)){
  v = v - 0.2
}
if($feature.MAJROADS Int == "Y"){
  v = v + 1
}
///hard decision rules
if($feature.POLY_TYPE == "ROW"){
  v = v + 2000
}
if($feature.POLY_TYPE == "PRIV_ROW"){
  v = v + 2000
}
```

```
if($feature.POLY TYPE == "RAIL ROW"){
  v = v + 2000
}
if($feature.OWNER1 == "MASSACHUSETTS TURNPIKE AUTHORITY"){
  v = v + 2000
}
if($feature.OWNER1 == "MASS TURNPIKE AUTHORITY"){
  v = v + 2000
}
if($feature.OWNER1 == "MASS TPK AUTHORITY"){
  v = v + 2000
}
if($feature.OWNER1 == "MASSACHUSETTS BAY TRANS AUTH"){
  v = v + 2000
}
if($feature.OWN_ADDR == "10 PARK PLAZA"){
  v = v + 1000
}
if($feature.POLY TYPE == "WATER"){
  v = 0
}
return v
```

Hydrography and Additional Wetlands

The Compliance Guidelines identify all rivers, streams, lakes, ponds and other surface waterbodies as excluded land.

These waterbodies are represented in the MassDEP Hydrography (1:25,000) layer and the MassDEP Wetlands (2005) layers from MassGIS. Both layers were incorporated into our excluded land layer and no additional analysis was needed to identify these protected areas.

Wellhead Protection Zone I

Zone I of MassDEP Wellhead Protection Areas was identified by the Compliance Guidelines as excluded land.

These land areas are represented in the MassDEP Wellhead Protection Areas (Zone II, Zone I, IWPA) layers from MassGIS. The "ZONE1_POLY" layer from this source was used to represent the specified excluded land layer. No additional analysis was needed to identify these areas.

Protected open space and protected recreational areas

Restricted recreational open space was derived using key attributes found in the Protected and Recreational Open Space dataset from MassGIS, which was the source dataset for our derived layer. The original Protected and Recreational Open Space layer represents a large variety of outdoor recreational facilities, such as state parks, conservation land, historic preservation land, and others, many of which are protected from development of any kind. This layer also represents various land uses such as privately-owned golf courses, yacht clubs, and so on, without any restrictions on development. In order to identify **restricted** land within this layer, MHP identified a set of attributes which were used to include certain features from the original protected and recreational open space layer. Land features were identified as restricted recreational open space if they had **ANY** of the following properties:

1. The owner was a public entity of some kind ("OWNER_TYPE" == "F – Federal", "S – State", "C – County", "M – Municipal")

2. The feature was protected under Article 97 ("ARTICLE97" == 1, meaning protected under Article 97) or had an unknown value in the Article 97 column ("ARTICLE97" == 9, meaning it was unknown at the time of the dataset's creation whether the feature was protected under Article 97)

3. The feature had some level of protection ("LEV_PROT" == "P - In perpetuity", "T - Term limited", "L - Limited") or an unknown level of protection ("X - Unknown")

4. The feature had "cemetery", "cemeteries", or "grave" in the "SITE_NAME" column

This process excluded a total of 1,891 land features from the original Protected and Recreational Open Space layer, which initially had 56,120 features in total. Only a small subset of features was excluded after determining they were not privately owned and had no active development restriction associated with the land.

For the purposes of the constrained land database, our derived "**Restricted** Recreational Open Space" layer was used in place of the original Protected and Recreational Open Space layer.

Sensitive Land Layers

Definition of Sensitive Land from Section 3A Guidelines:

"Sensitive land" means developable land that, due to its soils, slope, hydrology, or other physical characteristics, has significant conservation values that could be impaired, or vulnerabilities that could be exacerbated, by the development of multi-family housing. It also includes locations where multi-family housing would be at increased risk of damage caused by flooding. Sensitive land includes, but is not limited to, wetland buffer zones extending beyond the title 5 setback area; land subject to flooding that is not a wetland resource area; priority habitat for rare or threatened species; DEP-approved wellhead protection areas in which development may be restricted, but is not prohibited (Zone II and interim wellhead protection areas); and land areas with prime agricultural soils that are in active agricultural use.

Surface Water Protection (Zones B and C) & Wellhead Protection Zone II & Interim Wellhead Protection Areas (IWPA)

The Compliance Guidelines identify "wetland buffer zones extending beyond the Title 5 setback areas" as sensitive land. The research team determined that Surface Water Supply Protection Areas (Zones B and C), along with Wellhead Protection Zone II and IWPAs sufficiently represent the sensitive land identified in the in the guidelines.

Zones B and C were identified from the Surface Water Supply Protection Areas data layer from MassGIS by selecting and exporting the "B" and "C" attributes from the SWPZONE column in the attribute table. Zone II and IWPAs were identified using the the MassDEP Wellhead Protection Areas (Zone II, Zone I, IWPA) layers from MassGIS by using the included "ZONE2_POLY" and "IWPA_POLY" layers. No additional analysis was needed to identify these areas.

Special Flood Hazard Areas

The compliance guidelines identify "land subject to flooding that is not a wetland resource area" as sensitive land. The research team determined that Special Flood Hazard Areas within the FEMA National Flood Hazard Layer accurately represent this land definition.

Special Flood Hazard Areas were identified from the FEMA National Flood Hazard Layer hosted on MassGIS by selecting and exporting all records where the "SFHA_TF" field has a "T" value.

Priority Habitats

The compliance guidelines identify "priority habitats for rare or threatened species" as sensitive land. Priority habitats are represented in the NHESP Priority Habitats of Rare Species layer on MassGIS. No additional analysis was needed to identify these protected areas.

Active Farmland

The compliance guidelines identify "land areas with prime agricultural soils that are in active agricultural use" as sensitive land. Since there is no comprehensive data set of active farmlands, the research team relied on the Land Cover/Land Use (LCLU) dataset from MassGIS to derive cultivated land in agricultural use.

The LCLU dataset categorize land based on certain physical characteristics (land cover), as well as the land use of the property at the time of the dataset's creation. With reference to the "Land Cover" classification scheme definitions used in the LCLU dataset, defined by the National Oceanic and Atmospheric Administration (NOAA), "Cultivated Crops" and "Pasture/Hay" were identified as the two agricultural land cover categories.

Within the MassGIS LCLU dataset, agricultural land meeting the sensitive land definition was defined as follows: All land where the "Generalized Use Name" == "Agriculture" was selected in a first pass. This represents all land identified with an agricultural land use at the time of the dataset's creation. From this selection, any records containing "Cultivated" or "Pasture/Hay" categories in the "Land Cover" category were selected. The final selection was exported and used as the active farmland layer within the sensitive land category.

Land Database Methods and Data Dictionary

GIS Processing

The Land Database includes a single record for each unique lot (piece of land) in the MBTA Communities. Each of these records includes information on the current use and ownership of the lot, as well as a measurement of how much of each lot consists of excluded or sensitive land. Using the data sources – prepared as detailed above – the Land Database records were constructed as follows.

- Starting with the processed tax parcel data set in GIS software (ArcGIS Pro was used for this exercise), a series of "Summarize Within" operations was used to measure the amount of each lot's land area that intersects with each excluded and sensitive land category.
 - The "Summarize Within" tool works by calculating the geographic overlap of two layers and storing the area of that overlap in the input data layer. The below example of how hydrological intersections were calculated shows how this works in practice.

LOC_ID	Hydrology (sq ft)	AIM
F_742566_2903830	1,998	
F_742788_2904351	2,068	
F_742707_2903932	25,158	
F_742754_2904137	24,283	4 PV
F_742658_2903691	35,564	
F_742611_2903539	41,639	TH A
F_742614_2903335	76,941	
F_742441_2903144	1,163	VP

- The "Summarize Within" function was run for each of the excluded and sensitive land layers described earlier in this document, but the following additional summary fields were also calculated.
 - Excluded Land that is not public or institutional land because the compliance model allows for an override of certain types of publicly-owned land, having a summary of all other excluded land categories is helpful in determining how much other excluded land might be on the property even after the public land exclusion is overridden. For example, a town-owned parcel may have been identified and approved for disposition, but there is also a Wellhead Protection Zone I polygon that encroaches on the site. This

field will allow for a user to override the public land exclusion but will still account for the other excluded land types on the site.

- Total Excluded Land A calculation of total excluded land is helpful when reviewing parcels for inclusion in a district and for understanding how the model treats a parcel relative to estimating multifamily unit capacity. This field is also helpful when processing an override to a public or institutional land designation since other types of excluded land still need to be accounted for when modeling the parcel.
- Total Sensitive Land While users may want to know how each of the individual sensitive land categories intersect with the parcels within a district, the Excel-based component of the Compliance Model needs a summary of the combined sensitive land on each parcel (and not the itemized intersections). The creation of this summary field helps to reduce the number of columns being pasted into the Excel model.

Land Database Data Dictionary

Two versions of the Land Database were created:

Land Database Basic – This version of the land database contains the exact fields needed for the Excelbased model (including public and institutional land, a summary of other excluded land, and a summary of sensitive land). This version is best used when selecting Land Database records for export and use in the Excel-based components of the Compliance Model.

Field Name	Definition
FID	Unique identifier for each record.
LOC_ID	Unique identifier for each lot.
Address	Lot address. If the parcels associated with a lot have different addresses, the first address was chosen.
Owner	Lot owner name. Where multiple owners exist for a lot, multiple owner names will be listed in this field, separated by a semi-colon. This field comes from the MassGIS Property Tax Parcels data set.
UseCodes	Numeric code associated with use description. Where multiple uses exist on a lot, multiple use codes will be listed in this field, separated by a semi-colon. This field comes from the MassGIS Property Tax Parcels data set.

UseDesc	Narrative description of the site's current use. Where multiple uses exist on a lot, multiple use descriptions will be listed in this field, separated by a semi-colon. This field comes from the MassGIS Property Tax Parcels data set.
TRANSIT	A binary field (Y/N) indicating whether the parcel is located within half a mile of a transit station.
ACRES	The area of the lot/parcel in acres
SQFT	The area of the lot/parcel in square feet
PublicInst	A measurement in square feet of the area on a lot that is comprised of excluded public or institutional land.
NonPubExc	A measurement in square feet of the area on a lot that is comprised of some combination of excluded land types that are not public or institutional land.
Tot_Exclud	A measurement in square feet of the area on a lot that is comprised of some combination of excluded land types
Tot_Sensit	A measurement in square feet of the area on a lot that is comprised of some combination of sensitive land types.

Land Database with Details – This version of the land database includes a calculation of the overlap between every lot in the MBTA communities and each of the excluded and sensitive land layers. This data set is best used when drawing a district and understanding the geographic constraints and sensitivities that come into play in the selected area.

Field Name	Definition
FID	Unique identifier for each record.
LOC_ID	Unique identifier for each lot.
Address	Lot address. If the parcels associated with a lot have different addresses, the first address was chosen.
Owner	Lot owner name. Where multiple owners exist for a lot, multiple owner names will be listed in this field, separated by a semi-colon. This field comes from the MassGIS Property Tax Parcels data set.

UseCodes	Numeric code associated with use description. Where multiple uses exist on a lot, multiple use codes will be listed in this field, separated by a semi-colon. This field comes from the MassGIS Property Tax Parcels data set.
UseDesc	Narrative description of the site's current use. Where multiple uses exist on a lot, multiple use descriptions will be listed in this field, separated by a semi-colon. This field comes from the MassGIS Property Tax Parcels data set.
TRANSIT	A binary field (Y/N) indicating whether the parcel is located within half a mile of a transit station.
ACRES	The area of the lot/parcel in acres

SQFT	The area of the lot/parcel in square feet
PublicInst	A measurement in square feet of the area on a lot that is comprised of excluded public or institutional land. Public or institutional land is excluded from unit capacity estimates unless an override is made for land being used for housing or for land that has been identified and processed for disposition.
NonPubExc	A measurement in square feet of the area on a lot that is comprised of some combination of excluded land types that are not public or institutional land. Excluded land is excluded from unit capacity estimates.
Tot_Exclud	A measurement in square feet of the area on a lot that is comprised of some combination of excluded land types. Excluded land is excluded from unit capacity estimates.
Tot_Sensit	A measurement in square feet of the area on a lot that is comprised of some combination of sensitive land types. Sensitive land is not excluded land and will be modeled for unit capacity. This information is made available so that users can be aware of the presence of sensitive land types when planning and modeling a district.

ROW	A measurement in square feet of the area on a lot that is comprised of right of way. Right of way is excluded from unit capacity estimates.
OpenSpace	A measurement in square feet of the area on a lot that is comprised of protected recreational or open space. Protected open space is excluded from unit capacity estimates.
Hydrology	A measurement in square feet of the area on a lot that is comprised of hydrological features. Hydrology is excluded from unit capacity estimates.
Wetlands	A measurement in square feet of the area on a lot that is comprised of additional wetland areas. Wetlands are excluded from unit capacity estimates.
TitleV	A measurement in square feet of the area on a lot that is comprised of Title 5 setbacks or Surface Water Protection Area A. Title 5 setbacks and Surface Water Protection Area A lands are excluded from unit capacity estimates.
Wellhead1	A measurement in square feet of the area on a lot that is comprised of Wellhead Protection Zone 1. Wellhead Protection Zone 1 is excluded from unit capacity estimates.
Flood_SHFA	A measurement in square feet of the area on a lot that is in a Special Hazard Flood Zone. This is designated as sensitive land and will be modeled for unit capacity.
Farmland	A measurement in square feet of the area on a lot that is comprised of active farmland. This is designated as sensitive land and will be modeled for unit capacity.
SurfWatBC	A measurement in square feet of the area on a lot that is comprised of Surface Water Protection Areas B and C. This is designated as sensitive land and will be modeled for unit capacity.
Wellhead2	A measurement in square feet of the area on a lot that is comprised of Wellhead Zone 2. This is designated as sensitive land and will be modeled for unit capacity.
IntWellhea	A measurement in square feet of the area on a lot that is comprised of Interim Wellhead Protection Areas. This is designated as sensitive land and will be modeled for unit capacity.

Habitat	A measurement in square feet of the area on a lot
	that is comprised of Priority Habitats for rare or
	endangered species. This is designated as sensitive
	land and will be modeled for unit capacity.