4. ZONING DISTRICTS

4.1 RESIDENTIAL BASE ZONING DISTRICTS

4.1.1 RESIDENTIAL DISTRICTS (R-20, R-15, R-10)

4.1.1.1 Intent
The purpose of these (R-20, R-15, R-10) districts is to provide locations for moderate intensity residential neighborhoods that include opportunities for development of supporting recreational, community service, and educational uses proximate to neighborhoods. These districts are created to encourage development of neighborhoods comprised chiefly of single-family detached units.

4.1.1.2 Application Criteria
These districts will usually be applied where the following conditions exist:

(a) Water and sewer lines exist at the site or are to be installed as part of the development process.

(b) There is direct vehicular access to a street classified as either collector or local.

4.1.2 RESIDENTIAL-40 DISTRICT (R-40)

4.1.2.1 Intent
The purpose of the Residential-40 (R-40) District is to provide locations for lower-density, traditional neighborhood living in the edge areas of the community. Residential uses include primarily single-family detached dwelling units.

4.1.2.2 Application Criteria
This district will usually be applied where the following conditions exist:

(a) Average lot size shall be a minimum of 40,000 square feet within the proposed district.

4.1.3 HIGH INTENSITY RESIDENTIAL DISTRICTS (MF - MULTI-FAMILY AND MHP - MOBILE HOME PARK)

4.1.3.1 Intent
The purpose of the MF District is to provide locations for residential development that allows housing options at a higher density than typical detached single-family developments such as are intended for R-40, R-20, R-15 and R-10 districts. Prominent uses within this district include single-family attached units, townhouses, condominiums, apartments, and other multi-family dwelling units.

The purpose of the MHP District is to provide for the special conditions associated with mobile home park living. The district allows for a higher density of development than
typically permitted in the residential districts, and requires considerable on-site amenities.

4.1.3.2 Application Criteria
These districts will usually be applied where the following conditions exist:
(a) Water and sewer lines exist at the site or are to be installed as part of the development process.
(b) There is direct vehicular access to a public street classified as either collector or arterial.
(c) Other necessary urban services exist nearby or are proposed at the time of the development.

4.1.4 AGRICULTURAL/RESIDENTIAL DISTRICT (AR)

4.1.4.1 Intent
The purpose of the AR District is to accommodate rural uses, including agricultural uses, uses that complement or support agricultural uses, and very-low density residential uses. The AR District is intended to encourage residential development that preserves farmland and other open space.

4.1.4.2 Application Criteria
This district will usually be applied where the following conditions exist:
(a) Adjacent to land already designated on the adopted Zoning Map as Agricultural/Residential.
(b) The average lot size should be five (5) acres or more within the proposed district.

4.2 BUSINESS BASE ZONING DISTRICTS

4.2.1 ADAPTIVE RE-USE DISTRICT

4.2.1.1 Intent
The purpose of the redevelopment district is to accommodate proposals to redevelop existing developed and improved sites for which the owner/developer proposes a mixture of small-scale retail, residential, and light industrial uses (or a combination of such uses) to occupy structures originally constructed for other purposes.

4.2.1.2 Application Criteria
To qualify for rezoning to a redevelopment district, the area to be rezoned must meet the following criteria:
(a) The site is improved at the time the rezoning is sought with a building of at least 10,000 sf originally constructed for retail, institutional or industrial purposes.
(b) The parcel has access to at least one public street classified as a collector or greater
(c) The owner intends to locate two or more uses from the permitted use list in the structure.
(d) The parcel consists of at least 3 acres of land.

4.2.2 OFFICE/INSTITUTIONAL DISTRICT (OI)

4.2.2.1 Intent
The purpose of the OI District is to accommodate the location and establishment of medium density professional and business offices and institutions in close proximity to single-family detached residential units. This district is generally located near residential neighborhoods and often serves as a buffer or transition between residential neighborhoods and more intense business districts.

4.2.2.2 Application Criteria
This district will usually be applied where the following conditions exist:
(a) The site would provide a buffer or step down in intensity of land use between a commercial or industrial use and a less intense use.
(b) Water and sewer lines exist at the site or are to be made available as part of the development process.
(c) Vehicular access must consist of direct access to a street classified as either arterial or collector.

4.2.3 NEIGHBORHOOD BUSINESS DISTRICT (NB)

4.2.3.1 Intent
The purpose of the NB District is to accommodate small-scale, low-intensity, and convenience retail and service uses that provide goods and services to residents of the immediately surrounding neighborhood. Development in this district should not be out of character or scale with a residential neighborhood, nor should it attract traffic from outside the surrounding neighborhood. Performance standards shall be used to insure the absence of adverse impacts beyond the immediate space occupied by the building.

4.2.3.2 Application Criteria
This district will usually be applied where the following conditions exist:
(a) Located at the intersection of either sub-collector or local streets.
(b) Uses would generally not serve commuters or persons outside the surrounding neighborhood.
(c) Water and sewer lines exist at the site or are to be installed as part of the development process.
(d) Normally, the maximum amount of land zoned NB at any intersection shall not exceed one acre.
4.2.4 CENTRAL COMMERCIAL DISTRICT (CC)

4.2.4.1 Intent
The purpose of the CC District is to encourage the urban form and character found in the traditional downtown area, and to promote redevelopment that will make the historic core a more diverse and vibrant mixed-use center. The district is intended to accommodate a well-balanced mix of uses (commercial, office, service, and residential uses) within the historic central core of the Town. The core commercial areas are to be preserved and enhanced over the long term and should provide mixed-use opportunities that combine second floor residential units with ground floor non-residential uses. Performance standards shall be used to insure the absence of adverse impacts beyond the zoning district boundaries.

4.2.4.2 Application Criteria
This district will usually be applied where the following conditions exist:

(a) Adjacent to existing central commercial district designation.

(b) Uses would serve a market area population of major segments of the Town and through traffic.

(c) Water and sewer lines exist at the site or are to be installed as part of the development process.

(d) All property to be designated for new development under this classification shall have direct access to a paved public street.

4.2.5 GENERAL COMMERCIAL DISTRICT (GC)

4.2.5.1 Intent
The purpose of the GC District is to accommodate a diverse range of retail, service, and office uses that provide goods and services to the residents and businesses in the community at large – e.g., shopping centers, convenience stores, and retail sales establishments. Performance standards shall be used to insure the absence of adverse impacts beyond the zoning district boundary.

4.2.5.2 Application Criteria
This district will usually be applied where the following conditions exist:

(a) Water and sewer lines exist at the site or are to be made available as part of the development process.

(b) All property to be designated for new development under this classification shall have direct access to arterial streets.

4.2.6 HIGH INTENSITY COMMERCIAL DISTRICT (HIC)

4.2.6.1 Intent
The purpose of the High Intensity Commercial district is to accommodate larger scale commercial, service and light industrial uses and smaller supporting commercial and
service uses in areas with good vehicular and/or transit access, located away from areas used or designated for residential or other sensitive land uses. HIC districts should be located along major transportation corridors to provide adequate access and mobility to both local and regional customers. Performance standards shall be used to limit adverse impacts beyond the zoning district and on the natural environment.

4.2.6.2 Application Criteria
This district will usually be applied where the following conditions exist:

(a) Water and sewer lines exist at the site or are to be made available as part of the development process.

(b) All property to be designated for new development under this classification shall have direct access to arterial streets.

4.2.7 GENERAL INDUSTRIAL DISTRICT (GI)

4.2.7.1 Intent
The purpose of the General Industrial District it to accommodate manufacturing, assembly, fabrication, processing, distribution, storage, research and development, and other industrial uses that may be large-scale or otherwise have extensive exterior movement of vehicles, materials, and goods, but that achieve high environmental quality standards and have minimal impacts on adjacent uses.

4.2.7.2 Application Criteria
This district will generally be applied where the following conditions exist:

(a) Water and sewer lines exist at the site or are to be made available as a part of the development process.

(b) Direct vehicular access is to a public street with immediate and convenient access to a street classified as an arterial. Immediate and convenient shall in this case mean traffic would not travel through or adjacent to an existing residential neighborhood to get from the site to the arterial road.

(c) Rail access is desirable, but not required.

4.2.8 LIGHT INDUSTRIAL DISTRICT (LI)

4.2.8.1 Intent
The purpose of the LI district is to accommodate light manufacturing, research and development, and other small-scale uses that have minimal exterior movement of vehicles, materials, and goods, as well as minimal environmental and visual impacts.

4.2.8.2 Application Criteria
This district will generally be applied where the following conditions exist:

(a) Water and sewer lines exist at the site or are to be made available as a part of the development process.
(b) Direct vehicular access is to a public street with immediate and convenient access to a street classified as an arterial. Immediate and convenient shall in this case mean traffic would not travel through or adjacent to an existing residential neighborhood to get from the site to the arterial road.

4.2.9 ECONOMIC DEVELOPMENT DISTRICT (EDD)

4.2.9.1 Intent
The intent of the Economic Development District is to provide locations for a wide range of light industrial, distribution, flex space, office, service, and retail uses.

4.2.9.2 Application Criteria
This district will usually be applied where the following conditions exist:

(a) The property is adjacent and has access to an interstate highway by way of a major arterial or collector street. Adjacency to rail facilities for the movement of goods and which offer transit service potential is preferred, but not required;

(b) Public water and sewer service is available or capable of being extended; and

(c) Large, buildable tracts are available for development or division into a range of building site sizes.

4.2.10 LIMITED OFFICE DISTRICT (LO)

4.2.10.1 Intent
The intent of the Limited Office District is to provide locations for low traffic generating office and service enterprises.

4.2.10.2 Application Criteria
This district will usually be applied where water and sewer lines exist at the site or are to be made available as part of the development process.

4.2.11 BUSINESS PARK DISTRICT (BP)

4.2.11.1 Intent
The intent of the Business Park District is to provide locations for a wide range of light industrial, distribution, flex space, office, and services with reasonable support retail in an organized setting.

4.2.11.2 Application Criteria
This district will usually be applied where the following conditions exist:

(a) The property is adjacent and with access to an interstate highway by way of a major arterial or collector street. Adjacency to rail facilities for the movement of goods and which offer transit service potential is preferred, but not required;

(b) Public water and sewer service is available or capable of being extended; and
4.3 OVERLAY ZONING DISTRICTS

4.3.1 HISTORIC DISTRICT (HD)

4.3.1.1 Intent

The purpose of the Historic District is to provide criteria to insure that new buildings, structures and uses of land within the Historic District shall be consistent with the character of the existing buildings, structures and uses of land in the Historic District. Applicants must seek approval of a Certificate of Appropriateness for projects within this district, in accordance with Section 3.12, Certificate of Appropriateness. Criteria for evaluating projects in the Historic District are provided in the Hillsborough Historic District Design Guidelines as referenced in Section 3.12.3, Standards of Evaluation. It is not the intent of this Ordinance to require the reconstruction or restoration of individual or original buildings, or to impose any particular architectural style.

4.3.1.2 Application Criteria

The area defined by the official Zoning Map has been designated as having historic significance, and having need of additional regulation to protect and preserve its historic significance and character. Among the ways this Overlay District shall provide protection are that no land currently zoned for residential use in the Historic Overlay District shall be eligible for any density bonus which may otherwise be generally available in Hillsborough’s zoning jurisdiction. Land within the Historic District Overlay shall only be eligible for the following special use districts described in this ordinance: Central Commercial Special Use, Neighborhood Business Special Use, Residential Special Use, and Multi-family Special Use.

4.3.2 PLUS OVERLAY DISTRICT (+)

4.3.2.1 Intent

The purpose of the Plus Overlay District is to provide a broad area in which Class A and Class B mobile homes are permitted so as to avoid excessive limitations on mobile home location while maintaining desired residential standards within the Town.

4.3.2.2 Application Criteria

This district may be applied to any residential district located within the Town’s extraterritorial jurisdiction and where fifty-one percent (51%) or more of the homes existing in the proposed plus overlay district are mobile homes.
4.3.3 NEIGHBORHOOD CONSERVATION DISTRICT (NC)

4.3.3.1 Intent
The purpose of the Neighborhood Conservation District is to provide a mechanism to identify and protect unique and distinctive older neighborhoods to ensure that future development or redevelopment is consistent with the existing, distinctive character.

4.3.3.2 Application Criteria
To be designated a Neighborhood Conservation District, the proposed area must meet the following criteria:

(a) The area must contain a minimum of one block face (all the lots on one side of a block measured from intersecting street to intersecting street);

(b) The area must have been platted or developed at least 40 years prior to the date of the application for the designation;

(c) At least 75% of the land area in the proposed district is presently improved;

(d) The area must be predominantly residential in use and character;

(e) No property or area shall be placed in a Neighborhood Conservation District except upon petition signed by the owners of at least 75% of the lots or parcels in the proposed district, or through a supermajority vote of the Town Board;

(f) The area must possess one or more of the following distinctive features that create a cohesive identifiable setting, character or association:
   i. scale, size, type of construction, or distinctive building materials;
   ii. lot layouts, setbacks, street layouts, alleys or sidewalks;
   iii. special natural or streetscape characteristics, such as creek beds, parks, gardens or street landscaping;
   iv. land use patterns, including mixed or unique uses or activities; or
   v. abuts or links designated historic landmarks and/or districts.

4.3.4 CORNELIUS STREET CORRIDOR DISTRICT

4.3.4.1 Intent
The purpose of the Cornelius Street Corridor overlay district is to provide a mechanism to facilitate the recommendations of the Cornelius Street plan including design and use considerations. Development and redevelopment within this district shall comply with the relevant components of the Design Manual that apply to this overlay district.

4.3.4.2 Application Criteria
To be designated Cornelius Street Corridor district, the proposed area must be a parcel identified within the Cornelius Street Corridor as defined in the plan adopted in 2007.
4.4 SPECIAL USE ZONING DISTRICTS

For the Neighborhood Business (NB) and Central Commercial (CC) districts, described in Sections 4.2.2 and 4.2.3 above, there are hereby established parallel Special Use Districts designated Neighborhood Business Special Use (NB-SU) and Central Commercial Special Use (CC-SU) pursuant to N.C. Gen. Stat. § 160A-382. Under each Special Use District, all uses allowed as a permitted or special use as designated in Table 5.1.5 Use Table-Residential Districts and Table 5.1.6, Use Table- Non-Residential Districts for the parallel general use district are permitted only upon issuance of a Special Use Permit (SUP) by the Town Board. No property shall be placed in such special use district except upon a petition signed by all owners of property to be included in the district.

4.4.1 ENTRANCEWAY SPECIAL USE DISTRICT (ESU)

4.4.1.1 Intent

The purpose of this district is to provide for the development of well planned and fully integrated projects containing a diverse mixture of commercial, office, and employment uses along the primary entrances to the Town of Hillsborough. This district would be appropriate on major thoroughfares at or near the boundaries of the Town’s zoning jurisdiction. This district is not intended to be a vehicle by which new, primarily residential uses are introduced, except where significant new commercial, office or employment uses are also incorporated into the district.

4.4.1.2 Authorization

The ESU district shall be a special use district authorized under N.C. Gen. Stat. § 160A-382. As such, property may be placed within this district only in response to a petition by the owner(s) of the property to be included.

4.4.1.3 Application Criteria

Property is eligible to be rezoned to the ESU district only when the property proposed for such rezoning:

(a) Is adjacent to and has frontage along a street classified as an arterial or higher at or in close proximity to Hillborough’s jurisdictional limits;

(b) Is not located within the Historic Overlay District;

(c) If so located in relationship to existing or proposed public streets that traffic generated by the development of the tract proposed for rezoning can be accommodated without endangering the public health, safety, or welfare; and

(d) Will be served by Hillsborough water and sewer lines when developed;

(e) Consists of at least 10 acres of land.

4.4.1.4 Nothing in this section is intended to limit the discretion of the Town Board to deny an application to rezone property to an ESU district.

4.4.1.5 The applicant shall submit with its rezoning petition either a Special Use Permit application or, if the land to be rezoned is at least 20 acres in area, an application for approval of a master plan for a planned or mixed use development.
4.4.2 ASSISTIVE LIVING NEIGHBORHOOD DISTRICT (ALH)

4.4.2.1 Intent
The Assistive Living Neighborhood District is intended to permit development of property for residential use incorporating features or amenities designed to address the needs of retired persons, senior citizens, and/or disabled persons, and to allow for the inclusion in such developments of special or innovative amenities designed to address the needs of the residents. This intent may be accomplished through a variety of building types offering differing service levels to residents. This variety may include, but is not limited to detached houses, attached dwellings, and rooming units. Rezoning property to this district may result in a higher density than otherwise allowed in single-family residential districts or in the Multi-Family District. The Assistive Living Neighborhood District will have more on-site amenities than otherwise required, or permitted, in single-family residential districts or in the Multi-Family District.

4.4.2.2 Special Use Permit Required
The Assistive Living Neighborhood District shall be a special use district authorized under N.C. Gen. Stat. § 160A-382. As such, property may be placed within this district only in response to a petition by the owner(s) of the property sought to be included in the district.

4.4.2.3 Required Characteristics
Property is eligible to be rezoned to the Assistive Living Neighborhood District only when the property proposed for such rezoning satisfies the criteria stated below. However, satisfying such criteria does not guarantee that a rezoning request will be granted.

(a) Consists of a parcel or tract of land containing at least 10 acres;
(b) Is located adjacent to and has frontage on a street classified as an arterial or higher;
(c) Will be served by Hillsborough water and sewer lines when developed.
(d) Is not located in or adjacent to the Historic Overlay District.

4.4.2.4 Rezoning Requests

4.4.2.4.a Nothing in this section is intended to limit the discretion of the Board of Commissioners to deny an application to rezone property to an Assistive Living Neighborhood District.

4.4.2.4.b When an Assistive Living Neighborhood District rezoning application is submitted in accordance with Section 3.8, Special Use Permit, the applicant shall simultaneously submit a Special Use Permit application for a specific use of the type described in Section 5.2.21, Mixed Residential as Required by the Assistive Living Neighborhood District. The Special Use Permit application shall proceed in accordance with Section 3.8, Special Use Permit.
4.4.3 **MULTI-FAMILY SPECIAL USE DISTRICT (MFSU)**

4.4.3.1 **Intent**
The purpose of this district is to provide for higher density, residential development of attached dwellings with on-site amenities, such as neighborhood commercial development.

4.4.3.2 **Special Use Permit Required**
The Multi-Family Special Use District shall be a special use district authorized under N.C. Gen. Stat. § 160A-382. As such, property may be placed within this district only in response to a petition by the owner(s) of the property sought to be included in the district.

4.4.3.3 **Rezoning Requests**
Nothing in this section is intended to limit the discretion of the Board of Commissioners to deny an application to rezone property to a Multi-Family Special Use District. When a Multi-Family Special Use District rezoning application is submitted in accordance with Section 3.8, *Special Use Permits*, the applicant shall simultaneously submit a Special Use Permit application for a specific use of the type described in Section 4.4.3.1, **Intent**, above. The Special Use Permit application shall proceed in accordance with Section 3.8, *Special Use Permits*.

4.4.4 **RESIDENTIAL SPECIAL USE DISTRICT (RSU)**

4.4.4.1 **Intent**
The purpose of the residential special use district is to create an open-ended use category for unique and diverse housing opportunities within existing residential districts as those districts age and redevelop.

4.4.4.2 **Application Criteria**
Property is eligible to be rezoned to the RSU district only when the property proposed for such rezoning meets the following criteria:

(a) The parcel contains at least 65,000 square feet and has direct vehicular access to a public street classified as local, collector, or arterial.

(b) The parcel is served by public water and sewer or such services will be extended as part of the development.

4.4.5 **SPECIAL DESIGN SPECIAL USE DISTRICT (SDSU)**

4.4.5.1 **Intent**
The purpose of the Special Design Special Use District is to create flexible and innovative development standards for development projects where, due to characteristics of the land or of the proposal, or both, such standards are, in the determination of the Town Board, appropriate. This district is intended to maximize the mixing of uses, the application of current and best practice planning tools, and an intense development...
pattern in a manner that enhances the character of Hillsborough while contributing to its sustainability and economic vitality.

4.4.5.2 Application Criteria

Property is eligible to be rezoned to the Special Design Special Use district only when the property proposed for such rezoning meets the following criteria:

(a) The parcel is not within the Historic District Overlay district.

(b) The parcel contains at least 20 acres and has direct vehicular access to a public street classified as collector or arterial.

(c) The parcel is served by public water and sewer or such services will be extended as part of the development.

(d) The parcel is designated as Mixed Use Residential or Mixed Use Employment on the Future Land Use Map for Hillsborough.

4.5 OTHER ZONING DISTRICTS

4.5.1 UPPER ENO PROTECTED WATERSHED DISTRICT (PW)

4.5.1.1 Intent

It is the intent of the Town of Hillsborough to regulate the uses of land and structures in watersheds which drain into existing or proposed reservoirs supplying drinking water to the people of Orange County. The quality of water in these water supply watersheds can be affected by human activities including farming, construction of highways and subdivisions, and the growth of towns and industrial development. Types of water pollutants resulting from these activities include sediment, bacterial contamination, heavy metals, synthetic organic compounds, and low-level radioactivity. The intent of the Upper Eno Protected Watershed (PW) district is to apply a set of regulations for watershed protection to portions of the water supply watersheds in the town's jurisdiction which are presently mostly undeveloped, and where it is desirable to maintain the rural undeveloped character of the watershed in the future. The Upper Eno Protected Watershed has been designated WS II.

4.5.1.2 Designation

The new use of any land or any structure within the Upper Eno Protected Watershed district shall comply with the requirements of the Upper Eno Protected Watershed Section 4.5.3, Requirements for Watershed Protection Districts. All of the area so designated shall drain into the Upper Eno River and be a minimum of 5 miles from normal pool elevation of a reservoir or ten (10) miles upstream of river intakes. The Official Zoning Map indicates the location and boundaries of the district. A property owner can have his property designated or de-designated upon presentation of surveyed topographical data containing precise ridgeline locations indicating that the property lies within or outside the designated Watershed district.
4.5.2  **UPPER ENO PROTECTED WATERSHED, CRITICAL AREA DISTRICT (PWCA)**

4.5.2.1  **Intent**

It is the intent of the Town of Hillsborough to regulate the uses of land and structures in the portions of the water supply watersheds which are immediately adjacent to the water supply impoundments. The quality of water in these water supply impoundments can be affected by human activities, including farming, construction, and nonresidential growth especially in the areas closest to impoundments. The intent of the Critical Area (PWCA) district is to apply a set of regulations for water supply protection to portions of the water supply watersheds which drain directly to water supply impoundments and which drain directly to the main channels of trunk streams feeding the impoundments so as to establish a higher development standard in these areas. The Upper Eno Critical Area has been designated WS II.

4.5.2.2  **Designation**

The new use of any land or any new structures within the Critical Area District shall comply with the requirements of the Critical Area District as described in Section 4.5.3, *Requirements for Watershed Protection Districts*. The area with this designation shall drain into the Upper Eno River and/or lies within 1/2 mile from the normal pool elevation or river intake. The Official Zoning Map indicates the location of the district. A property owner can have his property designated or de-designated upon presentation of surveyed topographical data indicating precise ridgeline location.

4.5.3  **REQUIREMENTS FOR WATERSHED PROTECTION DISTRICTS**

4.5.3.1  **Authority**

This section is adopted and implemented under the authority granted by North Carolina General Statutes 143-214.5 (Chapter 143, Article 21).

4.5.3.2  **Intent**

Two (2) Watershed Protection Districts, as described in Section 4.5.1 and 4.5.2, have been established for lands within the watersheds of existing or potential drinking water rivers and reservoirs. These districts are delineated on the Hillsborough zoning map. Wherever standards of this Ordinance differ from the watershed standards, the more restrictive provisions shall apply.

4.5.3.3  **Land Use Restrictions**

As listed in Table 5.1.5, *Use Table – Residential Districts*, in conformance with the remainder of this section and with the following additional requirements:

4.5.3.3.a  **PWCA**

(a) No new landfills are permitted.

(b) No land application of solid waste residuals.

4.5.3.3.b  **PW**

(a) No discharging landfills are permitted.

4.5.3.3.c  **Water Quality Standards**
Hillsborough Unified Development Ordinance

(a) Odor producing substances contained in sewage or other wastes shall be limited to such amounts, whether alone or in combination with other substances or wastes, as will not cause: taste and odor difficulties in water supplies which cannot be corrected by treatment, impair the palatability of fish, or have a deleterious effect upon any best usage established for waters of this class.

(b) Phenolic compounds shall not be present greater than 1.0 ug/l (phenols) to protect water supplies from taste and odor problems due to chlorinated phenols.

(c) Total hardness shall not be greater than 100 mg/l as calcium carbonate.

(d) Total dissolved hardness shall not be greater than 500 mg/l.

(e) Toxic and other deleterious substances shall not exceed the following limits:

i. Table: Water Toxicity Limits, Non-Carcinogens

<table>
<thead>
<tr>
<th>Element</th>
<th>Maximum Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium</td>
<td>1.0 mg/l</td>
</tr>
<tr>
<td>Chloride</td>
<td>250 mg/l</td>
</tr>
<tr>
<td>Manganese</td>
<td>200 ug/l</td>
</tr>
<tr>
<td>Nickel</td>
<td>25 ug/l</td>
</tr>
<tr>
<td>Nitrate nitrogen</td>
<td>10.0 mg/l</td>
</tr>
<tr>
<td>2,4-D</td>
<td>100 ug/l</td>
</tr>
<tr>
<td>2,4,5-TP (Silvex)</td>
<td>10 ug/l</td>
</tr>
<tr>
<td>Sulfates</td>
<td>250 mg/l</td>
</tr>
</tbody>
</table>

ii. Table: Water Toxicity Limits, Carcinogens

<table>
<thead>
<tr>
<th>Element</th>
<th>Maximum Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beryllium</td>
<td>6.8 ng/l</td>
</tr>
<tr>
<td>Benzene</td>
<td>1.19 ug/l</td>
</tr>
<tr>
<td>Carbon Tetrachloride</td>
<td>0.254 ug/l</td>
</tr>
</tbody>
</table>
### Chlorinated Benzenes
- **488 ug/l**

### Dioxin
- **0.000013 ng/l**

### Hexachlorobutadiene
- **0.445 ug/l**

### Polynuclear aromatic hydrocarbons
- **2.8 ng/l**

### Tetrachloroethane
- **0.8 ug/l**

### Trichloroethylene
- **3.08 ug/l**

### Vinyl Chloride
- **2 ug/l**

### Aldrin
- **0.127 ng/l**

### Chlordane
- **0.575 ng/l**

### DDT
- **0.588 ng/l**

### Dieldrin
- **0.135 ng/l**

### Heptachlor
- **0.208 ng/l**

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### 4.5.3.4 Setbacks

Building setbacks from property lines shall be as required by Section 6.3, *Dimensional Requirements*, with the following additional requirements:

#### 4.5.3.4.a PWCA

(a) No structures may be constructed within 150 feet of the high water mark of a water supply impoundment

(b) New septic tanks and their nitrification fields shall be located at least 100 feet from the edge of a water supply impoundment or perennial or intermittent stream as shown on the USGS Quadrangle maps.

(c) (Applies only to lots created by preliminary plans for major subdivision and final plats for minor subdivisions approved or recorded after Sept. 30, 1993)

#### 4.5.3.4.b PW

(a) New septic tanks and their nitrification fields shall be located at least 100 feet from a perennial or intermittent stream as shown on the USGS Quadrangle maps.

(b) (Applies only to lots created by preliminary plans for major subdivision and final plats for minor subdivisions approved or recorded after Sept. 30, 1993)

### 4.5.3.5 Residential Density

#### 4.5.3.5.a PWCA: 1 du/2 acres

#### 4.5.3.5.b PW: 1 du/1 acre

### 4.5.3.6 Placement of Streets, Driveways, and Buildings
4.5.3.8

Zoning

4.5.3.8.b

Districts

To outside Riparian zoning approximate which reasonable makes critical because Undisturbed section. of much (d) (c) (b) (a)

Orange Natural

Ponds, Riparian Definition

The streams remain as shown critical areas prohibited: Streams buffer zones as required by Section 4.5.3.8.d; Wetlands as defined by the U.S. Army Corps of Engineer; Land with slopes greater than fifteen percent (15%); and Natural areas as identified in the Inventory of Natural Areas and Wildlife Habitats of Orange County, NC.

To avoid creating lots that will be difficult to build upon in compliance with the standards of this section, the subdivision plats shall show proposed building envelopes and approximate driveway locations for all lots within such subdivisions. Thereafter, no zoning compliance permit may be issued for the construction of buildings or driveways outside the areas so designated on the preliminary plat unless the Planning Director makes a written finding that the proposed location complies with the provisions of this section.

4.5.3.7 Undisturbed Area

Because soils, which are seriously disturbed, even if re-vegetated, can generate nearly as much run-off as paved areas, a portion of property being developed within watershed critical areas must remain undisturbed during construction.

4.5.3.7.a Undisturbed Eno Critical Area

(a) A minimum of the area necessary to meet impervious surface requirements shall remain undisturbed during the construction process.

(b) The area to remain undisturbed shall include portions of the lot utilities for stormwater infiltration.

(c) All clearing limits shall be clearly marked and observed.

4.5.3.7.b Undisturbed Eno Protected Watershed

(a) As may be required pursuant to an approved grading permit or erosion control plan.

4.5.3.8 Riparian buffers

4.5.3.8.a Definition

Riparian buffer is an area of land adjacent to perennial and intermittent streams, ponds, lakes and reservoirs which, except as stated below, must remain undisturbed in its natural state. For PW and PWCA zoning districts, perennial streams are those streams shown as solid blue or purple lines and intermittent streams as broken blue or purple lines on the most recent USGS Quadrangle maps for Orange County.

4.5.3.8.b Permitted Uses Within Riparian Buffers

The following uses are allowed as a matter of right in riparian buffers. All other uses are prohibited:
(a) Above ground and buried utility lines for local distribution of electricity, telephone, and cable television service, accessory and appurtenant apparatus such as poles, guy wires, transformers, and switching boxes.

(b) Bona fide farms, except any use of farm property for non-farm purposes.

(c) Public and private streets, bridges, and railroad rights-of-way, provided that they enter and exit the buffer area as nearly perpendicular as possible.

4.5.3.8.c *Land Disturbance and Planting of Vegetation*

(a) Area within a riparian buffer, which is subject to serious erosion, may be disturbed for the purpose of planting and maintaining erosion-resistant vegetative cover.

(b) Existing forested areas or any other healthy vegetation cannot be removed from the riparian buffer, except where replaced with vegetation resulting in comparable stormwater runoff velocity and quantity one year after planting.

(c) New vegetation shall be planted to capture non-source pollutants before they reach the perennial stream, as per Town of Hillsborough standards.

(d) Flag poles, signs, security lights, and other structures, which result in only de minimus increases in impervious area.

4.5.3.8.d *Calculating Width of Riparian Buffer*

How to calculate slope value:

(a) Draw a line perpendicular to the stream

(b) Determine the elevation at the stream itself (a), and at the point 250' from the stream along the perpendicular line (b).

(c) Subtract (a) from (b)

(d) Divide (3) by 250

(e) Multiply (4) by 100. This number is the "slope value".

(f) Riparian buffer based on slope value. The width of the buffer shall be fifty (50) feet from each edge of the floodplain, plus the slope value multiplied by four.

4.5.3.8.e *Minimum Buffer Width Required*

(a) Within the PWCA zoning district, the buffer width shall be the width calculated using Section 4.5.3.8.d, but not less than 100'.

(b) Within the PW zoning district, the buffer width shall be 50', except where density exceeds 1 du/ac and impervious surface exceeds 12%.

(c) Within the PW zoning district, where density exceeds 1 du/ac and impervious surface exceeds 12%, the buffer width shall be calculated as above, but shall not be less than 100'.

4.5.3.8.f *Provisions for Agricultural Activities*

Within the PWCA district, a 10' vegetated buffer is required for all agricultural activities conducted after July 1, 1993. The implementation of Best Management
Hillsborough Unified Development Ordinance

Practices (BMPs) is required for animal operations with greater than 100 animal units by July 1, 1994.

Agricultural uses in the PW district are not required to provide buffers or BMPs, but must meet statewide nondischarge rules. These discharge rules are implemented at the state level.

**4.5.3.9 Water Supply/Sewage Disposal Facilities**

No new septic tanks systems or individual alternative systems shall be located within a designated riparian buffer zone or within one hundred (100) feet of a perennial or intermittent stream as shown on the USGS Quadrangle maps for Orange County, whichever is the greater distance.

**4.5.3.10 Clustering Lots within the Watershed Protection District**

Clustering of residential lots is permitted where it does not violate standards of this section, excluding minimum lot size.

Within the protected watershed districts the following standards shall also apply to cluster developments and shall supersede Subdivision Regulation requirements:

(a) Overall density of the project shall meet the density and stormwater control requirements of the appropriate protected watershed district.

(b) Built-upon areas shall be designed and sited to minimize stormwater impact to the receiving waters and minimize concentration of stormwater flow.

(c) The remainder of the tract shall remain in a vegetated or natural state.

(d) Within the PW and PWCA districts, lots shall be a minimum of 10,000 square feet.

(e) Within the PW and PWCA districts, setbacks in cluster developments shall follow those required in the residential zoning district (R-10-R-40) that most closely matches the proposed lot size in the development.

(f) All cluster developments within the protected watershed districts shall be served by public water and sewer.

(g) The title to the open space area shall be conveyed to a homeowners association for management; to a local government for preservation as a park or open space; or to a conservation organization for preservation in a permanent easement.

**4.5.3.11 Stormwater Infiltration and Detention**

As a watershed becomes more developed, the amount of impervious surface increases, causing a decrease in the rate at which stormwater runoff can be absorbed into the soil. This results in more stormwater flowing directly into streams and other water bodies. Because this direct runoff has not been filtered through the soil, pollutants from the air and land surface enter streams and increase the potential for pollution of drinking water supplies.
The effects of stormwater pollution on drinking water supplies can be minimized by one of two general approaches. First, the amount of stormwater runoff which reaches drinking water can be absorbed. This type of non-structural control is achieved through limitations on impervious surface. A second approach is to collect stormwater run-off in engineered ponds so that pollutants may settle. The water is then slowly released and contains fewer impurities when it reaches the water supply reservoir. The watershed protection standards adopted by the Town of Hillsborough utilize a combination of these two approaches.

4.5.3.11.a Non-Structural Stormwater Control

(a) The first inch of stormwater run-off shall be controlled to the extent possible through on-site filtration and through the use of methods which rely on natural soil properties for absorption and treatment.

(b) In order to promote infiltration of stormwater runoff into the soil and minimize direct and immediate run-off into streams and water supply impoundments, the maximum percentage of the total lot area that may be covered with an impervious surface shall be specified. This limit is referred to as the "impervious surface ratio".

(c) Impervious surface calculations for an individual development shall be cumulative for original construction and any subsequent additional. One-half of the width of any existing or proposed road adjacent to an individual lot shall be included as impervious surface for that lot, except in the case where an existing road was contained within a dedicated public right-of-way on October 1, 1993. Infiltration techniques not only remove both suspended and dissolved pollutants, but they require less maintenance, reduce flooding, promote groundwater recharge, and help maintain stream flow during dry periods.

(d) Where on-site infiltration methods are utilized, areas for such purposes shall be designated on the plat and shall remain undisturbed both during and after construction.

(e) Undisturbed areas for infiltration of run-off shall also be located down slope from impervious surfaces and shall not include areas characterized by floodplains, highly erodible or impervious soils, steep slopes or previously disturbed areas. Areas designated as suitable for septic nitrification fields may not be used for stormwater infiltration purposes.

(f) Run-off from roads, parking lots, and/or sidewalks shall be directed to undisturbed areas through use of berms, grassed diversion ditches or swales, or other acceptable means to reduce run-off velocity and filter out pollutants.

4.5.3.11.b Structural Measures

(a) Non-structural methods may not adequately control the first inch of stormwater runoff due to the amount of impervious surface proposed to be developed, and other factors such as soil type, slope, presence of floodplains and erodible soils, and/or lack of vegetative cover. In such cases, structural detention ponds, which capture stormwater for slow release through an outlet, are required.
(b) All stormwater control structures shall be designed by either a North Carolina registered professional engineer or landscape architect, to the extent that the General Statutes, Chapter 89A, allow. Other stormwater systems shall be designed by a North Carolina registered professional with qualifications appropriate for the type of system required; these registered professionals are defined as professional engineers, landscape architect, to the extent that the General Statutes, Chapter 89A allow, and land surveyors, to the extent that the design represents incidental drainage within a subdivision, as provided in General Statutes 89(C)-3(7).

(c) All stormwater controls shall use wet detention ponds as a primary treatment system. Wet detention ponds shall be designed for specific pollutant removal according to the modeling techniques approved by the North Carolina Division of Environmental Management. Specific requirements for these systems shall be in accordance with the following design criteria:

(d) Wet detention ponds shall be designed to remove 85% of total suspended solids in the permanent pool and storage runoff from a one-inch rainfall from the site above the permanent pool;

(e) The designed runoff storage volume shall be above the permanent pool;

(f) The discharge rate from these systems following the one-inch rainfall design storm shall be such that the runoff does not draw down to the permanent pool level in less than two (2) days and that the pond is drawn down to the permanent pool level within at least five (5) days;

(g) The mean permanent pool depth shall be a minimum of three (3) feet;

(h) The inlet structure shall be designed to minimize turbulence using baffles or other appropriate design features;

(i) Vegetative filters shall be constructed for the overflow and discharge of all stormwater wet detention ponds and shall be at least thirty feet in length. The slope and width of the vegetative filter shall be determined so as to provide a non-erosive velocity of flow-through the filter for a 10-year, 24-hour storm with a 10-year, 1-hour intensity with a slope of five percent or less. Vegetation in the filter shall be natural vegetation, grasses or artificially planted wetland vegetation appropriate for the site characteristics;

(j) In addition to the vegetative filters required in Section 4.5.3.11.b.i, all land areas outside of the pond shall be provided with a ground cover sufficient to restrain erosion within thirty (30) days after any land disturbance. Upon completion of the stormwater control structure, a permanent ground cover shall be established and maintained as part of the maintenance agreement described in Section 4.5.3.13, Maintenance and Upkeep.

(k) A description of the area containing the stormwater control structure shall be prepared and filed consistent with this section, as a separate deed with the Orange County Register of Deeds along with any easements necessary for general access to the stormwater control structure. The deeded area shall
include the detention pond, vegetative filters, all pipes and water control structures, berms, dikes, etc., and sufficient area to perform inspections, maintenance, repairs, and reconstruction.

(l) Qualifying areas of the stormwater control structure may be considered pervious when computing total built-upon area. However, if the structure is used to compute the percentage built-upon for one site, it shall not be used to compute built-upon area for any other site.

**4.5.3.11.c Impervious Surface and Detention Pond Requirements**

For all protected watersheds, there is an absolute limit on the percentage of lot area that can be covered with impervious surfaces. In some cases, detention ponds are required when the proposed impervious surface ratio exceeds a specified percentage, which is below the absolute limit.

(a) Residential Development

(b) PWCA 6% impervious surface limit OR 2 acre minimum lot size. BMPs are not required

(c) PW 30% impervious surface limit, with BMPs required if impervious surface exceeds 12%

(d) Non-Residential Development

(e) PWCA Up to 6% impervious surface without BMPs 6% - 24% with BMPs

(f) PW Up to 70% impervious surface, with BMPs required when impervious surface exceeds 12%*

(g) *After new non-residential development with impervious surface greater than 12% occurs on 10% of the watershed, impervious surface for the subsequent development may not exceed 30%, and BMPS will be required when impervious surface exceeds 12%.

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**4.5.3.12 Operation and Maintenance of Detention Ponds**

**4.5.3.12.a Posting of Financial Security**

All stormwater control structures shall be conditioned on the posting of adequate financial assurance for the purpose of maintenance, repairs or reconstruction necessary for adequate performance.

(a) Security Performance Bond or Other Security:

i. The permit applicant shall obtain either a performance bond from a surety bonding company authorized to do business on North Carolina, an irrevocable letter of credit or other instrument readily convertible into cash at face value payable to the Town of Hillsborough or placed in escrow with a financial institution designated as an official depository of the Town of Hillsborough.
Hillsborough Unified Development Ordinance

Hillsborough. The bond or other instrument shall be in an amount equal to 1.25 times the total cost of the stormwater control structure, as estimated by the applicant and approved by the Town Engineer. The total cost of the stormwater control structure shall include the value of materials such as piping and other structures; seeding and soil stabilization; design and engineering; and grading, excavation, fill etc. The costs shall not be prorated as part of a larger project, but rather under the assumption of an independent mobilization.

ii. Upon default of the permit applicant to complete and or maintain the stormwater control structure as spelled out in the performance bond or other security, the Town of Hillsborough may obtain and use all or any portion of the funds necessary to complete the improvements based on the engineering estimate. The Board shall return any funds not spent in completing the improvements to the owning entity.

(b) Cash or Equivalent Security Deposited After Release of the Performance Bond

i. Consistent with Section 4.5.3.12.a.a, Security Performance Bond or Other Security, the permit applicant shall deposit with the Town of Hillsborough either cash or other instrument approved by the Town Attorney that is readily convertible into cash at face value. The cash or security shall be in an amount equal to fifteen (15) percent of the total cost of the stormwater control structure or the estimated cost of maintaining the stormwater control structure over a ten (10) year period, whichever is greater. The estimated cost of maintaining the stormwater structure shall be consistent with the approved operation and maintenance plan or manual provided by the developer under Section 4.5.3.13.a, Operation and Maintenance Plan Required. The amount shall be computed by estimating the maintenance cost for twenty-five (25) years and multiplying this amount by two-fifths or 0.4.

ii. Upon default of the owning entity to maintain, repair and if necessary, reconstruct the stormwater control structure in accordance with the Operation and Maintenance Agreement, the Town shall obtain and use all or any portion of the security provided to make necessary improvements based on an engineering estimate. Such expenditures of funds shall only be made after exhausting all other reasonable remedies seeking the owning entity to comply with the terms and conditions of the Operation and Maintenance Agreement. The Town shall not return any of the deposited cash funds.

4.5.3.13 Maintenance and Upkeep

4.5.3.13.a Operation and Maintenance Agreement Required

The permit applicant shall enter into a binding Operation and Maintenance Agreement with the Town of Hillsborough and all others with interests in the land served by the stormwater control structure. Said Agreement shall require the owning entity to maintain, repair, and if necessary, reconstruct the stormwater control structure in accordance with the operation and management plan or manual
4.5.3.13.b **Operation and Maintenance Plan Required**

An operation and maintenance plan or manual shall be provided by the developer for each stormwater control structure, indicating what operation and maintenance actions are needed, what specific quantitative criteria will be used for determining when those actions are to be taken and, consistent with the Operations and Maintenance Agreement, who is responsible for those actions. The Plan shall clearly indicate the steps that will be taken for restoring a stormwater control structure to its design specifications if a failure occurs.

4.5.3.13.c **Landscaping and Grounds Maintenance**

Landscaping and grounds maintenance shall be the responsibility of the owning entity. However, vegetation shall not be established or allowed to mature to the extent that the integrity of the control structure is diminished or threatened, or to the extent of interfering with any easement or access to the stormwater structure.

4.5.3.13.d **Repair or Reconstruction**

Except for general landscaping and grounds maintenance, the owning entity shall notify the Town prior to any repair or reconstruction of the stormwater structure. All improvements shall be made consistent with the approved plans and specifications of the stormwater control structure and the operations and maintenance plan or manual. After notification by the owning entity, the Town Engineer and/or Erosion Control Supervisor shall inform the owning entity of any required additions, changes or modifications and of the time period to complete said improvements.

4.5.3.13.e **Minor Amendments to Plans and Specifications**

Amendments to the plans and specifications of the stormwater control structure and/or the operation and maintenance plan or manual may be approved by the Town Engineer, provided that the changes do not involve a change in the size or location of the structure. Plans for such proposed changes shall be prepared by North Carolina registered professional engineer or landscape architect (to the extent that the General Statutes, Chapter 89A, allow) and submitted to and reviewed by the Town Engineer.

(a) If the Town Engineer approves the proposed changes, the owning entity of the stormwater control structure shall file sealed copies of the revisions with the Town Engineer.

(b) If the Town Engineer disapproves the changes, the proposal may be revised and resubmitted as a new proposal. If the proposal has not been revised, and is essentially the same as that already reviewed, it shall be returned to the applicant.

(c) The Town Engineer shall report any such revisions to the Town Board at the next available regular meeting.

4.5.3.13.f **Major Amendments to Plans and Specifications**
Amendments to the plans and specifications of the stormwater control structure and/or the operation and maintenance plan or manual that involve a change in the size or location may be approved by the Town Board after receiving a recommendation from the Town Engineer. Proposed changes shall be prepared by a North Carolina registered professional engineer or landscape architect (to the extent that the General Statutes, Chapter 89A, allow) and submitted to and reviewed by the Town Engineer.

4.5.3.13.g Revision of Plan Required If Found to be Inadequate
If the Town Engineer finds that the operations and maintenance plan or manual is inadequate for any reason, the owning entity shall be notified of any required changes and shall prepare and file copies of the revised agreement with the Orange County Register of Deeds, Town Engineer, and the owning entity.

4.5.3.14 Inspection and Release of the Performance Bond

4.5.3.14.a Inspection by Town Engineer
The stormwater control structure shall be inspected by the Town Engineer, after the owning entity notifies the Town Engineer that all work has been completed. At this inspection, the owning entity shall provide:

(a) The signed deed, related easements and survey plat for the stormwater control structure ready for filing with the Orange County Register of Deeds; and

(b) A certification sealed by an engineer or landscape architect (to the extent that the General Statutes, Chapter 89A, allow) stating that the detention pond is complete and consistent with the plans and specifications.

(c) If the Town Engineer approves the inspection and accepts the certification, deed and easements, he/she shall file the deed and easements with the Orange County Register of Deeds, release up to seventy five (75) percent of the value of the performance bond or other security and issue a watershed protection compliance permit for the stormwater control structure.

(d) If deficiencies are found, the Town Engineer shall direct that the improvements and inspections be made and/or documents corrected and resubmitted to the Town Engineer.

4.5.3.14.b Watershed Protection Compliance Permit Required Prior to Occupancy
No building permit or certificate of occupancy may be issued in the absence of a valid Watershed Protection Compliance Permit.

4.5.3.14.c Release of Remaining Security

(a) No sooner than one (1) year after the filing date of the deed, easements and maintenance agreement, the developer may petition the Town Board to release the remaining value of the performance bond or other security. Upon receipt of said petition, the Town Engineer shall inspect the stormwater control to determine whether the controls are performing as designed and intended. The
4.5.4 APPLICABILITY

4.5.4.1 Existing Development

Existing development is not subject to the requirements of this section. Existing developments include projects that are built, or at a minimum have established a vested right under North Carolina zoning laws as of October 1, 1993 based on at least one of the following criteria:

(a) Substantial expenditures of resources (time labor, money) based on a good faith reliance upon having received a valid local government approval to proceed with the project; or

(b) Having an outstanding valid building or Zoning Compliance Permit; or

(c) Having expended substantial resources and having an approved site specific or phased development plan.

4.5.4.2 Existing Lots

A deeded single-family lot owned by an individual prior to the effective date of this section, or any subsequent owner, regardless of whether a vested right has been established, is not subject to the development restrictions of this section. This exemption
does not apply to multiple lots under single ownership (i.e., to a developer of a residential subdivision).

4.5.4.3 Redevelopment

Non-residential redevelopment is allowed if the rebuilding activity does not result in a net increase in built-upon area or provides equal or greater stormwater control than the previous development. There is no restriction on single-family redevelopment.

4.5.4.4 Expansion of Existing or New Developments

Expansion to structures classified as existing development must meet the requirements of this section, however, the impervious surface and lot area involved in the existing development is not required to be included in the calculation of the impervious surface ratio.

Expansions to structures other than existing development must meet the density requirements for the entire project.

4.5.5 ADMINISTRATION

4.5.5.1 Appeals

Decisions of the Planning Director in the implementation of this section may be appealed to the Hillsborough Board of Adjustment in accordance with Section 3.11, Appeals.

4.5.5.2 Variances

Development activities may be granted minor and major variances by the Board of Adjustment in accordance with this subsection.

4.5.5.2.a A record of all variances (major and minor) granted by the Board of Adjustment shall be submitted to the Division of Water Quality on or before January 1 of each year. The record shall include a description of the project and the reason for granting the variance.

4.5.5.2.b All other local governments having jurisdiction within the watershed area and the entity using the water supply for consumption shall be notified of the proposed variance. Comments from these entities shall be submitted to the Planning Director before the Board of Adjustment decision and shall be made a part of the record of the Board of Adjustment decision.

4.5.5.2.c A variance that results in one more of the following shall be considered a major variance, requiring review by the Board of Adjustment and approval by the Environmental Management Commission before it becomes effective:

(a) The complete waiver of a management requirement.
(b) The relaxation by more than ten percent of any management requirements takes the form of a numerical standard.
(c) The relaxation of any management requirement that applies to a development project requiring construction of a detention pond.
(d) All requests for increased density or built-upon area.
(e) All other requests shall be considered minor variances.

4.5.5.2.d Before the Board of Adjustment may grant a variance, it shall make the following three findings, which shall be recorded in the permanent record of the case, and shall include the factual reasons on which they are based:

(a) There are practical difficulties or unnecessary hardships in the way of carrying out the strict letter of the Ordinance. In order to determine that there are practical or unnecessary hardships, the Board must find that all of the five following conditions exist:

i. If he complies with the provisions of the Ordinance, the applicant can secure no reasonable return from, nor make reasonable use of, his property. Merely proving that the variance would permit a greater profit to be made from the property will not be considered adequate to justify the Board in granting a variance. Moreover, the Board shall consider whether the variance is the minimum possible deviation from the terms of the Ordinance that will make possible the reasonable use of his property.

ii. The hardship results from the application of the Ordinance to the property rather than from other factors such as deed restrictions or other hardship.

iii. The hardship is due to the physical nature of the applicant's property, such as its size, shape, or topography, which is different from that of neighboring property.

iv. The hardship is not the result of the actions of an applicant who knowingly or unknowingly violates the Ordinance, or who purchases the property after the effective date of the Ordinance, and then comes to the Board for relief.

v. The hardship is peculiar to the applicant's property, rather than the result of conditions that are widespread. If other properties are equally subject to the hardship created in the restriction, then granting a variance would be a special privilege denied to others, and would not promote equal justice.

(b) The variance is in harmony with the general purpose and intent of the Ordinance and preserves its spirit.

(c) In the granting of the variance, the public safety and welfare have been assured and substantial justice has been done. The Board shall not grant a variance if it finds that doing so would in any respect impair the public health, safety, or general welfare.

4.5.5.2.e Findings may be made by a simple majority vote by the members of the Board of Adjustment. The vote to grant any variance must be a 4/5ths majority.

4.5.5.2.f In granting the variance, the Board may attach thereto such conditions regarding the location, character, and other features of the proposed building, structure, or use as it may deem advisable in furtherance of the purpose of this Ordinance. If a variance for the construction, alteration, or use of property is granted, such construction, alteration, or use shall be in accordance with the approved site plan.
4.5.5.2.g If the Board of Adjustment decides in favor of granting a major variance, the Board shall prepare a preliminary record of the hearing as soon as reasonably possible. The preliminary record shall include:

(a) The variance application
(b) The hearing notices
(c) The evidence presented
(d) Motions, offers of proof, objections to evidence, and rulings on them
(e) Proposed findings and exceptions
(f) The proposed decision, including all conditions proposed to be added to the permit

4.5.5.2.h The preliminary record shall be sent to the Environmental Management Commission for its review as follows:

(a) If the Commission concludes from the preliminary record that the variance qualifies as a major variance and that (1) the property owner can secure no reasonable return, nor make any practical use of the property unless the proposed variance is granted, and (2) the variance, if granted, will not result in a serious threat to the water supply, then the Commission shall approve the variance as proposed or approve the proposed variance with conditions and stipulations. The Commission shall prepare a Commission decision and send it to the Board of Adjustment. If the Commission approves the variance as proposed, the Board shall prepare a final decision granting the proposed variance. If the Commission approves the variance with conditions and stipulations, the Board shall prepare a final decision, including such conditions and stipulations, granting the proposed variance.

(b) If the Commission concludes from the preliminary record that the variance qualifies as a major variance and that (1) the property owner can secure a reasonable return from or make a practical use of the property without the variance or (2) the variance, if granted, will result in a serious threat to the water supply, then the Commission shall deny approval of the variance as proposed. The Commission shall prepare a Commission decision and send it to the Board of Adjustment. The Board shall prepare a final decision denying the variance as proposed.

4.5.5.2.i The Board of Adjustment shall refuse to hear an appeal or an application for a variance previously denied unless it finds that there have been substantial changes in conditions or circumstances bearing on the appeal or application.