

**ARTICLE 55.0  
SUPPLEMENTAL REGULATIONS AND STANDARDS**

**SECTION 55.01-PURPOSE**

Schedules of Specifications, Regulations and Standards governing land uses have been incorporated in this Ordinance for each zoning district. There are, however, at times some unusual conditions attendant on land uses and zoning classifications which justify elaboration and particularization in the application of these specifications, regulations, and standards.

**SECTION 55.02-STANDARDS**

No use, which because of potentially hazardous or objectionable features inherent in its exercise, shall be commenced or continued prior to the issuance of a Special Use Permit; and no such permit shall be issued prior to inspection and favorable recommendation by the Township Board. The applicant for a Special Use Permit under this Section shall certify in each alleged hazardous or objectionable feature, respectively, that the proposed use can and will comply to the provisions of this Ordinance, including the Standards herein declared. Such certification shall be verified by the Township Board. The verification shall be based on an independent inspection.

- A. FIRE HAZARD**-Any activity involving the use or storage of flammable or explosive materials shall be protected by adequate fire-fighting and fire suppression equipment and by such safety devices as are normally used in the handling of any such material. Such hazards shall be kept removed from adjacent activities to a distance which is compatible with the potential danger involved.
- B. RADIOACTIVITY OR ELECTRICAL DISTURBANCE**-No activity shall emit dangerous radioactivity at any point, or electrical disturbance adversely affecting the operation at any point of any equipment other than that of the creator of such disturbance.
- C. VIBRATION**-No vibration shall be permitted which is discernable without instruments on any adjoining lot or property.
- D. SMOKE**-Smoke shall not be emitted with a density greater than No. 1 on the Ringleman Chart as issued by U.S. Bureau of Mines except for blow-off periods of ten minutes duration of one per hour when a density of not more than No. 2 is permitted.
- E. ODORS**-No malodorous gas or matter shall be permitted which is offensive, or as to produce a public nuisance or hazard on any adjoining lot or property.
- F. AIR POLLUTION**-No pollution of air by fly-ash, dust, vapors, or other substances shall be permitted which is harmful to health, animals, vegetation or other property, or which can cause excessive soiling.
- G. GLARE**-No direct or reflected glare shall be permitted which is visible from any property or from any public street, road or highway.
- H. WATER POLLUTION**-Pollution of water shall be subject to such requirements and regulations as are established by the Michigan State Health Commission, the Michigan Water Resources Commission, and the Washtenaw County Health Department.
- I. NOISE**-Noise which is objectionable due to volume, frequency or beat shall be muffled or otherwise controlled so that there is no production of sound discernible at lot lines in excess of the average intensity of street and traffic noise at the lot lines. Air raid sirens and related apparatus used solely for public purposes are exempt from this requirement.

**Article: 55.0 SUPPLEMENTAL REGULATIONS AND STANDARDS****SECTION 55.03-SEWAGE TREATMENT AND DISPOSAL**

In addition to the requirements established by the State of Michigan Department of Health, the following site development and use requirements shall apply:

- A.** All operations shall be completely enclosed by a fence not less than six (6) feet high.
- B.** All operations and structures shall be surrounded on all sides by a buffer strip of at least two hundred (200) feet in width within which grass, vegetation and structural screens shall be placed to minimize the appearance of the installation and to help confine odors therein. The Township Planning Commission shall approve the treatment of all buffer strips.

**SECTION 55.04-STORAGE OF MATERIALS**

The location or storage of abandoned, discarded, unused, unusable, or inoperative vehicles, appliances, furniture, equipment or material shall be regulated as follows:

- A.** On any lot or parcel in any conservation-recreation district, agricultural district, residential district or commercial district, the owner or tenant shall locate such materials within a completely enclosed building, but not for hire or for business.
- B.** On any lot or parcel in any industrial districts, the owner or tenant shall locate and store such materials, whether or not for hire or for business:
  - 1.** Within a completely enclosed building; or
  - 2.** Within an area surrounded by a solid, unpierced fence or wall at least seven (7) feet in height and not less than the materials located or stored therein, and not closer to the lot lines than the minimum yard requirements for buildings permitted in said districts.
- C.** The storage of materials and inoperative vehicles with current and valid license plates may be made to conform to the regulations of this ordinance or shall be removed by the land owner within. If the land owner fails to remove a nonconforming use, it may be deemed a violation of the Ordinance and subject to the penalties provided for in this Ordinance.

**SECTION 55.05-VISIBILITY AT INTERSECTIONS**

No fence, wall, hedge, screen, sign, structure, vegetation or planting shall be higher than three (3) feet on any corner lot or parcel in any zoning district requiring front and side yards within the triangular area formed by the intersecting street right-of-way lines and a straight line joining the two street lines at points which are thirty (30) feet distant from the point of intersection, measured along the street right-of-way lines. Trees may be planted in this triangular area, provided that the lowest foliage is ten (10) feet or higher from the ground.

**SECTION 55.06-ACCESS TO PUBLIC STREET**

- A.** In any zoning district every use, building or structure established after the effective date of this Ordinance, shall be on a lot or parcel that adjoins a public road or private road. A private road shall be constructed in accordance with the standards and specifications within Section 55.17 of this Ordinance. The area of a public or private road easement shall not be included in the minimum required area of the lot.
- B.** The width of lots fronting on a cul-de-sac shall not be less than fifty (50) feet at the road right-of-way line. The number of parcels and/or access points established for single family parcels fronting on the circumference of a cul-de-sac shall not exceed five (5). All other lots shall have a lot width, measured at the setback line not to be less than specified within the zoning district it is located.

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- C. In AG, R-1 and PUD districts a shared driveway serving two parcels, having access to a public or private roadway, may be allowed if constructed on a permanent, unobstructed easement in accordance with the standards and specifications contained within this Ordinance and approved by the Lodi Township Board. All parcels having access via a shared driveway shall maintain minimum lot width of the district in which located at the designated setback line of the parcel. No lot may have more than one driveway easement. When such driveway easements are shared, such easement shall not be included in determining and computing lot width or lot area as defined herein.

All shared driveways shall be maintained, unobstructed, safe, and provide continuous access to and from lots to promote and protect the health, safety, and welfare of the public and provide a safe means of access for ingress and egress for emergency, fire, and police vehicles from the public/private road to the single family dwelling units.

Shared driveways shall extend no greater distance than 1,500 feet from the center line of a public or private street.

- D. Two (2) or more contiguous parcels of commercially zoned land that are developed as a shopping center, may share a driveway easement, said easement being a minimum of 66 feet wide and the drive paved with asphalt or cement concrete. When such driveway easements are shared, such easement shall be included in determining and computing lot width as such is defined herein.

**SECTION 55.07-BULK REGULATIONS**

- A. **CONTINUED CONFORMITY WITH BULK REGULATIONS**-The maintenance of setback, height, floor area ratio, coverage, open space, mobile home site, transition strip, lot area and lot area per dwelling unit required for one (1) use, lot, building or structure shall be a continuing obligation of the owner of such building or structure or of the lot on which such use, building or structure is in existence. Furthermore, no setback, height, floor area ratio, coverage, open space, mobile home site, transition strip, lot area per dwelling unit allocated to or required about or in connection with one lot, use, building or structure may be allocated to any other lot, use, building or structure.
- B. **DIVISION OF A LOT**-No one (1) lot, once designated and improved with a building or structure, shall be reduced in area or divided into two (2) or more lots, and no portion of one (1) lot, once designated and improved with a building or structure, shall be sold unless each lot resulting from each such reduction, division or sale, and designated and improved with a building or structure, shall conform with all the bulk and yard regulations of the zoning district in which it is located.
- C. **SETBACKS AND YARD REQUIREMENTS**-The setback and yard requirements established by this Ordinance shall apply uniformly in each zoning district to every lot, building or structure except, notwithstanding any other provision of this Ordinance, that any of the following structures are permitted but shall not be located closer than five (5) feet from the property line: open and unroofed terraces, patios, porches and steps, awnings, flag poles, hydrants, laundry drying equipment, recreation equipment including tennis courts, swimming pools, etc. Private driveways may cross, in a more or less perpendicular direction, for the purpose of providing vehicular access to the property from an adjacent street. The following structures may be located anywhere on any lot: arbors, trellises, outdoor cooking equipment, trees, plants, shrubs, and hedges, solid fences, screens or walls less than six (6) feet in height; provided that on a corner lot nothing shall be constructed, erected, placed, planted or allowed to grow in such a manner as materially to impede vision between a height of two and one-half (2 1/2) feet and eight (8) feet above the centerline grades of the intersecting streets in an area bounded by the street right-of-way lines of such corner lot and a straight line joining points along said street right-of-way lines fifty (50) feet from the nearest point of intersection.
- D. **HEIGHT**-The height requirements established by this Ordinance shall apply uniformly in each zoning district to every building and structure except that the following structures and appurtenances shall be exempt from the height requirements of this Ordinance subject to the provisions of Special Uses, ARTICLE 50.0; spires, belfries, penthouses and domes not used for human occupancy, chimneys, ventilators, skylights, water tanks, bulkheads, high tension power lines and support structures, radio and television broadcasting and receiving antennae, silos, parapets, and other necessary mechanical appurtenances; provided their location shall conform where applicable to the requirements of Lodi Township, the Federal Communications Commission, the Civil Aeronautics Administration, and other public authorities having jurisdiction.

**Article: 55.0 SUPPLEMENTAL REGULATIONS AND STANDARDS****SECTION 55.08-NATURAL FEATURES PROTECTION AND PRESERVATION****A. Intent**

An essential part of the character and quality of life in Lodi Township and the surrounding region is the variety of natural features that remain largely undisturbed by land development in the Township.

As the Township's General Development Plan specifies, the policy of the Township is that these natural features need to be protected and preserved to the maximum extent possible when land is developed. The protection and preservation of natural features will promote the general public health, safety and welfare, encourage the use of lands in accordance with their character and adaptability, protect the natural environment, and conserve natural resources and energy.

This Section is therefore designed for the management and preservation of natural features within the Township of Lodi and to protect the natural features from destruction and misuse; retain and provide the establishment and protection of interconnected and natural environmental areas to facilitate movement of wildlife between areas; to prescribe the powers, duties and functions of the Township Planning Commission and/or Township Board, and to establish design standards, specifications, and submittal requirements. The preservation of natural resources is essential to maintain the continued character and quality of life for the current and future residents of Lodi Township; and for the remaining public who may work in the Township or for those who may visit the Township to participate in recreational or other activities. This Section is designed to assist the Township Planning Commission, and/or Township Board, applicants, reviewers and the general public in the identification and preservation of natural features on sites being developed in the Township.

**B. Definitions**

1. **"Activity"** shall mean any use, operation, development, or action caused by any person, including but not limited to constructing, operating, or maintaining any use or development; erecting buildings or other structures; depositing or removing material; dredging; ditching, land balancing; draining or diverting water; pumping or discharging surface water; grading; paving; tree removal or other vegetation removal; excavation, mining or drilling operations.
2. **"Builder"** shall mean a person who builds or contracts to build a building or structure within the Township.
3. **"Building Envelope"** shall mean the area designated by the developer or builder for the construction of the principal building(s) upon the site in accordance with the following:
  - a. In platted residential subdivisions or residential site condominiums, the buildable area remaining on the lot, parcel, or unit after complying with zoning setback and maximum lot or site coverage requirements; or such smaller building area designated by the developer for construction of buildings upon a lot, parcel, or unit within the development.
  - b. In all other developments, the building area(s) plus ten (10) feet around the perimeter of the building(s), provided such areas do not encroach into any required setback.
4. **"Commercial Nursery or Tree Farm"** shall mean a plant or tree nursery or farm in which trees are planted and grown for sale wholesale or to the general public in the ordinary course of business.
5. **"Critical Root Zone"** shall mean the circular area surrounding a tree that is considered to contain tree roots within 18 inches of the ground surface. The radius of the critical root zone is, in feet, the same numerical value as the tree's DBH in inches and is measured outward from the center of the tree. For example, the critical root zone of a 12-inch DBH tree has a radius of 12 feet.
6. **"Developer"** shall mean a person who installs or contracts for the installation of improvements such as sewers, streets, and water mains in a residential, office, commercial, or industrial development

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7. **“Diameter at Breast Height (DBH)”** shall mean the diameter of a tree measured four feet above the existing grade.
8. **“Drip Line”** shall mean an imaginary vertical line extending downward from the outermost tips of the tree branches to the ground.
9. **“Driveway Envelope”** shall mean an area designated by the property owner to provide vehicular access to the building or parking areas.
10. **“Generally Accepted Agricultural and Management Practices”** shall mean those practices as defined by the Department of Agriculture of the State of Michigan.
11. **“Groundcover”** shall mean low growing shrubs, wood vegetation, wild flowers, and other all-herbaceous plants within a woodland.
12. **“Groundwater Recharge Area”** shall mean an area with a highly permeable natural surface that allows the rapid percolation of surface precipitation to groundwater, replenishing the groundwater.
13. **“Grubbing”** shall mean the effective removal of understory vegetation, groundcover, shrubs or trees, but not including removal of individual deciduous trees of six (6) inch D.B.H. or larger and individual evergreen trees six (6) feet in height or higher.
14. **“Land Clearing”** shall mean operations that remove trees and vegetation in connection with the installation of storm or sanitary sewers, public or private utilities, or streets, or any other clearing or grading of the property at any time prior to construction of a building.
15. **“Landmark Tree”** Any tree that has a DBH of 24 inches or greater, or that is of a type and DBH equal to or greater than shown on the following Landmark Tree List.

**Landmark Tree List**

<b>Common Name</b>	<b>Species</b>	<b>DBH</b>
Basswood	<i>Tilia americana</i>	18”
Beech	<i>Fagus grandifolia</i>	18”
Buckeye, Ohio	<i>Aesculus glabra</i>	18”
Catalpa	<i>Catalpa</i> spp.	18”
Cedar of Lebanon	<i>Cedrus</i> spp.	18”
Cherry, Black	<i>Prunus serotina</i>	18”
Cottonwood	<i>Populus deltoides</i>	18”
Elm, American	<i>Ulmus americana</i>	18”
Fir	<i>Abies</i> spp.	18”
Fir, Douglas	<i>Pseudotsuga menziesii</i>	18”
Kentucky Coffee Tree	<i>Gymnocladus dioicus</i>	18”
Pine	<i>Pinus</i> spp.	18”
Spruce	<i>Picea</i> spp.	18”
Sycamore or London Plane	<i>Platanus</i> spp.	18”
Tulip-tree	<i>Liriodendron tulipifera</i>	18”
Walnut, Black	<i>Juglans nigra</i>	18”
Hickory, various	<i>Carya</i> spp.	16’
Locust, Honey	<i>Gleditsia triacanthos</i>	16”
Maple	<i>Acer</i> spp.	16”
Oak	<i>Quercus</i> spp.	16”
Cedar, White (Arborvitae)	<i>Thuja occidentalis</i>	12”
Cedar, Red	<i>Juniperus virginiana</i>	12”
Baldcypress	<i>Taxodium distichum</i>	12”
Birch	<i>Betula</i> spp.	12”

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Black Tupelo	<i>Nyssa sylvatica</i>	12"
Cherry	<i>Prunus spp.</i>	12"
Crabapple	<i>Malus spp</i>	12"
Dawn Redwood	<i>Metasequoia glyptostroboides</i>	12"
Ginkgo	<i>Ginkgo biloba</i>	12"
Hackberry	<i>Celtis occidentalis</i>	12"
Hawthorn	<i>Crataegus spp.</i>	12"
Hemlock, Eastern	<i>Tsuga canadensis</i>	12"
Larch/Tamarack	<i>Larix laricina</i>	12"
Pear	<i>Pyrus spp.</i>	12"
Persimmon	<i>Diospyros virginiana</i>	12"
Poplar (Aspen)	<i>Populus spp.(except</i>	
	<i>alba, deltoides)</i>	12"
Sassafras	<i>Sassafras albidum</i>	12"
Sweetgum	<i>Liquidambar styraciflua</i>	12"
Yellowwood	<i>Cladrastis lutea/kentukea</i>	12"
Cedar	<i>Juniperus spp.</i>	8"
Redbud	<i>Cercis canadensis</i>	8"
Dogwood, Flowering	<i>Cornus florida</i>	8"
Hornbeam, Blue Beech	<i>Carpinus spp.</i>	8"
Ironwood	<i>Ostrya virginiana</i>	8"
Maple, Mountain/Striped	<i>Acer spicatum/pensylvanicum</i>	8"
Pawpaw	<i>Asimina triloba</i>	8"
American Chestnut	<i>Castanea dentata</i>	6"
Butternut	<i>Juglans cinerea</i>	6"

16. **“Locate”** shall mean to construct place, insert, or excavate.
17. **“Material”** shall mean soil, sand, gravel, clay, peat, mud, debris, refuse, or other material, organic or inorganic.
18. **“Natural Features”** shall include soil, wetlands, floodplains, water course and channels, topography, trees and other types of vegetative habitat, threatened or endangered species habitat, groundwater recharge area, landmark trees, woodlands, and geologic formations (including steep slopes).
19. **“Operations”** shall mean locating, moving, depositing, or grading of any material or any construction, use, or activity, or any combination of such activities that modifies conditions of property subject to this Section.
20. **“Overlapping natural features”** shall mean more than one natural feature, as defined within this section, which occupy the same area.
21. **“Removal or Remove”** shall mean the act of removing a tree by digging up or cutting down, the effective removal through damage or the infliction of damage to a tree or its root system.
22. **“Replacement Tree”** shall mean those trees considered by the Township to be acceptable to replace trees proposed to be removed. There are several tree species that can be used as replacement trees, and the characteristics expected of replacement trees are as follows:
  - a. Minimal fruit litter.
  - b. Upright growth of trunk: trees used for streetscape purposes should branch at a minimum height of seven (7) or more feet; trees used for other landscaping may have branching at lower heights.
  - c. Resistance to diseases.
  - d. No thorns on trunk or branches.
  - e. Resistance to drought.

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- f. Salt tolerance.
  - g. Combinations of deciduous and evergreen trees: evergreen trees should be used for screening purposes. Streetscaping and other landscaping should be done with a combination of deciduous and evergreen trees, incorporating the above characteristics.
23. **“Residential Development”** shall mean any single family or multiple family residential development including single-family residential subdivisions, single-family cluster housing, residential condominiums, residential site condominiums, and all other multiple family residential development.
24. **“Site Inventory”** shall mean a plan showing the proposed activity. Such plan shall include the following information and detail to the extent applicable to the proposed activity:
- a. The shape, boundaries, and dimensions of the site, together with the existing and proposed locations of structures and improvements.
  - b. The location of existing rights-of-way and utility easements.
  - c. The location of proposed rights-of-way and adjacent utility.
  - d. Proposed lot configurations and the sizes thereof.
  - e. Proposed front rear and side yard setbacks.
  - f. Existing characteristics and conditions of the site.
  - g. A typical building site in the case of a single family residential or industrial subdivision plat. The United States Geological Survey (U.S.G.S.) quadrant map or the most recent county aerial photograph of the site superimposed upon the plan.
  - h. Such other information and detail as may be required to evaluate the impact of the proposed activity upon a woodland and contiguous property.
25. **“Site”** shall mean a parcel or unit of land.
26. **“Steep Slope”** shall mean a naturally occurring landform with a vertical change in elevation of eight feet or more, a slope of 12 percent or more, and a length of 30 feet or more measured parallel to the contour lines.
27. **“Tree, Replant”** shall mean trees existing at a specified location where site alteration or disturbance is proposed to take place that can be moved from their natural or preexisting location to an intended location on the same defined site.
28. **“Tree, Replacement”** shall mean trees that are brought to a specific site from another location not originating on the same site.
29. **“Tree Survey”** shall mean a minimum one (1) inch equals one hundred (100) foot scale drawing that provides the location of all individual deciduous trees of six (6) inch D.B.H. or larger and individual evergreen trees six (6) feet in height or higher, plotted by accurate techniques, including the common and botanical names of those trees and their D.B.H.
30. **“Threatened or Endangered Species Habitat”** shall mean the habitat necessary to maintain the existence of those plants and animals listed pursuant to law on the current federal and state lists of endangered, threatened, or special concern species.
31. **“Undeveloped”** shall mean a parcel of land that is substantially unimproved with buildings or structures on the effective date of this Section.
32. **“Watercourse”** shall mean any naturally occurring open waterway, river, stream, creek, lake, or any body of surface water having well-defined banks and bed, whether continually or intermittently flowing. Watercourse does not include lakes, ponds, streams, ditches, or detention or retention basins constructed, approved, or established by the County.

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33. **“Woodland”** shall mean any property containing one (1) or more acres (excluding existing rights-of-way) that has been designated as a woodland on the official Township Woodland Map. The term “woodland” shall include all trees, shrubs, and groundcover located upon such property (regardless of size); or any area of land having trees which acts as a substantial buffer for existing residential structures or a residential zoning district or between adjacent uses, acts as a significant greenbelt linkage between other natural resources, or has significant environmental value due to unusual topography, diversity of habitat, unique beauty, endangered species, or a healthy tree of twenty four (24) inches D.B.H. or greater. The critical root zone of all trees on the perimeter of the forested area of plantation defines the area of a woodland.
34. **“Woodland Map”** shall mean the map approved by the Planning Commission, which identifies all woodland areas in the Township.

**C. Natural Features**

For the purpose of this Ordinance, natural features include the following:

1. Wetlands
2. Watercourses
3. Floodplains
4. Groundwater Recharge Areas
5. Woodlands and Trees
6. Steep Slopes
7. Habitat of Threatened or Endangered Species
8. Other Fragile Features deemed necessary by the Planning Commission including Hedgerows, Prairies and Meadows

A generalized rendition of natural resources, found within the Lodi Township General Development Plan, are shown on Township maps titled: “*Fragile Lands*”, “*Woodlands and Wetlands*”, “*Hydrology & Groundwater Recharge Zones*”, “*Topography & Major Watersheds*”, and “*Erodible Soils*”, which are on file at the Township Offices, and which all notations, references, and information shown thereon shall be as much a part of this Section as if fully described herein. If because of problems with scale or detail, there is any ambiguity as to whether a particular area is a part of a natural resource, that determination shall be made by or through the direction of the Planning Commission.

When required by this Section, the applicant shall provide clear, precise and scaled delineation of all natural features found on land to be reviewed as part of the site plan, plat, or PUD review process. This site-specific information will supplement Lodi Township’s natural resource maps, referred to within this Section.

Federal, state and local governments have laws, rules and regulations governing natural features which often require licenses, permits, or approvals for development in (or affecting) these natural features, which may change from time-to-time. Licenses, permits or approvals required by, and obtained from, Lodi Township shall not relieve a person of the need to obtain applicable licenses, permits or approvals from other applicable jurisdictions; nor shall the issuance of licenses, permits or approvals from applicable jurisdictions relieve a person of the need to obtain licenses, permits or approvals required by Lodi Township.

**D. Purpose Statements****1. Wetlands**

Wetlands are indispensable fragile resources that provide many public benefits, including maintenance of water quality through nutrient cycling and sediment trapping as well as flood and storm water runoff control through temporary water storage, slow release, and groundwater recharge. In addition, wetlands

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provide open space; passive outdoor recreation opportunities; fish and wildlife habitat for many forms of wildlife, including migratory waterfowl, and rare, threatened or endangered wildlife and plant species; and pollution treatment by serving as biological and chemical oxidation basins.

Preservation of the remaining Township wetlands in a natural condition is necessary to maintain hydrological, economic, recreational, and aesthetic natural resource values for existing and future residents of the Township of Lodi and therefore a policy of no net loss of wetlands is established. The following objectives shall be considered when developments containing wetlands are reviewed:

- a.** The protection, preservation, replacement, proper maintenance, restoration, and use in accordance with the character, adaptability, and stability of the Township's wetlands, in order to prevent their pollution or contamination; minimize their disturbance and disturbance to the natural habitat therein; and prevent damage from erosion, siltation, and flooding.
- b.** The preservation of surface water, stream corridors, and wetlands in their natural condition.
- c.** The prevention of disruption to the hydrology, alignment, topography or vegetation within the wetland or waterway system.

**2. Watercourses**

Watercourse refers to any water feature that is confined to banks and includes lakes, ponds, and channelized flows, such as rivers and drains. Watercourses can be damaged during development activities by altering the natural features surrounding the watercourse, and by the contribution of sediments and contaminants. Preservation of slopes, woodlands, and wetlands adjacent to watercourses combined with land use planning to reduce stormwater runoff are essential in maintaining appropriate water quality and quantity. Lodi Township seeks to preserve the existing natural watercourses and encourages the restoration of damaged watercourses.

All watercourses are important to protect. Tolerance for soil erosion on any construction site in or near any watercourse is low. Special, effective soil erosion and flood preservation techniques must be devised and implemented during and after construction according to applicable governmental regulations. Every development project should evaluate the potential damage to nearby watercourses during the design, construction, and implementation phases to minimize problems associated with surplus stormwater, sedimentation, and contamination.

The morphology of stream channels depends upon the type and permeability of the soil, the vegetative cover, and the slope of the land adjacent to the watercourse. Channel shape can be altered by an increase in stormwater runoff from impervious surfaces, so extreme care must be taken to ensure that the quantity of water flowing to the channel does not exceed the physical ability of the stream to absorb the flow. Development projects must be reviewed in the context of both the stream channel and the watershed.

Urbanized aboveground watercourses are ones that no longer have much of a natural character, but which nonetheless have not been dumped into a storm drain beneath the ground. These watercourses may or may not have other important natural features surrounding them.

Underground (piped) watercourses are directly related to major storm drains and are often quite easy to find either by following valleys or by observing where flooding occurs after storm events. This potential for flooding is a major concern, and development projects must be designed to minimize the potential for flooding. An additional concern is the potential for increased flow to the watercourse, which may increase erosion and result in physical alteration of the watercourse (refer to the Rules of the Washtenaw County Drain Commissioner).

Construction of structures within a watercourse is regulated by both Federal and State statutes and may require permits or approvals from the United States Army Corps of Engineers, Michigan Department of Environmental Quality, and any other federal, state or county agencies with jurisdiction.

**3. Floodplains**

Floodplains serve to minimize damage to land and water resources because of their capacity to store water. They also protect downstream properties from flooding. In so doing, they control erosion, silting and contamination of water features and aquatic wildlife. Healthy, stable plant life is important in determining a floodplain's capacity and function in slowing, filtering, and cooling water. Floodplains are not a desirable location for stormwater retention facilities.

Floodplains also may qualify as wetland or watercourse natural features. With watercourses and other surrounding natural features, floodplains serve as vital wildlife reserves and linking corridors for important populations of plants, animals, aquatic organisms, and natural associations.

Natural plant life and landform conditions existing within floodplains are important and require protection from development. They may involve native floodplain forest fragments, or native sedge or fen meadows. These areas are not only rich biologically, but provide superb floodplain function. In cases where these habitats exist and are being invaded by exotics, every reasonable effort should be taken to restore the habitat as part of a development proposal.

**4. Groundwater Recharge Areas**

Due to groundwater recharge areas readily permitting water to move from the surface into a groundwater system, their protection is of prime importance. The type and amount of surface water runoff into these areas will be reviewed when development takes place as well as guarding against contaminated surface runoff into these areas.

**5. Woodlands and Trees**

Regulation of the removal of tree resources will achieve a preservation of important physical, aesthetic, recreational and economic assets for both present and future generations. Specifically, it is found that:

- a. Woodlands provide for public safety through the prevention of erosion, siltation, and flooding.
- b. Woodland growth protects public health through the absorption of air pollutants and contamination, including the reduction of excessive noise and mental and physical damage related to noise pollution.
- c. Trees, vegetation, and associated natural resources provide a material aspect of the character of the Township.
- d. Trees and woodland growth serve as an essential component of the general welfare by maintaining natural beauty, recreation, and irreplaceable natural heritage.

Therefore, the purposes of this Section are as follows, to be applied throughout Lodi Township:

- a. To prohibit the unnecessary removal of trees on undeveloped land.
- b. To discourage the unnecessary removal of trees and woodland resources in connection with the development of land.
- c. To provide for the protection, preservation, replacement, proper maintenance, and use of trees and woodlands located in the Township, in order to minimize disturbance, to prevent damage from erosion and siltation, and to prevent loss of wildlife habitat and vegetation. In this regard, it is the intent of this Section to protect the integrity of woodlands as a whole, recognizing that woodlands serve as part of an ecosystem, and to place priority on preservation of woodlands and trees to the greatest extent reasonably possible.

- d. To provide for the continuity of ecological systems designed to protect existing wildlife habitats.
- e. To protect the woodlands (including woodland resources) for their economic support of local property values when allowed to remain uncleared and/or unharvested in whole or in significant part, and for their natural beauty, character, and geological, ecological, or historical significance.
- f. To prevent owners or developers of property from removing trees from land prior to or in anticipation of development.
- g. To provide for the replacement of trees removed, where no feasible alternative site for development is available.
- h. To provide for the paramount public concern for the preservation of these natural resources in the interest of the public health, safety and general welfare of the residents of this Township, in keeping with Article IV, Section 52 of the Michigan Constitution of 1963, and the intent of the Michigan Natural Resources and Environmental Protection Act, PA 451 of 1994.
- i. To promote permanent protection and expansion of woodlands and areas of upland brush through the establishment of deed restrictions and easements.

#### 6. Steep Slopes

Steep slopes are prone to erosion if the vegetation on them is disturbed, or if surface runoff is directed toward them. Steep slopes shall not be disturbed and shall be protected from unwarranted runoff resulting in siltation of a watercourse or disturbance to land below.

#### 7. Habitat for Threatened or Endangered Species

Endangered species habitat is the habitat necessary to maintain the existence of those plants and animals listed on the current federal and state list of endangered, threatened or special concern species. Endangered species are most likely to be found in the midst of a natural area of considerable value. When a special concern, threatened, or endangered species is found, careful assessment should be made of the species and the area in which it is found. These organisms and their habitat may be intolerant of change caused by development, such as change in hydrological conditions, even if the habitat itself is outside the limits of soil disturbance for a project. These species and their habitat are important to the Township for the richness and diversity of species they offer.

### E. Applicability Requirements

This Section shall apply to all parcels within Lodi Township that:

- 1. Require an approved preliminary or final site plan according to Section 54.02, herein; or
- 2. Require an approved subdivision plat; or
- 3. Require PUD rezoning according to Article 42, herein.

A Natural Features Statement of Impact, Protection, and Mitigation, as described herein, is required from the developer for land use activities as described herein. Such statement must be approved by the Township Planning Commission. When approved by the Township Planning Commission, a Natural Features Statement of Impact, Protection, and Mitigation for a development shall be incorporated into and considered part of the final site plan, plat, or PUD rezoning petition for the development and shall be enforceable as such.

Grading, removal of trees or other vegetation, site balancing or construction of improvements, changing the water level, vegetation or natural conditions of the edge, bank, or shore of any lake, river, stream or drainage way

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whether filled or partly filled with water or dry in certain seasons shall be prohibited, except in conformance with this section and Federal and State law.

Any preliminary or final site plan, Plat, or PUD area plan that has been approved and expired under the provisions of this Ordinance shall be resubmitted under the provisions of this Section.

**F. Natural Features Statement of Impact, Protection, and Mitigation****1. Natural Features Determination**

A determination shall be made regarding the nature and extent of natural features currently existing on the site or that has existed on the site within the last five (5) years. This determination shall be made by outside professional consultants retained by the applicant. Township staff and the Planning Commission will confirm these determinations during the review process. This determination shall be part of the preliminary site plan, preliminary plat (tentative approval) or PUD review process. If the determination results in no natural features being found on the site, as defined or regulated herein, no further action is necessary in this regard.

**2. Preparation of Required Plans**

Required natural resource information must be shown on plans submitted for Township Planning Commission review and with a recommendation to the Township Board. Prior to submitting a plan, the applicant is encouraged to meet with Township staff to review the proposed site layout and consider suggestions for complying with Township requirements. In addition, applicants may wish to consult with experts on questions regarding the type, extent, quality, and management needs of natural features, and on the impacts of various design approaches on these features.

**3. Plan Submission**

Once the applicant submits the required plans and supporting information and pays the necessary fees, the proposal will be scheduled for Township Planning Commission review. When natural features are determined to exist on a site, a Natural Features Impact Statement must be provided as part of the preliminary site plan, preliminary plat (tentative approval) process, or PUD application.

**4. Natural Features Impact Statement**

A Natural Features Impact Statement will contain the following information:

**a. Site Inventory Map**

The site inventory map must clearly show the locations and types of natural features, existing or that have existed within the last five (5) years, both on the site and within 100 feet of the subject site. The map should delineate edges of woodlands and wetlands, show applicable setbacks, show watercourse stream banks, ordinary pond high water marks, floodways, floodplains, areas of hydric soils, highly permeable soils, groundwater recharge areas, topographic information depicting steep slopes, habitat of threatened or endangered species and other fragile features deemed necessary by the Planning Commission including hedgerows, prairies and meadows. Landmark trees on the site should be located by numbered dots, with an accompanying database table of corresponding specie and size listings. The site inventory should contain a written description of the quality, character and health of the natural features.

When a site is proposed for development necessitating review and approval of a site plan, subdivision plat, PUD, or other permit pursuant to the Ordinances of the Township, said application shall include, in addition to those requirements outlined in Article 54, the following information:

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- 1) The most current available aerial photograph of the site, at a scale not less than one (1) inch equals one hundred (100) feet).
- 2) United States Geological Survey (U.S.G.S.) quadrant map of the site.
- 3) A topographical map at the same scale as the related site plan, plat or survey drawing for the division of the land.
- 4) Natural feature location survey, in a form acceptable to the Township, including but not limited to the following:
  - a) All natural features located on the parcel shall be inventoried by an actual field survey and shown on a map by type, location and drawn to scale.
  - b) Proposed changes to any designated natural resources within the subject site.
  - c) A statement setting forth how natural features, not to be relocated or physically impacted, are to be protected during land clearance and/or development construction.
  - d) A general grading plan prepared by a registered engineer or land surveyor showing the anticipated drainage patterns, including the location of any areas where cut and fill operations are likely to occur and their potential impact on the viability of the natural resources.
  - e) Existing individual deciduous trees of six (6) inch D.B.H. or larger and individual evergreen trees six (6) feet in height or higher, shall be shown on the map with the ground elevation at the base of each such tree. Groups of trees whose individual bases are located at a ground elevation within one (1) foot of each other may be shown on the map as a group with the overall crown spread drawn to scale, by predominant species, with estimated number and size of each predominant species, and with an average base elevation of each group. The inventory shall include existing trees, all individual deciduous trees of six (6) inch D.B.H. or larger and individual evergreen trees six (6) feet in height or higher, within adjoining street rights-of-way and twenty-five (25) feet beyond the property.
  - f) An evaluation of the quality of woodland area and trees proposed for removal, including but not limited to the following:
    - i. Tree species (including diversity of species).
    - ii. Tree size and density.
    - iii. Health and vigor of the trees.
    - iv. Soil conditions and site drainage characteristics.
  - g) Other factors such as the value of the woodland area as a scenic asset, wind block, noise buffer, or other environmental benefit (i.e., cooling effect).
  - h) Isolated trees shown on the topographical map shall be tagged in the field with identifying numbers using non-corrosive metal tags. Groups of trees shall be tagged sufficiently to identify the group upon field inspection. Such identifying numbers shall be shown on the topographical map.
  - i) All existing trees proposed to remain, to be relocated, or to be removed, shall be so designated by the identifying number.

- j) If existing trees are to be relocated, the proposed locations for such trees, together with a statement setting forth how such trees are to be removed, protected, and/or sorted during land clearance, development, and construction, and how they are to be maintained after construction.
- 5) Such other information and detail as to vegetation or physical details as may be requested by the Township.
- 6) All information and details shall be provided by a registered land surveyor, registered engineer, registered landscape architect, certified arborist, or forester who must verify the contents by seal or signature, whichever applies.

**b. Review Standards**

Development subject to this Section shall be considered in regards to the following:

- 1) The protection and conservation of natural resources from pollution, impairment, or destruction is of paramount concern. Therefore, all woodlands, trees, and related natural resources shall have priority over development when there are feasible and prudent location alternatives on the site for proposed buildings, structures or other improvements. The applicant must consider and pursue all development options available under the Zoning Ordinance in order to preserve the woodlands and trees.
- 2) The integrity of woodland areas shall be maintained to the greatest extent reasonably possible, regardless of whether such woodlands cross property lines.
- 3) Where the proposed activity consists of land clearing, it shall be limited to designated street rights-of-way, drainage and utility easements, building and driveways envelopes, and other areas (such as off-street parking and loading and unloading areas) necessary for site improvements, considering the development options available under the Zoning Ordinance.
- 4) Where the proposed activity involves residential development, the residential structures shall, to the extent reasonably feasible, be designed and constructed to use the natural features of the site.
- 5) The removal of trees shall be limited to any of the following instances:
  - a) When necessary for the location of a structure or site improvements and when no reasonable alternative location for the structure or improvements can be had without causing undue hardship, considering all development options which are available under the Zoning Ordinance.
  - b) Where necessary, as determined by the Township, to provide reasonable drainage upon the site, and when no reasonable alternative drainage is available without the removal of the trees.
  - c) Where the prospective owner of the residential dwelling unit has requested the builder in writing to remove the trees in order to facilitate the homeowner making certain specified improvements that must be undertaken within twelve (12) months of the date of the certificate of occupancy for the dwelling unit.
- 6) Any additional governmental review or actions that may take place after site plan approval, which may result in tree removal under the jurisdiction of this Section, shall be subject to the requirements of this Section.

7) The burden of satisfying standards shall be upon the applicant.

**c. Natural Features Preservation Plan**

This plan must delineate natural features to be retained on the site or excluded from development. Lines should show the limits of soil disturbance expected on the site. Protective measures such as barrier fencing, restrictions on traffic and storage of materials under trees, soil erosion control measures, etc., are also to be shown on site plan submissions. In some cases the Planning Commission may require that this plan include information on how the retained natural features are to be sustained on the site.

**d. Alternatives Analysis**

When the proposed development will disturb or destroy natural features existing on the site, the statement must include an explanation of the alternative approaches and designs that were considered in arriving at the design proposed, in an effort to minimize disturbance to natural features on the site and a written justification as to why the design proposed must cause the degree of disturbance to natural features planned, and explaining how the mitigation proposed is a the best course of action.

**e. Mitigation Plan**

In situations where “as is” preservation of natural features is not required by the Township Planning Commission or Township Board, and mitigation in the form of replacement is permitted under the following particular natural features preservation and mitigation guidelines, a mitigation plan shall be submitted to the Lodi Township Planning Commission. A mitigation plan to replace natural features shall be considered to be a proposal, which is subject to review by the Lodi Township Planning Commission and approval by the Township Board. A proposed mitigation plan shall be included as part of the site plan or plat and shall include:

- 1) A written description of the proposed mitigation program.
- 2) Replacement calculations for required mitigation of natural resources.
- 3) A planting plan, showing the location of trees, shrubs, and ground cover.
- 4) A planting list, including botanical and common names, caliper sizes, root type and height.
- 5) A timing schedule for the implementation of the mitigation measures.
- 6) Depict the minimum elements set forth under each particular natural features preservation and mitigation guidelines, where mitigation is applicable.

**5. Review Criteria for Natural Features Statement of Impact, Protection, and Mitigation**

**a.** The Planning Commission shall recommend and the Township Board shall approve the Natural Features Statement of Impact, Protection, and Mitigation in conjunction with the site plan, plat, or PUD review process after it determines that all of the following requirements have been met:

- 1) The Natural Features Statement of Impact, Protection, and Mitigation accurately and completely identifies all natural features within the previous five (5) years on, and within 100 feet of, the property covered by the site plan.
- 2) The contemplated development would comply with all applicable state, local and federal

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law, ordinances, standards, and regulations.

- 3) The development would not cause a public or private nuisance and would not have a detrimental effect on the public health, safety, or welfare.
  - 4) The development will limit the overall removal or disturbance of natural features to the minimum necessary to allow a reasonable, economically viable use of the land. However, in the case of wetlands, the development is regulated under applicable state or federal laws.
- b.** In determining whether the proposed removal or disturbance of natural features is limited to the minimum necessary to allow a reasonable, economically viable use of the land, the following criteria shall be applied:
- 1) The importance and overall value of a natural feature, both on the site and on a township and regional basis. In general, the importance of a natural feature increases with its rarity, size, age, and condition.
  - 2) The existence of overlapping natural features in one area. Overlapping natural features increase the importance and overall value for preservation of an area.
  - 3) The impact of the proposed disturbance on the integrity of ecological systems or the continuity between natural features. Wherever possible, ecological systems and continuity between natural features should be preserved.
  - 4) The amount of disturbance in relation to the scale of the proposed development and to that permitted under this Zoning Ordinance.
  - 5) The adequacy of the mitigation plan.

**G Natural Features - Preservation of Environmental Quality**

The following provisions shall apply for the following natural features found within any zoning district:

**1. Wetlands****a. Wetland Delineation Process**

Prior to the approval of any land development specified herein for a property containing any suspected wetland, the applicant shall be required to provide a wetland delineation as part of the review process. To establish actual wetland boundaries on a property, the applicant shall provide a survey or dimensional site plan, drawn at an appropriate scale, showing property lines, buildings and any points of reference along with the wetland boundaries.

A wetland delineation shall also include, but not be limited to the following information: dominant tree, sapling, shrub and herb vegetation; presence or lack of accepted wetland hydrology indicators; analysis of soil including a description of the soil profile to at least 20 inches and comparison to Washtenaw County Soil Survey and maps of the wetland(s) mapped.

**b. Protected Wetlands**

The following wetlands shall be subject to Planning Commission review and recommendation to the Township Board for approval upon the submittal of a site plan, plat, or PUD:

- 1) All wetlands, regardless of size, which are contiguous to any lake, stream, river, or pond, whether partially or entirely contained within the project site.

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- 2) Wetlands, regardless of size, which are partially or entirely within five hundred (500) feet of the ordinary high water mark of any lake, stream, river or pond, unless it is determined by the MDEQ that there is no surface water or groundwater connection between the wetland and the water body.
- 3) Wetlands which are larger than five (5) acres, whether partially or entirely contained within the project site, and which are not contiguous to any lake, stream, river, or pond.
- 4) Wetlands, regardless of size, which are not contiguous to any lake, stream, river, or pond, if the MDEQ determines the preservation of the wetland is essential to the preservation of the natural resources of the State from pollution, impairment or destruction.

**c. Review of Wetlands within Proposed Development**

In the Planning Commission's review of wetlands, the following shall be considered:

- 1) The site supports state or federal endangered or threatened plants, fish, or wildlife appearing on a list specified in Section 36505 of the Natural Resources and Environmental Protection Act [Act 451 of 1994 (previously Section 6 of the Endangered Species Act of 1994, Act No. 203 of the Public Acts of 1974, being Section 299.226 of the Michigan Compiled Laws)].
- 2) The site represents what is identified as a locally rare or unique ecosystem.
- 3) The site supports plants or animals of an identified local importance.
- 4) The site provides groundwater recharge documented by a public agency.
- 5) The site provides flood and storm control by the hydrologic absorption and storage capacity of the wetland.
- 6) The site provides wildlife habitat by providing breeding, nesting, or feeding grounds or cover for forms of wildlife, waterfowl, including migratory waterfowl, and rare, threatened, or endangered wildlife species.
- 7) The site provides preservation of subsurface water resources and provision of valuable watersheds and recharging groundwater supplies.
- 8) The site provides pollution treatment by serving as a biological and chemical oxidation basin.
- 9) The site provides erosion control by serving as a sedimentation area and filtering basin, absorbing silt and organic matter.
- 10) The site provides sources of nutrients in water food cycles and nursery grounds and sanctuaries for fish.

**d. Activities Permitted Within Wetlands**

In the Planning Commission's review of wetlands, certain activities may be allowed within the wetland. If and to the extent the Township is prohibited by its ordinances and/or law from regulating wetlands, regulation under this section shall be exempted. In addition, the following activities shall be exempted, provided, it is not the intent of this provision to exempt regulation by other ordinance provisions relative to the natural feature itself:

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- 1) Fishing, swimming, boating, canoeing, hiking, horseback riding, bird watching, or other similar recreational activities which do not require alteration of wetland vegetation or grading of soils.
- 2) Grazing and/or watering of animals.
- 3) Education, scientific research, and nature study.
- 4) Installation of a fence within a setback area.
- 5) Maintenance of previously established lawn areas.
- 6) Grading and filling necessary in order to conform with express requirements recommended by the Township Engineer.
- 7) Planting of trees and other vegetation, but not the use of fertilizer.
- 8) Uses exempt under Section 30305 of the Wetland Protection Act (previously Section 6 of Act 203 of the Public Acts of 1979 as amended).

**e. Activities Prohibited Without First Obtaining Development Approval as Recommended by the Planning Commission and Approved by the Township Board**

- 1) Deposit or permit to be deposited any material or structures into any portion of a parcel with wetland characteristics.
- 2) Remove or permit to be removed any soil from any parcel with wetland characteristics.
- 3) Drain, or cause to be drained, any water from a parcel with wetland characteristics.
- 4) Fill or enclose any ditch, which would result in a significant reduction of a storm water absorption and filtration into the ground or would otherwise negatively impact the existing wetland.

**f. Wetland Use Conditions**

The Planning Commission may attach any reasonable conditions considered necessary to minimize or mitigate damage or impairment to, encroachment in, or interference with, wetlands or to otherwise improve or maintain water wildlife quality. These conditions include, but are not be limited to, the following:

- 1) Prior to the commencement of construction of any structure, building, or any land alteration in any zoning district on a site that contains a wetland or where the site abuts, adjoins, or is adjacent to a wetland, a permanent setback shall be established. The purpose of the setback is to preserve the existence of wetlands and to prevent their pollution or contamination; minimize their disturbance and disturbance to the natural habitat therein; and prevent damage from erosion, siltation, and flooding. The setback shall run parallel to the edge of a wetland and shall be of a width determined as follows:
  - a) A twenty-five (25) foot setback from the boundary or edge of a wetland, determined in accordance with part 303 of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Administrative Rules thereunder, as amended.



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When the watercourses referred to herein are located on a project site, efforts must be made during the design phase to ensure that these watercourses and adjacent setback areas are protected.

- 3) A permanent setback strip, vegetated with natural plant species, will be maintained or restored within a twenty-five (25) feet setback from the high water mark of any watercourse. Buildings and construction activity should be setback at least fifty (50) feet from the high water mark of any watercourse. This setback is provided to ensure that on-site runoff into a watercourse is filtered naturally and to maintain a corridor for wildlife along stream ways. When watercourses are crossed, effort must be made to ensure that the crossing occurs at a location where there is least potential for physical, scenic, and biologic impact upon the watercourse and its surrounding natural features. Crossing locations should be kept to the minimum necessary to provide access.
- 4) Whenever possible, development projects should incorporate restoration of these watercourses and associated natural features. Efforts to control erosion, sedimentation and contamination problems is required, as is the connection of natural corridors across properties.
- 5) The planning phase of the project should recognize that underground (piped) watercourses are connected to surface drains and must address stormwater and peak flow rates through these watercourses. Restoration of the surface watercourse is desirable, and these efforts may assist in stormwater control.

### 3. Floodplains

#### a. Identification

Floodplains are areas that are low-lying, adjoin a lake, stream, river or pond and that receive excess water from flooding. They are also natural flood spaces for stream overflow during intense rainstorms. The 100-year floodplain is the boundary of overflow during a 100-year storm. The likelihood of this storm occurring is one percent during any given year.

#### b. Preservation and Restoration Strategies

Unless it can be demonstrated by the applicant that flooding is not relevant, the Township requires mapping of 100-year floodplain along watercourses in any development regulated within this Section. Development regulated within this Section shall not occur within the 100-year floodplain.

### 4. Ground Water Recharge

#### a. Identification

Washtenaw County has mapped groundwater recharge areas for Washtenaw County. Using this data and that from the Washtenaw County Soil Survey and from well logs, trained experts can determine areas where water flows quickly through soil, where there is a high degree of highly permeable sand and gravel particles in the ground, and where the water table is high. In these areas, risk of groundwater contamination is high. Areas not mapped by the Washtenaw County, but that may also serve as recharge areas, are those with highly permeable geology (sand and/or gravel) or soils, but that do not exhibit a high water table. These higher elevation areas also provide recharge waters to groundwater. A generalized map of "*Hydrology & Groundwater Recharge Zones*" are shown on Map #6 contained within the Lodi Township General Development Plan. The Township may ask for additional investigation and mapping of areas with highly permeable soils and geology.

**b. Preservation and Restoration Strategies**

- 1) Development should be located away from groundwater recharge areas and wellhead protection areas as mapped by the Washtenaw County Planning Advisory Board or otherwise identified. Where development occurs, impervious surfaces should be limited to the greatest extent possible. Land grading should be controlled to retain the water holding characteristics of the land. Vegetation essential to the water holding characteristics should be preserved, or, where necessary, enhanced as part of the development program. The balance and integrity of the hydrological system should be maintained in a proposed development.
- 2) Recharge areas should be protected from pollution by regulating the uses permitted within these areas and by controlling the quality of surface water runoff from tributary areas. Areas classified in the county soil surveys as having soils with water tables at or near the surface shall also be protected from pollutant entry because of the ease with which pollutants on such soils can enter the underground water system.
- 3) Proper storage of hazardous substances will be paramount to protecting groundwater and the environment. Developments storing or handling hazardous substances shall abide by the following groundwater preservation standards:
  - a) Hazardous substance storage areas must be designed to prevent spills and discharges to the air, surface of the ground, groundwater, lakes, streams, rivers and wetlands.
  - b) Secondary containment for aboveground areas where hazardous substances are stored or used shall be provided. Secondary containment shall be sufficient to store the substance for the maximum anticipated time necessary for the recovery of any released substance.
  - c) General purpose floor drains shall be allowed only if they are authorized to be connected to a public sewer system, an on-site holding tank, or a system authorized through a state groundwater discharge permit.
  - d) State and federal agency requirements for storage, spill prevention, record keeping, emergency response, transport and disposal of hazardous substances shall be met. No discharge shall be allowed without required permits and approvals.

**5. Woodland and Tree Preservation****a. Identification**

A map of generalized woodland areas are shown on Map #5 – “*Woodlands and Wetlands*” contained within the Lodi Township General Development Plan, which is on file at the Township Offices, and which all notations, references, and information shown thereon shall be as much a part of this Section as if fully described herein. If because of problems with scale or detail, there is any ambiguity as to whether a particular area is a part of a woodland, that determination shall be made by or through the direction of the Planning Commission.

**b. Tree Removal**

Except as otherwise provided in this Section, any development that includes a building, structure, or use that requires site plan review and approval, according to Section 54.0 of this Ordinance, subdivision plat approval or PUD approval on the effective date of this Section, shall not:

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- 1) Remove, transplant, damage, or destroy any tree or similar woody vegetation of any D.B.H. in a woodland currently existing or that has existed on the subject site within the last five (5) years.
- 2) Remove, transplant, damage or destroy any tree or similar woody vegetation including individual deciduous trees of six (6) inch D.B.H. or larger and individual evergreen trees six (6) feet in height or higher, which are not located in a woodland.
- 3) Conduct any land clearing or grubbing activities within a woodland area.

**c. Requirements**

The following requirements shall apply to all property upon which any development requiring site plan, plat, or PUD approval on the effective date of this Section are undertaken after the effective date of this Section:

- 1) Except as provided elsewhere within this Section, the developer shall be subject to the following requirements:
  - a) Preserve and leave standing a minimum of thirty-five (35) percent of the total number of individual deciduous trees of six (6) inch D.B.H. or larger and individual evergreen trees six (6) feet in height or higher within the development that have existed on the subject site within the last five (5) years.
  - b) If existing preserved trees do not average 30 trees per acre, additional trees shall be planted to equal a minimum average ratio of 30 trees per acre, at a minimum D.B.H. of 2.5 inches for deciduous trees and a minimum of six (6) feet for evergreen trees within any development subject to the provisions of this Section. Species and spacing of trees shall be subject to the approval of the Planning Commission. The required mitigation of trees shall be counted towards this ratio.
- 2) Where a developer has submitted and obtained approval of a development, as required under this Section, such tree preservation designation, together with any additional terms and conditions attached to the approval, shall satisfy the requirements of this Section.

**6. Steep Slopes****a. Identification**

Slopes in excess of twelve (12) percent having a vertical change in elevation of eight (8) feet or more and a length of 30 feet or more as measured parallel to the contour lines, shall be protected. A generalized map of Erodible Soils are shown on Map #8 – “*Erodible Soils*” contained within the Lodi Township General Development Plan, which is on file at the Township Offices, and which all notations, references, and information shown thereon shall be as much a part of this Section as if fully described herein. If because of problems with scale or detail, there is any ambiguity as to whether a particular area slopes in excess of twelve (12) percent, having a length of 30 feet or more as measured parallel to the contour lines, that determination shall be made by or through the direction of the Planning Commission.

**b. Preservation and Restoration Strategies**

- 1) Areas of steeper slopes, such as more than twelve (12) percent, having a length of 30 feet or more as measured parallel to the contour lines, shall be protected to reduce erosion potential, maintain slope and stability, control amounts and velocities of surface

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water runoff, and protect an aesthetic resource. Slopes greater than eighteen (18) percent having a length of 30 feet or more as measured parallel to the contour lines, must be excluded from development as regulated by this Section unless the developer presents an effective method for protective development of these slopes. Slopes shall be considered in terms of soil type, as well as steepness. Where highly erodible soils are present, special care must be taken.

- 2) Development that is permitted on steep slopes shall maintain or enhance the natural contour, vegetation, and drainage patterns. Existing land form should be a major factor in the land use and site planning processes. The primary objective will be preservation of natural contours rather than alteration by mass grading.
- 3) Slopes of forty (40) percent or greater, facing or adjoining a stream or drain shall be protected as key scenic assets. Where these slopes are visible from locations frequented by people off-site, development of these slopes can have dramatic impact upon the visual character of the area. Such impacts (from buildings above the canopy of trees, for example) should be carefully considered.
- 4) A primary goal in protecting steep slopes is to prevent erosion and subsequent damage to natural features on and off the site. Retaining walls can reduce the amount of grading necessary, but are discouraged. Underground utilities should not be located in steep slopes and certainly should not run lengthwise along them. Drainage shall be directed to inlet structures and not be permitted to flow down slopes during or after construction.

**7. Habitat for Threatened or Endangered Species****a. Identification.**

The “*Natural Features Inventory*” of the Michigan Department of Natural Resources records and monitors endangered, threatened, and special concern plants, animals, birds, and insects. The areas most likely to contain endangered species are sandy, wet bottomlands and wetlands along Drains and along their tributaries, and in small pocket wetlands in native forest fragments. Many of the areas can be quite small in size. Rare and unusual species may also be found on disturbed ground, including along shorelines and stream banks, flooded areas, old farmed fields, borrow pits, eroding slopes, burned areas, embankments along railroads and roads, in cemeteries, old settlement areas and farmsteads, etc.

**b. Preservation and Restoration Strategies**

- 1) The protection of endangered species and their habitats is regulated by the State of Michigan Department of Environmental Quality (MDEQ), in cooperation with the U.S. Fish and Wildlife Service. The Township will work in coordination with state and federal regulating agencies to identify the best preservation approach, based on the specific characteristics of the species involved.
- 2) For those plant species, which are not protected but highly desirable, and within any disturbed area of the development, the Planning Commission may require the applicant to transplant these species in an orderly fashion.

**H. Mitigation of Natural Features**

The following mitigation measures, as applicable, shall be provided for in the Natural Features Statement of Impact, Protection, and Mitigation for all natural features proposed to be removed or disturbed:

**Article: 55.0 SUPPLEMENTAL REGULATIONS AND STANDARDS****1. Wetlands**

Wetlands shall be mitigated as provided pursuant to any state or federal permit issued for the wetlands activity and protected by compliance with all setback and setback zone requirements of this Ordinance and the following:

**a. Wetland Mitigation and Restoration****1) Findings that Wetland Loss is Unavoidable**

Mitigation shall not be considered a substitute for making all prudent attempts to avoid wetland impacts. Prior to considering a proposal for wetland mitigation, the Planning Commission must find all of the following:

- a) All feasible and prudent efforts have been made to avoid the loss of protected wetland.
- b) All practical means have been considered to minimize protected wetland impacts.
- c) It is practical to replace the protected wetland, which will be unavoidably eliminated.
- d) Alternatives for preserving protected wetlands and watercourses have been evaluated and found to be impractical, inappropriate, or ineffective.

To ensure no net loss of wetlands take place in the Township, mitigation shall be required in instances where there are accepted losses of wetland resources.

**2) Criteria for Approving Proposals for Wetland Mitigation**

- a) The mitigation plan provides for the substantial replacement of the predominant functional values of the protected wetland to be lost.
- b) The mitigation plan provides for no net loss of protected wetland resources and watercourses.
- c) Mitigation shall be provided on-site where practical and beneficial to the wetland resources. If mitigation on-site is not practical and beneficial, then mitigation in the immediate vicinity, within the same watershed, of the permitted activity may be considered.
- d) The mitigation plan will comply with all applicable federal, state, and local laws.

**3) Other Mitigation Requirements**

Wetland mitigation and monitoring plans shall become conditions as part of the development approval and shall be the responsibility of the applicant.

- a) Financial assurances that mitigation is accomplished as specified within the development submittal may be required by the Planning Commission.
- b) Any mitigation activity shall be completed before initiation of other permitted activities, unless a phased concurrent schedule can be agreed upon between the Planning Commission and the applicant.

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**2. Waterbodies, channels, and floodplains**

These resources shall be mitigated to provide no net loss of flood storage capacity. Such mitigation shall comply with any conditions of valid permits or approvals from federal, state, and county agencies with jurisdiction, including the Michigan Department of Environmental Quality in accordance with the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, and the administrative rules thereunder, as amended. Areas receiving mitigated flood storage capacity shall be protected by compliance with all setback and setback zone requirements of this Ordinance.

**3. Groundwater recharge areas**

Any lot or parcel, containing a land use which will result in the coverage of more than 30% of the lot or parcel of land, shall incorporate a stormwater management system that is designed and constructed in such a way that all water runoff from such lot or parcel shall be collected, retained, filtered and purified as necessary to be suitable for return by natural percolation to the naturally occurring aquifer, and returned to the land in such a way that the full, natural recharge of the groundwater aquifer is maintained.

**4. Tree Relocation and Replacement**

The intent of this Section is to replace removed species with similar species in appropriate habitats. Whenever the removal of individual deciduous trees of six (6) inch D.B.H. or larger and individual evergreen trees six (6) feet in height or higher, is deemed necessary from the site, such trees shall be replaced or relocated in accordance with this Section. If removed trees are to be replaced as provided within this Section, replacement trees may be used to satisfy preservation percentage requirements of this Section, but may not be used to satisfy landscaping requirements of the Zoning Ordinance.

**a. Replacement Species Standards**

Replacement trees shall be of the same species as the removed tree, except where prohibited by this Section. Species native to Michigan may be substituted for non-native or prohibited species. All replacement tree species shall be suitable for the habitat in which they will be located.

**b. Replacement Ratio**

Removed trees shall be relocated or replaced in accordance with the following schedule:

<b>Removed Tree Size</b>	<b>Replacement Ratio (<i>minimum replacement trees per removed tree</i>)</b>	<b>Minimum Replacement Tree Height</b>
Coniferous (height):		
Six (6) to ten (10) feet	1:1	Five (5) feet
Ten (10) to 14 feet	1.5:1	Five (5) feet
14 feet or greater	2:1	Five (5) feet
Deciduous (D.B.H.):		
Six (6) to ten (10) inches	1:1	Eight (8) feet
Ten (10) to 14 inches	1.5:1	Eight (8) feet
14 inches or greater	2:1	Eight (8) feet

**Landmark Trees:**

Landmark trees, as defined in this Section and shown on the required site plan, plat, or area plan to be removed, shall require a minimum Replacement Ratio as follows:

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- 1) One (1) replacement tree for each four (4) inches of DBH for the landmark deciduous tree to be removed. Such replacement deciduous trees shall have a minimum height of eight (8) feet.
- 2) One (1) replacement tree for each four (4) inches of DBH for the landmark coniferous tree to be removed. Such replacement coniferous trees shall have a minimum height of five (5) feet.

**c. Minimum Requirements**

All replacement trees shall satisfy current American Association of Nurseryman standards and shall be as follows:

- 1) Nursery grown or comparable, relocated from same parcel.
- 2) State Department of Agriculture inspected.
- 3) Tree spade transplanted while in the dormant state or, if not in the dormant state, balled and burlapped with a solid, well laced root ball when in the dormant state. Burlap to be removed or cut open at planting.
- 4) Number I grade, with a straight, unsecured trunk and a well-developed uniform crown (park grade acceptable). Guaranteed for one (1) year.
- 5) Approved through inspection by the Township.

**d. Species Prohibited as Replacement Trees**

Common Name	Species	Notes
Box Elder	<i>Acer negundo</i>	-
Elm varieties	<i>Ulmus x</i>	Except disease-resistant cultivars
Horse Chestnut	<i>Aesculus x</i>	Except in transition zones for undeveloped areas of a site
Poplar varieties	<i>Populus x</i>	-
Olive varieties	<i>Elaeagnus x</i>	-
Willow varieties	<i>Salix x</i>	Except in wetland ecosystems
Catalpa varieties	<i>Catalpa x</i>	Except in transition zones for undeveloped areas of a site
Tree of Heaven	<i>Ailanthus altissima</i>	-
Ginkgo (female)	<i>Ginkgo biloba</i>	Male trees are acceptable
Black locust	<i>Robinia pseudoacacia</i>	-
Ash	<i>Fraxinus x</i>	Only varieties susceptible to the Emerald Ash borer

**e. Location**

The location of any replacement tree shall be on the same parcel as the removed tree wherever feasible, as determined by the Township. If the tree replacement on the same parcel is not feasible, the Township may designate another planting location for the replacement tree within the Township.

If tree relocation or replacement is not feasible either on the parcel or on another approved location within the Township, the Township may allow a deposit into the Township General Fund, Tree Preservation Line, in an amount determined to be acceptable by the Township for tree replacement on a per tree basis based upon the current market value for tree replacement that would otherwise be required. These funds shall be utilized for the planting, maintenance,

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and preservation of trees and woodland areas within the Township.

**f. Maintenance**

Relocated or replacement trees shall be staked, fertilized, watered, and mulched to ensure their survival in a healthy, growing condition. Any relocated or replacement tree determined by the Township to be diseased, dying or dead within the first three (3) years after planting shall be replaced at the developer's expense.

**g. Applicability of Requirements**

Procedural and/or time requirements of this Section shall be incorporated into applicable review processes at the same time as the contemporaneous approval granted by the Township for the development, if any (i.e. tentative preliminary plat, preliminary site plan, special land use, site plan approval, etc.).

**h. Protection During Construction**

All trees, which have been deemed necessary for removal shall be identified on site by fluorescent orange spray paint (chalk base) or by red flagging tape prior to any activity. Trees selected for transplanting shall be flagged with a separate distinguishing color.

1) No person shall conduct any construction activity within the dripline of any tree relocated or designated to remain, including but not limited to the placing of solvents, building materials, construction equipment, soil deposits, or parking of vehicles.

2) During construction, no person shall attach a device or wire to any remaining tree, or relocated tree, except to cordon off protected areas as required.

3) Before development, land clearing, filling, or any property alteration, the developer or builder shall provide and maintain suitable barriers, installed at the drip line, such as snow fencing, cyclone fencing etc., to protect remaining and relocated trees. (wood, metal, or other substantial material shall be utilized in the construction of barrier.) Protective barriers shall remain in place until the Township authorizes their removal or issues a final certificate of occupancy, whichever occurs first. Barriers are required for all trees designated to remain, except as follows:

a) Street rights-of-way and utility easements may be cordoned by placing stakes a maximum of fifty (50) feet apart and tying ribbon, plastic tape, or other brightly visible materials at least two and one half (2 1/2) feet above the ground from stake along the outside perimeters of areas to be cleared.

b) Large property areas separate from the construction or land clearing area onto which no equipment will venture may also be cordoned off as described above.

5. **Steep Slopes:** Disturbed areas of steep slopes shall approximate the natural terrain and be planted with native vegetation at the completion of construction. No new drainage may be directed over areas of disturbed slope. No development shall be permitted on slopes greater than 20 percent and a length of 30 feet or more measured parallel to the contour lines.

6. **Threatened or Endangered Species Habitat:** Such habitat shall be mitigated in accordance with the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451 as amended.

In cases where providing mitigation will cause undue hardship, the applicant may request relief from the Planning Commission as part of the site plan review process. Relief will only be granted when the applicant provides evidence supporting all of the following findings:

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- a. The hardship is exceptional and peculiar to the property and results from conditions which do not exist generally throughout the Township and region.
- b. The condition upon which the requested relief is based is not a self-imposed or created hardship.
- c. The relief to be granted is the minimum amount necessary to allow a reasonable, economically viable use of the land.

**I. Protection of Natural Features During Construction**

Natural features that are identified in the Natural Features Statement of Impact, Protection, and Mitigation as features to be preserved shall be protected during construction as follows:

1. Prior to any development, clearing, or other activity for which a permit is required, temporary construction fences shall be installed in the following locations to restrict access to protected natural features:
  - a. At the limits of soil disturbance adjacent to natural features.
  - b. At the perimeter of the critical root zone of landmark trees which are located within a disturbance area. Where encroachments into the critical root zone are allowed as part of an approved site plan or plat, the fencing must be located at least 10 feet from the trunk of the tree at all points.
  - c. At the edge of the natural features identified to be protected under this regulation and in compliance with the required exterior limits of natural features setbacks as defined within this Ordinance
2. No filling, depositing, excavating, or storage of materials, debris, or equipment shall take place within the protected area.
3. Temporary construction fencing shall be maintained in place in good condition until it is authorized to be removed by the Township.
4. Any landmark tree that is determined to be dead, dying, or severely damaged due to on-site construction activity within three years after issuance of a certificate of occupancy or final permit approval for development authorized by an approved site plan or plat shall be replaced by the applicant in the amount specified in the requirements for mitigation of landmark trees. To ensure replacement of trees, which are damaged, dead, or dying, the applicant shall post security in the form of cash, surety bond, or letter of credit in an amount calculated to cover the cost of the total replacement. The security shall be deposited with the Township Clerk prior to the issuance of a certificate of occupancy, or within 20 days after written notice to the property owner that the Township has determined that replacement of a landmark tree will be required under this subsection.
5. To ensure compliance with this Section, the Township shall perform periodic inspections of subject lots or parcels, at such times determined to be necessary, during all phases of construction and development as well as after completion of the project to ensure continued compliance with this Section.

**SECTION 55.09-GREENBELT BUFFER**

Prior to the commencement of construction of any structure or building in a Commercial District or Industrial District where such a property abuts, adjoins, or is adjacent to a residential zone, a greenbelt shall be established. However, where permitted elsewhere in this Ordinance, an attractive six (6) foot masonry wall may be built and adequately maintained in lieu of a greenbelt.

A greenbelt, minimum width of twenty (20) feet, shall be completed within six (6) months from the date of issuance of a certificate of occupancy and shall thereafter be maintained with permanent plant materials. Specifications for spacing and plant materials are shown below. Materials to be used are merely suggestions and shall not be limiting, provided their equal in characteristics is used.

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**SPACING**

1. Plant materials shall not be placed closer than three (3) feet from the fence line or property line.
2. Where plant materials are planted in two or more rows, planting shall be staggered in rows.
3. Evergreen trees shall be planted not more than thirty (30) feet on centers.
4. Narrow evergreens shall be planted not more than three (3) feet on centers.
5. Deciduous trees shall be planted not more than thirty (30) feet on centers.
6. Treelike shrubs shall be planted not more than ten (10) feet on centers.
7. Large deciduous shrubs shall be planted not more than four (4) feet on centers.

**PLANT MATERIALS**

		<b>Minimum Size (In height/feet)</b>
1)	<b>Evergreen Trees</b> (a) Juniper (b) Red Cedar (c) White Cedar (d) Pines	Five (5)
2)	<b>Narrow Evergreens</b> (a) Pyramidal Arbor Vitae (b) Columnar Juniper (c) Irish Juniper	Three (3)
3)	<b>Treelike Shrubs</b> (a) Flowering Crabapple (b) Russian Olive (c) Mountain Ash (d) Dogwood (e) Redbud (f) Rose of Sharon	Four (4)
4)	<b>Large Deciduous Shrubs</b> (a) Honey Suckle (b) Viburnum (c) Mock Orange (d) Forsythia (e) Lilac (f) Ninebark	Six (6)
5)	<b>Large Deciduous Trees</b> (a) Oak (b) Hard Maple (c) Hackberry (d) Sycamore	Eight (8)

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**TREES NOT PERMITTED**

<b>Common Name</b>	<b>Species</b>	<b>Notes</b>
Box Elder	<i>Acer negundo</i>	-
Elm varieties	<i>Ulmus x</i>	Except disease-resistant cultivars
Horse Chestnut	<i>Aesculus x</i>	Except in transition zones for undeveloped areas of a site
Poplar varieties	<i>Populus x</i>	-
Olive varieties	<i>Elaeagnus x</i>	-
Willow varieties	<i>Salix x</i>	Except in wetland ecosystems
Catalpa varieties	<i>Catalpa x</i>	Except in transition zones for undeveloped areas of a site
Tree of Heaven	<i>Ailanthus altissima</i>	-
Ginkgo (female)	<i>Ginkgo biloba</i>	Male trees are acceptable
Black locust	<i>Robinia pseudoacacia</i>	-
Silver Maple	<i>Acer saccharinum</i>	-
Ash	<i>Fraxinus x</i>	Only varieties susceptible to the Emerald Ash borer

A bond or cash of an amount equal to five dollars per lineal foot of required greenbelt shall be deposited with the Township Clerk until such time as the greenbelt is planted. In the event that weather or seasonal conditions prevent transplanting, the petitioner shall be granted six (6) months from the date of issuance of certificate of occupancy to install said greenbelt or the Township shall be authorized to use said funds to install said greenbelt.

In all cases, however, the Township shall be authorized to withhold ten (10) percent of bond or cash for a period of two (2) years from date of issuance to insure that dead or dying nursery stock shall be replaced. Excess funds, if any, shall be returned to the depositor upon completion of the two (2) year period. It shall be the responsibility of the property owner to maintain the greenbelt for its original intent and purpose.

**SECTION 55.10-SANITARY SEWAGE FACILITIES**

The following procedures are provided for utilization of sanitary sewage facilities as they relate to the collection, treatment, and/or disposal facilities and services, including inspection services and maintenance services for private or municipal systems, or any other means of sewage treatment and disposal approved by the county:

- A.** No device for the collection, treatment and/or disposal of sewer wastes shall be installed or used without the approval of the Washtenaw County Environmental Health Department.
- B.** Each dwelling, lot or structure required by state or county law, ordinance or regulation to have a sanitary sewerage facility to be suitable for occupancy by any use permitted under this Zoning Ordinance shall be subject to the following:
  - 1.** If no municipal sewer is available, each principal building on the lot shall be served by an independent on-site septic system meeting the requirements of the Washtenaw County Environmental Health Department.
  - 2.** The on-site septic system shall not be separated from the dwelling, lot or structure by a public or private road.
- C.** Limited sanitary facilities, such as a toilet and/or sink, may be installed within a permitted structure accessory to a single-family dwelling. Such facilities may be connected to the same on-site septic system as the principal dwelling on the same lot, subject to approval from the Washtenaw County Environmental Health Department and Lodi Township. This provision is not intended to permit a second dwelling on a single-family residential lot.
- D.** If municipal sanitary sewerage facilities are not available, minimum lot sizes shall conform to requirements of the Lodi Township Zoning Ordinance and County Environmental Health Department. Except for PUD development, in no case shall the minimum lot size be less than that required by the zoning district in which located. Individual disposal systems shall be approved by the County Environmental Health Department.

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- E.** Where municipal sanitary sewerage facilities are available, sewers shall be installed to serve each lot and each structure with sanitary facilities.
- F.** All sanitary sewer facilities shall be designed and constructed in accordance with the rules, regulations, and standards of Washtenaw County Environmental Health Department.
- G.** For developments served by municipal sanitary sewers, sanitary sewer lines shall be installed and available to provide service to the individual lots before construction on a lot shall be permitted.

**SECTION 55.11-SITE CONDOMINIUM REVIEW**

- A.** **Approval Required-**Pursuant to authority conferred by Section 141 of the Condominium Act, preliminary and final site plans for all site condominiums shall be approved by the Planning Commission.

- B.** **General Requirements**

- 1.** No permits for building construction, grading, or installation of public water or sanitary sewerage facilities shall be issued for property in a site condominium development until a final site plan has been approved by the Township Planning Commission and is in effect. However, the Planning Commission may, at its discretion, and with appropriate conditions attached, authorize the Building Inspector to issue permits for grading and foundation work on the basis of the approved preliminary site plan. This requirement shall include contractible, conversion and expandable condominiums.
- 2.** If a building, structure, or use to be placed on a condominium lot requires site plan approval under Section 54.02 herein, a site plan for that building, structure or use shall be approved in accordance with Section 54, herein, before a certificate of zoning compliance may be issued.
- 3.** The Planning Commission shall have the authority to review and approve or deny preliminary site plans for site condominiums in accordance with Article 54.03, herein, the Condominium Act, and other ordinances and standards for review deemed appropriate by the Planning Commission. Preliminary and final site plans shall not be combined for site condominium projects.
- 4.** If the Planning Commission grants preliminary site plan approval it shall transmit one copy of the preliminary plan to the Subdivision Advisory Committee and it shall transmit information to the Superintendent of Schools of the School District in which the subdivision is to be located.
- 5.** The Planning Commission shall have the authority to review and approve or deny final site plans for site condominiums in accordance with Article 54.0, herein, the Condominium Act, and other ordinances and standards for review deemed appropriate by the Planning Commission. The Planning Commission shall review the plan for compliance with the standards of the Zoning Ordinance, the Condominium Act, and all applicable Federal, State, and local laws. The comments of the Subdivision Advisory Council and the School District shall be considered by the Planning Commission when reviewing the final site plan.
- 6.** A dimensionally stable copy of the as-built drawings shall be submitted to the Township Clerk and a second dimensionally stable copy shall be recorded with the Washtenaw County Register of Deeds.
- 7.** Each condominium unit shall be located within a zoning district that permits the proposed use.
- 8.** For the purposes of this Ordinance, each condominium unit shall be considered equivalent to a single lot and shall comply with all regulations of the zoning district in which located. In the case of a site condominium containing single-family detached dwelling units, not more than one dwelling unit shall be located on a condominium lot, nor shall a dwelling unit be located on a condominium lot with any other principal structure or use except in a PUD district. Required yards shall be measured from the boundaries of a condominium lot. Lot coverage and floor area ratio shall be calculated using the land area of the condominium lot.

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9. Each condominium unit shall have a well, septic tank, and drainfield approved by the Washtenaw County Environmental Health Department where municipal water and municipal sanitary sewer services are not available. The well, septic tank and drainfield serving a condominium unit shall be located within the unit area, as described in the master deed.
10. Relocation of boundaries between adjoining condominium units, if permitted in the condominium documents, as provided in the Condominium Act, shall comply with all regulations of the zoning district in which located and shall be approved by the Zoning Inspector. These requirements shall be recorded as part of the master deed.
11. Each condominium lot that results from a subdivision of another condominium lot, if such subdivision is permitted by the condominium documents, as provided in the Condominium Act, shall comply with all regulations of the zoning district in which located, and shall be approved by the Zoning Inspector. These requirements shall be recorded as part of the master deed.
12. All information required by this Ordinance shall be updated and furnished to the Zoning Inspector until applicable certificates of zoning compliance have been issued, as provided in Section 57.04, herein.

**C. Preliminary Site Plan Requirements**

1. A preliminary site plan shall be filed for approval at the time the notice of proposed action is filed with the Township.
2. The preliminary site plan shall include all land that the developer intends to include in the site condominium project.
3. The preliminary site plan shall include all information required in Section 54.03, herein, except that, in the case of a development that consists only of condominium lots and not buildings or other structures at the time of plan review, the location and dimensions of the condominium lots rather than individual buildings or other structures, and required yards shall be shown on the preliminary site plan.

**D. Final Site Plan Requirements**

1. A final site plan shall be filed for review for each phase of development shown on the approved preliminary site plan.
2. A final site plan for any phase of development shall not be filed for review by the Planning Commission unless a preliminary site plan has been approved by the Planning Commission and is in effect.
3. A final site plan shall include all information required by the Condominium Act, and the master deed and bylaws. The final site plan shall also include all information required in Section 54.04, herein, except in the case of a development that consists only of condominium lots rather than buildings or other structures at the time of plan review, the location and dimension of condominium lots rather than individual buildings or other structures and required yards, shall be shown on the site plan.
4. The applicant shall provide proof of approvals by all County and State agencies having jurisdiction over improvements in the site condominium development, including but not limited to the County Road Commission, County Drain Commissioner, County Health Department, and the Michigan Department of Natural Resources. The Planning Commission shall not approve a final site plan until each County or State agency having such jurisdiction has approved that portion of the final site plan that is subject to its jurisdiction.

**E. Revision of Condominium Subdivision Plan**

If the condominium subdivision plan is revised, the final site plan shall be revised accordingly and submitted for

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review and approval or denial by the Planning Commission before any building permit may be issued, where such permit is required.

**F. Amendment of Master Deed or Bylaws**

Any amendment to a master deed or bylaws that affects the approved preliminary or final site plan, or any conditions of approval of a preliminary or final site plan, shall be reviewed and approved by the Planning Commission before any building permit may be issued, where such permit is required. The Planning Commission may require its review of an amended site plan if, in its opinion, such changes in the master deed or bylaws require corresponding changes in the approved site plan.

**G. Design and Development Standards**

**1. General-**The standards set forth in this Section shall be considered minimum requirements. Where the adopted general development plan requires high standards, such higher standards shall apply.

**2. Streets**

**a. Street Layout:** Street layout shall conform to the adopted general development plan or portion thereof relating to streets. Public streets shall be developed to the standards of the Washtenaw County Road Commission. Private streets shall be developed to the standards and specifications of Section 55.17 of this Ordinance. The arrangement of streets in the development shall provide for the construction of streets in adjacent developments where such extension is not precluded by topographic or other existing conditions. The layout shall provide for proper extension of streets into adjoining properties not yet developed.

Local streets shall be laid out so as to discourage their use by through traffic.

Streets shall be arranged in proper relation to topography so as to result in usable lots, safe streets, and reasonable grades, both for the streets and for driveways intersecting therewith.

All street construction shall be centered in the street right-of-way. Section line and quarter line roads shall be centered on these lines unless the Township Engineer or County Road Commission approves an exception.

**b. Drainage-**All streets shall be provided with facilities for adequate surface drainage. Storm drains shall be underground and only curb-type design shall be permitted. Exceptions may be made for subdivisions in which each single-family dwelling lot is one acre or larger in area and has a minimum road frontage of 150 feet.

**c. Alleys-**Alleys shall be prohibited, except in commercial and industrial developments. Where alleys are provided they shall be at least 30 feet wide. Dead-end alleys shall be prohibited. Alleys shall be provided in accordance with standards of the County Road Commission.

**d. Marginal Access Streets-**Where marginal access streets are required, the proprietor shall dedicate property for the purpose of marginal access streets to the County Road Commission and shall be responsible for improving said streets according to County Road Commission standards. A landscaped strip at least twenty (20) feet wide shall be provided between a marginal access street and the adjacent street.

**e. Other Required Streets-**Where a development borders or contains a railroad right-of-way or limited access highway right-of-way, the Planning Commission may require a street approximately parallel to and on one or both sides of such right-of-way, at a distance suitable for the appropriate use of the intervening land. Such distances shall also be determined with due regard for the requirements of approach grades and future grade separations.

**f. Special Treatment Along Major Streets-**When a development abuts or contains an existing or

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proposed arterial or collector street, the Planning Commission may require marginal access streets, reverse frontage with screen planting contained in a non-access reservation along with rear property line, or such other treatment as might be necessary for adequate protection of residential properties, to afford separation of through and local traffic, and to retain the traffic carrying capacity of the arterial or collector streets.

- g. Street Names and House Numbers**-Street names shall be approved in writing by the Saline Area Fire Department, Washtenaw County Road Commission, and appropriate post office jurisdiction. Generally no street should change direction by more than 90 degrees without a change in street name. Streets shall have names and not numbers or letters.
  - h. Location for Utilities**-Utilities shall be located so as to best conform to the layout of existing facilities.
  - i. Street Standards and Specifications**-Streets shall be provided in accordance with applicable standards and specifications and shall include turn, merge, and by-pass lanes as the Planning Commission deems necessary.
- 3. Blocks**-Blocks generally shall not be less than 500 feet or more than 1320 feet in length as measured from the centerlines of streets. No block width shall be less than twice the normal lot depth except where lots back onto a major street, natural feature, or development boundary. In blocks exceeding 800 feet in length the Planning Commission may require reservation of an easement through the block to provide for the crossing of underground utilities and/or pedestrian traffic where needed or desirable, and may specify further, at its discretion, that a paved foot path be provided by the proprietor. Blocks intended for nonresidential uses shall be especially designed for such purposes, and in accordance with Zoning Ordinance provisions. In such cases the above dimensions do not apply.
- 4. Lots:**
- a. Dimensions**-Lots shall conform to the requirements of the Zoning Ordinance except for outlots that are provided for an indicated and approved purpose.

Corner lots shall have extra width to permit appropriate building setback. Lots abutting a pedestrian mid-block crosswalk or other right-of-way shall be treated as corner lots.

Residential lots shall not open or face directly onto a freeway right-of-way, an arterial or collector street, shopping centers, industrial districts or parks, and other similar non-residential uses. In such situations, lots shall be laid out in one of the following ways:

- i.** Lots may back onto the above features, but shall be separate therefrom by a twenty (20) foot wide landscaped strip along the rear property line. The twenty (20) foot wide strip shall not be considered part of the lot's minimum length, width, or area, but shall be considered part of the contiguous lot.
- ii.** Lots may face onto a marginal access street.
- iii.** Lots may face onto intersecting local streets with driveways opening onto the intersecting local streets. The corner lots which abut the major street right-of-way or the non-residential area shall each have the landscape strip as required in Section 4(a)(1), preceding.
- iv.** Lots may be grouped around cul-de-sac or loop streets which open onto the major street. In such situations the corner lots abutting the major street right-of-way shall each contain the landscaped strip required in Section 4(a)(1), preceding.

Any landscaped strip required above shall not be part of the normal road right-of-way or utility easement.

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- b. Lot Frontage**-Lots extending through a block are generally prohibited except where they back onto a freeway right-of-way, an arterial or collector street, a shopping center, an industrial district, a park, or other similar non-residential area.

All lots shall abut, by their full frontage, on a public or private street.

- c. Lot Lines**-Side lot lines shall generally be perpendicular to the right-of-way lines or radial to curved streets. All side and rear lot lines should be straight lines unless natural features or street curvature so prevent. Variations in these provisions may be made when in the opinion of the Planning Commission such variation would result in a better arrangement of lots.

- d. Lots to be Buildable**-The lot arrangement shall be such that in constructing a building in compliance with the Zoning Ordinance, topography or other natural conditions will not create difficulties in locating the building and driveway and in providing adequate yard areas. Acute angles created by side lot lines, and odd shaped lots should be avoided.

The size, shape, and location of each lot shall have the following characteristics:

- i.** A suitable site for placing a house without excess grading;
- ii.** A usable area for outdoor living and other outdoor activities;
- iii.** Adequate surface drainage away from the house site and outdoor living areas;
- iv.** Reasonable driveway grades; and
- v.** General site grading should be minimized with significant trees and other vegetation retained.

- e. Access**-Driveways and curb cuts shall conform to standards of the County Road Commission and the standards of all Township Ordinances. The curb section of driveways and aprons shall be designed so that excessive breakover angle and vehicle dragging will be eliminated.

- f. Reserve Strip**- Privately held reserve strips controlling access to streets shall be prohibited, except as provided in Section 2 i), herein.

- g. Non-Residential Lots**-Lots intended for uses other than residential shall be identified on the plan, and shall be specifically designed for such uses, in accordance with provisions of the Zoning Ordinance.

- 5. Pedestrian Ways and Sidewalks**-Pedestrian ways, other than sidewalks in street rights-of-way, shall be at least 20 feet wide, when required. The Planning Commission may require a paved walkway to be provided by the proprietor. The pedestrian way shall be treated as an easement.

Sidewalks are required on both sides of a street, or one side of a street, depending upon the density of and location of the development, or, in very low density developments (one acre or larger lots) may be excepted entirely, according to the discretion of the Planning Commission. Street rights-of-way shall be sufficient to provide for sidewalks on both sides of the street, except in cluster subdivisions, or planned unit developments, where variations may be permitted. Streets leading directly to a school shall have sidewalks on both sides of the streets.

Sidewalks shall be developed and placed in compliance with M.D.O.T standards and the review of the Township Engineer.

- 6. Natural Features**-The development shall, wherever possible, preserve natural features which add value

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to the proposed development and to the community at large, such as large trees or groves of trees, water courses, vistas, historic spots and features, wildlife habitats and ecological areas. The location, nature, and extent of such features shall be identified on the preliminary plat. The preservation and/or inclusion of such features may be made a condition of approval of the development.

7. **Uninhabitable Areas**-Lands subject to flooding, or otherwise deemed uninhabitable in their natural state shall not be developed for residential use, or for any other use that might create a danger to health, safety, or property, or which might increase the flood hazard within or outside the subdivision. Such lands shall be set aside for recreational use or shall be retained in their natural state as open space. Any areas of land within the proposed development which lie either wholly or partly within the flood plain of a river, stream, creek, or lake, or any other areas which are subject to flooding by storm water shall be clearly shown on the preliminary and final site plan.
8. **Utilities**
  - a. **Storm Drainage**
    - i. All developments shall adequately provide for storm water runoff. The storm water drainage system shall be separate and independent of any sanitary sewer system. A copy of design computations shall be submitted with drainage plans. All drainage improvements shall conform to the standards of the Drain Commissioner and Lodi Township.
    - ii. Adequate provisions shall be made for proper drainage of storm water runoff from individual lots. Drainage easements may be required to assure proper drainage. The Township may require that catch basins be provided in said easements, and may require that drainage tile be provided for easement drainage. The depth, grade and outlet for said tile shall be subject to approval by the Township Engineer.
    - iii. Where a development is traversed by a water course, drainage way, channel, or stream, a storm water easement or drainage right-of-way shall be provided, conforming substantially to the lines of such water course, and to the standards of the County Drain Commissioner. Wherever possible, drainage should be provided by an open channel with landscape banks and adequate width for maximum potential flow. Existing drainage ways may be rechanneled but such rechanneling shall not increase the rate or level of flow, or cause impoundment of water within the proposed subdivision, or on properties upstream or downstream therefrom. Exceptions may be made if such changes conform to an overall drainage plan for the drainage district.
    - iv. Where topography or other conditions make inclusion of drainage facilities within road rights-of-way impractical, perpetual unobstructed easements at least 15 feet in width for such drainage facilities shall be provided across property outside the road lines, and with satisfactory access to the road. Easements shall be indicated on the site plan. Drainage easements shall be carried from the road to a natural water course or to other drainage facilities. Such easements shall be placed so as not to interfere with the use of lots.

If a proposed drainage system will carry water across private land outside the development, appropriate drainage rights shall be secured.
    - v. Low-lying lands along water courses subject to flooding during storm periods, whether or not included in areas for dedication, shall be preserved and retained in a natural state as drainage ways. Such lands shall not be utilized in computing the area requirement of any lot.
    - vi. All natural water drainage ways and impoundment areas shall be preserved at their

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natural gradient and shall not be filled or interfered with in any way, except as approved by the County Drain Commissioner. If, in the judgment of the Drain Commissioner, a natural water drainage way or impoundment area should be reserved, a storm drainage easement acceptable to the Drain Commissioner shall be provided.

- vii. The proprietor may be required to carry away any spring or surface water that might exist either previous to, or as a result of, the development, by pipe or open ditch, in appropriate easements.
- viii. A culvert or other drainage facility in a proposed subdivision shall be large enough to accommodate potential runoff from its entire upstream drainage area, whether that area is inside or outside the development. The design and size of the facility shall be reviewed and recommended for approval by the Township Engineer.
- ix. The effect of the subdivision on existing downstream drainage facilities outside the development shall be reviewed by the proprietor with the County Drain Commissioner. Where it is anticipated that the additional run-off resulting from development of the subdivision will overload an existing downstream drainage facility during a ten (10) year or larger storm, the Planning Commission shall not approve the development until adequate provision has been made for resolving downstream drainage problems.
- x. Storm water basins may be required in order to control the discharge of storm water from a proposed development. Design criteria and engineering plans for basins shall be subject to approval by the Township Engineer.

**b. Water Supply Facilities-**Water supply facilities shall be designed and located according to the specifications and procedural requirements of the Michigan Department of Public Health. On-site services and private water systems shall be designed according to requirements of the County Health Department.

**c. Sanitary Sewerage Facilities:**

- i. Where public sanitary sewerage facilities are available, sewers shall be installed to serve each lot.
- ii. All sanitary sewer facilities shall be designed and constructed in accordance with the rules, regulations, and standards of Lodi Township.
- iii. Each lot in a development which is served by public sanitary sewers shall be connected to a sanitary sewer line before occupancy of that lot shall be permitted.
- iv. If sanitary sewerage facilities are not available, minimum lot sizes shall conform to requirements of the County Health Department. In no case shall the minimum lot size be less than that required by the zoning district in which located. The individual disposal system shall be approved by the County Health Department.

**d. Gas, Wire, and Cable Utilities-**All lines for telephone, electrical, television, and other services distributed by wire or cable shall be placed underground throughout the development. Overhead lines may be permitted upon approval by the Planning Commission at the time of preliminary site plan approval where it is determined that such lines will not impair the health, safety, general welfare, design, appearance, and character of the subdivision, and only where such overhead lines are brought to the perimeter of the subdivision. This Section shall not be construed to prohibit the construction above ground of surface equipment associated with an underground distribution system, such as, but not limited to, surface mounted transformers, power terminal pedestals, meters and meter boxes, concealed wires, street lights and street light poles.

All facilities, including those for gas distribution, shall be installed in accordance with standards

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and specifications of the Michigan Public Service Commission. The layout of such facilities shall be submitted to the utility companies having jurisdiction in the area for their review before filing for final approval of the plan. All said utilities placed in public rights-of-way shall not conflict with other underground lines. Easements shall be provided in accordance with 9, herein.

9. **Easements**-All underground public utility installations which traverse privately owned property shall be protected by easements granted by the proprietor and approved by the public utility. Such easements shall be so located as to not interfere with the use of any lot or other part of the subdivision. The size of, and restriction pertaining to, such easements shall be in accordance with the standards and specifications of the agency having jurisdiction over the utility lines and the Subdivision Control Act, and shall be indicated on the site plan submitted for preliminary approval.

10. **Reservation of Public Use Areas**-Where a proposed park, playground, open spaces, public school, library or other public use area shown in the adopted general development plan, or in an adopted applicable part of such plan, is located in whole or in part in a proposed development, such area or areas shall be shown on the site plan. Such area or areas may be dedicated to the Township or other applicable public agency by the proprietor if the Township Board or other applicable public agency approves such dedication. Such areas, if not dedicated, shall be reserved by the proprietor for future purchase by the Township or other appropriate public agency.

The precise nature, location, and extent of the reservation shall be determined prior to final site plan approval by the Planning Commission. The reservation shall be valid for a period of one year from the date of final approval or such longer period as might be agreed to in writing by the proprietor. Unless during such one-year period or agreed longer period the Township or other public agency shall have entered into a contract to purchase the reserved area or instituted condemnation proceedings according to law to acquire the fee simple or a lesser interest in the reserved area, the right to develop the reserved area shall revert to the proprietor at the end of the one-year period or agreed longer period. The reservation shall freeze the price per acre of the reserved area for such one-year period at the average value per acre on the date when the plan was first filed with the Clerk. The plan shall include provisions for incorporating the reserved area into the overall development, if said reserved area reverts to the proprietor.

11. **Mobile Home Subdivisions**-Where a mobile home development falls within the definition of mobile home condominium project as set forth in the Condominium Act, said development shall be developed in accordance with the Condominium Act and this Ordinance. All provisions of this Ordinance shall apply except for, or in addition to, the provisions of this Section. A mobile home condominium project may also be developed as a planned unit development.

All streets and driveways in the development shall conform to the standards set forth in Section G(2), herein. There shall be no residential lot access to a collector street within the development; all such access shall be provided by minor residential streets.

Collector street dimensions shall conform to County Road Commission specifications.

Each lot shall abut and have direct access to a public or private street. Lots should be laid out so as to provide a variety of shapes and sizes and to prevent a monotonous character.

Sidewalks and pedestrian ways shall be provided in accordance with Section G(5), herein, except that sidewalks along streets may not be required when pedestrian ways provide acceptable alternative means of pedestrian movement.

All lots shall be connected to sanitary sewer and water systems approved by the Township. Such facilities shall meet the requirements of this Ordinance and all other applicable Township Ordinances and regulations.

Fuel oil and/or gas storage tanks shall be located in an inconspicuous manner either by placing the tanks underground or by enclosing them with a screen of shrubbery. All fuel lines leading to the subdivision

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and to mobile home sites shall be underground and so designed as to conform with the Township Building Code and any State code that is applicable.

When a master television antenna is provided, all lines extended to individual lots shall be underground. Such master antenna shall be so placed as not to be a nuisance to subdivision residents or surrounding areas.

A buffer of trees and shrubs not less than 20 feet in width shall be located and maintained along all boundaries of such development, excepting at established entrances and exits serving the development. When necessary for health, safety and welfare, a fence shall be required to separate the subdivision from adjacent property.

- 12. Commercial and Industrial Subdivisions-**Commercial and industrial development which constitute condominium projects as defined in the Condominium Act, shall conform to the provisions of this Ordinance, except for modifications provided in this Section.

All streets in a commercial development shall be paved, and be designed and constructed to adequately handle truck traffic. Curb side parking and loading shall not be provided for, nor permitted on, any side street. No backing or similar maneuvering of vehicles to enter or leave a parking or loading space shall be permitted or provided for; such movements shall be adequately provided for on each lot. Streets within a development, except major thoroughfares and collector streets, shall be laid out so as to prohibit through traffic. Streets and other access ways shall be planned in connection with the grouping of buildings, location of rail facilities, where applicable, and the provision of truck loading and maneuvering areas, walks and parking area, so as to minimize conflict of movement between the various types of traffic, including pedestrian.

Entry drives for the development shall be located and designed so as not to create congestion or hazardous conditions on public streets serving the subdivision. Driveways from parking and/or loading areas shall intersect streets at a distance from intersections that is large enough to permit safe and convenient maneuvering of vehicles.

The block sizes set forth herein shall not apply. The blocks shall be designed to meet the needs of the uses that will occupy the subdivision. However, block sizes shall meet the requirements of fire protection, snow removal, and other service and emergency vehicles.

Lots shall have access from development or frontage streets, and shall not open directly onto arterial or collector streets.

Sidewalks and/or pedestrian ways shall be provided, except where the Planning Commission determines that such facilities are not required for the safety and convenience of pedestrians within or around the development.

Buffer strips shall be provided along the perimeter of a commercial or industrial development according to Zoning Ordinance requirements. The Planning Commission may require provision of a fence, wall or screen if it determines such is necessary to protect the adjacent areas from litter, trespass and other nuisances. Any intended future expansion of the development should be shown on the preliminary site plan.

- 13. Planned Unit Development-**Developments in a PUD zoning district may be granted certain variances from this Ordinance. Such variances are intended to accommodate the site planning, financial, engineering, and other requirements of large, comprehensive developments with associated uses. Such variances may include, but are not limited to, time extensions, flexible schedules for installation of improvements, security requirements for improvements, reductions in minimum lot areas and dimensions, mixtures of residential densities and building types, mixtures of residential and nonresidential structures, and modifications in the design and development standards set forth in this Article.

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**14. Soil Erosion and Sedimentation Control**-The final site plan shall contain proposed erosion and sedimentation control measures. The measures shall be incorporated into the final construction drawings. Erosion and sedimentation control measures shall conform to adopted standards and specifications.

**15. Trees**-Trees shall be provided in the margins of both sides of all streets, and shall be placed at the minimum rate of two per single family residential lot or at a maximum distance apart of 60 feet. Trees may also be required to be installed according to the same distances in pedestrian ways. Trees to be installed in the street margins shall be of the large deciduous type — such as oak, maple, ash or sycamore. However, ornamental trees may be installed in the margin. Both kinds of trees may be provided in pedestrian ways. These requirements may be relaxed by the Planning Commission if existing trees within the right-of-way or easement, or trees growing adjacent to the right-of-way or easement satisfy the intent of this Ordinance.

The following trees are not permitted in the street margins, pedestrian ways, or any other landscaped area required by this Ordinance: box elder, soft maple, American elm, poplar, ailanthus (tree of heaven) and willow.

All required trees shall be nursery grown and shall be sound and healthy at the time of planting. Root systems shall be balled and wrapped or shall be planted by means which will not disturb the root systems. Required trees shall be protected from damage by wind and other elements; guy wires and ropes, where provided, shall not damage bark or break branches. Trees shall be guaranteed by the proprietor for one full year after planting, with dead or otherwise unacceptable trees to be replaced by the proprietor, at the proprietor's expense, during the guarantee period.

Landscape plans shall be reviewed and recommended for approval by the Township consultant.

**16. Street Lights**-Street lights, where provided, shall have underground wiring. Light standards shall meet the minimum specifications of the electric utility company serving that area of the proposed subdivision. Where lights are to be provided, they shall be installed prior to the occupancy of structures within the development. Street lights shall be provided in all developments except those of one acre or larger residential lots, and commercial and industrial subdivisions, where their installation shall be at the discretion of the Planning Commission.

**H. Development Agreement**

The Planning Commission may require, as a condition of approval, that the applicant enter into a development agreement with the Township, incorporating therein the terms and conditions of final site plan approval, and record the same in the office of the Register of Deeds for Washtenaw County.

**I.** Any application for a building permit for construction to be located in a general common element shall include written authorization for the application by the Condominium Association.

**J.** Monuments shall be set at all boundary corners and deflection points and at all road right of way intersections corners and deflection points. Lot irons shall be set at all condominium lot corners and deflection points of condominium lot lines.

The Township Engineer may grant a delay in the setting of required monuments or irons for a reasonable time, but not to exceed one year, on condition that the developer deposit with the Township Clerk cash, a certified check, or an irrevocable bank letter of credit running to the Township, whichever the developer selects, in an amount as determined from time to time by resolution of the Township Board. Such deposit shall be returned to the developer upon receipt of a certificate by a surveyor registered in the State of Michigan that the monuments and irons have been set as required, within the time specified. If the developer defaults, the Township Board shall promptly require a registered surveyor to set the monuments and irons in the ground as shown on the condominium site plans, at a cost not to exceed the amount of the security deposit.

**K.** Road rights of way shall be described separately from individual condominium lots, and shall be accurately delineated by bearings and distances on the condominium subdivision plan and the final site plan. The right of

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way shall be for roadway purposes and for the purposes of locating, installing, maintaining, and replacing of public utilities. The developer shall dedicate easements to the Township for all public water and sanitary sewer lines and appurtenances.

- L. All improvements in a site condominium shall comply with the design specifications as adopted by the Township Board and any amendments thereto.

**55.12-COMMERCIAL COMMUNICATION TOWERS****A. Purpose**

The intent of this Section is to permit the location of commercial communication towers, including wireless communications towers and antennas, within given geographic areas while protecting the safety and character of nearby residential areas and the Township. It is further the intent of this Section to require collocation of transmission and receiving apparatus on existing towers, unless it can be demonstrated by the applicant that collocation is not technically feasible, and to require that new towers make provision for collocation of additional users wherever technically feasible. It is further the intent of this Section to require users of towers and antennae to configure them in a way that minimizes the adverse visual impacts of the towers and antennae through careful design, siting, landscape screening, and innovative camouflaging techniques.

**B. Special Use Permit**

1. **Permit Required**-A commercial communications tower shall require the issuance of a Special Use Permit in accordance with the provisions of Article 50, Special Uses herein.
2. **Application Inventory**-Each applicant for an antenna and/or tower shall provide an inventory of it's existing towers, antennas, or sites approved for towers or antennas, that are either within the jurisdiction of Lodi Township or within one (1) mile of the border thereof, including specific information about the location, height, and design of each tower. Such information may be shared with other applicants applying for approvals under this Section or other organizations seeking to locate towers or antennas within the jurisdiction of Lodi Township, provided, however, that the sharing of such information in no way constitutes a representation or warrant by the Township that such sites are available or suitable.
3. **Information Required**-In addition to any information required for applications for special use permits pursuant to Article 50 of the Zoning Ordinance, applicants for a special use permit for a tower shall submit the following information:
  - a. A scaled site plan clearly indicating the location, type and height of the proposed tower; on-site land uses and zoning; adjacent land uses and zoning; Land Use Plan classification of the site and all properties within the applicable separation distances set forth above; adjacent roadways, proposed means of access; setbacks from property lines; elevation drawings of the proposed tower and any other structures, topography, parking, and any other information deemed by the Planning Commission to be necessary to assess compliance with this Section.
  - b. Legal description of the parent tract and leased parcel (if applicable).
  - c. The setback distance between the proposed tower and the nearest residential unit, platted residentially zoned properties, and unplatted residentially zoned properties.
  - d. The separation distance from other towers described in the inventory of existing sites submitted pursuant to Paragraph 2 above shall be shown on an updated site plan or map. The applicant shall also identify the type of construction of the existing tower(s) and the owner/operator of the existing tower(s), if known.
  - e. A landscape plan showing specific landscape materials.



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Commission that no existing tower, structure, or alternative technology that does not require the use of towers or structures, can accommodate the applicant's proposed antenna. An applicant shall submit information requested by the Planning Commission related to the availability of suitable existing towers, other structures or alternative technology. Evidence submitted to demonstrate that no existing tower, structure or alternative technology can accommodate the applicant's proposed antenna may consist of any of the following:

- a.** No existing towers or structures are located within the geographic area which meet applicant's engineering requirements.
- b.** Existing towers or structures are not of sufficient height to meet applicant's engineering requirements.
- c.** Existing towers or structures do not have sufficient structural strength to support applicant's proposed antenna and related equipment.
- d.** The applicant's proposed antenna would cause electromagnetic interference with the antenna on the existing towers or structures, or the antenna on the existing towers or structures would cause interference with the applicant's proposed antenna.
- e.** The fees, costs, or contractual provisions required by the owner in order to share an existing tower or structure or to adapt an existing tower or structure for sharing are unreasonable. Costs exceeding new tower development are presumed to be unreasonable.
- f.** The applicant demonstrates there are other limiting factors that render existing towers and structures unsuitable.
- g.** The applicant demonstrates that an alternative technology which does not require the use of towers or structures, such as a cable microcell network using multiple low-powered transmitters/receivers attached to a wireline system, is unsuitable. Costs of alternative technology that exceed new tower or antenna development shall not be presumed to render the technology unsuitable.

**C. General Regulations**

Commercial communication towers shall be subject to the following regulations:

- 1. Collocation**-Evidence shall be submitted by the applicant that there are no reasonable and suitable alternatives for location of equipment on an existing communications tower within the service area of the proposed tower. The Township may employ specialized experts to review data submitted by the applicant. The applicant shall incur all costs associated with such review.
- 2. Location of Towers**
  - a.** No single tower shall be located within two (2) miles of another commercial communication tower. This requirement may be waived if the tower is of an exceptional design so as to create a positive architectural and/or environmental feature which is compatible with the character of the surrounding area and community. Additional communications apparatus can, however, be located on an existing tower or other structure capable of accommodating such apparatus.
  - b.** No tower shall be located closer than eight hundred (800) feet from the boundary of any Residential or Rural District, including any PUD District incorporating residential uses.
  - c.** A tower shall have a minimum setback from all property boundaries equal to the height of the tower.
  - d.** Guys and accessory buildings must satisfy the minimum zoning district regulations.



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5. **Lighting**-Towers shall not be artificially lighted, unless required by the FAA or other applicable authority. If lighting is required, the lighting alternatives and design chosen must cause the least disturbance to the surrounding views.
6. **Height**-Towers shall not exceed one hundred eighty (180) feet in height. Height shall be measured from the finished grade of the parcel to the highest point on the tower or other structure, including the base pad and any antenna.
7. **Design**
  - a. Except as otherwise provided herein, all towers shall be of monopole design and shall be constructed of, or treated with, corrosive resistant material.
  - b. Advertising, signs, and identification of any kind intended to be visible from the ground or other structures shall be prohibited, except as required for emergency purposes.
  - c. The antennae shall be painted to match the exterior treatment of the tower. The paint scheme of the tower and antennae shall be designed to minimize off-site visibility of the antennae and tower.
  - d. At a tower site, the design of the buildings and related structures shall, to the maximum extent possible, use materials, textures, screening, and landscaping that will blend them into the natural setting and surrounding buildings.
  - e. If an antenna is installed on a structure other than a tower (such as a clock tower, bell steeple, or light pole), the antenna and supporting electrical and mechanical equipment must be of a neutral color that is identical to, or closely compatible with, the color of the supporting structure so as to make the antenna and related equipment as visually unobtrusive as possible.
8. **Fencing and Landscaping**-The tower and appurtenant apparatus building shall be secured by fencing a minimum of six (6) feet in height. The fencing and apparatus building shall be screened with a landscape strip at least twenty (20) feet wide along each side of such fencing and/or building. Specifications for spacing and plant materials shall be as set forth in Section 55.09. The landscape strip shall be maintained in good condition at all times so as to continue its effectiveness. Existing mature on-site vegetation and natural land forms shall be preserved to the maximum extent feasible. In some cases, such as towers sited on large, wooded lots, natural growth around the property perimeter may provide sufficient buffer, in which case the Planning Commission may waive the landscaping requirements of this Paragraph.
9. **Employees**-No employees shall be located on the site on a permanent basis to service or maintain the antennae. Occasional or temporary repair and service activities are excluded from this restriction.
10. **Site Plan Required**-The applicant shall submit a preliminary and final site plan in accordance with Article 54.0 Site Plan Review herein, and including details of tower lighting required and approved by the Federal Aviation Administration.
11. **Franchises**-Owners and/or operators of towers or antennas shall certify that all franchises required by law for the construction and/or operation of a wireless communication system have been obtained and shall file a copy of all required franchises with Lodi Township.
12. **Engineering Certification**-Any information of an engineering nature that the applicant submits, whether civil, mechanical, or structural, shall be certified by a licensed professional engineer.
13. **Not Essential Services**-Towers and antennae shall be regulated and permitted pursuant to this Section and shall not be regulated or permitted as essential services, public utilities, or private utilities.
14. **Cessation of Operation**-The Township shall condition approval of any new tower subject to the removal of said tower, including all structural components of the tower above and below ground, within twelve

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(12) months of cessation of operation. The Township reserves the right to request evidence of ongoing operation at any time after construction of an approved tower. Any antenna or tower, whether approved under this Section or existing at the time of adoption of this Ordinance, that is not operated for a continuous period of twelve (12) months shall be deemed abandoned. Failure to remove an abandoned antenna or tower within ninety (90) days of receipt of a notice from Lodi Township requesting such removal shall be grounds for Lodi Township to remove the tower or the antenna at the owner's expense. If there are two (2) or more users of a single tower, this provision shall not take effect until all users cease using the tower.

**55.13 IMPACT ASSESSMENT**

- A. Purpose-**The submission of an Impact Assessment is necessary to provide relevant information concerning the effects that a proposed project may have on the community, and to provide the data necessary for the Township of Lodi to make a rational determination on the request.

The Impact Assessment is required in order to explain the purposes of the request and to indicate what the proposal would add to the current Township's Land Use Development Plan. The Assessment shall evaluate the proposal's impact upon:

1. The natural environment of the area.
2. Traffic operations and safety.
3. Utilities and public facilities including storm sewers, sanitary sewers or water mains.
4. Recreation, school and public safety needs.
5. Future land use of the surrounding area.

- B. When Required-**An Impact Assessment shall be required and shall be submitted by a petitioner whenever the following matters are petitioned for consideration:

1. Requests for zoning change when such request represents a departure from the land use proposed in the Township's Land Use Development Plan of land use applicable to the parcel in question.
2. Any PUD, district shall require an Impact Assessment.
3. All plats and site condominiums.
4. When deemed necessary by the Planning Commission.

- C. Traffic Impact Study-**A traffic impact study shall be submitted for a project under any of the following situations:

1. All situations noted in B, above.
2. Projects with frontage along major thoroughfares as designated in the Township Land Use Development Plan that would be expected to generate fifty (50) directional vehicle trips (i.e. 50 inbound or 50 outbound trips) during the peak hour of the traffic generator or the peak hour on the adjacent streets.
3. Projects that would be expected to generate one hundred (100) direction vehicle trips (i.e. 100 inbound or 100 outbound trips) during the peak hour of the traffic generator or the peak hour on the adjacent streets. (Forecasted trip generation shall be based upon equations/rates outlined in the most recent version of the Institute of Transportation Engineer's (ITE) Trip Generation manual. The ITE data may be supplemented by actuate trip generation data from similar establishments in Michigan).

**Article: 55.0 SUPPLEMENTAL REGULATIONS AND STANDARDS****D. Minimum Contents of Traffic Impact Study**

The following shall be submitted to the Township Planning Commission for review and evaluation. The Planning Commission shall determine the applicability and/or necessity of the following items as they pertain to a specific project or rezoning request.

1. Existing conditions including existing daily and peak hour traffic volumes on adjacent street(s) . Intersections in the vicinity which are expected to be impacted as identified by the Township and a description of any site distance limitations along the site's right-of-way frontage. Existing traffic counts shall be taken on a Tuesday, Wednesday or Thursday of non-holiday weeks. Additional counts (i.e. on a Saturday for a proposed commercial development) may also be required in some cases. The following times/situations should also be avoided where possible so that the traffic count data, would represent a typical day: construction detours in the area, summer days for a site near a school, etc. The consultant performing the impact study must make every effort to complete traffic counts during average or higher than average volume conditions (i.e. regarding weather or seasonal variations) for the area under study. Traffic data over one (1) year old will not be accepted unless the applicant can document that volumes have not changed more than two percent (2%).
2. Forecasted trip generation of the proposed use for the a.m. and p.m. peak hour and average daily traffic generated. The forecasts shall be based on the data and procedures outlined in the most recent Institute for Traffic Engineers Trip Generation Manual. The applicant may use other commonly accepted sources of data or supplement the standard data with data from similar projects in Michigan.

For requests for zoning change when such request represents a departure from the land use proposed in the Township Land Use Development Plan, the study should contrast the traffic impacts of typical uses permitted in the requested zoning district with uses permitted in the current zoning district. The determination of typical uses shall be made by the Zoning Administrator.

3. For any project with a completion date beyond one (1) year at the time of the traffic study, the analysis shall also include a scenario analyzing forecasted traffic at date of completion along the adjacent street network using a forecast based on historic annual percentage increases and/or on expected development in the area.

Traffic impact assessments shall acknowledge the traffic impacts of other uses approved, but not yet constructed which may affect traffic operations for the subject site, as determined by the Township.

4. The projected traffic generated shall be distributed (inbound v. outbound, left turn v. right turn) onto the existing street network to project turning movements at site driveways and nearby intersections and illustrated in the report. A description of the application of standard engineering procedures for determining the distribution should also be attached.
5. Capacity analysis at the proposed driveway(s) using the procedures outlined in the most recent edition of the Highway Capacity Manual published by the Transportation Research Board. Before and after capacity analyses shall also be performed at all street intersections where the expected traffic will comprise at least five-percent (5%) of the existing intersection capacity and/or for roadway sections and intersections experiencing congestion or a relatively high accident rate, as determined by the Township or Washtenaw County Road Commission.
6. Traffic accident data covering the most recent three (3) years for intersections analyzed in the impact Study shall be summarized in collision diagrams. The Township may require traffic accident data if the segment of roadway adjacent to or near the subject site has experienced accident problems.
7. A map and description of the location and design of proposed access (driveway or new street intersection), including any sight distance limitations, dimensions from adjacent driveways and intersections within 250 feet, other data to demonstrate that the design and number of driveways proposed is the fewest necessary, and the driveway(s) will provide safe and efficient traffic operation and be in accordance with the standards of this Ordinance.

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8. An analysis of the potential need for bypass lanes or deceleration tapers/lanes including attachment of any correspondence by the Washtenaw County Road Commission.
  9. A general description and illustration with arrows of internal site circulation, truck circulation, and how the site plan minimizes the amount of impervious surface.
  10. Documentation of approval for size and location of fire lanes and emergency vehicle access by the Fire Department.
  11. A general description of pedestrian circulation on and across the roadways including any pedestrian facilities provided.
- E.** The requirements set forth in this Section shall not relieve the project's sponsor from complying with other land development standards of the Zoning Ordinance, or any other Ordinance enacted by the Township or by other public agencies having jurisdiction.
- F.** Fees for the review of Impact Assessments shall be established by resolution of the Township Board of Trustees.

**SECTION 55.14-STORMWATER MANAGEMENT**

Design and implementation of stormwater management shall be according to Washtenaw County Drain Commission specifications. A copy of the approved stormwater plan shall be included for every project requiring site plan review as specified within this Zoning Ordinance.

**SECTION 55.15-HYDROGEOLOGIC ASSESSMENT**

All projects requiring hydrogeologic assessment shall be according to Washtenaw County Environmental Health Department requirements and specifications. When required, hydrogeologic assessments shall be part of the site plan review process as specified within this Zoning Ordinance.

**SECTION 55.16-DRY HYDRANT**

This section provides for a method of providing a frost-free access point for the transfer of water from a source, by pumping, into a transport vehicle or distribution system. Such access point shall be designed to connect to a remote water source that is accessible at a pumping point for filling tank trucks and pumper trucks engaged in fire control and protection. The following standards shall be provided:

- A.** A minimum storage capacity of 10,000 gallons should be provided by the applicant for residential developments that are not served by a public water supply system. Additional storage of 2,000 gallons per residential lot in a residential development subject to the requirements of a plat or site condominium or per principal building should be provided. The Township Board, upon recommendation of the Fire Chief, may require additional storage capacity. Storage facilities may be ponds with dry hydrants, underground storage reservoirs, or other methods acceptable to the Fire Chief and Township Engineer. Where ponds are proposed for water storage the capacity of the pond should be calculated based on the lowest water level less an equivalent of four (4) feet of ice.
- B.** Hydrants or other provisions for drafting water shall be provided to the specifications of the Fire Chief and subject to the approval of the Township Engineer. Minimum pipe size connecting dry hydrants to ponds or storage vaults shall be a minimum of four (4) inches.
- C.** Where the dry hydrant or other water source is not within the right-of-way of a proposed or existing road, an easement for access to and maintenance of the easement shall be provided. A suitable access way to the hydrant or other water source shall be constructed.
- D.** Dry hydrants shall be placed so that they are protected against hazards imposed by traffic, farm operations, freezing temperatures, or soil cracking. Other means of protection shall be provided where the depth required for protection is impracticable due to shallow soils over rock or for other reasons. The location of the dry hydrant shall be such

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that it is not a hazard to traffic or persons, yet is easily accessible from the roadway.

- E. A long-term maintenance plan of the dry hydrant system shall be provided to the satisfaction of the Township Engineer.
- F. The Planning Commission may waive the requirement for water storage only upon submittal of evidence that the soil types in the subdivision shall not permit their construction or installation and the Fire Chief has indicated in writing that alternate methods of fire protection are available.

**SECTION 55.17-PRIVATE ROAD REGULATIONS****A. Purpose**

Lodi Township hereby finds that unobstructed, safe and continuous access to parcels is necessary to promote and protect the health, safety, and the welfare for the public through police and fire protection, and ambulance service. Lodi Township further finds that such access is necessary to insure that such services can safely and quickly enter and exit private property at all times. Lodi Township further finds that when public dedication is desirable or required, access to the interior of certain sections within Lodi Township should meet minimum standards and specifications to permit the subsequent upgrading and dedication of such access rights of way to the Washtenaw County Board of Road Commissioners or other municipal corporations. The procedures, standards and specifications hereinafter set forth are determined to be the minimum procedures, standards and specifications necessary to meet the intention of this Section.

**B. General Requirements; Application Requirements.**

- 1. Every parcel in Lodi Township shall either abut a road dedicated to the public, or a private road which meets the requirements of this Section. No parcel shall be improved with a building unless a Certificate of completion in accordance with this Section has been issued or abuts a public road.
- 2. No person shall construct, alter, or extend a private road without compliance with this Section and obtaining a Permit as hereinafter provided.
- 3. A pre-application meeting shall be held with appropriate Township consultants and officials prior to official submittal of the private road application to review general aspects of the proposed private road and Township requirements.
- 4. After the pre-application conference, the applicant of such parcel shall apply to the Township Clerk for a Permit, which shall consist of the following information:
  - a. A legal description of the right-of-way.
  - b. A legal description of each parcel to be served by the right-of-way.
  - c. The names and addresses of all persons or parties having an equitable interest or legal title to the parcels and right-of-way area.
  - d. A survey drawing showing the following:
    - 1) The outline of the proposed right-of-way and the dimensions and bearings of the parcels to be served.
    - 2) Existing topographic contours, at 1-foot intervals, of the right-of-way area and all adjacent land within 100 feet thereof, or within such greater area as may be necessary to determine whether drainage methods will be adequate.
    - 3) Soil characteristics and wet areas.

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- 4) Trees.
  - 5) Streams and all bodies of water within 100 feet from the right-of-way area, or within such greater area as may be necessary to determine whether drainage methods will be adequate.
  - 6) Existing buildings within 100 feet of the proposed right-of-way.
  - 7) The proposed right-of-way in relation to the nearest property lines.
  - 8) The location of all proposed improvements in the right-of-way area.
- e. Plan and profile drawings and cross sections of the proposed improvements showing clearly all materials, grades, and dimensions.
  - f. A complete statement of all the terms and conditions of the proposed right-of-way including copies of all agreements or intended agreements regarding the maintenance and improvements of the right-of-way and roadway.
  - g. A fee as established by resolution of the Township Board to defray the costs of plan review, administration, inspection and enforcement of this Section. An additional escrow will be required after permit approval as stated in 3d of this Section.
  - h. The application shall be signed by the applicant or agent thereof, if signed by agent, it shall be accompanied by a duly executed and notarized Power of Attorney, and shall represent that the applicant is making the application on behalf of all persons having an interest in the right-of-way or the abutting parcels and shall be made under penalties of perjury.
  - i. All drawings shall be prepared by a Registered Land Surveyor or Civil Engineer, registered in the State of Michigan, and shall bear the seal of the same.
  - j. In addition, the Applicant shall provide evidence that the proposed right-of-way will be built in conformance with:
    - 1) The Township's Natural Features Protection and Preservation Requirements as found in Section 55.08 C herein.
    - 2) The Washtenaw County Drain Commissioner's standards and approval for stormwater retention and drainage facilities.
    - 3) The Washtenaw County Road Commission's standards and approval for vehicular access.
    - 4) The approved and recorded maintenance agreement for the private road.

**5. Permit Approval Procedure**

- a. Upon receipt of ten copies of the completed private road application, the Township Clerk shall refer copies of the completed application and accompanying materials to the Township Engineer and other appropriate Township consultants for review and comment, and submit the application to the Planning Commission for a public hearing.
- b. The Township Engineer and other Township consultants shall report in writing to the Planning Commission as to whether or not the proposed right-of-way and roadway conform to the standards

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and specifications of this Section. Said reports may include any suggested conditions to be attached to the Permit, which are necessary to achieve the intent of this Section.

- c.** After receipt of said reports, the Township Planning Commission shall hold a public hearing to consider the application, the Township consultants reports and all other relevant information in determining whether to grant the Permit application. If the information submitted by the applicant does not establish that the proposed right-of-way and roadway will conform to the standards and specifications of this Section, the Township Planning Commission shall not grant the Permit. The Township Planning Commission shall impose such conditions on the approval of the Permit as it deems necessary to achieve the intent and objectives of this Section, which may include, but need not be limited to, conditions suggested by the Township consultants. The breach of any such condition imposed by the Township Planning Commission shall automatically invalidate the Permit.
- d.** As a condition to the granting of any Permit under this Section, the Township Planning Commission shall require that the applicant deposit with the Township Treasurer a bond or a sum of money, bank letter of credit or certified check, in an amount, confirmed by the Township Engineer, sufficient to guarantee that the applicant shall perform the terms and conditions of the Permit, including the payment of required fees. Upon issuance of certificate of completion under this Section, any unused portion of the deposit shall be refunded to the applicant.
- e.** Upon receipt of the required deposit and predetermined fees and approval of the application by the Township Planning Commission, the Township Clerk shall record the final site plan, approved and signed by the Planning Commission Chair, and issue the Permit pursuant to the terms established by the Township Planning Commission Resolution approving the application.
- f.** Only the Township Planning Commission shall have the authority to approve or deny applications for permits. No other permit issued by any township official or other governmental body or official shall be a substitute for the Permit.

**6. Specifications for Rights of Way and Roadways.**

Each right-of-way and its roadway shall conform to the following specifications:

- a.** Private roads shall be divided into two classes, as follows:

  - 1)** Class One private roads shall be any private road that meets one or more of the following criteria:

    - a)** Serves two or more single-family residential parcels not on a shared driveway, and has a reasonably foreseeable potential to be extended in the future to serve more than eight (8) single-family residential parcels.
    - b)** Connects with, or has a reasonably foreseeable potential to be extended at a future time to connect with, another public or private road.
    - c)** Serves one or more nonresidential uses, not including farm uses and associated buildings and does not require a class one private road.
  - 2)** Class Two private roads shall be any private road that meets the following criteria:

    - a)** Serves not more than eight (8) residential units and does not require a Class One private road.
- b.** All Class One and Class Two private roads shall meet the following minimum requirements and specifications:

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- 1) The roadway surface and turnaround area shall be centered in the right-of-way.
  - 2) The connection between the right-of-way and the public road shall conform to the standards and specifications of the County Road Commission. The applicant shall obtain a road permit issued by the Road Commission prior to approval of any right-of-way by the Township Planning Commission.
  - 3) Underground crossroad drainage shall be provided where the proposed right-of-way crosses a stream or other drainage course.  
  
Necessary culverts and erosion treatments shall be provided in accordance with the specifications of the Washtenaw County Road Commission.
  - 4) The right-of-way and roadway shall be adequately drained so as to prevent flooding or erosion of the roadway. Open swale/ditch drainage systems will be preferred to enclosed storm sewers where applicable governmental standards and site conditions permit. Open swales/ditches shall be located within the right-of-way. Road drainage shall be constructed so that runoff water shall be conveyed to existing watercourses or water bodies. The discharged water shall not be discharged upon the land of another property owner unless the water is following an established watercourse. The discharged water onto adjoining properties shall also not exceed the normal agricultural rate. Connection to county drains shall be approved by the Washtenaw County Drain Commissioner prior to the issuance of permit. Connection to roadside ditches within public road rights-of-way shall be approved by the County Road Commission prior to the issuance of a permit.
  - 5) All parcels receiving access shall have their individual addresses posted on each property and at their driveway entrances.
  - 6) Road signs, stop signs, and no outlet signs for roads without an outlet shall be erected and maintained in accordance with the Michigan Manual of Uniform Traffic Control Devices and installed prior to any building permits being issued on the property.
  - 7) Road names for the private road must be approved in writing by the Saline Area Fire Department, Washtenaw County Road Commission, and appropriate post office jurisdiction.
  - 8) The right-of-way shall provide for ingress, egress, drainage, and installation and maintenance of public and private utilities.
- c. Class One and Class Two private roads shall also meet their respective minimum requirements and specifications as set forth in Table 1, herein.

**TABLE 1  
MINIMUM REQUIREMENTS AND SPECIFICATIONS  
FOR PRIVATE STREETS AND ROADS**

	<b>Class One Private Streets and Roads</b>	<b>Class Two Private Streets and Roads</b>
<b>Width of right-of-way</b>	66 feet	50 feet
<b>Road Length</b>	Not Applicable	Not Applicable.

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<b>Road Width</b>	20 foot driving surface With adequate drainage 6 foot shoulders.	16 foot driving surface with adequate drainage.
<b>Sub-base</b> (spread to a minimum width sufficient to extend to the front slope of the roadside ditch)	6 inches of compacted MDOT Class two.	Same as Class One.
<b>Base:</b> For gravel surface	8 inches of MDOT 22A in two equal courses, each compacted 26 feet wide.	6 inches of MDOT 22A in two equal courses, each compacted to 18 feet wide.
For paved surface	Same as for gravel surface, except two more inches of base, compacted. No slag or 23A	If paved the same as Class One.
<b>Pavement</b>	3" inches bituminous Mixture Type 13A, in; Two courses 24 feet wide. Curb and gutter permitted, however in rural areas vegetated swales are preferred. (Pavement required if abutting a paved road.)	If paved the same as Class One.  Same as Class One.
<b>Turnaround Area</b>	75 foot radius Right of way	60 Foot radius right of way
<b>Turning Circle</b>	50 foot radius Roadway surface	50 foot radius roadway surface
<b>Ditches</b> Minimum grade 0.5% to 4.0% grades 4.1% and steeper grades Front and back slopes	0.5% sod or otherwise stabilize rip-rap 1 on 4	Ditches shall be of width, depth, and grades to provide for adequate and positive drainage.
<b>Roadway Grades</b> Minimum Maximum	0.5% 6.0%	0.5% 6.0%
<b>Roadway Curves</b> Horizontal - minimum Vertical - minimum	230 foot radius 100 foot long for changes in gradient of 2% or more	150 foot radius Same as Class One.

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All required improvements shall be inspected by the Township Engineer at various stages of construction as established at the pre-construction meeting. The Township Engineer shall make a final inspection upon completion of construction and shall report the results of the final inspection to the Township Clerk in writing. The applicant's engineer shall certify in writing to the Township Engineer before the final inspection and report thereon that the required improvements were made in accordance with this Section and all approved plans. A notice of completion by the Township Engineer shall be delivered to the Township Clerk and the applicant. The costs of inspection, including compensation of the Township Engineer, shall be paid by the applicant prior to the issuance of the certificate of completion. The Township Clerk shall determine the costs of administration and inspection, the same shall be paid from the deposit established by the Township Board and held by the Township Clerk, and the balance, if any, shall be returned to the applicant.

**8. Expiration of approval of permits.**

A Permit shall be valid for a period of one year from the date of issuance. If the required improvements have not been completed upon the expiration of the one-year period of time or an extension applied for, then the Permit shall be void and of no force and effect and if construction has been started and deemed appropriate to continue all deposits, except the costs incurred, shall be retained by Lodi Township for completion of the road.

**9. Recording of rights-of-way.**

The right-of-way, including all agreements as identified in Sub-Section 3, herein, shall be recorded in the office of the Register of Deeds for Washtenaw County, after approval of the language of the agreement by the Township attorney, prior to the issuance of the certificate of completion required in Sub-Section 5, herein.

**10. Building permits.**

No zoning compliance permit for a building shall be issued for any parcel subject to the provisions of this Section unless a Certificate of Completion has been issued by the Township Clerk. A building permit may be issued prior to the issuance of a certificate of completion, upon recommendation by the Township Engineer.

**11. Road Agreement**

A maintenance agreement approved by the Township Board shall be filed with the Township Clerk and recorded with the Washtenaw County Register of Deeds for any maintenance for the private road. All parcels accessing the private road shall be part of the agreement. Proof of recording shall be provided to the Township Clerk before Certificate of completion is issued.

**a. Maintenance Responsibility:** Maintenance of all private roads shown on the survey map shall be the responsibility of the owners of the parcels thereon. The association when formed, shall direct the maintenance of roadways and expend such funds as may be necessary to meet the maintenance standards as described below. Unless a parcel owners association has been formed or a maintenance agreement has been signed, each parcel shall have an equal responsibility in the maintenance of said roads. Should Lodi Township incur costs for the maintenance or improvements to the road for any reason, each and every owner of a parcel adjoining the private road shall be jointly and severally liable for the entire costs incurred by Lodi Township.

**b. Maintenance Standards:** Maintenance of the roads shall include but not be limited to the filling of pot holes, regrading of roadways, ditching, and the placement of gravel and/or sealcoat of paved surfaces as necessary to enable the parcel owners to use the roads and ingress and egress to the parcels.

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- c. **Maintenance Fee:** Each parcel owner shall be liable for an equal prorata portion of the costs necessary to maintain the roadways. Said maintenance fee shall be established by the association, or if said association has not been formed, said fee shall be established as the equal prorata portion of actual costs of maintenance work performed.
- d. **Termination:** The parcel owners' responsibility and liability for road maintenance shall cease for those roads or portions thereof which are dedicated or conveyed for public use and have been accepted by Washtenaw County for said purpose.

**12. Variances**

When there are practical difficulties or unnecessary hardships in the way of carrying out the strict letter of this Section, such as topographical and other physical characteristics of a parcel, the Zoning Board of Appeals shall have the power to vary or modify the application of the provisions of this Section so that the intent and purpose of the Section shall be observed, public safety secured and substantial justice done.

**13. Violations**

Sanctions for Violations. A person or entity who violates any provision of this Section is subject to Section 57.09-Violations and Penalties; Nuisance Per Se; Abatement.

**SECTION – 55.18 – AMATEUR RADIO TOWERS****A. Purpose:**

1. To reasonably accommodate amateur radio service communications by allowing amateur radio towers to be erected at heights and dimensions sufficient to accommodate amateur radio service communications.
2. To require amateur radio towers to meet construction, placement, screening, setback and height standards based on health, safety or aesthetic standards which are the minimum practical regulations necessary to provide for the health, safety and welfare of the public.

**B. Definitions**

**Amateur Radio Antenna:** The arrangement of electrical conductors used in the sending and receiving of electromagnetic (radio) waves within the regulated amateur band operated by a federally licensed amateur operator for amateur radio activities.

**Amateur Radio Tower:** Any private communication support structure utilized for the purpose of supporting an amateur radio antenna or antennas.

**C. Development standards**

1. Amateur radio towers are allowed as a permitted use in all designated zoning districts subject to the maximum building height requirements of such district.
2. Any amateur radio tower that would exceed the height requirements of a particular zoning district shall be classified as a special use. The height of an amateur radio tower shall be measured as the distance between the highest point of the tower, including antennas, and the natural grade directly below this point. In establishing the height of an amateur radio tower as a special use, evidence shall be presented that the proposed height is the minimum necessary to achieve effective, reliable amateur radio communications.
3. Amateur radio tower owners shall show proof of having a current FCC amateur radio operator license.

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4. Amateur radio towers, including guy wires, shall meet the setback requirements for accessory structures of the zone in which the tower is located. Towers shall be set back an additional one (1) foot for every one (1) foot in height that the tower exceeds the maximum allowable height for main buildings in the zone in which the tower is located.
5. Amateur radio towers over thirty four (34) feet in height shall be galvanized, or shall be painted a flat color of either sky blue, light gray or olive drab, whichever color will best reduce the visibility of the tower given the character of the surrounding setting. Colors shall not exceed a light-reflective value of sixty (60) percent.
6. Amateur radio antennas shall not protrude in any manner upon adjoining parcels.
7. No portion of an amateur radio tower or antenna shall conduct or display any advertising, message or other graphic representation other than the manufacturers name and identification number. Lettering shall not exceed three (3) inches in height.
8. Amateur radio towers shall be erected or installed in rear and side yards only.
9. Amateur radio towers that are not protected by walls or fences shall have anti-climb plates installed.
10. No more than one amateur radio tower shall be allowed as a permitted use on any one site. Site shall mean any one parcel or group of adjacent parcels under a single or unified ownership. Additional towers on a site may be allowed as a special use.
11. **Removal of amateur radio towers:**

Amateur radio tower shall be required to be removed at owner's expense in the event that:

  - a. The owner of property on which a tower is located sells or otherwise ceases to occupy the property and the new resident does not possess a current FCC amateur radio operator license.
  - b. The tower is in a state of disrepair or an unsafe condition.
  - c. Upon expiration and non-continuance of the FCC license.

**SECTION – 55.19 – WIND ENERGY CONVERSION SYSTEMS****A. Purpose**

Lodi Township promotes the effective and efficient use of Wind Energy Conversion Systems with the minimum regulations on the siting, design, and installation of conversion systems so that the public health, safety, and welfare of neighboring property owners or occupants will not be jeopardized. In no case shall the provision of this ordinance guarantee the wind rights or establish access to the wind.

**B. Definitions**

1. **“Wind Energy Conversion System”** (WECS) shall mean any device such as a wind charger, windmill, or wind turbine that converts wind energy to a form of usable energy.
  - a. **“Agricultural WECS”** shall mean any WECS that is accessory to a permitted farm or agricultural operation, and is designed and built to serve the needs of the farm or agricultural operation.
  - b. **“Private WECS”** shall mean any WECS that is accessory to a principal non-farm, non-agricultural use located on the same lot, and is designed and built to serve the needs of the principal use.
  - c. **“Commercial WECS”** shall mean any WECS that is designed and built to provide electricity to

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the electric utility's power grid.

2. **“Manual and Automatic Controls”** give protection to power grids and limit rotation of a WECS' blades to below the designed limits of the conversion system.
3. An **“Authorized Factory Representative”** shall mean an individual with technical training of a WECS who has received factory installation instructions and is certified in writing by the manufacturer of the WECS.
4. A **“Professional Engineer”** shall mean any licensed engineer registered in the State of Michigan.
5. A **“Utility Scale”** wind farm shall mean all wind farms that produce greater than 50 kilowatts of energy.
6. **“Facility Abandonment”** shall mean out of production for a period of time not less than one year. (See Section 55.19 H)

**C. Approval Required**

Except where noted in this Section, it shall be unlawful to construct, erect, install, alter, or locate any WECS project within Lodi Township unless a special use permit has been obtained pursuant to this Ordinance.

1. Agricultural WECS projects accessory to permitted farm and agricultural operations shall be exempt from the requirements of this Section. Agricultural WECS projects shall conform to the regulations of the zoning district, including maximum height and minimum setback standards.
2. Application for special use permit required by this Ordinance shall be made on forms provided by Lodi Township and shall contain the following information, in addition to Article 50.0:
  - a. Plot plan to show location of the WECS pole or tower, guy lines where required, guy line anchor bases, and their distance from all property lines;
  - b. Methods to screen the base of the WECS pole and/or other ground apparatus.
  - c. A permit fee for each WECS as set by Lodi Township Board must accompany the application.

**D. General Standards**

The following standards shall apply to all private and commercial wind energy conversion systems in Lodi Township:

**1. Design Safety Certification**

The safety of the design of all private and commercial WECS towers shall be certified by a Professional Engineer registered in the State of Michigan. The standard for certification shall be included with the permit application.

**2. Controls and Brakes**

All private and commercial WECS projects shall be equipped with manual and automatic controls to limit rotation of blades to a speed below the designed limits of the WECS. The Professional Engineer must certify that the rotor and overspeed control design and fabrication conform to applicable design standards. No changes or alterations from certified design shall be permitted unless accompanied by a Professional Engineer's statement of certification.

**3. Electrical Components**

All electrical compartments, storage facilities, wire conduit and interconnections with utility companies

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will conform to national and local electrical codes.

**4. Compliance with Township Ordinances**

All private and commercial WECS projects shall be in compliance with all Lodi zoning ordinance requirements and other applicable ordinances.

**5. Setbacks**

All private and commercial WECS projects must be setback from property lines at a distance equal to or greater than one hundred fifty percent (150%) of the height of the structure, measured from the base of the structure to the highest reach of its blade.

**6. Height**

Private WECS projects shall conform to the maximum height standards of the zoning district. Commercial WECS projects shall be exempt from the height requirements of this Ordinance, subject to the provisions of Special Uses, ARTICLE 50.0 and compliance with FAA regulations.

**7. Installation Certification**

The Professional Engineer shall certify that the construction and installation of the private or commercial WECS project meets or exceeds the manufacturer's construction and installation standards.

**8. Climb Prevention**

All private and commercial WECS project towers or poles must be unclimbable by design or protected by anti-climbing devices such as:

- a. Fences with locking portals at least six feet high;
- b. Anti-climbing devices 12 feet from base of pole; or
- c. Anchor points for guy wires supporting tower shall be enclosed by a six-foot high fence or shall be located within the confines of a yard that is completely fenced.

**9. Interference**

It shall be the responsibility of the person in charge of the private or commercial WECS to submit acceptable documentation as part of the special use permit to determine if the WECS project would in any way cause interference with microwave transmissions, residential television reception or radio reception.

**10. Fire Risk**

All private and commercial WECS projects must adhere to all applicable electrical codes and standards, must remove fuel sources, such as vegetation, from the immediate vicinity of electrical gear and connections, and must utilize twistable cables on turbines.

**11. Waste**

All solid wastes, whether generated from supplies, equipment parts, packaging, operation or maintenance of the WECS, including old parts and equipment, shall be removed from the site immediately and disposed of in an appropriate manner. All hazardous waste generated by the operation and maintenance of the WECS, including but not limited to lubricating materials, shall be removed from the site immediately and disposed of in a manner consistent with all local, state, and federal rules and regulations.

**12. Noise Levels**

The noise level measured at the property line of the property on which the private or commercial WECS

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project has been installed shall not exceed 55 decibels.

**13. Liability Insurance**

The owner or operator of the private or commercial WECS project shall maintain a current insurance policy with a bond rating acceptable to the Township to cover installation and operation of the WECS project. The amount of the policy shall be established as a condition of special use permit approval. For a private WECS projects accessory to a principal residence, proof of homeowner's insurance with specific coverage for the WECS shall satisfy this requirement.

**E. Additional Standards for Commercial WECS Projects**

The following additional standards shall apply to all commercial wind energy conversion systems in Lodi Township:

**1. Color**

Towers and blades shall be painted any neutral color that is acceptable to Lodi Township or otherwise required by law.

**2. Compliance with FAA**

It shall be the responsibility of the person in charge of the commercial WECS project to complete the proper FAA applications and obtain the proper permits for the WECS project. It shall also be the responsibility of the person in charge of the commercial WECS project to obtain a determination of no significant impact to air navigation from the FAA.

**3. Warnings**

A visible warning sign of "High Voltage" may be required to be placed at the base of all commercial WECS projects. The sign must have at a minimum six-inch letters with 3/4-inch stroke. Such signs shall be located a maximum of three hundred (300) feet apart and at all points of site ingress and egress.

**4. Annual Inspection**

Every commercial WECS project must be inspected annually by an Authorized Factory Representative or Professional Engineer to certify that it is in good working condition and not a hazard to the public. Such records shall be submitted to Lodi Township and considered a part of the continuing special use permit.

**5. Compliance with additional Regulations**

It shall be the responsibility of the person in charge of the commercial WECS project to contact the FCC and FAA regarding additional permits necessary or any other applicable Federal or State regulations for the installation, prior to the Lodi Township granting a Special Use Permit.

**6. Migratory Birds**

The Township may require an avian study conducted by a qualified professional to determine any potential impacts the commercial WECS project may present to migratory birds. The study as part of the special use permit must provide assurances that the WECS project does not negatively impact the path of migratory birds.

**7. Decommissioning Plan and Escrow**

The commercial WECS project must contain a Decommissioning Plan to ensure it is properly decommissioned upon the end of the project life or facility abandonment. Decommissioning shall include: removal of all structures (including transmission equipment and fencing) and debris to a depth of four (4) feet, restoration of the soil, and restoration of vegetation within six (6) months of the end of project life or

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facility abandonment.

The decommissioning plan shall state how the facility will be decommissioned, the Professional Engineer's estimated cost of decommissioning, the financial resources to be used to accomplish decommissioning, and the escrow agent with which the resources shall be deposited. The decommissioning plan shall also include an agreement between the applicant and the Township that:

- a.** The financial resources for decommissioning shall be in the form of a surety bond, or shall be deposited in an escrow account with an escrow agent acceptable to Lodi Township.
- b.** The Township shall have access to the escrow account funds for the expressed purpose of completing decommissioning if decommissioning is not completed by the applicant within six (6) months of the end of project life or facility abandonment.
- c.** The Township is granted the right of entry onto the site, pursuant to reasonable notice, to effect or complete decommissioning.
- d.** The Township is granted the right to seek injunctive relief to effect or complete decommissioning, as well as the Township's right to seek reimbursement from applicant or applicant successor for decommissioning costs in excess of the amount deposited in escrow and to file a lien against any real estate owned by applicant or applicant's successor, or in which they have an interest, for the amount of the excess, and to take all steps allowed by law to enforce said lien. Financial provisions shall not be so onerous as to make wind power projects unfeasible.