

Land Use and Zoning Recommendations

Zoning amendments, map changes and development guidelines are proposed to enhance transportation and land use along the Metacom Avenue corridor. These recommendations are proposed to provide opportunities to redevelop many of the parcels that are ripe for redevelopment. Implementation of zoning recommendations will protect vehicular and pedestrian safety, improve design standards and environmental protection. Importantly, zoning changes will enable mixed use in a corridor that is over-retailed and dominated by several forty- to fifty-year old structures that are ripe for demolition and reconstruction as the economy recovers.

Proposed land use tools include zoning map changes, amendment to the zoning ordinance to create a Metacom Overlay District, and creation of a design guidebook to assist developers in proposing development that will be easily permitted. By clearly laying out the permitting and approval process for development that meets the needs of the Town of Warren in the 2010s, the town will be well positioned to attract development that will enhance the community as a place to live, work and play.

Proposed Zoning Map Amendment

Three zoning map amendments are proposed. Most important to the three map changes is the creation of a Metacom Avenue Overlay District. The overlay district would reflect the permitted uses on the underlying zones while providing a form-based approach to development with requirements to improve pedestrian and vehicular travel, enable residential and mixed use by right or special use permit, and create a more attractive and sustainable corridor through enhanced landscape requirements.

Two zoning map amendments are proposed for parcels at the north end of the Metacom Avenue corridor as indicated in the same figure. A zone change from Manufacturing to Business for the 9-acre Parker Mill property (Plat 12/Lot 111) would facilitate redevelopment of this iconic structure with uses that meet demands for 21st century marketplace. A change to Business zoning would enable the following currently prohibited uses for the redevelopment of this 225,000 square foot building: professional or business office, bank, various service and business uses and the following uses by special use permit: mixed use/residential, restaurant, commercial, recreation, medical center, private education, and ministorage while still allowing limited manufacturing. This would more clearly reflect the redevelopment potential of the mill with diminished demand for heavy industry. The additional scrutiny required through the Zoning Board's review under the special use permit process would be important in assuring that proposed uses are compatible with environmental conditions and other constraints.



The third proposed map change would affect the parking lot across Metacom Avenue from Parker Mill. This 35,580 square foot parcel (Plat 12/Lot 66) is currently zoned R-10, similar to the residential properties south of Libby Lane on the west side of Metacom Avenue. Properties to the west on Arlington Avenue are zoned R6 while the multifamily structures and parking lot north of Rosa Boulevard are zoned Village Business. Rezoning of Lot 66 to Village Business would permit mixed use development that is compatible with the neighborhood.

Proposed Zoning Ordinance Amendment

The Metacom Overlay District is proposed as a new article in the Warren Zoning Ordinance, Article XXIX is to provide requirements for development in the overlay district.

Article XXIX

Metacom Avenue Overlay District

32-171. Statutory Authority and Purpose.

It is a goal of the Town of Warren to promote high quality development along Metacom Avenue that will accomplish the following purposes:

- Create a gateway entrance to Warren,
- Encourage compatible mixed use,
- Enhance pedestrian safety and walkability,
- Minimize the impact of increasing traffic flows,
- Create attractive residential developments with a range of housing type,
- Facilitate an integrated campus-like approach that coordinates use with adjacent properties,
- Protect residential privacy and property values,
- Preserve scenic resources, and
- Protect air and water quality.
- Reduce permeable pavement to protect Kickemuit River water quality.

The Metacom Avenue Overlay District promotes transformation from a vehicular dominated commercial corridor to a walkable, mixed use zone which balances a range of residential dwelling types with commercial uses that that serve the Town of Warren and adjacent communities. Sites shall be designed to function efficiently and with safe, clear vehicular and pedestrian circulation. The overlay district is established to provide an additional set of review criteria and design standards to achieve these goals.



Overlay zone boundary. The overlay zone is mapped on the official zoning map. If more than 50 percent of a parcel of property is included in the overlay, then the overlay shall apply to the entire parcel. The overlay zone applies to parcels with frontage on Metacom Avenue and Arlington Avenue as well as to parcels in the immediate area where more intensive residential or mixed use is appropriate. Any new lots created by the subdivision of lots (regardless of frontage) shall be subject to the Metacom Avenue overlay.

32.172. Definitions

(see §32-164)

32.173. District Requirements and Standards – Generally

- A. All development within the Metacom Avenue Overlay District is subject to the provisions of this article and Article V, as well as all other provisions of the Zoning Ordinance.
- B. The requirements and standards of this article shall apply throughout the Metacom Avenue Overlay District for change of use, within an existing structure, as permitted under Section 32-174. Improvements to a property that cost more than 50% of the assessed value of the property shall require full compliance with the requirements herein. Lots or developments that do not comply with these requirements and standards on the date of enactment shall be considered legal but non-conforming.
- C. All applications for development within the Metacom Avenue Overlay District must include the following, as well as all current requirements for the submission of plans for a major land development. All plans shall be prepared by a registered design professional.
 - C1. Site plan:
 - a. Proposed name and location of the development, together with the name and addresses of the applicant and designer or engineer
 - b. Scale of plan, one (1) inch to forty (40) feet, or as required by the Planning Board.
 - c. Date and north arrow
 - d. Contours at one (1) foot intervals.
 - e. Boundary line of proposed development, indicated by a solid line and the total acreage encompassed thereby.
 - f. Existing conditions including all natural and manmade features within the site and extending one hundred (100) feet into the abutting sites.
 - g. Location, arrangement and dimensions of automobile parking spaces, width of aisles, width of bays, angle of parking.
 - h. Location and dimensions of vehicular drives, entrances, exits, acceleration and deceleration lanes, and locations and dimensions of pedestrian entrances, exists, walks and walkways.
 - i. Stormwater drainage system and sanitary sewers.



- j. Site lighting
 - k. Groundcover, finish grades, slopes, banks and ditches.
 - l. Location and general exterior dimensions of principal and accessory buildings.
 - m. Location, size, height and orientation of all signs other than signs on building facades.
 - n. The stages if any, to be followed in the construction of development and a traffic flow chart showing circulation patterns within the confines of the development.
- C2. Architectural plans:
- a. Shall include floor plans/ plan views at a minimum scale of 1"=40'-0".
 - b. Elevations of all sides of the proposed building(s) at a minimum scale of 1"=16'-0".
 - c. Locations and dimensions for all accessory buildings and areas including but not limited to; loading areas, service areas, drive thru windows, storage, trash containers, utilities and solar collectors.
- C3. Landscape Plans:
- a. Shall provide locations of all proposed street trees, parking lot planting, building site planting, screen/buffer planting, fences, walls, pedestrian paving, landscape lighting and site furnishings
 - b. The above information shall be submitted on a Landscape Plan or may be included on the Site Plan and shall be prepared by a RI registered Landscape Architect.
- D. The Planning Board shall review all submitted plans to assure the safety of traffic movement both within the area covered by the development and in relation to adjacent streets and pedestrian activity; the effect of the proposed development on neighboring land uses; and impact on public services. The Planning Board shall also review the proposed plan as to its compatibility with the Warren Comprehensive Plan as it relates to mixed use, commercial or residential development. The Planning Board shall report its findings to the Zoning Board of Review as required for special use permits or dimensional variances.
- E. Dimensional requirements of Section 32-78 shall apply with the following exceptions:
- 1. In an underlying Business zone a maximum 50-foot front setback from Metacom Avenue shall be provided, regardless of use.
 - 2. In an underlying Village Business zone there shall be a minimum 0-foot setback, or average of the immediate abutting properties on the same side of the street (adjacent) but no more than ten feet.



3. Proposed single or multifamily residential development fronting on Metacom Avenue shall have as a minimum the predominant setback of the residential properties within 150 feet of the subject parcel, including parcels across the street.
 4. A building at an existing or proposed signalized intersection shall have minimum setback of 40 feet for a length of 100 feet from the intersecting side street to accommodate future roundabouts.
 5. Lots created after the effective date of these provisions shall have a minimum of 200-foot frontage on Route 136 (Metacom Avenue).
 6. Accessory buildings shall adhere to the same front, side, and rear yard setbacks and buffer dimensions as the primary building(s).
- F. Sidewalks, walkways, and bus shelters. To provide pedestrian interconnections between adjacent businesses and to facilitate walkable neighborhoods and encourage transit usage, developers shall consider how the proposed development integrates with adjacent use.
1. Sidewalks shall be located adjacent to the development site within the public right of way (Metacom Avenue or town sidestreet).
 2. Sidewalks in the public right-of-way shall have a minimum 5-foot width with a poured concrete surface. Notwithstanding any provisions of this subsection the sidewalk shall be in accordance with the RI Dept of Transportation and town requirements and standards.
 3. Paved walkways shall be provided from the proposed development to the sidewalk on Metacom Avenue and adjacent properties as required by the Planning Board.
 4. New or renovated nonresidential buildings shall have plazas, courtyards or other pedestrian spaces at or near their main entrances.
 5. The developer shall construct a bus shelter complying with RIPTA standards at RIPTA bus stops located adjacent to the subject property for development including 24 or more residential units or a total of 40,000 sf gross leasable area for commercial or office use. The shelter shall be located on the property adjacent to the public right of way, not within the public right-of-way sidewalk.



G. Driveway and roadway spacing.

1. Minimum spacing between driveways and existing and proposed roadway intersections shall be determined based on the posted street speed limit according to the following schedule:

35 MPH or less:	150 feet
40 MPH:	185 feet
40 to 45 MPH:	230 feet

2. Spacing is based on average vehicle acceleration and deceleration rates and are considered necessary to maintain safe traffic operation. Spacing will be measured from the centerline of each driveway.
3. In residential zones, new single or multifamily dwellings with frontage on Metacom Avenue shall access Metacom via a side road or easement to a side road whenever possible.

H. Dimensional requirements for access.

1. Driveways shall be a minimum of 10 feet (maximum of 12 feet) in width for every lane of traffic using such driveway. Driveway width shall be measured 15 feet from the Metacom Avenue intersection.
2. To encourage pedestrian safety along Metacom Avenue, turning radii for access driveways shall not exceed 35 feet.
3. The maximum width for a new driveway including entrance and exit lanes shall be 24 feet and 2 lanes. A travel lane shall be a min. of 10 feet and a maximum of 12 feet wide.

I. Combined access. Shared driveway access is recommended for two or more adjacent properties

1. The Planning Board may require a shared driveway where site, traffic or development conditions warrant. If an interconnection cannot be achieved at the current time, a potential “stub” shall be laid out for future consideration. Although the stub may be used as buffer or parking in the short term, the “stub connection” shall be included in the recorded plan for long term implementation.



2. To reduce curb cuts on Metacom Avenue, driveways shall be located along common property lines or be established by easements over the property being served by the driveway.
3. Where combined access is provided, there may be a reduction in parking spaces as provided in Article XVIII of this chapter or 32.177, below. Should one or both of the parcels with a shared driveway access point be redeveloped or change use (with an anticipated increase in volume), the technical review committee or planning board, as the case may be, may require an alternative site plan design or request the parcel owners seek a variance to maintain the existing driveway configuration.

32-174. Permitted uses.

- A. Any use permitted in the underlying zone in Article VIII shall be permitted in the overlay zone, subject to the standards in Section 32-175, 32-176, 32-177, 32-178.
- B. The following additional uses shall be permitted within the Metacom Corridor overlay:
 1. Multifamily dwelling (2 to 6 units) shall be permitted by right in the underlying Business and R-10 zone.
 2. Mixed use with retail, office or residential use shall be permitted by right, in accordance with the RI State Building Code.
- C. Uses permitted by special use permit are allowed, subject to the guidelines and standards below, if granted by the Zoning Board subject to the requirements of Article V.
 1. Apartment complexes (7 or more units) shall be permitted by special use permit in the underlying Business and R-10 zone, in accordance with Article IX Section 32-60.

32.175. Traffic Study and Mitigation

- A. A traffic impact study, prepared by a state registered professional engineer, shall be prepared for projects which generate new or additional parking for more than 20 cars. The purpose of the traffic study is to determine the proposed development's impact on traffic and level of service as well as specific mitigation measures for same. The scope of the traffic study shall be as required by the planning department during the pre-application process.
- B. Notwithstanding any provision of this subsection, all entrance and exit driveways onto Route 136 in the Metacom Avenue corridor overlay, a state road, shall be in accordance with the requirements of the state department of transportation and shall require a physical alteration permit from the state department of transportation.



1. The Planning Board may require that the study area for traffic impact analysis include the following:
 - a. In general, any links (streets) that would experience a directional increase of 250 ADT or 25 vehicles in a peak hour.
 - b. Extend beyond the immediate area up to a half-mile outside the development boundaries and may include any link or street that experiences a 10 percent directional increase in traffic resulting from the development project and the effects of other development (cumulative impact) which may coincide with the immediate development.
 - c. Require that the traffic study completed for the RIDOT Physical Alteration Permit for access to Metacom Avenue include, at a minimum, the study area identified by the Town's planning department during the pre-application process.
 2. To reduce left turning movements on Metacom Avenue, the Town of Warren and the Rhode Island Department of Transportation shall limit curb cuts to enter/exit only lanes wherever possible.
- C. Traffic control. Require that developers consider roundabouts as an alternative means to traffic signalization.
- D. Transportation management strategies shall be considered to reduce commuting by single occupant vehicles. Strategies include improving multimodal transportation links (sidewalks to bus stops), providing incentives for bus use (RIPTA bus passes), and Ride Sharing /Transportation Demand Management strategies such as car and vanpooling, staggered shift hours, telecommuting.

32-176 Site Design and Layout

- A. Site and building improvements shall be located to preserve significant vegetation.
- B. Any existing tree 24" caliper or larger unless deemed unhealthy or unsuitable for preservation shall be preserved and incorporated into the landscape plan,
- C. Parking lot location: all parking areas shall be located to the rear or side of the buildings. In no case shall parking be located within the rear or side yard landscape buffers: however this provision may be waived if shared parking is being provided. Where parking is located to the rear, the building shall be oriented so that there is at least one rear entrance.



32-177. Alternate or Secondary Access/Egress.

The proliferation of curb cuts and driveways along Metacom Avenue contributes to traffic congestion, impairs pedestrian safety, and may adversely affect the attractiveness of the corridor for business development.

- A. Parcels with frontage along Metacom Avenue and a secondary/side street (i.e. corner lots) shall be prohibited from establishing curb cuts along Metacom Avenue. Access to these properties shall be via the side roads, improving the safety, capacity and visual aesthetics of Metacom Avenue within the immediate area.
- B. Any development in a residential zone, or property that is over 1.0 acre shall have an access to Metacom Ave. via a side street. This access route shall be direct or by easement through an abutting property.
- C. Service road. Developments located on the west side of Route 136, between Plat 15B/Lots 333 or 334 (Ocean State Plaza) and Seymour Street shall provide either a 30-foot right-of-way or 30 foot easement for imminent or future construction of a service road on an alignment as indicated on the attached map (Figure 3.1.1). This service road alignment shall be coordinated within projects and located so that vehicular and pedestrian traffic may move to and from developments without having to re-enter Route 136. The area of such service road shall be counted to meet any minimum lot area requirements.

32.178. Parking

- A. Off-street parking requirements. The number of off-street parking spaces required in the Metacom overlay district shall be reduced from those identified in Section 32-105 for the following uses (parking requirements for all other land uses shall remain the same):
 1. Single and two family dwellings with entrances within 1,000 feet of a RIPTA bus stop **1.5 spaces per dwelling**
 2. Multi-family and apartment dwelling uses with entrances within 1,000 feet of a RIPTA bus stop **1.25 spaces per dwelling**
 3. Businesses, commercial or office uses in buildings **Minimum of three (3.0) spaces per 1,000 sf of gross leasable space, not to exceed four (4.0) spaces per 1,000 sf.**



All parking spaces shall be rounded up to the nearest whole number. Number of spaces shall include ADA-accessible spaces in accordance with the State Building Code.

B. Shared parking.

1. Parking lots on adjoining commercial lots developed at the same time shall be connected internally to allow for channeled-through traffic between the lots and reduce the need for multiple curb cuts. New parking lots for commercial lots shall be designed for immediate or future internal connection to adjacent commercial lots and construction shall include a driveway stub to the property lines. Safe and attractive sidewalks shall be provided between commercial adjacent commercial uses.

If an interconnection cannot be achieved at the current time, a potential “stub” shall be laid out for future consideration. Although the stub may be used as parking in the short term, the “stub connection” shall be included in the recorded plan for long term implementation.

2. Development projects containing mixed uses with staggered peak periods of demand, shall share parking areas. The availability of shared parking on the same lot may support a recommendation for a variance from parking requirements.
3. A shared parking agreement shall be required between parties that shall stipulate that the agreement shall survive the sale or change in use of either of the parcels.
4. The burden of proof that shared parking is not feasible shall be on the applicant.

C. Parking lot landscaping.

1. Parking areas shall be shaded by deciduous trees to reduce the visual impact of parking areas, shade and cool parking, reduce the amount and rate of stormwater runoff, and direct traffic in parking areas.
2. A minimum of one shade tree (large canopy tree) shall be provided for every ten parking spaces.
3. There shall be no more than 15 spaces in a single row without an intervening planted island.
4. Required landscaping shall be in beds, islands or medians, such that there is a minimum clear, unpaved, surface area of 120 square feet of rooting space per tree a minimum of 6’ wide. Plantings shall be protected with curbing or wheel stops.



5. Wherever possible and appropriate, the landscape islands and medians shall be designed as bio-retention areas using appropriate plantings to retain and filter storm water runoff. (See 32.180).
6. Public right-of-way buffer for any parking lot of 5 cars or greater. With the exception of the underlying Village Business or Manufacturing zone, there shall be a vegetated buffer a minimum of ten feet (10') wide for the entire length of any parking area abutting the Metacom Avenue public right of way and a minimum of five feet (5') for any other public right-of-way. This vegetated buffer shall consist of street trees where required and shrubs with a min. mature height of 3'. Within the underlying Village Business or Manufacturing zone, the minimum buffer width shall be five feet (5').

32.179 Landscape Design

Open space within lots and parking areas shall be landscaped with trees, shrubs and groundcovers to enhance the environmental and aesthetic character of the Metacom Avenue corridor, to reduce the visual impact of parking areas, service structures and large scale commercial development from the public right of way and adjoining properties, and to support low impact development techniques for stormwater management.

A. Compliance.

Compliance shall be in accordance with 32.173 B. Improvements that cost more than 20% but less than 50% shall be planted so that the total square footage of tree canopy is a minimum of 50% of that required for the lot.

B. General tree canopy cover

1. A sufficient number of trees shall be planted on a lot so that the total square footage of the tree canopy coverage is a minimum of 25% of the square footage of the lot. The square footage of canopy varies according to the tree species or cultivar (see list below). Acceptable trees are shown in the table below. For developments that encompass more than one lot, the percentage of canopy coverage shall be the total canopy for the combined lots for the combined total lot square footage.
2. Canopy area per tree shall be calculated using (2) size categories as follows:
Each large tree = 1,000 square feet
Each small tree = 300 square feet



3. Tree size at planting for a large tree shall be a minimum 2½” caliper as measured 6” above the ground and for a small tree the size at planting shall be 1 ½” caliper as measured 6” above the ground.
4. Any trees contributing to required canopy cover shall have a surface rooting area (unpaved) a minimum 120 sf per tree. This rooting area can include shrub planting.
5. Any existing tree to remain on the lot shall be allowed to be included in canopy cover calculations. If an existing tree is on or near the property line, calculate the actual square footage of tree canopy overhanging the lot. This provides that the existing tree to remain must be in good condition and within a planting bed at existing grade with a min. 120 sf of unpaved rooting area min. 6’ wide.
6. Street trees in the public right-of-way frontage shall be considered in the canopy calculations.
7. Shrubs shall not be considered in the canopy calculations.
8. Larger trees are preferred over small trees in meeting canopy requirements and diversity of species is considered important.
9. Suggested canopy trees

Large trees (1,000 sf each)

<i>Botanical name</i>	<i>Common name</i>
Acer rubrum cultivar	Red maple
Cedrus libani	Cedar of Lebanon
Celtis occidentalis cultivar	Hackberry
Ginkgo biloba	Ginkgo
Gleditsia triacanthos inermis	Thornless honeylocust
Liquidambar stylaciflua	Sweetgum
Metasequia glyptostroboides	Dawn Redwood
Platanus acerifolia ‘Bloodgood’	London plane
Quercus alba	White oak
Quercus bicolor	Swamp white oak
Quercus palustris	Pin oak
Quercus robur	English oak
Sophora japonica ‘Regent’	Scholar tree
Tilia cordata ‘Greenspire’	Linden
Tilia x euchlora	Linden
Ulmus x ‘Homestead’	Hybrid elm
Zelkova serrata ‘Village green’	Zelkova



Small trees (300 sf each)

<i>Botanical name</i>	<i>Common name</i>
Acer rubrum ‘Armstrong’	Columnar Red maple
Carpinus caroliniana fastigiata	Upright hornbeam
Crataegus laevigata ‘Crimson Cloud’	English Hawthorn
Malus x ‘Snowdrift’	crabapple
Picea abies	Norway spruce
Prunus sargentii	Sargent cherry
Pyrus calleryana ‘Aristocrat’	Pear
Syringa reticulata ‘Ivory silk’	Tree lilac

- C. Street trees shall be planted in the public viewshed on private property if the public right of way is not wide enough to allow street trees centered a minimum of 6’ from the curb and a minimum of 8’ from overhead wires. Species and spacing will be according to the town’s Metacom Avenue street tree plan.

- D. Perimeter landscaping for mixed/business/multifamily use adjacent to abutting residentially zoned or residentially developed properties.
 - 1. The landscape buffer shall be a 10’ wide densely planted landscape strip with a minimum 6’ high visual screen. In all instances the landscape buffer shall consist of trees and shrubs of varieties proven hardy in this area and growing conditions and of sufficient size to be an immediate 4’ high screen. A minimum of (2) large canopy trees per 100 lineal feet of boundary line are required. Where applicable, solid fencing may be required.

- E. Landscape maintenance and replacement

All landscape areas counted in the fulfillment of landscape requirements, shall be properly maintained including watering, weeding, mulching, cleaning of litter, and replacements in accordance with approved plans. If a tree or any plant material dies, it shall be replaced within 6 months so as to meet all requirements of this section and to allow for planting in the appropriate season. Failure to maintain a landscape area shall be deemed a violation of this ordinance.

- F. Landscape irrigation/ water conservation
 - 1. Any irrigation system shall incorporate water conservation measures
 - 2. All planting beds shall be mulched to help retain moisture.



32.180 Sustainability

All developments and redevelopments shall comply with storm water best management practices as described in the “Rhode Island Storm Water Design and Installation Standards Manual” Dec. 2010.

32.181 Architectural Design

A. Building mass and scale

1. Large formal commercial (LFC) “big box” architecture shall be prohibited.
2. Any building façade greater than 50’ long shall be broken down to reduce the visual scale of the building. (See guidelines)

B. Facades:

1. Transparency: Ground floor transparency shall provide visual connection between activities inside and outside at the ground floor level of a building. Ground floor transparency shall be calculated in façade areas between 2 and 10 feet above average grade. Vision glass shall be used.
 - a. Any building less than 60’ from a street shall have ground floor transparency of a minimum of 15 % for any building facade visible from a public street.
 - b. Any building with commercial use(s) that is less than 60’ from a street shall have ground floor transparency of a minimum of 30 % for any building facade visible from a major street.
2. Color: The use of high intensity, black or fluorescent colors are prohibited on building facades.
3. 360° design: Buildings shall have well designed facades on all sides. This is considered “360 degree design”.

C. Orientation:

1. Buildings fronting on Metacom Avenue shall be aligned in the same orientation to the street as adjacent buildings.
2. The principal façades shall face Metacom Avenue and areas dedication to pedestrian circulation from parking.



D. Service and loading areas/equipment screening:

Accessory buildings or area such as loading docks, service, utilities, trash containers, and outside storage shall not face a public gathering area or street and shall be screened from public view.

E. Drive through service window:

Drive through service windows shall not be located on the building facade facing Metacom Avenue or any side street.

32.182 Site Lighting

A. Lighting shall be designed, constructed and installed to control glare and light trespass to adjacent sites.

B. Low pressure sodium lamps are prohibited

C. All driveway and parking areas lighting shall be full cut-off fixtures and located for uniform light distribution.

D. Light standards shall no exceed fifteen (15) feet in height.

E. Where two sites share parking or driveway, lighting design and installation on both lots shall be coordinated to maintain uniform lighting level and style for both properties.

F. Building lighting for security or aesthetics shall be full cut off or shielded type minimizing light trespass and up lighting beyond the building.

32.183 Signs

A. Maximum signage area per development shall not exceed sixty square feet (60 SF). In calculating total square feet of signage, the total area of free standing signs, wall mounted signs, symbols and symbol signs and awing signs shall all be included in calculation for each development.

B. Obsolete signs or obsolete supporting structures which no longer advertise a bonafide business shall be removed within sixty days of closing of said business.

Proposed Metacom Overlay Amendments

The following Overlay District Design Guidelines have been developed for incorporation into the Town of Warren Zoning Ordinance.



**Metacom Avenue Overlay District Design Guidelines
Warren, Rhode Island**

Table of Contents

PART 1 SITE DESIGN AND LAYOUT

Intent
Guidelines

- 1.1 Front Setback
- 1.2 Setback Exceptions
- 1.3 Building orientation
- 1.4 Retaining walls
- 1.5 Space between buildings
- 1.6 Sidewalks and pedestrian connections
- 1.7 Accessory buildings
- 1.8 Entrance plazas

PART 2 PARKING AND TRAFFIC CIRCULATION

Intent
Guidelines

- 2.1 Driveways
- 2.2 Alternate access/egress
- 2.3 Parking
- 2.4 Shared parking

PART 3 ARCHITECTURAL DESIGN

Intent
Guidelines

- 3.1 Building mass and scale
- 3.2 Heights
- 3.3 Roofs
- 3.3 Facades
- 3.4 Entrances
- 3.5 360 Degree design
- 3.6 Ancillary Structures
- 3.7 Service and loading areas/ Equipment screening
- 3.8 Drive-through service windows

PART 4 SUSTAINABILITY/ ENERGY EFFICIENCY

Intent
Guidelines

- 4.1 LEED Certified buildings
- 4.2 Solar Radiation
- 4.3 Green Roofs
- 4.4 LID strategies



PART 5 EXTERIOR SITE LIGHTING

Intent
Guidelines

- 5.1 Fixture design and illumination
- 5.2 Decorative architectural lighting
- 5.3 Parking lot lighting
- 5.4 Pedestrian lighting
- 5.5 Landscape lighting
- 5.6 Site security lighting
- 5.7 Curfew
- 5.8 Output standards
- 5.9 Upward search lighting
- 5.10 Holiday lighting
- 5.11 Definitions

PART 6 LANDSCAPE DESIGN

Intent
Guidelines

- 6.1 General tree canopy cover
- 6.2 Perimeter landscaping adjacent to public roads
- 6.3 Perimeter landscaping adjacent to abutting residential properties
- 6.4 Parking lot landscaping
- 6.5 Building site landscaping
- 6.6 Landscape irrigation/ water conservation
- 6.7 Existing vegetation
- 6.8 Topsoil/ loam
- 6.9 Landscape maintenance and replacement
- 6.10 Material standards and selection
- 6.11 Site furniture and features

PART 7 SCREEN WALLS AND FENCES

Intent
Guidelines

- 7.1 Wall and fence design
- 7.2 Screening requirements

PART 8 SIGNS

Intent
Guidelines

- 8.1 Ref. Zoning Ordinance



PART 9	DESIGN REVIEW
	Intent
	Guidelines
	9.1 Design Review Commission
	9.2 Submission amendments
	9.3 Overlay amendments
APPENDIX A	GLOSSARY OF TERMS
APPENDIX B	RECOMMENDED PLANT MATERIALS LIST



Metacom Avenue Overlay District Design Guidelines Warren, Rhode Island

Site Design and Layout

Intent

Sites shall be designed to function efficiently and with safe, clear vehicular and pedestrian circulation. Major objectives shall be to minimize traffic congestion on Metacom Avenue and coordinate the uses of compatible adjacent properties.

Guidelines

1.1 Front setback

- a. There shall be a minimum 25 foot setback and a maximum 50 foot setback from Metacom Avenue.

1.2 Setback exceptions

- a. New residential development fronting on Metacom Avenue in single or double unit residential zones shall have as a minimum the predominant set back of the residential properties in the area.
- b. A building at a major signalized intersection shall have minimum setback of 40 feet for a length of 100 feet from the intersecting side street to accommodate future roundabouts.
- c. The Metacom Avenue set-back dimension for cluster developments shall be a minimum of 200 feet to protect open space character.

1.3 Building orientation

- a. Buildings fronting on Metacom Avenue shall be aligned in the same orientation to the street as adjacent buildings.

1.4 Retaining walls

- a. Development shall be sensitive to and incorporate the natural grade of the site. Buildings should be designed to make grade transitions or stepped retaining walls with landscaping. Retaining walls shall be distributed throughout the site as necessary. Perimeter walls greater than 3 feet high are prohibited without the specific approval of the Planning Board.

1.5 Space between buildings

- a. The importance of spaces between buildings should be recognized. These spaces should have a planned and useful shape and not simply be left-over spaces.



1.6 Sidewalks and pedestrian connections

- a.** Development fronting Metacom Ave. or any public street shall have a sidewalk even if adjacent properties do not have sidewalks. These sidewalks shall be 5' wide, poured concrete.
- b.** Within Metacom mixed use zones, there shall be sidewalks connecting the Metacom Ave sidewalk to the main entrance of the building(s) and convenient sidewalks connecting adjacent parking lots and commercial uses.
- c.** Developer/owner shall install a new sidewalk, complying with town standards) Along Metacom Ave. frontage where sidewalk is missing, or is not poured concrete complying with town standards. Damaged sidewalks shall be cleanly saw-cut and patched.

1.7 Accessory buildings

- a.** These buildings shall adhere to the same front, side, rear yard set backs and buffer dimensions as the primary building(s).

1.8 Entrance plazas

- a.** New or renovated non residential buildings shall have plazas, courtyards or other pedestrian spaces at or near their main entrances.
- b.** These entrance spaces shall have special amenities such as:
 - 1. Special interest landscaping
 - 2. Special lighting
 - 3. Special paving materials, scoring, or texture
 - 4. Site furnishings such as benches, seating walls
 - 5. Bollards, bike racks or sculpture



Parking and Traffic Circulation

Intent

Sites shall be designed to minimize curb cuts and access points on Metacom Avenue to restrict conflicting turning movements and to allow a corridor with safer opportunities to pedestrians and non-motorized vehicles.

Guidelines

2.1 Driveways

- a.** Parcels with frontage along Metacom Avenue and a secondary/side street (corner lots) shall be prohibited from establishing curb cuts along Metacom Avenue. Access to these properties shall be via the side roads, improving the safety, capacity and visual aesthetics of Metacom Avenue within the immediate area. Curb cuts may be permitted for enter/exit only lanes that prohibit left turning movements onto Metacom Avenue.
- b.** In residential zones, new single or double unit houses with frontage on Metacom Avenue shall access Metacom via a side road or easement to a side road whenever possible.
- c.** The maximum width for a new driveway including entrance and exit lanes and island shall be 42 feet. A travel lane shall be a minimum of 10 feet and a maximum of 12 feet wide.
- d.** Shared driveways/ access. The sharing of driveway access points by two or more properties is recommended particularly where the driveway volumes will be low. Driveways should be located along common property lines or be established by easements over the property being served by the driveway. The technical Review Committee or the Planning Board, may require a shared driveway where site, traffic or development conditions warrant. In, addition, an access easement to adjacent commercial sites for coordinated joint parking areas may also be required. Where shared driveways/access is provided, there may be a reduction in parking spaces.



2.2 Alternate access/ egress

- a.** Any development in a residential zone or property that is over 100,000 square feet shall have an access to Metacom Avenue via a side street. This access route shall be direct or by easement through an abutting property.
- b.** Any development within the Metacom mixed use zone shall have access to Metacom Avenue via a side street that has an existing signalized intersection or roundabout. This access route shall be direct or by easement through an abutting property.
- c.** The access route for Metacom mixed use zone or residential zone properties over 100,000 SF shall be a two-way asphalt paved roadway.

2.3 Parking

- a.** All parking areas shall be located to the rear or side of the buildings and in no case be located in the rear or side yard setbacks. This provision may be waived if shared parking is provided.
- b.** Where parking is located in the rear, buildings should be oriented so that there is at least one rear entrance.
- c.** There shall be a 20' minimum landscape buffer between parking lots and residential properties.

2.4 Shared parking

- a.** Parking lots on adjoining commercial lots developed at the same time shall be connected internally to each other to allow for channeled-through traffic between the lots and reduce the need for multiple curb cuts.
- b.** Development projects containing mixed uses with staggered peak periods of demand, shall share parking areas. The availability of shared parking on the same lot may support a recommendation for a variance from parking requirements.



Architectural Design

Intent

New developments shall enhance and strengthen the community and the character of the specific Metacom Avenue neighborhoods whether they be small scale residential or larger scale developments. The developments should be integrated with the surroundings in mass, scale and detailing allowing attractive neighboring architecture to inform the size, shape, style, materials and detailing of new buildings. Contemporary design for new structures, alterations or additions to existing properties however, shall not be discouraged when such design is compatible with the surrounding built environment.

Guidelines

3.1 Building mass and scale

- a.** Building mass can be defined as the building's volume or bulk and is usually used in reference to larger structures. It is important to breakup the apparent mass and scale of larger structures so that this type of development is integrated with its surroundings and does not detract from scale and sense of place.
- b.** Large Format Commercial (LFC) "big box" architecture shall be prohibited. 'Logo' buildings that are incompatible with the character of the neighborhood shall be prohibited.
- c.** Any building façade greater than 50 feet long shall be broken down to reduce the visual scale of the building. One or more of the following strategies shall be used.
 1. Volumes and planes can be broken or divided into smaller units.
 2. Roof lines can be varied to break up massing and provide visual interest. This can include variation in roof heights, gables, dormers, a well defined parapet and/or upper stories off sets or changes in materials.
 3. Façades can include vertical or horizontal articulation.
 4. Pedestrian scale elements such as arcades, patios, plazas, sidewalks and other pedestrian friendly elements should make comfortable pedestrian environments.



3.2 Heights

- a. Buildings should be designed to step up in height from lower height adjacent to less intensive land uses, especially small scale residential areas, to the maximum height of new development.
- b. Dimension variation: The Metacom mixed use zone shall allow heights up to 50'.

3.3 Roofs

- a. Roof shall contribute to attractive proportions and scale of the building.
- b. Sloping roofs shall not exceed the average height of the supporting walls.
- c. The average slope shall be no less than one foot vertical rise for every three feet horizontal run and no greater than one foot of vertical rise for every one foot of horizontal run.
- d. Roof overhangs shall be a minimum of two feet beyond the supporting walls.
- e. Flat roofs shall be embellished with parapets concealing the view of the roof.
- f. The color and materials of the roof shall be consistent with the architectural character of the building and convey a sense of permanence and quality.

3.4 Facades

- a. Ground floor transparency shall provide visual connection between activities inside and outside at the ground floor level of a building. Ground floor transparency shall be calculated in façade areas between 2 and 10 feet above average grade. Vision glass shall be used.
 - 1. Any building less than 60' from a street shall have ground floor transparency of a minimum of 15 % for any building facade visible from a public street.
 - 2. Any non-residential building less than 60' from a street shall have ground floor transparency of a minimum of 30 % for any building facade visible from a major street.
- b. To ensure that buildings do not display blank opaque walls, portions of ground floor façades that are not transparent shall have treatments with architectural interest and the character of the development.
- c. Color: Façade colors shall be low reflectance, subtle colors typically consistent with Bristol architecture. The use of high intensity, black or fluorescent colors are prohibited. Accent and trim colors should complement and enhance the effect of the primary color. Bright corporate colors should be limited in use to signage.
- d. Facades of adjacent buildings shall visually respect and respond to each other.



3.5 Entrances

- a. Public entrances shall be easily identified and distinct from the remainder of the building, distinguished through architectural form, such features as canopies, porticos, use of color, material, texture and/or other significant detailing.
- b. The principal façade and entry shall face the street or other area dedicated to pedestrian circulation.

3.6 360 degree design

- a. Buildings shall have well designed façades on all sides. This is considered “360 ° designs”. All sides shall be treated with the same design care, displaying continuity, harmony and aesthetic quality.

3.7 Ancillary structures

- a. Accessory building areas such as loading docks, service, outside storage and employee areas should be consistent with the overall design of the primary building. All structures on the site and attachments or appendages to approved buildings shall be reviewed and approved in a manner similar to that of the primary structure.
- b. Dimensional variance: The height of accessory structures shall be no greater than 20 feet.

3.8 Service and loading areas/ equipment screening

- a. Accessory building areas such as loading docks, service areas, utilities, trash, outside storage and employee areas should be screened from public view and shall not face a public gathering area or street. Options to screen include: Incorporating the element into the architectural design of the building, locating the element into a proposed planting bed or screening the element with appropriate planting and/or fencing.
- b. Roof mounted mechanical equipment shall be concealed from view by screening or enclosure in a manner consistent with the architectural character.

3.9 Drive- through service windows

- a. Drive thru service windows shall only be located on the side or in the rear of Properties.



Sustainability/Energy Efficiency

Intent

To the maximum extent reasonably practicable, developments should utilize energy efficient technology and renewable energy resources and adhere to the principles of energy-conscious design with regard to orientation, building materials, shading, landscaping and other elements.

Guidelines

4.1 LEED® (Leadership in Energy and Environmental Design)

LEED® is an internationally recognized green building certification system developed by the U.S. Green Building Council.

- a. LEED is a voluntary certification program that can be applied to any building type and any building lifecycle phase. It promotes a whole-building approach to sustainability by recognizing performance in key areas: Sustainable site, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, location and linkages, awareness and education, innovation in design and regional priority.
- b. The implementation of LEED® strategies in new construction and existing building renovation, operations and maintenance shall be encouraged, even if LEED® certification is not being sought.

4.2 Solar radiation

- a. New development shall maximize the benefits of solar radiation. Orientation recognized in the facade treatment, trees and shade structures shall be incorporated into designs.

4.3 Green roof

- a. Multilayered, constructed roof systems consisting of a vegetative layer, media, a geotextile layer, and a synthetic drain layer installed on building rooftops. Rainwater is either intercepted by vegetation and evaporated to the atmosphere or retained in the substrate before being returned to the atmosphere through transpiration and evaporation.



-
- b. “Green” roofs are encouraged in any development design and the green roof area shall be considered non-roof for any landscape area calculations.

4.4 LID (Low Impact Development) is a comprehensive approach to managing stormwater to maintain or replicate predevelopment hydrology through the use of site planning, source control, and small scale practices integrated throughout the site to prevent, infiltrate and manage runoff as close to its source as possible.

- a. **(10) Ten LID Site planning and design objectives for all development as referenced in the Rhode Island Stormwater Design and Installation Standards Manual Dec. 2010.**

Avoid Impacts

1. Protect as much undisturbed open space as possible to maintain pre-development hydrology and allow precipitation to naturally infiltrate into the ground.
2. Maximize the protection of natural drainage areas, streams, surface waters, wetlands, and jurisdictional wetland buffers.
3. Minimize land disturbance, including clearing and grading, and avoid areas susceptible to erosion and sediment loss.
4. Minimize soil compaction and restore soils compacted as a result of construction activities or prior development.

Reduce Impacts

5. Provide low- maintenance, native vegetation that encourages retention and minimizes the use of lawns, fertilizers, and pesticides.
6. Minimize impervious surfaces.
7. Minimize the decrease in the “time of concentration” from pre-construction to post construction, where “time of concentration” means the time it takes for runoff to travel from the hydraulically most distant point of the drainage area to the point of interest within a watershed.

Manage Impacts at the Source

8. Infiltrate precipitation as close as possible to the point it reaches the ground using vegetated conveyance and treatment systems.
9. Break up or disconnect the flow of runoff over impervious surfaces.
10. Provide source controls to prevent or minimize the use or exposure of pollutants into stormwater runoff at the site in order to prevent or minimize the release of those pollutants into stormwater runoff.



(Some examples of 'Best management Practices' to control stormwater)**b. Permeable Paving**

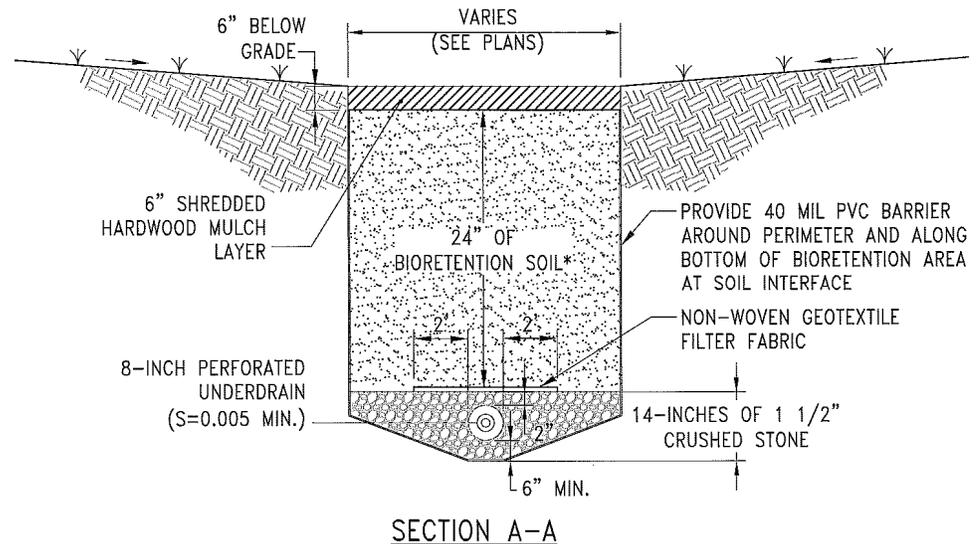
1. Permeable paving practices capture and temporarily store the water quality volume before allowing it to infiltrate into the soil or convey it to another stormwater practice.
2. Permeable paving surfaces are best used in low traffic areas such as overflow parking, residential driveways, sidewalks, plazas and courtyard areas. Areas with high volumes of sediment particles, high traffic volumes and speeds or steep slopes may cause system failures.
3. There are two major types of permeable paving:

a) Porous asphalt and pervious concrete. Although the appearance is

c. Bio

1.

2.



For further and more complete guidance and design standards for stormwater management see:

Rhode Island Stormwater Design and Installation Standards Manual Dec. 2010 Rhode Island Department of Environmental Management and Coastal Resources Management Council.



EXTERIOR SITE LIGHTING

Intent

Lighting systems shall be designed, constructed and installed to control glare and light trespass, minimize obtrusive light, conserve energy and resources while maintaining safety, visibility, and security of individuals and property.

Compliance: When the outdoor lighting installation is being modified, extended, expanded or added to, the entire outdoor lighting installation shall be subject to the requirements of this section.

Guidelines

5.1 Fixture design and illumination

- a. Lamp type: Metal Halide lamps are preferred. Low pressure sodium lamps are prohibited. Incandescent lighting fixtures are acceptable only for single and two family residential uses.
- b. Lights which produce a warm effect rather than a cool effect should be used.
- c. Adjacent to residential property, no direct light source will be visible at the property line at ground level or above.

5.2 Decorative architectural lighting

- a. The style and placement of exterior accent lighting shall enhance the building's architectural elements, such as the entrances, façade articulation, detail and landscaping.
- b. Dark colored fixtures are generally preferred for pole mounted lights. Building mounted fixtures generally fit better if painted to match the building or background.

5.3 Parking lot lighting

- a. All parking area lighting will be full cut-off type fixtures.
- b. Lighting poles shall be located within landscaped islands for safety and aesthetic reasons. Poles shall be staggered to maintain a uniform light distribution.
- c. Light fixture height shall be less than fourteen (14) feet to minimize dark spots.



- d. Light in landscape areas shall be below the mature tree canopy to minimize dark spots.
- e. Light fixtures shall be restricted to two hundred fifty (250) watt halide lamps.
- f. Where two sites share parking areas, drives, etc. lighting design and installation on both lots should be coordinated so as to maintain a uniform lighting level for both properties.

5.4 Pedestrian lighting

- a. Pedestrian lighting poles shall be a maximum of twelve (12) feet.

5.5 Landscape lighting

- a. Spot lights used to illuminate buildings, signs or specific amenities/features shall be located, aimed and shielded so as to minimize light trespass and uplighting.

5.6 Site security lighting

- a. All building lighting for security or aesthetics will be full cut-off or shielded type, not allowing any upward distribution of light. Flood lighting is discouraged, and if used, must be shielded to prevent:
 1. Disability glares for drivers or pedestrians.
 2. Light trespass beyond property line.
 3. Light above a 90 degree, horizontal plane. Unshielded wall pack type fixtures are acceptable.

5.7 Curfew

- a. Curfew: All non-essential lighting shall be turned off after business hours leaving only lighting for site security.

5.8 Output standards

Lighting application	Recommended foot candle	Uniformity ratio	Lighting & lamp type	Recommended mounting height
Parking areas	0.2-0.3	4:1	Metal halide: functional cut-off or decorative lamp housings	16'



Lighting application	Recommended foot candle	Uniformity ratio	Lighting & lamp type	Recommended mounting height
Walkways & sidewalks	0.1-0.2	4:1	Metal Halide or incandescent: Decorative post or lamp	12'
Signs	1.0-3.0	2:1	Metal Halide or incandescent: Ground or sign mounted & shielded	As required
Building exterior				
Entry	5.0			
Grounds	1.0			

5.9 Upward search lighting

- a. Upward search or spot lighting of the sky for entertainment or advertising purposed is prohibited.

5.10 Holiday lighting

- a. Light used for holiday decorations for no more that 45 days and decorative lights on deciduous trees in dormant condition are except from the requirements of this section.

5.11 Definitions

Cut-off Fixture: By design of the housing and optics, less than 2.5% of the light can leave the fixture above the 90 degree or horizontal plane from the base of the fixture.

Full Cut-off Fixture: The design of the housing and optics does not allow any light dispersion or direct glare to shine above a 90 degree or horizontal plane from the base of the fixture.



Landscape Design

Intent

Open space within lots and parking areas shall be landscaped with trees, shrubs and groundcovers to enhance the environmental and aesthetic character of the Metacom Avenue corridor and to reduce the visual impact of parking areas, service structures and large scale commercial development from the public right of way and adjoining properties.

Compliance: Lots or developments that do not comply with these Landscape Design Guidelines on the date of enactment shall be considered legal but non-conforming.

- a. Improvements to a property that cost more than 50% of the assessed value of the property shall require full compliance with these Guidelines or a dimensional variance.
- b. Improvements that cost more than 20% but less than 50% shall be planted so that the total square footage of tree canopy is a minimum of 15% of the square footage of the lot and there shall be a vegetated buffer a minimum of ten feet (10') wide for the entire length of any parking area abutting the Metacom Avenue public right of way.

Guidelines

6.1 General tree canopy cover

- a. A sufficient number of trees shall be planted on a lot so that the total square footage of the tree canopy coverage is a minimum of 25% of the square footage of the lot. The square footage of canopy varies according to the tree species or cultivar (see list below). Acceptable trees are shown in the table below. For developments that encompass more than one lot, the percentage of canopy coverage shall be the total canopy for the combined lots for the combined total lot square footage.
- b. Canopy area per tree is calculated using (2) size categories as follows:
 - Each large tree = 1,000 square feet
 - Each small tree = 300 square feet
- c. Tree size at planting is to be minimum 2 1/2" caliper as measured 6" above the ground.
- d. Any trees contributing to require canopy cover shall have a surface rooting area (unpaved) a minimum 120 sf per tree. This rooting area can include shrub planting.



- e. Any existing tree to remain on the lot can be included in canopy cover calculations. If an existing tree is on or near the property line, calculate the actual square footage of tree canopy overhanging the lot. This provides that the existing tree to remain must be in good condition and within a planting bed at existing grade with a min. 120 sf of unpaved rooting area min. 6' wide.
- f. Shrubs are not considered in the canopy calculations
- g. Larger trees are preferred over small trees in meeting canopy requirements and diversity of species is considered important.
- h. Suggested canopy trees

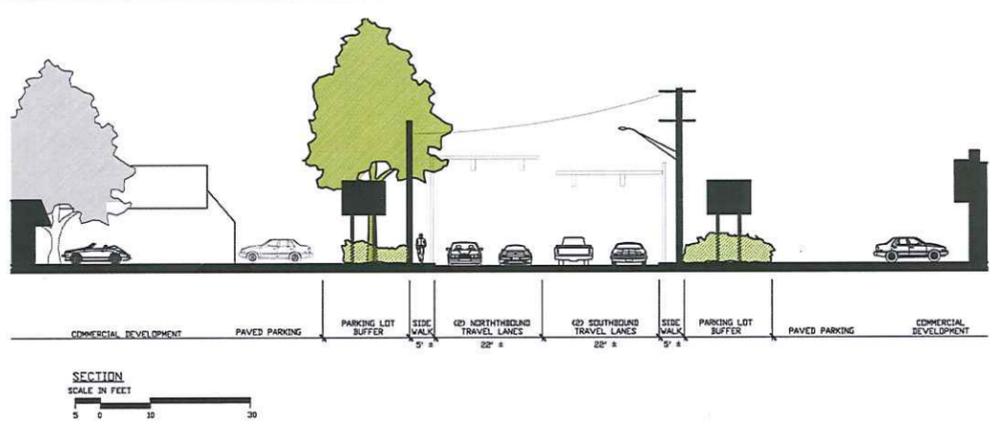
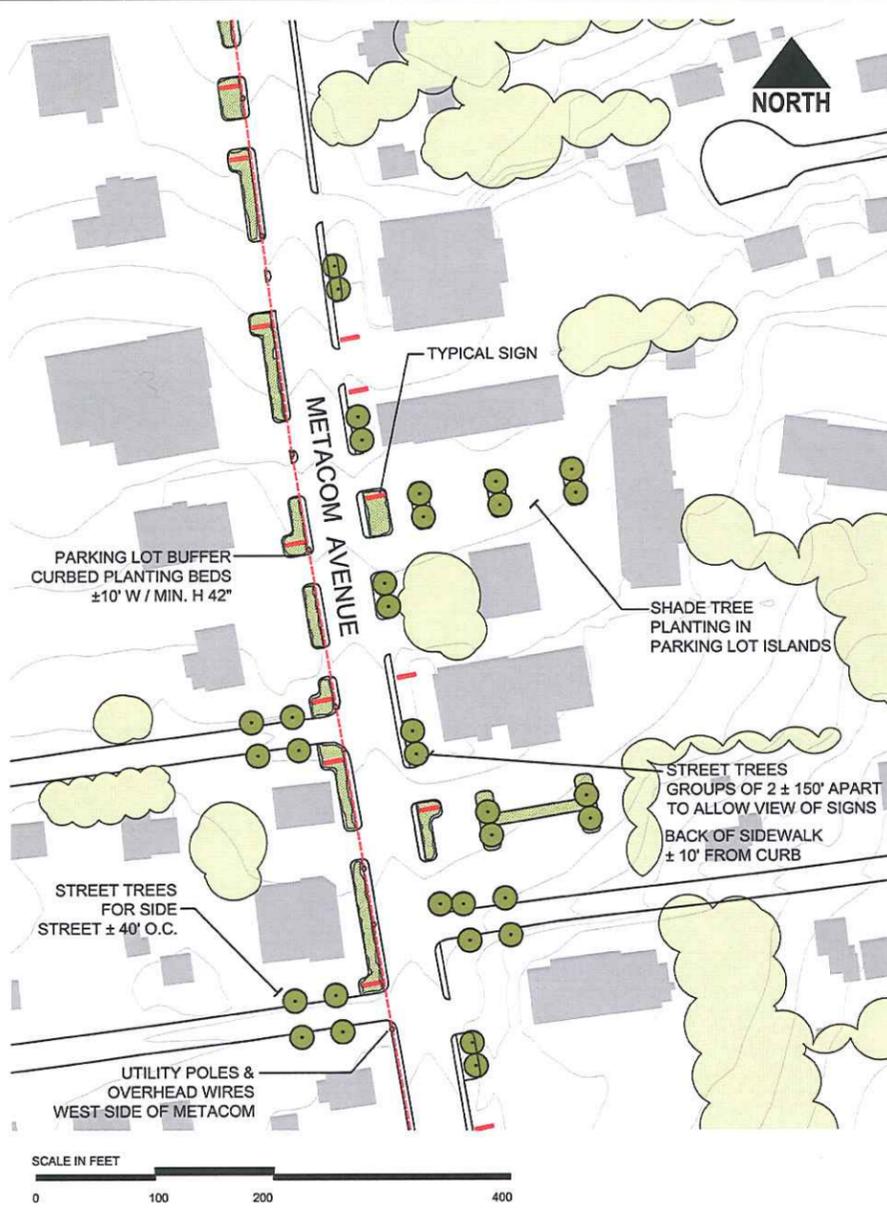
Large trees (1,000 sf each)

<i>Botanical name</i>	<i>Common name</i>
Acer rubrum cultivar	Red maple
Celtis occidentalis cultivar	Hackberry
Ginkgo biloba	Ginkgo
Gleditsia triacanthos inermis	Thornless honeylocust
Liquidambar stylaciflua	Sweetgum
Metasequia glyptostroboides	Dawn Redwood
Platanus acerifolia 'Bloodgood'	London plane
Quercus alba	White oak
Quercus bicolor	Swamp white oak
Quercus palustris	Pin oak
Quercus robur	English oak
Sophora japonica 'Regent'	Scholar tree
Tilia cordata 'Greenspire'	Linden
Tilia x euchlora	Linden
Ulmus x 'Homestead'	Hybrid elm
Zelkova serrata 'Village green'	Zelkova

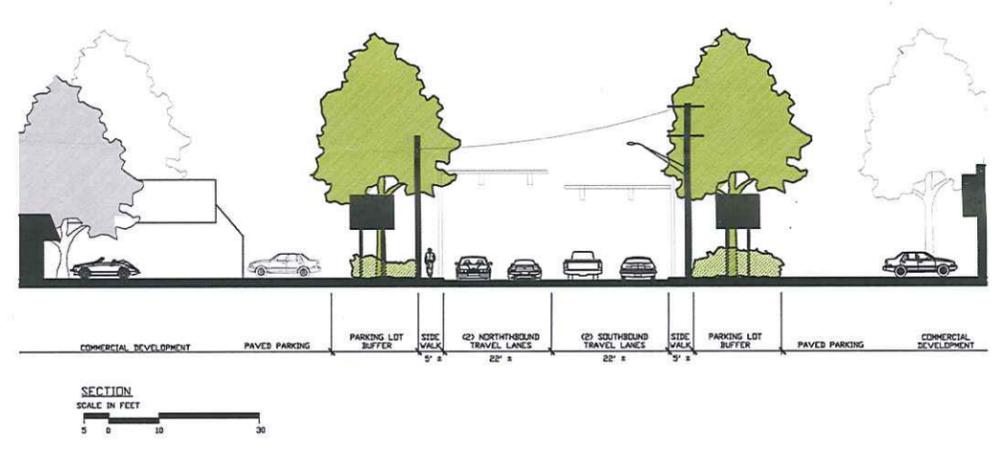
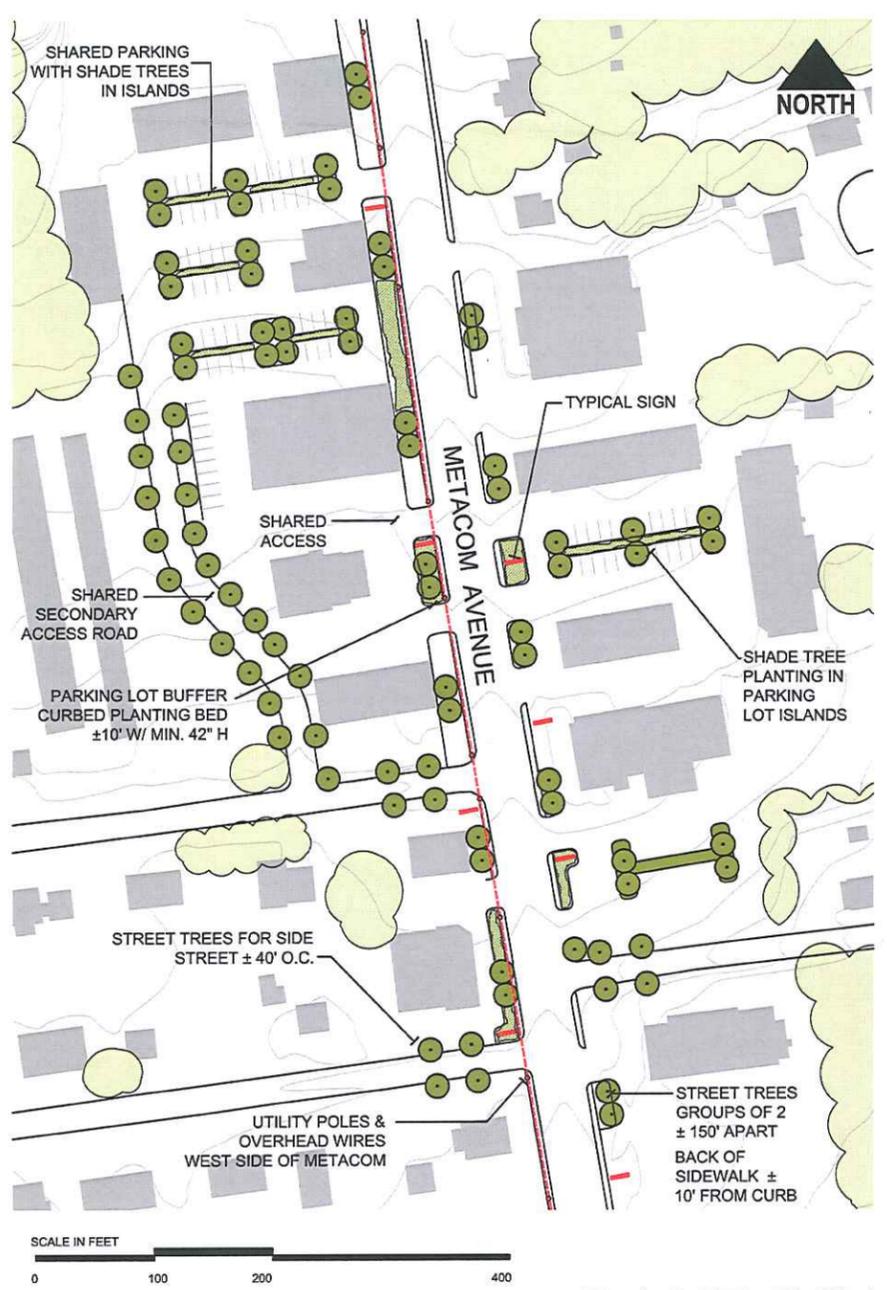
Small trees (300 sf each)

<i>Botanical name</i>	<i>Common name</i>
Acer rubrum 'Armstrong'	Columnar Red maple
Carpinus caroliniana fastigiata	Upright hornbeam
Crataegus laevigata 'Crimson Cloud'	English Hawthorn
Malus x 'Snowdrift'	crabapple
Prunus sargentii	Sargent cherry
Pyrus calleryana 'Aristocrat'	Pear
Syringa reticulata 'Ivory silk'	Tree lilac

Conifers (100 sf each)



LANDSCAPE CONCEPT A



LANDSCAPE CONCEPT B

6.2 Perimeter landscaping adjacent to public roads

- a. Public right of way buffer. There shall be a vegetated buffer a minimum of ten feet (10') wide for the entire length of any parking area abutting the Metacom Avenue public right of way and a minimum of five feet (5') for any other public right of way. This vegetated buffer shall consist of street trees where required and shrubs with a min. mature height of 3'.
- b. Street trees and shrubs shall be planted on private property if the public right of way is not wide enough to allow street trees a minimum of 6' from the curb and a minimum of 8' from overhead wires. Species and spacing will be according to the town's Metacom Avenue street tree plan.

6.3 Perimeter landscaping adjacent to abutting residential properties

- a. The landscape buffer shall be a 10' wide landscape strip with a minimum 6' high visual screen. In all instances the landscape buffer shall consist of trees and shrubs of varieties proven hardy in this area and growing conditions and of sufficient size to add immediate 4' high buffer. A minimum of (2) large canopy trees per 100 lineal feet of boundary line are required. Where applicable solid fencing may be required.

6.4 Parking lot landscaping

- a. Parking areas shall be shaded by deciduous trees to reduce the visual impact of parking areas, shade and cool parking, reduce the amount and rate of stormwater runoff, and direct traffic in parking areas.
- b. There shall be a minimum of one shade tree (large canopy tree) for every ten parking spaces.
- c. There shall be no more than 15 spaces in a single row without an intervening planting bed.
- d. Required landscaping shall be in beds, islands or medians, such that there is a minimum clear, unpaved, surface area of 120 square feet of rooting space per tree a minimum of 6' wide. Plantings shall be protected with curbing or wheel stops.
- e. Where ever possible and appropriate the landscape islands and medians should be designed as bio-retention areas using appropriate plantings to retain and filter storm water runoff.



6.5 Building site landscaping

- a. The coordination of landscape design for both individual building sites and larger multi-parcel projects is essential for creating consistent, high quality character. Individual landscape treatments for building sites should complement the roadway landscapes, create distinctive settings for buildings, reinforce the design of the open space systems, and provide amenities for pedestrians.

6.6 Landscape irrigation/ water conservation

- a. Use drought tolerant species whenever possible.
- b. Incorporate advanced irrigation measures and scheduling. Install an efficient irrigation system that will incorporate water conservation measures. Spray heads are recommended for lawn and ground cover areas, with drip irrigation for shrubs and trees.
- c. Minimize manicured grassy areas.
- d. Mulch all planting beds to help retain moisture.

6.7 Existing vegetation

- a. Special attention should be paid to preserving those natural features and vegetation which are significant because of their unique character, history, size, variety, or growth habits. This includes all mature trees greater than 3 inches in diameter and significant understory plants and shrubs.
- b. Provide an inventory of all existing trees and significant woody vegetation that identifies size, health and species and if they are to be removed or remain. The inventory is to be prepared by a botanist, licensed arborist or landscape architect.
- c. Locate site and building improvements to preserve significant vegetation.
- d. Preserve and incorporate into the landscape plan, any existing tree 24” caliper or larger unless deemed unhealthy or unsuitable for preservation.
- e. During construction of site improvements, erect suitable protective barriers (generally located beyond the drip line) around trees to be preserved, making sure trunks, branches and root structures are not damaged by construction equipment.
- f. Incorporate tree wells or retaining walls as necessary in the landscape plan to protect existing trees.



6.8 Topsoil/ loam

- a. All lawn, ground cover, shrub and tree planting areas shall have a minimum depth of 6" loam. Loam from the site or off site location, shall be free of debris and have been sustaining healthy plant growth.

6.9 Landscape maintenance and replacement

- a. All landscape areas counted in the fulfillment of landscape requirements, shall be properly maintained including watering, weeding, mulching, cleaning of litter, and replacements in accordance with approved plans. If a tree or any plant material dies, it shall be replaced within 6 months so as to meet all requirements of this section and to allow for planting in the appropriate season. Failure to maintain a landscape area shall be deemed a violation of this ordinance.

6.10 Plant material standards and selection

- a. Select plant materials on the basis of suitability to climate, setting, and compatibility with other plantings, character and function.
- b. Select plant materials free of disease and harmful insect problems.
- c. Select plant material which are drought tolerant and require minimal watering and pruning. Native species are preferred.
- d. To avoid the spread of disease, avoid planting more than 20% of the site with any single plant species.
- e. The installation of all landscaping shall be done by an established landscape contractor who follows the procedures set forth by the American Association of Landscape Contractors and its local agencies.
- f. All landscaping and landscape materials shall be backed by a warranty for a minimum of one year.
- g. All Landscape Plans should be prepared by a qualified Landscape Architect or landscape designer.
- h. Mulch planting beds with organic mulch to aid in retaining moisture. Total depth of mulch shall not exceed 3".

6.11 Site furniture and features

