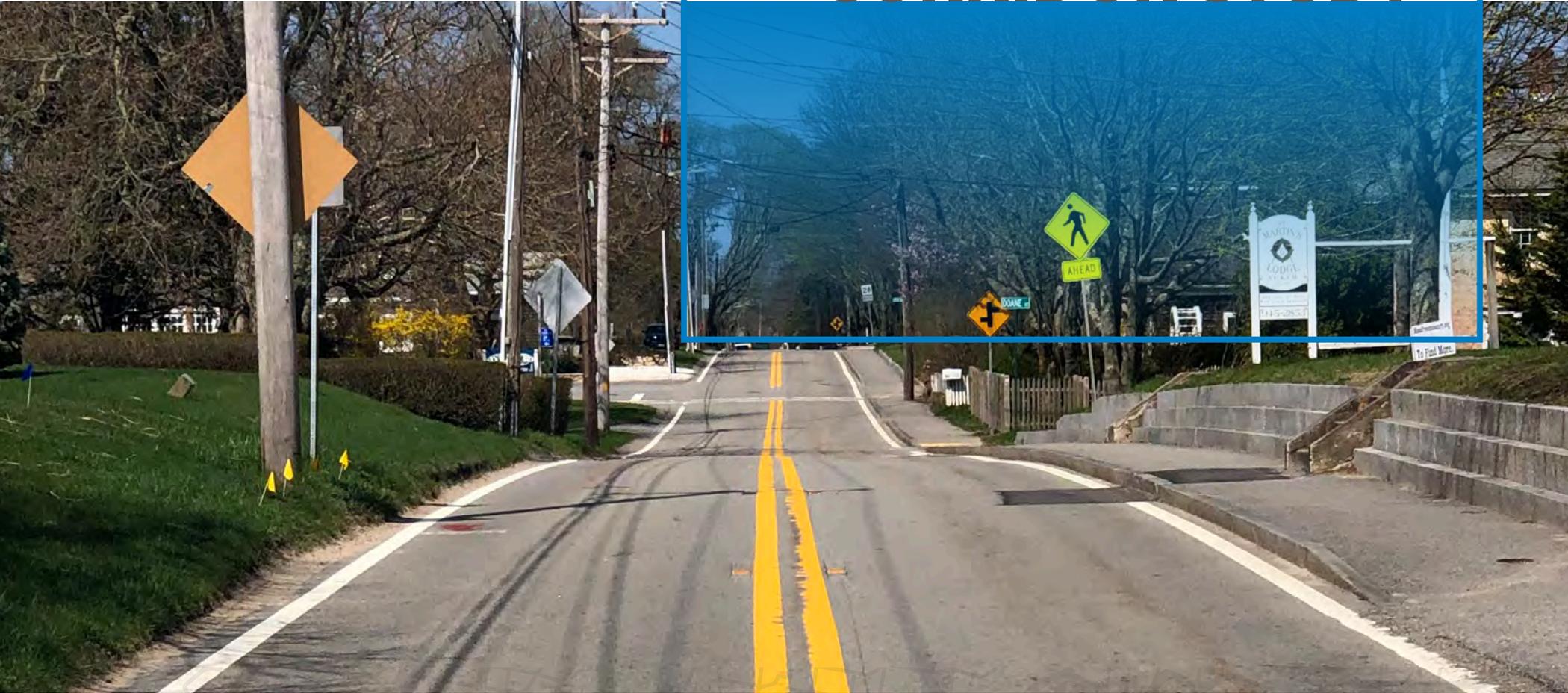
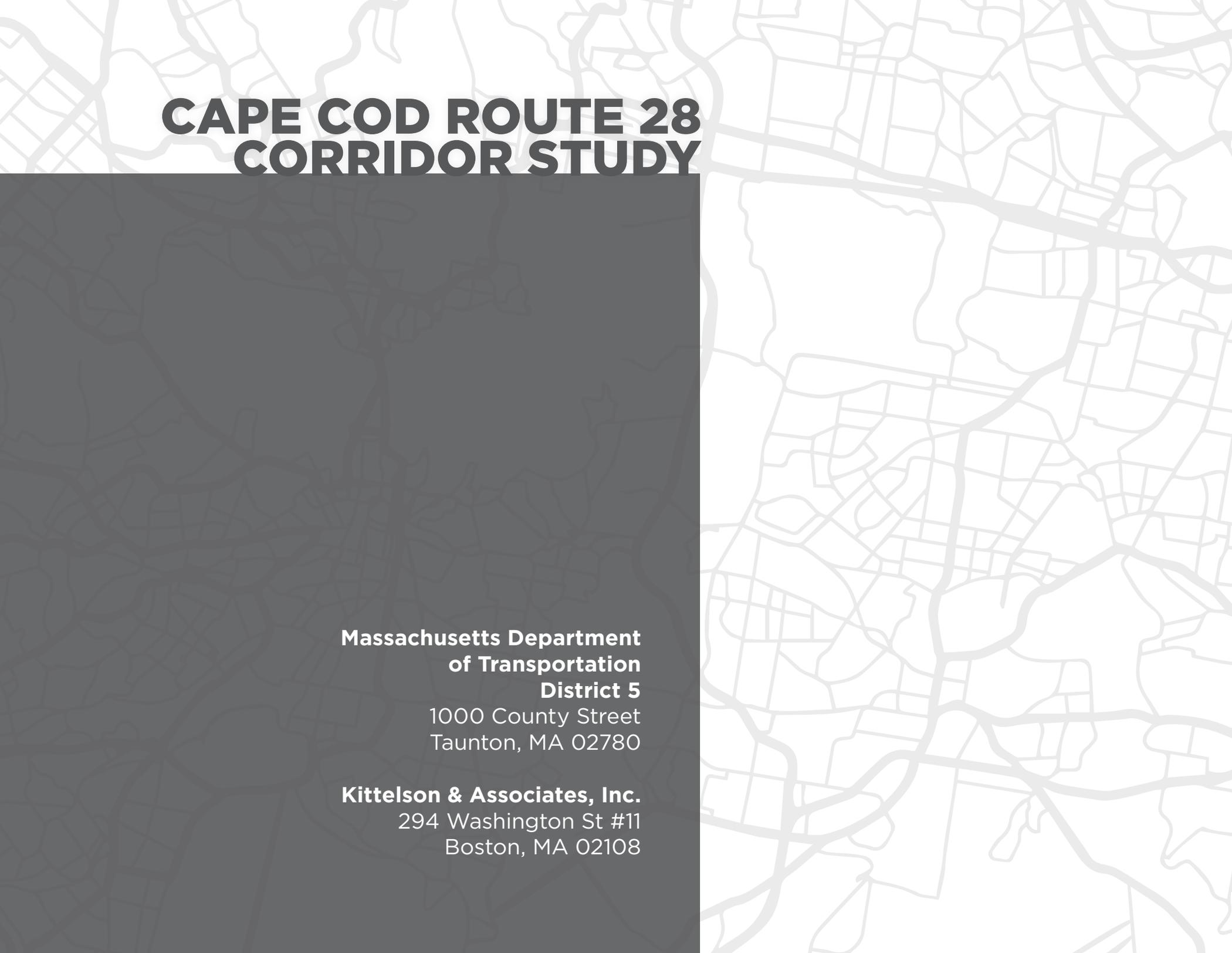


# CAPE COD ROUTE 28 CORRIDOR STUDY





# **CAPE COD ROUTE 28 CORRIDOR STUDY**

**Massachusetts Department  
of Transportation  
District 5**  
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# INTRODUCTION

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The Massachusetts Department of Transportation (MassDOT) District 5 is leading a Complete Streets Corridor Study on Route 28 in Cape Cod. The purpose of the study is to provide short- and long-term recommendations to improve bicycle and pedestrian conditions along 50 miles of Route 28 starting at Braeside Road in Falmouth just south of the divided highway and terminating easterly at the Route 6A roundabout in Orleans on the east end of Cape Cod, as shown in Figure 1. The study limits exclude the downtown segment of Route 28 (Main Street) in Falmouth between North Main Street and Davis Straits, which is not under MassDOT jurisdiction. The study provides recommendations to create a bicycle and pedestrian network along the non-limited access sections of the corridor, where feasible. The recommendations will provide a comprehensive guide for future corridor development.

The primary stakeholders of this study include the Cape Cod Commission (CCC) and the eight towns along the corridor:

- / Falmouth,
- / Mashpee,
- / Barnstable,
- / Yarmouth,
- / Dennis,
- / Harwich,
- / Chatham, and
- / Orleans

The Cape Cod Commission serves as the regional land use planning, economic development, and regulatory agency for Barnstable County. Throughout the study, the CCC provided input at three key milestones and the Towns were engaged through the CCC Joint Transportation Committee.



The study provides recommendations to create a bicycle and pedestrian network along the non-limited access sections of the corridor, where feasible.

Figure 1. Study Area



## PREVIOUS PLANNING EFFORTS

The study team reviewed the following studies with special consideration for previous analysis and designs surrounding Route 28:

- / *The Complete Streets/Living Streets: A Design Manual for Cape Cod,*
- / *2020 Cape Cod Regional Transportation Plan,* and
- / *South Orleans to Orleans Trail Study.*

Following is a brief summary of each document, focusing on its relevance to this study.

### Complete Streets/Living Streets: A Design Manual for Cape Cod

**Overview:** Completed in October 2012, this design manual prepared by the Cape Cod Commission “aims to explain and illustrate the concepts of the Complete Streets and Living Streets and encourages people to consider these design options when planning roadway improvement projects.” The manual emphasizes that many towns have significant differences in population from winter to summer which creates unique challenges and opportunities for communities. Principles used for designing the plan include safety, connectivity, human health, livability, context, equity, aesthetics, economic development, and environment. It highlights special issues for roadways unique to Cape Cod, including Historic Villages, Commercial Corridors, Tourist Destinations, Scenic and Coastal Roadways, Environmental Sensitivity, Seasonal Fluctuations, and Regional Roadways.

**Relevance to Study:** The manual includes a complete streets toolbox with various treatments. The Route 28 Corridor Study considered these design treatments as we compiled recommendations for the corridor.

Suggestions for road segments, intersections, pedestrian facilities, and bicycle facilities are listed in Table 1. An excerpt from the toolkit is shown in Figure 2.



*Pictures from Complete Streets/Living Streets: A Design Manual for Cape Cod*

**Table 1. Complete Streets/Living Streets Toolbox**

Road Segments	Intersections
Road Narrowing/Road Diet/Lane Diet	Tightened corner radii
Roadway surface treatments	Roundabouts
Pavement markings	Signal timing with pedestrian phases
Curb extensions or bump-outs	
Chicanes or lateral shifts	
Changes in traffic patterns	
On-street parking	
Medians	
Traffic calming	
Access management	
	Transit
	Transit routes
	Bus stops/bus shelters
	Bus pull-outs
	Pedestrian crossings at transit stops
	Bicycle connections to transit
Pedestrian Facilities	Bicycle Facilities
Pedestrian walkways and buffers	Shared roadways/bicycle routes
Crosswalks	Paved bicycle shoulders
ADA compliant curb ramps	Pavement markings for cyclist
Universal pedestrian access	Sharrows
Cross-lot connections	Shared use paths alongside roadways
Sidewalk surface treatments	Share use paths on dedicated rights-of-way
Pedestrian refuge islands	
Crosswalk lighting	

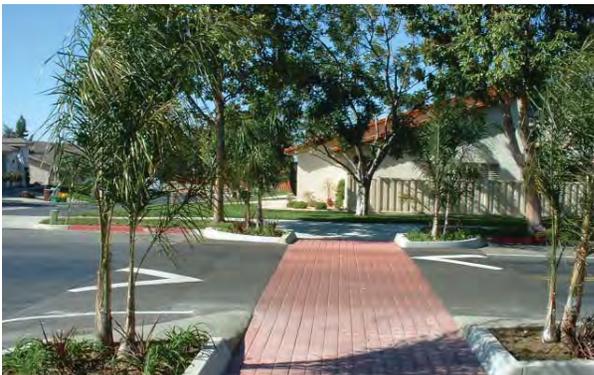
## Figure 2. Example Toolkit from Complete Streets/Living Streets: A Design Manual for Cape Cod

### Pavement Markings

Roadway pavement markings can be used to improve street safety and functionality. Markings including directional arrows, advanced yield triangles, on-street parking spaces, bicycle lanes, pedestrian crossing warnings, and school zone markings can all draw attention to other users and improve awareness. These markings are particularly important at mid-block pedestrian crossings.



Directional markings on Main Street in Orleans.



Arrows to indicate raised pedestrian crossing.

### Curb Extensions or Bump-Outs

Bump-outs extend the curb into the adjacent roadway or shoulder at mid-block or corner crossings, narrowing the roadway both visually and physically. They slow vehicles, shorten pedestrian crossings, and make pedestrians more visible. They also prevent illegal parking in crossing zones.



Curb extensions narrow pedestrian crossing on Main Street, Hyannis.



Bump outs on Route 6A in Barnstable Village.

# 2020 Cape Cod Regional Transportation Plan

**Overview:** The Cape Cod Commission released a Draft 2020 Regional Transportation Plan in June of 2019. The plan sets the vision through 2040 for the region’s transportation system and the priorities for federal and state spending. The document contains a technical appendix discussing bicycle and pedestrian existing conditions, road safety data, safety and planning studies, and planning efforts related to bicycles and pedestrians.

The plan has three main goals:  
improve safety, increase multi-modal accommodations, and reduce congestion

**Relevance to Study:** Walking and bicycling are common methods of transportation and recreation, however the study notes that many areas in the Cape are hazardous and uncomfortable to bike or walk. “Route 6A and Route 28 are popular with bicyclists for their directness and convenience, but they lack bicycle accommodations and are hazardous for bicycling due to high traffic volumes and speeds and limited space.” Around 4.5 percent of workers in the area walk or bike to work. “Vision 88” from Woods Hole to Provincetown envisions a continuous 88-mile shared use path combining 51.8 existing miles with 36.2 potential miles. The plan goes into detail about each of the trails and paths that are currently in place for the region, shown in Figure 3. The plan specifically elaborates on alternative route recommendations to limit travel on Route 28 for bicyclists.

Another technical appendix discusses the congestion management plan. Factors that are unique to Cape Cod that contribute to congestion include the geometry of the region as it is surrounded by water, limited access to the region by two bridges, limited transit connecting Cape Cod to other urban regions, and the influx of tourist and residents in the summer. The plan has three main goals: improve safety, increase multimodal accommodations, and reduce congestion.

The congestion management plan identified the following key challenges:

- / Route 6 and Route 28 bottleneck intersections;
- / Cape Cod Canal Area bottleneck locations;
- / Route 28 high crash locations;
- / pedestrian gaps on Route 28;
- / bicycle multi-use path connectivity; and
- / insufficient transit service and routes.

**Figure 3. Trail Examples from 2020 Regional Transportation Plan Bicycle & Pedestrian Appendix F**



*Cape Cod Rail Trail Crossing at Main Street, Harwich Port*



*Cape Cod Rail Trail at Brackett Road, Eastham*



*Harwich-Chatham Rail Trail Extension at the Harwich-Chatham Town Line*



*End of the Harwich-Chatham Rail Trail Extension at Crowell Rd., Chatham*

Program implementation strategies specifically identified for Route 28 include geometric improvements, bicycle & pedestrian improvements, signal timing optimization, increased transit service, transit technology, and access management.

## South Orleans to Orleans Trail Study

**Overview:** The goal of the 2009 study, conducted by the Bike and Walkways Committee, is to “develop a bicycle and pedestrian facility that would accommodate a variety of users and skill levels for transportation and recreational purposes along a north/south corridor that parallels Route 28 (South Orleans Road) but not necessarily within the Route 28 layout. The project strived to improve safety and mobility, encourage alternative means of travel, provide recreational resources, and provide connections to existing facilities.

**Relevance to the Study:** Potential resolutions include constructing a sidewalk or a shared use path along Route 28 and/or widening Route 28 to include a bicycle lane. Route 28 was not recommended to be designated as a bike route.



# EXISTING CONDITIONS

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The project team mapped current existing conditions to better understand how travelers are moving through the corridor. The goal of the project is to identify opportunities to improve walking and bicycling along the corridor. The maps in this report show the entire Route 28 corridor. Appendix A contains more detailed maps for each town.

## Data Collection

The Existing Conditions analysis evaluates a variety of available data to better understand opportunities to improve sidewalk and bicycle infrastructure for Route 28. As part of this effort, the project team conducted a corridor-wide data collection and mapping effort with a focus on capturing pertinent existing conditions across a variety of discipline areas including safety, presence of multimodal facilities, and existing layout.

Data collection and mapping efforts focused on existing roadway characteristics. The project team collected and organized data across the eight towns on the Route 28 Corridor. The study team used the data to understand the existing pedestrian and bicycle facilities on Route 28 and opportunities to add or upgrade facilities.

The study team mapped current roadway conditions provided by MassDOT online open data. Appendix B contains the data dictionary for the accompanying GIS database. The study team verified and supplemented the data through a desktop audit (using Google Earth Pro) and fieldwork. They recorded various attributes including bike lane, sidewalk, shoulder, median, median type, road-sidewalk buffer, buffer width, and number of travel lanes. The project team conducted a field visit in April 2019 to verify the data collected from the desktop review and collect information for sections that had been recently constructed.

## Roadway Characteristics

The majority of the corridor consists of a two lane roadway, as shown in Figure 4. Small sections of Route 28 have three or four lanes, primarily near major intersections. The study team reviewed existing right-of-way using the MassDOT online GIS database for State Highway Layouts (SHLO). Appendix C contains the layout sheets for the corridor. The Route 28 layout varies between 33 and 100 feet, as shown in Figure 5. The majority of the corridor has approximately 50 feet of right-of-way. However, encroachments are common throughout the corridor, so the space is not readily available in certain areas.

Figure 4. Number of Travel Lanes

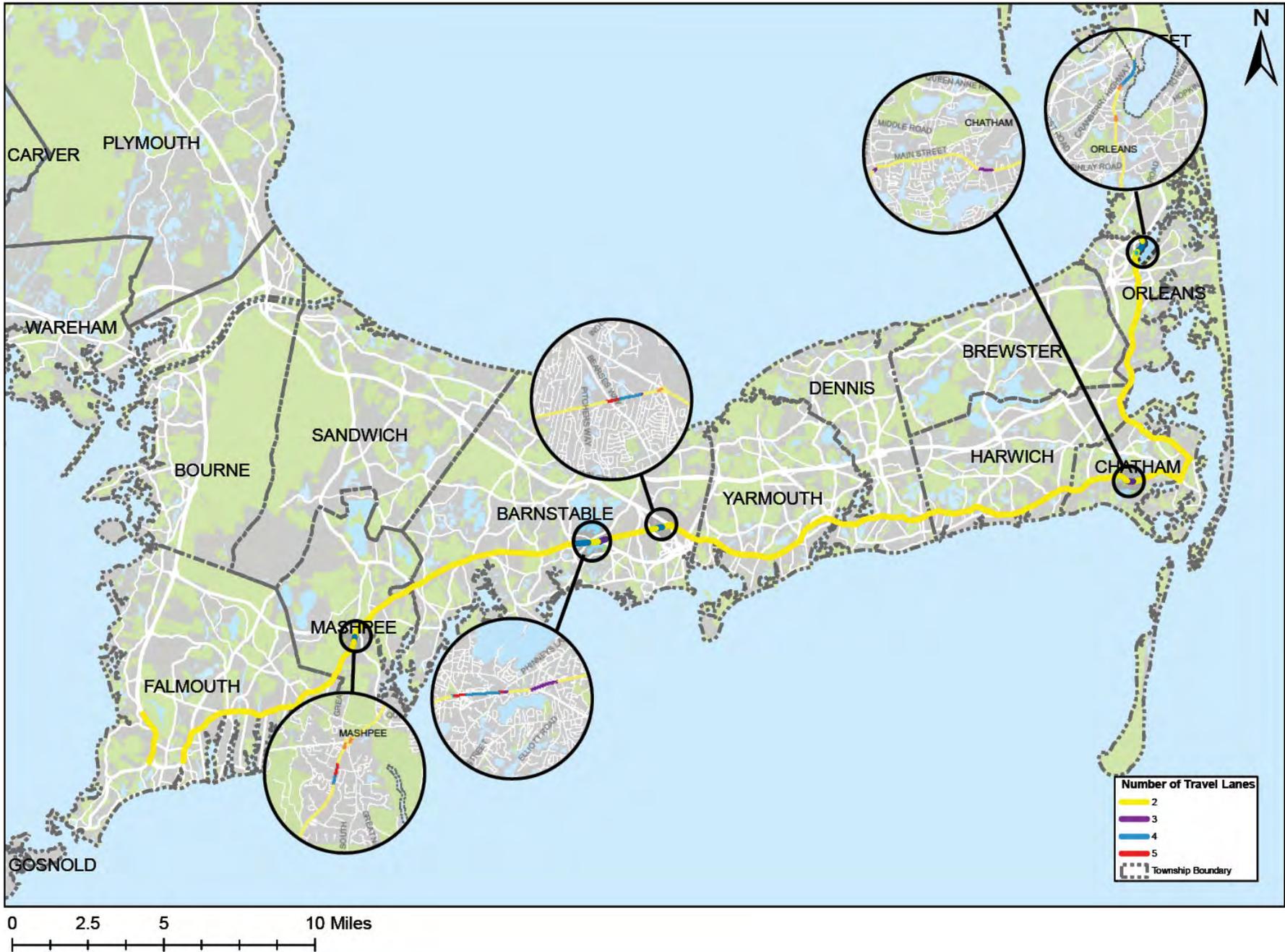
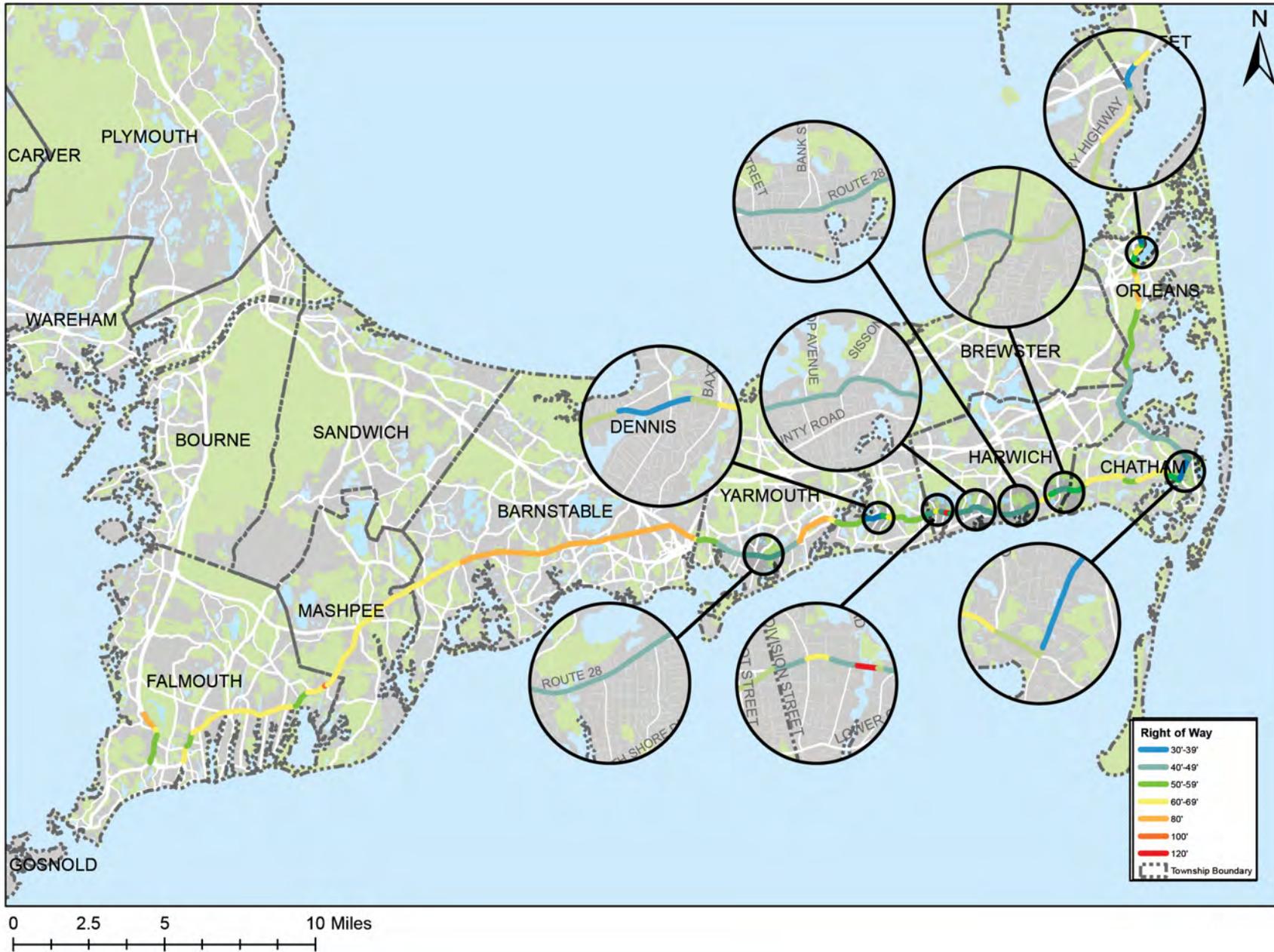


Figure 5. Existing Right of Way



# Bicycle and Pedestrian Facilities

The surrounding areas have several trails and shared use paths that are existing or planned for future completion. Figure 6 displays pictures from the field review and Figure 7 shows the Cape Cod Commission's 88-mile "Shared Use Path Vision Map".

As shown in Figure 8, the majority of the corridor does not have a dedicated bicycle facility. When present, shoulders of the roadway are not typically marked as a bike lane. These shoulders are often greater than five feet, making them potential bicycle facilities. The corridor has one short section of marked bike lane in Falmouth.

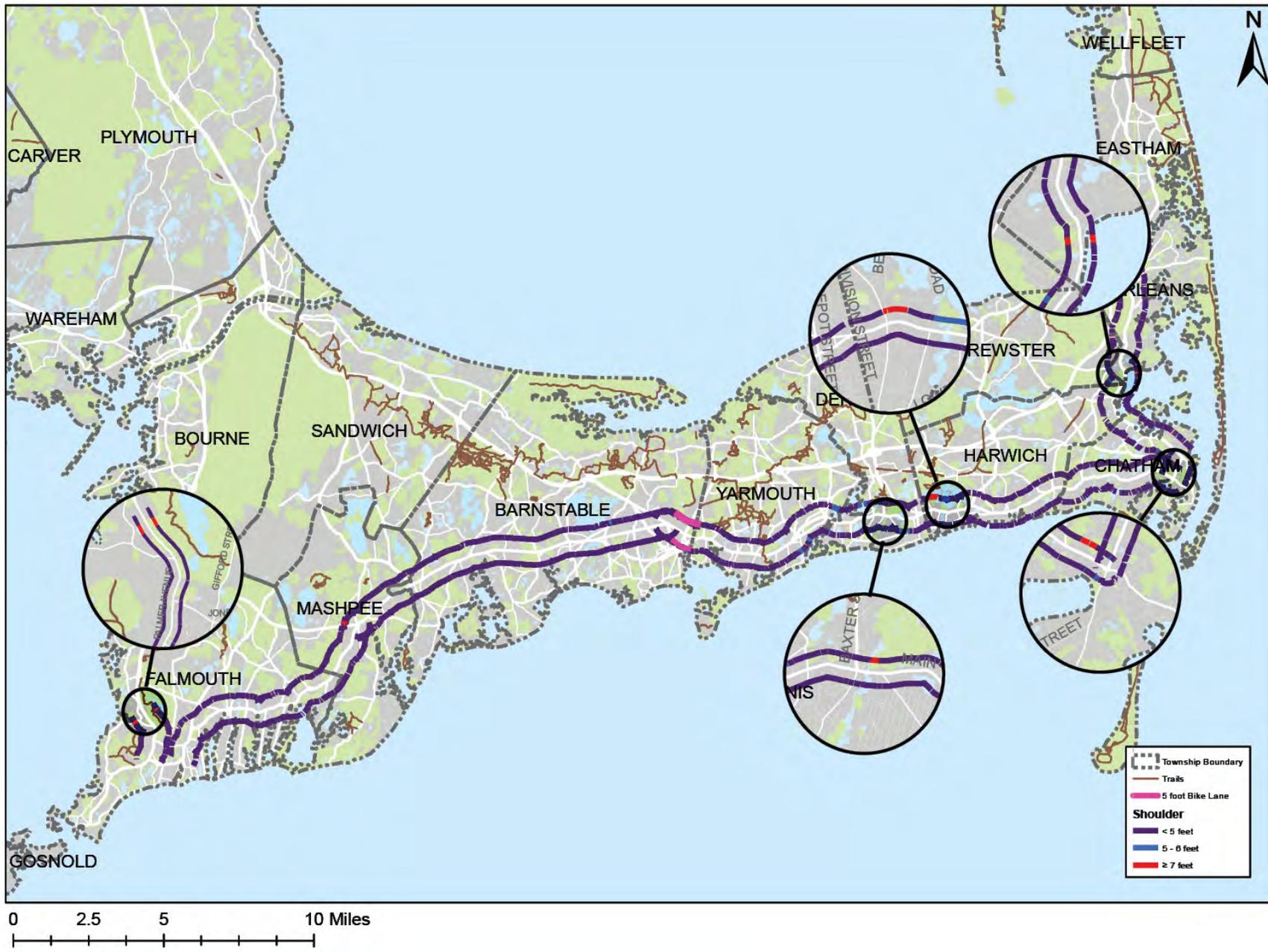
Figure 6. Pictures of Bicycle Facilities throughout Route 28



Figure 7. Shared Use Path Vision Map from the Cape Cod Commission



Figure 8. Shoulders and Bike Lanes

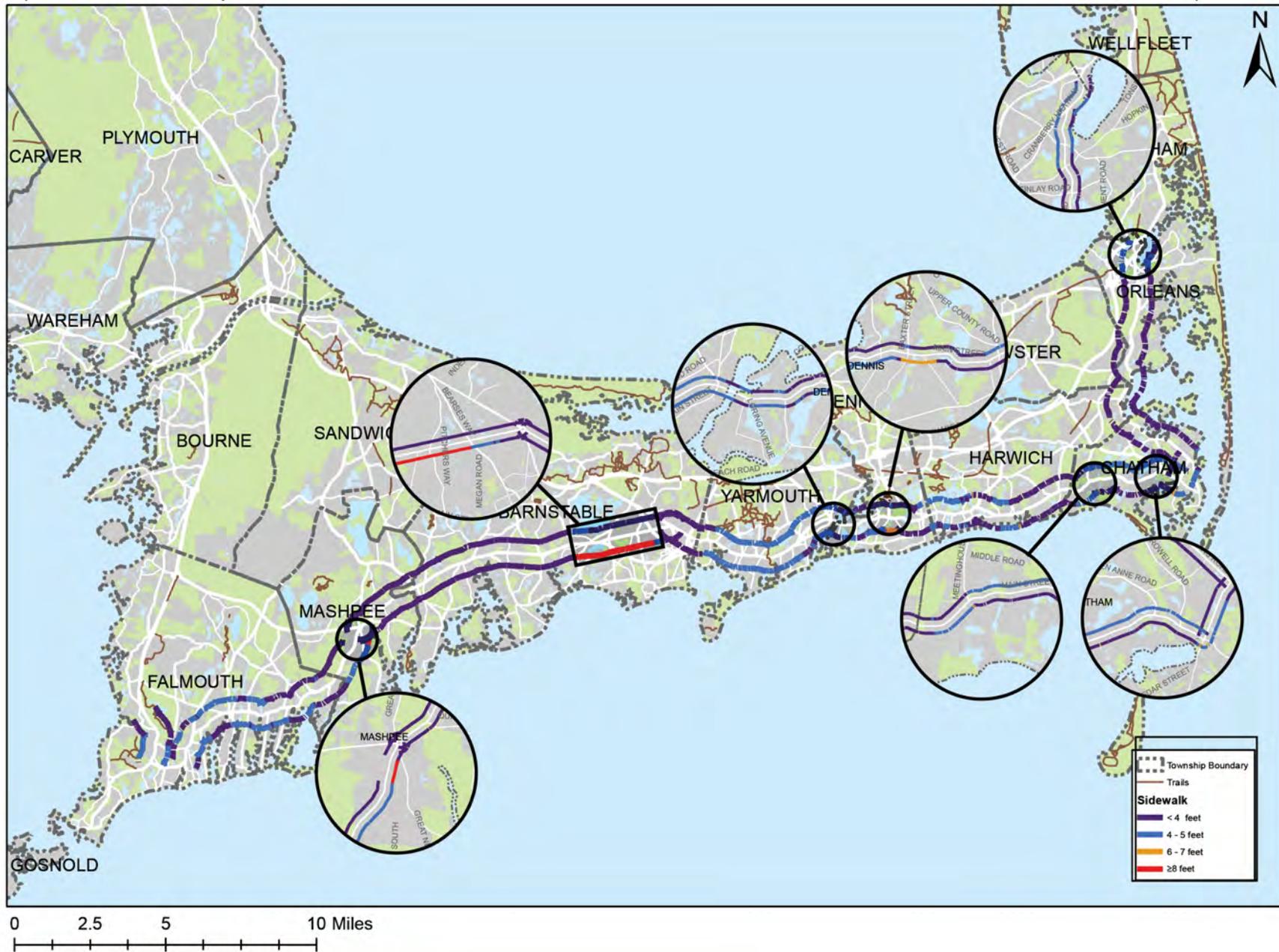


**Figure 9. Examples of Pedestrian Facilities throughout Route 28**



There are several pedestrian challenges that are seen throughout the corridor including narrow deteriorating asphalt, poor lighting in spot locations, utility poles in the middle of the sidewalk, limited crossing opportunities, sidewalk on only one side of the roadway in many places, and several sections missing sidewalks and/or ADA compliant curb ramps throughout the corridor, as shown from the field visit in Figure 9. Where present, the sidewalks throughout the corridor are typically four to five feet wide, shown in Figure 10.

Figure 10. Existing Sidewalks



## Safety

The study team reviewed crash data from the Highway Division of MassDOT for Falmouth, Mashpee, Barnstable, Yarmouth, Dennis, Harwich, Orleans, and Chatham. A total of 5,061 crashes occurred within 250 feet of the study corridor from the years 2012 to 2016. This section describes the results of the safety analysis.

### Total Crashes

Figure 12 identifies areas with the highest concentration of crashes along the corridor. Concentrations occur east of downtown Falmouth and near the rotaries in Mashpee and Barnstable.

### Type of Collision

The most common collision types were rear-end crashes (43%) and angle crashes (28%) (see Figure 11), especially on the western portion of the study area. Figure 13 displays where the 198 crashes occurred between an automobile and a pedestrian or bicycle, accounting for four-percent of the crashes. These non-motorist crashes led to five fatalities and 155 non-fatal injuries.

Figure 11. Type of Collision

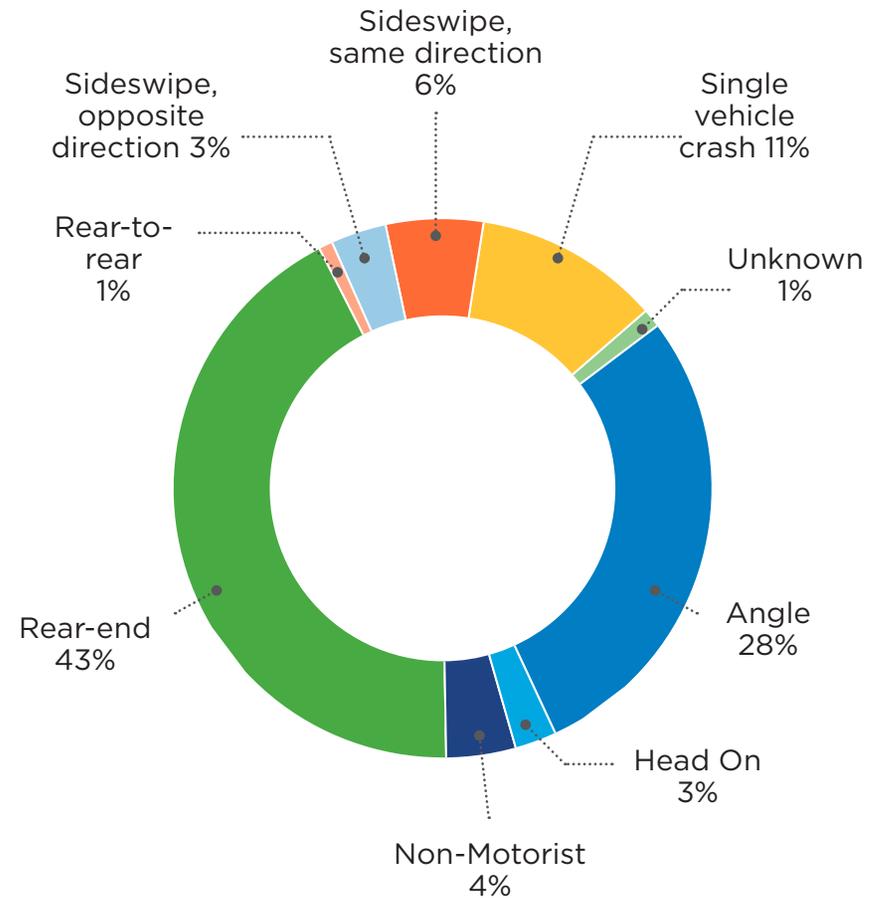


Figure 12. Crashes per Mile

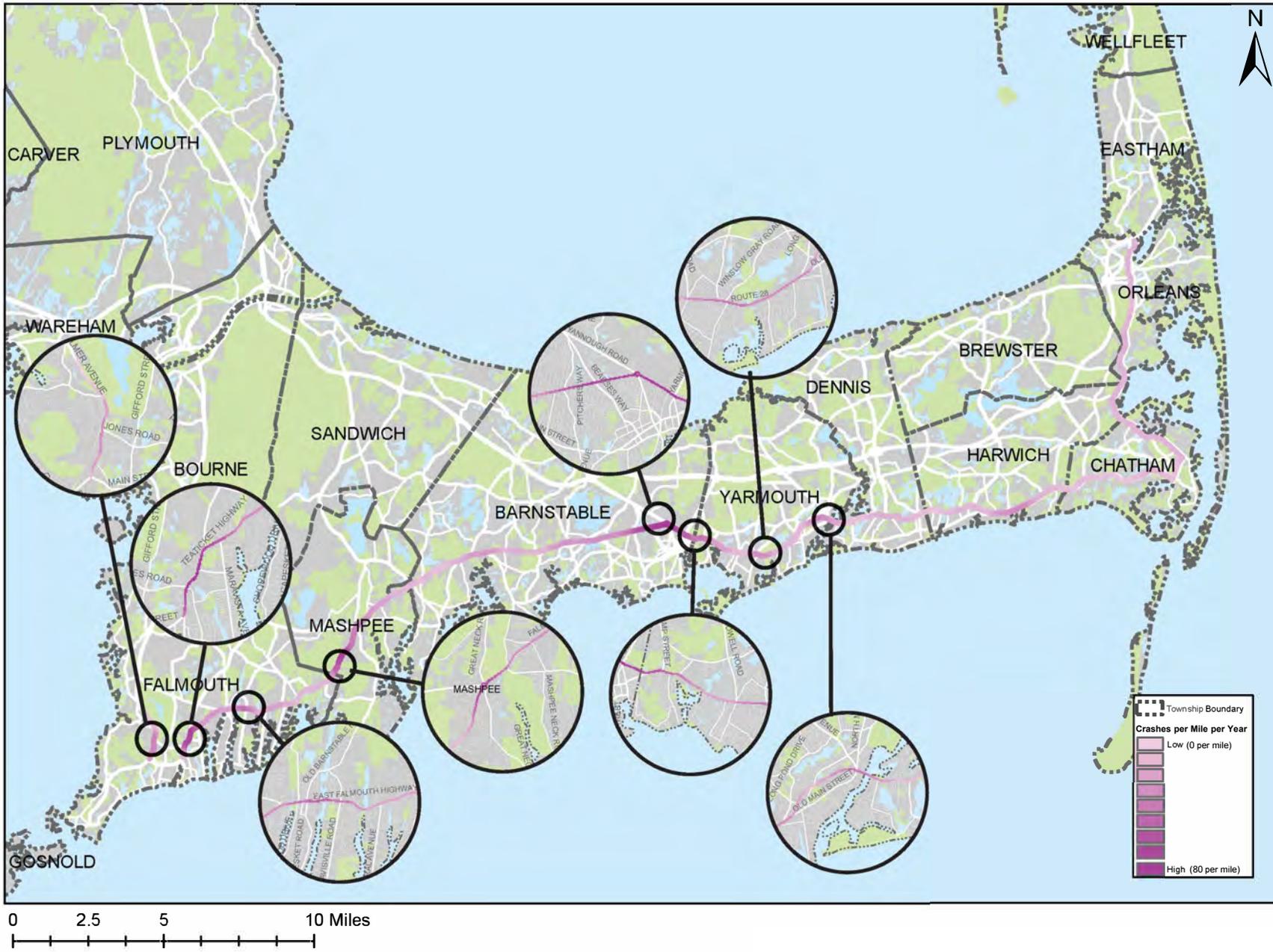


Figure 13. Non-Motorist Crashes



## Light Conditions for Crashes

Twenty-two percent (22%) of the reported crashes occurred in dim to dark conditions (Figure 14). The majority of these crashes occurred in Falmouth, Mashpee, and Barnstable. During the April 2019 field review, the study team observed much of the corridor had been upgraded to LED lighting. Because the most recent crash data are from 2016, this safety improvement may not be reflected in the data.

Figure 14. Lighting Conditions for Crashes

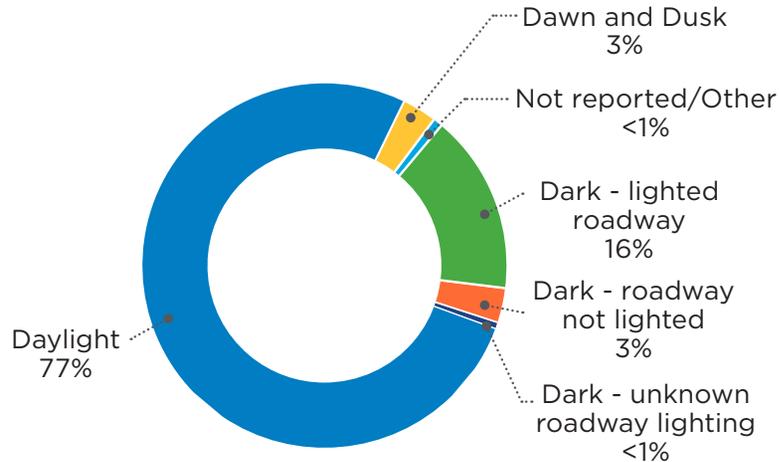
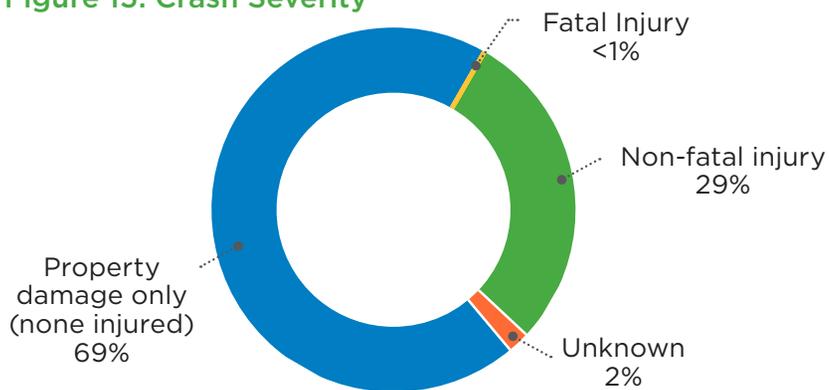


Figure 15. Crash Severity



## Crash Severity

Figure 15 shows the severity of the crashes. Thirteen (13) fatalities occurred along the corridor. Barnstable and Yarmouth had eight fatal crashes. Non-motorists accounted for five of the 13 fatalities. Sixty-nine (69) percent of the crashes resulted in property damage only while 28-percent of crashes resulted in a non-fatal injury.

## Land Use

MassDOT executed a geospatial analysis that identifies the Potential for Everyday Walking and Biking for the Massachusetts Bicycle Transportation Plan (the Bike Plan). The Potential for Everyday Walking and Biking estimates demand for nonmotorized transportation for going to work, visiting family and friends, shopping, dining, or any other utility trip for non-recreational purposes.

MassDOT created a weighted formula to result in a single score:

$$\text{Potential for Everyday Walking and Biking} = (0.7 * \text{Potential Demand} + 0.2 * \text{Transit Access} + 0.1 * \text{Crashes}) * (1 + \text{Social Equity}).$$

The results give a score from 1-9, with one being low potential and nine having the highest potential. Only three percent of the land area for Massachusetts had a potential score above six.

## Potential for Everyday Walk Score

Figure 16 shows the results of the everyday walk score calculation. The areas along the Route 28 corridor with high propensity for walking include areas near downtown Falmouth, near the Barnstable rotary, downtown Yarmouth, and downtown Dennis.

## Potential for Everyday Bike Score

Figure 17 shows the results of the everyday bike score calculation. There are a few areas with high propensity for biking along the corridor including a large portion of Falmouth, near the Barnstable rotary, and in Dennis.

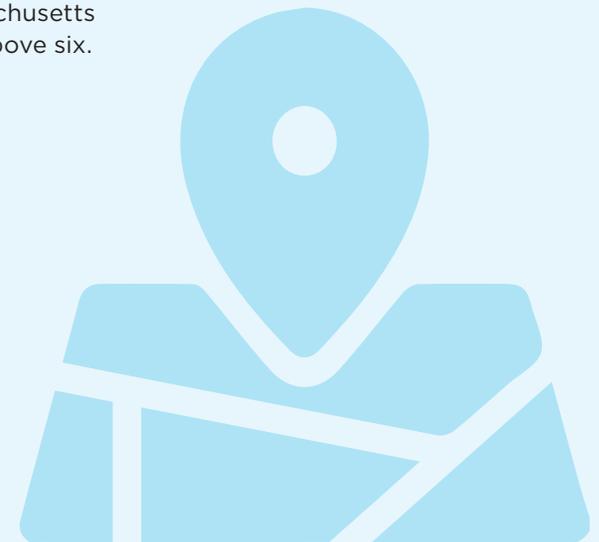
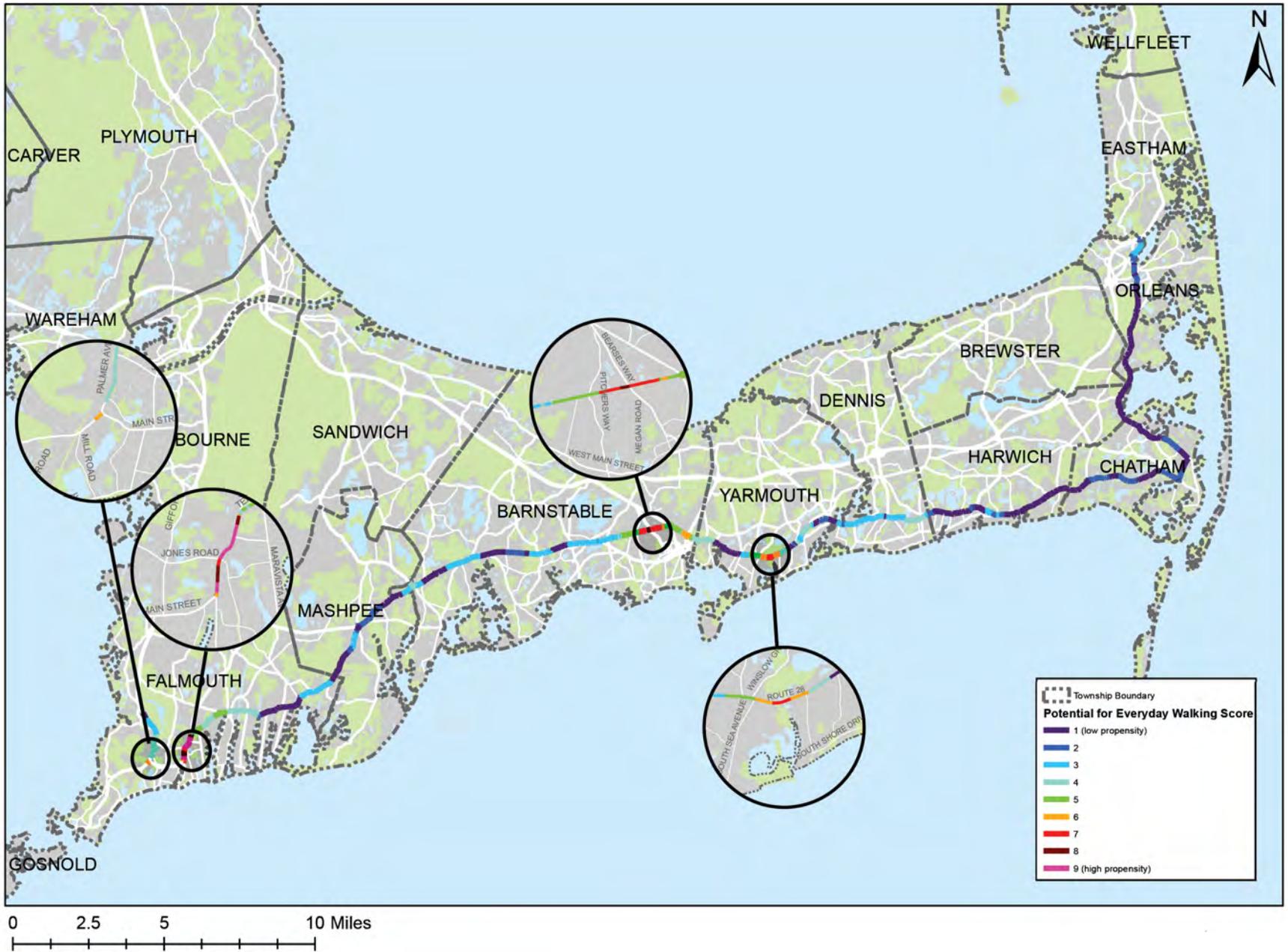


Figure 16. Potential for Everyday Walking

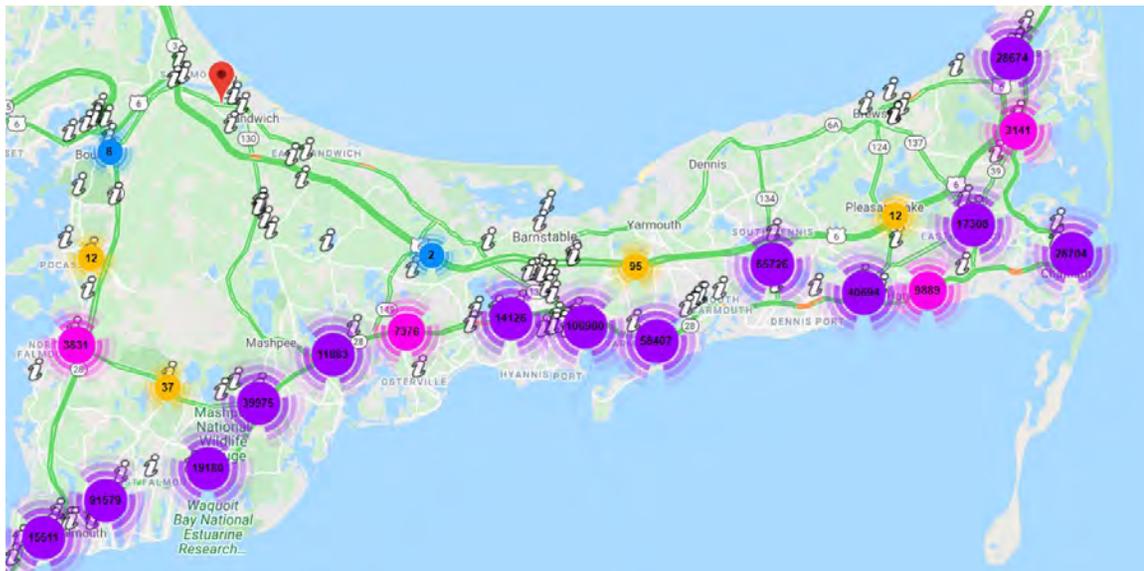




# Transit

Currently, there are two fixed routes with hourly service that run along Route 28 within the study area. The Seeline route runs from Hyannis to Falmouth and the H2O Line runs from Hyannis to Orleans, as shown in Figure 19. The highest ridership is during the summer months (June through August), as shown in Figure 18. The areas along Route 28 with the highest boardings include just east of downtown Falmouth, the area around the Barnstable Rotary, and Dennis Port.

Figure 18. CCRTA Ridership – SeaLine & H2O



2018 Annual Transit Boardings  
Source: Cape Cod RTA



Example of Transit on Route 28.



Example of Transit Stop on Route 28

Figure 19. Corridorwide Transit



# STREET TYPES AND RECOMMENDED FACILITIES

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After reviewing a variety of available data to better understand opportunities to improve sidewalk and bicycle infrastructure for Route 28, the study team classified the 50-mile corridor into four street types. The street types are based on types and intensity of land uses and presence of surrounding roadway network. The four street types are Town Center, Town Mix, Suburban Commercial Center, and Rural Residential. The study team made recommendations for desired bicycle and pedestrian facilities for each street type, taking into the account the type and intensity of users expected.

## **Street Types**

The following section describes the characteristics associated with each street type and the features used to categorize the roadway segments. Figure 20 displays where along the corridor each of the street types have been identified.

## Town Center

Town Centers are the densest areas of the corridor and often coincide with downtown or main street areas. Only three (3) areas—one in Harwich and two in Dennis—are given this designation along the route. These are places where we'd expect the highest concentration of walking and biking.

### CHARACTERISTICS

- Buildings at the back of sidewalk
- Most buildings front the street
- Parking is in the back or on side streets
- Short blocks
- Predominately retail and commercial uses
- Small parcel sizes



Picture from Harwich

## Town Mix

Town Mix is the most common type along the corridor. It describes a mix of residential and commercial uses. While Town Mix areas tend to still be very walkable, buildings are set back slightly from the road and more parking is evident from the street.

### CHARACTERISTICS

- Mix of commercial and residential uses
- Small parking lots adjacent to buildings, some in front for single use parcels
- Shallow building setbacks
- Some buildings front the street
- Small to medium blocks
- Small parcel sizes



Picture from East West Dennis

## Suburban Commercial Center

Suburban Commercial Center includes areas that have large parking lots, large buildings with long blocks between crossings, and residential neighborhood access. These areas often prioritize driving and the high traffic volumes and speeds present challenges for walking and biking. Pedestrians and bicyclists will still be present in these areas, likely for more utilitarian trips.

### CHARACTERISTICS

- Large parking lots
- Large building setbacks
- Mostly commercial uses with neighborhood access points
- Long blocks



Picture from Yarmouth Crossing

## Rural Residential

Rural Residential describes areas that often contain open space and disconnected neighborhoods. Residential development is often separated from the road with thick landscaping. Many places have limited or no bicycle and pedestrian infrastructure and pedestrians and bicyclists are not as common.

### CHARACTERISTICS

- Mostly single family residential, with some commercial
- Residences often separated by landscaping, some homes with direct access to Route 28
- Limited roadway network, most neighborhoods are disconnected



Picture from Falmouth

Figure 20. Street Types



## Expected User Types

The decision to walk or bike on Route 28 often depends on how comfortable someone will feel making the trip. The first and most basic condition that must be met for people to consider walking or biking is they must feel safe doing so for the entire trip. For pedestrians, this means a dedicated sidewalk with compliant ramps. For bicyclists, the study team considered the Level of Traffic Stress (LTS)<sup>1</sup>. LTS provides a high-level look at how bicyclists are likely to experience each street type along Route 28. This can be used to show a project's usefulness in (1) connecting important destinations and places that are already bike-suitable to one another and (2) extending bike travel as a viable option along more of Route 28. It can also be used to select which facility type is appropriate in each location depending on who it is purported to serve.

### A data-driven process to plan a bicycle facility system based on comfort

The LTS analysis uses a “weakest link” method of assigning stress level; this reflects the reality that people on bikes experience various types of traffic stress (speed of traffic, volume of traffic, degree of separation from traffic, incursions into their space) simultaneously. For example, if even one of these factors is excessive, the whole street segment is a high stress experience for most potential riders.

LTS scores range from LTS 1, which is comfortable for all ages and abilities, to LTS 4, which is uncomfortable for even experienced bicyclists.

### LTS for Facility Selection

There are four commonly cited types of cyclists, Strong and Fearless, Enthused and Confident, Interested, But Concerned, and No Way No How (Figure 21).

This study generally considered the Interested but Concerned cyclist, the less-experienced and risk-averse bicyclists. These bicyclists need to be connected via bike facilities/streets that are LTS 1 or 2 for the entirety of their trip. In general terms, this user group prefers:

- / Physically separated facilities such as protected bike lanes and trails
- / Wide, preferably-buffered bike lanes on medium to low speed and low volume streets, adjacent to the curb (not a parking lane)
- / Bike boulevard treatments on low-stress neighborhood streets

MassDOT should prioritize these types of facilities in places where recreational and less experienced users are expected. In locations along Route 28 where pedestrians and bicycles are not expected, these trips should still be accommodated but a higher level of traffic stress may be acceptable.

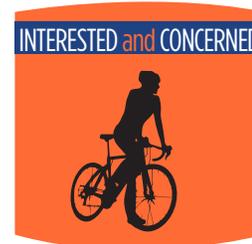
Figure 21. Cyclist Types



Bicyclists in the “Strong and Fearless” group are comfortable riding on busy roads with little physical separation from motorist through travel lanes. These riders would be comfortable riding on Route 28 today.



“Enthused and Confident” cyclists are generally recreational and utilitarian riders who will ride on busy streets if there are facilities provided, but may also deviate from the most direct route to ride on low-traffic or shared use paths.



Most of the population is categorized as “Interested but Concerned”. This group includes a wide range of people of all ages who are interested in cycling more for transportation, but may only ride on shared use paths, low traffic local streets, or protected on-street facilities.



“No way no how” cyclists will not choose to bicycle for transportation or recreation, regardless of provided infrastructure.

<sup>1</sup> Furth, Peter G., Maaza C. Mekuria, and Hilary Nixon. “Network Connectivity for Low-Stress Bicycling.” Mineta Transportation Institute, May 2012. <https://transweb.sjsu.edu/sites/default/files/1005-low-stress-bicycling-network-connectivity.pdf>.

## Recommended Facilities

The study team identified recommendations for bicycle and pedestrian facilities in each street type, taking into consideration the types and intensity of users and physical characteristics of each street type. The study team created recommended cross sections for each of the four street types. They presented the recommendations to the CCC at their December 2019 Joint Transportation Committee meeting to identify and incorporate feedback from the CCC and Towns.

The proposed concepts are based on a SHLO of fifty (50) feet, which is representative of most of the corridor. Understanding that not all segments have the same SHLO, design ranges for each roadway element are also provided. Since each segment along the corridor varies in right-of-way and current facilities, these cross-section ranges allow for recommendations to differ depending on the user needs and challenges of each street segment. While each street type has unique characteristics, the main priority throughout the corridor is that all areas should include facilities to allow for pedestrian use, equating to sidewalks on at least one side in all areas.

The following sections summarize the desired roadway features, recommended cross sections, and design ranges for each roadway feature.



The main priority throughout the corridor is that all areas should include a safe place for people to walk



# Town Center

Street designs in Town Centers should encourage slow vehicle speeds and prioritize pedestrian facilities, with shared lane marking/sharrows for bicycle facilities. Pedestrian infrastructure is prioritized in these areas through wide sidewalks on both sides, shade trees, frequent crosswalks, and pedestrian scale lighting. These facilities also provide better access for businesses fronting along Route 28 and allow for outdoor seating. Because of the slower speeds expected in Town Centers, most bicyclists would feel comfortable riding in the travel lanes.

## DESIRED FEATURES

Shade trees

Wide sidewalk on both sides

Sharrows

Frequent crosswalks with ADA compliant ramps

Pedestrian lighting

Slow speeds (20-25 mph)

Figure 22. Town Center (Before)



Figure 23. Town Center Proposed Concept



Figure 24. Town Center Cross Section Ranges



# Town Mix

Town Mix is the most common street type along the corridor. Street designs in these areas should encourage slower speeds and include, pedestrian facilities on both sides and dedicated bicycle facilities. On-street buffered bike lanes could be appropriate in this setting and may be easier to implement in the near term in locations where there is excess pavement width today. An option for a shared use path or separated facility is also shown. This may be preferred when segments are rebuilt or in locations where there is more right of way on one side of the street. Pedestrian facilities should be provided on both sides with a sidewalk or shared use path.

## DESIRED FEATURES

ADA compliant sidewalk on both sides

Frequent crosswalks with ADA compliant ramps

Dedicated bicycle facility

Slow speeds (25 - 30 mph)

Figure 25. Town Mix (Before)



Figure 26. Town Mix Proposed Concept with Onstreet Bike Lane



Figure 27. Town Mix Proposed Concept with Shared Use Path



Figure 28. Town Mix Cross Section Ranges with Onstreet Bike Lanes

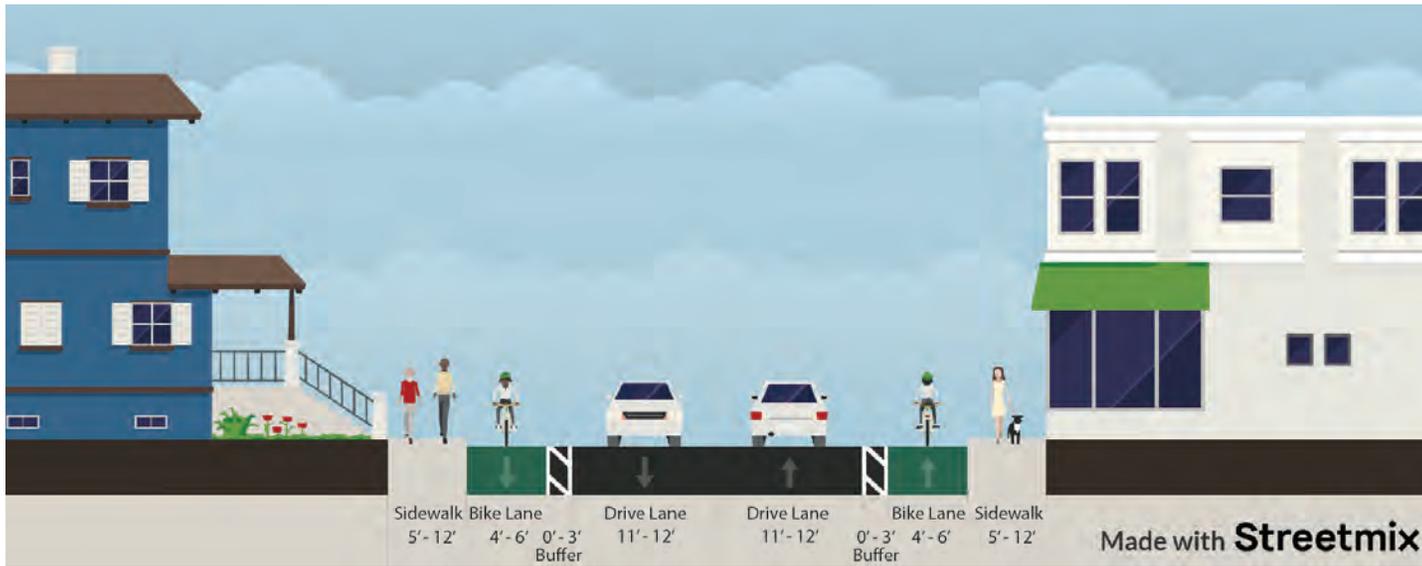
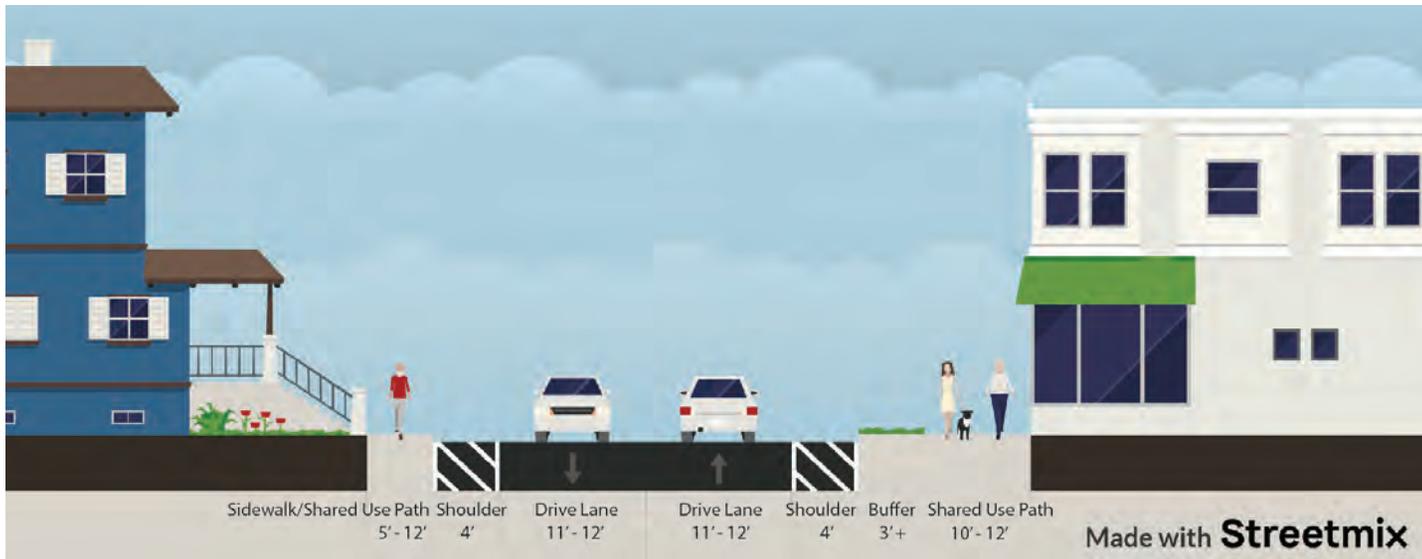


Figure 29. Town Mix Cross Section Ranges with Shared Use Path



# Suburban Commercial Center

Suburban Commercial Center consists of areas along the corridor with large setbacks and parking lots. Desired features for these areas include pedestrian facilities on both sides and dedicated bicycle facilities. A separated facility—such as a shared use path on at least one side—is recommended given the higher vehicle speeds expected in these areas. Where a separated facility is not feasible, on-street buffered bike lanes should be considered.

## DESIRED FEATURES

Dedicated bicycle facility

ADA compliant sidewalk on both sides with buffer from road

Moderate speeds (30-35 mph)

Figure 30. Suburban Commercial Center (Before)



Figure 31. Suburban Commercial Center Concept with Shared Use Path



Figure 32. Suburban Commercial Center Concept with Onstreet Bike Lane

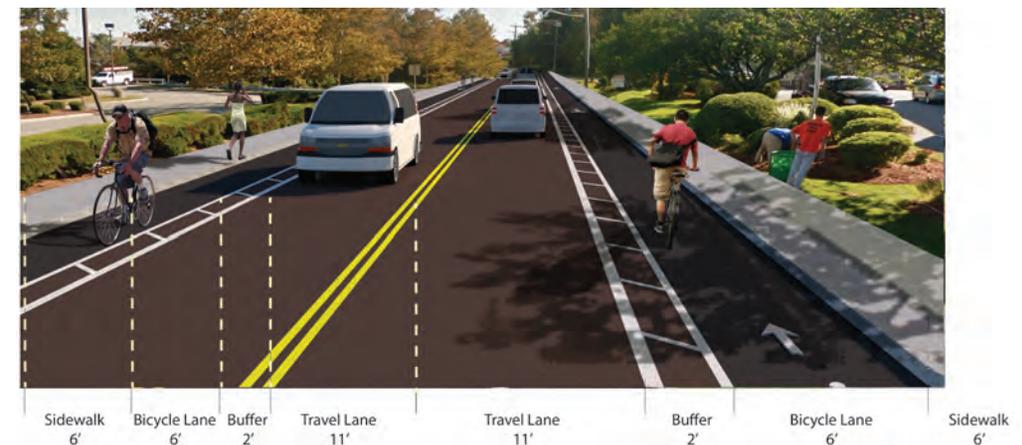


Figure 33. Suburban Commercial Center Cross Section Ranges with Shared Use Path

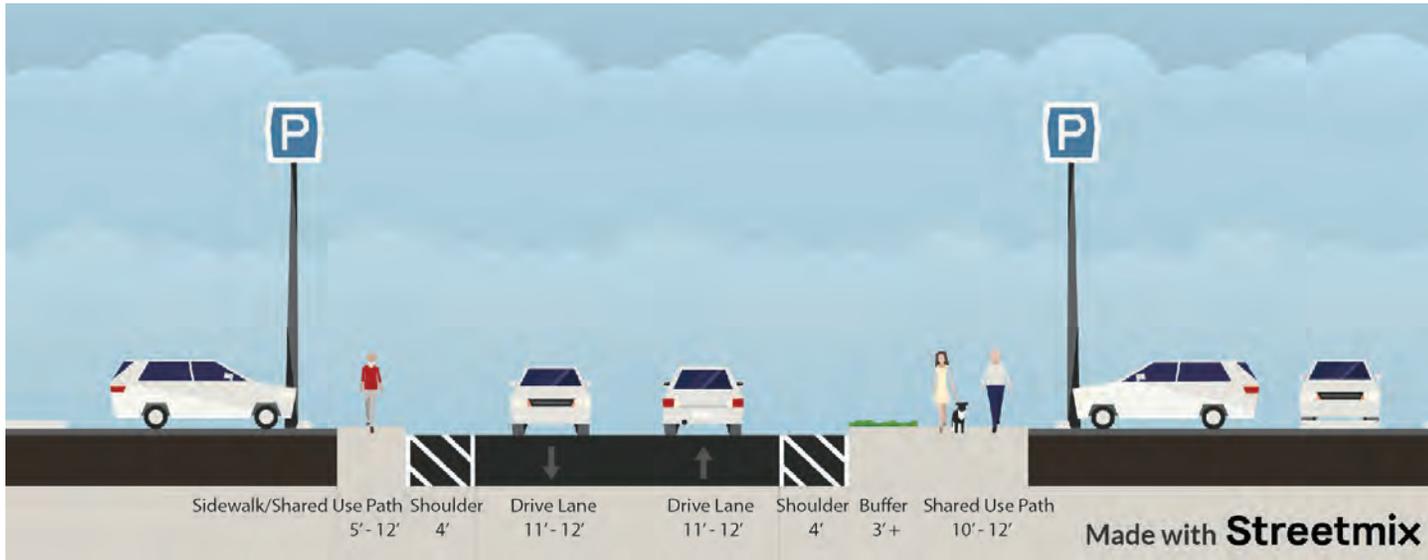
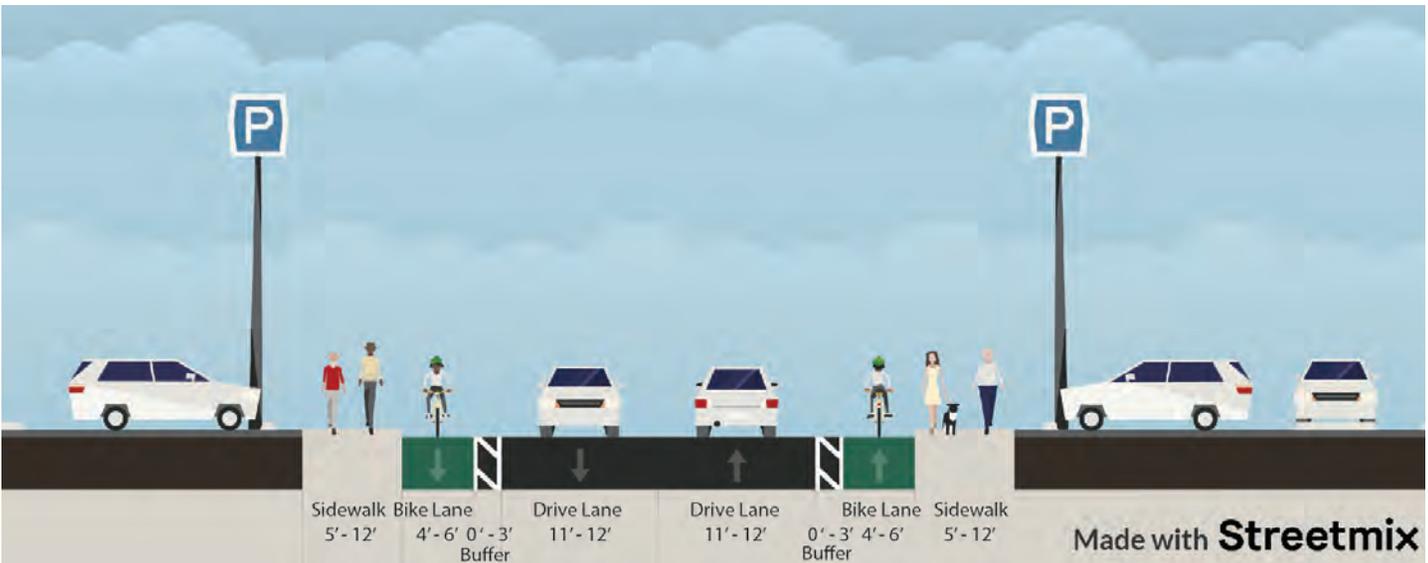


Figure 34. Suburban Commercial Center Cross Section Ranges with Onstreet Bike Lanes



# Rural Residential

Rural Residential consists of areas along the corridor that are mainly single-family residential homes with disconnected neighborhoods and landscaping areas separating buildings from the roadway. These areas are often constrained by heavy landscaping and side slopes. The priority in these areas is to have a sidewalk on at least one side. Where feasible, on street bike lanes and shared use paths could be considered. Shared use paths are recommended as priority when new segments are being built or under construction.

## DESIRED FEATURES

ADA compliant sidewalk on at least one side

Separated bicycle facility where space allows

Moderate speed (35 - 45 mph)

Figure 35. Rural Residential 40' (Before)



Figure 36. Rural Residential Concept with Shared Use Path



Figure 37. Rural Residential Cross Section Ranges with Shared Use Path

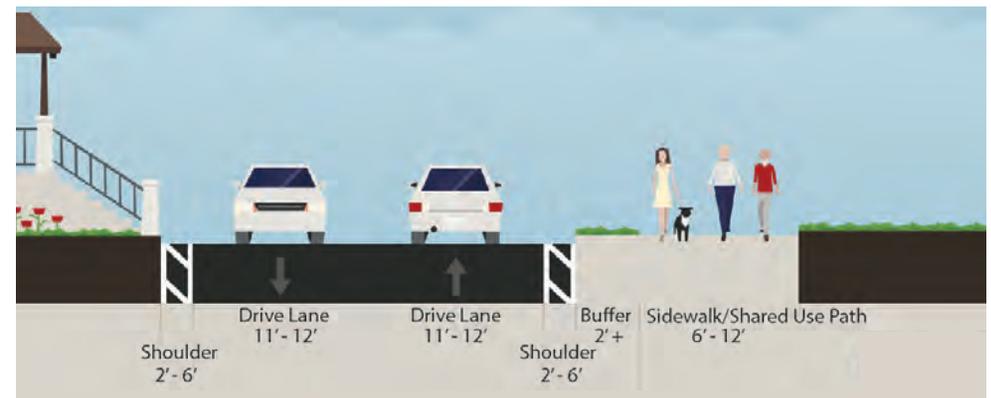


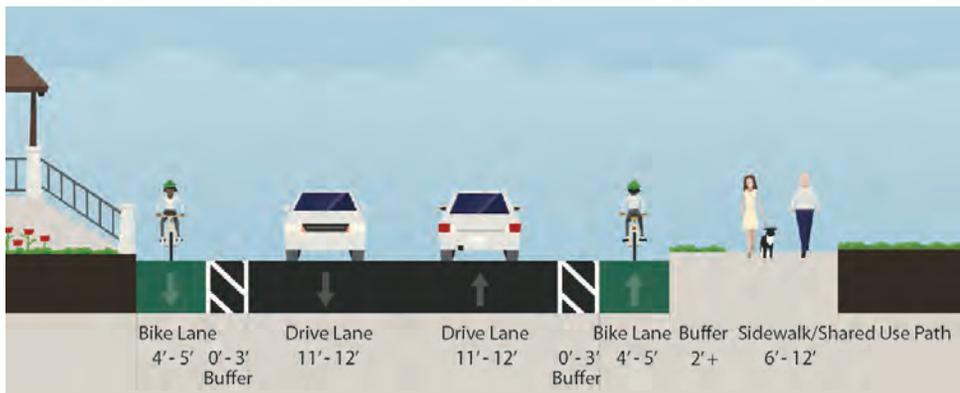
Figure 38. Rural Residential 50' (Before)



Figure 39. Rural Residential Concept with Shared Use Path and Bike Lanes



Figure 40. Rural Residential Cross Section Ranges with Shared Use Path and Bike Lanes



## Stormwater

Some of the cross sections presented in the previous section would add impervious surface to areas with open drainage systems. This is particularly true in the rural residential street types. The following sections give insight to some common and highly effective green infrastructure design alternatives to mitigate the effects of additional impervious surface areas, as well as, guidance and considerations for their design and implementation. It is not an exhaustive list of alternatives but can be used as the foundation for establishing a best practice toolkit for planning future improvements along Route 28 in Cape Cod. Sharing of maintenance responsibilities should be discussed when recommending these facilities.



Sources: Kittelson & Associates, Inc.

## What is Green Infrastructure?

Green Infrastructure (GI) incorporates low impact development (LID) techniques, which leverage the ecological benefits of nature and proactively manage runoff closer to its source. GI improvements provide many environmental, economic, and social benefits for all users of the road. Some of these important benefits include:

- / reducing the total volume of stormwater runoff and limiting peak discharge rates;
- / naturally mitigating impacts from changes in land use;
- / filtering sediment and other pollutants;
- / buffering traffic, wind, and noise;
- / providing shade and mitigating urban heat island effect;
- / providing habitat for birds, pollinators, and other favorable wildlife;
- / carbon sequestration and improving air quality;
- / creating public focal points that establish good community culture and create connectivity amongst neighborhoods;
- / reducing erosion by stabilizing roadside slopes with vegetation;
- / and improving the resiliency of vulnerable transportation infrastructure by making corridors more adaptive to unpredictable, inconsistent and extreme/or conditions.

By decentralizing drainage systems and providing more opportunities for onsite retention, GI manages stormwater without adversely impacting local hydrologic conditions. GI techniques will be considered on a project by project basis to determine their benefit and feasibility.

## Street Trees

Street trees represent the “first line of defense” for stormwater management. Their canopies productively intercept rainfall prior to it ever reaching the surface and becoming runoff. The canopy provides critical shade during hot summer months, relieving the built environment from the impacts of urban heat island effect. It also helps reduce glare for motorists and preserves the conditions of the road, reducing the need for pavement maintenance. Street trees are excellent at buffering high winds, noise, and traffic as well as, filtering impurities from the air. They can also be uniquely beneficial for roads with flush shoulder because they reinforce the edge of travel for the motorist. The extent of these benefits will vary based on the size and type of tree.

Considerations for the design and implementation of street trees include:

- / Adequate space from impervious surfaces for root zone uptake (typically at least three to five feet from the outer diameter of the trunk).
- / Consideration for overhead power lines or utilities. In these conditions, consider implementing trees on the opposite side of the road, if possible, or using understory species with lower canopy heights.
- / Native species that are resilient and can handle a range of conditions. For reduced maintenance demands, avoid fruit-bearing or deciduous species. Fruits, nuts, etc. fallen from trees can be difficult for bicyclists to maneuver.
- / Ensure roadside safety criteria (clear zone, sight distance, lateral offset) is met and pedestrians and bicyclists are not obscured waiting at crosswalks.
- / Providing habitat for bats and other avian species can help control pest populations.

Figure 41. Examples of Street Trees



Source: Dan Burden



Source: Kittelson & Associates, Inc.

## Bioretention Areas / Rain Gardens

Bioretention areas, or bioretention ‘cells’, are shallow cultivated depressions that accept and retain runoff and have several layers of media that facilitate infiltration. These retention areas typically have sandy soils and a top layer of hardwood mulch. They are typically planted with a range of native flowers and plant species. They are normally anywhere from six to eight-inches deep and can range in widths depending on available right-of-way.

While the term ‘bioretention’ is often used inter-changeably with the term ‘rain garden’, there are minor nuances that distinguish one from the other. Bioretention areas have formal designs that follow stricter criteria and typically have the capacity to manage larger runoff volumes and flow rates than rain gardens, which are more appropriate in a local neighborhood or urban context. Both provide important habitat for butterflies, pollinators, and other insects.

Considerations for the successful design and implementation of bioretention areas / rain gardens include:

- / Native plant species that thrive in the local environment under normal circumstances and are adaptive to a range of field conditions. Choose plants that will not require the use of excessive fertilizers or other chemicals.
- / Plant species that complement each other encourage biodiversity and will not try to out-compete one another for resources.
- / Limited treatment depths (one foot or less) to prevent stagnant conditions and to ensure water levels drain within a day or so. Standing water for longer than 72 hours can breed mosquitoes.
- / Vegetation oriented to discourage foot traffic in high-density and/or urban environments. This will cause soils to compact over time, reducing their infiltration rates.
- / Appropriate clearance (typically at least two feet) from the groundwater table.
- / Stormwater drains designed or oriented to avoid trapping bicycle wheels in the drain grates.
- / Slightly acidic soils, which are more adsorptive, provide good access to nutrients, and are favorable for establishing vegetation and promoting healthy microbial activity.

Figure 42. Examples of a Rain Garden/Bioretention Area



## Bioswales

Bioswales capture and convey runoff, filtering it through a linear channel planted with dense vegetation. Mild and shallow flow depths slow water down, giving it extra time to be treated. These systems are implemented in locations where conveyance is desirable in lieu of retention. They can be staged upstream of other GI, such as a bioretention area, to form a LID “treatment train”.

Considerations for the successful design and implementation of bioswales include:

- / Avoiding longitudinal slopes that are too steep to prevent bypassing treatment and/or erosion.
- / Native grasses, wildflowers, and other varieties of groundcover which provide the greatest amount cross-sectional treatment area for conveyance and are durable to high flow rates.
- / Species that are relatively low-maintenance and reduce regular mowing schedules.
- / Periodic removal of dead vegetation

Figure 43. Examples of Bioswales



*Source: Aaron Volkening*

## Landscaped Medians

Landscaped medians are very common and are appropriate in a variety of contexts, particularly in suburban commercial centers. They typically have gently graded slopes with short grass or ground cover and trees, depending on roadway context. They are effective at mitigating operating speeds and are beneficial to improving corridor safety.

Considerations for the successful design and implementation of landscaped medians include:

- / Adherence to roadside safety criteria (clear zone, sight distance, lateral offset).

Figure 44. Examples of Landscaped Medians



# Signs

Signs and pavement markings reinforce street design and can support complete and livable streets for all users. This section focuses on the types of signs that regulate, warn, direct, and improve user experience for people walking and biking. This information is especially useful in areas along Route 28 that are constrained and may not be able to fit a dedicated bicycle and pedestrian facilities. It is important to inform drivers that pedestrians and bicyclists should still be expected.

## Share the Road

Signs indicating the shared nature of the roadway space, such as MUTCD R4-11, are appropriate in Town Centers and Rural Residential zones where dedicated bicycle facilities may not be prioritized.



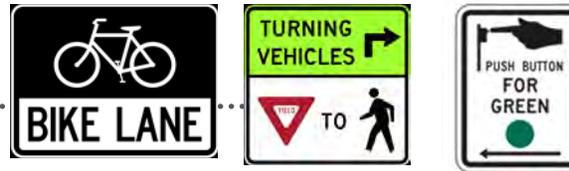
## School Crossings

Near schools, signs such as S1-1 are appropriate at crossings to alert people driving of high pedestrian volumes.



## Bicycle and Pedestrian Presence

Warning signs such as MUTCD W11-1, W11-2, and W11-15 alert people driving to locations where unexpected entries into the roadway by bicyclists and pedestrians might occur. These signs can be used in all street types where a high number of pedestrians and bicyclists are expected and are especially useful in Rural Residential areas where there are no bicycle and pedestrian facilities but activity is expected.



## Regulatory Signs

Regulatory signs such as MUTCD R3-17, R9-5, and R9-6 instruct people walking and biking where to go and who has the right of way. Additionally, signs that instruct people walking and biking how to safely traverse an intersection are important in this context. These signs are particularly valuable in Suburban Commercial Center areas where there may be an increased number of conflicts between motorized and non-motorized users.



## Wayfinding

Guidance signs can inform people walking and biking of popular destinations, along with route information such as distance, direction, and travel time. The MUTCD provides examples in the D1 and D11 sign series, but community input is crucial to providing useful information that is clear and consistent for both local and visiting users.



# GAP ASSESSMENT

The outcome of the study is to identify opportunities to improve walking and bicycling along the Route 28 corridor. A gap analysis was conducted to identify road segments that do not sufficiently serve the needs of bicyclists and pedestrians based on street type and opportunities for short-term implementation.

## Segments with No Multimodal Facilities

Figure 45 displays sections of the corridor that do not contain sidewalk, bicycle lanes, or shoulders. In other words, the only option for bicyclists and pedestrians is to walk or ride in the travel lanes. These segments should be reviewed in the near-term to identify ways to add a facility on at least one side. Figure 45 displays the gaps by street type. Special attention should be paid to gaps in Town Mix and Suburban Commercial Center, where conflicts with motor vehicles are more likely. The full list of segments, by Town, is provided in Appendix D.

## Opportunities for Restriping

Table 2 lists sections of the corridor that currently have a paved shoulder on one or both sides that can be restriped as a bike lane. These segments provide opportunities for near-term improvements that could happen as part of routine maintenance or as standalone low-cost projects. Where feasible, MassDOT could consider adding a buffer between the bike lane and travel lane and provide physical separation between bicyclists and motorists with flex-posts.

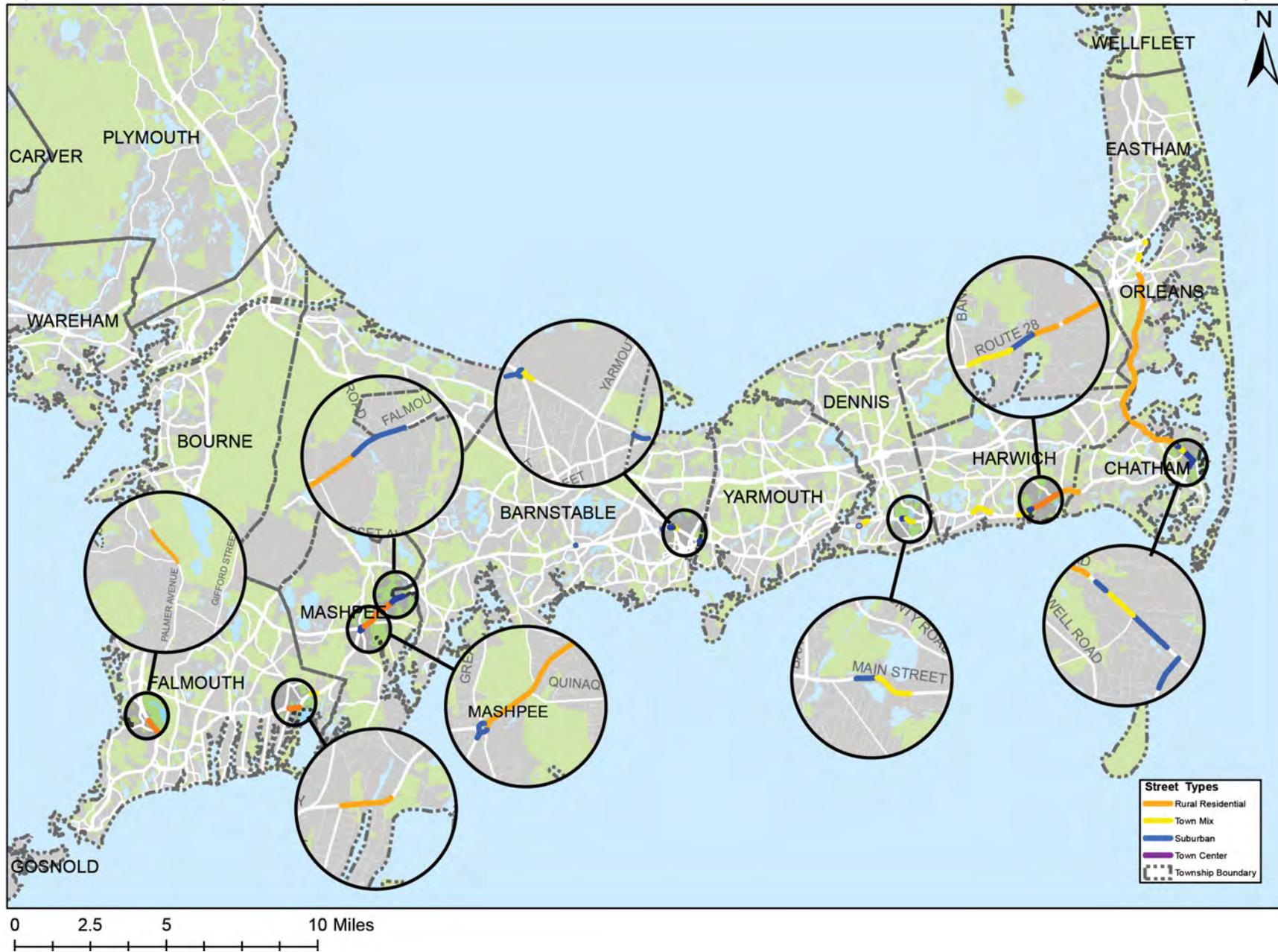
**Table 2. Opportunities for Restriping**

From	To	Town	Street Type	Length (miles)
Job's Fishing Rd	Great Neck Rd Rotary	Mashpee	Suburban Commercial Center	0.3
Walton Avenue	Simpkins Way	Barnstable	Town Mix/ Suburban Commercial Center	1.2
Baxter Avenue	Rosemary Lane	Yarmouth	Suburban Commercial Center	0.3
Pleasant St	East of Bass River Park Entrance	Yarmouth/Dennis	Suburban Commercial Center	0.3
Old Main St	Shad Hole Rd	Dennis	Town Mix/Suburban Commercial Center	0.9
East of Riverside Dr	Chase St	Harwich	Town Mix	0.3

## Other Priority Segments

Table 3 includes a list of segments that should be further reviewed based on data reviewed in the existing conditions section. This includes segments that have a high propensity for walk or bike, segments with a relatively high number of bicycle and pedestrian crashes, and segments with a relatively high number of transit boardings. In some cases, a segment may meet several of these priority metrics. Table 3 also highlights where MassDOT has upcoming projects that could be expanded to include bicycle and pedestrian facility improvements.

Figure 45. Segments with No Multimodal Facilities



**Table 3. Priority Segments for Further Study**

From	To	Town	Street Type	Priority Consideration				Opportunity	Length (miles)
				High Potential for Everyday Walk	Everyday Bike	High Bike/Ped Crash Segment	High Transit Boardings		
<b>Minot Street</b>	<b>W Main Street</b>	Falmouth	Town Mix		<b>X</b>			Missing bicycle facility; narrow sidewalk	0.5
<b>Spring Bars Road</b>	<b>Sandwich Road</b>	Falmouth	Town Mix/ Suburban Commercial Center	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	Gaps in sidewalk and bike lane	0.8
<b>Sandwich Road</b>	<b>Maravista Avenue Extension</b>	Falmouth	Rural Residential		<b>X</b>			Missing bicycle facility; narrow sidewalk	0.3
<b>Oxbow Road</b>	<b>Old Barnstable Road</b>	Falmouth	Rural Residential/ Town Mix		<b>X</b>			Missing bicycle facility; sidewalk gaps	0.5
<b>Beldan Lane</b>	<b>Lincoln Road</b>	Barnstable	Rural Residential/ Town Mix		<b>X</b>			Stripe existing shoulder as bike lane; sidewalk gaps	2.3
<b>Lincoln Road</b>	<b>Pitchers Way</b>	Barnstable	Rural Residential		<b>X</b>	<b>X</b>		Missing bicycle facility and sidewalk on one side	0.1
<b>Pitchers Way</b>	<b>Walton Avenue</b>	Barnstable	Rural Residential/ Suburban Commercial Center	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	Pave existing shoulder to create bike lane	0.9
<b>Walton Avenue</b>	<b>Barnstable Road</b>	Barnstable	Suburban Commercial Center		<b>X</b>	<b>X</b>	<b>X</b>	Stripe existing shoulder as bike lane; missing sidewalk	0.3
<b>Barnstable Road</b>	<b>Mary Dunn Way</b>	Barnstable	Town Mix		<b>X</b>			Stripe existing shoulder as bike lane; missing sidewalk	0.6
<b>Mary Dunn Way</b>	<b>Cedar Street</b>	Barnstable	Suburban Commercial Center		<b>X</b>	<b>X</b>		Inconsistent shoulder; missing sidewalk	0.3

From	To	Town	Street Type	Priority Consideration				Opportunity	Length (miles)
				High Potential for Everyday Walk	Everyday Bike	High Bike/ Ped Crash Segment	High Transit Boardings		
<b>Cedar Street</b>	<b>Simpkins Way</b>	Barnstable	Suburban Commercial Center		X			Stripe existing shoulder as bike lane; no sidewalk	0.1
<b>Iyannough Road / Main Street</b>	<b>Marigold Road</b>	Yarmouth	Suburban Commercial Center			X		Stripe existing shoulder as bike lane where applicable; sidewalk gaps	0.6
<b>Springer Lane</b>	<b>Appleby Road</b>	Yarmouth	Town Mix			X		Missing bicycle facility; narrow sidewalk	0.5
<b>Appleby Road</b>	<b>Neptune Lane</b>	Yarmouth	Town Mix	X		X		Missing bicycle facility; narrow sidewalk	0.3
<b>Neptune Lane</b>	<b>Wood Road</b>	Yarmouth	Town Mix			X	X	Missing bicycle facility; narrow sidewalk	1.0
<b>Mill Lane</b>	<b>Pleasant Street</b>	Yarmouth	Suburban Commercial Center			X		Missing bicycle facility; inconsistent sidewalk	0.1
<b>Sea Street</b>	<b>Division Street</b>	Dennis	Suburban Commercial Center/ Town Center			X	X	Missing bicycle facility; inconsistent sidewalk	0.4
<b>Eldredge Parkway</b>	<b>Old Country Road</b>	Orleans	Town Mix	X				Missing bicycle facility; sidewalk gaps	0.9



# CONCLUSION AND NEXT STEPS

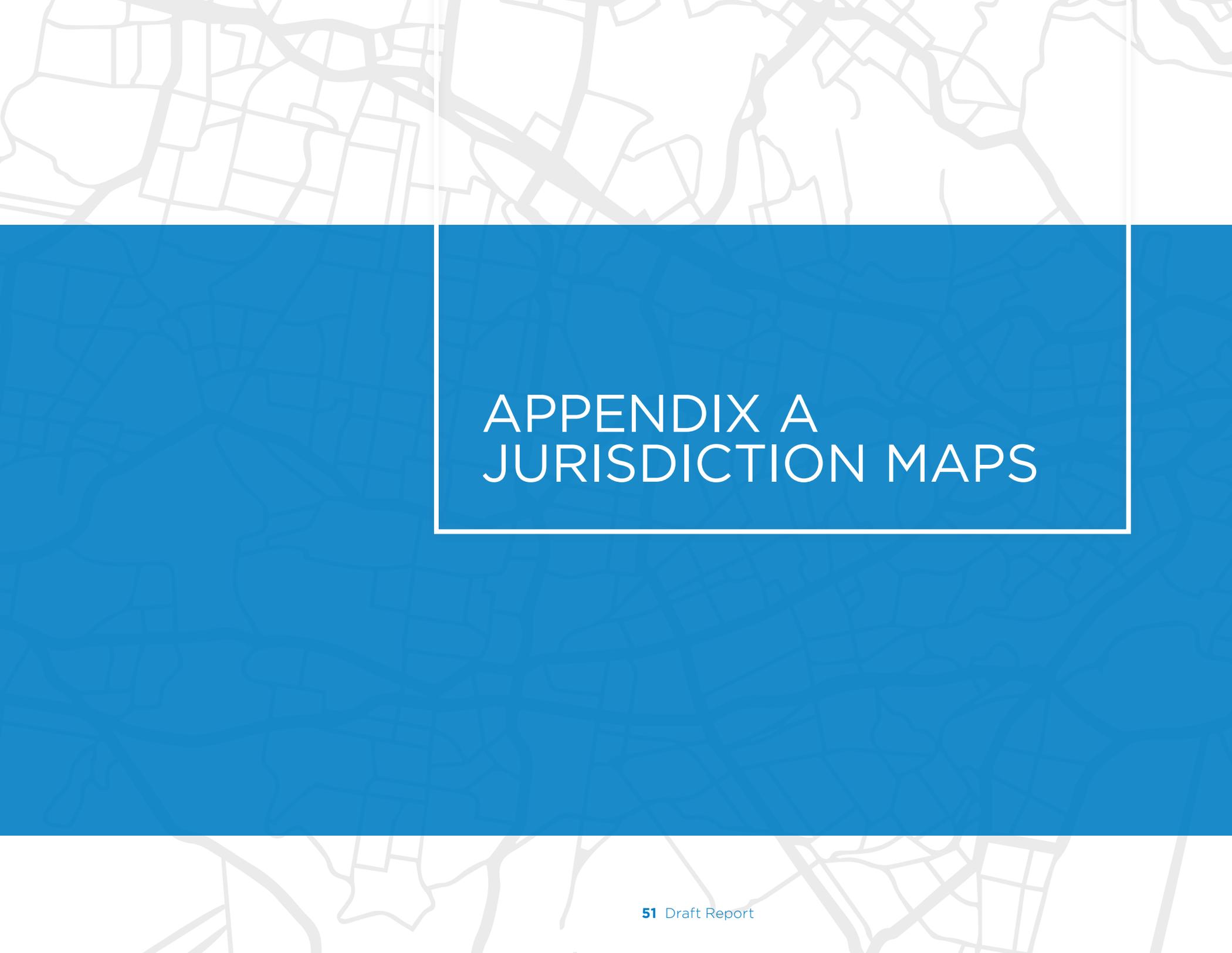
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This report summarizes the existing conditions for bicyclists and pedestrians on Route 28 on Cape Cod and provides recommendations for improvements along the 50 mile corridor from Braeside Road in Falmouth to the Route 6A roundabout in Orleans. As part of this effort, the project team conducted a corridor-wide data collection and mapping effort with a focus on capturing pertinent existing conditions across a variety of discipline areas including safety, presence of multimodal facilities, and existing layout. The team also used previous plans throughout their efforts to ensure special consideration for previous analysis and designs surrounding Route 28.

This report includes a set of recommended facility types for the various street types that existing along Route 28. These facilities were vetted with local representatives and should be considered as projects are programmed along Route 28. This study provides a comprehensive understanding on the current conditions while highlighting priority areas MassDOT may want to focus on for further study.





A faint, light gray map pattern is visible in the background, showing various street layouts and boundaries. The map is partially obscured by a large blue rectangular area that contains the title text.

# APPENDIX A JURISDICTION MAPS



Figure 4. Number of Travel Lanes- Mashpee

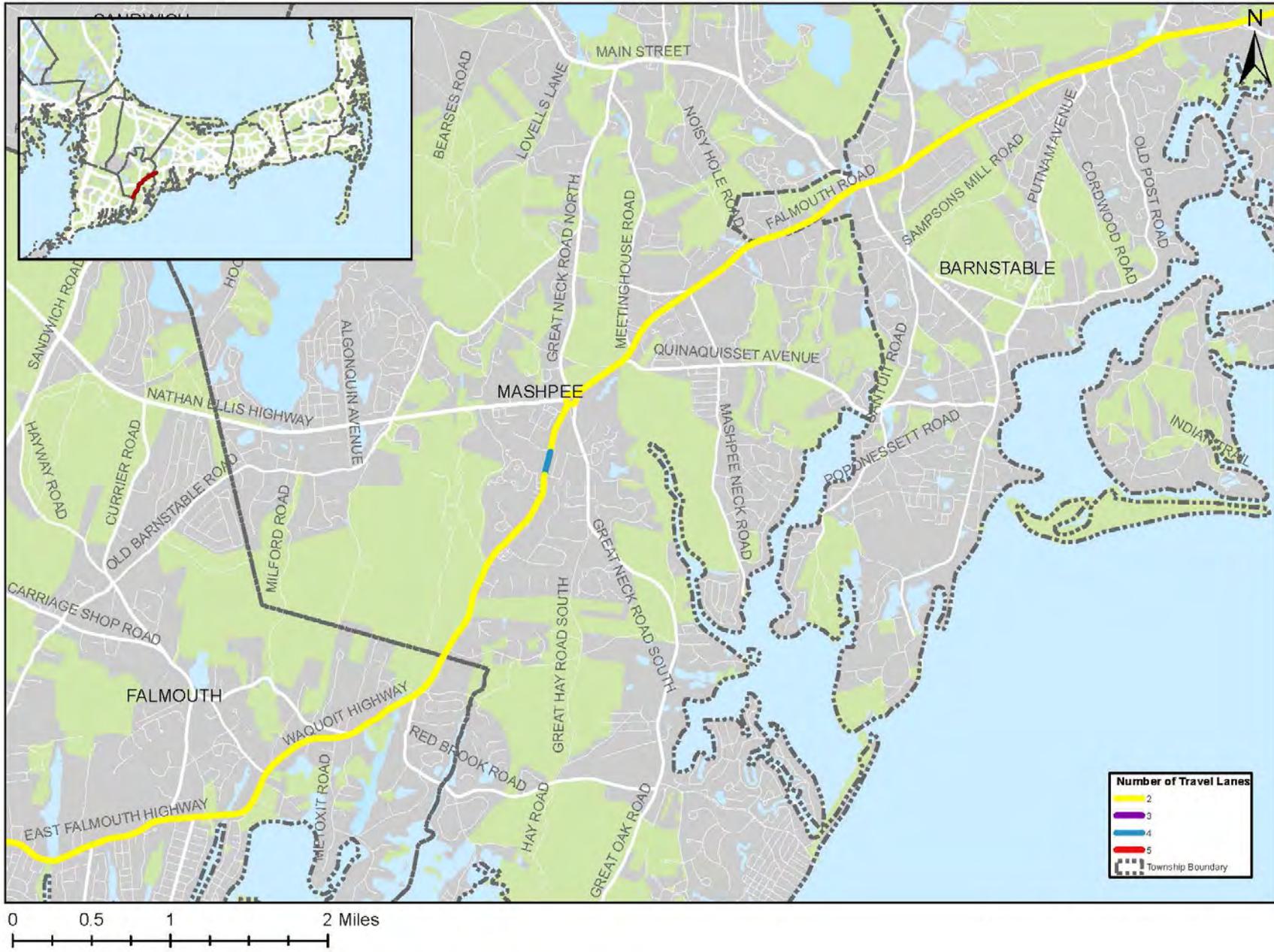




Figure 4. Number of Travel Lanes- Yarmouth

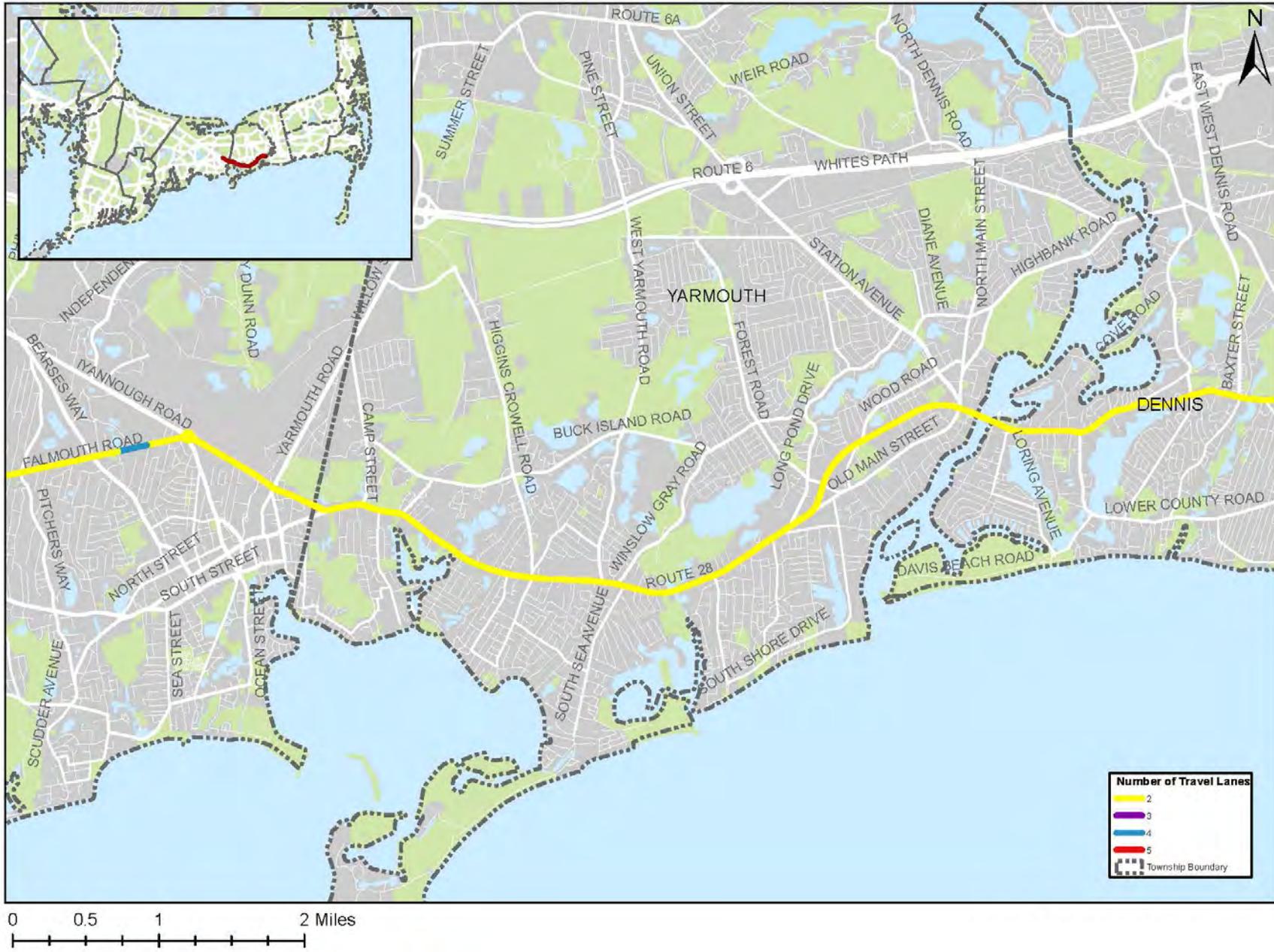


Figure 4. Number of Travel Lanes- Dennis

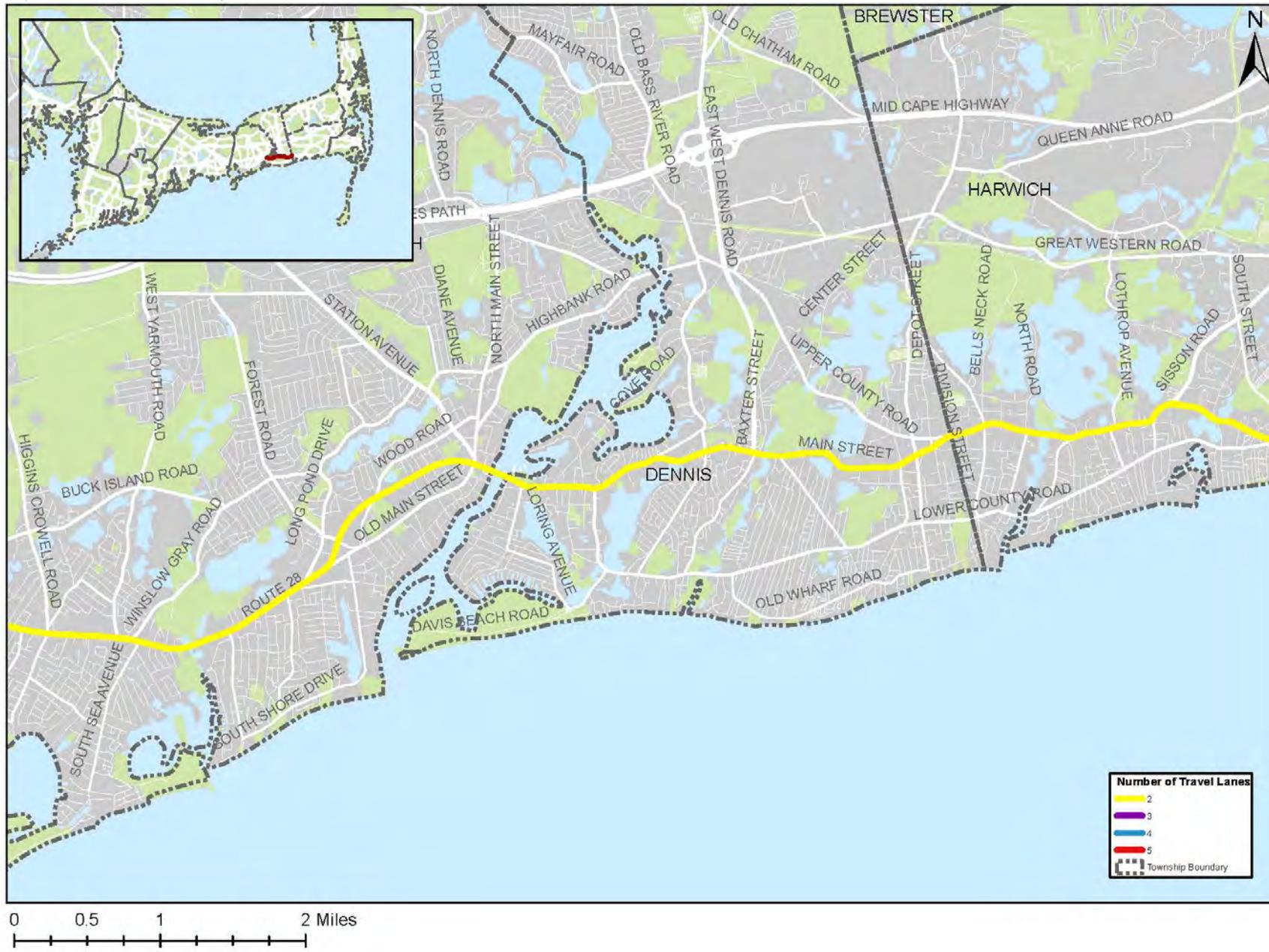


Figure 4. Number of Travel Lanes- Harwich

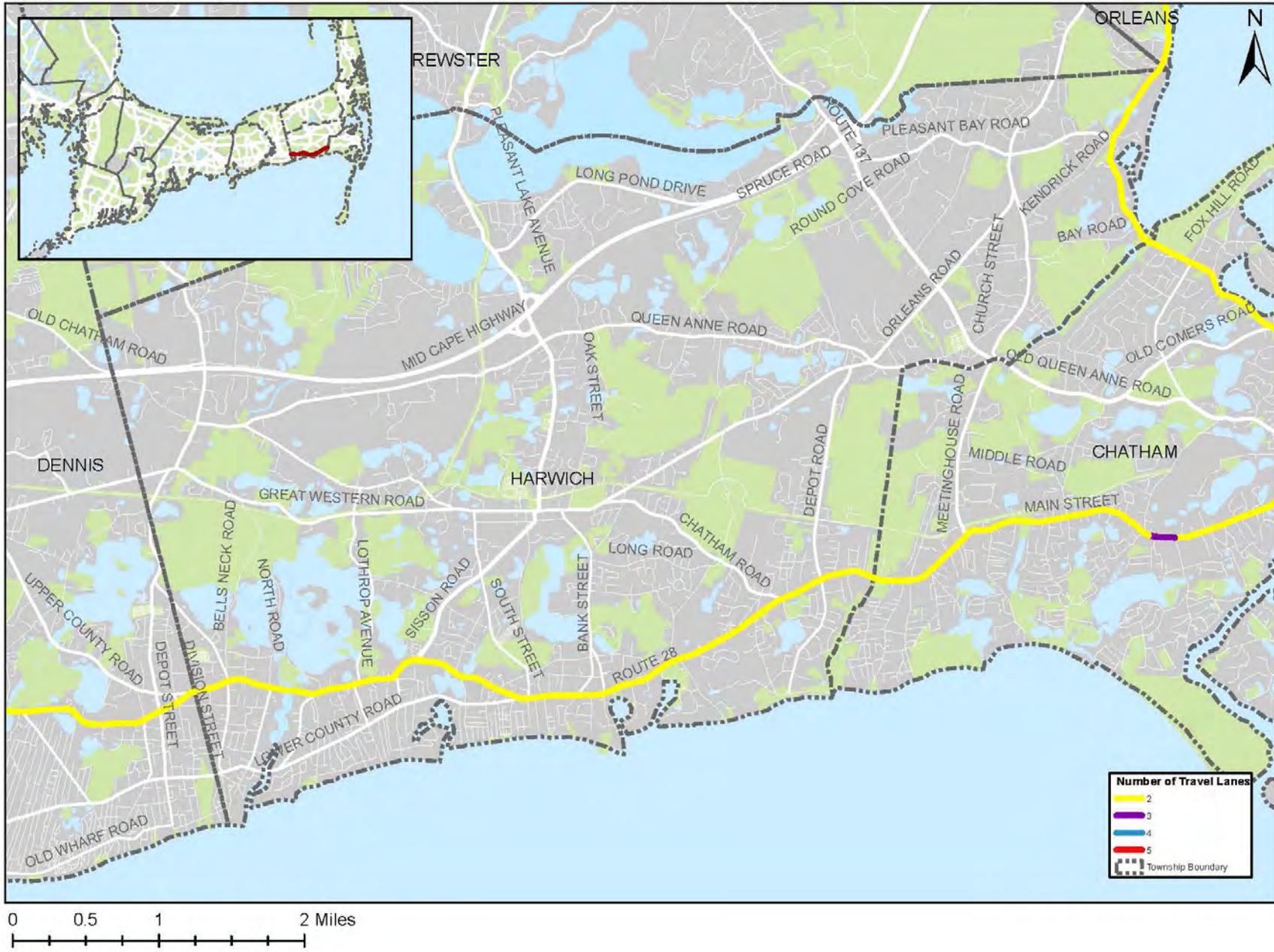


Figure 4. Number of Travel Lanes- Chatham

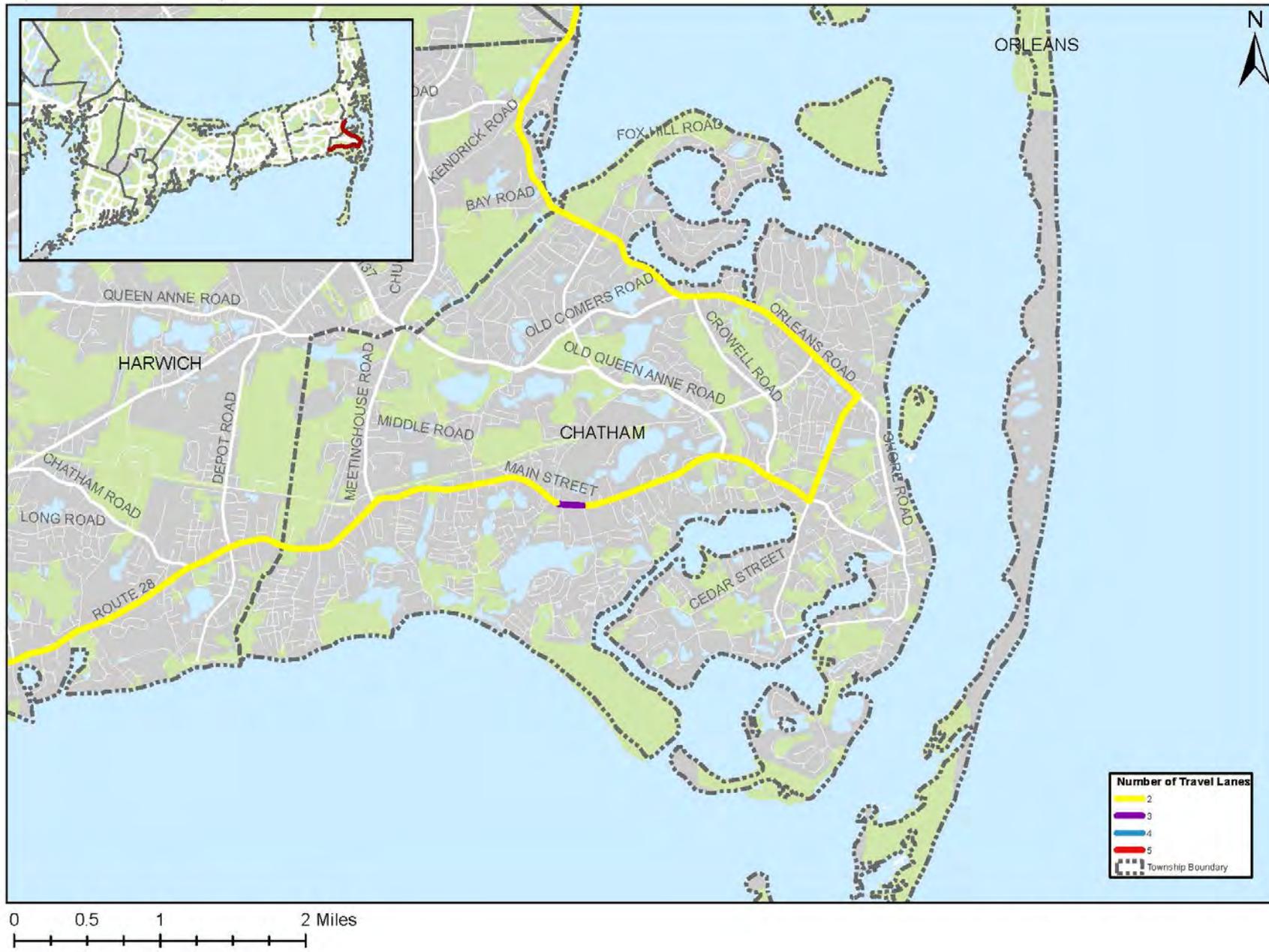


Figure 4. Number of Travel Lanes- Orleans

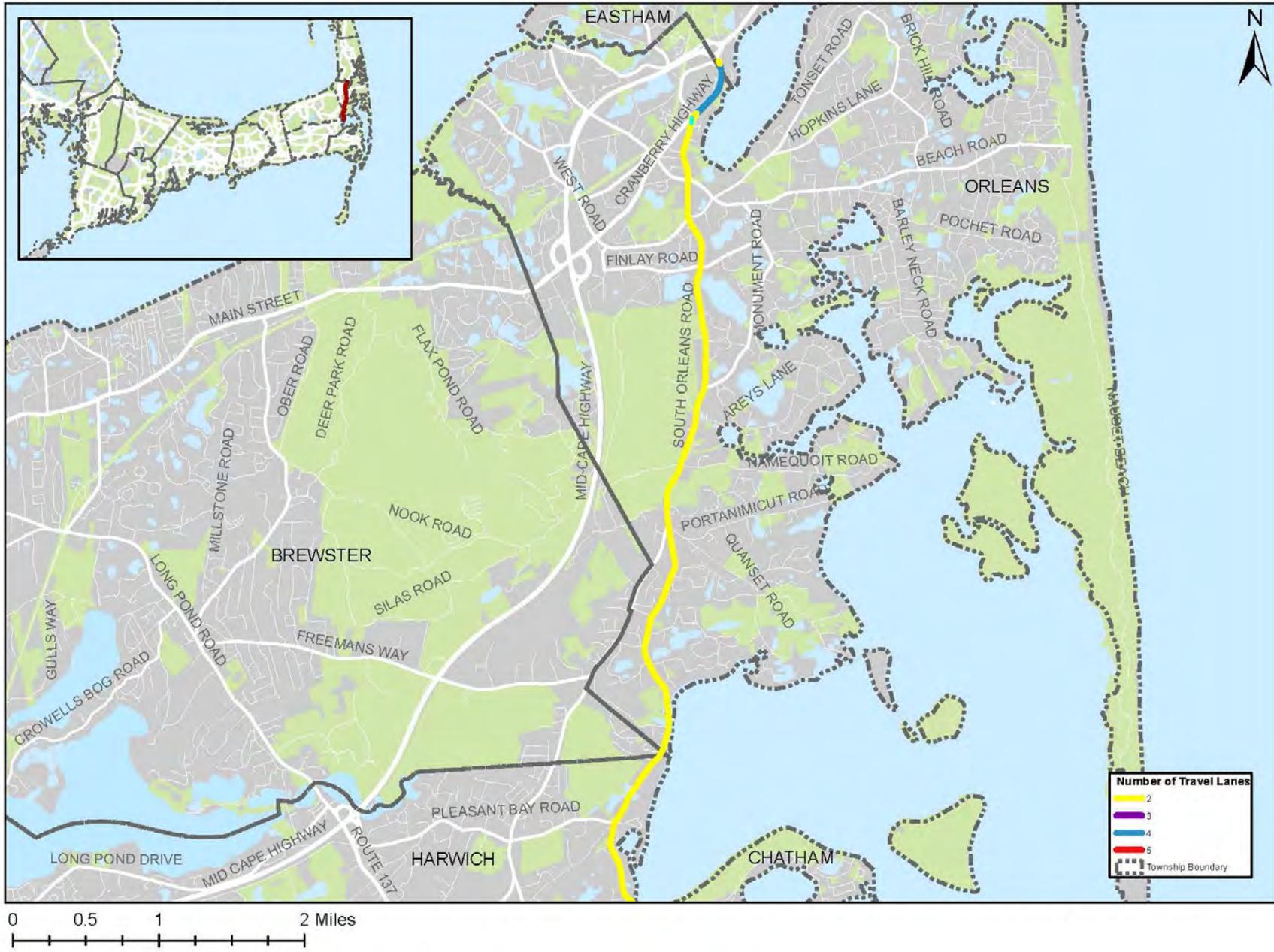


Figure 5. Right of Way- Falmouth



Figure 5. Right of Way- Mashpee

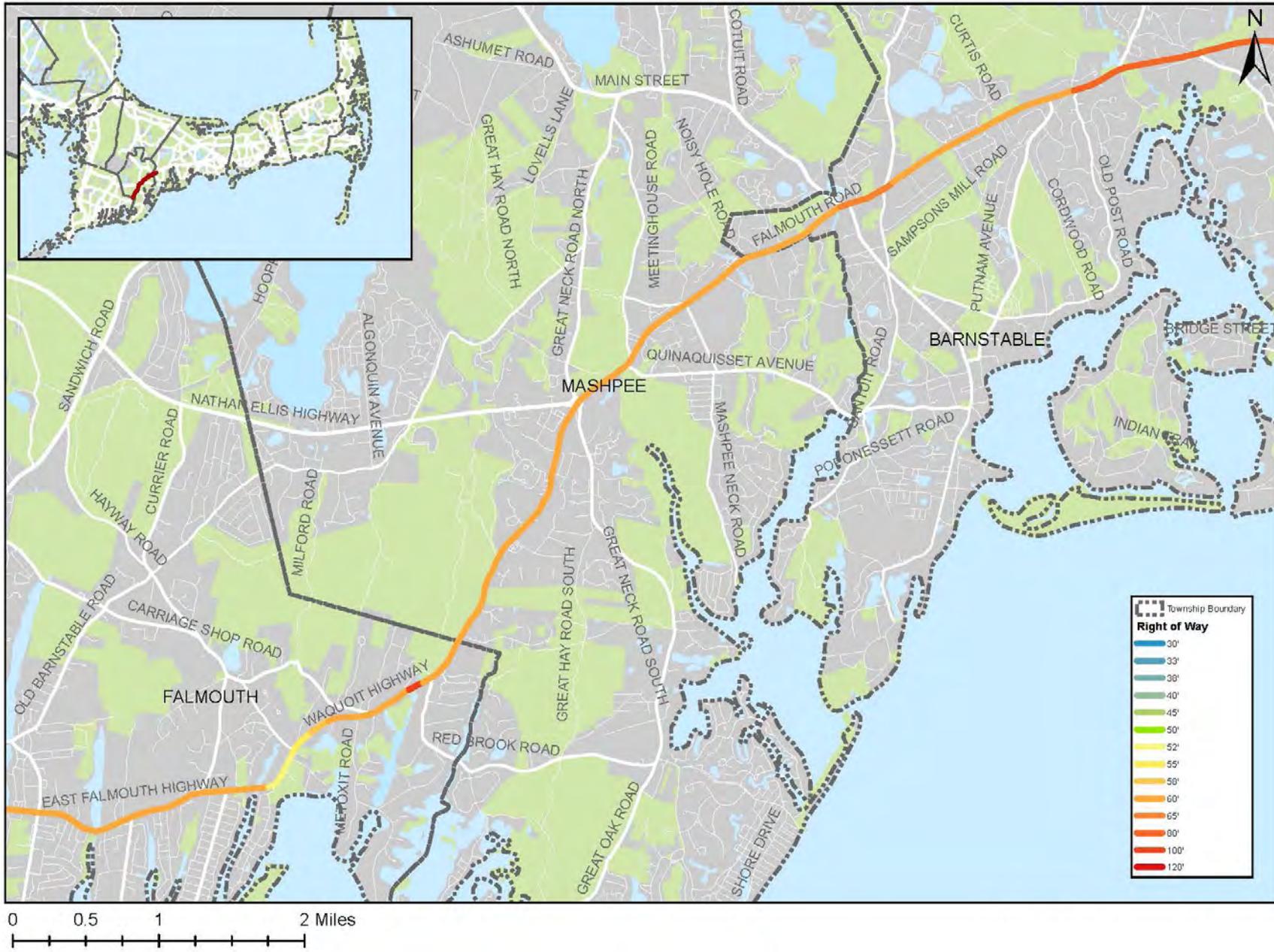


Figure 5. Right of Way- Barnstable



Figure 5. Right of Way- Yarmouth

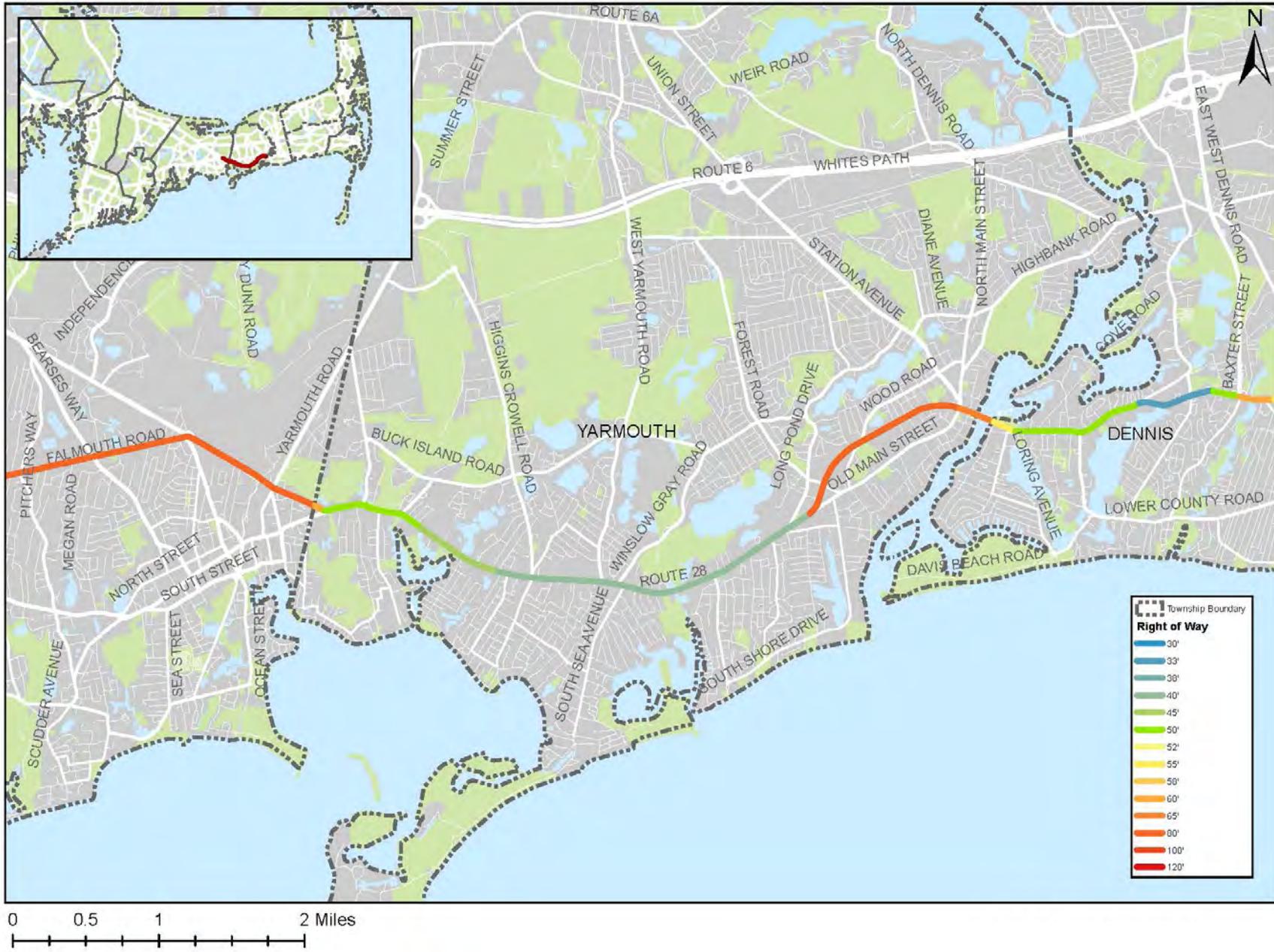


Figure 5. Right of Way- Dennis

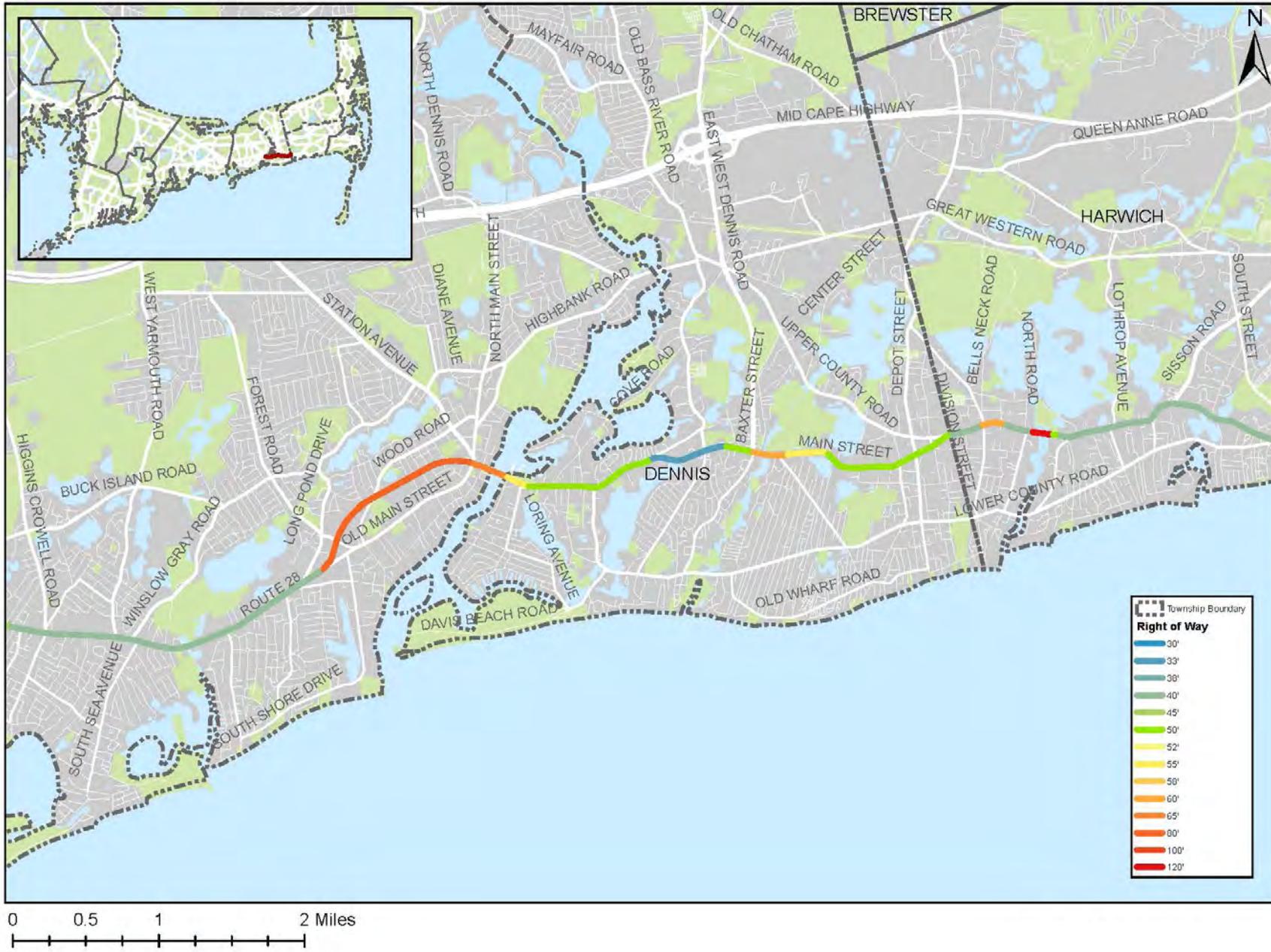


Figure 5. Right of Way- Harwich

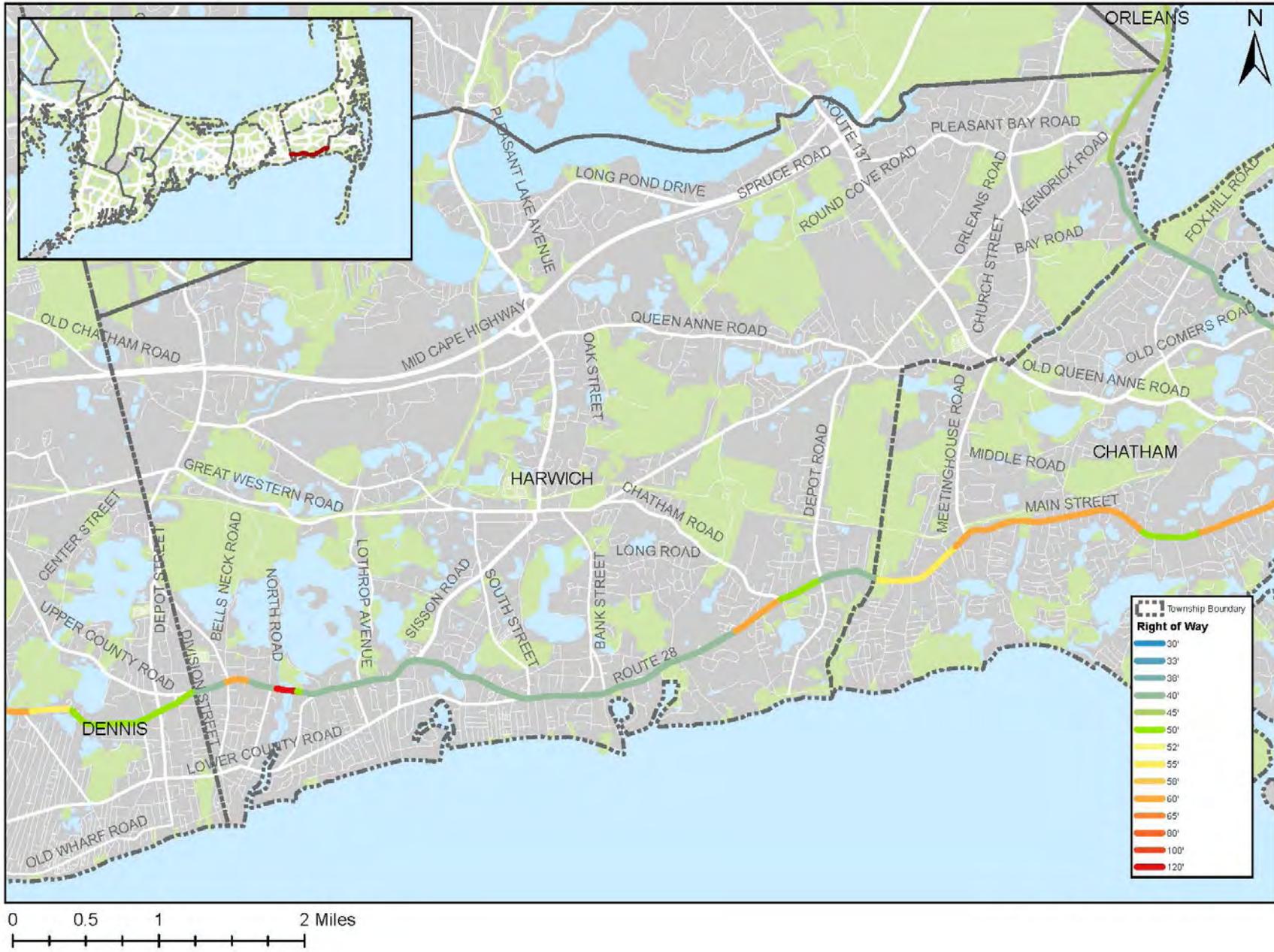


Figure 5. Right of Way- Chatham



Figure 5. Right of Way- Orleans

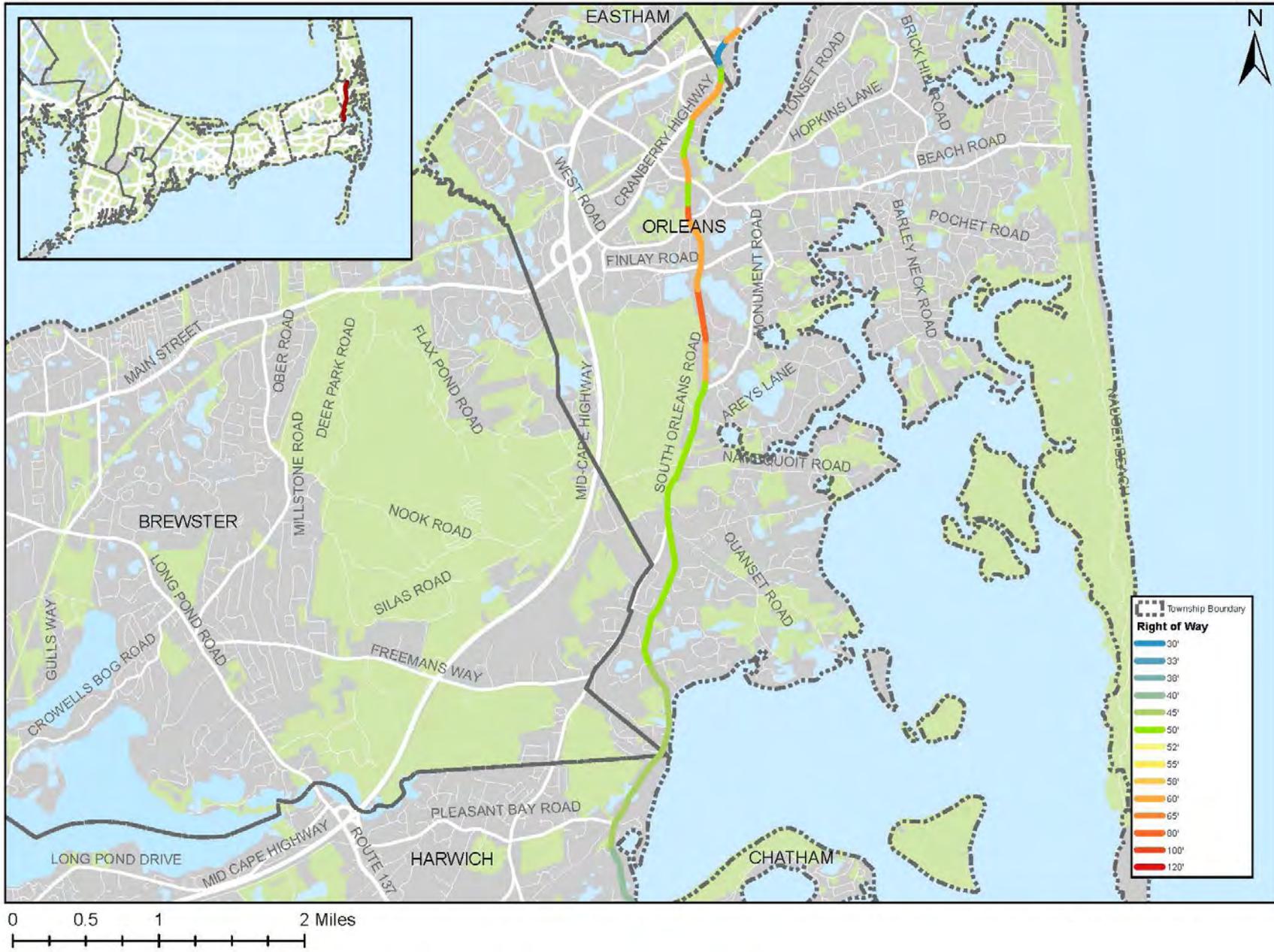


Figure 8. Shoulders and Bike Lanes- Falmouth

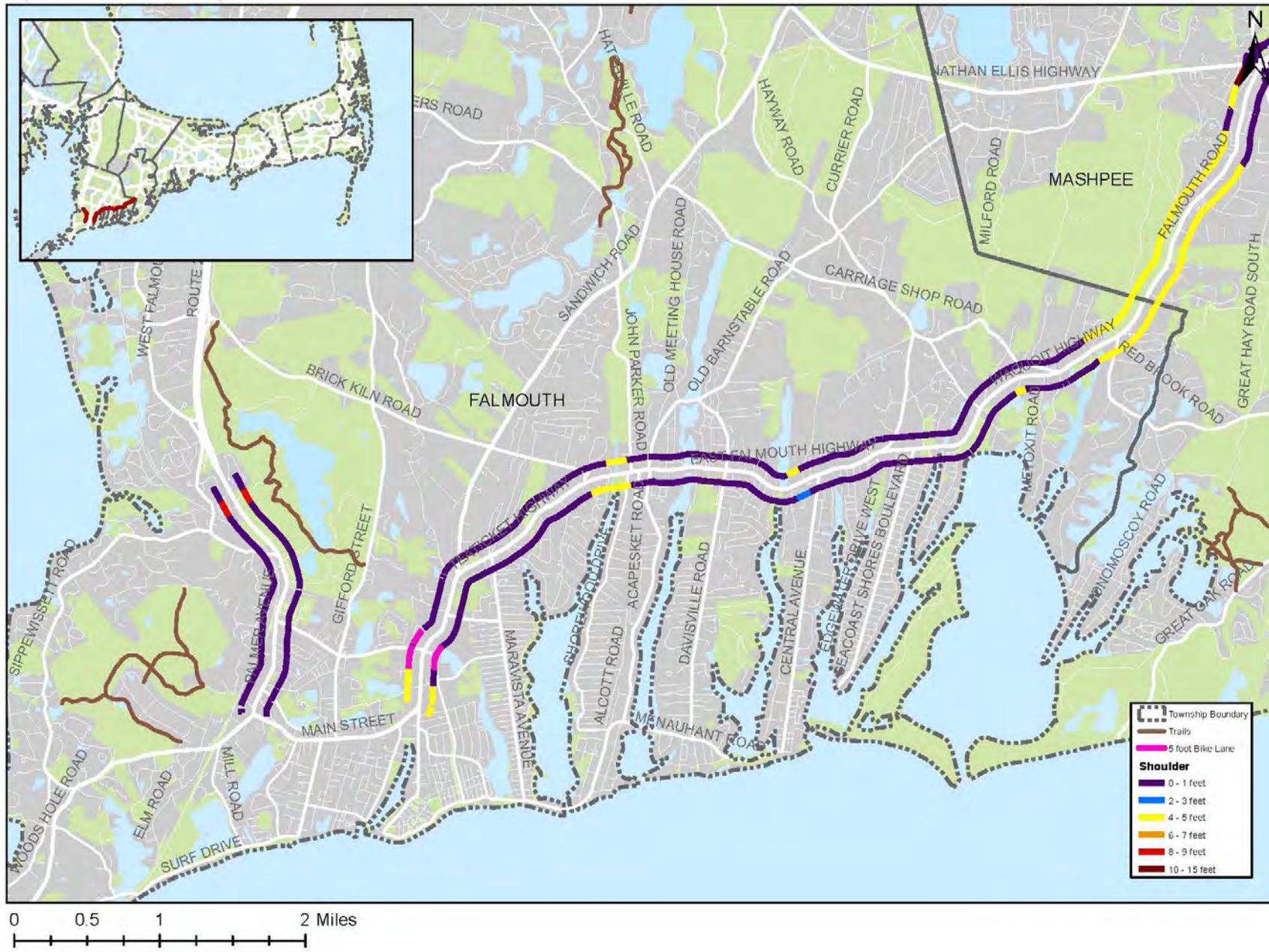


Figure 8. Shoulders and Bike Lanes- Mashpee

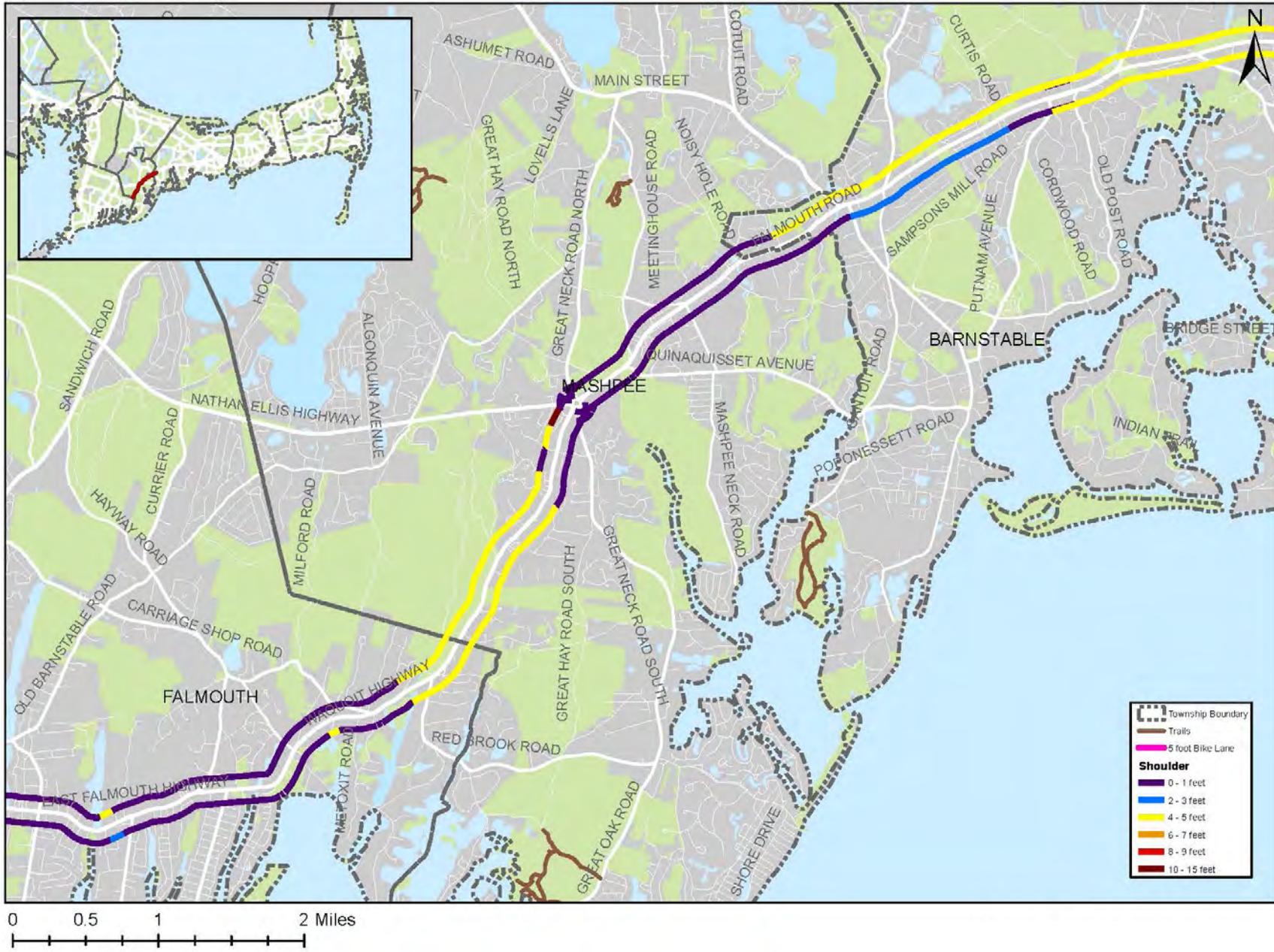


Figure 8. Shoulders and Bike Lanes- Barnstable

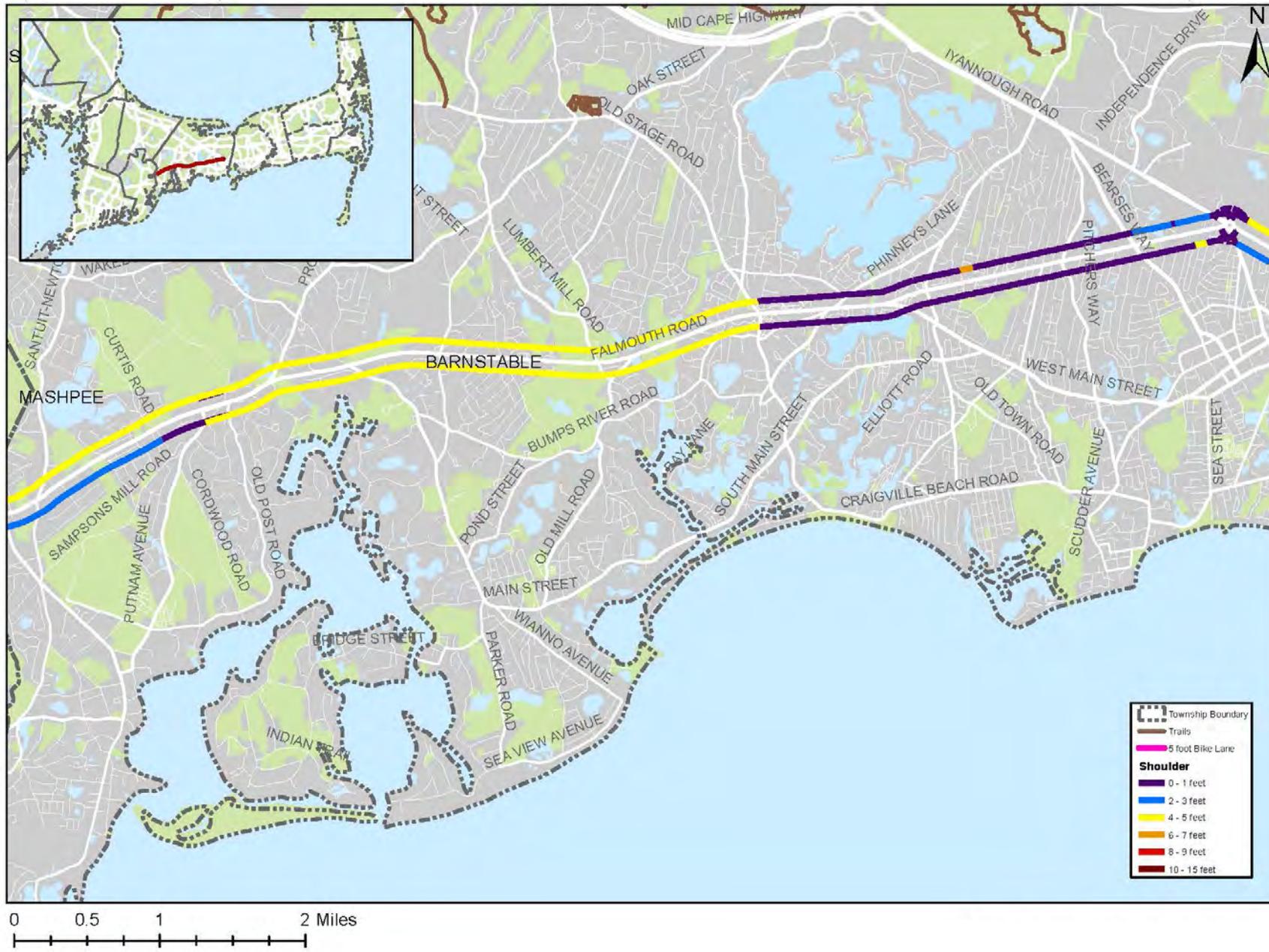




Figure 8. Shoulders and Bike Lanes- Dennis

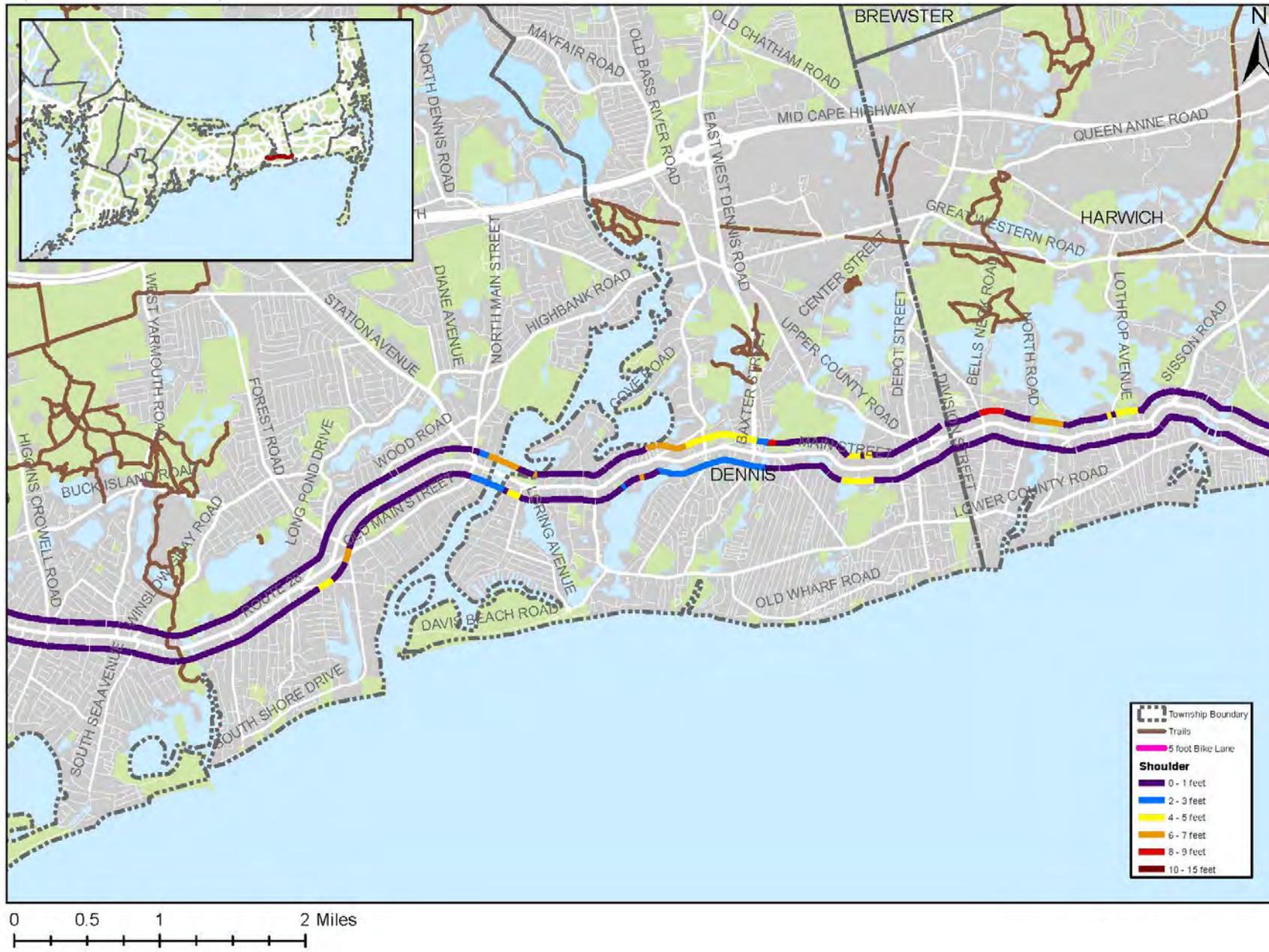


Figure 8. Shoulders and Bike Lanes- Harwich

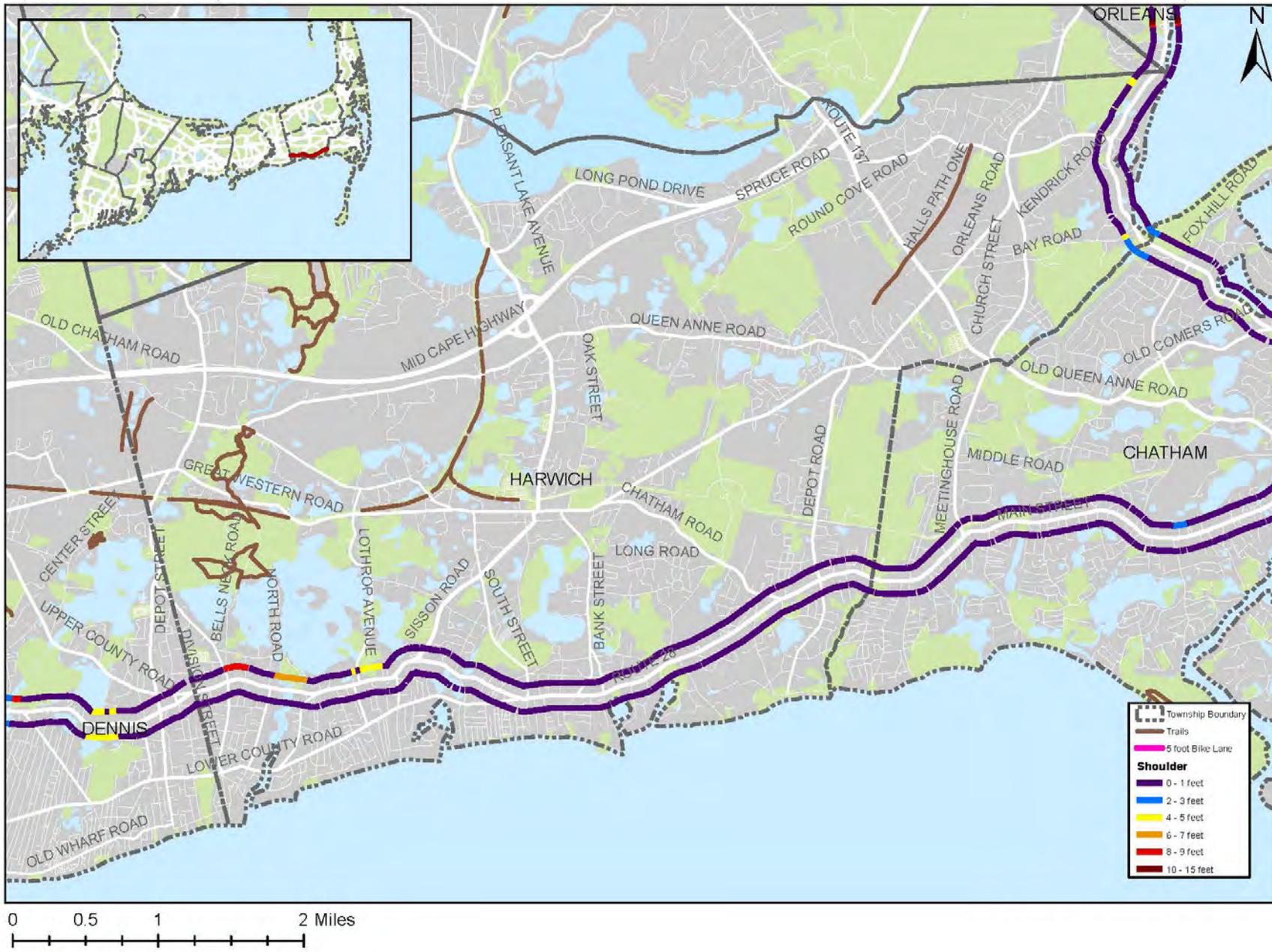


Figure 8. Shoulders and Bike Lanes-Chatham

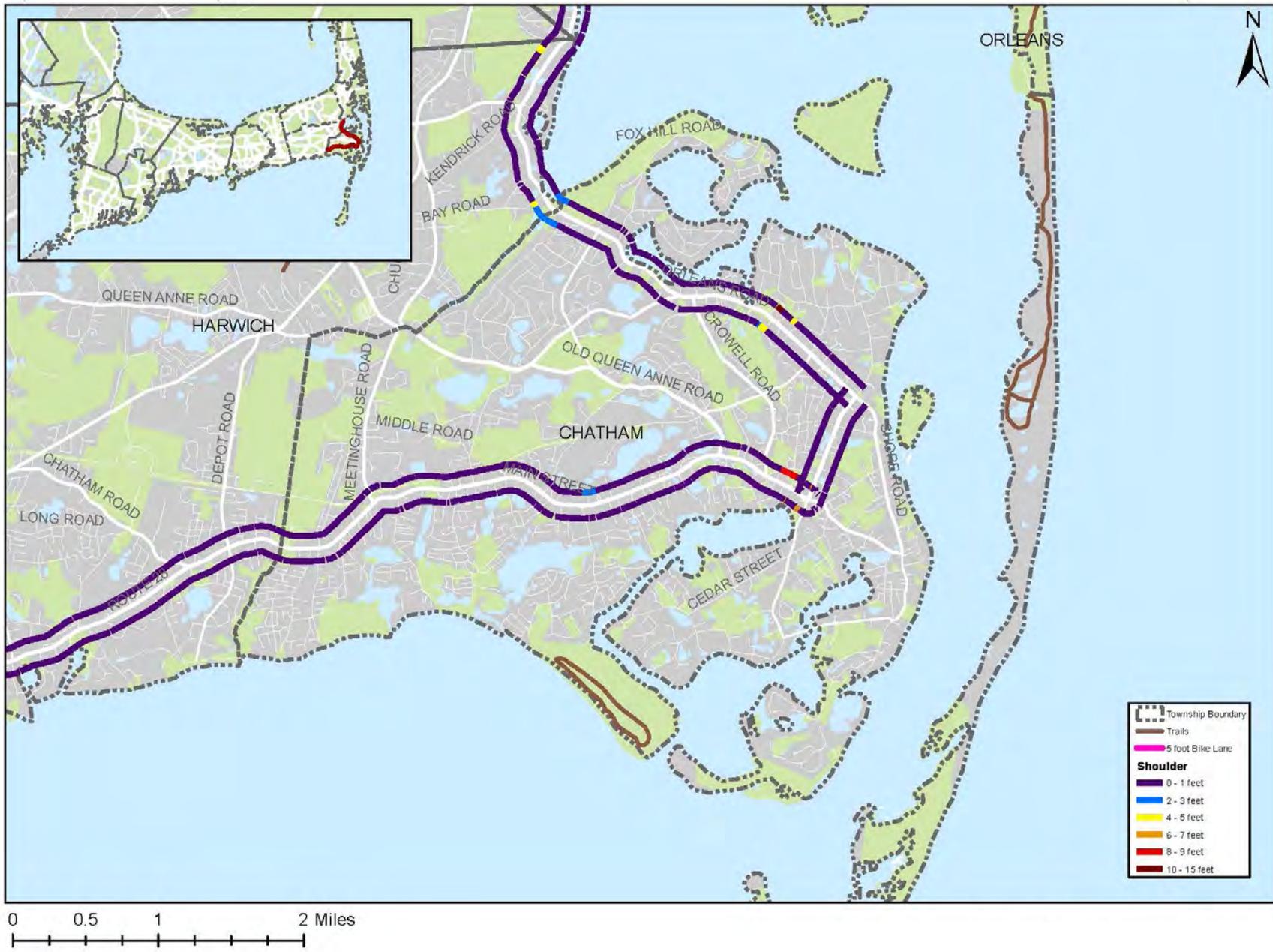


Figure 8. Shoulders and Bike Lanes- Orleans

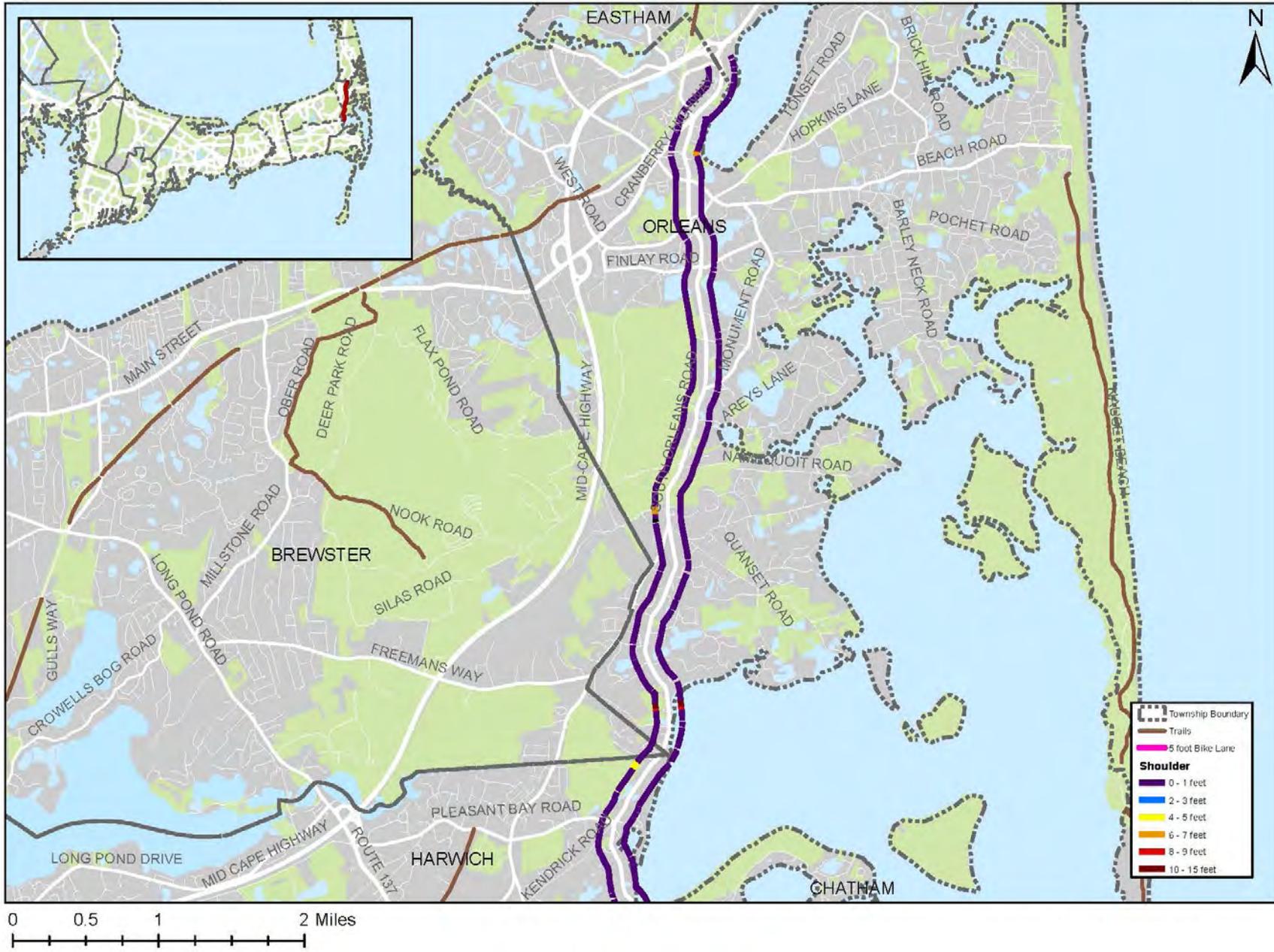


Figure 10. Sidewalks- Falmouth

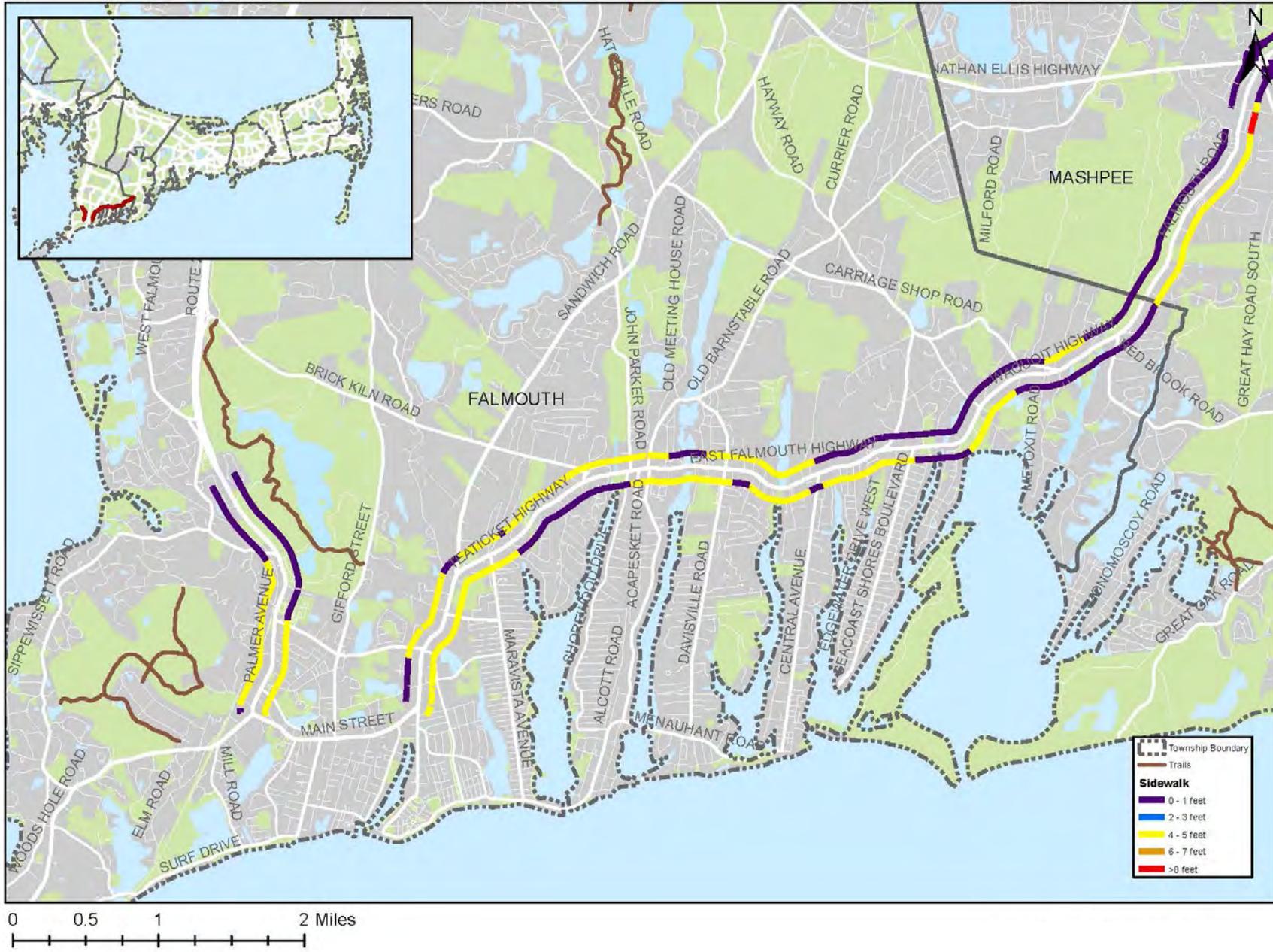


Figure 10. Sidewalks- Mashpee

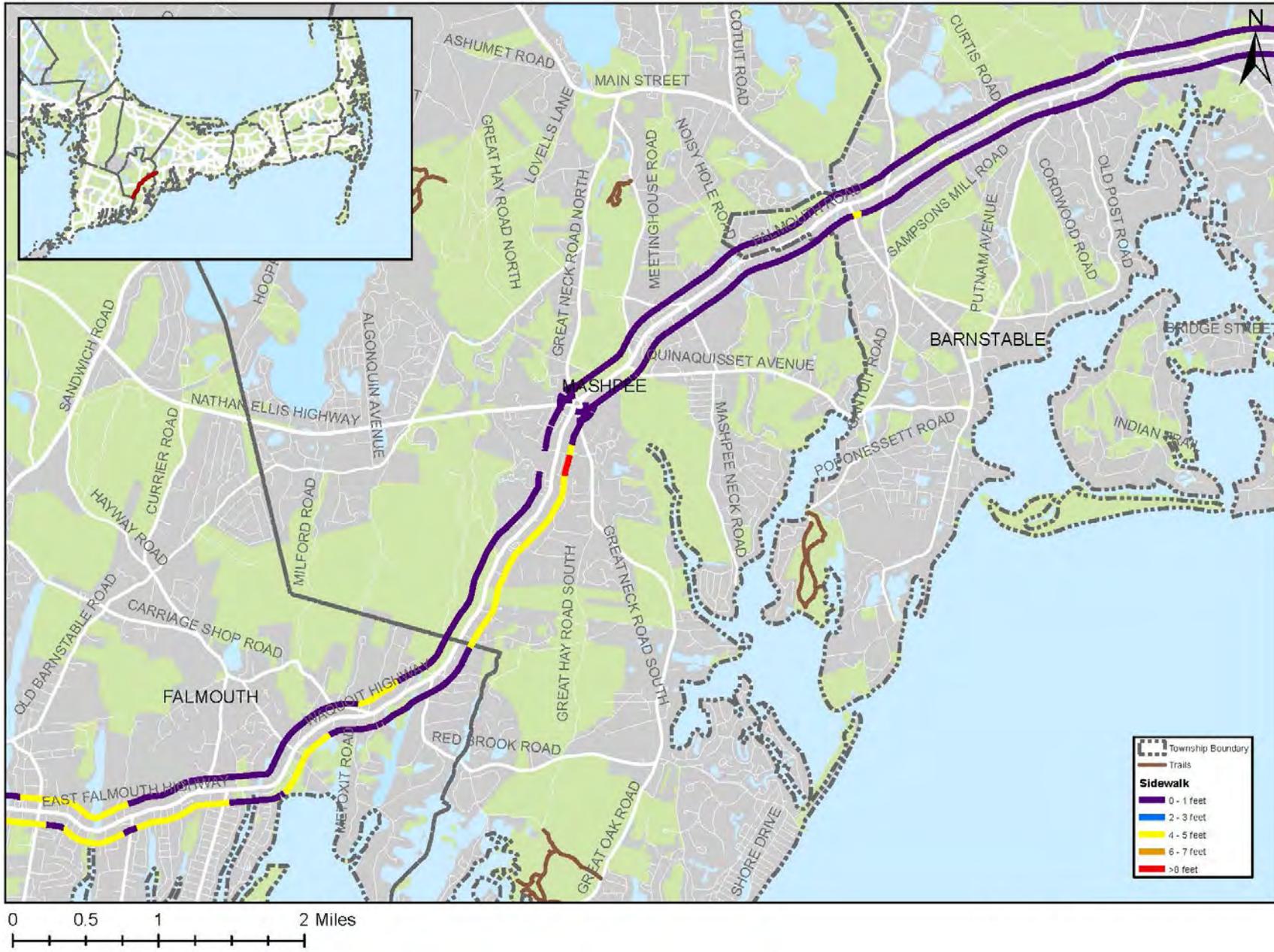


Figure 10. Sidewalks- Barnstable

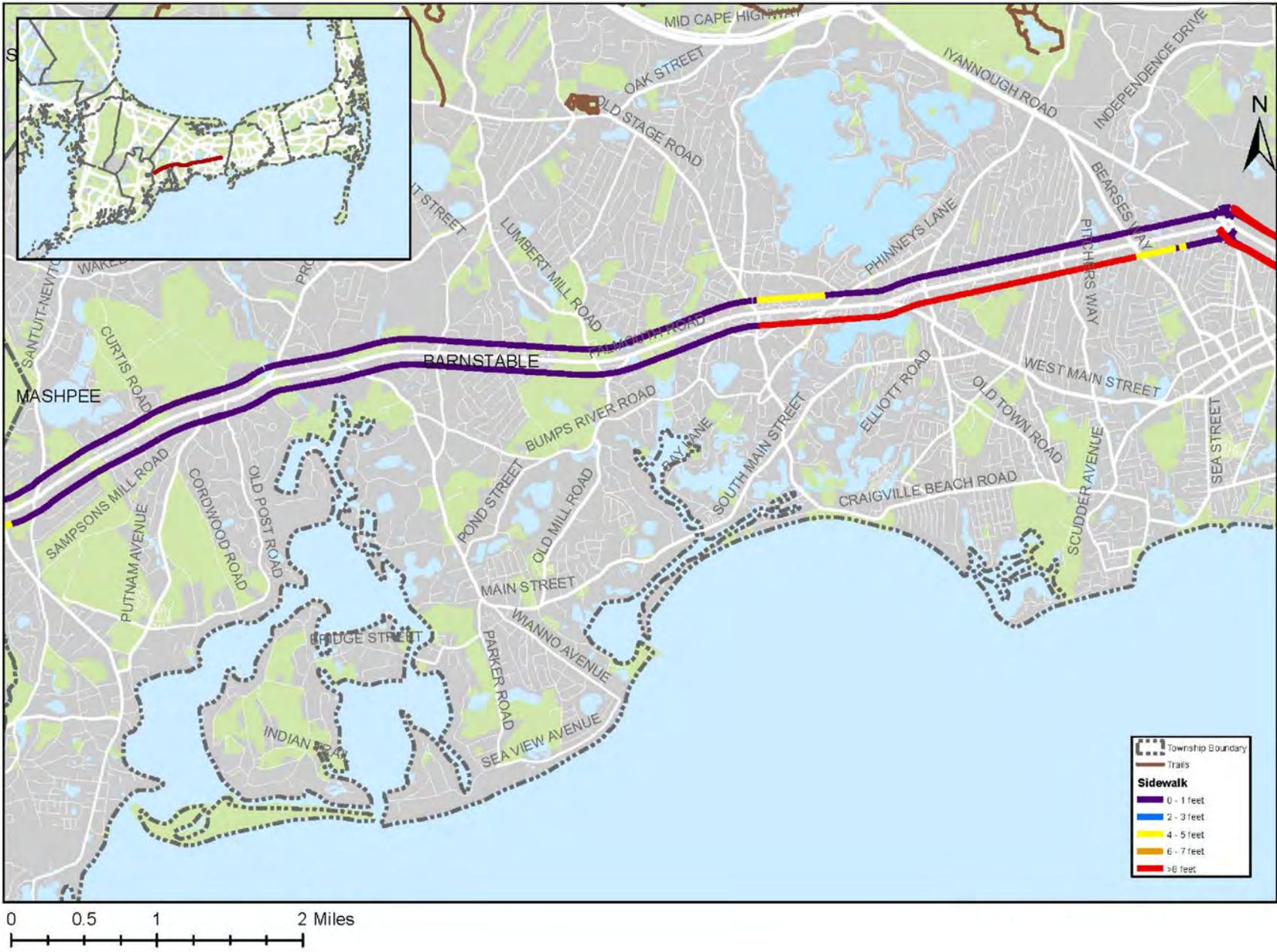


Figure 10. Sidewalks- Yarmouth

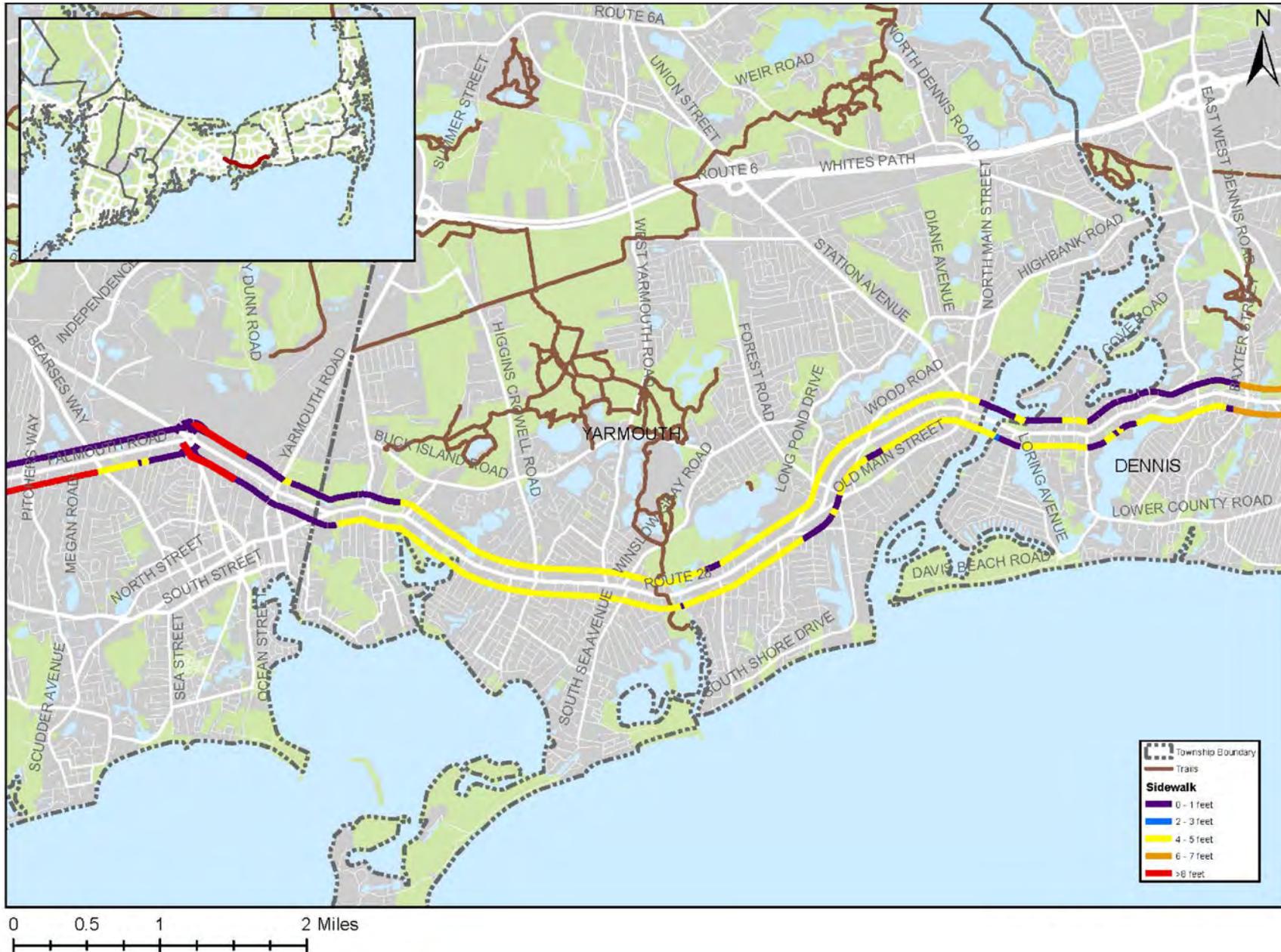


Figure 10. Sidewalks- Dennis

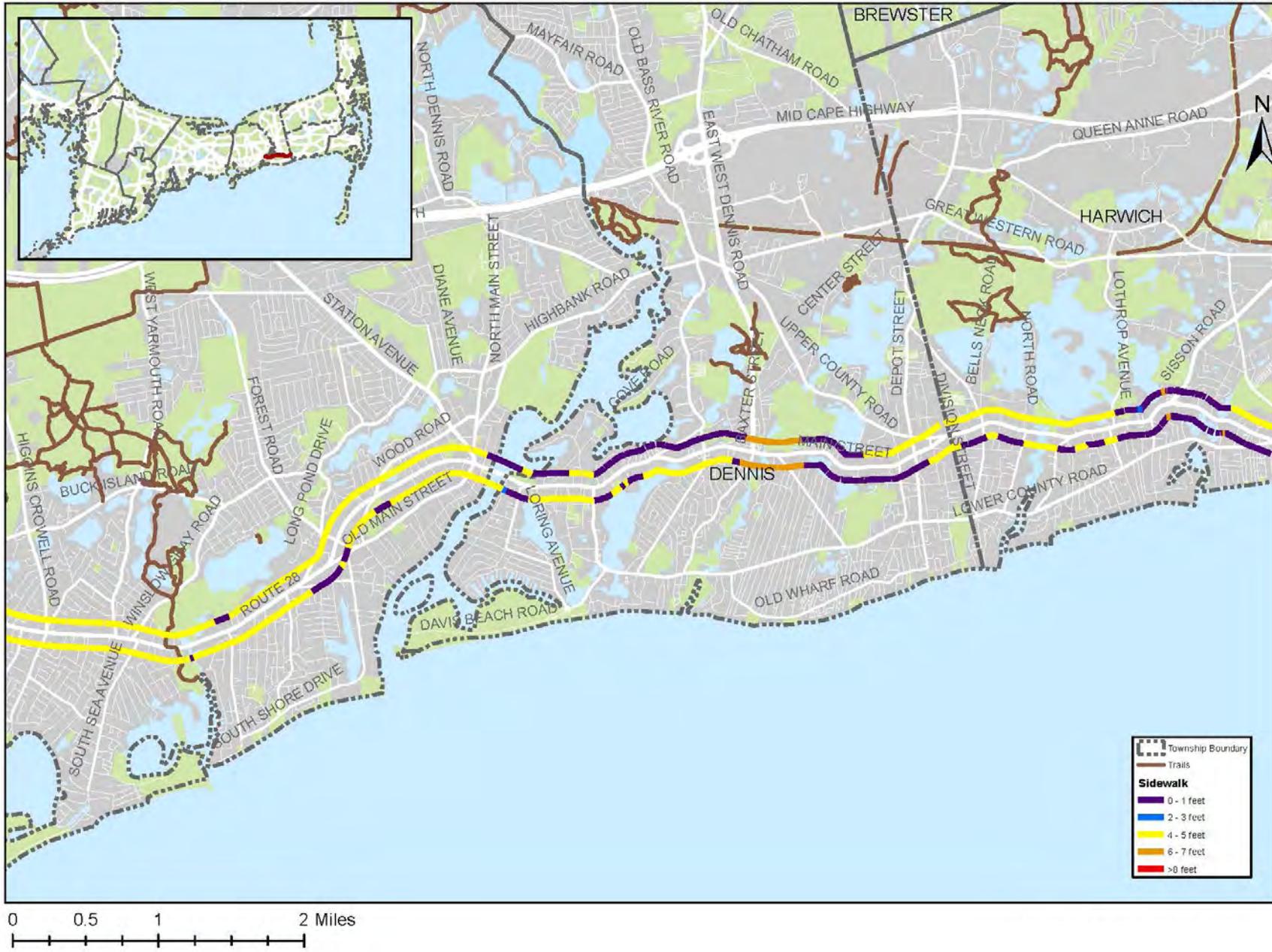


Figure 10. Sidewalks- Harwich

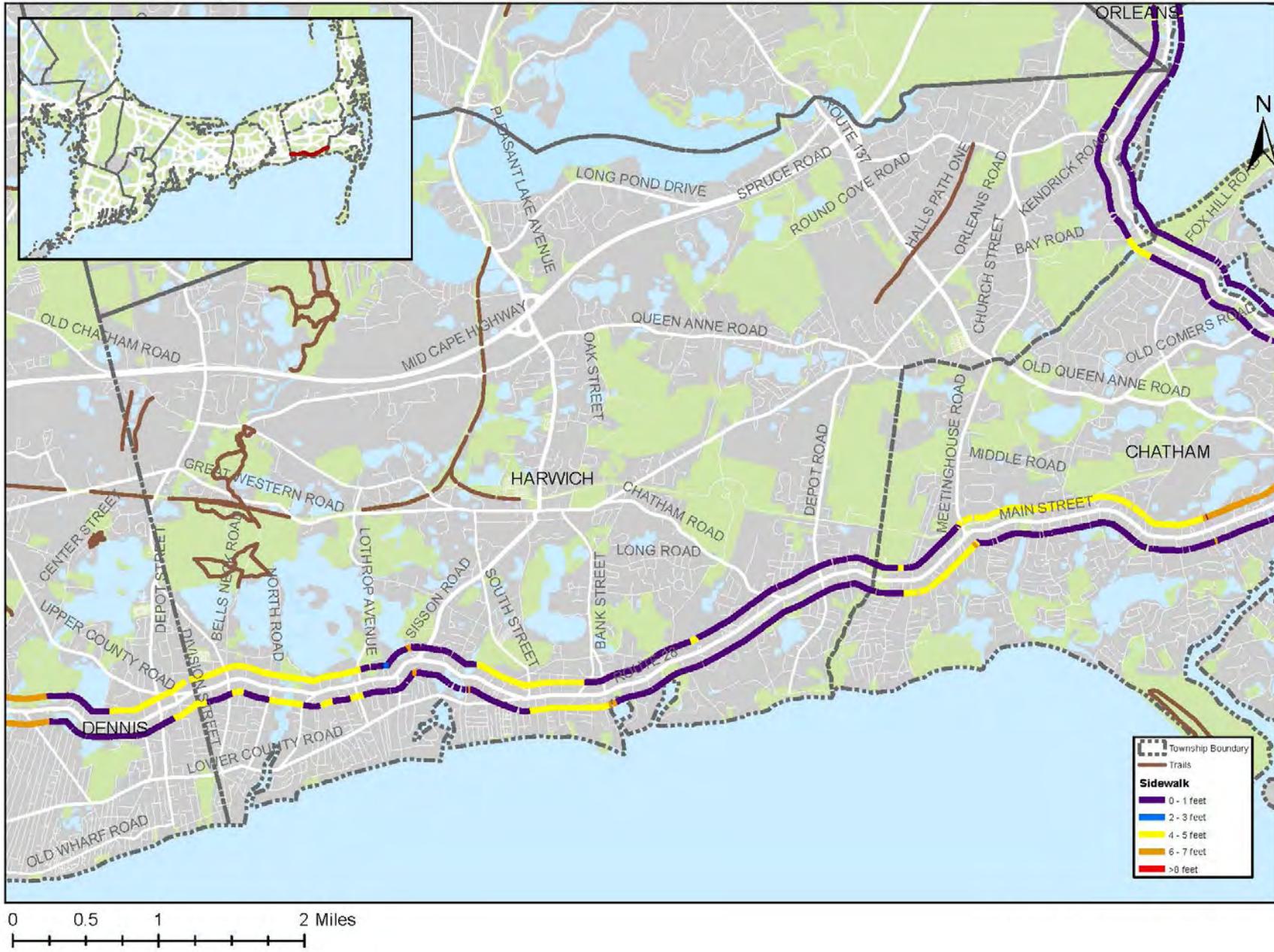


Figure 10. Sidewalks-Chatham

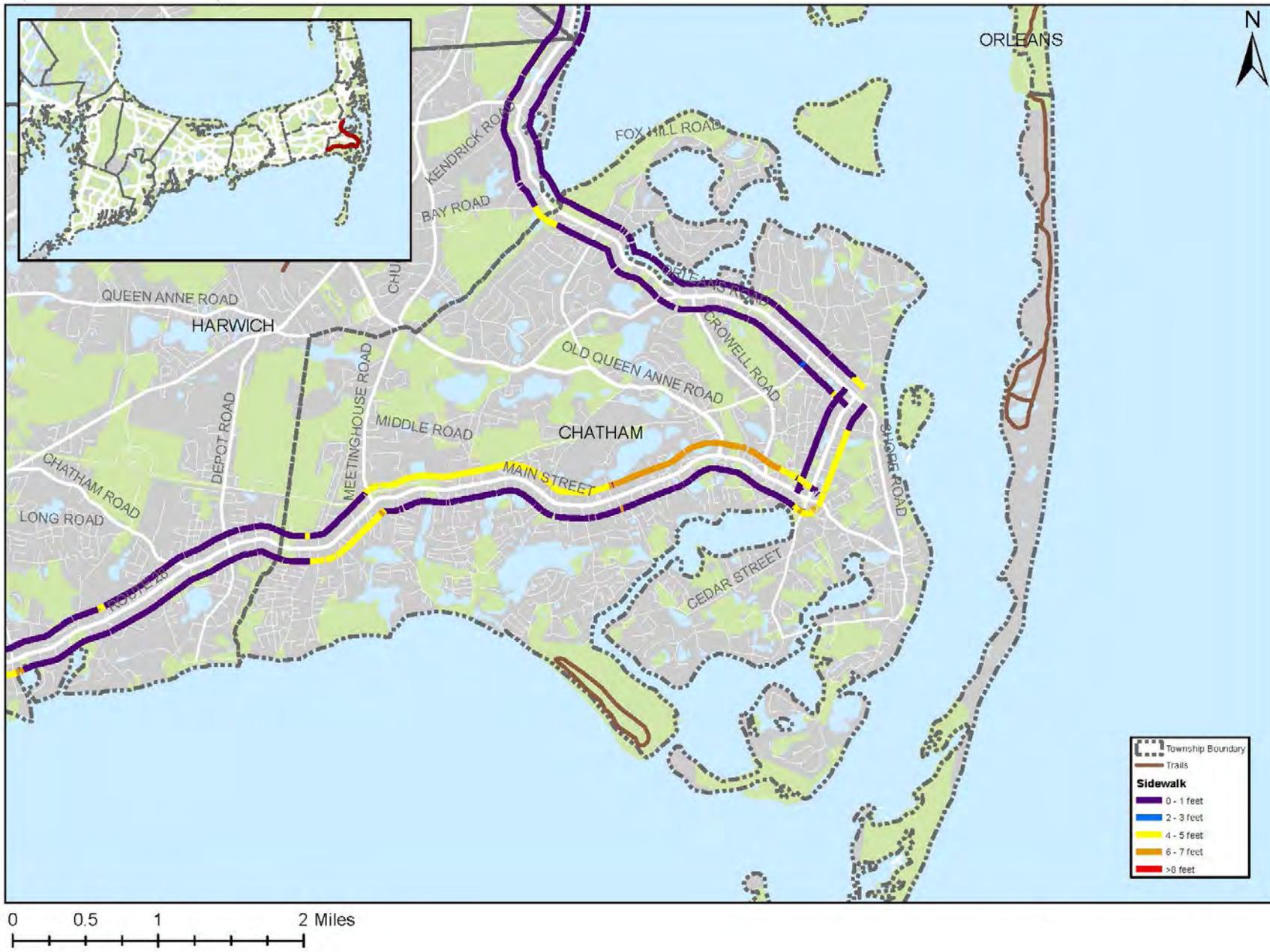


Figure 10. Sidewalks- Orleans

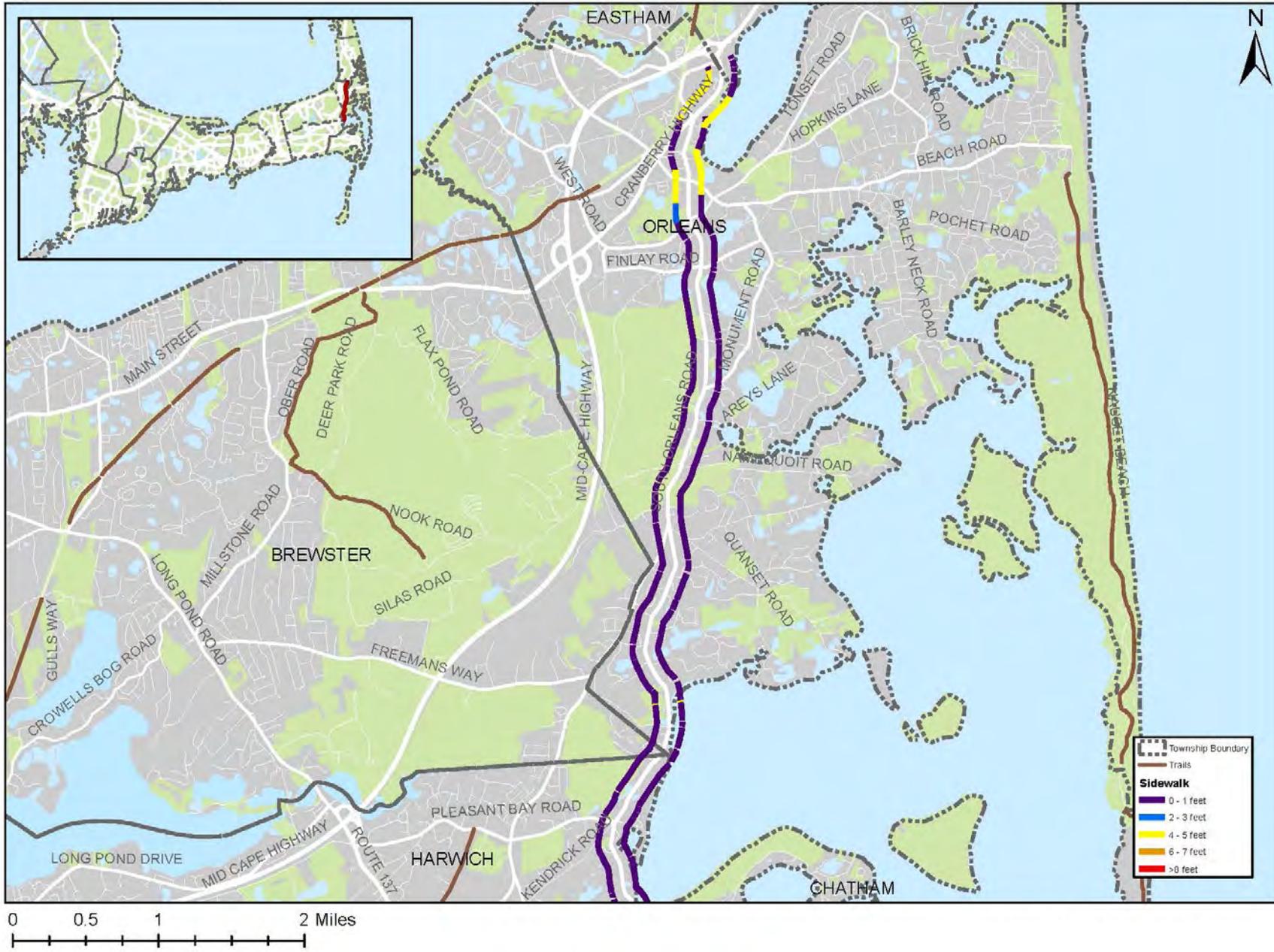


Figure 11. Crash per Mile- Falmouth

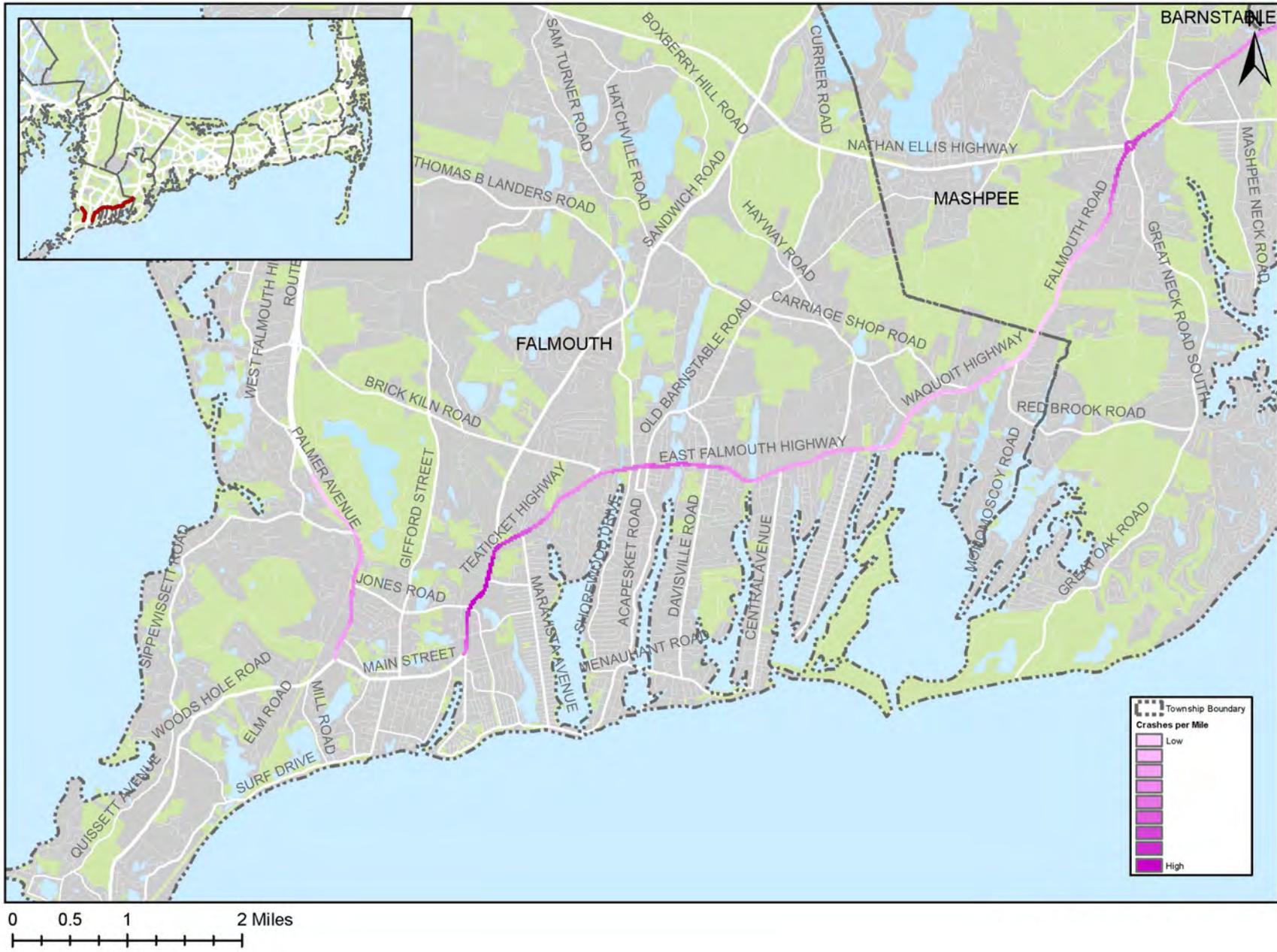


Figure 11. Crash per Mile- Mashpee

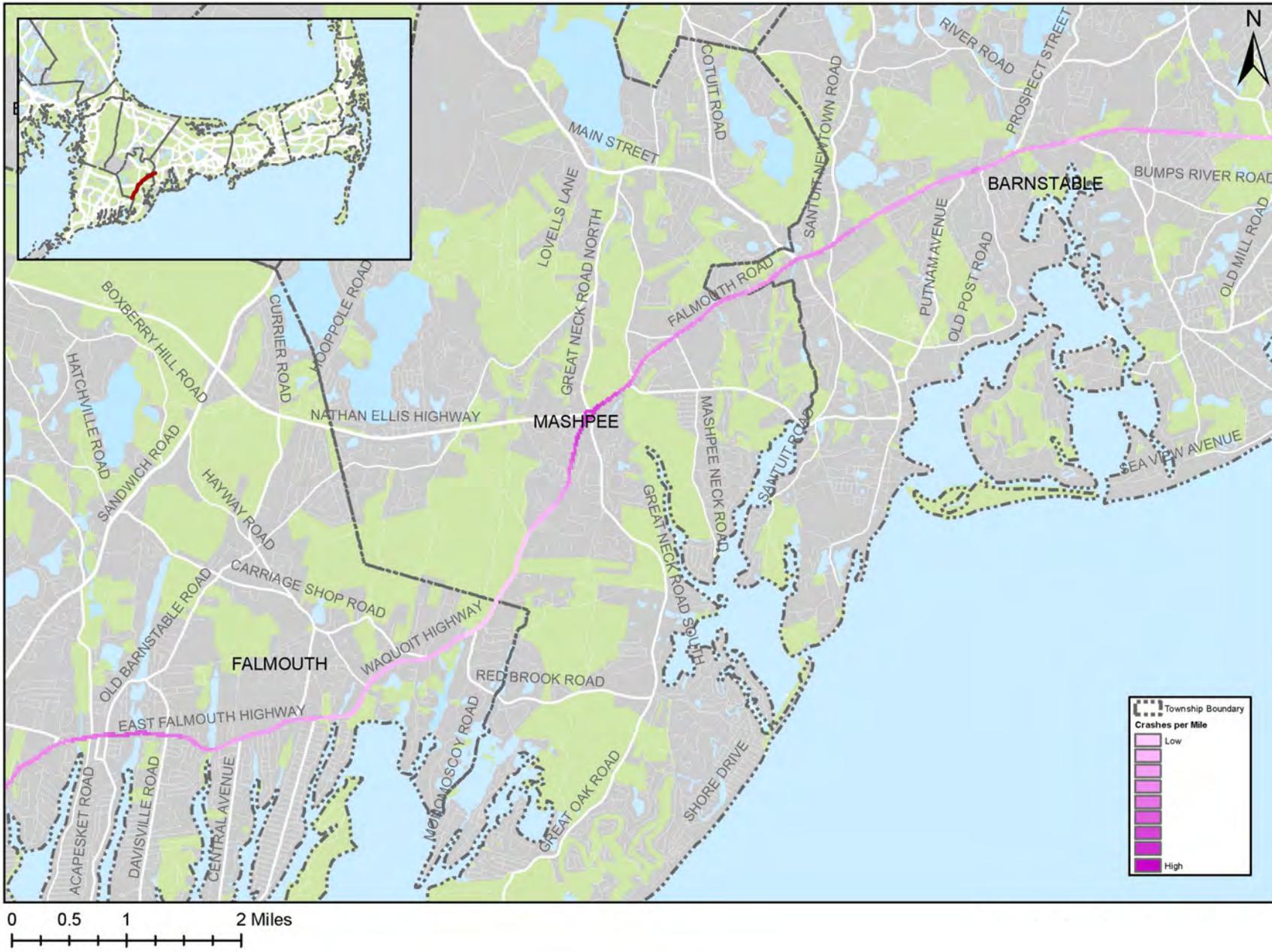


Figure 11. Crash per Mile- Barnstable



Figure 11. Crash per Mile- Yarmouth

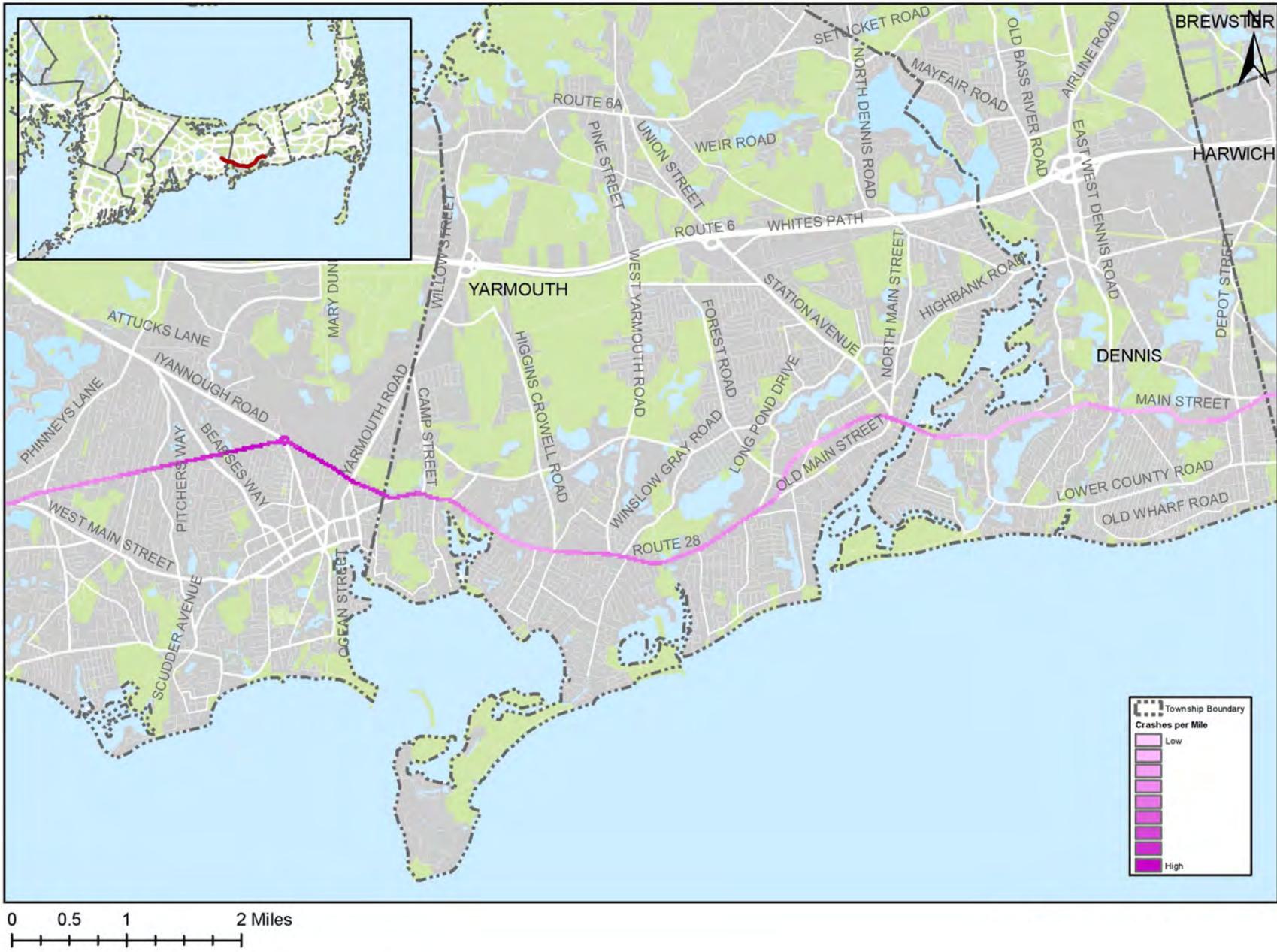


Figure 11. Crash per Mile- Dennis



Figure 11. Crash per Mile- Harwich

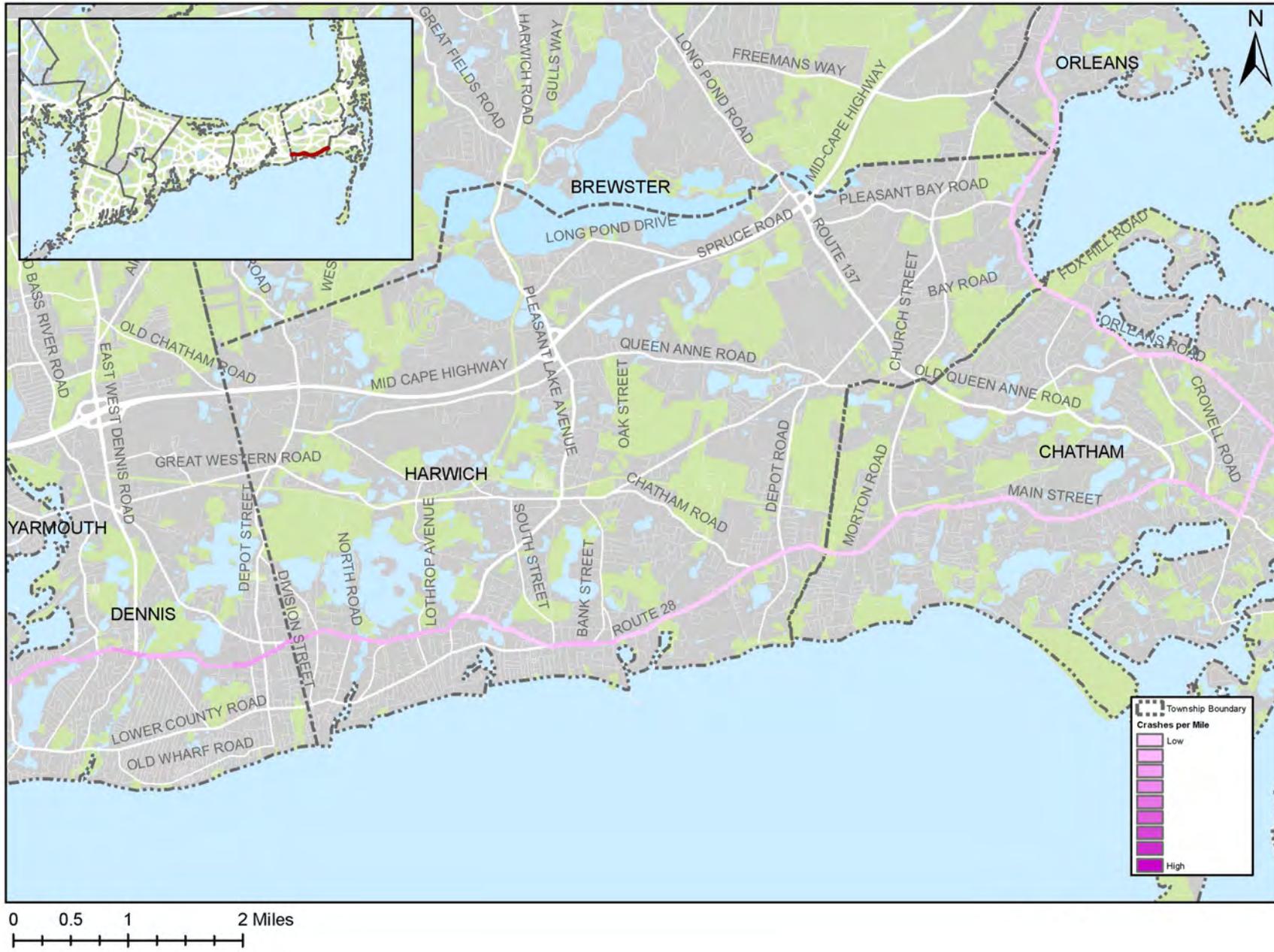


Figure 11. Crash per Mile- Chatham

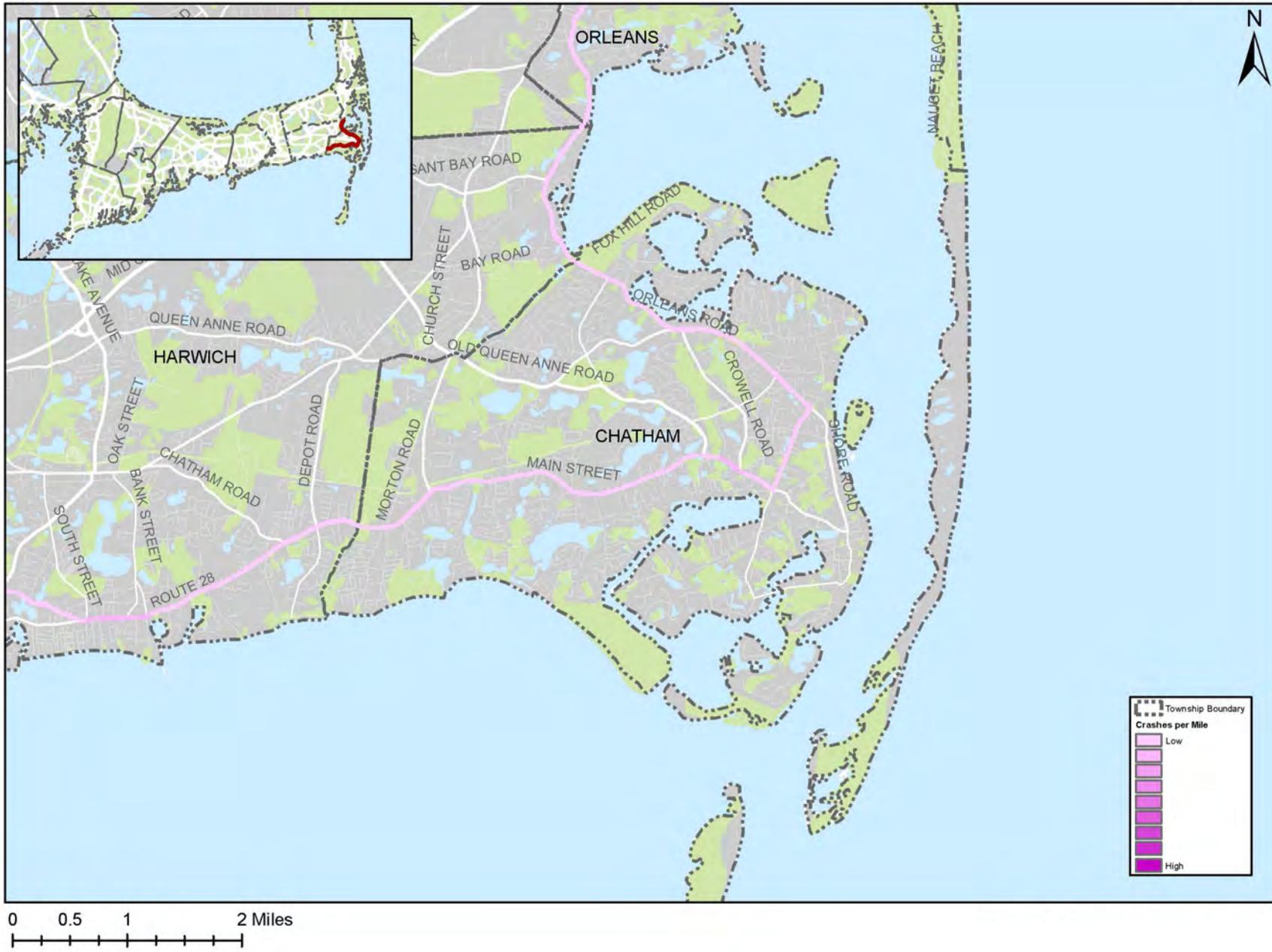


Figure 11. Crash per Mile- Orleans

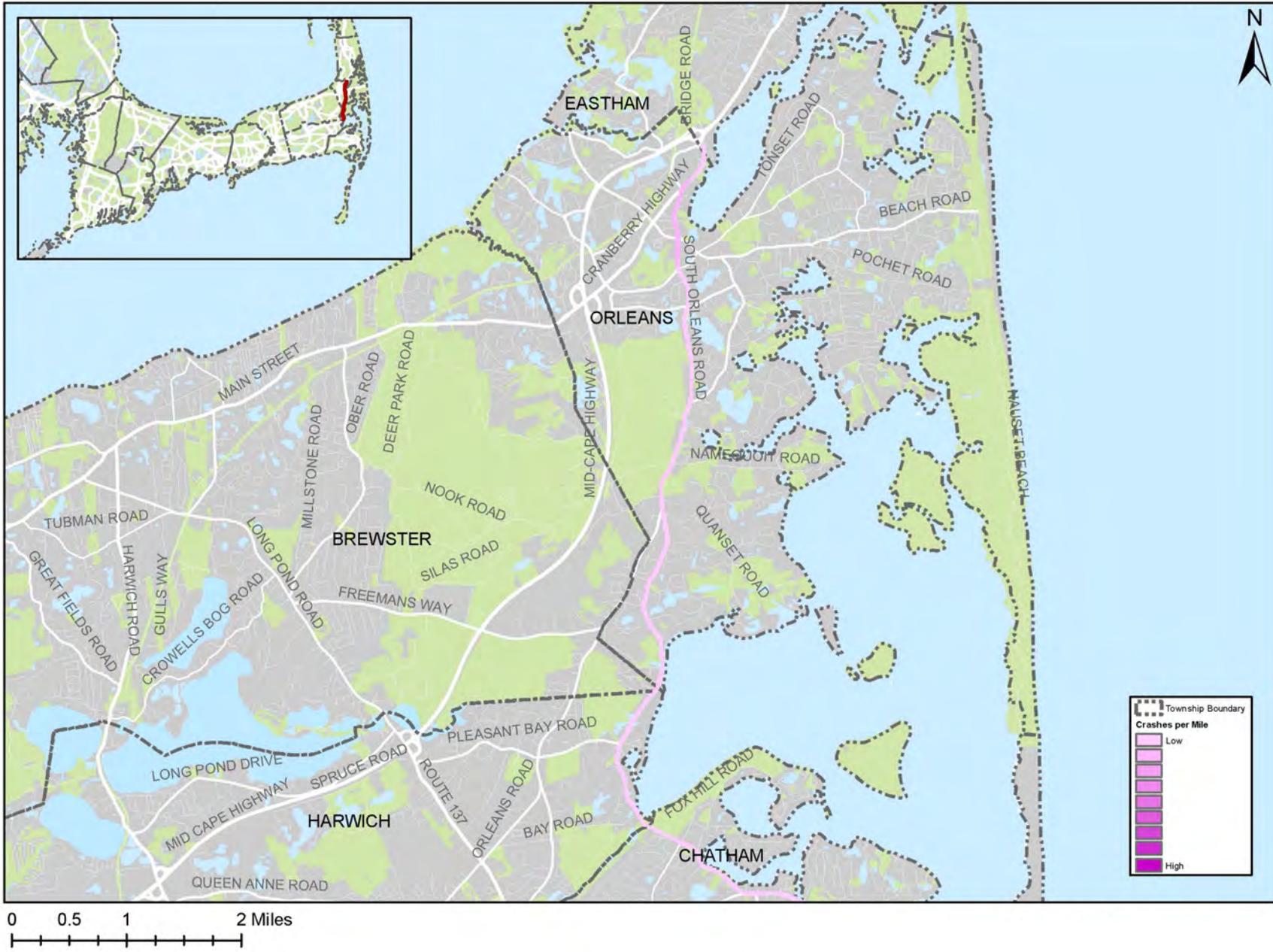


Figure 13. Crashes Non-Motorist- Falmouth

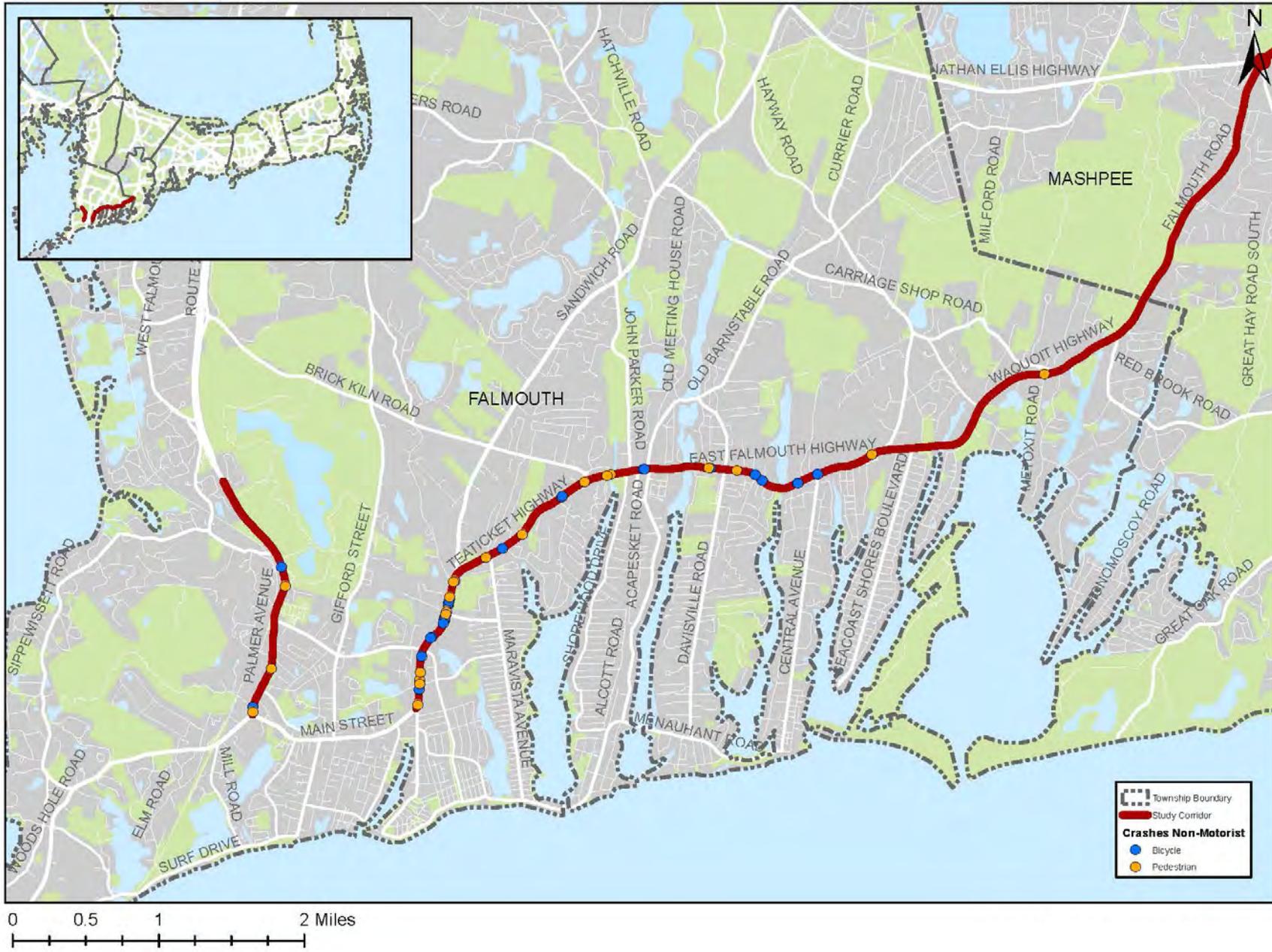


Figure 13. Crashes Non-Motorist- Mashpee

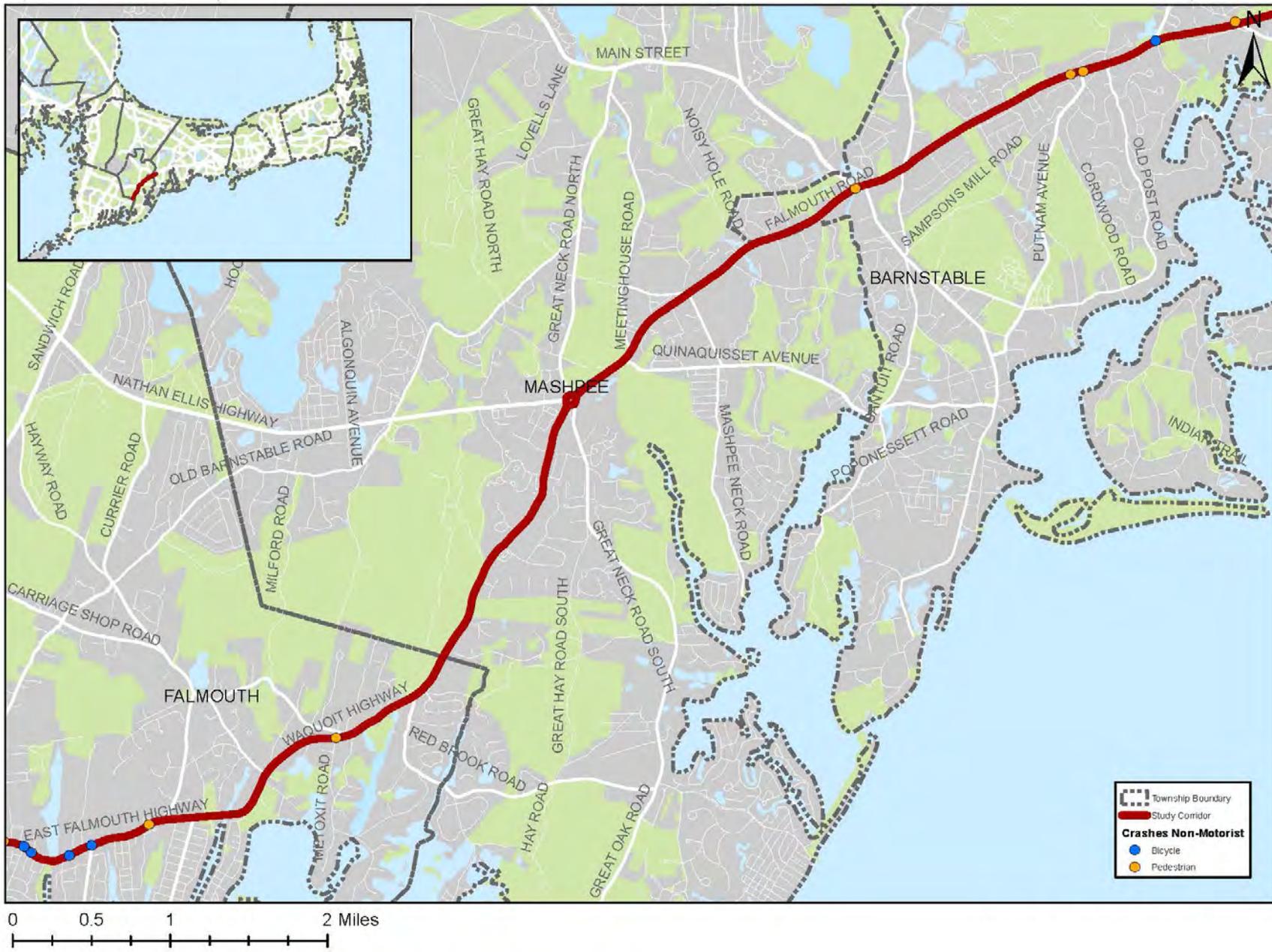


Figure 13. Crashes Non-Motorist-Barnstable



Figure 13. Crashes Non-Motorist- Yarmouth



Figure 13. Crashes Non-Motorist- Dennis



Figure 13. Crashes Non-Motorist- Harwich

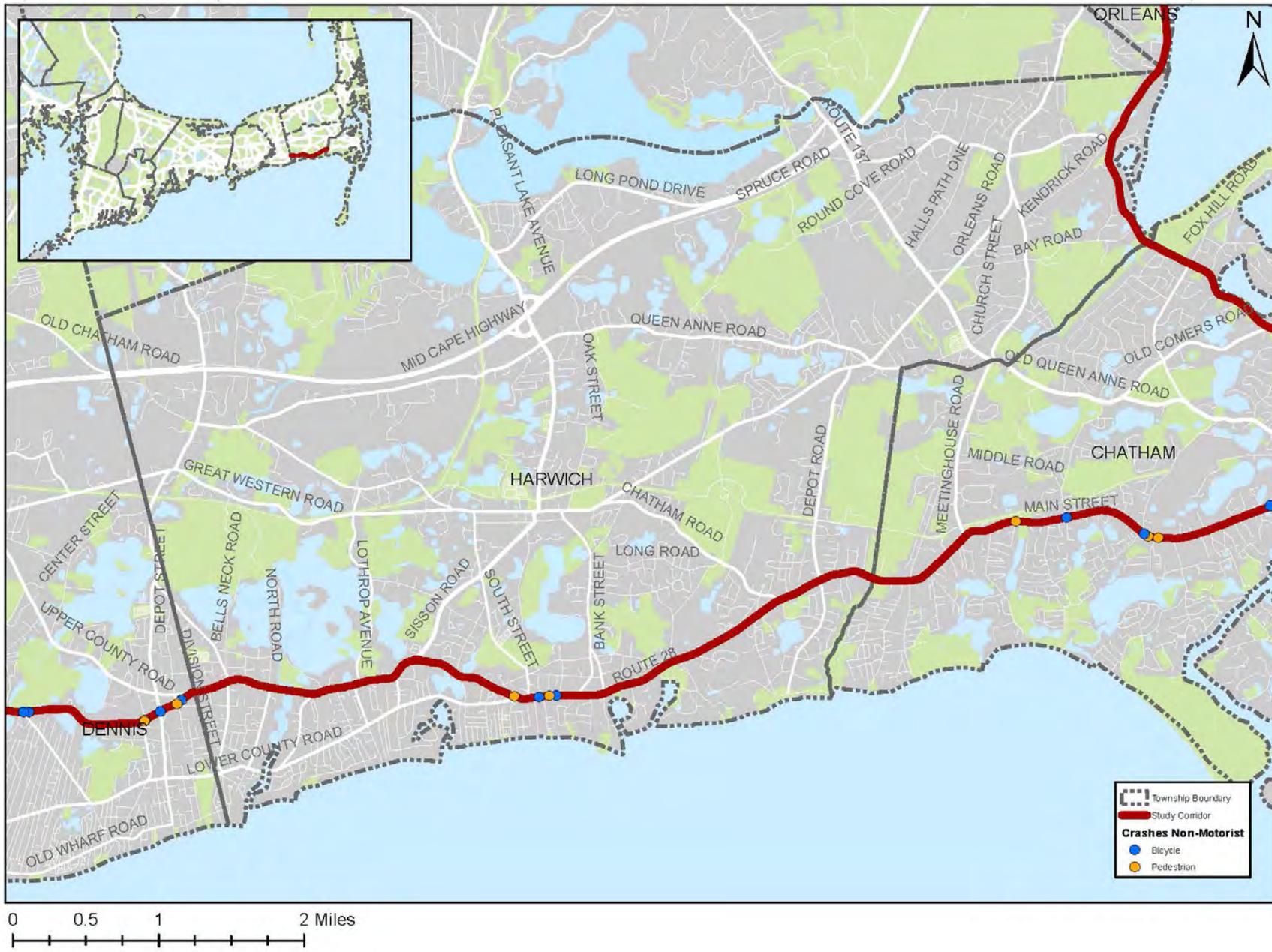


Figure 13. Crashes Non-Motorist-Chatham





Figure 16. Walking Score- Falmouth

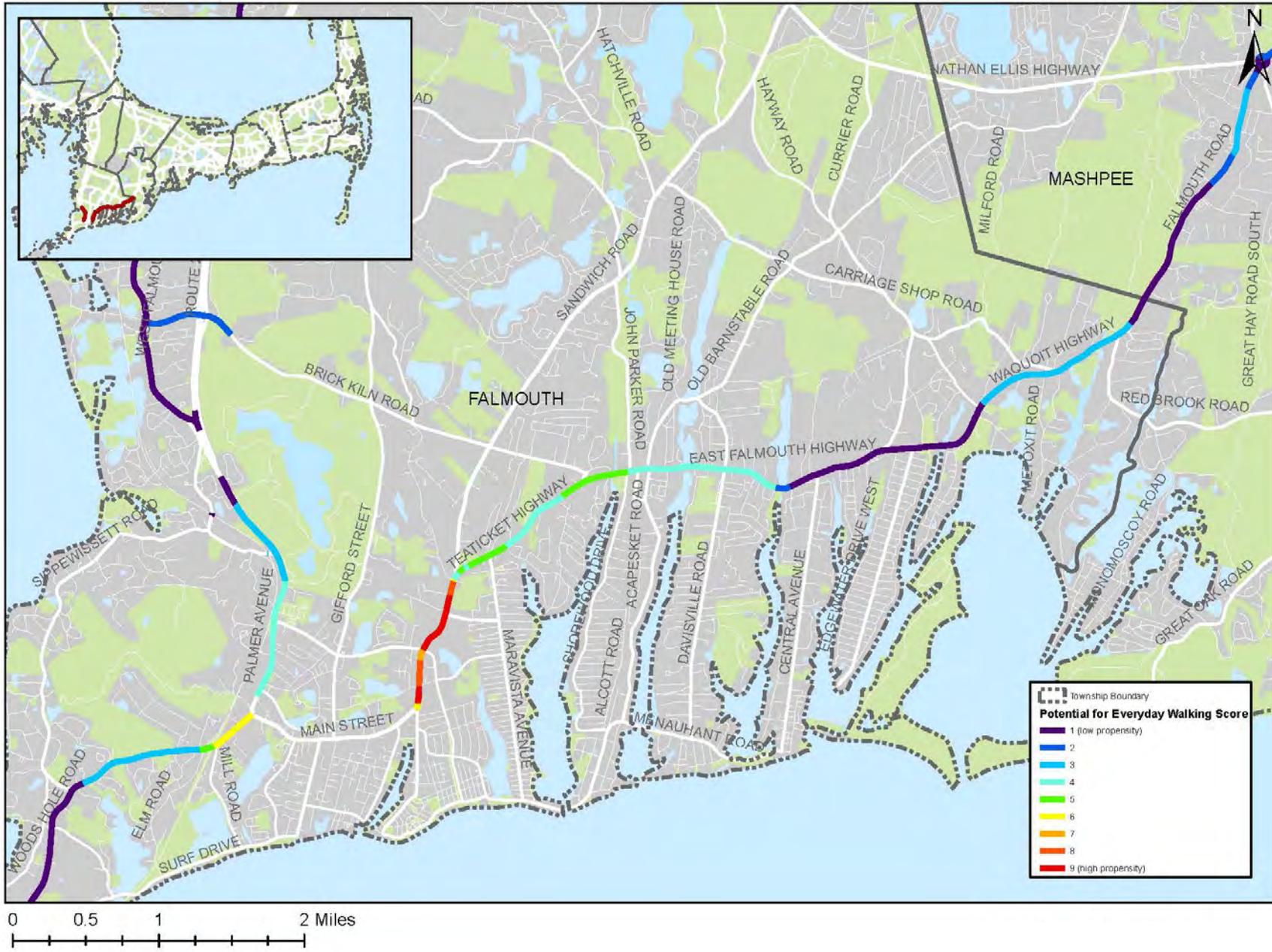


Figure 16. Walking Score- Mashpee

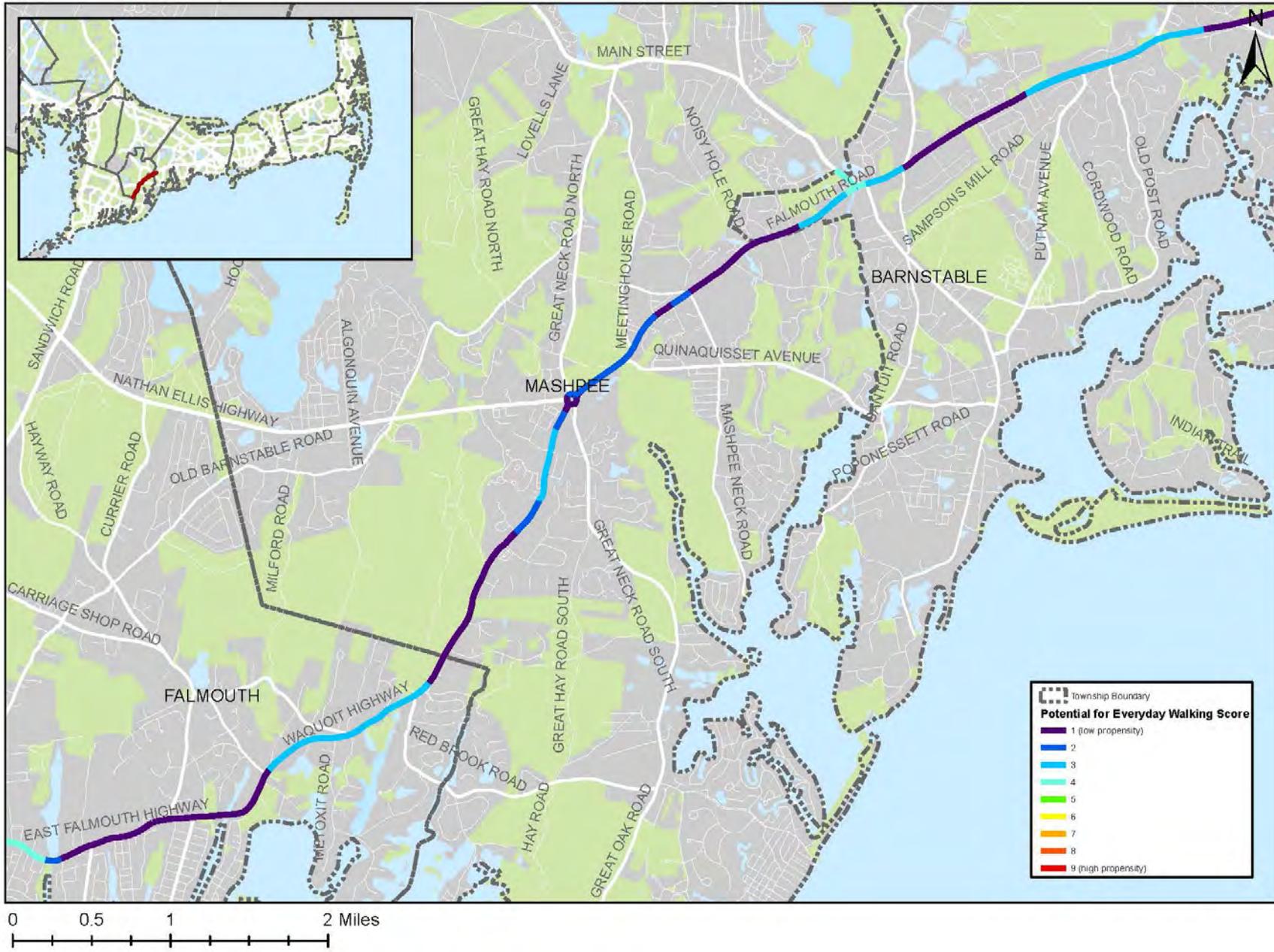


Figure 16. Walking Score- Barnstable

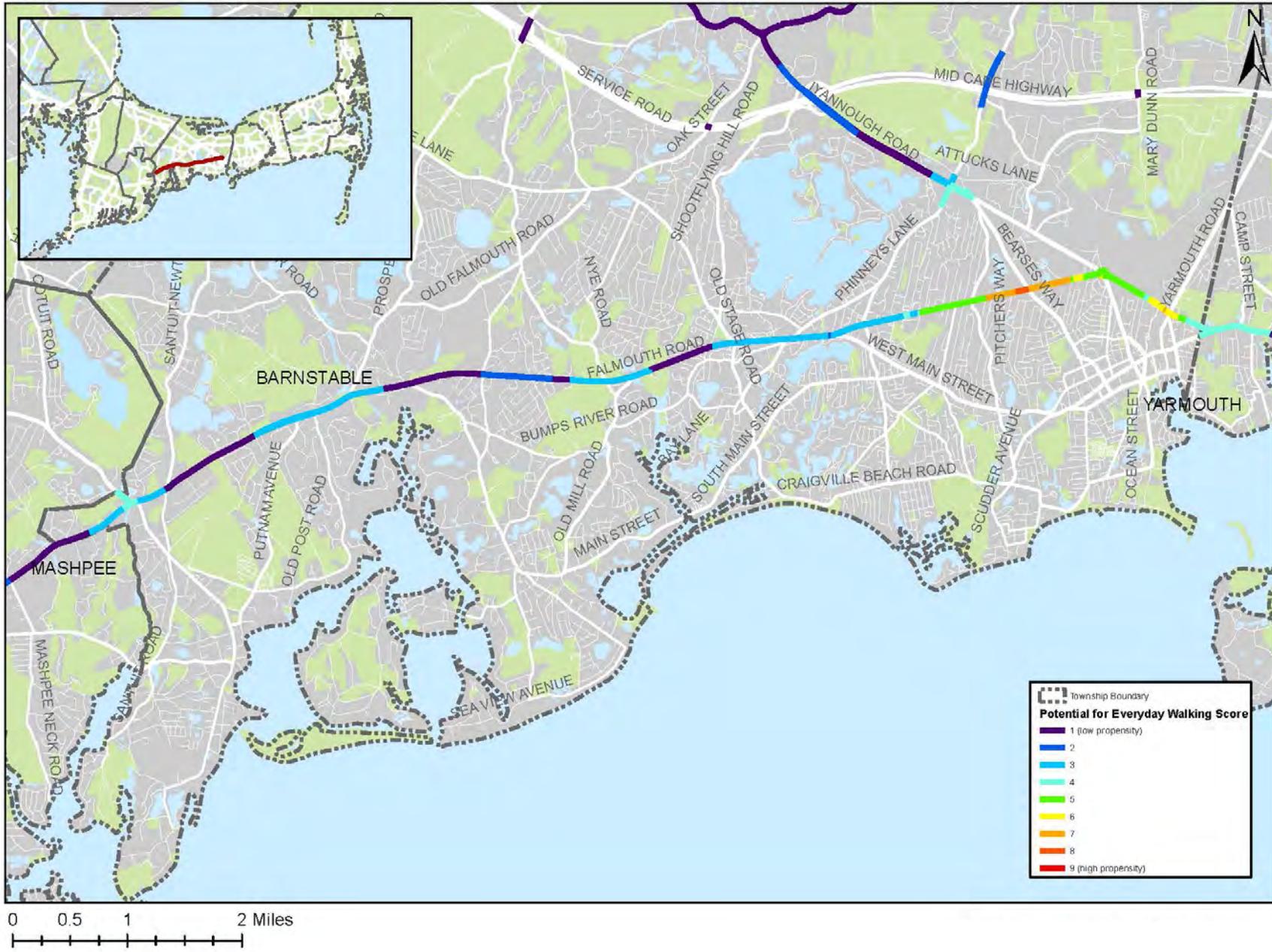


Figure 16. Walking Score- Yarmouth

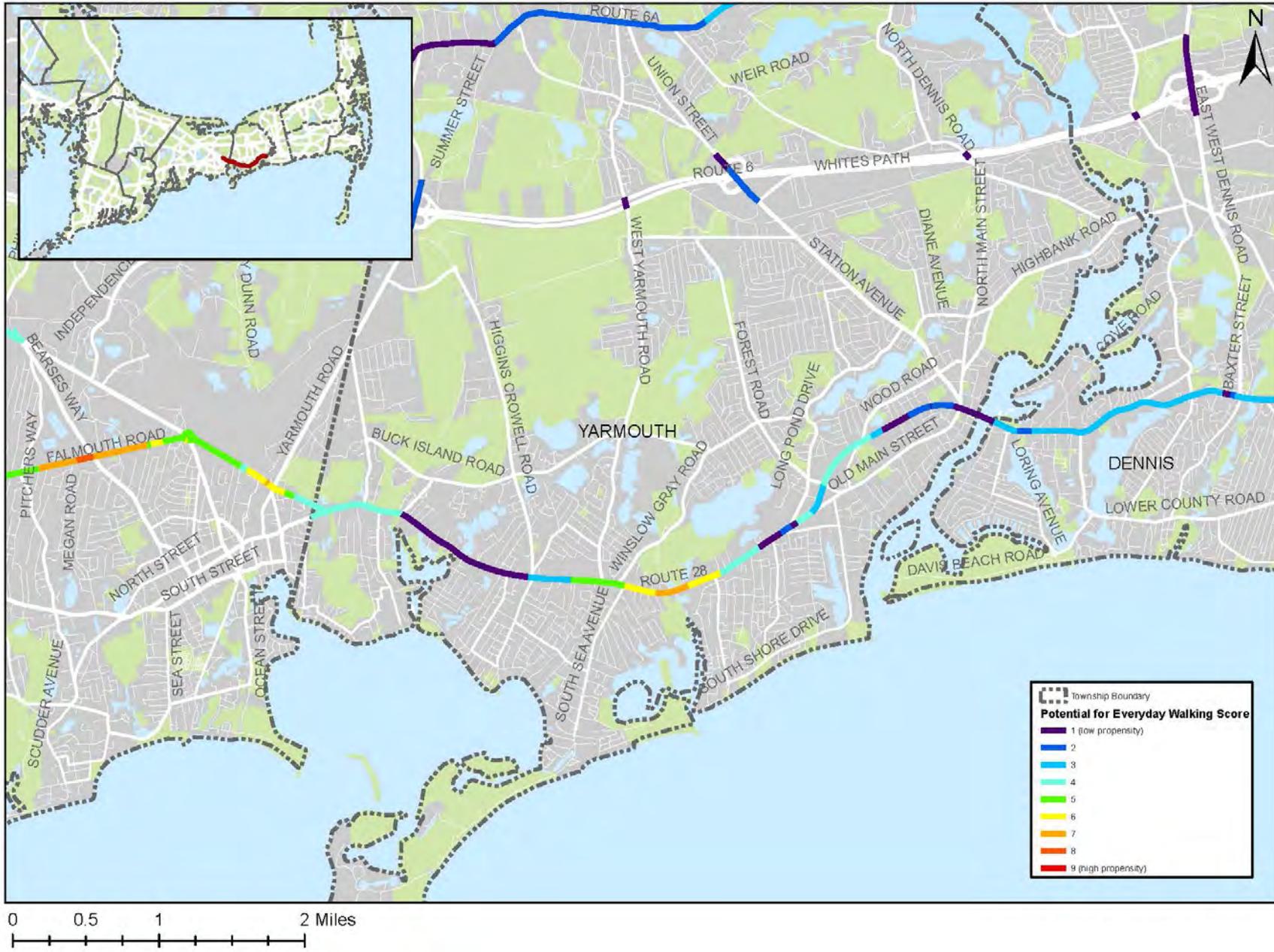


Figure 16. Walking Score- Dennis

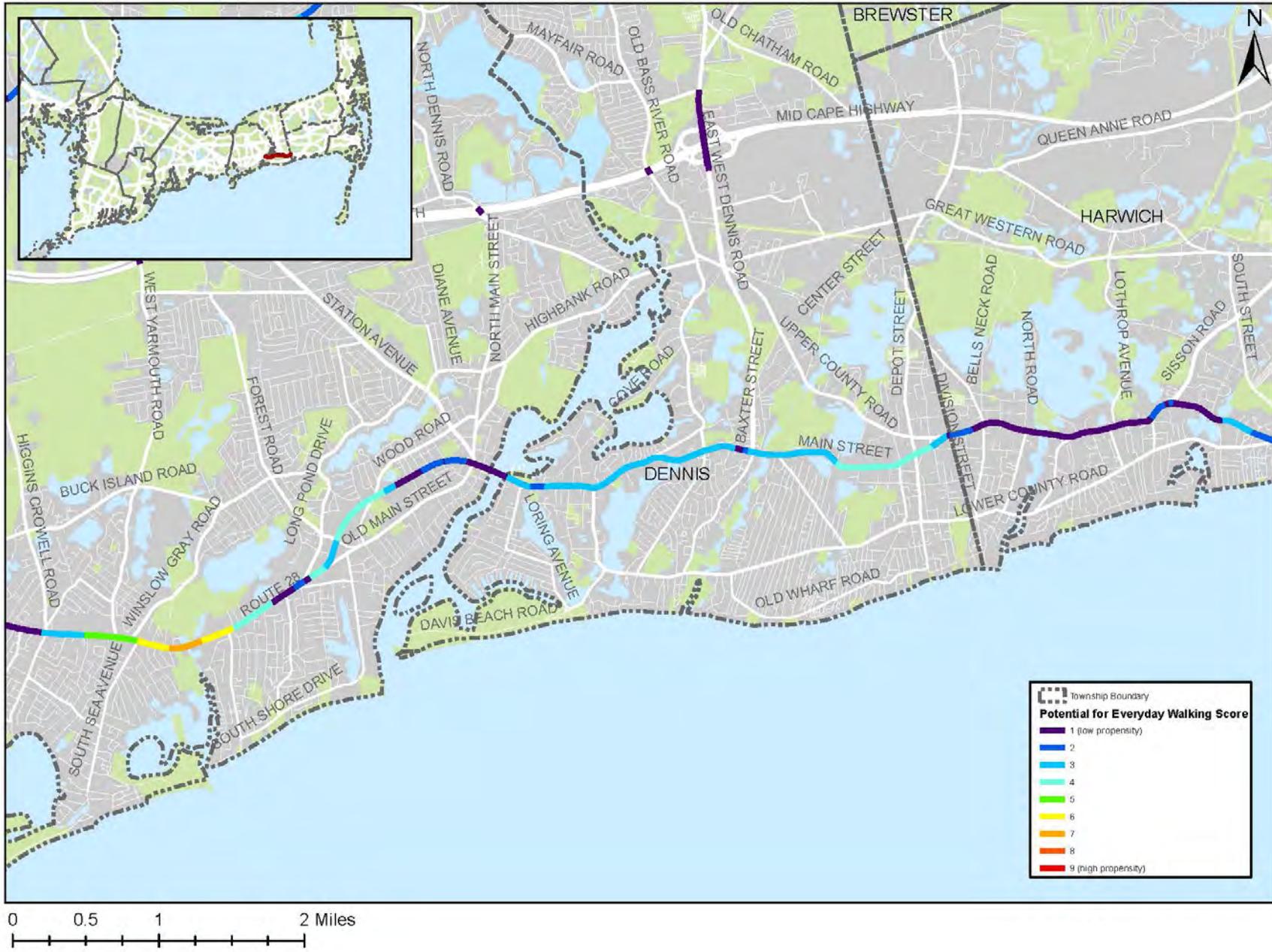


Figure 16. Walking Score-Harwich

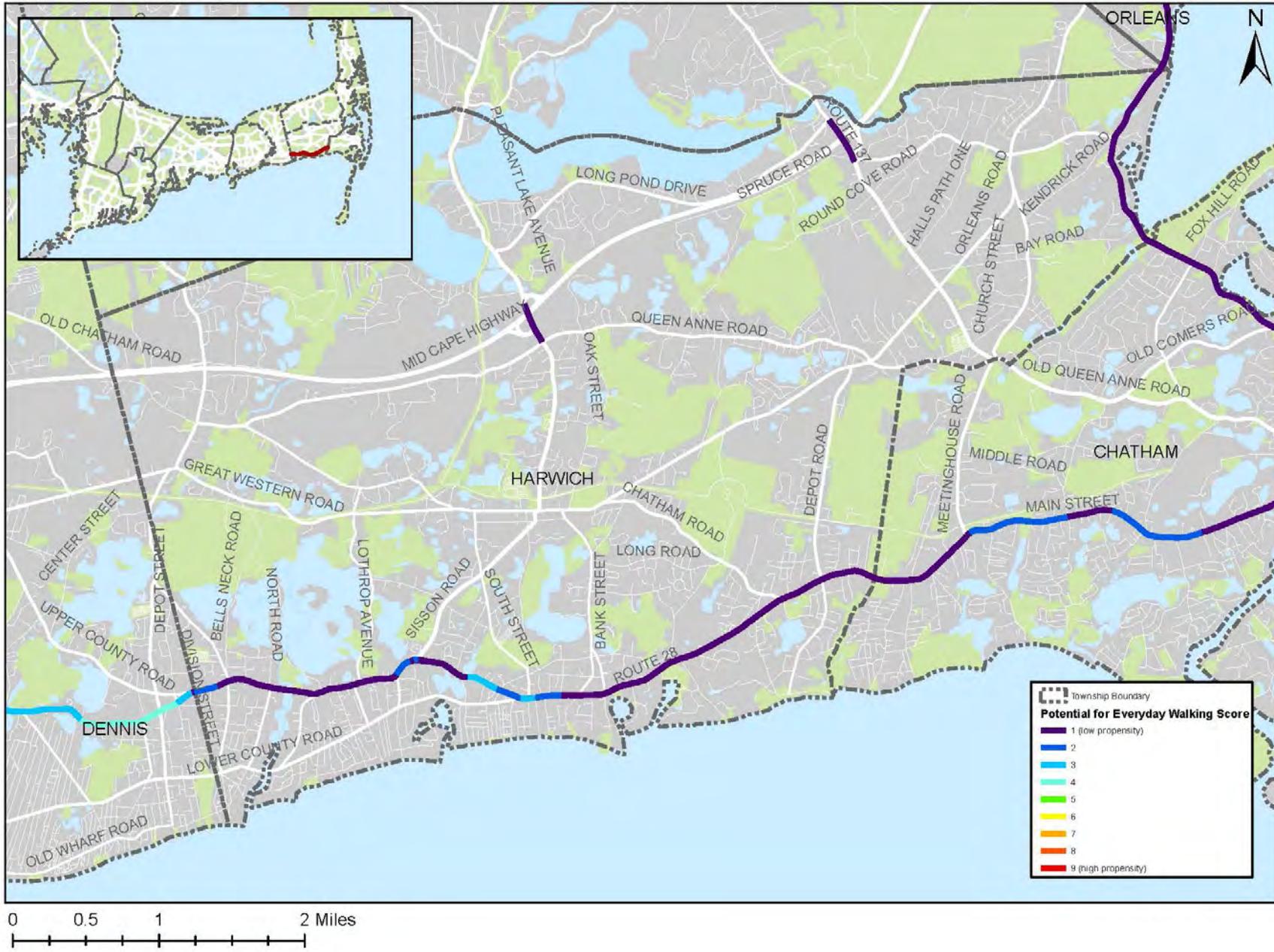


Figure 16. Walking Score- Chatham

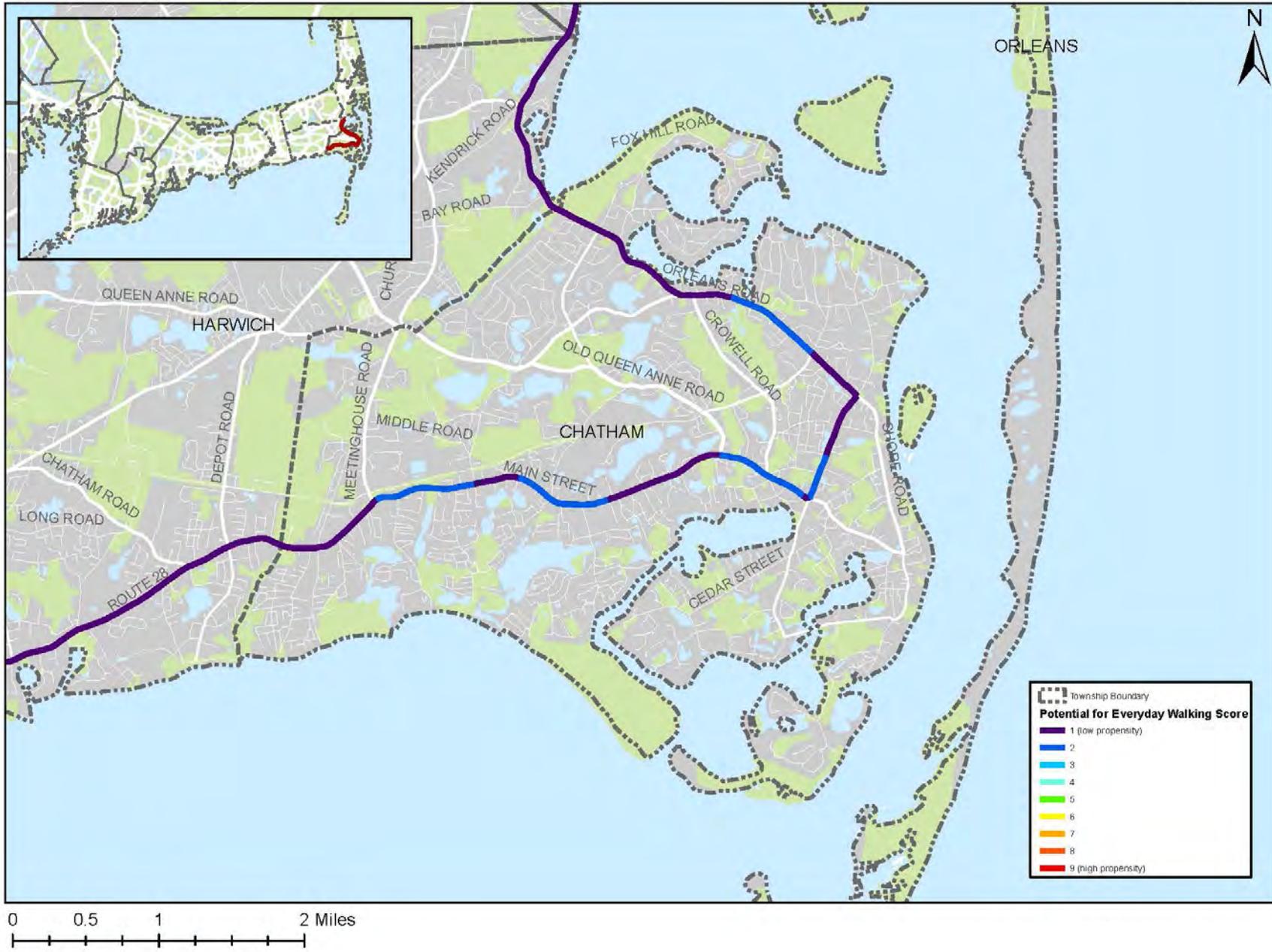


Figure 16. Walking Score- Orleans

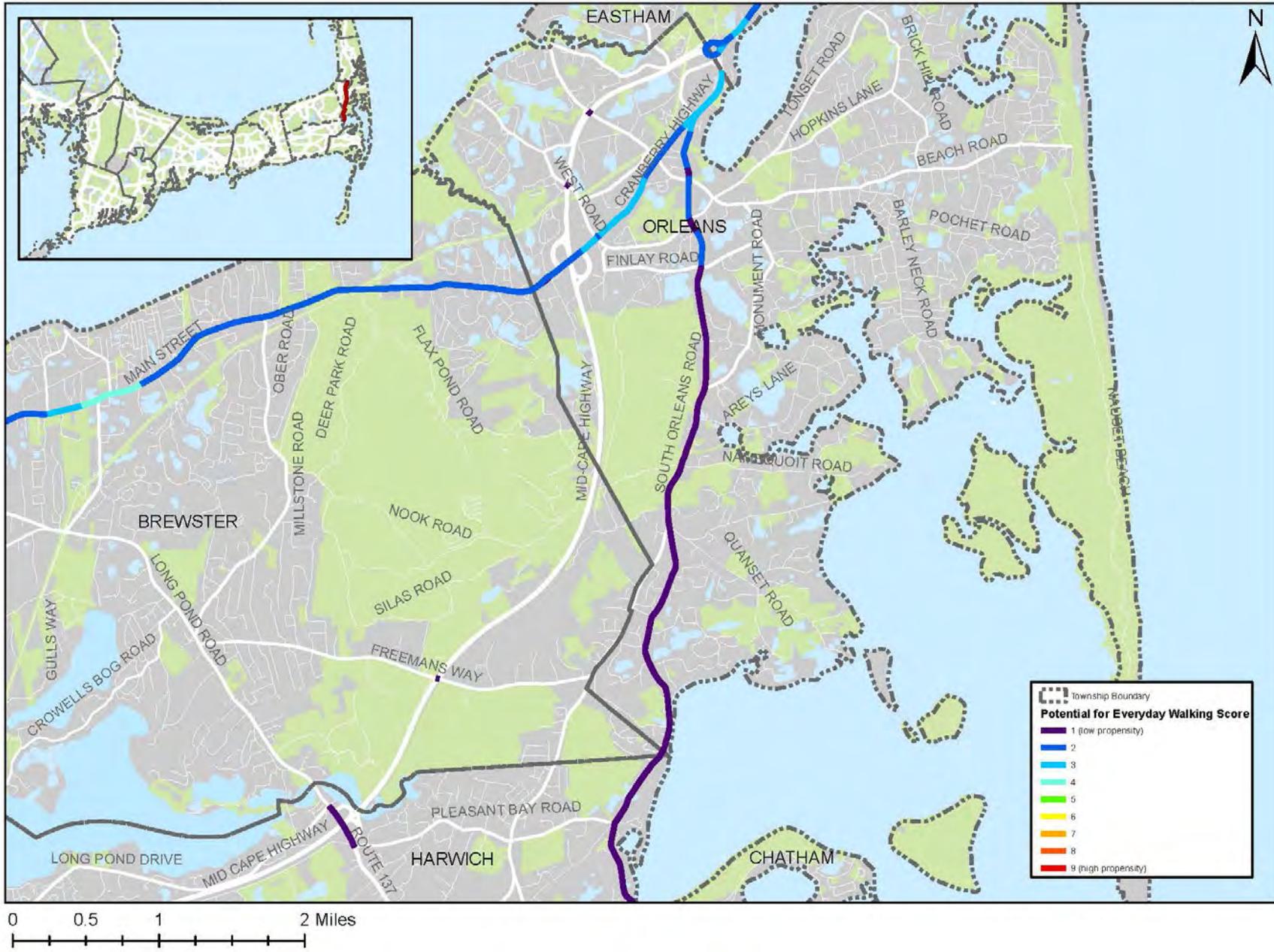


Figure 17. Biking Score- Falmouth

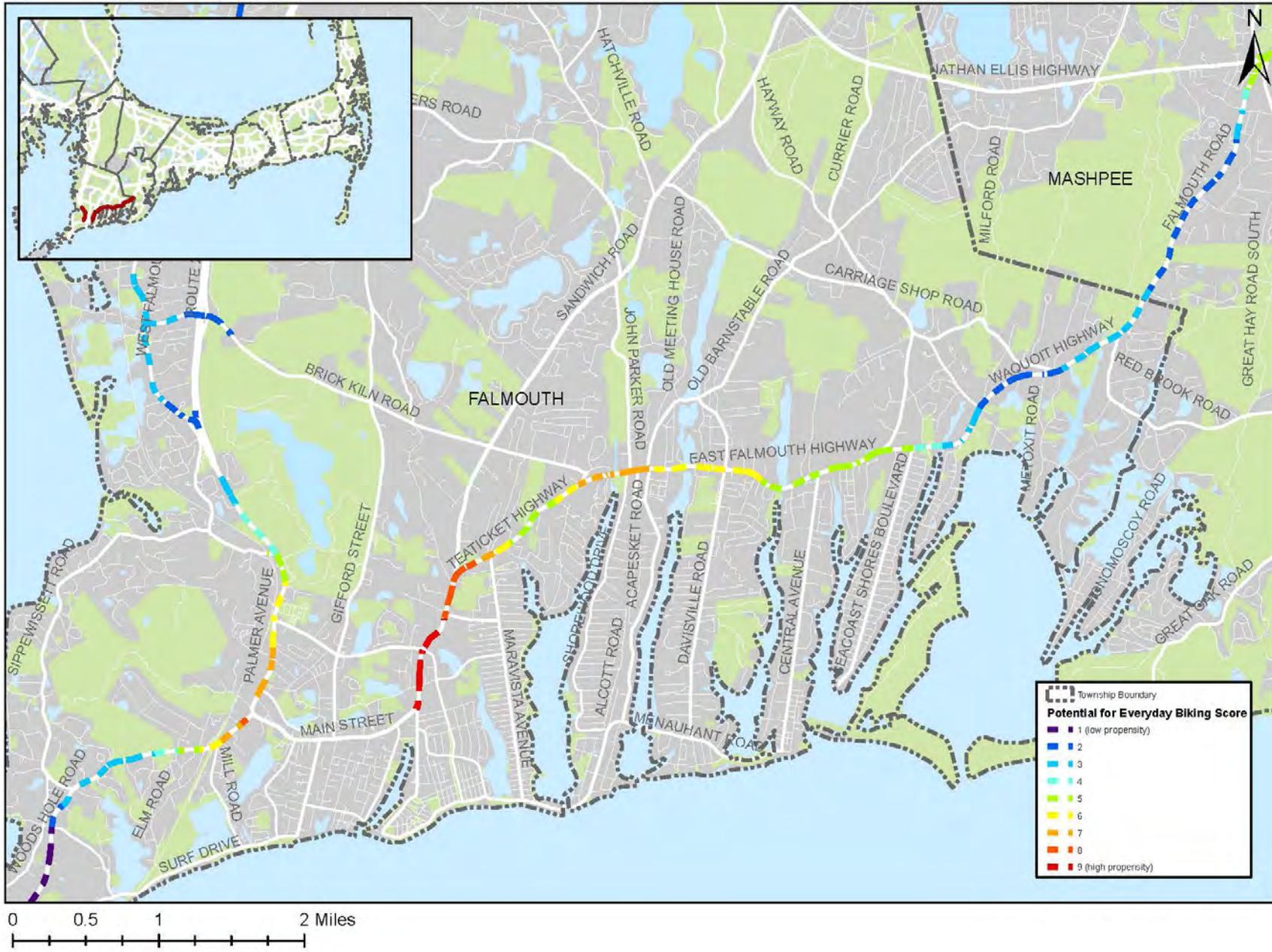


Figure 17. Biking Score- Mashpee

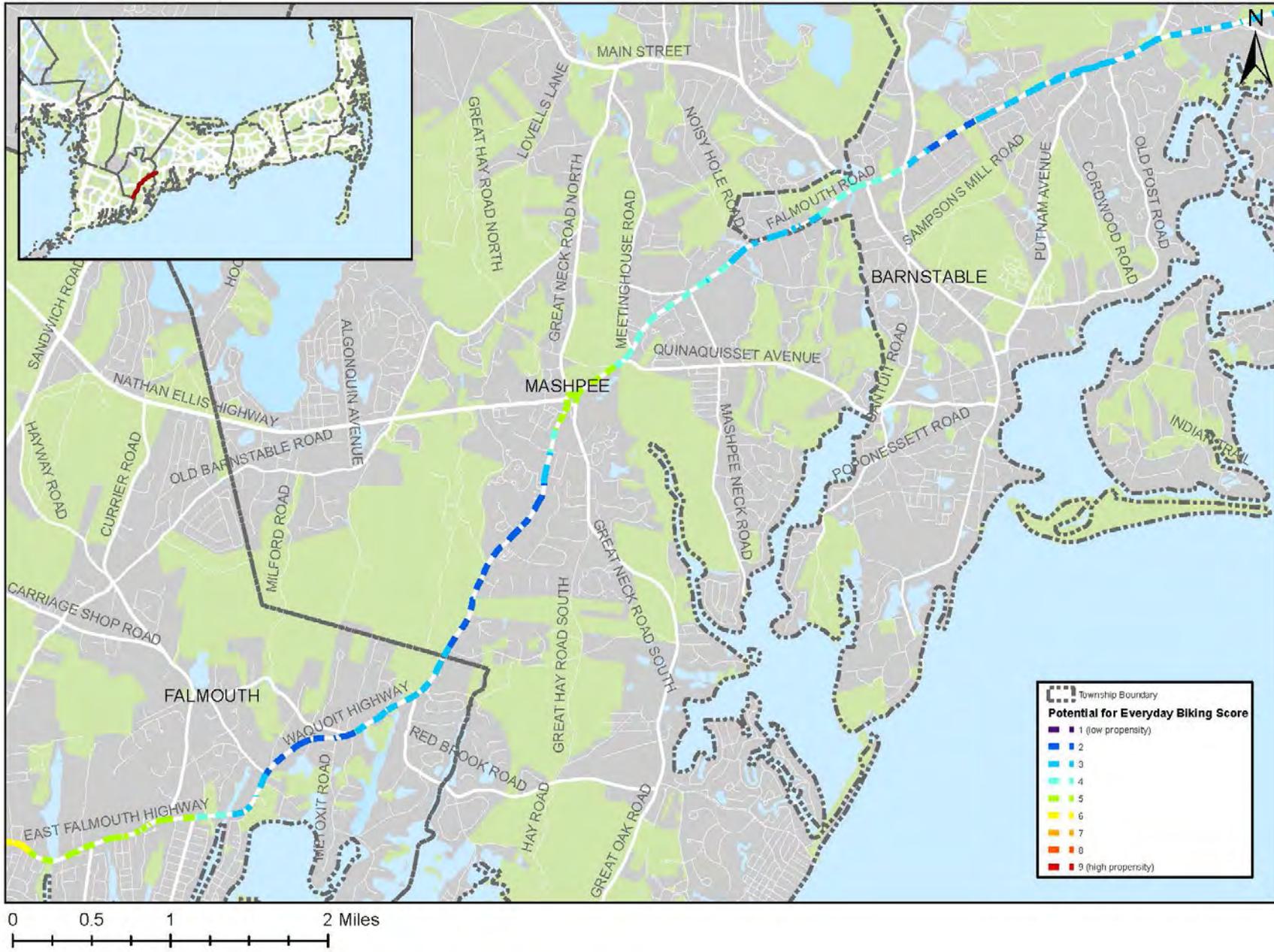


Figure 17. Biking Score-Barnstable



Figure 17. Biking Score- Yarmouth



Figure 17. Biking Score- Dennis

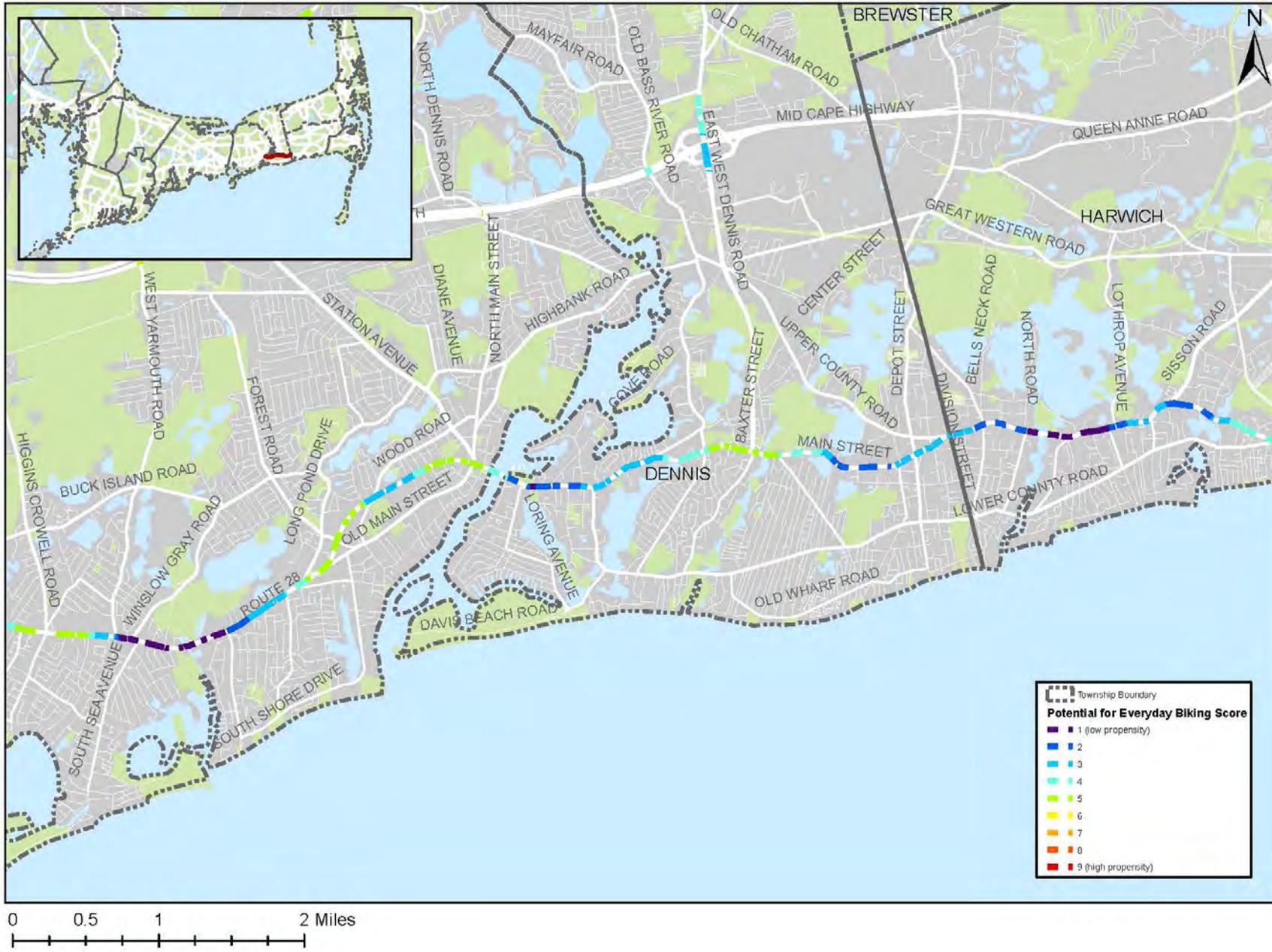


Figure 17. Biking Score-Harwich

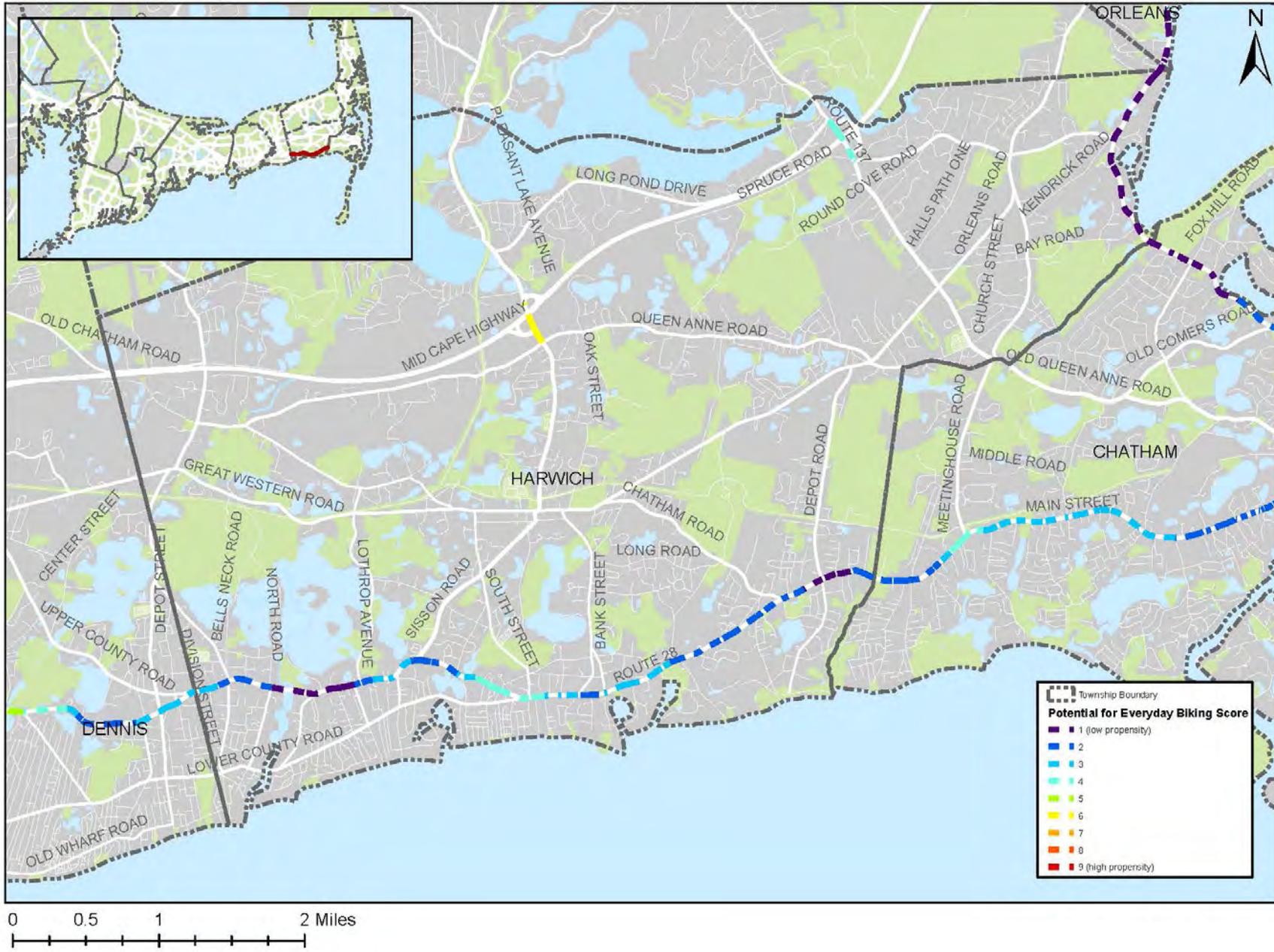


Figure 17. Biking Score- Chatham

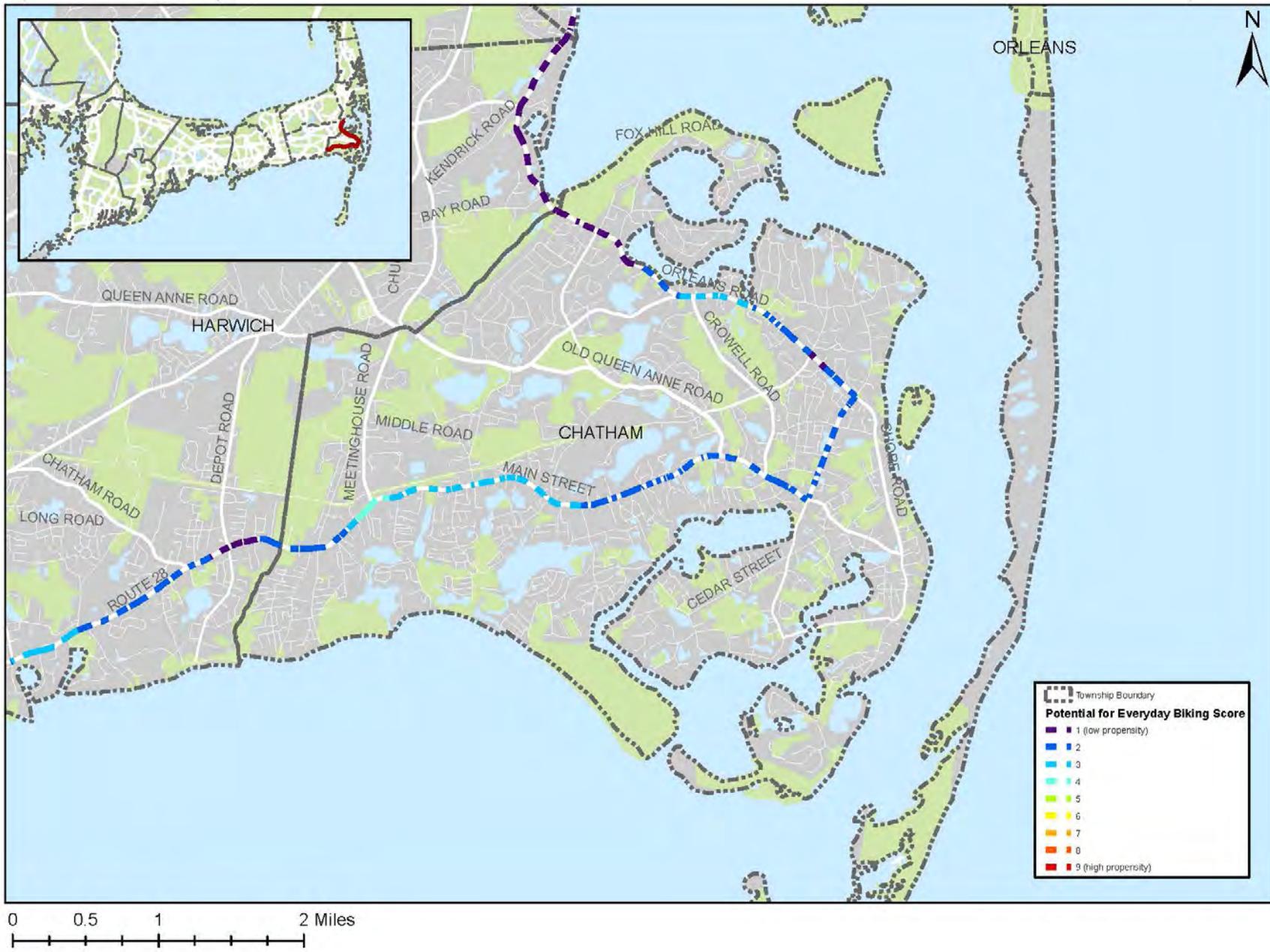


Figure 17. Biking Score-Orleans

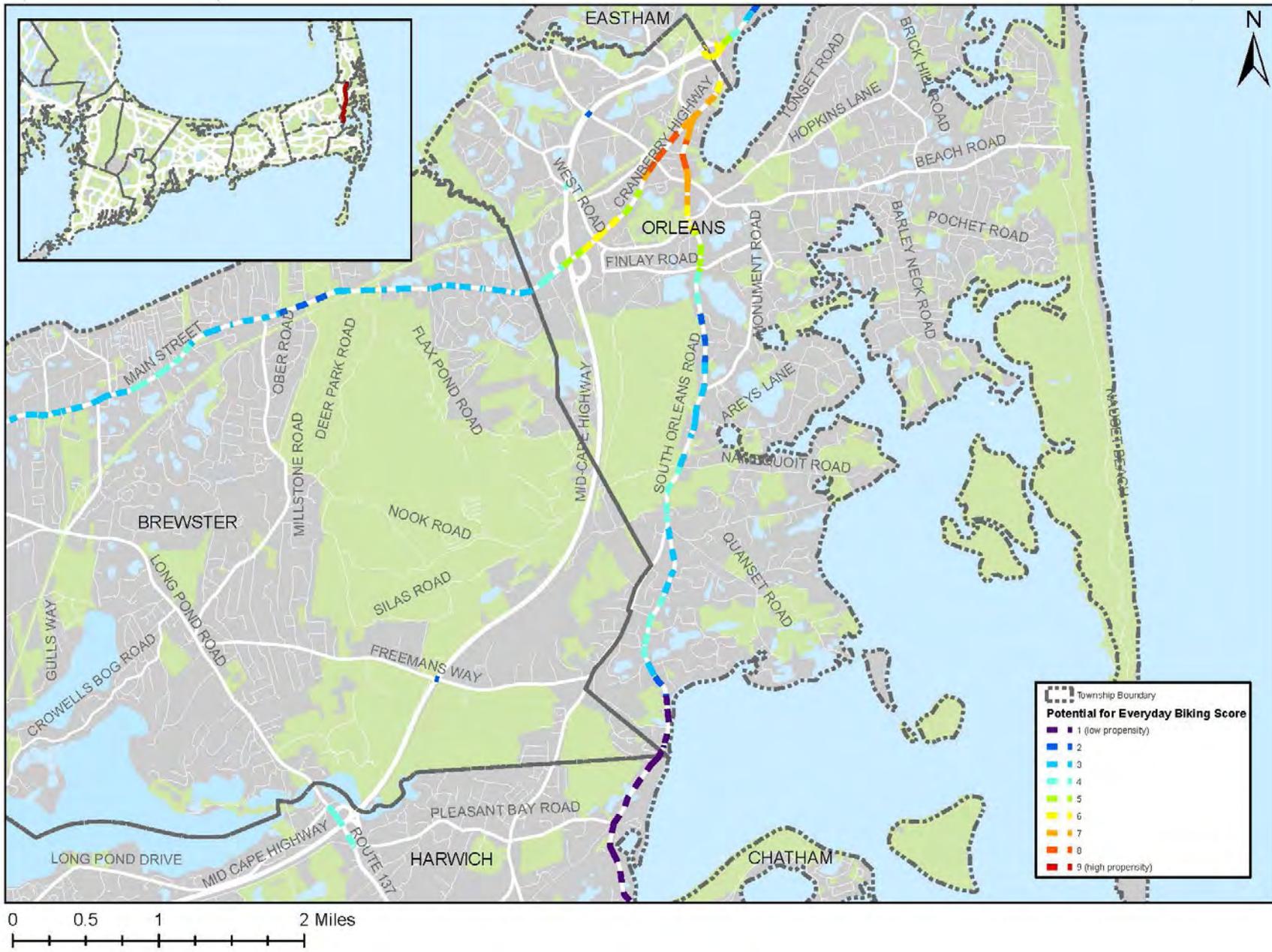


Figure 18. Road Types- Falmouth



Figure 18. Road Types- Mashpee

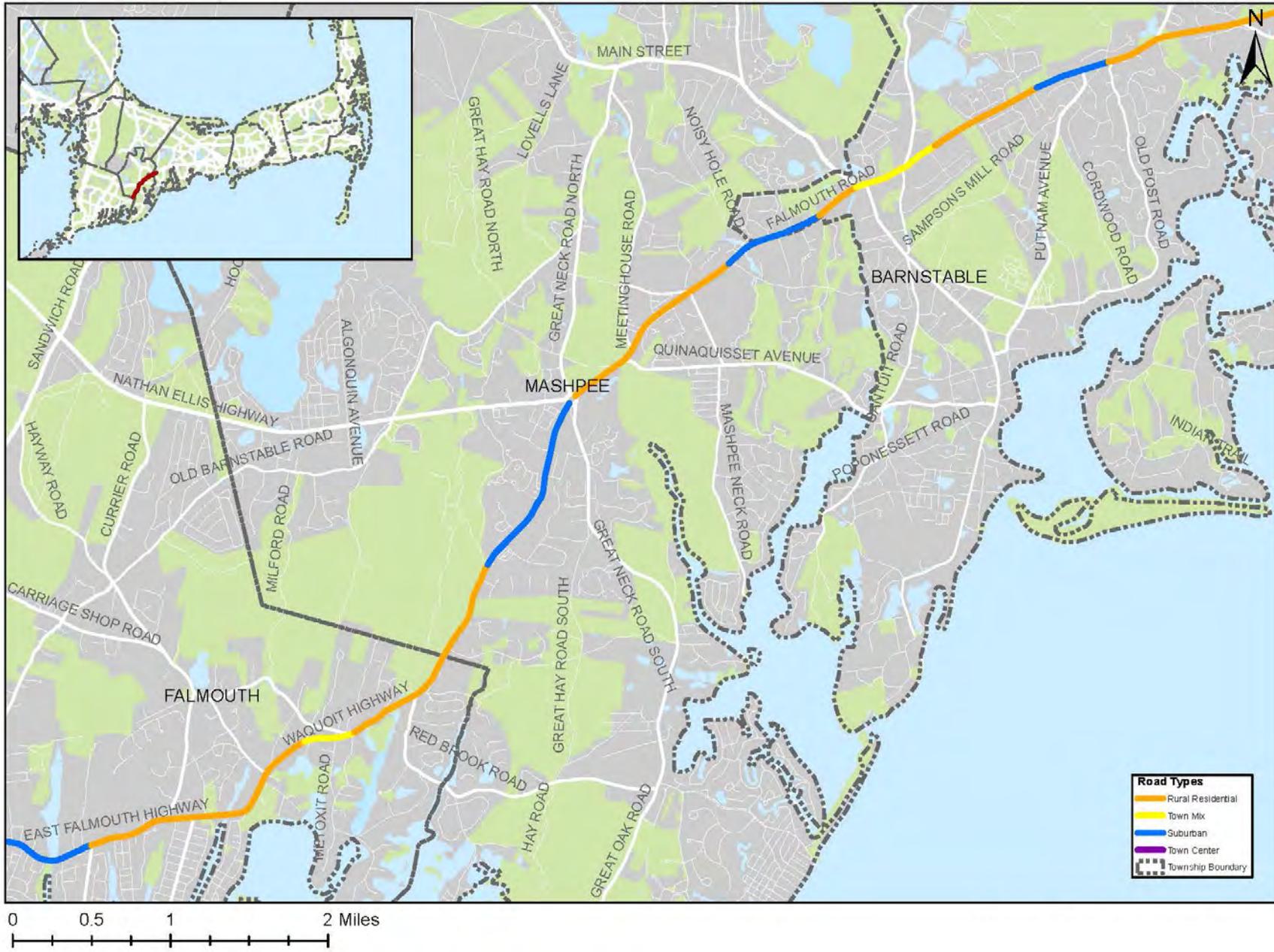


Figure 18. Road Types- Barnstable



Figure 18. Road Types- Yarmouth



Figure 18. Road Types-Dennis



Figure 18. Road Types- Harwich

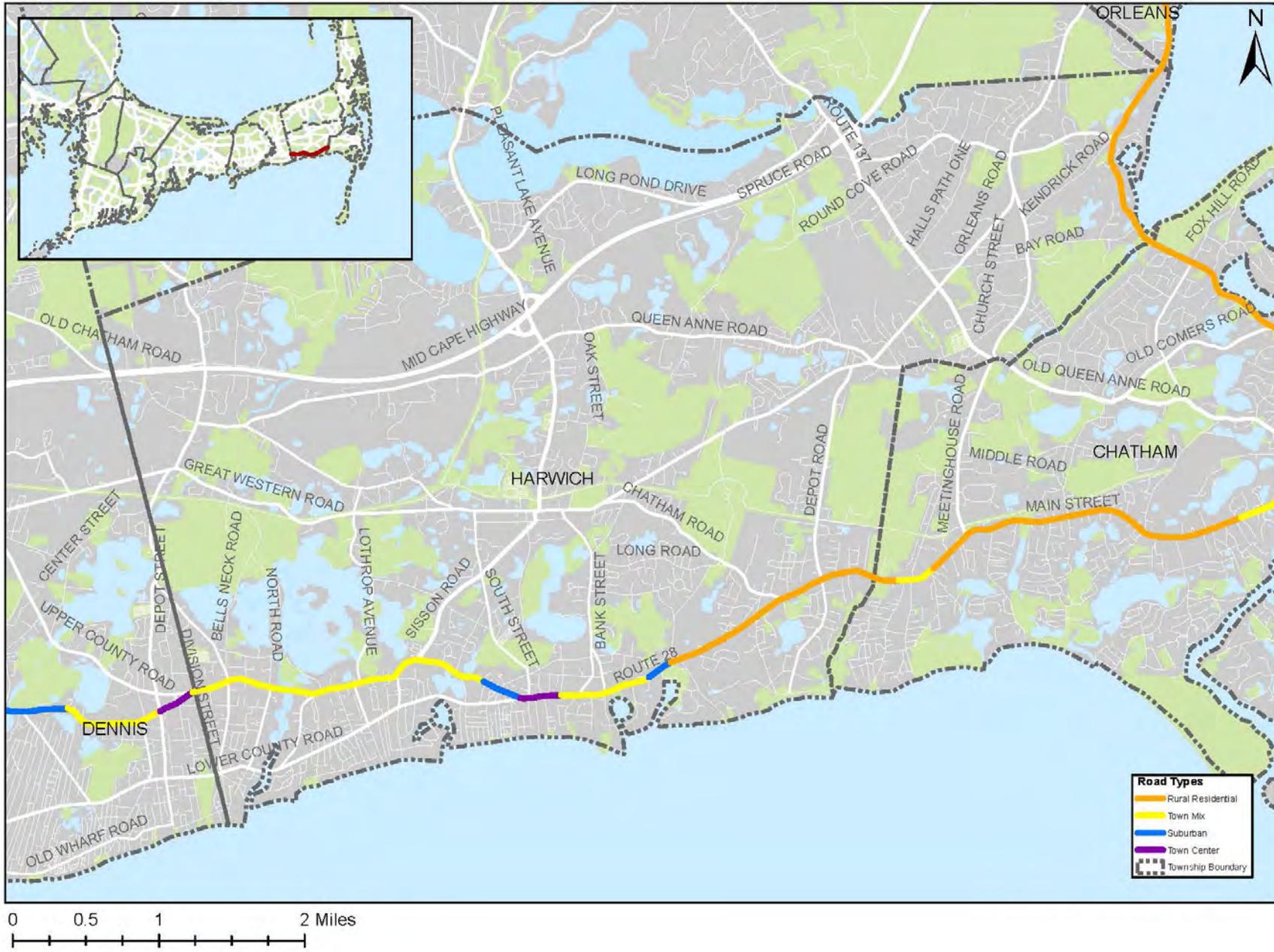


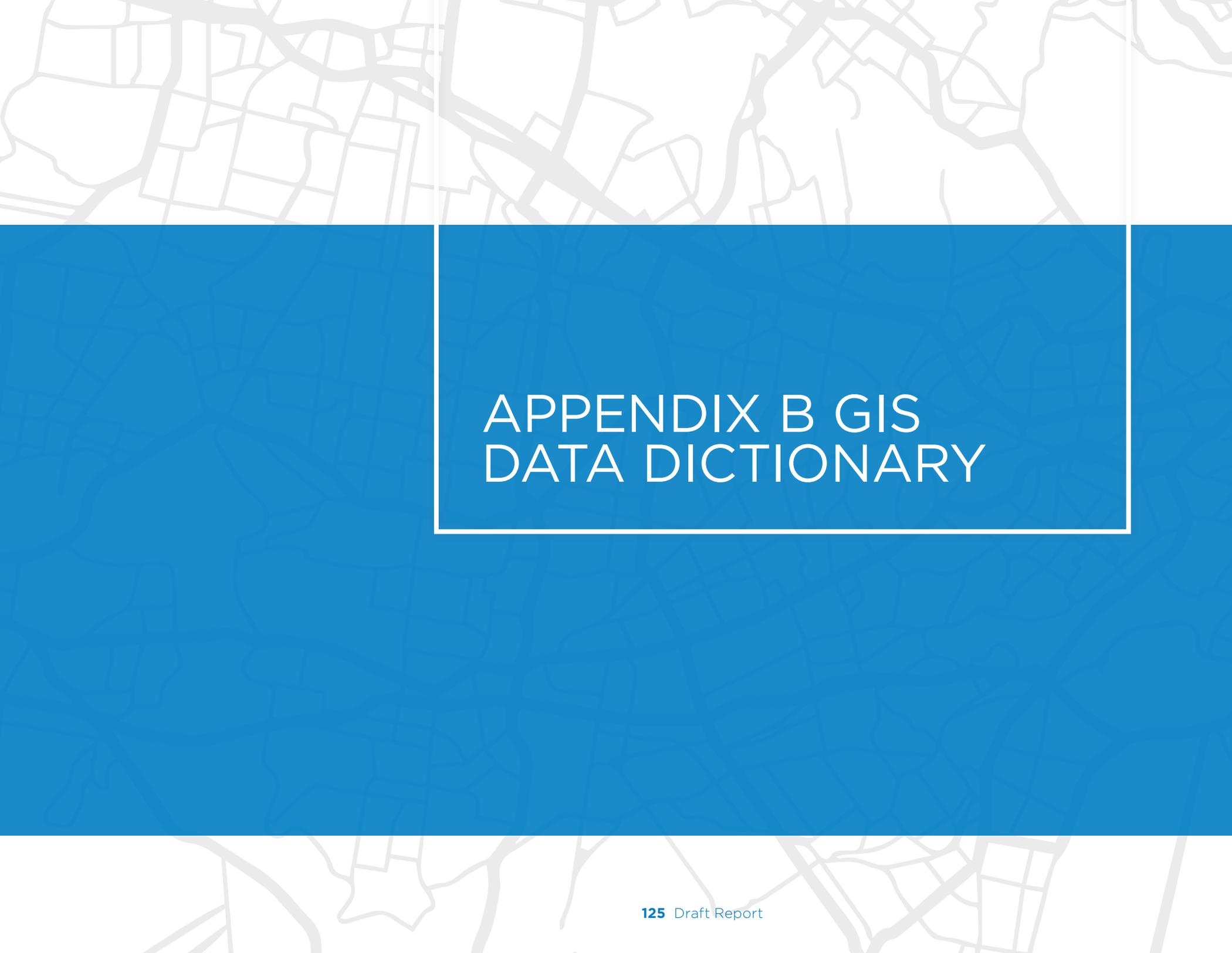
Figure 18. Road Types- Chatham



Figure 18. Road Types- Orleans





The background of the page features a light gray, stylized map pattern consisting of various geometric shapes and lines, representing a street grid or land parcels. This pattern is visible in the top and bottom sections of the page, separated by a large blue horizontal band.

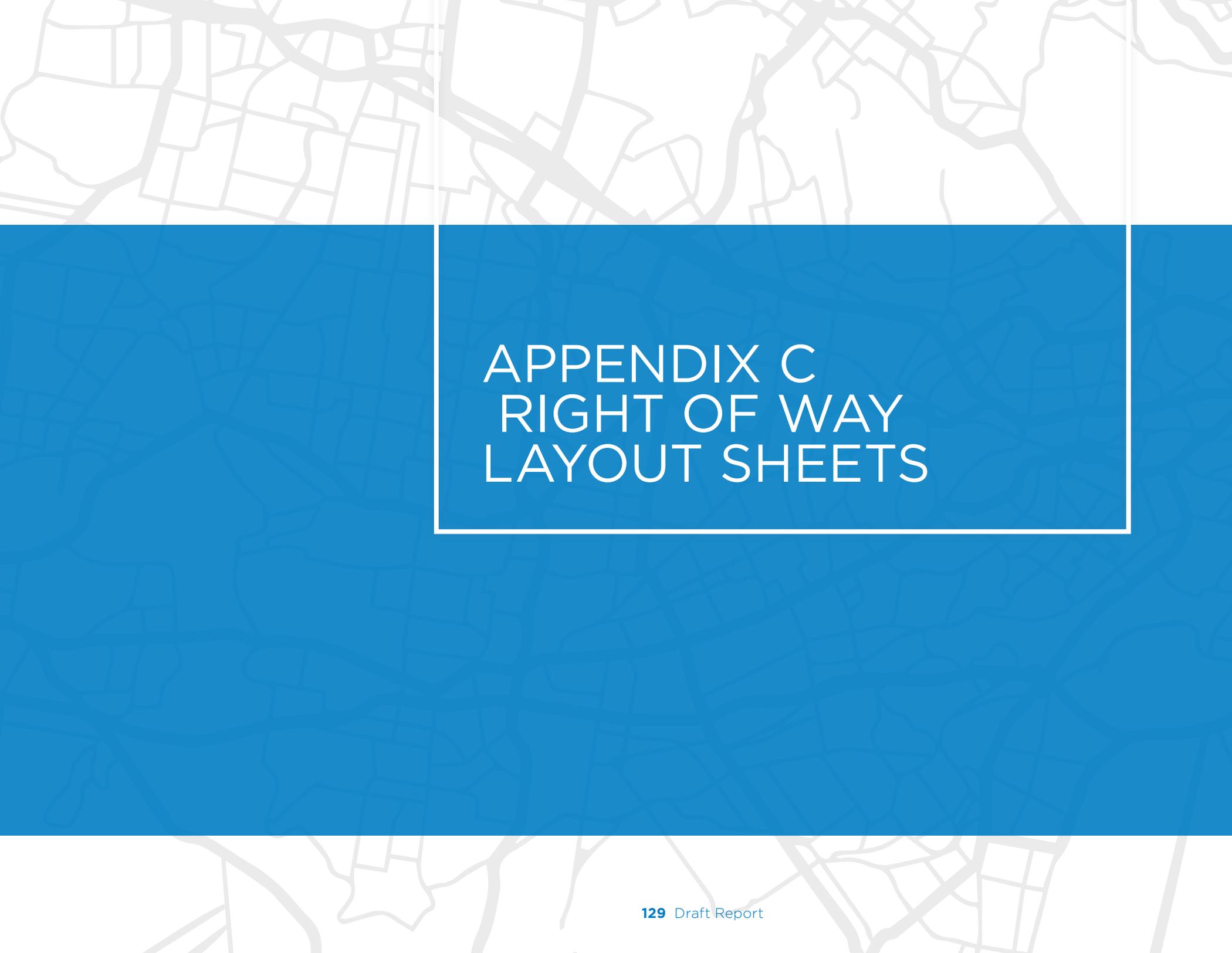
# APPENDIX B GIS DATA DICTIONARY



## GIS Data Dictionary

Layer	Description	Source
<b>Biketrails_arc</b>	This represents trails which all permit bicycle travel or corridors with conversion potential; however, bicycles are not the exclusive travel mode permitted on these trails.	<b>Massachusetts GIS (MassGIS)</b>
<b>Crash_Data</b>	Car crashes are reported to the Registry of Motor Vehicles, the MassDOT Highway Division uses the crash information for data-driven safety analyses and traffic engineering studies.	<b>Highway Division of MassDOT</b>
<b>HYDRO25K_POLY</b>	Hydrologic data for Massachusetts with lakes, ponds, rivers, streams, and other water features.	<b>Massachusetts GIS (MassGIS)</b>
<b>MAJPOND_POLY</b>	Large water bodies and rivers.	<b>Massachusetts GIS (MassGIS)</b>
<b>MAJSTRM_ARC</b>	Large water bodies and rivers.	<b>Massachusetts GIS (MassGIS)</b>
<b>OPENSOURCE_ARC</b>	Lines that represent boundaries of the polygons. These arcs are coded as being coincident with other map features (town boundary, stream, etc.).	<b>Massachusetts GIS (MassGIS)</b>
<b>OPENSOURCE_POLY</b>	Polygons of recreational and conservation lands including conservation land, recreation land, town forests, parkways, agricultural land, aquifer protection land, cemeteries, and forest land.	<b>Massachusetts GIS (MassGIS)</b>
<b>RoadInv2017.gdb</b>	Shapefile containing a year-end snapshot of the spatial line work for all the public and a good portion of the private roadways in Massachusetts. This includes the roadway attributes covering the roadway classification, ownership, physical conditions, traffic volumes, pavement conditions, highway performance monitoring information, and more.	<b>Massachusetts GIS (MassGIS)</b>
<b>TOWNS_POLYM</b>	Single-part polygons, with separate features for offshore islands.	<b>Massachusetts GIS (MassGIS)</b>
<b>Trails</b>	The Massachusetts Department of Conservation and Recreation (DCR) - Division of State Parks and Recreation (DSPR) Roads and Trails data layer contains all legal roads and trails (lines and point features) identified by DCR staff and consultants on DCR DSPR properties (as well as some of the Urban Parks).	<b>Massachusetts GIS (MassGIS)</b>
<b>TRAILS_ARC</b>	The Tracks and Trails data layer represents unimproved roadways and trails that previously had been part of the MassGIS roads data.	<b>Massachusetts GIS (MassGIS)</b>
<b>775d3a06ce334cfc801e20f391f33d50.gdb</b>	The Potential for Everyday Walking and Biking estimates demand for nonmotorized transportation for going to work, visiting family and friends, shopping, dining, or any other utility trip for non-recreational purposes. MassDOT created a weighted formula to result in a single score: <i>Potential for Everyday Walking and Biking</i> = (0.7 * <i>Potential Demand</i> + 0.2 * <i>Transit Access</i> + 0.1 * <i>Crashes</i> ) * (1 + <i>Social Equity</i> ). The results give a score from 1-9, with one (1) being low potential and nine (9) having the highest potential.	<b>Highway Division of MassDOT</b>

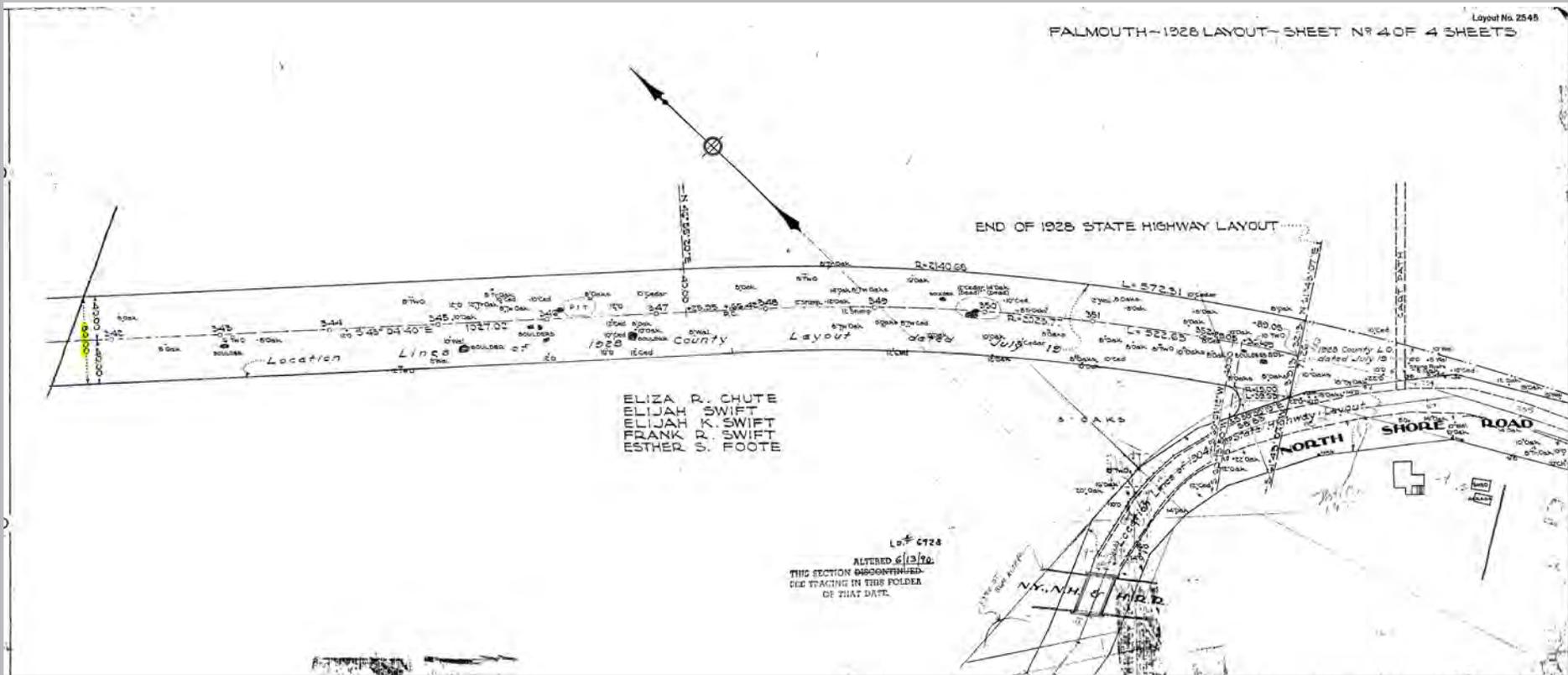


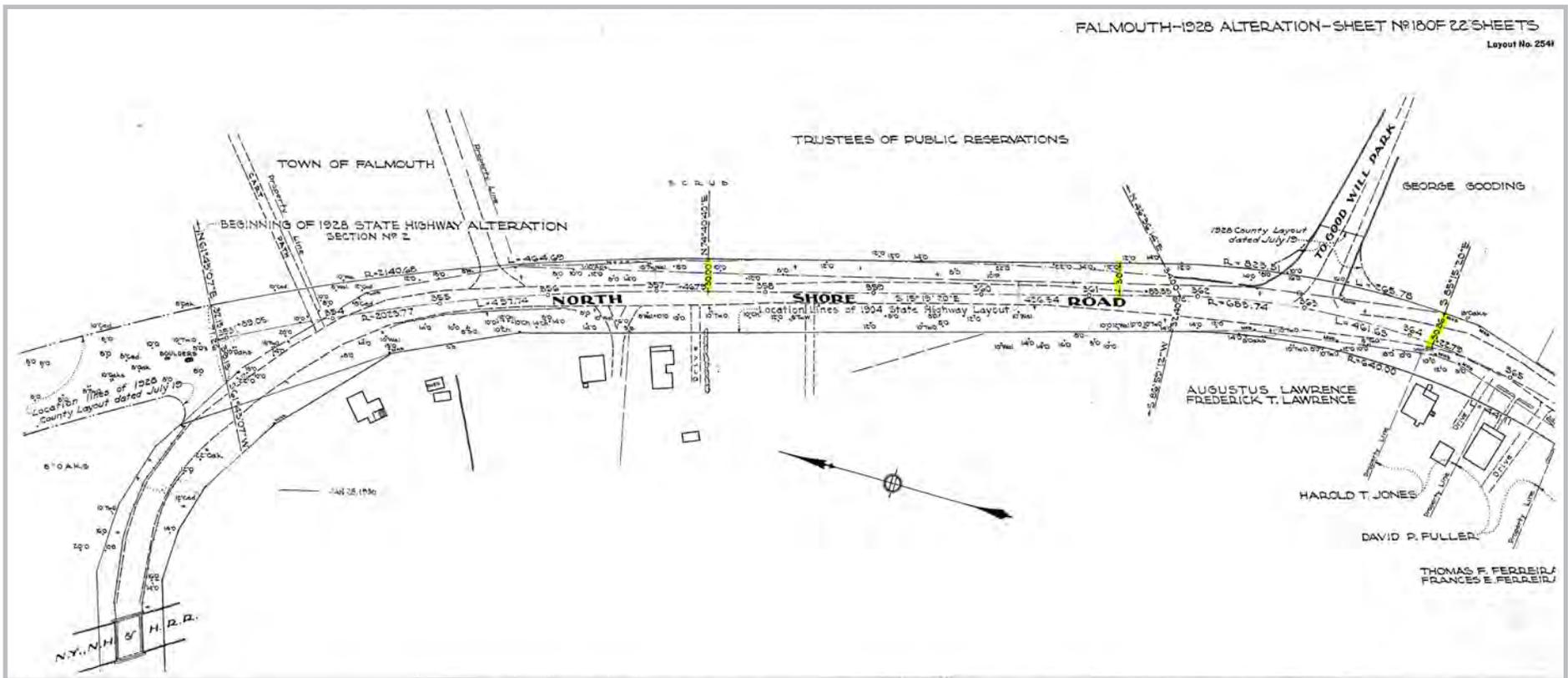
A faint, light gray map pattern of streets and blocks is visible in the top and bottom corners of the page. The central portion of the page is a solid blue rectangle containing the title text.

# APPENDIX C RIGHT OF WAY LAYOUT SHEETS





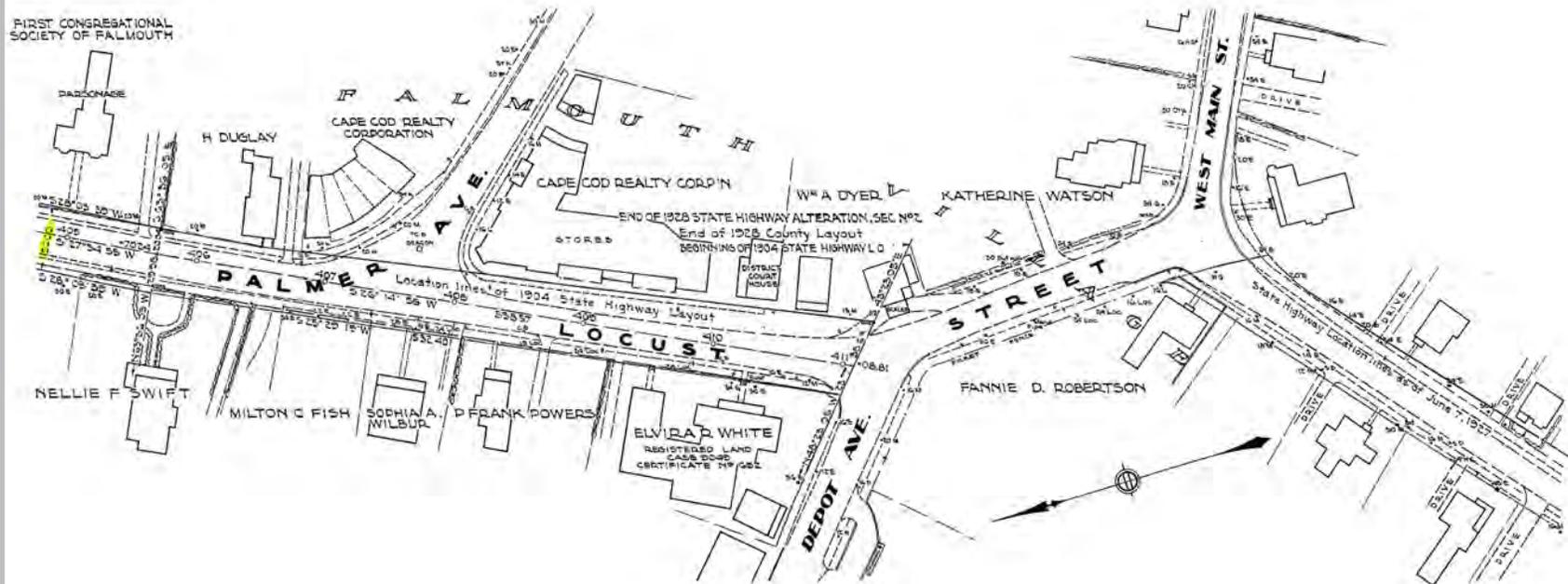








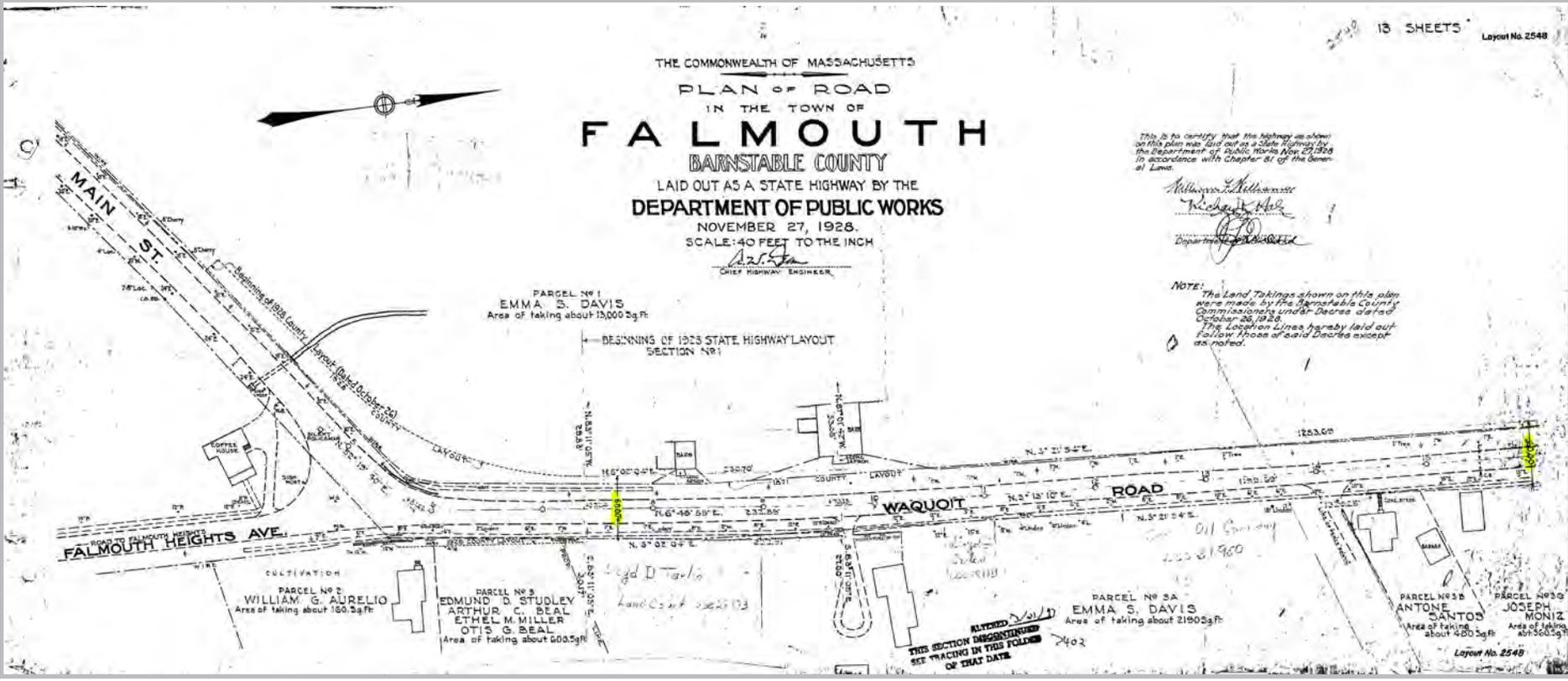




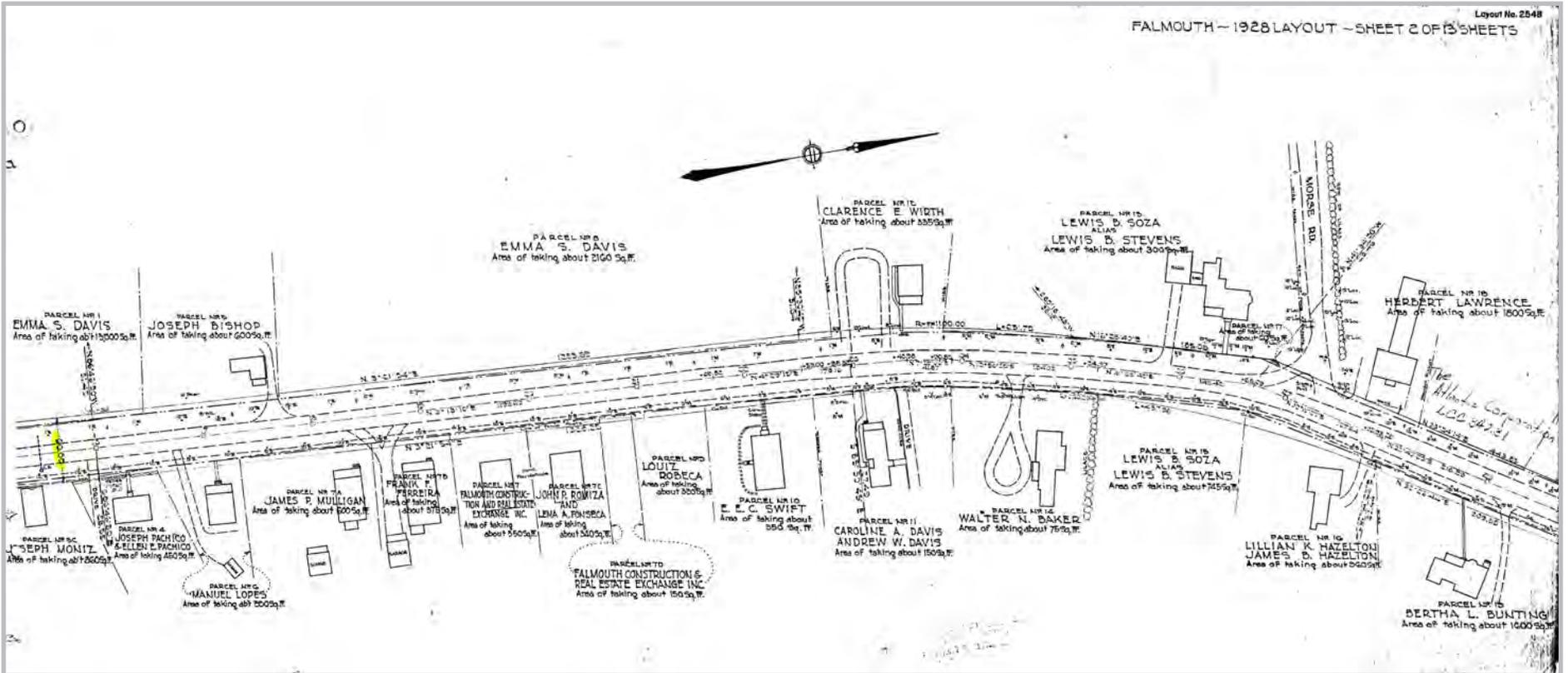
THE COMMONWEALTH OF MASSACHUSETTS  
 PLAN OF ROAD  
 IN THE TOWN OF  
**FALMOUTH**  
 BARNSTABLE COUNTY  
 LAID OUT AS A STATE HIGHWAY BY THE  
 DEPARTMENT OF PUBLIC WORKS  
 NOVEMBER 27, 1928.  
 SCALE: 40 FEET TO THE INCH  
*[Signature]*  
 CHIEF HIGHWAY ENGINEER

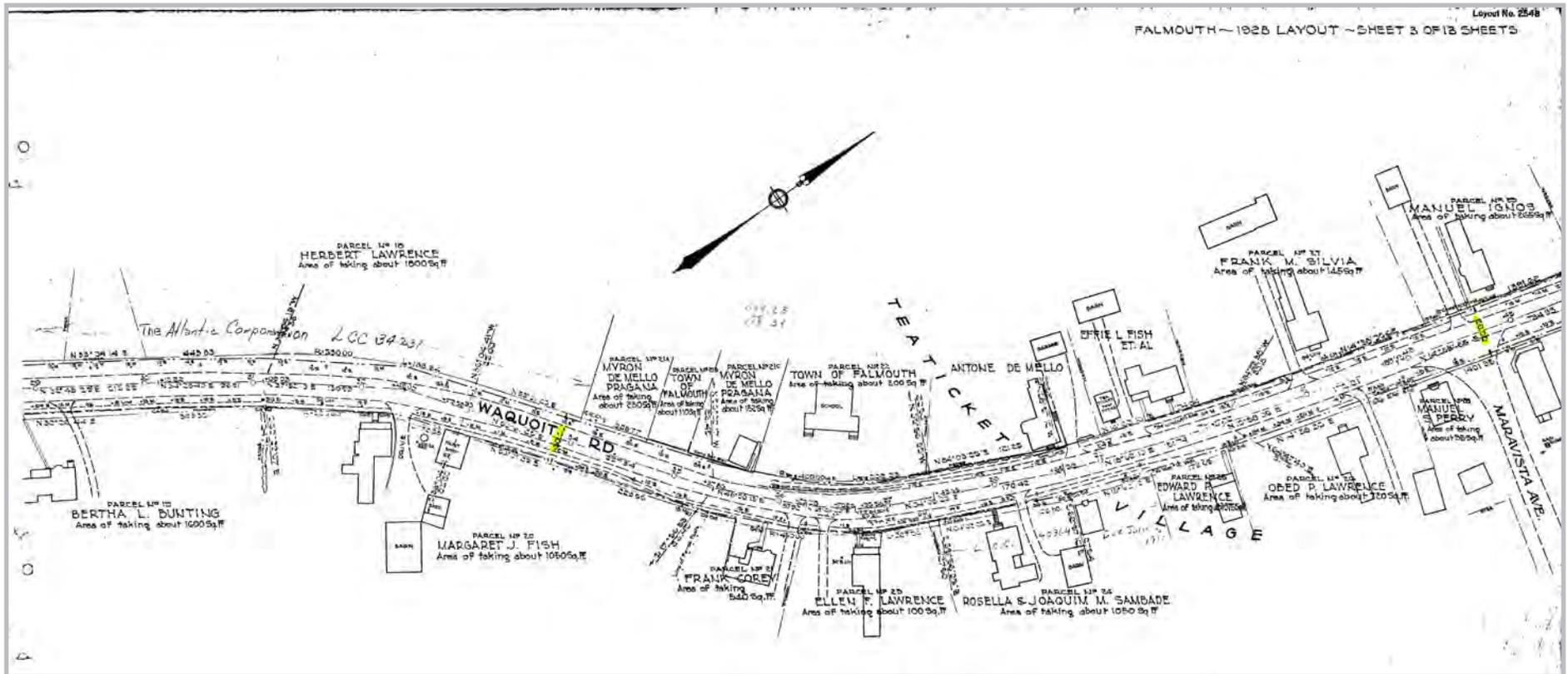
This is to certify that the highway as shown on this plan was laid out as a State Highway by the Department of Public Works Nov. 27, 1928 in accordance with Chapter 81 of the General Laws.  
*[Signature]*  
 Department of Public Works

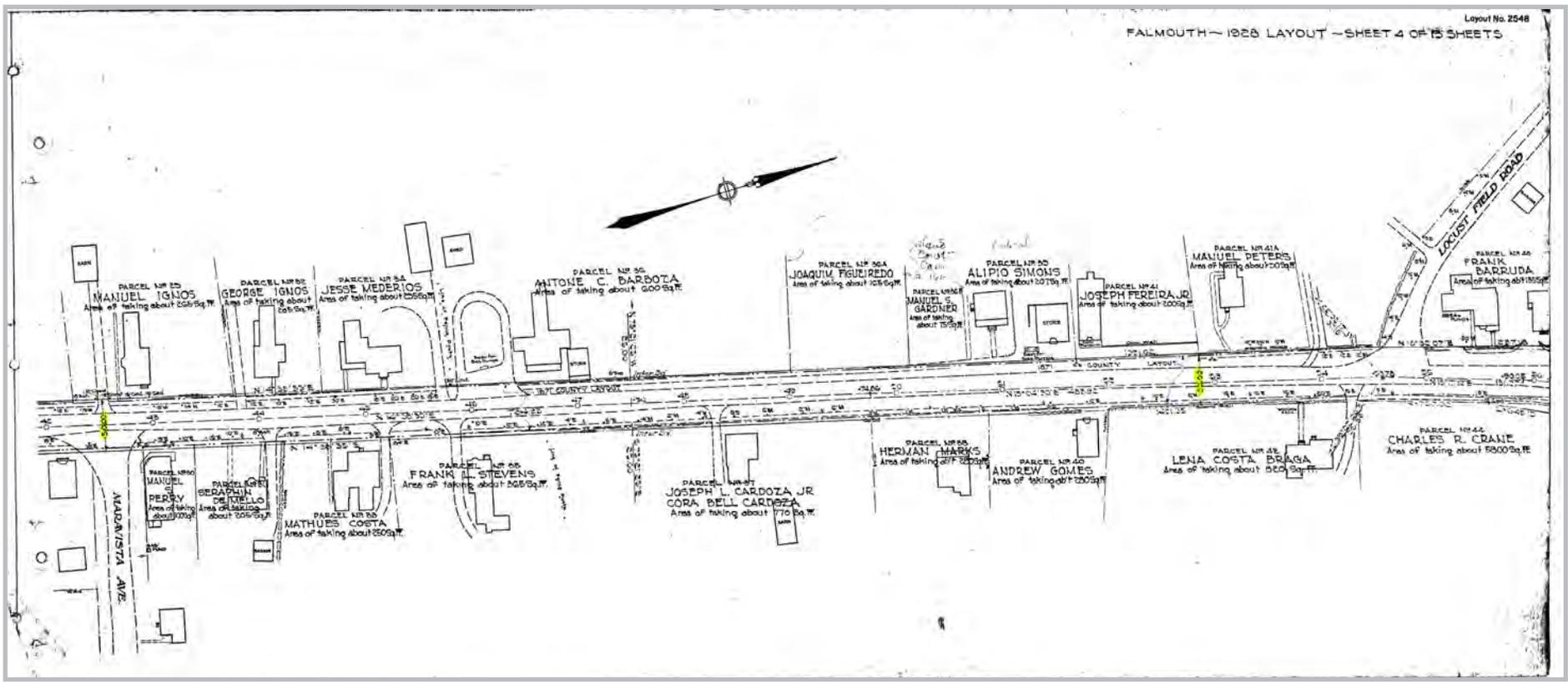
NOTE: The Land Takings shown on this plan were made by the Barnstable County Commissioners under Decree dated October 26, 1928. The Location Lines hereby laid out follow those of said Decree except as noted.

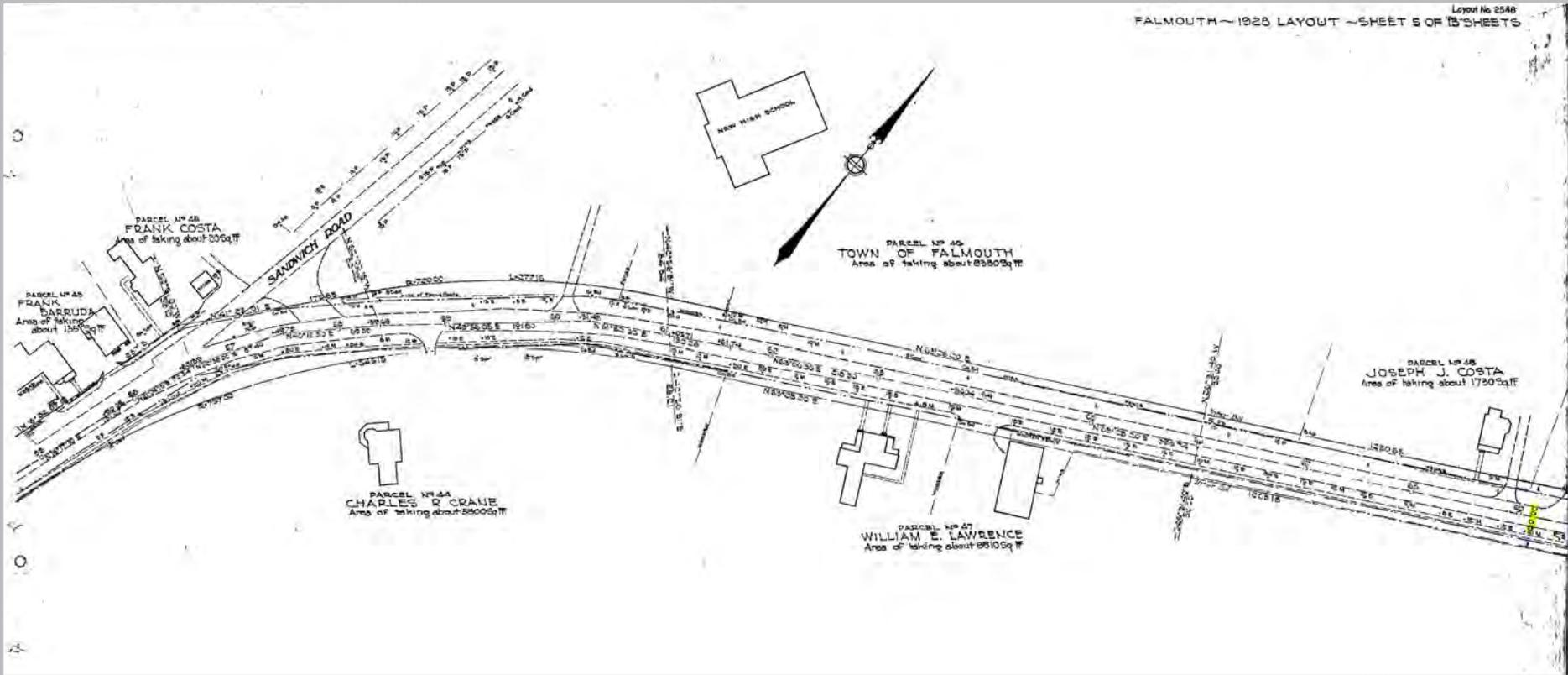


FALMOUTH - 1928 LAYOUT - SHEET 2 OF 3 SHEETS

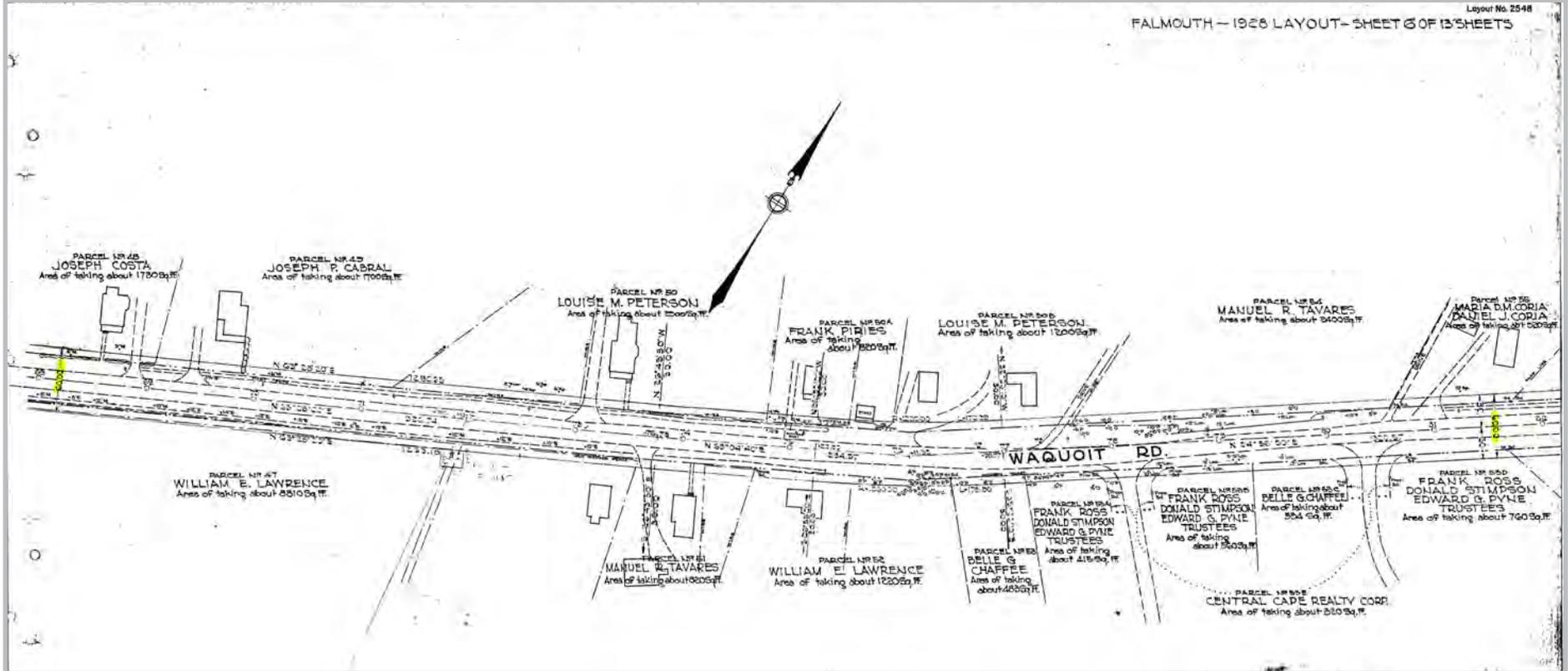


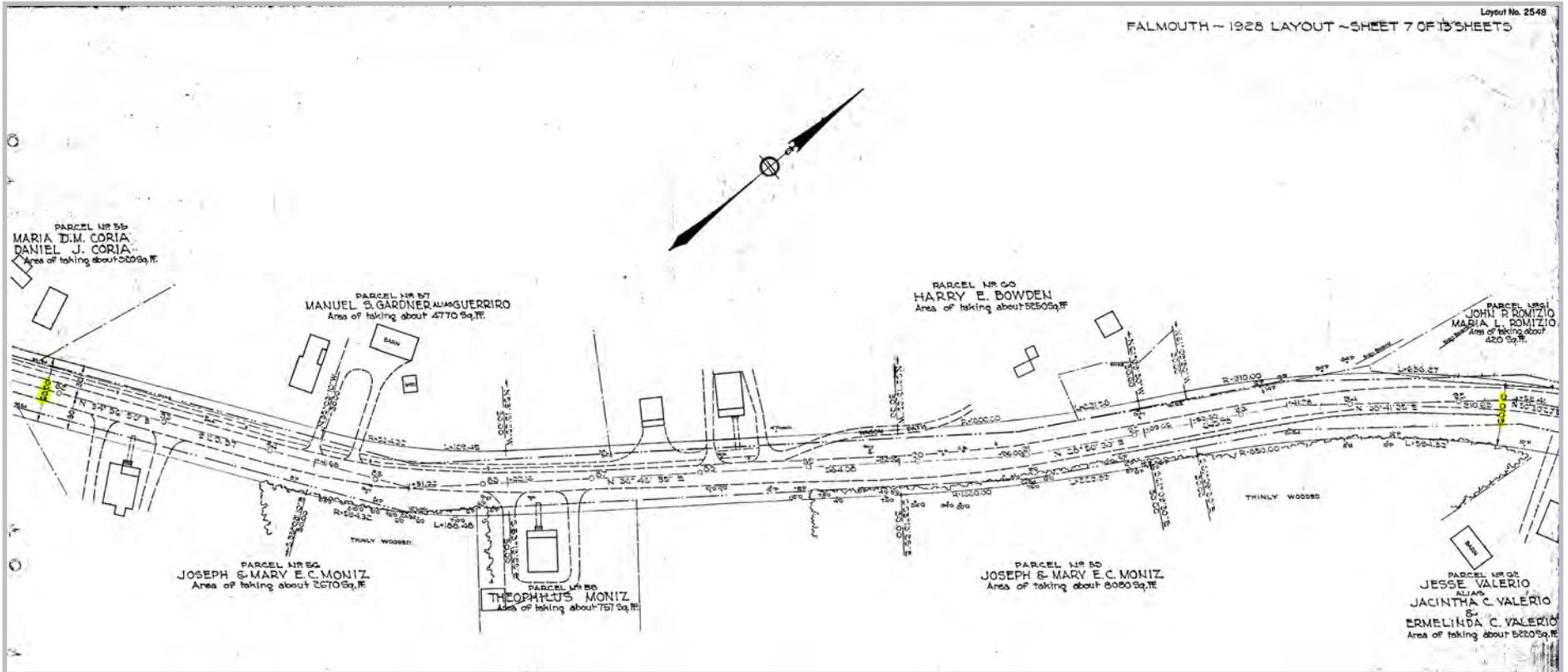


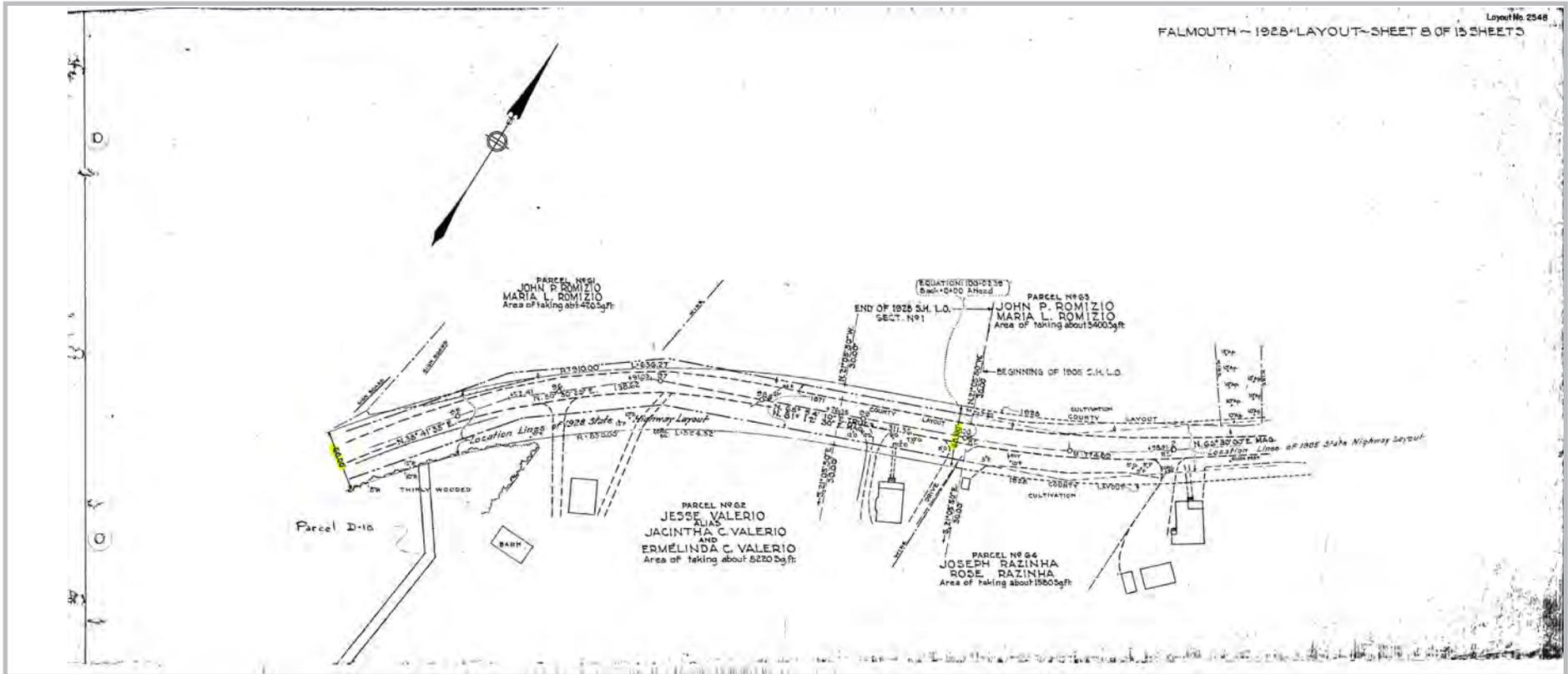




FALMOUTH - 1928 LAYOUT - SHEET 6 OF 13 SHEETS









THE COMMONWEALTH OF MASSACHUSETTS

# PLAN OF ROAD IN THE TOWN OF FALMOUTH BARNSTABLE COUNTY

ALTERED AND LAID OUT AS A STATE HIGHWAY BY THE  
DEPARTMENT OF PUBLIC WORKS

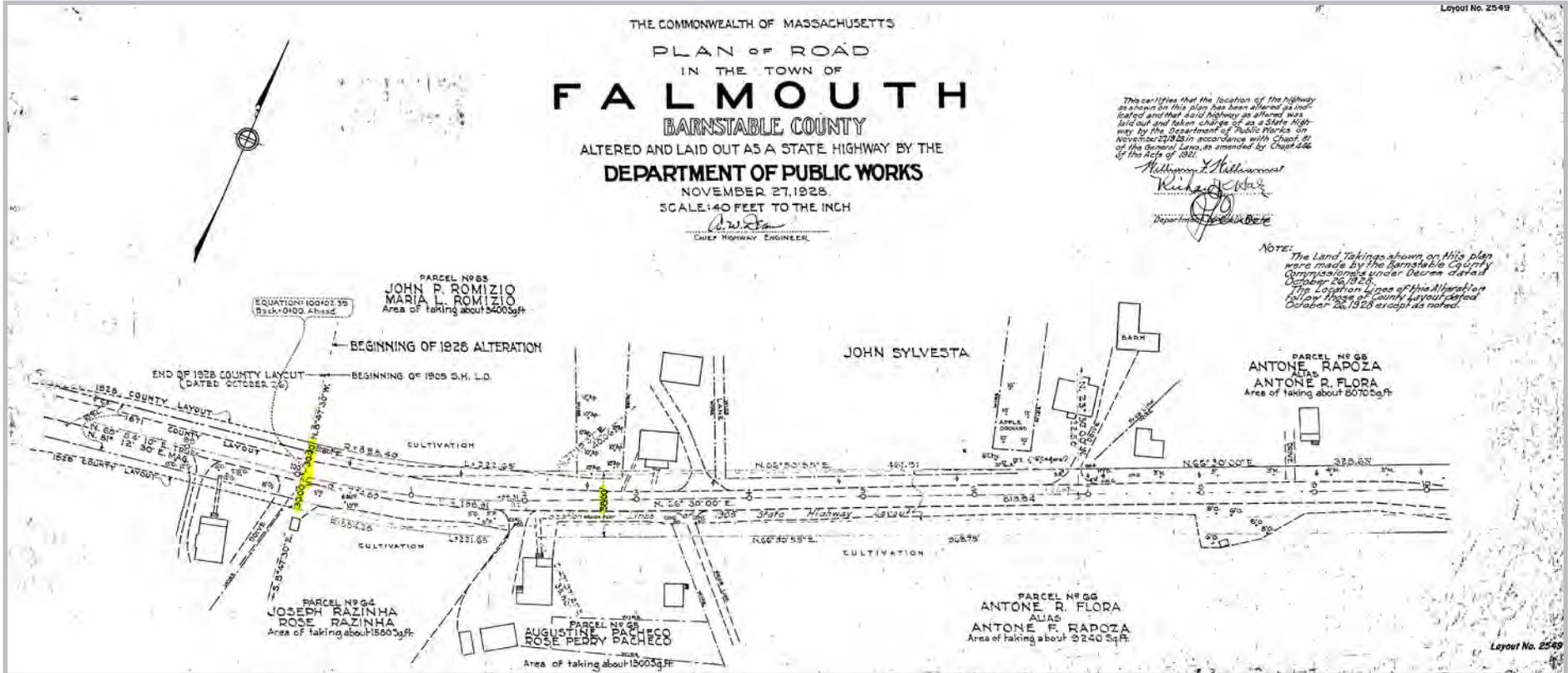
NOVEMBER 27, 1926.  
SCALE: 40 FEET TO THE INCH

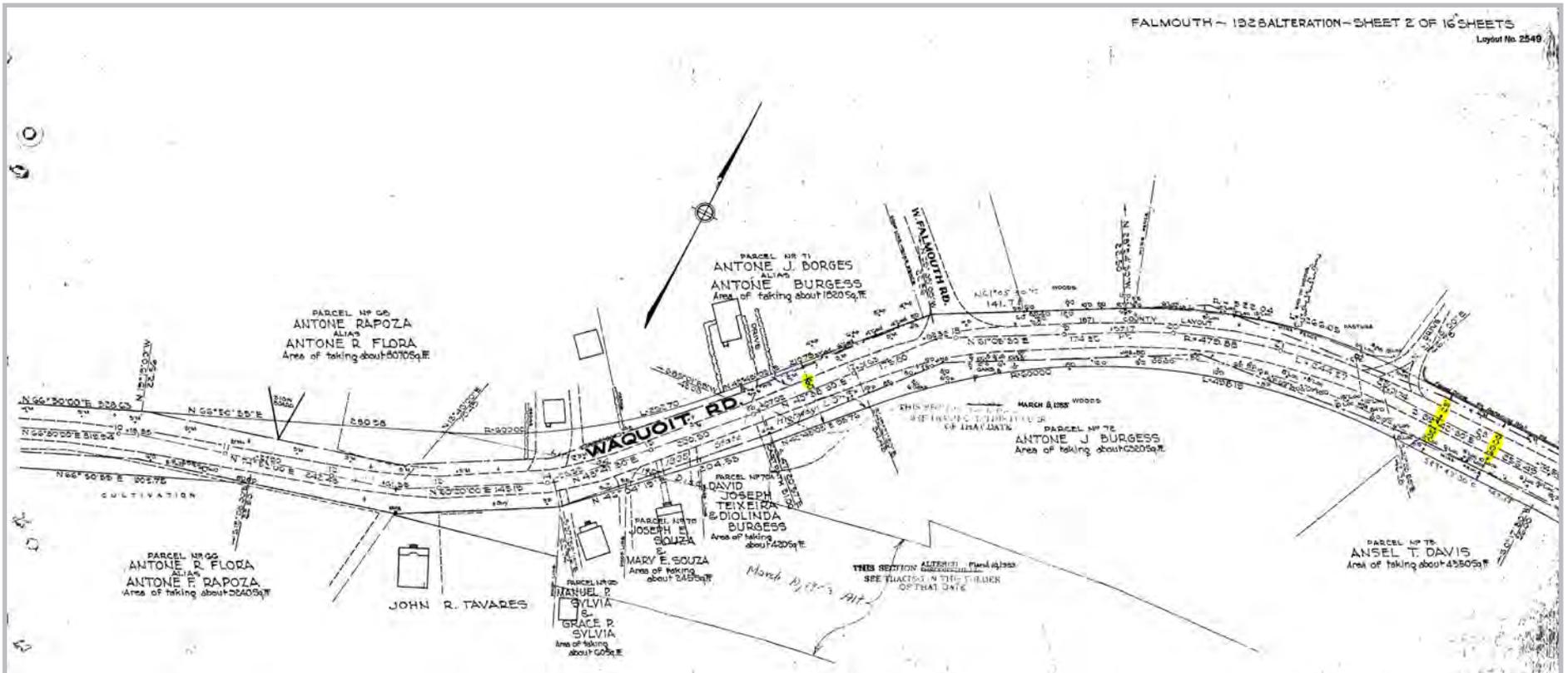
*D. W. Dean*  
CHIEF HIGHWAY ENGINEER

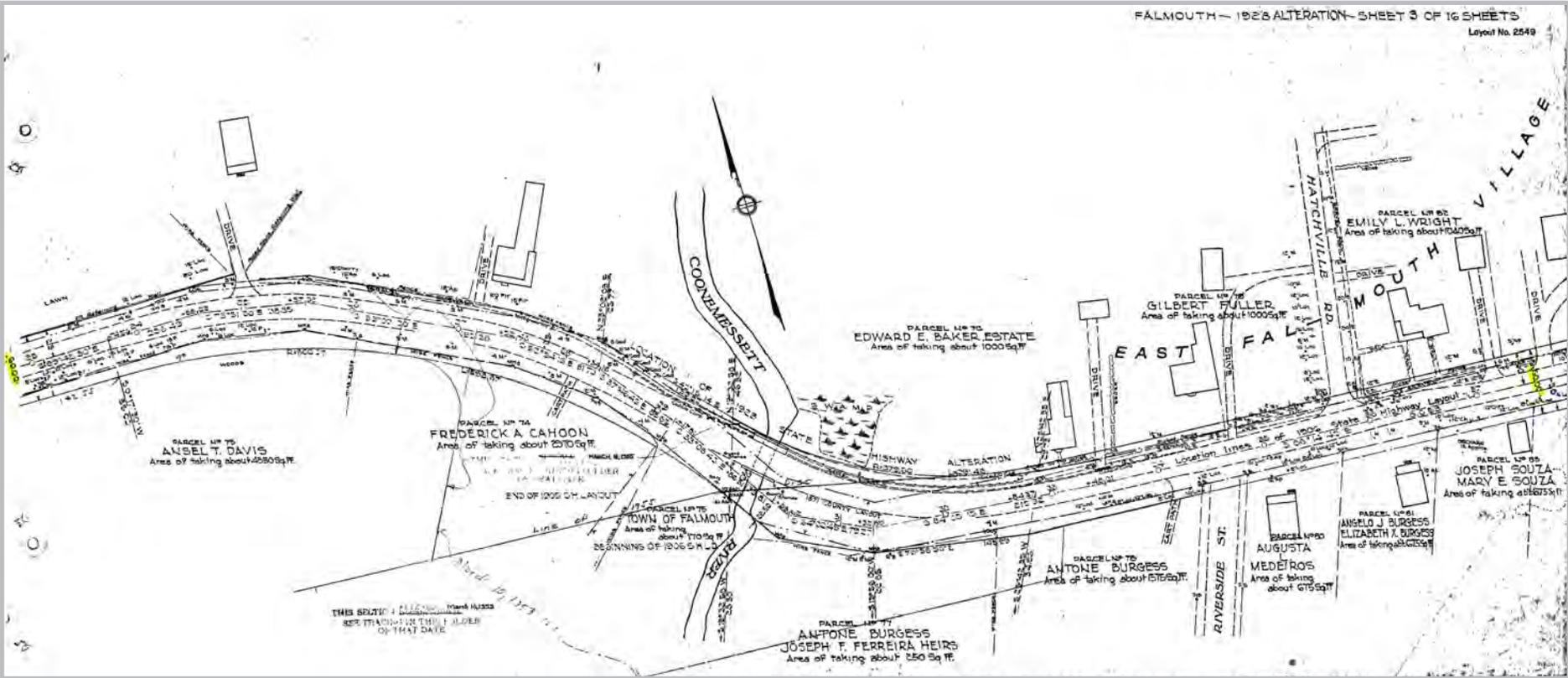
*This certifies that the location of the highway as shown on this plan has been altered as indicated and that said highway as altered was laid out and taken charge of as a State Highway by the Department of Public Works on November 27, 1926 in accordance with Chapter 26 of the General Laws as amended by Chapter 46 of the Acts of 1921.*

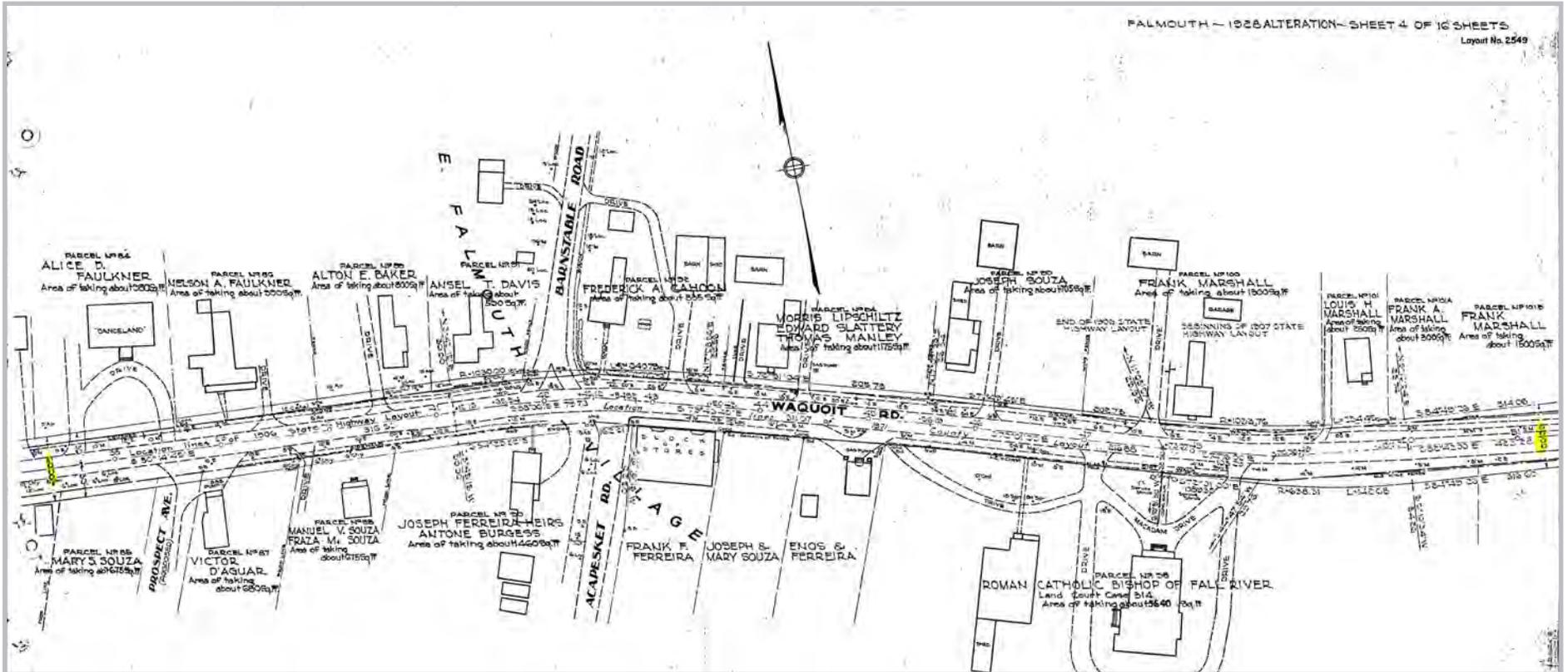
*William E. Hathorn*  
*Kirkpatrick*  
Department of Public Works

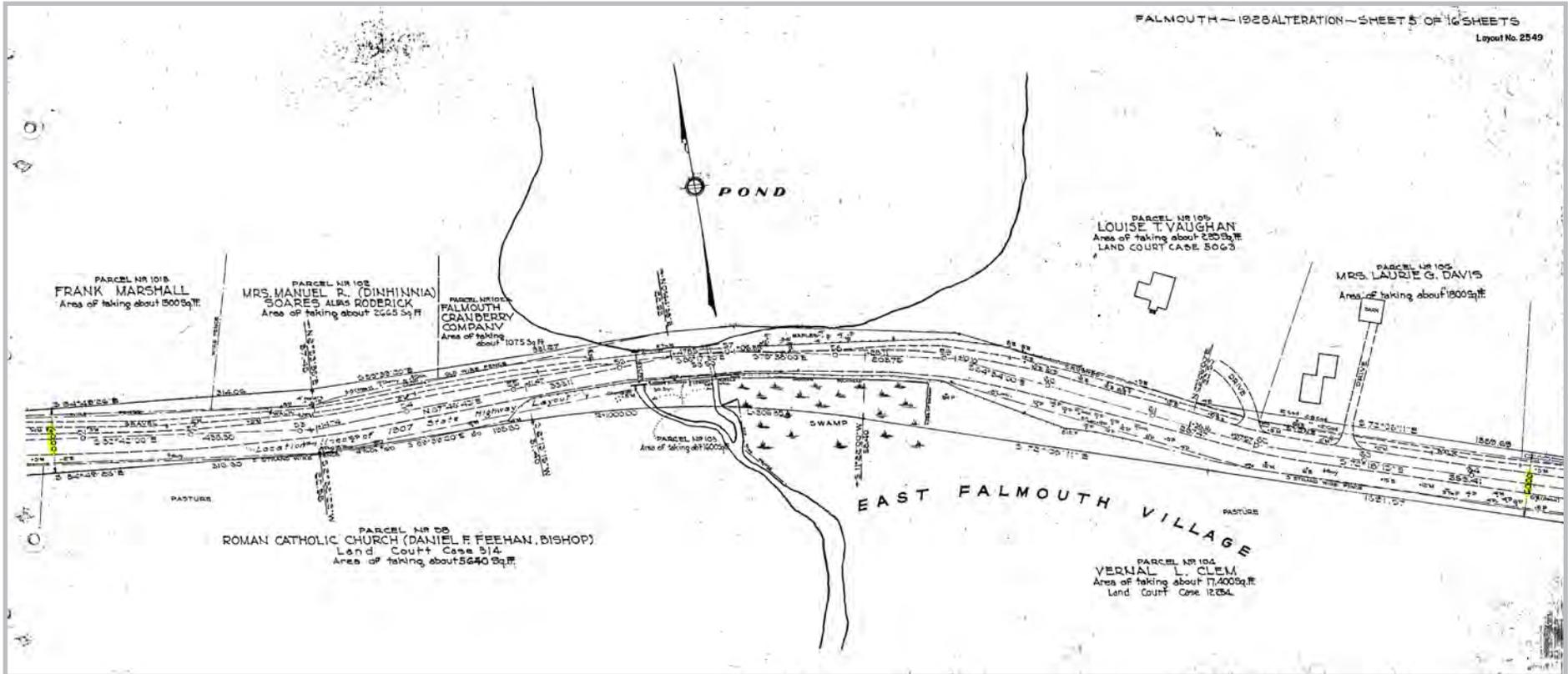
NOTE: The Land Takings shown on this plan were made by the Barnstable County Commissioners under Decree dated October 26, 1925. The Location Lines of this Alteration follow those of County Layout dated October 26, 1925 except as noted.

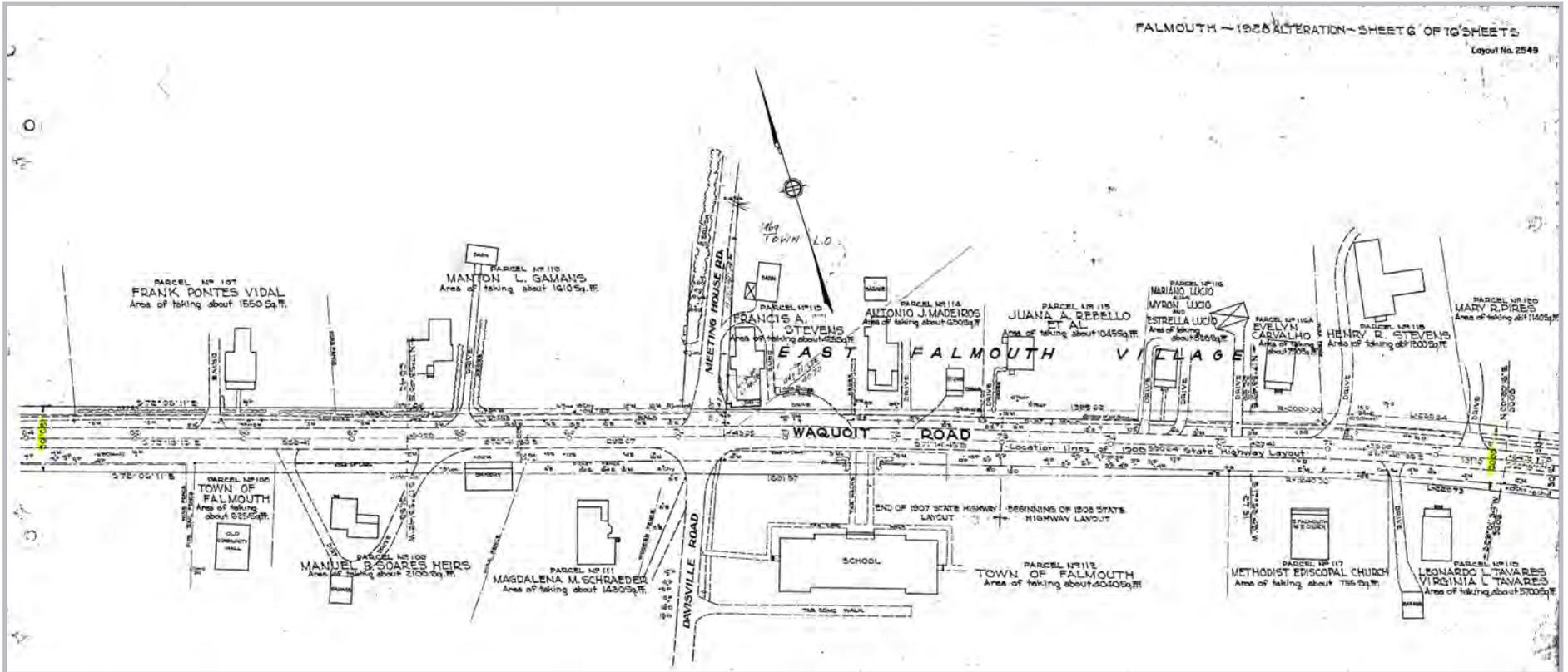


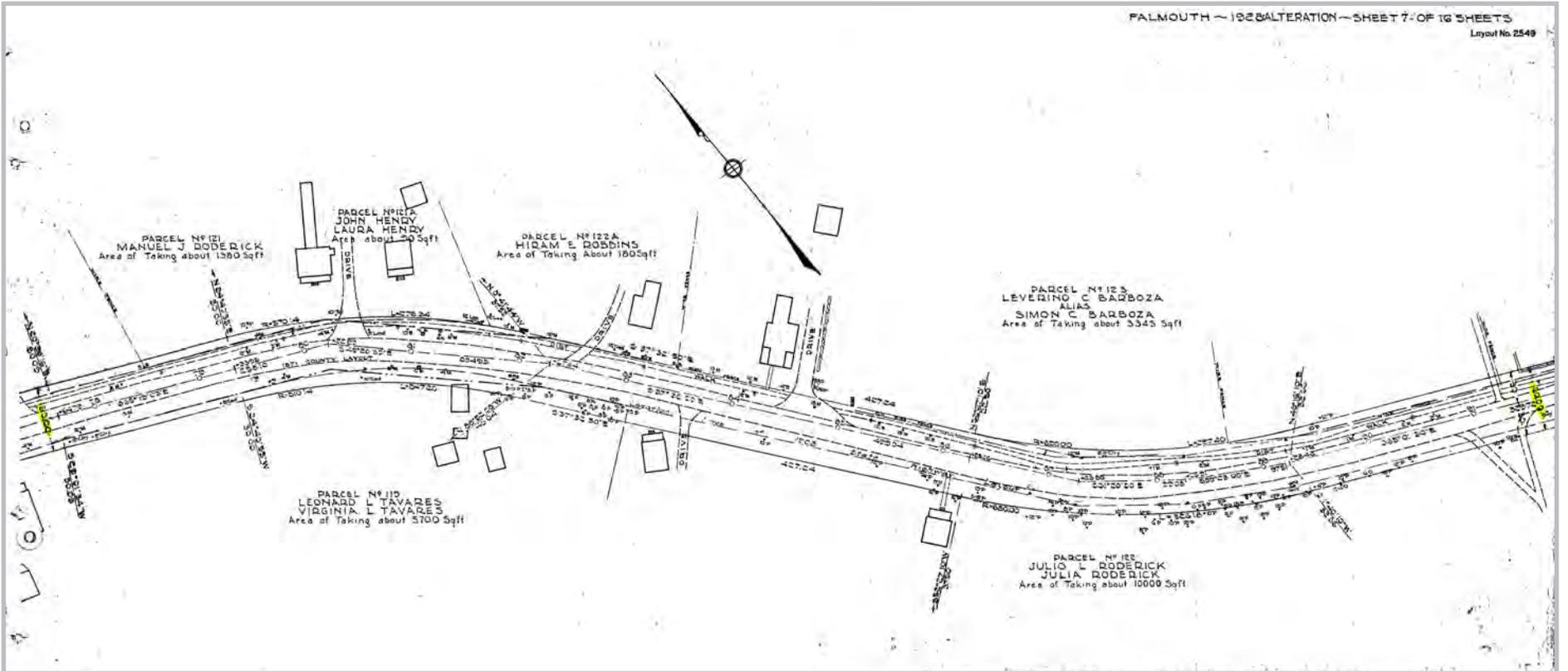












PARCEL #121  
MANUEL J. DODERICK  
Area of Taking about 1380 Sqft

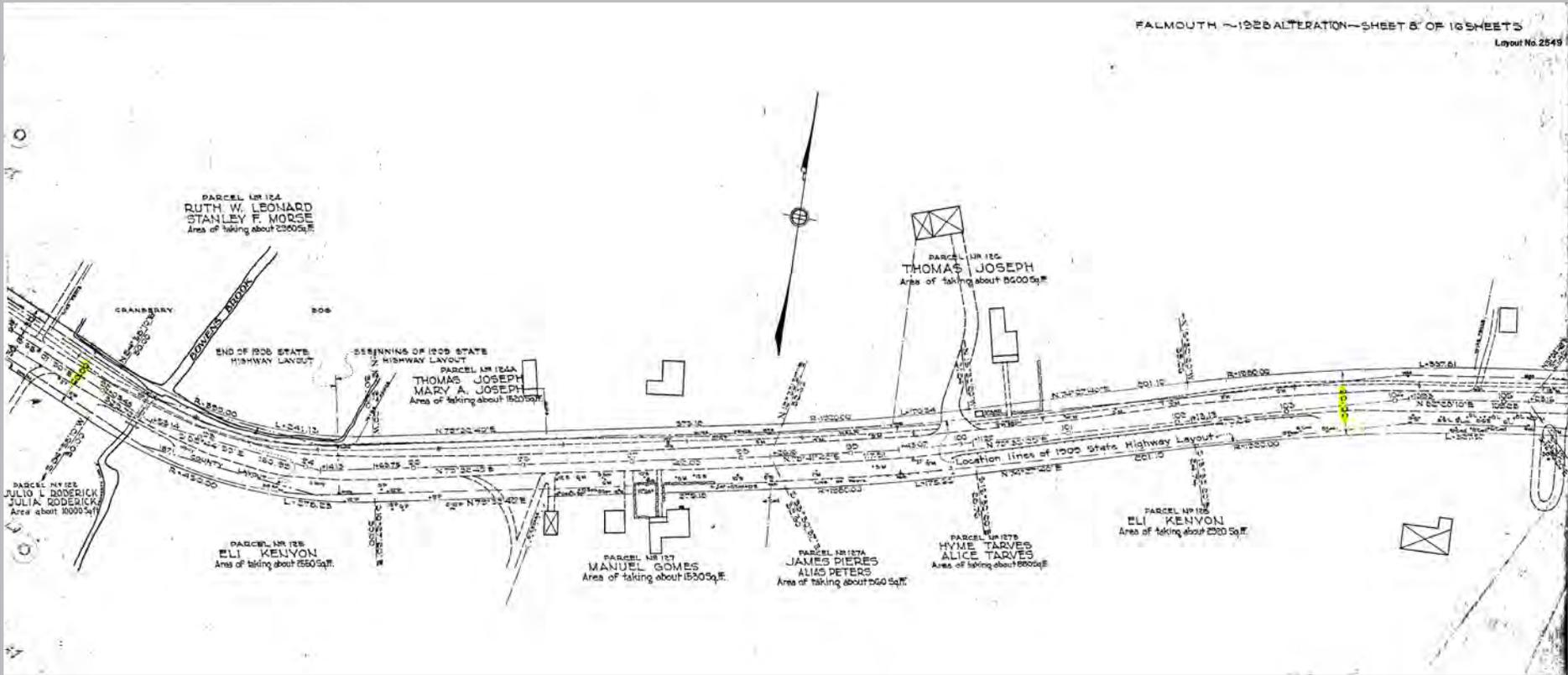
PARCEL #122  
JOHN HENRY  
LAURA HENRY  
Area about 20 Sqft

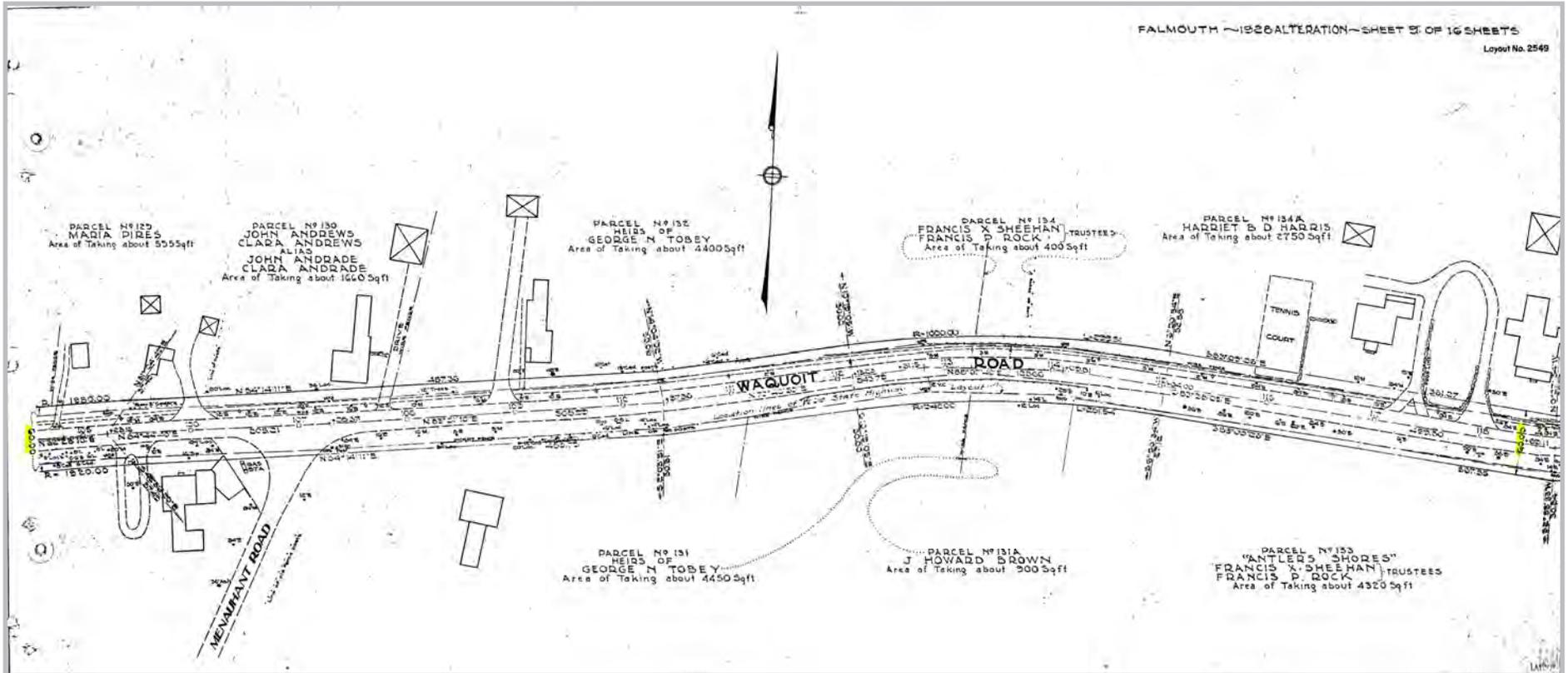
PARCEL #122A  
HIQAM E. ROBBINS  
Area of Taking About 1800 Sqft

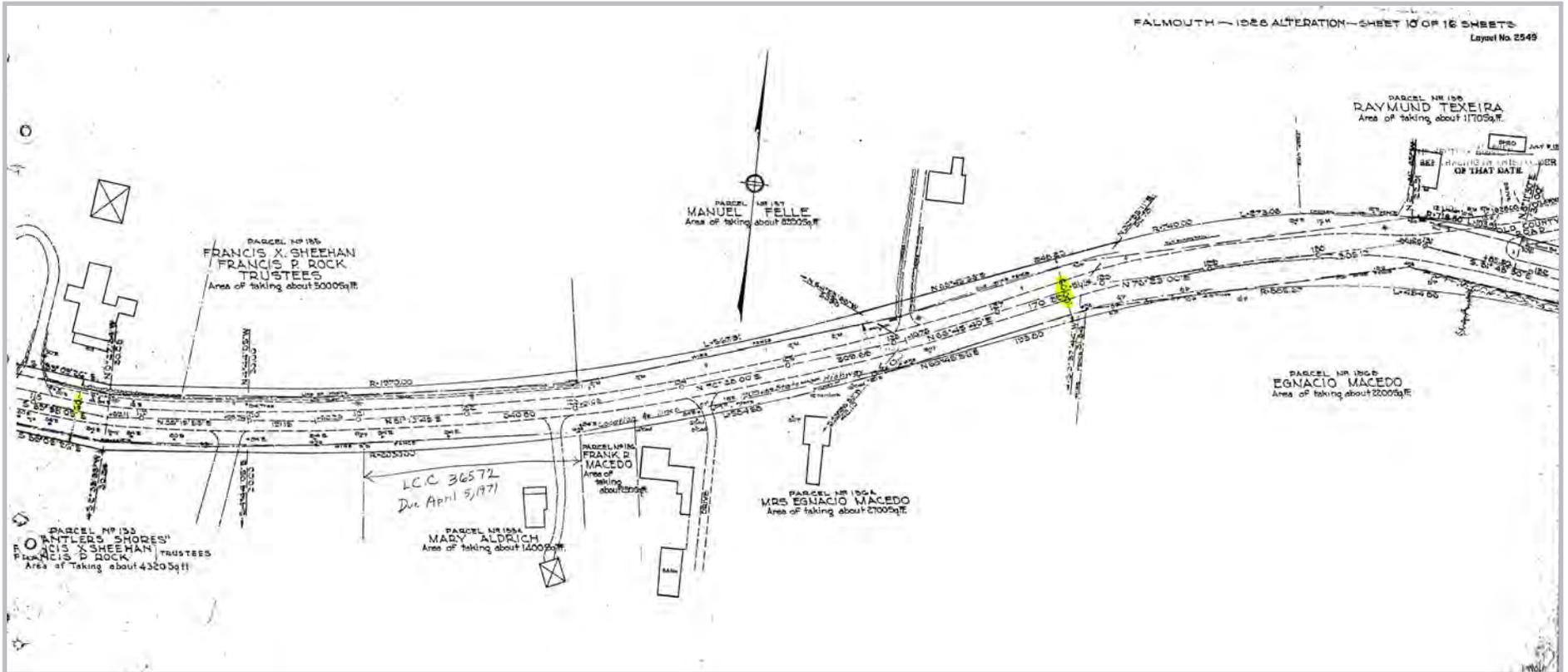
PARCEL #123  
LEVERINO C. BARBOZA  
ALIAS  
SIMON C. BARBOZA  
Area of Taking about 3345 Sqft

PARCEL #124  
LEONARD L. TAVARES  
VIRGINIA L. TAVARES  
Area of Taking about 5700 Sqft

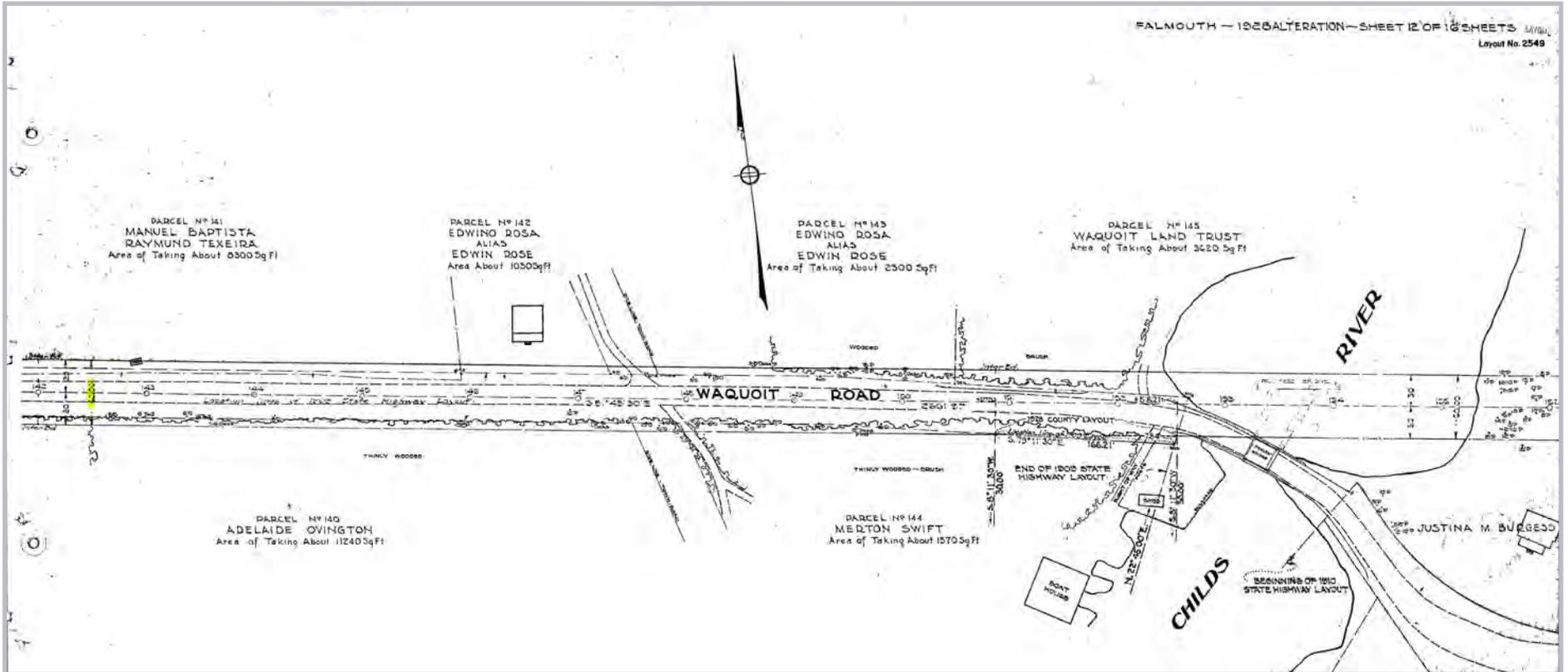
PARCEL #125  
JULIO L. RODERICK  
JULIA RODERICK  
Area of Taking about 10000 Sqft

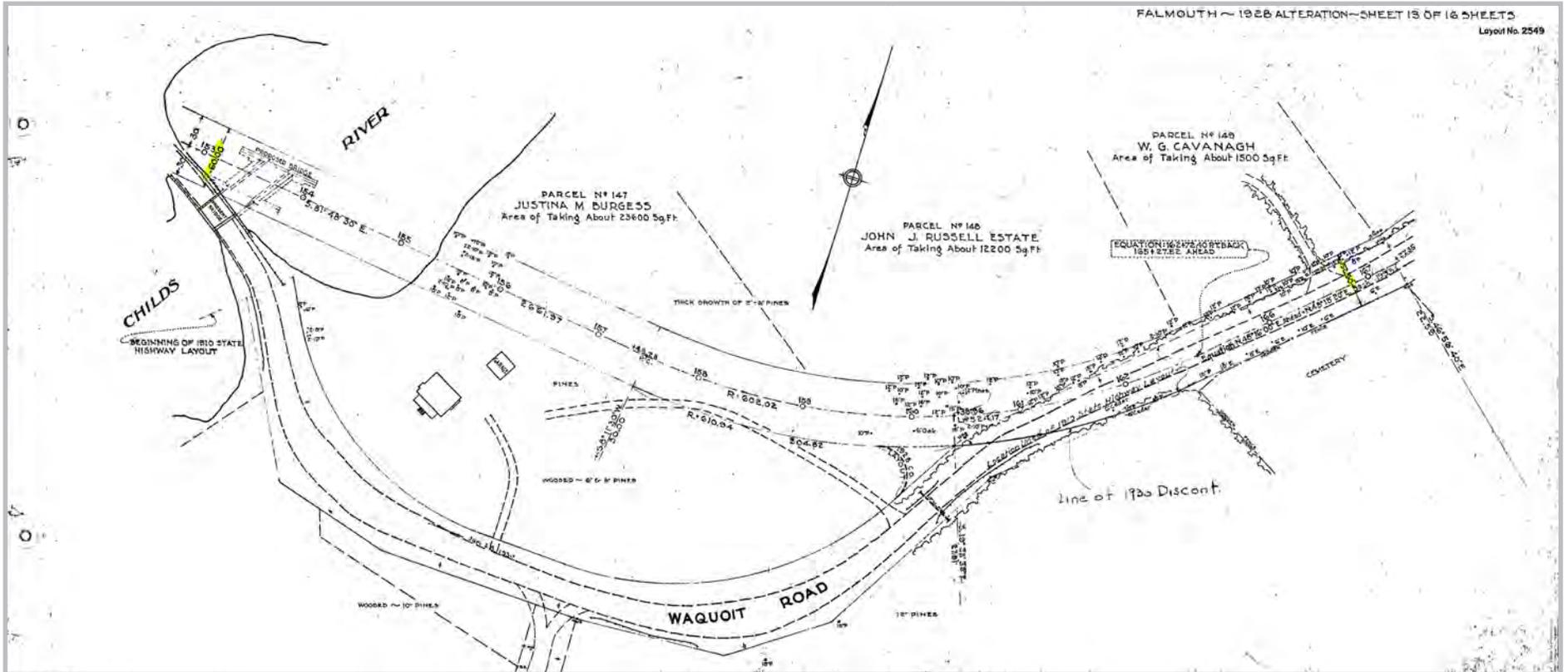


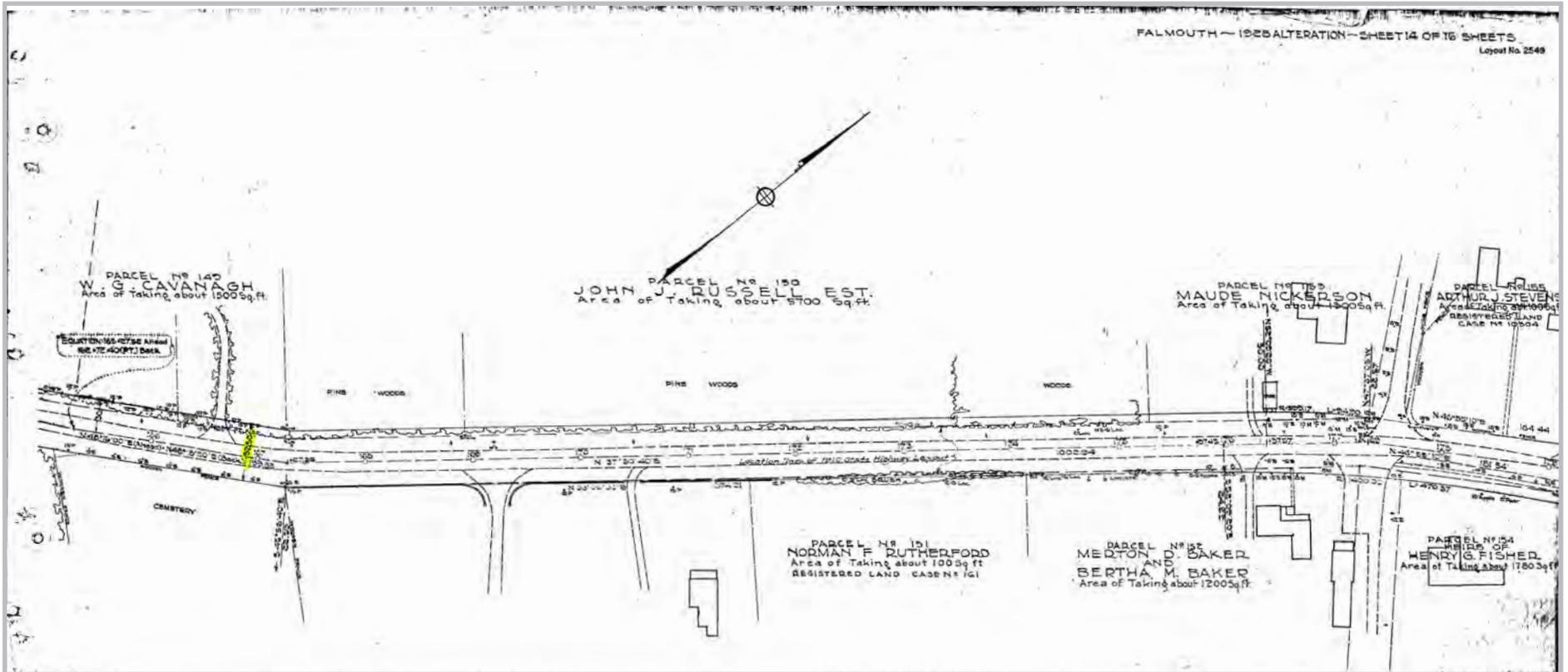


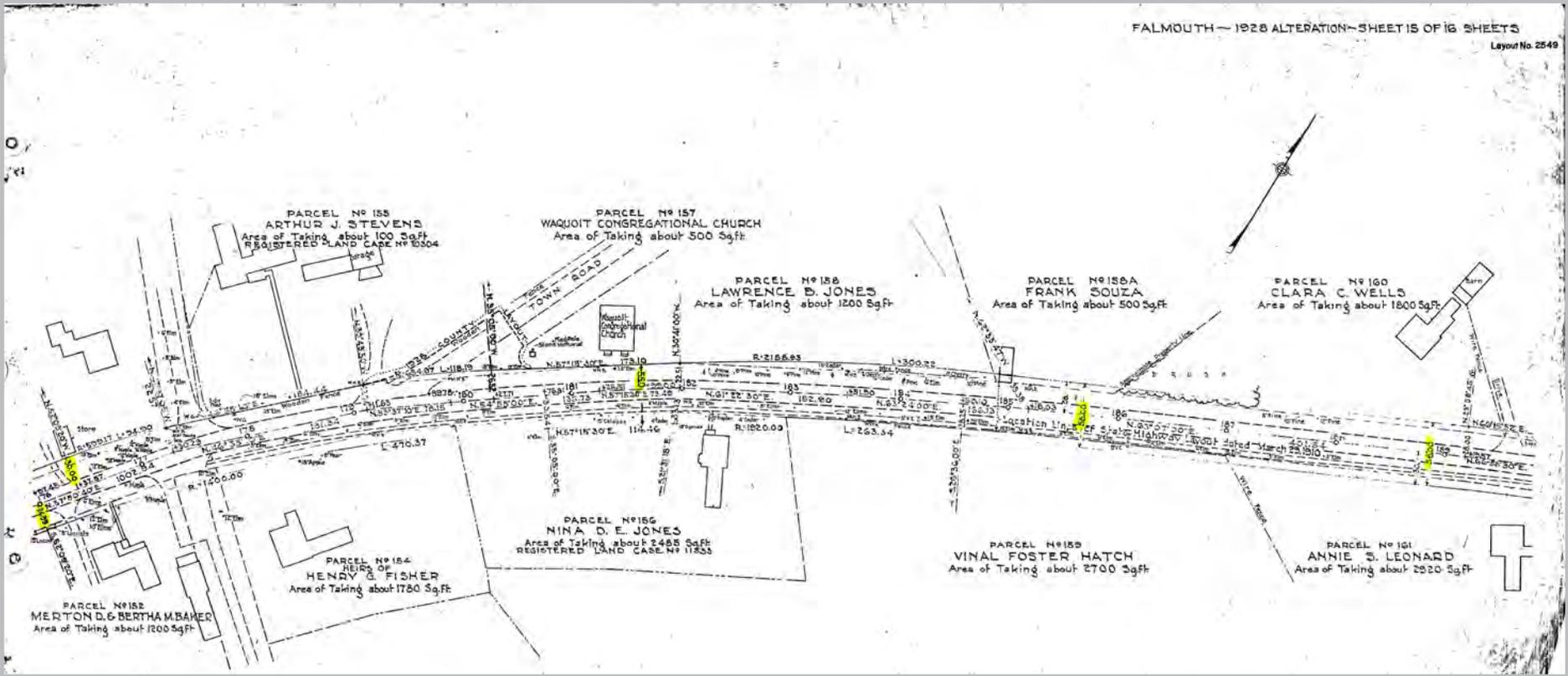




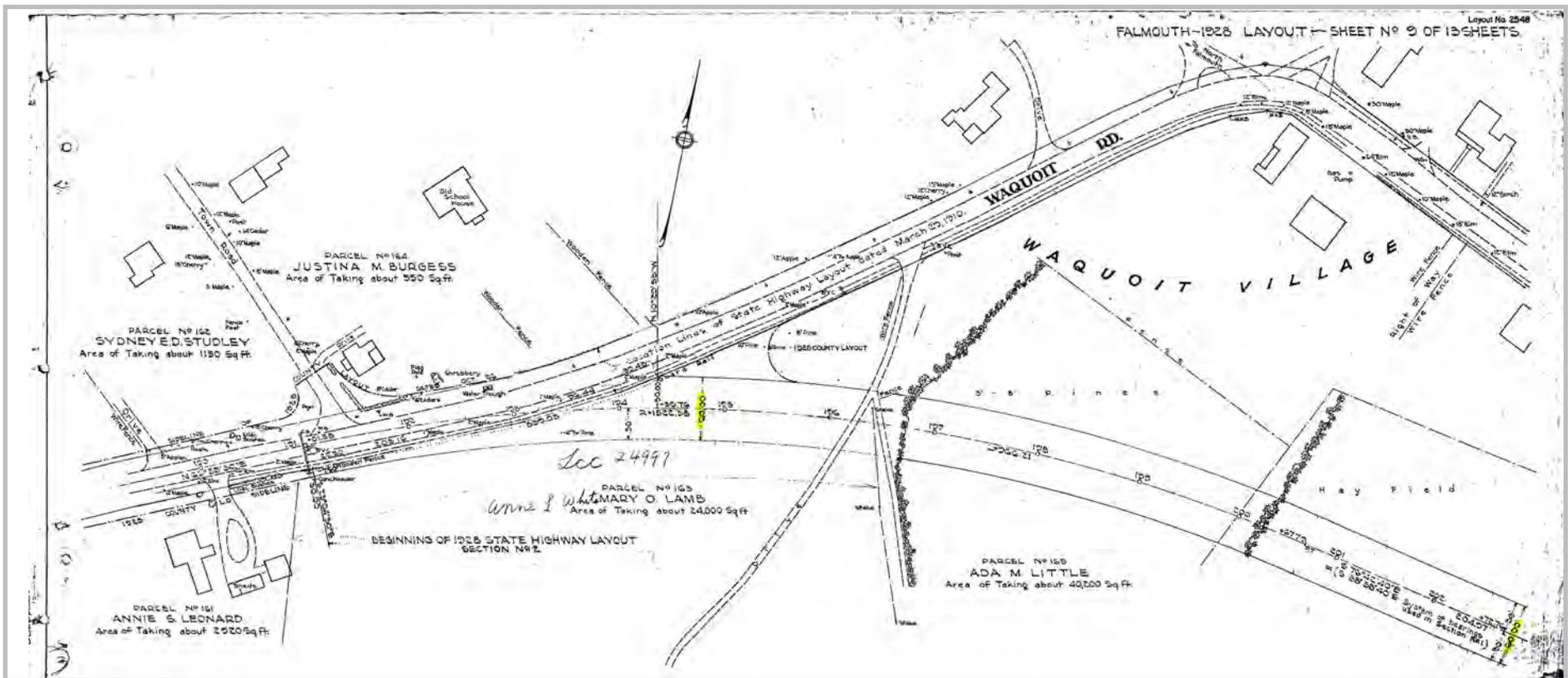




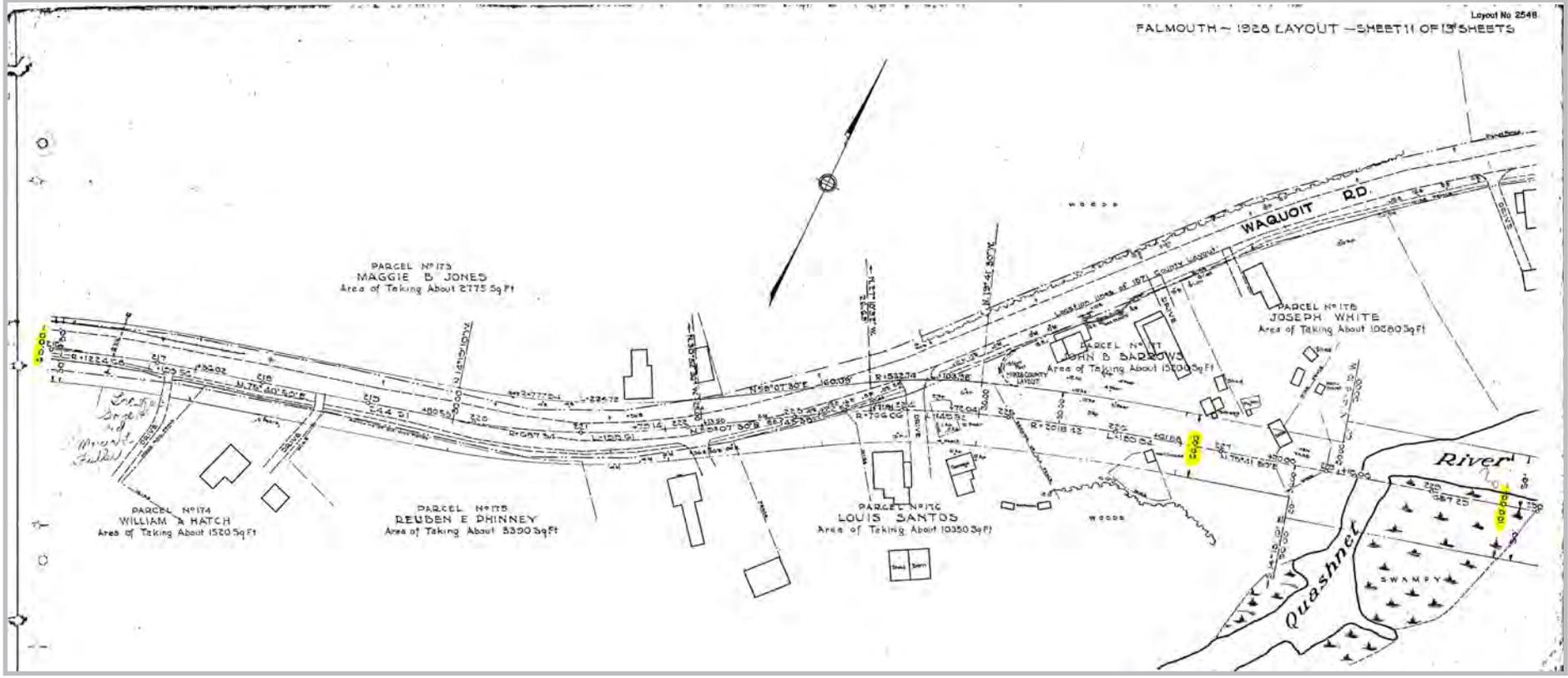


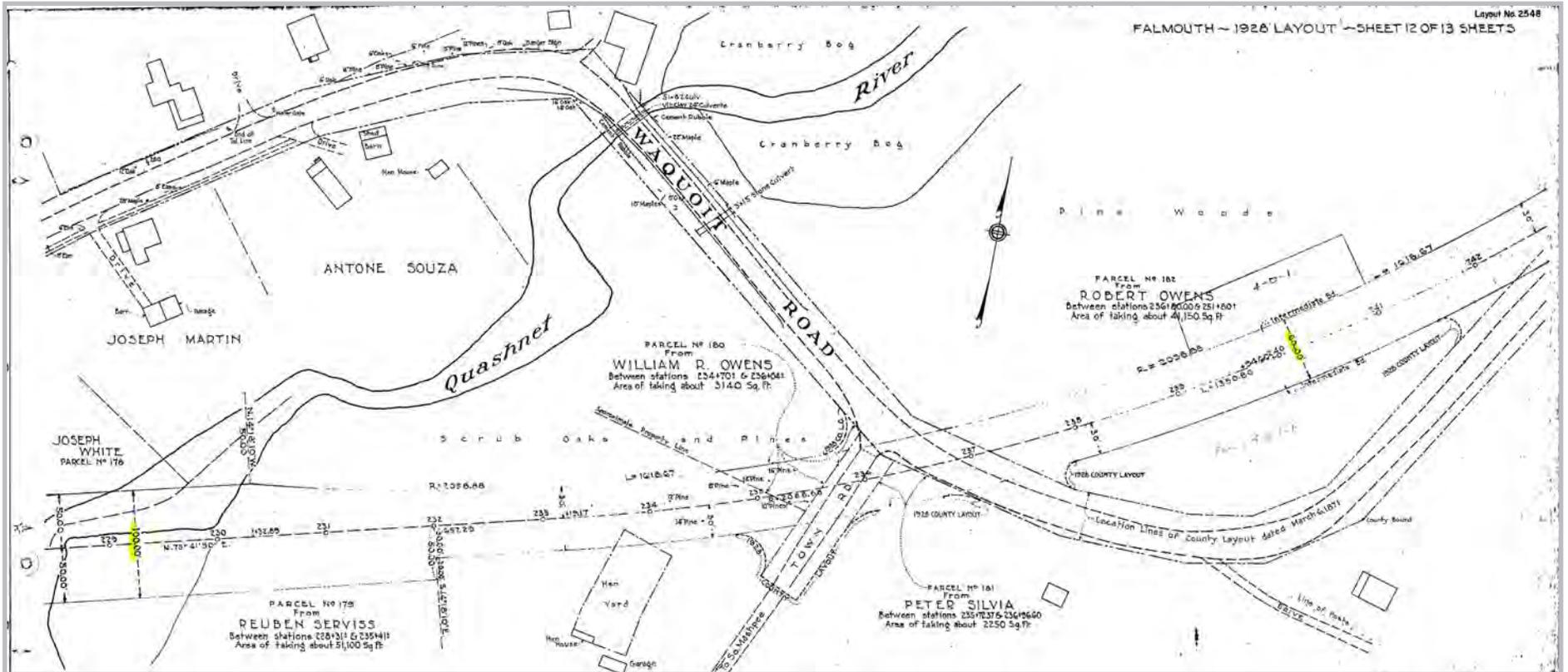












# FALMOUTH



PARCEL No 182  
 From  
**ROBERT OWENS**  
 Between stations 236+00.00 & 251+80.00  
 Area of taking about 41,150 Sq. Ft.  
 Cleared Land

END OF 1928 STATE HIGHWAY LAYOUT  
 OAKS SECTION No 2  
 End of 1928 County Layout  
 Dated October 22

Location Lines of County Layout dated March 6, 1871

## WAQUOIT ROAD

# MASHPEE

PARCEL No 185  
 From  
**PETER SILVIA**  
 Between stations 237+77.22 & 248+75.84  
 Area of taking about 5100 Sq. Ft.

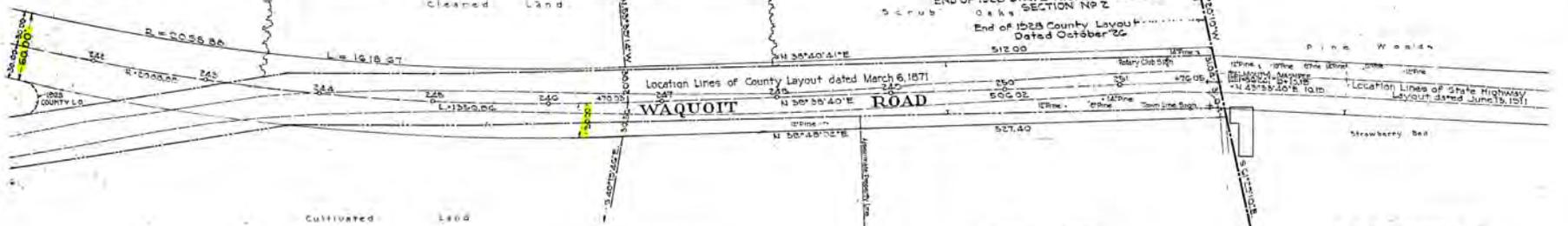
PARCEL No 164  
 From  
**MANUEL MORAIS**  
 Between stations 248+75.84 & 251+00.24  
 Area of taking about 3020 Sq. Ft.

Pine Woods

Pine Woods

Strawberry Bed

Cultivated Land



THE COMMONWEALTH OF MASSACHUSETTS  
PLAN OF ROAD  
IN THE TOWN OF  
**MASHPEE**  
BARNSTABLE COUNTY  
ALTERED AND LAID OUT AS A STATE HIGHWAY BY THE  
DEPARTMENT OF PUBLIC WORKS

FEBRUARY 5, 1929  
SCALE 40 FEET TO THE INCH  
*Ans. J.*  
CHIEF ENGINEER

The certifies that the location of the highway as shown in this plan has been altered as indicated and that said highway as altered was laid out and taken charge of as a State Highway by the Department of Public Works on February 5, 1929 in accordance with Chapter 81 of the General Laws, as amended by Chapter 446 of the Acts of 1927  
*F. J. Mansueto*  
Department of Public Works

Note - The land takings shown on this plan were made by the Barnstable County commissioners under decree dated December 20, 1928. The location lines hereby laid out follow those established by said decree

**MASHPEE**

BEGINNING OF 1929 STATE HIGHWAY ALTERATION  
Beginning of 1928 County Layout Dated December 23  
PINE WOODS

PARCEL NO 2  
ANNA P. CORNELIA P. LOWELL  
Area of Taking about 2415 sq ft



**FALMOUTH**

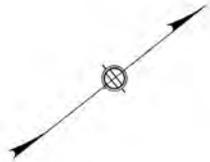
PARCEL NO 1  
LOUIS SANTOS  
Area of Taking about 3720 sq ft

PARCEL NO 3  
JOSEPH F. CENTIO  
Area of Taking about 1678 sq ft

PARCEL NO 4  
MANUEL & FRANK BARROWS  
Area of Taking about 2020 sq ft  
DEC 35-772  
Edwards & Kelly Co. Engineers, Boston, Mass.  
DEC 16, 1928

PARCEL NO 5  
FANNIE P. ALMEIDA  
Area of Taking about 3590 sq ft





PARCEL #62  
ANNA P. CORNELIA P. LOWELL  
Area of Taking about 20,415 Sq. Ft.

~ PINE WOODS ~

~ PINE WOODS ~

WAQUOIT ROAD

Location Lines of 1911 State Highway Layout

~ CULTIVATION ~

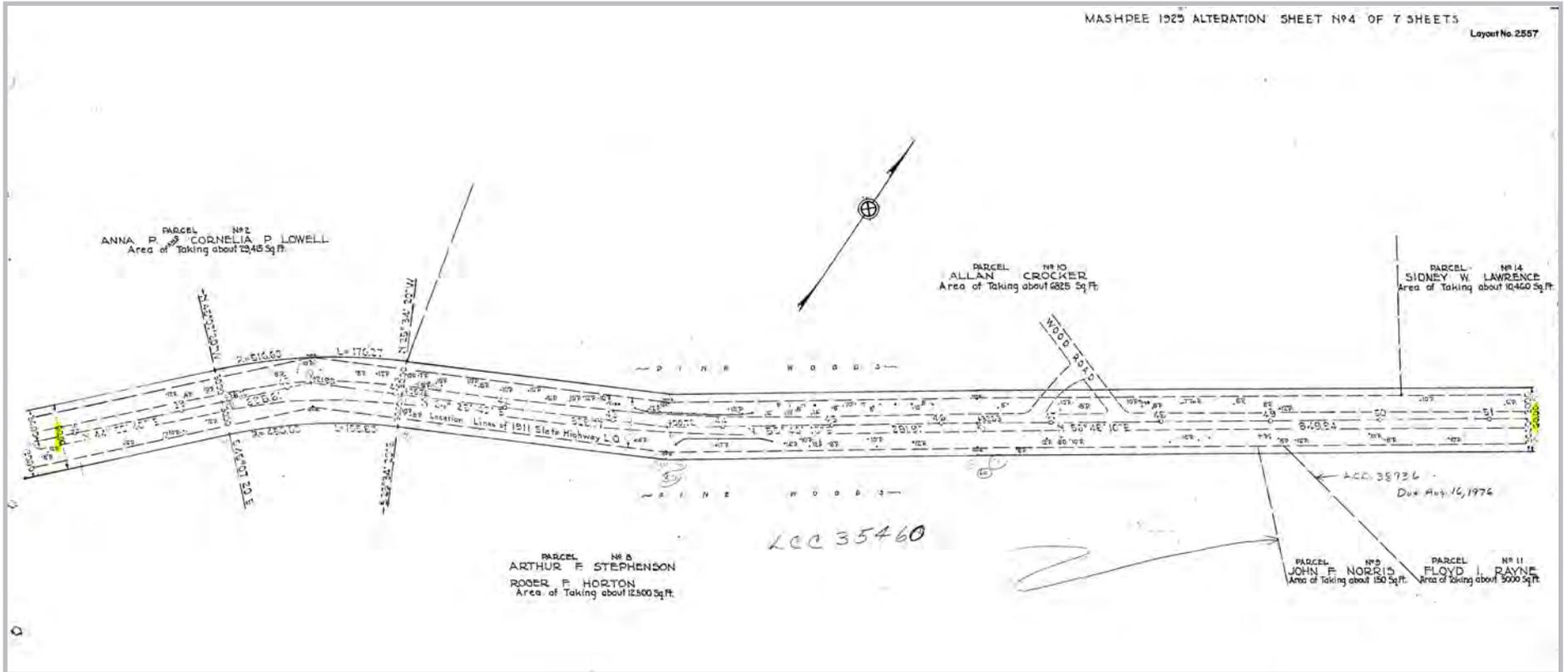
~ PINE WOODS ~

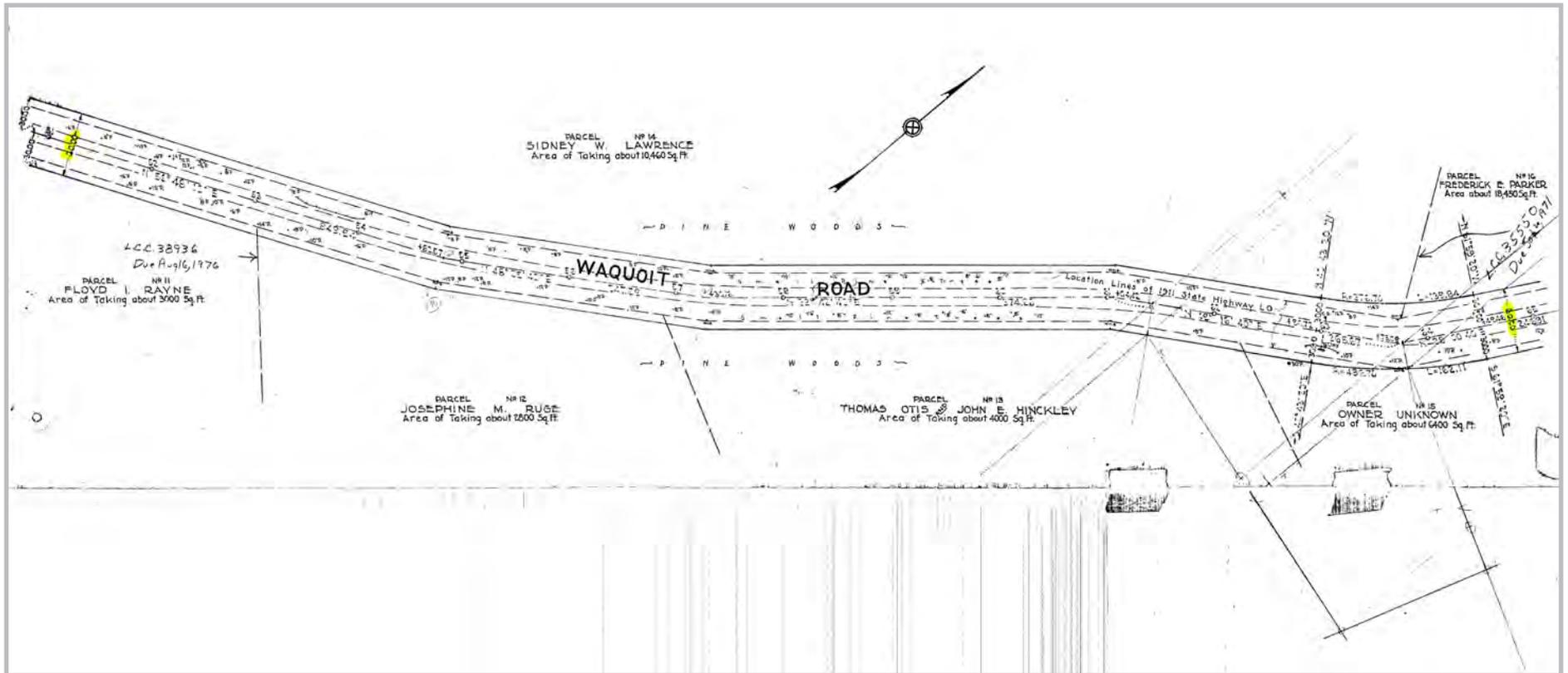
*Edward R. Wasil  
and  
Helena M. Wasil  
Dec Oct 28, 1968*

PARCEL #67  
JOHN E. BARROWS  
Area of Taking about 8,600 Sq. Ft.

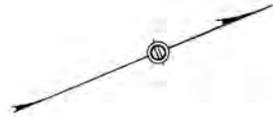
PARCEL #68  
ARTHUR F. STEPHENSON  
ROGER F. HORTON  
Area of Taking about 13,500 Sq. Ft.

LCC 35460





ALTERED 7/18/71  
THIS SECTION DISCONTINUED  
SEE TRACING IN THIS FOLDER  
L.P. 7277  
OF THAT DATE



PARCEL N<sup>o</sup> 16  
FREDERICK E. PARKER  
Area of Taking about 8,450 Sq. Ft.

L.C.C. 35550  
Due Jan 4, 1971

PARCEL N<sup>o</sup> 18  
ANNA D. & CORNELIA D. LOWELL  
Area of Taking about 5780 Sq. Ft.

Fields Point  
Manufacturing Corp  
L.C.C. 34844

PINE WOODS

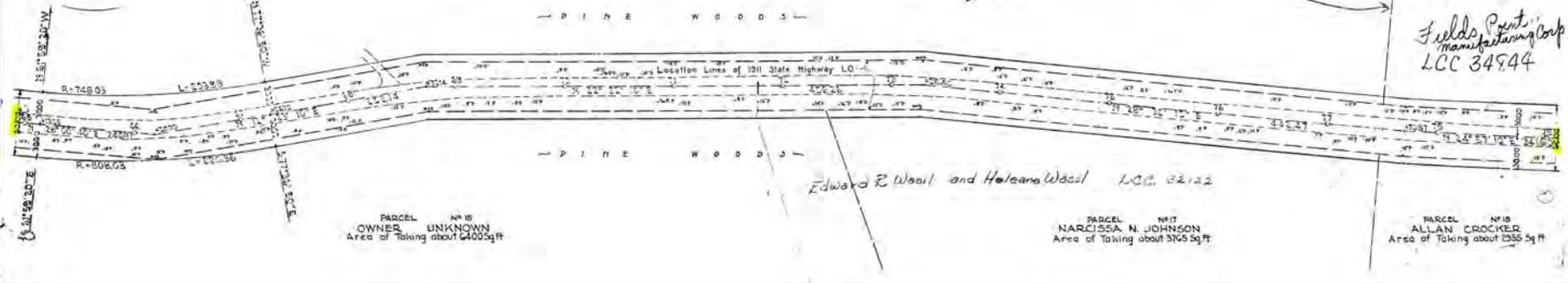
PINE WOODS

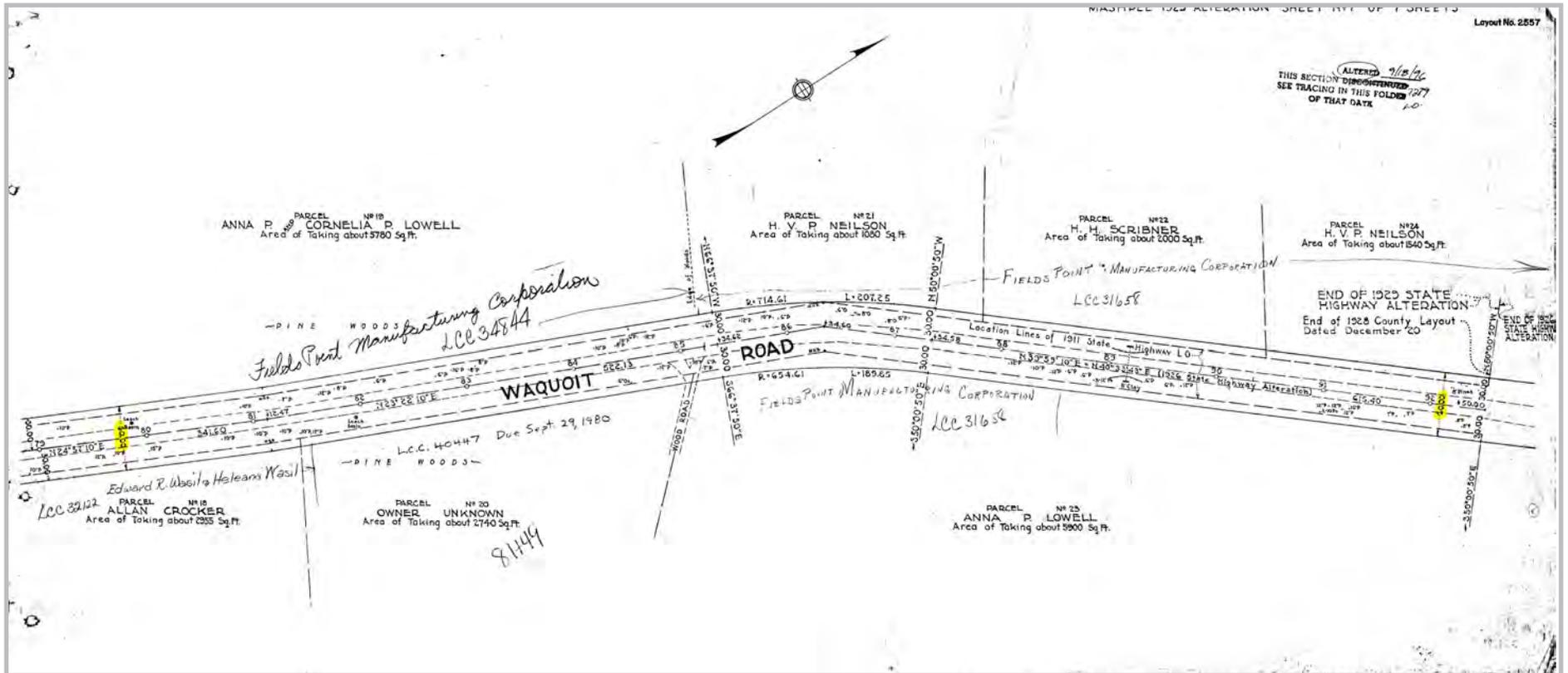
Edward R. Wasil and Heleana Wasil L.C.C. 32122

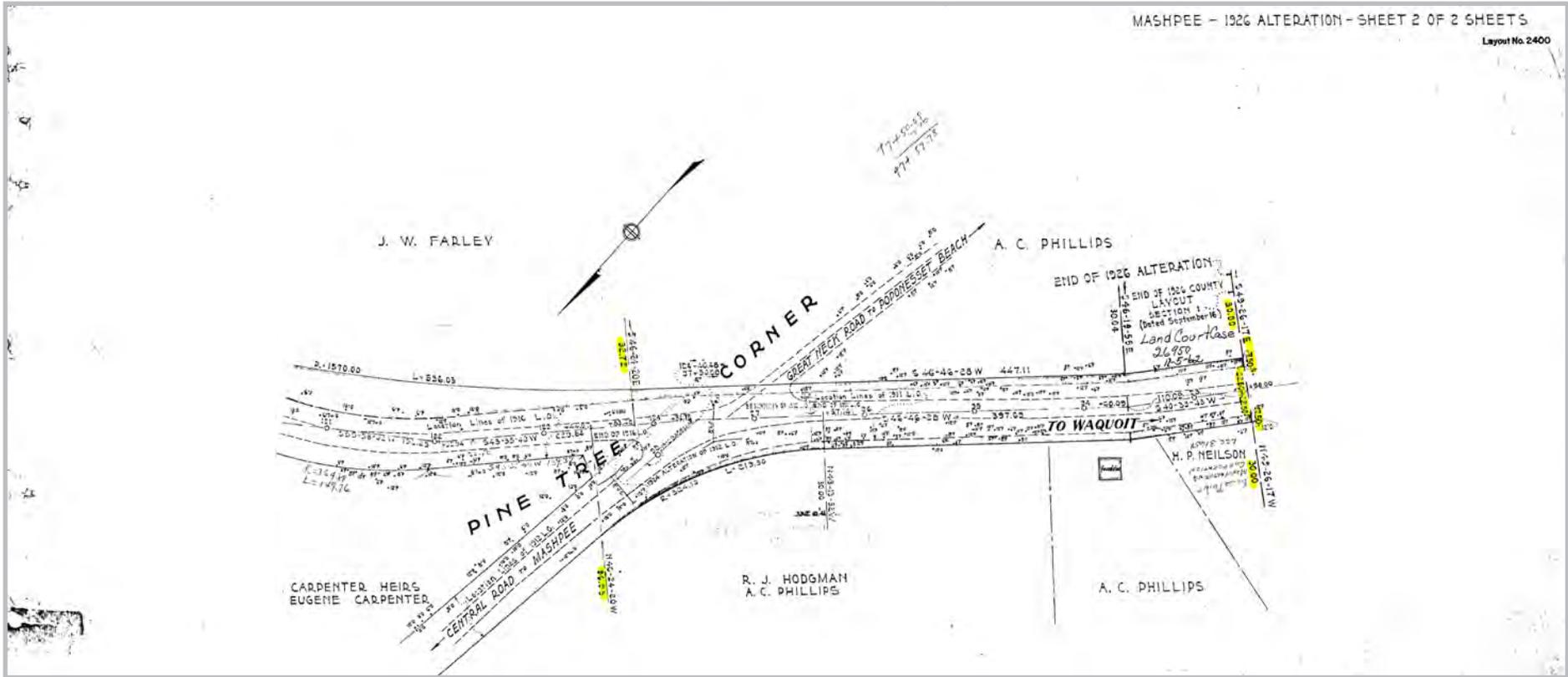
PARCEL N<sup>o</sup> 15  
OWNER UNKNOWN  
Area of Taking about 6400 Sq. Ft.

PARCEL N<sup>o</sup> 17  
NARCISSE N. JOHNSON  
Area of Taking about 3765 Sq. Ft.

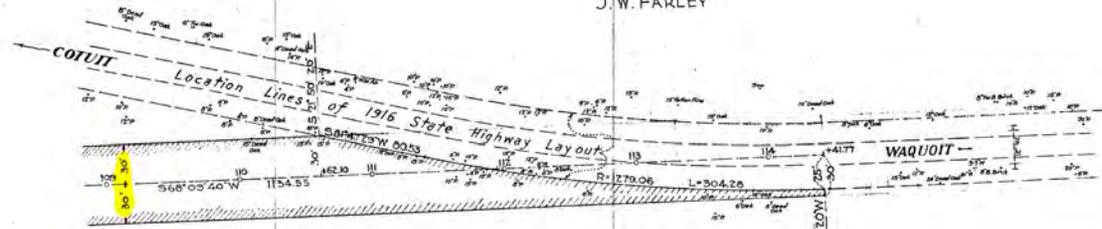
PARCEL N<sup>o</sup> 19  
ALLAN CROCKER  
Area of Taking about 2355 Sq. Ft.







J. W. FARLEY

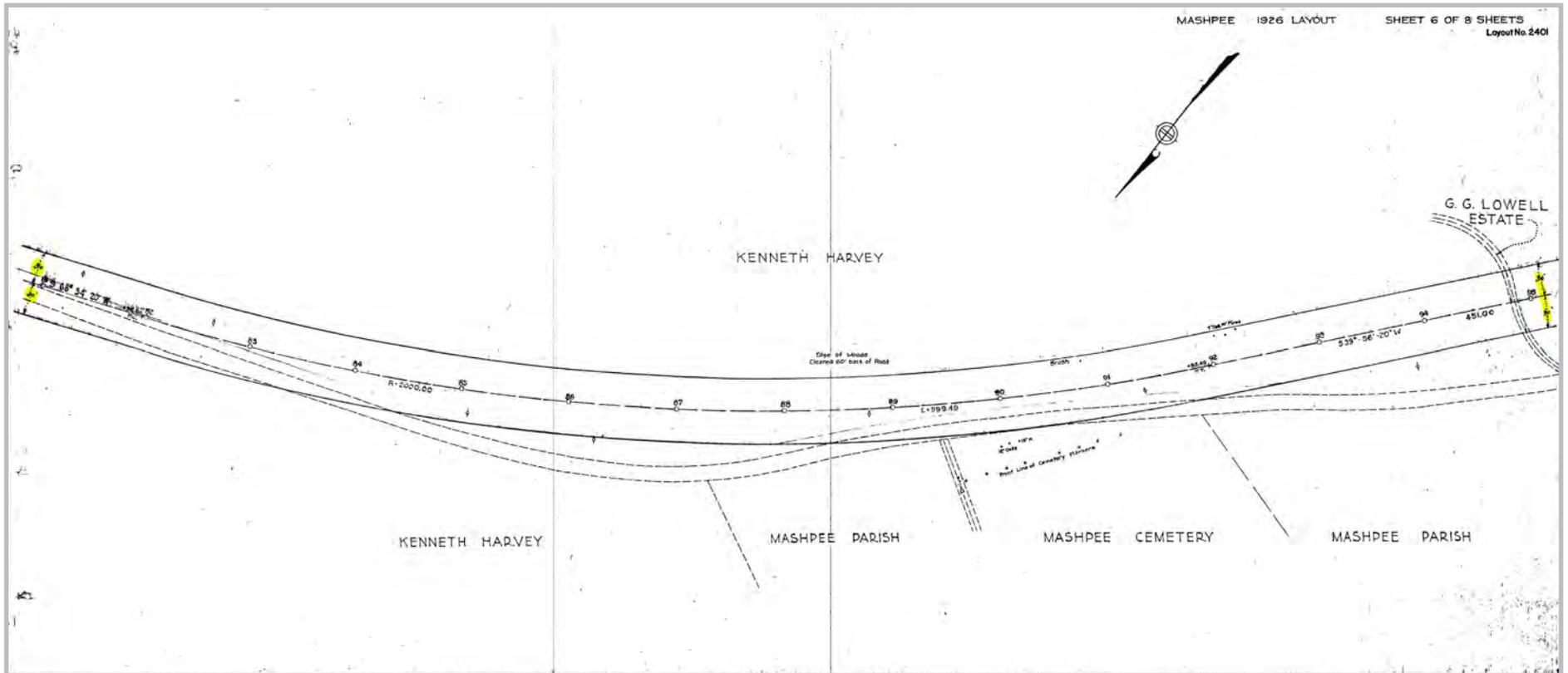


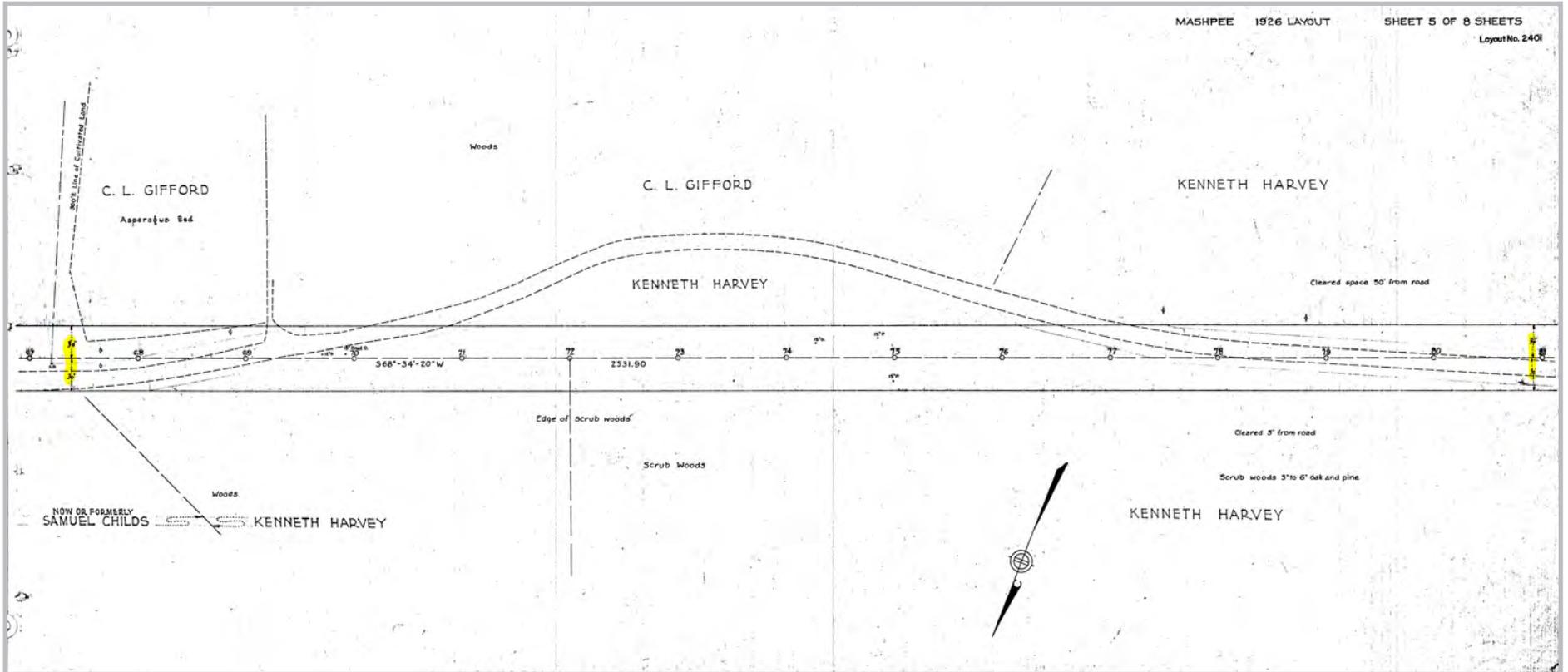
END OF 1926 LAYOUT  
(SECTION 1)

CARPENTER HEIRS  
EUGENE CARPENTER









CAPE COD BUILDING ASSOCIATION (EDWARD J. HANNAK)



C O T U I T P A R K

MATHEW GATEY TOWN # MASHPEE  
BLOCK 5  
4 3 2 1

DELPHIC AVE.  
TOWN # MASHPEE

TOWN # MASHPEE MERRICK A. STONE, KATHERINE W. HERRON  
BLOCK 4  
6 7 6 5 4 3 2 1

CRETIC AVE.  
TOWN # MASHPEE

ALICE D. HODSON, ELLA S. BEAN  
BLOCK 3  
8 7 6 5 4 3 2 1

BALTIC AVE.  
TOWN # MASHPEE

TOWN # MASHPEE JAMES ROBERTSON # 56 STEWART  
BLOCK 2  
8 7 6 5 4 3 2 1

ARABIC AVE.  
TOWN # MASHPEE

TOWN # MASHPEE  
BLOCK 1  
4 3 2 1

GIFFORD  
ASPARUS ST. R.F.D.



ZENAS CROCKER HEIRS  
(ZENAS CROCKER  
FRANK CROCKER  
ELLEN HANDY  
And possibly others)

ROW OR FOREBAY  
SAMUEL CHILDS



ZENAS CROCKER HEIRS  
{ ZENAS CROCKER  
FRANK CROCKER  
ELLEN HARDY  
And possibly others  
MASHPEE

"THIS SECTION ALTERED MAR 23, 1927"  
SEE TRACING IN THIS FOLDER  
OF THAT DATE

L.C.C. 33783 Robert P. McNulty & Grace C. McNulty

Assumed 31' on left  
has been set off from  
the half way and  
then made out the 30'  
on the eastern half



BARNSTABLE  
M. R. HARLOW

THE COMMONWEALTH OF MASSACHUSETTS  
PLAN OF ROAD  
IN THE TOWN OF  
**MASHPEE**  
BARNSTABLE COUNTY  
LAID OUT AS A STATE HIGHWAY BY THE  
DEPARTMENT OF PUBLIC WORKS  
DIVISION OF HIGHWAYS  
NOVEMBER 23, 1926  
SCALE: 40 FEET TO THE INCH

2-401  
It is to certify that the highway as shown on this plan was laid out as a state highway by the Department of Public Works, Division of Highways, pursuant to the authority conferred by Chapter 8 of the General Laws.  
*Arthur W. Fox*  
ACTING COMMISSIONER OF PUBLIC WORKS  
*Ernest*  
DEPARTMENT OF PUBLIC WORKS  
DIVISION OF HIGHWAYS

ZENAS CROCKER HEIRS  
(ZENAS CROCKER  
FRANK CROCKER  
ETHEL HANDY  
and possibly others)

**MASHPEE**

*Robert R. McNutt or Grace C. McNutt*

W. F. HARLOW ET AL.  
**BARNSTABLE**

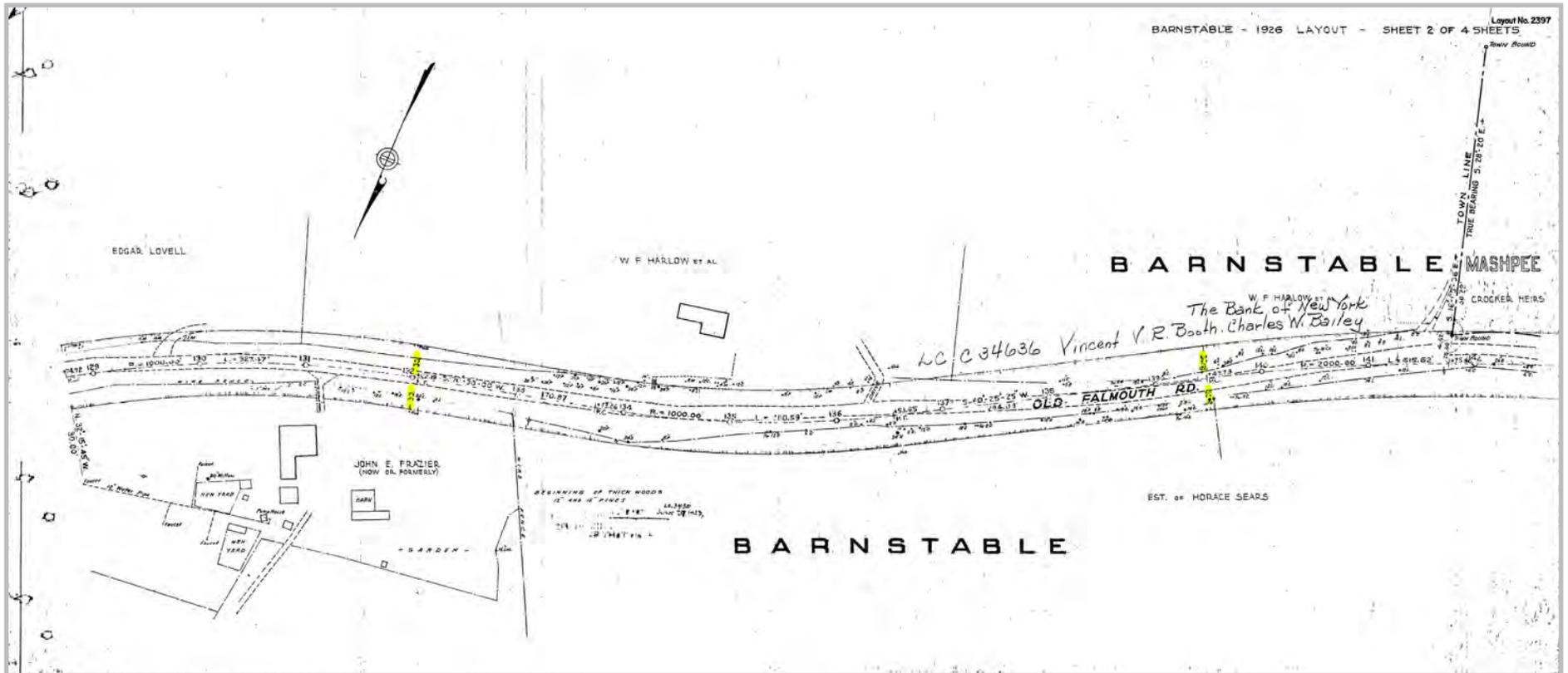
Beginning of 1926 County Layout (Section 1)  
BEGINNING OF 1926 STATE HIGHWAY LAYOUT, SECTION 1  
LCC 33753



ESTATE OF HORACE SEARS

**BARNSTABLE**

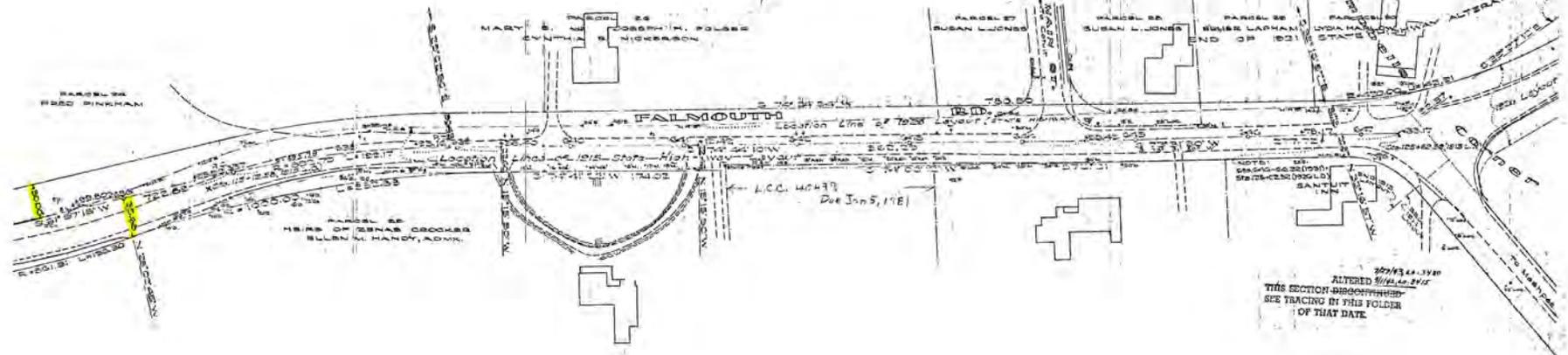
M. R. HARLOW

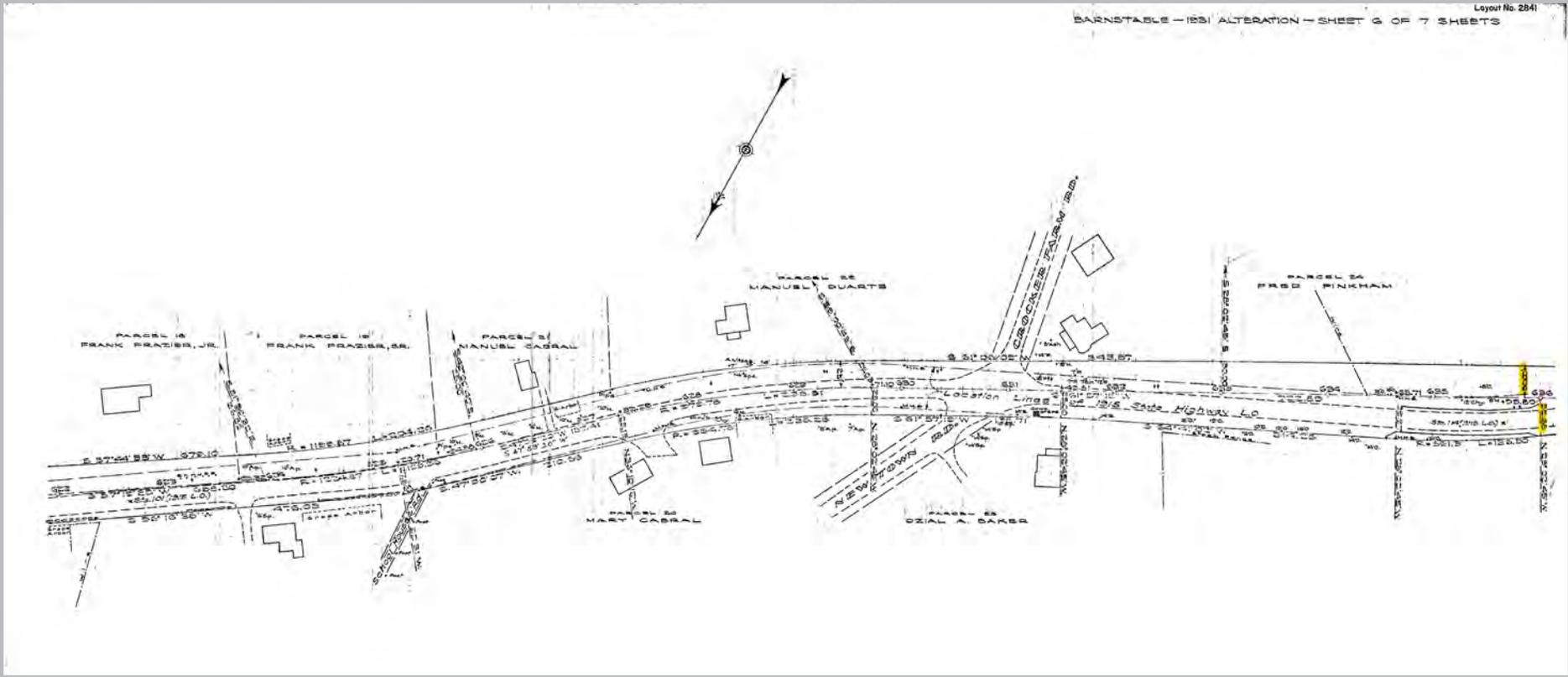




ALTERED 11/27/01 by JAV  
THIS SECTION DISCONTINUED  
SEE TRACING IN THE FOLDER  
OF THAT DATE

ALTERED 11/27/01 by JAV  
THIS SECTION DISCONTINUED  
SEE TRACING IN THE FOLDER  
OF THAT DATE

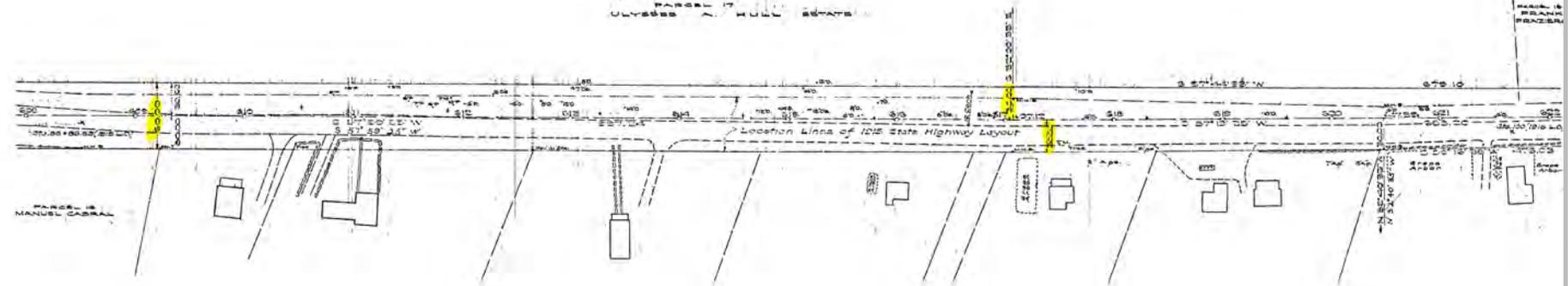


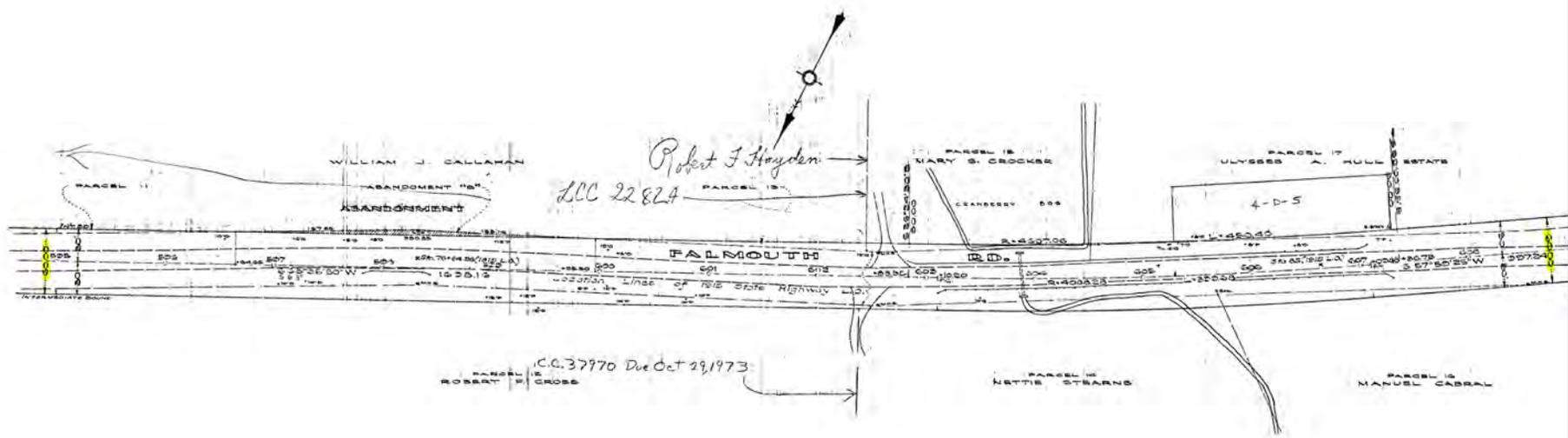


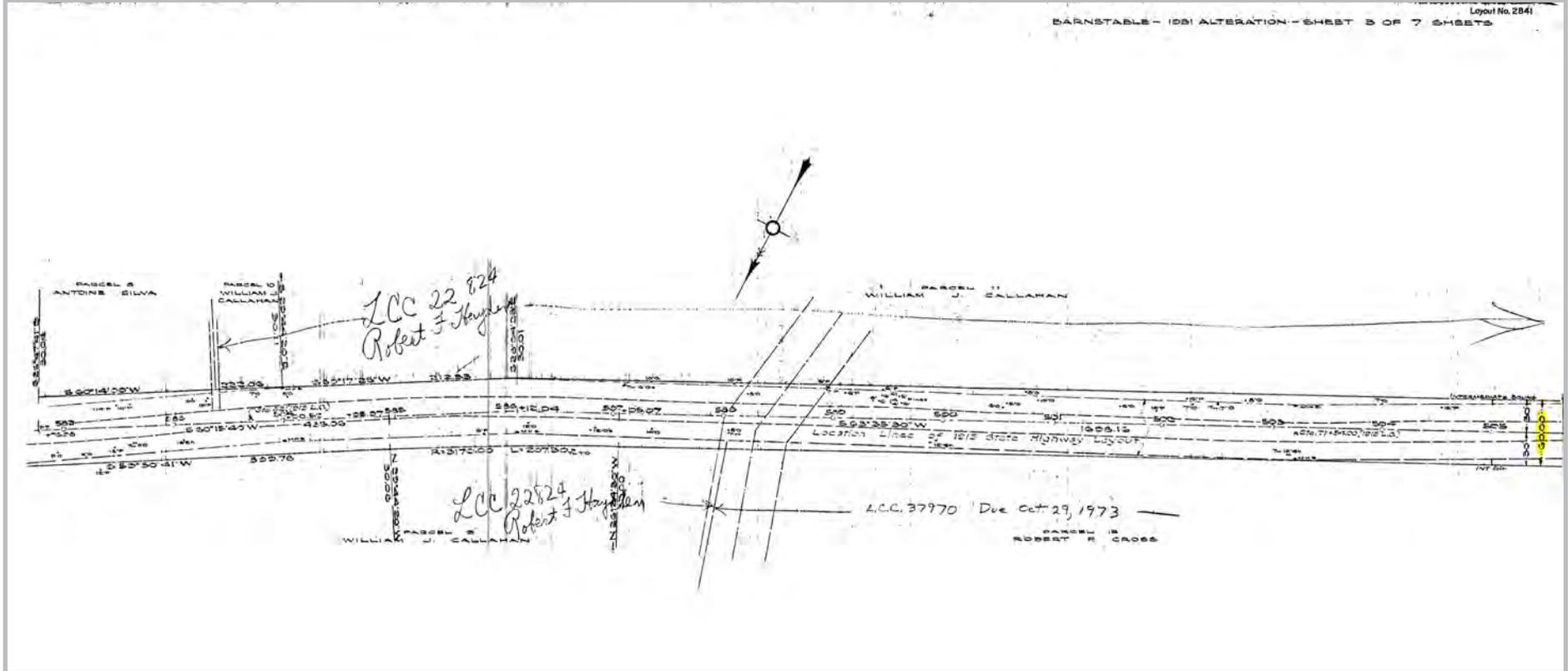


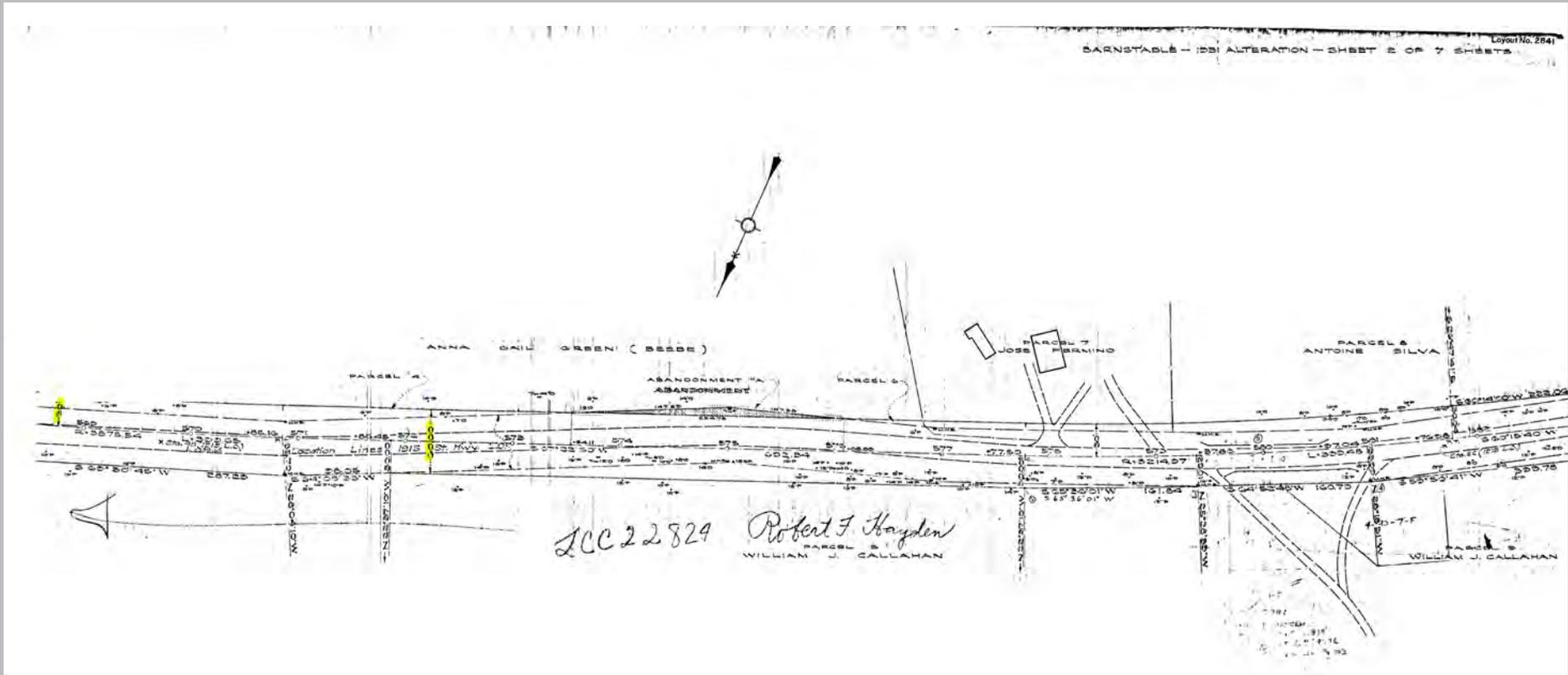
PARCEL 17  
OLYMPIA A. HULL ESTATE

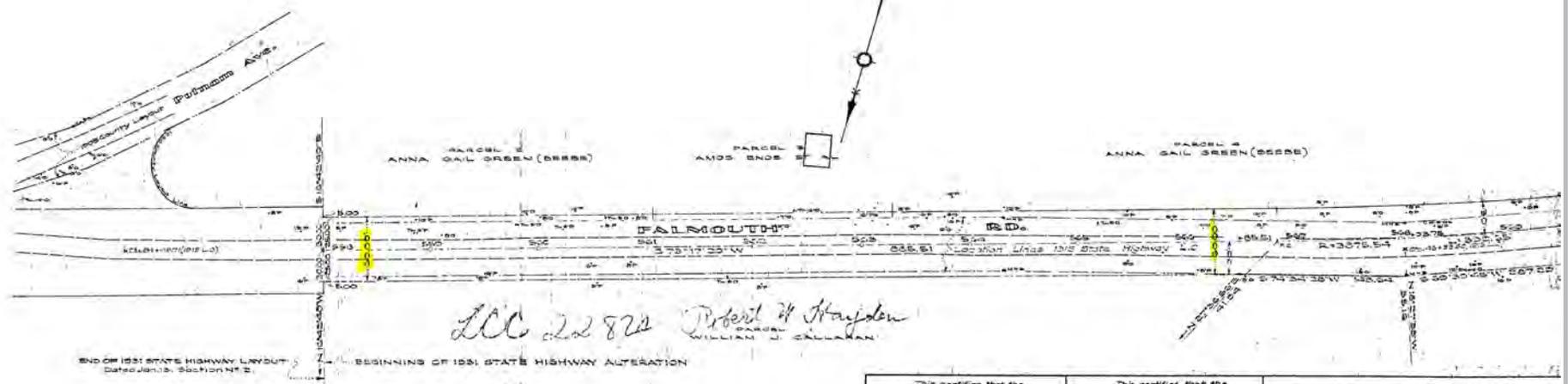
PARCEL 18  
FRANK PRAZBA







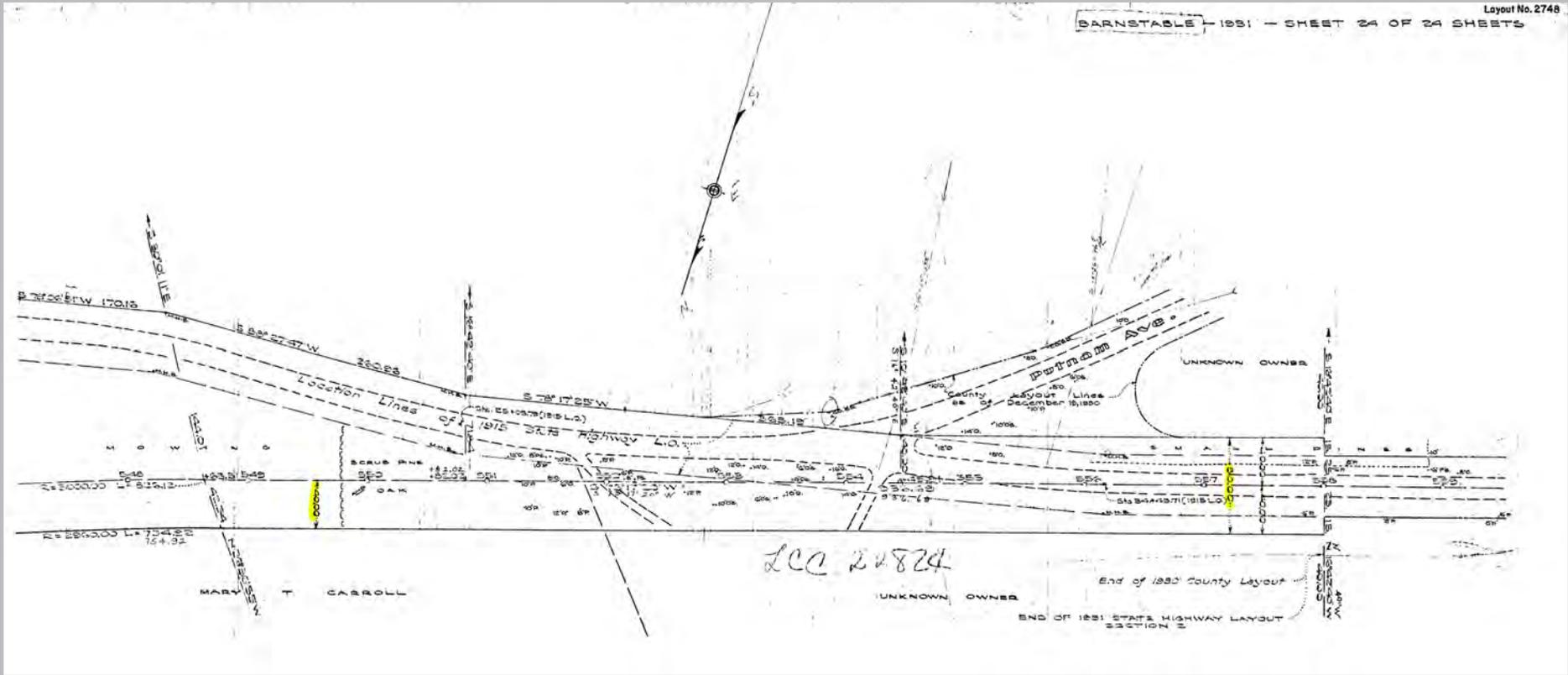


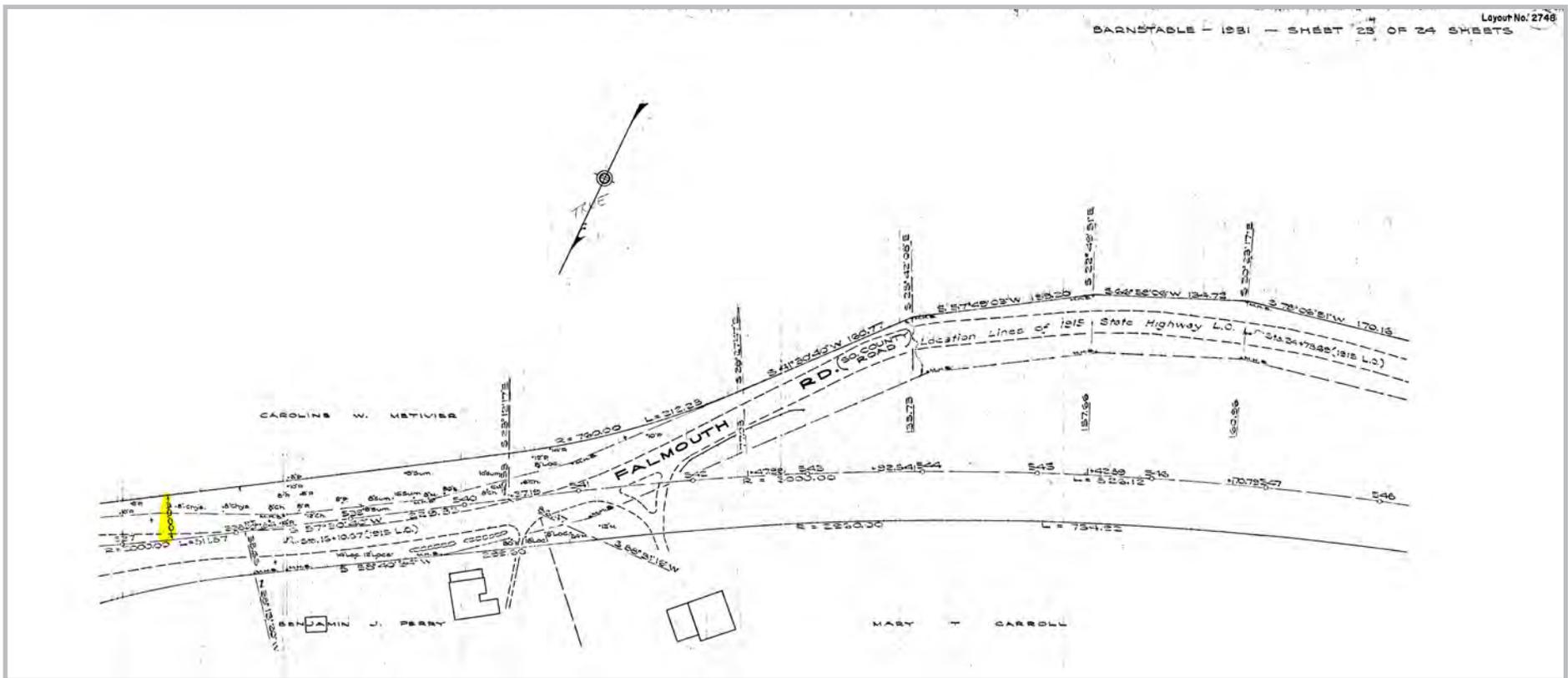


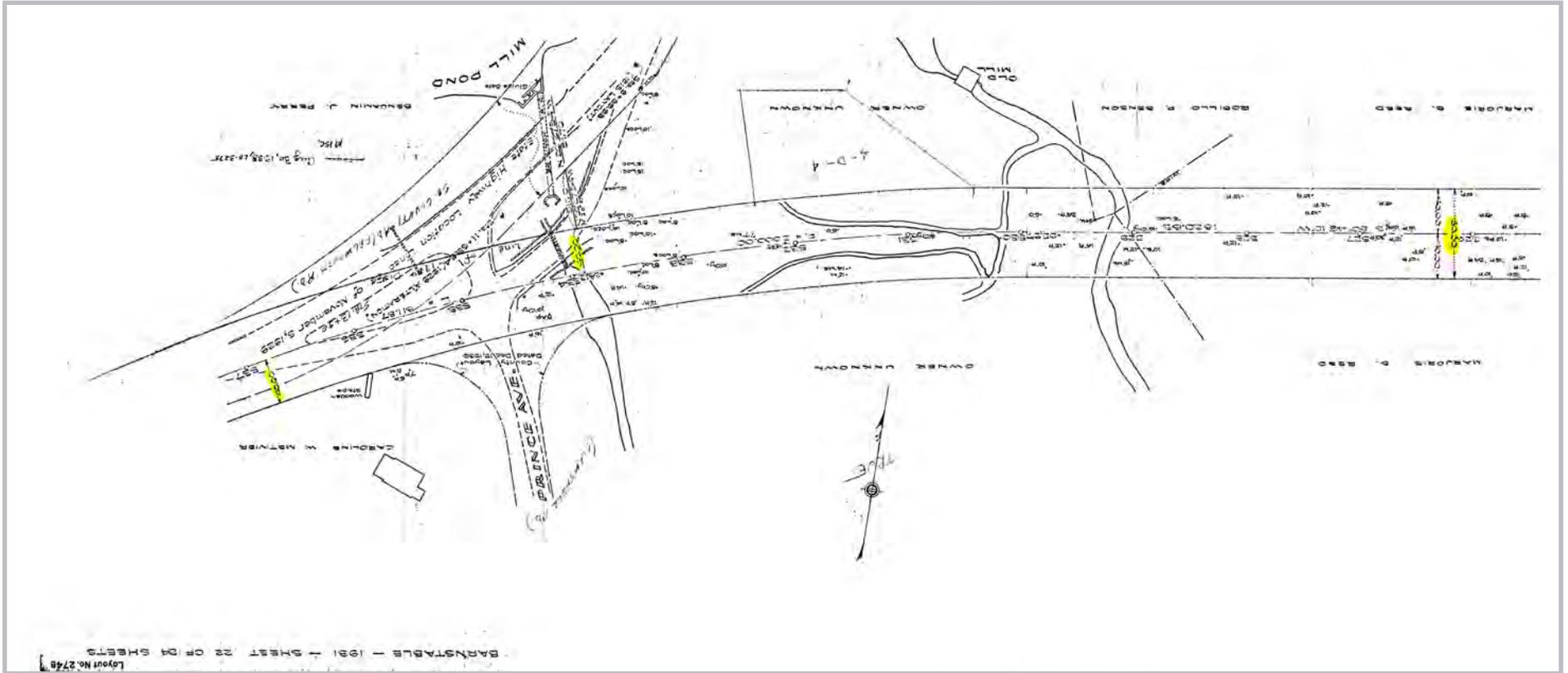
END OF 1951 STATE HIGHWAY LAYOUT  
 Date of plan, Section No. 2

BEGINNING OF 1951 STATE HIGHWAY ALTERATION

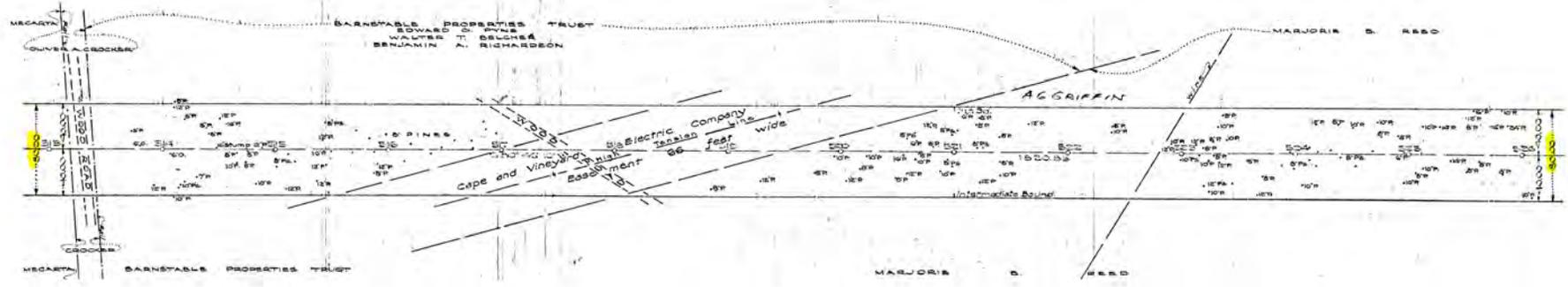
<p>This certifies that the sections of road marked on this plan (abandonment) and shown thus, were abandoned as state highway by the Department of Public Works on October 23, 1951, in accordance with Chapter 81B of the General Laws as amended.</p> <p><i>J. H. Moran</i>  <i>William J. Callahan</i>          Department of Public Works</p>	<p>This certifies that the location of the highway has been altered as shown on this plan and that said highway as altered was laid out and taken charge of as a State Highway by the Department of Public Works on October 27, 1951, in accordance with Chapter 81B of the General Laws as amended.</p> <p><i>W. J. Callahan</i>  <i>William J. Callahan</i>          Department of Public Works</p>	<p>The Commonwealth of Massachusetts          PLAN OF ROAD          In the town of  <b>BARNSTABLE COUNTY</b>          Altered and laid out as a State Highway by the          Department of Public Works          OCTOBER 27, 1951.          Scale: 40 feet to the inch</p> <p><i>W. J. Callahan</i>          Chief Engineer</p> <p style="text-align: right;">Layout No. 2841</p>
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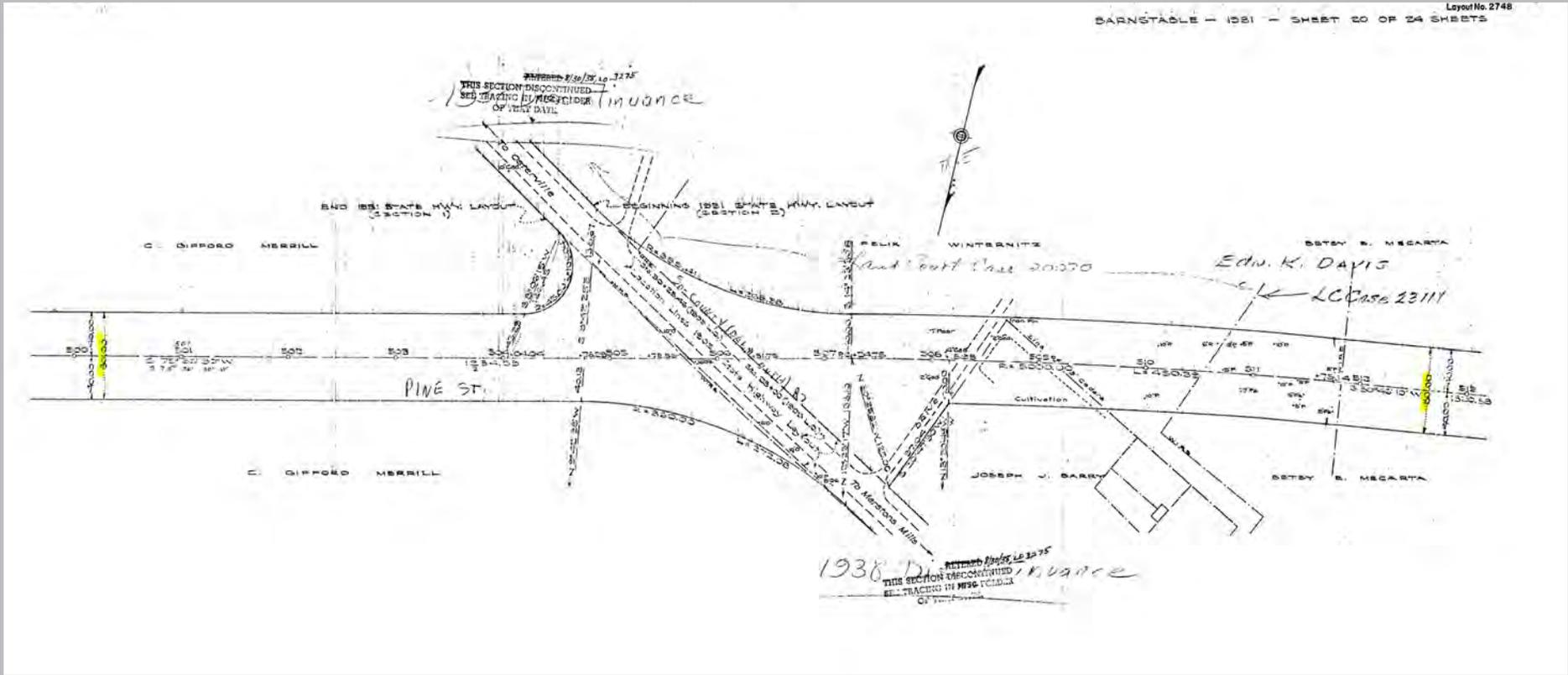


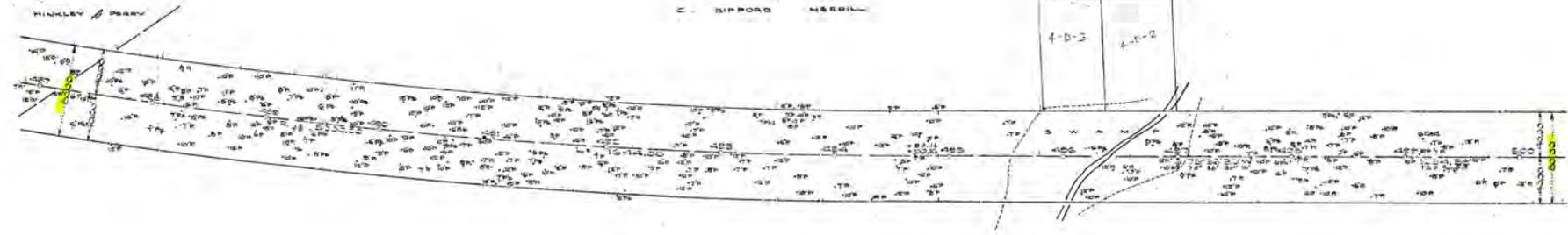
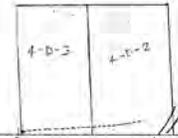
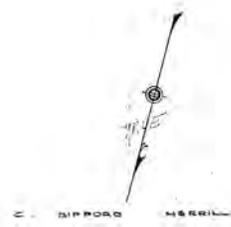




EDW. K. DAVIS  
L. C. CASE 23111





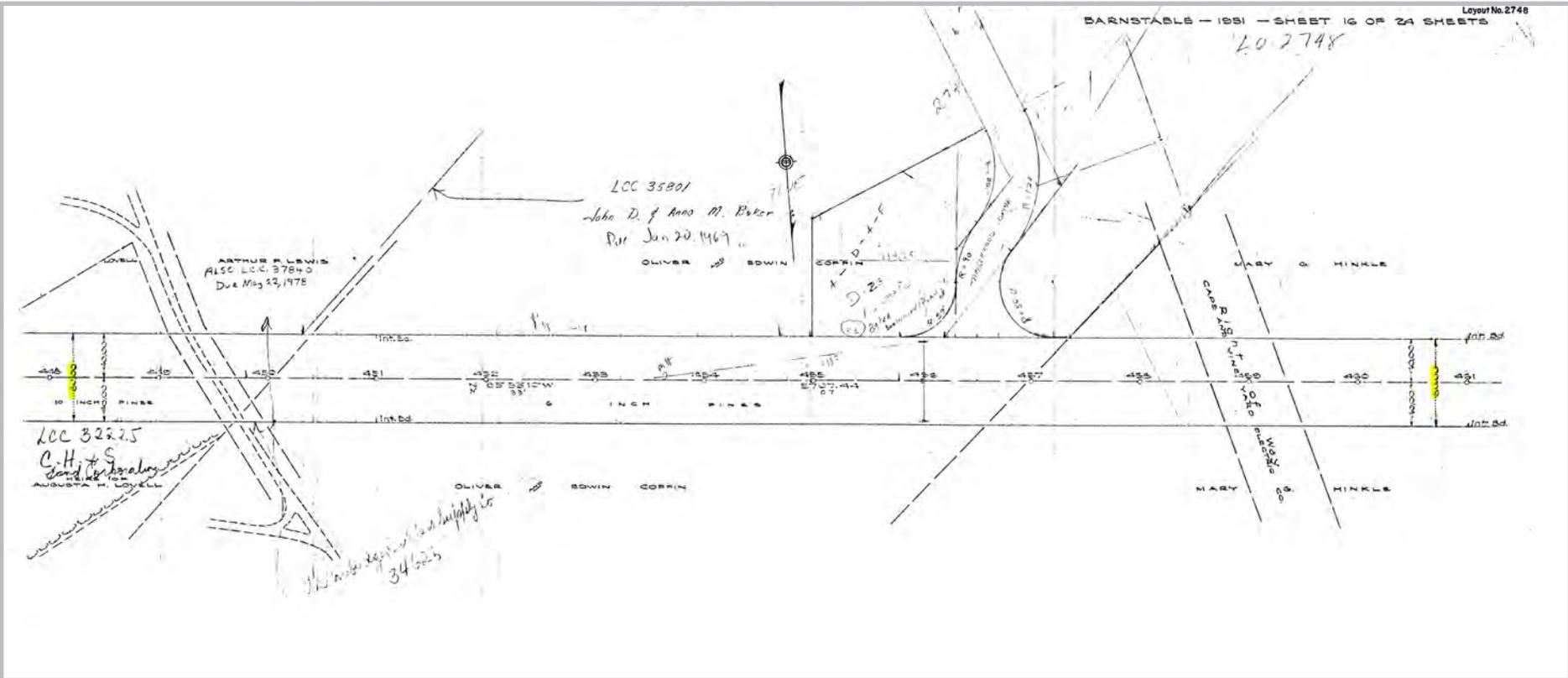


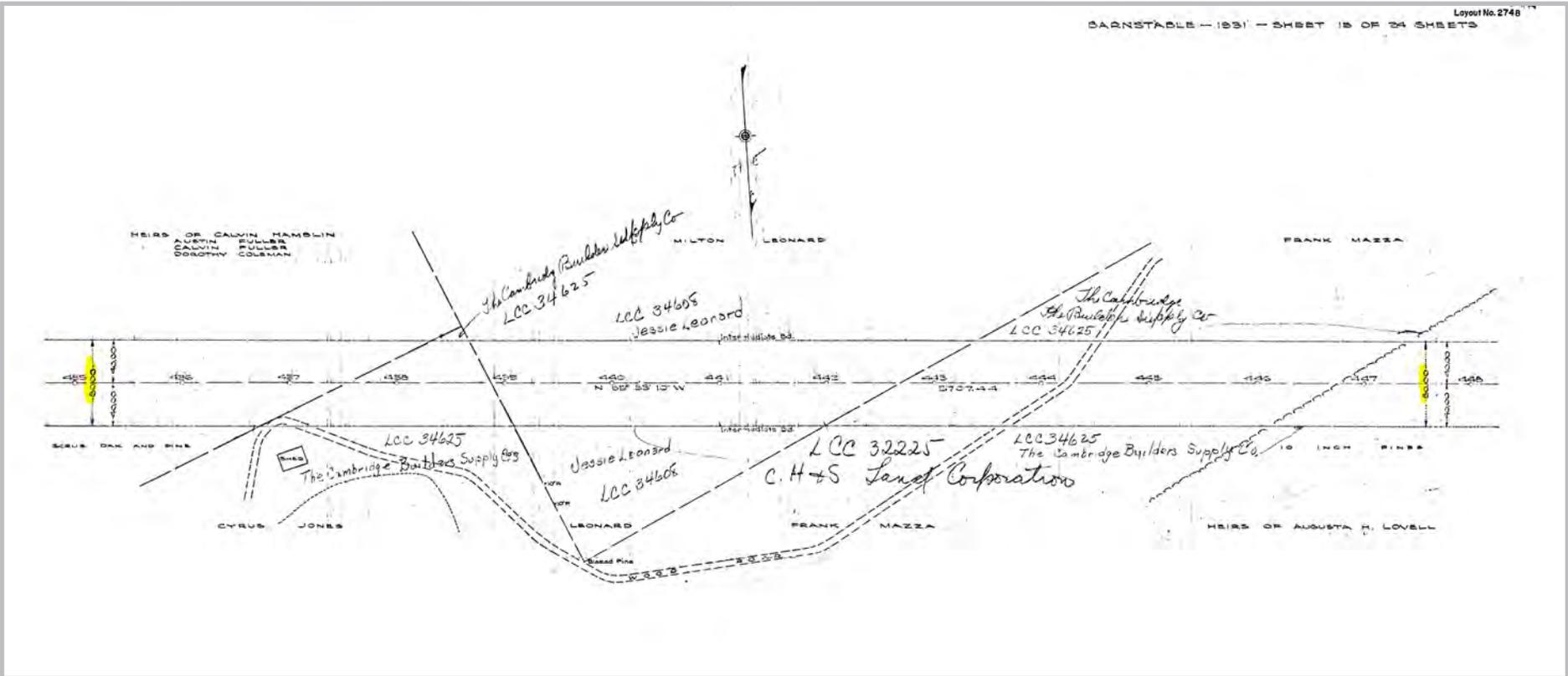
C. GIFFORD MERRILL

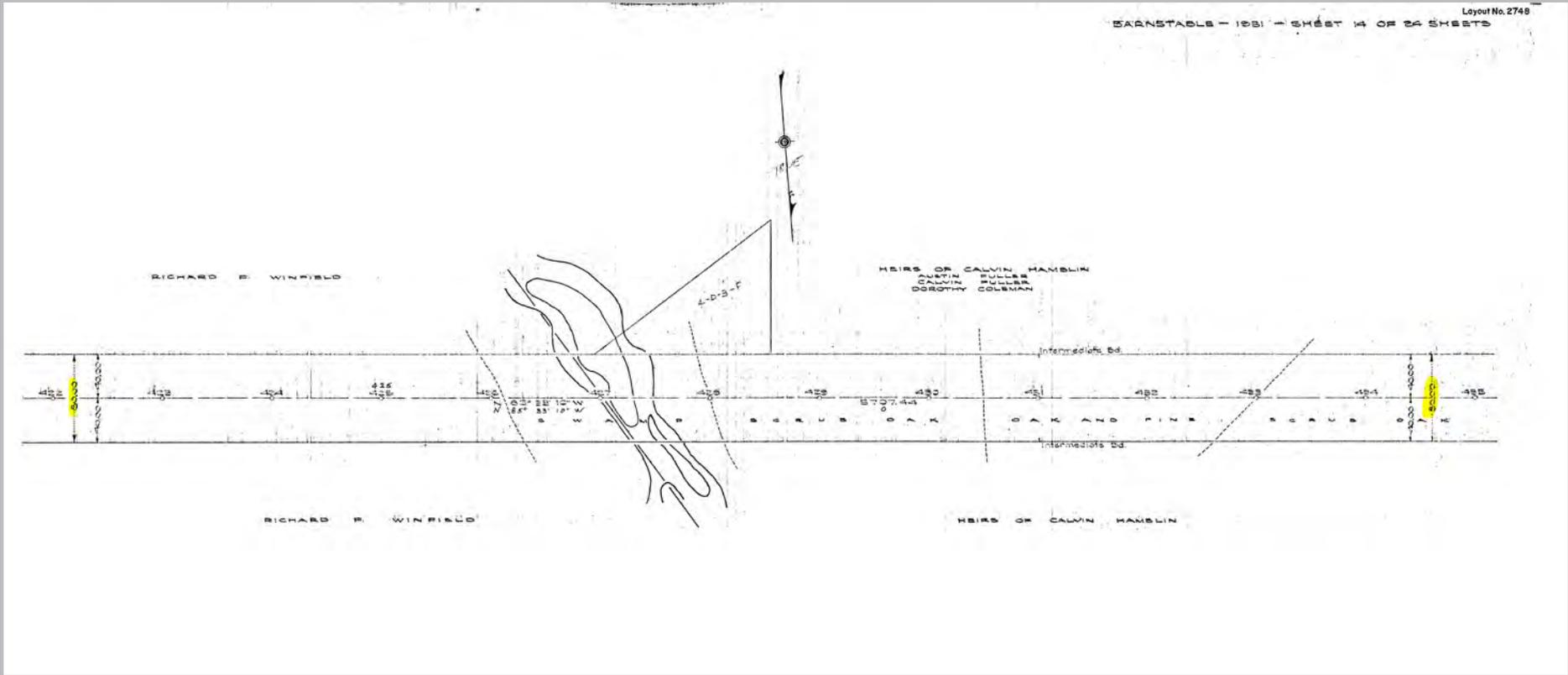


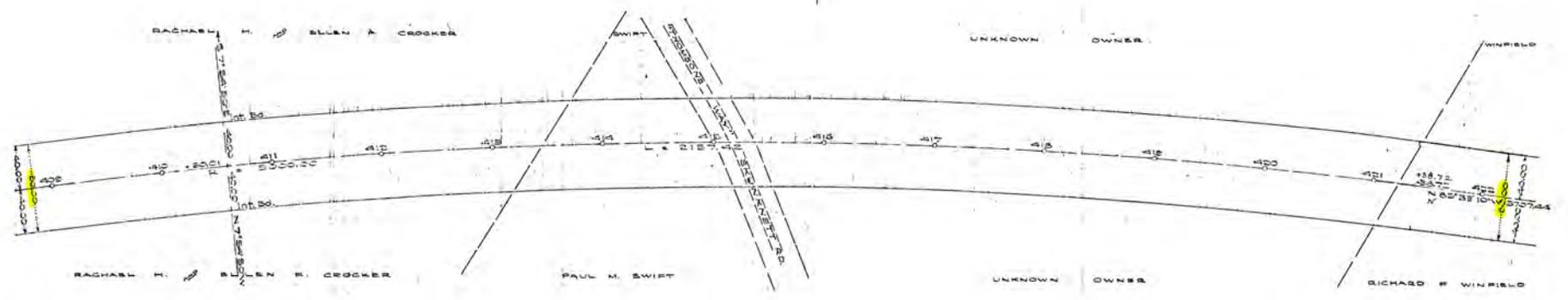


202748

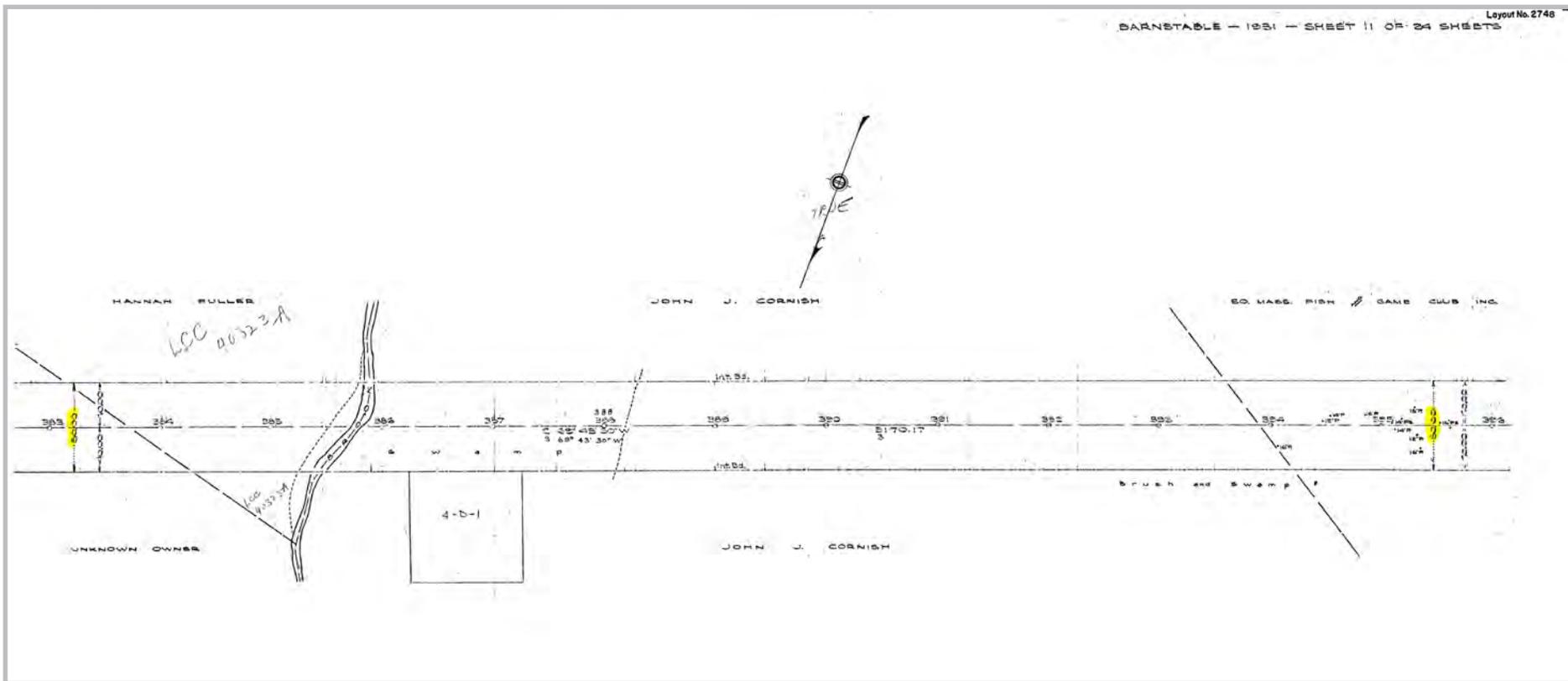


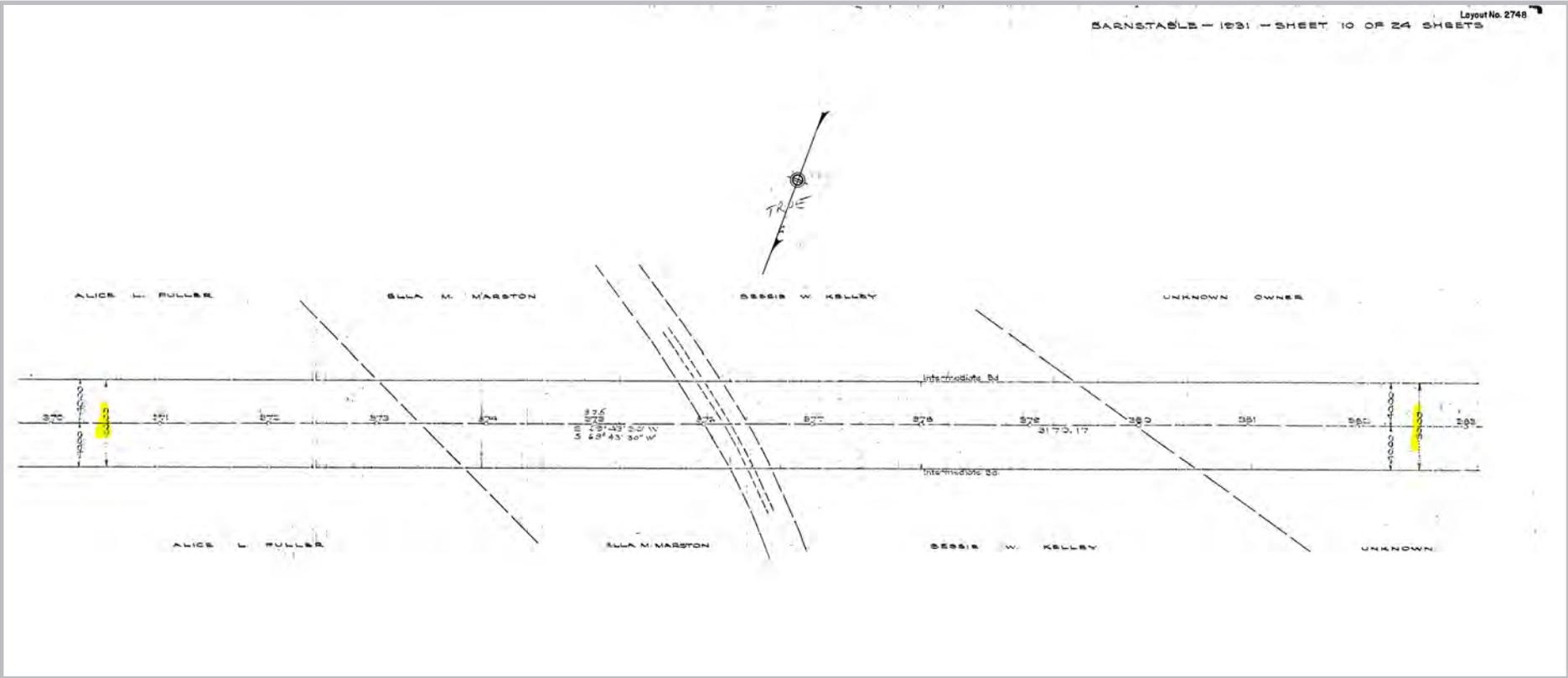






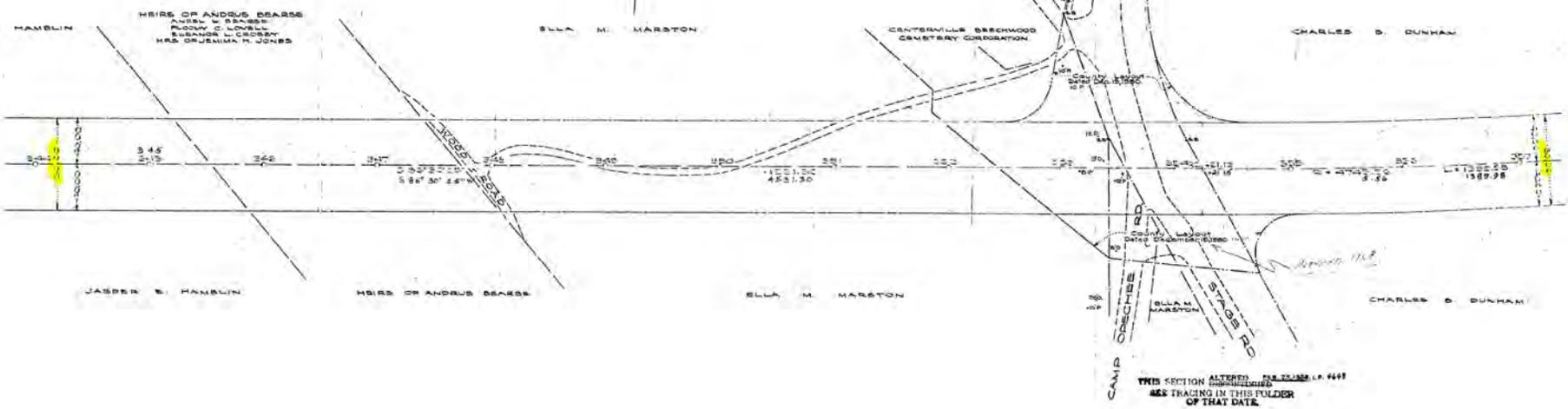




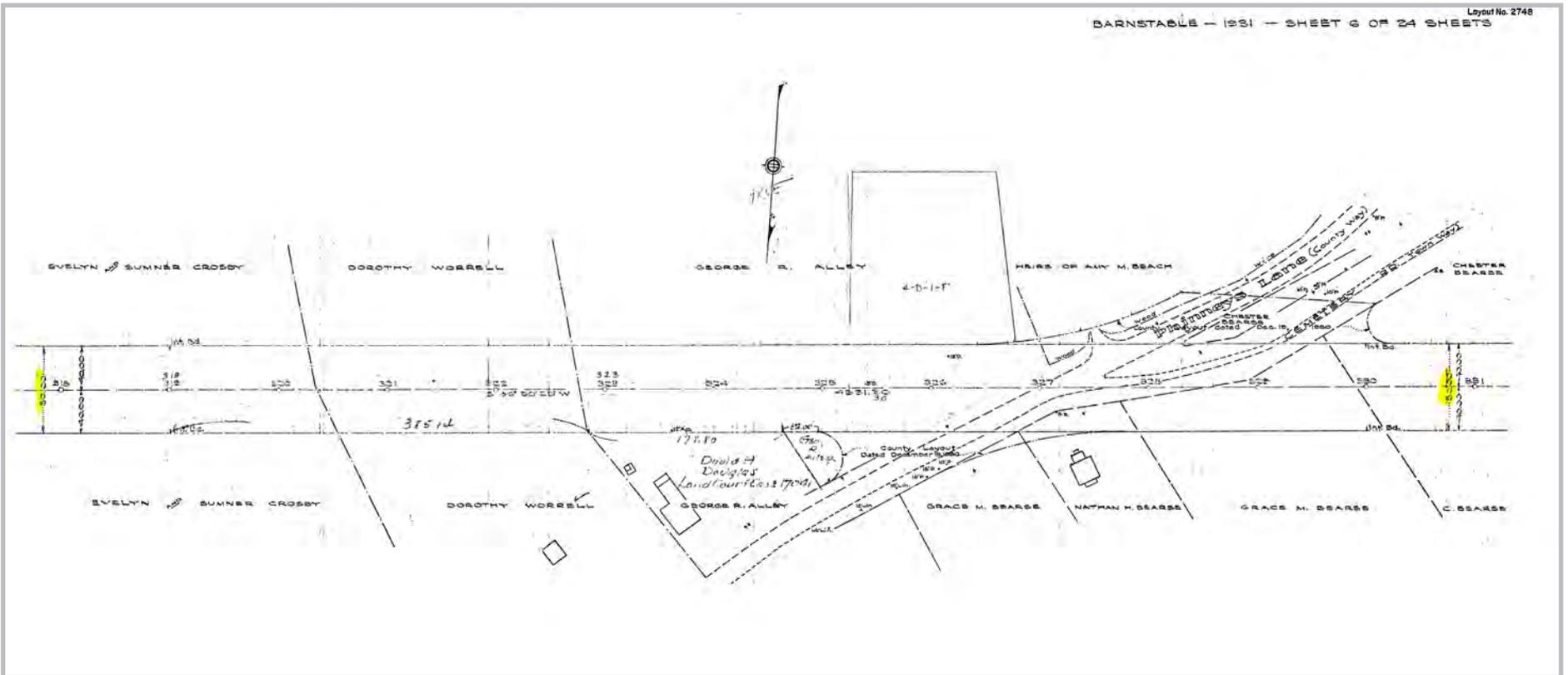




2-2-82











BARNSTABLE - 1932 LAYOUT - SHEET 13 OF 14 SHEETS

Layout No. 2982



PARCEL 51  
ROBERT S. ELLIOT  
Area obt. 34050 Sq. ft.

See 1931 L.O. for south side of property  
(Sheet 3)  
Law's Court Case 10797

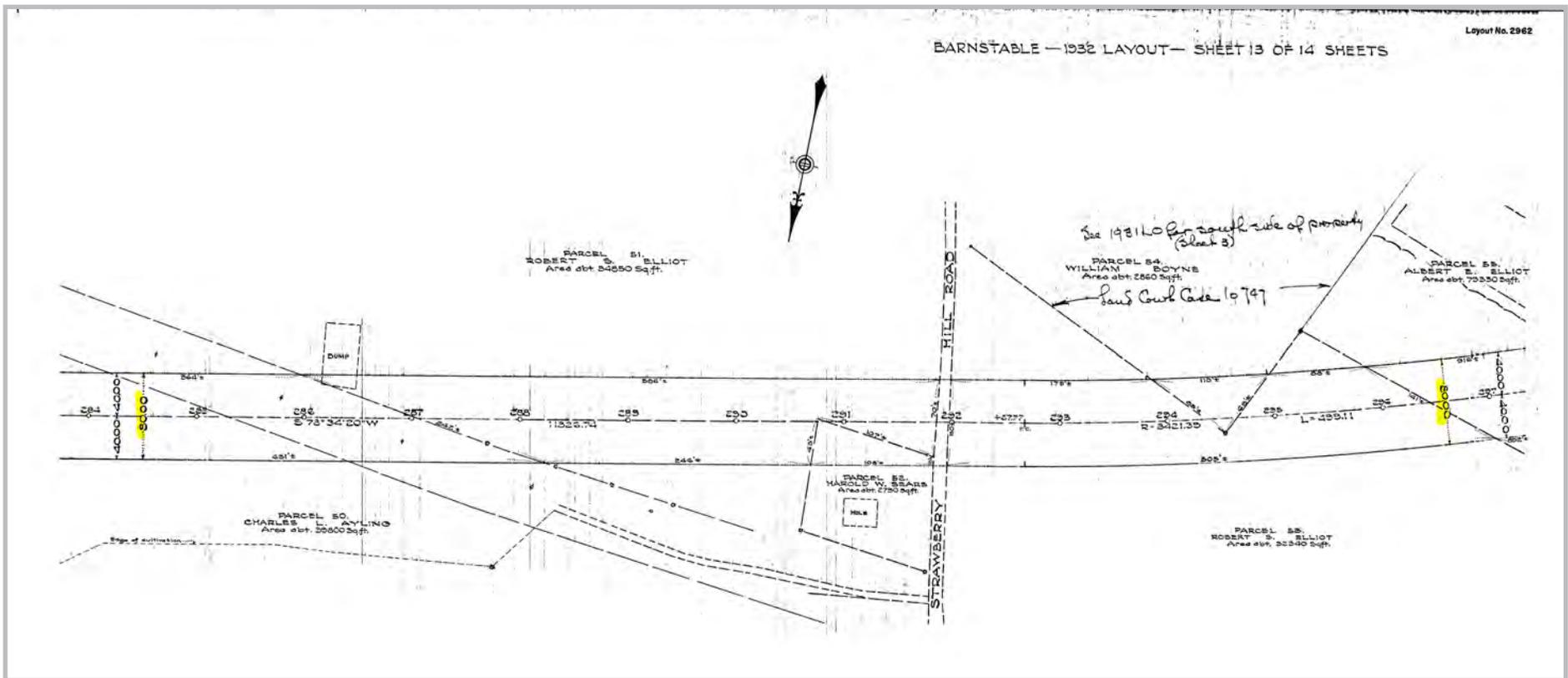
PARCEL 54  
WILLIAM BOYNE  
Area obt. 2860 Sq. ft.

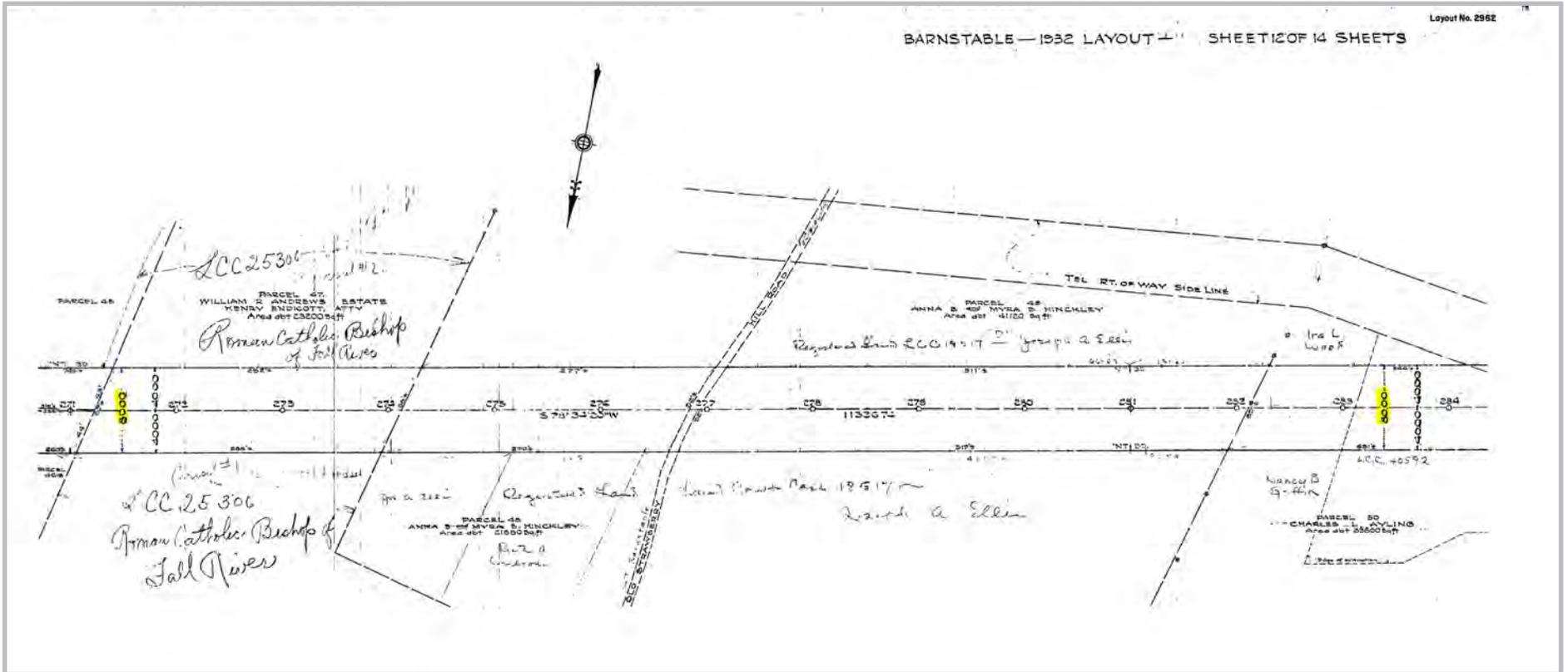
PARCEL 52  
ALBERT E. ELLIOT  
Area obt. 70350 Sq. ft.

PARCEL 50  
CHARLES L. AYLING  
Area obt. 20800 Sq. ft.

PARCEL 53  
MARCO W. SEARS  
Area obt. 2700 Sq. ft.

PARCEL 55  
ROBERT S. ELLIOT  
Area obt. 32300 Sq. ft.





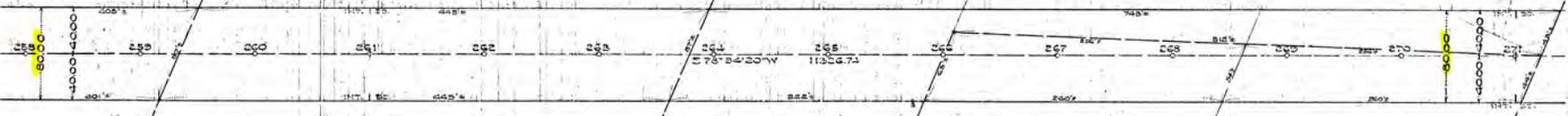
BARNSTABLE — 1932 LAYOUT — SHEET 11 OF 14 SHEETS

Layout No. 2962



PARCEL 43.  
MAURICE L. FROST  
Area abt. 52240 Sq. Ft.  
*Lads Investors Inc  
200 34271*

PARCEL 49.  
CHARLES D. MARCHANT  
Area Abt. 55555 Sq. Ft.

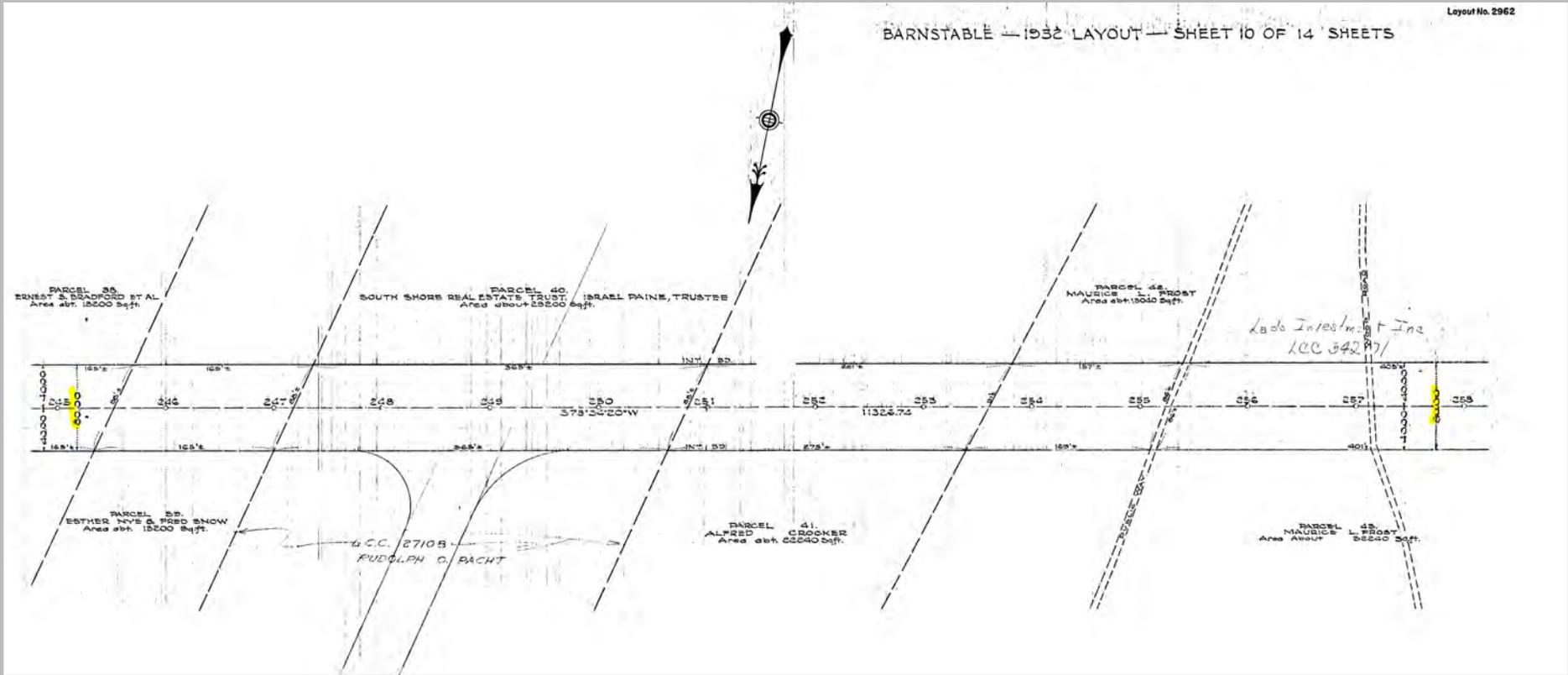


PARCEL 44.  
HEIRS OWENNA M. MALONEY, HYANNIS TRUST CO., ADM.  
Area abt. 32200 Square Feet

PARCEL 45.  
BENJAMIN LEWIS  
Area about 14,170 Sq. Ft.

PARCEL 46.  
MELANCOY C. WHITE  
Area about 11,700 Sq. Ft.

BARNSTABLE — 1932 LAYOUT — SHEET 10 OF 14 SHEETS





BARNSTABLE — 1532 LAYOUT — SHEET 8 OF 14 SHEETS

Layout No. 2962



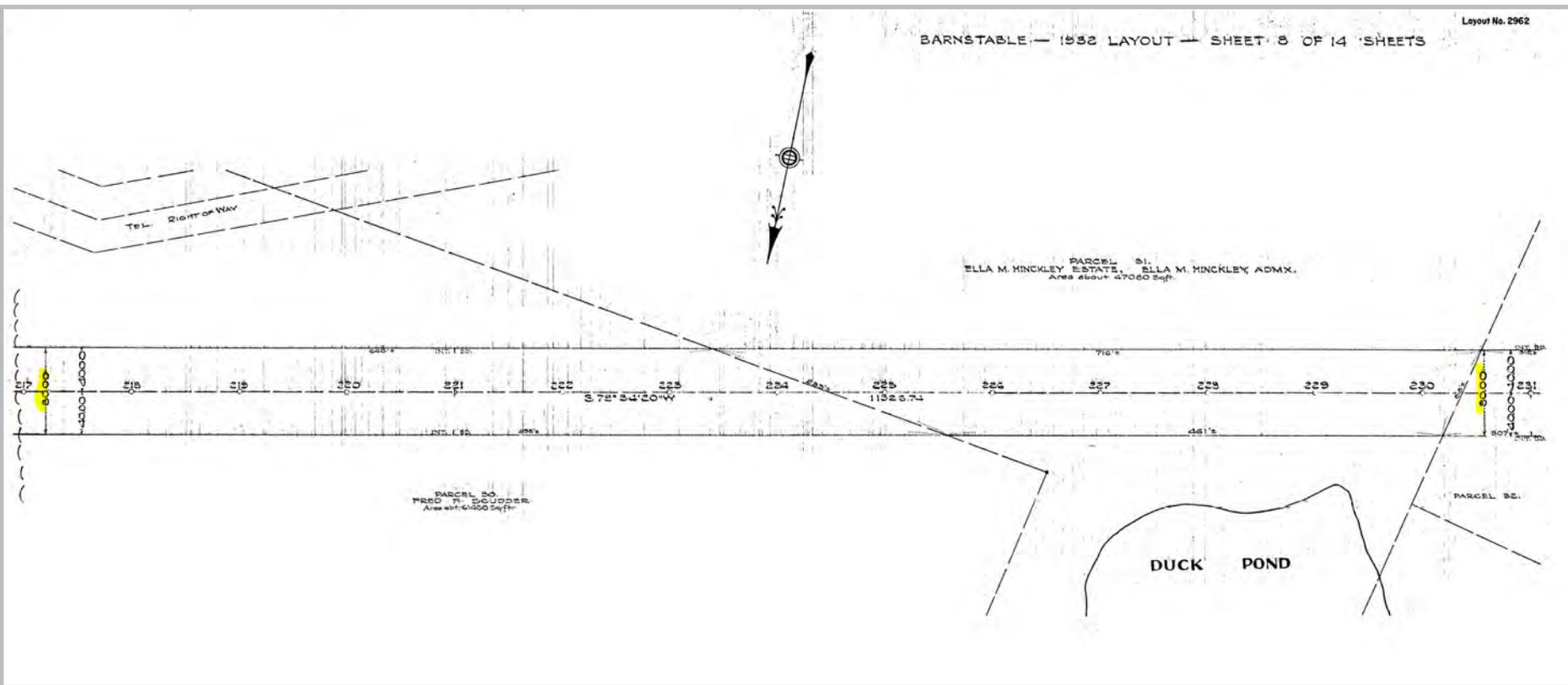
TEL. RIGHT OF WAY

PARCEL 21.  
ELLA M. MINCKLEY ESTATE, ELLA M. MINCKLEY ADMX.  
Area about 47000 Sqft.

PARCEL 20.  
FRED W. JOYNER  
Area about 61000 Sqft.

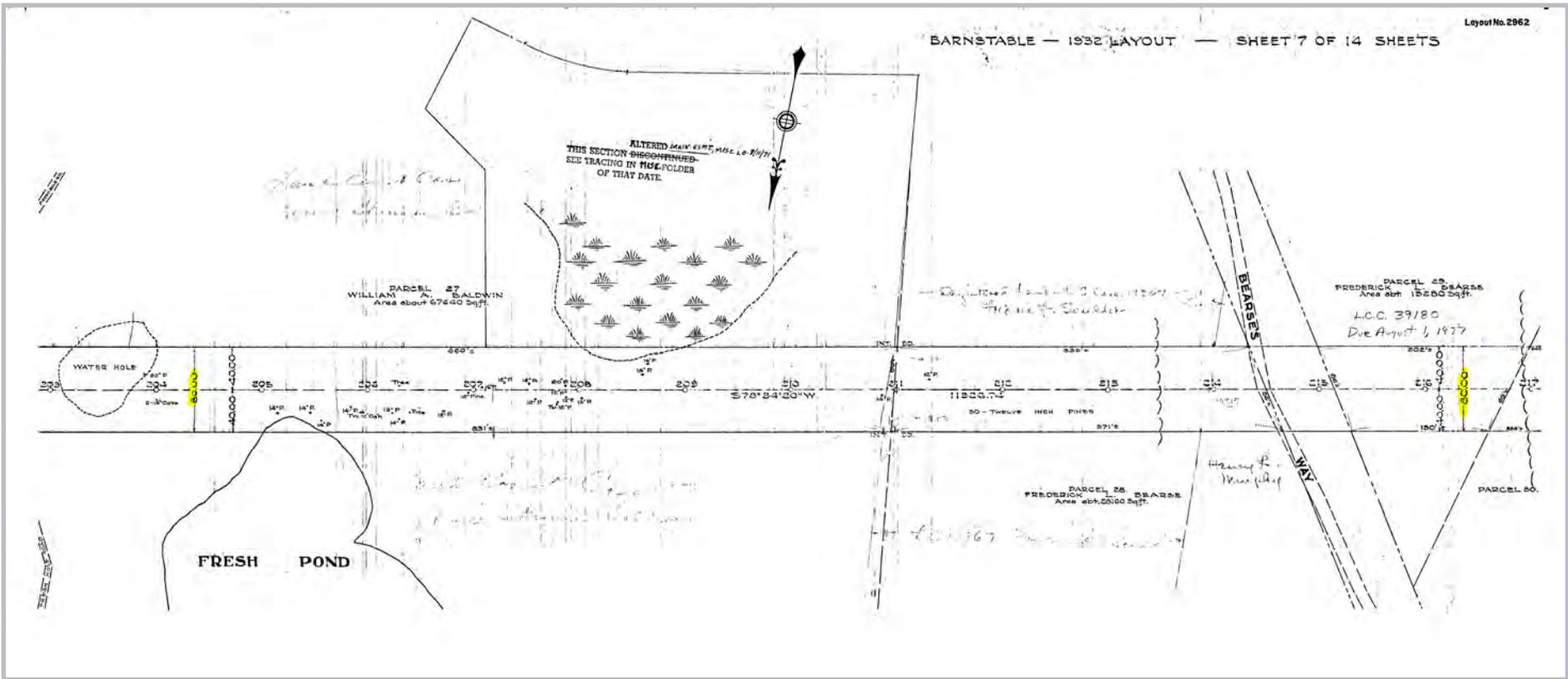
PARCEL 22.

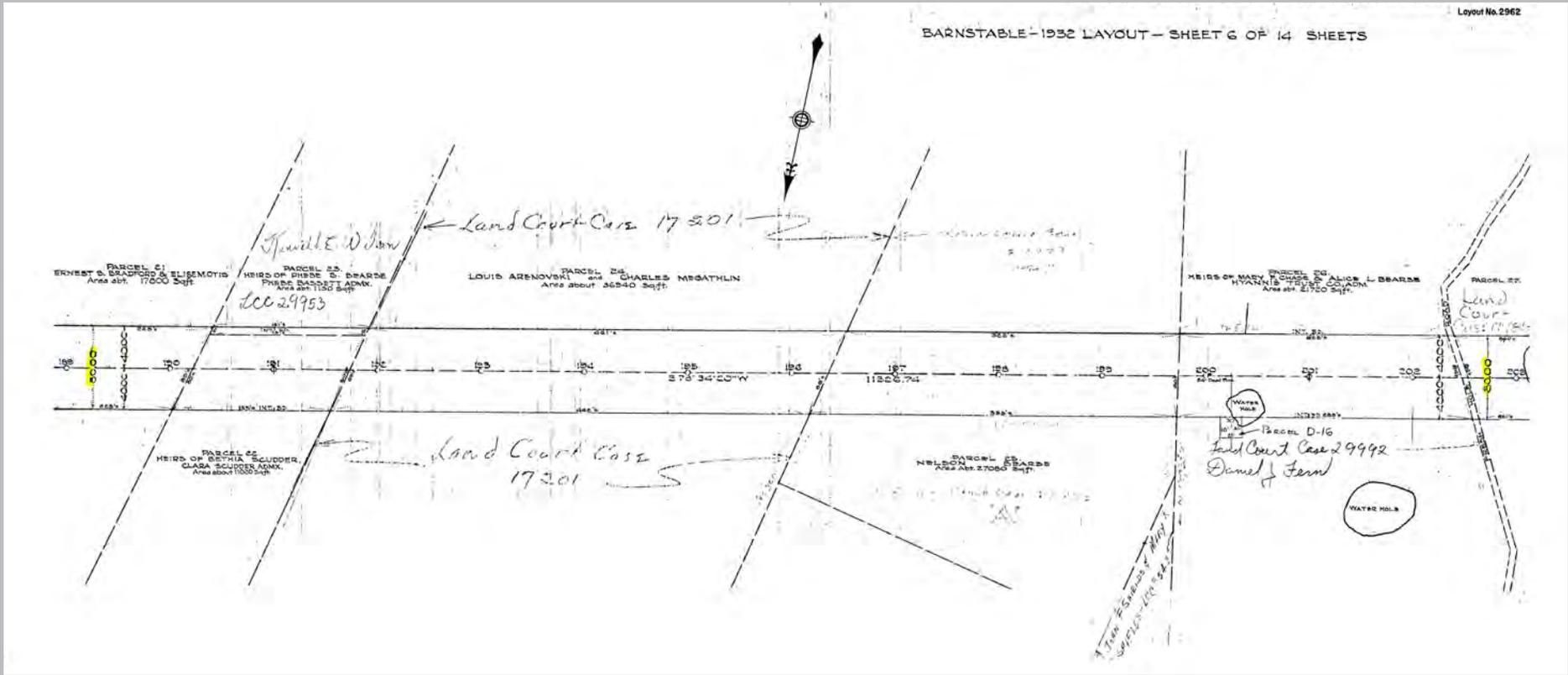
DUCK POND



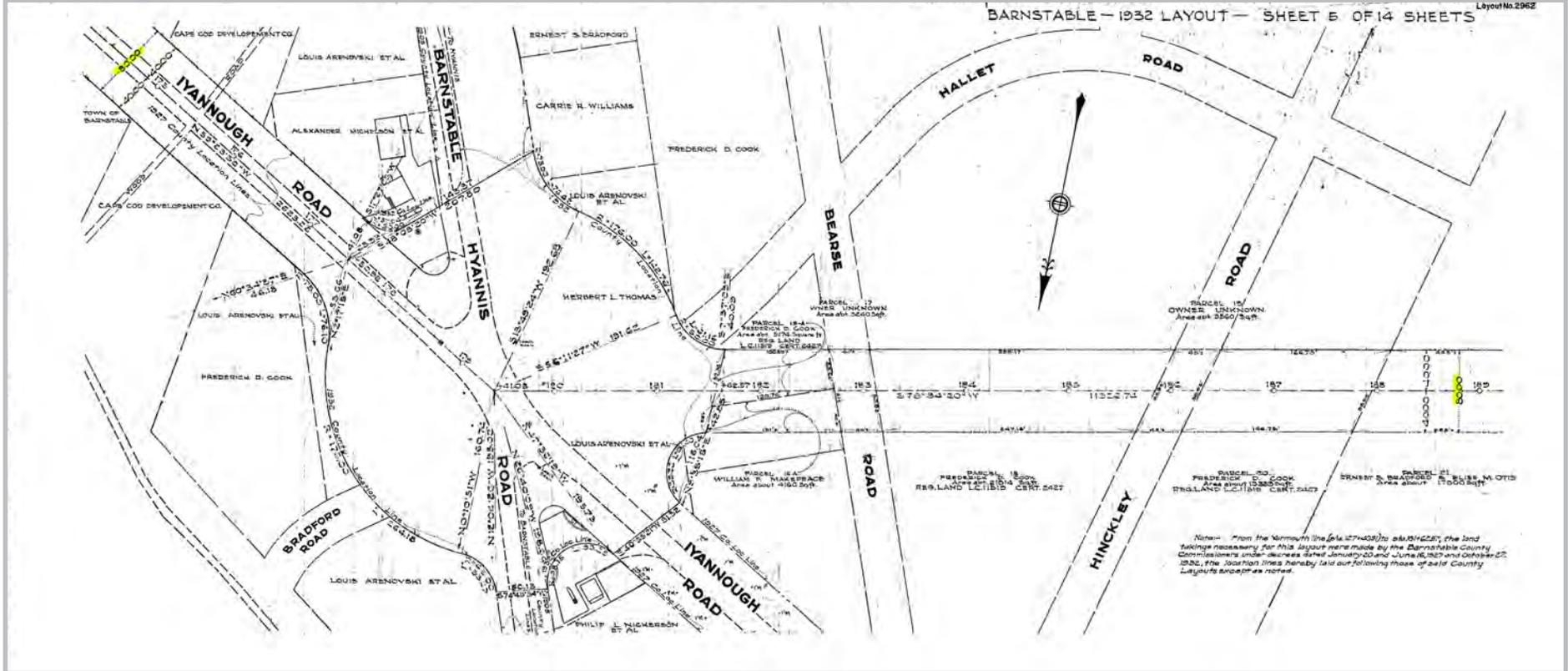
BARNSTABLE — 1932 LAYOUT — SHEET 7 OF 14 SHEETS

Layout No. 2962



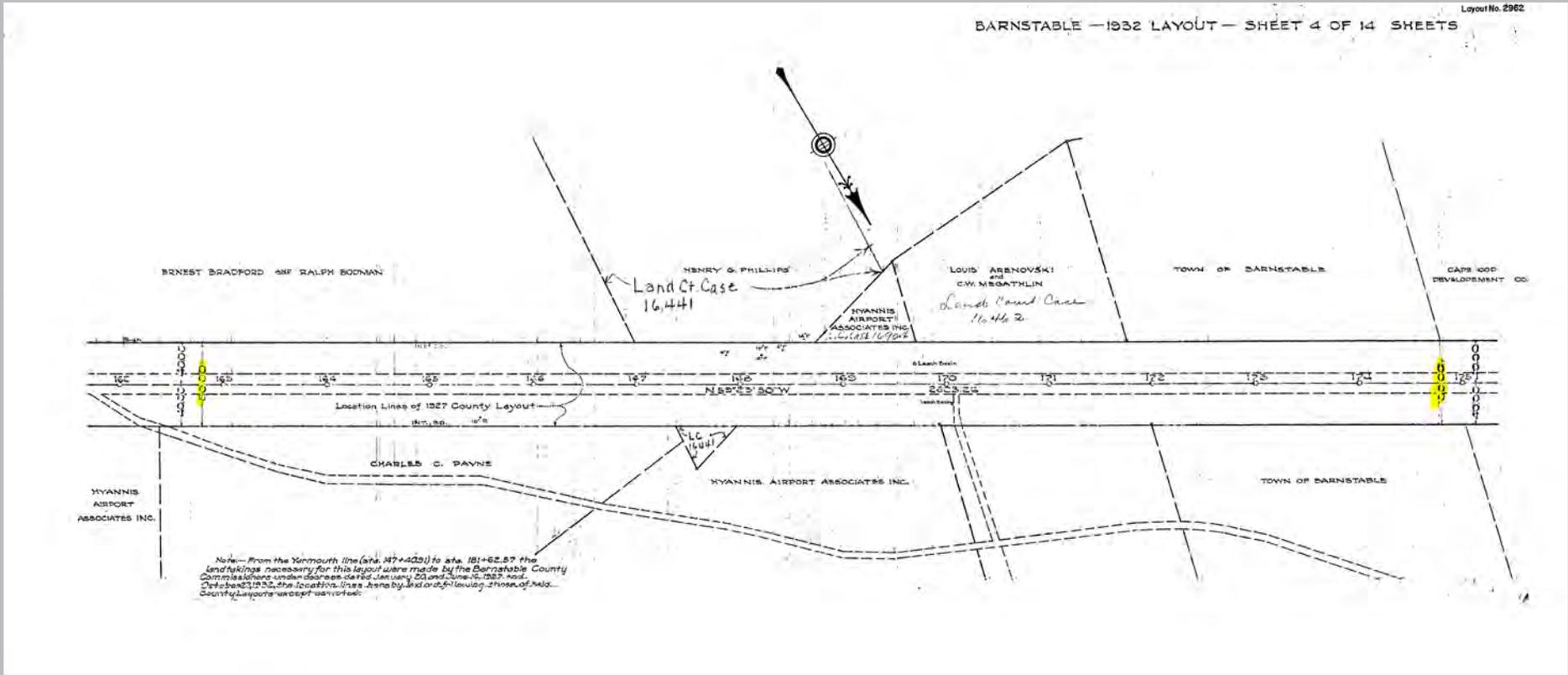


BARNSTABLE - 1932 LAYOUT - SHEET 5 OF 14 SHEETS

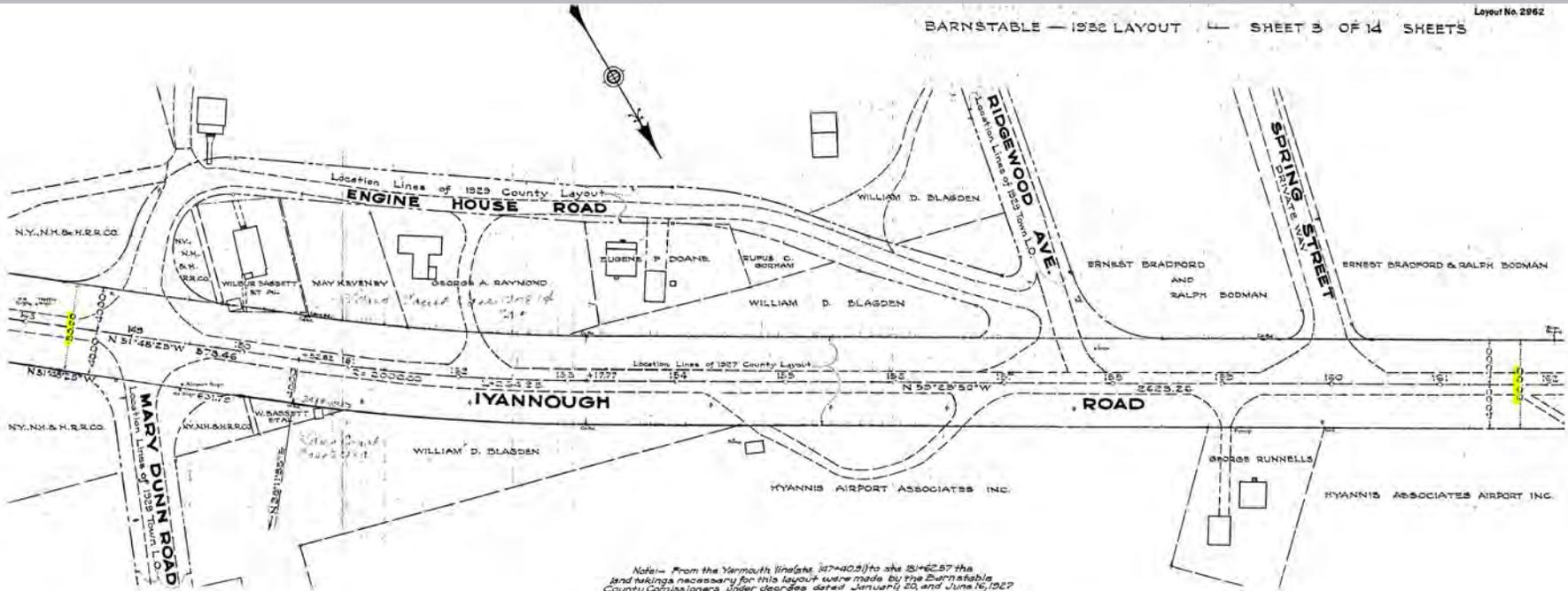


Note: From the Vermont line (64-17433) to 64-18425, the land taken necessary for this layout was made by the Barnstable County Commissioners under orders dated January 22 and June 15, 1927 and July 25, 1932, the location lines hereby laid out following those of said County Layouts except as noted.

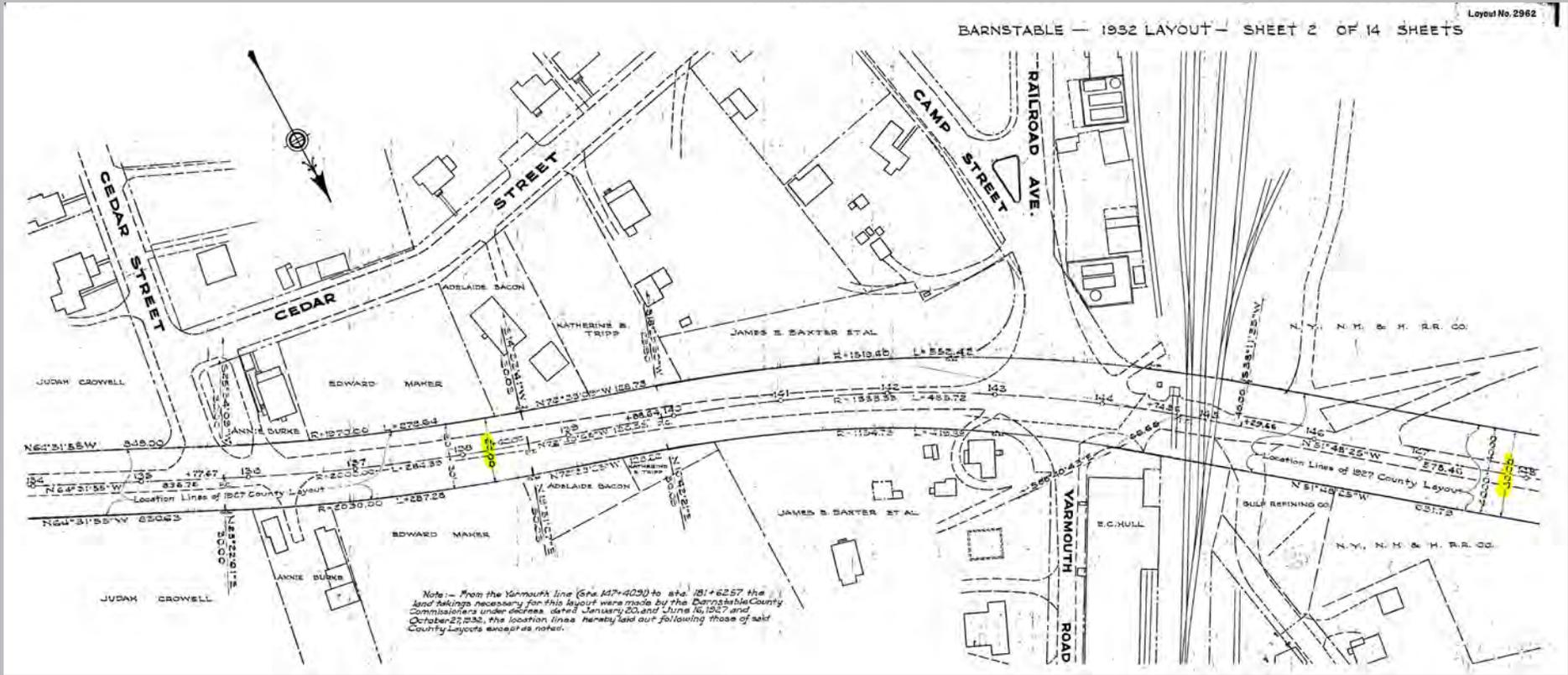
BARNSTABLE - 1932 LAYOUT - SHEET 4 OF 14 SHEETS

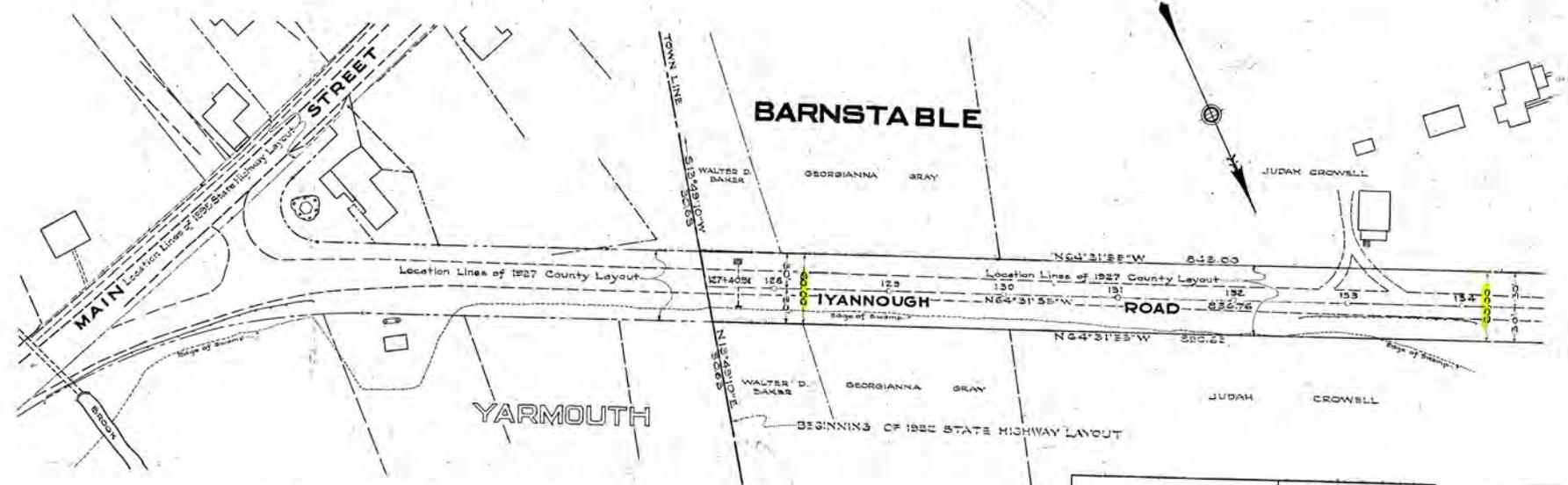


Note - From the Yarmouth line (Sta. 147+400) to Sta. 181+62.57 the landings necessary for this layout were made by the Barnstable County Commission on a plan approved in January, 1927 and on a plan approved in January, 1927 and on a plan approved in January, 1927. The location lines shown by this layout are those of the 1927 County Layouts except as noted.



Note:— From the Yarmouth line (shs 37-40.5) to shs 25-62.57 the land takings necessary for this layout were made by the Barnstable County Commissioners under orders dated January 20, and June 16, 1927 and October 27, 1930. The location lines hereby laid out following those of said County Layouts except as noted.

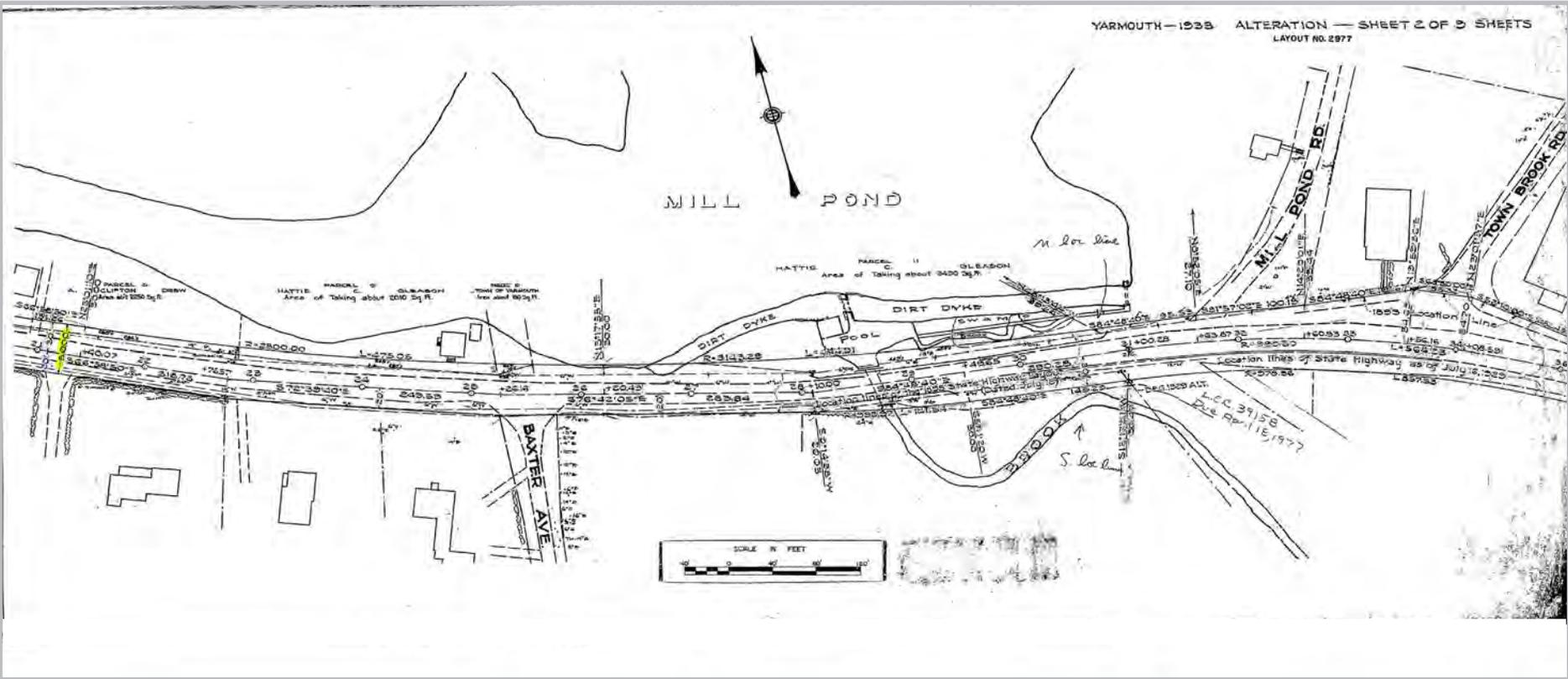


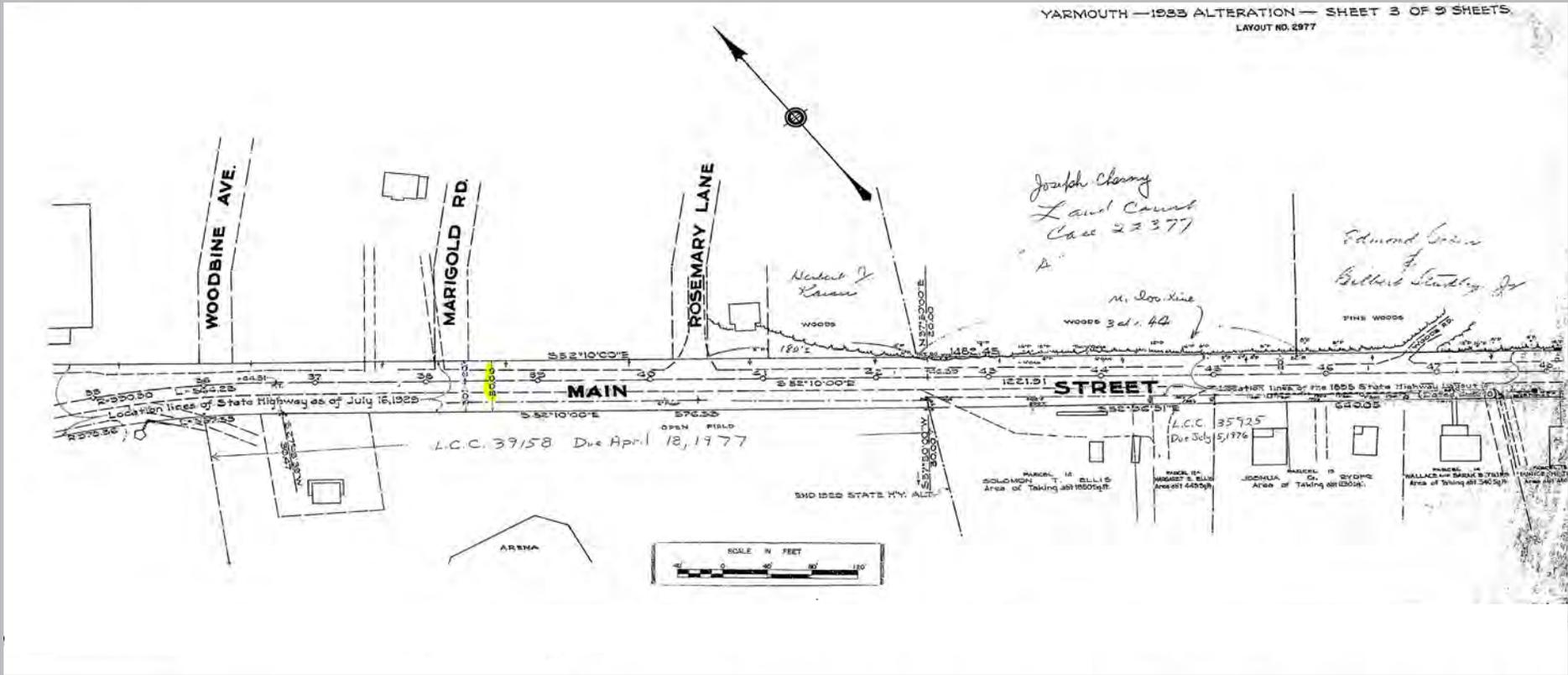


Notes:— From the Yarmouth line (63-127-402) to 63-131-62.57 the land takings necessary for this layout were made by the Barnstable County Commissioners under decrees dated January 20 and June 16, 1927 and October 22, 1930; the location lines hereby laid out following those of said County Layouts except as noted.

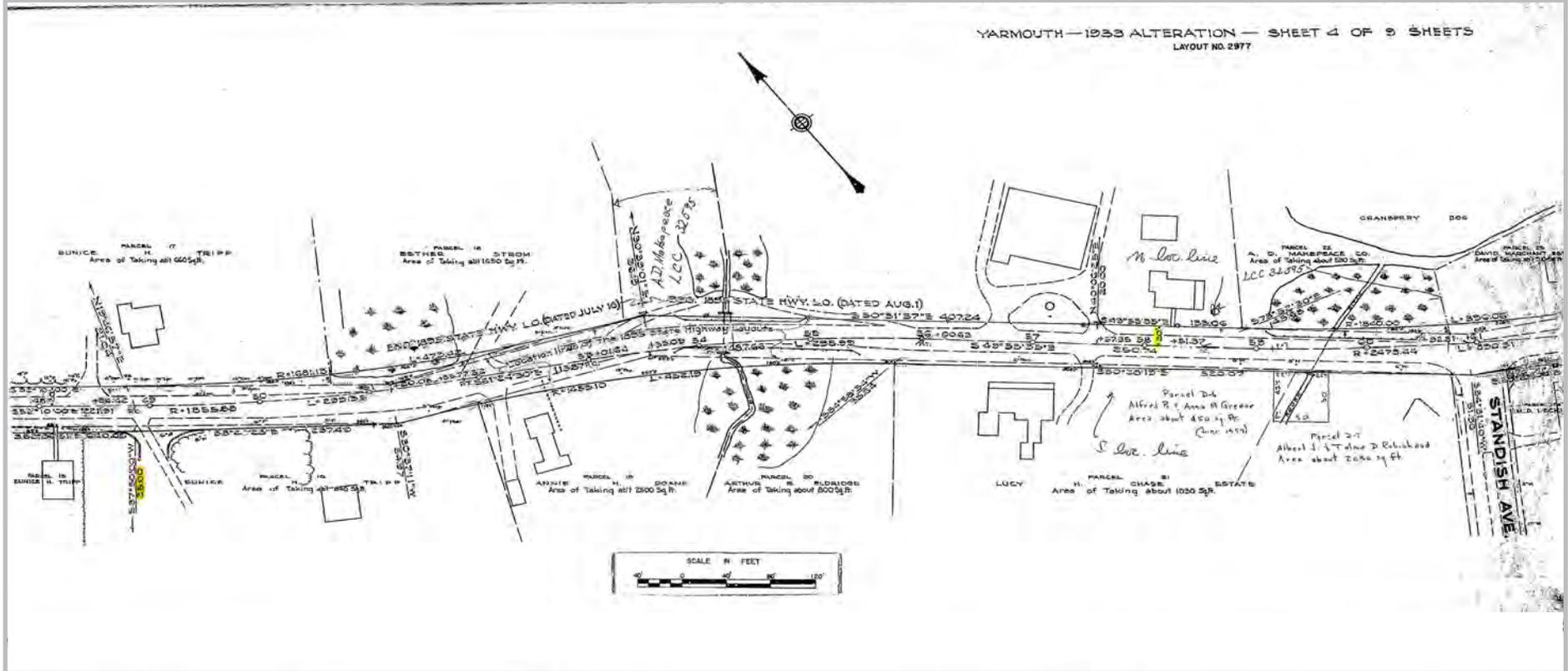
<p>This is to certify that the road shown on this plan was laid out as a State Highway by the Department of Public Works on November 8, 1930, in accordance with Chapter 81 of the General Laws, as amended.</p> <p><i>Walter R. Vane</i>  <i>Walter R. Vane</i></p>	<p>The Commonwealth of Massachusetts          Layout No. 2962  <b>PLAN OF ROAD</b>          in the town of  <b>BARNSTABLE</b>  <b>BARNSTABLE COUNTY</b>          Laid out as a State Highway by the          Department of Public Works          NOVEMBER 8, 1930</p>
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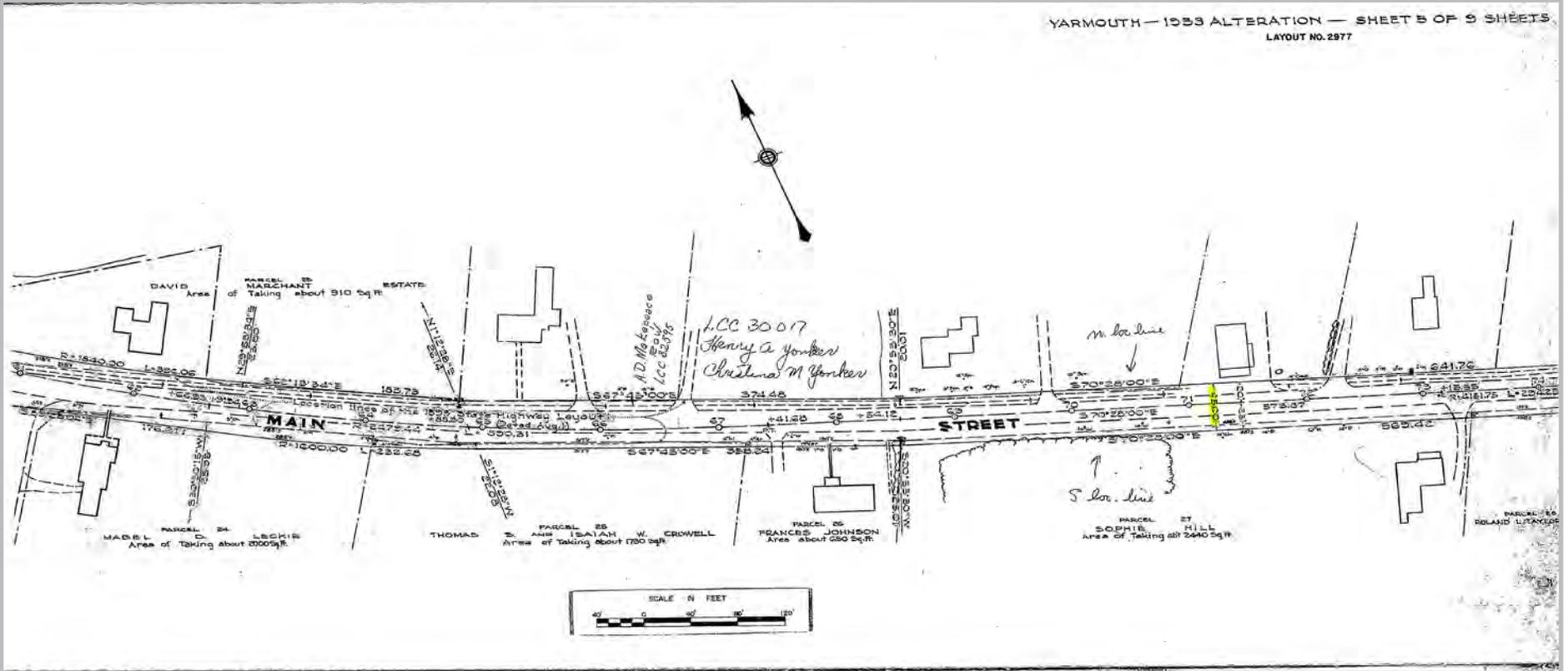


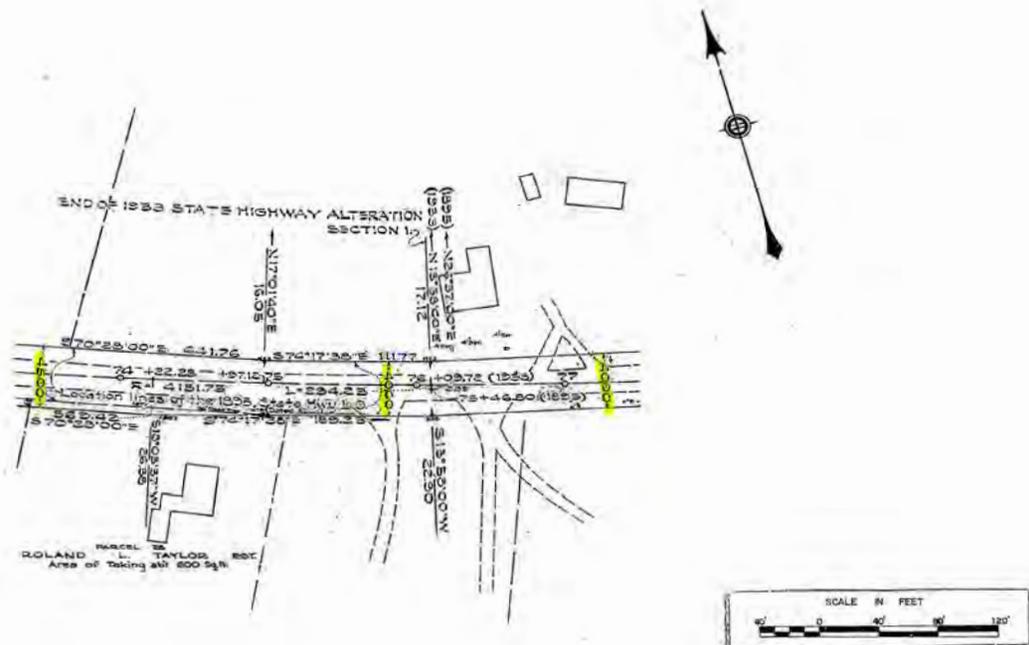




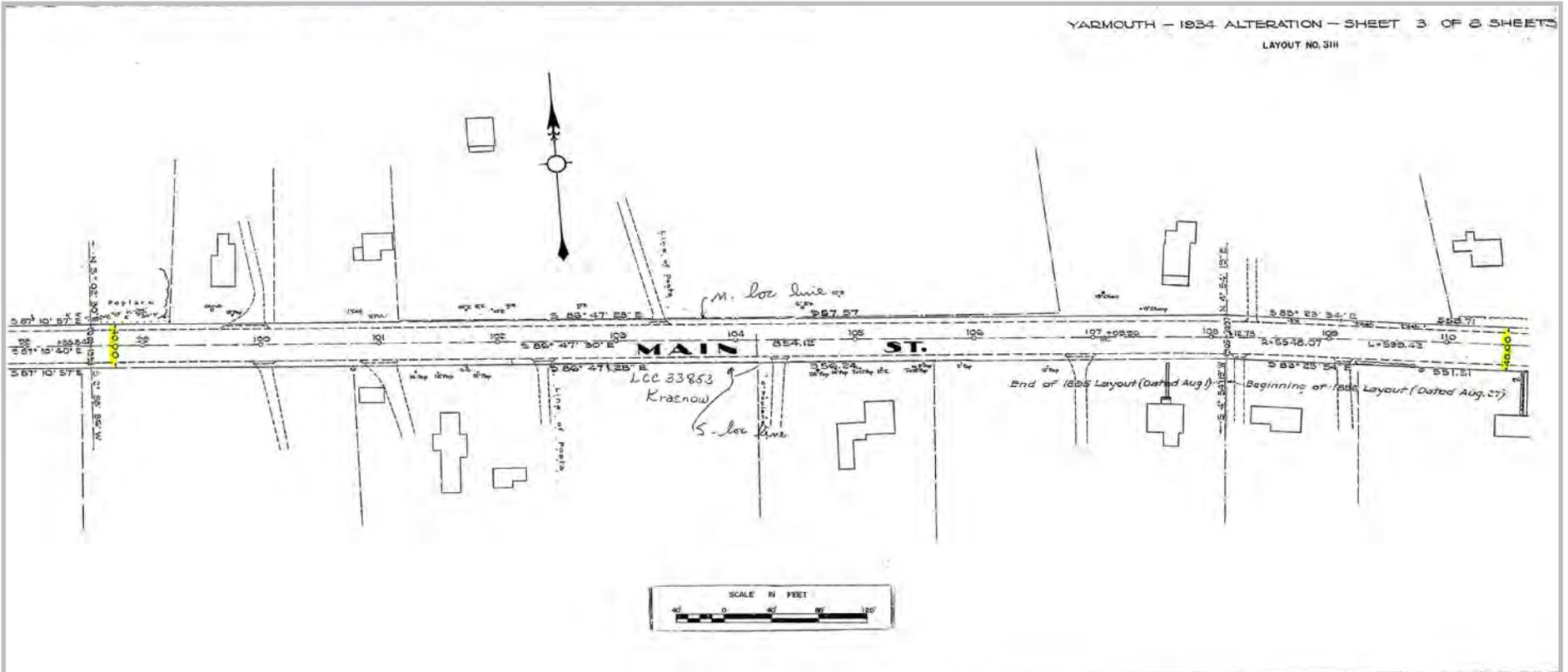
YARMOUTH — 1933 ALTERATION — SHEET 4 OF 9 SHEETS  
LAYOUT NO. 2977

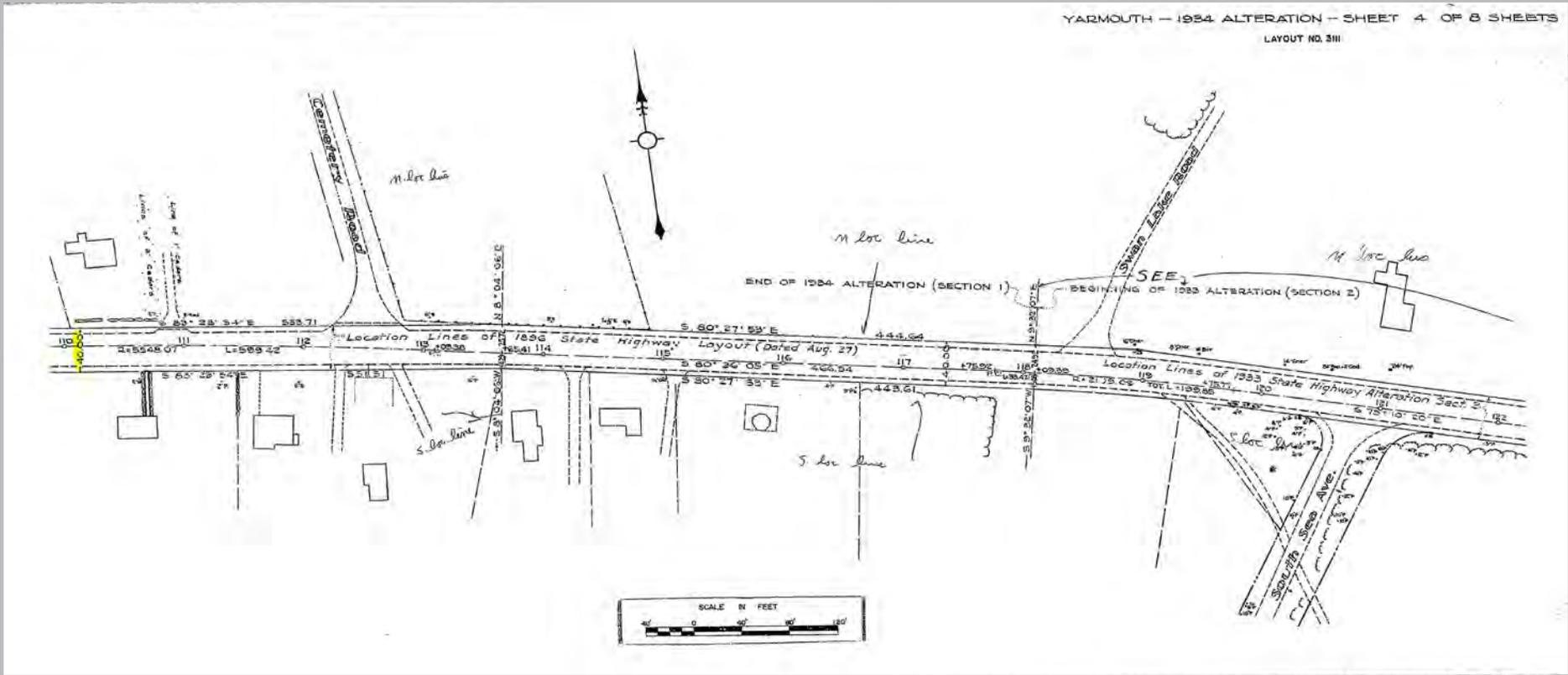












YARMOUTH — 1933 ALTERATION — SHEET 7 OF 9 SHEETS  
LAYOUT NO. 2977



*Charles Bonnet Perry*

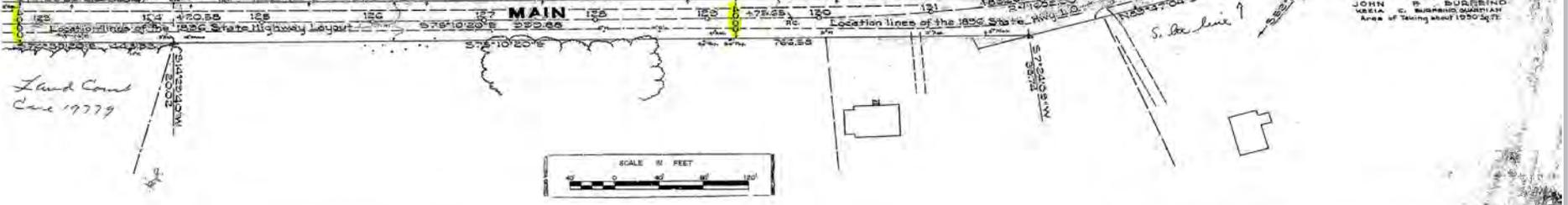
*Land Court  
Case 17046  
Paul B. and  
Benjamin C.  
Merritt*

*John  
L. Crowell*

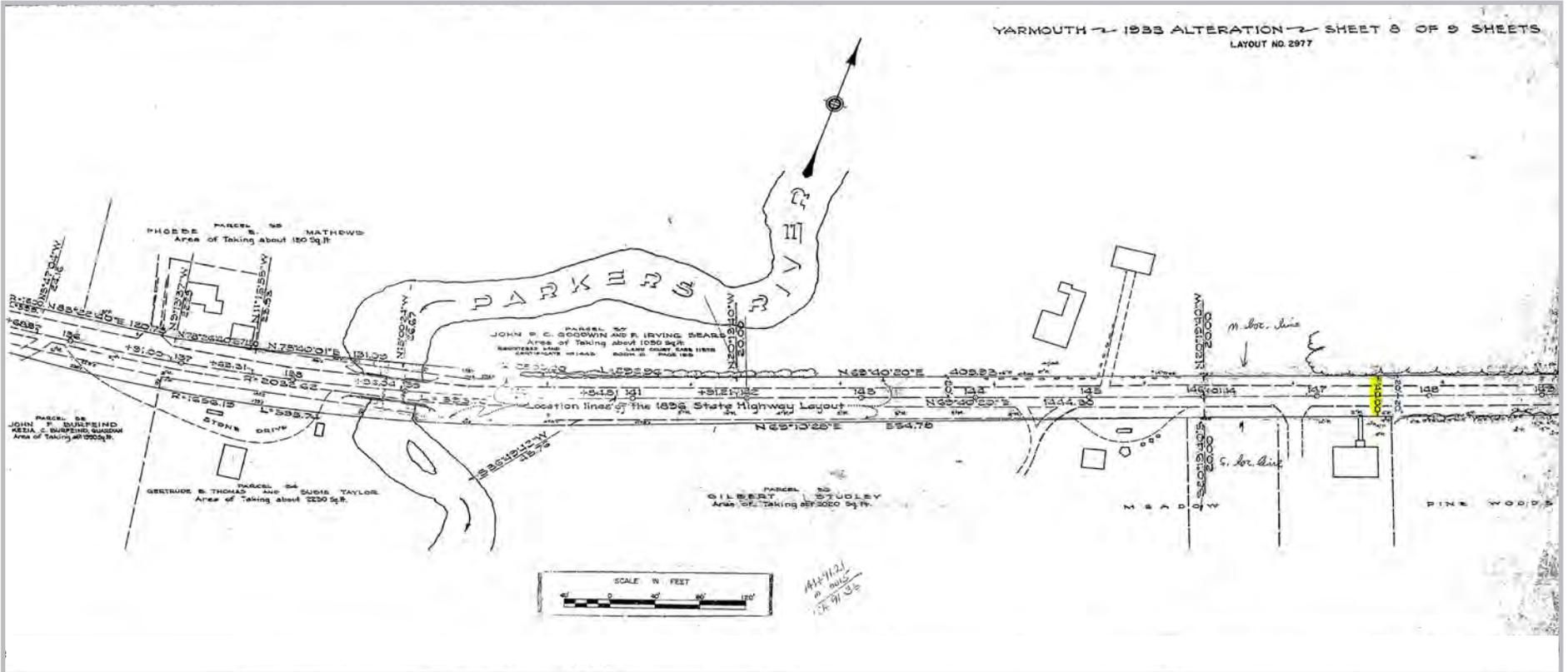
IRENE FRANK S. TAYLOR  
Area of Taking about 2850 Sq. Ft.

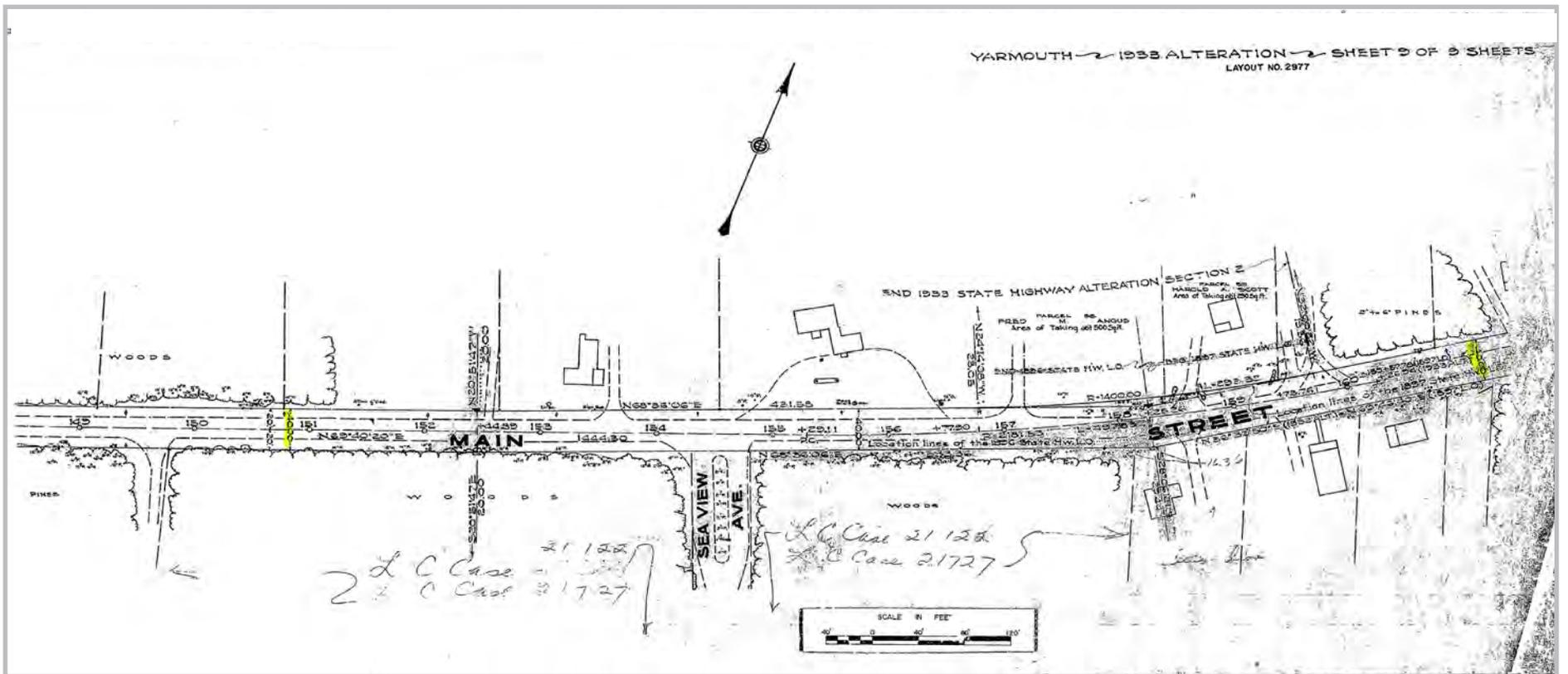
PARCEL OF  
LUTHER S. AND IRENE I. TAYLOR  
Area of Taking about 2820 Sq. Ft.

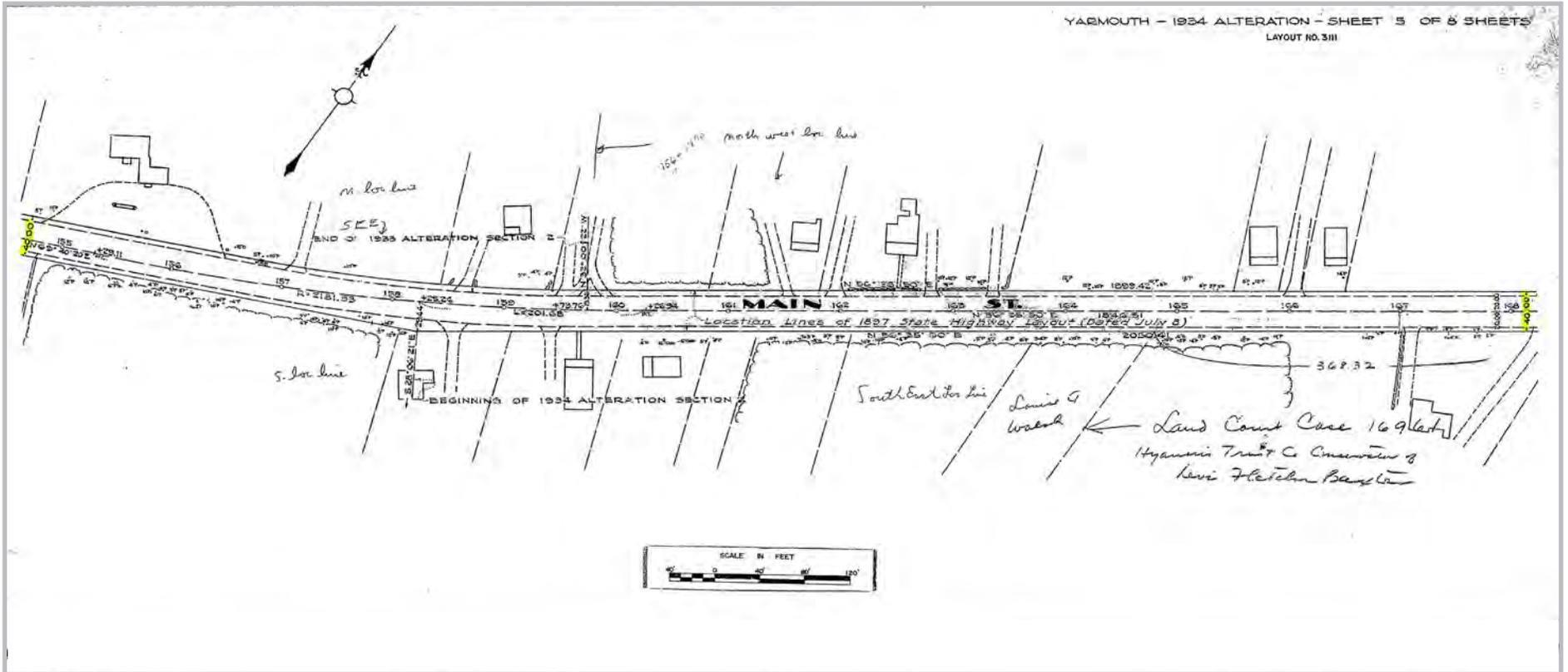
PARCEL OF  
JOHN B. BURRING  
WELA C. BURRING  
Area of Taking about 1250 Sq. Ft.

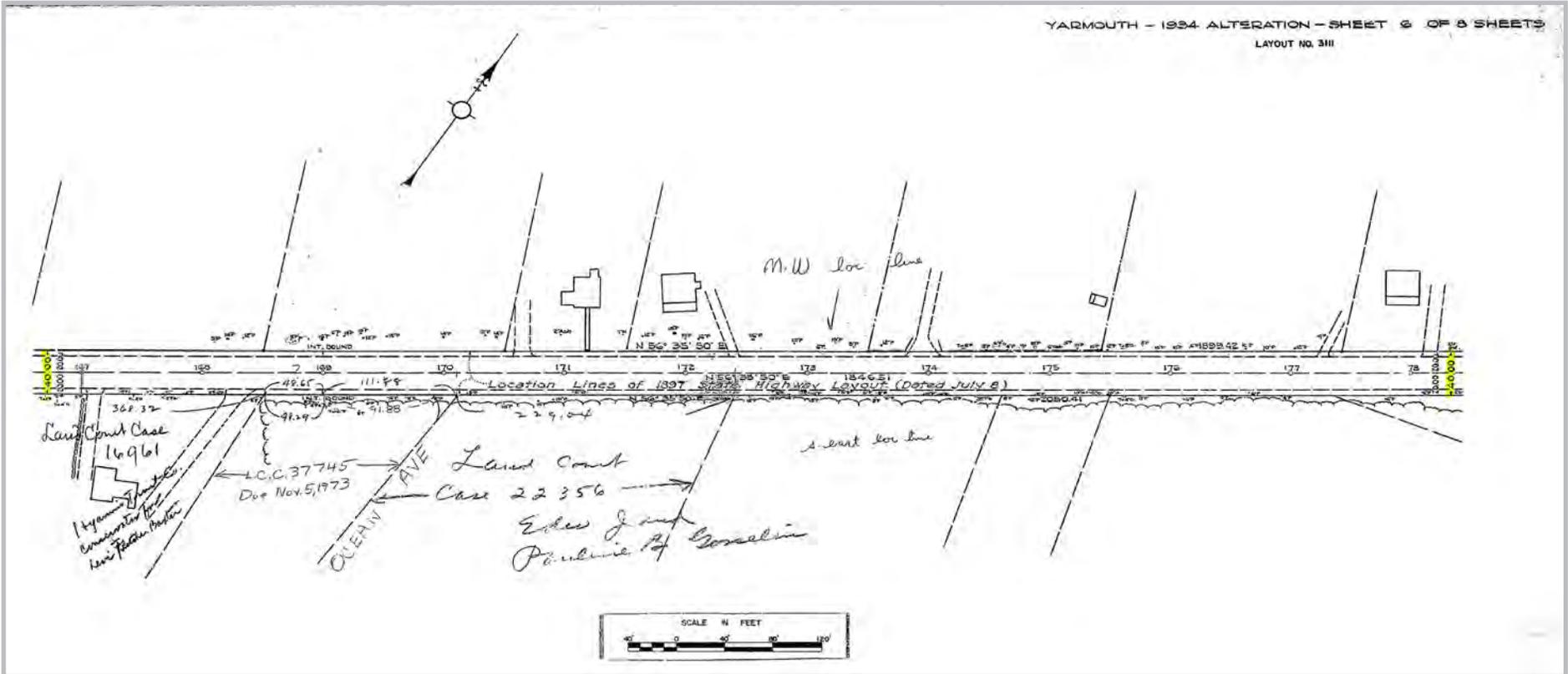


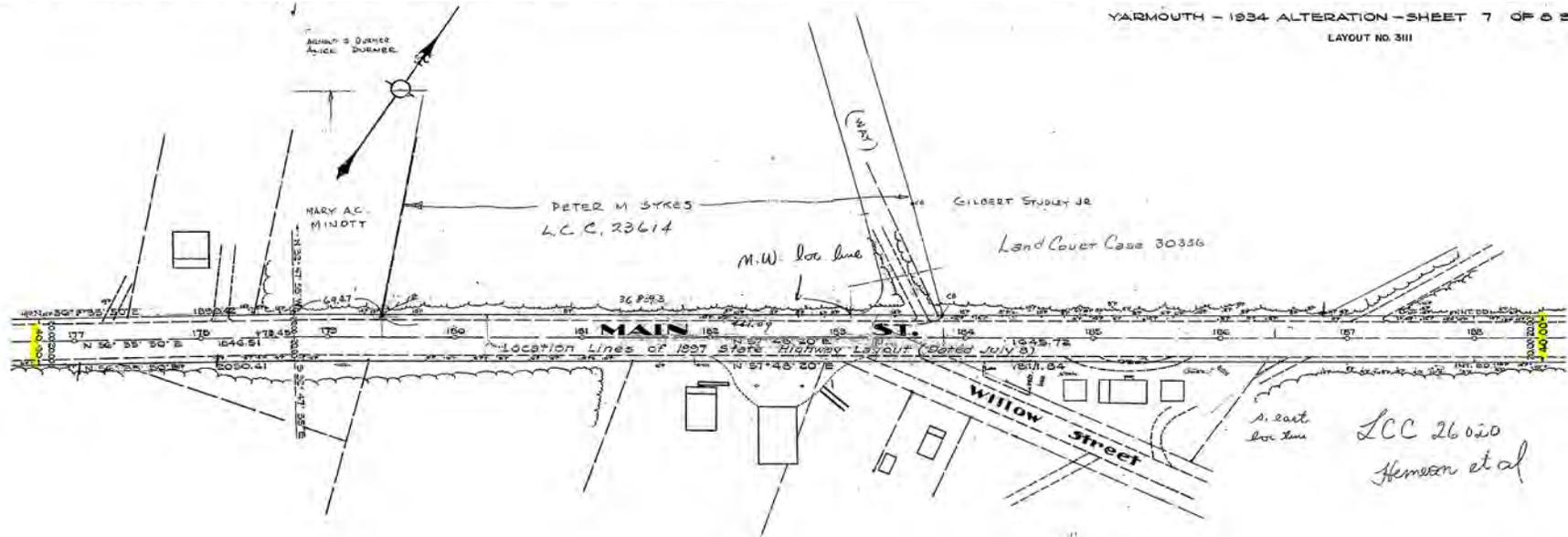
*Land Court  
Case 17779*

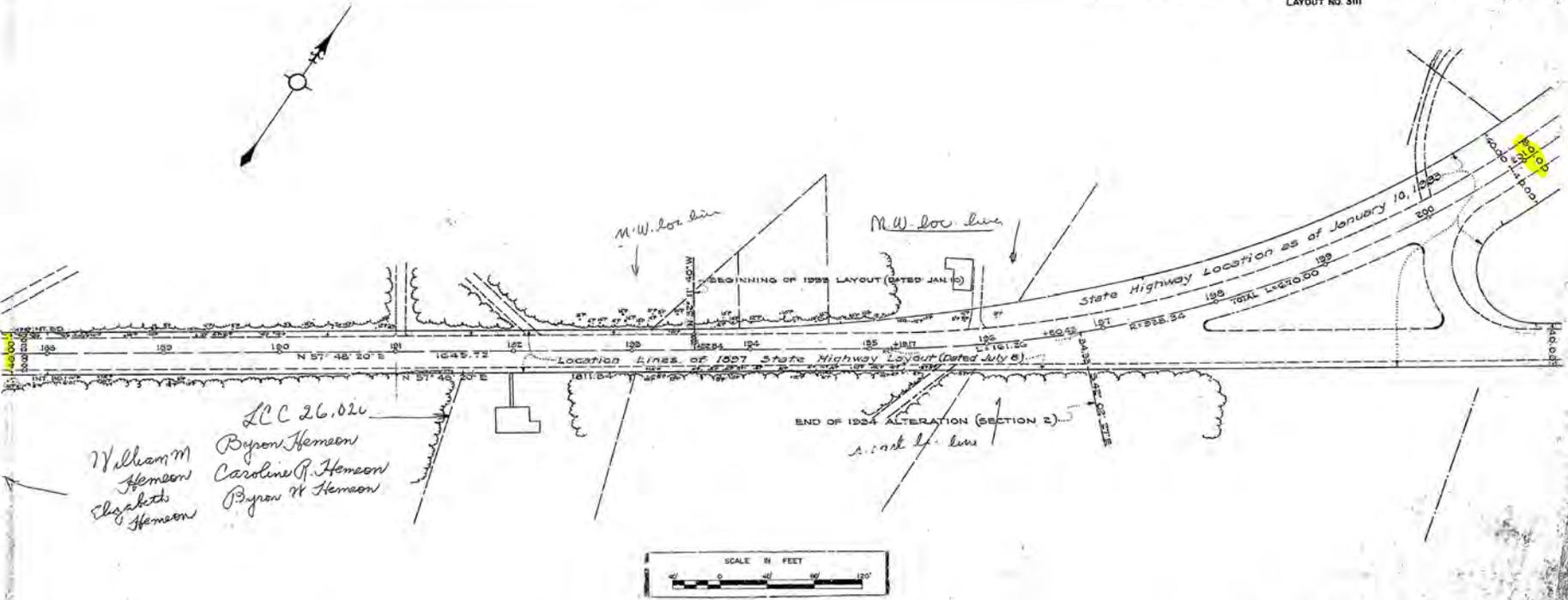




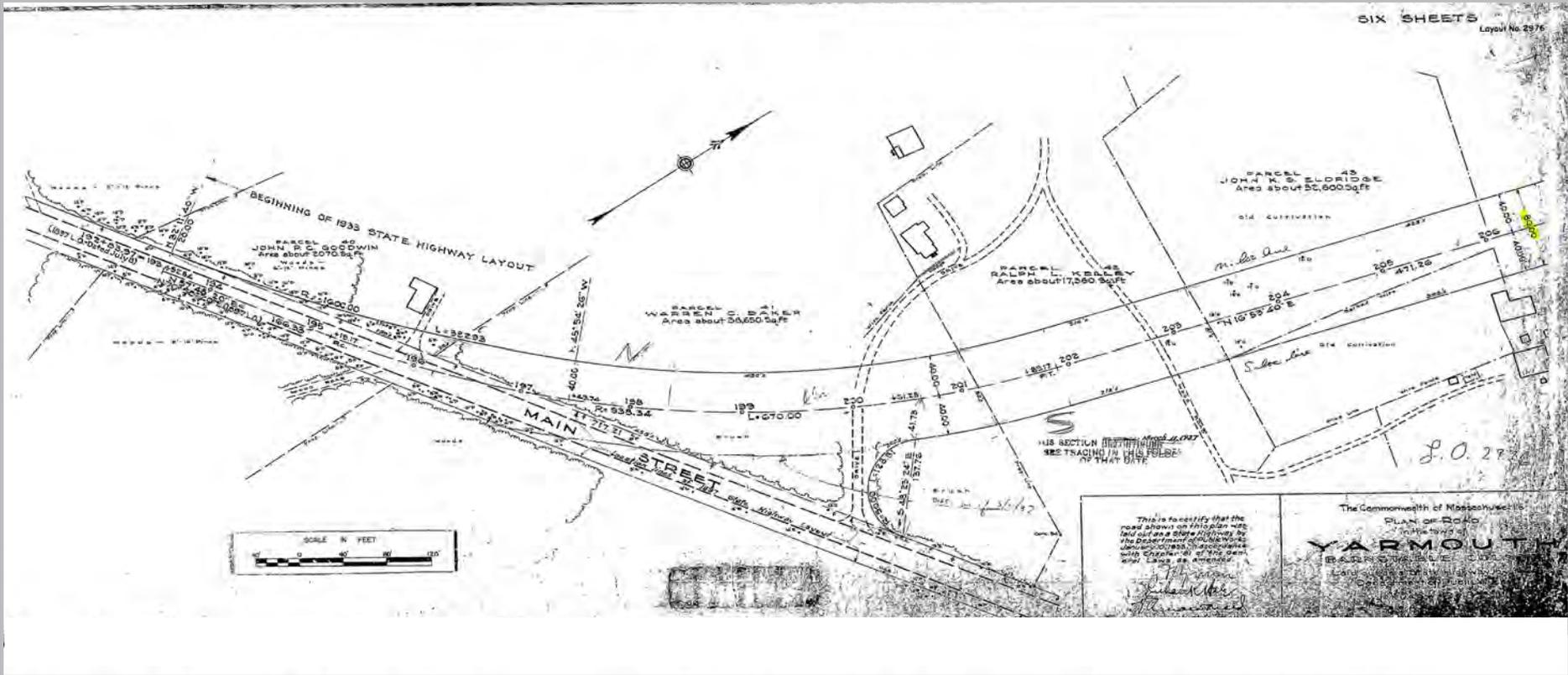


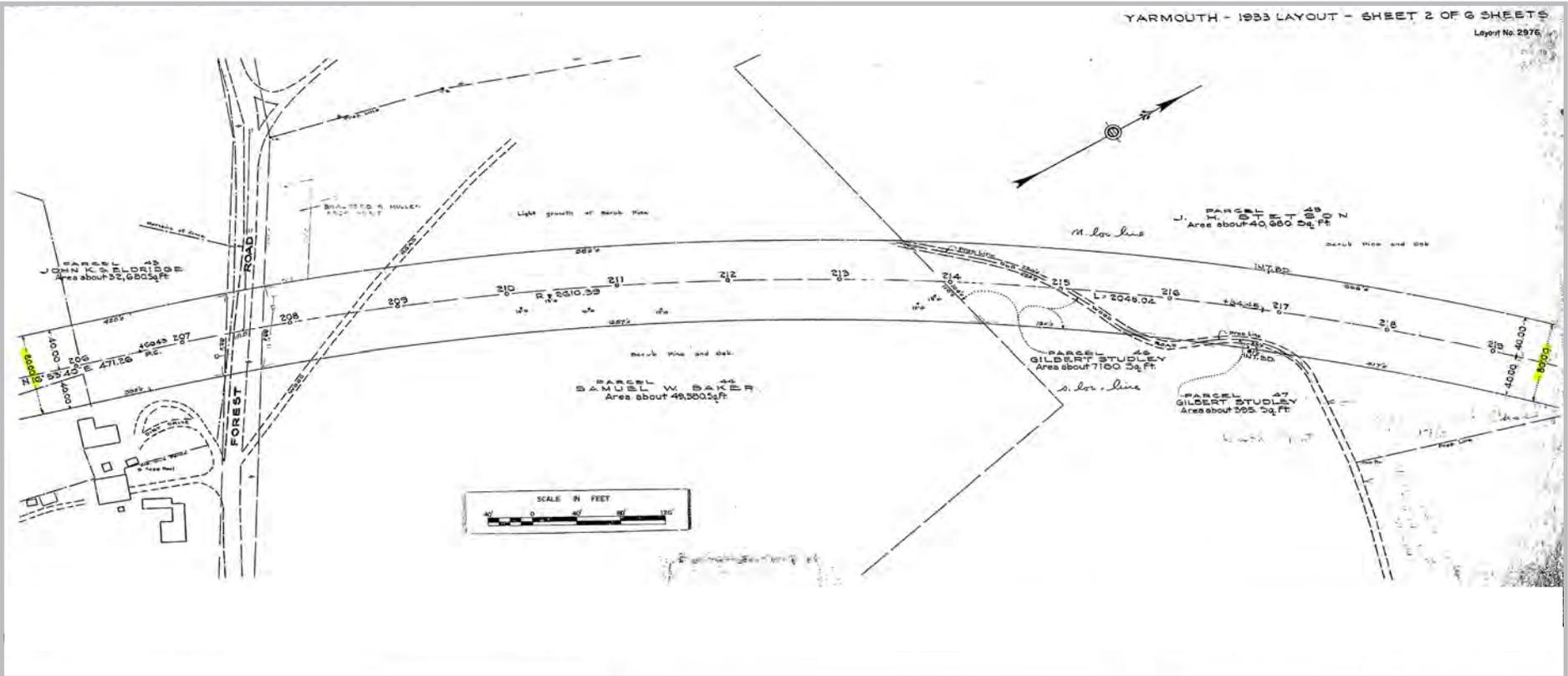






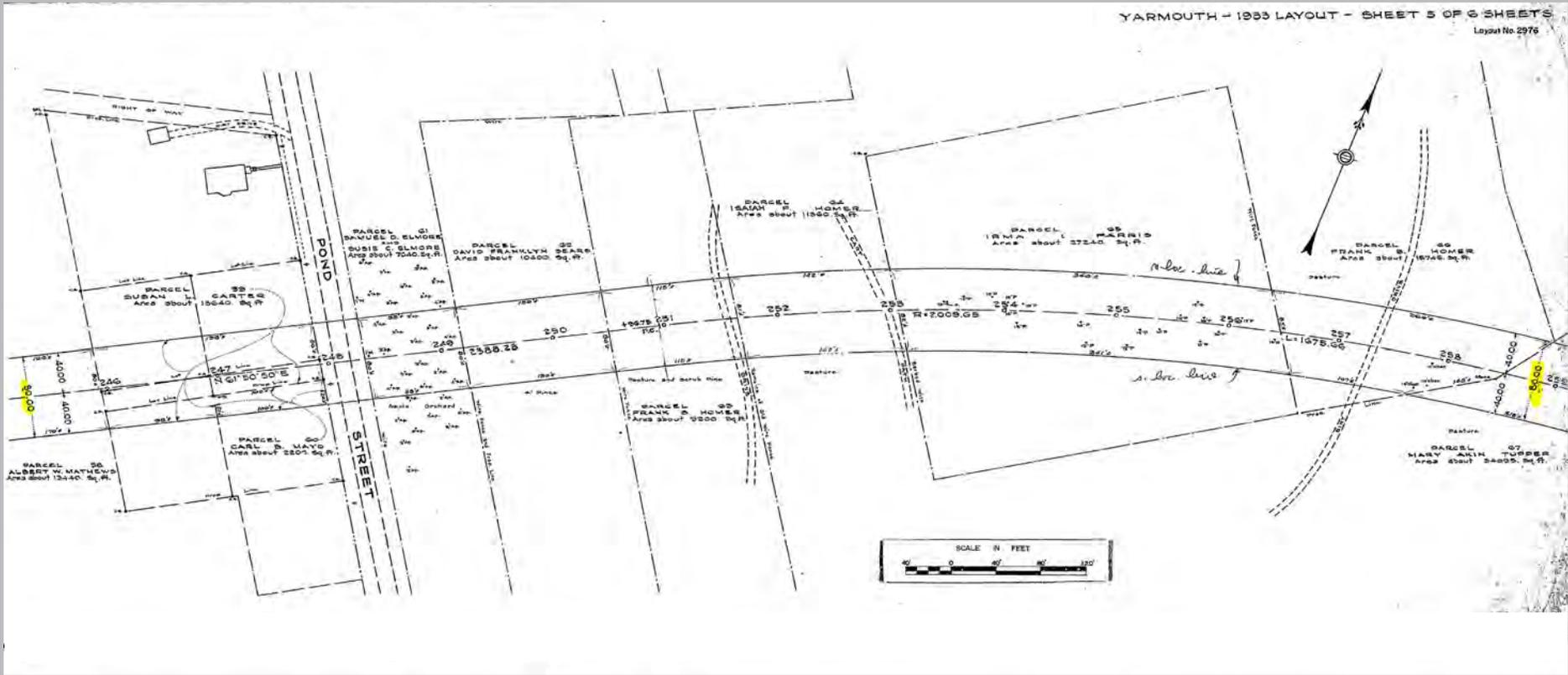
LCC 26,026  
William M. Hemen  
Elizabeth Hemen  
Byron Hemen  
Caroline R. Hemen  
Byron W. Hemen

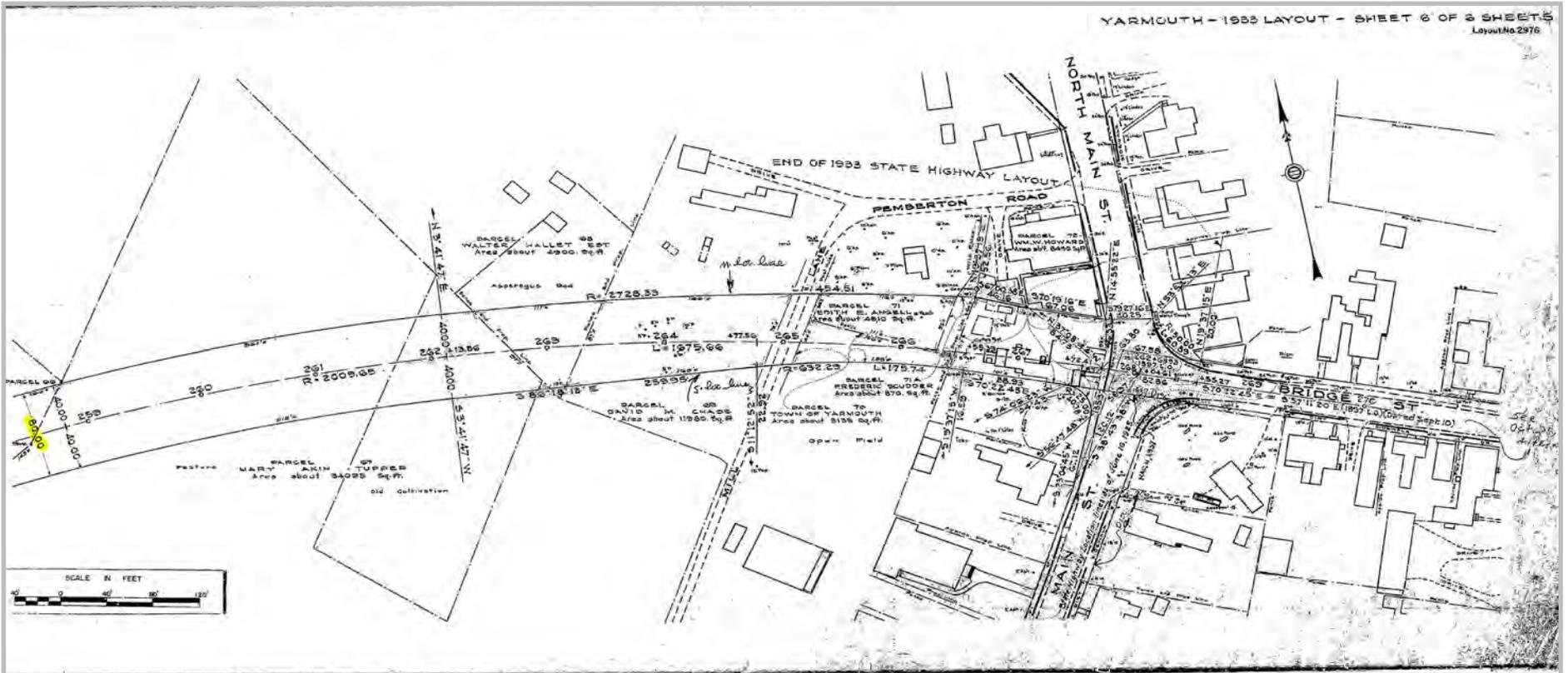




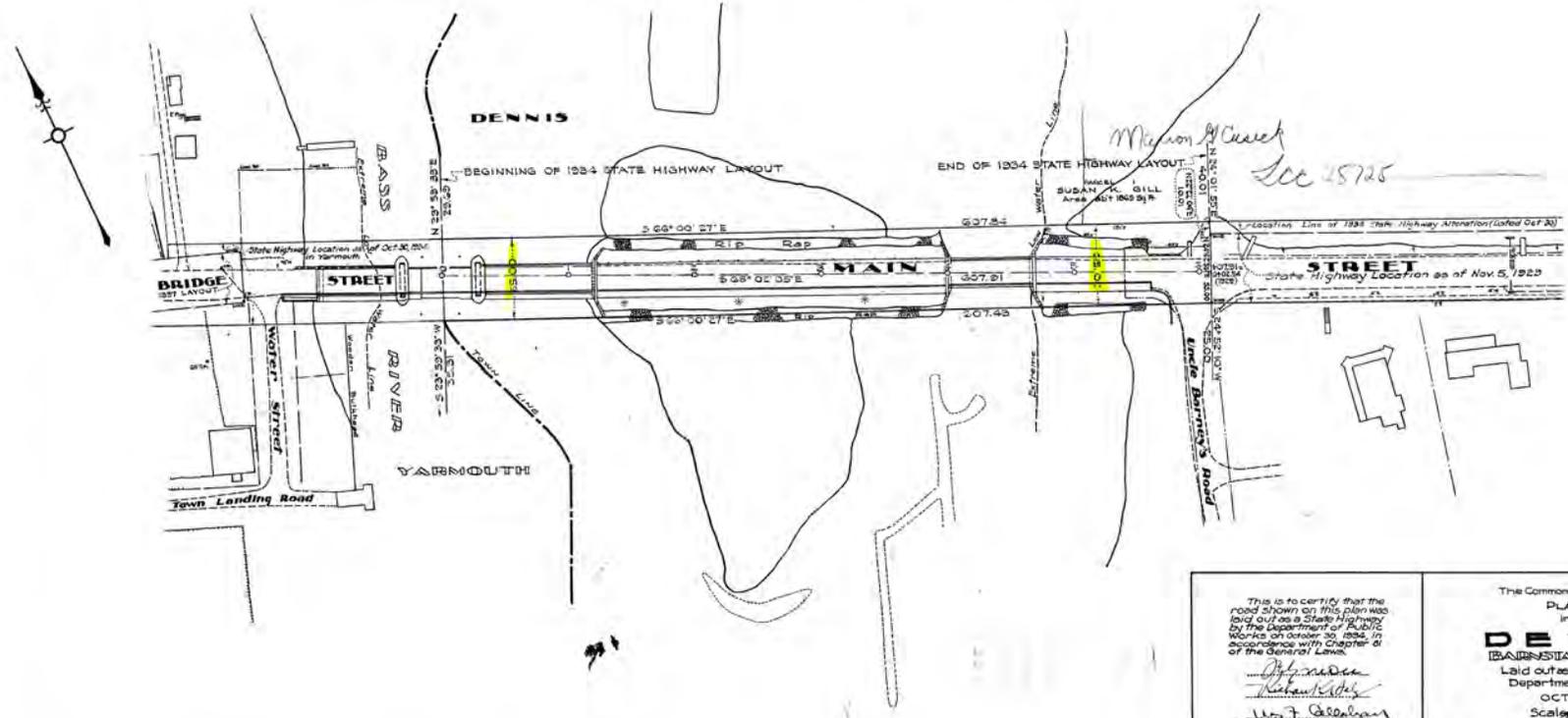








3129

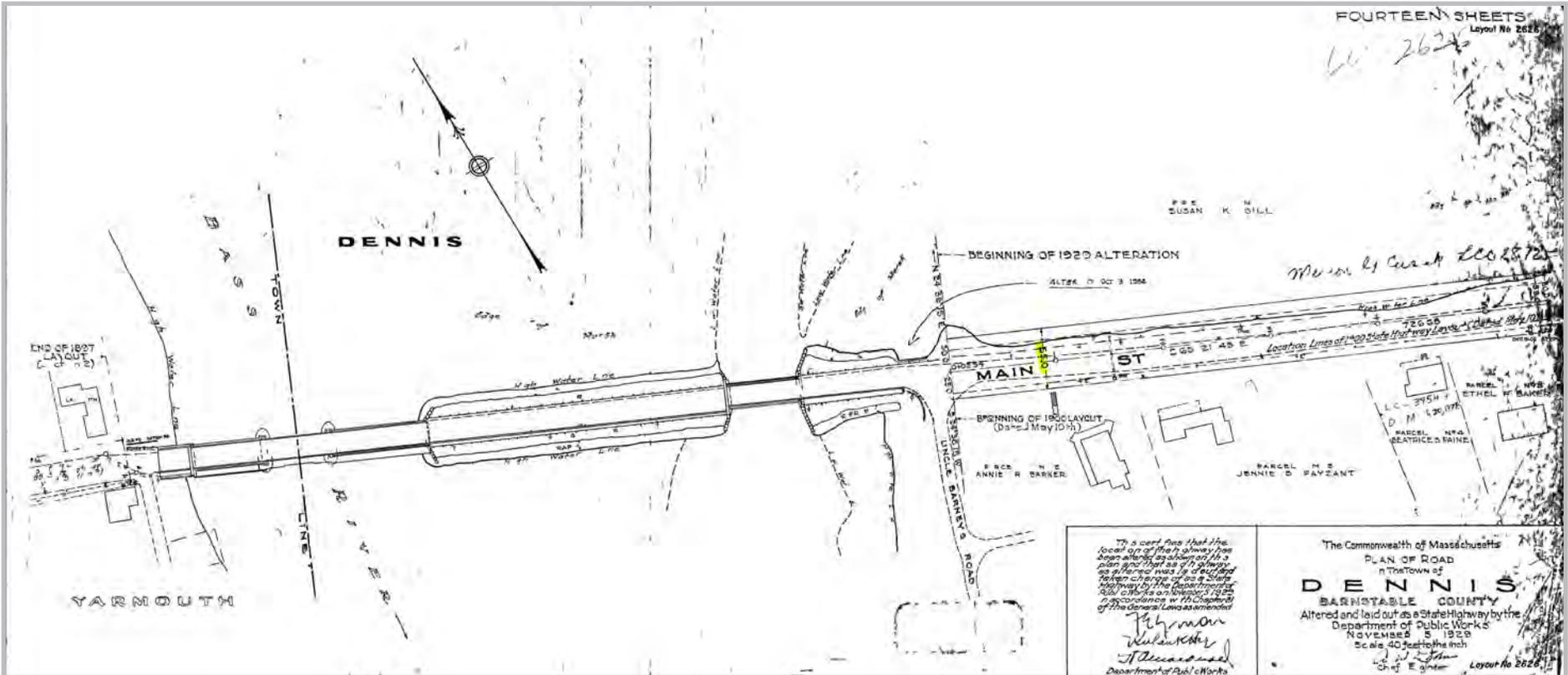


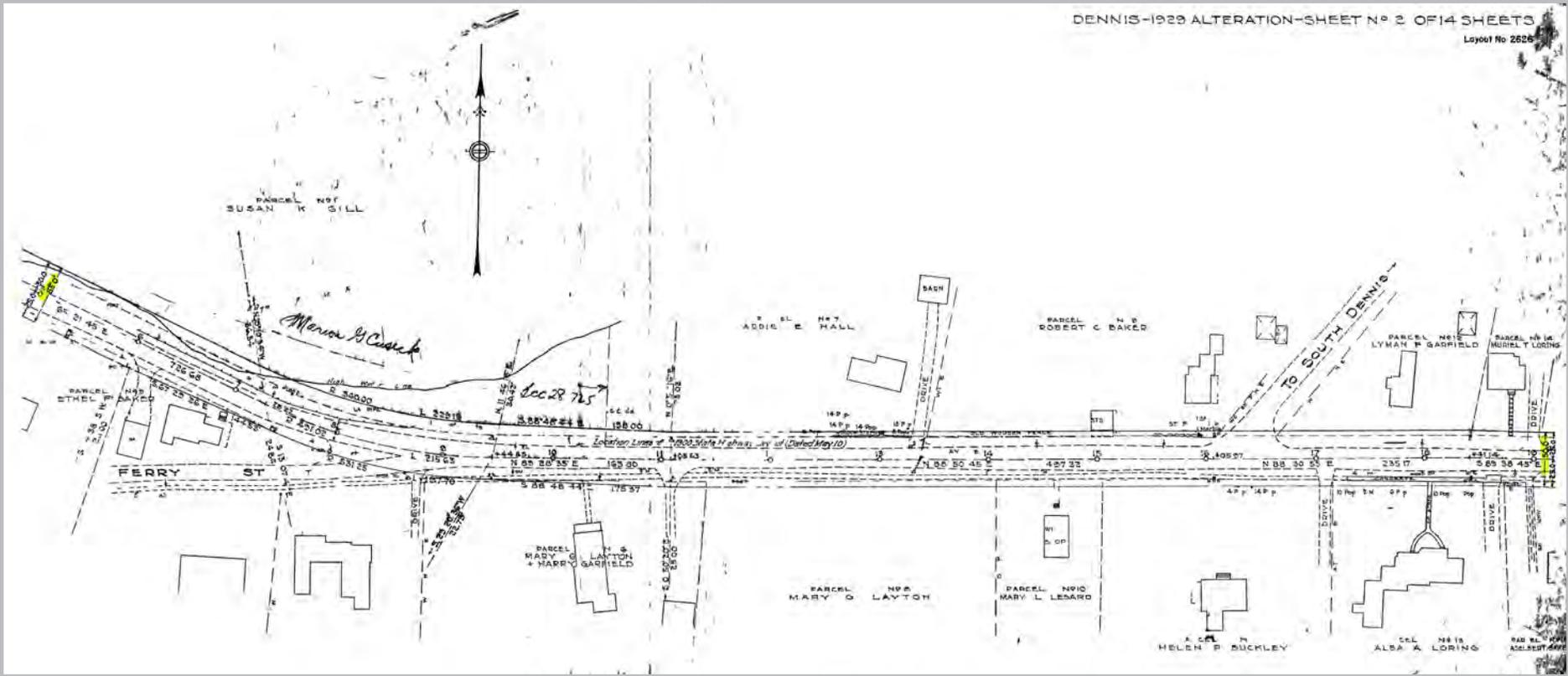
This is to certify that the road shown on this plan was laid out as a State Highway by the Department of Public Works on October 30, 1934, in accordance with Chapter 81 of the General Laws.

*[Signature]*  
Wm. F. Redden  
Department of Public Works

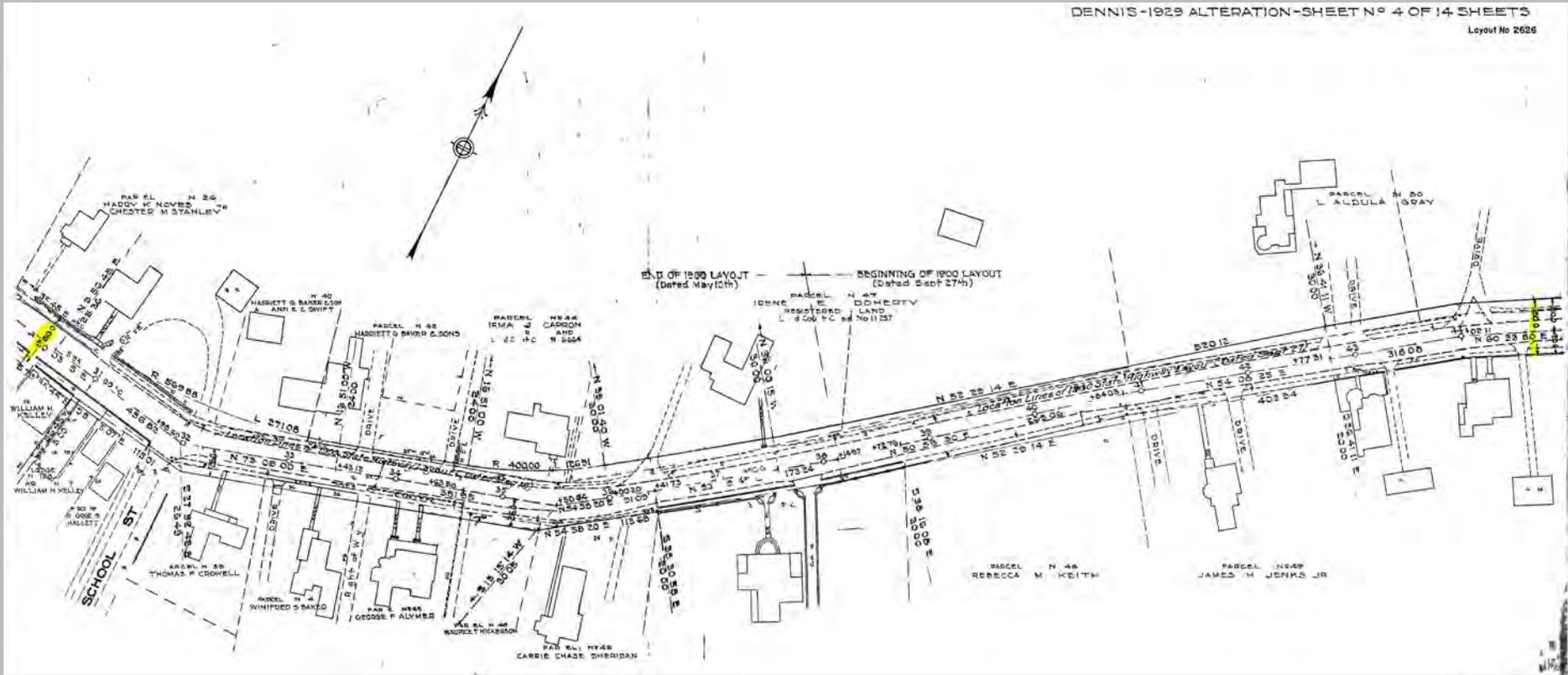
The Commonwealth of Massachusetts  
PLAN OF ROAD  
in the Town of  
**DENNIS**  
BARNSTABLE COUNTY  
Laid out as a State Highway by the  
Department of Public Works  
OCTOBER 30, 1934  
Scale 40 feet to the inch  
*[Signature]*  
Chief Engineer

Layout No. 3129

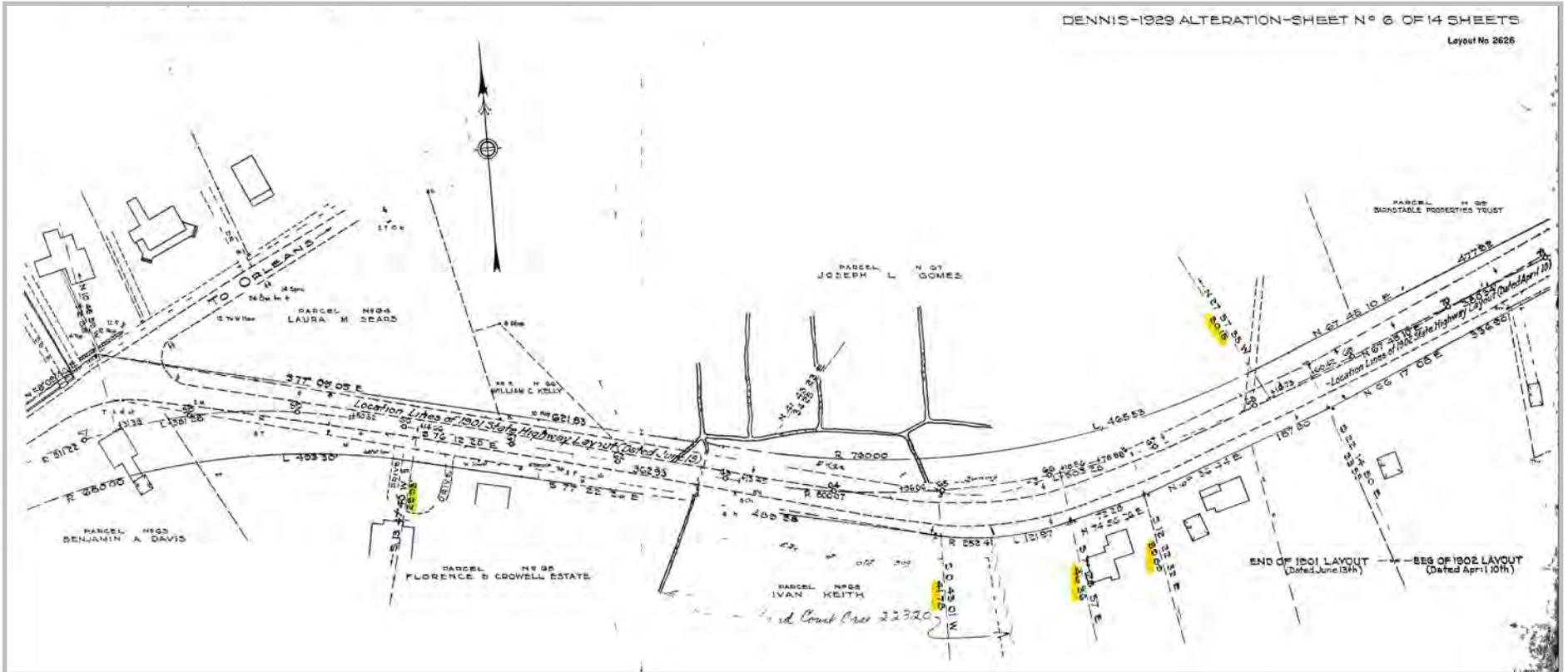




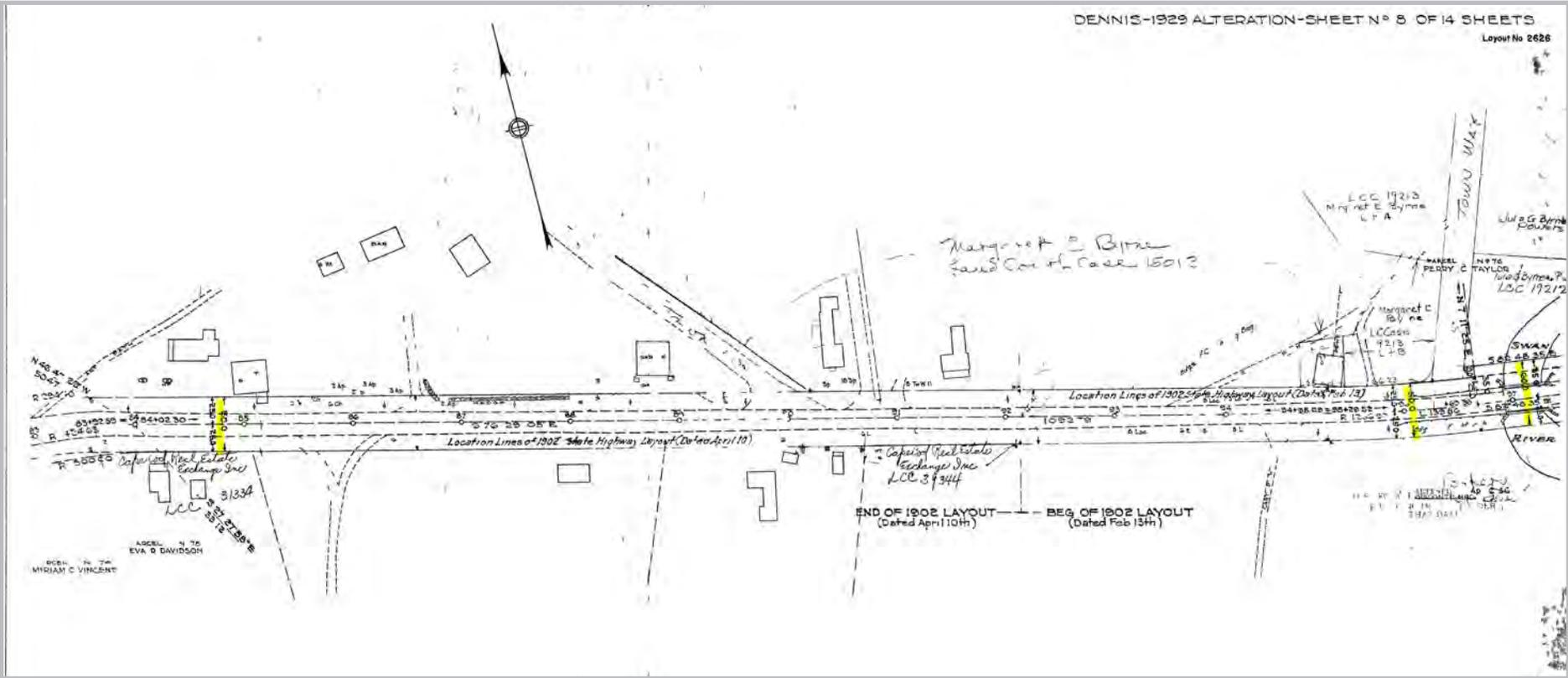


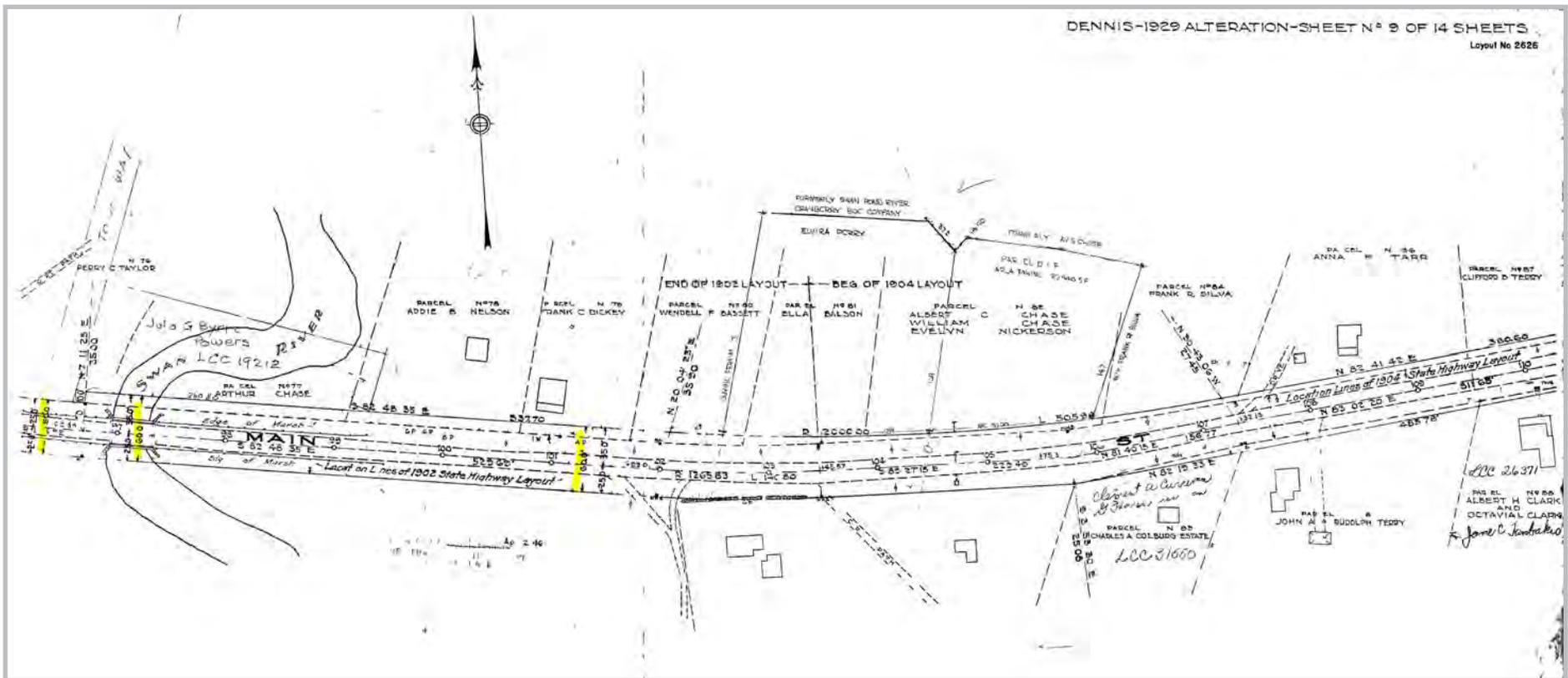






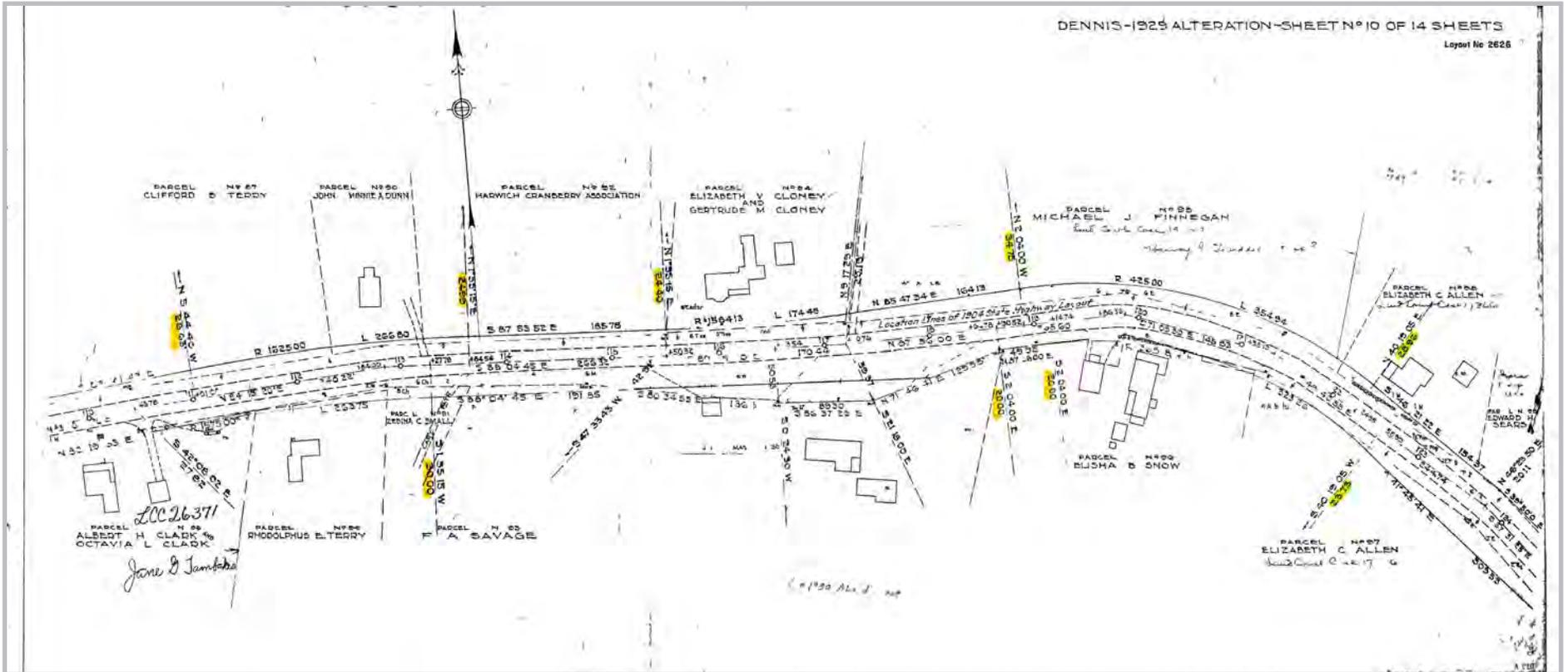


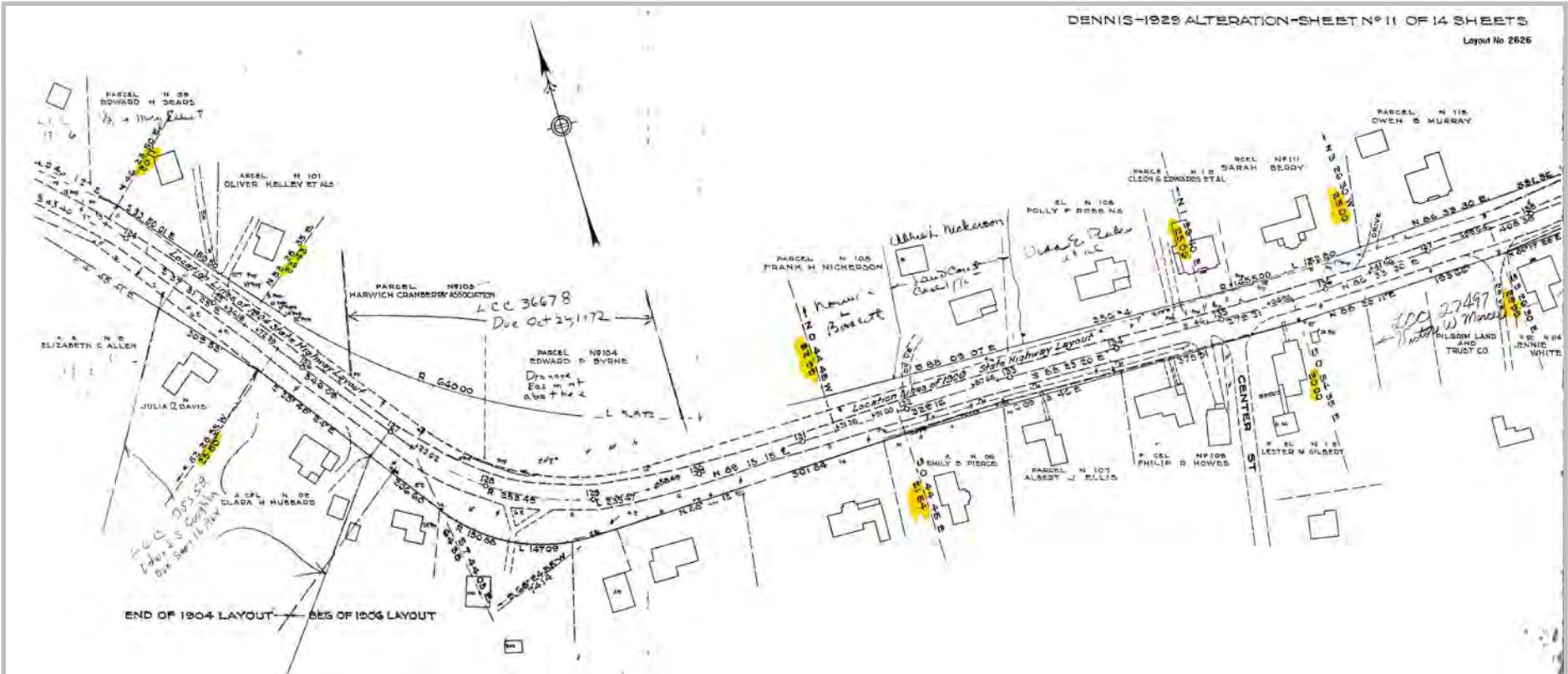




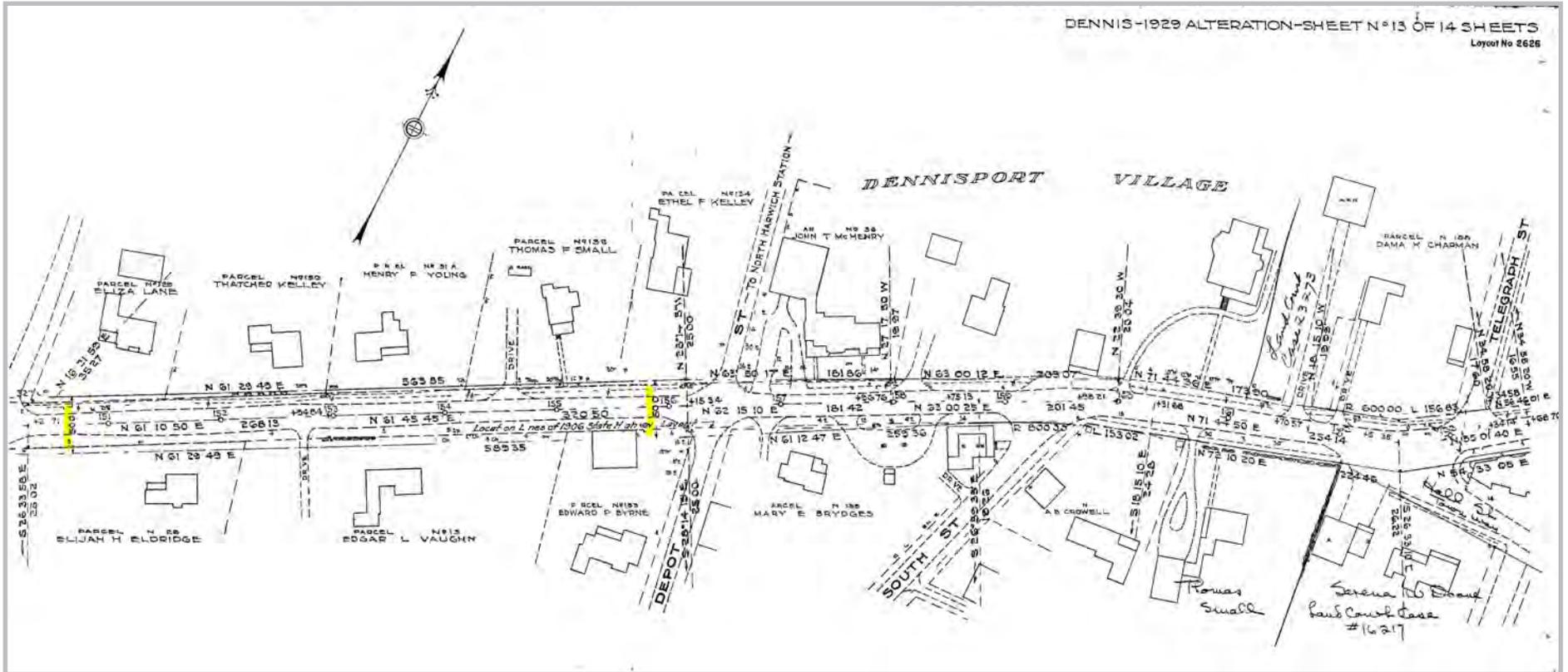
DENNIS-1925 ALTERATION-SHEET NO 10 OF 14 SHEETS

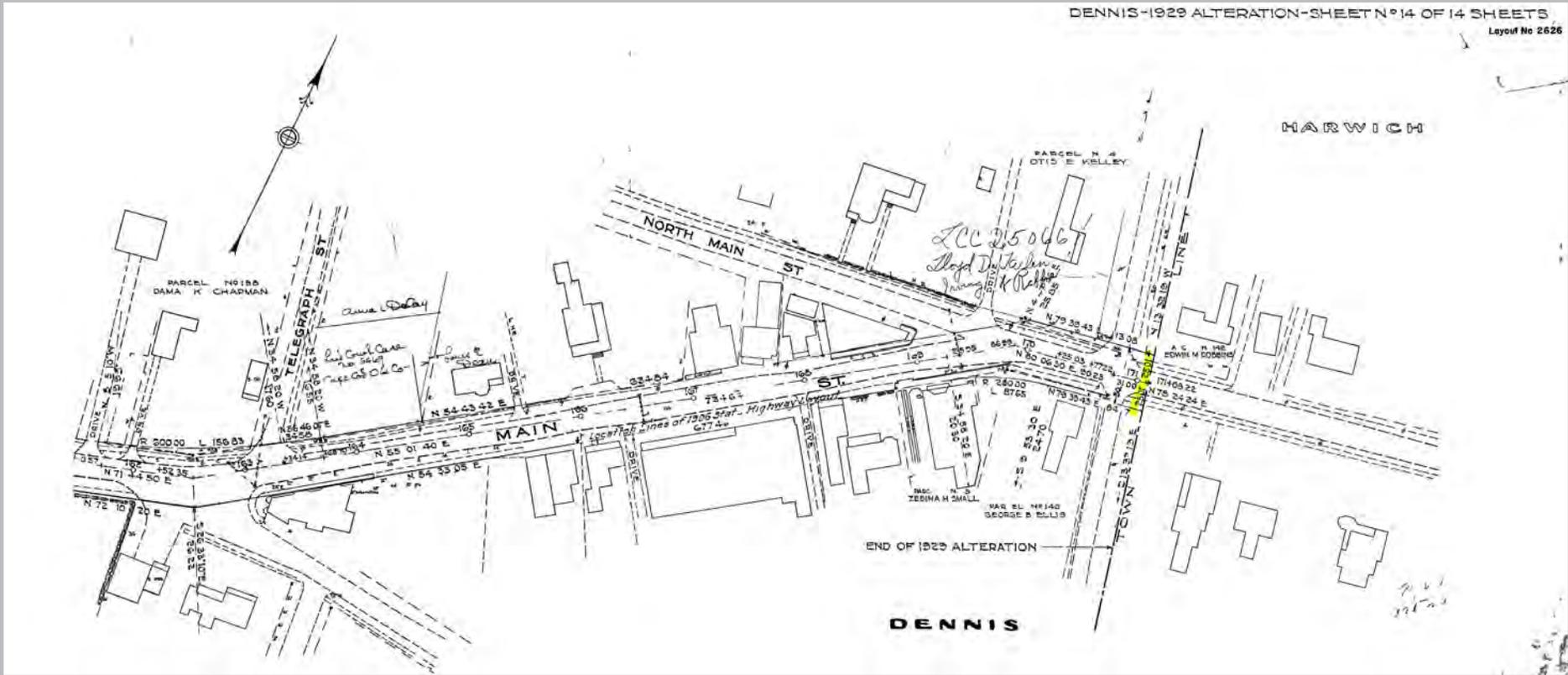
Loyal No 2626











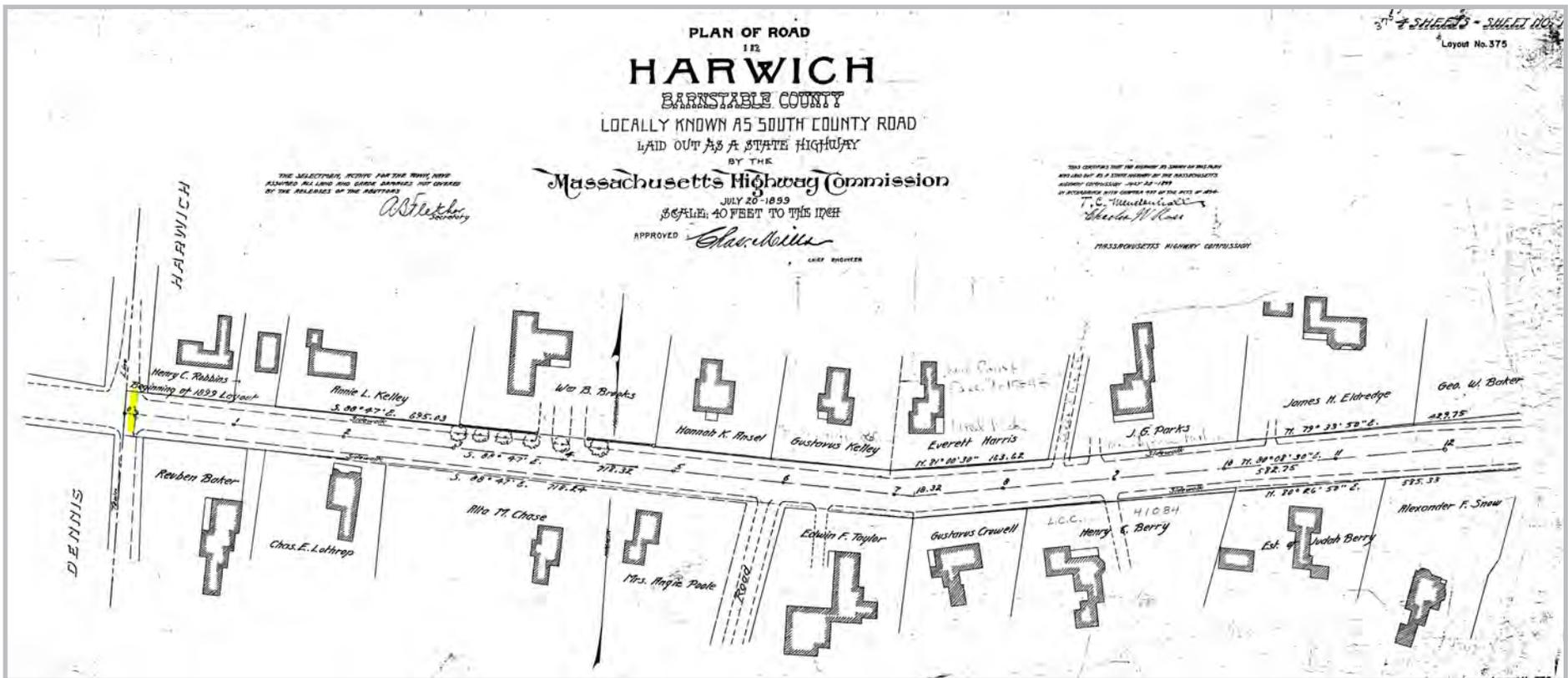
PLAN OF ROAD  
182  
**HARWICH**  
BARNSTABLE COUNTY  
LOCALLY KNOWN AS SOUTH COUNTY ROAD  
LAID OUT AS A STATE HIGHWAY

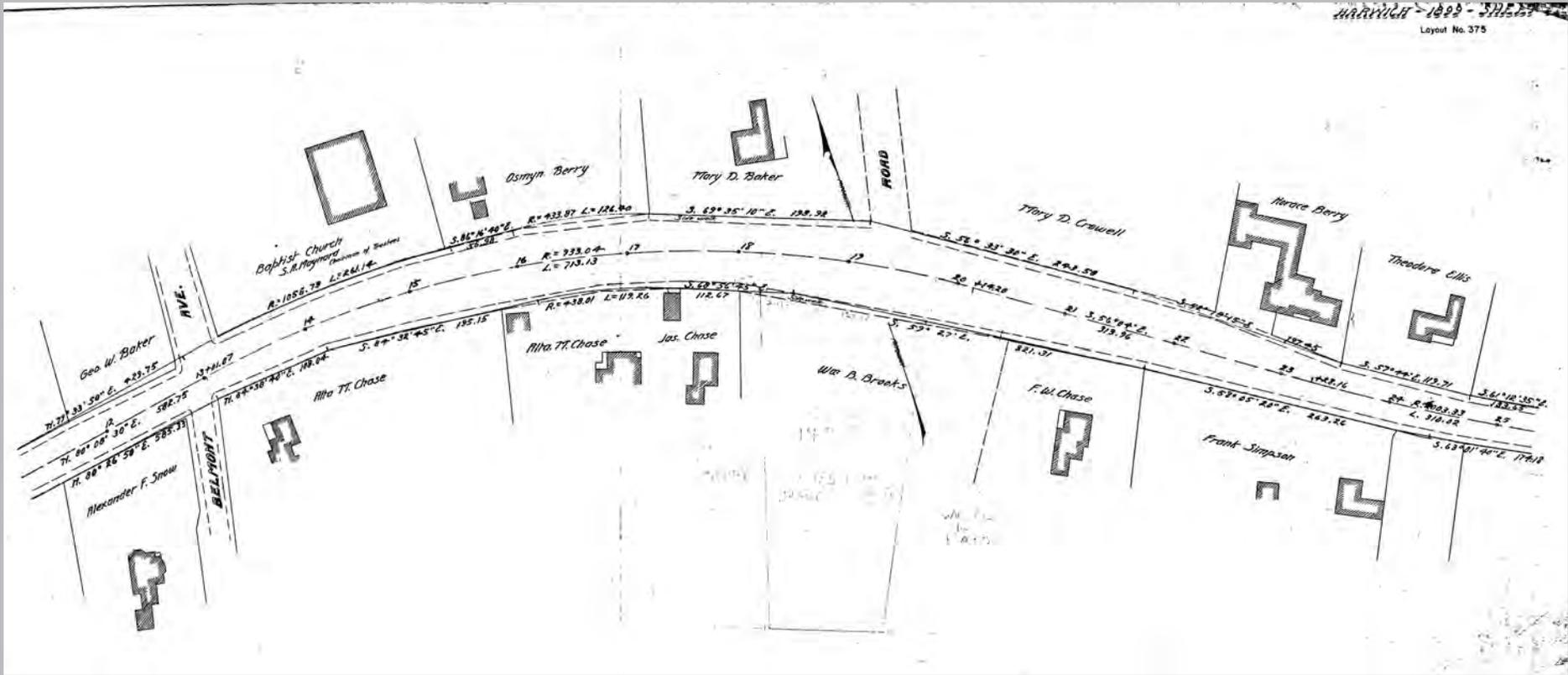
BY THE  
**Massachusetts Highway Commission**  
JULY 20 - 1899  
SCALE: 40 FEET TO THE INCH  
APPROVED *Chas. Miller*  
CHIEF ENGINEER

THE SELECTMEN, PETITION FOR THE TRAIL, HAVE  
ALLOWED ALL LAND AND GOODS SHOWN NOT OWNED  
BY THE HOLDERS OF THE BARNSTABLE

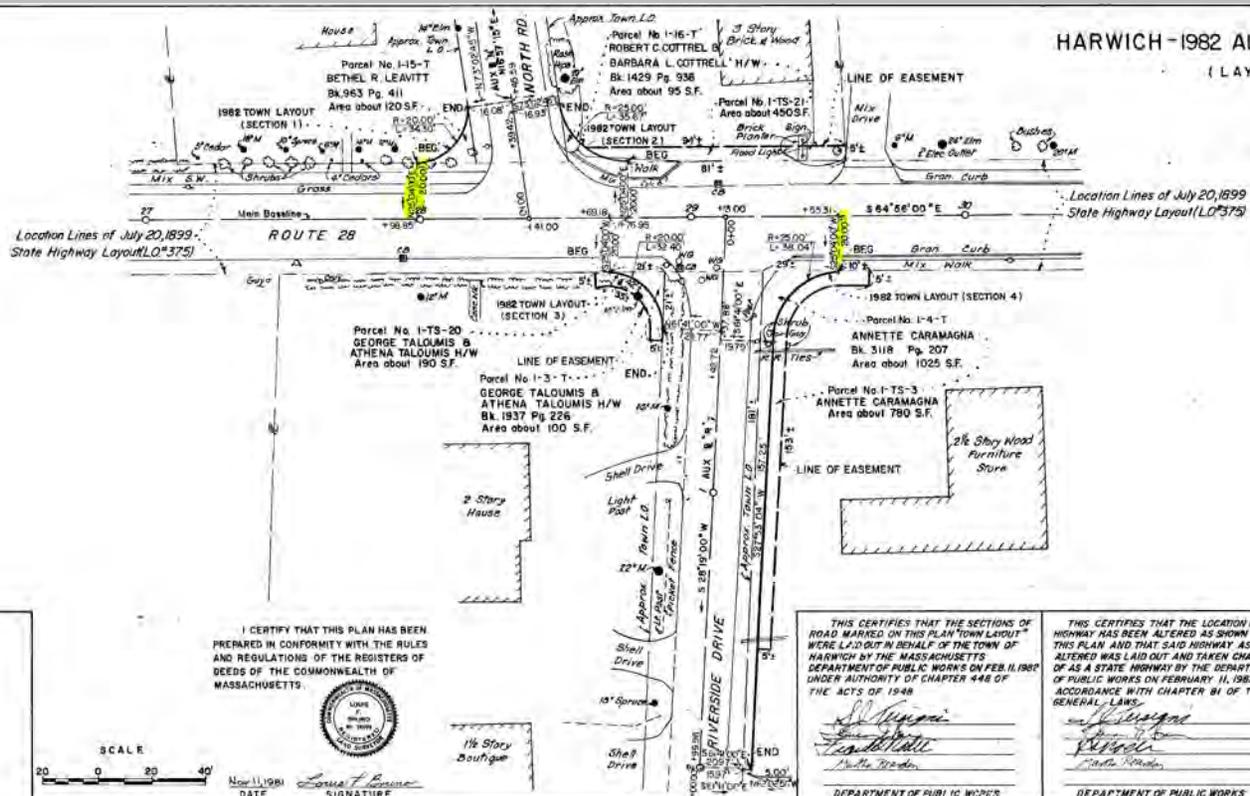
THIS CERTIFIES THAT THE BARNSTABLE COUNTY ENGINEER HAS BEEN  
AND IS AS A STATE ENGINEER OF THE MASSACHUSETTS  
HIGHWAY COMMISSION - JULY 20 - 1899  
IN ACCORDANCE WITH CHAPTER 107 OF THE ACTS OF 1894.  
T. C. McKeen  
SHERIFF

MASSACHUSETTS HIGHWAY COMMISSION





HARWICH - 1982 ALTERATION I OF 6 SHEETS  
(LAYOUT NO. 6528)

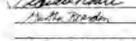


I CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

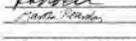
  
 DATE: Nov 11, 1981  
 SIGNATURE: Louise T. [unclear]

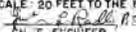


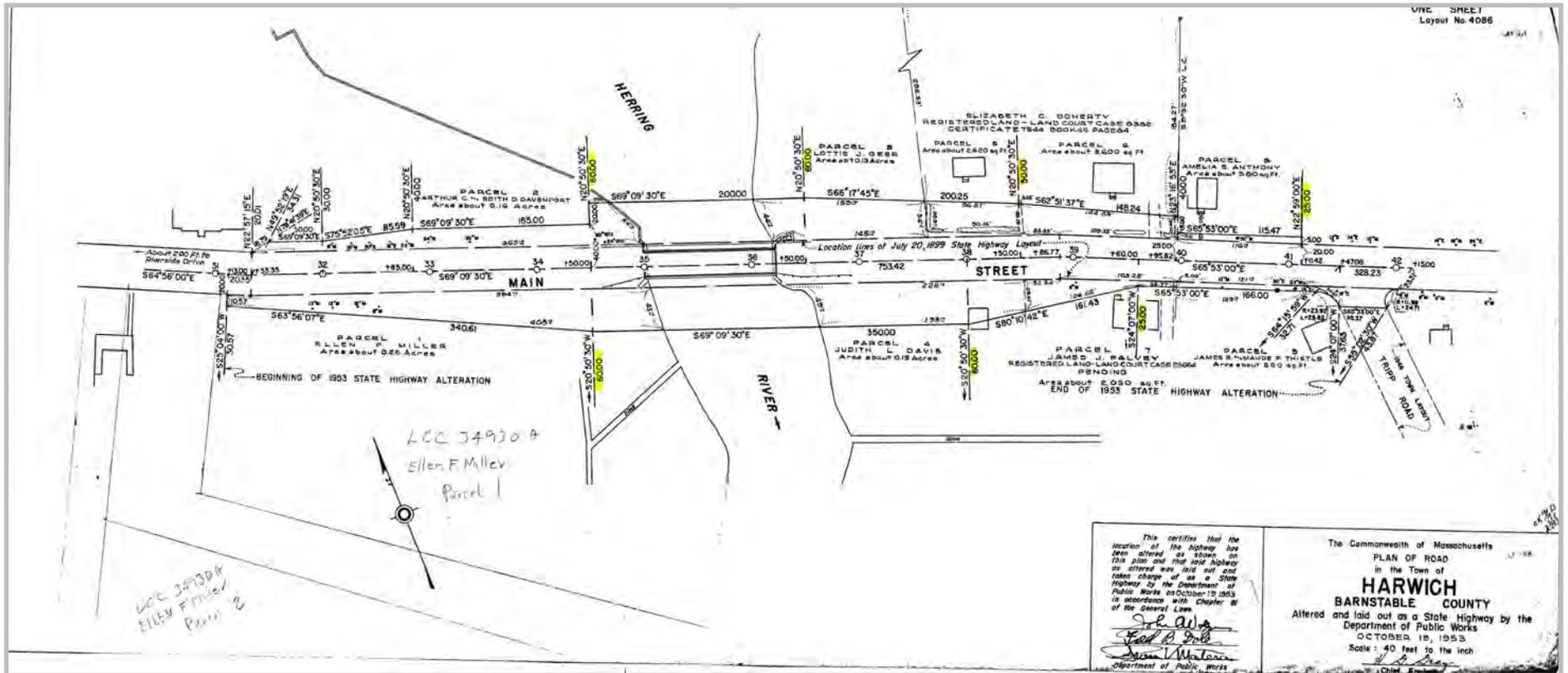
THIS CERTIFIES THAT THE SECTIONS OF ROAD MARKED ON THIS PLAN "TOWN LAYOUT" WERE LAID OUT IN BEHALF OF THE TOWN OF HARWICH BY THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS ON FEB. 11, 1982 UNDER AUTHORITY OF CHAPTER 448 OF THE ACTS OF 1948.

  
  
 DEPARTMENT OF PUBLIC WORKS

THIS CERTIFIES THAT THE LOCATION OF THE HIGHWAY HAS BEEN ALTERED AS SHOWN ON THIS PLAN AND THAT SAID HIGHWAY AS ALTERED WAS LAID OUT AND TAKEN CHARGE OF AS A STATE HIGHWAY BY THE DEPARTMENT OF PUBLIC WORKS ON FEBRUARY 11, 1982 IN ACCORDANCE WITH CHAPTER 81 OF THE GENERAL LAWS.

  
  
 DEPARTMENT OF PUBLIC WORKS

THE COMMONWEALTH OF MASSACHUSETTS  
PLAN OF ROAD  
IN THE TOWN OF  
**HARWICH**  
BARNSTABLE COUNTY  
ALTERED AND LAID OUT AS A STATE HIGHWAY  
BY THE DEPARTMENT OF PUBLIC WORKS  
FEBRUARY 11, 1982  
SCALE: 20 FEET TO THE INCH  
  
 CHIEF ENGINEER LAYOUT NO. 6528



ONE SHEET  
Layout No. 4086

LCC 34930 A  
Ellen F. Miller  
Parcel 1

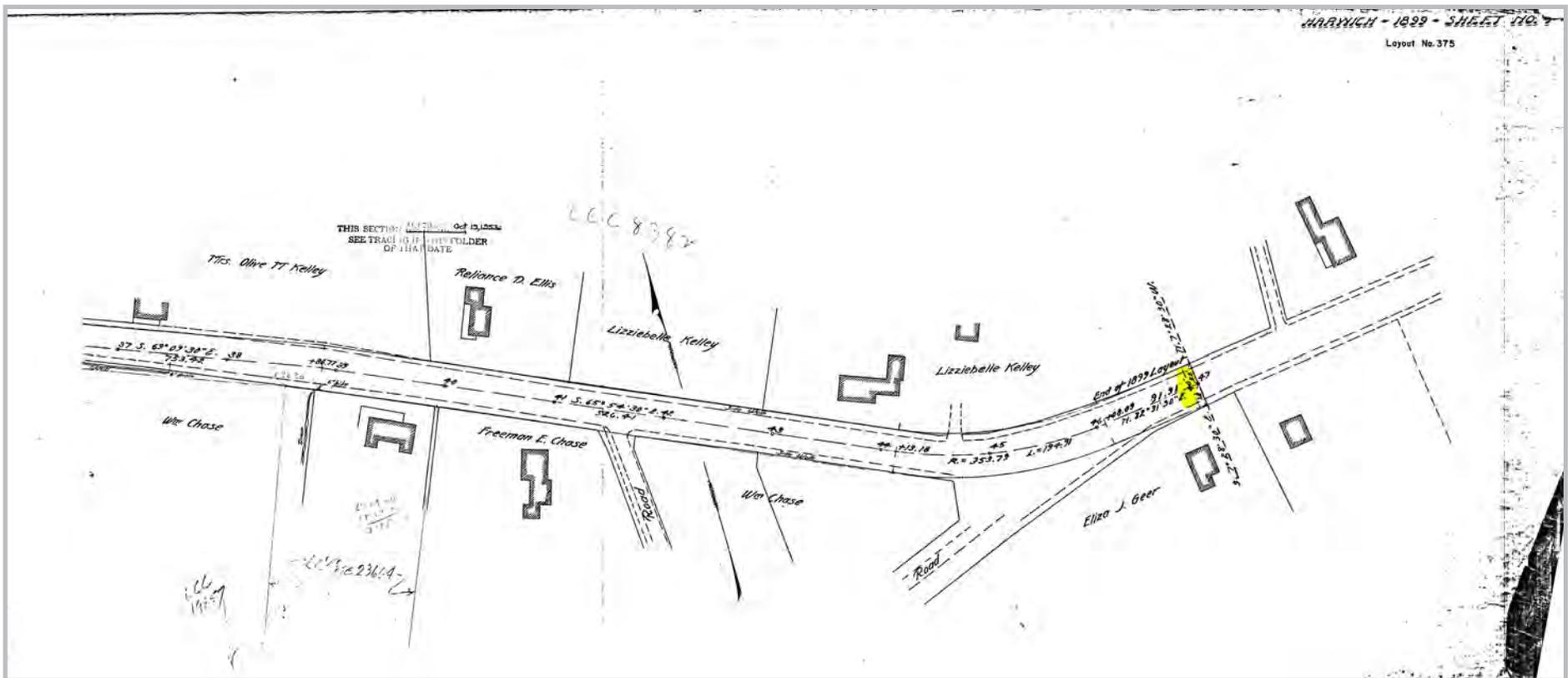
LCC 34930 B  
Ellen F. Miller  
Parcel 2

This certifies that the location of the highway has been altered as shown on this plan and that said highway as altered was laid out and taken charge of as a State Highway by the Department of Public Works on October 19, 1953 in accordance with Chapter 81 of the General Laws.

*John A. ...*  
*Fred B. ...*  
*James ...*

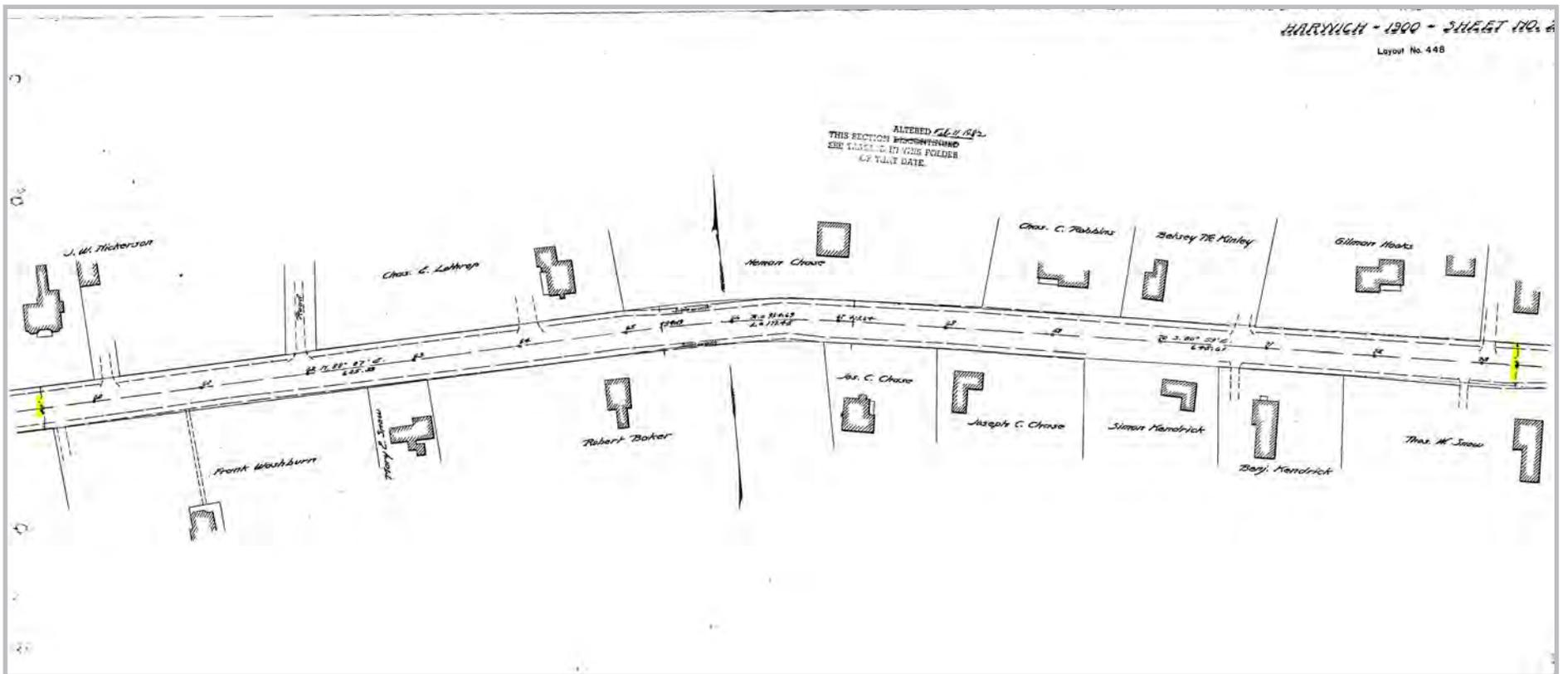
Department of Public Works

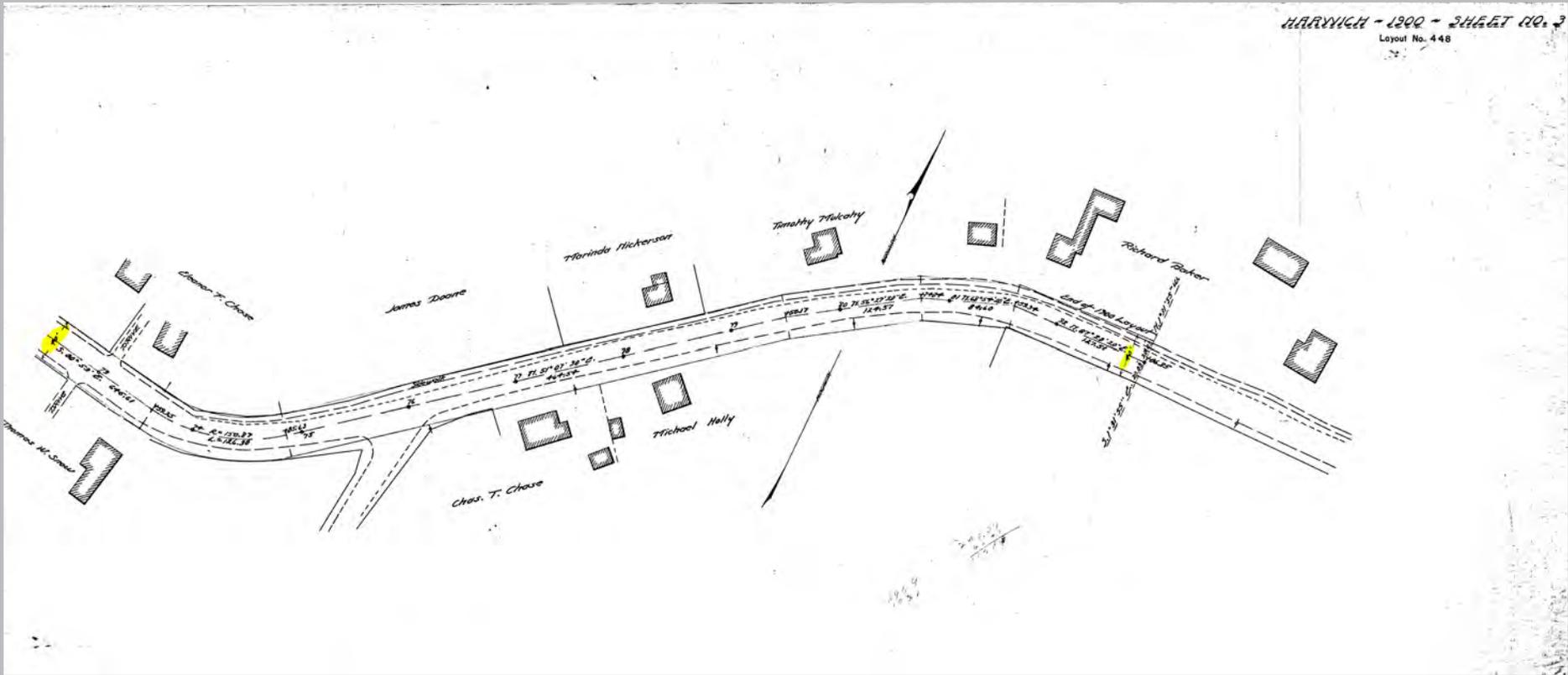
The Commonwealth of Massachusetts  
PLAN OF ROAD  
in the Town of  
**HARWICH**  
BARNSTABLE COUNTY  
Altered and laid out as a State Highway by the  
Department of Public Works  
OCTOBER 19, 1953  
Scale: 40 feet to the inch





ALTERED 11/11/12  
THIS SECTION RECONSTRUCTED  
SEE LABELS IN THIS FOLDER  
OF THAT DATE.



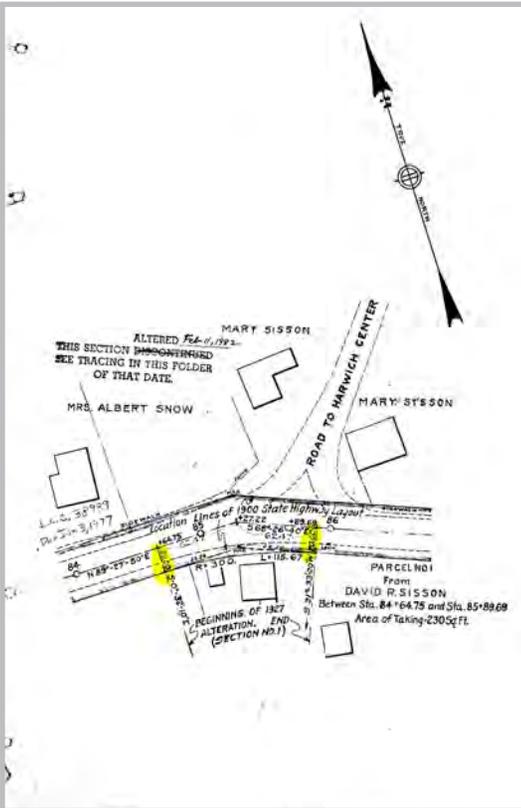


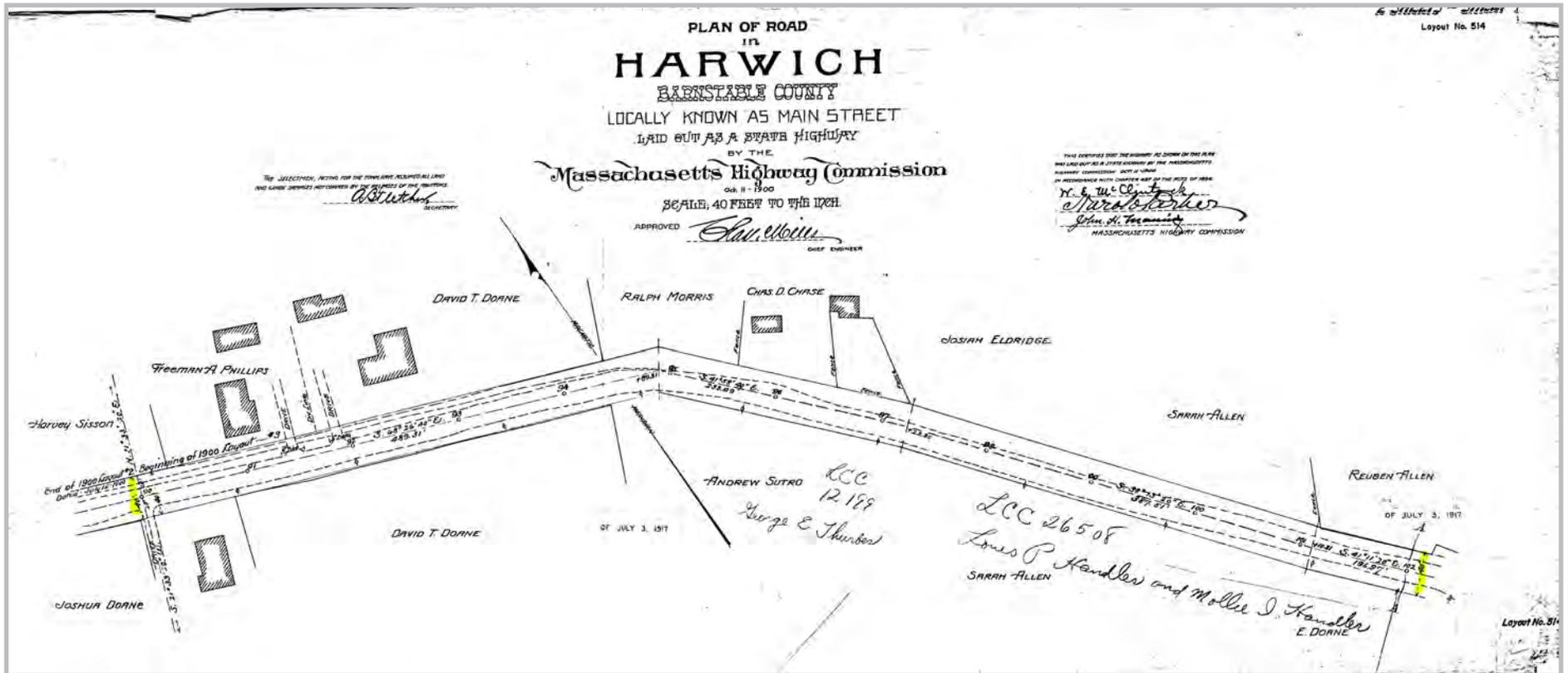
THE COMMONWEALTH OF MASSACHUSETTS  
PLAN OF ROAD  
IN THE TOWN OF  
**HARWICH**  
BARNSTABLE COUNTY  
ALTERED & LAID OUT AS A STATE HIGHWAY BY THE  
DEPARTMENT OF PUBLIC WORKS  
OCTOBER 4, 1927.  
SCALE 40 FEET TO THE INCH  
*R. W. [Signature]*  
CHIEF ENGINEER

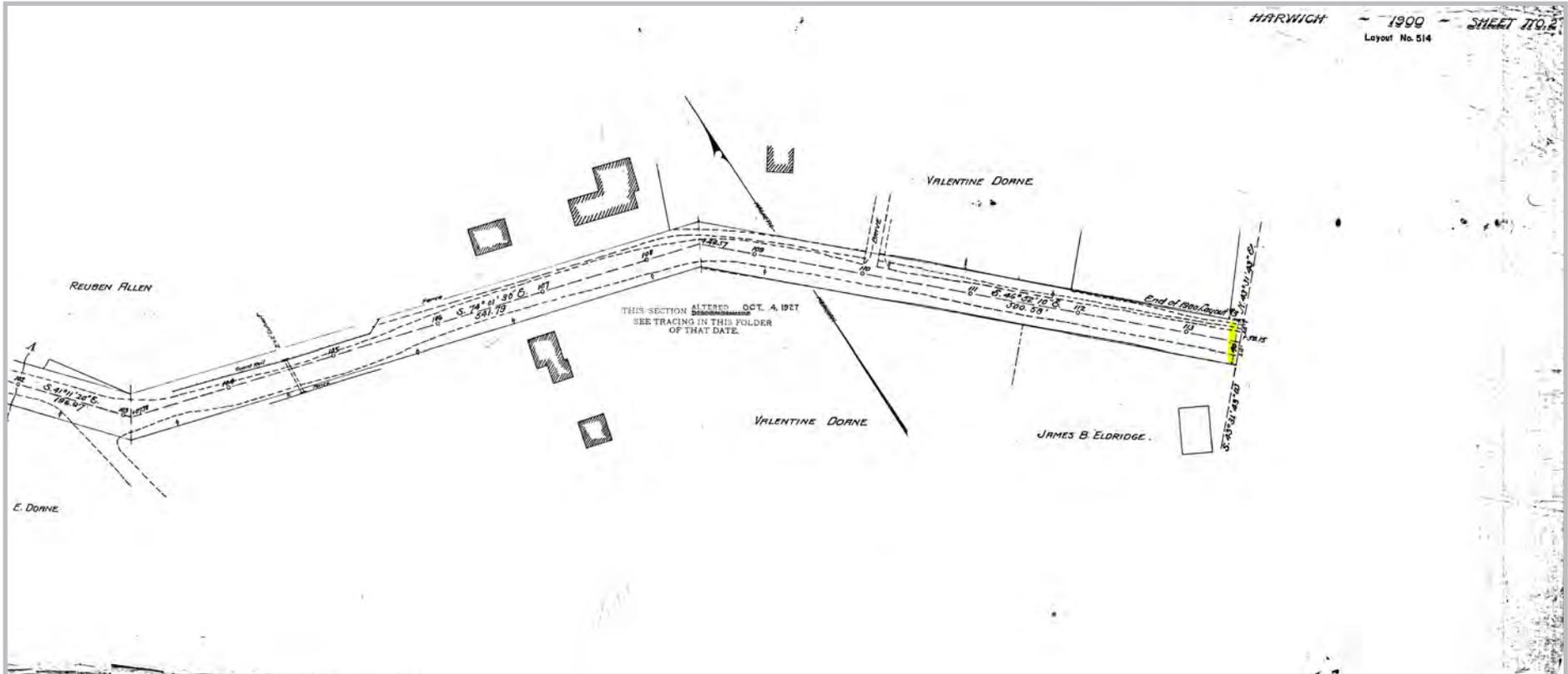
2458

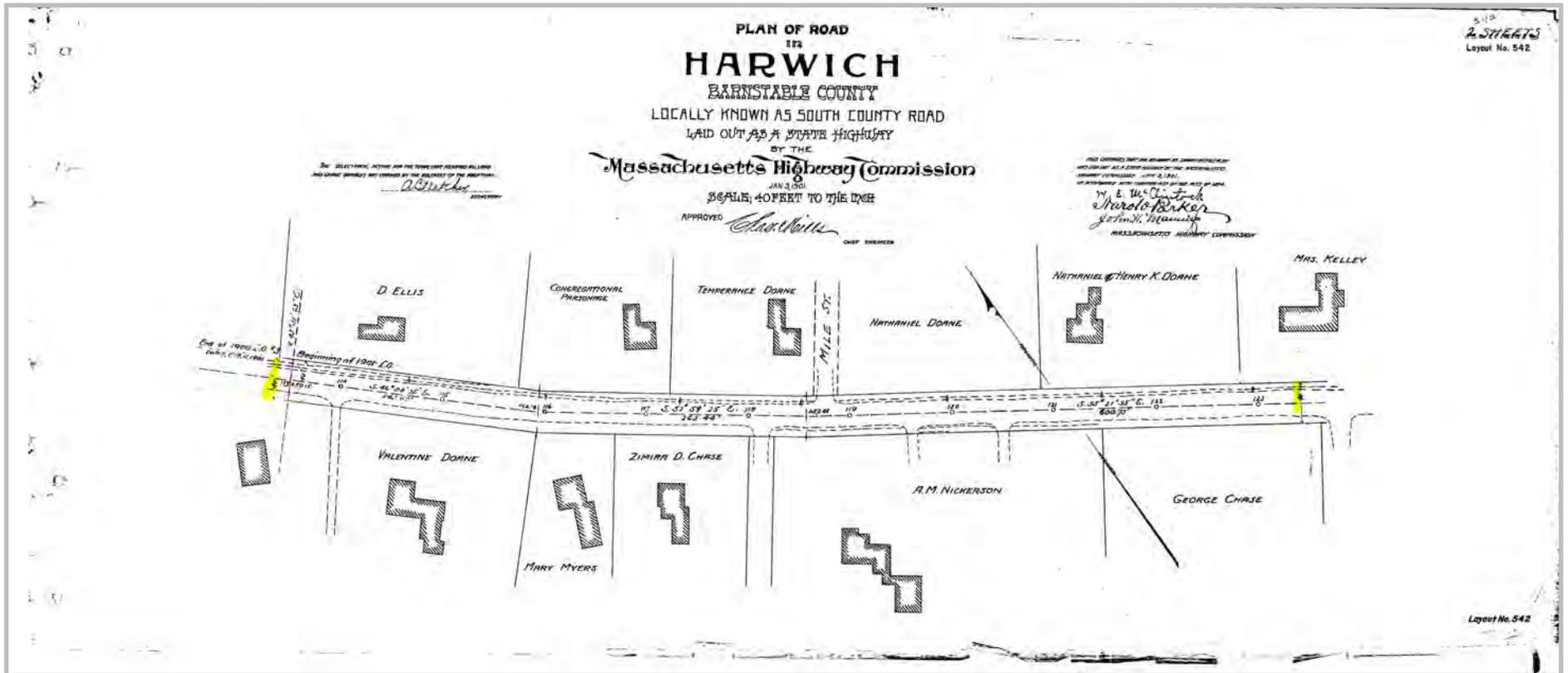
THIS CERTIFIES THAT THE LOCATION OF THE HIGHWAY AS SHOWN ON THIS PLAN HAS BEEN ALTERED AS INDICATED AND THAT SAID HIGHWAY AS ALTERED WAS LAID OUT AND TAKEN CHARGE OF AS A STATE HIGHWAY BY THE DEPARTMENT OF PUBLIC WORKS, ON OCTOBER 4, 1927, IN ACCORDANCE WITH CHAPTER 81 OF THE GENERAL LAWS AS AMENDED BY CHAPTER 544 OF THE ACTS OF 1922.

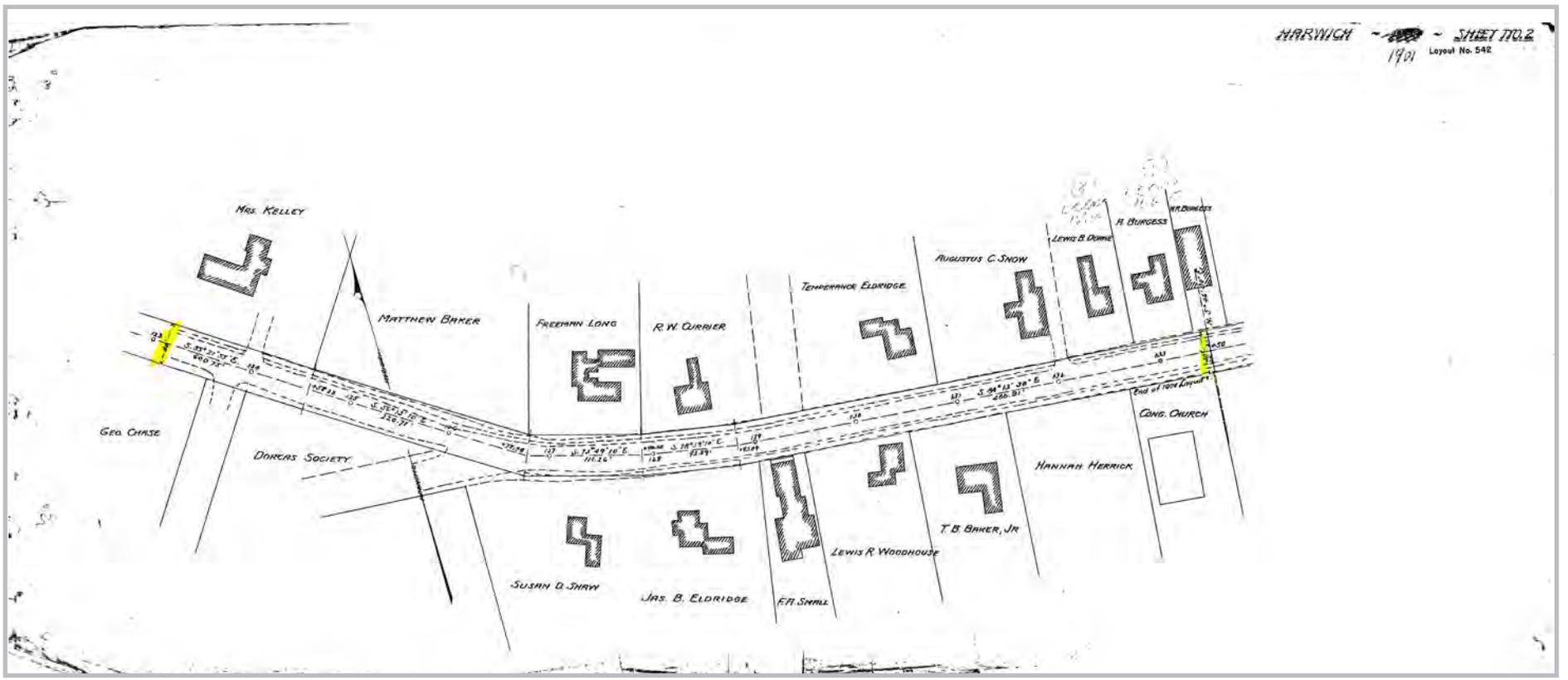
*William J. Hallam*  
*Richard [Signature]*  
DEPARTMENT OF PUBLIC WORKS







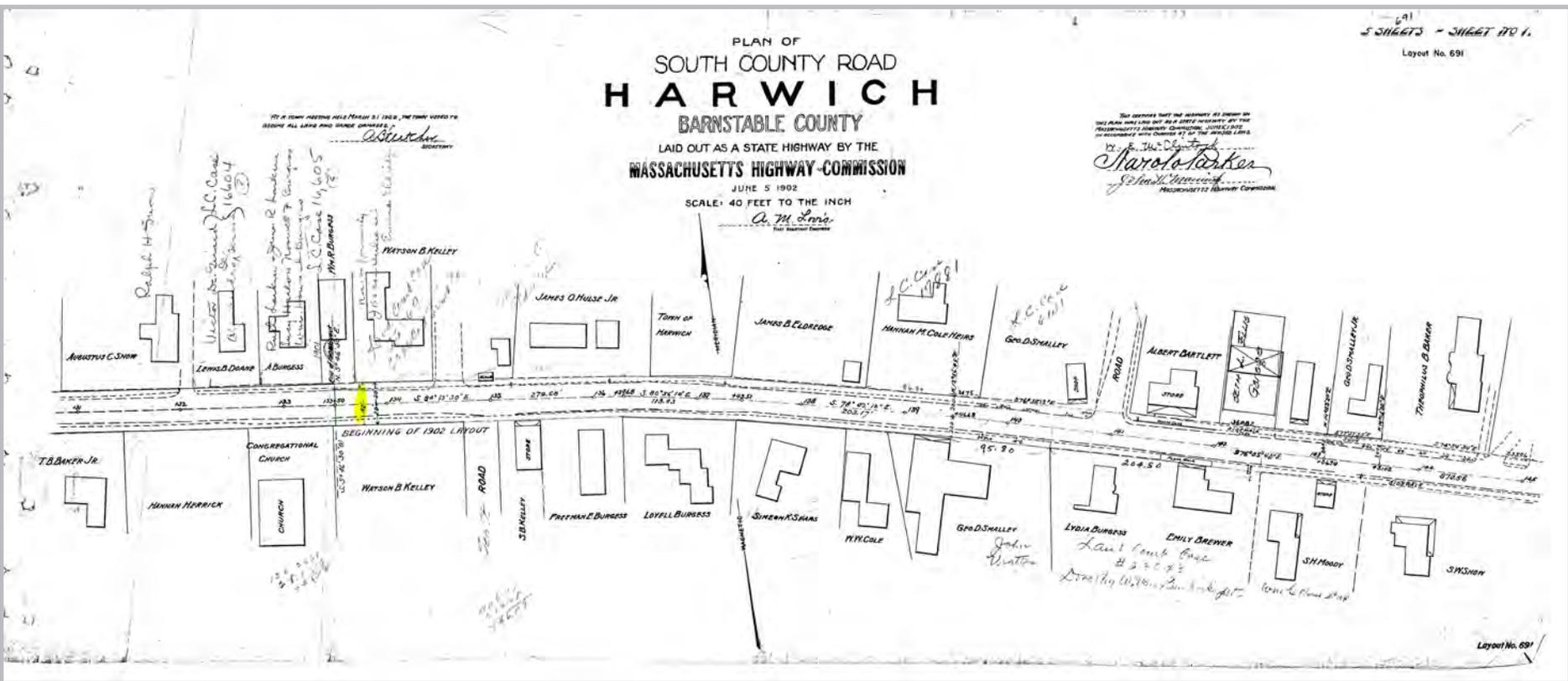




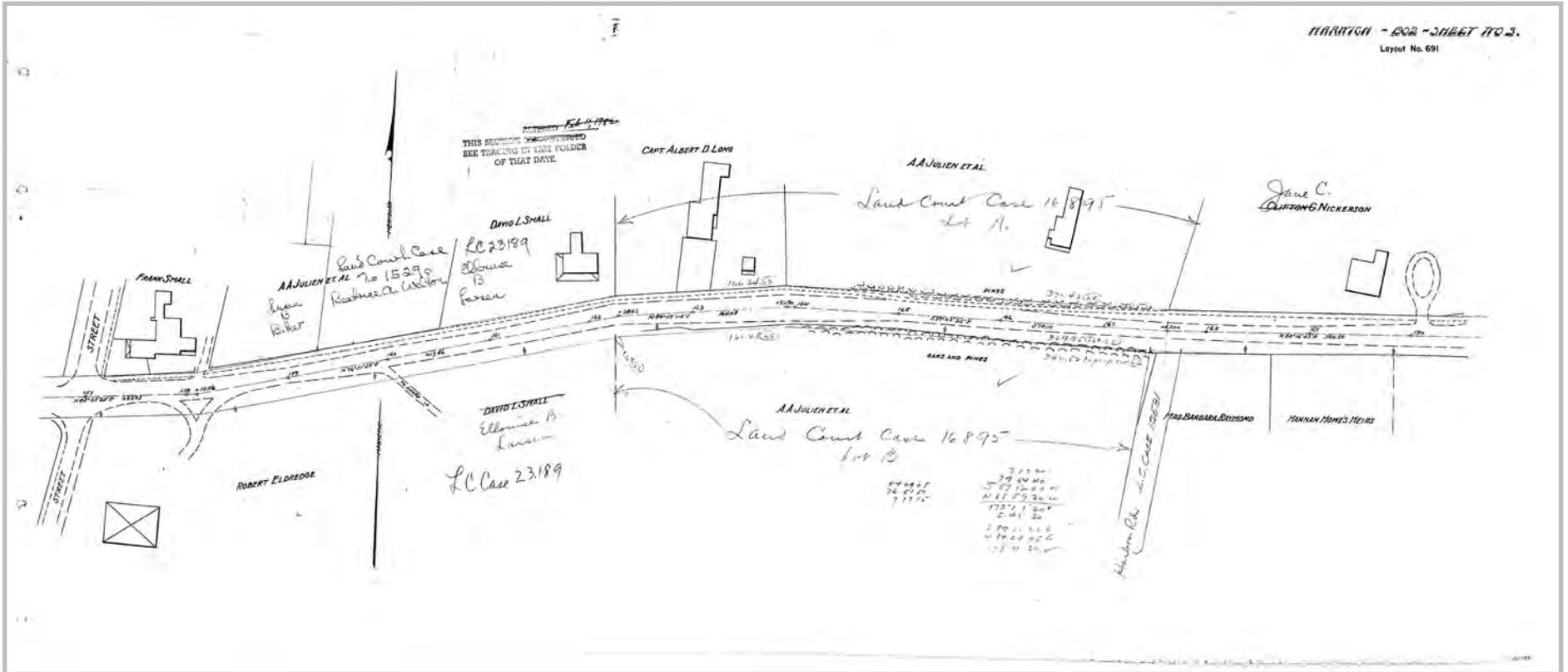
PLAN OF  
SOUTH COUNTY ROAD  
**HARWICH**  
BARNSTABLE COUNTY

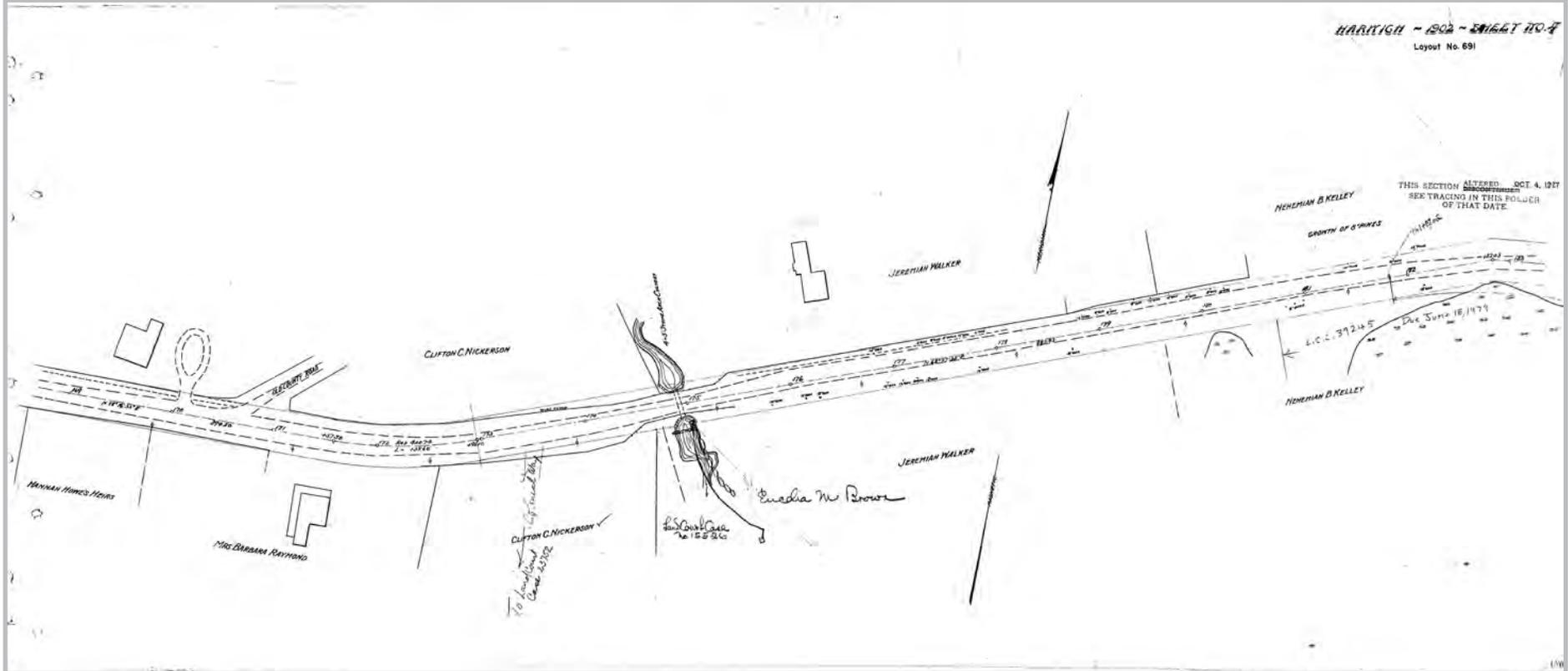
LAI D OUT AS A STATE HIGHWAY BY THE  
**MASSACHUSETTS HIGHWAY COMMISSION**  
JUNE 5 1902  
SCALE: 40 FEET TO THE INCH  
*A. M. Leno*  
PLAT SURVEYOR

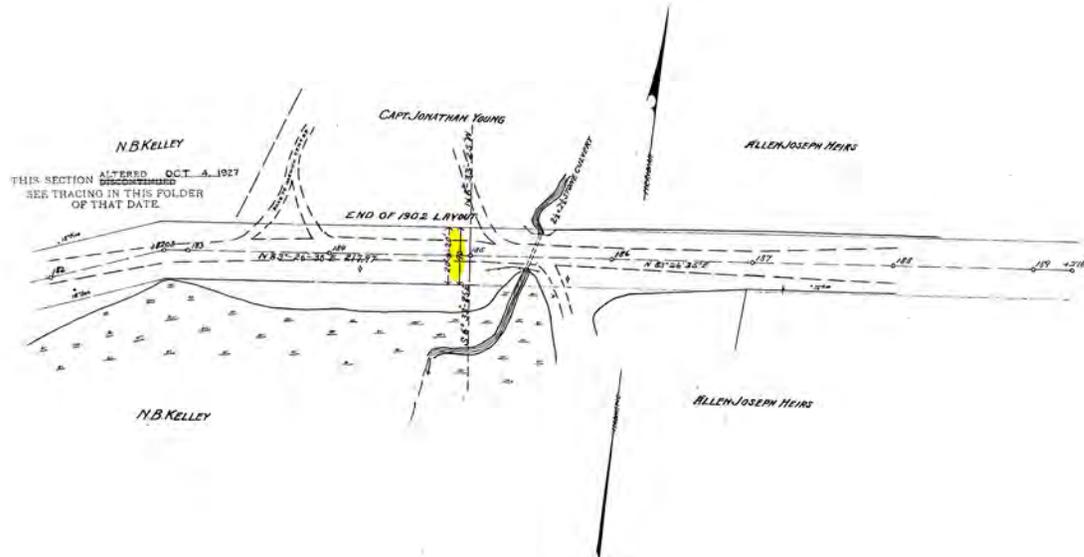
THE SURVEY MADE BY ME IN ACCORDANCE WITH THE ACT OF THE MASSACHUSETTS SENATE PASSED FEBRUARY 21 1892 IN CONNECTION WITH CHAPTER 27 OF THE MASS. LAWS  
*Naroto Parker*  
S. F. Parker  
MASSACHUSETTS SURVEYOR GENERAL











PLAN OF  
SOUTH COUNTY ROAD  
**HARWICH**  
BARNSTABLE COUNTY

LAI D OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION

MAY 28 1903

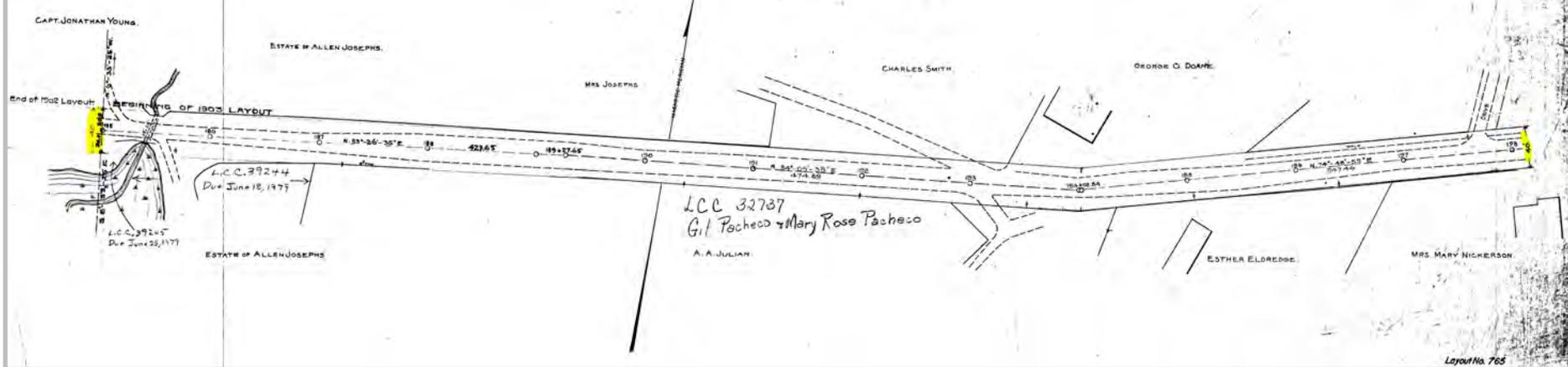
SCALE: 40 FEET TO THE INCH

*A. M. Linn*  
PLANNING ENGINEER

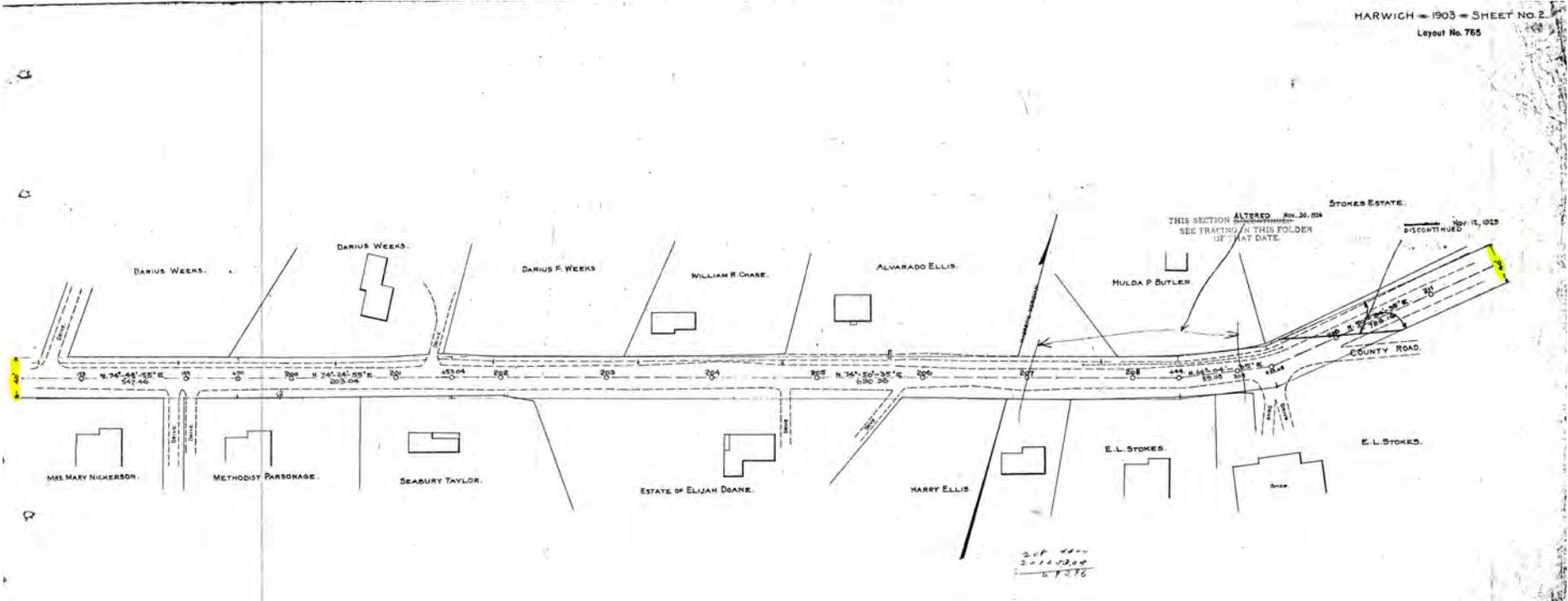
765  
7 SHEETS = SHEET NO. 7  
Layout No. 765

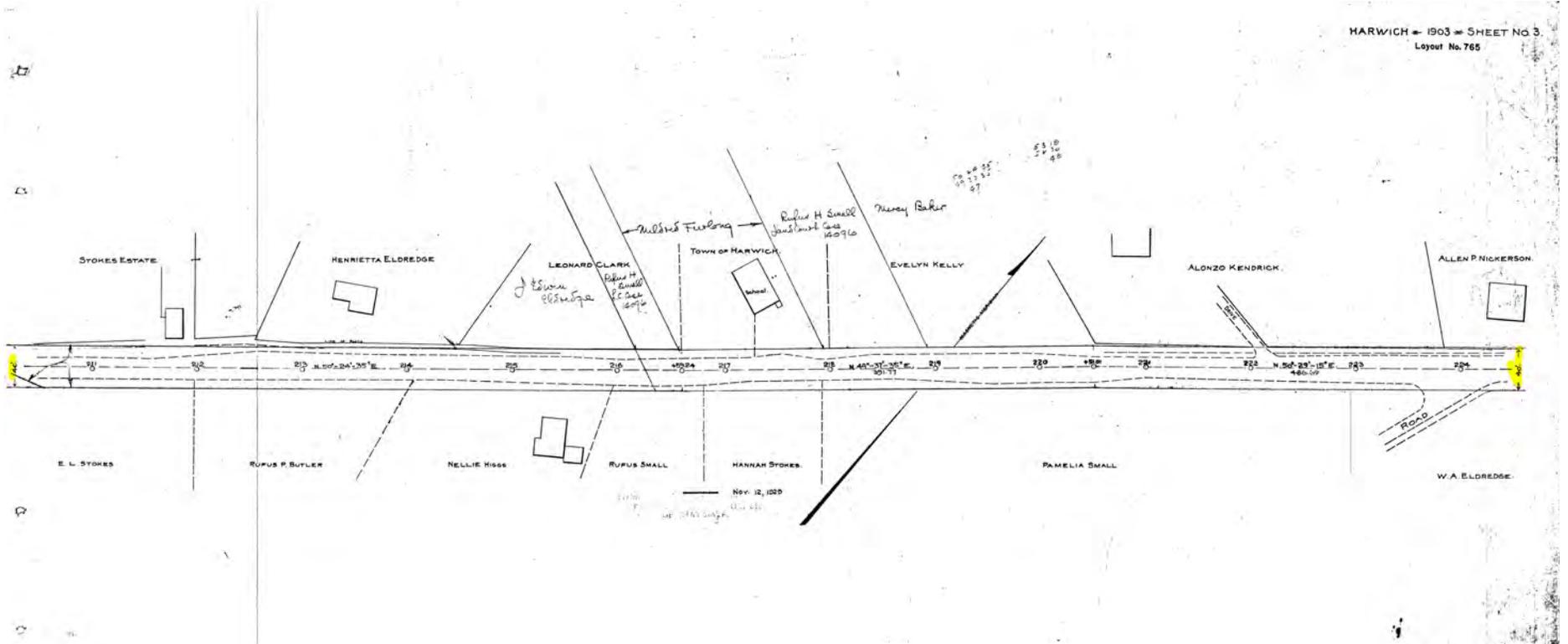
BY A TOWN MEETING HELD FEB. 21, 1903 THE TOWN VOTED  
TO RESOLVE ALL LAND AND GRADE DEFICIENCY, NOT COVERED  
BY THE RELEASES OF THE ADJUTANT  
*A. M. Linn*

THIS CERTIFIES THAT THE HIGHWAY AS SHOWN ON  
THIS PLAN WAS LAID OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION, MAY 28, 1903  
IN ACCORDANCE WITH CHAPTER 87 OF THE REVISED LAWS.  
*Dr. E. J. McIntosh*  
*Norah Parker*  
*John D. Manning*  
MASSACHUSETTS HIGHWAY COMMISSION



Layout No. 765





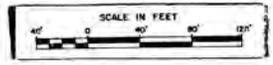
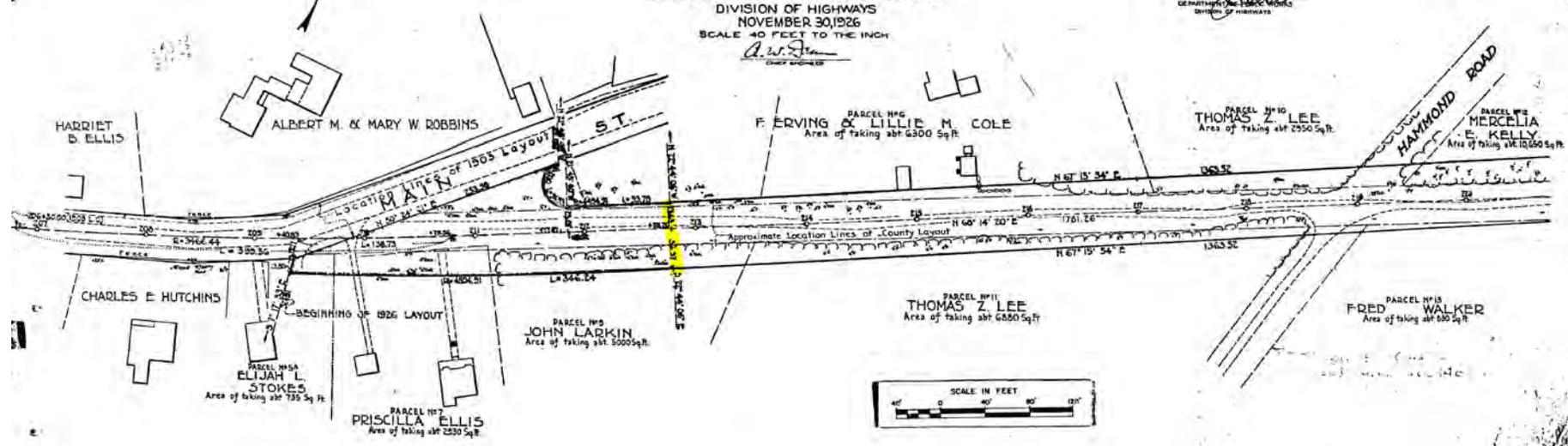
L02404

2 SHEETS

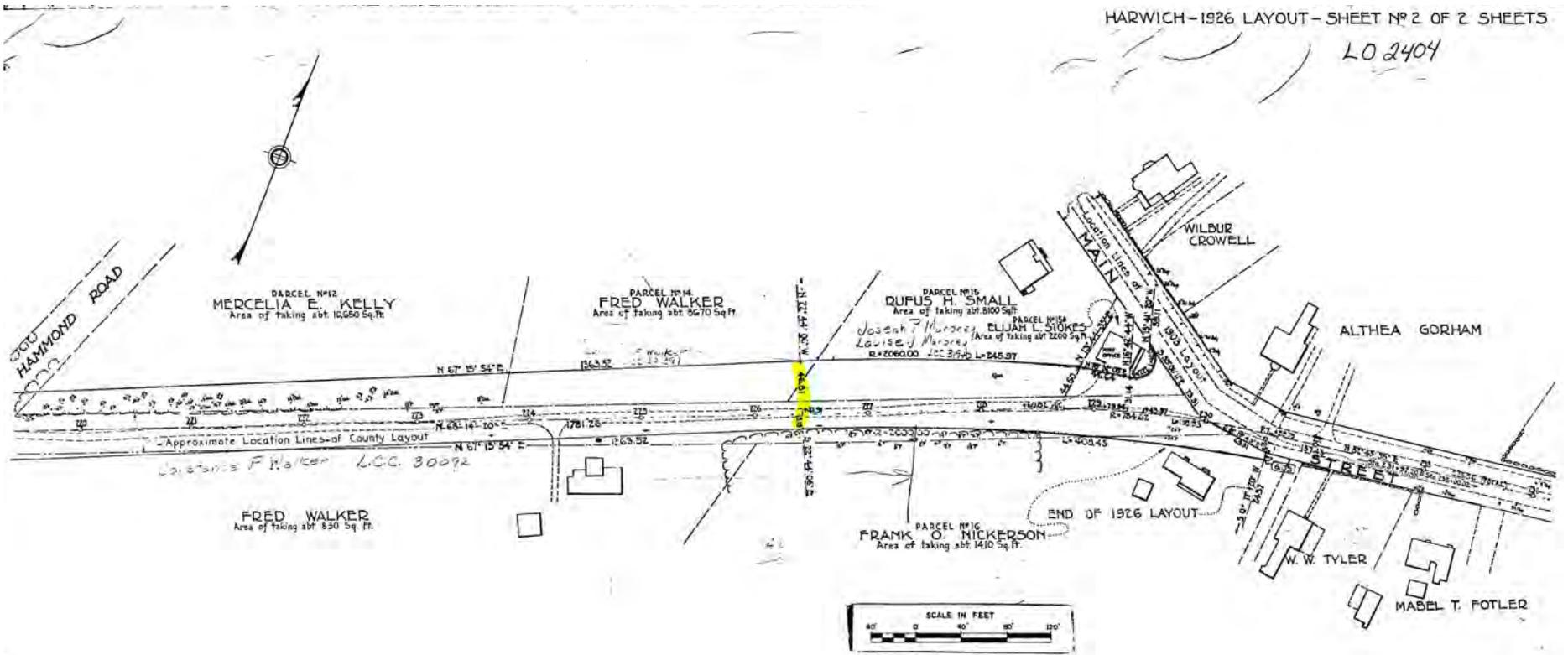
THE COMMONWEALTH OF MASSACHUSETTS  
 PLAN OF ROAD  
 IN THE TOWN OF  
**HARWICH**  
 BARNSTABLE COUNTY  
 LAID OUT AS A STATE HIGHWAY BY THE  
**DEPARTMENT OF PUBLIC WORKS**  
 DIVISION OF HIGHWAYS  
 NOVEMBER 30, 1926  
 SCALE 40 FEET TO THE INCH  
*A. W. Stearns*  
 CIVIL ENGINEER

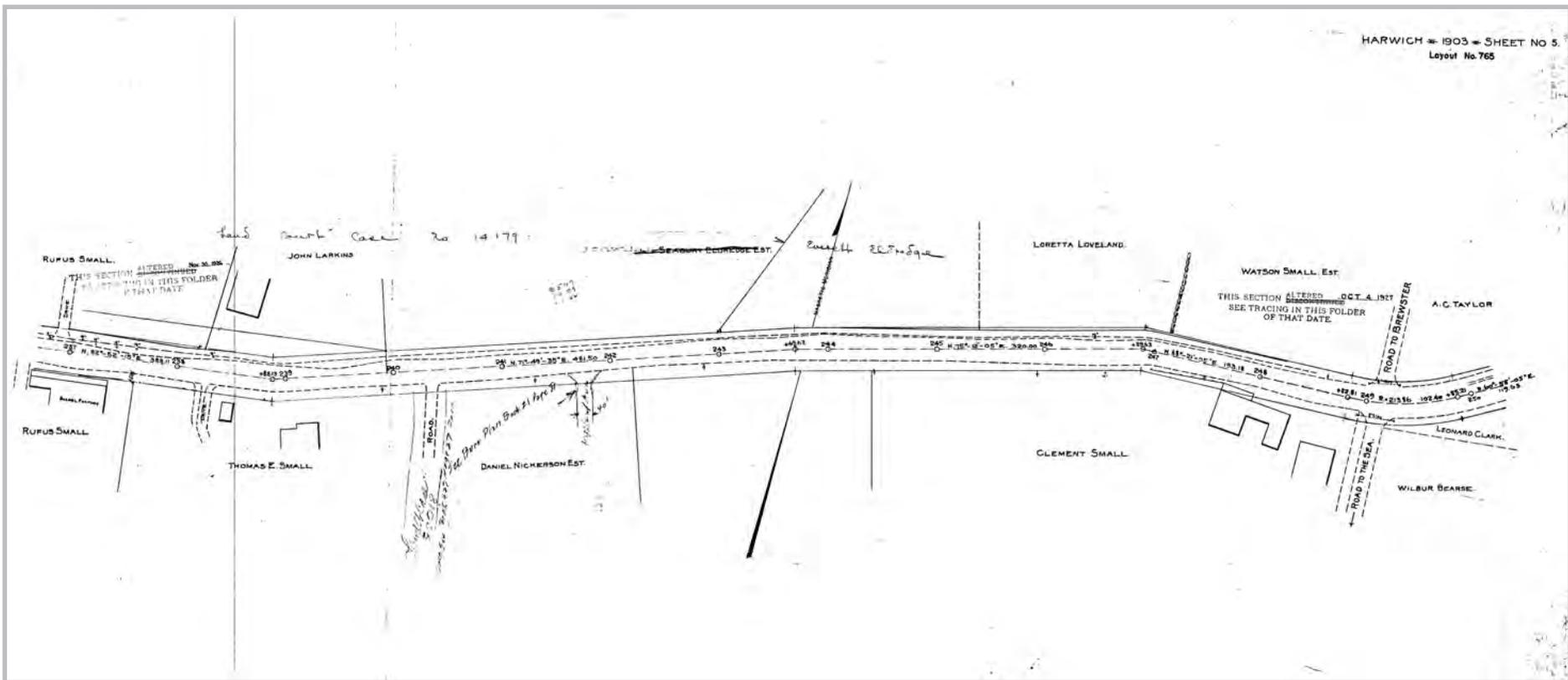
THIS IS TO CERTIFY THAT THE SHOWN ARE SHOWN ON THIS PLAN  
 WERE LAID OUT AS A STATE HIGHWAY BY THE COMMISSIONER OF  
 PUBLIC WORKS, COUNTY OF BARNSTABLE, IN ACCORDANCE WITH  
 AN ORDINANCE OF THE TOWN OF HARWICH, MASSACHUSETTS,  
 APPROVED BY THE COMMISSIONER OF THE GENERAL COURT.

*William H. Williams*  
 REGISTERED PROFESSIONAL SURVEYOR  
 DIVISION OF HIGHWAYS

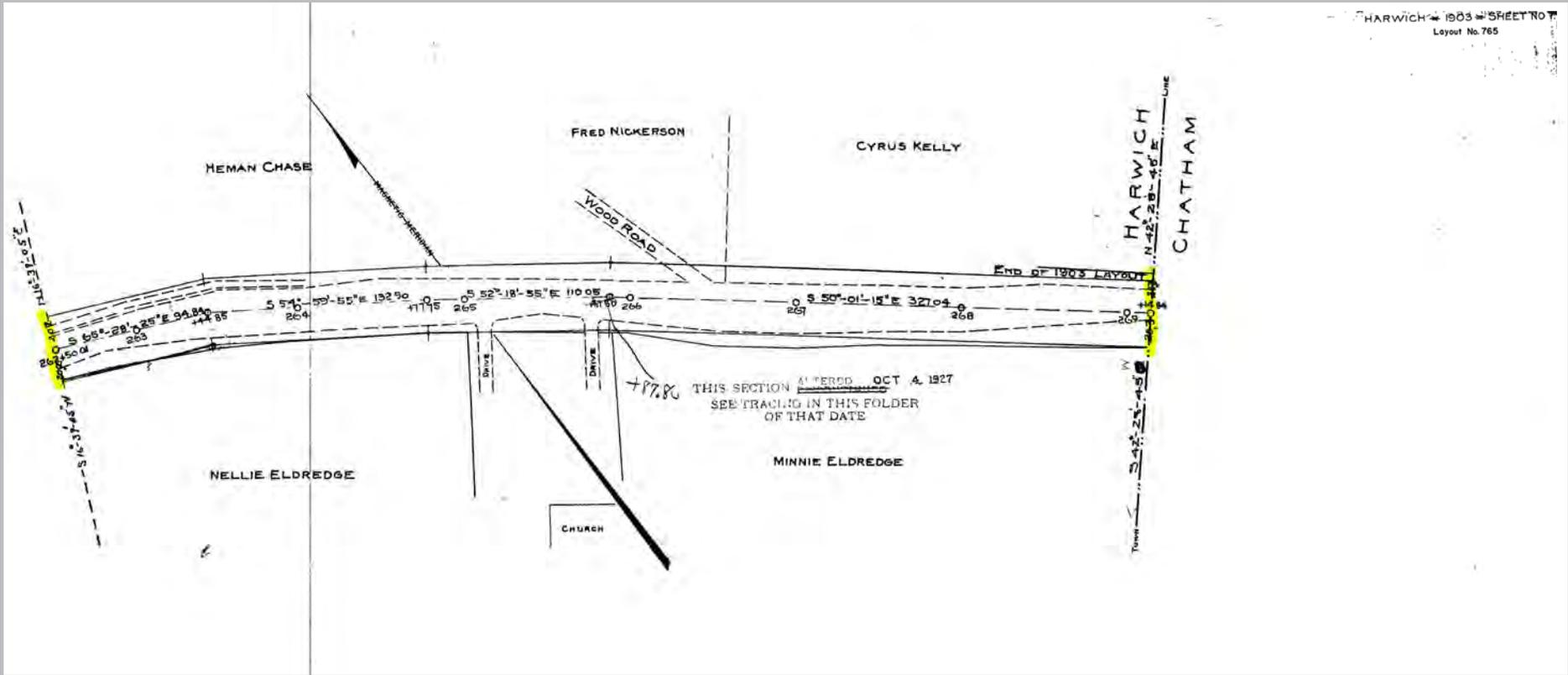


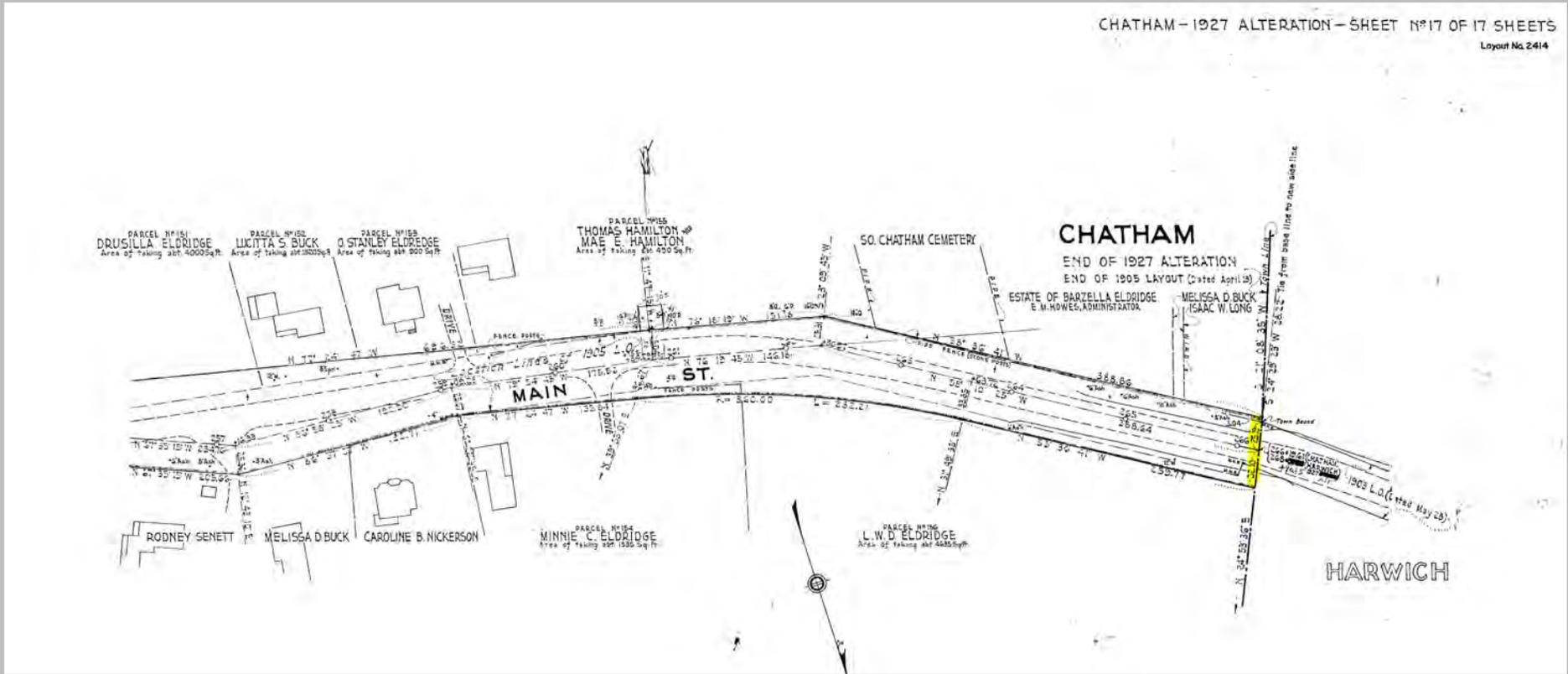
LO 2404







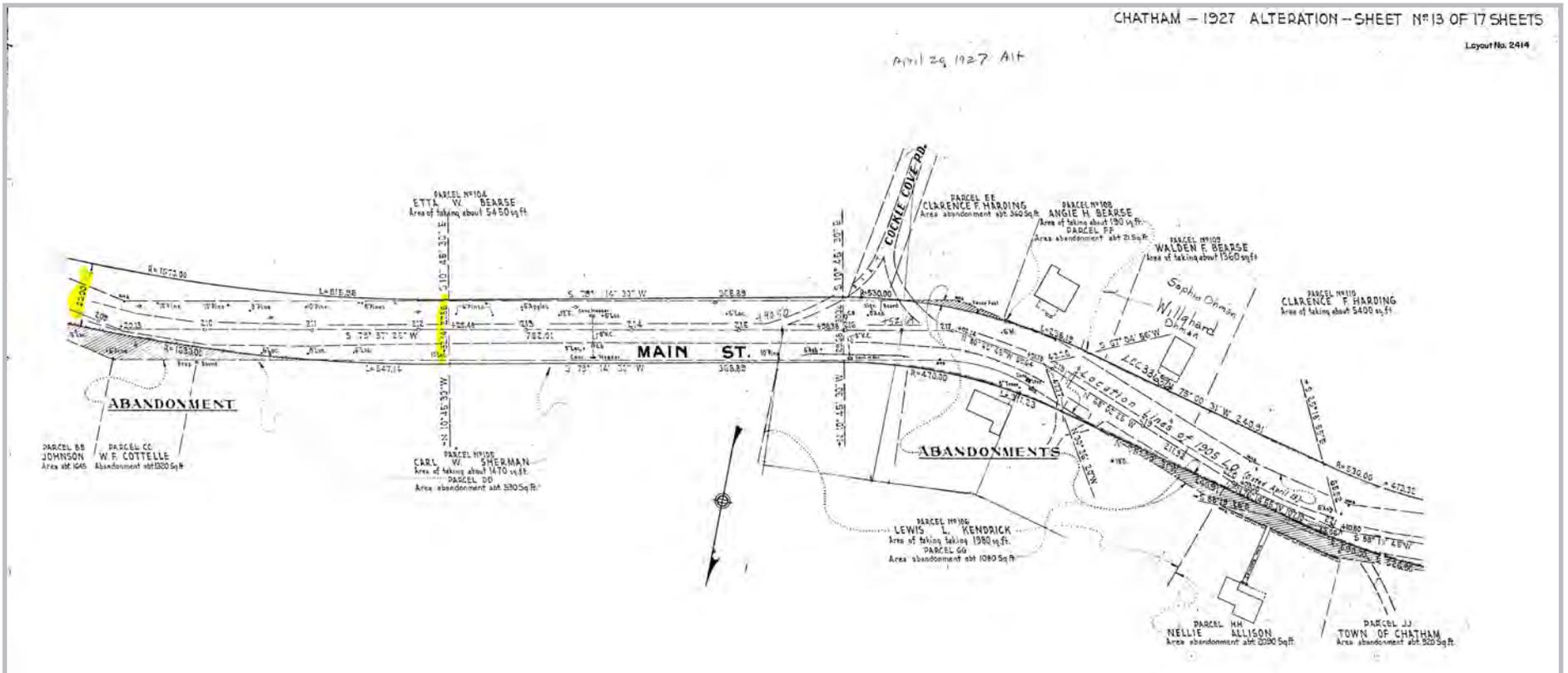


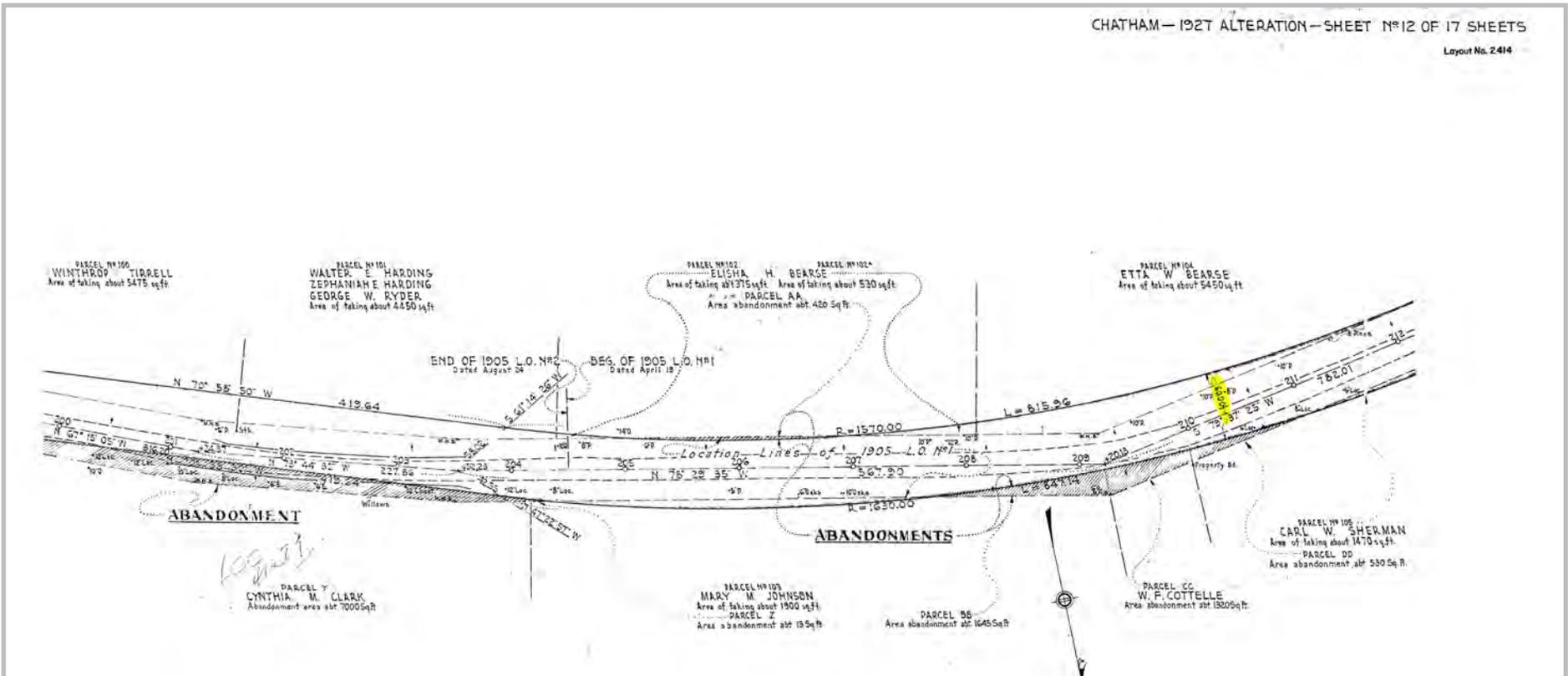






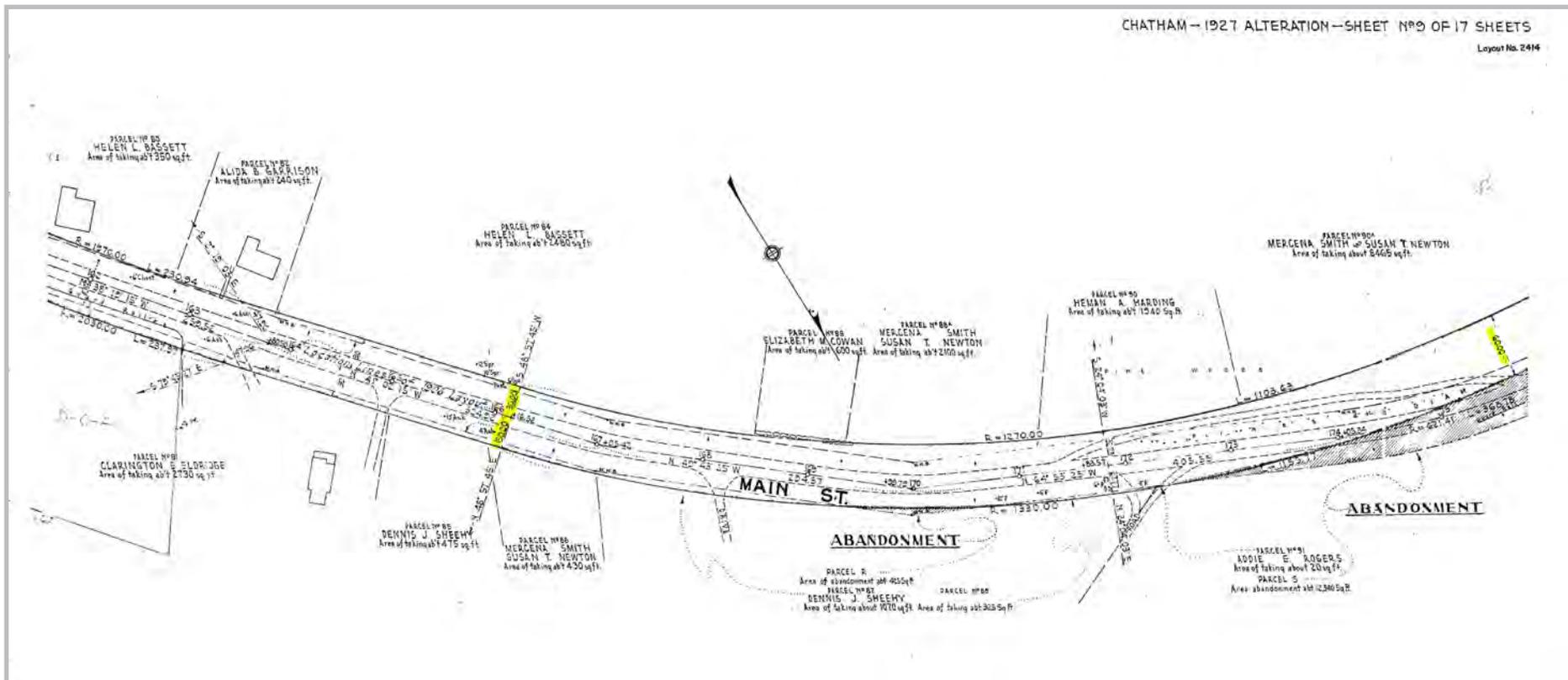
April 29 1927 AIT



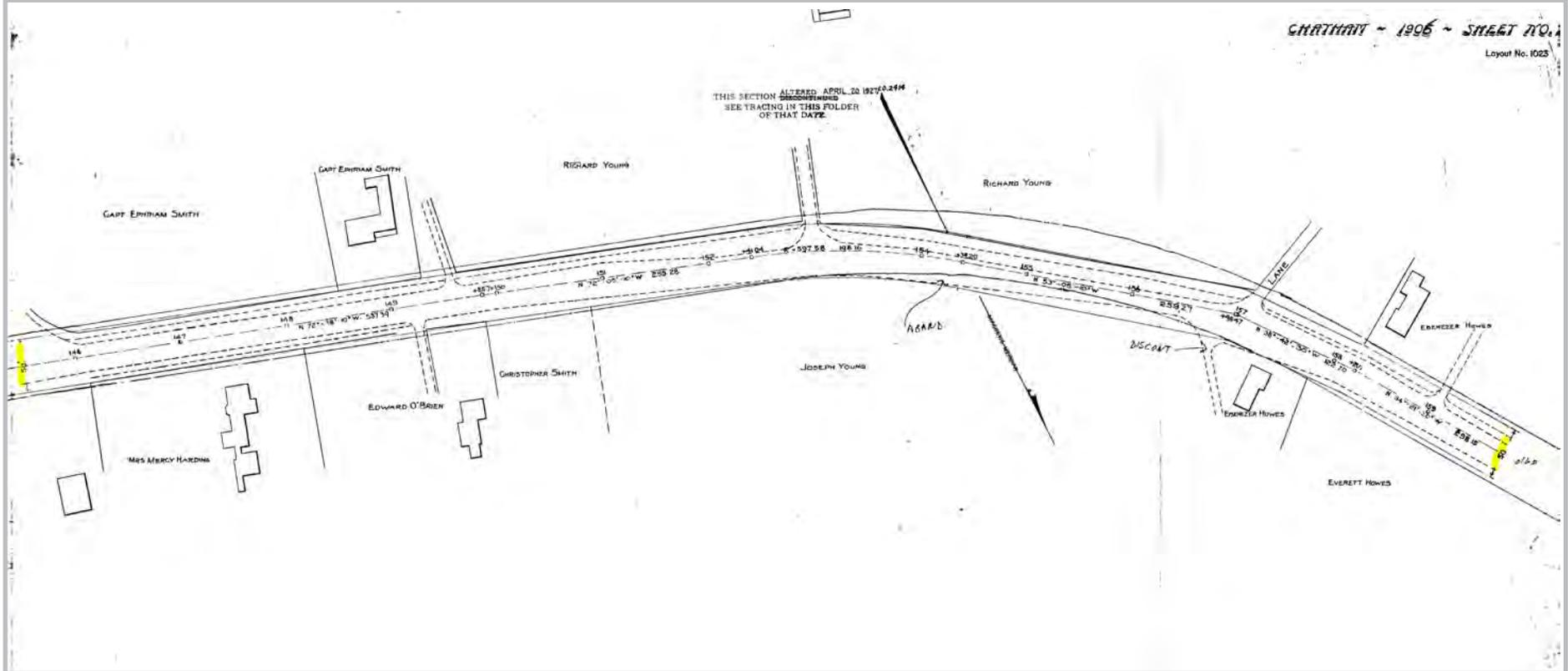








THIS SECTION ALTERED APRIL 22 1927  
SEE TRACING IN THIS FOLDER  
OF THAT DATE



# PLAN OF ROAD IN THE TOWN OF **CHATHAM**

**BARNSTABLE COUNTY**  
LAID OUT AS A STATE HIGHWAY BY THE  
**MASSACHUSETTS HIGHWAY COMMISSION**

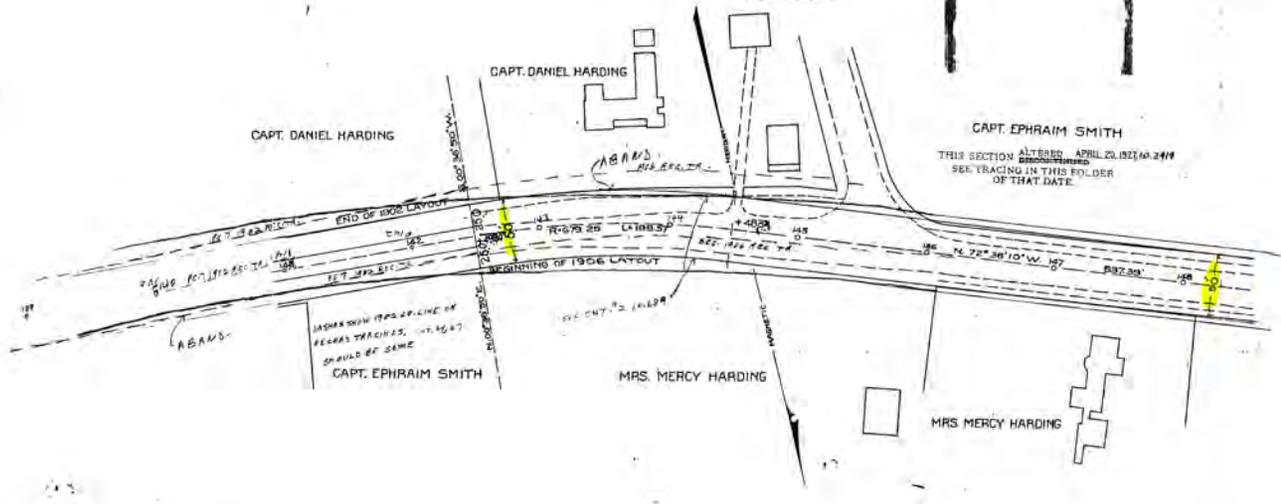
MAY 2 1906  
SCALE: 40 FEET TO THE INCH

*A. W. Lewis*  
PLANNING ENGINEER

5 SHEETS - SHEET NO. 1  
Layout No. 1023

AT A TOWN MEETING HELD FEB. 6-1905 THE TOWN VOTED  
TO ACQUIRE ALL LAND AND BRIDGE RIGHTS  
*W. B. ...*  
SECRETARY

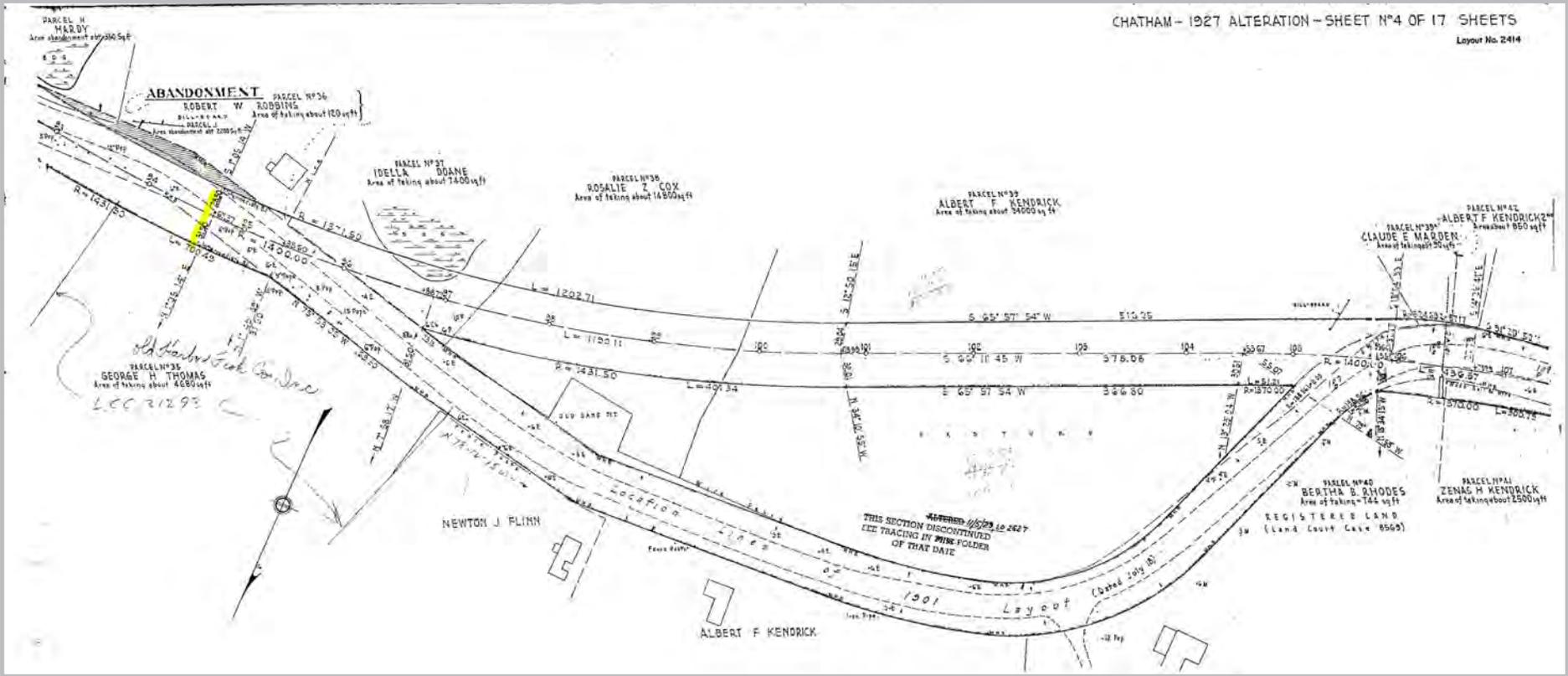
1023  
THIS CERTIFIES THAT THE HIGHWAY AS SHOWN ON  
THIS PLAN WAS LAID OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION, IN A.V. E. 106  
IN ACCORDANCE WITH CHAPTER 47 OF THE REVISED LAWS.  
*W. E. ...*  
*N. ...*  
*J. ...*  
MASSACHUSETTS HIGHWAY COMMISSION

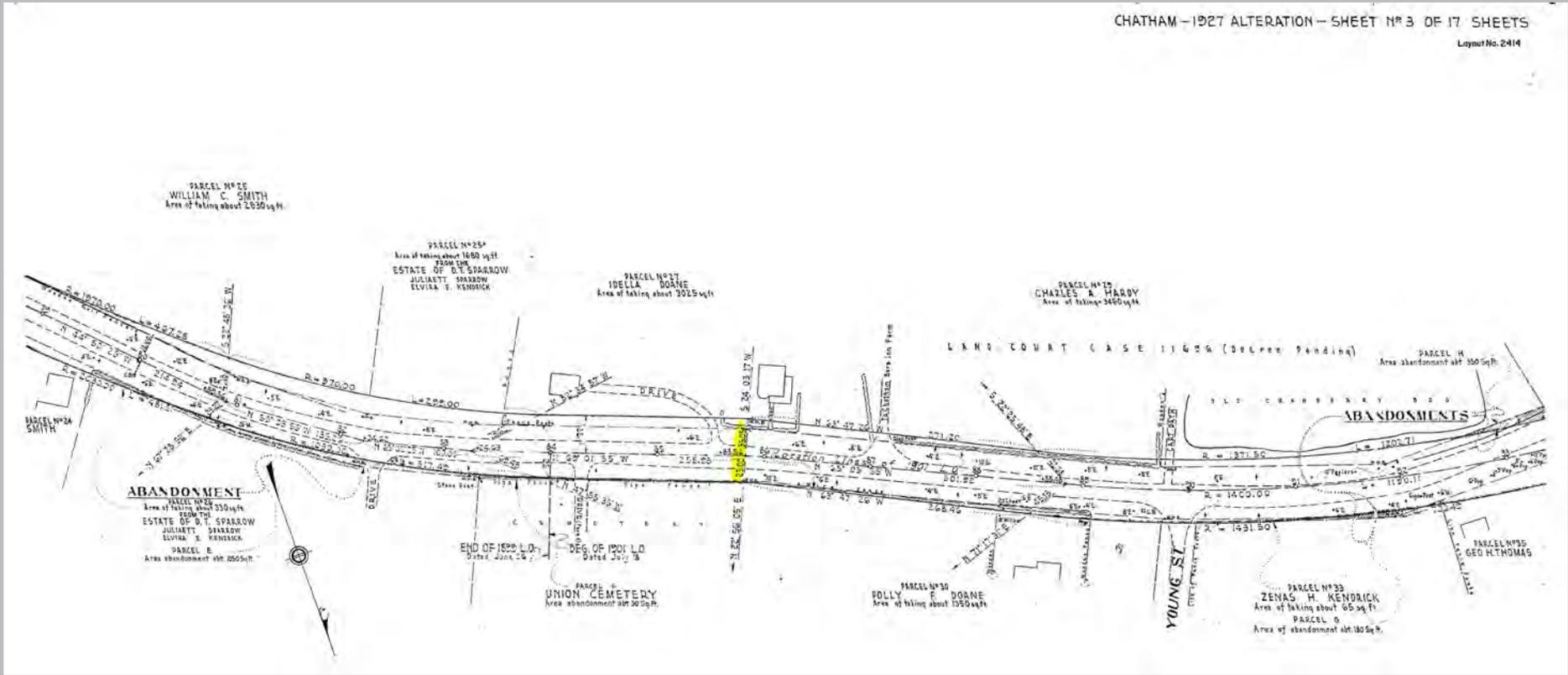


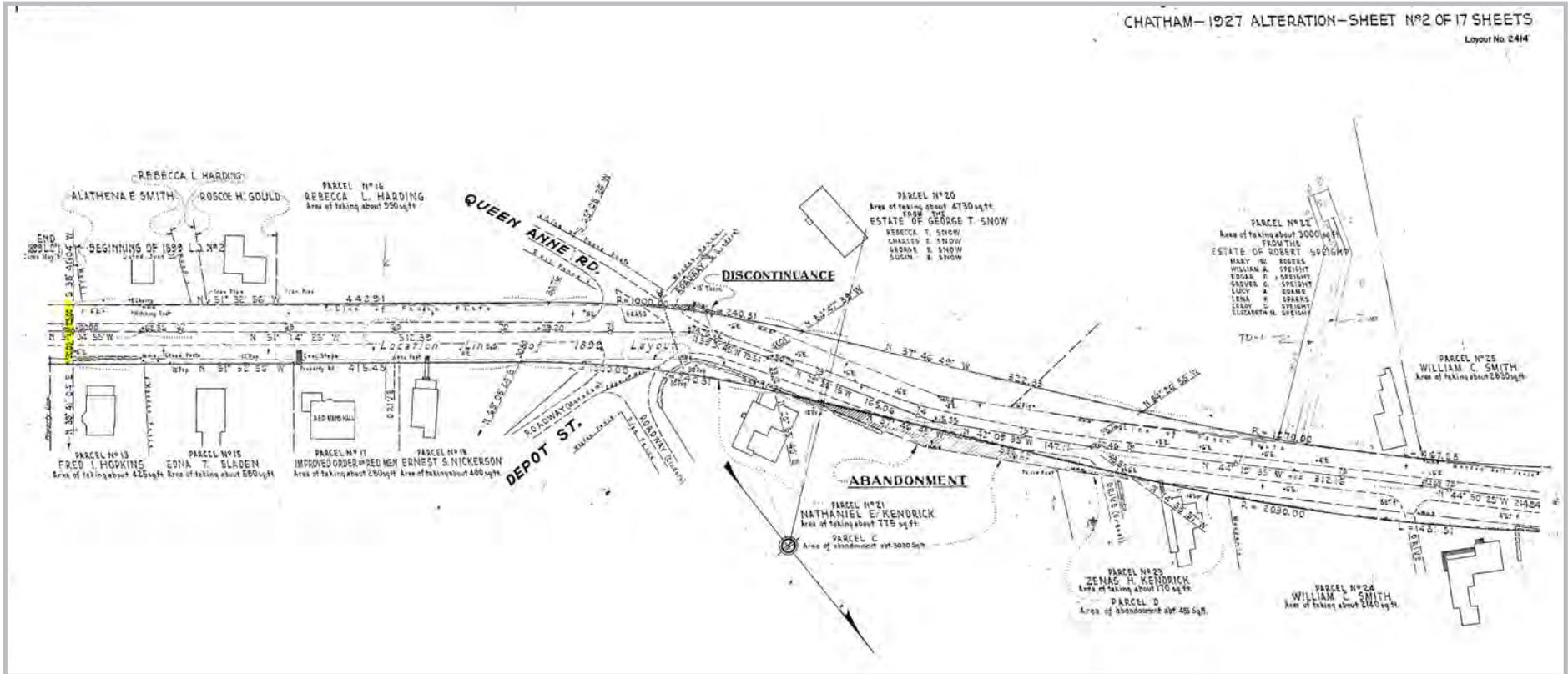
Layout No. 1023

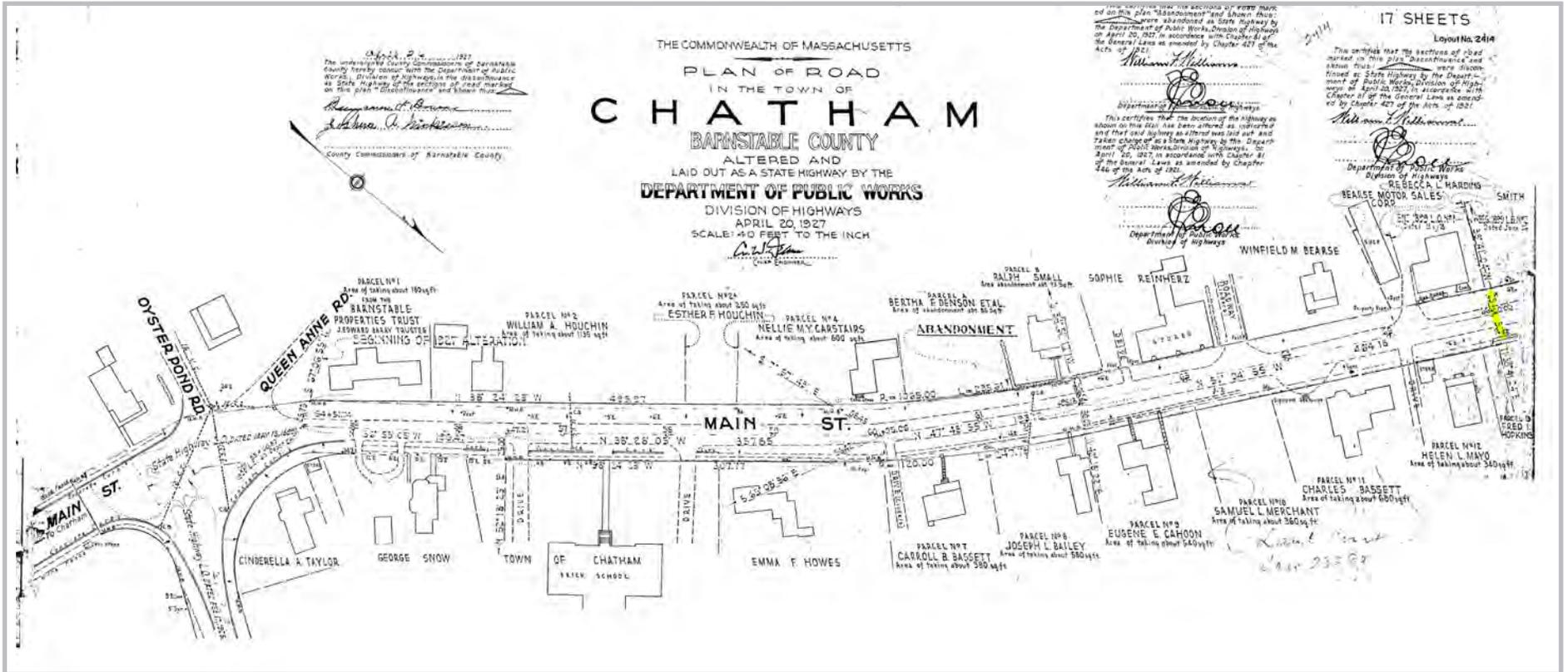












THE COMMONWEALTH OF MASSACHUSETTS

# PLAN OF ROAD IN THE TOWN OF CHATHAM

BARNSTABLE COUNTY  
LAID OUT AS A STATE HIGHWAY BY THE  
DEPARTMENT OF PUBLIC WORKS  
DIVISION OF HIGHWAYS.  
FEBRUARY 17, 1925.  
SCALE - 40 FEET TO THE INCH.

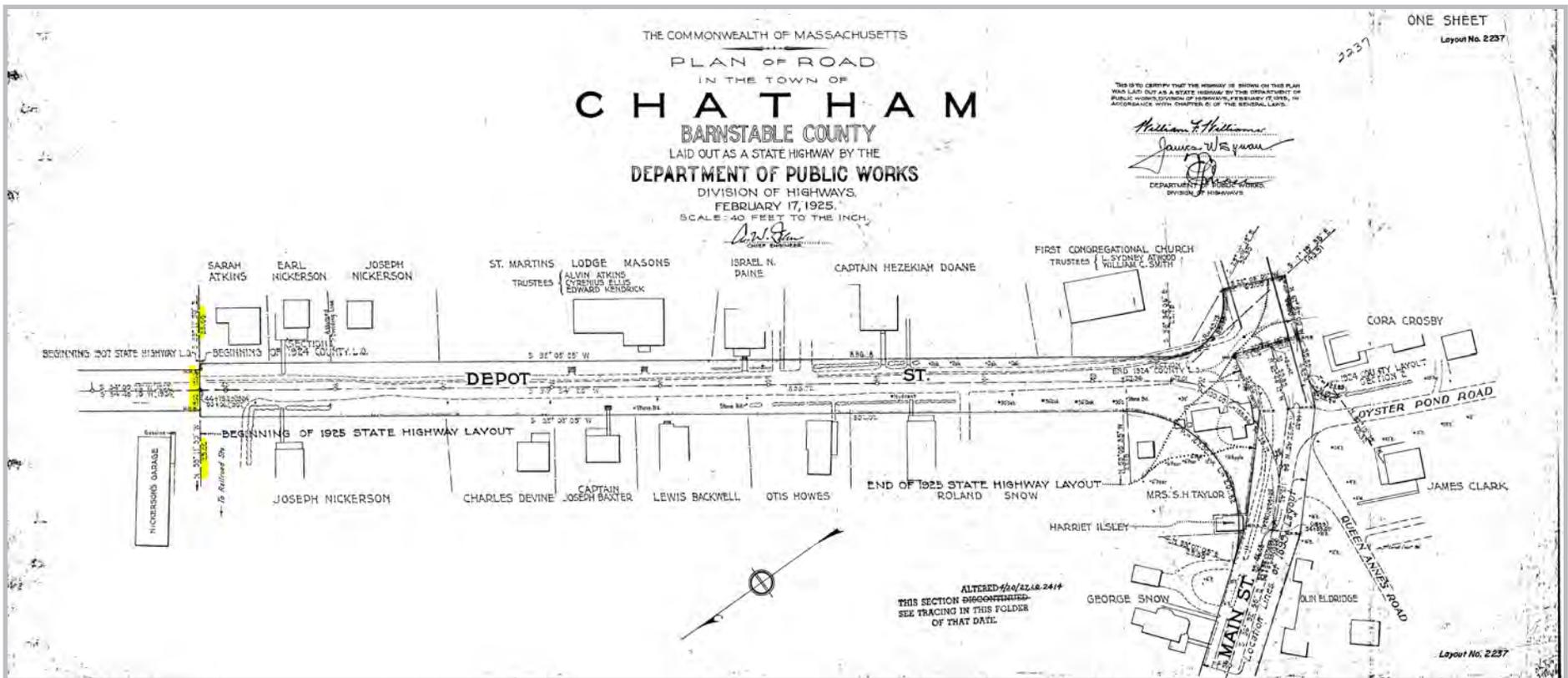
*David S. ...*  
SUPERVISOR

THIS IS TO CERTIFY THAT THE HIGHWAY OR SHOWS ON THIS PLAN  
WAS LAID OUT AS A STATE HIGHWAY BY THE DEPARTMENT OF  
PUBLIC WORKS DIVISION OF HIGHWAYS FEBRUARY 17, 1925, IN  
ACCORDANCE WITH CHAPTER 80 OF THE GENERAL LAWS.

*William F. Williams*  
*James W. Ryan*  
DEPARTMENT OF PUBLIC WORKS  
DIVISION OF HIGHWAYS

ONE SHEET  
Layout No. 2237

2237

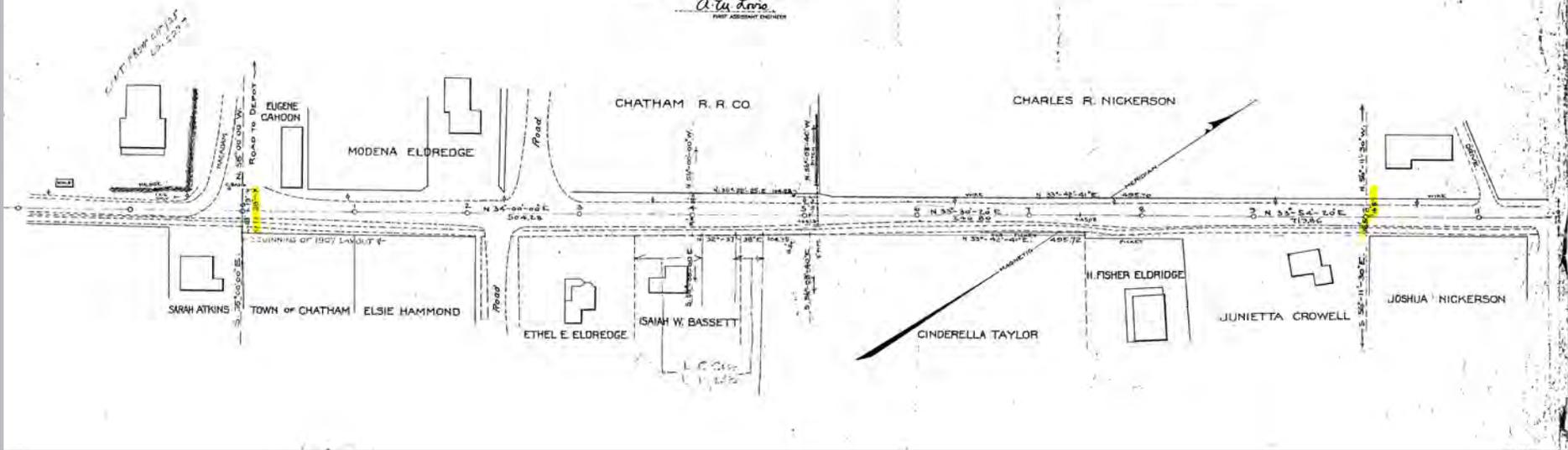


# PLAN OF ROAD IN THE TOWN OF CHATHAM

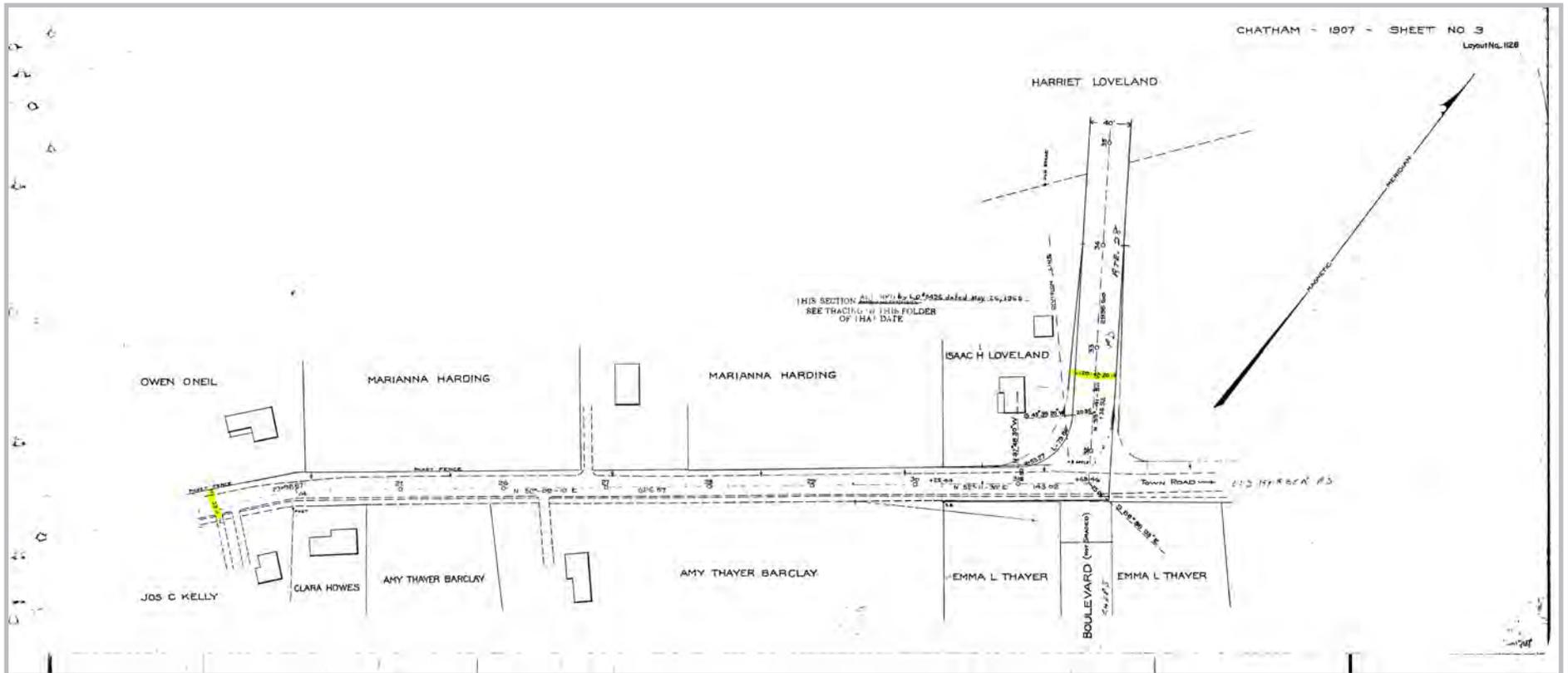
BARNSTABLE COUNTY  
LAID OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION  
JULY 2 1907  
SCALE: 40 FEET TO THE INCH  
*A. W. Davis*  
PLAT ENGINEER

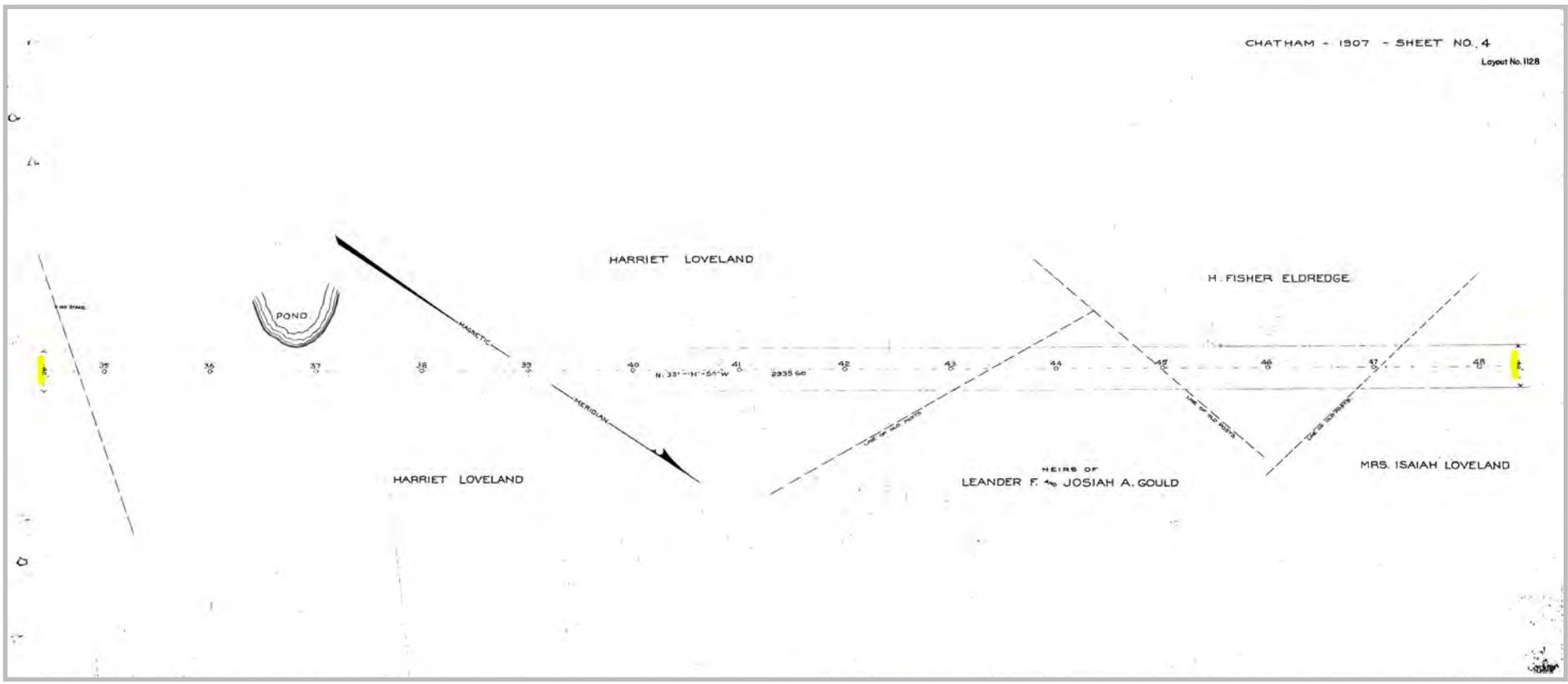
IF A TOWN HAVING THE FIELD HEREIN BEING THE TOWN VOTED  
TO ASSUME ALL LAND AND GARDEN DAMAGES NOT COVERED BY  
THE RELEASES OF THE ABUTTERS  
*W. W. ...*  
SECRETARY

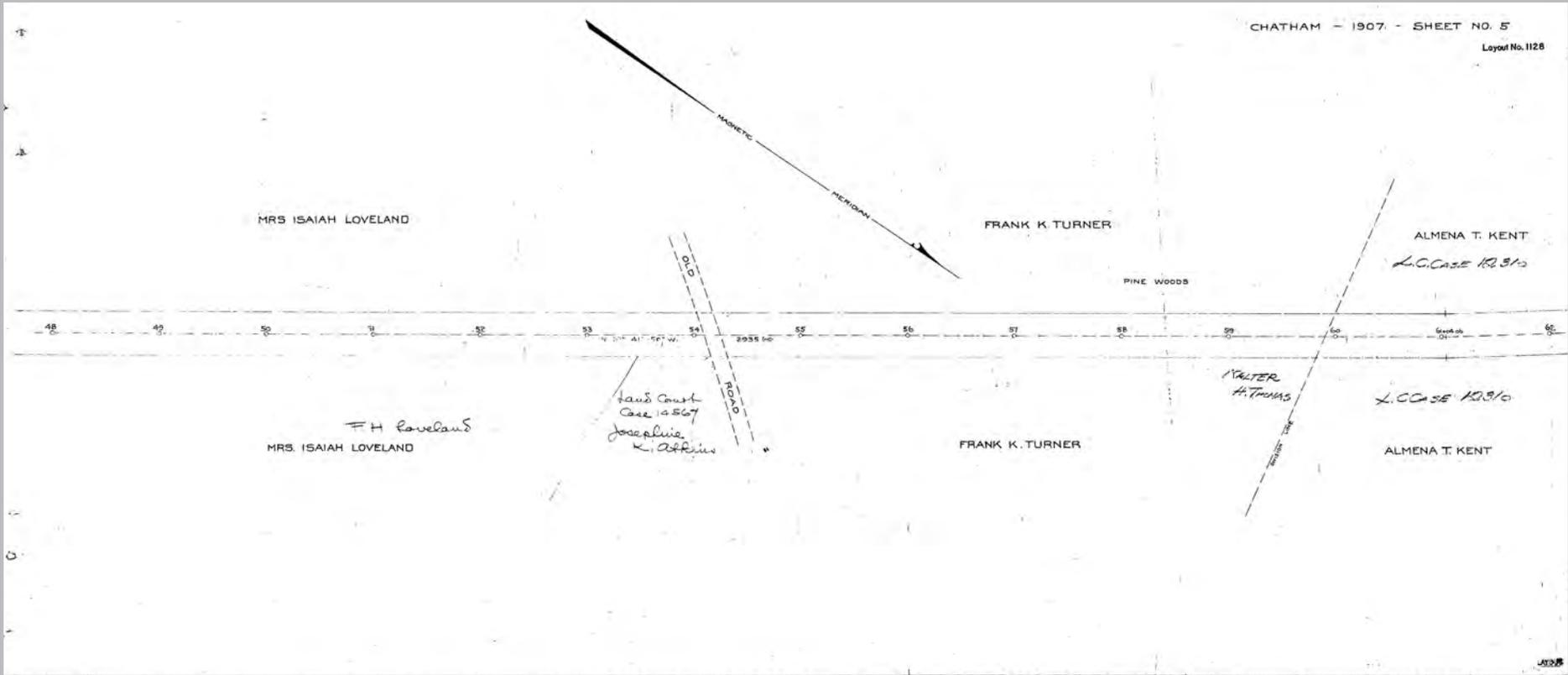
1128  
THIS CERTIFIES THAT THE BOUNDARIES AS SHOWN ON  
THIS PLAN WERE LAID OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION, JULY 2, 1907  
IN ACCORDANCE WITH CHAPTER 47 OF THE REVISED LAWS  
*Harold Baker*  
*John H. ...*  
MASSACHUSETTS HIGHWAY ENGINEER



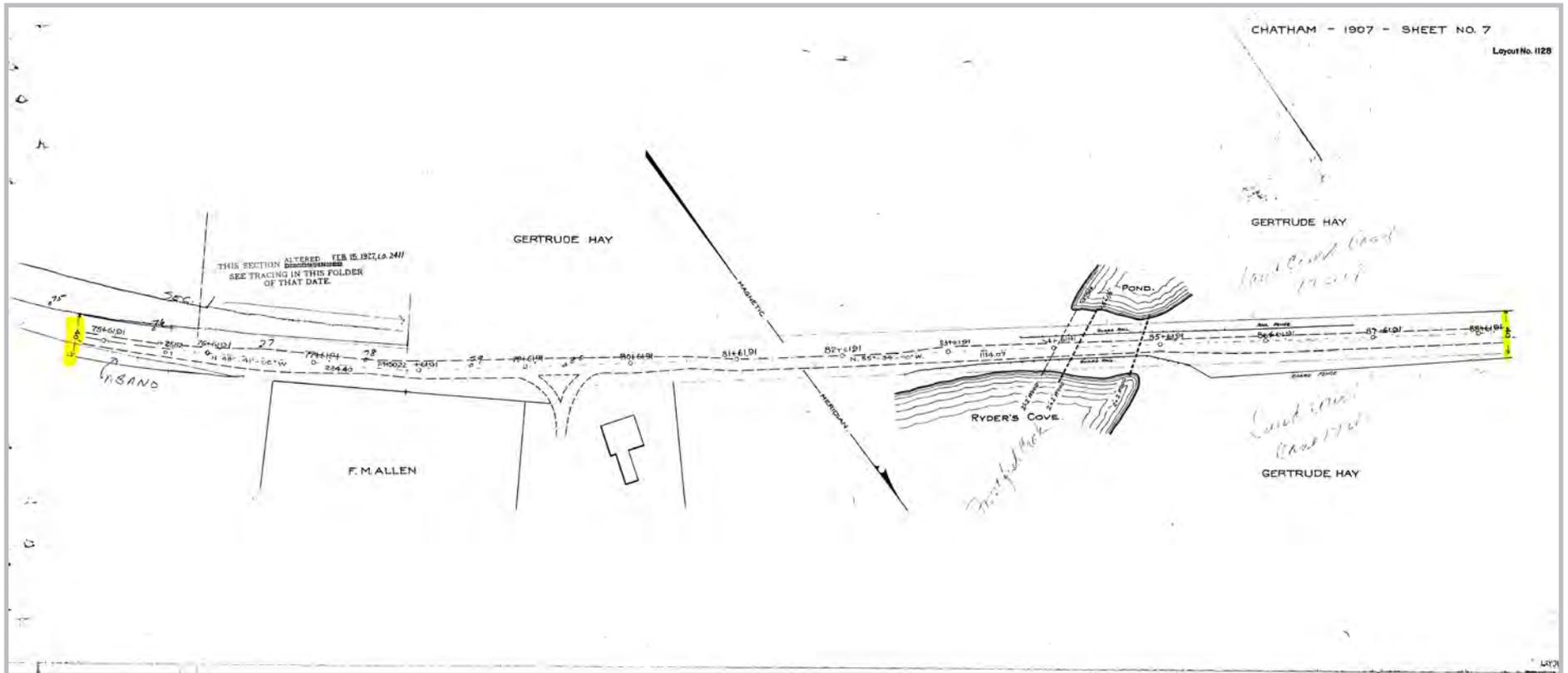


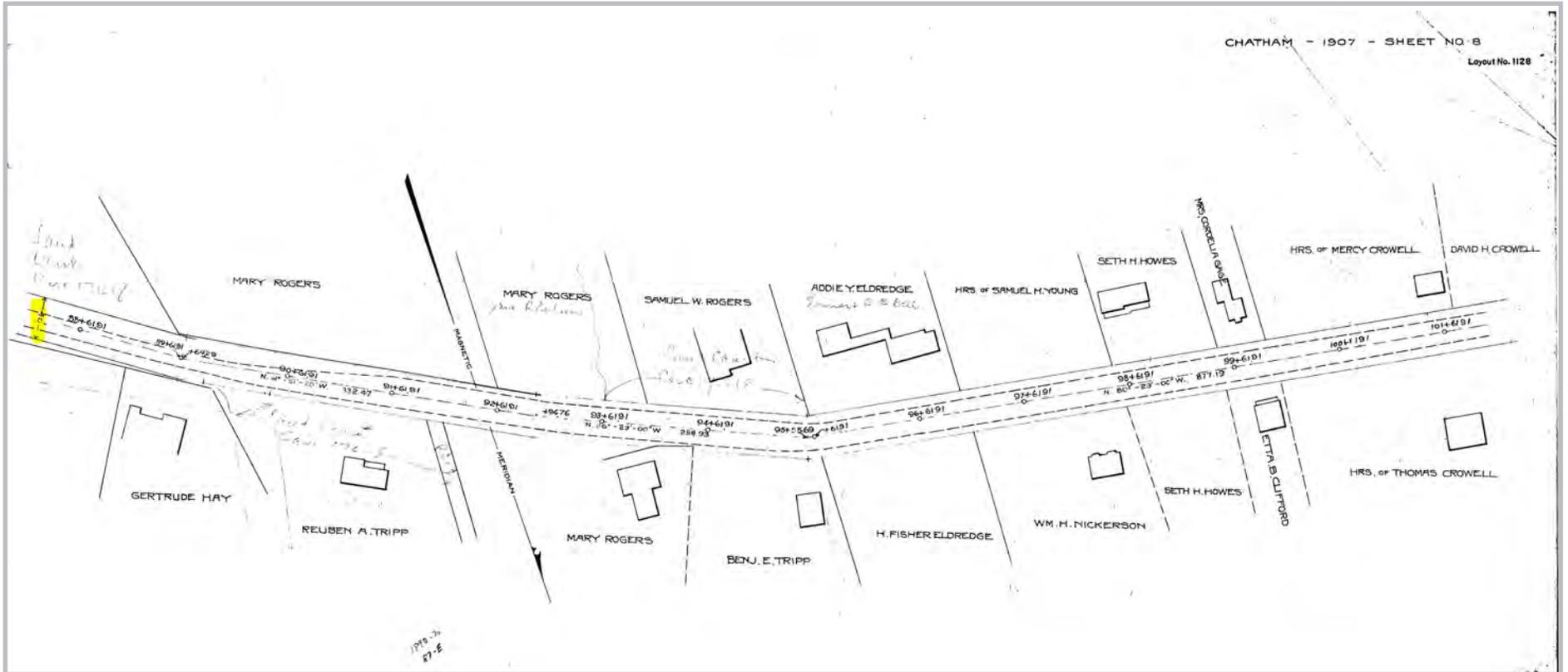


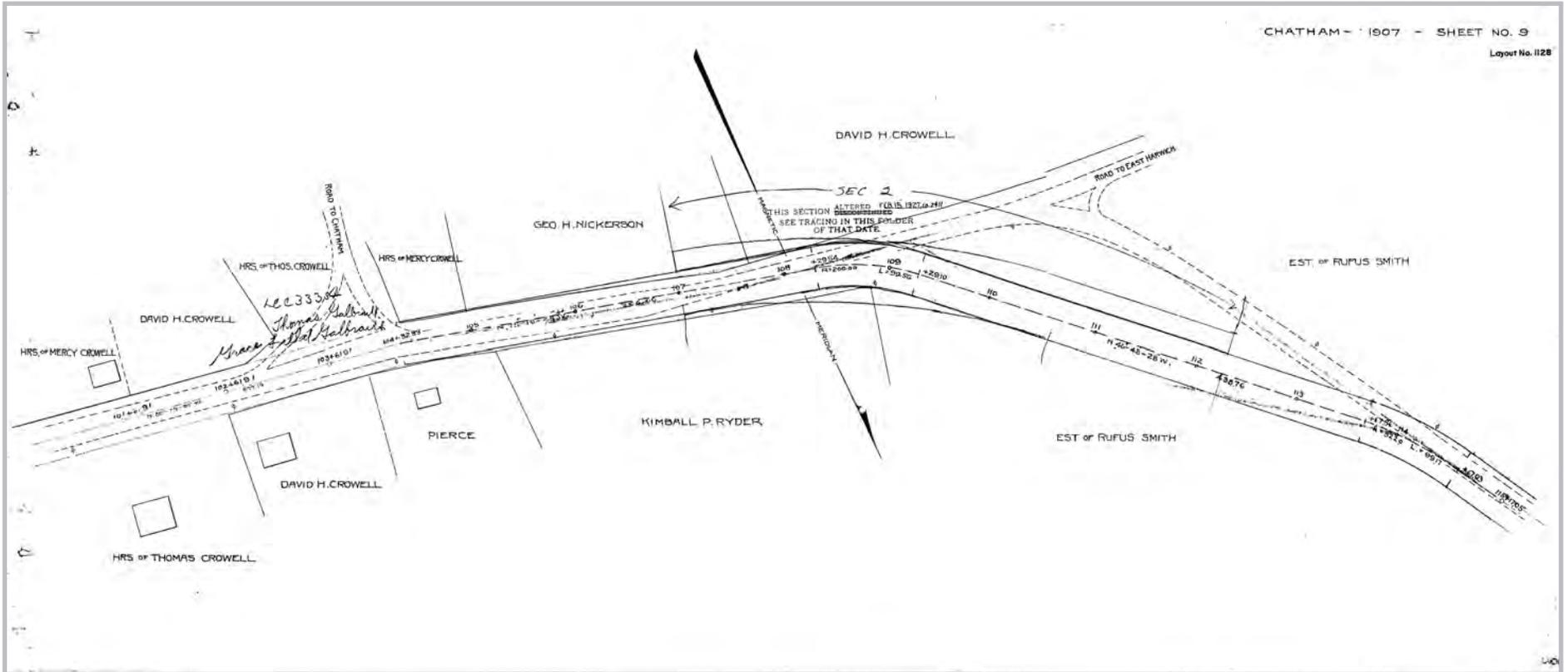


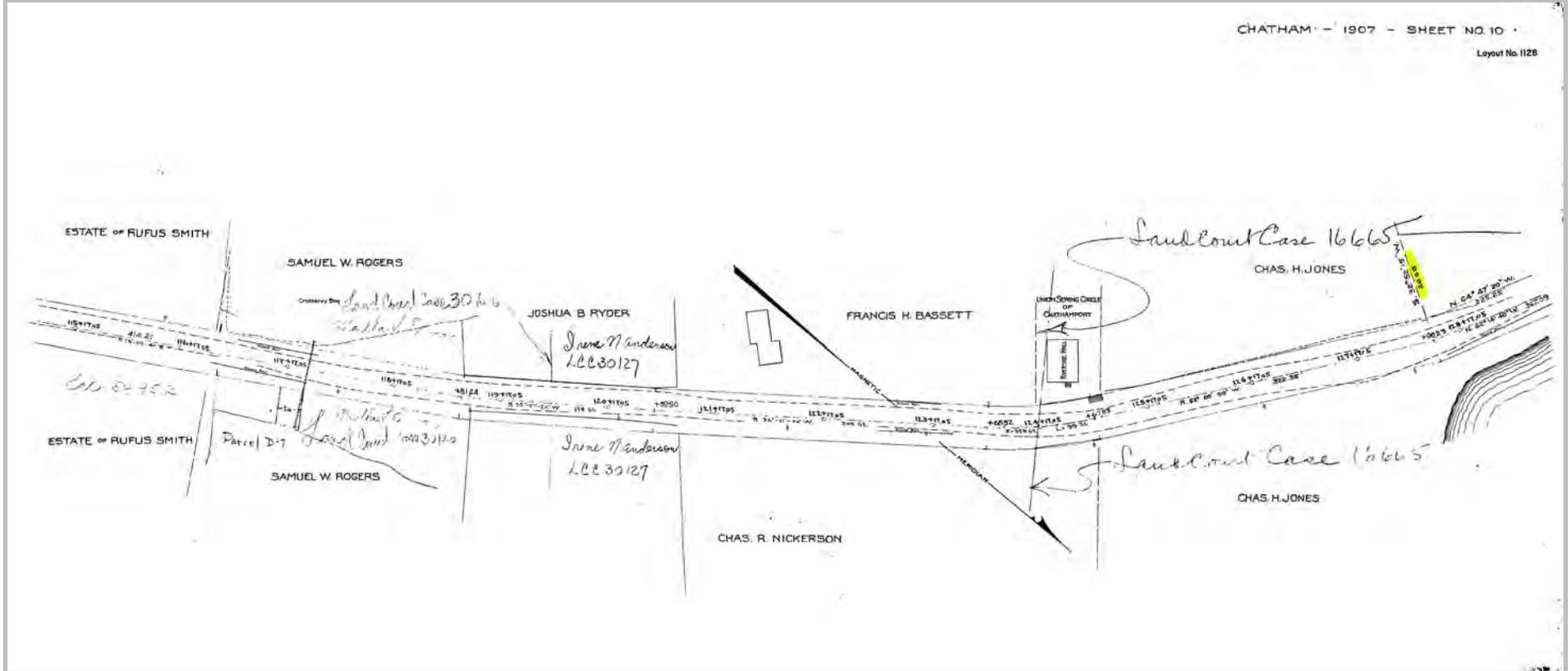


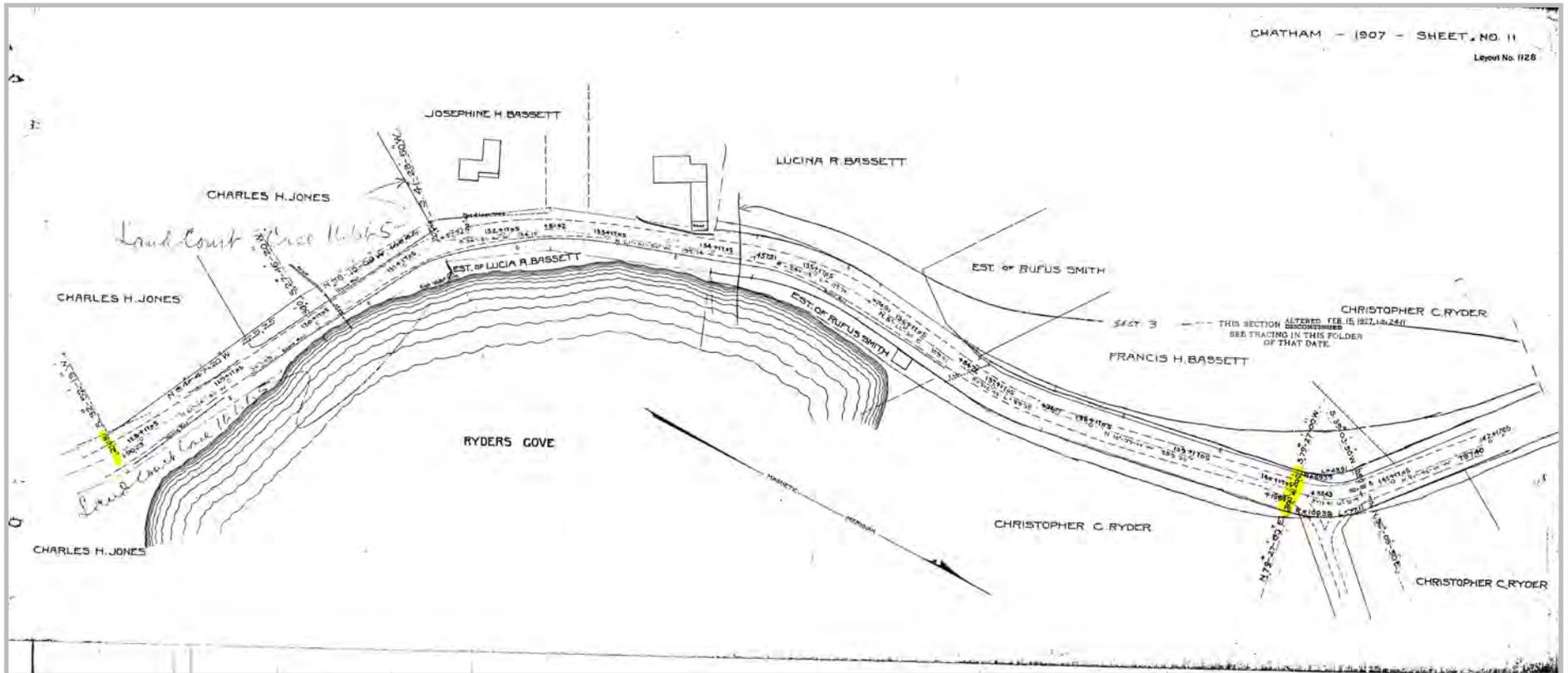




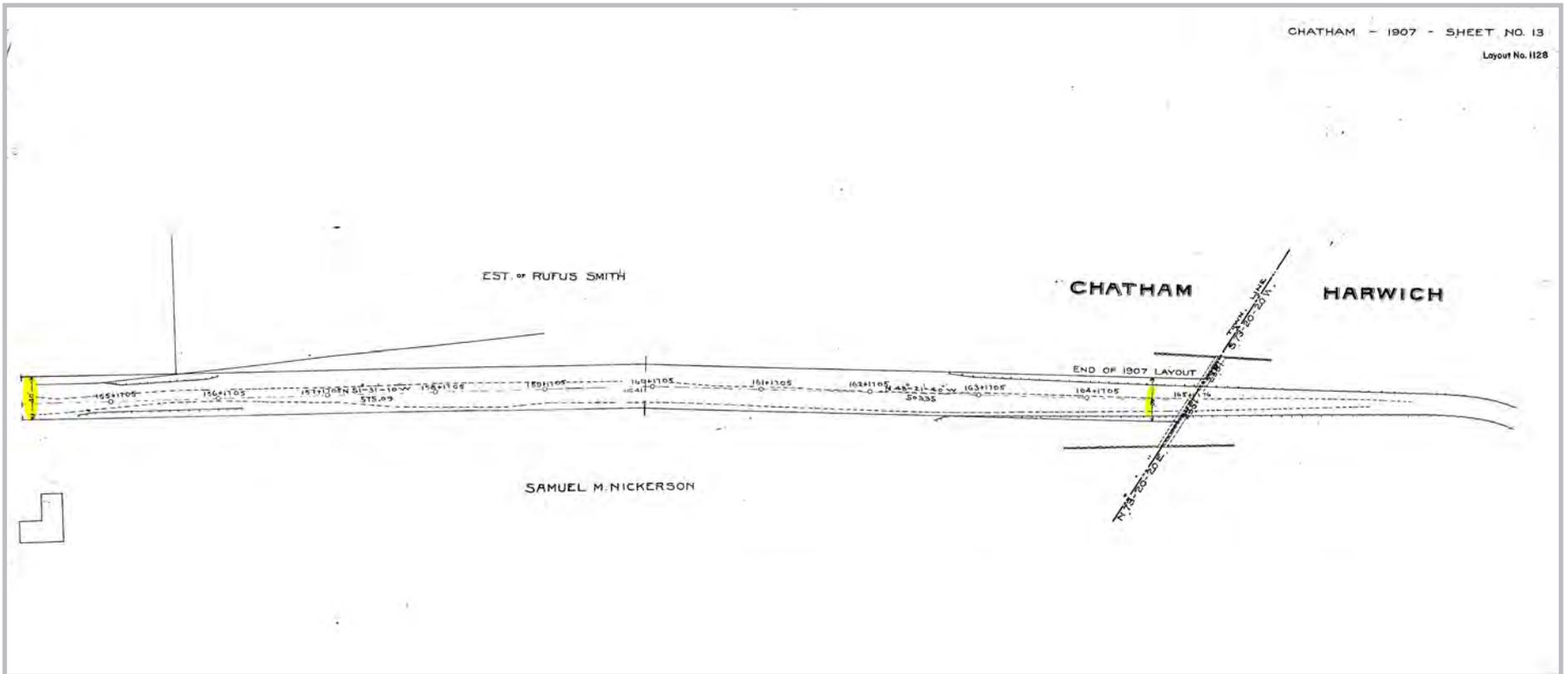












PLAN OF ROAD  
IN THE TOWN OF  
**H A R W I C H**

BARNSTABLE COUNTY  
LAID OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION

JULY 26-1908  
SCALE: 40 FEET TO THE INCH

*W. A. Pascoe*  
SECOND ASSISTANT ENGINEER

1201  
6 SHEETS - SHEET NO. 1  
Layout No. 1201

THE RELEASES AS RECEIVED WERE CHECKED

*Arthur Kenney*

THIS CERTIFICATE THAT THE HIGHWAY AS SHOWN ON  
THIS PLAN WAS LAID OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION, JULY 26-1908  
IN ACCORDANCE WITH CHAPTER 47 OF THE REVISED LAWS

*Harold Parker*  
*John A. Manning*  
*W. S. Stiles*  
MASSACHUSETTS HIGHWAY COMMISSION

MRS. JOSEPH NICKERSON

ARTHUR KENNEY

CHATHAM HARWICH

OF JULY 19, 1918

MRS. JOSEPH NICKERSON

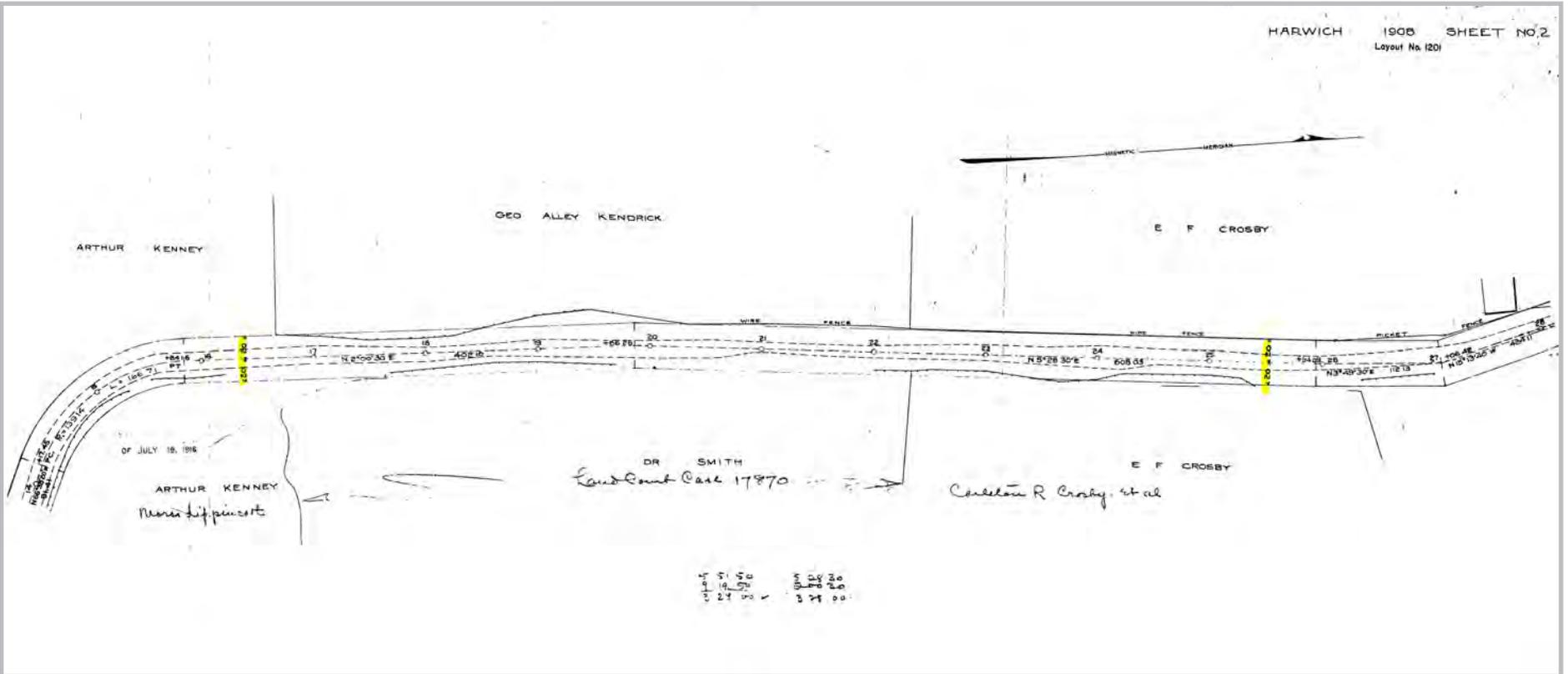
JOSHUA & THOMAS KENDRICK

ARTHUR KENNEY

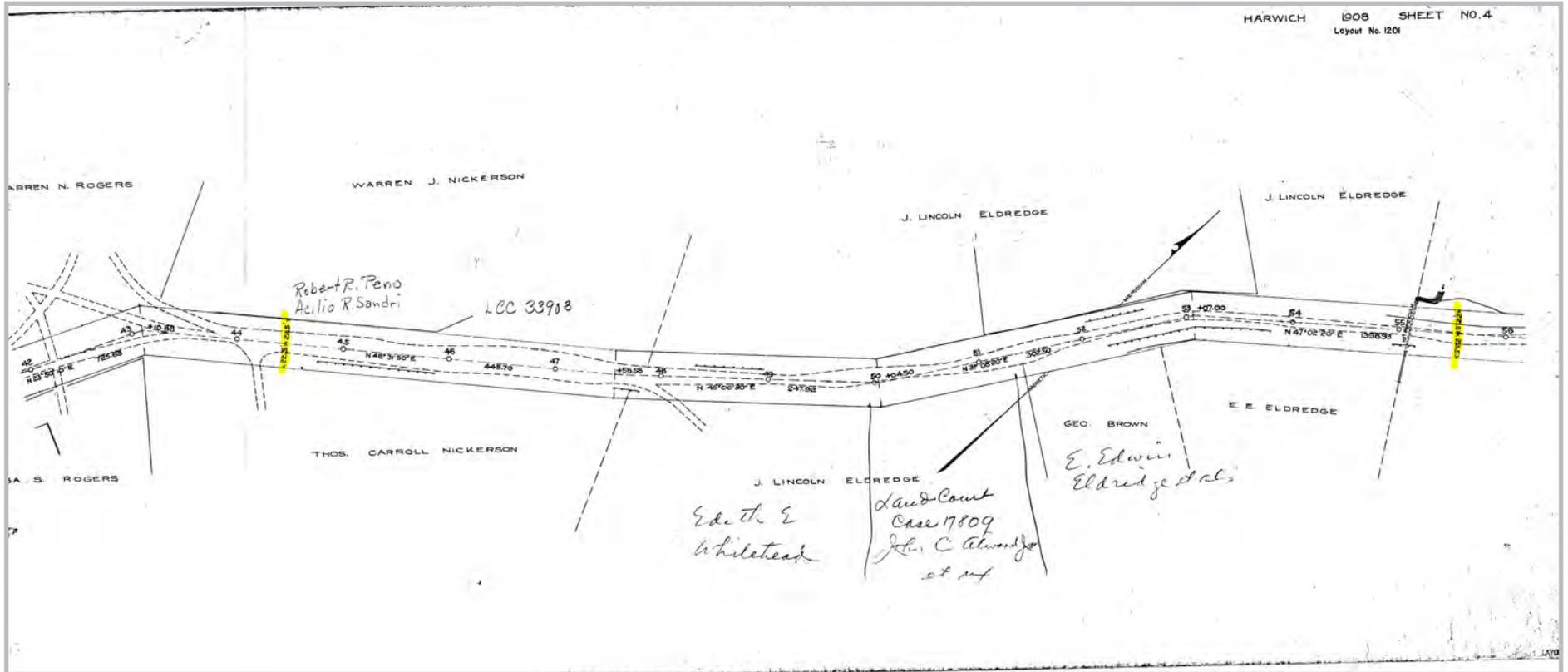
THIS SECTION ALTERED ~~OR ADDED~~  
SEE TRACKS IN THIS FOLDER  
OF THAT DATE

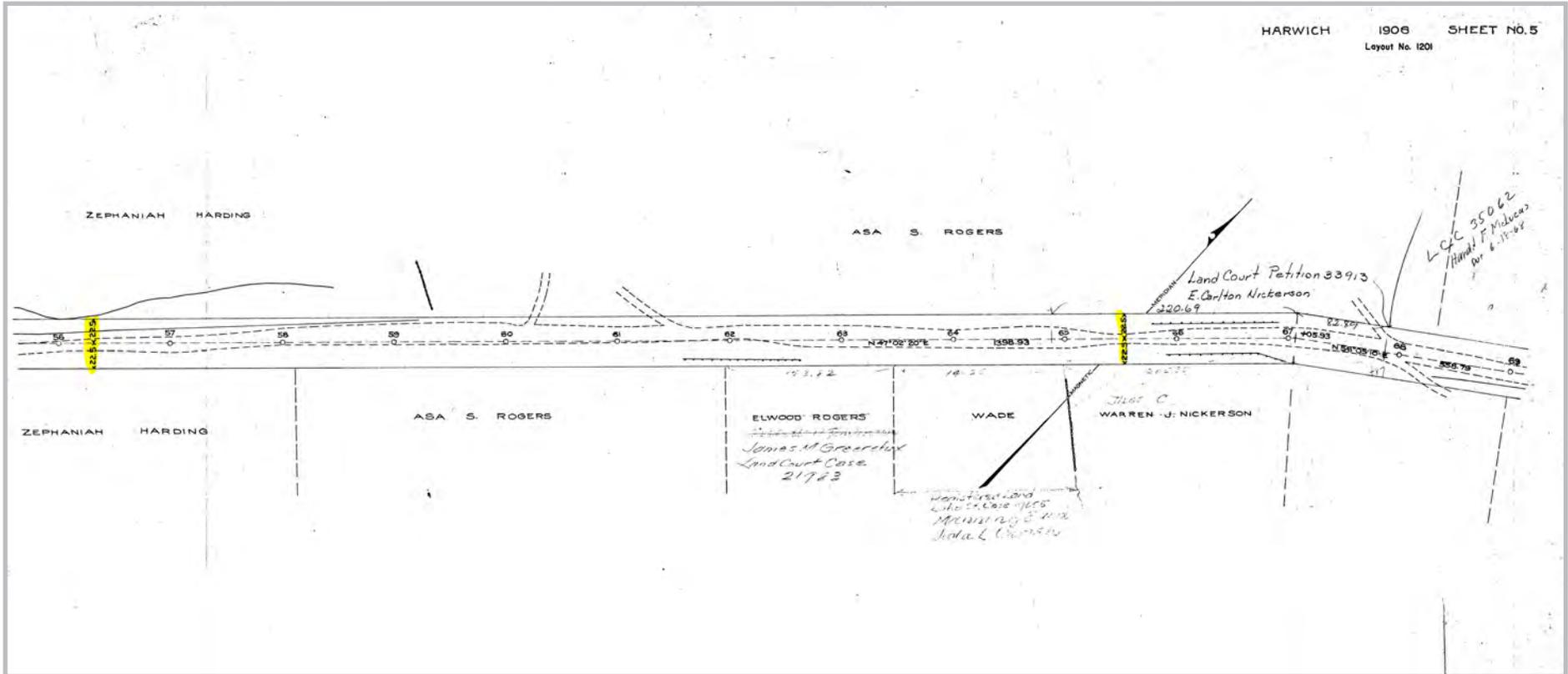
BEGINNING OF 1908 LAYOUT

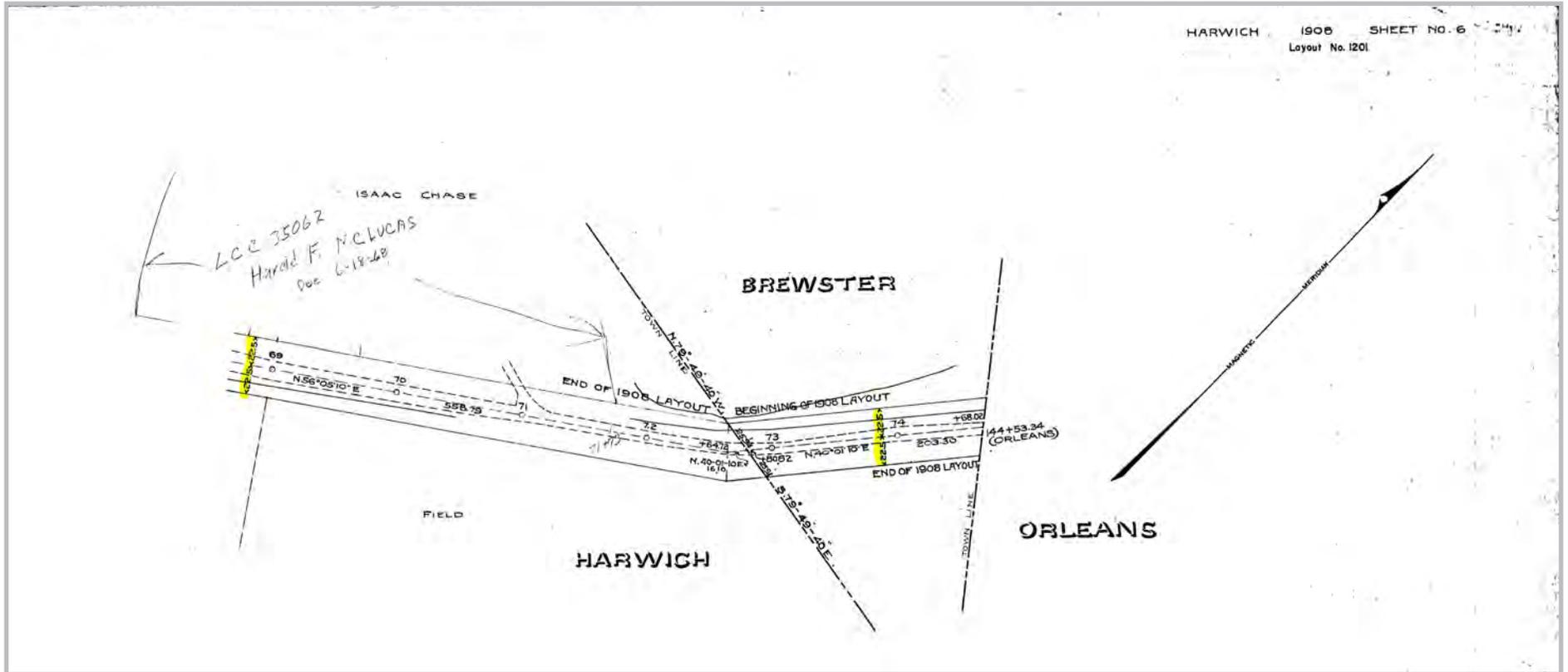
Layout No.

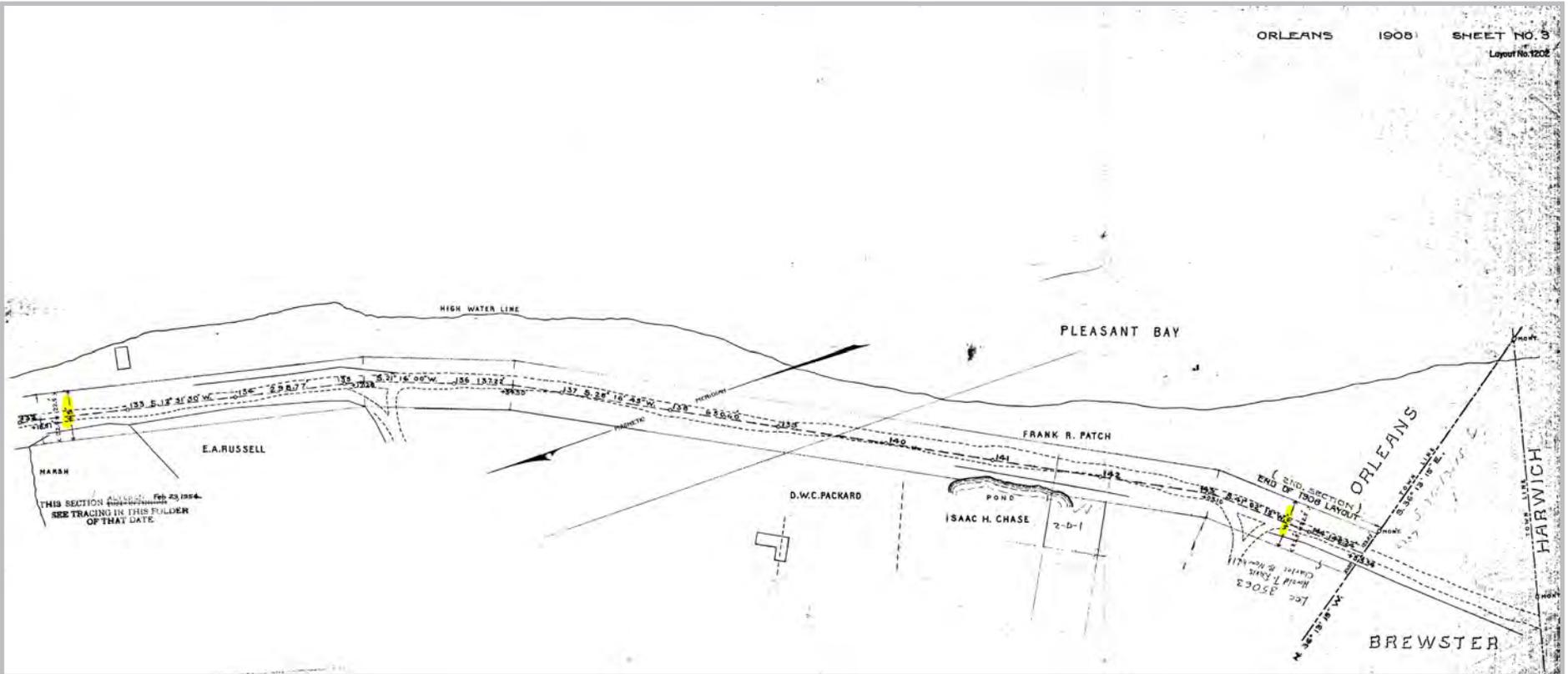


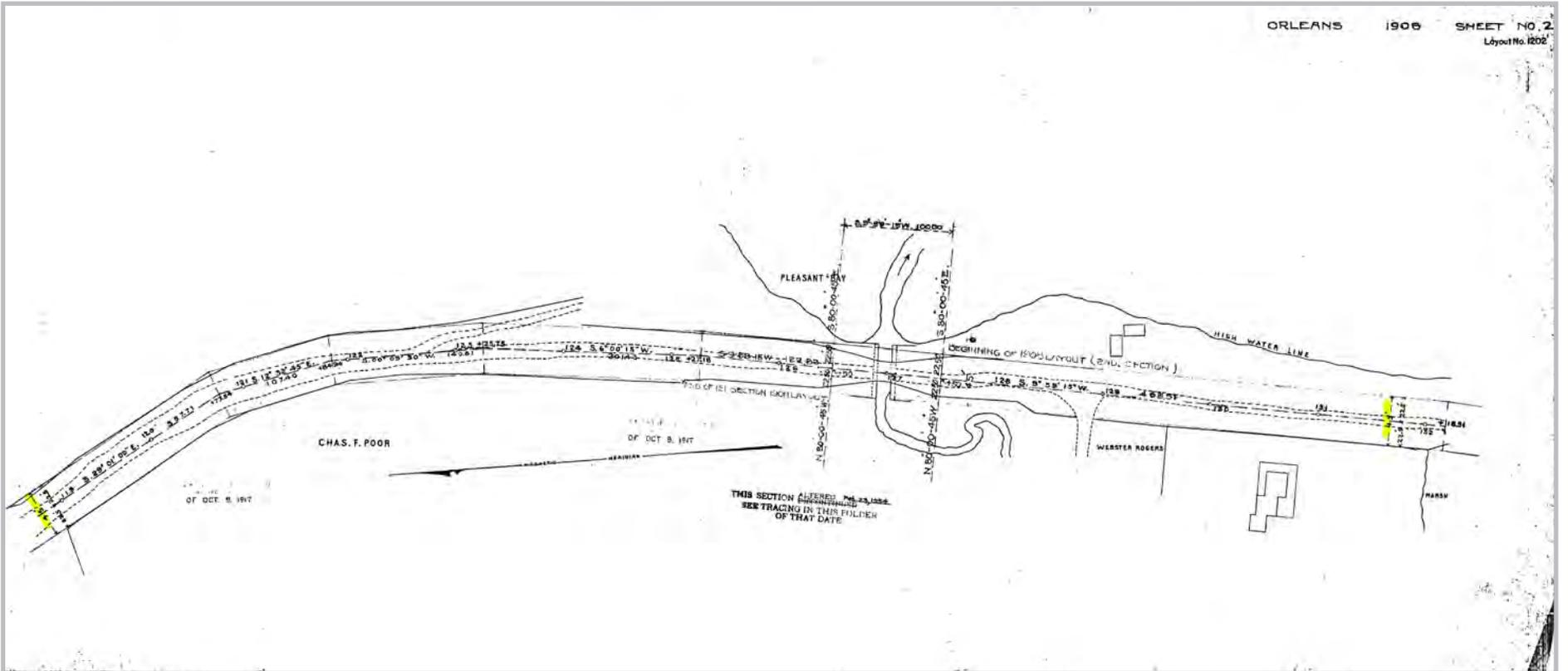












# PLAN OF ROAD IN THE TOWN OF **ORLEANS**

BARNSTABLE COUNTY  
LAID OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION

JULY 28 1908

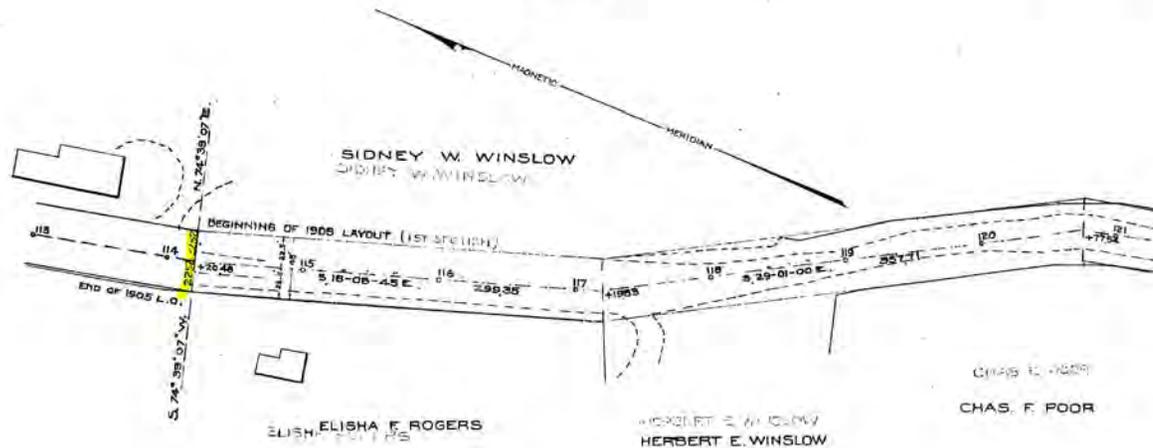
SCALE: 40 FEET TO THE INCH

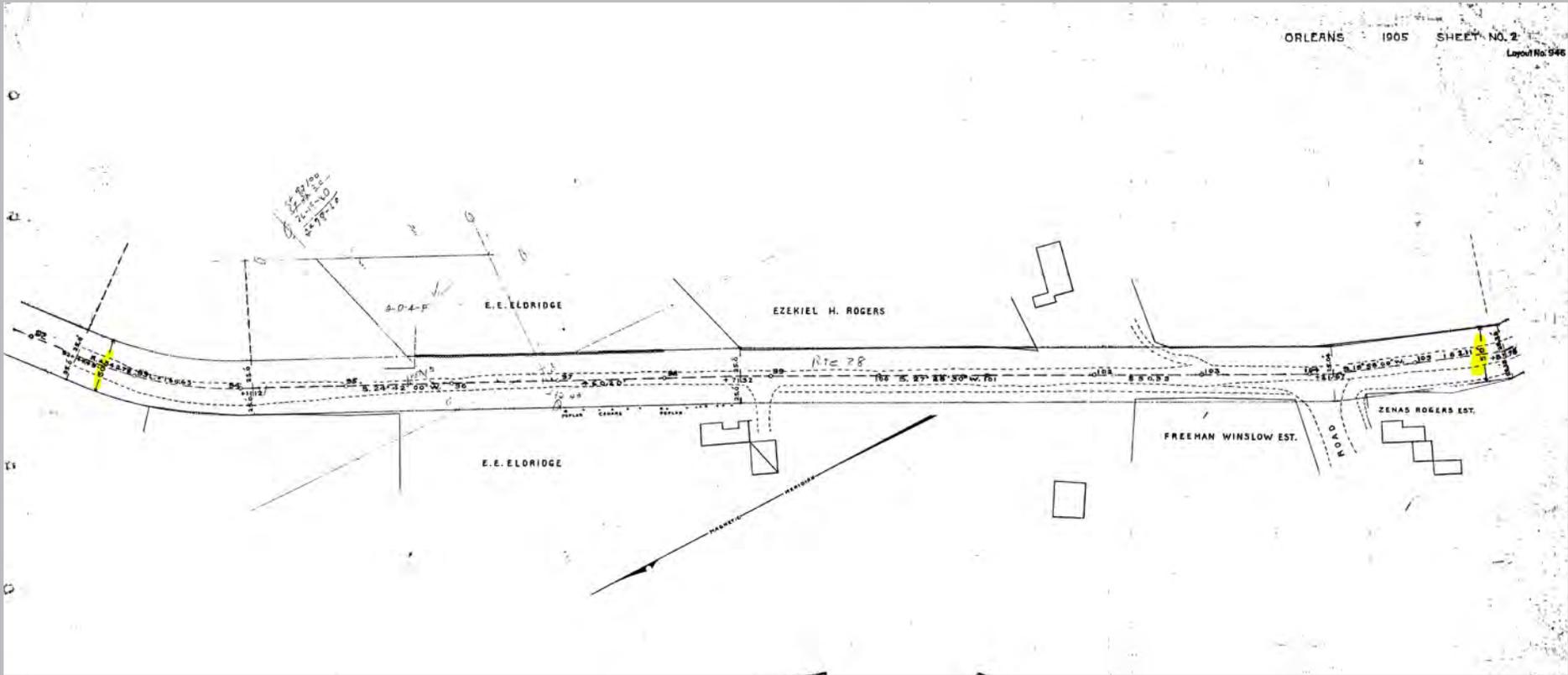
*J. A. Parsons*  
SECOND ASSISTANT ENGINEER

THIS CERTIFIES THAT THE EMBLEM AS SHOWN ON  
THIS PLAN WAS LAID OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION JULY 28 - 1908  
IN ACCORDANCE WITH CHAPTERS 80 & 81, ACT JULY 28, 1906.

*Karolotacke*  
*John H. Macomber*  
*W. D. Fisher*  
MASSACHUSETTS HIGHWAY COMMISSION

THE RELEASEE HAS RECEIVED THESE COPIES:  
*Asst. Secy*  
SECRETARY





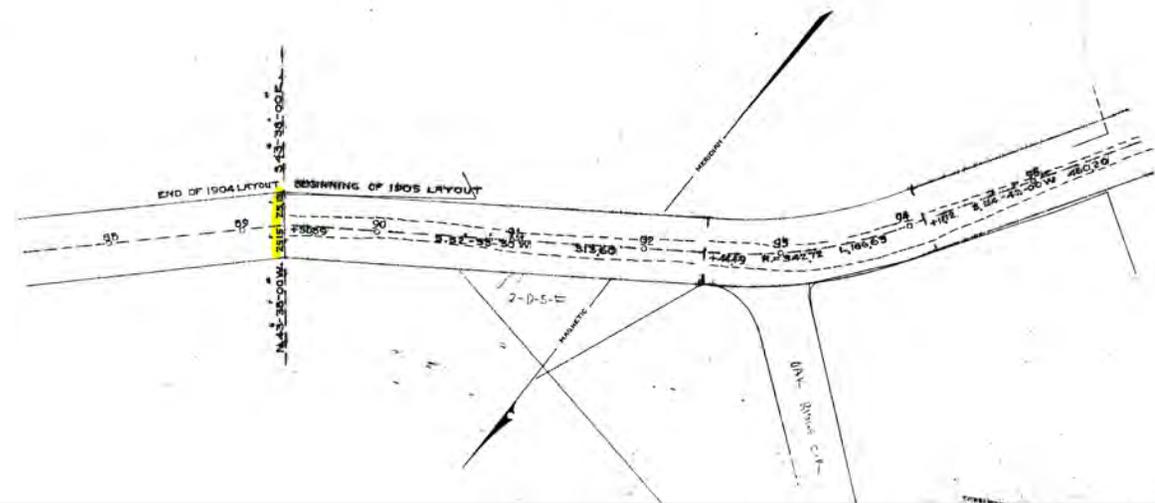
# PLAN OF ROAD IN THE TOWN OF ORLEANS BARNSTABLE COUNTY

LAI D OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION

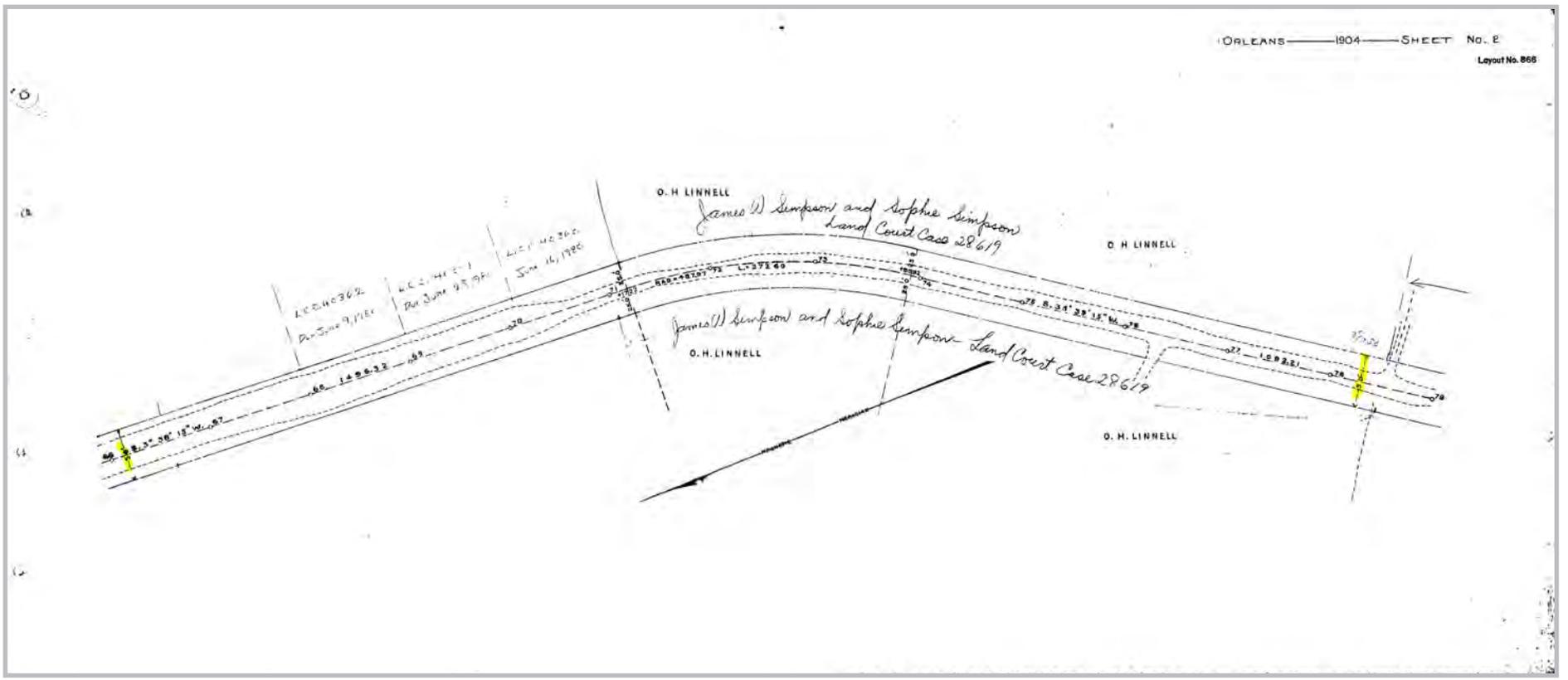
APRIL 13 1905  
SCALE: 40 FEET TO THE INCH  
*A. W. Ross*

RELEASES FROM LAND AND GRADE DAMAGES HAVE BEEN  
SIGNED BY ALL THE ABUTTERS OF THIS SECTION  
*W. Ward*  
SECRETARY

THIS CERTIFIES THAT THE HIGHWAY AS LAYOUT BY  
THIS PLAN WAS LAIN OUT BY THE COMMISSIONER OF THE  
MASSACHUSETTS HIGHWAY COMMISSION, APRIL 13 1905  
IN ACCORDANCE WITH CHAPTER 47 OF THE REVISED LAWS  
*W. E. S. Clarke*  
*Narvel Parker*  
SECRETARY







# PLAN OF ROAD IN THE TOWN OF ORLEANS

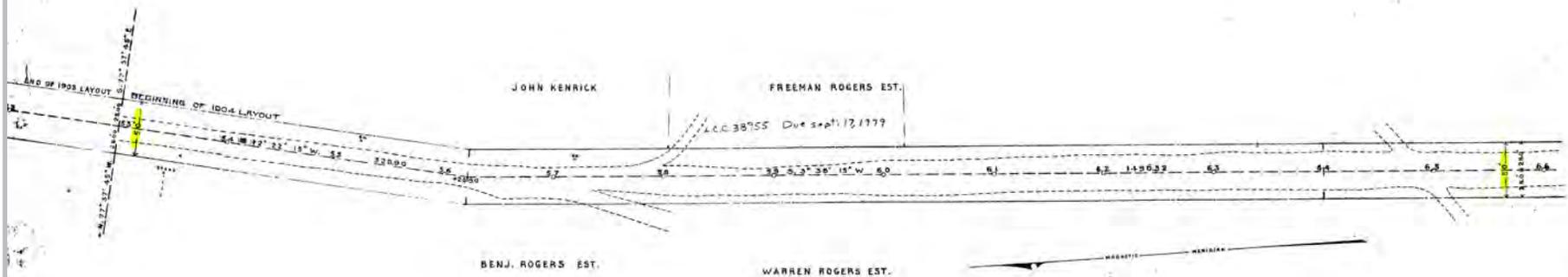
BARNSTABLE COUNTY  
LAID OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION

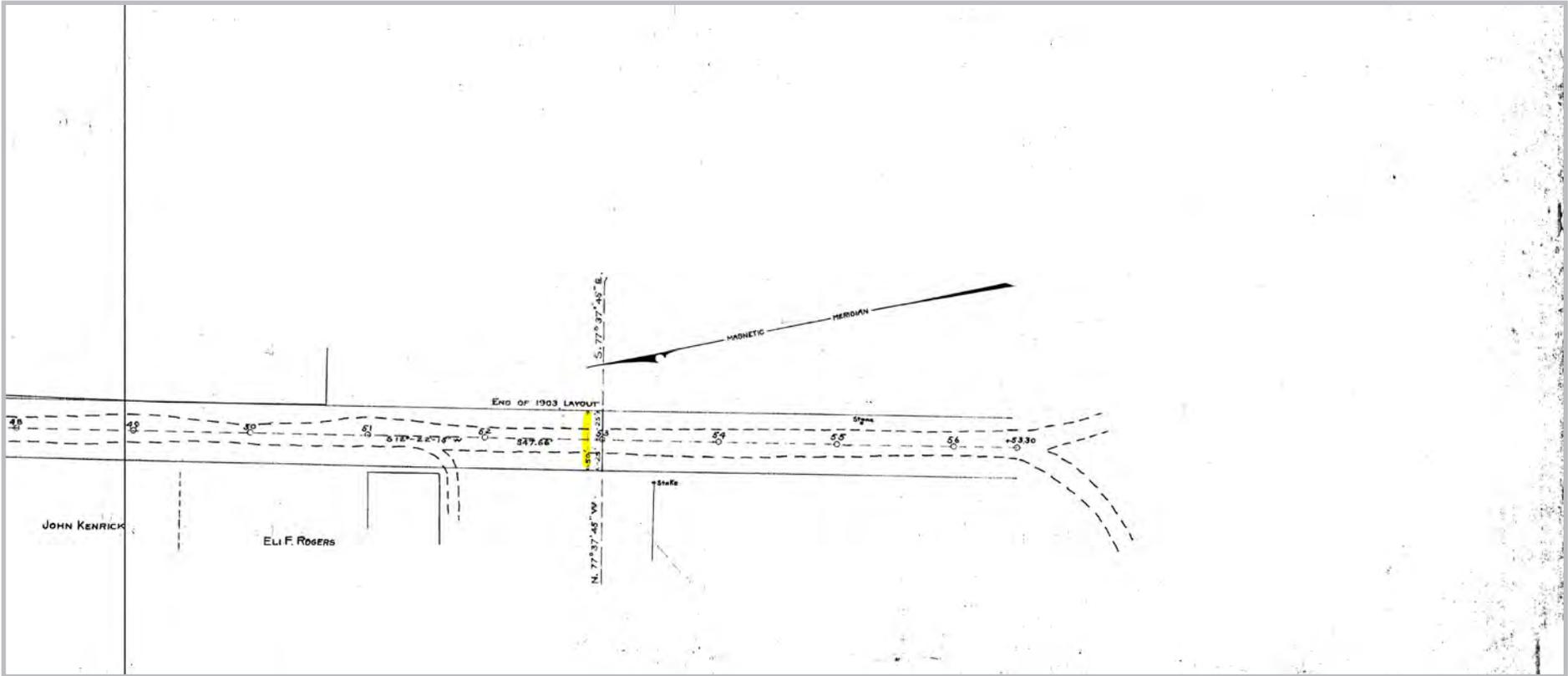
JUNE 9 1904  
SCALE: 40 FEET TO THE INCH

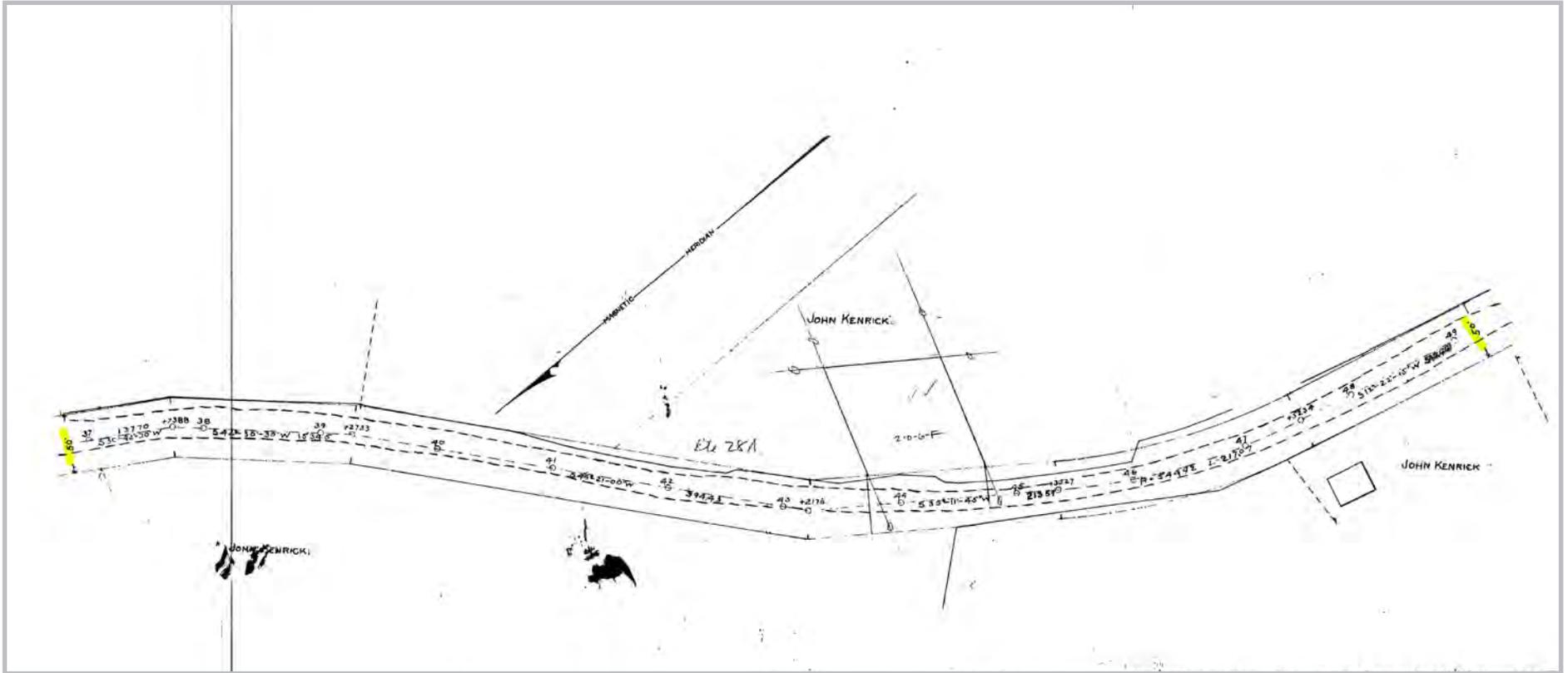
*A. M. Lewis*  
MAP AND SURVEYOR

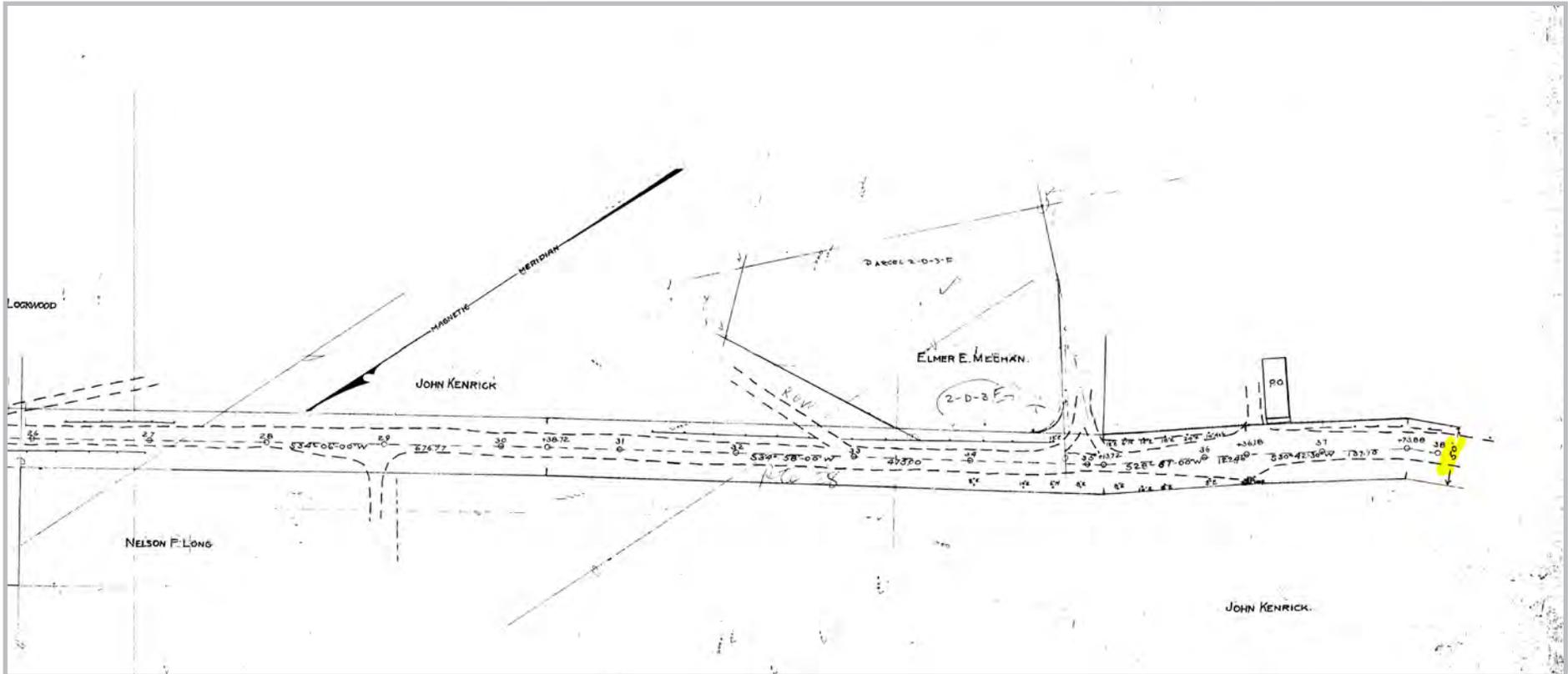
RELEASED FROM LAND AND WATER SURVEYS AND BUREAU  
DIVISION OF ALL THE RESOURCES OF THIS SECTION  
*W. Smith*  
SECRETARY

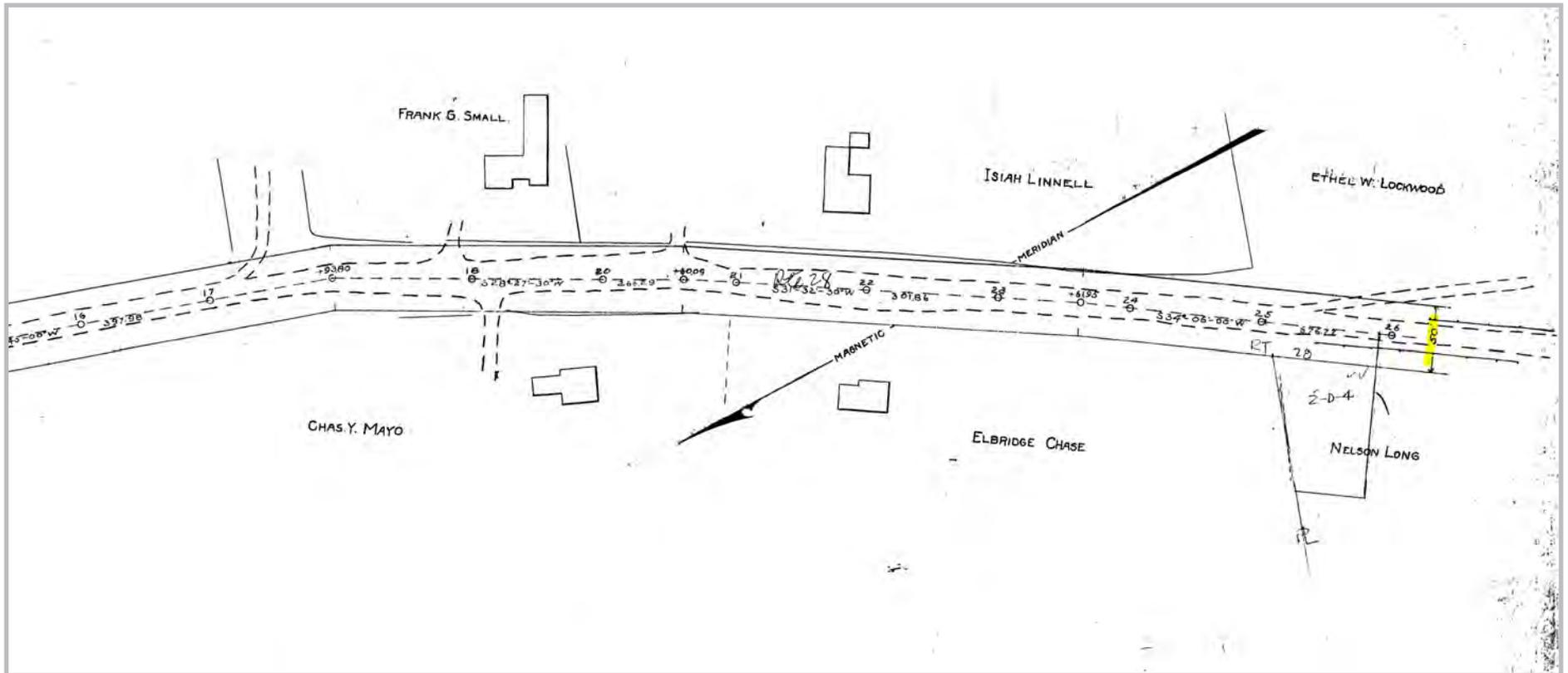
THESE CERTIFICATES SHOW THE HIGHWAY AS LOCATED ON  
THIS PLAN AND AS Laid OUT BY THE MASSACHUSETTS HIGHWAY COMMISSION, JUNE 9, 1904,  
IN ACCORDANCE WITH CHAPTER 107 OF THE REVISED STATUTES.  
*W. E. McClinton*  
*Harold Parker*  
*Edmund W. Smith*  
MASSACHUSETTS HIGHWAY COMMISSION











812

# PLAN OF PLEASANT BAY ROAD ORLEANS BARNSTABLE COUNTY

LAI D OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION

SEPTEMBER 3 1903

SCALE: 40 FEET TO THE INCH

*A. M. Linn*  
SURVEYOR GENERAL

THIS CERTIFIES THAT THE HIGHWAY AS SHOWN BY  
THIS PLAN WAS LAID OUT AS A STATE HIGHWAY BY THE  
MASSACHUSETTS HIGHWAY COMMISSION UNDER THE  
AUTHORITY OF CHAPTER 42 OF THE REVISED STATUTES.

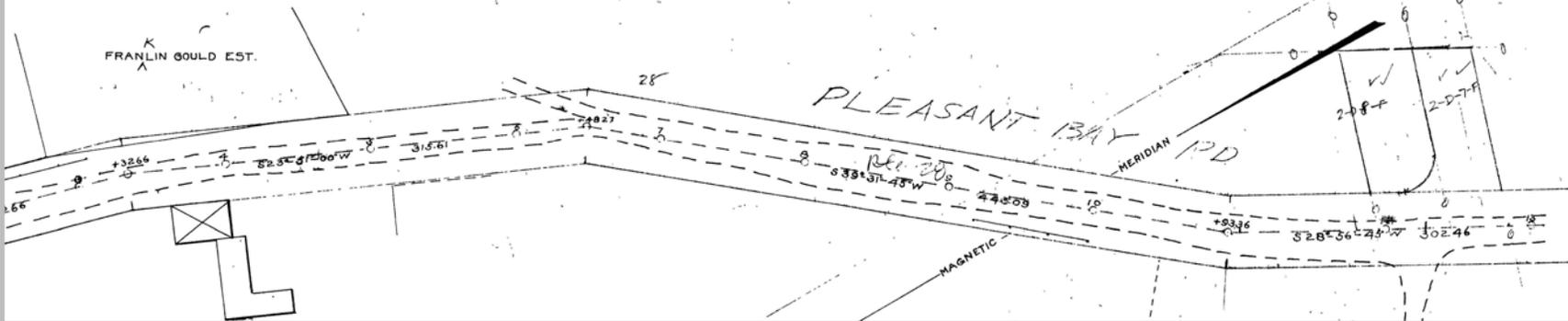
*W. W. Cloutch*

*John H. Wallace*  
MASSACHUSETTS HIGHWAY COMMISSION

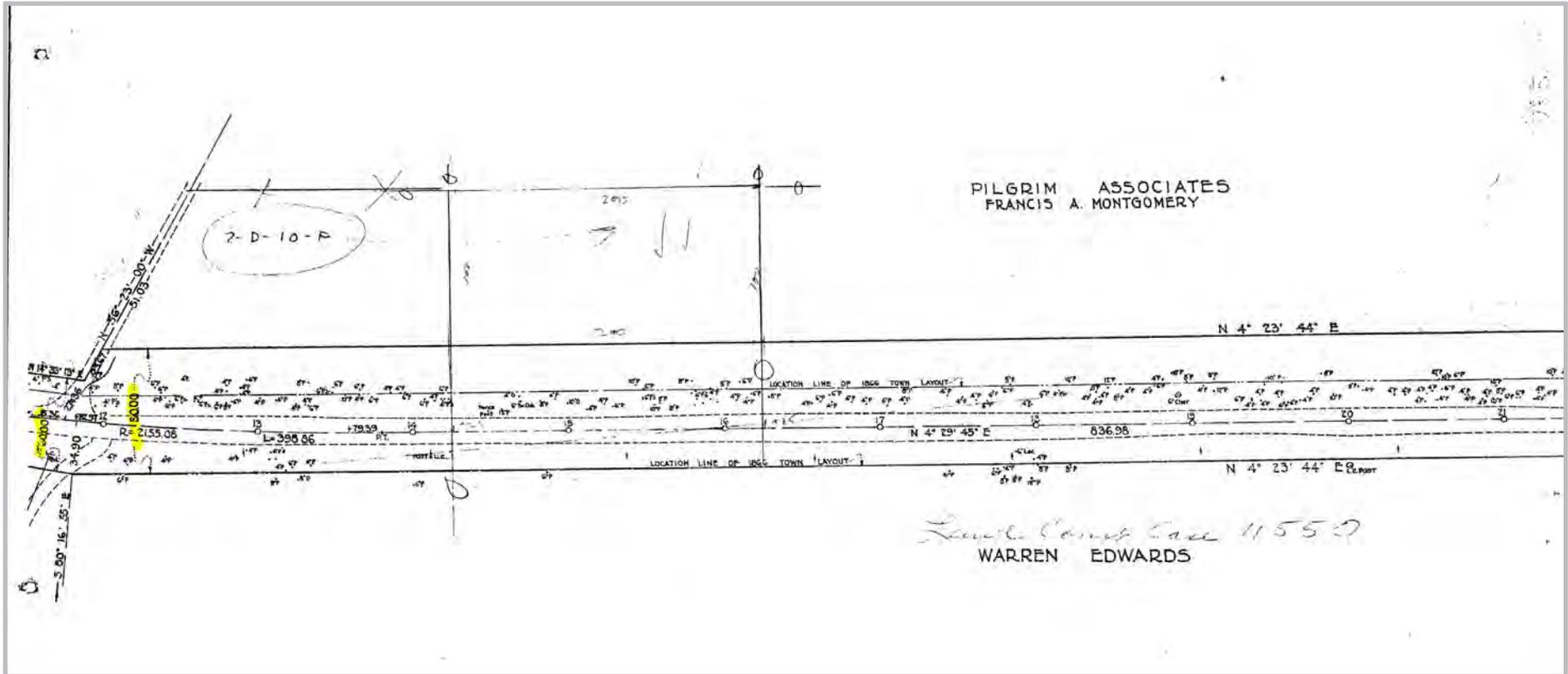
NO CHANGE HAS BEEN  
MADE ON THIS SECTION  
*A. B. French*  
SECRETARY

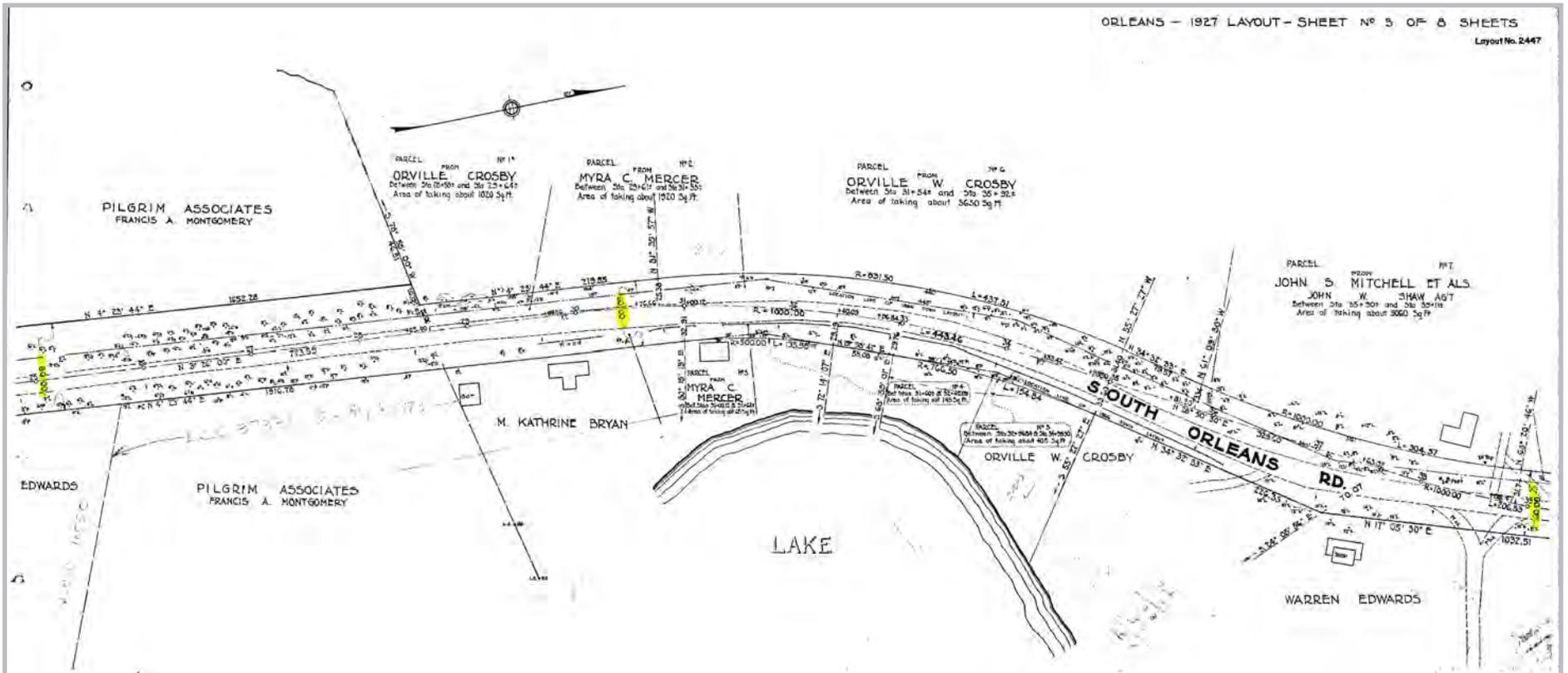
ESTATE OF FRANKLIN GOULD

FRANKLIN GOULD EST.

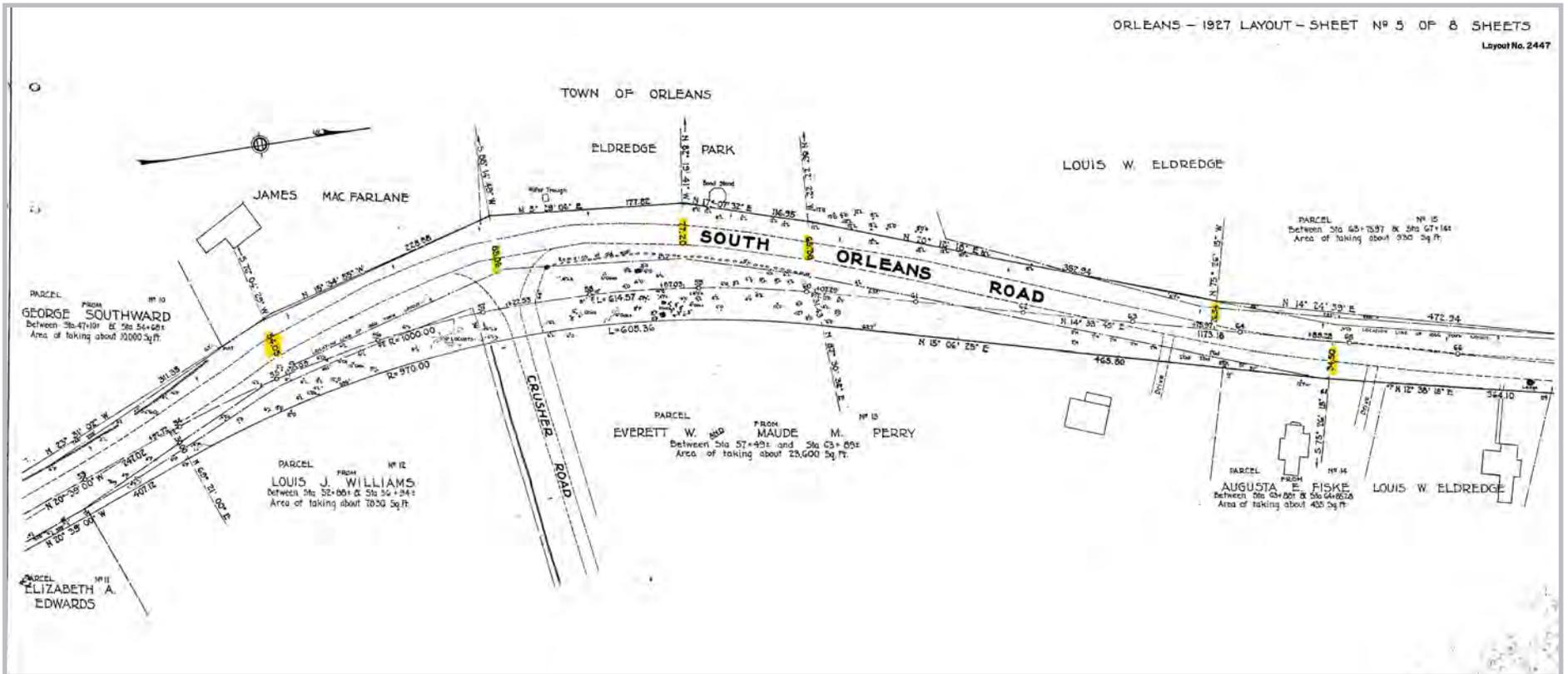




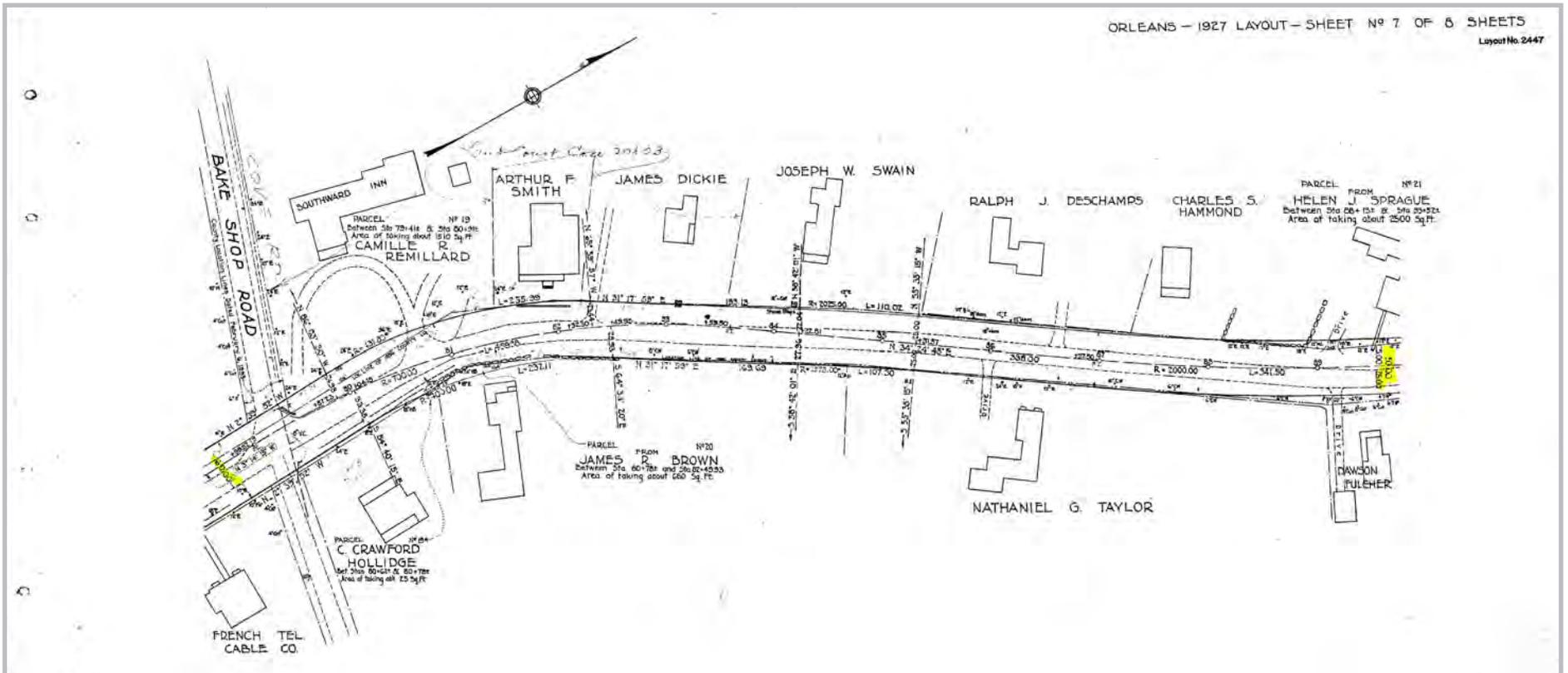




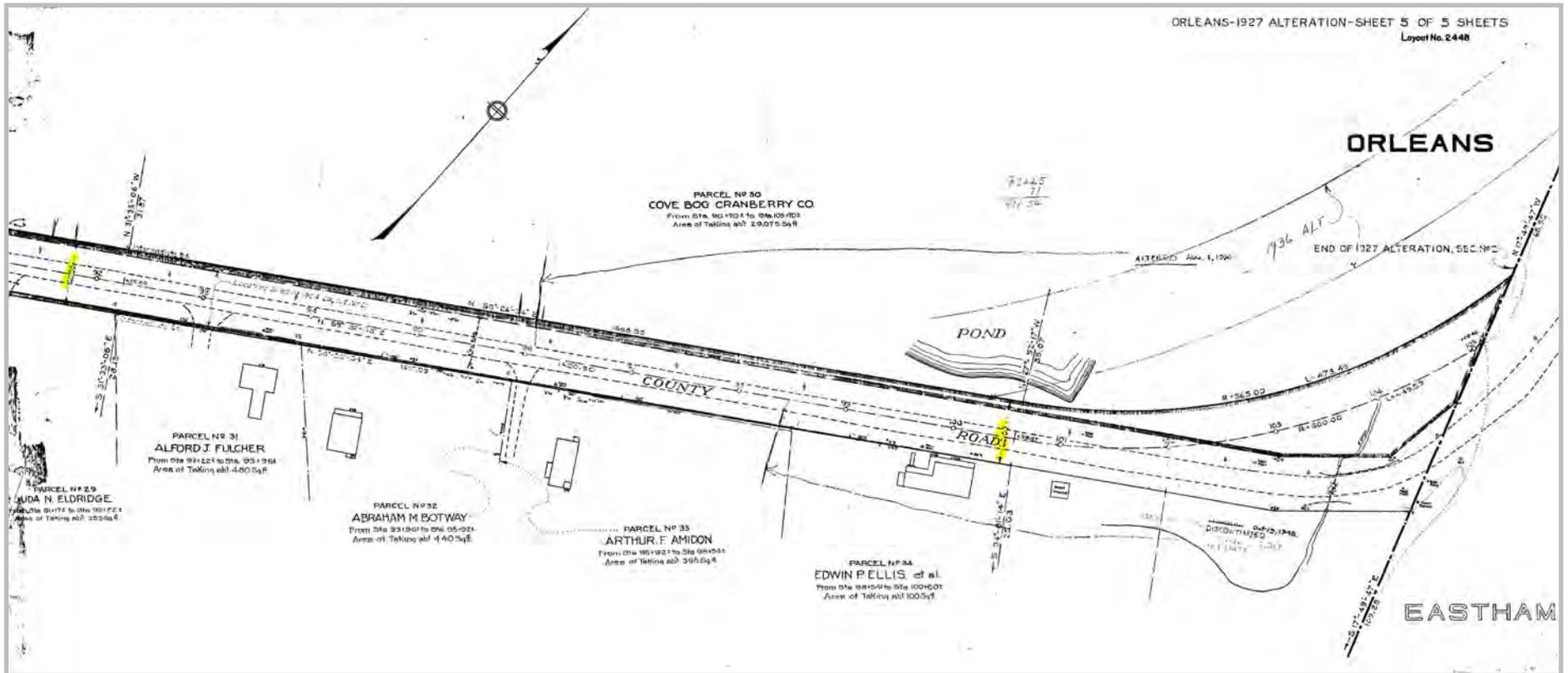






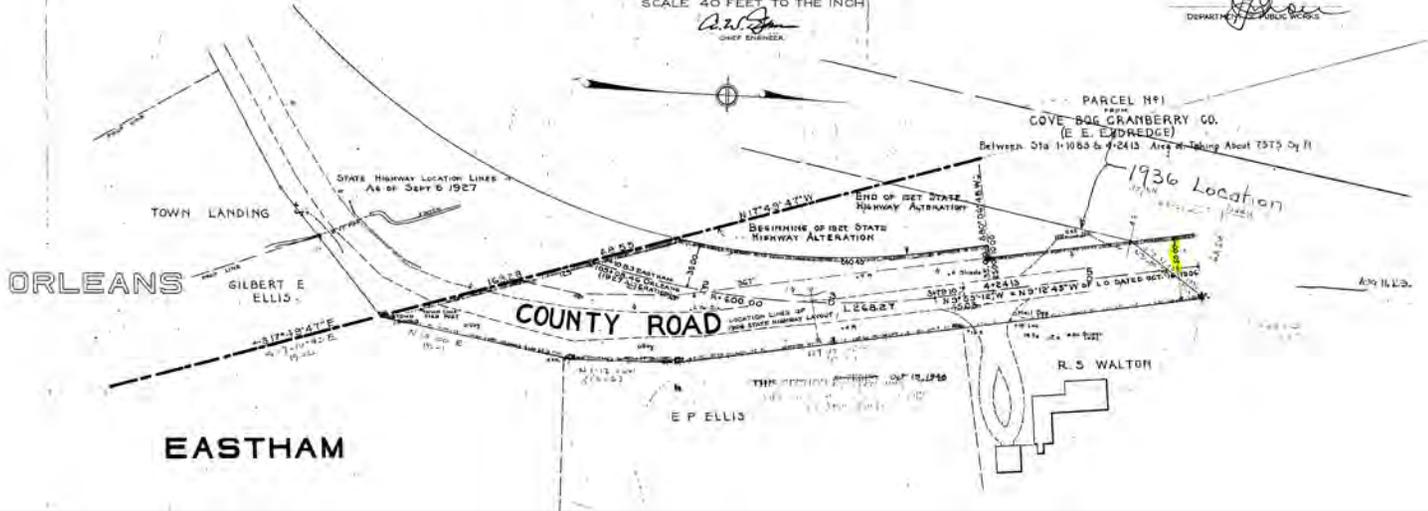


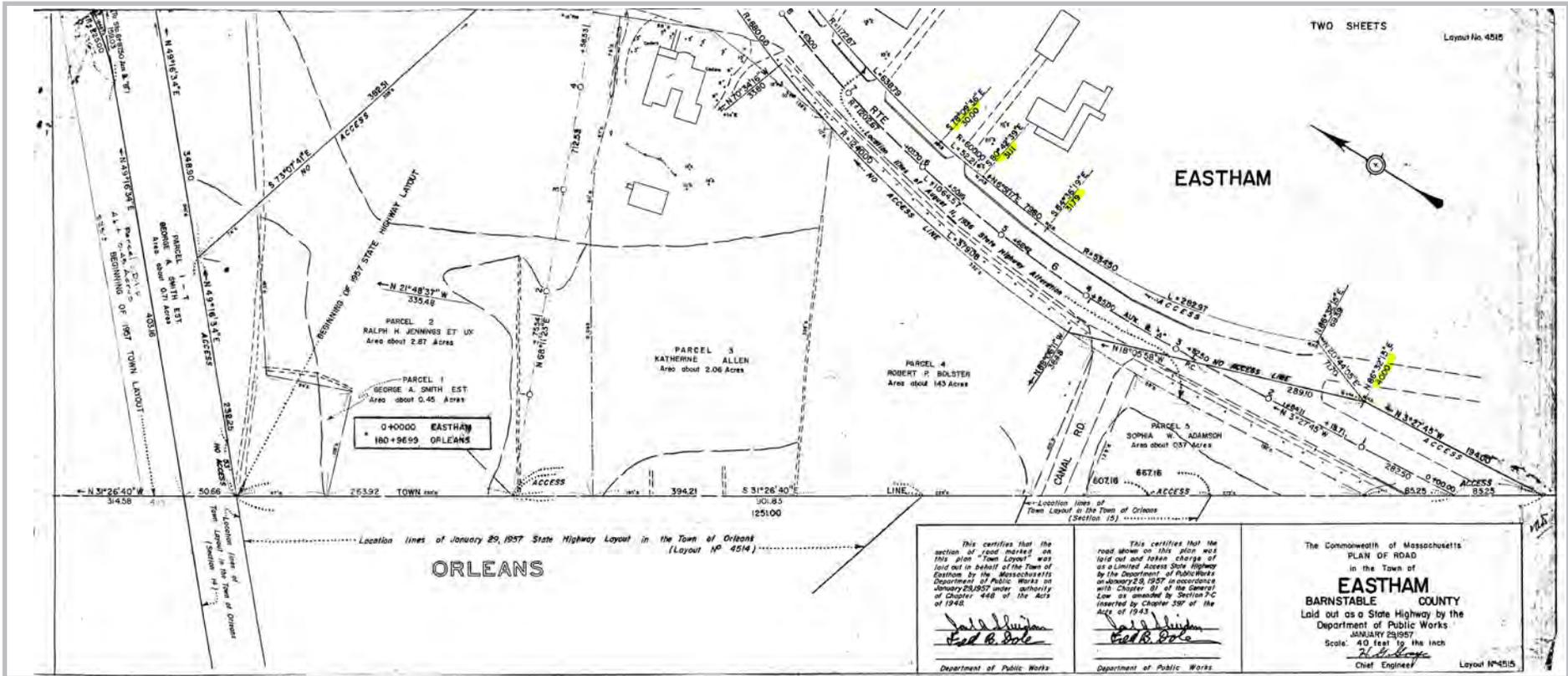


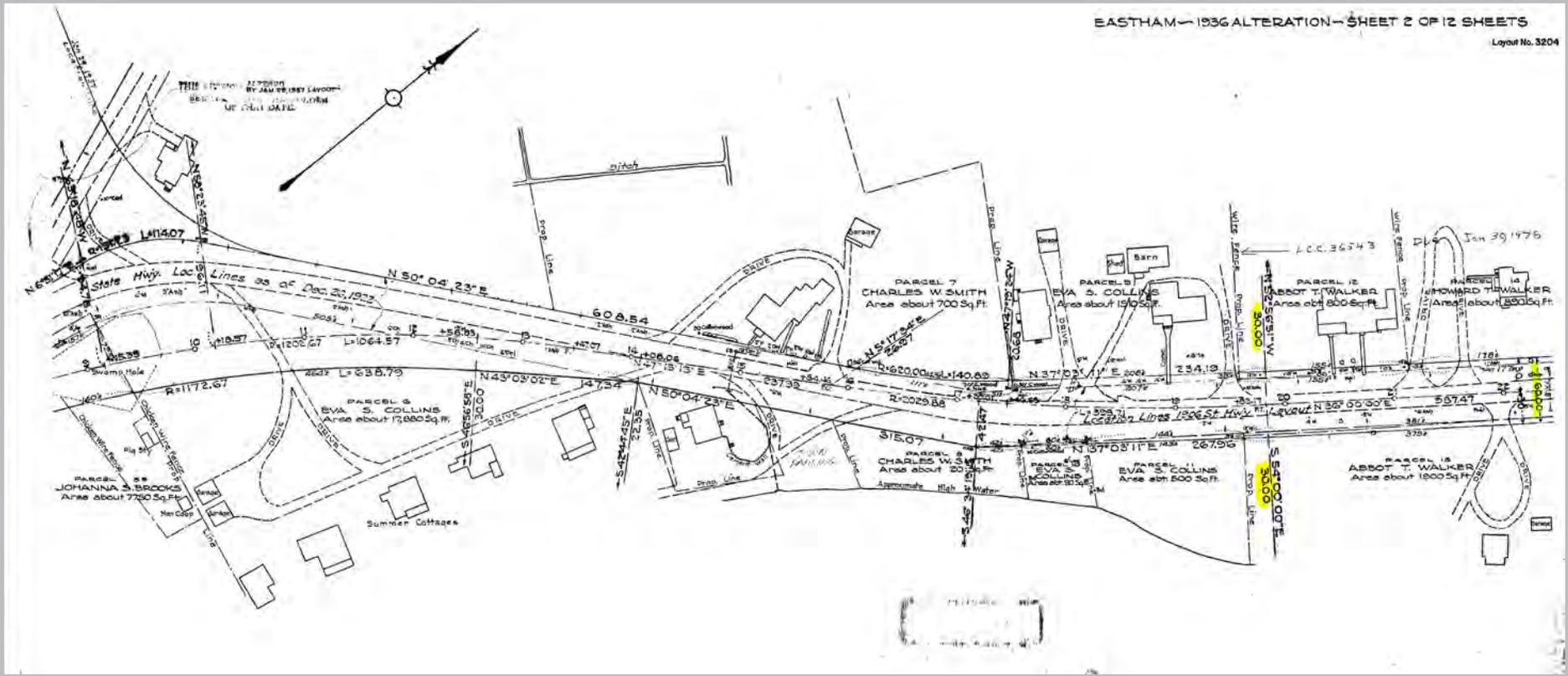


THE COMMONWEALTH OF MASSACHUSETTS  
PLAN OF ROAD  
IN THE TOWN OF  
**EASTHAM**  
BARNSTABLE COUNTY  
ALTERED AND  
LAID OUT AS A STATE HIGHWAY BY THE  
DEPARTMENT OF PUBLIC WORKS  
OCTOBER 16, 1927  
SCALE 40 FEET TO THE INCH  
*A. W. Jones*  
CHIEF ENGINEER

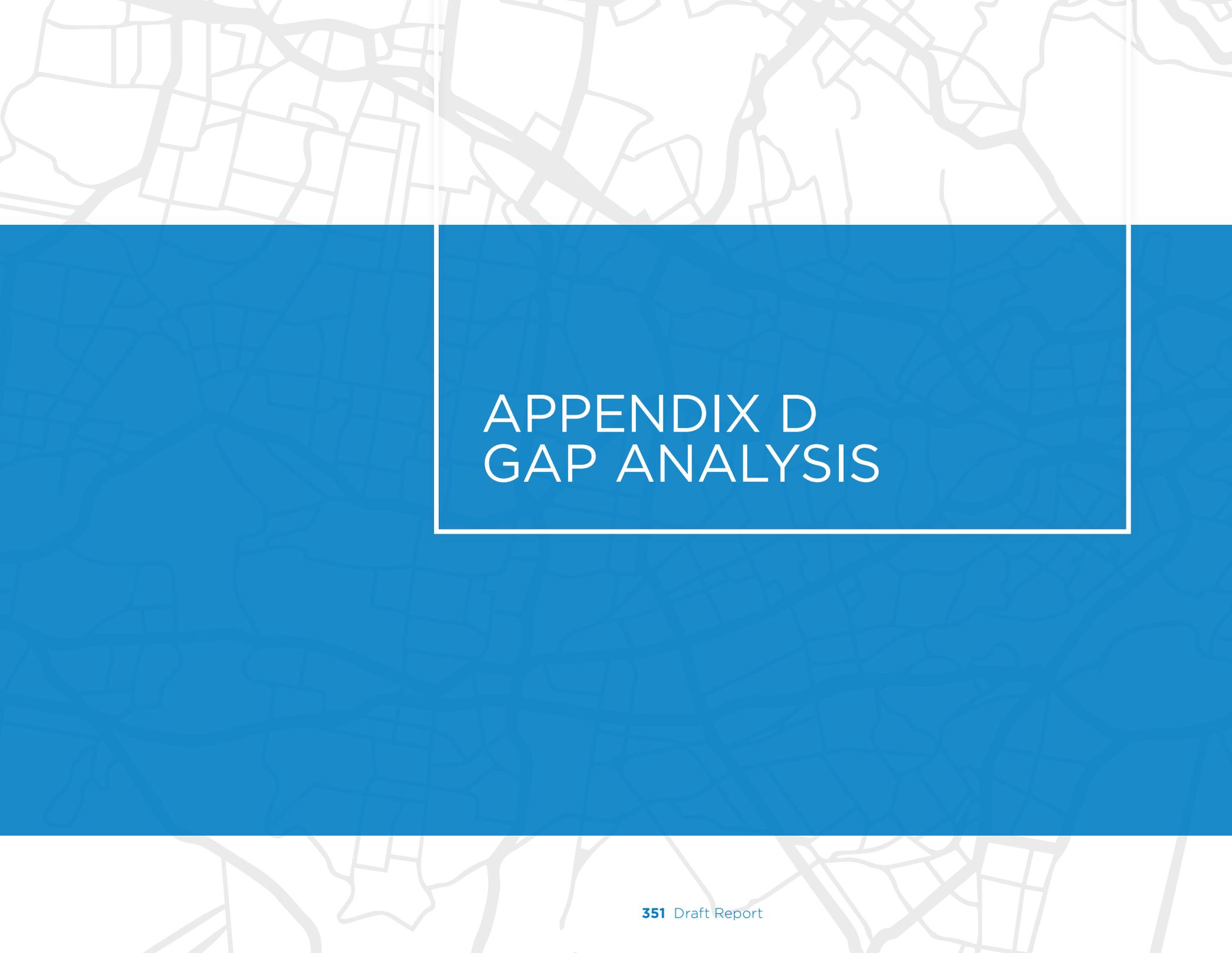
THIS CERTIFIES THAT THE LOCATION OF THE HIGHWAY AS SHOWN ON THIS PLAN HAS BEEN ALTERED AS INDICATED AND THAT SAID HIGHWAY AS ALTERED WAS LAID OUT AND TRACK CHANGED AS A STATE HIGHWAY BY THE DEPARTMENT OF PUBLIC WORKS OCTOBER 16, 1927 IN ACCORDANCE WITH CHAPTER 81 OF THE GENERAL LAWS AS AMENDED BY CHAPTER 436 OF THE ACTS OF 1921  
*William A. McLaughlin*  
*Richard H. Hays*  
DEPARTMENT OF PUBLIC WORKS









A faint, light gray map pattern of streets and blocks is visible in the top and bottom sections of the page. The middle section is a solid blue rectangle containing the title text.

# APPENDIX D GAP ANALYSIS

No Sidewalk										No Sidewalk									
OBJECTID*	Route_ID	fmeas	tmeas	Name2	Town	Town ID	St_Name	Fm_St_Name	To_St_Name	OBJECTID*	Route_ID	fmeas	tmeas	Name2	Town	Town ID	St_Name	Fm_St_Name	To_St_Name
2182	SR 28 NB	27.505999	27.575480	Suburban 28	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	2365	SR 28 NB	37.459838	37.442940	Rural Residential 47	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY
1629	SR 28 NB	27.575481	27.56619	Suburban 28	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	1141	SR 28 NB	37.463941	37.53660	Rural Residential 47	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY
241	SR 28 NB	27.641902	27.7317	Suburban 28	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	1391	SR 28 NB	37.536596	37.536596	Rural Residential 47	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY
1709	SR 28 NB	27.730495	27.81427	Suburban 28	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	1975	SR 28 NB	37.556517	37.76060	Rural Residential 47	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY
80	SR 28 NB	27.814277	27.85155	Suburban 28	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	1507	SR 28 NB	37.760638	37.90298	Suburban 35	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY
2355	SR 28 NB	27.851557	27.89021	Suburban 28	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	620	SR 28 NB	37.903981	37.93683	Suburban 35	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY
1497	SR 28 NB	27.890217	27.92603	Suburban 28	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	1599	SR 28 NB	38.107402	38.107402	Suburban 35	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY
644	SR 28 NB	27.926035	28.03208	Suburban 28	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	2190	SR 28 NB	6.568943	6.69342	Rural Residential 50	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
1714	SR 28 NB	28.032085	28.07893	Suburban 28	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	2979	SR 28 NB	6.699423	6.753157	Rural Residential 50	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
527	SR 28 NB	28.078935	28.12841	Town Mix 27	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	171	SR 28 NB	6.793159	6.805901	Rural Residential 50	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
131	SR 28 NB	28.12841	28.18973	Town Mix 27	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	1794	SR 28 NB	6.895902	7.131372	Rural Residential 50	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
1124	SR 28 NB	28.189734	28.43900	Town Mix 27	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	997	SR 28 NB	7.131372	7.377003	Rural Residential 50	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
844	SR 28 NB	28.439005	28.46186	Town Mix 27	Barnstable	20	YANNOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE	1638	SR 28 NB	7.276004	7.522700	Rural Residential 50	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
1735	SR 28 NB	28.461867	28.554399	Town Mix 27	Barnstable	20	AIRPORT ROTARY	YANNOUGH ROAD	YANNOUGH ROAD	2408	SR 28 NB	7.522700	7.910189	Rural Residential 50	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
1485	SR 28 NB	28.554399	28.59421	Suburban 28	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	775	SR 28 NB	7.910189	7.943663	Rural Residential 50	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
1152	SR 28 NB	28.594215	28.65595	Suburban 28	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	304	SR 28 NB	7.943664	8.210979	Rural Residential 50	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
2294	SR 28 NB	28.655959	28.71302	Suburban 28	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1413	SR 28 NB	8.210979	8.28937	Rural Residential 50	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
545	SR 28 NB	28.713025	28.79641	Suburban 28	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1575	SR 28 NB	8.289371	8.357675	Suburban 49	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
894	SR 28 NB	28.796413	28.81303	Suburban 28	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	2040	SR 28 NB	8.357676	8.413693	Suburban 49	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
1210	SR 28 NB	28.813035	28.82593	Suburban 28	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1932	SR 28 NB	8.413693	8.403841	Suburban 49	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
819	SR 28 NB	28.825931	29.03094	Suburban 28	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	763	SR 28 NB	8.413694	8.629922	Town Mix 48	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
1675	SR 28 NB	29.030946	29.10646	Suburban 28	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	211	SR 28 NB	8.629923	8.730455	Suburban 47	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
342	SR 28 NB	29.106462	29.15563	Suburban 28	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	784	SR 28 NB	8.629923	8.948579	Suburban 47	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
964	SR 28 NB	29.155631	29.20449	Suburban 28	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1543	SR 28 NB	8.948579	8.966167	Suburban 47	Chatham	55	GREANS ROAD	OLD HARBOR ROAD	HARWICH TOWN LINE
1326	SR 28 NB	31.328944	31.37779	Suburban 24	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	403	SR 28 NB	9.057934	9.140773	Suburban 47	Chatham	55	OLD HARBOR ROAD	MAIN STREET ROTARY	SCATTEREE ROAD
1215	SR 28 NB	31.377794	31.4386	Suburban 24	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1202	SR 28 NB	9.140774	9.17949	Suburban 47	Chatham	55	OLD HARBOR ROAD	MAIN STREET ROTARY	SCATTEREE ROAD
745	SR 28 NB	31.438603	31.49567	Suburban 24	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1020	SR 28 NB	9.17949	9.203158	Suburban 47	Chatham	55	OLD HARBOR ROAD	MAIN STREET ROTARY	SCATTEREE ROAD
792	SR 28 NB	31.495673	31.61577	Suburban 24	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1096	SR 28 NB	9.203159	9.6253	Suburban 47	Chatham	55	OLD HARBOR ROAD	MAIN STREET ROTARY	SCATTEREE ROAD
1985	SR 28 NB	31.615776	31.69764	Suburban 24	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	846	SR 28 NB	9.62531	9.705554	Town Mix 46	Chatham	55	OLD HARBOR ROAD	MAIN STREET ROTARY	SCATTEREE ROAD
109	SR 28 NB	31.697643	31.74175	Suburban 24	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	235	SR 28 NB	9.705555	9.890247	Town Mix 46	Chatham	55	OLD HARBOR ROAD	MAIN STREET ROTARY	SCATTEREE ROAD
1877	SR 28 NB	31.741755	31.76914	Suburban 24	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1563	SR 28 NB	9.890248	9.977384	Town Mix 46	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
711	SR 28 NB	31.769143	31.80787	Suburban 24	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	638	SR 28 NB	9.977385	9.98491	Town Mix 46	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
2044	SR 28 NB	31.807874	31.82529	Suburban 24	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1767	SR 28 NB	9.984911	10.04828	Town Mix 46	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
1579	SR 28 NB	31.825293	31.8538	Suburban 24	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1963	SR 28 NB	10.04828	10.096	Town Mix 46	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
1937	SR 28 NB	31.853808	31.8556	Suburban 24	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1090	SR 28 NB	10.096007	10.10323	Town Mix 46	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
2546	SR 28 NB	31.855607	31.87866	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	693	SR 28 NB	10.10323	10.10101	Town Mix 46	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
601	SR 28 NB	31.878665	32.04004	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1187	SR 28 NB	10.180164	10.23918	Town Mix 46	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
2211	SR 28 NB	32.040043	32.03585	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1024	SR 28 NB	10.239189	10.36390	Town Mix 46	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
708	SR 28 NB	32.035853	32.11889	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	907	SR 28 NB	10.640269	10.74723	Town Mix 44	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
585	SR 28 NB	32.118899	32.16128	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1530	SR 28 NB	10.747239	10.8215	Town Mix 44	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
321	SR 28 NB	32.161284	32.17898	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1479	SR 28 NB	10.821506	10.85143	Town Mix 44	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
2680	SR 28 NB	32.178982	32.28587	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1756	SR 28 NB	10.851431	10.90765	Town Mix 44	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
1010	SR 28 NB	32.285877	32.37169	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1287	SR 28 NB	10.907651	10.91604	Town Mix 44	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
270	SR 28 NB	32.3717	32.62717	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1458	SR 28 NB	10.91605	10.9321	Town Mix 44	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
499	SR 28 NB	32.627174	32.76376	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	393	SR 28 NB	10.932106	10.9522	Town Mix 44	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
249	SR 28 NB	32.763763	32.79344	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	428	SR 28 NB	10.952205	10.972	Town Mix 44	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
6	SR 28 NB	32.793443	32.82273	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1573	SR 28 NB	10.972009	10.98105	Town Mix 44	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
2083	SR 28 NB	32.822732	32.802489	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	2399	SR 28 NB	10.981059	11.04137	Town Mix 44	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
1441	SR 28 NB	32.802489	32.835041	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1010	SR 28 NB	11.041374	11.08170	Town Mix 44	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
2900	SR 28 NB	32.835043	32.84901	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1790	SR 28 NB	11.340951	11.36273	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
1530	SR 28 NB	32.849015	32.84945	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	459	SR 28 NB	11.362735	11.37263	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
1561	SR 28 NB	32.849453	32.81755	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	2260	SR 28 NB	11.42278	11.42278	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
2060	SR 28 NB	32.817552	32.62975	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	2290	SR 28 NB	11.42279	11.42279	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
702	SR 28 NB	32.629756	32.68165	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1481	SR 28 NB	11.438769	11.51428	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
636	SR 28 NB	32.681653	32.81612	Rural Residential 23	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	145	SR 28 NB	11.514281	11.54828	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
229	SR 28 NB	32.816123	32.84979	Town Mix 22	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	719	SR 28 NB	11.548287	11.70472	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
449	SR 28 NB	32.849794	32.11411	Town Mix 22	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	116	SR 28 NB	11.704729	11.74071	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
1902	SR 28 NB	32.114113	32.13866	Town Mix 22	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	38	SR 28 NB	11.740713	11.7712	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
1257	SR 28 NB	32.138664	32.20475	Town Mix 22	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1826	SR 28 NB	11.771216	11.78857	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
1574	SR 28 NB	32.204754	32.29494	Rural Residential 21	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	1887	SR 28 NB	11.788576	11.8366	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
1731	SR 28 NB	32.29494	32.49972	Rural Residential 21	Barnstable	20	FALMOUTH ROAD	MASHFEE TOWN LINE	AIRPORT ROTARY	2191	SR								

No Sidewalk					No Sidewalk														
OBJECTID*	Route_ID	fmeas	tmeas	Name2	Town	Town_ID	St_Name	Fm_St_Name	To_St_Name	OBJECTID*	Route_ID	fmeas	tmeas	Name2	Town	Town_ID	St_Name	Fm_St_Name	To_St_Name
332	SR28 NB	13.057587	13.08089	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	245	SR28 NB	50.085420	50.187289	Town Mlt 2	Falmouth	36	DALLER AVENUE	MAIN STREET	WEST FALMOUTH HIGHWAY
721	SR28 NB	13.08089	13.0904	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	325	SR28 NB	50.55992	50.56742	Rural Residential 1	Falmouth	96	ROUTE 28	PALMER AVENUE	BOURNE TOWN LINE
2044	SR28 NB	13.111857	13.13588	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	1455	SR28 NB	50.56742	51.09267	Rural Residential 1	Falmouth	96	ROUTE 28	PALMER AVENUE	BOURNE TOWN LINE
1770	SR28 NB	13.13588	13.16608	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	2059	SR28 NB	51.09267	51.19039	Rural Residential 1	Falmouth	96	ROUTE 28	PALMER AVENUE	BOURNE TOWN LINE
1779	SR28 NB	13.16608	12.25422	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	1449	SR28 NB	5.737727	6.376481	Rural Residential 50	Falmouth	106	ROUTE 28-HEAD OF THE BAY ROAD		
916	SR28 NB	13.25422	13.25551	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	1503	SR28 NB	6.376481	6.416248	Rural Residential 50	Falmouth	106	ROUTE 28-HEAD OF THE BAY ROAD		
2276	SR28 NB	13.25551	13.41276	Rural Residential 43	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	406	SR28 NB	13.856457	13.927799	Rural Residential 4L	Falmouth	126	ROUTE 28		
723	SR28 NB	13.41276	13.44274	Town Mlt 42	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	2853	SR28 NB	13.927799	14.02589	Rural Residential 4L	Falmouth	126	ROUTE 28		
1558	SR28 NB	13.44274	13.5893	Town Mlt 42	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	2179	SR28 NB	14.02589	14.05364	Rural Residential 4L	Falmouth	126	ROUTE 28		
1990	SR28 NB	13.5893	13.59026	Town Mlt 42	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	1470	SR28 NB	14.05364	14.12975	Rural Residential 4L	Falmouth	126	ROUTE 28		
796	SR28 NB	13.59026	13.64418	Town Mlt 42	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	275	SR28 NB	14.12975	14.2283	Rural Residential 4L	Falmouth	126	ROUTE 28		
1606	SR28 NB	13.64418	13.67822	Town Mlt 42	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	23	SR28 NB	14.2283	14.37045	Rural Residential 4L	Falmouth	126	ROUTE 28		
1765	SR28 NB	13.67822	12.73207	Rural Residential 4L	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	691	SR28 NB	14.37045	14.49126	Rural Residential 4L	Falmouth	126	ROUTE 28		
1317	SR28 NB	13.73207	12.90838	Rural Residential 4L	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	774	SR28 NB	14.49126	14.52126	Rural Residential 4L	Falmouth	126	ROUTE 28		
2293	SR28 NB	12.90838	13.20839	Rural Residential 4L	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	2409	SR28 NB	14.52126	14.53522	Rural Residential 4L	Falmouth	126	ROUTE 28		
500	SR28 NB	13.20839	13.84939	Rural Residential 4L	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE	998	SR28 NB	14.53522	14.70415	Rural Residential 4L	Falmouth	126	ROUTE 28		
1644	SR28 NB	13.84939	18.91665	Town Mlt 36	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1297	SR28 NB	14.70415	14.74862	Rural Residential 4L	Falmouth	126	ROUTE 28		
43	SR28 NB	13.93406	19.3811	Town Center 35	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	866	SR28 NB	14.74862	14.93079	Rural Residential 4L	Falmouth	126	ROUTE 28		
1023	SR28 NB	13.93701	19.37081	Town Mlt 34	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1414	SR28 NB	14.93079	14.96071	Rural Residential 4L	Falmouth	126	ROUTE 28		
676	SR28 NB	13.27011	19.31626	Town Mlt 34	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	12	SR28 NB	14.96071	15.182759	Rural Residential 4L	Falmouth	126	ROUTE 28		
1369	SR28 NB	19.31626	19.51218	Town Mlt 34	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	305	SR28 NB	15.245714	15.24774	Rural Residential 4L	Falmouth	126	ROUTE 28		
622	SR28 NB	19.51218	19.56632	Town Mlt 34	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	91	SR28 NB	15.24774	15.42357	Rural Residential 4L	Falmouth	126	ROUTE 28		
683	SR28 NB	14.66828	19.59899	Town Mlt 34	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1329	SR28 NB	15.42357	15.50277	Suburban 40	Falmouth	126	ROUTE 28		
1427	SR28 NB	19.59899	19.62427	Town Mlt 34	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	244	SR28 NB	15.50277	15.53869	Suburban 40	Falmouth	126	ROUTE 28		
2256	SR28 NB	19.62427	19.76476	Town Mlt 34	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1	SR28 NB	15.53869	15.61494	Suburban 40	Falmouth	126	ROUTE 28		
178	SR28 NB	19.76476	19.81137	Town Mlt 34	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	742	SR28 NB	15.59944	15.60386	Suburban 40	Falmouth	126	ROUTE 28		
2308	SR28 NB	19.81137	19.84613	Town Mlt 34	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	526	SR28 NB	15.61494	15.70562	Town Mlt 39	Falmouth	126	ROUTE 28		
1899	SR28 NB	19.84613	19.89942	Town Mlt 34	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	2025	SR28 NB	15.70562	15.93104	Town Mlt 39	Falmouth	126	ROUTE 28		
234	SR28 NB	19.89942	20.02982	Suburban 33	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	2166	SR28 NB	15.93104	16.02303	Town Mlt 39	Falmouth	126	ROUTE 28		
1506	SR28 NB	20.04872	20.50129	Suburban 39	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	722	SR28 NB	16.02303	16.07593	Town Mlt 39	Falmouth	126	ROUTE 28		
69	SR28 NB	20.50129	20.54216	Suburban 39	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1753	SR28 NB	16.46934	16.51108	Town Center 38	Falmouth	126	ROUTE 28		
1974	SR28 NB	20.54216	20.58026	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1949	SR28 NB	16.51108	16.56263	Suburban 37	Falmouth	126	ROUTE 28		
2005	SR28 NB	20.58026	20.60722	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	506	SR28 NB	16.56263	16.67226	Suburban 37	Falmouth	126	ROUTE 28		
579	SR28 NB	20.60722	20.68349	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	425	SR28 NB	16.67226	16.69588	Suburban 37	Falmouth	126	ROUTE 28		
2374	SR28 NB	20.68349	20.71839	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	564	SR28 NB	16.69588	16.75197	Suburban 37	Falmouth	126	ROUTE 28		
1121	SR28 NB	20.71839	20.74939	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	287	SR28 NB	16.75197	16.77852	Suburban 37	Falmouth	126	ROUTE 28		
1150	SR28 NB	20.74939	20.77446	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1826	SR28 NB	16.77852	16.86321	Suburban 37	Falmouth	126	ROUTE 28		
917	SR28 NB	20.77446	20.78916	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	896	SR28 NB	16.86321	16.91323	Town Mlt 36	Falmouth	126	ROUTE 28		
1045	SR28 NB	20.78916	20.83019	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1065	SR28 NB	16.91323	16.97522	Town Mlt 36	Falmouth	126	ROUTE 28		
442	SR28 NB	20.83019	21.02381	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	954	SR28 NB	16.97522	16.94500	Town Mlt 36	Falmouth	126	ROUTE 28		
851	SR28 NB	21.02381	21.06002	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1469	SR28 NB	16.97522	17.10671	Town Mlt 36	Falmouth	126	ROUTE 28		
164	SR28 NB	21.06002	21.10419	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1412	SR28 NB	16.99441	16.99441	Town Mlt 36	Falmouth	126	ROUTE 28		
2854	SR28 NB	21.10419	21.18837	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1742	SR28 NB	17.010029	17.06018	Town Mlt 36	Falmouth	126	ROUTE 28		
1130	SR28 NB	21.18837	21.21728	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1251	SR28 NB	17.06018	17.10671	Town Mlt 36	Falmouth	126	ROUTE 28		
2181	SR28 NB	21.21728	21.26423	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1055	SR28 NB	17.10671	17.19024	Town Mlt 36	Falmouth	126	ROUTE 28		
797	SR28 NB	21.26423	21.27003	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	496	SR28 NB	17.19024	17.30525	Town Mlt 36	Falmouth	126	ROUTE 28		
1496	SR28 NB	21.27003	21.29776	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	194	SR28 NB	17.30525	17.31222	Town Mlt 36	Falmouth	126	ROUTE 28		
2340	SR28 NB	21.29776	21.3386	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1222	SR28 NB	17.31222	17.47628	Town Mlt 36	Falmouth	126	ROUTE 28		
115	SR28 NB	21.3386	21.37226	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1876	SR28 NB	17.47628	17.5374	Town Mlt 36	Falmouth	126	ROUTE 28		
694	SR28 NB	21.37226	21.38604	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	176	SR28 NB	17.5374	17.65305	Town Mlt 36	Falmouth	126	ROUTE 28		
1662	SR28 NB	21.38604	21.40387	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1211	SR28 NB	17.65305	17.73994	Town Mlt 36	Falmouth	126	ROUTE 28		
380	SR28 NB	21.40387	21.42624	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	753	SR28 NB	17.73994	17.77906	Town Mlt 36	Falmouth	126	ROUTE 28		
2052	SR28 NB	21.42624	21.47022	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	9076	SR28 NB	17.77906	17.83189	Town Mlt 36	Falmouth	126	ROUTE 28		
1002	SR28 NB	21.47022	21.51101	Town Mlt 32	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	830	SR28 NB	17.83189	17.90518	Town Mlt 36	Falmouth	126	ROUTE 28		
1825	SR28 NB	21.51101	21.55271	Town Center 3L	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	1393	SR28 NB	17.90518	18.04375	Town Mlt 36	Falmouth	126	ROUTE 28		
1278	SR28 NB	21.55271	21.80869	Suburban 30	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	387	SR28 NB	18.04375	18.1294	Town Mlt 36	Falmouth	126	ROUTE 28		
2107	SR28 NB	21.80869	21.85199	Suburban 30	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	904	SR28 NB	18.1294	18.22793	Town Mlt 36	Falmouth	126	ROUTE 28		
256	SR28 NB	21.85199	21.8961	Suburban 30	Dennis	75	MAIN STREET	YARMOUTH TOWN LINE	HARWICH TOWN LINE	723	SR28 NB	18.22793	18.25477	Town Mlt 36	Falmouth	126			

No Sidewalk									
OBJECTID*	Route_ID	fmeas	rmeas	Name2	Town	Town ID	St_Name	Fm_St_Name	To_St_Name
2168	SR26 NB	3.379264	3.420903	Rural Residential 50	Orleans	224	SOUTH ORLEANS ROAD	CRANBERRY HIGHWAY	
2157	SR26 NB	3.420904	4.123725	Rural Residential 50	Orleans	224	SOUTH ORLEANS ROAD	CRANBERRY HIGHWAY	
1522	SR26 NB	4.123726	4.451666	Rural Residential 50	Orleans	224	SOUTH ORLEANS ROAD	CRANBERRY HIGHWAY	
341	SR26 NB	4.451667	4.473303	Rural Residential 50	Orleans	224	SOUTH ORLEANS ROAD	CRANBERRY HIGHWAY	
1691	SR26 NB	4.473304	4.561765	Rural Residential 50	Orleans	224	SOUTH ORLEANS ROAD	CRANBERRY HIGHWAY	
326	SR26 NB	4.561766	4.768597	Rural Residential 50	Orleans	224	SOUTH ORLEANS ROAD	CRANBERRY HIGHWAY	
2026	SR26 NB	4.776364	5.737036	Rural Residential 50	Orleans	224	SOUTH ORLEANS ROAD	CRANBERRY HIGHWAY	
1373	SR26 NB	22.226233	22.2907	Suburban 30	Yarmouth	351	ROUTE 28	BARNSTABLE TOWN LINE	DENNIS TOWN LINE
1382	SR26 NB	22.290709	22.34876	Suburban 30	Yarmouth	351	ROUTE 28	BARNSTABLE TOWN LINE	DENNIS TOWN LINE
611	SR26 NB	23.08034	23.275213	Town Mix 29	Yarmouth	351	ROUTE 28	BARNSTABLE TOWN LINE	DENNIS TOWN LINE
472	SR26 NB	23.566679	25.77279	Town Mix 29	Yarmouth	351	ROUTE 28	BARNSTABLE TOWN LINE	DENNIS TOWN LINE
483	SR26 NB	25.772794	25.94294	Town Mix 29	Yarmouth	351	ROUTE 28	BARNSTABLE TOWN LINE	DENNIS TOWN LINE
1139	SR26 NB	24.528854	24.643144	Town Mix 29	Yarmouth	351	ROUTE 28	BARNSTABLE TOWN LINE	DENNIS TOWN LINE
1973	SR26 NB	24.864232	24.881742	Town Mix 29	Yarmouth	351	ROUTE 28	BARNSTABLE TOWN LINE	DENNIS TOWN LINE
1461	SR26 NB	26.924509	27.50599	Suburban 28	Yarmouth	351	ROUTE 28	BARNSTABLE TOWN LINE	DENNIS TOWN LINE
2004	SR26 SB	116.145601	116.275666	Suburban 20	Barnstable	20	FALMOUTH ROAD	MASHPEE TOWN LINE	AIRPORT ROTARY
1097	SR26 SB	116.275667	116.325007	Suburban 20	Barnstable	20	FALMOUTH ROAD	MASHPEE TOWN LINE	AIRPORT ROTARY
2287	SR26 SB	123.358979	123.3967	Suburban 25	Barnstable	20	FALMOUTH ROAD	MASHPEE TOWN LINE	AIRPORT ROTARY
2370	SR26 SB	123.396707	123.4372	Suburban 26	Barnstable	20	AIRPORT ROTARY	WANDOUGH ROAD	WANDOUGH ROAD
1145	SR26 SB	123.437217	123.515087	Town Mix 27	Barnstable	20	WANDOUGH ROAD	AIRPORT ROTARY	FALMOUTH TOWN LINE
404	SR26 SB	141.967575	141.9989	Town Mix 46	Chatham	55	MAIN STREET	MAIN STREET ROTARY	HARWICH TOWN LINE
1880	SR26 SB	141.998989	142.0044	Town Mix 46	Chatham	55	MAIN STREET ROTARY	OLD HARBOR ROAD	OLD HARBOR ROAD
2090	SR26 SB	142.00442	142.0122	Town Mix 46	Chatham	55	MAIN STREET ROTARY	OLD HARBOR ROAD	OLD HARBOR ROAD
368	SR26 SB	142.012295	142.0216	Town Mix 46	Chatham	55	MAIN STREET ROTARY	OLD HARBOR ROAD	OLD HARBOR ROAD
2148	SR26 SB	142.02166	142.035021	Town Mix 46	Chatham	55	OLD HARBOR ROAD	MAIN STREET ROTARY	SCATTEREE ROAD
18	SR26 SB	100.849264	100.948505	Rural Residential 1	Falmouth	36	ROUTE 28	PALMER AVENUE	BOLUNE TOWN LINE
1979	SR26 SB	134.568132	134.5923	Town Mix 36	Hanwich	126	ROUTE 28		
1704	SR26 SB	134.592331	134.5968	Town Mix 36	Hanwich	126	ROUTE 28		
1783	SR26 SB	134.596872	134.608842	Town Mix 36	Hanwich	126	ROUTE 28		
1203	SR26 SB	134.608885	134.667	Town Mix 36	Hanwich	126	ROUTE 28		
518	SR26 SB	134.667024	134.6824	Town Mix 36	Hanwich	126	ROUTE 28		
1806	SR26 SB	112.126062	112.188	Suburban 14	Mashpee	172	FALMOUTH ROAD	MASHPEE CIRCLE	FALMOUTH TOWN LINE
1227	SR26 SB	112.188056	112.2401	Suburban 14	Mashpee	172	MASHPEE CIRCLE	FALMOUTH ROAD	FALMOUTH ROAD
313	SR26 SB	112.240146	112.31549	Rural Residential 15	Mashpee	172	FALMOUTH ROAD	MASHPEE CIRCLE	BARNSTABLE TOWN LINE
1068	SR26 SB	150.874417	150.92655	Town Mix 51	Orleans	224	SOUTH ORLEANS ROAD	CRANBERRY HIGHWAY	
389	SR26 SB	151.246945	151.251	Town Mix 51	Orleans	224	SOUTH ORLEANS ROAD	CRANBERRY HIGHWAY	
2312	SR26 SB	151.251073	151.325602	Town Mix 51	Orleans	224	SOUTH ORLEANS ROAD	CRANBERRY HIGHWAY	
376	SR6A EB	34.998	34.997941	Town Mix 51	Eastham	86	ROUTE 6A	ORLEANS TOWN LINE	EASTHAM ROTARY
1388	SR6A EB	34.997941	35.057413	Town Mix 51	Eastham	86	ROUTE 6A	ORLEANS TOWN LINE	EASTHAM ROTARY
1572	SR6A EB	34.632355	34.78039	Town Mix 51	Orleans	224	CRANBERRY HIGHWAY	EASTHAM TOWN LINE	BREWSTER TOWN LINE
2259	SR6A EB	34.78039	34.987689	Town Mix 51	Orleans	224	CRANBERRY HIGHWAY	EASTHAM TOWN LINE	BREWSTER TOWN LINE



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