

TOWNSHIP OF MARLBORO

2024 PAVEMENT MANAGEMENT PROGRAM

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## **BACKGROUND**

The Township of Marlboro has over 200 miles of roadways, not including those maintained by Monmouth County and the State of New Jersey such as County Route 520, Route 79, Tennent Road, Route 9 and Route 18. Township roadways include primary or collector roads defined as those that collect traffic from local roads and feed major highways, and low volume secondary roads which typically receive less traffic and primarily serve local traffic. The collector roadways are depicted on a map included as **EXHIBIT A**.<sup>1</sup>

The Township maintains a detailed six (6) year capital program and updates it on an annual basis. The bulk of the projects in the plan are targeted for improvements to infrastructure, the most significant of which is road improvements.

The common understanding of road paving is the process of putting new asphalt on top of existing roadway surfaces in need of repair, analogous to installing a second layer of shingles on top of the original roof on your home. However, an effective Pavement Management Program is one which utilizes a broad range of strategies to maintain and improve roadways. This includes basic maintenance using pothole repair and crack sealing. It also incorporates road resurfacing, in which the road is milled or scraped free of two inches of old roadway and debris prior to the application of new asphalt. In more extreme cases, a more extensive reconstruction of the roadway is required in which up to twelve inches of the surface is removed and multiple layers of aggregate sub base and asphalt are installed. Along with the roadway surface layers, other issues associated with roadway

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<sup>1</sup> Note that there are a few roadways including County Road 520 and Main Street which are partially owned and maintain by different entities. These roads have 'split' jurisdiction but are depicted as solely the responsibility of the non-Township entity on the map.

deterioration, such as curb, ADA-compliant ramps, sidewalk and drainage improvements are addressed as needed. This comprehensive approach, while naturally increasing the costs of the improvements, helps prolong the useful life of the roadway and ultimately represents the most effective use of resources. As a "rule of thumb", a Township road resurfacing project averages more than \$500,000 per mile.

#### **PAVEMENT MANAGEMENT PLAN ROADWAY PRIORITIZATION**

Throughout the year, the Department of Public Works (DPW) and Engineering collect data used to develop a list of roadways to be considered for inclusion in the annual capital program. Through a detailed analysis of the roadways, a road program is designed in order to improve and maximize the life of as many roads as possible within the budget allocated.

The Township has adopted the approach that it will simultaneously fund both less intensive types of projects as well as drainage repair and full depth reconstruction projects so that degraded roads can be addressed while pavement is cost-effectively managed to prevent less impacted roads from becoming worse. There is an inverse relationship between pavement degradation and cost. At the low end of the scale, routine roadway maintenance can cost less than \$10 per linear foot and routine road milling and paving in the area of \$135 per linear foot. At the other end, structural improvements and base rehabilitation can exceed \$225 per linear foot.

Bid priorities for the annual road improvement capital program are formulated by the Department of Public Works (DPW) and Engineering as follows:

- 1) The Township seeks to identify potential grant opportunities to offset the costs of road improvements. Grants serve to supplement local authorizations for road improvements. For example, State monies may be available through NJDOT Local Aid Grants. The scoring system for these Local Aid Grants gives priority to roadways with higher Average Daily Traffic (ADT). These grants have been used in prior years for collector roads such as Greenwood, Texas, Ryan, Gordons Corner, Union Hill, Wyncrest and Vanderburg. Another example includes the Community Development Block Grant (CDBG) program sponsored by the United States Department of Housing and Urban Development (HUD). These Federal monies are targeted to those Federal census districts with a majority of residents classified as low to moderate income. The only census district that currently qualifies for this CDBG funding is the area encompassing the Greenbriar development off of Robertsville Road. The Township has also received several grants through the Federal Emergency Management Agency (FEMA) and regularly makes application to that agency for infrastructure improvement funding.
  
- 2) A long range planning report prepared for the Township in the mid 2000s is reviewed to reference the Overall Condition Index (OCI) rating of each roadway. This rating is calculated by a computer program based on various inputs established through a physical inspection of each roadway.
  
- 3) DPW maintenance record data are layered over the long range planning report OCI ratings so that those roads which require the most in-house maintenance resources are weighted accordingly.

- 4) Customer pothole and road maintenance report records are then factored so that those locations receiving the most requests for service are weighted accordingly. Note customer maintenance requests typically trigger DPW work orders for service (refer to 3 above).
- 5) Engineering conducts core sampling on selected roads prioritized following 1-4 above in order to determine the thickness of the existing asphalt and underlying sub base conditions. These pavement cores are utilized to determine whether a roadway needs to receive a mill and overlay (in areas of adequate base course thickness) or a full depth reconstruction (a more intensive project).
- 6) Engineering performs site visits to the roads prioritized following 1-4 above in order to determine what if any ancillary work (curb, ADA-compliant ramps, sidewalk, drainage) is required for each roadway.
- 7) Engineering calculates an estimate for the roads prioritized following 1-6 above and makes a recommendation based upon the available budget allocation.
- 8) Bid specifications and construction plans are prepared with the list of roads recommended in 7 above. The specifications typically include a base list of roads followed by alternate (optional) roads, and are advertised for public bid in accordance with Local Public Contract Law. The base list represents current year priorities estimated by the Engineer with a high degree of confidence to be accomplished within the available budget. Ultimately, the contract is awarded to the lowest responsible bidder for as many of the roads listed in

the specifications (base list plus alternates) as can be accomplished within the available budget. Roads included as bid "alternates" for which funding is not available in the current year's program budget are automatically prioritized for inclusion in the succeeding capital program year.

- 9) Roadways that are not scheduled for repaving in the current year for which service requests have been made are reviewed by DPW and Engineering. Intensive road repair projects which involve milling and resurfacing of partial sections of roadways are formulated by DPW and Engineering, and accomplished using a combination of internal and contracted resources. These "Mill & Fill" projects are designed to permanently address an issue that is more limited in scope, or in some instances, accomplish a shorter term repair for purposes of 'bridging' to a future road program.

#### **ROADS COMPLETED 2001-2024**

The Township has authorized the paving of approximately 388,500 linear feet or 74 miles of roadway since 2009. 221 complete roads and 47 partial roadways have been paved since 2001. The road program continues to reach both local development streets as well as many major corridors in the Township, including the following:

SPRING VALLEY ROAD (TENNETT ROAD TO OLD BRIDGE)  
BUCKLEY ROAD (HH TRAIL TO MOORE ROAD)  
MARLBORO ROAD (COUNTY ROUTE 520 NORTH OF NJSH 9)  
GORDONS CORNER ROAD (NJSH 18 TO COUNTY ROUTE 520)  
RYAN ROAD (NJSH ROUTE 79 TO MANALAPAN)  
UNION HILL ROAD PHASE I (TENNETT ROAD TO NJSH ROUTE 9)  
UNION HILL ROAD PHASE II (NJSH ROUTE 9 TO MANALAPAN)  
GREENWOOD ROAD PHASE I (TENNETT ROAD TO TEXAS)  
GREENWOOD ROAD PHASE II (TEXAS ROAD TO ABERDEEN)  
TEXAS ROAD PHASE I (SPRING VALLEY TO MOUNTAIN LAUREL ROAD)

TEXAS ROAD PHASE II (GREENWOOD ROAD TO SPRING VALLEY ROAD)  
TEXAS ROAD PHASE III (GREENWOOD ROAD TO ABERDEEN)  
TEXAS ROAD PHASE IV (SPRING VALLEY ROAD TO OLD BRIDGE)  
CHURCH ROAD (GORDONS CORNER ROAD TO TENNENT ROAD)  
WYNCREST ROAD (MANALAPAN BORDER TO NJSH 18)

Barring exceptional circumstances, secondary roadways (or sections of roadway) paved between 2001 and 2023 are not eligible for complete repaving or reconstruction under the 2024 Pavement Management Program.

Repaved roadways are maintained through a pothole repair and crack sealing program. As referred to in the "Roadway Prioritization" section above, the cost of maintenance is a fraction of the cost of full depth roadway reconstruction.

The Township has also completed a number of improvements to critical infrastructure to complete sidewalks and address drainage, including:

WYNCREST ROAD AND COUNTY ROUTE 520 SIDEWALKS  
TEXAS ROAD SIDEWALKS AND PEDESTRIAN CROSSWALKS  
TAYLOR ROAD DRAINAGE  
FRENEAU DRIVE HEADWALL  
RAND COURT HEADWALL  
PLEASANT VALLEY ROAD STREAMBANK STABILIZATION  
CANADIAN WOODS ROAD (DRAINAGE ONLY)  
CLASSIC WAY (DRAINAGE AND ROAD REPAIR)  
KENSINGTON DRIVE (DRAINAGE ONLY)  
GALLYA GROVE (DRAINAGE AND ROAD REPAIR)  
CHURCH ROAD/MC CUE ROAD DRAINAGE IMPROVEMENTS  
WYNCREST ROAD AND SCHOOL ROAD WEST SIDEWALKS  
BRUNSWICK DRIVE (DRAINAGE ONLY)  
PEGASUS COURT (DRAINAGE ONLY)  
TEXAS ROAD (DRAINAGE ONLY)  
MICKI DRIVE (DRAINAGE ONLY)

**ROAD, DRAINAGE AND SIDEWALK IMPROVEMENTS SCHEDULED FOR 2024**

Over the past nine months under contracts awarded in 2023, the Township has completed paving projects on 45 roadways. Ongoing work continues under these contracts, with remaining work scheduled for completion between Spring of 2024 and Spring of 2025, as follows:

- BUCKLEY ROAD (SCHOOL ROAD EAST TO NJSH 18)
- BUCKTHORN COURT
- HARBOR ROAD PHASE I (NJSH 79 to County Bridge ML-12)
- HARBOR ROAD PHASE II (County Bridge ML-12 to Tennent Road)
- HARTMAN ROAD
- MENZEL LANE
- MURRAY HILL TERRACE
- PROVINCIAL WAY (Vicinity of #33)
- RYAN ROAD PHASE II (NJSH 79 TO ROBERTSVILLE ROAD)\*\*
- SCHOOL ROAD EAST (Buckley Road to Country Club Lane)
- SCHOOL ROAD EAST (Brush Neck Road to Driftwood Lane/Colts Neck)\*
- TOPANEMUS ROAD (Vicinity of Julian Way)
- UNION HILL ROAD (Tennent Road to Menzel Lane)

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\* Phase II Brush Neck Road to Dutch Lane Road is under NJDEP jurisdiction and in the preliminary design stage. This section of roadway will be resurfaced once the permits are received from the NJDEP.

\*\* Project partially funded by NJDOT (See "Funding and Financing" below).

**Having completed the scheduled water main installation, roadway resurfacing by Monmouth County will take place in 2024:**

- LLOYD ROAD (NJSH 79 TO ABERDEEN)

The Township Engineer will be preparing bid specifications for the following roadway and drainage improvement projects that will comprise the BASE BIDS in 2024:

**A**

BOUNDARY ROAD (VANDERBURG ROAD TO COLTS NECK BORDER)  
JUSTIN COURT  
NELSON STREET  
OPATUT COURT  
WILSON AVENUE  
WOODLAND TERRACE

**B**

BAUERS LANE (Drainage and Partial Roadway Improvements)  
SYNGLE WAY (Drainage and Partial Roadway Improvements)

**C**

MUNICIPAL PARKING FACILITIES AND LIGHTING

**D**

WYNCREST ROAD (ROUTE 18 TO ROUTE 520)

**E**

TICETOWN ROAD (GREENWOOD ROAD TO OLD BRIDGE BORDER) \*

**DRAINAGE IMPROVEMENTS**

MILLAY, ROBINSON & FLETCHER AREA  
NOLAN ROAD STORMWATER BASIN EMBANKMENT RESTORATION  
WOODCLIFF DRAINAGE IMPROVEMENTS

**MISCELLANEOUS SITE IMPROVEMENTS**

Walkway at Marlboro Farmers Market

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\* Project partially funded by NJDOT (See "Funding and Financing" below).

**ROADS SCHEDULED FOR MILL & FILL WORK IN 2024\***

ALBERMARLE DRIVE  
ALBERTA DRIVE  
AYNSLEY COURT  
BELIL DRIVE  
BLUFFS COURT  
BRETON COURT  
CALGARY CIRCLE  
CHARDON COURT  
COLTSBROOK ROAD  
DOVER COURT  
EASTWICK COURT  
HEATHROW COURT  
HOPKINSON COURT  
JULIAN WAY  
KENNEDY DRIVE  
MITCHELL COURT  
REGINA ROAD  
ROCKY TOP DRIVE  
RYEGATE LANE  
SPRING VALLEY ROAD  
STEVENSON DRIVE  
SUNNYSIDE DRIVE  
TIMBER HILL DRIVE  
VANDERBURG ROAD

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\* Sections of roadway may be included in Base Bid.

**PRELIMINARY FUTURE PLAN (2025)**

The Township Engineer is in the process of preparing bid specifications for the following roadways that will comprise the ALTERNATE BID. To the extent funding is available after the BASE BID award, the following roads will be awarded and scheduled in 2024 with the balance to be completed in 2024 and 2025, contingent upon the availability of funding:

CHAMONIX LANE  
DUNCAN DRIVE (BETWEEN REGINA ROAD AND LAKE ONTARIO LANE)  
SAMI COURT  
WHITNEY DRIVE

**The Township has received a NJDOT Local Aid Grant for the following roadway. Engineering design has been authorized and construction is anticipated in 2025:**

ROBERTSVILLE ROAD (BETWEEN FREEHOLD AND MANALAPAN TOWNSHIP BORDERS) \*

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\* Project partially funded by NJDOT (See "Funding and Financing" below).

**The Township has received NJDOT Local Transportation Project Fund Grants for the following projects. Engineering design has been authorized and construction is anticipated in 2025:**

TOPANEMUS ROAD SIDEWALK IMPROVEMENTS \*  
NJSH 79 BIKE PATH \*  
COUNTY ROUTE 520 SIDEWALK IMPROVEMENTS \*  
SCHOOL ROAD WEST CURB RAMPS AND SIDEWALK IMPROVEMENTS \*

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\* Project partially funded by NJDOT (See "Funding and Financing" below).

**The Township has received a FEMA Hazard Mitigation Grant Program (HMGP) Grant for the following project. Engineering design has been authorized and construction is anticipated in 2025:**

NOLAN ROAD STREAMBANK STABILIZATION \*

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\* Project partially funded by FEMA (See "Funding and Financing" below).

**The following roadways are under review for consideration for 2025:**

ANDREWS DRIVE  
ALBERTA COURT  
BAUERS LANE  
BEACON HILL ROAD (NJSH 79 TO COLLIERS LANE)  
BELIL DRIVE  
BERNADETTE ROAD (TICETOWN ROAD TO PERRY STREET)  
BLACK WALNUT WAY  
BLUFFS COURT  
BOUNDARY ROAD (VANDERBURG ROAD TO DUTCH LANE)  
BRUCE ROAD  
BUTTONWOOD DRIVE  
CANNONADE DRIVE (RIVA RIDGE TO DAMASCUS DRIVE)  
CITATION COURT  
CLOVERLEAF DRIVE  
CONOVER ROAD (NJSH 79 TO PLEASANT VALLEY ROAD)  
CRINE ROAD (TENNENT ROAD TO CONDOR ROAD)  
CROYDON COURT  
DOVER COURT  
EGRET LANE  
FLETCHER DRIVE  
FRENEAU DRIVE  
GALLYA GROVE  
GEANNE WAY  
GEORGIAN BAY DRIVE  
GIBSON COURT  
GORDONS CORNER ROAD (WYNCREST ROAD TO CYPRESS LANE AND  
ROBERTSVILLE ROAD TO MICKI DRIVE)  
HERON DRIVE  
HILL CIRCLE  
IMBRIE PLACE  
JACK LANE  
JACKIE DRIVE  
JAMIE COURT  
KINGSTON TERRACE  
LAREDO DRIVE  
LENAPE ROAD  
MARBLEWOOD ROAD  
MC CUE ROAD (MACKENZIE TERRACE TO VANCOUVER ROAD)  
MC DONALD ROAD  
MICKI DRIVE  
ORCHARD HILLS ROAD  
ORCHARD PARKWAY  
OSPREY COURT  
OTTOWA ROAD SOUTH

OVERHILL DRIVE  
PEACH TREE COURT  
PEREGRINE DRIVE  
PRINCE EDWARD ROAD EAST  
RACHAEL DRIVE  
RIVA RIDGE COURT  
ROBERTSVILLE ROAD (BETWEEN FREEHOLD AND MANALAPAN BORDERS) \*  
ROBINSON ROAD  
ROCKWELL CIRCLE  
SAMANTHA DRIVE  
SCOTT DRIVE  
SCHOOL ROAD EAST (Brush Neck Road to Dutch Lane Road)  
SCHOOL ROAD SOUTH  
SECRETARIAT SQUARE  
SPENCER CIRCLE  
STATION ROAD (Briarcliff Drive to Crine Road)  
STEVENSON DRIVE  
STONY HILL DRIVE  
SYNGLE WAY  
TROTTER PLACE  
WESTBROOK DRIVE

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\* Project partially funded by NJDOT (See "Funding and Financing" below).

**The following drainage and road improvement project is being completed under a separate shared services agreement with Monmouth County:**

Station Road Phase II is a full roadway reconstruction and drainage project between Briarcliff Drive and Crine Road. The project was incorporated into the Township's multi-year capital plan and authorized by the governing body in 2011. The reconstruction project will include the installation of drainage inlets to collect stormwater runoff with discharge to existing culverts, and full depth reconstruction of the roadway with a consistent pavement width. This area of Station Road traverses three (3) Monmouth County drainage structures ("culverts") which are in need of reconstruction. The current invert elevation and alignment of the

culverts result in siltation and blockages which lead to high frequency flooding as well as the deterioration and undermining of the adjacent roadway. This agreement was updated in May 2018 to include additional design services for the design and permitting of culverts ML-18 and ML-19 to modify the size of the proposed culverts and to address existing siltation and erosion occurring at these culverts. The Township Engineer's office has completed the roadway design plans for the roadway and has provided preliminary culvert construction plans to the County for review. Once the design plans are complete, land use applications will be submitted to the NJDEP for freshwater wetlands and flood hazard permits. These permits take approximately six (6) months to receive from the NJDEP. The permit applications have been submitted to the County with construction now anticipated to begin in summer or fall 2025. The preliminary engineer's estimate for the project is \$1,600,000 to be shared between the County and Township.

**Route 79 Sidewalk Extension Project:**

Funded by approximately \$1.42 million in federal grants through the New Jersey Department of Transportation (NJDOT), this project addresses yet another area identified in the Township's 2009 Pedestrian Access Plan. Specifically, this project involves the installation of new sidewalk on State Highway 79 between Wyncrest Road and County Route 520. The sidewalk improvements will dovetail with work already initiated by the Township through NJDOT for intersection improvements at both Route 79 and CR 520 and Route 79 and Wyncrest Road, and street lighting upgrades through JCP&L on Route 79. Engineering design is currently in progress and construction is anticipated to begin in 2026.

## **2024 DATA UPDATE**

Since the initial OCI data were collected in 2004, the Township has conducted in-field visual inspections and targeted core sampling. In addition, call for service and road opening permit data have been incorporated into the analysis for purposes of identifying problem areas and evaluating wear over time. Call for service and road opening permit data are closely monitored throughout the year for purposes of establishing prioritization in future year road improvement programs.

## **COORDINATION WITH OTHER PROGRAMS**

The Township adopted Ordinance 2018-12 establishing a moratorium for roadway openings for a period of five (5) years after the resurfacing of a roadway. Excavations on moratorium streets are discouraged, and when allowed under emergency circumstances as determined by the Township Engineer and Public Works Director, require a full width roadway restoration with the limits exceeding the area of excavation.

Consistent with this policy and to make the most efficient use of resources, the Township coordinates with the Planning Board and public utilities to time improvements such that the need for road re-openings are minimized. For example, the drainage and roadway improvements completed on Buckley Road were dependent upon the completion of a stormwater detention facility constructed by a private entity. In another example, the Greenwood Road Phase I contract was awarded only after a private stormwater collection pipe, a gas main replacement by New Jersey Natural Gas, and the Western Monmouth Utilities Authority's (WMUA) sewer pump station rehabilitation projects were all completed. The road repairs on

School Road East between Colts Neck and Brushneck Road have been coordinated with water main installation completed by the Gordons Corner Water Company, and are now slated for completion under this 2024 Program.

#### **FUNDING AND FINANCING**

The Township appropriated a total of approximately \$22 million towards roads in the 2018 - 2023 capital improvement authorizations. The Township's credit rating (AAA-Standard and Poor's and Aaa-Moody's) ensures that capital improvements are financed at the lowest rates available.

As explained in the "PAVEMENT MANAGEMENT PLAN ROADWAY PRIORITIZATION" section, the Township seeks to identify potential grant opportunities to reduce the impact on local taxpayers. The trade-off is that approvals by the funding agency at various project milestones may impact the construction schedule.

The Township applied for and received funding under both the FY 17 and FY 19 CDBG programs for paving in the Greenbriar development and will submit another application in the FY 25 round.

The Township is also utilizing several road improvement grants awarded by the NJDOT to supplement its program as follows:

<b>Township Road</b>	<b>Grant Year</b>	<b>Award</b>
ROBERTSVILLE ROAD (BETWEEN FREEHOLD AND MANALAPAN TOWNSHIP BORDERS)	State FY 24	\$209,528
TICETOWN ROAD (GREENWOOD ROAD TO OLD BRIDGE BORDER)	State FY 23	\$246,850
RYAN ROAD (ROBERTSVILLE ROAD TO NJSH ROUTE 79)	State FY 22	\$251,900
UNION HILL ROAD (CLAYTON ROAD TO MANALAPAN BORDER)	State FY 21	\$205,000
WYNCREST ROAD (NJSH 18 TO ROBERTSVILLE ROAD)	State FY 20	\$215,000

Additionally, the Township is also utilizing several special project grants awarded by the NJDOT to supplement its program:

<b>Location</b>	<b>Grant Year</b>	<b>Award</b>
COUNTY ROUTE 520 SIDEWALK IMPROVEMENTS SCHOOL ROAD WEST CURB RAMPS AND SIDEWALK	State FY 24	\$450,000
NJSH 79 BIKE PATH	State FY 23	\$300,000
TOPANEMUS ROAD SIDEWALK IMPROVEMENTS	State FY 23	\$447,000

The Township will apply for funding for Improvements to GORDONS CORNER ROAD (WYNCREST ROAD TO CYPRESS LANE AND ROBERTSVILLE ROAD TO MICKI DRIVE) in the State NJDOT FY 2025 grant cycle.

In 2024, the number of requests for service during the first four (4) months of the year increased over the same period in 2023. Of these service requests, 35% are related to roads currently under contract for repaving. Requests for service data are monitored on an ongoing basis to ensure that the Paving Management Plan is addressing maintenance priorities.

The Pavement Management Plan will be re-evaluated during the Fall of 2024 as part of the Township's 2025 Capital Budget process.