

**EXECUTIVE SUMMARY**  
**PROJECTS COMPLETED AND UNDERWAY**  
**SERVICES PROVIDED**

The Engineering Division's mission is to preserve and improve the township infrastructure and to ensure that private residential and commercial developments are consistent with established engineering standards, and conform to the Township Master Plan.

Our efforts are divided into 3 general categories: Capital Improvement Projects, Land Development Reviews, and Services to Residents. Approximately 35% of our time is spent on Capital Improvement Projects. This involves planning, budgeting, surveying, engineering and drafting projects involving road reconstruction, drainage improvements, tennis courts and playing fields, park improvements and special projects such as a skating rink and a canoe launch. Our efforts with Land Development Reviews typically begin with conceptual review meetings with the developers to ensure that the Township vision for the type of development, building appearance, and requirements for improvements to roads and infrastructure are being met. Upon acceptance of an approved plan, our role is to ensure that the development is built according to plan. Approximately 40% of our time is expended on this effort. The remaining 25% of our time is spent in providing services to residents involving a multitude of matters, some of which include plotting deeds, processing curb and sidewalk permits, determining if properties are within the floodplain, responding to reports of drainage problems, needed pavement and sidewalk repairs, and requests for speed lumps.

Our major accomplishments this year include the planning, design and construction of the entire Roadway Capital Improvement Program as well as the design of additional miscellaneous projects. We also completed the reviews of several housing subdivisions and commercial developments. In addition, the Engineering Division was actively involved in the various traffic and other residents' concerns, and making positive improvements to the efficiency of deed recording and updating the Township tax and house number maps for State certification.

The accomplishments are noteworthy because they were done in the face of less manpower than in past years due to reorganization. In fact, there were more Capital Projects designed, bid, and constructed than years 2006 to 2008 combined. We have made an aggressive approach to upgrading and maintaining the Township's infrastructure.

The Engineering Division has a total of 41 capital projects either completed or underway. They involve overlays, reconstruction, sidewalk replacement, storm and sanitary replacement, traffic, pedestrian safety and recreational improvements. Of the 41 projects 18 have been completed constituting \$3.9 million dollars' worth of construction work. In addition, nearly \$1 million was saved in the Capital Budget due to competitive bidding and diligent construction management by this Division in 2013. These projects include:

1. Woodside Avenue
2. Albert E. Bonacci Drive
3. Klockner Road (Whitehorse-Mercerville to Whitehorse-Hamilton Square Road)
4. Deacon Drive
5. Wolfpack Road
6. Crescent Avenue
7. Klein Avenue
8. Arrowwood Drive
9. Maple Shade Avenue (Park Avenue to Mercer Street)
10. Park Avenue
11. Hirsch Avenue
12. Coleman Road
13. Acres Drive

14. Ithaca Court
15. Hutchinson Street
16. Parkinson Avenue
17. Mill Street
18. Sylvan Avenue
19. Hempstead Road (S. Broad Street to Arena Drive)
20. Miscellaneous Curb, Sidewalk, and Accessible Ramp Construction
21. S. Broad Street & Bow Hill Sidewalks
22. Cypress Lane Channel Wall
23. Repair to Groveville-Allentown Guiderail
24. Fetter Avenue
25. Colonial Avenue
26. Hoover Avenue
27. Youngs Road (Hughes Drive to Quakerbridge Road)
28. Saybrook Avenue
29. Kay Road
30. Soem Way
31. Braver Drive
32. Marlow Court
33. Grand Avenue
34. Francis Avenue
35. West Taylor Avenue
36. Klein Avenue
37. Caroline Avenue
38. Independence Avenue
39. Cottage Court
40. Briner Lane
41. Compton Way

The remaining 18 projects are either under design or ready for bidding. We anticipate either a spring or summer 2014 construction period. Our estimate for this work is about \$4.0 million.

In addition to the capital work, the Engineering Division performed approximately 90 reviews of plans. We also approved grading plans for 48 residential permits and 62 pool permits, plotted over 2,100 deeds and handled over 150 flood plain inquiries.

Specifics of the completed construction work, the projects under design and the service provided follow in this report.

**FINAL CHANGE ORDERS PROCESSED**

**SHADY BROOK PARK BASKETBALL COURT REHABILITATION (C.C. 08-12-04 B.C.)** - The contract was awarded in September 2012 to Nickolaus Construction for a contract price of \$58,899.00. Construction began October 2012 and was completed in November 2012. Final change order has not been submitted. Final change order was processed in January 2013 with the final contract price of \$63,957.50.

**EAST FRANKLIN STREET AND DUNBAR STREET (C.C. 07-11-08 R.I.)** - The contract was awarded in January 2012 to Arawak Paving for a contract price of \$578,400.00. Construction began April 2012 and was completed in June 2012. Final change order was processed in January 2013 with the final contract price of \$547,293.50.

**WHITEHORSE-HAMILTON SQUARE ROAD (WHITEHORSE AVENUE TO KUSER ROAD C.C. 05-12-01 R.I.)** - The contract was awarded in July 2012 to Arawak Paving at the bid price of \$387,700.00. Construction began August 2012 and was completed in September 2012. Final change order was processed in January 2013 with the final contract price of \$366,138.29.

**EXTON AVENUE AND REEGER AVENUE (C.C. 12-10-20 R.I.)** - The contract was awarded in September 2011 to Intercounty Paving Associates for a contract price of \$750,927.70. Construction began October 2011 and was completed in September 2012. Final change order was processed in May 2013 with the final contract price of \$1,021,521.43.

**WOODSIDE AVENUE AND ALBERT BONACCI DRIVE (C.C. 09-11-13 R.I.)** - The contract was awarded in July to Arawak Paving for a contract price of \$510,500.00. Construction began August 2012 and was completed in October 2012. Final change order was processed in October 2013 with the final contract price of \$396,706.62.

### **COMPLETED CONSTRUCTION CONTRACTS**

**KLOCKNER ROAD (WHITEHORSE MERCERVILLE ROAD TO WHITEHORSE-HAMILTON SQUARE ROAD) C.C. 08-12-03 R.I.** - The contract was awarded in May 2013 to Gres Paving Company for a contract price of \$421,982.70. Construction began July 2013 and was completed in August 2013. Final change order was processed in October 2013 with the final contract price of \$400,519.60.

**COLEMAN ROAD, ACRES DRIVE AND ITHACA COURT (C.C. 08-12-05 R.I.)** - The contract was awarded in February 2013 to Richard T. Barrett Paving Company for a contract price of \$438,309.30. Construction began April 2013 and was completed in July 2013. Punch List items remaining. Final change order has not been submitted.

**PARKINSON AVENUE AND HUTCHINSON STREET (C.C. 12-12-06 R.I.)** - The contract was awarded in August 2013 to Gres Paving Company for a contract price of \$649,043.34. Construction began September 2013 and was completed in November 2013. Punch List items remaining. Final change order has not been submitted.

**SYLVAN AVENUE, MILL STREET AND HEMPSTEAD ROAD (C.C. 12-12-08 R.I.)** - The contract was awarded in August 2013 to Earle Asphalt for a contract price of \$440,713.13. Construction began

September 2013 and was completed in November 2013. Punch List items remaining. Final change order has not been submitted.

**MAPLESHADE AVENUE (PARK AVE. TO MERCER ST.), PARK AVENUE AND HIRSCH AVENUE (C.C. 12-11-14 R.I.)** The contract was awarded in June 2013 to JPZ Construction for a contract price of \$361,640.50. Construction began July 2013 and was completed in October 2013. Punch List items remaining. Final change order has not been submitted.

**CRESCENT AVENUE, KLEIN AVENUE AND ARROWWOOD DRIVE (C.C. 12-12-09 R.I.)** - The contract was awarded in July 2013 to Gres Paving Company for a contract price of \$511,462.50. Construction began September 2013 and completed in December 2013. Punch list items remaining and final change order to be submitted.

**DEACON DRIVE AND WOLF PACK ROAD (C.C. 12-12-07 R.I.)** - The contract was awarded in May 2013 to Arawak Paving Company for a contract price of \$623,500.00. Construction began July 2013 and was completed in September 2013. Final change order has not been submitted.

**SOUTH BROAD STREET AND BOWHILL AVENUE MISCELLANEOUS CURB, SIDEWALK AND ACCESSIBLE RAMP CONSTRUCTION (C.C. 01-13-01 S.W.)** - The contract was awarded in April 2013 to Diamond Construction for a contract price of \$119,890.60. Construction began May 2013 and was completed in July 2013. Final change order has not been submitted.

**CYPRESS LANE CULVERT CHANNEL WALL REPAIRS (C.C. 01-13-01 S.W.)** - The contract was awarded in May 2013 to Fred M. Schiavone Construction for a contract price of \$25,430.00. Construction began July 2013 and was completed in September 2013.

### **PROJECTS UNDER ADVERTISEMENT**

**MISCELLANEOUS CURB, SIDEWALK AND ACCESSIBLE RAMP CONSTRUCTION – VARIOUS LOCATIONS (C.C. 09-13-05 S.W.)** – This contract is currently being advertised. The Engineers Estimate for the contract is \$100,182.50.

**MISCELLANEOUS CURB, SIDEWALK AND ACCESSIBLE RAMP CONSTRUCTION – VARIOUS LOCATIONS – COMMUNITY DEVELOPMENT BLOCK GRANT (C.C. 09-13-06 S.W.)** - This contract is currently being advertised. The Engineers Estimate for the contract is \$113,753.75.

### **PROJECTS PENDING ADVERTISEMENT**

The following projects are out to consultants for bid package preparation.

**WEST TAYLOR AVENUE, CAROLINE AVENUE AND INDEPENDENCE AVENUE (C.C. 12-13-07 R.I.)**

- The contract is under preliminary reviewed by Engineering and Public Works with comments being generated for revisions. It is anticipated that project will be advertised in January 2014. The budget for the contract is \$796,795.00.

**HOOVER AVENUE, YOUNGS ROAD AND SAYBROOK AVENUE (C.C. 12-13-08 R.I.)**

- The contract is under final reviewed by Engineering for final comments. It is anticipated that project will be advertised in January 2014. The budget for the contract is \$921,205.00.

**GRAND AVENUE AND FRANCIS AVENUE (C.C. 12-13-09 R.I.)**

- The contract is under preliminary reviewed by Engineering and Public Works with comments being generated for revisions. It is anticipated that project will be advertised in January 2014. The budget for the contract is \$686,350.00.

**KAY ROAD, SOEM WAY, BRAVER DRIVE AND MARLOW COURT (C.C. 12-13-10 R.I.)**

- The contract is under preliminary reviewed by Engineering and Public Works with comments being generated for revisions. It is anticipated that project will be advertised in February 2014. The budget for the contract is \$616,050.00.

**FETTER AVENUE AND COLONIAL AVENUE (C.C. 12-13-11 R.I.)**

- The contract is under preliminary reviewed by Engineering and Public Works with comments being generated for revisions. It is anticipated that project will be advertised in February 2014. The budget for the contract is \$904,650.00.

The following projects are being completed in house for bid package preparation.

**COMPTON WAY, BRINER LANE AND COTTAGE COURT (C.C. 12-13-12 R.I.)**

- The contract is currently under design. All preliminary drafting and survey has been completed. It is anticipated that project will be advertised in February 2014. The budget for the contract is \$530,025.00.

**PROJECTS SUBMITTED TO LOCAL AID**

**FISCAL YEAR 2013 PROJECTS**

**STATE GRANTS** – The Engineering Division has been tracking and maintaining the following State Grants to ensure that we comply with the rules and regulations set forth by NJ DOT Division of Local Aid.

**WHITEHORSE-HAMILTON SQUARE ROAD (KUSER ROAD TO CYPRESS LANE) C.C. 12-13-13 R.I.** - FY 2013 Transportation Trust Fund (\$249,500.00) - Contract to be prepared in house and bid in early spring.

**FISCAL YEAR 2014 PROJECTS**

**STATE GRANTS** – The Engineering Division has submitted the following roads for State Grants.

1. **South Olden Avenue** (Arena Drive to Whitehorse Avenue)
2. **Ward Avenue** (Hamilton Avenue to Greenwood Avenue)

## **LAND DEVELOPMENT REVIEW**

- Approximately 90 reviews of Plans for Subdivisions, Site Plan and Flood Plain Relief Applications
- Review of over 80 submissions of mylars for Township compliance
- Review Deeds for Planning Board
- Review of 33 applications for Administrative Waivers
- Review of 110 Residential Grading Plans

## **SERVICES**

- 4 Contractor Licenses Issued
- Approximately 2100 Deeds Plotted
- Approximately 150 Flood Plain inquiries were handled
- 136 Curb and Sidewalk Permits
- 237 Driveway Permits
- 62 Pool Permit Evaluations
- 48 New Residential Construction Permits
- Land Development Bonds
- Deed Research

## DEVELOPMENT REVIEWS

The Engineering Division spent considerable time with reviews for development subdivisions and site plans. Below is a brief description of several major plan reviews and development projects encountered by the Engineering Division.

1. Mercer County Technical – Addition to existing buildings at 1085 Edinburg Road.
2. Anthony & Marie Picardi – Constructing 1,200 sq. ft. addition to existing commercial building at 888 Route 33.
3. Norman's Glass & Auto – Expanding used car sales from 1 vehicle to 20 at 390 Whitehead Road.
4. Judy Sortore – Minor subdivision creating 2 lots at 86 Extonville Road.
5. Delcia Vaughan – Minor subdivision creating 2 lots at 350 Lenox Avenue.
6. C. J. & M Associates – Constructing 37,125 sq. ft. warehouse at 2485 East State Street.
7. Homewood Suites – Constructing 66,206 sq. ft. 117 room 4 story hotel on Route 130.
8. United Presbyterian Church – Constructing 25' 30' addition at 12 Yardville-Hamilton Square Road.
9. Winding Brook Apartments – Constructing 40' x 70' two story laundry building on Bradford Avenue.
10. Evergreen Orchard Farm – Constructing 50' x 60' addition to existing farm building at 1023 Yardville-Allentown Road.
11. Mercer Property – Minor subdivision and constructing a 5,585 sq. ft. WAWA, 3,482 sq. ft. retail building, 4,432 sq. ft. professional office building and 5,700 sq. ft. service station at 1170 Route 33.
12. Korpusinski – Minor subdivision creating 3 lots at 2622 Kuser Road.
13. Van Nest Office Park – Changing pad use from restaurant to child care pre-school at 3836 Quakerbridge Road.
14. Karl Rainear – Minor subdivision to create 2 lots at 41 Lenox Avenue.
15. Thomas & Rosemarie Mahon – Minor subdivision to create 2 lots at 108 Prospect Avenue.
16. Briad Development – Constructing 120 room hotel at Route 130 North & Stanberry Way.
17. DiDonato Builders – Constructing 2 story family dwelling at 128 Route 156.
18. TDS Construction – Constructing medical office building at 3469 Quakerbridge Road.
19. Hewitt Street Square – Constructing 94 senior housing apartments in 2 – four story apartment building on Hewitt Street.
20. PSE&G – Constructing 2,700 sq. ft. control house at 2512 Lamberton Road.
21. Walking to the Mailbox – Creating two lots and expansion of car dealership to provide 6,500 sq. ft. car wash, 7,500 sq. ft. body repair shop on Route 130/Crosswicks-Hamilton Square Road.
22. Michael Saporito – Variance relief of using property for storage of automobiles at 655 Route 130.
23. PF Hamilton – Creating 2 lots & constructing 7,052 sq. ft. Patient First building and 14,686 sq. ft. medical/professional office building at 633 Route 130.
24. Sorce Realty – Variance relief of using existing building for indoor recreation facility at 435 Route 130.
25. MAC Properties – Constructing 10,714 sq. ft. two story office building at 225 Turnbull Avenue.
26. Med/Express Urgent Care – Constructing a 1,504 sq. ft. addition at 811 Route 33.

## **STUDIES AND OTHER ENGINEERING SERVICES**

### **FEMA NATIONAL FLOOD INSURANCE PROGRAM / COMMUNITY RATING SYSTEM (NFIP/CRS)**

The Township participates in a National Flood Insurance Program Community Rating Service. This FEMA program is designed to bring flood insurance premium relief to communities whose activities are adjudged to be effective to some degree in mitigating flood damages and or preventing flooding. The Township has been re-certified every year to retain participation for a five-year cycle. Major re-certification and re-application was performed in 2012 and has once again retained a Class 8 rating. The Township has been recertified for another year.

The Township's participation in the Federal Emergency Management Agency/National Flood Insurance Program's Community Rating Service ensures discounted flood insurance rates for the entire Township. Since the Township currently retains a Class 8 rating, this translates into 10% discount in insurance premium across the board for Township residents maintaining flood insurance. The Engineering Division managed and controlled all Flood Control and Management issues and documented them for FEMA verification. Through continuous assistance to property owners and business entities on flood damage prevention and flood mitigation, some property owners received upgraded flood zoning.

This CRS Program is very involved and requires the documentation and record keeping from other departments within the Township. The Department of Public Works was charged with the inspection and maintenance of the streams and drainage systems. They were also charged with keeping the logs and all records of the activities in which they participate. A review of the methods and format of record keeping and documentation on this activity is required to maximize our score. The Engineering Division keeps records of map assistance and outreach issues pertaining to flood assistance. This is a very demanding task of the Engineering Division, especially with the limited personnel.

### **FEDERAL EMERGENCY MANAGEMENT AGENCY ( FEMA) FLOOD MAPS**

The Township has received assistance from the state and FEMA for revision of flood maps for FEMA Letter of Map Revision (LOMR). This study changed the floodplain boundaries, Flood Insurance Rate Maps and floodways reflecting the structural, hydraulic and hydrological changes that have taken place within the Township. FEMA restudied the floodplains along the corridors of Pond Run, North Branch Pond Run, Miry Run, Shady Brook and Back Creek. The study and mapping is completed and the Township received preliminary copies of the revised maps and study report dated July 19, 2010. The consultants to the project, *NTHMC of Saddle River, NJ*, and NJDEP rendered assistance in preparing the Letter of Map Revision (LOMR) application to FEMA. The Township received new flood insurance rate maps and LOMR from FEMA that were effective May 15, 2008.

We shall continue to help members of our community who desire to change their flood zone status through an application to FEMA for LOMA. We are also positive about the outcome of the new FEMA study and mapping. The benefits to the affected areas include lower flood insurance premiums and non-mandatory flood insurance requirements.

## **ANNUAL DAM INSPECTION -DAM SITE #8 & POND RUN CHANNEL INSPECTION**

On April 8, 2013, Dam Site #8 was inspected and a report was submitted to Mr. Michael Mirage of USDA/NRCS accordingly. An Emergency Action Plan (EAP) for Dam Site 8 (Martin Lake). This dam is classified as Hazard I Dam which is a high hazard. The EAP provides the necessary actions in case of dam emergency. This is a safety measure benefiting the entire community. The EAP was revised and updated. Final version has been submitted to NJDEP Dam Safety, awaiting NJDEP response so that copies can be sent to interested agencies. Operations and Maintenance Manual also prepared and submitted to NJDEP Dam Safety. Engineering sent work order to Public Works for stream channel maintenance, some tree removal and slope protection upgrades.

## **FLOOD ASSISTANCE & FLOOD MAP INFORMATION**

The Division received approximately 150 requests for flood assistance and flood map interpretation. We also assisted members of our community with data and preparation of FEMA Elevation Certificates for the purchase of Flood Insurance. Others received forms, guidelines and assistance in preparing LOMA Applications. This is one of the most active aspects of flood plain management.

## **WATERSHED MANAGEMENT ASSOCIATIONS & 319(h) PROJECTS**

The Township through the Engineering Division is actively engaged in the activities of Watershed Management Areas #11 (Assunpink Watershed) & #20 (Crosswicks & Doctors Creek). The activities of these associations seek to enhance water quality throughout the watersheds and find ways to optimize public use and enjoyment of the corridors along the streams. Of particular interest is the Assunpink Creek Greenway Project which seeks to develop the Brownfield's and Greenfield's along the creek in Trenton and Hamilton.

## **DRAINAGE CALCULATIONS TO OTHER PROJECTS**

The Engineering Division provided a number of drainage calculations and stability analysis to numerous projects designed by others. The Division also reviewed applications for storm water-management and wetlands encroachments.

## **MASTER PLAN**

The Township had a comprehensive update to the Master Plan this year, first time since 1978. As part of this Master Plan a transportation and traffic analysis was conducted to identify areas of potential traffic concerns, Master Plan road addition or deletion, and transportation improvement district revision.

## **TRANSPORTATION PLANNING AND TRAFFIC ENGINEERING**

With outgrow of commercial and residential development, the township is facing substantial traffic related problems. This division has prepared a drawing of the major intersections showing the details of the lane widths based upon master plans. Whenever a developer plans for improvements to one of the intersections, this division provides the information to create plans as per master plan.

## **TRAFFIC RELATED IMPROVEMENTS**

This division has addressed the requests of residents in several neighborhoods regarding traffic related issues; many to curtail speeding.

### **SPEED LUMPS**

Speed lump requests are made by written petitions, request from Mayor's office (Speed Lump Survey), phone calls to call center, or on-line survey. Certain conditions have to be met for speed lumps to be considered. They are:

- Street classification
- Number of lanes (street width)
- Posted Speed Limit
- Average Daily Traffic
- Horizontal alignment
- Vertical alignment
- Sight distances
- Vehicle mix
- Emergency vehicle use
- Community support

Although several requests for speed humps were made, warrants were not found after collecting data from speed sensors.

### **SPEED SENSORS**

The Engineering Division is coordinating with the Mayor's office and Police Traffic Division to designate various streets in the Township for a battery operated speed sentry unit. In addition, many requests for traffic calming have been made by residents which resulted in the installation of the sensor units. The units collect hourly data recording the number of vehicles that travel a street, and the speed of the vehicles. Once the data is collected, it is analyzed to determine if a permanent hard wired or solar unit should be installed with a speed flashing strobe to alert a motorist of their traveling speed. Further data collection may indicate a possible revision to the existing posted speed limit for that street or possible traffic calming, such as speed humps. Presently there are 4 streets that have been identified for permanent solar installation. In addition, there are three (3) locations that have battery powered sensors requiring weekly maintenance. Traffic data analyzed on over 34 streets with battery operated speed sensors during the course of the year.

### **MISCELLANEOUS PROJECTS**

The Division of Engineering has performed many miscellaneous projects which require scheduling with other ongoing projects. The following list reflects some examples.

1. Services to Other Agencies - This division handled numerous written requests for assistance by Township and outside agencies. (PSE & G, N.J. Bell, Trenton Water Works, Etc.) There are numerous verbal requests made by the agencies for assistance, which are done on a regular basis.
2. Flood Plain Inquiries - This Division has written 11 flood plain letters out of approximately 150 inquiries for residents and other concerned parties in year 2013

upon request. Some of the letters were for LOMA application which is free. However, there were others for flood determination which fees are charged for the service.

3. Transfer of Properties/Deed Plotting - During the past year approximately 2100 properties were involved in changes of ownership. This Division has been responsible for recording all these changes with 1800 being recorded by new owners' request. An internal review of the deed recording/plotting process determined that the fee charged was low.
4. Curb & Sidewalk Permits - There were 136 permits issued for the construction of new or replacement curb and/or sidewalk. This Division was involved in several grade designs for residents and provided assistance in resolving various critical conditions.
5. Driveway Permits - This Division issued 237 driveways and/or paving permits. The Township Engineer reviewed every permit before being issued.
6. Curb and Sidewalk Contractor's Licenses - This division issued 4 licenses to the contractors for curb and sidewalk construction.
7. Reproduction (Printing) - This division made approximately 5,000 prints. Of these, approximately 500 prints were made for this Division's use; the remaining prints were made for bid packages, other divisions, and for sale to the public.
8. Planning Board, Zoning Board and ARDA - During the year, the Engineering Division reviewed 90 applications for completeness, flood plain relief and compliance with Township standards as sub-division and site plan applications. An additional task was the review of deed for the properties and a contact with attorneys to clarify errors and omissions.
9. Review of Variance - The Engineering Division reviewed over 75 waivers from various Township ordinances for requirements such as side, rear and front yard setbacks for site plan procedures.
10. Septemberfest Maps - This division prepared maps showing locations and activities for Septemberfest at Veteran's Park.
11. Updating Maps - This division updated Township Tax Maps and House maps during the year because of various changes due to new developments, constructions, consolidations, subdivisions and other changes. We are continuing our task to obtain a recertification of the Township's maps. There were 278 Tax / House Maps revised. Other various map revisions were completed such as street maps, election maps and school board busing routes.
12. Assessment Searches - This division responds to curb, walk, sanitary sewer or paving assessment searches received from the Clerk's Office as needed.
13. New Residential Construction - Before a construction permit is issued, the Engineering Division assigns a house number, checks that construction is not in a flood plain and reviews the proposed grading plan. After construction is complete, the as-built grading plan is reviewed on-site to ensure proper drainage. In year 2011, 37 permits were issued.
14. Pool Permits - This Division is also responsible for the review of swimming pool permits. Engineering checks the proposed and as-built grading for compliance to

ordinance, and help avoid adverse impact on surrounding properties. There were 62 permits reviewed in year 2013.

15. Land Development Bonds - All Bond Estimates are checked for the amount, and monitored for expiration.
16. Police Assistance - Assist Police Department with information on crime scenes such as floor plans and accident diagrams for their use. A new law requires a 500' "Drug Free Zone" around our parks. These detailed maps will be required for all of our parks.
17. Research - Numerous hours were spent researching deed and office records to establish Township right-of-way, and ownership for various other Township Offices, including that of Township residents and local surveyors.
18. Administrative Waivers – This division reviewed over 33 applications for Administrative Waivers.

In addition to the preceding specific projects, our office has been continuously involved in many services such as locating easements, sections and lots, ownership of the lot, preparing preliminary cost estimates, reviewing plans not required to go through the Township Board, preparing metes and bounds descriptions and performing other engineering services. Complete tabulation of yearly activities by the objective is also attached.

This Division also was involved with the updating of our tax maps as mandated by the State. The updating also includes implementing a new computer system. The following is a description of work that was performed.

## **TAX MAPS**

The Engineering Division maintains both paper mapping as well as digital mapping of all tax and house number maps. There were approximately 1137 revisions to the tax and house number maps due to the State review for formal recertification, major and minor subdivisions, consolidations, dedicated ROW and other errors or omissions. New tax maps were prepared to reflect changes due to the major subdivisions that would not fit the existing maps and still remain in accordance with state regulations. New block and lot numbers are assigned to major and minor subdivisions during the planning/zoning board review process to assure compliance with state mapping regulations and Township tax assessment procedures.

In addition to the routine maintenance performed on the Tax Maps as outlined above, the Township Tax Maps have undergone an extensive review for submission to the State Division of Taxation for Formal Certification. A meeting was held with the State Representatives in 2008 and a plan was prepared for the process of Formal Certification. The Township Tax Maps have not had Formal Certification from the State since 1996. All corrected tax maps were returned to the State in March 2012. At that time a more extensive review was performed by the State to match the tax maps to the tax assessor's records. This resulted in additional revisions to all 400 tax maps. The State returned the set of 400 tax maps in April 2013. To date, 210 revised tax map sheets have been revised per State review comments. There are 190 additional tax map sheets that need to be revised in 2014. When all 400 tax map sheet revisions are completed, the entire set will be returned to the State to be reviewed for compliance.

## **LASERFICHE**

The Engineering Division continues to bring all new deeds on file into the laser fiche records storage network. There have been approximately 2000 Deeds added to the storage network in 2013. Back scanning of deeds was continued in 2013 with an additional 2600 deeds added to laserfiche.

### **OTHER MAPPING**

Various other mapping is available including aerial photography, planimetric mapping, with and without contours, a Township road map including a street index. Additional mapping was prepared by the division and is used by other departments and many outside agencies and residents. Other mapping will be developed as needed.

### **COMPUTER NETWORK**

Changes to the Engineering network are being implemented to make the system more efficient, handle additional workload and operate more cohesively with the main Township computer network. Several workstations will be upgraded including software to bring the systems to the most current versions.

File structure will be modified to be more user friendly and in line with the paper file most employers are accustomed.

The division provides support for network problems and assists with computer related issues throughout the Township.

### **GIS**

The Engineering staff continues to work with McMahon to provide data used for the mapping system. The data provided included Township Maps, shape files, outside agency links, databases and other miscellaneous items needed. Engineering staff continues to work with the consultants and provides support for updated mapping changes and database related information. This information is used by many Township Departments.

### **POLICE MAPPING**

The Engineering Division continues to provide updates for new development street addresses to the Police Department for the Township 911 system. In addition, the Engineering Division provides updated maps for police ESN zones and 1000' school drug free zone mapping.

### **STORM WATER PLAN PHASE II:**

The Federal Clean Water Act by statutory authorization required NJDEP to mandate all municipalities to adopt and implement new Stormwater Management Rules and a Stormwater Management Regulation Program. NJDEP issued a Tier A Municipal Stormwater General Permit to the Township effective April 3, 2004. Since April 2004 to date, the Township has done the following:

1. Developed a Stormwater Pollution Prevention Plan (SPPP) within twelve months of the Effective Date of Permit Authorization (EDPA).
2. Prepared and adopted a Municipal Stormwater Management Plan (MSWMP) within twelve months of EDPA as required by the stipulations of permit.

3. Prepared, adopted and implemented a Stormwater Controlled Ordinance (SCO) and a number of mini-ordinances such as pet wastes, illicit connection, waste collection, etc. all within the required time frame stipulated by the permit.
4. The Township is up to date with Annual Reports for the Stormwater Program and NJDEP has certified the Township is in full compliance.
5. Adopted new storm sewer inlet design standards and details, retrofitting the existing storm sewer inlets.
6. Located all storm sewer outfalls in both of two segments of the Township Mapping of these outfalls is completed for Segment A.
7. Development of an Illicit Connection Elimination Program (ICEP) is complete.
8. Septemberfest and mass mailings are part of our extensive outreach and public education component.
9. Consultation with Rutgers University regarding update of detention basin mapping, maintenance, flood prone area identification, and GIS data base.

The Township is fully implementing the Statewide Basic Requirements (SBRs) of the Tier A Municipal Stormwater General Permit.

### **FLOOD MITIGATION PLAN**

The Township has signed a statement of Intent to join other municipalities in the non-tidal NJ Section of the Delaware River Basin to develop a multi-jurisdictional flood mitigation plan. The lead agencies in this endeavor are the Delaware River Basin Commission, NJ Office of Emergency Management, NJDEP, FEMA and USDA/NRCS. There are many advantages to the Township for joining in this multi-jurisdictional effort. The Federal Disaster Mitigation Act of 2000 requires that municipalities nationwide prepare flood and/or all hazards mitigation plans in order to qualify for disaster mitigation funding. The Engineering Division is the local liaison and focus in this program. The Township's efforts have been adjudged exceptional by the Delaware River Basin Commission.

### **Q-ALERTS AND OPRA REQUESTS**

During the 2013 year, over 473 q-alerts and 57 Opra requests were addressed by the Engineering Division.