

# 2017 CAPITAL IMPROVEMENT PROGRAM

BOROUGH OF HIGHLANDS



PREPARED AND PRESENTED BY  
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# IDENTIFYING FUNDING

1. CLOSE OUT BOND ORDINANCES FROM COMPLETED PROJECTS
2. REDUCE BOND AMOUNTS FROM PROJECTS THAT MAY BE NEEDED BUT ARE CURRENTLY A LOWER PRIORITY
3. INCREASE BONDING CAPACITY AS A RESULT OF 1 AND 2
4. GRANTS

# GENERIC PROJECT APPROACH



1. COST VS. BENEFIT
2. IDENTIFY THE SPECIFIC NEEDS FOR THAT PROJECT
3. CONSIDER OVERALL USAGE OF THAT PORTION OF THE INFRASTRUCTURE WHEN DETERMINING APPROPRIATE REHABILITATION

# ROADWAY PROJECTS

## 1. PREPARATION

- A. ROADWAY CORES TO ASSIST IN DETERMINING APPROACH
- B. WALK THE STREETS IN DRY AND WET WEATHER TO IDENTIFY AREAS OF CONCERN
- C. UNDERSTAND THAT MILLING AND OVERLAYING A LOW AREA WILL NOT NECESSARILY ELIMINATE THE PONDING/ICING IN THAT LOCATION.
- D. TELEWISE SEWERS (BOTH STORM AND SANITARY) TO IDENTIFY AREAS OF CONCERN.
- E. ADVISE UTILITIES IN ADVANCE – NOT ONLY TO IDENTIFY THE LOCATION OF THEIR SPECIFIC UTILITIES BUT ALSO TO ALERT THEM TO REPLACE OLD INFRASTRUCTURE PRIOR TO THE ROADWAY BEING REHABILITATED

# ROADWAY PROJECTS

## 2. APPROACH

### A. MILL/OVERLAY VS. FULL RECONSTRUCT

- a. DEPENDS ON CORE INFORMATION (ASPHALT THICKNESS)
  - 1. FULL RECONSTRUCTION MAY STILL BE NECESSARY IF EXTENSIVE BASE REPAIRS ARE REVEALED
- b. REQUIRED UTILITY REPLACEMENTS/REPAIRS
- c. IMPROPER DRAINAGE PATTERNS (PROFILES/CROSS-SLOPES)
  - 2. EFFECTS ON CURB/SIDEWALKS
- d. HYBRID APPROACH IS ACCEPTABLE (PART MILL/OVERLAY AND PART RECONSTRUCT)

### B. WALK THE STREETS IN DRY AND WET WEATHER TO IDENTIFY AREAS OF CONCERN

### C. UNDERSTAND THAT MILLING AND OVERLAYING A LOW AREA WILL NOT NECESSARILY ELIMINATE THE PONDING/ICING IN THAT LOCATION

### D. TELEWISE SEWERS (BOTH STORM AND SANITARY) TO IDENTIFY AREAS OF CONCERN.

### E. ADVISE UTILITIES IN ADVANCE – NOT ONLY TO IDENTIFY THE LOCATION OF THEIR SPECIFIC UTILITIES BUT ALSO TO ALERT THEM TO REPLACE OLD INFRASTRUCTURE PRIOR TO THE ROADWAY BEING REHABILITATED

### F. FINALIZE THE SCOPE WITH THE BOROUGH PRIOR TO DESIGN

# SANITARY SEWER PROJECTS

## 1. PREPARATION

- A. CLEANING AND TELEVISIONING IS ESSENTIAL
- B. VISUALLY INSPECT MANHOLES AND CASTINGS
- C. LOOK FOR SINKHOLES TO IDENTIFY POTENTIAL PROBLEMS THAT MAY BE MAIN OR LATERAL RELATED
  - a. BOROUGH RESPONSIBILITY FOR EACH LATERAL IS FROM THE MAIN TO THE CURB-LINE
- D. DISCUSS PROPOSED PROJECT LOCATION(S) WITH BOROUGH DPW TO IDENTIFY AREAS OF RECURRING PROBLEMS

# SANITARY SEWER PROJECTS

## 2. APPROACH

- A. IDENTIFY APPROPRIATE REHABILITATION MEASURES BASED ON RESULTS OF TELEVISION INSPECTION AND SITE VISIT.
- B. REHABILITATION MEASURES MAY INCLUDE:
  - a. FULL REPLACEMENT
  - b. LINING
  - c. SPOT REPAIRS
  - d. POINT REPAIRS
  - e. GROUTING OF JOINTS
  - f. CHEMICAL ROOT TREATMENT
- C. MOST COST EFFECTIVE TO REHABILITATE WITHOUT HAVING TO EXCAVATE ROADWAY
- D. REDUCING INFLOW AND INFILTRATION FLOWING THROUGH THE SYSTEM RESULTS IN A DIRECT SAVINGS TO THE BOROUGH

# STORM SEWER PROJECTS

1. PREPARATION IS BASICALLY THE SAME AS WITH SANITARY SEWER PROJECTS
2. APPROACH MOST OFTEN LEANS TOWARDS REPLACEMENT
  - A. AGED PIPE MATERIALS (CORRUGATED METAL)
  - B. NORMALLY SHALLOW
  - C. MANY OF THE SANITARY SEWER REHABILITATION MEASURES AREN'T SUITABLE FOR STORM SEWER REHABILITATION



# AVAILABLE FUNDING

1. CLOSE OUT BOND ORDINANCES FROM COMPLETED PROJECTS AND REDUCE BOND AMOUNTS FROM PROJECTS THAT MAY BE NEEDED BUT ARE CURRENTLY A LOWER PRIORITY
  - A. BASED ON MEETING OF JANUARY 31, 2017, \$4.6 MILLION IN BONDING CAPACITY WAS IDENTIFIED
  - B. GOVERNING BODY TO TAKE FORMAL ACTION AT MEETING OF THE MAYOR AND COUNCIL ON FEBRUARY 15, 2017
2. GRANTS
  - A. \$83,000 FOR MILLER STREET FROM THE NEW JERSEY DEPARTMENT OF TRANSPORTATION
  - B. \$250,000 FOR VALLEY STREET FROM THE NEW JERSEY DEPARTMENT OF TRANSPORTATION.
  - C. \$146,286 FOR SEWER REHABILITATION FROM MONMOUTH COUNTY COMMUNITY DEVELOPMENT (CDBG).
  - D. \$25,000 FOR BAY STREET FROM NEW JERSEY AMERICAN WATER IN LIEU OF FINAL RESTORATION OF MAIN REPLACEMENT TRENCH.
  - E. \$150,000 FOR RESTROOMS AND AWNING FROM MONMOUTH COUNTY OPEN SPACE

# 2017 ROADWAY REHABILITATION PROJECTS

## 1. BAY STREET – WOODLAND STREET TO GRAND TOUR

### A. FULL RECONSTRUCT

- a. POTENTIALLY REDUCE PAVEMENT SECTION DUE TO LOW TRAVELLED RESIDENTIAL STREET
- b. SANITARY SEWER REPAIRS BASED ON TELEVISION INSPECTION
- c. DRAINAGE IMPROVEMENTS MAINLY ALONG THE SOUTHERN PORTION
- d. MEETING WITH RESIDENTS TO BE HELD TO DISCUSS SEVERAL POTENTIAL APPROACHES (WIDTH, CURBING ETC.)
- e. ANTICIPATED CONSTRUCTION COSTS TO BE BETWEEN \$350,000 AND \$450,000 TO BE DETERMINED BASED ON FINAL PROJECT SCOPE/APPROACH

# 2017 ROADWAY REHABILITATION PROJECTS

2. MILLER STREET – SHORE DRIVE TO BAY AVENUE
  - A. FULL RECONSTRUCT BUT MAY MOVE TO MILL/OVERLAY
    - a. ROADWAY CORES TO BE TAKEN TO DETERMINE EXISTING ROADWAY THICKNESS
    - b. SANITARY AND STORM SEWER REPAIRS BASED ON TELEVISION INSPECTION
    - c. ANTICIPATED CONSTRUCTION COSTS TO BE BETWEEN \$80,000 AND \$175,000 TO BE DETERMINED BASED ON RESULTS OF ROADWAY CORES
    - d. PROJECT HAS A GRANT OF \$83,000 FROM THE NJDOT
    - e. PROJECT TO BE COUPLED WITH BAY STREET FOR BETTER PRICING

# 2017 ROADWAY REHABILITATION PROJECTS

3. NORTH PEAK STREET – VALLEY AVENUE TO TERMINUS
  - A. FULL RECONSTRUCT NEAR VALLEY AVENUE BUT POTENTIAL MILL/OVERLAY FOR THE REMAINING PORTION (HYBRID APPROACH)
    - a. ROADWAY CORES TO BE TAKEN TO DETERMINE EXISTING ROADWAY THICKNESS
    - b. POTENTIAL FOR PAVEMENT THICKNESS REDUCTION DUE TO LOW TRAVELLED RESIDENTIAL STREET
    - c. CURBING ON LOW SIDE TO KEEP RUNOFF FROM IMPACTING PROPERTIES
      1. ALTERNATE COST SAVING MEASURE IS TO POTENTIALLY "WARP" TILT THE PAVEMENT SECTION AWAY FROM THE HOUSES
    - d. ANTICIPATED CONSTRUCTION COSTS TO BE BETWEEN \$20,000 AND \$80,000 TO BE DETERMINED BASED ON RESULTS OF ROADWAY CORES

# 2017 ROADWAY REHABILITATION PROJECTS

- 4. TWIN LIGHTS TERRACE – LIGHT HOUSE ROAD TO HILLSIDE AVENUE
  - A. FULL RECONSTRUCT BUT POTENTIAL FOR A PORTION OF MILL/OVERLAY (HYBRID APPROACH)
    - a. ROADWAY CORES TO BE TAKEN TO DETERMINE EXISTING ROADWAY THICKNESS
    - b. POTENTIAL FOR PAVEMENT THICKNESS REDUCTION DUE TO LOW TRAVELLED RESIDENTIAL STREET
    - c. CURBING TO KEEP RUNOFF FROM IMPACTING PROPERTIES
    - d. SANITARY AND STORM SEWER REPAIRS BASED ON TELEVISION INSPECTION
    - e. EXISTING DRAINAGE LINES MAY BE NON-FUNCTIONING AND MAY REQUIRE REPLACEMENT/RE-ROUTING
      - 1. LOW AREA AROUND MID-STREET WILL BE A CHALLENGE TO RESOLVE
    - f. CONSTRUCTION CHALLENGE DUE TO NARROW ROAD AND LACK OF MANEUVERABILITY MAY ADVERSELY IMPACT CONSTRUCTION COSTS
    - g. ANTICIPATED CONSTRUCTION COSTS TO BE BETWEEN \$175,000 AND \$235,000 TO BE DETERMINED BASED ON RESULTS OF ROADWAY CORES

# 2017 ROADWAY REHABILITATION PROJECTS

5. SOUTH BAY AVENUE DRAINAGE OUTFALL – AT THE TERMINUS OF SOUTH BAY AVENUE
  - A. OUTFALL LINE IS CURRENTLY FAILING
    - a. LINE TO BE CLEANED AND TELEVISED TO IDENTIFY CONDITION OF THE ENTIRE LINE
    - b. FINAL SCOPE TO BE DETERMINED BASED ON RESULTS OF TELEVISION INSPECTION
      1. MAY BE ABLE TO INSTALL AN INTERMEDIATE STRUCTURE AND ONLY REPLACE A PORTION OF THE LINE.
    - c. ANTICIPATED CONSTRUCTION COSTS TO BE TO BE DETERMINED
6. WASHINGTON AVENUE REPAIRS
  - A. ROADWAY REPAIR REQUIRED FROM BULKHEAD FAILURE/REPLACEMENT DURING HURRICANE IRENE
  - B. REPAIR WILL BE ADDRESSED AS AN IN-FIELD CHANGE ORDER TO THE ROAD PROGRAM CONTRACT

# 2017 SANITARY SEWER REHABILITATION PROJECT

1. PROJECT IS TO REHABILITATE ALL SANITARY SEWER MAINS BETWEEN BAY AVENUE AND SHORE DRIVE IN THE FOLLOWING AREA:
  - A. ATLANTIC STREET
  - B. SEA DRIFT AVENUE
  - C. BARBERIE AVENUE
  - D. WASHINGTON AVENUE
2. PROJECT APPROACH WILL BE DEPENDENT UPON RESULTS OF TELEVISION INSPECTION
3. PROJECT COSTS RANGE FROM \$150,000 TO \$350,000
  - A. CDBG GRANT AWARDED IN THE AMOUNT OF \$146,286.00

# STORMWATER SYSTEMS IMPROVEMENT PROJECT

1. PROJECT CAME TO FRUITION IN 2009 AND ULTIMATELY WAS PARED DOWN TO THREE SECTIONS:
  - A. SNUG HARBOR AVENUE TO WASHINGTON AVENUE
  - B. VALLEY STREET PUMPSTATION AREA
  - C. NORTH STREET AND CORNWALL STREET AREA
2. THE INTENT OF THE PROJECT IS TO ASSIST IN REDUCING THE FLOODING CONCERNS IN THE AFFECTED AREAS
  - A. THIS PROJECT WILL **NOT** RESOLVE DOWNTOWN FLOODING BUT WILL ASSIST IN REDUCING IT
  - B. PROJECT INTENT IS TO FOCUS ON STORMWATER GOING OUT
  - C. ARMY CORPS OF ENGINEERS PROJECT FOCUSES ON TIDAL IMPACTS
  - D. DESIGN IN MANY LOCATIONS WAS BASED SOLELY ON THE LARGEST PIPE THAT COULD FIT RATHER TO A SPECIFIC STORM DESIGN DUE TO ELEVATION ISSUES.
3. THE ESTIMATED CONSTRUCTION COST IS \$5MILLION AND IS PROPOSED TO BE FUNDED THROUGH THE NJEIT AS A LOAN AND THROUGH LOCAL BONDING
  - A. MORE THAN \$4MILLION IS CURRENTLY BONDED FOR THIS PROJECT.





# STORMWATER SYSTEMS IMPROVEMENT PROJECT

## SNUG HARBOR AVENUE TO WASHINGTON AVENUE

### 1. PROJECT FOCUS

- A. RE-ROUTE DRAINAGE FROM THE OUTFALLS ON WASHINGTON AVENUE TO A NEW PUMPSTATION IN JONES CREEK
  - a. DRAINAGE WILL BE INSTALLED ON PORTIONS OF:
    - 1. SEA DRIFT AVENUE
    - 2. RECREATION PLACE
    - 3. BARBERIE AVENUE
    - 4. WASHINGTON AVENUE
    - 5. HUDDY AVENUE



# STORMWATER SYSTEMS IMPROVEMENT PROJECT

## SNUG HARBOR AVENUE TO WASHINGTON AVENUE

### 1. PROJECT FOCUS (CONTINUED)

- B. INSTALL A 60,000 GPM PUMPSTATION IN JONES CREEK
  - a. PUMPSTATION TO BE LOCATED AT FOOTBRIDGE CLOSEST TO WATER
  - b. PUMPSTATION IS APPROXIMATELY 63' X 22'
  - c. PORTIONS OF THE PUMPSTATION TO EXTEND APPROXIMATELY 16' ABOVE THE ROADWAY.
- C. INSTALL AN EMERGENCY GENERATOR TO POWER THE PUMPSTATION AND COMMUNITY CENTER IN THE EVENT OF AN EMERGENCY
  - a. PLATFORM TO BE APPROXIMATELY 26' X 15' AND GENERATOR TO EXTEND APPROXIMATELY 13' ABOVE GRADE
  - b. TO BE CONSTRUCTED ADJACENT TO THE NORTHERN PORTION OF THE COMMUNITY CENTER DECK

# STORMWATER SYSTEMS IMPROVEMENT PROJECT

## SNUG HARBOR AVENUE TO WASHINGTON AVENUE

### 1. PROJECT FOCUS (CONTINUED)

#### D. CHAMBER IMPROVEMENTS AT BAY AVENUE AND SNUG HARBOR AVENUE

- a. CHAMBER IS A KNOWN RESTRICTION OF WATER FLOW
- b. CHAMBER AND OUTFALL TO BE ENLARGED TO ALLEVIATE THE RESTRICTION AND THUS ALLOWING STORMWATER TO FLOW MORE RAPIDLY THROUGH THE SYSTEM AND REDUCING FLOODING CONCERNS ON BAY AVENUE NEAR WATERWITCH AVENUE

#### E. PERMITS

- a. ALL PERMITS HAVE BEEN OBTAINED WITH THE EXCEPTION OF GREEN ACRES
- b. GREEN ACRES PERMIT IS REQUIRED FOR THE PUMPSTATION
  - 1. NJDEP REVIEW COULD TAKE 9-12 MONTHS
  - 2. NJEIT WILL NOT ALLOW PROJECTS TO BE ADVERTISED UNTIL ALL PERMITS ARE IN PLACE

#### F. FUNDING

- a. NJEIT – LOW INTEREST AND PART FORGIVENESS LOAN
- b. LOCAL BONDING

# STORMWATER SYSTEMS IMPROVEMENT PROJECT

## SNUG HARBOR AVENUE TO WASHINGTON AVENUE

### CONCEPTUAL PUMPSTATION RENDERINGS





# STORMWATER SYSTEMS IMPROVEMENTS PROJECT VALLEY STREET PUMPSTATION AREA

## 1. PROJECT FOCUS

### A. CONSTRUCT DRAINAGE SYSTEMS IN THE FOLLOWING AREAS:

- a. ATLANTIC STREET
- b. BAY AVENUE FROM ATLANTIC STREET TO VALLEY STREET
- c. CEDAR STREET FROM THE CLAM DEPURATION PLANT TO FIFTH STREET
- d. FIFTH STREET FROM CEDAR STREET TO VALLEY STREET
- e. VALLEY STREET FROM SHORE DRIVE TO THE EMERGENCY REPAIR RECENTLY COMPLETED NEAR THE PUMPSTATION
  - i. REPAIR COMPONENTS NEED TO BE EVALUATED TO VERIFY COMPATIBILITY WITH THE SIZE OF THE PROPOSED PIPE TO BE INSTALLED ON VALLEY STREET.
- f. REPLACE THE VALLEY STREET OUTFALL PIPE FROM THE PUMPSTATION



# STORMWATER SYSTEMS IMPROVEMENTS PROJECT VALLEY STREET PUMPSTATION AREA

## 1. PROJECT FOCUS (CONTINUED)

### B. PERMITS

- a. ALL PERMITS ARE CURRENTLY IN PLACE FOR THIS PROJECT

### C. FUNDING

- a. NJEIT – LOW INTEREST AND PART FORGIVENESS LOAN
- b. NJDOT LOCAL AID GRANT (\$250,000 FOR ROADWAY ONLY)
- c. LOCAL BONDING

# NORTH STREET AND CORNWALL STREET AREA

## 1. PROJECT FOCUS

- A. TO ALLEVIATE LOCALIZED FLOODING ON BAY AVENUE BETWEEN CORNWALL STREET AND NORTH STREET
- B. IMPROVEMENTS WERE COMPLETED UNDER THE SHREWSBURY AVENUE/NORTH STREET PROJECT PRIOR TO THE INSTALLATION OF THE STREETScape IMPROVEMENTS. AS A RESULT, THE STREETScape IMPROVEMENTS DID NOT HAVE TO BE REMOVED AND REPLACED IN THE FUTURE – THUS SAVING MONEY.



QUESTIONS?