

# Report for the City Manager

## Community Services: Engineering

Date: January 10, 2024



**Engineering**

Community Services | Dover, NH

The purpose of this document is to summarize the work the City of Dover Engineering Department from November 1<sup>st</sup> through **December 31, 2023**.

The Engineering Division is comprised of a dedicated team of individuals who work collectively to, as the Division's statement reads, "provide the City of Dover with professional engineering services that ensure long-range comprehensive planning, sound project design, and quality construction management, and to provide technical engineering assistance to other Departments of the City."

Ken Mavrogeorge, PE – City Engineer  
Bill Boulanger – Special Projects Advisor  
Amelia DeGrace – Assistant City Engineer (Utilities)  
Jillian Semprini, PE – Assistant City Engineer (Transportation)  
Eric Sanderson – Facilities Project Manager  
Jamie Stevens – Waterfront Construction Manager  
Jordan Chambers – Engineering Technician  
**(New Hire Anticipated in January 2024) – Environmental Project Manager**

### **Staff Workload:**

The Engineering Staff is currently managing or involved with over 150 City projects ranging from annual projects such as the General Streets Improvements - Annual Paving Program to projects in the Capital Improvements Program such as the reconstruction of various neighborhoods. Included in that total are projects for other departments including but not limited to Planning (Various Grant Applications/Waterfront), Recreation (Adventure Park Upgrades), Inspection Services (New Office Space) and Library (Renovation/Expansion).

In addition to their daily project management responsibilities, the City's Engineering staff also participate in the following Commissions, Committees, and Boards as either activate members or staff liaisons.

Dover Utilities Commission (Amelia DeGrace): The Dover Utilities Commission (DUC) met on November 13<sup>th</sup> and December 18<sup>th</sup> 2023 to review abatement requests and review finance and utilities reports. The next meeting will be held in February 2024.

Transportation Advisory Committee (TAC) (Jillian Semprini): TAC last met on November 27<sup>th</sup>. Their next meeting is scheduled for January 22<sup>nd</sup>. Those wishing to get on the agenda must submit information by the 12<sup>th</sup> of January.

Planning Board (Ken Mavrogeorge): Planning Board met on November 14<sup>th</sup> and December 12<sup>th</sup>. The Capital Improvements plan was reviewed and discussed as were multiple applications for the Transfer of Development Rights and project approval extensions. The Planning Board also took part at a joint meeting with the City Council to review the Capital Improvements Plan where the City Engineer provided updates on ongoing capital projects.

Municipal Alliance for Adaptive Management (MAAM) (John Storer and Jillian Semprini): Director John Storer and Asst. City Engineer Jill Semprini attended the November 2<sup>nd</sup> MAAM Executive Committee meeting.

TIF Advisory/Cocheco Waterfront Development Committee (CWDAC)/Park Subcommittee (Jamie Stevens): The CWDAC met on December 19, 2023 to get an update on the proposed pavilion building in the new waterfront park, discuss the future of Great Bay Rowing's boathouse along the waterfront, and recommend street names for the waterfront development.

### **Customer Service:**

In addition to supporting other City Departments and working on Capital Projects, Engineering staff takes Service Calls from the public and responds to them as quickly as they can. The team meets regularly to review open Service Calls and discuss how to respond. The Table below shows the total calls year to date and over the past month.

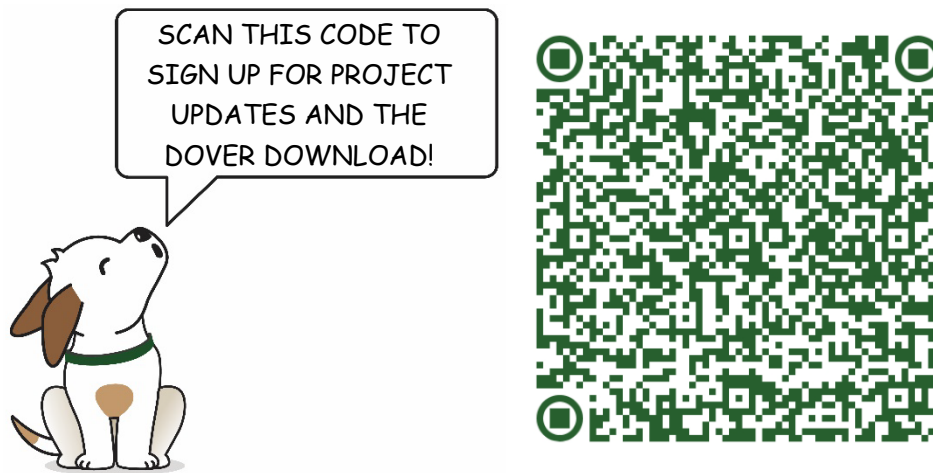
Time Period	Logged Service Calls	Resolved Service Calls
Year to Date (2023)	359	324
Nov and Dec 2023	29	10

One goal for 2024 to improve the customer service experience is to work with our City GIS staff to improve the priority rankings of service calls to make sure they get addressed in a timelier manner. This is an effort being coordinated between the Engineering and Public Works Divisions.

## **Public Outreach:**

Public Outreach has and always will be crucial to the Engineering Division's operations and to that end the Engineering Team tries to engage with the public, Dover Staff, and City Council on a regular basis to keep them informed on critical project updates, budget issues, and things that concern long term capital planning. The Engineering Team has taken great strides in 2023 to improve our public outreach including recommending updates to the City's website, overseeing the development of a Community Services Mascot to call attention to what Community Services does, and engaging with Media Services to publish relevant updates to the Dover Download.

For those unfamiliar with the Dover Download, is a weekly digital newsletter created by the City of Dover Media Services Department. It is sent out on Fridays and contains a variety of information for the Dover community including project updates, community events calendars, and current events. Anyone can subscribe to the newsletter through the City's Communications List which can be accessed by scanning the QR code below.



*Figure 1: Rover the Community Services Dog and a QR Code to sign up for project specific updates and the Dover Download.*

In addition to providing updates in the weekly Dover Download, the Engineering Team has also taken steps to provide Media Services regular updates for project specific updates that are shared in advance of public meetings, major milestones, or in the event of a service shutdown or temporary road closure. In the coming year, there will be a continued effort to improve upon the public outreach and will look to utilize Community Services' electronic message boards, printed flyers for local businesses, and interactive polls and surveys for engagement.

## Engineering Projects:

As noted above, the Engineering staff is actively supporting a large number of projects across the city. The following are some highlights on just some of the active projects.

### Project Highlight: Stormwater and Flood Resiliency Utility:

City Engineer Ken Mavrogeorge presented a detailed summary of the proposed Stormwater and Flood Resilience Utility alongside the City's engineering consultants at a City Council Workshop on November 15<sup>th</sup>. The update followed a public meeting held at City Hall on October 17<sup>th</sup>. The October and November meetings were both well attended by the public and Council members who were encouraged to ask questions to City staff as well as submit questions in

writing for a formal response. Responses to questions received were developed by City Staff and their Consultants and uploaded to the City's Stormwater Management page and sent out in a December Dover Download Email.

In addition to presenting the background on what the utility would look like, how it would operate, and how users' fees would be calculated, Engineering staff was available to the City Council to answer any questions on the utility or the proposed ordinance that was also presented by the Legal Department at the November 15<sup>th</sup> meeting. Following the November 15<sup>th</sup> meeting, the Engineering staff also meet one on one with members of the public who has specific questions on how the utility was set up and how it would affect their property. In some instances, staff provided ideas on how individuals could properly manage stormwater and potentially receive credits under a utility.

*Engineering Staff has and will continue to attend City Council meetings, as requested, to provide guidance and their professional opinions so that the Council can have all sides of an issue prior to voting.*

At the December 13<sup>th</sup> City Council meeting, City Engineer Ken Mavrogeorge, PE was in attendance, but did not speak, at the meeting prior to the City Council voting not to implement the Stormwater and Flood Resilience Utility. Engineering Staff has and will continue to attend City Council meetings, as requested, to provide guidance and their professional opinions so that the Council can be well informed on engineering related issues prior to voting.

It is important to note that the Engineering Division does not see the vote to not approve the implementation of the Stormwater and Flood Resilience Utility as an indication that the City does not view stormwater as a concern, or an issue that needs attention. Instead, the Division views this vote as a call to shift the staff's focus to use to the tools currently available to City staff to affect positive change where it can. That could mean a reevaluation of how stormwater is handled in the Dover Code, planning for large scale upgrades to the wastewater treatment plant, or seeking out more grant opportunities to develop stormwater management systems to improve water quality.



Figure 2: Presentation Materials from the 11.15.2023 City Council Workshop.

The vote not to implement the utility was the culmination of a three-year process that started back in mid-2020 when the City Council established an Ad-hoc Committee to study various methods of funding stormwater management in the City. The Council, at its Aug. 12, 2020 meeting, charged the Ad-hoc Committee “to investigate, study, and identify and make recommendations to the City Council concerning various funding opportunities that may exist with respect to existing needs and future stormwater and flood resilience management planning.”

The Ad-Hoc Committee, which consisted of 17 members of the community representing a wide range of backgrounds, held 14 monthly public meetings as it studied the issue. Meeting minutes, recordings, and other information reviewed by the committee over the course of a 14-month period are available for review for those looking for more information on what the various methods of funding considered were. The committee ultimately, after having reviewed and considered the information, voted unanimously to recommend a Stormwater and Flood Resilience Utility be pursued. The Summary of Findings and backup documentation can be found on the committee’s webpage here:

<https://www.dover.nh.gov/government/boards-and-commissions/city-council/ad-hoc-committee-to-study-stormwater-and-flood-resilience-funding/>.

The Summary of Findings and a recommendation, was then sent to the Council in February of 2022 for review and consideration. The Council then voted on Feb. 23, 2022 to pass a City Council resolution stating the Council’s intent to form a stormwater utility by ordinance. The same resolution also accepted its Ad-Hoc Committee to Study Stormwater and Flood Resilience Funding’s unanimous recommendation of funding stormwater infrastructure and maintenance through a stormwater utility.

Following the City Council’s vote to move forward with the creation of the utility, the Council’s Ordinance Committee worked with City Engineering and Legal staff, consultants, and the Dover Utilities Commission to draft the ordinance. Regular updates were provided at public meetings including Utilities Commission Meetings, Ordinance Committee Meetings, and Public Stormwater and Flood Resilience Utility meetings. Materials, minutes, and recordings from these meetings can be found on the City of Dover website and on the City of Dover’s Stormwater Management webpage.

In all, the public process lasted more than three years and was comprised of more than twenty publicly noticed meetings. Six of those public meetings were held in the last seven months leading up to the December 13<sup>th</sup> vote.

Documents related to the creation of the stormwater utility are posted on the city’s Stormwater Management webpage, which also includes video recordings of meetings and workshops, presentation slides, responses to submitted questions, and the report on the findings and recommendations of the ad hoc committee. Find the webpage at <https://www.dover.nh.gov/government/city-operations/community-services/stormwater-management/>.

## Other Engineering Projects:

### Pudding Hill Water Treatment Plant:

The City's consultant and contractor have begun to plan for the plant's startup which is expected to begin in early 2024. Work continues to be on track for substantial completion in early 2024 and final completion by summer 2024. Once online, the plant could provide an additional 1 million gallons of drinkable water per day to City residents, boosting its current capacity back to levels prior to when the aquifer was taken offline.

### Service Line Inventory:

The United States Environmental Protection Agency's (EPA's) revised Lead and Copper Rule requires all community water systems to prepare a service line inventory by October 16, 2024. This revision is in response to the Flint, MI water crisis; inventories will be readily available to the public and will be used to identify service lines with potential lead contamination.

The inventory will be prepared by City Engineering Staff, led by Assistant City Engineer Amelia DeGrace. This is truly a team effort in conjunction with the Office of Information Technology (OIT) (IT Asset Management preparation), Community Services Utilities (gathering information in the course of their normal work), and Engineering (populating the Service Line Inventory). NHDES awarded the City a \$75k grant to prepare the inventory.

An online survey is currently being developed for residents to submit information on their own water service lines to determine what material it is made of. A link to the survey will be made available in an upcoming utility bill.

### Garrison Hill Water Tank Rehabilitation:

The City's consultant, Underwood Engineers, continues to advance the plans for the Garrison Hill Water Tank. Ninety percent drawings were submitted to the City for review and comment. It is anticipated that the tank rehabilitation will be ready for bid in early 2024 and under construction by fall of 2024.

### Mill Street Pump Station Upgrade:

The City has engaged the engineering firm Woodard & Curran to conduct an assessment on the Mill St Sewer Pump Station to determine what upgrades to the station would look like as the station is reconstructed in 2025. The evaluation builds off a City wide assessment of the sewer pump stations completed in 2023 by Wright Pierce and will look at consolidating pump stations to reduce the City's operating costs. The evaluation is expected to be completed in early 2024 with final design commencing shortly after.



Figure 3: Work continues on the Pudding Hill Treatment Plant.

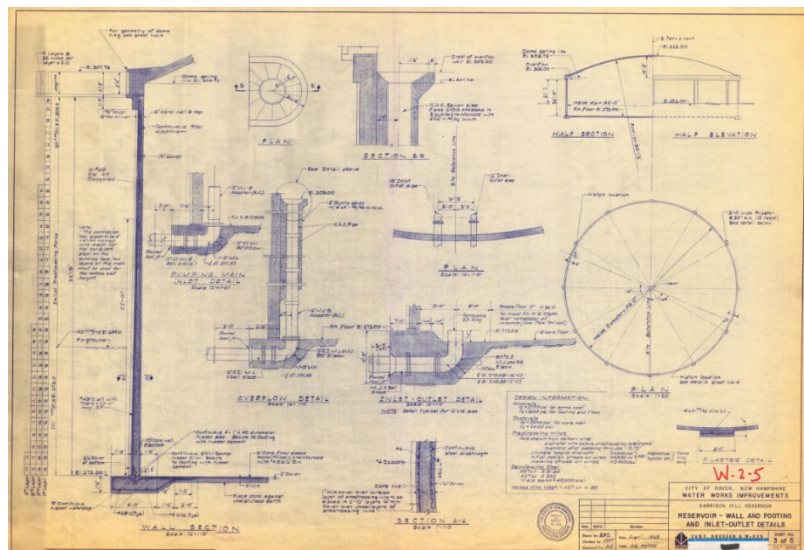


Figure 4: 1968 plans for the Garrison Hill Tank

### North End Sewer Evaluation:

Special Projects Advisor Bill Boulanger is working with engineering firm Wright Pierce on an assessment of a sewer main within the northern Central Ave area. This evaluation is being used to determine what if any capacity issues may exist based on the development north of Week's Crossing. The evaluation is also looking at whether dropping the sewer is possible to eliminate multiple City sewer pump stations and save on operating costs.

### Smith Well Road Elevated Tank:

Smith Well Road utilities and drainage have been completed and the road has been reconstructed. Work continues on the water line and the electric duct bank to serve the new tank. The new 1-million-gallon tank is being constructed to allow the City to take the Garrison Hill tank offline in 2024 for rehabilitation. The new tank is currently on track for final completion in early 2024.

### Waterfront Redevelopment:

The City's contractor, Northeast Earth, continues to advance the installation of stormwater, water and sewer utility infrastructure around the project site as well as the removal of buried infrastructure from prior facilities on the property. Blasting of the remaining bluff area will commence in early 2024 as work on the shoreline progresses. Construction of the private infrastructure is expected to begin in the spring of 2024. The development is expected to be under construction until at least 2026.

### Cocheco Stormwater Master Plan:

Engineering staff met with the NHDES and the City's consultant Kleinfelder on multiple occasions in November and December to review comments on the draft and changes made to the final Technical Memorandum that summarized alternative drainage alignments in the Oak/Ham/Ela neighborhoods. This area consists of over 200 acres that drains to the recently installed Broadway culvert that contributes to the Cocheco St. outfall. The City's consultant has submitted their final Technical Memorandum with recommended drainage system improvements that will serve as the basis of design for the Oak, Ham, and Ela Neighborhood reconstruction (+/- 100 acres). It is anticipated that the design for the neighborhood reconstruction will begin in 2024

### Sidewalk Improvements:

Engineering staff is overseeing the assessment of all the City's sidewalks to help inform future sidewalk reconstruction projects. Green International Affiliates, Inc., the firm selected to complete the assessment has been actively assessing all of the City's sidewalks and curb ramps in preparation for the development of



*Figure 5: Excavation of the former WWTP Clarifiers (top). Waterfront Construction Manager Jamie Stevens and Assistant City Engineer Jillian Semprini, PE oversee work on the Waterfront.*

a summary of their findings and make recommendations for which sidewalks need repairs. This summary of findings will also include a 5-year sidewalk improvements program that the City can execute to improve sidewalks across the City with a focus on priority routes including those close to schools and businesses and those in need of ADA accessibility improvements.

### Traffic Signal Management:

The City's staff and traffic engineering consultant, Sebago Technics, held a monthly meeting to review signal concerns received from calls to Community Services or other City Departments. Community Services is working with the consultant to develop a plan for traffic signal management including annual improvements, timing adjustments, and upgrades to include for capital improvement projects. The consultant and City Staff reviewed a proposed outline for the technical memorandum the consultant is preparing to summarize the issues addressed over the previous 12 months and identify projects that the City can implement in the annual CIP program such as annual maintenance recommendations. Discussions over the course of 2023 included planning for the replacement of at least one signalized intersection per year and changes to allow for current pedestrian crossings in certain areas of the city. The findings may be presented to the Council once completed in preparation for future project planning purposes.

## **Facilities Projects:**

### Inspection Services Expansion:

City Engineering staff have been working with the City's design build contractor and architect to finalize the design of a new Inspection Services building for the Community Services parcel on Mast Road. Survey work was completed in November and the City Engineering Department are finalizing site plans for submission to the Technical Review Committee. The City is saving on design engineering costs by taking on the site civil components of the project themselves and securing competitive bidding for the survey of the site. The City also anticipates completing some of the site work including utilities for the new building to further save on construction costs.

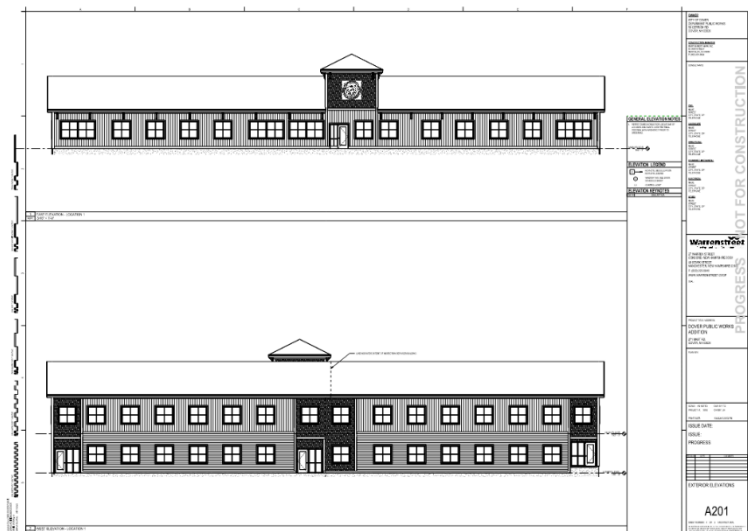


Figure 6: Inspection Services Building Elevations.

### Library Renovation/Expansion:

The library renovation has gone through the majority of the design stage of the project and has been broken into a few phases, phase 1 replacement of boilers, phase 2 replacement of sprinkler system and phase 3 renovate/expand interior spaces. A contract has been signed with Alliance Mechanical to replace the existing cast iron boiler with a high efficiency condensing boiler, along with re-piping and installation of new circulator pumps. For phase 2 the sprinkler system will be completely replaced, an RFP will go out January 2024 after the result of a hazardous material survey that was conducted in December is received. Phase 3 renovation of the interior space has been designed and BPS Corp. was selected as the construction manager.



### Adventure Park Upgrades:

Adventure Park on Henry Law Ave. is one of the most popular playgrounds in the city, a central location, with multiple amenities for families to enjoy. With the continued use over the years, some of the equipment has started to fail. This past fall, an inspection was conducted by the City's insurance company, results indicated some equipment should be replaced along with some landscaping elements. Recreation director Gary Bannon has sourced new metal poles to replace the wooden posts that support the climbing nets. The poles will be installed by Community Services staff in the spring.

In addition, facilities Project Manager Eric Sanderson is working with Community Services crews to plan the replacement of failing landscape features in the park. Wooden logs installed as a border to play areas will be replaced with recycled granite. City staff will also replace the existing wood chips with a new coating of certified playground wood chips.



*Figure 7: Adventure Park existing condition*

### Ice Arena:

**Roof:** The flat roof between both ice arenas has been leaking resulting in multiple stained ceiling tiles and constant drips in different areas of the building. Bids were solicited in the fall of 2023 and Weather Guard Industries has been awarded the contract to complete the work. Upon inspection of the roofs interior the method specified to secure backer board and insulation could not be utilized due to the amount of electrical conduit close to the ceiling, it was recommended to use an adhesive. Tests were completed to determine the warranty that would be offered, Installation will start in early spring once temps are consistently above 40 degrees.

**Cooling Tower:** The cooling tower has developed a leak that has continued to get worse, causing water to leak from the equipment causing damage to the base that unit sits on as well as freezing on the ground. Bid were solicited in October 2023 with ECM Mechanical being the selected vendor to replace the existing tower. With long lead times the estimated start date is early February, estimated down time will be one day.

## **Permits:**

### Permit Summary for November and December 2023:

Driveway Permits:	13
Utility Licenses:	2
Paving Licenses:	2
Excavation Permits:	20
Certificate of Occupancy Inspections:	10
Construction:	1
Obstruction Permits:	9

## **Site Review/Project Oversight Support:**

### Technical Review Committee:

Six (6) projects came to TRC in November and December that required Engineering review:

- 1-3 Webb Place: Proposed bank near Weeks Crossing.
- 180 Tolend Road: Proposed Cellular Tower between Columbus and Tolend Rd.
- Locust Street: 22-unit condo complex with parking and drainage.
- 256 & 264 Central Avenue: Paved parking area for a building under renovation.
- 34 New Rochester Rd: 6 duplex structures with an existing single-family dwelling to remain
- 914 Central Ave: Proposed car wash on Central Ave

In addition to performing technical reviews, Engineering Staff routinely meets with developers, engineers and contractors to review conceptual designs prior to them starting work. Multiple meetings like this occurred in November and December as Applicants plan for 2024.

### Wastewater Permit Review Summary for November and December 2023:

Sewer Connection Permit:	2
Septic Design Reviews:	5



Figure 8: Northeast Credit Union at 100 Education Way.

### Construction Oversight:

Engineering Technician, Jordan Chambers, continues to conduct oversight of over 60 private construction projects approved by the Planning Board. Projects that are underway or have been completed include:

- Bluebird Self Storage (Littleworth Rd.)
- Copley Commons Subdivision (Leathers Ln.)
- Tiny Home Development (Back River Rd.)
- Copper Drive Subdivision (New Rochester Rd.)
- Sophie/Banner Dr Subdivision (Bellamy Rd.)
- Goosetail Dr (757 Central Ave)
- 725 Central Ave Development (Central Ave and Brick Rd)
- Medical Office Building (Durham Rd)
- Northeast Credit Union (Education Way)

There was one (1) preconstruction kickoff meetings in November and December for the recently approved Chinburg Subdivision off of Old Oak Street.



*Figure 9:725 Central Ave (Brick Rd)*