

# Report for the City Manager

## Community Services: Engineering

Date: June 8, 2023

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The purpose of this document is to summarize the work the City of Dover Engineering Department through **May 31, 2023**.



**Engineering**

Community Services | Dover, NH

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

Amelia DeGrace – Assistant City Engineer (Utilities)

Jillian Semprini, PE – Assistant City Engineer (Transportation)

Eric Sanderson – Facilities Project Manager

Gretchen Young, PE – Environmental Projects Manager

Jamie Stevens – Waterfront Construction Manager

Jordan Chambers – Engineering Technician

### **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 neighborhood. Included in that total are projects for other departments including but not limited to Planning (Community Trail Solar System), Recreation (Jenny Thompson Pool Evaluation and New Skate Park), and Library (Roof Replacement).

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

Dover Utilities Commission (Amelia DeGrace): The next DUC meeting is scheduled for July 10, 2023.

Transportation Advisory Committee (Jillian Semprini): The next TAC meeting is scheduled for July 24, 2023.

Planning Board (Ken Mavrogeorge): Planning Board met twice in May.

Municipal Alliance for Adaptive Management (MAAM) (Gretchen Young): No meeting was held in April. The next meeting will likely be in June and will focus on the recent petition for EPA to exercise its Residual Designation Authority in the Great Bay Watershed.

Staff is also simultaneously working on developing standard procedures for the team in conjunction with operations and administrative staff. In addition, staff are also updating Construction Guidelines and developing specification that standardize around NHDOT specifications for capital construction projects.

**Customer Service:**

The Table below shows the total calls year to date and over the past month. There has been an increase in calls this year over past years due to the change in how Admin receives calls to the department. This has shown to result in a quicker response to callers many of whom provide an email address for a quicker response from Engineering staff.

Time Period	Logged Service Calls	Resolved Service Calls
Year to Date (2023)	199	183
Last Month (Month)	46	40

Some of the most common questions received by the Engineering Department include:

**Question:** When will my street be paved?

**Answer:** Each fall, the Engineering and CS Operations staff work together to generate a list of streets to be paved each fall that looks two years into the future. This list is based on, but not limited to, an assessment of the following:

- 1) **Pavement Condition Index (PCI) rating:** In 2022, consultants drove every public street in the City to calculate an updated PCI rating. This assessment occurs every 3 to 5 years and is important to determine how the various types of roads in Dover are deteriorating and what type of maintenance they should receive. A presentation was made to the City Council on the PCI assessment in November of 2022. A copy of the presentation can be viewed here: [https://publicrecords.dover.nh.gov/TempFiles/06071202389179\\_2022.11.30\\_PavementConditionIndexUpdate.pdf](https://publicrecords.dover.nh.gov/TempFiles/06071202389179_2022.11.30_PavementConditionIndexUpdate.pdf)
- 2) **Capital Improvement Projects:** Roads that have utilities scheduled for replacement or roads receiving a PCI rating below 24 (out of 100) are typically identified for a future Street Reconstruction under the Capital Improvement Program. Roads that fall into this category may receive temporary improvements such as pavement shims until a comprehensive reconstruction project is funded and constructed.
- 3) **Staff knowledge:** Operations crews who are responsible for maintaining the City roads in all seasons continuously assess the condition of the roads throughout the year to ensure not only that potholes are repaired in a timely manner in warm months but that the roads are able to be maintained safely in the winter months.



The City maintains the webpage below with information on the paving program.

<https://www.dover.nh.gov/government/city-operations/community-services/engineering/paving/>

**Question:** I would like to pave my driveway. How do I obtain a permit to do so?

**Answer:** Driveway permits are required when the construction, reconstruction, alteration, surfacing or resurfacing of any driveway which intersects with the right-of-way of any City-owned and City-maintained way is proposed. If the property is located on a NHDOT right of way then a permit from the NHDOT, and not the City of Dover, would be required.

As noted in Section 157-50 of the Dover Code (<https://www.ecode360.com/DO0878>), "It shall be unlawful to construct, reconstruct, alter, surface or resurface any driveway in a manner which affects the size, elevation or grade of such driveway until the Community Services Director has reviewed and approved of such construction or alteration and has issued a written permit for such work."

Driveway Permits can be submitted through the City's online permitting portal at the following link:

<https://www.dover.nh.gov/government/city-operations/community-services/permitting/>

**Question:** Can I have a second driveway to my property?

**Answer:** As outlined in section 157-50 of the Dover Code, "Unless an all-season sight distance of 400 feet in both directions along the street can be obtained, the Community Services Director shall not permit more than one access to a single parcel of land, and this access shall be at that location determined to be safest. The Community Services Director shall not give final approval for use of any additional access until it has been demonstrated that the 400-foot, all-season sight distance has been approved."

An engineered driveway plan may be requested along with the permit application to show that the proper all-season sight distance can be obtained and maintained with the second driveway. Submission of the plan alone does not necessarily guarantee approval of the second access point if the other requirements of the Code are not met or if the proposed driveway is a safety concern. It is recommended to reach out to the Engineering Division at 603 516 6450 with specific questions on driveways.

**Question:** Do I need a permit to dig on my property?

**Answer:** It is required per the "Dig Safe Law" (RSA 374:48), to call the Underground Facility Damage Prevention System prior to excavating or digging whether on private or public property.

Per Section 125-8 (Permit required to work in public roads and sidewalks) of the Dover Code, "No person shall grade, fill, disturb, excavate, or open the ground or pavement in any public road, sidewalk, or on City property, without first obtaining a written permit of authorization. Such permit shall be issued by the Community Services Department on an application form provided by the Department."

Excavation Permits can be submitted through the City's online permitting portal at the following link:

<https://www.dover.nh.gov/government/city-operations/community-services/permitting/>

**Public Outreach:**

**Community Services Mascot:**

The City's consultants working on the development of a Stormwater and Flood Resilience Utility have finalized materials for public outreach for the Stormwater Utility including the development of a mascot, Rover the Community Service Dog. The mascot development includes a unique logo for each of the divisions within Community Services that can be used with various public education messages and public events such as Apple Harvest Fest.



**Community Services**

Dover, NH



**Stormwater**

Community Services | Dover, NH



**Utilities**

Community Services | Dover, NH



**Water**

Community Services | Dover, NH



**Highway**

Community Services | Dover, NH



**Wastewater**

Community Services | Dover, NH



**Facilities & Grounds**

Community Services | Dover, NH



**Engineering**

Community Services | Dover, NH

Figure 1: Rover the Community Service Mascot

## CIP 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.

Chestnut Street Bridge: Final punch list items and private utility work were completed in May. In addition to completing the project ahead of schedule, the final closeout documents show that project ended up \$661,000 below the allocated budget.



*Figure 2: Chestnut Street opened to vehicles and pedestrians 3 weeks ahead of schedule.*

Portland Ave Retaining Wall: The City's Engineering consultant is currently value engineering the plans to reduce costs. The project is expected to go out to bid in the summer of 2023 and be completed by November 2024.

Street Reconstructions: The Engineering staff continues to advance the designs of multiple street reconstruction projects including the following: Fifth and Grove St; Court and Union St.; Henry Law and River St. It is anticipated that these projects will be ready for bid this summer and released for bid in the late summer/fall. Work for these projects are anticipated to occur in spring 2024 and continue through mid-2025. Street Reconstruction projects are Capital Improvement Plan projects that include comprehensive upgrades to water, sewer, drainage, lighting, road surfaces, and sidewalks within neighborhoods. It is anticipated that additional public meetings will be occurring in July of 2023 for each of the projects prior to going out to bid.

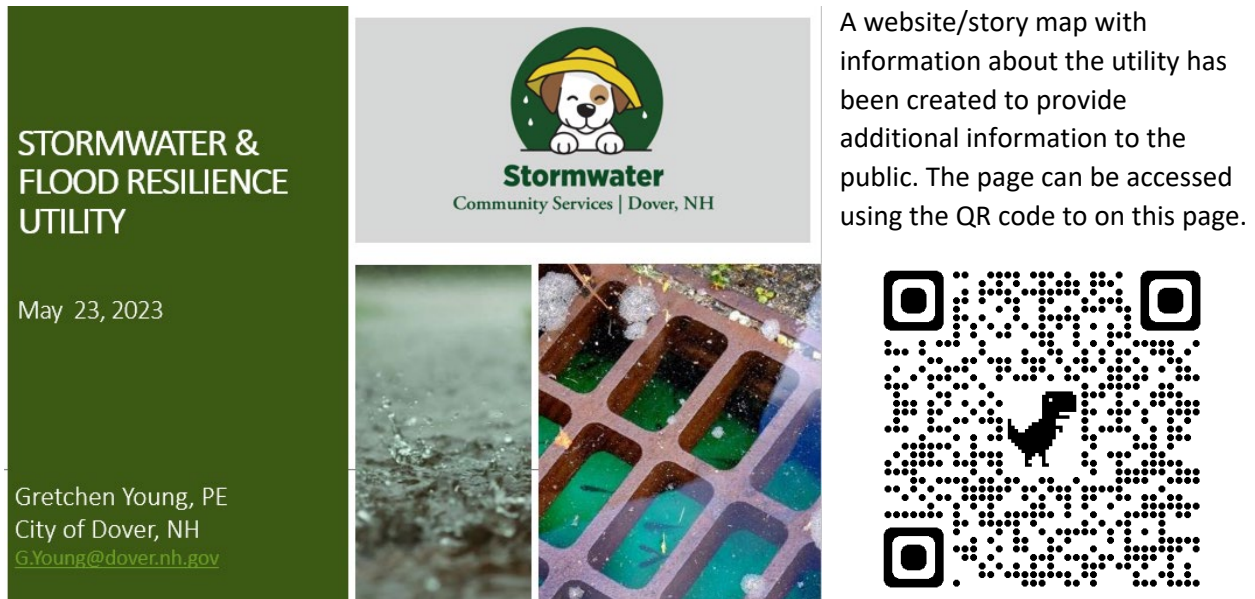
River Street Pump Station Upgrade: The River Street Pump Station Upgrade project went out to bid on May 15, 2023, a pre-bid meeting was held on May 31, 2023, and bids close on June 15, 2023. Improvements to the pump station are expected to take 18 months to complete and coincide with the Waterfront Infrastructure Improvements project.

Pudding Hill Water Treatment Plant: Work in May focused on interior plumbing and electric. Contractor is on track to complete project in Spring of 2024. Once completed the plan will be able to treat approximately 1 million gallons per day of drinking water to boost the City's supply.

Stormwater Management Plan: Staff gave an annual update on the City's stormwater management plan, and compliance with the MS4 permit. The permit is in its final year and it is anticipated to be extended for a year, with a draft revised permit to become available for public comment in the Fall of 2023.

Cocheco St Outfall Replacement: Engineering staff met with Eversource and the City's engineering consultant in late April to review a preliminary cost estimate and schedule for the construction of the replacement for the existing stormwater outfall. It is anticipated that construction will start in November 2024 and run through March 2025.

Stormwater and Flood Resiliency Utility: The first Stormwater and Flood Resiliency Utility workshop was held on Tuesday, May 23, with over twenty residents in attendance.



**STORMWATER & FLOOD RESILIENCY UTILITY**

May 23, 2023

Gretchen Young, PE  
City of Dover, NH  
[G.Young@dover.nh.gov](mailto:G.Young@dover.nh.gov)

**Stormwater**  
Community Services | Dover, NH

A website/story map with information about the utility has been created to provide additional information to the public. The page can be accessed using the QR code to on this page.

Figure 3: Excerpt from Stormwater and Flood Resiliency Presentation.

Staff will continue to work with the City’s consultants to finalize recommendations for the implementation of the Stormwater and Flood Resiliency Utility in advance of a joint Dover Utilities Commission (DUC) and Ordinance Committee meeting on July 10<sup>th</sup>. The goal of the joint meeting will be to discuss and seek recommendations for the utility’s fee and credit structure. The Utility is on track for a presentation to, and possible vote on implementation by, City Council by the end of 2023.

Smith Well Road Elevated Tank: The foundation of the new elevated tank is complete. During the month of May 2023, the concrete was poured for the foundation footing, rebar was installed for the foundation ring wall, and concrete was poured for the ring wall. Construction of the tank pedestal and installation of watermain on Smith Well Rd are scheduled to start in June 2023. 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.



Figure 4: Foundation Ring Wall for Smith Well Road Elevated Tank

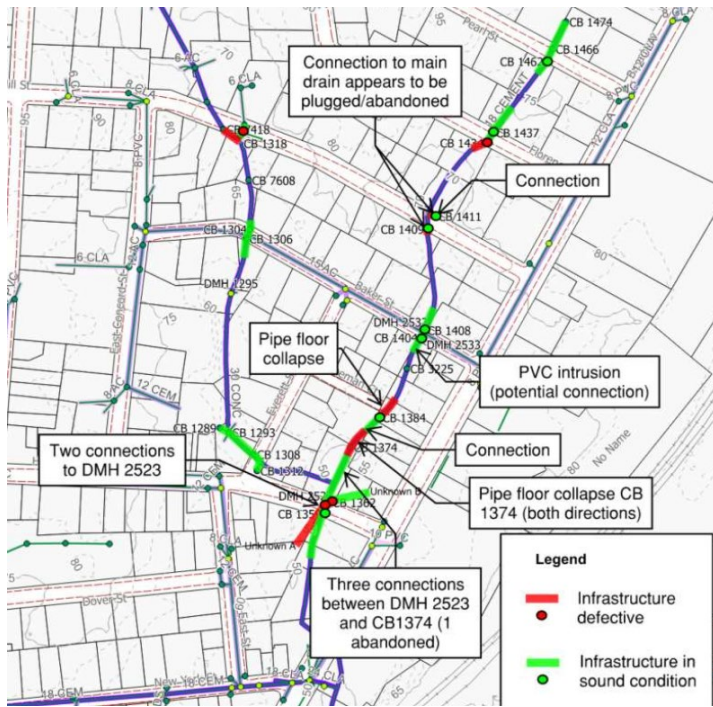


Figure 5: Field investigation summary for the Cocheco Stormwater Master Plan.

**Cocheco Stormwater Master Plan:**

Engineering staff met with the NHDES and the City’s consultant Kleinfelder on May 30<sup>th</sup> as part of a monthly check in for the 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. A preferred alternative will be selected and will serve as the basis of design for the Oak, Ham, and Ela Neighborhood reconstruction (+/- 100 acres). It is anticipated that the final report will be completed by the end of 2023.

**Waterfront Redevelopment:**

Engineering Staff led a preconstruction kickoff meeting with the selected contractor, Northeast Earth. Engineering staff continued to coordinate with the consultants on the preparation of conformed documents for distribution to the contractor in advance

of the start of construction. It is anticipated that construction will commence in late June 2023 with a formal groundbreaking scheduled tentatively for June 20<sup>th</sup> at the project site. The project is scheduled to last between 2 and 3 years. The private portion of the project is likely to start in early 2024 once the developer secures the necessary permits for their development from the state. Engineering staff will provide full time oversight of the public improvements and part time observation of the private work.

**Street Paving Program:** The 2023 annual street maintenance bid was awarded to Continental Paving in May. A kickoff with the contractor is scheduled for June 6<sup>th</sup> and it is anticipated that paving will begin the week of June 12<sup>th</sup> and run throughout the summer of 2023. Below is the list of streets to be paved under the 2023 program. Engineering staff has also developed a preliminary list of streets to be paved in 2024 that will be released later this year.

**LIST OF STREETS**

**Preliminary Street List and Repair Method**

Street	From	To	Avg. Width (ft)	Approx. Length (ft)	Pavement Thickness (in)	Repair Method
BROOKLINE AVE	WASHINGTON ST	FOURTH ST	20	900	4	Reclaim & 4" repave
CEDARBROOK DR	FOURTH ST	END	26	1090	2	2" overlay (1/2" mix)
FOURTH ST	WASHINGTON ST	BRIDGE	30	2480	1.5	Edge Mill & 1.5" overlay (1/2" mix)
IONA AVE	BROOKLINE AVE	CITY LIMITS	20	330	4	Pave gravel road
KENNEDY CIR	FOURTH ST	END	32	490	2	Edge Mill & 2" overlay (1/2" mix)
MITCHELL CT	CEDARBROOK DR	END	26	260	2	2" overlay (1/2" mix)
CRESCENT AVE	GLENWOOD AV	HORNE ST	32	1220	2	2" overlay (1/2" mix)
GLENCREST AVE	GLENWOOD AV	HORNE ST	32	1090	2	2" overlay (1/2" mix)
GROVE ST	SIXTH ST	ASH ST	32	1700	2	Edge Mill & 2" overlay (1/2" mix)
HELLMAN AVE	HORNE ST	END	14	240	1.5	1.5" overlay (1/2" mix)
HILLCREST DR	HOUGH ST	HILLCREST DR (N)	24	2510	2	2" overlay (1/2" mix)
HORNE ST	SIXTH ST	25' N OF ASH ST (E)	28	1260	1.5	1.5" overlay (1/2" mix)
HOUGH ST	HORNE ST	CENTRAL AV	28	1550	1.25	1.25" shim (1/2" mix)
MAPLE ST	SIXTH ST	350' N OF ASH ST	32	1900	2	Edge Mill & 2" overlay (1/2" mix)
CHESTNUT ST	WASHINGTON ST	BRIDGE (S)	46	460	2	Full-Width Mill & 2" overlay (1/2" mix)
LOCUST ST	CENTRAL AV	SILVER ST	32	2960	3	Full-Width Mill & 3" overlay (1/2" mix)
FAIRFIELD DR	SUNSET DR	HARTSWOOD RD	28	590	4	Reclaim w/ cement injection & 4" repave
SUNSET DR	BELLAMY RD	CATARACT AV (E)	24	1830	4	Reclaim w/ cement injection & 4" repave
OLD GARRISON RD	RABBIT RD	289 OLD GARRISON RD	14	1470	4	Pave gravel road
LEATHERS LN	BACK RIVER RD	KATIE LN	24	1030	4	Reclaim & 4" repave
RED BARN DR	BACK RIVER RD	END	20	560	1.5	1.5" overlay (1/2" mix)

**Hough Street Emergency Culvert Repair:**

Engineering staff has procured a precast concrete culvert to replace three failed corrugated metal culverts below Hough Street between Maple Ave. and Horne St. The precast structure is scheduled to be delivered to the City in early July and installed shortly thereafter along with some minor utility improvements. Notices to affected properties will be sent out in early June. This section of the road is expected to open prior to the end of July.

**Facilities Projects:**

**Fish Ladder Park:** Bids were opened on May 17th. Engineering staff is working with the selected contractor to schedule the proposed work to avoid disruption with planned 400<sup>th</sup> anniversary celebrations. The majority of work will occur in late summer 2023. Park improvements include new brick walkways, park bench pads, trash receptacles pads, and landscaping.



*Figure 6: Failed triple culvert below Hough Street.*

**Inspection Services:** The RFQ for the expansion of the 271 Mast Road facility house staff from Inspection Services has been released and scheduled for opening in mid-June. The City will be seeking qualifications from design build firms to address the needs identified in a space needs Assessment conducted by the Deputy City Manager in 2022. The goal is for Inspection Services to be moved into the expansion in the fall of 2024.



*Figure 7: New Skate Park Lighting*

**Skate Park:** Facility Project Manager is working with recreation staff to complete the new skate park located at Guppy Park. In late fall underground conduits were installed to bring power to all light poles around the park area, wires were pulled and lights installed on all light bases mid-May. A pre-construction meeting was conducted 6/5/2023, staff from Artisan Skateparks will start site layout the second week of June, with construction to follow. Construction is estimated to take 2-3 months, followed by site work finishes to be completed in early fall.

**Ice Arena Sprinkler Repairs:** During the summer of 2022, Capitol Fire Protection replaced all sprinkler main lines in both the Holt and Fosters rinks. During the testing period, after the installation of the new main lines many leaks were discovered. With an overlap of repairs and the ice being reinstalled for the 2022-23 skating season, the air temperature was too cold to add water to the system, it was determined that final testing would be completed in the spring of 2023. When the system passed all tests, a



nitrogen generator was installed to reduce moisture in the piping, reducing corrosion from the inside out. The final test was completed on June 1, 2023 and the system is operational.

**Permits:**

**Permit Summary for April 2023:**

Driveway Permits:	17
Utility Licenses:	3
Paving Licenses:	3
Excavation Permits:	31
C/O Inspections:	5
Obstruction Permits:	4



Figure 8: Sitework at residential project at 757 Central Ave.

**Site Review/Project Oversight Support:**

**Technical Review Committee:** Three projects came to TRC in May that required Engineering review:

- A 24 lot subdivision off Tolend Road
- A new community recreation building for the White Cliffs of Dover complex on Knox Marsh Rd.
- A new storage facility at 56 Sixth Street.

**Wastewater Review Summary for May 2023:**

Sewer Connection Permit:	1
Septic Design Reviews:	1

**Construction Oversight:** Engineering Technician, Jordan Chambers, continues to conduct oversight of approximately 63 private construction projects approved by the Planning Board. Projects that are underway or have been completed include:



Figure 8: Brick installation on the future Bluebird Storage on Littleworth Road.

- Bluebird Self Storage (Littleworth Rd.)
- 5-unit Residential Property (Rutland St.)
- Copley Commons (Leathers Ln.)
- Tiny Home Development (Back River Rd.)
- 9 Lot Subdivision (Porchlight Dr.)
- Copper Drive Subdivision
- Unitil John Davis Station (55 Applevale)
- Bellamy Rd. (Sophie Dr. & Banner Dr.)

**Other Staff News:**

Gretchen Young, PE Dover’s Environmental Projects Manager was a speaker and panelist at the New England Water Environment Association Stormwater Conference, focusing on the potential for watershed wide collaboration for stormwater management.

Gretchen Young, PE Dover’s Environmental Projects Manager was a presented at the New England Environmental Business Council, discussing the work that the Stormwater Funding Ad-Hoc Committee did.