

Northrop Grumman Groundwater Treatment System Well Preparation and Leak Detection Installation

Detailed schedule and work zone update

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William Street RW-20 Well Schedule Details





- 3/22 and 3/23:** Mobilization of drilling rig, support truck, and 20,000 tank. Site setup of equipment, including temporary chain link fencing. Close a portion of William Street westbound lane between N. Windhorst Ave and Broadway starting 3/22.
- 3/29 and 3/30:** Driller will collect sample from the well for laboratory analysis between 3/29 and 3/30. Lab analysis will be performed off-site.
- 4/12 and 4/13:** We will pump water from the tank to a tanker truck and transport to the NG site for disposal. Also, the concrete pad in the vault will be constructed.
- 4/14:** Gradually add potable water into the well overnight. The purpose of this step is to clear suspended sediments from the water column to allow for a clear video log.
- 4/15:** Video log the well.
- 4/18 to 4/20:** Well screen will be brushed, and sediments will be removed from the well. Once brushing completed, we will gradually introduce potable water into the well to allow for a post brushing video log.
- 4/20:** Second video log of the well (post brushing).
- 4/21 and 4/29:** Well re-development activities will be performed using a combination of chemical solution and mechanical agitation. We will test pump the well into the below grade pipe to the NG site. Following this work, we will perform a post development video log. This duration is estimated based on the well condition.
- 5/2 and 5/3:** We will clean out the tank and remove it from the work zone.
- 5/16 and 5/27:** Installation of permanent pump and controls in the well vault.
- 5/31 and 6/1:** Demobilization and site restoration and re-opening of the lane on William Street on 6/2.

William Street RW-20 Well Work Location

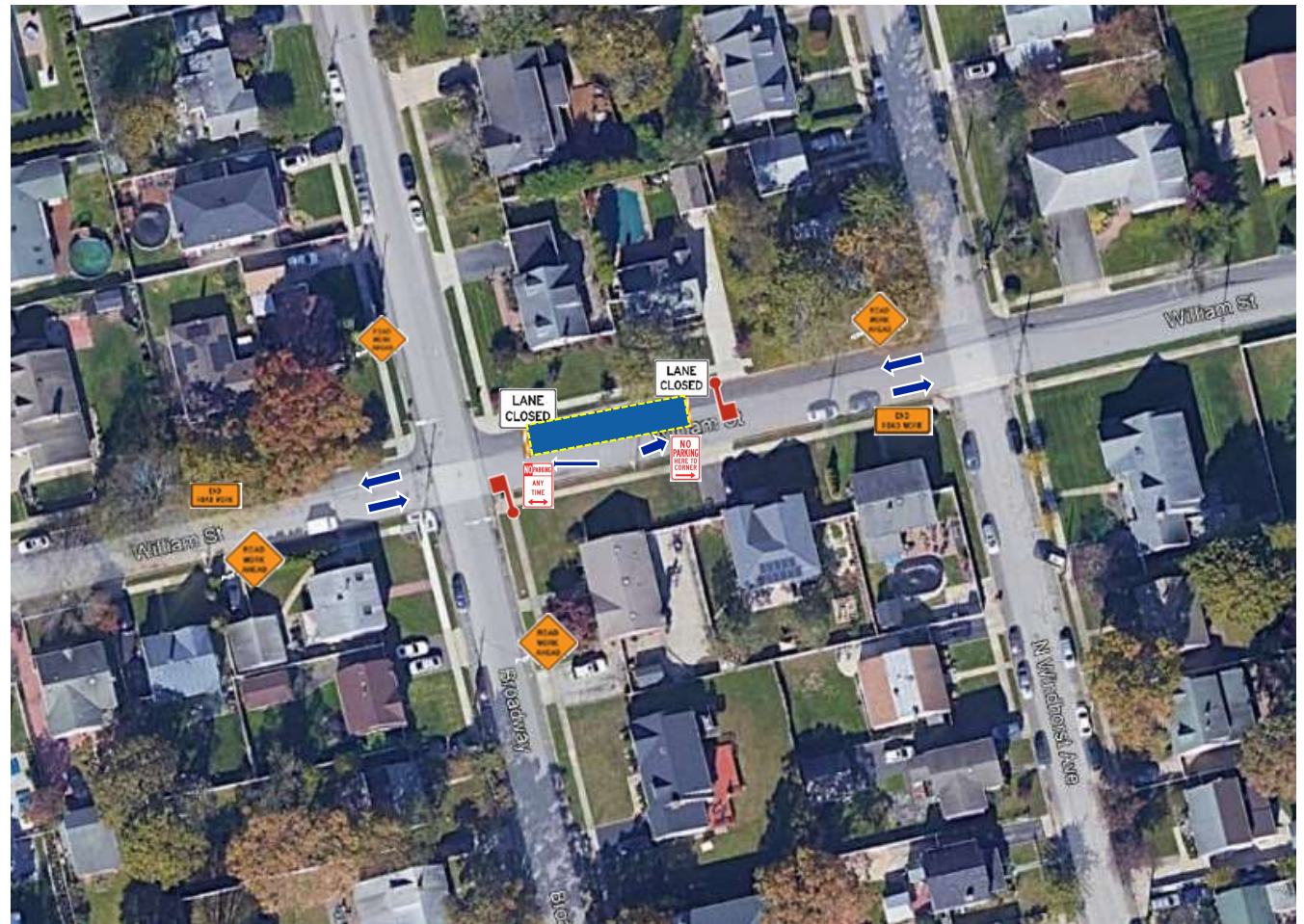


Chain link fence around work zone

William Street RW-20 Well Traffic Plan

-  Lane Closure / Workzone Location
-  Type III Barricade
-  Direction of Traffic
-  Flagger

NOTE: Flaggers to be on site during normal business hours to coordinate traffic movements. Otherwise, westbound William Street traffic to yield to eastbound traffic.



Seaman Avenue RW-21 Well Schedule Details

1. **3/28 and 3/29:** Mobilization of drilling rig, support truck, and 20,000 tank. Site setup of equipment, including temporary chain link fencing.
2. **4/1 and 4/4:** Driller will collect sample from the well for laboratory analysis between 4/1 and 4/2. Lab analysis is expected to be performed off-site. Tanker truck will remove water from the tank and transport to the NG site for disposal.
3. **4/8 and 4/11:** Concrete pad in the vault will be constructed
4. **5/2:** Gradually add potable water into the well overnight. The purpose of this step is to clear suspended sediments from the water column to allow for a clear video log.
5. **5/3:** Video log the well.
6. **5/4 to 5/6:** Well screen will be brushed, and sediments will be removed from the well. Once brushing completed, we will gradually introduce potable water into the well to allow for a post brushing video log.
7. **5/6:** Second video log of the well (post brushing).
8. **5/9 and 5/18:** Well re-development activities will be performed using a combination of chemical solution and mechanical agitation. We will test pump the well into the below grade pipe to the NG site. Following this work, we will perform a post development video log. This duration is estimated based on the well condition.
9. **5/19 and 5/20:** We will clean out the tank and remove it from the work zone.
10. **5/23 and 6/3:** Installation of permanent pump and controls in the well vault.
11. **6/6 and 6/7:** Demobilization and site restoration.

RW-21 Well Work Zone and Traffic Plan



NOTE: Public access to sidewalk to be maintained at all times

Utility Corridor RW-22 Well Schedule Details

1. **3/24 and 3/25:** Mobilization of drilling rig, support truck, and 20,000 tank. Site setup of equipment, including temporary chain link fencing.
2. **3/31 and 4/1:** Driller will collect sample from the well for laboratory analysis between 3/31 and 4/1. Lab analysis is expected to be performed off-site. Tanker truck will remove water from the tank and transport to the NG site for disposal.
3. **4/6 and 4/7:** Concrete pad in the vault will be constructed.
4. **4/15:** Gradually add potable water into the well overnight. The purpose of this step is to clear suspended sediments from the water column to allow for a clear video log.
5. **4/18:** Video log the well.
6. **4/19 to 4/20:** Well screen will be brushed, and sediments will be removed from the well. Once brushing completed, we will gradually introduce potable water into the well to allow for a post brushing video log.
7. **4/20:** Second video log of the well (post brushing).
8. **4/25 and 5/5:** Well re-development activities will be performed using a combination of chemical solution and mechanical agitation. We will test pump the well into the below grade pipe to the NG site. Following this work, we will perform a post development video log. This duration is estimated based on the well condition.
9. **5/9 and 5/10:** We will clean out the tank and remove it from the work zone.
10. **5/11 and 5/24:** Installation of permanent pump and controls in the well vault.
11. **5/25 and 5/26:** Demobilization and site restoration.

RW-22 Well Work Zone and Traffic Plan



NOTE: Two-lane, two-way traffic will be maintained on access road at all times

Equipment used in well preparation work zone



Well rig (no drilling)



Water Collection Tank



Water pump truck

Leak Detection System Installation Route

Week Ending 3/4/22

- Utility Corridor off Broadway and on Sophia St. (orange)

Week Ending 3/11/22

- William St, N Herman Ave, and Emma St. (blue)
- Verizon Pole CP-51 on S Sheridan Ave, Brenner Ave, S Pershing Ave, Stewart Ave, and Emma St. (green)

Week Ending 3/18/22

- Verizon Pole CP-51 on S Sheridan Ave, Brenner Ave, S Pershing Ave, Stewart Ave, and Emma St. (green)
- Hickey Blvd. (yellow) to Well 19

Week Ending 3/25/22

- Hickey Blvd. (yellow) to Well 19

Week Ending 4/1/22

- Seaman Ave. (white)
- Groundwater Treatment Facility on Northrop Grumman property. (red)



- Extraction wells
- Leak Detection Manhole
- ★ Groundwater Treatment Facility
- ▲ Air Release Manhole

Equipment used in leak detection work zone



Cable Truck

