

## Incident Response – West Point Treatment Plant

February 9 – March 9, 2017

Posted at <http://www.kingcounty.gov/depts/dnrp/wtd/response/incident-response.aspx>

### Thursday, March 9

Restoration activities are continuing around the clock at the West Point Treatment Plant by April 30. The plant is on schedule to resume full treatment capabilities by April 30. View [news release](#).

- About 70 employees are onsite daily working on a variety of projects on the critical path for wastewater treatment restoration.
- The first milestone – completing major cleanup operations throughout the plant and preparing the primary system for full function – was achieved on Feb. 28.
- Boiler systems critical for heat have been refurbished. All boilers are expected to be up and running by the end of next week. Crews have also installed a temporary boiler system that has been brought in is being wired this week and available for use as a back-up system beginning next week.
- Workers are replacing electrical switches and instrumentation panels.
- Treatment plant operators are carefully monitoring weather reports and will watch rainfall totals.
- If the volume of stormwater and wastewater flowing into the plant appears to approach the upper limit of the plant's current treatment capacity, plant operators will divert a portion of the flow coming to other wastewater treatment facilities and avoid an emergency bypass into Puget Sound.

### Tuesday, March 7

King County officials today announced details of plan to restore normal operation at West Point Treatment Plant beginning April 30, as well as the intent to commission an independent review of the sewer utility's operation and maintenance procedures. Forensic analysis pinpoints an unprecedented combination of electrical system failure and equipment malfunction as the cause of severe flooding that damaged the treatment plant during a storm in the early hours of Feb. 9.

View [news release](#).

### Friday, March 3

**4:05 p.m. update:**

View [news release](#).

- Restoration activities are continuing around the clock at the King County West Point Treatment Plant. There are approximately 45 people at the treatment plant today, March 3, who are continuing the wastewater treatment restoration effort.
- Crews have removed more than 95 percent of pumps for inspection, cleaning, rewiring and refurbishment. Temporary motor control systems are in place.
- Local electrical control stations and panels are being installed as they come in.
- Temporary lighting consisting of several hundred LED fixtures has been strung throughout all of the plant's tunnels where critical infrastructure repairs are being made.

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- Crews have removed damaged insulation from about 45 percent of the heated pipe network in the plant.
- Work continues on the essential task of restoring heat to West Point's secondary treatment system. Two boiler plants are undergoing refurbishment, and a temporary boiler is expected to come online next week. The boilers provide heat to the digester tanks that are the critical component of the secondary wastewater treatment process.

### Thursday, March 2

**6:17 p.m. update:**

View [news release](#).

- Fully staffed crews continue working to restore complete wastewater treatment capacity and function at King County's West Point Treatment Plant, where plant operators are carefully monitoring weather forecasts for rainfall totals that could exceed the plant's reduced treatment capabilities.
- There are approximately 60 workers at the treatment plant today, March 2, including 50 people who are dedicated to ongoing restoration work.
- Crews have removed more than 95 percent of all the pumps for inspection, cleaning, rewiring and refurbishment. Temporary motor control systems are in place.
- Instrumentation inspections and repairs continue, as do light fixture replacements. Temporary lighting has been in place throughout the plant to facilitate recovery work.
- Electrical panel replacement work continues, with contractor teams developing design and construction of the replacement panel structure.
- Repairs are also underway to the heating systems for the West Point Treatment Plant's secondary treatment process, which includes sludge digesters that must be maintained at a certain temperature. Boiler repair work is moving forward, and a portable boiler system will be in place for use beginning next week – another critical component of getting the plant's secondary treatment functioning again.

### Wednesday, March 1

**3:30 p.m. update:**

View [news release](#).

- No bypasses of highly diluted wastewater have occurred at the plant since Feb. 16.
- Light rain and snow showers are forecast through the end of the workweek and again early next week. No additional emergency bypasses are expected through the weekend.
- Progress continues on restoration, with about 60 employees and contractors onsite today to inspect and repair instrumentation panels and replace light fixtures. Temporary lighting has been in place throughout the plant to facilitate recovery work.

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- Crews are focused on repairing or replacing machinery that is part of the critical path for restoring full wastewater treatment at West Point.
- About 80 percent of all the various motors have been rehabilitated and temporary motor control systems have been installed.
- Electrical panel replacement work continues, with contractor teams developing design and construction of the replacement panel structure.
- Repairs are also underway to the heating systems for the West Point Treatment Plant's secondary treatment process, which includes sludge digesters that must be maintained at a certain temperature.
- West Point currently has capacity of providing limited wastewater treatment to roughly 250 million gallons per day. This is nearly twice the capacity needed to safely treat all of the stormwater and wastewater the plant receives on an average day for this time of year.
- The public and the media were notified of the progress.

### Tuesday, February 28

**4:30 p.m. update:**

View [news release](#).

- Fifty contractors and staff are today working on plant restoration. Ten contractors are completing cleanup work in isolated pockets of the plant.
- Activities include light fixture removal and inspection and repair of electrical panels. Temporary lighting has been in place throughout the plant to facilitate recovery work.
- The focus now is on repairing and rebuilding critical pumps and motors needed to restore the plant's primary and secondary treatment systems, and restoring boiler heat systems.
- West Point currently has capacity of providing limited wastewater treatment to roughly 250 million gallons per day. This is nearly twice the capacity needed to safely treat all of the stormwater and wastewater the plant receives on an average day for this time of year.
- Rainfall totaling one inch or more over two or three consecutive days in Seattle could lead to an emergency bypass of highly diluted stormwater and wastewater from the West Point plant.
- While rain and snow showers are forecast near the end of the workweek, and early next week, no additional emergency bypasses of stormwater and wastewater are likely in the near term.
- The public and the media were notified.

### Monday, February 27

**4:45 p.m. update:**

View [news release](#).

- The King County Council unanimously approved a motion that will allow the utility to waive the competitive bidding requirements on contractors needed to complete

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restoration and repair work. The County Council will retain oversight, and receive comprehensive quarterly reports on contractor progress and costs.

- Restoration work continues at the treatment plant, where no emergency bypasses into Puget Sound have occurred since Feb. 16.
- An estimated 40 workers were at the treatment plant each day over the weekend. Major cleanup operations are largely completed, which enables workers to safely access nearly all areas of the plant.
- Workers have removed about 80 percent of all the various motors that might have been damaged. Crews are replacing 10 or more motors every day.
- Contractor teams are working on the design and construction of electrical panel replacements.
- Weather forecasts over the next few days include rain and snow showers but not in amounts expected to trigger a bypass.
- West Point currently has capacity of providing limited wastewater treatment to roughly 250 million gallons per day, which is nearly twice the capacity needed to safely treat all of the stormwater and wastewater the plant receives on an average day for this time of year.
- The public and the media were notified about the progress and updates.

### Friday, February 24

Progress continues to be made at King County's [West Point Treatment Plant](#), where people are working 24 hours a day to restore the plant to full wastewater treatment capacity as soon as possible. Weather forecasts are calling for only light precipitation over the next several days, and emergency bypasses of highly diluted stormwater and wastewater from the plant are unlikely. View [news release](#).

- West Point currently has capacity of providing limited wastewater treatment to roughly 250 million gallons per day, which is nearly twice the capacity needed to safely treat all of the stormwater and wastewater the plant receives on an average day for this time of year.
- No bypass events of stormwater and wastewater have occurred since Feb. 16, and dry weather conditions make a bypass unlikely over the weekend.
- Crews are scheduled to work around the clock this weekend to complete cleanup of below-grade levels of the treatment plant, which are currently used for mechanical parts storage.
- Two teams of eight mechanics each are rehabilitating motors and pumps throughout the treatment plant. Motor replacement installation is currently at 85 percent completion.
- Electrical demolition and assessment is 55 percent complete plant-wide. Crews are draining and cleaning conduits throughout the facility, and the temporary heaters and blower systems that have been installed will help expedite this methodical work.

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- King County engineers are working on the design and replacement of electrical panels, and consulting engineers are assisting in electrical restoration throughout the plant.
- Heating, ventilation and cooling demolition work continues. Plant restoration leaders noted that these systems sustained significant damage throughout flooded portions of the treatment plant.
- The public and the media were notified.

### Thursday, February 23

#### *5:30 p.m. update:*

The work to restore full operations at the West Point Treatment Plant continues at maximum staffing levels around the clock. Light precipitation expected over the next several days suggests no emergency bypasses of stormwater and wastewater will be necessary from the treatment plant in the near term. View [news release](#).

- No emergency bypasses of stormwater and wastewater have occurred since Feb. 16.
- The probability of a bypass over the weekend is low. Weather forecasts predict little or no chance of precipitation Friday, with rain/snow showers expected Saturday and Sunday.
- West Point currently has capacity of providing limited wastewater treatment to roughly 250 million gallons per day. This is nearly twice the capacity needed to safely treat all of the stormwater and wastewater the plant receives on an average day for this time of year.
- Notable progress on treatment plant restoration continues as employees work around the clock. Work is being done carefully and methodically, with employee and contractor safety as the top priority.
- Additional cleaning and sanitizing is needed in the lowest below-grade levels of the treatment plant, which are currently used for mechanical parts storage. Plant managers plan to bring in 50 to 100 more workers this weekend to complete the work as soon as possible.
- Two teams of eight mechanics each are rehabilitating motors and pumps throughout the treatment plant.
- Electrical demolition and assessment is at 55 percent complete plant-wide. Temporary heaters, blowers and ventilation systems have been installed in the tunnels where a wide array of electrical and mechanical equipment is located. These temporary systems will help dry out the tunnels to expedite electrical restoration activities.
- King County engineers are working on the design and replacement of electrical panels, and consulting engineers are assisting in electrical restoration throughout the plant.
- The media and the public were notified..

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### Wednesday, February 22

#### **4:30 p.m. update:**

Workers continue to make steady progress in restoring full operations at the West Point Treatment Plant – and a favorable weather forecast for only light showers through the end of the week means there should be no need for additional emergency bypasses during that time from the treatment plant. View [news release](#).

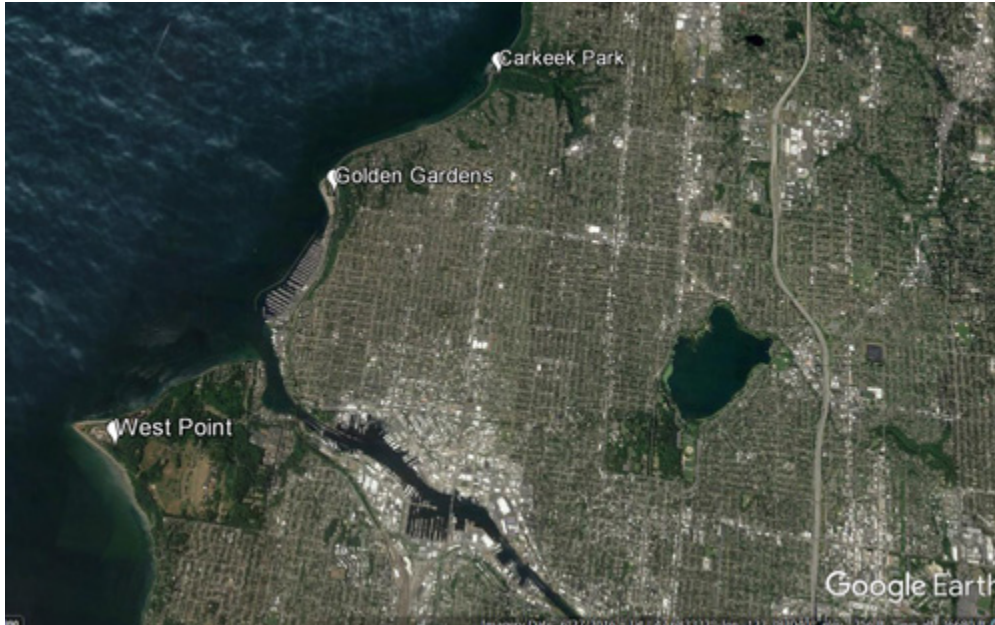
- No emergency bypasses since Feb. 16.
- Weather forecasts predict light precipitation over several days, meaning additional bypasses are unlikely.
- Wastewater treatment is continuing at the plant, including screening, some solids settling and disinfection.
- Crews have cleaned and sanitized about 95 percent of the treatment plant, and nearly all work will be completed by the end of the day on Wednesday, Feb. 22.
- Electrical and mechanical workers have been entering cleaned and sanitized areas as they come available to assess damage, and restore or replace damaged equipment.
- Employees and contractors continue working on electrical and mechanical systems, including removing and rehabilitating pump motors. About 50 percent of this work has been completed.
- Workers continue cleaning and dewatering electrical conduits throughout the plant, and additional equipment has been brought in to help dry areas where heavy condensation can slow electrical assessments.
- King County engineers are working on the design and replacement of electrical panels, and consulting engineers are assisting in electrical restoration throughout the plant.
- The public and the media were notified.

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[Water quality monitoring sampling data](#) (2/9 - 2/21) . Sampling locations: near West Point in Discover Park, Golden Gardens, and Carkeek Park.



### Tuesday, February 21

**2:40 p.m. update: Discovery Park and Golden Gardens beaches are now open. View [news release](#).**

- Crews have cleaned and sanitized about 95 percent of the treatment plant, and this work is scheduled to be completed by Wednesday, Feb. 22.
- Beaches were reopened at Golden Gardens and Discovery Park.
- Employees and contractors continue working on electrical and mechanical systems, including removing and rehabilitating pump motors, in cleaned areas of the plant. About 50 percent of this work has been completed.
- Electrical and mechanical workers have been entering cleaned and sanitized areas as they come available to assess damage, and restore or replace damaged equipment.
- King County engineers are working on the design and replacement of electrical panels, and consulting engineers are assisting in electrical restoration throughout the plant.
- The current weather forecast through the end of the workweek calls for scattered showers and low precipitation totals that are well below the 24-hour rainfall threshold that might trigger an emergency bypass.
- The public and the media were notified.

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### Monday, February 20

#### **6:00 p.m. update (revised):**

King County employees and contractors continue making progress around the clock on restoration work at the West Point Treatment Plant. View [news release](#).

- No emergency bypasses since Feb. 16. Current weather forecast calls for scattered showers and precipitation totals below the 24-hour rainfall threshold that might trigger an emergency bypass.
- About 65 workers are on site doing restoration activities including cleaning, inspection, and pulling contaminated equipment. Cleaning is on schedule for completion on Feb. 21.
- About 50 percent of the work on electrical and mechanical systems, including removing and rehabilitating pump motors, is complete.
- Engineers are working on the design and replacement of electrical panels, and consulting engineers are assisting in electrical restoration throughout the plant.
- Water quality sampling continues along beaches north and south of the lighthouse at Discovery Park and at Golden Gardens Park. Signs will be removed once bacteria levels are determined to be low by the Public Health - Seattle & King County.

[Water Quality Monitoring Update](#) and [sampling data \(2/9 - 2/18\)](#). Sampling locations: near West Point in Discover Park, Golden Gardens, and Carkeek Park.

### Sunday, February 19

#### **5:00 p.m. update (revised):**

King County employees and contractors continue making progress around the clock on restoration work at the West Point Treatment Plant, and no emergency bypasses of highly diluted stormwater and wastewater have occurred at the plant since early on Thursday, Feb. 16. View [news release](#).

- No emergency bypasses have occurred at the plant since early on Thursday, Feb. 16.
- Rainfall amounts of one inch or more during a 24-hour period in Seattle could lead to an emergency bypass. Plant managers are carefully watching weather forecasts for Monday, Feb. 20.
- Crews cleaned and sanitized 80 percent of the treatment plant. In areas that have already been cleaned and sanitized, they've conducted damage assessments as part of developing a restoration plan for the treatment plant.
- King County continues to monitor daily basis progress in effort to set a target restoration date.
- About 35 percent of electrical and mechanical work, including removing and rehabilitating engines, has been completed.



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- Beach closure signs remain posted north and south of the lighthouse at Discovery Park, and at Golden Gardens Park. Signs will be removed once bacteria levels are determined to be low by the Public Health - Seattle & King County.
- King County engineers continue working on the design and replacement of electrical panels, and consulting engineers are assisting in electrical restoration throughout the plant.
- Public and media notified with information and updates.

[Water Quality Monitoring Update](#) . Sampling locations: near West Point in Discover Park, Golden Gardens, and Carkeek Park.

### Saturday, February 18

#### **5:00 p.m. update:**

Restoration work continues around the clock at the West Point Treatment Plant, which is treating wastewater. No emergency bypasses are anticipated under current weather forecasts for the next 24 hours. View [news release](#).

[Water Quality Monitoring Update](#) . Sampling locations: near West Point in Discover Park, Golden Gardens, and Carkeek Park.

### Friday, February 17

#### **3:30 p.m. update:**

[Water Quality Monitoring Update](#). Sampling locations: near West Point in Discover Park, Golden Gardens, and Carkeek Park.

### Thursday, February 16

#### **4:30 p.m. update**

West Point Treatment Plant has not bypassed flows since 6:30 a.m. Feb 16 since heavy rain subsided. The plant was in partial emergency bypass mode from 4 p.m. Feb. 15 to 6:30 a.m. Feb. 16. We do not yet have volume estimates for that period at this time.

We continue to operate the facility at about 50 percent of normal capacity, and are able to provide primary treatment for about 250 million gallons a day.

We've transitioned from cleanup and sanitization, followed by damage assessment, to detailing what repairs are needed as part of our recovery plan.

We already know that we need to replace more than 200 pump engines within the facility, and more than 100 various electrical panels. This list is likely to grow.

We also know that full restoration of the plant is likely at least several weeks away. Until that time, we will continue to carefully operate the facility in a safe manner, maximizing our ability to redirect flows to satellite treatment facilities.

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### Wednesday, February 15

Heavy rains early Wednesday morning, Feb. 15, caused a partial bypass of combined wastewater and stormwater flows to Puget Sound at the West Point Treatment Plant. The plant is operating at about 50 percent capacity since a storm last week led to a power failure and flooding in portions of the facility. View [news release](#).

### Tuesday, February 14

[Water Quality Monitoring Update](#) . Sampling locations: near West Point, Golden Gardens, and Carkeek Park.

### Monday, February 13

[Water Quality Monitoring Update](#) . Sampling locations: near West Point, Golden Gardens, and Carkeek Park.

### Saturday, February 11

[Water Quality Monitoring Update](#) . Sampling locations: near West Point, Golden Gardens, and Carkeek Park.

### Friday, February 10

**3:45 p.m. update:** King County crews are working to resume normal wastewater treatment operations at the West Point Treatment Plant after an equipment failure during a heavy rainstorm led to a shutdown at the facility early on Thursday, Feb. 9. View [February 10, 2017 news release](#).

[Water Quality Monitoring Update \(revised\)](#) . Sampling locations: near West Point, Golden Gardens, and Carkeek Park.

**4 a.m. update:** Major emergency response efforts are continuing at King County's West Point Treatment Plant.

Wastewater flows continue to be sent through the treatment plant and are no longer being discharged through the emergency bypass system. Flows going to Puget Sound are disinfected. Water quality monitoring is ongoing.

Some wastewater flows are still being diverted to other County facilities for treatment to ensure systematic, safe restoration of equipment function at West Point Treatment Plant. Flows may be restored to West Point later this morning.

King County will continue providing updates as work to restore full operations at West Point continues.

### Thursday, February 9

**9 p.m. update:** Major emergency response efforts are restoring wastewater treatment operations at King County's West Point Treatment Plant.

Wastewater flows are now being sent through the treatment plant and are no longer being discharged through the emergency bypass system.

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Some wastewater flows are still being diverted to other County facilities for treatment to ensure systematic, safe restoration of equipment function at West Point Treatment Plant.

**5 p.m. update:** King County has mobilized crews and equipment to respond to flooding at the West Point Treatment Plant, which experienced an equipment shutdown early on Thursday, Feb. 9. Plant managers are diverting as much flow as possible to other treatment plants in the regional system. West Point continues operating in emergency bypass mode. View updated (5 p.m.) [February 9, 2017 news release](#).

**Morning update:** King County's West Point Treatment Plant experienced an equipment shutdown early on Thursday, Feb. 9, while receiving maximum inflows of combined wastewater and stormwater and during very high tides that threatened to flood the treatment plant. The plant is currently operating in emergency bypass mode until the equipment can be put back into normal operation. View [February 9, 2017 news release](#)

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