

HUMBOLDT STATE UNIVERSITY

Facilities Management

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Standard Operating Procedure: PO007-151113

Title: Kinesiology & Athletics Building Pool Filter Backwash

The Kinesiology & Athletics Building pool filters shall be backwashed per the procedure outlined below:

Scheduling

1. The filters shall be backwashed when the differential pressure (DP) across the filter media is more than 10 psi. DP shall not be allowed to exceed 15psi during pool operation.
2. The Building Service Engineer assigned to the pool shall determine when a filter backwash is needed and notify the Chief Engineer.
3. The Chief Engineer shall schedule the backwash date and time in coordination with Environmental Health & Safety, the City of Arcata and Parking & Commuter Services.
 - o When scheduling with the City of Arcata, ensure the City-metered parking stall located directly below the monitored manhole can be barricaded and the City will notice such for the public. Coordinate with Parking & Commuter Services for required barricades.
 - o Backwashes shall be scheduled such that the pool will be unoccupied throughout and for four hours immediately following the completion.
4. A minimum of two Facilities Management employees shall be present during the operation. Shift schedules shall be adjusted in accordance with the current collective bargaining agreement if needed to accommodate the backwash schedule.

Backwash Operation

Facilities Management employees will be assigned a specific responsibility and must follow these steps to successfully complete the backwash:

Employee #1 (Pool Filter Operator)

- Clean all in-deck skimmers and in-line strainer in the pump pit. This can be done a day in advance.
- Ensure a sanitary sewer overflow kit is on-site and provide to the Manhole Observer for emergency use.
- Ensure the pool water is at maximum level.
- Ensure the pool cover is off throughout the backwash. Remove if necessary.
- Push the “backwash” button on the Becsys controller and follow prompts to confirm.
- Observe filter diaphragm valves for proper operation. Filters will backwash in sequence, starting with filter #1.
- Observe filter media at each location to ensure the sand lifts properly and is not washed out of the tank.
- Confirm each filter’s valve closes and the subsequent filter’s valve opens after each cycle.

- Confirm the make-up water valve opens when the pool level drops below ½” from maximum. Manually operate the fill-level float to ensure proper operation.
- Once all three filters have backwashed, ensure all valves return to their normal positions and the make-up valve continues filling.
- If the pool is cloudy following the backwash, add 1/3 gallon of SeaKlear clarifier leaving the cover off a minimum of four hours. Otherwise, re-install the pool cover.

Employee #2 (Manhole Observer)

- Prior to and during the operation, place barricades around the manhole and the parking stall below the affected manhole to prevent unauthorized entry and ensure safety within the observation/work area. Ensure use of appropriate lighting, as needed, and the sidewalk area remains safe for pedestrians.
- Maintain radio contact with the Pool Filter Operator and actively observe flow levels at the Union Street/Gymnasium Lane sanitary sewer manhole.
- Ensure the manhole lid is removed to allow visibility to the bottom of the manhole. If the sanitary sewer flow reaches a level of more than two feet above the bottom of the manhole as determined through the use of a story pole or by observing flow level exceeding the designated high line within the manhole, immediately direct the Pool Filter Operator to stop the backwash.
- Deploy use of the sanitary sewer emergency spill kit as needed.
- Following completion, check all sanitary sewer manholes downstream of the monitored manhole to verify whether or not there is any evidence of spillage or high flow levels. Follow the University’s Sanitary Sewer Response Procedure if any spillage is observed; ensure high flow levels are reported.

If the backwash is stopped prior to spillage due to flow restriction in the manhole, abandon the backwash and contact Work Control who shall inform the Chief Engineer (or designee), the Building Maintenance Manager and Environmental Health & Safety. The Chief Engineer or designee will then contact the City of Arcata and coordinate efforts to remove the blockage.

If after normal operating hours, contact the appropriate manager per the After Hours Emergency Call Out Procedure. This individual shall be responsible to contact Environmental Health & Safety as well as the City of Arcata as soon as possible during the next working day.

If the manhole or any other sanitary sewer location overflows, immediately follow the steps outlined in the University’s Sanitary Sewer Overflow Response Procedure.

References

- University Sanitary Sewer Overflow Response Procedure
- FM001 After Hours Emergency Call Out Procedure