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MEMORANDUM

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TO: INSTRUCTOR RADECSKY

FROM: TANYA GARCIA

SUBJECT: FIELD TRIP TO ARCATA WASTEWATER TREATMENT PLANT

DATE: NOVEMBER 22, 2013

Purpose

The purpose of this memorandum is to review information learned on a field trip I attended with my Engineering 115 class on Friday November 22nd, to the Arcata wastewater treatment plant. The information described will be about the tour itself and how a wastewater treatment plant works. It will also include a paragraph addressing the most interesting thing I learned on the tour.

Discussion

My class and I began our field trip by meeting one of the plant operators, Grant. He led us to a map where he showed us the layout of the treatment wetlands, the marshes and the discharge of treated water back into the bay. Grant pointed out that most of the machinery was in the center, which includes headworks, the primary clarifier, a digester for treated sludge and a chlorification station. After he thoroughly described what each machine did we began to walk on top of a clarifier where we were able to see the marshes in the distance and the water rushing beneath our feet. We then learned about how the plant manages its sludge and we were even able to take a fresh whiff. Once the sludge is in the digester the remaining water is sent to oxidation ponds and ultimately to the treatment wetlands, better known as marshes.

For the second half of the trip we walked on foot trails that were woven between the oxidation ponds. As we walked, Grant taught us about the behavior of native birds and told us stories of different tactics that were used as attempts to scare them away. Grant led us to the edge of the oxidation ponds, where he had a plexiglass bed of plants that grew in the ponds. He told us microorganisms that live in the ponds cleaned the water by eating the pollutants and that the plants played a role in maintaining the biochemical oxygen demand. Once he finished explaining, we walked past the chlorination and dechlorination processing machines and ended up back at headquarters. My class said its goodbyes to Grant as instructor Radecky gave us a mini tour of the marshes and lead us back onto the bus.

Conclusion

In conclusion, the field trip to the Arcata wastewater treatment plant was beneficial because I was able to see what I learned in class applied in real life. I'd have to say that what I found most interesting was the amount of people that it took to operate the plant. Grant told us that about 5 of them worked there, which caught me completely by surprise. Since the plant treats such an immense amount of water, I would assume that it would take a larger staff to maintain it. Overall, I'm very grateful that I was able to have this experience.