

City of Portsmouth

Department of Public Works



MEMORANDUM

DATE: August 26, 2016

SUBJECT: **Response to Comments and Questions from the August 17, 2016 Public Hearing on Historical Resource Mitigation for the Peirce Island Wastewater Treatment Facility Upgrade**

On August 17, 2016, the City held a public meeting to take public comment concerning historical resource impact mitigation for the Peirce Island Wastewater Treatment Facility (WWTF) Upgrade. During the course of that meeting, questions and concerns were expressed on a variety of aspects of the upgrade. Two edits are proposed for the draft Memorandum of Agreement: (1) the time in which the social history report is produced as part of stipulation B that will be posted on the website, changing it from 90 to 180 days; and (2) clarifying that anonymous reports of concerns will be accepted.

The City responds generally to other questions and concerns:

Residents are concerned that vibration from construction vehicle traffic will cause damage to structures.

Although the City does not anticipate damage to homes from construction vehicle travel, a homeowner who believes damages have occurred to property as a result of construction activity of any type, should report it as soon as possible to the City of Portsmouth so that the claim may be forwarded to appropriate insurance carriers and investigated, and to allow the City to evaluate what if any actions need to be taken to manage the construction impacts. All claims of damage and concerns may be reported to the Peirce Island Wastewater Upgrade Project Manager, Donald Song at 603-610-7305 or dsong@cityofportsmouth.com. A project Complaint Report Form can be obtained at

<http://www.portsmouthwastewater.com/upgradeproject/ComplaintReportForm.docx>

As presented at the August 17, 2016 meeting, damage from vibration from construction vehicle travel is not anticipated. This topic is addressed in a report submitted to the Division of Historical Resources. The excerpt from that report on the topic of vibration may be viewed at the end of this memo. That stated, the City has engaged both a safety consultant and a vibration consultant to establish and update practices as needed through the course of the project to address safety and vibration concerns, which may include limiting speed, inspecting travel routes routinely for potholes and deterioration, and taking provisions to control dust.

The City does not anticipate conducting a pre-construction survey of homes along the truck route. The use of a photographic record may determine if any changes to a structure have occurred from a fixed point in time to the time the change is noted. However, a photographic

record does not establish the cause of the change in the structure. Buildings age, the ground freezes and thaws, storms come and go, and during the four (4) year construction period the streets will continue to operate as public thoroughfares. Homeowners should make their own assessment whether to create any preconstruction photographic record recognizing that the ultimate question is causation for the observed change. What the City does encourage is that homeowners report on any potholes or other road deterioration along the truck route.

Residents had questions and concerns relative to the Historic District Designation.

The Memorandum of Agreement, which was the subject of the hearing, was prepared to satisfy the requirements of the National Historic Preservation Act relative to the adverse effect of the Peirce Island WWTF Upgrade project on the Sludge Processing Building. The Historic District Designation is a separate effort by the Division of Historic Resources (DHR). The draft designation was the subject of a public hearing on June 28, 2016. The draft inventory of historic structures erroneously identified all of the Peirce Island Wastewater Treatment Facility structures as being older than 50 years. The City has provided DHR with correct information as to building ages and uses. Only the Sludge Processing Building is older than 50 years. Further information on the Historic District Designation and its development can be found here www.planportsmouth.com/nationalregisternomination.html.

Is Methuen Construction qualified?

Methuen Construction is a reputable contractor that passed a pre-qualification process which included evaluating their performance and legal disputes on past projects. They have worked with the City in the past without incident and the completed work has been of high quality. It is not unusual that general contractors with significant experience in the industry have some history of disputes.

References for Methuen's past performance were checked in Nashua, NH, Lewiston, ME, and Westborough, MA. All of the references were excellent. The references noted that Methuen does high quality work, works to build a team atmosphere, and looks ahead to address potential problems. Methuen completed last year the Primary Clarifier and Gravity Thickener Replacement project at the Peirce Island WWTF. Work under this project was completed early, under budget, and professionally. Methuen has also been directly hired by the City for past work at the Mechanic St. Pump Station and Pease WWTF. AECOM has also worked with Methuen on projects in Westfield, MA, Upton, MA, Rockport, MA, Amesbury, MA and Lawrence, MA. All of these projects went well. Lastly, AECOM contacted Falmouth, MA, which has been referenced as one of the locations where Methuen has had a poor record. It was reported that the prior dispute was resolved amicably, that Methuen is currently under contract with Falmouth to construct their new water treatment plant, which is on schedule and the Town is satisfied with their performance.

Will there be impact on the remains of Fort Washington?

No, there will be no impact on the remains of Fort Washington. There will be provisions in place so that no work will be performed at the remains of the Fort.

Is Methuen Construction adequately insured?

Yes, in addition to commercial general liability and automobile policies, Methuen has a \$15 million umbrella policy. It also maintains pollution liability coverage as well as workers compensation coverage. The City also maintains insurance coverage.

Will there be a risk to employees or others when PCB buildings are demolished or re-used?

The plan to remediate PCBs in the Sludge Processing Building was developed in accordance with EPA regulations, and the plan has been approved by EPA. Risks will be managed in accord with approved plans.

How may archaeological documents be accessed?

They may be reviewed in the City's Legal Department.

Will idling of trucks and their emissions affect homes?

No. When the Peirce Island Bridge repairs are completed in September, there will be a reduction in idling.

Should the term of the MOA extend greater than five years?

No, five years more than covers the expected period of construction and is sufficient time for the City to complete the stipulations set forth in the MOA. This is standard practice. Note that the MOA does not impair or affect any rights a homeowner may have to make a claim for damages.

Will there be an alternative off-leash dog area during construction?

The City is currently working on an alternative dog park that will be unveiled shortly.

PROPOSED CONSTRUCTION TRAFFIC (Provided by AECOM)

Traffic to and from the construction site is to follow a prescribed traffic route shown in Figure 2, which is excerpted from the Contract Documents. Construction is expected to begin in July 2016 and continue approximately four years through summer 2020. All construction vehicles will follow the red arrows shown on Figure 2 from Interstate 95 to the construction site. The majority of vehicles will return to the highway via the green arrows. A small minority of construction vehicles will be too long to navigate the turn from Marcy Street onto Court Street and will be required to follow the black arrows through the Strawberry Banke parking lot and onto Hancock Street.

The number of construction trucks that the project is projected to add to the prescribed traffic routes has been estimated. On average, the construction is estimated to add approximately 13 round trips per day although the number of trips to and from the site will vary over the course of the roughly four year construction period. Over the course of construction, approximately 10,000 to 12,500 construction trucks are estimated to make a trip to and from the site. Figure 3 below displays the estimated average daily truck traffic during each month of the construction period. As shown in the figure, the estimated average daily truck traffic ranges from a low of approximately three round trips per day to a high of roughly 46 round trips per day.

The traffic volumes presented in Figure 3 represent average daily truck traffic. Depending on construction activities, there will be periods of time each month when fewer or greater than the average number of trucks travel to and from the site. The peak number of construction trucks has been estimated and ranges from four round trips per day to 69 round trips per day.

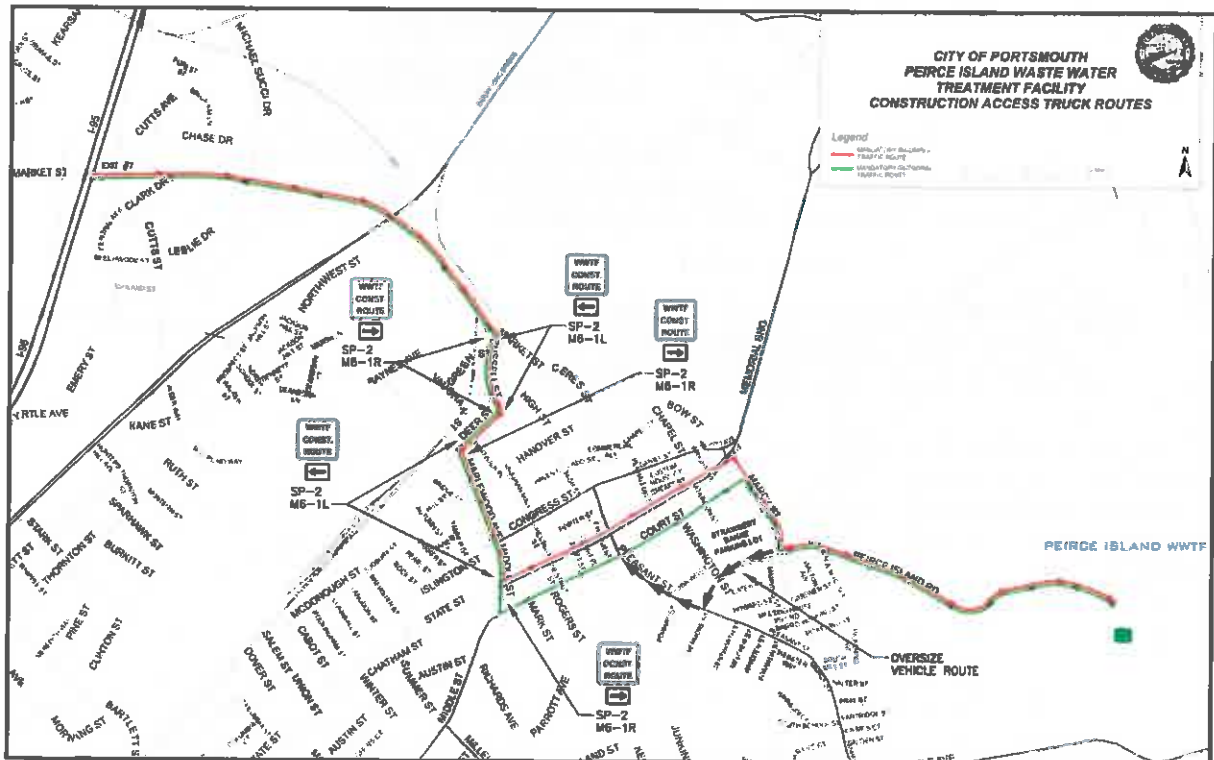


Figure 2. Proposed construction traffic routes.

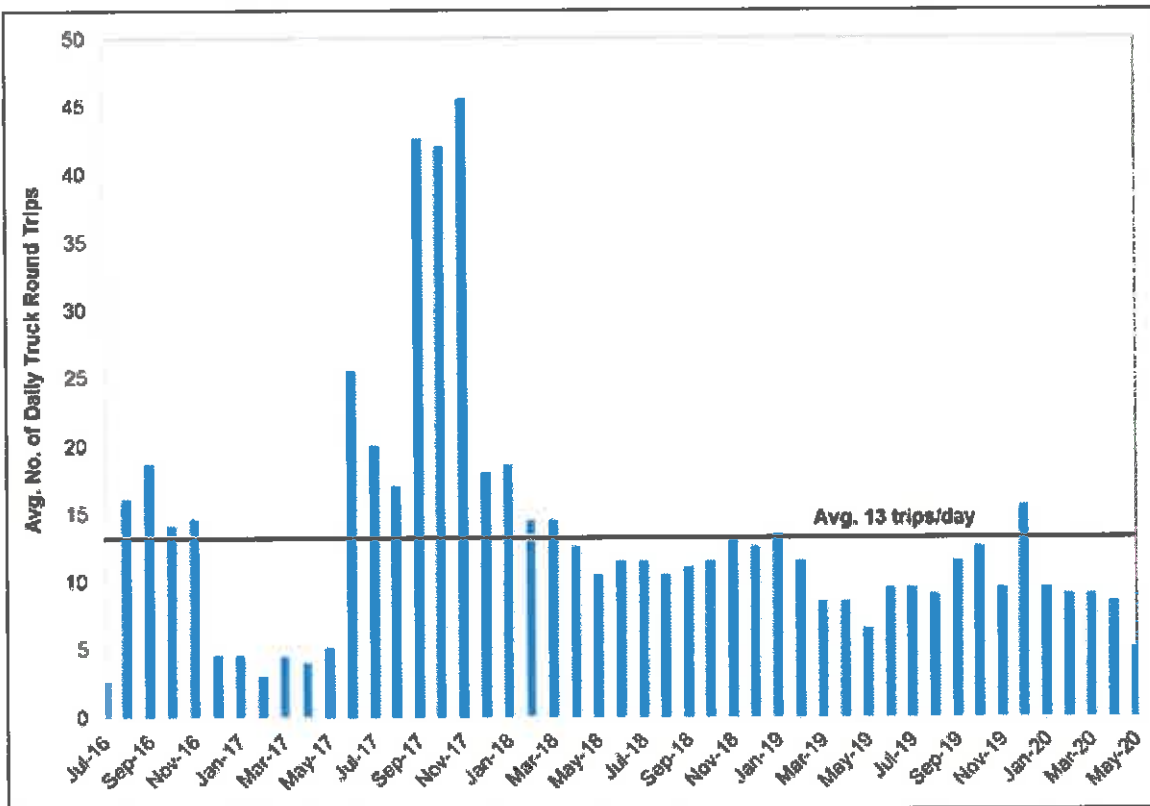


Figure 3 - Estimated average daily truck round trips by month.

The estimated truck traffic associated with the construction of the WWTF has been compared to the existing traffic volume on the streets along the truck route. Figure 4 below displays the current traffic volume on these streets during the summer, which is when Portsmouth experiences its highest volume of traffic.

Figure 5 displays the estimated increase in current traffic volumes due to the construction traffic. The increase shown in Figure 3 represents the estimated increase due to the peak day of construction traffic over the summer condition traffic volumes. The percentage increase ranges from less than 1% to 5.5%.

Concerns have been raised that the vibration from the construction trucks will have adverse impacts on the historic resources along the truck route. Although perceptible vibrations can generate annoyance, vibration impacts of most concern are related to structural damage, especially for the fragile historic structures along the truck route of this project. The primary reference for assessing vibration impacts from surface transportation vehicles in the US is published by the Federal Transit Administration (Hanson, C.E., Towers, D.A., and Meister, L.D. Transit Noise and Vibration Impact Assessment, Report Number FTA-VA-90-1003-06. Washington, DC: Federal Transit Administration, May 2006). According to Section 12.2 of this FTA guidance document, vibration levels capable of damaging building structures are much higher than those that cause annoyance, and sources capable of generating vibrations causing structural damage are normally limited to heavy construction activities closeby such as impact pile driving and blasting. Levels capable of producing structural damage can only be generated by sources

rigidly coupled to the ground, with ground materials carrying vibrational energy to building foundations and building foundations then channeling vibrational energy through building structures.

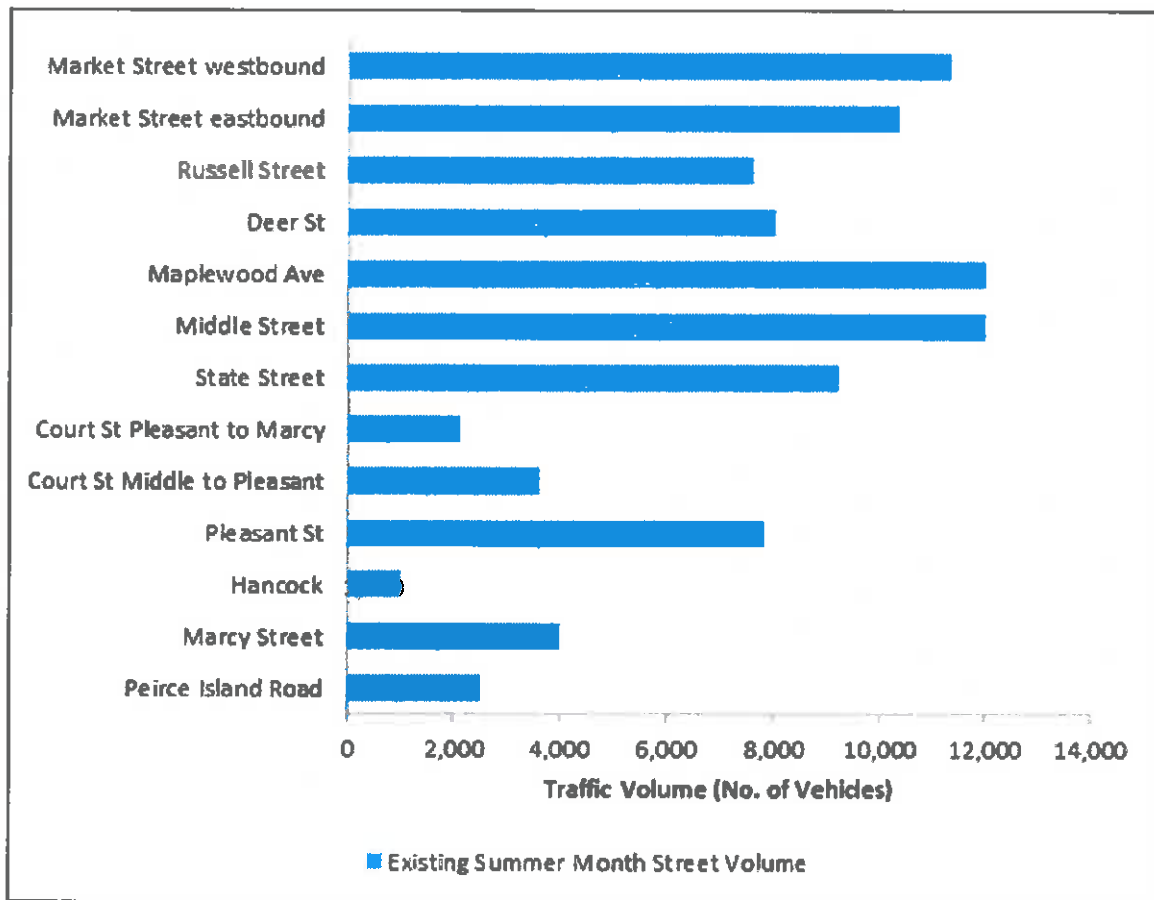


Figure 4 – Summer condition traffic volumes.

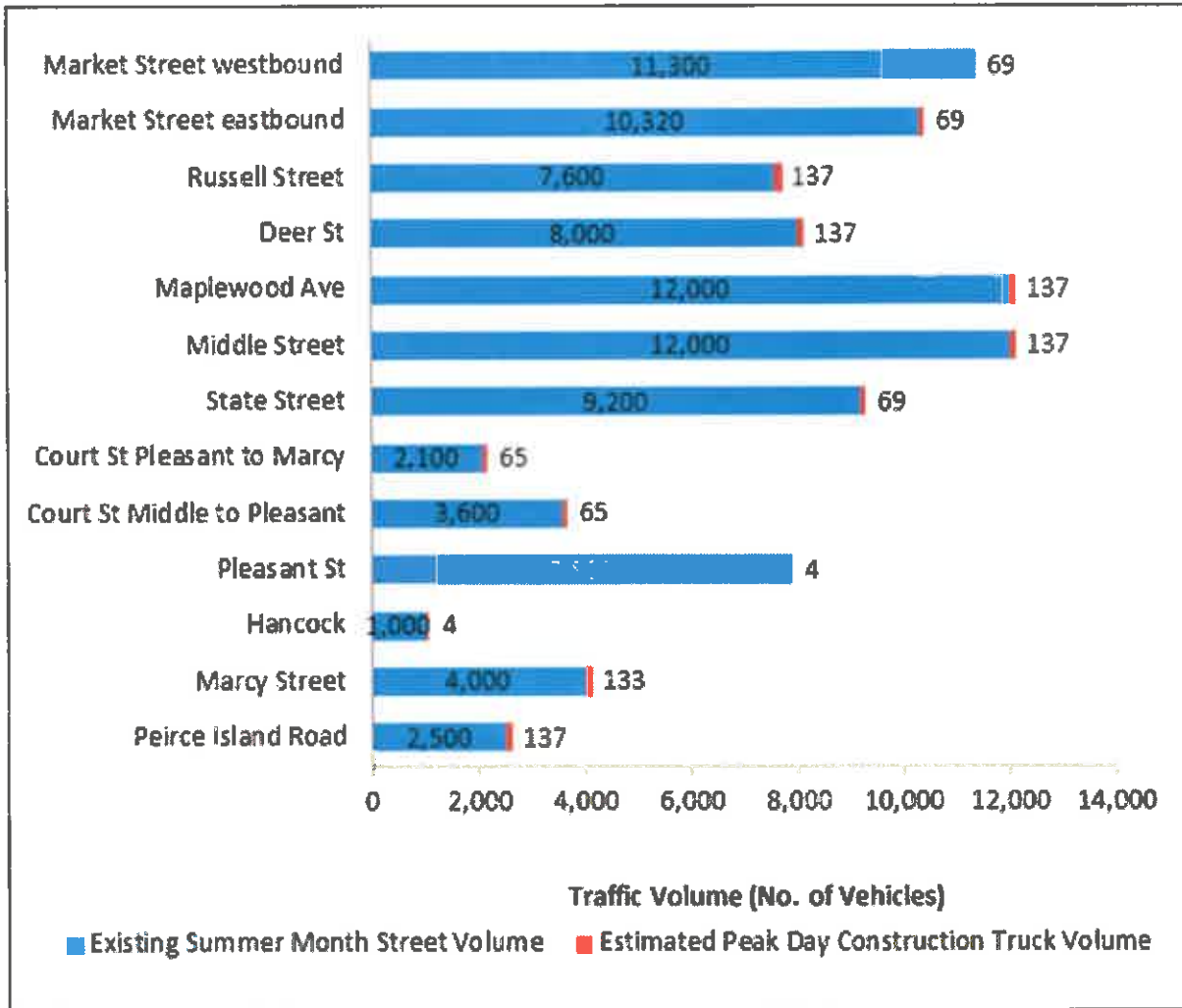


Figure 5 – Summer condition traffic volumes with estimated peak day construction traffic.

According to Chapters 7 and 12 of the FTA guidance document referenced above, passing trucks on roadways are typically not capable of generating vibration levels that cause structural damage to buildings because they are coupled to the ground by rubber tires and suspension systems that isolate the transfer of vibrational energy to the ground. Truck-related vibrations can be elevated when the vehicles travel over uneven surfaces, potholes, bumps, expansion joints, or other discontinuities in roadway surfaces. Otherwise, the vibrational issues related to passing trucks are rattling windows or hanging pictures caused by low frequency airborne sound rather than ground-borne vibration. These types of excitations are not considered to be capable of generating levels that would cause structural damage to buildings. In any case, the trucks that are planned to be used for this project are similar in size to trucks currently traveling along the same streets as those that will be used for this project, accounting for an increase in overall traffic volume of less than 6%, with the majority of truck trips occurring between 7:00 AM and 3:00 PM. Therefore, although temporary annoyances may occur from passing trucks through residential communities, the potential for damage to any structures from these activities is not anticipated