Lake Oswego · Tigard Water Partnership
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Brown AND Caldwell

Water Treatment Plant Project

Submittal Section 14A

Construction Management Plan

CONTENTS

1.0 Introduction

The Lake Oswego-Tigard Water Partnership (Partnership) program includes increasing the capacity of the Lake Oswego Water Treatment Plant (WTP) located in the City of West Linn.

This Construction Management Plan (CMP) discusses the construction activities, potential impacts, and impact mitigation measures to be employed during construction of the WTP.

This is an update to the WTP CMP submitted to West Linn dated March 29, 2012. It includes updated information to reflect the advancement of the design and planning process since then. Pertinent changes are summarized below.

1. **Project Schedule:** The timeframe for construction has been delayed 2 to 3 months to allow for consolidated review of the WTP and RWP/FWP land use applications. Major construction activity at the WTP site is anticipated to begin in May or June 2013. The estimated construction duration for the WTP project remains the same, approximately 32 months. The construction duration may be reduced as more information becomes available during the WTP design and permitting process. A simple graphic representation of the schedule is shown in Section 3.0 of this CMP.
2. **Traffic Control Planning:** A Traffic Control Strategy Memorandum (TCSM) specific to the WTP project is included in Submittal Section 14B of this land use application. The memorandum, prepared by DKS, Inc., identifies mitigation measures for the potential impacts to transportation networks during WTP construction. It includes an inventory of the existing transportation network and traffic volume in the project vicinity and considers the additional vehicular trips associated with constructing the WTP project. The analysis concludes that the existing transportation network capacity is adequate to address the incremental additional construction traffic volume required for WTP construction. Traffic impact mitigation is also discussed in Section 5.1 of this CMP.
3. **Construction Impact Mitigation:** This CMP provides additional information about specific construction impact mitigation measures that are of mutual interest to the Partnership, West Linn, and the surrounding neighborhood. The Partnership is dedicated to enforcing these measures and will include appropriate provisions in the WTP construction contract. The proposed construction mitigation measures are described in Section 5.0 of this CMP.
4. **Tree Removal:** The Partnership will remove existing trees as authorized by West Linn. Tree removal is anticipated to occur during January and February 2013 to avoid the migratory bird nesting season.

2.0 Project Overview

The WTP facility must continue to produce safe drinking water in adequate quantity for City of Lake Oswego residents and wholesale customers throughout project construction. Meeting this objective is imperative and dictates the sequence of demolition and construction activities contributing to the 32-month construction period.

The majority of existing plant facilities will be replaced with new facilities, constructed to meet modern codes and standards, including modern seismic standards. For example, the site-specific seismic hazard analysis performed for the project identified the need for new structures to be supported on pile foundations. The project schedule discussed herein considers the activities and time required to meet modern standards including installation of pile foundations. The existing Operations Building will remain a part of the proposed WTP facilities and will be upgraded accordingly. The two eastern sludge lagoons will also be retained as part of the proposed WTP facility. The lagoons will be repurposed for infrequent in-plant water storage purposes.

3.0 Construction Schedule

The WTP construction schedule is presented in Figure 14A-1. With the project construction anticipated to start during the May–June 2013 timeframe, the figure indicates early and late start dates of May 2013 and June 2013, respectively.

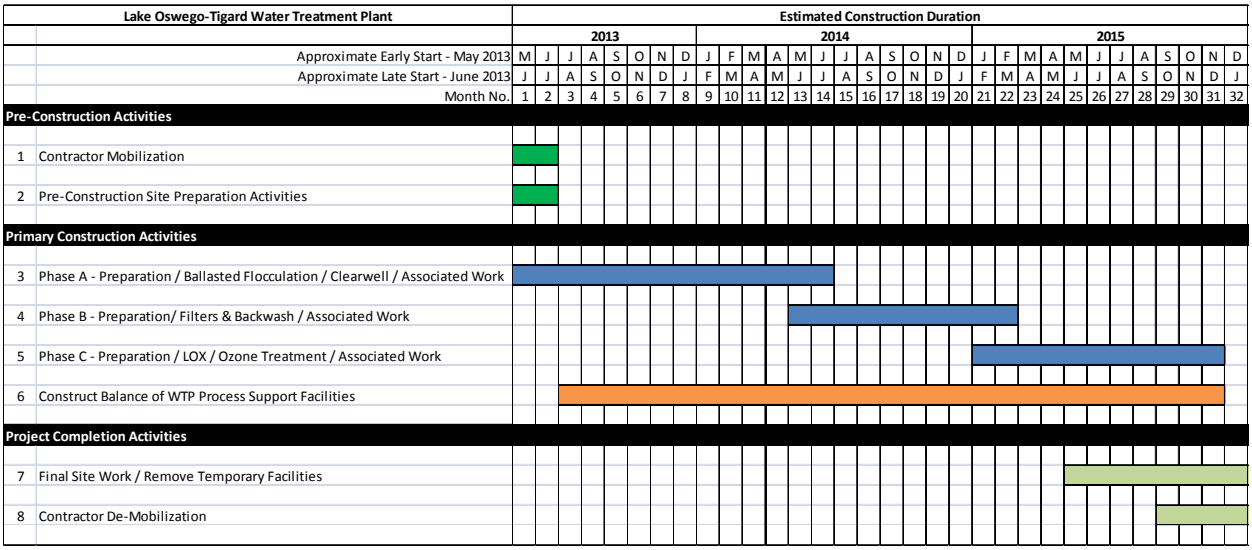

Figure 14A-1. WTP Construction Schedule

This schedule is a simplified representation of project construction activities to convey the timeframes anticipated for the following construction activity categories.

Pre-Construction Activities: Pre-construction activities 1 and 2 indicate anticipated timeframes to accomplish contractor mobilization and site preparation work. As noted previously, tree removal is anticipated to occur in advance of these activities. See Section 3.1 of this CMP for additional details.

Primary Construction Activities: The Primary Construction Activities 3, 4, and 5, represent the general critical path of constructing water treatment processes necessary for the plant facilities to continue water production throughout the construction duration. Primary Construction Activity 6 is a simplification catch-all for construction of the balance of WTP facilities not included in activities 3 through 5. These involve multiple interfacing/interconnecting relationships unrelated to West Linn's consideration of this land use application and so are not discussed further herein. See Section 3.2 of this CMP for additional details.

Project Completion Activities: Project Completion Activities illustrate the anticipated time period for completion of final site development work such as final finish grading, storm water systems, landscaping and surfacing (walks/roads/frontage improvements), removal of temporary features used during construction and contractor demobilization-related work. Where practical, some of this work will be advanced concurrent with Primary Construction Activities. See Section 3.3 of this CMP for additional details.

Specific activities within these categories are identified and discussed further in the following paragraphs. A discussion addressing work days, work hours and anticipated exceptions is also included.

3.1 Pre-Construction/Site Preparation Activities

The following activities will be completed prior to commencement of Primary Construction Activities:

- Communications plan: The communications plan will be developed by the Partnership in coordination with West Linn Public Works Department, TVF&R, the Robinwood Neighborhood Association (RNA), and other stakeholders. It will include detailed information describing communication means, methods, and key contacts for the project. A copy of the plan will be provided to the West Linn Public Works Department, chair of the RNA, and TVF&R. The plan will also be posted to the project website. As further discussed in Submittal Section 8, Appendix C of this application, regular sessions referred to as "Coffee with the construction manager" are proposed to promote communications with the neighborhood and other interested stakeholders. Placement of informational kiosks in the neighborhood is proposed for this same purpose.
- Video documentation: A digital video record will be taken to document existing conditions within the public rights-of-way abutting the project site and other site perimeter areas. This record will establish the preconstruction condition of visible surface improvements and conditions. A copy of the digital record will be provided to West Linn upon request.
- Temporary traffic control measures: Temporary traffic control measures and signage will be installed at and in the vicinity of the project site. Traffic measures and signage will be in accordance with West Linn and ODOT requirements and the *Manual of Uniform Traffic Control Devices*. The construction contract will include provisions to minimize the use of Kenthorpe Way and Mapleton Drive for off-loading materials delivered to the site. Such activities will occur in the staging areas on the WTP property. In the event of a special circumstance requiring temporary roadway use for off-loading, the contractor will be required to adhere to the notice and traffic control provisions of Paragraph 5.4 of this CMP.
- Security: Temporary site security fencing will be installed around the perimeter of the WTP site as shown in Submittal Section 21 of this land use application, Figure Series 6.0. The fencing provides both site security and public safety functions. The contractor will also implement security measures to limit site access to authorized construction personnel. The measures will include requiring workers to wear identification badges or similar measures.

- Erosion control: Erosion control measures will be installed as shown in Submittal Section 21, Figure Series 6.0. The applicant will submit a copy of an approved 1200-C permit to West Linn as evidence of compliance with Oregon Department of Environmental Quality regulations for construction site erosion/sediment control requirements.
- Temporary construction features: The contractor will install temporary construction offices and material storage areas at the site. Locations are illustrated in Submittal Section 21, Figure 6.0.
- Offsite parking-workforce transportation: The construction contract will include provisions for contractor's craft-level workforce (workers below foreman level) to park at a location remote from the site with van or bus transportation to and from the project site. The provisions will be initiated prior to starting major construction activities.
- Tree protection: Tree protection measures will be installed as referenced in Submittal Section 21, Figure Series 6.0 and as described in Submittal Section 22, Revised Arborist Report.
- Tree removal: Existing trees authorized for removal by West Linn pursuant to the Final Conclusions and Order for the WTP application will be removed from the construction site.
- House removal: The two unoccupied residential structures, outbuildings, and features located on the southern portion of the WTP site will be deconstructed and removed.
- Project communication signage: Project signage will be placed strategically around the WTP site and at offsite locations where required by the West Linn Public Works Department as an element of the Communications Plan.

3.2 Primary Construction Activities

Primary construction activities include demolition of existing WTP process facilities and construction of new WTP process and support facilities in a phased manner. The work will be sequenced to maintain the WTP in operation during the entire construction period. Primary construction activities include the following:

- Sequenced demolition of existing facilities
- Sequenced excavation and foundation work
- Sequenced construction, including the following:
  - Civil Works – earthwork, buried utilities, roadways and storm drainage
  - Structural/Architectural Works – concrete, masonry, and steel frame building construction
  - Mechanical Works – process, plumbing, and HVAC
  - Electrical and Instrumentation – including primary and secondary site power
  - Landscape, walks, trail, and pavement work
- Site frontage improvements including utility connections, half-street improvements comprising pavement restoration, surface water quality improvements, landscape and new pedestrian facilities. These improvements are being planned to interface with other public improvements being planned by West Linn Public Works Department for the neighborhood such as water line replacements, roadway pavements and pedestrian facilities.

3.3 Project Completion Activities

After the Primary Construction Activities are completed, the following Project Completion Activities will be advanced and completed.

- Removal of temporary staging area surfaces and completion of remaining site grading.
- Removal of tree protection fencing when no longer necessary.
- Removal of erosion control devices when no longer necessary.
- Removal of temporary site security fencing and placement of final site fencing.
- Installation of remaining site features necessarily awaiting removal of temporary construction surfaces and features (remaining landscape, walks, trails and pavement work).
- Completion of punch list work. As part of the normal construction process, the work will include a final inspection and a list of final work items necessary for the contractor to meet its obligations. West Linn officials will participate in this process to confirm compliance with code requirements and any conditions of approval identified in the land use permit.
- Demobilization of construction offices and contractor equipment.

3.4 Allowed Work Days/Hours

Construction work days and work hours will be limited to those allowed by West Linn code. Furthermore, the Partnership and West Linn have agreed that construction activities will not occur on Sundays or legal holidays. The resulting work days/work hours are summarized below, and will exclude legal holidays.

Monday through Friday:	7 a.m. to 7 p.m.
Saturday:	9 a.m. to 5 p.m.

3.5 Exceptions to Allowable Work Days/Hours

The WTP must maintain its water supply functions throughout the construction period. Some limited exceptions to normal work hour periods will be required during the construction period to accomplish major connections between new and existing facilities.

When necessary, permission for any work period exceptions will be made to the West Linn City Manager or designee. Work hour exceptions will be requested for critical connection activities only. Durations will be based on plans the Partnership will develop with the contractor for each critical connection requiring after-hours work. Requests will include reasons for exceptions, beginning and end dates, and other information unique to the specific activities. When applicable, requests will describe provisions to mitigate after-hours construction noise and lighting impacts. Proposed communication protocols will include providing notice to the neighborhood association and adjacent homeowners 1 week in advance of approved work activities.

4.0 Construction Management

Construction management for the WTP project is described in this section.

The Partnership has engaged a team of professional construction managers and design consultants to plan, design, bid, and work with the construction contractor and all other stakeholders during project construction. Part of this team's responsibility is to incorporate all land use permit and other permitting requirements into the conditions of the WTP construction contract. The construction impact mitigation measures described herein will be included in the WTP construction contractor's scope of work and will be enforced during construction. The Partnership's team also will be working closely with West Linn staff to confirm that the Partnership's proposed construction impact mitigations are incorporated in WTP contract documents and to facilitate technical reviews necessary for the West Linn Building Department to approve and issue the project building permit. Construction planning for the project regarding site access, site preparation and housekeeping during construction is described in the following paragraphs.

4.1 Site Access Considerations

The construction access routes for the WTP project are shown in Figure 14A-2.

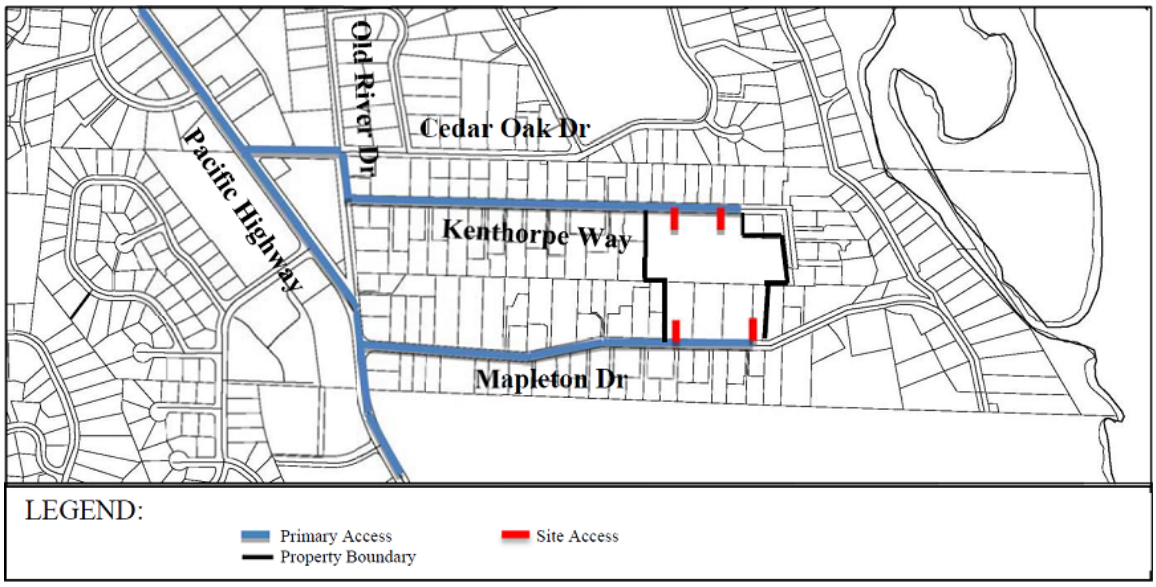

Figure 14A-2. WTP Construction Access Routes

As illustrated, there are two access routes to the project site from Pacific Highway (referred to herein as OR 43):

- OR 43 to Cedar Oak Drive to Old River Drive to Kenthorpe Way to the WTP site
- OR 43 to Mapleton Drive to the WTP site

Construction traffic is assumed to be approximately split between these routes during most of the construction period. Having these access routes available spreads construction traffic between the two, reducing traffic volume along each. Some construction activities may favor use of one route over the other during the construction period, depending on the nature and proximity of construction work being progressed.

The Partnership is committed to restoring any pavement on Cedar Oak Drive, Old River Drive, Kenthorpe Way, and Mapleton Drive that may be damaged by construction traffic. This restoration will be performed both on an interim basis during construction to maintain an acceptable driving surface as well as at the conclusion of construction in accordance with West Linn standards.

4.2 Site Security Fencing

Temporary security fencing will be installed around the perimeter of the site as shown in Submittal Section 21, Figure Series 6.0. Security gates will be installed at construction access driveways. In addition to site security, these features prevent inadvertent public entrance to the construction area for safety purposes. The security fence and gate materials will be constructed of 6-foot-tall chain link, similar to the existing site perimeter fencing. Portions of the existing site perimeter fencing will be maintained during construction augmented as needed with additional security fencing. Fabric material will be installed at selected sections of the perimeter fencing to serve as visual barriers. The fencing serves site security and public safety functions.

4.3 Sediment and Erosion Control Features

Silt fencing will be installed around the perimeter of the site as shown in Submittal Section 21, Figure Series 6.0. Storm drainage inlet protection will be installed at all storm drain inlets. These features will be maintained in proper working order throughout the construction period. Details of these features are shown in Submittal Section 21, Figure 6.5.

4.4 Construction Access Driveway Features

Site access driveways will include features to prevent tracking or flowing of sediments onto public rights-of-way. Clean gravel drive aprons and tire wash stations will be installed at each site access used by the contractor. These features will be maintained in proper working order throughout the construction period. Details of these features are shown in Submittal Section 21, Figure 6.5.

4.5 Construction Office Staging and Stockpiling

Construction office staging and stockpiling areas will be established within designated disturbance areas shown in Submittal Section 21, Figure Series 6.0.

Construction offices consisting of portable facilities will be installed and maintained throughout the construction period. These will house the contractor's project management staff and the Partnership's construction management and inspection team.

Several types of stockpiles are expected: general excavation material, aggregates, engineered backfill, and topsoil. Storage of stockpiled materials on site will reduce the need to haul materials offsite for storage, only to haul back to the site later, thus reducing traffic volumes. Stockpiles will be managed to control dust and runoff.

4.6 Construction Waste Management

The construction contractor will dispose of all onsite waste. These materials may include concrete/rebar, dirt, rocks, asphalt and other materials from demolition of the existing facilities, as well as field office and onsite construction personnel-related waste. Containers and layout will be included in the staging areas shown in Section 21, Figure Series 6.0.

4.7 Hazardous Material

Only materials, directly related to construction activities, will be permitted on site. These materials will include but not be limited to diesel fuel, equipment lubricants, hydraulic fluids, paint and other materials specified for incorporation into the WTP's construction. Use, transport, and storage of all such materials will be in full accordance with applicable regulations. Any material classified with a hazardous rating will be stored and used in full compliance with its respective Material Safety Data Sheet as required by OSHA.

4.8 Sanitation and Litter Facilities

The contractor will be responsible for providing portable sanitation facilities for construction personnel for the duration of the construction project. Types, locations and servicing of sanitation facilities will meet all applicable standards. The contractor will also furnish and use suitable receptacles for waste and recyclables and ensure that all garbage is removed from the site on a weekly basis.

5. Construction Impacts/Mitigation

The Partnership recognizes the importance of mitigating construction impacts on the neighborhood surrounding the project site. Mitigation of construction impacts are discussed herein.

5.1 Traffic Impact Mitigation

Construction traffic to and from the project site will vary throughout the construction period depending on the volume of work required to be performed each month.

Site access planning and development of traffic impact mitigation measures require a detailed understanding of existing transportation network and traffic characteristics in the project vicinity. Also necessary is an understanding of the traffic volume the project will generate, and when peak traffic volumes will occur. These factors are discussed below in consideration of the proposed schedule for the WTP project.

5.1.1 Construction Truck Trip and Workforce Trip Volume

The estimated number of truck and workforce trips per hour associated with project construction is listed in Table 14A-1. Trips include transport of materials to and from the site and workforce travel. Trip volumes are expressed as one-way trips. Trip volumes are shown averaged over the 32-month construction period, for the heaviest 12-month period and for the peak 3-month work period.

Table 14A-1. Construction Traffic Estimates

WATER TREATMENT PLANT - CONSTRUCTION TRAFFIC ESTIMATES	
Average Traffic Volume over 32 Month Construction Period	**Average Hourly Trips**
Truck trips(1)	3.5
Workforce trips (during commute hours) (2)	21.9
Average hourly trips (during commute hours) (3)	25.4
Peak 12 Month Trip Volume	**Peak 12 Month Hourly Trips**
Truck trips (1)	6.3
Workforce trips (during commute hours) (2)	29.3
Average hourly trips (during commute hours) (3)	35.5
Peak 3 Month Trip Volume	**Peak 3 Month Hourly Trips**
Truck Trips (1)	9.8
Workforce trips (during commute hours) (2)	25.0
Average Hourly Trips (during commute hours) (3)	34.8
Notes:	
(1) Hourly truck trips are based on daily truck trips per day spread over an 8 hour work period.	
(2) Workforce trips (commutes to / from the site) occur during A.M. and P.M. commute periods assumed as follows:	
- A.M. commute hour: 6:00 a.m. to 7:00 a.m.	
- P.M. commute hour: 4:00 p.m. to 5:00 p.m.	
(3) Highest construction traffic volume occurs during A.M. and P.M. workforce commute hours.	
Trip Dateline Information:	
A. Peak 12 month truck trip volume occurs during months 2 through 13.	
B. Peak 12 months of workforce trip volume occurs during months 10 through 21.	
C. Peak 3 months of truck and workforce trip volume occurs during months 9 through 11.	
D. See Figure 14A-1 - "WTP Construction Schedule" for month number references.	

Information and assumptions used to develop Table 14A-1 are included in Appendix A of this CMP.

As illustrated previously in Figure 14A-2, there are two WTP construction access routes to the project site. Hourly trip information listed in Table 14A-1 is anticipated to be roughly split between the two routes during project construction. Peak hourly trip frequencies listed will be divided between the two routes resulting in roughly 18 hourly trips along each site access route.

DKS Inc. used this information to analyze the impact of project construction traffic on the existing transportation network. Findings and proposed mitigation measures are presented in Section 14B of this land use application. Key findings of the information provided for DKS Inc. consideration, its analysis, and additional measures the Partnership proposes in this CMP are described below:

1. Peak construction traffic occurs during construction workforce AM and PM commutes to and from the project site. DKS Inc. considered these conditions for the projected peak months of project construction activity. Results of the analysis showed that the additional average delay encountered by a vehicle using either Cedar Oak Drive or Mapleton Drive at OR 43 would increase by less than 15 seconds under these conditions.

2. The existing transportation network capacity is adequate to accommodate existing and additional project construction traffic. This finding acknowledges use of both Mapleton Drive and Old River Drive/Kenthorpe Way routes for local site access.

3. Partnership proposed measures to mitigate traffic impacts on the neighborhood follow:

    - Dual site access routes: Utilize both site access routes. This measure spreads construction traffic volume between the two routes mitigating overall traffic impact to the neighborhood.

    - Off-site workforce parking/bus transport: Adopt contractor workforce off-site parking and workforce bussing. This measure reduces workforce trips to/from the site during peak construction months by approximately 150 trips per day.

    - Mapleton Drive/OR 43 intersection turn restrictions: Adopt construction traffic turn restrictions at the intersection (no left turn from Mapleton Drive to OR 43/from OR 43 to Mapleton Drive). This measure reduces delays for all vehicles using this intersection.

4. Impacts to transit bus traffic: Transit bus service is provided by Tri-Met in the project vicinity along OR 43. Project construction is not anticipated to impact the network beyond negligible delays attributable to introducing construction traffic to the transportation network. It is possible that ridership will increase due to project workforce commutes to and from the project site vicinity.

5. Impacts to West Linn school bus service: School bus service is provided by the West Linn-Wilsonville School District. Busses in the project neighborhood serving Rosemont Ridge Middle School, the West Linn High School, and the Cedar Oak Park Primary School travel along Cedar Oak Drive. Since the WTP physical construction does not extend to Cedar Oak Drive, there will be no impact to school bus routes beyond minor vehicle delays associated with the incremental construction traffic.

The Partnership will consider additional measures acceptable to West Linn, ODOT and the local community.

5.2 Noise Impact Mitigation

There are no West Linn code limits on construction-related noise beyond limiting construction work periods (hours and days) as noted in Section 3.4 of this CMP. Regardless, the Partnership will require the WTP contractor to mitigate construction noise through the following measures.

- The contractor's normal work hours will adhere to those allowed for construction work in West Linn. The Partnership has agreed that no work will be allowed on Sundays or legal holidays unless exceptions are approved by West Linn for critical WTP connection work as discussed in Section 3.5 of this CMP.

- Construction equipment and vehicles will be equipped with mufflers and particulate filters in good condition and repair.

- Heavy mobile equipment and trucks will be required to turn off engines when not in active use.

- Onsite truck and construction equipment activities will be planned to minimize reverse direction travel to minimize occurrence of noise generated from OSHA-required safety backup alarms.

- Dump truck tail gates will not be allowed to slam during delivery of materials.
- Fabric material will be installed at selected sections of temporary site security fencing to screen onsite activities and to provide a modicum of noise mitigation.
- All new major structures will be supported on pile foundations. The contractor will be required to use auger cast piles. Auger cast piles are installed using rotary drilling equipment, a measure that avoids the noise and vibration of impact driven pile systems.

5.3 Oversized Delivery Considerations

Some of the construction equipment to be mobilized and later demobilized will be oversized loads. Transport may require short-term blockage of Kenthorpe Way or Mapleton Drive near site entrance driveways to enable required maneuvering. Any such blockages are generally expected to last less than 15 minutes. The contractor will be required to provide advance notice to the affected neighborhood and property owners and will provide traffic control measures during any such occurrence.

6. WTP CMP Conclusion

This CMP identifies the construction impacts and mitigation for the WTP project. The Partnership recognizes that construction-related impacts are a concern for both West Linn and the neighborhood and is dedicated to the mitigation measures identified herein. The Partnership is looking forward to working with the neighborhood association, West Linn, and other agencies throughout the construction process to ensure a safe construction work area and to minimize construction impacts to the public.

7. Information - Consolidation - WTP and Pipelines

This WTP CMP does not address construction activities or potential impacts associated with the installation of the Raw Water Pipeline (RWP) and Finished Water Pipeline (FWP) elements of the Partnership program proposed within the West Linn city limits. The CMP for these pipelines is included in a separate land use application previously submitted to West Linn.

The Partnership, in recognition of West Linn's need to consider the consolidated impacts, mitigation and benefits of the Partnerships proposed facilities in West Linn, will provide a consolidated summary document for the proposed WTP and pipeline projects. The Partnership will provide the consolidated information in advance of West Linn's consideration of the combined WTP and pipeline land use hearing.

SECTION 14A - APPENDIX A

CONSTRUCTION TRAFFIC ESTIMATE

The number of project construction related traffic trips was developed based on the considerable information available from water treatment plant (WTP) design and construction planning information available as of July 2012. These activities are approaching the 60 percent completion level at this juncture. The information contained herein remains preliminary and will be further developed as the WTP design and construction planning progresses.

Construction related traffic is estimated for construction truck traffic and construction workforce traffic. Provisions have been made in the construction workforce traffic projections to include the Partnership's construction management and specialty inspection service related traffic trips.

As this information is also used to analyze the capacity of the existing transportation network, doing so requires setting assumptions in regards to work days and work hours. For that purpose it is assumed that work days will be Monday through Friday and work hours will be 7 AM to 4 PM. Assumed work hours result in workforce commute hours of 6 to 7 AM and 4 to 5 PM.

Based on the project work and when project work is currently anticipated to occur over the estimated 32 month period, the design engineer provided a detailed estimate of truck trips necessary to bring construction materials and equipment to the site and remove materials from the site. This information is summarized in Figure 1. The construction duration and work activities will be refined as the WTP design process advances.

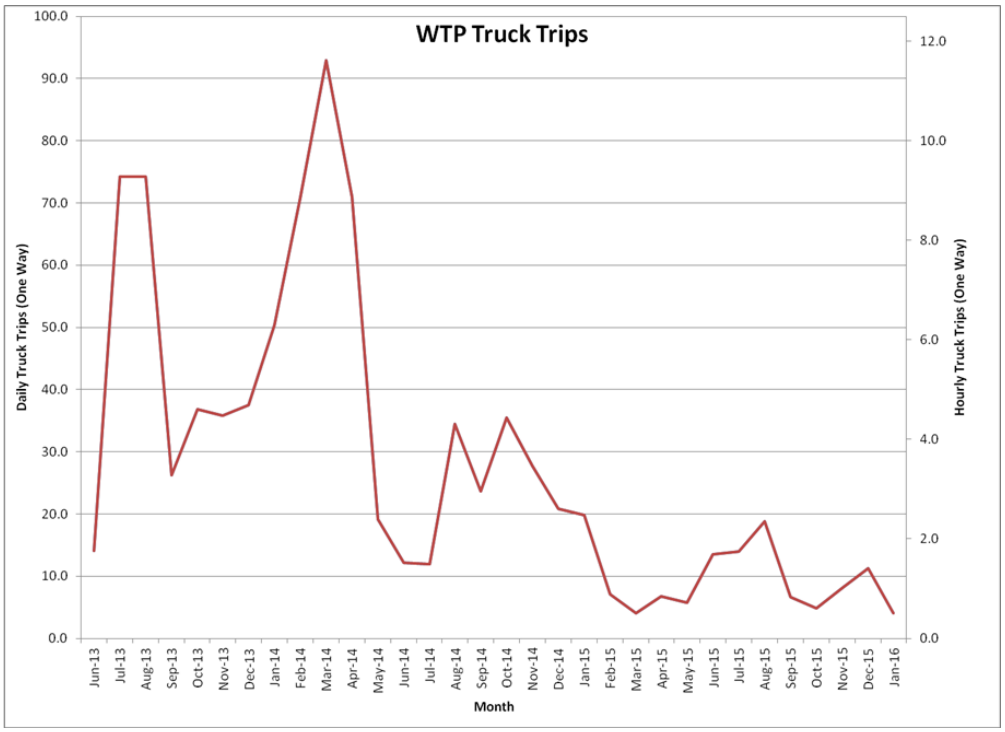

Figure 1. Truck Trips

As illustrated, significant truck trips occur during the first year of construction. This is attributable to the anticipated high volume of earthwork and the early advancement of certain project facilities; construction of a buried 2.0 million gallon clearwell and finished water pump station being one.

Construction workforce is the other major trip generating category to consider. In this estimate the contractors peak workforce is assumed to be 100 workers, 20 of which are foreman level and above and 80 of which are below foreman level. For simplicity purposes, and to also account for Partnership construction management and specialty inspection trip contributions, allowances have been included for those traffic contributions in the contractor's workforce trips. Over the construction duration the construction workforce typically ramps up, reaches a peak for a period of time, and then ramps down as the project work nears completion.

Estimated workforce trip information is summarized in Figure 2.

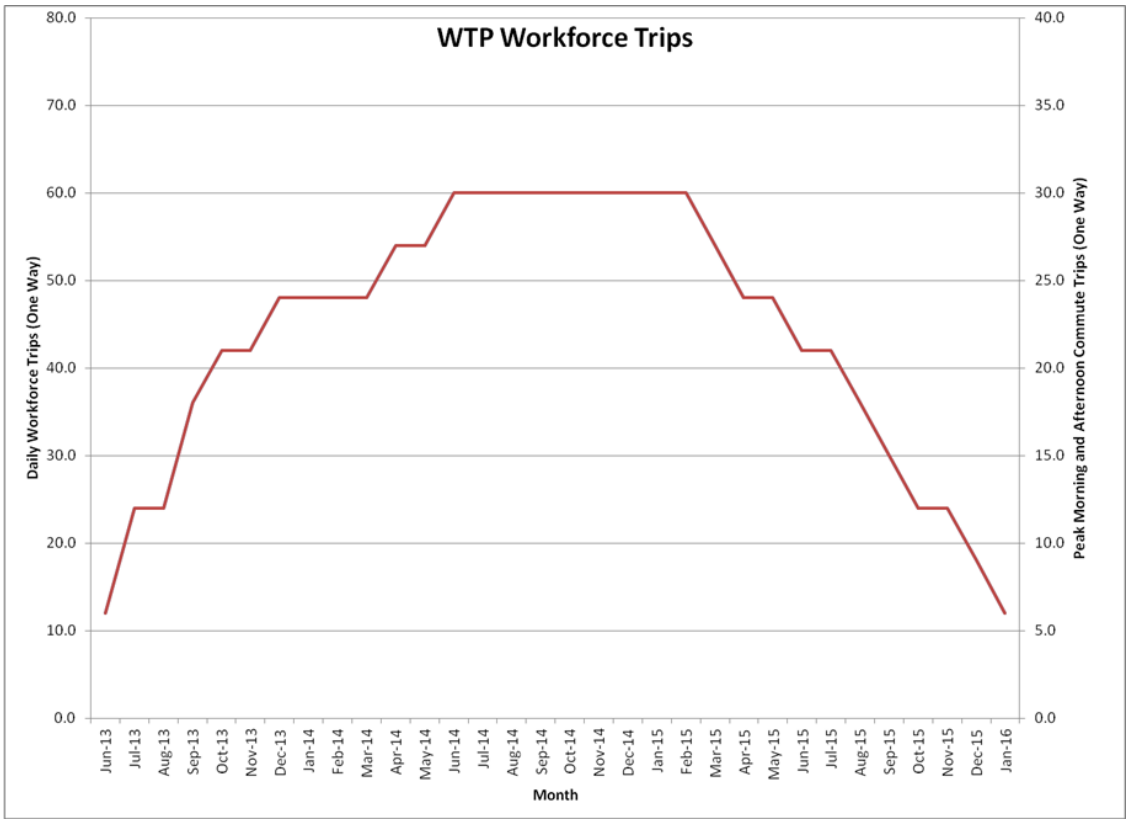

Figure 2. Workforce Trips

Workforce trips illustrated in Figure 2 assumes that the construction contractor workforce (below foreman level) will park remote from the site and will be bussed to and from the site each workday. During peak construction months it is assumed that workforce using remote parking and bussed to and from the site will number 80 workers, and will be bussed to/from the site assuming a bus capacity of 20 workers. Construction personnel above foreman level are assumed to drive to and from the site. Partnership construction management staff and special inspection staff are also assumed to drive to and from the site.

Combined truck and workforce trips over the construction period are illustrated in Figure 3.

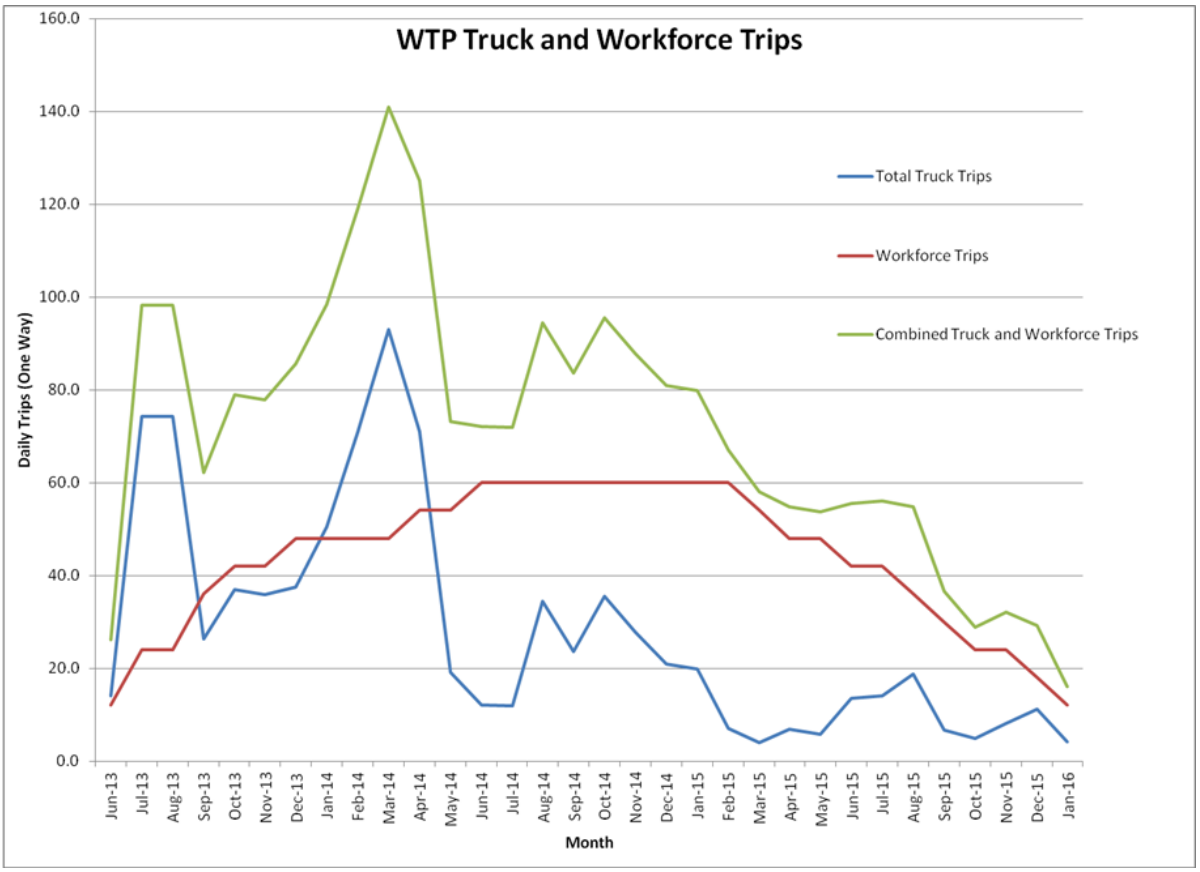

Figure 3. Truck and Workforce Trips

This information was used to estimate trip frequency the project will present to the existing transportation network. The following assumptions were made.

1. Truck trips are assumed spread over an 8 hour work day.
2. Incoming workforce commute trips are assumed spread over a one hour AM commute period from 6 a.m. to 7 a.m.
3. Outgoing workforce commute trips are assumed spread over a one hour PM commute period from 4 p.m. to 5 p.m.
4. As mentioned previously, the contractor's workforce (below foreman level) are assumed to park remote from the site and be bussed to/from the site.