

**To:** Permitting Agencies (USACE, EPA, Ecology, WDFW, City of Tacoma) and Puyallup Tribe of Indians

**From:** Mark Rettmann

**Date:** January 7, 2021

**Subject:** Project Update Memorandum  
Joint Aquatic Resource Permit Application  
Application: HPA No. 22024, Corps No. NWS 2020-457-WRD, City of Tacoma No. LU20-0113  
Lower Wapato Creek Habitat Project (LWCHP)

## INTRODUCTION

This memo documents design revisions for the proposed Port of Tacoma (Port) Lower Wapato Creek Habitat Project (LWCHP) that were completed after the Joint Aquatic Resource Permit Application (JARPA) was submitted in June 2020. The June 2020 JARPA submittal used the 60 percent project design for submittal. The current project design includes proposed revisions from the previous submittal to increase the likelihood of success of the proposed habitat site. The following sections have been prepared by Port of Tacoma with contributions from GeoEngineers, Inc. (GeoEngineers), Mott MacDonald and Site Workshop and contain the current design revisions, rationale for revisions and updated JARPA quantities.

As previously mentioned in the June 2020 JARPA, the design and construction of the site is being conducted in two phases. Phase 1 generally includes the grading, soil amendment, placement of large woody material (LWM), culvert removal/bridge construction, utility relocations, seeding, and site stabilization (i.e., construction). The Phase 1, 90% Design Plans dated December 10, 2020 are provided in Appendix A and the 115KV Transmission Line Design Plans dated November 13, 2020 for the power pole relocation work are provided in Appendix B. Phase 2 generally includes installation of plants, irrigation system, and perimeter fencing (i.e., planting). The current Phase 2 Design Plans dated December 12, 2020 are provided in Appendix C.

## PROJECT REVISIONS AND RATIONALE

Project design elements were refined based on information obtained through additional studies, and modeling and resulting from specific requests from the Port and others including Tacoma Public Utilities (TPU). The following sections of this memo identify the project design changes that have resulted in revisions to the June 2020 JARPA/design and their supporting rationale, as well as other project elements.

### Requested Revision to Approved In-Water Work Window

The Port is requesting authorization to initiate in-water work on July 8, 2021, one-week prior to the July 15<sup>th</sup> start of the marine in-water work window requested in the June 2020 JARPA. This change, if approved, will provide additional time for construction to occur during the dry season and avoid more time during the wet season. The wet season produces more rain and results in higher stream flows in Wapato Creek and makes on-site construction activities more difficult. No Endangered Species Act (ESA) listed species are expected to be present and fish use in Wapato Creek one week earlier is not expected to be different than the marine in-water work window.

## Revised Wetland Contours

Groundwater modeling was completed at the request of the Port to evaluate the assumption contained in the June 2020 JARPA documentation that wetland conditions would be maintained across the site up to elevation +16 feet mean lower low water (MLLW). *Note: MLLW elevations are referenced to the Port of Tacoma Vertical Datum (PoTVD). The elevation 0 feet MLLW in PoTVD is equal to -2.67 feet North American Vertical Datum of 1988 (NAVD88).* Groundwater modeling was completed using the proposed 60 percent design (i.e., June 2020 JARPA design) ground surface contours and groundwater data collected between September 2016 and August 2020. Modeling of the 60 percent design identified that groundwater was not expected to occur within 12 inches of the proposed wetland surface in portions of the site. Therefore, the proposed wetland surfaces were lowered as shown on the Phase 1 Sheets C1.1 through C1.3 (Appendix A). In the eastern portion of the site, wetland elevations were lowered to between +13 and +15 feet MLLW to increase the likelihood that these proposed wetland areas would maintain positive wetland hydrology during most years. In the central and western portions of the site, where groundwater modeling indicated a water table at or below elevation +12 feet MLLW, wetland elevations were lowered to a maximum elevation of +13 feet MLLW; which is the upper elevation expected to maintain tidally influenced estuarine emergent wetland conditions.

The above revisions may result in changes to the proposed anticipated restoration actions and habitat types as shown in Table 1. The revisions are anticipated to result in an increase of 0.04 acres of Wapato Creek/Intertidal mudflat, an increase of 1.72 acres of estuarine emergent wetland (EEM), a potential decrease of 2.6 acres of palustrine forested wetland (PFO) and a potential increase of 0.84 acres of forested riparian upland enhancement (UPL) and/or PFO depending on actual post-construction conditions and final grading design. Updated cut and fill volumes are included in Table 3 (Revised JARPA Section 8e) in the Updated JARPA Quantities Section of this memo below.

Additional grading reconfiguration is currently being considered due to the reduction in wetland re-establishment area and the associated credits in this current proposal. As indicated above, this reduction is based on groundwater modeling results which lowered the anticipated maximum proposed wetland elevation from +16 feet MLLW to between +13 and +15 feet MLLW (depending on the location within the site). The Port is considering additional grading along the margins of the wetland to maximize wetland reestablishment and associated credits generated to be closer to that indicated in the June 2020 JARPA submittal. Predicting actual habitat types that will develop at this site is complicated by numerous factors including groundwater levels, stream conditions (hydrology/hydraulics/flow), precipitation, tidal levels, salinity concentrations, future downstream condition changes associated with numerous culvert removals (i.e., removal of flow and tidal restrictions), and grading contours. Based on the complexity of this site, and through review of the Advance Mitigation Plan, the U.S. Army Corps of Engineers, Ecology, and other wetland permitting review agencies recommended the Port revise the project and Advance Mitigation Plan to incorporate a phased approach for documenting restoration actions, habitat types, and resulting credits generated from the site. The first phase will provide estimates during design and permitting, and the second phase will document the results based on the actual post-construction conditions. This phased approach will be documented in the revised Advance Mitigation Plan as discussed below. The changes proposed in this memo will be compatible with the phased approach of the project and the Advance Mitigation Plan. Any updates to design drawings will be submitted to the environmental permitting agencies, once finalized.

**TABLE 1. UPDATED ESTIMATED ACREAGES OF RESTORATION ACTIONS AND HABITAT TYPES<sup>1</sup>**

Restoration Action	Habitat Type	JARPA Submittal Area (Acres)			Current Design Area (Acres)		
		Creditable	Non-Creditable	Total	Creditable	Non-Creditable	Total
Re-Establishment	Wapato Creek Channel/Intertidal Mudflat	2.16	0.02	2.18	2.23	0.02	2.25
	EEM	2.35	0.00	2.35	4.04	0.00	4.04
	PFO	5.51	0.00	5.51	2.91	0.00	2.91
Rehabilitation	Wapato Creek Channel/Intertidal Mudflat	0.00	0.21	0.21	0.00	0.18	0.18
	EEM	0.00	0.02	0.02	0.00	0.05	0.05
Enhancement	Upland Forested Riparian	0.00	7.34	7.34	0.84	7.4	8.24
--	ROW <sup>2</sup> /Vegetated Filter Strip	0.00	0.91	0.91	0.00	0.85	0.85
<b>Totals:</b>		<b>10.02</b>	<b>8.5</b>	<b>18.52</b>	<b>10.02</b>	<b>8.5</b>	<b>18.52</b>

Notes:

<sup>1</sup> Creditable restoration actions and/or habitat types may change based on actual post-construction conditions.<sup>2</sup> Right-of-way (ROW) category also includes access pads to TPU transmission line structures

Revisions to the ground surface elevations within the proposed wetland areas resulted in increased expected flood storage capacity at the site. Table 2 identifies the volume calculations from the previous JARPA submittal plans as compared to the current design plans.

**TABLE 2. FLOOD STORAGE CALCULATIONS UPDATE**

Flood Storage		JARPA Submittal Volumes		Current Design Volumes	
Type	Elevation (feet MLLW)	Cubic Yards	Acre-Feet	Cubic Yards	Acre-Feet
Base Flood Elevation	+15.97	49,584	30.71	56,450	34.99
Puyallup River Overtopping	+20.37	136,640	84.69	148,180	91.85

### Revised Large Woody Material (LWM) Locations

The LWM proposed in the June 2020 JARPA submittal (60 percent design) was modified to provide greater bank protection and habitat complexity as described below and shown on the Phase 1 Sheets C1.0 through C1.3, C5.0 and C5.1 (Appendix A). The June 2020 JARPA identified 172 pieces of LWM, 29 snags, and erroneously did not summarize the 29 proposed rootwads. Therefore, the June 2020 JARPA proposed 230 LWM including snags and rootwads. The total number of LWM structures including standing snags and rootwads remains 230 pieces (178 LWM, 29 rootwads, 23 standing snags) but the distribution was modified slightly as described below.

- **Standing snags** – Standing snags were limited to elevations above elevation +13 feet MLLW to minimize scour at these structures. The contour revisions from the groundwater modeling resulted in a reduction in available area for snags. Therefore, the number of snags was reduced from 29 to 23 snags and 6 additional LWM pieces were added to the design to compensate for this reduction.
- **Single to double logs** – To improve habitat complexity, the single LWM pieces were revised to include double and triple log structures using a combination of fallen trees, bank logs and revetment logs.
- **Bank stabilization** – The single logs shown as bank stabilization in the June 2020 JARPA were revised to triple log structures in the current proposal to improve habitat complexity, minimize risk of scour along the bank and improve bank stability by creating an integrated log structure instead of individual logs.
- **Log size adjustment** – The size of LWM pieces identified in the June 2020 JARPA submittal have been revised to improve anchoring. Revetment logs were previously identified to be 20- to 24-inch minimum average diameter and fallen trees were previously identified to be 24-inch minimum average diameter. Both these LWM piece types are now identified to be 16- to 18-inch-diameter pieces. The proposed diameters of bank logs, rootwads and standing snags have not been modified.
- **Anchoring** – Mechanical manta ray anchors were removed from the proposed project over concerns with using these anchors in a tidal environment. The June 2020 JARPA proposed the use of mechanical and boulder anchoring. The current proposal includes boulder anchors and embedment as the anchoring methods for LWM.

### Revised Bridge Geometry and Foundation

The geometry for the bridge carrying 12<sup>th</sup> Street East over Wapato Creek has been refined to meet project criteria, such as freeboard over design flood elevations, while minimizing cost. The bridge span has been reduced from 46 feet-7<sup>5</sup>/<sub>8</sub> inches to 41 feet-3<sup>1</sup>/<sub>2</sub> inches. The width of bridge foundation has also been reduced from 53 feet-1<sup>3</sup>/<sub>4</sub> inches to 49 feet-11<sup>1</sup>/<sub>4</sub> inches. The bridge foundation plan has changed from concrete drilled shafts proposed in the June 2020 JARPA to driven piles as was contemplated on the June 2020 JARPA Sheet 24. The revised shafts will be vibratory driven 24" diameter concrete filled steel tubes. The number of piles supporting the foundation have increased from 8 to 12. In order to install the piles for the bridge, we have coordinated with TPU to temporarily relocate the overhead power lines that run along 12<sup>th</sup> Street East around the bridge construction area as shown on exhibit Ex.3.1 (Appendix D).

### Revisions to Electrical Utilities Design

The relocation of utilities, including Tacoma Public Utilities (TPU) power poles and associated infrastructure, has been contemplated since the beginning of the project as detailed in the original June 2020 JARPA submittal which stated " The Project also includes relocation of TPU poles, relocating utilities for the bridge replacement, the placement of excess excavated soils on adjacent Port property (i.e., within the corridor of the future SR 509 to SR 167 connection) and other ancillary project activities." However, the June 2020 JARPA Plans (i.e., Sheet 14) only displayed the two power poles that will be relocated at the habitat site and did not show adjustments to power poles extending west and north off the habitat site. Since the June 2020 JARPA, further refinement of the electrical utilities design has occurred including refinement of pole

locations, pole heights, and other related work has been identified. A more detailed description of the current proposed TPU power pole relocation work is provided below.

On the habitat site, two wood power poles supporting the 115KV power lines will be removed and replaced with steel monopoles as shown on the Phase 1 Sheet C1.0 (Appendix A) and on the transmission line plans (Appendix B). These poles will be moved to the outskirts of the site immediately adjacent to the property lines and will have access pads for installation and future maintenance associated with the power pole/line. These poles are also moving approximately 10' east of the current alignment to move the structures further away from the top of bank of Wapato Creek. These steel monopoles will be mounted on concrete foundations approximately 5' in diameter and 25' to 30' in depth. The monopoles themselves will be galvanized and then coated with epoxy primer and paint. The new power poles will vary in height from approximately 60 feet to 120 feet.

To the north of the project in the median of State Route 509 (SR 509) an existing wood pole will be braced with a wood push pole to counter the forces of the new higher and slightly offset steel monopole. The new wood push pole will be attached to the existing wood pole and is located within the Washington State Department of Transportation (WSDOT) SR 509 right of way (ROW) as shown on the Phase 1 transmission line plans (Appendix B).

To the west of the project on the opposite side of East Alexander Avenue (parcel 0320013143) a new steel monopole will be set on Port property to realign the 115KV power lines. This steel monopole will have the same characteristics of those on the site. On this same property the next wood pole in the line to the west will be replaced with a new wood pole with higher structural capacity, again to offset the differential loads created by the new alignment and steel power poles. The new steel monopole and the replaced wood pole are shown on the Phase 1 transmission line plans (Appendix B).

Revisions to the TPU access pads for periodic, infrequent maintenance are discussed below. Other utility relocations and temporary relocations will be conducted as part of the culvert removal and bridge construction work.

### **Revisions to TPU Access Pads**

We have revised the geometry of the two originally proposed TPU access pads (at 12<sup>th</sup> St East and at East Alexander Avenue) and added a third (at SR 509) in response to feedback from TPU and WSDOT. TPU has required revisions to the geometry of the access pads to accommodate a larger service vehicle. TPU has also required the installation of an access pad on WSDOT SR 509 ROW adjacent to the site to provide maintenance access for the relocated power pole along the south side of the eastbound SR 509 lanes. This TPU and WSDOT approved design provides TPU access for periodic and infrequent maintenance of the power pole/line and accommodates WSDOT's future SR 509 and SR167 connection project design that is anticipated to be constructed in the near future. This revision will include the installation of an ecology block wall within the SR 509 ROW along the western and southern edges of the pad to maintain a flat level surface for safe operation of TPU maintenance equipment. The proposed access pad will be accessed from SR 509 and will be entirely outside of the proposed habitat site on SR 509 ROW as shown on Phase 1 Sheets C1.1 and C7.1 (Appendix A). An existing drainage swale that runs along southern edge of SR 509 will be regraded around the SR 509 access pad. WSDOT has provided plans for widening of East Alexander Avenue within the current ROW to be completed in the near future. Therefore, the access pad off of East Alexander Avenue has been reduced to end at the back face of the sidewalk as WSDOT's design includes

adding a curb cut/driveway in this location as part of their project. Slight adjustments to the access pads may be made at the request of TPU or WSDOT. The access pad locations are shown on Phase 1 Sheet C6.0 and the details are shown on the Phase 1 Sheet C7.1 (Appendix A).

### Revised Contours Near 12<sup>th</sup> Street East and East Alexander Avenue for Existing Outfall

Proposed contours near the existing outfall located near the intersection of 12<sup>th</sup> Street East and East Alexander Avenue was further refined based on existing and proposed conditions. This outfall currently discharges into a channelized ditch in an area with dense Himalayan blackberry (*Rubus armeniacus*) that immediately flows into Wapato Creek. The current design includes removal of Himalayan blackberry and revisions to the cut banks of the existing ditch to create a more gradually sloped vegetated swale that connects to the backwater retained portion of the existing Wapato Creek channel. Angular rock will be placed over a layer of geotextile fabric for approximately the first 40 feet at the outfall to minimize scour as shown in the Phase 1 Sheets C1.1 and C6.0 (Appendix A). the remaining approximately 90 feet of the swale will be seeded with estuarine emergent seed mix.

### Revision to Soil Amendment and Stabilization

The June 2020 JARPA submittal did not include soil amendment for the site. The current plans have been revised to amend the planting subsoil. For all areas of the site EL +11 and above, excluding the upland enhancement zone (i.e., under existing trees), the subsoil will be amended by adding 4 inches of wood chips tilled into a depth of 18 inches and recompact to 85 percent prior to placing 6 inches of bioretention mix on top of the wood chip amended subsoil. Bioretention mix will be recompact to 85 percent and covered with jute mat after seeding. For the upland enhancement zone (i.e., the area underneath existing tree canopy), 2 inches of bioretention mix will be placed over existing soil. These methods provide a cap over any existing non-native seedbank. The mix is well-drained and lower in compost, making it less hospitable to invasive weed seed deposits. Installed plants benefit from added aeration around the root crown, while rooting into the more moisture retentive subsoil. Soil amendments and stabilization are described on the Phase 1 Sheet L1.0 (Appendix A).

### Revisions to Proposed Vegetation Communities

The following revisions have been made to the locations and composition of proposed vegetation communities.

- **Species changes** - Thirteen species were added to the upper seed mix, and the rates of three additional species modified. Seven species were added to the lower seed mix (above emergent) and the rate of one additional species was modified. The revised seed mixes are shown on the seed schedule provided on the Phase 1 Sheet L2.0 (Appendix A).

Western crabapple (*Malus fusca*) was added to the list of stock material for shrubs to be planted in the second phase of construction. These changes were made to increase the biodiversity on the site. These changes are shown on the Phase 2 Sheet L3.3 (Appendix C).

- **Planting zone adjustments** - The extents of the planting zones have been adjusted to respond to changes in the grading plan and the anticipated wetland boundary resulting from groundwater modeling results as discussed under the revised wetland contours section above. The EEM zone remains between +11 feet and +13 feet MLLW and the PFO zone is only proposed in the eastern portion of the site, where groundwater modeling indicated sufficient hydrology. The PFO zone



extends from +13 feet MLLW to between +14 feet and +15 feet MLLW as shown on Phase 2 Sheet L3.0 (Appendix C). Further plant zone adjustments may be necessary as described in the following section.

- **Plant layout** - The previous plan showed the layout of specific plants within each typical area. As an interim revision to inform plant distribution across each zone, the updated layout characterizes compatible associations based on plant habit and assigns baseline quantities accordingly. The intent is to provide structural diversity on site, with canopy layers that optimize solar access for woody species so that they fill in quickly and mature without excessive competition. The new layout is identified in the form of typical layout diagrams on the Phase 2 Sheets L3.1 and L3.2 (Appendix C). Further plant zone adjustments may be necessary as described in the following section.
- **Plant quantities** - The interim layout revision reduced overall plant quantities from the previous submittal, which proposed stand densities that would fill in quickly but require continual thinning to ensure stand health and structural diversity. Updated quantities are reported on the Phase 2 Sheet L3.3 (Appendix C).
- **Container stock size** - The tree and shrub container plant stock size has been decreased from 1-gallon and 2-gallon pots to 10-cubic-inch plugs. Smaller stock produced in cone-tainers tend to have fewer structural defects in the rootball, establish faster and bring less potting mix to the project site. The growth rate potential between a 10-cubic-inch plug and gallon stock is not significant in terms of performance metrics, and the minimization of root deformities should contribute to long-term plant health.

#### Anticipated Additional Design Revisions

The design and specifications will continue to be refined based on additional review and data collection and evaluation. In addition, based on the phased construction approach with grading and seeding conducted in 2021 (Phase 1) and planting beginning in the fall of 2022 (Phase 2) there is time to evaluate as-built grading conditions and the resulting actual water levels, tidal interactions and salinity conditions after the completion of the Phase 1 construction (grading). Therefore, it is anticipated that there may be additional revisions to the planting zones, plant species or plant counts as described below. Any proposed future substantial revisions to the JARPA or design will be communicated to the permitting agencies prior to finalizing and implementing any revisions.

- **Further adjustments to planting zones** - Salinity information continues to be gathered on-site and therefore further adjustment to the edge of the seeding and planting zones may occur. This includes the potential addition of a hybrid zone between the wetland palustrine forested zone and the estuarine emergent planting zone to further respond to future salinity conditions anticipated for the site. Plant zones, layout, and lists may also be revised based on actual conditions observed after the as-built grading has been completed during the Phase 1 of construction in 2021. Plant installation during the Phase 2 of construction is anticipated to begin in Fall of 2022.
- **Plant species revisions** - As site conditions are reviewed, including after seeding the site, there may be further proposed changes to the specified plant species to better respond to as-built conditions. Also, there are certain plants, such as Oregon ash (*Fraxinus latifolia*), that are prone to pest damage, specifically Emerald Ash Borer which is spreading throughout the region. For that species, if potentially resistant genetic strains cannot be identified, alternative cultivars or alternative native species will be considered, as well as assessing the risk and general best

practices. If particular plants in a plant list (i.e., trees, shrubs, etc.) are not available in the quantity needed they may be substituted by one or more other plants within the same plant list that are available.

- **Plant counts** - Any changes to areas and species will require revisions of plant counts. Additional plant density may be added as the planting design is refined based on additional data and review. The priority will remain on satisfying performance metrics and contributing to both long-term plant health and habitat diversity.

## UPDATED JARPA QUANTITIES

The following table (Table 3) includes the revised areas and volumes for the table contained in Section 8e of the JARPA. Any future revisions to these quantities within +/-10% should be considered minimal and within the approximate number identified.

**TABLE 3. REVISED JARPA TABLE FOR SECTION 8E**

<b>8e. Summarize impact(s) to each waterbody in the table below.</b>					
<b>Activity (clear, dredge, fill, pile drive, etc.)</b>	<b>Waterbody name</b>	<b>Impact location</b>	<b>Duration of impact</b>	<b>Amount of material (cubic yards [CY]) to be placed in or removed from waterbody</b>	<b>Area (sq. ft. [SF] or linear ft. [LF]) of waterbody directly affected</b>
Fill	Existing Wapato Creek	In Existing Channel	Permanent	9,300 CY of excavated soil total 9,200 CY complete fill of abandoned channel 130 CY of partial fill of abandoned channel to create mud flat/shallow stream channel habitat	27,609 SF (0.63 acres) total 24,000 SF (0.55 acre, 713 linear feet) complete fill of abandoned channel 3,664 SF (0.08 acre, 117 LF) of partial fill of abandoned channel to create mud flat/shallow stream channel habitat
Fill for Roadside ditch conversion to vegetated swale	12th Street Ditch	In existing ditch	Permanent	2,550 CY	11,400 SF (0.26 acres)
Bridge related cut	Wapato Creek	In	Permanent	500 CY	4,220 SF (0.1 acre)



8e. Summarize impact(s) to each waterbody in the table below.					
Activity (clear, dredge, fill, pile drive, etc.)	Waterbody name	Impact location	Duration of impact	Amount of material (cubic yards [CY]) to be placed in or removed from waterbody	Area (sq. ft. [SF] or linear ft. [LF]) of waterbody directly affected
Bridge related fill	Wapato Creek	In	Permanent	225 CY structural fill 225 CY quarry spalls 270 CY streambed material	4,220 SF (0.1 acre)
Upland excavation to create new stream channel/floodplain and restore wetlands and buffers	Wapato Creek	Adjacent (contiguous, some in floodplain)	Max of 6 months (site will be immediately stabilized and replanted)	Total of 190,000 CY of which 65,000 CY (40.3 acre-feet) below the 100-year flood elevation of 15.97 feet	16.95 acres
Upland fill to create new channel streambed and restore wetlands/buffers	Wapato Creek	Adjacent (contiguous, some in floodplain)	Max of 6 months (site will be immediately stabilized and replanted)	28,100 CY total Up to 7,100 CY gravel for new channel streambed 12,400 CY bioretention mix 12,200 CY soil amendment	17.73 acres total 2.43 acres streambed 15.3 acres bioretention mix and mulch 16 acres of jute mat
Placement of LWM and standing snags	Wapato Creek	Adjacent (will be in new channel and wetland after diversion, some in floodplain)	Permanent	207 pieces of LWM (including rootwads) and 23 standing snags (230 pieces total)	LWM will be sized and placed per plan

## REVISED ADVANCE MITIGATION PLAN

The draft Advance Mitigation Plan will be revised and finalized to incorporate the revisions discussed in this memo and based on comments received from the permitting agencies including details regarding the phased approach to document restoration actions, habitat types, and generated credits from the actual post-construction conditions. The revised Advance Mitigation Plan will be submitted separately.

Please contact me at (253) 592-6716 or [mrettmann@portoftacoma.com](mailto:mrettmann@portoftacoma.com) if you have any questions or would like me to discuss the revisions with you further.

Regards,

A handwritten signature in blue ink, appearing to read 'Mark Rettmann', followed by a long horizontal line extending to the right.

Mark Rettmann  
Environmental Project Manager

Attachments:

- Appendix A. Phase 1 (Construction) Design Plans, dated December 10, 2020
- Appendix B. 115KV Transmission Line Design Plans, dated November 13, 2020
- Appendix C. Phase 2 (Planting) Design Plans, dated December 12, 2020
- Appendix D. 12<sup>th</sup> Street E Power Line Temporary Relocation Exhibit

**APPENDIX A**  
**Phase 1 (Construction) Design Plans**  
**dated December 10, 2020**

**APPENDIX B**  
**115KV Transmission Line Design Plans**  
**dated November 13, 2020**

**APPENDIX C**  
**Phase 2 (Planting) Design Plans**  
**dated December 12, 2020**

**APPENDIX D**  
**12th Street E Power Line Temporary Relocation Exhibit**