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ENVIRONMENTAL REVIEW REPORT
Decision Document

DOWNEY FARMSTEAD RESTORATION
#ENV-2013-2/KIVA #RPSA-2130459

Charlene Anderson, AICP Responsible Official Staff Contact: Matt Gilbert

I. PROPOSAL

The applicant proposes to construct 1,875 linear feet of side channel and 11 acres of intermittently inundated aquatic habitat on a 21.81 acre site adjacent to the Green River. This project will create off-channel rearing and refuge area for juvenile salmonids that inhabit the Green River. A total of 50 large-wood structures will be placed as well as thousands of native shrubs, trees and groundcover plantings. To maximize available floodplain habitat, Frager Road will be relocated away from the river's edge.

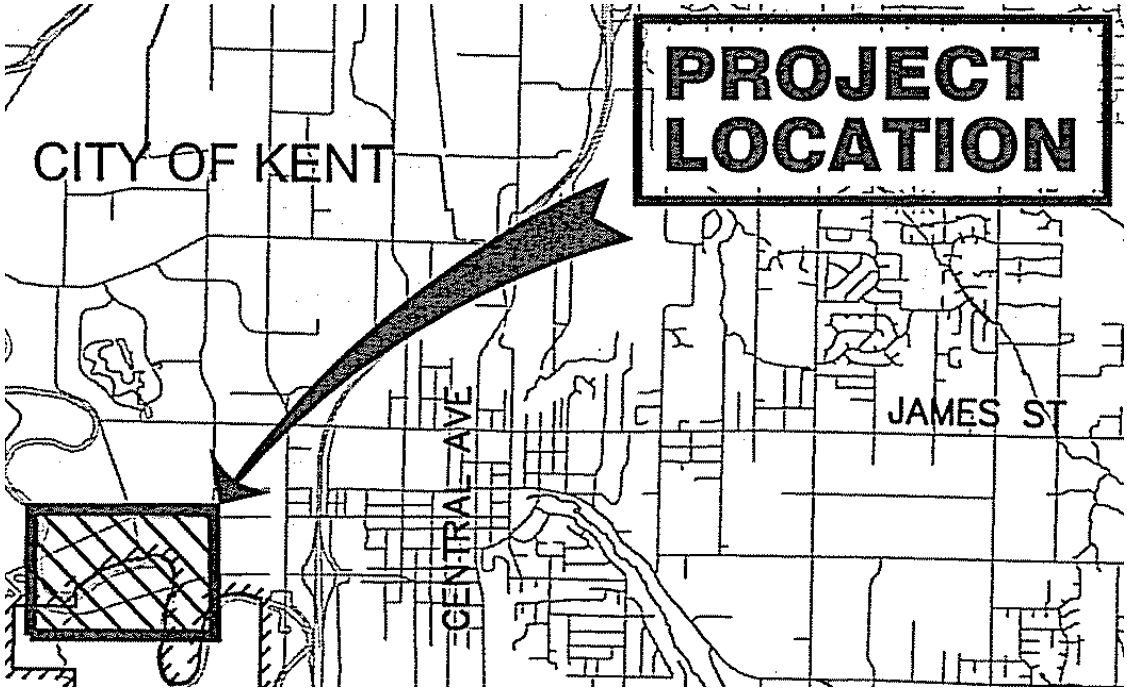

Figure 1: Downey Farmstead Restoration vicinity map (sheet 1 of 15, not to scale).

The applicant is considering a future project to add parking near the Old Fishing Hole Park (on City property) to replace some of the parking located along Frager Road that will be lost as a result of this project. However, this work is not within the scope of the current proposal, and will be evaluated at a later date. The project area is shown on the submitted plans and includes public right of way along Frager Road, parcels 2322049049, 2322049020, 2322042028, and a portion of parcel 2322049029

The secondary purpose of this project is to create additional flood storage capacity. The removal of 210,000 cubic yards (CY) of material from the floodplain for creation of the side channel network will provide 130 acre-feet of additional floodplain storage and decrease peak flood levels by approximately six inches.

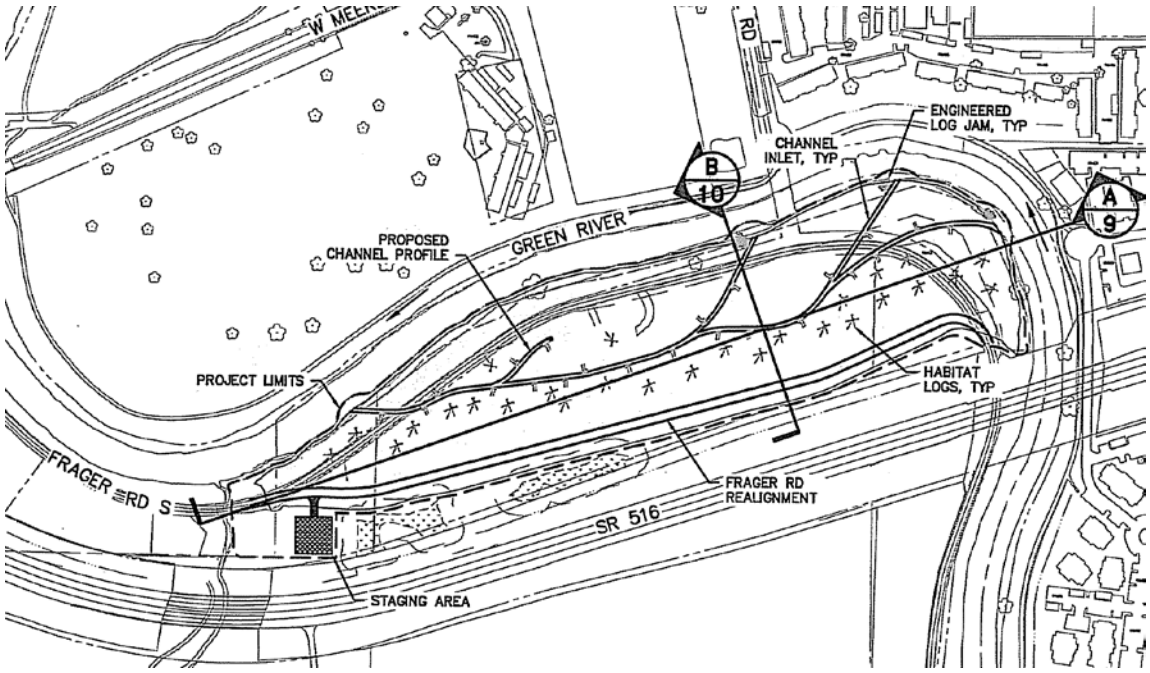

Figure 2: Proposed site plan, Downey Farmstead Restoration (sheet 5 of 15, not to scale).

For the purpose of environmental review under the State Environmental Policy Act (SEPA), the City of Kent is the Lead Agency. However, this project is located in unincorporated King County, just outside of Kent's city limits. The project will be reviewed by the County's Department of Permitting and Environmental Review (DPER) for compliance with the County's Shoreline Master Program and other development regulations. DPER may provide additional public notice related to other permits. Questions or comments regarding County review should be directed to Steve Bottheim of DPER at 206-296-6600, reference permit application GRDE13-0018.

II. BACKGROUND INFORMATION

Compliance with Kent's Comprehensive Plan (Ordinance 3222), the Washington State Growth Management Act (GMA), The Local Project Review

Act (ESHB 1724 and ESB 6094), Kent's Construction Standards (Ordinance 3117) and Concurrency Management (Chapter 12.11, Kent City Code) will require concurrent improvements or the execution of binding agreements by the Applicant/Owner with Kent to mitigate identified environmental impacts. These improvements and/or agreements may include improvements to roadways, intersections and intersection traffic signals, stormwater detention, treatment and conveyance, utilities, sanitary sewerage and domestic water systems. Compliance with Kent's Construction Standards may require the deeding/dedication of right-of-way for identified improvements. Compliance with Title 11.03 and Title 11.06 of the Kent City Code may require the conveyance of Sensitive Area Tracts to the City of Kent in order to preserve trees, regulate the location and density of development based upon known physical constraints such as steep and/or unstable slopes or proximity to lakes, or to maintain or enhance water quality. Compliance with the provisions of Chapter 6.12 of the Kent City Code may require provisions for mass transit adjacent to the site.

In addition to the above, Kent follows revisions to the Washington State Environmental Policy Act, Chapter 197-11 WAC (effective November 10, 1997), which implements ESHB 1724 and ESB 6094.

III. ENVIRONMENTAL ELEMENTS

A. Earth

The majority of the site is flat and slopes very gradually down to the west. There are steep banks adjacent to Mullen Slough along the western edge and along the northern edge of the site where the site parallels the Green River.

The steepest slopes are along the banks of the Green River on the northern edge of the project site – slopes here approach or exceed 80% in many areas.

A geotechnical design memorandum dated June 8, 2010 was prepared by URS Corporation. The memo presents the results of the geotechnical investigation and analyses performed for this project.

In general, the soil profile consists of a relatively thin surficial layer of silt overlying medium dense silty sand to sand to a depth of roughly 25 feet, then medium dense to dense sand to a depth of at least 40 feet. Fill was encountered at the surface and has been observed at the surface in several locations around the site.

The general soil type is sandy silt created by alluvium (Qa) over lahar deposits. The near-surface soil is somewhat finer-grained at the western end of the site. The material becomes slightly coarser with depth in the central and eastern portion of the project site. The site of the former meat packing facility in the northeastern portion of the site area was filled with clean, coarse alluvial gravel and cobble. The

contact between the coarse gravel and surrounding silty sand is extremely sharp and distinct. The gravel and cobble extend down to 8 feet below grade.

These soils were previously used for agriculture, supporting hops, grain, hay and a tree farm.

The site is within a large area identified as having a “high” (Category 1) liquefaction susceptibility according to Palmer et al (1994). Small structures like a culvert or bridge at Mullen Slough would not be expected to experience further footing settlement due to bearing capacity failure. At the edge of the Green River and along the banks of Mullen Slough, soils are subjected to river flows and some areas show signs of recent sloughing.

An estimated 850 CYof log “fill” material (a total of 291 logs, some with rootwads) will be added below the ordinary high water line of the Green River. These logs will help provide refuge, foraging and rearing habitat for young salmon and other fish species within the project. Trees and shrubs will also be densely planted along the river’s edge and along the new channels to maximize shading and reduce Green River temperature loading as well as to provide additional fish habitat.

To reduce project costs, approximately 22,000 CY of excavated soil will be reused on-site as fill beneath the realigned segment of Frager Road.

The project may increase the potential for erosion onsite due to the side channel connection to the Green River and the removal of vegetation associated with construction. A temporary erosion and sediment control plan will be in place to minimize any impact, and interior planting and stabilization will occur prior to connection to the Green River. In the long run, shrub and tree plantings as well as shallower slopes will increase soil stability along both the new side channels and along the banks of the Green River.

Frager Road will be relocated and rebuilt and will cover approximately 52,850 square feet of the site on the completed project. The asphalt impervious area at the end of the project will cover approximately 5% of the project site, only slightly more than the impervious footprint of the existing road.

All work will be done within the prescribed and permitted fish window. The project area will be protected by a perimeter silt fence and will be stabilized for erosion control with straw wattles, straw mulch, hydroseed and other erosion control measures as detailed on the TESC and Water Management Plan sheets (See Plan Sheets EC-1& EC-2). Sheet pile walls or bulk-bag dams with silt booms will be

installed at the mouths of the new side channels to protect the new channel segments during construction and will only be removed when interior erosion control measures have been fully implemented. The temporary erosion control plan will be modified as needed to prevent exceedance of water quality standards.

B. **Air**

Small amounts of exhaust from construction equipment will be emitted during construction. There will not be any emissions when the project is completed other than very minor amounts for maintenance and monitoring activities. Once vegetation matures, this project is expected to improve air quality.

C. **Water**

The Green River is a 93 mile long fresh water river that borders the northern edge of the project. It is a salmonid bearing stream that conveys water from the Crystal Mountain area, down to the Duwamish River and into Puget Sound. At the project site location, the Green River channel is deeply incised and has not altered alignment in over 147 years. Flows range from summer lows near 300 cubic feet per second (CFS) up to 100-year flows at the project site near 12,000 CFS. The peaks of flood events up to the 100-year event are all reduced by operation of the Howard Hanson flood control dam near river mile 64. Historic flows in the Green River prior to construction of the dam in 1964 and rerouting of the tributary White River in the early 1900's were substantially higher.

Mullen Slough experiences a fairly stable range of flows from approximately 1 to 10 CFS that does not vary significantly by season (except during flood events). The headwaters of Mullen Slough are to the west of the Green River Valley and it drains Dolloff, Fenwick, Geneva, and Star Lakes. Mullen Slough courses through unnamed wetlands, passes under SR 516 and Frager Road bridges, and joins the Green River at RM 21.4 on the downstream edge of the project site. It has a relatively small drainage basin of 6.2 square miles. Ungauged flow is projected to be between 120 and 330 CFS for 2-year and 100-year events, respectively.

The project work will be adjacent to and connect to the Green River. The side channel construction will connect with the Green River in four inlet locations and one outlet. A total of 53% of the project site (492,000 SF – 11.3 acres) lies between the ordinary high water mark of the Green and the 200 foot shoreline buffer. As the project lies within King County jurisdiction, permitting requirements pursuant to the Shoreline Management Act will be determined by King County.

A wetland and stream delineation report dated April 28, 2010 was prepared for this project by Herrera Environmental Consultants. This report identifies the location and extent of onsite wetland features,

determines the ordinary high water mark for both the Green River and Mullen Slough and identifies regulatory considerations associated with project permitting.

A 0.69-acre (30,250 SF) riverine flow-through wetland (Wetland C – see figure 3 below) on the bank of the Green River will be the only directly impacted body of water or wetland. A total of 0.38 (16,770 SF) acre of this wetland will be affected by this project – this impact is necessary to remove invasives, get down to proper flow-through elevations and to allow planting of native shade trees as close to the river's edge as possible to maximize shading and reduce river temperature loading along this south-facing riverbank. No fill material will be placed in this wetland except for log "fill" from the three inlet engineered log jams and the low-flow eddy habitat structure (~ 3500 CY of log fill and stabilizing material). Also, 1,360 CY of material will be excavated from this wetland. The purpose of this excavation is to excavate down to flow-through channel elevations (see below). Wetlands A & B on the southwest corner of the project will not be directly impacted by this project as the realigned Frager Road will be oriented to avoid them. However impacts will occur to the wetland buffers including the following: Wetland A (40' buffer) - 8 CY of fill, 268 SF of impact (from realigned Frager Road fill); Wetland B (40' buffer) - 23 CY of fill, 434 SF of impact (again, from realigned roadway); Wetland C (75' buffer) - 56,780 CY of excavation over 3.6 acres (154,780 SF) of area (main area of excavation near riverbank for side channels). All fill material will come from on-site excavation.

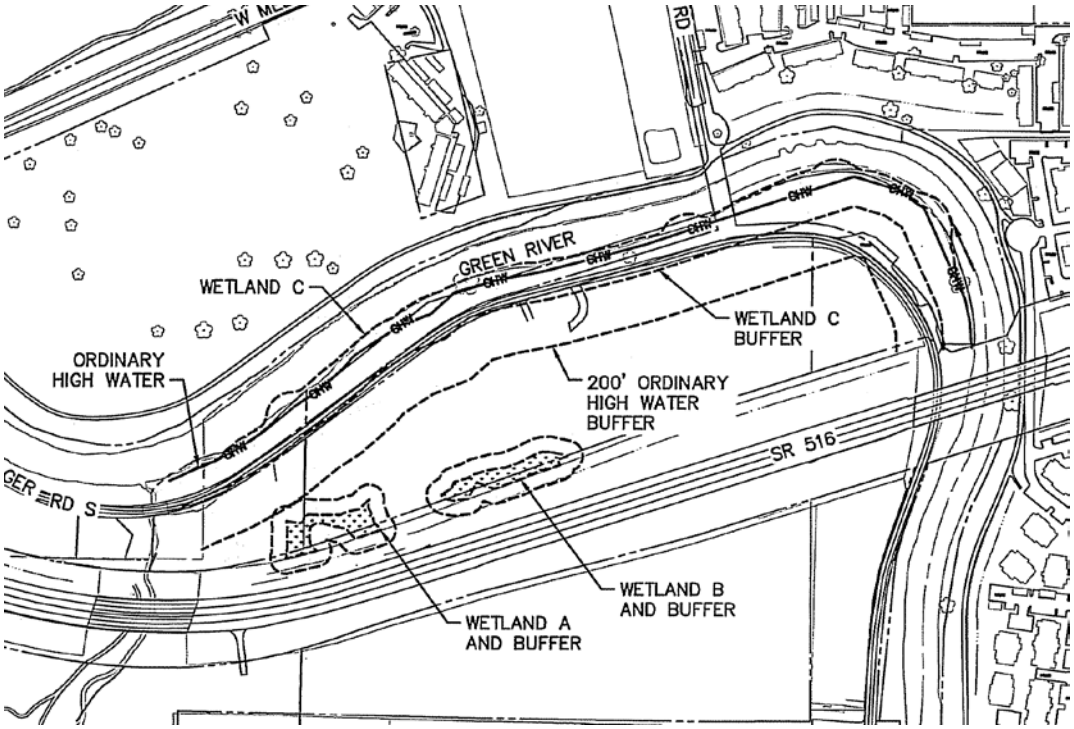

Figure 3: Wetlands within the Downey Farmstead Restoration area (sheet 4 of 15, not to scale).

This project will be self-mitigating for impacts to wetlands and buffers. A total of 6.34 acres of area within the 21.81 acre project site will be excavated for the new side channels below the ordinary high water mark (OHWM) of the Green River. Most of this area below the OHWM (except for the bottom of the main side-channel) is expected to develop into new wetland in time, and appropriate native wetland plantings will be planted once excavation is complete.

The 6.3 acres of new wetland creation area will far exceed the 3:1 wetland creation requirements of KCC 21A.24 for the 0.38 acre impact to existing Wetland C. The 3.67 acres of new buffer creation will cover the 1:1 mitigation requirement for the 3.56-acre buffer impact (wetland and buffer impact as well as wetland and buffer creation plan maps are available in the City's SEPA file 2013-2). The project area will also include another 9.8 acres of planted area above the OHWM (excluding the new roadway) which will become the new wetland and stream buffers.

The entire project is within the 100-year floodplain of the Green River. However, the excavation proposed will increase floodplain capacity. At the completion of project construction, the excavation removed from the floodplain will provide an additional 130 acre-feet of flood-water storage, and reduce river flood stage during large flood events by approximately 6" at the SR 516 bridge.

No permanent groundwater withdrawals will occur. Minor, temporary groundwater withdrawals from construction dewatering may be necessary, especially for placement of engineered log jams. The quantities of temporary groundwater withdrawals (if needed) are presently unknown, but are expected to be minimal since the construction will occur during the driest summer months.

The proposed side channels will fill with water (backwater) whenever water levels in Mullen Slough and/or the Green River exceed 18 feet elevation (this is the outlet invert elevation). The side channel network will "flow-through" whenever Green River water levels exceed 22, 21 or 20 feet on the upstream, middle or downstream inlets to the project, respectively. The 22' level is the modeled "average water surface elevation" (1,330 CFS at the Auburn gage), meaning that we expect that water levels will exceed this level 50% of the time (typically during the winter months and whenever even minor storm events occur). Flows of 800 CFS are expected to produce a water surface elevation of 20 feet at the project site, a flow which is expected nearly 100% of the time during the January – June salmon outmigration period. Therefore, we expect that water will flow through this side channel network nearly all of the time when Chinook, coho, chum and pink salmon are in the project vicinity during when juvenile fish are searching for off-channel areas to find refuge and food.

The side channel will collect small amounts of runoff from the surrounding area that would normally flow into the Green or Mullen Slough. Hydraulic modeling indicates that peak flow velocities, even in the largest flow events, are modest. The confined, slow flow-through at the project site as well as the position of the project on the inside bend of the river and its protection by large engineered log jams means there is little chance of the mainstream river switching channels.

Grass filter strips are proposed along both sides of the realigned Frager Road to treat stormwater runoff from the new roadway.

No waste materials are expected to be discharged during construction or operation of the project. The Contractor will be required to provide and implement a Spill Prevention Control and Countermeasures (SPCC) plan to isolate equipment fueling and maintenance areas from the stream channel area. This will limit the risk of discharge of any leaked or spilled waste materials into ground or surface waters.

Erosion and Sedimentation Control Best Management Practices (BMP's) will be installed on the project site prior to any construction activities. These BMPs will prevent soil and sedimentary materials from entering the stormwater system or surface water. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared and implemented by the contractor that will incorporate a variety of source and treatment control BMP's. These controls will further reduce the magnitude and duration of any temporary increases in turbidity or pH associated with project construction. Turbidity and pH will be monitored during construction to ensure that water quality compliance is maintained in accordance with State Receiving Water Quality Standards (Chapter 173-201A WAC). Grass filter strips will be installed along the edges of the new roadway to control and treat runoff.

While the project site includes parcels owned by the City of Kent, the project area is located outside of Kent's city limits, in unincorporated King County. All construction and associated mitigation measures will be designed according to King County Standards.

D. **Plants**

Landscaping trees, as well as fir, cedar, maple, aspen and cottonwood trees have been identified within the project area. Shrubs include snowberry, spirea and blackberry. Reed canary grass and nettles are also present. No known endangered plant species are known to exist within the project boundaries.

This site was formerly used as a nursery and some of the trees remain from that former land use. Old nursery plantings are currently overgrown, and limit access to about 12 acres of the site. These plants

will be removed when the site is cleared prior to excavation, and will be replaced with appropriate native species once construction is completed. At the completion of grading, 14.7 acres will be replanted with native species, 2.7 acres will be covered by the new Frager Road and roadside grass filter strips, 0..03 acres will be unvegetated side-channel bottom, and the remainder will be undisturbed wetlands.

As mentioned above, thousands of native tree and shrubs will be installed on 14.7 acres of the site once grading is completed. The proposed plan calls for incorporation of two inches of high-quality compost that will be tilled into the native soil in all areas to be planted in the restored floodplain below 25 feet and four inches of compost tilled into all areas to be planted above elevation 25. A temporary irrigation system will be installed to improve plant survival for the two-year establishment period. Planting will occur in the fall to maximize survival and improve root-growth before summertime drought conditions occur.

E. **Animals**

Birds observed on or near the site include hawk, heron, eagle, songbirds, kingfisher, flicker, robin, crow, towhee, junco and chickadee.

Mammals observed on or near the site include deer, beaver, otter, coyote, raccoon, opossum, rat, vole and rabbit.

Fish observed on or near the site include salmon, trout and lamprey.

Threatened Chinook (*Onchorynchus tschawyscha*), steelhead (*O. mykiss*) and (possibly) bull trout (*Salvelinus confluentus)* may be found in the Green River adjacent to the project site. Chinook salmon and steelhead are expected to utilize this side-channel habitat once it is completed. There is a known bald eagle nest located approximately 1.2 miles away from the project site, though this species has now been delisted.

Many species of anadromous salmon including those mentioned above as well as coho, pink and chum use the Green River as a migration corridor. The Green River is also a major pathway within the Pacific Flyway migratory bird route.

The purpose of this project is wildlife habitat creation. Creating off-channel habitat in the lower Green was identified as one of the highest priorities for recovery of Chinook salmon in the WRIA 9 Salmon Habitat Plan (2005). This project will create over 11 acres of floodplain refuge habitat for Chinook and other salmonids and will enhance riparian and upland habitat for numerous bird, mammal and amphibian species. The “floor” of the proposed new side channels will be sloped slightly (dropping from 22, 21 or 20 feet elevation at their

inlets down to 18 feet at the outlet) so that stranding will not occur when water levels recede.

F. **Environmental Health**

Possible leaking of vehicle fuels and lubricants into groundwater, the Green River or Mullen Slough from construction equipment could potentially occur, but as identified earlier, containment equipment will be onsite and BMP's will be employed during all phases of construction.

The standard specifications that the City will use require that the contractor make periodic inspections of all equipment to make sure that all equipment and machinery used on the site is in proper working condition.

Elevated arsenic levels are suspected at this site based on a search of the Tacoma Asarco Plume database:

(https://.fortress.wa.gov/ecy/smeltersearch/)

Levels greater than 100 ppm are mapped for this location, which indicates that cleanup may be necessary before site construction. Characterization sampling according to the DOE Tacoma Smelter Plume Model Remedies Guidance (June, 2012) will occur prior to construction at the site. If sampling confirms elevated arsenic levels above action levels, the City will enter into the DOE Voluntary Cleanup Program and determine appropriate actions before construction begins.

G. **Land and Shoreline Use**

The project site was used for agriculture for over 100 years, beginning in 1863 when Irish immigrant Patrick Downey homesteaded on the project site. He grew hops, grain and hay, and engaged in dairying on his 160-acre farm that included land south of the project site and across the current SR 516. His son John continued dairying on the project site until 1945 at which time he leased the land as a truck farm, and later still as a tree nursery before its acquisition by King County and the City of Kent.

A monument indicating the historic location of Downey Bridge is located approximately 1,700 feet east of the Mullen Slough outlet channel. All other structures that were previously on the site were demolished by 2009.

A portion of the site was formerly occupied by a meatpacking facility. This area is lightly used by the public as an informal dog play area. Fishermen sometimes utilize the Green River banks for fishing, especially during winter steelhead runs. Frager Road S. is used intensively by bicyclists and walkers, though it is rarely used by

vehicles (<400 vehicles/day). The remainder of the site is fenced and off-limits to the general public.

Some structures are known to have been removed from the site, including the Downey Bridge, which was removed some time after 1944. The meatpacking facility was removed in 2006. Under previous permit the farm houses, a residence and a nursery were removed in 2009. The Downey Bridge Monument will be moved so it is not in the way of the site excavation for habitat creation. Frager Road is proposed to be realigned (or closed and converted to a trail) and set back away from the Green River.

The current King County zoning classification for the site is A-10, Agricultural-one DU per 10 acres, The comprehensive plan designation of the site is Agriculture.

H. **Aesthetics**

In the long run, views from SR 516 will change slightly as landscape trees will be replaced by native trees and shrubs and the underlying topography will change markedly.

The side channel habitat will be heavily planted with native, non-invasive species – it is expected that the project site will resemble a forest in the long term and provide pleasing aesthetics.

I. **Recreation**

This site is often used as an informal off-leash area and dog park. There is an open grassy area and parking. Many people use Frager Road S. for walking, jogging, and biking.

During construction, the project will displace recreation in the immediate vicinity. There are no plans to recreate the open, grassy dog-park area. Also, a roadside parking area near the SR 516 overpass will be eliminated. The applicant is considering a future project to add parking near the Old Fishing Hole Park (on City property) to replace some of the parking for recreationists that will be lost when Frager Road is moved. However, this future project is not within the scope of the current proposal, and will be evaluated at a later date.

Frager Road is part of a larger system of trails and walking, jogging, and biking areas that are available in the immediate area (including the Interurban Trail and the Green River Trail on the north side of the river). Relocating and rebuilding Frager Road S. will ensure that bicyclists and pedestrians will have continued access through the project site. Frager Road may be closed to vehicle traffic briefly during construction, but the reconstructed roadway will provide identical recreational facilities once construction is complete.

J. **Historic and Cultural Preservation**

Downey Bridge footings can still be found on the site. The bridge that used to be connected to these footings was built in 1905, upgraded in 1944, and removed in 1951. A monument to the bridge can be found on the site designating it as the first bridge across the Green River into Kent, but the structural elements of the bridge are not formally recorded as an archeological site. One archeological site (the Downey Hop Barn Site) and two historic structures (Downey Hop Barn structure and the Downey House) have been recorded with the Washington State Department of Archaeology and Historic Preservation (DAHP).

As mentioned above, the former bridge abutments are still visible on the project site, but all evidence of the former hop barn and Downey house are gone or obscured by thick vegetation on the site.

A cultural resources report was completed for this project in November of 2013. Consultation with the DAHP and the Corps of Engineers will be completed prior to construction of the proposed project.

Before project construction, the Downey Bridge monument will be relocated or rebuilt on the north side of the River near the former north bridge abutment location. This monument will be accessible from the Green River Trail**.**

Should archaeological materials (e.g. bones, shell, stone tools, beads, ceramics, old bottles, hearths, etc.) or human remains be observed during project activities, all work in the immediate vicinity should stop. The State Department of Archaeology and Historic Preservation and the City should be contacted immediately in order to help assess the situation and determine how to preserve the resource(s). Compliance with all applicable laws pertaining to archaeological resources (RCW 27.53, 27.44 and WAC 25-48) is required.

K. **Transportation**

Although the site is adjacent to SR516, there is no access from this 4-lane, high-speed highway. Frager Road S. is the current access point and would remain so. Closure of Frager Road to vehicle traffic and replacement with an asphalt trail was considered as a part of this project, but ultimately rejected due to adjacent landowner opposition. Relocation of this road is subject to King County road vacation and rededication processes.

The site is currently not served by public transportation. The closest bus stop is approximately 0.5 miles to northwest on Meeker Street.

An informal parking area which could potentially park up to 20 vehicles currently exists along the edge of Frager Road near the SR 516

overpass. This parking area will be eliminated as part of this project, but may be replaced in the future near Old Fishing Hole Park.

Frager Road S., a public King County road, will be realigned and rebuilt as part of this project. The new roadway will be subject to King County road requirements.

Recreational boaters sometimes utilize this section of the Green River. This project will not affect their use of the mainstream river.

This proposed development will not add any estimated daily or PM peak hour trips to the public street system and will not be constructing road frontage improvements. Existing parking and access to the site will remain unaffected.

L. **Utilities**

There is a Puget Sound Energy overhead power line that crosses the Green River near the old Downey Bridge location, then parallels Frager Road (Century Link cable piggybacks on PSE poles and conduit). There is also a 2" water line within the existing Frager Road alignment west of the former bridge site.

No utilities will be needed to service the proposed project. However, the City will coordinate with PSE and Century Link to relocate their existing lines. The City will also coordinate internally with the Kent Water Department to relocate or abandon the existing water line.

IV. SUMMARY AND RECOMMENDATION

A. It is appropriate per WAC 197-11-660 and RCW 43.21C.060 that the City of Kent establish conditions to mitigate any identified impacts associated with this proposal. Supporting documents for the following conditions and mitigating measures include:

1. City of Kent Comprehensive Plan as prepared and adopted pursuant to the State Growth Management Act
2. The State Shoreline Management Act and the Kent Shoreline Master Program
3. Kent City Code Section 7.07, Surface Water and Drainage code
4. City of Kent Transportation Master Plan, Green River Valley Transportation Action Plan and Six-year Transportation Improvement Plan
5. Kent City Code Section 7.09, Wastewater Facilities Plan
6. City of Kent Comprehensive Water Plan and Conservation Element
7. Kent City Code Section 6.02, Required Public Improvements
8. Kent City Code Section 6.07, Street Use Permit Requirements
9. Kent City Code Section 14.09, Flood Hazard Regulations

10. Kent City Code Section 12.04, Subdivision Code
11. Kent City Code Section 12.05, Mobile Home Parks and 12.06, Recreational Vehicle Parks
12. Kent City Code Section 8.05, Noise Control
13. International Building and Fire Codes
14. Kent City Code Title 15, Zoning Code
15. Kent City Code Section 7.13, Water Shortage Emergency Regulations and Water Conservation Ordinance 2227
16. Kent City Code Sections 6.03, Improvement Plan Approval and Inspection Fees
17. Kent City Code Section 7.05, Storm and Surface Water Drainage Utility
18. City of Kent Comprehensive Sewer Plan
19. City of Kent Fire Master Plan
20. Kent City Code Chapter 11.06, Critical Areas

B. It is recommended that a Determination of Nonsignificance (DNS) be issued for this project.

KENT PLANNING SERVICES
December 13, 2013
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