March 8, 2019
WCE No. 2013-1166

Whipple Consulting Engineers, Inc.

City of Spokane Valley
10210 E. Sprague Ave
Spokane Valley, WA 99206

Attn: Henry Allen

Re: Painted Hills PRD – CLOMR Review Stantec Comments

Dear Henry:

We have received the comment letter from Stantec Dated December 17, 2018 and offer the following response. For clarity the comment is shown below with our response in bold.

CLOMR Initial Completeness

1. There were numerous documents provided. It was assumed that the document "CLOMR Application for the Proposed Painted Hills Development" would be the narrative provided to FEMA for the CLOMR review, but it is unclear whether or not the other information will be part of the submittal. A lot of information is provided in the "Painted Hills Flood Control Development Narrative", but it is uncertain whether this document will be submitted to FEMA or not. It is recommended that a more clear and easy-to-follow narrative be submitted to FEMA. The review for FEMA will be conducted by personal unfamiliar with the project and therefore, the information should be presented in such a way that the project narrative, purpose and details can be easily followed and understood.

The WCE Flood Control Narrative has been revised, and included with this submittal.

a. If both documents are to be submitted, it is recommended that language referring to the submittal as a CLOMR-F be revised. From the initial completeness review, it appears the analysis that is provided in the package will revise the floodplain mapping for three detailed studies, including the removal of Unnamed Tributary to Chester Creek. Therefore, a CLOMR is required which will establish new flood hazard mapping. With the new floodplains established, a CLOMR-F may not be required since the properties will not be within the new, effective Base Floodplain established in the CLOMR.

The application being provided to FEMA is a CLOMR. The WEST authored report titled: *CLOMR Application for the Proposed Painted Hills Development* is the primary explanatory report associated with the CLOMR. The MT-2 Forms included in the report also report the application as a CLOMR. Some WCE materials which are provided as CLOMR report appendices inadvertently referred to a CLOMR-F rather than a CLOMR. Rather than revising all of the supplemental WCE materials, they will provide a letter to the communities clarifying that references to a CLOMR-F should be considered as just a CLOMR. Since the primary CLOMR report and the MT-2 forms correctly reference a CLOMR, we believe this will be appropriately clear for the FEMA reviewer

2. The MT-2 Forms and the "CLOMR Application for the Proposed Painted Hills Development" indicate that no change to the hydrology was completed for this task. The CLOMR Application also does not have a detailed write-up of the hydrology. It is Stantec's understanding that the basis of the floodplains being removed from this location is a combination of fill and new infiltration basins. Given the infiltration basins are part of the hydrologic analysis and used a hydrologic program HSPF, it is recommended that a detailed narrative be added discussing the changes to the original Flood Insurance Rate Map (FIRM). For example, initial completeness review indicates that Unnamed Tributary to Chester Creek is being removed from the Flood Hazard mapping. Is the removal based solely upon fill or has the additional of infiltration basins removed floodplain? As stated previously, the FEMA reviewer will not have previous knowledge of the project or the methodologies and procedures used for the analysis.

It should be noted that the FIS HSPF model was not modified for this CLOMR. The CLOMR report has been updated to better clarify this fact. The main WCE facility is designed to have a peak design outflow discharge that exceeds the 0.2% annual chance FIS inflows. Since the facility capacity exceeds the inflows, there is no remaining ponded water in the project site under the proposed design. Accordingly, no modifications were needed for the hydrologic model. The lower portion of the Unnamed Tributary is being removed from the floodplain based on the proposed infiltration facility in Storage Area 6. This is described on Page 11 of the CLOMR report. The facility (storage and infiltration) can contain the 0.2% annual chance flood. The left overbank flowpath for the Unnamed Tributary is based on failure of the levee on the left overbank between Highway 27 and the storage area. Since that portion of the channel will be conveyed via a culvert in the proposed design, there is no need for a without levee scenario. Accordingly, the removal of the left bank overflow path and the main flowpath of the Unnamed Tributary are based on a combination of a proposed culvert and the proposed infiltration facility in SA6. Additional text describing this has been added to the CLOMR report.

3. CLOMR's require the submittal contain example documentation of legal notice to be sent to all affected property owners within and outside of the City's jurisdiction explaining· the impact of the proposed action on their property. No documentation was found.

Property owner notifications are required prior to submittal to FEMA and the process for this has been discussed previously with the City and County during prior submittal and reviews of the CLOMR application. This project has been going on for some time and has undergone several changes during back and forth review and discussions between WCE and the City and County. Since the design has been evolving based on these discussions, in order to avoid public confusion, we are waiting until the City and County review is complete and we have agreement upon the proposed plan. At that point the final notification text will be provided to the communities who will place the text on letterhead and mail to the appropriate property owners. The notifications will be mailed either prior to or coincident with submittal to FEMA

4. CLOMR submittal guidance states that in locations where sediment transport affects hydrology, the effects of sediment transport should be considered in the hydrology and Section F of Form 3 should be submitted. Will sediment have an impact to the infiltration basins? Documentation should be provided in the narrative stating whether or not sediment will have an impact and if so, how it will be mitigated.

The inflows to the Thorpe Box Culvert and the main infiltration facility flow through grassy fields, with no physical channel, at low velocities (average 1.5 ft/s). Due to the low velocities, combined with the natural filtering effects of the vegetation, it is not expected that sediment will have significant impacts to the infiltration facilities.

Additionally, the proposed design by WCE also includes sumps within Manholes, a biofiltration swale, a settling pond and overflow weirs into drywells to allow for settlement of sediment prior to entering the gravel galley under the infiltration pond.

The inflow to the Storage Area 6 infiltration facility flows through a grassy channel, at low velocity (average ~3 ft/s). It is similarly expected that the low velocities and filtering effects of the vegetation will minimize sediment transport into the facility. A similar design with sumps in manholes and overflow weirs into the drywells allows for settlement of sediment prior to entering the drywells of the triangle pond.

Finally, WCE has developed a grading plan of the site that keeps the finish floor of all proposed structures 1 foot above the Base Flood Elevation (BFE). And WCE has developed an Operations and Maintenance Plan for the facility to ensure the facilities receive regular maintenance and inspections to minimized the long-term effects of sediment that may enter these infiltration systems.

5. No shapefiles or CAD files were provided. Spatial files representing the following are required:
    a. New cross-sections and profile centerlines for the new hydraulic model and results;
    b. New floodplain boundaries;
    c. All of the data used in determining the revised floodplain boundaries, flood profiles and floodway boundaries. This includes the contours developed from the 2003 LiDAR.

All requested files have been included with the comment responses.

6. The CLOMR application states that the topography used was the 2003 LiDAR from the effective FIS. However, the person who is assigned to review the CLOMR will not have access to this information. It is recommended that not only do you provide all the LiDAR information including the spatial files, but also the survey report (if available) to illustrate the topography data satisfies the FEMA guidelines and specs (Vertical Accuracy needs to be +/-98cm)

The CLOMR application will be submitted to FEMA electronically through the online LOMC website. The FEMA submittal package will include some additional electronic materials that are required for the FEMA review which are not part of the package provided to the City. The digital materials will include work map files such at the LiDAR contour data and digital SFHB linework. The survey report has not been included; however, the 2003 LiDAR data is the same data used for the effective FIS. The data was reviewed and approved by FEMA at the time of the effective FIS.

7. The CLOMR submittal requires a certified topography map. In order for this to be completed, a registered engineer or surveyor will need to certify the topographic work map they prepared using the 2003 LIDAR data with a PE stamp.

A certified topographic map has been developed by WCE and will be provided with the CLOMR application.

Ordinance Initial Completeness

This portion of our review has been organized by applicable Spokane Valley Municipal Code (SVMC) ordinance chapter.

1. Flood Plain Ordinance SVMC 21.30

    a. Plans. Screening Comment: Plans drawn to scale showing the general nature, location, dimensions, and elevations of the area in question have been provided.

So, Noted

Reference: City of Spokane Valley - Painted Hills - CLOMR Review Initial Completeness Review

b. Application made for all relevant federal, state, and local permits. Screening Comments:

i. A draft application has been prepared for a Conditional Letter of Map Revision (CLOMR) for FEMA. Pending detailed review, it appears to be unnecessary to submit a CLOMR-F (CLOMR-Fill) application. Please see the completeness review specific to the CLOMR. The letter from Todd Whipple addressed to Henry Allen dated August 20, 2018, states that a CLOMR-F is being sought, but the submittal package includes only a CLOMR application.

The CLOMR-F language has been removed please see the revised Flood Control Narrative.

ii. Plan title blocks imply that permits issued by the City of Spokane Valley will also be sought, and presumably permits will also be sought from Spokane County for portions of the project under Spokane County jurisdiction. However, a review of the submitted material does not include a draft or final version of a permit application to either entity. It appears that applications for the following local permits are missing:

1. Spokane Valley: Grading permit for placement of more than 50 cubic yards of fill.

An amended land disturbance permit was submitted to the City of Spokane Valley on August 20th 2018. A copy of the submitted application is attached.

2. Spokane County: Grading Permit for placement of more than 50 cubic yards of fill prior to issuance of a building permit.

A grading permit and a floodplain permit was submitted to Spokane County on October 14th 2016. A copy of the submitted application is attached.

iii. The erosion and sediment control plan inclusion in the plan set indicates that the project proponents intend to comply with the requirement under the Washington Statewide Construction Stormwater General Permit to apply for coverage as a site disturbing more than one acre. This application process is generally done on-line within 60-90 days before construction is scheduled to begin, so application is premature at this time. We recommend written assurance that this is the project proponent's intent.

It is the intent of the project developer to follow all applicable requirements of the agencies that have jurisdiction over the property.

iv. Drywell registration documentation to the Washington Department of Ecology will be needed since part of the flood control strategy includes drywell installation. A table included in the project documentation would provide assurance of intent to comply with this requirement.

Drywell registration is a condition of plan acceptance. It is anticipated that prior to the acceptance of the Flood Control Plan Set and the Gustin pipe plan Set that the proposed drywells will be registered and copies of the registration will be provided to the City of Spokane Valley and Spokane County.

c. Watercourse maintenance, Screening comment: A watercourse operations and maintenance plan has been noted as "awaiting completion per jurisdiction comments" (p259, CLOMR application).

The proposed operations and maintenance manual (O &M) for the Home Owners Association has been drafted and previously submitted (October 14, 2016). With the completion of the EIS process, the O & M will be updated and submitted as a part of the Final Flood control plan approval.

d. Public utility plans for water and sewer are included in the project package.

So. Noted.

e. Department of Ecology approval will be required for development in a floodplain.

Although the DOE maintains oversight of the NFIP at the state level, to our knowledge they do not need to be part of the CLOMR process. CLOMRs and LOMRs only require review and signatures from the local community's Floodplain Administrator prior to submittal to FEMA and DOE is generally not involved in that process. Other CLOMRs and LOMRs within Washington have not required DOE specific approval provided the projects meet local community ordinances, which generally include state level NFIP requirements.

f. Demonstration that the project will not interfere with infiltration capacity is inherent in the design intent.

It appears that a summary of the mounding analysis dated August 22nd 2017, of the infiltration gallery at the time, did not get included into the flood control narrative. The flood control narrative has been revised to include a summary of the mounding analysis and its potential for impact of adjacent stormwater facilities.

g. Note that per SVMC 21 30.090, in the event the base flood elevation is increased by any amount, affected adjacent property owners must be notified, and provide their notarized approval. The detailed review will check if this provision applies; if it does apply, the applicants will be responsible for addressing this provision and they may be required to demonstrate compliance prior to any City approvals.

The proposed project will not cause any increase in BFE for any adjacent properties. Since floodplain changes will occur offsite (reduced BFEs or removal of Floodway) the required public notifications will be sent out by the City and County base on language we provide.

2. Critical Areas Ordinance SVMC 21.40

a. A critical area report is required. The document in the CLOMR application package includes a report titled, Painted Hills PRD, Biological Evaluation, Buffer Averaging, and Habitat Management Plan" that has many elements of a critical area report. However, it does not conform with. the requirements of a critical area report included in SVMC 21 .40. Specifically, a statement in the document that it was prepared to conform to SVMC 21.40 appears to be missing.

The biological evaluation, Critical Area Report and habitat management plan has been revised. A Statement that the report was completed in conformance with SVMC 21.40 is included in the first page of the report.

b. As impacts to the critical areas within the project limits are part of the project action, mitigation measures will be required. The report titled, Painted Hills PRD, Biological Evaluation, Buffer Averaging, and Habitat Management Plan" includes many components of a mitigation plan. Its contents need to reflect the requirements for a mitigation plan included in SVMC 21.40. Specifically, a cost estimate appears to be missing. The Erosion and Sediment Control Plan (ESCP) and what appears to be the critical areas mitigation plan are consistent.

The biological evaluation, Critical Area Report and habitat management plan has been revised. An updated cost estimate has been included under section 10.0.

c. A monitoring plan is required as part of the ordinance. It appears that a mitigation monitoring plan is included in the report titled, Painted Hills PRD, Biological Evaluation, Buffer Averaging, and Habitat Management Plan" includes many components of a monitoring plan. The monitoring plan must

comply with SVMC 21.40.

The biological evaluation, Critical Area Report and habitat management plan has been revised. A monitoring plan has been included under section 9.0.

d. Sureties. A surety is to be supplied. Typically, a surety is negotiated once the critical area report, maintenance plan, and monitoring plan have been accepted.

So, Noted.

e. Special Flood Hazard Area additional requirements must be included in the submittal package in accordance with SVMC 21.40. Many of these requirements apply to content in the CLOMR application package. However, an index directing the reviewer and future users of the documents would make the package easier to use.

So noted the Municipal Code Section 21.40.041 does apply primarily to the elements of the CLOMR as a whole a cover letter that may index each element, may be beneficial at the time of submittal.

3. Land Disturbing Activities SVMC 24.50
   a. A grading permit is required under this ordinance, consistent with the requirement under Flood Plain Ordinance SVMC 21.30. Components of the grading permit application include:
      i. A completed permit application form; this is not included in the documents reviewed to date.
      ii. Two sets of plans, and two copies each of reports, specifications, and reporting documents. However, noting that the reviewed materials are all on electronic media, the requirement for a second set of documents is mitigated.
      iii. Erosion and Sediment Control Plans area included, as are geotechnical reports, a drainage report, and a SEPA checklist.

The outline above is not intended to be a comprehensive review of the submitted documents with respect to the referenced ordinances. This review letter is intended to alert the project proponents to missing documents. Once all missing documents are supplied, a comprehensive and complete review can commence.

An amended land disturbance permit was submitted to the City of Spokane Valley on August 20th 2018. A copy of the submitted application is attached.

Hydrology Initial Completeness

From a **Hydrology** standpoint, the fundamental question formulated based on a first pass review is this: A large pervious area currently allows infiltration in a distributed fashion into an underlying sand and gravel layer. The proposed development concentrates that flow and increases the volume by converting pervious to impervious, while allowing infiltration only at distinct locations. A series

of dry wells and gravel galleries are incorporated into the development to try to promote similar overall infiltration characteristics as the previously more pervious tract. The test pits and borings indicate a cover soil with silt, clay, etc. that might slow down surface infiltration. However, there seems to be a continuous and more pervious sand and gravel layer below that can accept anything that infiltrates through that top layer {assuming it doesn't have a limited capacity}.

The geotechnical report alludes to the underlying groundwater being much deeper, but a full geologic section isn't provided. The proposed condition will likely have the same silt to clay type surface cover with the sand and gravel underlayment at a modest depth. In the absence of a more thorough regional hydrogeologic report, all of this leads me to conclude the infiltration approach can function, but the entire system is based on the assumed surface infiltration rates, the infiltration measures penetrating sufficiently through the surface to the underlying sand and gravel, and the assumption that the underlying more permeable layer is not confined and has excess capacity. I'm assuming the last point has been proven moot in this area, so the following questions are presented to get a better understanding of the importance of that infiltration rate and how it relates to the design assumptions and so we can compare those assumptions to the previous work prepared for the effective FEMA study:

We are unsure of which report from the Geotechnical engineer you are referring to as there are a total of eleven (11) reports for the project, some of which have been revised per City comment. All of the Geotechnical reports compiled to date have been attached to this letter for easier reference these reports have been numbered 1-11.

In regard to the underlying soil layers and flood control infiltration: Reports 1, 2, & 6 provide information to a depth from 15 feet deep test pits and 50 feet deep borings. dated December 31, 2013, October 14, 2014, and July 23 2016 respectfully. While Report 1 includes infiltration rates at a depth of 2.5 feet the design is based upon the additional exploration to the north.

At the north end of the project site per Report 8 dated April 19, 2016 borings were completed to a depth of 50 and 75 feet once groundwater was encountered. The boring logs provide a sample of the underlying soils. Based upon this information a full depth drywell was installed and tested for infiltration. Report 9 dated August 21, 2017 (revised) established the infiltration rate of the north pond and gravel gallery.

1. To help facilitate the review and to assure we aren't misinterpreting the design intent, please provide an annotated copy or copies of drawing sheet Cl .0 and C1.3 with indications of flow directions, peak discharges, estimates of total runoff volumes, and infiltration rotes & volumes for a 100-year, 24-hour duration standard storm event based on FEMA Effective Data, Corrected Existing, and Proposed Conditions. Reference points should be placed at flow path splits, structures, significant infiltration points, and hydraulically significant points within the study area. Providing the discharge and volume values in an accompanying table with corresponding point numbers is acceptable.

The proposed infiltration facility design outflows are steady state and are not assumed to be volume limited. This follows the assumptions used in the effective FIS. Since inflows to the project site are being captured with infiltration facilities that exceed the peak discharges, there was no need to modify the HSPF model to model the proposed conditions. Accordingly, the requested information does not exist. Above ground storage areas included in the design are additional safety measures

that are above and beyond what is needed to infiltrate the FIS discharges and remove the project site from the floodplain.

a. The purpose for the request is to help us perform a basic mass-balance and infiltration rate type review of the stormwater runoff with and without development.

While we understand the purpose, much of this work has been done in the IPEC mounding analysis Report 11.

2. An XP-SWMM model is provided for culverts under Madison Road. We request that this model be exported to EPA-SWMM format. The discharge values within the **SWMM** model will help with the hydraulic review.

Export to EPASWMM format requires a paid software extension that we do not own, therefore we cannot fulfill this request. We have provided some output files with these comment responses and can provide other information upon request.

3. Several proposed storm water facilities on the site are designed with dry wells and gravel galleries to promote infiltration. The geotechnical data indicates these features may be effective if properly designed, installed, and maintained. For FEMA CLOMR purposes they seem to be assumed to fully function as designed and infiltration is not affected by antecedent conditions. For City review and long-term maintenance considerations, what happens if these facilities fail and sufficient infiltration no longer occurs? This could be due to excessively wet antecedent conditions, accumulation of sediment and debris, bioaccumulation and clogging, or other causes. Are any structures at risk? Do any of the proposed or existing roadways overtop? Any downstream impacts due to additional discharge leaving the site?

a. If this information is contained in the provided data, it was not readily apparent from the initial review; in the response cover letter for the revised submittal, please highlight where this information is located within the submittal

This information is touched on in the narrative and contained within the design and the design features of the flood control facility as shown on the plans. Within your assessment you considered failure based upon the failure of one or more of the items: excessively wet antecedent conditions, sediment, and debris.

<u>Debris:</u> the transport of large vegetation within the floodwater from upstream of the facility. The floodwater flows over grassy fields at low velocity without a deep channel where large debris is typically transported. Any debris (brush grass or tree limbs) that are transported are conveyed through the 30' wide box culvert as detailed on sheet C5.10 into an open channel. At the end of the open channel is a headwall that includes two- 48" concrete pipes. Over the entrance to these pipes are sloped trash racks. As floodwater rises vegetation floats and clears the opening of the two concrete pipes. In addition to the trash racks which can be cleared with an excavator bucket, during a flood event, any overflow of the floodwater out of the open channel will flow into the pond area before topping Thorpe Road. Any floodwater that enters the park area is stored and released via infiltration or overflow into a catch basin that is piped into Madison pipe. The O & M manual

includes the removal of debris from the flood control facility after an event.

<u>Sediment:</u> the transport of suspended solids within the floodwater from upstream of the facility. As previously stated, the floodwaters flow across grassed fields with no distinct channel, thus limiting the transport of sediment. Within the WCE design as shown on sheets C5.20 through C5.22 The manholes include sumps that capture sediment. On sheet C5.30 the bioswale and sediment pond are shown. The tall grasses of the bioswale remove further suspended solids before the floodwater enters the settling pond. Within the settling pond velocities are further reduced to remove more suspended solids before the floodwater crests over a broad crested weir into the infiltration pond. Within the infiltration pond on Sheet C5.31 the floodwater is essentially at a stand still as the water filters through the treatment soil. If the pond inflow rate exceeds the infiltration outflow rate then floodwater slowly rises to rim of the drywells and enters the infiltration gallery on sheet C5.32 which has been shown to have a higher infiltration rate than the peak inflow rate of the model. The O & M manual includes the removal of sediment from the open channel, the Manholes the bioswale, the settling pond and the infiltration pond as needed on a flood event basis.

<u>Excessively wet antecedent conditions:</u> A condition of oversaturated soil surfaces prior to a flood event, thus producing a volume and peak flow rate greater than that modeled by the FIS.

It should be reiterated that the primary infiltration facility design inflow exceeds the FIS peak inflow for the 0.2% annual chance event (including the levee failure scenario), and further additional above ground storage has been incorporated into the design. While no facility can be designed for the ultimate unknown flood event that would require the evacuation of the residents in the area, the design does provide the means to rapidly reduce the volume of floodwater in the area.

4. It appears the proposed infiltration pond at the northern boundary of the site has been sized to contain a 50-year storm based on simplified runoff assumptions using the rational method. Fundamentally, what happens during a 100-year, 24-hour storm event with a higher peak discharge and runoff volume? Have discharge hydrographs been developed and routed? Are the conveyance structures adequate to control that overflow? Similarly, if the basin does not provide sufficient infiltration, what structures are at risk?

    a. The same question would apply for the modifications to Storage Area #6.

While the concept storm drainage report utilizes the 50- year storm event as the design volume to be held within localized swales and ponds and then discharged via drywells. The north pond is designed to hold and discharge an event greater than a 100-year <u>flood</u> event, understand that the 100-year <u>flood</u> event is larger than a 100-year 24 hr. <u>storm</u> event.

As the storage areas #1 and #6 are the geographic low point of the area, and the creation of the ponds only shifts and lowers that point even further, there is no overflow route that does not exceed the Base Flood Elevation (BFE) in order for the water to flow to the Chester Creek channel. Therefore, there are no overflow routes or discharge hydrographs for these compensatory storage areas. As all structures are proposed to be placed 1 foot above BFE no structures are anticipated to be at risk.

The questions above are pertinent to the initial completeness review and our overall understanding. During the detailed review phase of the project, we're planning to review the

HSPF model in greater detail and will document that review.

So, noted

Initial Completeness Summary

The applicant shall address all initial completeness questions and comments listed in the CLOMR, Ordinance and Hydrology Sections above and submit an updated floodplain permit application that includes all elements to the City of Spokane Valley for review

So, noted please refer to the responses provided.

If you have any questions or comments in regard to this response letter please feel free to contact us at (509) 893-2617.

Thank you

Ben Donaldson For

Todd R. Whipple, P.E.

TRW/bng

Encl: City of Spokane Valley, Land Disturbance Permit 8-20-18
Spokane County Floodplain Development Permit 10-13-16
Spokane County Building Permit (Grading) 10-13-16
Revised Flood Control Narrative 3-5-19
BSW Revised BE, CAR, and HMP (within the Appendix of the narrative)
IPEC Geotechnical Summary of Reports 1-11

LAND DISTURBANCE (LD) PERMIT CHECKLIST

10210 E Sprague Avenue ♦ Spokane Valley WA 99206
(509) 720-5240 ♦ Fax: (509) 688-0037 ♦ permitcenter@spokanevalley.org

Project Address: 4403 S. Dishman-Mica Road Today's Date: June 6, 2018

Project Description: Improvement fill of the property and construction of flood control systems, to remove the project site from the Zone AE Compensatory Storage Area.

Signature: Bryan Walker Print Name: BRYAN WALKER

The purpose of this checklist is to gather information about the proposed project so to determine what land disturbance permit, if any, is required by the Spokane Valley Municipal Code (SVMC).

Starting with Part 1 and working from top to bottom, please answer the following questions.
The first "Yes" identifies the type of land disturbance (**LD**) permit required.

PART 1 – Is LD work exempted or already covered? (SVMC 24.50.020) If so then LD permit not needed.

☐ Yes ☑ No Does your project only have to do with emergency utility work; cemetery graves; eliminating septic tanks; digging out a basement; building a wall less than 4 feet high; disposal of refuse that is covered under other regulations; already permitted mining, quarrying, stockpiling of aggregate material (rock, sand, gravel, aggregate, or clay) or exploratory excavations done under the direction of a licensed engineer or engineering geologists? If yes, then project exempted from a LD permit.

PART 2 – Engineered Grading Permit needed? (SVMC 24.50.030; 2 sets plans, 1 set calcs etc. from Engineer

☑ Yes ☐ No Will this grading be for a short plat, subdivision or binding site plan?
☑ Yes ☐ No Will any grading occur in a FEMA floodplain, wetland, wetland buffer, Fish and Wildlife habitat conservation area or geologically hazardous area?
☑ Yes ☐ No Will the volume of excavation or fill for the project be over 1000 cubic yards? (Note – if volume is greater than 1000 cubic yards then a SEPA environmental checklist will need to be submitted for review)
☑ Yes ☐ No Will the grading create a base or support for a permanent structure?
☐ Yes ☑ No Will the grading be for a driveway that is longer than 75 feet?
☐ Yes ☑ No Will any grading occur in a drainage channel or be for a water feature (like a pond) with a surface area greater than 500 square feet?
☑ Yes ☐ No Will this grading result in the addition or replacement (excluding pavement maintenance) of 5,000 square feet or more of impervious surfaces or the disturbance of 1 acre or more land or the construction of new drywells or other underground injection control (UIC) facilities?
☐ Yes ☑ No Will any excavations or fills have slopes at 2:1 (H:V) or steeper **and** heights greater than 2 ½ feet'
☐ Yes ☑ No Will any excavations or fills have slopes at 10:1 (H:V) or steeper **and** heights greater than 4 feet?

PART 3 – Regular Grading Permit needed? (SVMC 24.50.040; 1 set of plans showing grading and temporary erosion and sediment control; does not require engineering)

☑ Yes ☐ No Will the volume of excavation or fill be over 50 cubic yards on any one lot?
☐ Yes ☑ No Will any excavations have slopes at 2:1 (H:V) or steeper **or** heights greater than 3 feet?
☐ Yes ☑ No Will any fills have slopes at 2:1 (H:V) or steeper **or** heights greater than 2 feet?

PART 4 –Grubbing and Clearing (G&C) Permit needed? (SVMC 24.50.050; 1 set of plans showing G&C and temporary erosion and sediment control; does not require engineering)

☑ Yes ☐ No Will the G&C work disturb 5,000 or more square feet of area or remove 7 or more trees? (Note that forest practices overseen by DNR or commercial agriculture are exempt)
☑ Yes ☐ No Will there be any clearing on slopes or near/in FEMA floodplains, wetlands, wetland buffers, Fish and Wildlife habitat conservation areas, geologically hazardous areas or erodible soils?

If the answers to all of the questions above are "No" then a permit is not required for the proposed work.

City of Spokane Valley

(Staff Use Only)
PERMIT NO.:
CHECKLIST?: ☐Y ☐N INIT: ____

10210 E Sprague Avenue ♦ Spokane Valley WA 99206
Phone: (509) 720-5000 ♦ Fax: (509) 720-5075 ♦ permitcenter@spokanevalley.org

LAND DISTURBANCE PERMITAPPLICATION

STAFF USE :
☐ ENGINEERED GRADING ☐ REGULAR GRADING ☐ GRUBBING & CLEARING

APPLICANT USE :
SITE ADDRESS: ***4403 S. Dishman-Mica Road***
ASSESSORS PARCEL NO.: ***45336.9191, 45334.0106, 45334.0108, 45334.0109, 45334.0110, 45334.0113, 45334.0114, 45334.9135, & 44041.9144***

APPLICANT NAME: ***Whipple Consulting Engineers Inc.***

PHONE: **(509) 893-2617** EMAIL: **toddw@whipplece.com** CELL:

CONTACT NAME (SAME AS APPLICANT): ***Todd R. Whipple, P.E.***

PHONE: ☐ EMAIL: CELL:

PROPERTY OWNER NAME: Black Realty, Inc and NW Renovators, Inc. c/o Bryan Walker CHECK IF APPLICANT ☐

MAILING ADDRESS: **107 S Howard St, #500**

CITY: **Spokane** STATE: **WA** ZIP: **99201**

PHONE: **(509) 623-1000** EMAIL: **bwalker@naiblack.com** CELL:

☐ ☐

CONTRACTOR NAME: TBD CHECK IF APPLICANT

MAILING ADDRESS:

CITY: STATE: ZIP:

PHONE: EMAIL: CELL:

STATE LIC. NO.: EXPIRES: UBI:

DESCRIBE THE SCOPE OF WORK IN DETAIL AND INDICATE USE:

Improvement of the property and construction of flood control systems via engineered fill, to remove the project site from the Zone AE Compensatory Storage Area. Floodwaters will be directed through a Thorpe Road box culvert to a headwall with two 48" Pipes that carry the floodwater to the north end of the project and empties into a bioswale and then a stilling pond before flowing over a weir into a pond and then overflows into a gravel gallery and discharges via infiltration, as do the current floodwaters.

ESTIMATED QUANTITIES (CUBIC YD): CUT: **63,294 cy** FILL: **391,583 cy (Net Fill 328,289 cy)**

IF CUT, PROVIDE DESTINATION OF SOIL: Future development areas within the project site

START DATE: Spring 2019 **ESTIMATED COMPLETION DATE: Summer 2019**

Bryan Walker 8/17/20
Signature: Date

For Office Use Only:			Substantial Improvement? _____
Permit # _____	Panel # _____	Map Date _____	Zone _____ BFE _____
Datum	Site Visit?	Bond?	Previous El. Cert?

Spokane County
Division of Engineering & Roads
1026 W. Broadway Avenue, Spokane WA 99260
(509) 477-3600

FLOODPLAIN DEVELOPMENT PERMIT APPLICATION

The undersigned hereby makes application for a permit to develop on a parcel all or a portion of which is located in a designated flood hazard area. The work to be performed is described below and in attachments hereto. The undersigned agrees that all such work shall be done in accordance with the requirements of the Spokane County Flood Ordinance (Chapter 3.20 of the Spokane County Code) and with all other applicable local, state, and federal regulations. The undersigned grants the County Engineer and designees permission to access the property in order to ensure compliance with the Spokane County Flood Ordinance and the conditions set forth in the floodplain development permit. **This application must be accompanied by site plans of the proposed development. Plans and/or survey data provided by a licensed professional may also be necessary (see application checklist).**

A. PROPERTY INFORMATION

Site Address: Hwy 27, 0.6 mi south of 32nd Ave.

City/State/Zip: Spokane Valley, WA

Tax Parcel Number: 1) 45344.9108, 2) 45353.9052

Owner Name: 1)Bar 4 Bar Inc. 2)Timothy & Joanne Comer

Owner Address: 1) PO Box 867 2) 12908 E 39th Ln

City/State/Zip: 1) Veradale, WA 99037 2) Spokane Valley, WA 99206

B. APPLICANT INFORMATION

Name: Black Realty, Inc.

Address: 107 S Howard St, #500

City/State/Zip: Spokane, WA 99201

Contact Person: Brian Walker

Phone Number: 509-623-1000

Cell Number: _____

C. DESCRIPTION OF WORK: Check all that apply.

1. Type of Construction:
   ☐ New Construction ☐ Addition or Remodel to Existing Structure* ☐ Repair of Damaged Structure
2. Building Use:
   ☐ Residence ☐ Detached Garage ☐ Shop ☐ Barn ☐ Commercial ☐ Other _____
3. Building Type:
   ☐ Frame ☐ Basement ☐ Manufactured ☐ Recreational vehicle ☐ Pole ☐ Other: _____
4. Utility
   ☐ Well ☐ Septic ☐ Underground Wiring/Piping
5. Earth Work:
   ☐ Grading for driveway ☐ Grading for building
   ☐ Fill Material Material type: _____ C.Y.: _____ C.Y. below BFE: _____
   ☐ Excavation Material type: _____ C.Y.: _____ C.Y. below BFE: _____
6. Water-Related Construction**:
   ☐ Culvert ☐ Bridge ☐ Fixed Dock (floating docks do not require FPD permit) ☐ Bulkhead
   ☐ Bank Stabilization ☒ Watercourse Alteration ☐ Other: _____
   ☒ Fill material used for water-related construction Material type: Native soil C.Y.: 5100.00
   ☐ Excavation needed for water-related construction Material type: _____ C.Y.: _____
   Name of waterbody you will be working in/by: unnamed agricultural ditch

D. SITE / BUILDING PLANS CHECKLIST FOR ALL DEVELOPMENT

☐ Property dimensions
☐ Dimensions and locations of proposed structures and existing structures
☐ Location of proposed and existing septic/drain field
☐ Location of proposed and existing utilities/well
☐ Location of proposed and existing access road/driveway
☐ Location of source of flooding with distance from proposed development (i.e. lake, stream etc.)
☐ Location of fill /excavation from development with distance and amounts

E. IF BASE FLOOD ELEVATION HAS NOT BEEN ESTABLISHED

☐ Structure corners and grading/fill extents to be flagged prior to site visit

F. IF BASE FLOOD ELEVATION HAS BEEN ESTABLISHED (all info in this section must be stamped and signed by a surveyor licensed in the State of Washington and be located on the site plan)

☐ Elevation of lowest natural grade adjacent to all proposed structures and any other development
☐ Proposed and/or existing elevations of the lowest finished floor of the structures including basement
☐ Elevations of proposed structure corners and spot elevations in areas of proposed grading or other development
☐ If area to be developed is near or within the floodplain boundary a full topo of the area is required
☐ Floodplain boundary and temporary bench mark with elevation (also to be flagged on site)

G. IF PROPOSED CONSTRUCTION IS BELOW BASE FLOOD ELEVATION

☐ Provide plan and certification*** of foundation and/or flood vents
☐ Provide a cross section of the foundation and the location of said elevation on the foundation/wall
☐ Provide plans and certification*** of flood resistant materials & other construction materials & methods to be used
☐ Identify existing and proposed final ground elevations for both the internal and external ground next to the foundation walls
☐ Provide plans and certification*** of anchoring for manufactured homes or recreational vehicles
☐ Provide certification** and proposed elevation of flood proofing, if any, for non-residential structures

H. IF FILL, GRADING OR CROSSING STRUCTURE PROPOSED WITHIN FLOODPLAIN

☐ Hydrologic and/or hydraulic engineering analysis required (contact staff for specific requirements)

FEES:

Residential Floodplain Development Permit $140.00**** (additional review fees may apply), Non-Residential Floodplain Development Permit $235.00**** (additional review fees may apply), SEPA Checklist: $96.64

* If the cost of the addition/remodel is greater than 50% of the structures fair market value, it must meet the requirements of a new structure.

** If this project involves work in wetlands or below the ordinary high water mark of any waterbody, a JARPA form and a SEPA environmental checklist must be submitted with this application.

*** Certification shall be provided by a civil engineer/architect licensed in the State of Washington

**** In A Zones with a known elevation a $750.00 bond will be required for residential development. For all other development the bond fee will be decided upon in accordance with work being done. Bond to be returned when an as-built elevation certification or as-built plans are returned showing compliance with the permit conditions.

I understand the issuance of a Floodplain Development Permit is contingent upon the above information being correct and that the plans and supporting data have been or shall be provided as required.

Applicant Signature: Duncan Wilson **Date:** 10-13-10

If you have questions or concerns regarding the Floodplain Development Permit Application, please contact the Spokane County Engineers, Environmental Programs at 477-3600.

For Office Use Only — CONDITIONS

☐ No work permitted below BFE
☐ Grade w/in floodplain to be restored to pre-project condition
☐ Disturbed areas w/in floodplain to be stabilized with vegetation upon project completion
☐ Project to be completed per plans prepared by _____ Date _____
☐ Other _____
☐ SEPA required ☐ JARPA required
☐ All spoils disposed of in an upland location

BUILDING PERMIT APPLICATION WORK SHEET

SPOKANE COUNTY DEPARTMENT OF BUILDING AND PLANNING
1026 WEST BROADWAY AVENUE
SPOKANE, WA 99260
509-477-3675

SPOKANE COUNTY

SPECIFIC SITE INFORMATION

Street Address:	Hwy 27, 0.6 miles south of 32nd Ave.
Assessor's Tax Parcel Number(s):	1) 45344.9108, 2) 45353.9052
Legal Description:	34-25-44 NW1/4 OF SE1/4 EXC THE W 600FT OF S 400FT THEREOF & EXC THEPTN DAF; BEG AT NE COR SD1/4 TH S ALG E LN SD1/4 412FT; TH WTO W R/W LN STATE HWY; TH CONT W 145FT; TH S 157FT; TH E 145FT; TH N 157FT TO POB 34-25-44 PTN OF SW1/4 DAF; BEG AT NE COR OF SD SW1/4 & TRUEPOB TH S529.61FT TH N58DEG 02MIN 10SDS W606.65FT TH N45DEG46MIN 26SDS W TO N LN OF SW1/4 TH E ALG SD N LN TO POB EXCPTN DEDICATED FOR CO RD
Project Description:	Regrade existing ditch to create a flood control levee on the south side and install drywells in existing borrow pit to enhance storm drainage disposal. Construct maintenance road into borrow pit.

☐ Building Permit	☐ Change in Use	■ Grading	☐ Manufactured Home Permit
☐ Relocation	☐ Sign	☐ Tenant (New/Change)	☐ Other

OWNER/APPLICANT INFORMATION

☑ *Indicate who should be contacted regarding this project*

☐ Owner

Name: 1) Bar 4 Bar, Inc (45334.9108) - 2) Timothy& Joanne Comer (45343.9052)		
Mailing Address: 1) PO Box 867 - 2) 12908 E 39th Ln		
City: 1) Veradale - 2) Spokane Valley	State: WA	Zip Code: 1) 99037 - 2) 99206
Phone:	Fax:	
Email Address:		

☐ Applicant

Name: Black Realty, Inc. - c/o Bryan Walker		
Mailing Address: 107 S Howard St. #500		
City: Spokane	State: WA	Zip Code: 99201
Phone: 509-623-1000	Fax:	
Email Address: bwalker@naiblack.com		

☐ Contractor

Name: TBD		
Mailing Address:		
City:	State:	Zip Code:
Phone:	Fax:	
Email Address:		
WA State Contractor License #:		

☒ Architect/Engineer

Name: Whipple Consulting Engineers, Inc.		
Mailing Address: 2528 N Sullivan Rd		
City: Spokane Valley	State: WA	Zip Code: 99216
Phone: 509-893-2617	Fax: 509-926-0227	
Email Address: toddw@whipplece.com		
Contact Name: Todd R Whipple, PE		

PROJECT INFORMATION

Building Information

Building height to peak:		# of stories:		Main floor sq. ft. :		Unfinished basement sq. ft. :	
Dimensions:		Total habitable space:		2nd floor sq. ft. :		Finished basement sq. ft. :	
Occupancy group:		Construction type:		Garage sq. ft. :		Deck\Patio sq. ft. :	
Cost of project:	$			Heat source (electric, gas, etc.):			

Manufactured Home

Width:		Length:	
Year:		Make:	
VIN/SERIAL #:		Model:	

Sign

Sign Face Square Footage:		Sign Height:	
# of Signs:		Area of existing signs:	

Relocation

Previous Address:	
Proposed Use:	

Grading

Describe Scope of Work:
Regrade existing ditch to create flood control levee and add drywells to existing storm pond for increased storm water disposal

How many cubic yards of fill?	5100.0
Type of fill:	Native soil

ADDITIONAL SITE INFORMATION

Are there any structures on the property? *If yes, identify on site plan*		☐ No	■ Yes
Is any part of the property within 250 feet of a shoreline? *If yes, identify on site plan*		■ No	☐ Yes
Is your property in a designated wildlife habitat area?	☐ Don't know	☐ No	■ Yes
Is any part of the property within a 100 yr flood plan? *If yes, identify on site plan*	☐ Don't know	☐ No	■ Yes
Are there any wetlands, streams or ponds within 200 feet of the property? *If yes, identify on site plan*		■ No	☐ Yes
Are there slopes greater than 30% on the property? (30 ft. rise in 100 ft.) (____%)		■ No	☐ Yes

What is the current property size?	1) 32.17 ac. 2) 4.25 ac.	
What is the current use of the property?	1) farmland 2) borrow pit, County storm pond	
Will the site be served by a septic system?	■ No	☐ Yes
Are there or will there be wells located on the property? *If yes, identify on site plan*	■ No Not in project area.	☐ Yes
Is there evidence of fill or excavation on the property?	☐ No	■ Yes
Are critical and hazardous materials used or stored on site?	■ No	☐ Yes

METHOD OF PAYMENT

☐ CASH ☐ CHECK ☐ VISA ☐ MasterCard ☐ DISCOVER

FAXED PERMITS WILL ONLY BE ACCEPTED WITH PAYMENT OF A MAJOR CREDIT CARD

DATE: _____ EXPIRES: _____

BANKCARD NUMBER: _____

AUTHORIZED SIGNATURE: _____

SUBTOTAL	
TOTAL FEE	

PLEASE MAKE CHECKS PAYABLE TO SPOKANE COUNTY PERMIT CENTER