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RE: Lot 66 Wetland Mitigation

Wetland mitigation on Lot 66 Trout Lake is complete and occurred over May 23rd and 24th, 2022. A detailed description of work completed as well as representative photographs of the mitigation site is included in this memo. The following actions were completed during mitigation:

- Site access and preparation:
 - Relocation of stacked boulders at entrance to surveyed driveway
 - Demarcation of the proposed wetland mitigation site to the east of the surveyed driveway
 - Removal of a mature willow located within the approved driveway alignment
- Mitigation activities:
 - Excavation of area within mitigation site
 - Transplanting of the removed willow from driveway alignment
 - Transplanting of 3 spruce saplings
 - Transplanting of sedge
 - Transplanting willow cuttings
- Site clean-up:
 - Mulch distribution across disturbed area
 - Watering of all transplanted vegetation
 - Installation of silt fence to protect mitigation area during construction activities.

The triangular mitigation site measures ~1,200 sqft (65' x 65' x 40') and is bordered on two sides by wetland areas. Within the mitigation site a 3' - 5' buffer strip was reserved between the existing wetlands and the area of disturbance within the mitigation site. The buffer strip minimized direct impact to the existing wetlands during mitigation work and the buffer square footage is included in the mitigation total as increased saturation due to hydrologic mitigation will result in improved vigor of wetland vegetation along the buffer strips.

The area of direct earthwork within the mitigation site totals ~900 sqft (55' x 50' x 30'). 12" to 18" of topsoil was removed from the disturbance area and staged on the surveyed centerline for driveway access to Lot 66. Removal of soils lowered the

effective grade of the mitigation site to match adjacent elevations of saturated wetland areas. Buffer strips remained at their pre-mitigation elevations. The modified grade of the site will allow for increased soil saturation and result in hydrologic changes which will support the transplant vegetation.

Re-planting of mitigation site included segmenting and transplanting of the removed willow to three locations adjacent to the pre-existing wetland area. Three spruce trees were transplanted from the approved driveway corridor to the mitigation site. Transplanted sedge was sourced from the area of wetland impact where the driveway will cross the creek (permitted impact area) and from the willow transplant locations. Sedge was distributed at an approximate of one plant clump per square yard. Plant clumps are described as large sedge mats (12" x 12"), small sedge plugs (4" x 4") and singular sedge plugs. 35 singular willow shoots and 10 bundles of grouped willow cuttings were preserved from the transplanted willow and planted within the mitigation area.

Following completion of planting activities, mulch from dead trees on the site was distributed across the disturbed mitigation area to improve soil moisture retention and to encourage vegetation growth. All vegetation transplants were watered on the evening of the 23rd and the morning of the 24th to improve soil saturation and encourage successful transplanting. 100' of silt fencing was installed along the upland margin of the mitigation site to prohibit impact from driveway construction and building activities going forward.

The total area of wetland mitigation on the site is ~1,200 sqft, consisting of 900 sqft of direct mitigation and 300 sqft of hydrologically enhanced buffer zones. See below for representative photographs and captions detailing all work completed on Lot 66.

Thank you and please feel free to contact us with any questions via email at fischerhazen@gmail.com or via telephone at 970/708-4957.

Respectfully,



Fischer Hazen

Ecologist

The Terra Firm, Inc.



Image 1: Photo from Trout Lake Rd. looking south towards Lot 66. Mitigation area circled in red.



Image 2: Looking south from the northern point of the mitigation site. Transplanted sedge, willows and spruce saplings visible in image. The orange-colored mulched area is where the grade was lowered and transplanting occurred. The grassy margin in the bottom of the image is one of the buffer areas described in the report. Pre-existing wetland area located in left of image and identified by mature willow growth. Driveway alignment right side of image beyond the silt fencing.



Image 3: Image looking southwest from the eastern most point of the mitigation area. Driveway alignment located behind silt fencing. Buffer area between existing wetlands and disturbed mitigation area visible on left of image and highlighted in red.



Image 4: Image taken from same location as Image 3 but looking to the west. Dave Foley's house visible in background. Northern margin of restoration area visible in image. Buffer area highlighted in red. Driveway alignment behind silt fencing.



Image 5: View to the north of mitigation area taken from the southern extent of the silt fencing. Pre-existing wetland area dominates right side and background of the image.



Image 6: First of three willow transplants from willow that was removed from the driveway alignment. Located in northeast of mitigation area.



Image 7: Second of three willow transplants from willow that was removed from the driveway alignment. Located in the eastern margin of mitigation area.



Image 8: Third of three willow transplants from willow that was removed from the driveway alignment. Located in eastern margin of mitigation area. Two of three pine tree sapling transplants visible in middle of image.



Image 9: Typical clumped willow cuttings (immediately behind glove) used for planting of mitigation area.



Image 10: Typical willow cutting highlighted by red arrow. Typical small sedge plug located just above glove.



Image 11: Typical willow cutting behind glove. Typical singular sedge plug highlighted by red arrow. Typical large sedge mat highlighted by yellow arrow.



Image 12: View to southeast from driveway entrance. Relocated boulders visible on either side of driveway access.



Image 13: View from driveway centerline towards mitigation area to the southeast. Wind row of dirt stacked on driveway centerline. Silt fencing visible between driveway and mitigation area.



Image 14: View to the south along the silt fence line. Mitigation area in left of image, dirt staged on centerline of driveway alignment.



Image 15: View to the south of the channel crossing where driveway transitions to turnaround. Building envelope visible in background of image. Sedge for transplanting was harvested from this location. The transplanted willow was in the bottom right corner of the image. Roots of removed and transplanted willow visible.