Pittman Terrace Water Quality Improvement Project

Thursday, November 30, 2017
2:00PM– 4:00PM
Tahoe Douglas Fire Protection District Meeting Room

Meeting Minutes

Attending:

Shannon Friedman, TRPA
Meredith Gosejohan NDSL
Matt Nussbaumer, NDOT
Johnathan Smith, NDOT
Ed Skudlarek, NDEP
Monica Grammenos, NTCD
Chris Waechter, NTCD
Meghan Kelly, NTCD
Erik Nilssen, Douglas County

After a round of introductions, NTCD addressed background information about the project, including reiterating the project's goal which is to treat stormwater for fine sediment particles in the area of Pittman Terrace. The objectives include stabilizing eroding channels and enhancing infiltration in conveyance features, partnering with Pittman Terrace Homeowners (PTHOA), and obtaining Lake Clarity Credits for NDOT and Douglas County.

A review of project funding was presented. NTCD stated the project was on track with the proposed budget. A brief overview of the project location and associated catchments for the project was outlined. NTCD explained that the total PLRM credits for this project would be one credit for Douglas County and approximately 10-12 credits total. Douglas County noted that they would likely not register their credit.

A review of the alternative analysis evaluation criteria was explained for each of the three project alternatives. NTCD explained that, at the last TAC meeting, Alternative 2 was decided as the best option based on the criteria as long as private property could be obtained for implementation of Alternative 2. If the property could not be obtained Alternative 1 is the preferred alternative. This private property was not able to be secured from the owner and Alternative 1 was moved forward into 50% design. Alternative 1 consists of the implementation of ditch treatments on Friedhoff, Flowers, and Douglas Blvd.

TRPA asked why there were micro basins proposed in the ditch treatments, and NTCD responded that these micro basins were wider areas within the ditch for collection of sediment and easy maintenance. New sediment cans in the NDOT right-of-way on Highway 50 will not be implemented as a revision to the earlier Alternative 1 due to constructability concerns. NTCD explained that sediment cans do not receive any PLRM credits, and efforts would be focused to proposed downstream infiltration ditches.

As part of the 50% design, a property boundary survey was performed to examine how much space there was for design of drainage features on Flowers Ave. The boundary survey revealed that the property line is only half of a foot away from the edge of pavement on

Flowers Ave, therefore not allowing any type of improvements in this area. Building improvements on the other side of the street is not possible within the current budget. NTCD stated they looked at getting a boundary line adjustment (BLA), a drainage easement, and property donation. Although the owner was receptive to a BLA, it was not possible because the BLA would have involved a right-of-way adjustment. The Douglas County right-of-way abandonment and acquisition process will not fit within the project schedule. Additionally, the improvement proposed on Flowers Ave would have only resulted in about 1.2 PLRM credits. Therefore, all improvements on Flowers Ave. have been abandoned for the 50% design.

NTCD explained they are in contact with RCI and Midkiff and Associates regarding a new fire intake line. Pittman Terrace home owner Chris Sauer is proposing construction of a fire line and hydrant in the existing unpaved access path on Douglas Blvd where proposed improvements for this project are occurring. NTCD will keep in contact with project designers to prevent any conflicts. Also, there is an existing power pole with power and communication lines in the existing Douglas Blvd ditch. NTCD is coordinating with NV Energy to protect these improvements in place.

NDEP asked if the Pittman Terrace homeowners have reviewed the 50% design plans. NTCD stated the 50% design plans have been delivered and had recently been in contact to know that the homeowners received them, but it is unknown whether they have reviewed them. NTCD had requested comments from the Pittman Terrace homeowners prior to the meeting and hopes to see comments by the deadline. NDEP asked if there were any changes to the existing flow pattern with the implementation of this project. NTCD responded that the catchments and outfalls will be the same as the existing conditions, and the objective is to improve infiltration in-line.

NDEP asked what type of assessment had been done so far to verify that the proposed infiltration features will function. NTCD explained that a full Geotechnical investigation would not be done due to project budget constraints and the lack of structural improvements on the project. NTCD staff could perform Constant Head Permeameter (CHP) testing to measure hydrological properties of soil in the project area if required. NDEP expressed concern for a bed rock layer lying underneath the top soil, and to identify the depth of soil. NTCD responded that the soil could be spatially variable, and research from the NRCS website was used to understand soil conditions in the area. NTCD asked TRPA if there were any soil hydrology reports that exist within the area. TRPA will verify. NDEP agreed that a depth of 12 inches for the CHP testing would be sufficient in determining the hydrologic soil properties for the proposed infiltration features within the project site.

Sheet C-1 shows the retrofitted NDOT infiltration system as well as the one on Pittman Terrace. Two 18” pipes surrounded by drain rock will be added to an existing sediment can design in the NDOT right-of-way. NDOT asked what the lengths of these perforated pipes would be. NTCD said they would be 60 feet long. NTCD asked NDOT how many feet of perforated pipe they would be able to clean out, and NDOT stated hundreds of feet. NDEP asked NDOT if they had the ability to clean this pipe via flushing and vactoring, and NDOT confirmed. NDEP commented on the how well the perforated pipe could be cleaned as it is

proposed to be capped at both ends. NTCD responded they could add a clean out to the end of the perforated pipe. NDOT suggested a sediment can could be added on the end of the perforated pipe. NDOT asked what the bases of the sediment cans would consist of. NTCD responded that it is an open bottom with gravel underneath. It will be pre-cast or poured in place concrete, and NTCD could use an NDOT detail for later design. NDOT stated there have been problems with weep holes clogging in other sediment cans.

NTCD explained the infiltration system on Pittman Terrace would treat stormwater that currently ponds on Pittman Terrace. The existing drainage inlet does not contain an outlet as confirmed by the adjacent home owner's plumber. NDEP asked whether the volume of water in this area would be sufficient enough for treatment in this location. NTCD explained that about 200 square feet of treatment area and approximately 100 feet of perforated pipe is proposed in this location. The PTHOA will be maintaining this infiltration feature. NDEP asked if Douglas County will verify PTHOA maintenance, Douglas County said they will not.

Sheet C-2 shows the improvements on an existing eroding ditch on Douglas Blvd. A historic fence lines the channel, and the homeowner would like to protect it. The existing fence on Pittman Terrace will be shifted to match more closely to the latest property boundary survey. The Douglas Blvd existing channel is eroded, and water is diverted out of the channel into the unpaved access path before entering Lake Tahoe. A micro basin is proposed on Friedhoff as a depression to collect sediment before it crosses the road through a culvert. The culvert is currently undersized. NDEP asked what the function of the micro basin was, and NTCD responded that it is a depression to collect sediment within the channel. NDEP asked if the flow would be of such magnitude that the micro basin would flush out and if the basins were hardened or have open paver bottoms. NTCD said these micro basins can short circuit and flow can bypass in high flow situations, but the stormwater contained in the micro basin will remain and provide some infiltration.

NDOT asked if sediment cans would be placed near the micro basins so that sediment could filter out of the system. There will be a sediment can or similar outfall structure in the Freidhoff Dr. micro basin. NTCD stated they evaluated this option for the micro basin on Douglas Blvd; however there is not much room to add a sediment can with an outlet. A micro basin without a sediment can would be an easier maintenance option. There will be an infiltration feature on Friedhoff but none on Flowers due to the property line constraint.

NTCD asked TRPA to verify what was occurring with the culvert under an access road being used as construction access for private property, which will be needed until 2019. TRPA said they have looked at the plans from the homeowner and there are currently plans to abandon and restore this access road. The permit may already be written, so it may be difficult to amend the permit. NTCD stated it would be great if the abandoned access road could be replaced with the proposed rock line channel after construction. NTCD will not be able to address the culvert given the project funding timeframe and the private property granted access timeframe.

An open paver path is proposed on the Douglas dirt road for continued access to the beach and maintenance vehicle traffic. This should limit erosion that has been a problem in this area.

NDOT, NDEP and TRPA expressed concerns with the cost of this improvement. NTCD stated water bars and revegetation could be another option for stabilization and drainage down the dirt access path. NDOT suggested grading the area and stabilizing it with rock. NTCD stated rock may not be the best option due to public beach access being expected, but vegetation could work. TRPA suggested that the PTHOA could possibly provide in-kind funding for open pavers in this area. NDEP suggested the dirt road only contains erosion on the lower portion, where the existing eroded drainage channel cuts onto the road, and structural erosion control may not be necessary. NTCD stated water bars or rolling dips would be needed due to the steep slope of the dirt access path. The TAC overall did not support a paver path and will accept revegetation and water bars or rolling dips for 90% design.

NDOT stated that the valley gutter proposed at the end of the Douglas Blvd pavement may not perform well due to the steep slope of Douglas Blvd and suggested a trench drain. NTCD stated that a valley gutter was selected over a trench drain because of the sewer and water lines buried in that area. TAC consensus was that a trench drain would be better if installation was possible. NTCD will look into getting the area potholed immediately to see if this design is possible.

NDEP asked about any tree removal occurring. NTCD said two trees were shown as being removed because they are close to the proposed channel improvements. However, those trees may need to be protected in place because of ties to overhead utilities. The overhead utilities are private so the project would be responsible to pick up the cost of moving the lines from the trees to a power pole.

Sheet C-3 shows the channel on Friedhoff with proposed rock line and block channel and infiltration feature. NDOT asked if there was a bench for the channel near the road. NTCD stated there was a 4-5 foot bench with a 1% grade near Douglas Blvd. NDEP asked how long the perforated pipe sections would be. NTCD said they would be around 50-60 feet long. NDEP asked if this pipe would fit within the existing channel. NTCD confirmed. NTCD said the block channel will be more of a trapezoidal channel with blocks on both sides.

The current cost estimate may change if the blocks or pavers are taken out. Right now, the budget for the project is on track with the standard amount set aside for change-orders. NDEP asked how important revegetation is in terms of stability of the channel. NTCD said it helps with infiltration and nutrient uptake, and is not planned for stability. NDOT stated they are not receiving high infiltration rates for block lined channels. NTCD said they are not proposing block on the bottom of the micro basins at this time.

Next steps include completing 90% design in January. The final (100%) design set will be ready by February and out to bid around March. NTCD asked if comments for the 90% should be done over email or a separate meeting. TRPA and NDEP suggested over email. TAC decision was that a 90% meeting did not need to be held and comments over email was sufficient. NDEP asked about the construction access to the private property and whether the current CMP culvert would need to be brought to current engineering standards. NTCD responded that the hydraulic calculations show that the culvert does not need to be replaced. NDSL asked if NDOT would be responsible in maintaining their improvements for 20 years,

and NDOT said yes. NTCD asked if potholing could still be performed outside of grading season. TRPA confirmed they could be exempt from potholing within the grading season if the ground is dry and the potholing is contained within 3 cubic yards.

Action Items:

- TRPA to check if there are any soil hydrology reports that exist within the Pittman Terrace area
- NTCD to pothole at the end of Douglas Blvd to see if installation of a trench drain is possible.