

**Red Lake Watershed District  
Pine Lake Area Project Work Team  
Meeting Notes  
February 6, 2015**

The meeting was convened by Myron Jesme, Administrator, Red Lake Watershed District (RLWD) at 9:30 a.m. The following Project Team members (or their alternates) were present:

Myron Jesme (RLWD)	Cari Roepke (Clearwater NRCS)
Nate Dalager (HDR Engineering, Inc.)	Les Roos (Landowner)
Corey Gieseke (HDR Engineering, Inc.)	Ken Schmalz (Landowner)
Les Torgerson (RLWD)	Juane D. Johnson (Landowner)
Gene Tiedemann (RLWD)	Larry Puchalski (USCOE)
Lee Coe (RLWD)	Terry Sorenson (Landowner)
Loren Sanderson (RLWD)	Matt Fischer (BWSR)
Nathan Nordlund (Clearwater SWCD)	Terry Vonasek (Landowner)

Myron Jesme welcomed the Project Team members and introductions were made. Jesme stated that he is submitting a Project Acceleration Grant Application to the Red River Basin Flood Damage Reduction Work Group to assist the District in funding for engineering services. As part of the application process, Jesme distributed a Project Team Consent Form that lists all the members on the project team and the organization, agency or interest they represent, asking each member to initial their consent to the proposed project.

The Project Team members reviewed the December 19, 2014 meeting notes. Terry Sorenson stated that on Page 3 he had requested a clarification in reference to his property and statement he had made.

Nate Dalager discussed the problem/issue/Opportunity ID handout and goals and objectives for today's meeting.

Dalager discussed various concepts to modify the dam at the outlet of the Pine Lake. Dalager stated that with the existing structure at elevation 1283.5, typically results in lake summer levels that are lower than what people prefer plus the fish kill that may not be because of the dam. Due to the elevation of the cabins, Dalager stated that there is realistically only the following general option: Raise the normal pool 6" to an elevation of 1284, but then have some operability with a new structure with a gate you can raise or lower and then also include a stoplog bay that could be used for long term operation. Stoplogs would be at a set elevation in accordance with an operating plan. With the proposed option, there would be access when compared to what we currently have. The structure would be designed to minimize the number of vertical supports, in order to not hold back debris. The gate would provide the flexibility that the existing structure does not have now, plus releasing the lower, more stagnant water from the water column instead of taking the top more oxygenated water. Discussion was held on cleaning out the upstream channel to the structure or installation of a pipe to get the deeper more stagnant water. Dalager stated that we are limited to an elevation of 1281 as the lowest point, therefore the installation of a pipe into the lake would probably not be necessary. High spots in the channel will need to be cleaned out. As the lake rises, the capacity of the proposed structure is slightly less than what is existing (without gate operation). This statement is based upon the worst-case assumption that the gates are not operated on the proposed

structure. An operating plan would be required for operation of the gate in order to equalize high flow capacities. With a fixed weir, the structure actually has slightly less capacity even though the weir is longer. To address the high flow issue the RLWD would have to operate the gate to assure that for the extreme high flows and the high lake stages aren't made worse. The operating plan would involve opening the gate so we don't increase the flooding lake stages. The gate will also allow a spring drawdown prior to runoff to provide flood storage. There is minimal drawdown currently for retention. Loren Sanderson stated that according to the current operating plan, in the fall the District pulls the boards approximately 1' to allow for spring storage, and by December 1<sup>st</sup> the District installs two boards in each bay. Les Torgerson asked if the cabin owners would see any problem with raising the lake level 6". Terry Vonosek stated that with the current permit process for landowners on the lake, cabin owners have been raising the elevations of the structures. Vonosek stated that cabin owners are required to be 3' above the ordinary high water mark. Dalager stated that he does not see upstream affects from raising the lake level 6 inches, and that by drawing down the lake and the availability to store up to the elevation of 1284 this would be the FDR component of the project. Dalager stated that with this design we would have an elevation between 1282.5 and 1284 as storage. Sanderson stated that when water gets above the stoplogs, we have to pull the stoplogs until water recedes. Jesme asked if in an event there is a large rain fall event and we need to operate the proposed structure, are the opening or spillway large enough to pass the water downstream effectively. Dalager stated that since the proposal is to raise the lake 6", there is more head pressure and ability for the water to flow out at a higher rate. Dalager further stated that this would need to be addressed in the Operating Plan. The goal would be to improve the opportunity at a minimum of 6" and the ease and flexibility of the operation. Jesme stated that this is a small percentage for FDR reduction in this subwatershed due to drawdown and the dam, which is estimated at about 600 acre feet.

Vonasek asked if there were problems with tampering of the stoplogs? Sanderson stated that yes people do tamper with the current structure from time to time. The proposed structure would help alleviate that problem as it would have locks.

Les Roos stated that he would like a copy of the WSE graph that Dalager presented.

The Pine Lake water quality is classified for aquatic life and recreation. It is classified in the shallow lake/reservoir category, in the North Central Hardwood Forest of the Red River Valley and it has a mercury impairment. Dalager stated that the following pollutants that get measured are: Dissolved Oxygen, Turbidity, Total Phosphorus and Ecoli. Water quality on Pine Lake is pretty good with the exception of winter fish kill. Dissolved oxygen is adequate when it has been measured, but in the winter things change. Ecoli rarely exceeds the standards. Total phosphorus is pretty decent with the exception of the winter kill and lower water levels. Turbidity is very good and the lake generally has good clarity.

Raising of the outlet for FDR purposes and lake shore owners would not address winter kill. Winter kill is a function of the volume of water and dissolved oxygen levels at ice up. Oxygen demanding sources, producing oxygen and the amount of light allowed in is all a function. To improve water quality we would need to increase the BMP's upstream, zoning for septic systems, etc.

Cleaning of the inlet channel to an elevation of 1281 would help draw the low water levels and not the top more oxygenated water levels. Discussion was held on the difference in elevation from each side of the dam. Sanderson stated that the upstream side of the dam is higher than the downstream

end. Dalager said that the channel will need to be surveyed. Discussion will need to be held with the DNR in regard to periodic cleaning of the channel.

Dalager stated that a draft Operating and Maintenance plan will be prepared prior to the next meeting, to get DNR input, if we all can conceptually agree with the idea of the modification of the outlet dam.

Jesme stated that in recent years, the Clearwater SWCD has had several projects where they have armored the shoreline near the cabins. Nathan Nordlund stated that several have been completed, with two more scheduled for this upcoming summer. Most sites included riprap and buffer strips with one site including bioengineering. Upstream of Pine Lake, buffer strips are being proposed that will have a beneficial impact on Pine Lake.

Vonasek asked if the District plans to upgrade the gage in the Sportsmans Lodge. Sanderson stated that the existing gage is it a very accurate. The District has benchmarks where we can check the lake elevation in correlation with the gage in the lodge. Dalager suggested checking into real-time data.

Dalager stated that his office did an evaluation of seven different retention sites in the watershed, with site specific mapping for each site. Dalager displayed a LiDAR-fly over of Pine Lake that shows shaded areas that represent the elevations of the watershed. The watershed does not have a flat gently sloped landscape. Lidar technology was used in the modeling tools to actually look at various sites. Dalager stated that there are no priority sites. Consideration on all sites needs to be given to the location of roads, homes and permit complexity. Dalager stated that he will display 6-7 sites today of varying sizes. A nice sized retention drainage area of 20 sq.mi., that could catch a 3-4" rain event would be ideal. Dalager stated that several sites are feasible at first glance, and in his opinion the next step would be to determine what would be the best sites in terms of feasibility. This is the first step in the process to determine what sites we can agree on and select them, then we would further refine the feasibility of the site. Dalager stated that he would like to get a critical view of each of the sites and then rank them. Discussion was held on holding a special meeting with the landowners and also a permitting meeting with agency staff. Dalager stressed that he does not want landowners thinking we are choosing a site since no sites been picked at this time. Areas are looked at with a lot of variables. Jesme stated that landowners will want to know how any proposed project would affect their land and what the project would look like on their land. We need to gather enough evidence and specifics to answer their questions in relation to their individual properties. Terry Sorenson stated that from his experience, he anticipated the worst. Sorenson felt it would be better to meet with a small group of effected landowners instead of meeting with a mass of people. Dalager stated that let's not forget why we are talking retention; problems at Pine Lake, as well as fish kill, we could have fresher in flows and augmentation, plus the District would gain FDR goals.

Discussion was held on keeping up the water levels of local aquifers.

Les Roos asked about water quality concerns when retaining water on pasture land. Will that affect e-coli? Dalager stated that we would have to address those issues, which could be addressed in the operation of the project. Jesme stated that pre and post water quality monitoring would likely take place and that it is possible that some years it may not have to be operated.

Dalager stated he will prepare a more detailed analysis for the District Board. Dalager stated that prior to the next project team meeting he will need to acquire specific elevations and property lines and start meeting with landowners. Jesme stated that we need to meet with landowners prior to them

getting involved with spring work. Committee meetings will be held with permit agencies with landowner meetings thereafter.

Torgerson asked if the designation of Site 1, 2 and 3, that was given to sites during landowner meetings last summer, has been evaluated in conjunction with today's proposed sites. Dalager stated that although the Project Team has not been given those site designations, based on his most recent study of all sites mentioned today he felt the "Site 1" area referenced last summer, really is less ideal for storing water, as the topography is just not there for adequate storage.

Dalager asked the District Board Members present if we want to put more work into site development prior to circulating the information. Jesme stated that these meetings are intended to gather the best information available and if information is given out to the public that is not accurate, it would be very counter-productive to the Project Team process.

Cari Roepke asked what is the goal for these sites? Would we pick one and work on it? Dalager stated that he will look at the sites mentioned today, prioritize the sites based on his study, share with the Work Group the most feasible sites, meet with the Board to concur and then meet with landowners. Dalager and Jesme both concurred that we have to be organized with accurate information before we move forward. Coe stated that we need to be able to tell landowners what the impact will be to their property. Jesme stated that the District wants to be upfront with the landowners, but we can't be upfront until we have more detail.

Jesme discussed a fact sheet that has been developed at the request of the Red River Flood Damage Reduction Work Group that measures and defines a projects readiness for FDR funding. The FDR Work Group needs this information before they will accept the project and agree that it is a viable project prior to recommending State funding. Without the blessing of the Project Team we will not get funding for a project through the FDR. Jesme stated that we will introduce the project concept to the FDR Work Group on February 18<sup>th</sup>. Jesme applied for a Project Acceleration Grant to help with the costs of pre-engineering. As part of the application, Jesme had to determine a probably cost, which will be used to help obtain bonding money. The application also requested the estimated project life cycle.