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# Database Use Discussion

The primary purpose of the Stormwater Monitoring Database is to maintain all required monitoring data and to aid in the creation of reports to meet remediation and stormwater monitoring requirements for the North Site property as prescribed by the California State Water Board. Written reports will include plots, tables, statistical analysis, and descriptions of the stormwater monitoring concentration results. The database will also help with the remediation process. If the parameters of concern have outfall concentrations higher than permitted levels, additional stormwater BMPs will be installed onsite and existing stormwater BMPs may be improved in order to reduce the impacts to the Seraphinite River.

The database may also be utilized alongside a hydrologic and hydraulic model of the site. For instance, a model could be created using the Storm Water Management Model (SWMM) software from the United States Environmental Protection Agency. Hydrologic and hydraulic models are used to model a watershed or project site, which includes simulating historical storms, stormwater runoff, rainfall infiltration across a watershed, flow rates at stormwater BMPs, and infiltration at stormwater BMPs. Such a model would use data from the database, such as drainage areas, pervious drainage areas, soil types for stormwater BMPs and other monitoring locations, and soil type infiltration rates. The model would utilize a more detailed storm record than is currently saved in the database, which would include hourly rainfall data for the last 10 years. The model would also contain structural information about the stormwater BMPs in order to calculate the infiltration and flow rates. Once the model is created and calibrated based on onsite flow data, the model results can be used in conjunction with the database to provide a more complete view of the site. For instance, the model will be able to estimate the runoff for all sampling locations, which can then be used with the concentration results stored in the database to estimate the mass of contaminants that flow into the Seraphinite River tributaries. The model can also be used to design any additional stormwater BMPs that are necessary for reducing parameter

concentrations throughout the site. More tables may be added to the database to store additional data that is needed for the hydrologic and hydraulic model.