**Education**
- Bachelor of Science, Civil Engineering; University of Nebraska-Lincoln, 1993
- Master of Science, Civil Engineering; University of Nebraska-Lincoln, 2003

**Professional Registrations**
- Professional Engineer: IA, # I-5428
- Professional Engineer: MO, # PE-2006013715
- Professional Engineer: KS, # 19738
- Professional Engineer: OK, # Pending
- Professional Engineer: NE, # E-9084

**Affiliations**
- Association of State Dam Safety Officials
- Certified Floodplain Manager

**Certifications and Specialized Training**
- Certified Floodplain Manager
- E-RAILSAFE
- UPRR Contractor Orientation Test

**Olsson Professional Experience**
- 2003 To Present

**Total Professional Experience**
- 1993 To Present

OLSSON ASSOCIATES

# Eric Dove, PE, CFM

Civil Engineer

## Experience Summary

Eric's 16 years of experience includes a wide variety of water resources endeavors. He has been design engineer and lead modeler for flood control and recreational dams, fisheries improvement projects, dredging projects, detention ponds, water quality improvement ponds, wetland mitigations, FEMA mapping, breach analysis, benefit-cost analysis, watershed protection plans, and stream restoration designs. Eric has an extensive modeling background and his experience includes HEC-RAS, HEC-HMS, HEC-1, HEC-2, HEC-2BPR, HEC-FFA, HY-8, TR-20, TR-55, WHAT, SITES, Hydraflow, CE-QUAL-W2, and EUTROMOD. Eric has performed dam design on nearly 50 projects and presented reservoir design topics at regional dam safety conferences.

## Dam/Reservoir Studies and Design

- Lower Turkey Creek Watershed Analysis: Project manager for the hydrologic, hydraulic and economic analysis for the siting 19 dams within a 770 square mile watershed for agricultural and urban flood control. The project is current under final design.
- Little Sandy Creek Watershed Project – Project manager for developing the technical feasibility application to the Nebraska Resources Development Fund for five dams in Southeast Nebraska. Work included economic feasibility analysis, geotechnical investigations, groundwater recharge estimates, rural highway modifications, sedimentation structure design, and recreational amenities.
- Cipriano Dam – Project manager for the design and construction oversight of a flood control road dam near Garland, Nebraska.
- Stander Dam – Project manager for the design and construction oversight of a flood control dam in Northern Cass County, Nebraska.
- Tex Dam – Project manager for the design of a high hazard flood and grade control dam near Papillion, Nebraska. Work included hydrology, hydraulics, sedimentation estimates, breach routings, and developing an emergency action plans.
- Timmberman Dam – Project manager for construction oversight of a flood control dam in Cass County, Nebraska.
- Ranch Road Dam – Project manager, design engineer, and construction oversight for a flood and grade control structure in Cass County, Nebraska.
- Crystal Lake Dam – Project manager and design engineer for the development of a moderate hazard dam near Blair, Nebraska. The design was complicated by having to build across a deep loess gully and having to perform a twin dam breach analysis study. Elm Creek Flood Control and Drought Relief Dam - Principal design engineer on a multipurpose dam that will control 60 square miles of drainage area and capture waste flows from irrigation ditches. The project goals include flood control, endangered species protection, water supply, passive recreation, water quality, and irrigation.
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## Flood Control/Reduction

- Antelope Valley Downtown Revitalization - Project engineer for flood control design in Lincoln, Nebraska. The flood control portion of the project developed a two-mile open waterway and linear park.

## Experience, Continued

- Fort Calhoun Flood Mitigation Plan – Project manager for public participation, hydrology, hydraulics, FEMA Buy Out Assistance, and flood plain mapping for the City of Fort Calhoun, Nebraska.
- Ponca Flood Mitigation Plan – Project manager for the public participation, hydrology, hydraulics and flood plain mapping for the City of Ponca. The recommended flood mitigation strategy involved wet flood proofing, property buy-outs, culvert improvements, and construction of a levee.
- Lynn Creek offline detention and stormwater wetland project in Lincoln, Nebraska.
- Evaluated hydraulic performance of existing and proposed bridges on the Mojave Subdivision for U.P.R.R.
- Hydrologic and hydraulic evaluation of multiple bridge sites for the County Highway Superintendent, Merrick, Thayer, and Polk County, Nebraska.
- Design engineer for numerous bridge hydraulics for counties throughout Nebraska and for the Nebraska Department of Roads.
- Hydrologic and hydraulic evaluation of existing bridge and proposed culvert for Monroe Street, City of Norfolk, Nebraska.
- Lorton SE Bridge Replacement – Project manager and designer for the removal of a bridge and replacement with a smaller culvert near Lorton, Nebraska.
- Bel Air Storm Sewer Study, Norfolk, Nebraska – Project designer for replacement of a large urban storm sewer system through a developed portion of Norfolk, Nebraska. The project involved studying the system to identify flooding locations and investigating the most feasible flood relief method.
- 25th Street Drainage Project – Project designer for construction of a large drainage network to alleviate flooding in a zoned industrial area in Norfolk, Nebraska. The design involved optimizing the existing network, adding addition pipe capacity, a 10-acre detention cell, an open channel to the Elkhorn River and wetland mitigation.
- Urban Drainage Project – Project manager for the design of a stormwater management project to restore an overland route through a developed portion of Fort Calhoun, Nebraska. The project included installing a detention pond, large box culverts and a stable open channel through a largely residential area.
- Omaha World Herald Storm Sewer Bypass, Omaha, Nebraska – Design engineer for a large storm sewer system to route flows around a new two block long building in downtown Omaha. The design not only involved disrupting and reconstruction of the existing railroad service spur, but also designing a special low-head culvert under the proposed spur. Multiple detention and water quality site associated with site designs and subdivisions in Nebraska, Iowa, Nevada, Kansas, Missouri, Illinois, South Dakota, and Colorado.

### Water Quality

- Czechland Lake Sediment Study – Design engineer for the initial study to evaluate in lake methods to reduce sediment reaching the main lake.
- Lake Ogallala TMDL Study – Design engineer assisting UNL and NDEQ to develop regulatory guidelines for the total maximum daily load of pollutants entering Lake Ogallala that would negatively affect the trout fishers. The study involves the use of CE-Qual-W2 to quantify the water quality effects and evaluate different management strategies.
- Overland Park BMP Manual - Technical reviewer for updates to the city's stormwater quality design manual and ordinances.
- Shawnee Mission Lake dam and wetland improvements in Johnson County, Kansas.
- Design engineer for multiple stormwater water quality improvement projects associated with commercial and residential projects.

## Experience, Continued

- Water quality model development and quality assurance/quality control (QA/QC) for numerous public lakes and reservoirs.

**Hydrology/Hydraulics, Feasibility Studies, and Basin Master Planning**

- Engineer performing 21 FEMA hydrology studies in Nebraska, South Dakota, North Dakota, Wyoming, and Montana for the Omaha District Corps of Engineers.
- Wahoo Floodway Mitigation Study – Project Manager, designer and lead modeler for mitigating encroachment of Waste Water Treatment Plant.
- Central City Floodplain Revisions – Project manager and lead design engineer for the FEMA physical map revision of two floodways that pass through Central City, Nebraska. Work included calculations of flood attenuation behind undersized culverts, levee overtoppings, and split flows routings.

**Bank and Streambed Stabilization**

- Ralston Channel Stabilization – Project manager and designer for the stabilization of a one-mile long section of an urban channel in Ralston, Nebraska.
- Red Fox Run Bioengineering Demonstration Project, Nebraska City, Nebraska - Design engineer for the channel stability improvements show casing new approaches to the typical bioengineering approaches including the use of perforated geoweb, concrete A-Jacks, and live sprigging coconut logs. Since its construction in 1998, the relative success and failures of the newer technologies have been compared to the more typical bioengineering methods.
- Valley Water Mill Culvert Geomorphic Retro-Fit, Greene County, Missouri - Design engineer for the improvement plans to the existing triple box culvert. The existing box culvert two outer cells routinely filled with sediment leading to lengthy and frequent maintenance. Olsson Associates was hired to design a modified box culvert entrance to fit better with stream sediment transport and reduce the frequency of sedimentation inside the box. The project involved reviewing the geomorphology work performed by Missouri State University, developing stream geomorphic relationships, modifying the FEMA Hec-RAS model to compare shear stresses to geomorphic field measurements, modifications to the Hec-1 hydrology model for the downstream dam. The calculations, design approaches and improvement plans were submitted for peer review that led to a concensus on the design approach. Greene County forces are currently construction the entrance improvements.
- Sequiota Park Stream Bioengineering, Springfield, Missouri - Olsson Associates teamed with Missouri State University and Patti Banks Associates was selected by the City for the improvements to this historic park. The channel was formerly straightened and lined with retaining walls in the 1950. The channel has cut down to bedrock and undermined several walls. In addition, the vertical walls present a hazard to park users. MSU will be collecting the geomorphic information and Olsson will be designing the natural channel improvements. The channel bottom has several attractive and unique bedrock outcroppings which will be preserved and highlighted in the restoration design.
- Doeling Park Channel Bioengineering, Springfield, Missouri - Olsson Associates teamed with Missouri State University and Patti Banks Associates was selected by the City for the improvements to this historic park. The channel was formerly straightened and lined with concrete in the 1960's. The rectangular concrete channel is too wide for the frequent flows and collects urban debris and sediment. In addition, the vertical concrete walls present a hazard to park users. MSU will be collecting the geomorphic information and Olsson will be designing the natural channel improvements that will be an amenity to the park. In addition, there is a spring that flows

**Experience, Continued**

out of a cave that offers an excellent opportunity to develop a step pool design and fountains that operate on the natural hydraulic pressure.

- Deadmans Run Bioengineering – Project manager for the public participation, geomorphology and natural channel preliminary design of a large urban channel in Lincoln, Nebraska.
- Project engineer for Sugar Creek Geomorphic Aerial Photo Assessment, UPRR, Texas.
- Project engineer for Natural Stream Relocation Design, UPRR, Texarkana.
- Project engineer for Natural Stream Relocation Design, UPRR, Marshall, Missouri.
- Cottonwood Canyon Stream Restoration - Geomorphic design to restore one-half mile of stream through a former strip mine in Lenexa, Kansas.
- Project engineer for San Marcos River geomorphic evaluation for the Union Pacific Railroad (UPRR) in Texas.