Project Profile – USGS Under Bridge Inspection Basket

Diversified Product Development adapts rotating man basket to knuckleboom crane to aid in under bridge inspection and maintenance.

The United States Geological Survey operates the most extensive satellite network of stream-gauging stations in the state of Oklahoma, many of which form the backbone of flood-warning systems. One of the many tasks is inspection and maintenance of bridges. The inspection method USGS was using was very time consuming and required a lot of resources and manpower so change was imminent.

After studying the needs and the requirements of a new design, USGS contracted Diversified Product Development. The main concept was to design a rotating man basket that would attach to their knuckleboom crane and position the workers underneath the bridge. An additional factor was to create a design that allowed for the job to be completed while only blocking 1 lane of bridge traffic. In order for this to be done, Diversified's engineers had to modify the operating procedures of the crane. This was solved by limiting the outrigger extension to 75% so that the crane could park closer to the side rail.

Bridge inspection units exist today, but can be rather expensive. Since Diversified was able to engineer a basket to place on their existing knuckleboom crane, USGS saved cost and resources. By doing this, USGS now has the option of using the crane or the bridge inspection unit depending on the specific task.

Upon completion, Diversified hosted an operator orientation course for USGS workers to be familiar with the new basket. Since this basket has been in operation, Diversified has implemented additional orientation courses for new USGS employees.

"I want to express my thanks to Ray, Noah and the rest of the staff for everything you did to complete this task. In all my purchases with the Survey and on the outside, I believe this is the BEST I have ever been treated by a company." James Greer,

Client: United States Geological Survey

Location: Oklahoma City, OK

Website: http://ok.water.usgs.gov/

Product: Knuckleboom Rotating Man Basket

Product Description: Rotating Basket for Under Bridge Inspection and Maintenance

Diversified Services Provided:

- Product Design
- Calculations
- Conformance to industry standards
- Prototype testing
- Documentation
- Operators Manual
- Operator Orientation

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Diversified Product Development provides a full offering of design services for every step in the product development process – from concept to production. The company manages projects of every size and specializes in the mobile, construction, oil field, mining, utility and equipment sectors.

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