Construction of the new Harrison County Highway Department Facility

Kevin Russel, PE – Harrison County Highway Department
Jason Copperwaite, PE – Paul Primavera & Associates
David Sanders, PE – Paul Primavera & Associates
Mark Shireman – James L. Shireman
Ben Shireman – James L. Shireman
Harrison County

- 2010 Census Population: 39,364
- 485 square miles
- 823 centerline miles of county roads
  - 788 miles paved
  - 35 miles gravel
- 77 bridges
  - 88.58 average sufficiency rating
- 42 full time employees
- 1 part-time employee
- 21 Salt Trucks
- Average Budget: $10,010,476.35
  - Cumulative Bridge: $590,786.94
  - LRS: $408,724.62
  - MVH: $2,708,441.67
  - Riverboat: $6,302,523.12
Old Facility

- 3.34 acres
- One 50-ft x 100-ft building
  - Approx. 1,200 sft of office space
  - Approx. 3,750 sft of shop space
- One Fueling Station
- No Salt Storage
- No Equipment Storage
- One Corner of Property Unusable due to railroad tracks.
- Located in Industrial Park
- No Room for Expansion
JUST BECAUSE YOU'RE TRASH DOESN'T MEAN YOU CAN'T DO GREAT THINGS.

IT IS CALLED GARBAGE CAN, NOT GARBAGE CANNOT.
Planning

• The need for the project had been discussed and generally acknowledged for the past 15 years.
• There was genuine interest several times in developing a project.
• Those involved were never able to reach a consensus on the scope of the project or how to deliver it.
• It was always on the list of things that needed to be done, but was never the next thing to get done.
Be Prepared

- Our staff continued to advocate for the project.
- We continued to invite elected officials to visit other facilities so they could see first hand the need we were describing.
- We took the initiative to produce an in-house document that identified specific issues that needed to be addressed in a project to replace our facility. We titled the document “Facilities Needs Statement.”
- We never gave up on our vision and worked to cultivate that vision in our elected leadership.
- We continued to lay the groundwork for the scope of the project even though at the time there was no project.
HARRISON COUNTY HIGHWAY DEPARTMENT

Facilities Needs Statement

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• The election of 2012 gave us two new Commissioners in January of 2013. This new board of commissioners bought in to our message and prioritized getting something done.

• The effort we had put into the detail in the “Facilities Needs Statement” provided the foundation for the project moving forward.
1st Critical Way-Point

• Even during the times we were unable to get any meaningful actions from our elected officials, we continued to work toward the vision we had for the project. This effort allowed us to be prepared to do something when the opportunity presented itself. We had detailed answers to the questions...the what’s and the why’s...when we needed them, and an outline that could be used in discussions with and between elected officials. We provided all of this without the need for an outside consultant.
Consensus

• As big of a victory as it was to get the Board of Commissioners to decide to move forward, we still had more consensus building left to do with the County Council.

• The Commissioners formed a working Committee that included the Commissioners, Highway Department staff, and Council representatives.

• The “Facility Needs Statement” continued to be a critical tool in the process.

• The discussion always circled back around to cost.

• The Commissioners were able to convince the Council to move forward with developing a project.
Land Acquisition

- Conducted the search for a suitable property in-house.
- Contacted the state to see if they would want to sell their property that was adjacent to us. They did not.
- Looked into the feasibility of no fewer than eight different properties.
- Some properties had big issues with things like sinkholes.
- One property even had a cemetery.
- Initial search centered around the County’s industrial park area.
- Search expanded to areas outside of the industrial park.
  - Property costs less
  - Increased challenges with things like utilities.
- Worked to discredit some bad ideas.
  - There was a hesitancy to acquire any new county-owned property.
  - One idea was to locate us with the solid waste department on a 4-acre lot that they already occupied and to share a building with them. When we pointed out that we couldn’t even fit all of our equipment on that lot, a parking garage was suggested.
- We eventually settled on a property located approximately five miles south of our existing facility.
- We handled in-house the procurement of appraisals and the negotiations.
- The County attorney helped with the documents and closing.
- We finalized our purchase in June of 2014
Windell Property

- Purchase of approximately 18.4 acres for $153,750.00.
- Vacated the existing plat of residential lots.
- Had the property re-zoned to I-2.
- Some sinkholes that would have to be treated.
- No sewer available.
- Water, gas, and electric easily available.
- Easy access to main roads.
- Out of the “congestion” of the industrial park.
- Allowed old property, which was more valuable, to eventually be put back on the tax rolls.
Building the Design Team

- The 2\textsuperscript{nd} critical way-point in our project was the construction of our design team.
- The Commissioners convinced the Council to provide funding for the design team.
- The Commissioners hired Paul Primavera & Associates (Jason Copperwaite and David Sanders) to do the architectural engineering work.
- The Commissioners hired James L. Shireman (Mark Shireman and Ben Shireman) to be the construction managers for the project.
- We kept the existing committee in place and added Jason Copperwaite, David Sanders, Mark Shireman, and Ben Shireman to the committee.
Design Team Meetings

- I credit the Design Team Meeting process that we followed as a major contributing factor to the success of the project.
- It would have been easy to think we had “made it” and step back from the ongoing work.
- In truth, this was the most dangerous time for the project. A new facility WAS being built, and a bad decision now would live with us for decades to come.
- These meetings provided a venue to work though misunderstandings and bad ideas, so that when the time came for the good ideas to be approved and funded, we had already worked through those issues.
Bad Ideas

• One idea...store salt in a grain bin. Would work just like corn. We could use an auger and wouldn’t even need a loader.

• General desire to put us on too small of a property. Empty space was thought of as unnecessary.

• Parking garage.

• Letting the project a piece at a time.
Site Grading & Layout

- First construction contract let.
  - November 26, 2014
  - Estes Excavating was the low bidder
  - $745,570.04
- Entrance locations onto Old SR 135
- Drainage
- Sinkholes
- Sanitary sewer system
- Building layout
- Traffic flow through the property
- We worked with the contractor post-letting to retain the topsoil and the waste clay/rock material.
Salt Building

- Second construction contract let.
  - December 15, 2014
  - E H Construction was the low bidder
  - $649,182.27
  - 100-ft x 175-ft
  - Capacity to hold approximately 4,000 ton of salt
- We went longer and wider with structural steel rather than use concrete walls.
- Load inside so we minimize need to capture storm water.
- Drive in – Drive out without needing to turn around.
- Heavy galvanization of structural steel.
- Epoxy coated reinforcing steel
- Fiberglass form ties
- Stainless Steel anchor bolts
Office / Maintenance Building

- Third construction contract let.
  - April 20, 2015
  - E H Construction was the low bidder for the general contracting work
    - $1,586,500.00
  - Lusk was the low bidder for the mechanical work
    - $593,200.00
  - Weyer Electric was the low bidder for the Electrical Package
    - $292,888.00
- 100-ft x 170-ft total dimension
- 100-ft x 50-ft – Office Space
- 100-ft x 50-ft – Mezzanine
- 100-ft x 120-ft – Shop Space
Office / Maintenance Building Features

- Outside shell of the office space constructed with a masonry clad insulated concrete form product called One-Step.
  - This construction technique along with the concrete lid provided by the mezzanine floor provide for a tornado resistant building.
- A full mezzanine provided above the office space.
- In-floor radiant heating provided throughout the office and maintenance area of the building.
- Energy efficient LED lighting throughout.
- Clear span open floor space in the maintenance area.
- Air, oil, coolant available from overhead hose reals throughout the shop with centrally filled tanks.
- Waste oil and coolant storage outside.
- Exhaust fans to help keep the air clean.
- Floor designed to accommodate for future use of mobile truck lifts.
- 30-ft column spacing with 16-ft x 14-ft overhead doors.
- (4) Drive-through bays.
- (1) bay with a dividing curtain for welding use.
- 2-ton floor mounted jib crane.
Wash Bay

- Third construction contract let.
  - June 1, 2015
  - E H Construction was the low bidder
    - $390,036.00
- 30-ft x 75-ft
- In-floor radiant heating to prevent against freezing
- Sediment trap
- Oil grease separator
- Discharge to back of property
- Valve that allows water to be recycled for making brine
## New Highway Department Facility
### Funding/Expense Summary

**Approximate As-Built Expenses**

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<tr>
<th>Item No</th>
<th>Description</th>
<th>Date</th>
<th>Amount</th>
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<tr>
<td>1</td>
<td>Purchase Property</td>
<td>6/26/2014</td>
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<td>2</td>
<td>Title Work for Land Purchase</td>
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<td>3</td>
<td>Gem Engineering - Geotechnical Work</td>
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<td>Salt Building Contract (EH Construction)</td>
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<td>Maintenance Building - General Trades (EH Construction)</td>
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<td>Wash Bay</td>
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<td>Purchase of Generator</td>
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<td>Shop Equipment</td>
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<td>James L Shireman</td>
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Additional funds authorized for brine equipment: **$188,000.00**

Total Cost: **$5,341,854.37**