



City of Marshall

DPW Universal Sign Trailer



**2014/2015 APWA Awards Program
Transportation Category
Less than \$5 Million**

APWA AWARDS PROGRAM PROFESSION NOMINATION FORM

Deadline March 2, 2015
(electronic submittals only)

**The attached information is submitted for
the following award:**

- Citation for Exemplary Service to Public Works
- Diversity Exemplary Practices Award *(please check one)*
 - Individual
 - Program/Organization
- Exceptional Performance Award *(please check one)*
 - Adversity
 - Journalism
 - Chapter Journalism
 - Safety
- Management Innovation Award
- Sustainability Practices Award *(please check one)*
 - Individual
 - Program/Organization, Agency
 - Chapter
- Technical Innovation Award

2014 APWA Southwest Branch Project Award

Candidate/Chapter/Program Name

Custom Built Universal Sign Trailer

Title

City of Marshall

Agency/Organization

323 West Michigan Ave

Address (if post office box, include street address)

Marshall MI 49068

City

State/Province

Zip/Postal Code

269-558-0324

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Carl Fedders PE MPA

Nominating Organization/Individual

City Engineer

Title

City of Marshall

Agency/Organization

323 West Michigan Ave

Address (if post office box, include street address)

Marshall MI 49068

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State/Province

Zip/Postal Code

269-558-0323

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cfedders@cityofmarshall.com

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*If a chapter is nominating, please also list a contact person from
the chapter with whom we may correspond if necessary.*



Project Summary

Resting in the southeast shadow of the intersection of interstates I-94 and I-69 lays the City of Marshall, Michigan bisected north and south by the old Territorial Road, once a Native American trail leading from Lake Erie to Lake Michigan, now the I-94 business loop known as Michigan Ave.

The City of Marshall hosts eleven or more public events and festivals, many of which are along state trunklines and require extensive coordination with MDOT. Most call for traffic patterns to be altered, from simple lane closures to intricate detours taking I-94 Business Loop traffic safely around the downtown area where many of the festivals and events are held.

Marshall has a Public Electric Utility Department as well as all the other typical departments like Water, Wastewater, Public Works, Police, Fire, Engineering, Etc. Normal maintenance requires that on occasion traffic patterns must be interrupted to allow for repairs to be made.

Past protocol has been to have crews load barricades, cones, and signs into the back of pickup trucks for placement at the repair or detour site. This was time consuming and damaging to the pickups and signs, as well as unprofessional. It was a problem seeking a solution.

We have found that solution in the form of a universal, custom fabricated sign trailer.

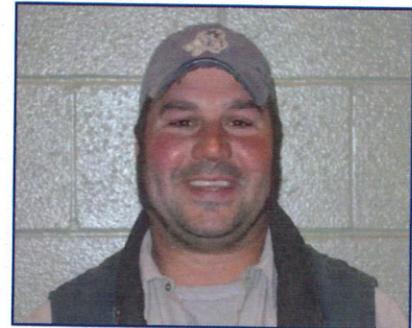


Design

To begin the process the Public Works crew and the Electric Utilities crew met together in a brainstorming session. All agreed that the goal was to design a piece of equipment that would house and carry all of the barricades, signage, and cones needed to complete a Business Loop detour or a major trunkline lane restriction. Work lights were suggested as many emergency deployments happen after dark, strobes would be required for safety, and an arrow board would be nice for directing traffic behind the sign trailer.



From that meeting Curt Crow (left) and Cody Burghdorf (right) of the Public Works Department were selected to begin the layout of the project under the direction of DPW Supervisor Phil Damon.



They started by measuring the signs and barricades to determine the length of the trailer. They decided a twenty two foot long flatbed trailer was needed.

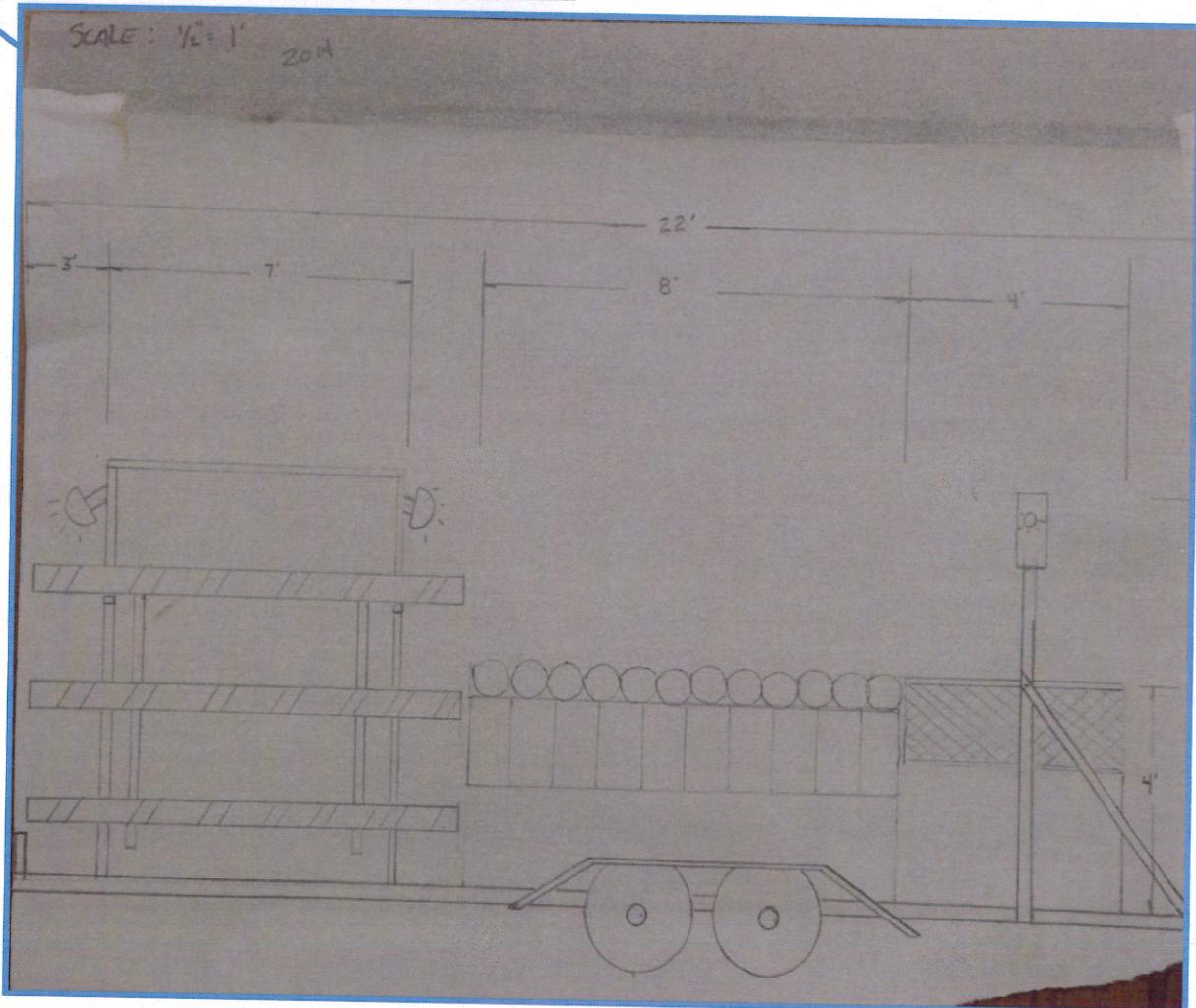




Design (continued)



While the trailer was being ordered, Curt and Cody worked together to draw plans for placement of the roll-up signs, stands, barricades, cones and bases.



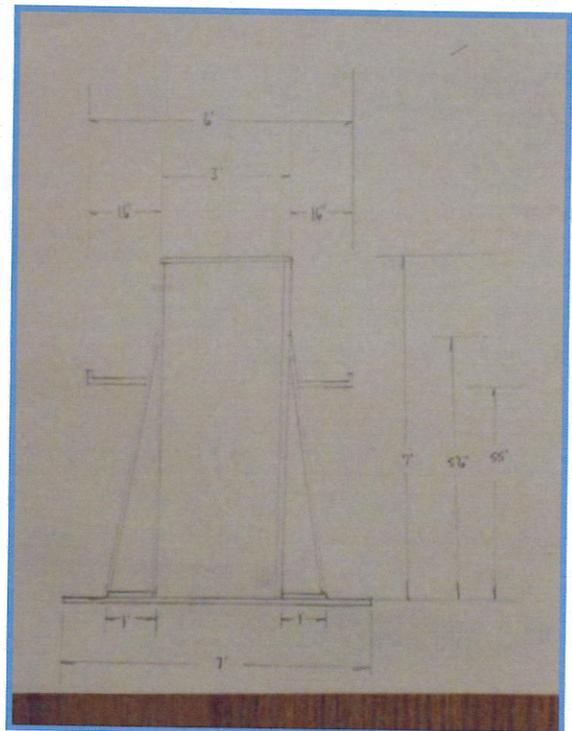
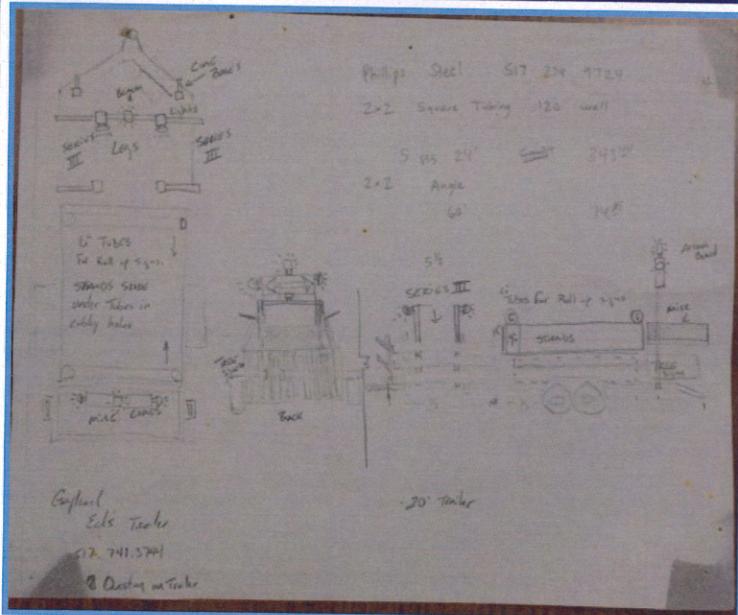


Design (continued)



The design of the superstructure for the type III barricades took some time.

Soon the trailer arrived and it was time for construction to begin.





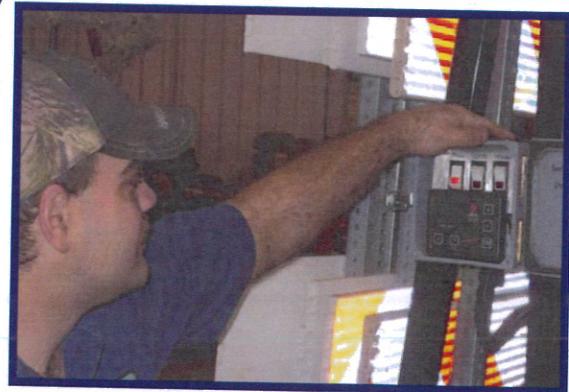
Construction

Curt began building the deck and pigeon holes that would hold the business loop detour signs and grabber cones while Cody began fabricating the type III barricade superstructure.



PVC tubes were cut to size and mounted to house roll-up signs. Storage area underneath the tubes allows for the adjustable aluminum stands that hold the roll-ups.

Mechanic Anthony Merringer ran the wire and installed the LED work lights along with an arrow board and controller. Two deep cycle batteries were installed at the front of the trailer along with a dedicated battery charger. The trailer is plugged in for charging when not in use.





Project Completion

Construction took about two hundred man hours straight time labor. Fifteen thousand dollars was budgeted to purchase and build the trailer. The final bill came to ten thousand five hundred and fifty six dollars.

We had budgeted five thousand dollars for new signs and barricades so the savings realized from the sign trailer build helped supplement other capital expenditure work around the City.

In the past a typical event detour and road closure took four people with two pickup trucks about eight hours to set up and the same to take down, and that doesn't take into account the damage done to the signs and barricades every time they were thrown into the back of a pickup and then dragged out again for storage! Now the same detour can be set by two people in four hours and the signage and barricades are stored on the trailer!

Think about that emergency call in the middle of the night requesting a road closure and the amount of time it takes from the time the call is received until the closure is in place; determining what signage is needed, where the signage is stored, getting it loaded and to the site and setup can take hours.

The sign trailer is a self-contained implement ready to hook on and go, and it has an arrow board attached as an added measure! The sign trailer can become an important tool in your emergency response tool chest.





Addendum



Rollup Sign Storage



Aluminum Stand Storage



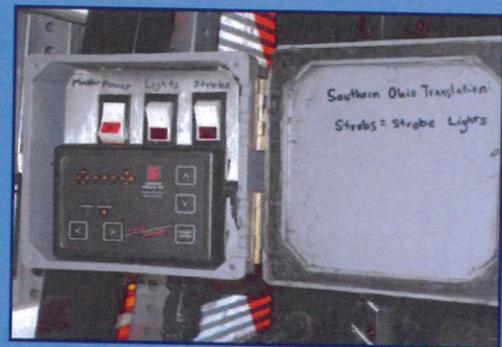
Type III Barricade Mount



Detour Signs and Grabber Cones



Arrow Board



Arrow Board and Work Light Control Panel