The Federal Highway Administration

Excellence in Utility Relocation and Accommodation

Celebrating 50 Years
1956 50th 2006
Eisenhower Interstate System

U.S. Department of Transportation
Federal Highway Administration

FHWA-IF-06-043

2006 EXCELLENCE IN UTILITY RELOCATION AND ACCOMMODATION

The 2006 Excellence in Utility Relocation and Accommodation Award Program is in its inaugural year. For years, the utility program was not celebrated through an awards program. But this year we made it happen. With the help of the highway community and others, the utility award program has arrived. The many different issues that affect the utility community and the innovative solutions they provide certainly justify an award program. The award program this year is highlighting the best in utility innovation, including subsurface utility engineering (SUE).

The purpose of the award program is to recognize and to encourage excellence in the Highway Utility Relocation and Accommodation area. The Federal Highway Administration wants to honor the nominees that excel in the following categories: Innovation, Leadership, Relocation, and Subsurface Utility Engineering (SUE). Also, to enhance the opportunities in the highway community, awards are available in two levels of project cost: projects costing over $100 Million and projects costing $100 Million or less. In this inaugural year (2006), we received 24 applications that covered a wide range of highway related utility projects. Our thanks to the panel of six judges who took on difficult task of selecting the "the best of the best". Each of the six judges shared a passion for utility relocation and accommodation and a life long dedication to quality, efficient transportation.

Our congratulations are extended to the award recipients and all who contributed to the 2006 Excellence in the Utility Relocation and Accommodation Award Program. You are all winners because without your participation the program would not have been a success. We look forward to future years of participation with you to make this an even better and a more successful award program. The next award program will be held in 2007. After that, the award program will be held biennially.

Dwight Horne, Director
Office of Program Administration, Infrastructure

Donald R. Jackson, Program Coordinator
Office of Program Administration, Infrastructure

CERTIFICATE OF APPRECIATION

For outstanding contribution to the National Highway/Utility Program

Bill Pickering

MPA, Pennsylvania State University 1982
BSCE, Lafayette College 1961
BA, Liberal Arts, Earlham College 1961

Professional Engineer, Pennsylvania. 1965.
Additional registrations: Illinois, New Jersey.

Prior to joining So-Deep, Inc., Mr. Pickering was employed for over 38 years in various professional capacities for the Pennsylvania Department of Transportation. For 14 years, he was Assistant District Engineer for Design in Engineering District 8-0 (Harrisburg). In this position, he managed the programming, design development and construction lettings of 1500-2000 projects with a construction value of $1.0-$1.5 Billion. For 11 years, Mr. Pickering was Chief of the Right of Way and Utilities Division in the Bureau of Design at the PennDOT Central Office in Harrisburg, PA. In this position, he had stateside responsibilities for policies, procedures and quality assurance of the Right of Way Acquisition and Utility Relocation programs.

Mr. Pickering has been an active proponent of using SUE in the project development process for many years. He had the lead in developing the current PennDOT policy that calls for the use of subsurface utility engineering on all PennDOT projects.

Mr. Pickering served on the AASHTO Right of Way and Utilities Subcommittee Executive Committee until his retirement from PennDOT. His responsibilities included assuring that utility relocation issues were fully considered by AASHTO. He played a leading role in including SUE in the AASHTO Best Practices Report.

Mr. Pickering joined So-Deep, Inc. in November 1999 as District Engineer for Pennsylvania. His primary responsibilities are to manage and perform engineering and quality assurance reviews of projects in Pennsylvania and neighboring states.

Stuart Waymack

Stuart Waymack is State Director of the Right of Way and Utilities Division of the Virginia Department of Transportation in Richmond, Virginia. He is responsible for statewide acquisition of all real property and relocation of families, businesses, and utilities in the path of or affected by transportation improvement projects in Virginia. He is also responsible for developing strategies for implementing new Federal and State laws that affect the transfer of private lands to the Commonwealth of Virginia for transportation projects. Waymack has more than 45 years of service with VDOT and has served as an Appraiser, Negotiator, District Right of Way Manager, and Assistant State Right of Way Engineer. He attended the University of Richmond in Virginia and has been active in several national right of way and appraisal organizations. He has been a member of a FHWA task force on the installation of fiber optics on the U.S. Interstate System under the shared-resource concept. Most recently, he served as Vice-Chairman on the AASHTO Sub-Committee on Right of Way and Utilities.

JUDGES

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FEDERAL HIGHWAY ADMINISTRATION

2006 EXCELLENCE IN UTILITY RELOCATION AND ACCOMMODATION

This program is conducted by the FHWA under U.S. Department of Transportation, to recognize and to encourage excellence in the Highway Utility area. Honoring the nominees that excel in improving utilities in the following categories: Innovation, Leadership, Relocation, and Subsurface Utility Engineering (SUE).

Categories:

- Innovation
- Leadership
- Subsurface Engineering
- Relocation

Level of Projects Cost:

- Projects over $100 Million
- Projects $100 Million or less

OUTSTANDING ACHIEVEMENT AWARD FOR PROJECTS OVER $100 MILLION

LEADERSHIP — Over $100 million

I-595

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Project Title: I-595

Project Location: I-595 from I-75 to east of I-95, Ft. Lauderdale, FL

Project Description:

Florida DOT Management made an earlier decision to put together a multi-disciplined team of FDOT personnel and consultants including members from Utility Engineering, Right-of-way, Planning, Environmental Management, Structures, Design, Drainage and Survey was assembled to address the alignment, right-of-way, and utility issues for the I-595 corridor improvements. The team followed the value engineering methodology to review the most costly items of the $800 million project.

INNOVATION — Over $100 million

Transportation Expansion (T-REX) Project

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Project Title: Transportation Expansion (T-REX) Project

Project Location: I-25 to Lincoln Avenue and I-225 from I-25 to Parker Road, Denver, Colorado 80112

Project Description:

The Transportation Expansion (T-REX) Project, a $1.87 billion venture along Denver's Interstates 25 and 225, is design-build (DB) and adds 19 miles of light-rail and improves 17 miles of highway. T-REX is a unique collaboration between Colorado DOT, Regional Transportation District, responsible for transit service in Denver, Federal Highway Administration and Federal Transit Administration. T-REX construction began in fall, 2001 and will complete in September 2006. Light-rail service will begin November 17, 2006. The innovation required to have a successful utility program is defined by shared partnered goals, timely legislation to allow for use of "master" agreements, and extensive SUE efforts that created the basis for the T-REX utility-team to properly coordinate utility relocations.

In March 1999, the T-REX-utility-team held a Kick-Off meeting to inform utility companies of the project and establish utility-taskforce. The Utility-taskforce consisted of representatives from CDOT, RTD and utility companies and met monthly, until construction. The task force's goal was to foster partnering, share information and ideas, and give the utility companies input into the new T-REX processes and procedures.

A major accomplishment of the Utility-task force was obtaining input and buy-in from utility companies on proposed legislation. T-REX was the first major D-B project in Colorado, and with a project of this magnitude, it was imperative that the T-REX-utility-team establish CDOT's Utility relocation and accommodation program for D-B projects.

Senate Bill 203 passed in spring 2000 requiring a 'master" relocation agreement, or Project-Specific-Utility-Relocation-Agreement (PSURA) for each utility company on D-B projects. The legislation required a new level of cooperation and coordination among CDOT, utility companies and the contractor, essential for ensuring success by reducing costly utility delays.

SUBSURFACE UTILITY ENGINEERING (SUE) — Over $100 million

Transportation Expansion (T-REX) Project

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Project Description:

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The T-REX utility team gathered thorough and accurate SUE information, and then held one-on-one meetings with each utility company where detailed cost estimates and schedules were established for each relocation prior to releasing the Request for Proposal (RFP). The contractor's risk was greatly reduced due to the extensive SUE information and detailed schedules provided and as a result, the contractor reported a significant reduction in his bid for utility contingency.

In conclusion, the extensive SUE efforts performed prior to the RFP enabled the T-REX utility team to thoroughly and accurately assess and plan for utility relocations. There were no utility relocation surprises, no issues, no major utility strikes. There was not one day of delay to the project schedule. There were no additional costs to the project owners and the utility companies. Rather, the project saved nearly 25% of the original utility budget. This enormous success is directly related to efforts associated with SUE and value engineering.

RELOCATION — Over $100 million

Clybourn Street Advanced Contract (CLAC)

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Project Title: Clybourn Street Advanced Contract (CLAC)

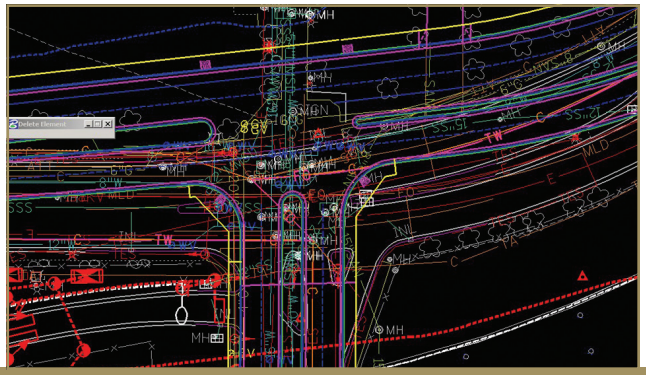
Project Location: W Clybourn Street at Tory Hill, Milwaukee, WI 53202

Project Description:

The Marquette Interchange Reconstruction is an $810 million project located at the heart of downtown Milwaukee, Wisconsin. This integral part of the Wisconsin economy, originally constructed in the 1960's, is severely over traffic capacity and has deteriorated to the point that a new interchange is required. An aggressive 4-year construction schedule was set for complete reconstruction of this junction of 3 interstate highways. Early in design, it was recognized that the relocation of the adjacent Tory Hill roadway, needed to accommodate the new interchange geometry, would pose a scheduling challenge due to the number and complexity of utilities located there.

To meet the interchange schedule, the Clybourn Street Advance Contract (CLAC) for roadway work and utility relocation was established. The Tory Hill right of way was crowded with communication ducts, sewers, waterlines, gas, steam and electric lines and other public utilities, including critical inks to City Police and Fire communications. Also, located in the communication lines were cross-country fiber networks. Bridge abutments and piers associated with the new interchange directly impacted virtually all these utilities. Also, a new bridge to be constructed where Tory Hill crossed above a proposed freeway ramp had the effect of temporarily severing all existing utilities during its construction.

While Clybourn Street Advance Contract's $10 million budget seems only a small part of the overall Marquette Interchange project cost, it would ordinarily be considered a major state roadway project. The advancement of this contract and all its utility r3locations took more than a little of the schedule risk out of the remaining Marquette Interchange contract. It also set the standard for a level of cooperation and coordination for future Marquette (and other) projects to strive towards. While Clybourn Street certainly had its share of utility challenges, the City's work in utility relocation and coordination certainly played a part in bringing this project in on time and within budget.



INNOVATION — Less than $100 million

MNDOT Utility Manual Accomodation Policy Rewrite and Training Delivery Project

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Project Title: MNDOT Utility Manual Accommodation Policy Rewrite, and Training Delivery Project

Project Location: State of Minnesota/ MNDOT

Project Description:

Unexpected utility issues that occur late in a transportation project's design or construction can result in extra cost, time, and effort. Mn/DOT collaborated with TBE Group, Inc., the University of Minnesota's Center for Transportation Studies, and Darlene Gorrill, Communications Consultant to develop a new utility coordination process that promotes communication and strengthens relationships between all parties whose work impacts utility coordination. The result was a 15 –step process that aims to minimize project delays, construction costs, and contractor claims, while maximizing the number of necessary utility relocation that can occur before construction begins.

Mn/DOT's new utility coordination process improves upon its existing policy by:

- Emphasizing accurate identification and early coordination of utilities;
- Starting earlier in the design process;
- Involving the Construction group earlier in a project, thus increasing coordination between Design and Construction personnel;
- Requiring the consistent use of the process on all Mn/DOT, consultant, and State Aid projects; and
- Tying the utility coordination timeline to the project development timeline.

Certain implementation factors contribute to the success of any initiative, including proactive and ongoing stakeholder communication, management commitment, training, and technical support. Mn/DOT's management assembled a Utility Coordination Implementation Team of internal and external stakeholders to develop an implementation plan and oversee the implementation process.

Mn/DOT began implementation by holding a pilot training session with internal staff, utilities, municipalities, and consultants. At the session's conclusion, participants provided feedback about the course that the implementation Team used to develop the training sessions that are currently underway. Once participants complete this training, they are able to apply the process immediately on new projects and as appropriate on current ones. By the spring of 2007, Mn/DOT expects to be using the new process on all of its projects.

LEADERSHIP — Less than $100 million

Sunnyside Road Improvement Project, Phase 1, 2, and 3A

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Project Title: Sunnyside Road Improvement project, Phases 1,2 and 3A.

Project Location: Sunnyside Road from I-205 to SE 162nd Avenue Clackamas, County in Clackamas, Or. 97015

Project Description:

The Sunnyside Road project is local, state and federally funded reconstruction project of a major arterial roadway in Clackamas County, Oregon. The project is the largest project completed by Clackamas County. The overall project cost is $80 Million, which is being constructed in phases. Phase 1 was constructed from April of 2002 to June of 2004. Phases 2 and 3A are under construction, and scheduled for completion in November of 2006. The widening project affected numerous utilities as Sunnyside Road also serves as the main east-west utility backbone for the majority of utility providers in the area. The project included the placement of all overhead utilities underground including two fiber optic lines, relocation and/or new installations for water, sanitary sewer, gas, telephone, cable, and power. The Oregon Chapter of the American Council of Engineering Companies (ACEC) with the Grand Award recognized Sunnyside Road Phase 1 for County and design team included the utility providers early in development t of the project by holding a project utility summit. The utilities had early input on property requirements, scheduling impacts, and other construction requirements. Communication continued during the design phase, and plans were sent to the utilities at the various stages of development for comments and input over a two-year period. Multiple meetings were held with the utilities, and design files provided for use in preparing individual utility designs.

As construction started, weekly utility meetings were held to discuss coordination items relating to utilities. These meetings facilitated communication between the contractor and the utilities, and between the respective utilities and public relation staff for the project. Throughout the project, the majority of the private utilities were sold or merged. While this did create a challenge for the design team, county and contractor, open communication and cooperation between the County administration and utility providers helped facilitate the completion of the project. Early coordination, open communication, and weekly meetings, have created a solid working relationship between the County, Contractor(s), Design Team, and Utility provides that is making Phase 2 and 3A even better.

RELOCATION — Less than $100 million

Route 21 TSM6 New Jersey

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Project Title: Route 21 TSM6

Project Location:

Route 21 Between Green Street and Passaic Street (2 Miles) in Newark, NJ

Project Description:

Compliance with the aggressive design and construction schedule was achieved by implementing four innovative procedures, never before used, that expedited design and minimized construction delays and the resultant claims as explained. These initiatives also demonstrated relocation improvements. These initiatives demonstrate a creative approach to efficiently resolve conflicts and minimize delays resulting from encountering unknown subsurface obstructions during utility installation. They reduced the construction schedule and impact to utilities, owners and the public. The teaming inherent in the "test excavation" process increased sharing of responsibility for utility relocations and promoted the efficient use of public funds in the relocation program.

SUBSURFACE UTILITY ENGINEERING (SUE) — Less than $100 million

GIS-Based Inventory of Utilities

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Project Title: GIS-Based Inventory of Utilities

Project Location: Katy Freeway, Houston, TX

Project Description:

The proliferation of utility assets that occupy the highway row is making it increasingly difficult for transportation agencies to allow more utilities within the ROW and, at the same time, manage their own transportation systems in a timely and efficient manner. The use of technologies such as geographic information system (GIS) and computer-aided design (CAD) technologies, high-precision global positioning system (GPS) receivers, and underground remote sensing technologies to manage utility installations has increased in recent years.

Most utility data modeling efforts currently in place are utility industry-specific. One of the by products of this application island approach is that horizontal data integration, i.e., data integration across industries, becomes more difficult. For transportation agencies that need to manage all utilities within the ROW, the effect is twofold: (a) it prevents the use of unified data model and data exchange standards, and (b) it prevents the effective management of all the interactions, conflicts, and relationships among utility installations and between highway facilities and utility installations within the ROW.

Utility accommodation policies frequently ignore positional accuracy and documentation submittal requirements. The results often a wide range in utility documentation procedures that produce plans that are not scaled, lack coordinate system and/or reference information, or contain either insufficient information to determine the location of existing and proposed installation or too much information that conveys little or no meaning to the transportation officials reviewing the documentation. Frequently, agencies do not require utility owners to submit as-built documentation, making the process of managing utility data within the ROW even more difficult.

To address these issues, the Texas Department of Transportation (TX DOT) has sponsored research at the Texas Transportation Institute (TTI) to develop a GIS-based utility inventory model that enables the capture and management of utility feature data and accommodates a variety of business processes such as utility inspection, permitting, and deliverables from subsurface utility engineering (SUE) contracts.

TTI researchers are testing the utility inventory model using data from the Katy Freeway Reconstruction project in Houston. This project which span some 23 miles of IH-10 from Katy to Loop 610 and 3 miles on loop 610.