

Sanford Underground Research Facility

Replace Cable – East Switchyard Construction RFP **Scope Overview**

Agenda

July 22, 2022

Time	Topic	Presenter
10:00-10:05	Introductions	
10:05-10:30	Site Specific Safety Training	Juan Molina
10:30-10:45	Proposal Guidelines	Benjamin Brack
10:45-11:00	Scope Overview	Paul Bauer
11:00-12:00	Site Tour	Paul Bauer

Proposal Requirements

General:

- Describe Working Relationship Between Overall Team Members
- Provide Organizational Chart of Proposed Team
- Identify Primary Points of Contact for the Proposed Team
- Describe approach to Cost & Schedule Control
- Describe how information will be communicated to the Project Team and SDSTA.
- List exceptions to Terms and Conditions or other RFP materials.
- Describe Three Projects of Similar Scope and Value that contractor has completed within past 10 Years. Include:
 - Project Scope
 - Project Value
 - Estimated vs. actual cost & schedule
 - Provide customer, location, and project date

Proposal Requirements

Safety:

- Provide a description of the safety programs of contractors and subcontractors performing work at SURF under this contract.
- Demonstrate the firm's understanding and awareness of all ESH issues that will be present on this project.
 - Note that this project requires a safety officer. This position can have an added role as project superintendent or other project position that does not directly conflict with the safety duties.
- Include safety records for the past five years (incident/injury records, OSHA 300 logs, and EMR data) of contractors and subcontractors performing work at SURF under this contract.

Quality Control:

- Provide a description of the Quality Control programs of contractors and subcontractors performing work under this contract.

Proposal Requirements

Schedule:

- The SDSTA seeks to complete the project by the end of the calendar year or approximately 180 from Notice to Proceed (NTP.)
 - Note that liquidated damages of (\$100/day) will be applied for additional schedule days required after the approved contract completion date.
- Propose a total number of contract days from NTP for project completion.

Date 0 – Notice to Proceed	0	Calendar Days
Date 1 – Material Procurement Period	_____	Calendar Days
Date 2 – Mobilization Period	_____	Calendar Days
Date 3 – Project Construction Period	_____	Calendar Days
Total Project Duration (Sum Dates 1-3) =	_____	Days from NTP

Proposal Requirements

Pricing:

Provide a project pricing breakdown as detailed below:

1. Mobilization	\$_____ FFP
2. Overhead Line Construction (total)	\$_____ FFP
<i>Conductor Material</i>	\$_____ FFP
3. Incoming Duct Bank Construction (total)	\$_____ FFP
<i>Conductor Material</i>	\$_____ FFP
<i>Conduit Material</i>	\$_____ FFP
4. Outgoing Duct Bank Construction (Option 1, total)	\$_____ FFP
<i>Conduit Material</i>	\$_____ FFP
5. Protection Relay Replacements (Option 2, total)	\$_____ FFP
Proposal Total (Sum of 1-5)	\$_____ FFP

- The offeror's fixed price shall constitute full payment for the work, materials, services, quality control testing, other items required, including all applicable federal, state use, sales, and local taxes, duties, permits, bonding, and all the Subcontractor's other obligations related to such work.

RFP Schedule

July 22, 2022

Request for Proposal Issued

July 18, 2022

RFP Information Located on SURF Website at:

<https://www.sanfordlab.org/contract/rfp-2022-24-replace-cable-east-switchyard>

Register for Site Visit

July 29, 2022, by 5:00 PM

Mandatory Site Visit

August 1, 2022, 10:00 AM

Final Date for Submitting Questions

August 4, 2022, by 5:00 PM

Responses to Questions

August 9, 2022, by 5:00 PM

Proposals **DUE** to SDSTA

August 23, 2022, by 2:00 PM

Contact Benjamin Brack (bbrack@sanfordlab.org)

Selection Criteria

The following criteria (in no particular order) will be weighted and scored by a selection committee:

- Demonstration of knowledge and understanding of the project requirements, including knowledge of design and construction practices for electrical distribution.
- Demonstration of your firms understanding and awareness of all ESH issues that will be present on this Project.
- Demonstration of ability to provide required services within schedule and budget.
- Qualifications of team members assigned to the project.
- Experience and past record with similar projects.
- Strength and adequacy of the individuals' qualifications as above.
- Strength of references.
- Methodology, process and approach in meeting Submission Requirements.
- Fee Proposal.

Scope of Construction

- Roadwork to Gain Access to South Portal Area
- Tree and Brush Clearing, Reclamation, Landscaping
- Storm Water Management / Pollution Prevention
- Extend Existing Overhead Line ~440 feet
 - a. Install Four Wood Pole Structures
 - b. Install Pole Mounted GOAB Switch
 - c. Install Three Runs of 556 ACSR Overhead Cable plus Static Wire
 - d. Demo Existing Pole Risers
- Install ~620 feet of Incoming Duct Bank
 - a. Trenching, Concrete, and Backfill
 - b. Install Four 6-Inch Electrical PVC Conduits
 - c. Install One 7'x7'x7' Manhole and One Trenwa Precast Trench
 - d. Install Two Parallel Runs of 500 kcmil (Aluminum) 15kV Cable
 - e. Terminate and Test 15kV Cable

Optional Scope of Construction

- Install ~ 260 feet of Outgoing Duct Bank (Option Scope)
 - a. Trenching, Concrete, and Backfill
 - b. Install Two 6-Inch and One 2" Electrical PVC Conduits
 - c. Install Two 6-Inch Conduit Penetrations into Existing Utility Tunnel
 - d. Install One Communications Handhole for 2" Conduit
- Replace Two Existing Protection Relays (Option Scope)
 - a. (1) GE Multilin SR735 Feeder Protection Relay at Oro Hondo Substation
 - b. (1) GE MDP Main Protection Relay at East Switchyard
 - c. Replacements Shall be SEL 751 Protection Relays

SDSTA Reserves the Right to Select Scope Options Based On Proposal for Base Scope of Construction and Value of Options.

Key Elements of Scope of Construction

Scope:

- Contractor is responsible for managing the construction
 - Manage Overall Safety and Reporting
 - Manage Work Planning and Quality Control
 - All Subcontracts Shall Be Held and Managed by Contractor
 - Performance of Testing and Commissioning
 - Coordinate Cutover from Existing to New Feeder Cable

Constraints:

- Construction must be planned to minimize the impact on site traffic flow and logistics.
- The number and duration of power outages must be kept to a minimum.

Project Deliverables

- Safety Plan
- Quality Control Plan
- Environmental/Storm Water Protection Plan
- Overall Construction Schedule
- Work Planning Documentation
- Critical Lift Plans
- Job Hazard Analysis(s)
- Submittal Register
- Materials Delivery Schedule
- Worker Check-in Daily Roster
- Pre-shift Toolbox Talks
- Daily Pre-Use Inspections
- Daily Trenching Log
- Incident Reporting
- Weekly ESH Inspection Report
- Weekly Progress Photographs
- Monthly Contractor OSHA Reporting
- Equipment labels per applicable codes and standards
- Testing and Commissioning Reports
- As-Built Drawings
- O&M Manuals and Warranties
- Training materials for owner training

Aerial View – Yates Complex Overhead Line & Duct Bank Routing

July 22, 2022



Pole Structures at South Portal



Pole Structures at South Portal



Pole Structures at South Portal



Yates Yard / Hoistroom



Yates Hoistroom – Looking North



Yates Hoistroom – Looking South



Trenching in Front of Hoistroom



Looking South

Looking North

East Switchyard – Looking South



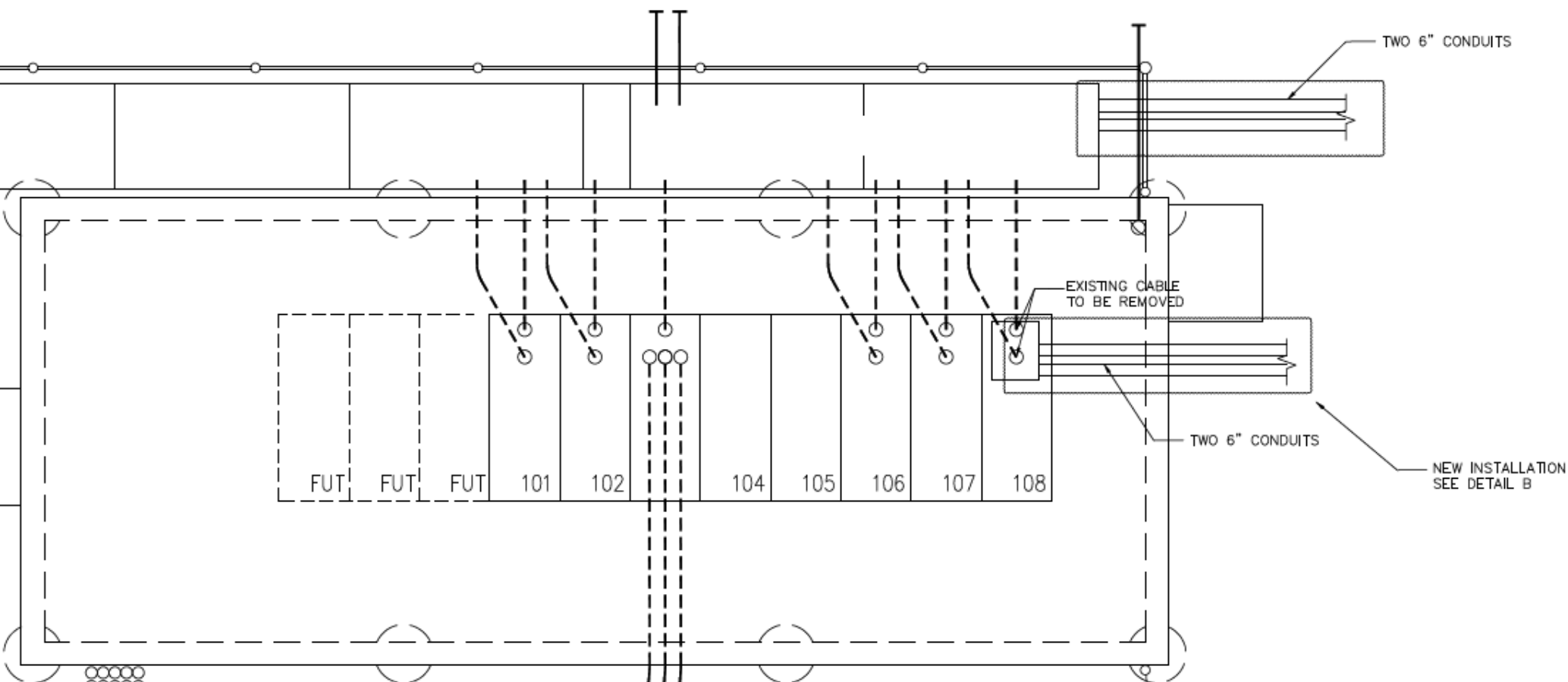
East Switchyard – Looking West



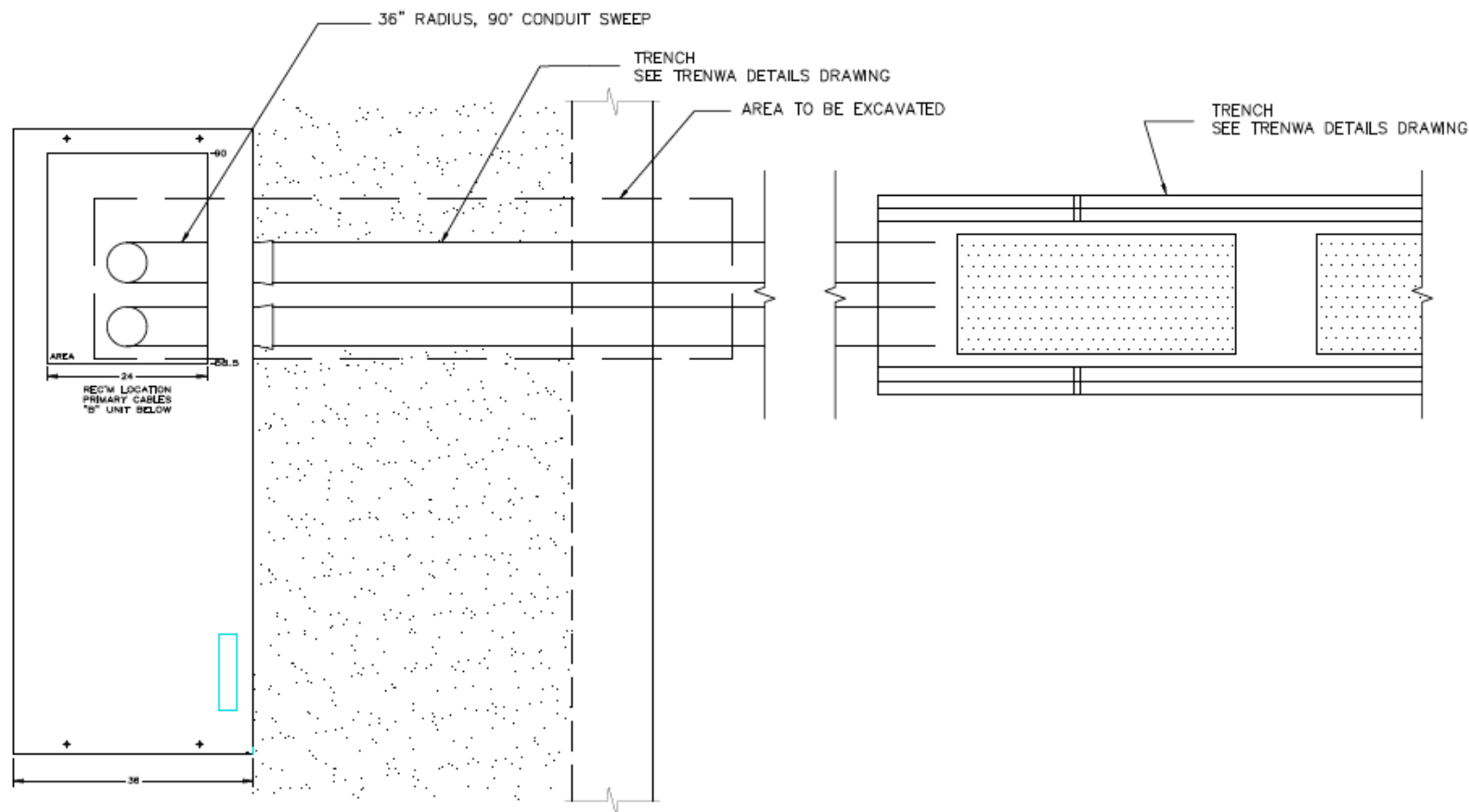
East Switchyard Control Building



Control Building – Plan View



Control Building Foundation Penetrations



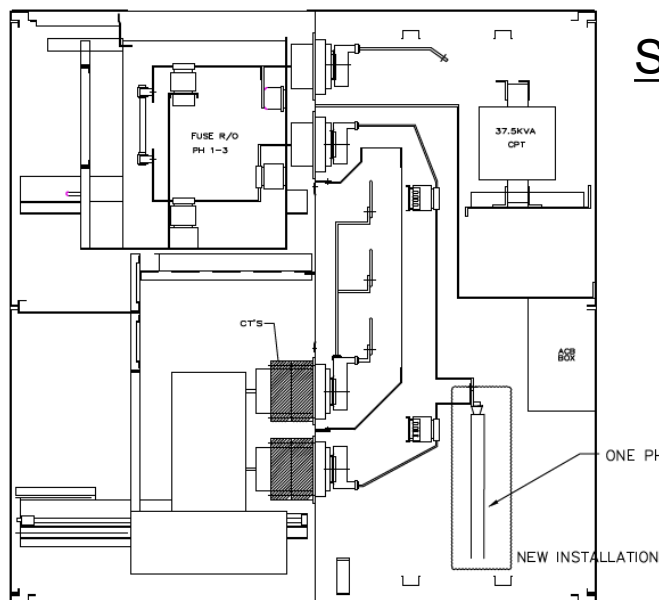
BAY 108 FLOOR PLAN

B
MULTIPLE

NOTE:

1. CONTROL HOUSE SLAB TO BE EXCAVATED WITHOUT DISTURBING CONTROL HOUSE WALLS AND SWITCHGEAR.
2. FOUNDATION WALLS TO BE CORE DRILLED.
3. CONTRACTOR TO DETERMINE DEPTH REQUIRED TO ACCOMMODATE 36" RADIUS 90° DUCT SWEEP

Drawing Details



Switchgear Elevation View

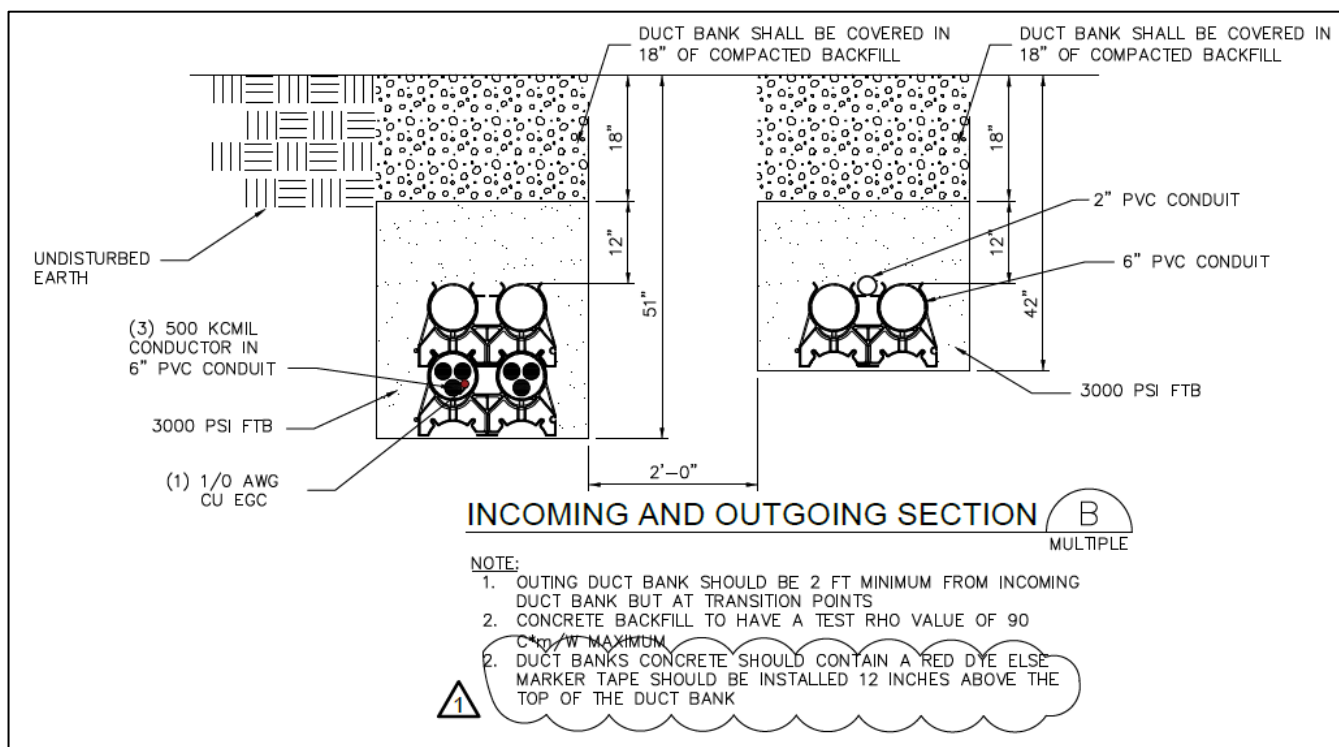
BAY 108 CROSS SECTION

A

NOTE:

1. ATTACH CABLE SHIELDS TO SWITCHGEAR GROUND BUS BAR WITH 4/0 GROUNDING CONDUCTOR
2. NOT ALL PHASE CABLES SHOWN.
3. NOT TO SCALE

Duct Bank Details



INCOMING AND OUTGOING SECTION

B
MULTIPLE

NOTE:

1. OUTING DUCT BANK SHOULD BE 2 FT MINIMUM FROM INCOMING DUCT BANK BUT AT TRANSITION POINTS
2. CONCRETE BACKFILL TO HAVE A TEST RHO VALUE OF 90 C/m³ MAXIMUM
2. DUCT BANKS CONCRETE SHOULD CONTAIN A RED DYE ELSE MARKER TAPE SHOULD BE INSTALLED 12 INCHES ABOVE THE TOP OF THE DUCT BANK





Questions?



Backup Slides

Project Classification

➤ Major Construction

- Any project with more than 5 workers plus one supervisor, lasting more than one week, with high-risk activity, and/or at a value in excess of \$50,000. Requires a safety officer and development of a project specific EHS Plan.

➤ Minor Construction

- Any project with 5 or fewer workers plus one supervisor, any duration, no high-risk activity, value less than \$50,000. Requires an assigned EHS representative that can also perform work and development of a project specific EHS Plan. Site specific training is shorter.

➤ Owner Escorted Construction/Non-Construction

- Engineering inspections, supervising work, etc. Similar to Owner Supervised, but no work is done. Any project where someone from SDSTA will be with the workers at all times and contractor follows SDSTA policies.

Project Classification

Construction Language Comparison

1. Major Construction

Requires full time Safety Officer with 30 hour OSHA and documented experience, CPR trained, 40 CFR 112, 261-270 and ARSD 74:52:01-74:52:11 trained(hazmat and storm water)

CEHSP Required

Contractor to develop JHAs

Contractor conducted Toolbox Talks

Contractor Identified "Qualified" and "Competent" persons

Contractor provided PPE

10 hour OSHA or MSHA

Up to 8 hours site specific

Contractor Incident Investigations

Contractor managed chemical waste

2. Minor Construction

Requires Safety Representative with less training and may be a member of the work crew

CEHSP Required

Contractor to develop JHAs

Contractor conducted Toolbox Talks

Contractor Identified "Qualified" and "Competent" persons

Contractor provided PPE

>40 hours = 10 hour OSHA or MSHA

Up to 8 hours site specific

Contractor Incident Investigations

Contractor managed chemical waste

3. Owner Escorted / Non Construction

Accompanied by an owner representative

CEHSP not Required

Contractor to develop JHAs with Owner's involvement

Owner conducted Toolbox Talks

Contractor Identified "Qualified" and "Competent" persons

Contractor/Owner provided PPE (at Owner's discretion)

>40 hours = 10 hour OSHA or MSHA

Up to 3 hours site specific

Owner Incident Investigations

Owner managed chemical waste