STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

ENGINEER'S DAILY REPORT

LAN Engineering Consultant

GL 3/24/2009

REPORT NO. 826 {7-day}{ + 210 Project Work Day}

DATE March 18, 2009

M T W T F S S (DAY)

NORMAL WORK HOUR: START: 6:00AM STOP: 3:30PM

WEATHER: SUNNY

LOCATION :

Construction Field Office : 333 Burma Road, Oakland 94607

Working Drawing Campus Office : 375 Burma Road, Oakland 94607

04-SF-80-13.2/13.9
Contract No. 04-0120F4
{SAS Superstructure}

Caltrans Supervisor:
Gary Lai
Senior Bridge Engineer

Office Work:

- **SAS Opportunity Partnering Schedule (OPS) Work.**
  - Reviewed Chris Bausone's Wednesday March 11 Meeting Recap and included some comments and concerns. Some of the issues that I brought up pertained to the following topics:
    - Grounding @ W2 that needs to be addressed because of the existing grounding system. This will be addressed in the CCO # 75 that will be issued soon. This will be dealing with the accessibility issue.
    - General issue throughout the construction project dealing with temporary structures and how they conflict with the installation of MEP items and completion of the systems.
    - Time lines for other contracts that interface with this contract.
    - Integrating the millstone dates for certain completions that would interact with the MEP installation, testing and completion.
    - Staging of the work to determine where, when, how the MEP items can be installed in a timely manner.
    - See attachment #1 for additional comments.

- **Teleconference with Team China. (Team Oakland / Team China) 4:30 PM.**
  - Sent out an agenda for this evenings Teleconference to all parties concerned. See attachment #2.
  - Teleconference Call took place @ 4:30 PM Oakland Time with discussion about the status of the fabrication in China. A copy of the minutes of the meeting was developed and sent out to the listed people on the agenda. See attachment #3.

- **Pull Box research on fabrication issues – Sheet #271/specification.**
  - Sent emails to Pull Box Manufactures to determine if the plans and specifications provided by the design group can be acquired by the contractor. The design group did indicate that the plans and specifications are complete to provide the required pull boxes. Three manufactures were listed in the Special Provisions. I sent the request to two of the three manufacturers for verification of fabrication per contract documents. The third manufacturer does not indicate that they are capable of fabricating these types of pull boxes.

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- Received follow-up email back from the Hoffman giving estimates for the box sizes but did not include all the specifications items in the documents. Will have to clarify and follow-up on this issue with the company. See attachment # 4.

Any questions or comments you can reach me at (916) 919-7158. My E-Mail address is Mike.Travis@LANEngineering.com or Michael_Travis@dot.ca.gov

END OF REPORT

0545-174500 @ Office / Time sheet total 10 hours regular

Attachments:

1. SAS Opportunity Partnering Schedule (OPS) Meeting Agenda/Comments/Attendance.
2. March 18, 2009 Teleconference Agenda.
3. March 18, 2009 Teleconference Minutes.
4. Emails dealing with Pull Box fabrication capability.

SIGNATURE

Name	TITLE
Michael F. Travis	Electrical Engineer – LAN Engineering

Attachment #1 (1/10)

Attachments can contain viruses that may harm your computer. Attachments may not display correctly.

Mike Travis

From: Chris Bausone [cbausone@abfjv.com] **Sent:** Mon 3/16/2009 11:07 AM

To: 'Bill Shedd'; 'Mark Woods'; Mike Travis; 'Michael Stone'; 'Anna Lee'; syeager@abfjv.com; 'Bernard R Feather'; kbaltzer@abfjv.com; billf@fwspencersoninc.com; 'Martin Chandrawinata'

Cc:

Subject: 3/11/09 OppSched mtg recap

Attachments: SAS - MEP OppSched Mtg Recap 03-11-09.doc(367KB)

All – Please review my recap of agenda topics discussed at our meeting last week. If you have suggestions for notes to add, change or delete, please send them to me asap. After discussing/making suggested changes, I will distribute a final draft of the recap to a larger group of individuals that may find the information informative or useful. Thanks. -chris

--

Bill,

Attached is a copy of Chris's Meeting Recap and my review comments. The comments have been added in "Blue". I will be using this as an ongoing comment sheet to determine the issues to research and provide a possible solution to the scheduling issues that will prolong the completion of the project.

Attachment #1 (2/10)

American Bridge / FLUOR
A JOINT VENTURE

SAN FRANCISCO OAKLAND BAY BRIDGE
EAST SPAN SEISMIC RETROFIT SAFETY PROJECT
SELF-ANCHORED SUSPENSION BRIDGE
(SUPERSTRUCTURE AND TOWER)
PROJECT NUMBER 660110

Review Comments by Michael Travis

SAS - MEP OPPORTUNITY SCHEDULE MEETING

March 11, 2009 Meeting Recap

WDC Conference Room

- **ATTENDANCE:**
  - **CT**: Mike Stone, Bill Shedd, Mike Travis, Mark Woods, Martin Chandrawinata, Rob Feather
  - **ABFJV**: Chris Bausone, Scott Yeager, Karsten Baltzer
  - **BLI**: Anna Lee, Amy Cha
  - **FWS**: Bill Farrell
  - Some attendees had to leave early but most were there for duration of meeting, which started shortly after 1pm and continued for about 4 hours.

- **GOALS**
  - Main: Mitigate delays to meet or exceed project milestones for Phase completion
    - Phase 1 - March 2012 – all work west of Pier W2 centerline
    - Phase 2 – September 2012 – all work to open Westbound lanes to traffic
    - Phase 3 – March 2013 – all remaining work to complete the project
  - Alternative: Open the bridge to traveling public by Phase completion milestones even if substantial project completion has not been attained
    - Some work over traffic may be necessary to complete
    - Temporary lane closures may be necessary to complete

- **REVIEW WORK SCOPE, SEQUENCE, CONSIDERATIONS FOR DISTINCT AREAS REQUIRING MEP ACCESS**
  - **W2 UNDERGROUND**
    - Electrical work: rigid conduit, duct banks, vaults w/ manholes, cables
    - Predecessor: Cap Beam falsework and foundation removal
    - Tower Tie-back piles and anchoring block in vicinity
    - Completion planned with Phase 1
    - ABFJV design consultants for tower tie-back have been made aware of the required MEP underground work nearby and been directed to account for pile overburden disturbance that is expected during excavations for MEP.

** Sequencing **
Installation coordination with the YBI contract.

When will the YBI Contract have a complete installation from the substation to the SAS Connection Point?

When will the Cables be pulled from the substation to the SAS connection point?

TIMELINE

* Grounding work will consist of connecting to existing ground system at W2 footings, testing, and installing grounding loop all around footings. Accessibility needs to be verified during underground installation and trenching work.

- **W2 BELOW RETAINING WALL COVER SLAB**
  - Electrical work: cable trays, supports, cables, Seismic, Grounding
  - W2W retaining wall requires new penetrations for electrical
    - Consider coordinating wall penetration work with duct bank excavations to eliminate redundant digging. Bleyco can begin their excavation at the retaining wall.
  - Electrical installations attach mainly to retaining wall
  - Cable tray supports ~~at W2W~~ require drilling and anchoring in concrete
  - Seismic and Grounding installations at top of pier footing
  - Access is required along full height of retaining wall

** Sequencing **

When will the W2 cover slabs be installed for accessability for electrical equipment installation?

Coordination between cover slab installation and electrical equipment installation above and below slab.

TIMELINE

- **W2 ABOVE RETAINING WALL COVER SLAB**
  - Electrical work: pull boxes, supports, flexible conduits
  - Mechanical work: piping, fittings, expansion loops, supports, terminations
  - MEP installations attach to cover slab: require drilling and anchoring in concrete
  - Predecessor: erection of cover slab, which is not expected to be in place until late in the project schedule.
  - CT Action: double check limits of pipe terminations and verify that design/contract exists for a YBI contractor to make the tie-ins.

Phase 1, 2 or 3?

Mechanical coordination with YBI contract?

- **W2 COLUMNS**
  - Electrical work: cable trays, pull boxes, supports, cables
  - Mechanical work: piping, fittings, supports
  - Electrical supports require drilling and anchoring in concrete
  - Access is required along full height of columns on east side of W2
  - Workpoints are likely to be accessed from boom lifts, with material hoisting by crane

- **W2 CAP**
  - Electrical work: cable trays, supports, cables, rigid conduit (to dehumid unit)
  - Mechanical work: piping, fittings, supports
  - Electrical supports require drilling and anchoring in concrete
  - Access is required to bottom and east side surfaces of cap concrete
  - Predecessor: lower the Cap Beam work platform in preparation for cable work

- **W2-OBG TRANSITION**
  - Electrical work underneath: cable trays, supports, flex conduit, cables, grounding
  - Mechanical work around sides: piping, fittings, supports
  - Catwalk for main Cable installation may impede some mechanical work
    - Outboard air and water pipes transitioning from Cap Beam to OBG
  - Cradles for OBG may impede electrical work
  - Access is required below girders for structural supports installation and electrical installations
    - Access by boom lift or other means
    - Can any existing falsework be utilized?
  - Access is required inside girders for heavy concentration of electrical work including a large splice box for 15kV
    - This note was just to emphasize that there are many many electrical installation and wiring activities to do in a relatively small area.
    - 15kV splice box is planned for loading/staging while there is an open end of the Lift Segment, prior to, or shortly after, it gets erected.
  - Access is required at girder sides for mechanical work
  - Closure pour must be cured prior to installation of some pipe supports
    - Closure pour occurs sometime between erection of OBG Lifts 4 & 8

Need to review the Cable Catwalk erection submittal and sequencing for time line on installation of MEP Equipment.

Need to review the Temporary Structure plans to determine if conflict exist for installation of the MEP equipment.

Closure Pour? Time & Location? Impact on Piping supports.

- **OBG-WB GIRDER**
  - Electrical work: cable trays, rigid conduits, pull boxes, cables, lighting, switches, receptacles, Seismic, Navigation, Fiber Optic, 15kV
  - Access/Egress in/out of girder is limited to small access holes near field splices
  - Cable trays are intended to be loaded from open end of lift segment
    - Will electricians have access to OBG segments prior to their erection, for staging materials and/or installing longitudinal cable trays on supports?
  - OBG-WB construction generally has priority over OBG-EB

- **OBG-WB ROADWAY**

The CCO covering the installation of the poles and the scope of work required by the SAS contractor needs to be finalized to determine time required to install, test, accept.

  - Electrical work: rigid conduits, flex conduits, pull boxes, cables, lighting, 20m light poles, receptacles, Call Box, TOS cameras, MVDS
    - Light pole prototypes are in fabrication
  - Mechanical work: piping, fittings, supports, utility stations, expansion loops
  - Access is mainly required in and around roadway barrier
  - Access holes in deck plate must be repaired prior to some pipe installation
    - No problem
  - Completion is planned with Phase 2
  - OBG-WB construction generally has priority over OBG-EB

- **OBG-EB GIRDER**
  - Electrical work: cable trays, rigid conduits, pull boxes, cables, lighting, switches, receptacles, Seismic, Navigation, Fiber Optic, 15kV
  - Access/Egress in/out of girder is limited to small access holes near field splices
  - Cable trays are intended to be loaded from open end of lift segment
    - Will electricians have access to OBG segments prior to their erection, for staging materials and/or installing longitudinal cable trays on supports?

- **OBG-EB ROADWAY**

The CCO covering the installation of the poles and the scope of work required by the SAS contractor needs to be finalized to determine time required to install, test, accept.

  - Electrical work: rigid conduits, flex conduits, pull boxes, cables, lighting, 20m light poles, receptacles, Call Box, TOS cameras, MVDS
  - Mechanical work: piping, fittings, supports, utility stations, expansion loops
  - Access is mainly required in and around roadway barrier
  - Access holes in deck plate must be repaired prior to some pipe installation

- **OBG-CROSSBEAM AT SERVICE PLATFORMS**
  - Electrical work: cable trays, rigid conduits, lighting, switches, receptacles
  - Access to crossbeam interior is from outside at service platforms or from inside of girders
  - Cable trays are intended to be loaded prior to erection of crossbeams

- **OBG-SERVICE PLATFORMS**
  - Electrical work: ~~equipment racks~~, wireways, lighting panels, utility panels, transformers, breakers, panel enclosures, SCADA, Seismic, TOS/COM, 15kV
  - Access to service platforms is from crossbeams
  - Prececessor: Service Platform bolt-up and equipment rack installation (by ABF)
  - Coordinate hoisting of all material onto platforms.

- **OBG-EB BIKE PATH**
  - Electrical work: rigid conduit, flex conduit, lighting, 3.5m poles, Call Box
  - Mechanical work: piping, fittings, supports, utility stations, expansion loops
  - Access is required along edges of bike path and underneath bike path
  - CT uncertain whether or not bike path truly needs to open for public access when Eastbound roadway is opened.

Need to check for staging of the Bike Path installation. The west end of the SAS Project has a missing (non-installed) section due to staging.

- **OBG-TOWER TRANSITION**
  - Electrical work: rigid conduit, splice boxes, messenger cables, flex conduit, cables, lighting, grounding, Seismic
  - Mechanical work: piping, fittings, supports, expansion loops, Booster Pump
  - Access to electrical equipment platform at OBG-EB may be delayed due to presence of temporary crane tower
  - Predecessor: Erection of Service/Access platforms
  - T1 Erection Tower (T1-ET) impedes erection of electrical service platform attached to OBG-EB between PP40 and PP41. T1-ET will not be removed until after Tower Head erection.

Conflict exists and this places the MEP installation close to or part of critical path for completion of project. This should be further evaluated to resolve this problem if possible.

Researching the feasibility of accruing the pull boxes from different manufactures using the existing specifications and design plan.

  - Design of the four large pull boxes (A,B,C,D) is not complete.
  - This area requires more attention from Designers and Contractors, since basically everything in and on the Tower gets fed from OBG.
  - Architect is having negative affect on completion of MEP design work at Elev. 53.85, which prevents construction planning.

- **TOWER SHAFTS AND PLATFORMS INSIDE**
  - Electrical work: cable trays, cables, lighting, receptacles, switches, utility panels, transformers, breakers, Seismic
  - Access will be through permanent means of access/egress
  - What is predecessor to MEP access?
    - For electrical In general: for each of Lifts 1-4, erect/bolt shafts, struts, cross bracing, facades

- **TOWER SHAFTS AND PLATFORMS OUTSIDE**
  - Electrical work: conduits, cables, pull boxes, lighting, receptacles, switches, Nav/Av Warnings, Seismic
  - Mechanical work: Elevator, piping for air/water, Booster Pump
  - What is predecessor to MEP access?
    - For electrical In general: for each of Lifts 1-4, erect/bolt shafts, struts, cross bracing, facades
    - For pipe risers installation below Elev 53: erect/bolt Lift 2 or Lift 3
    - For pipe risers installation above Elev 53: erect/bolt Lift 4
    - For elevator mast installation: load transfer

- **TOWER HEAD**
  - Electrical work: conduits, cables, lighting, switches, receptacles, Aviation Warning, Dehumid unit hookup
  - Mechanical work: Dehumid unit, dehumid ductwork, supports
  - Access will be through permanent means of access/egress.
    - Additional access available via temporary elevator for tower from Elev. 57 on up and via catwalk for main cable.
  - Ductwork installation can't be completed until after saddle housing is installed
  - What is predecessor to MEP access?
    - Load transfer and Tower Head erection

Need to determine the tower head erection sequence and how accessibility can be obtain during the process. (Tower pylons, saddle cover, etc.)

- **TOWER ANCHORAGE**
  - Electrical work: Conduits, pull boxes, cables, lighting, switches, receptacles, Seismic, Dehumid unit hookup, Elevator hookup, Sump Pump hookup
  - Mechanical work: Dehumid unit, dehumid ductwork, supports, Sump Pump, and piping, Elevator
  - Access will be through permanent means of access/egress
  - What is predecessor to MEP access?
    - In general: Structural welding and bolting
    - For Sump Pump and misc other work: erect/bolt Tower Skirt

Conduit/wiring feeds to T1 pile cap area installed on Skirt. Time frame?

Lighting / navigation warning equipment / strong motion / etc. installation timing?
When will temporary structure be removed?
Conflicts with temporary structure?

Attachment #1 (6/10)

- **T1 PILE CAP**
  - Electrical work: conduits, cables, lighting, Navigation Warning
  - Do temp structures affect access? Yes
  - Predecessor: Temp structure removals and pier fender installation

- **TOWER-CABLE TRANSITION**
  - Electrical work: conduits, supports, cables
  - Mechanical work: dehumid system ductwork
  - Access for MEP must follow cable shroud installation
  - Predecessor: erect/bolt Tower Head, Cable Shrouds, Saddle Housings

- **SAS-SKYWAY TRANSITION**
  - Electrical work: cable trays or conduits, supports, cables, splices
  - Mechanical work: piping, fittings, expansion loop, supports, tie-in
  - Access is required for mech work below bike path
  - Hinge A pipe beams carry conduits and electrical circuits, so they must be set prior to completion of electrical work
  - Predecessor: load transfer and final elevation setting for obg and bike path.

- **CABLE MAIN SPANS AND BACK SPANS**
  - Electrical work: messenger cable, flexible conduits, pull boxes, cables, lighting, Seismic, Aviation Warning
  - What is predecessor to MEP access? Cable wrapping (and then messenger cable installation)
  - Will catwalk impede any electrical installations? No. Catwalk can be utilized
  - At what sequence will catwalk be removed? Last, after painting
  - How many cable wrapping machines will be used? 2 machines at same time on different cable spans
  - Can electrical components be installed shortly behind cable wrapping progress? Yes
  - Is painting a predecessor for electrical work? No. Painting is successor activity
  - What is cable wrapping and paint sequence for main span and back spans, north side and south sides?
    - The two back span cable runs will be wrapped at the same time and the two main span cable runs will be wrapped at the same time. It's not decided which span will get wrapped first. Cable wrapping will follow load transfer.

After cable wrapping the stanchions will be installed permanently. The electrical equipment then can be installed on the stanchions before messenger cable installation.

The conduit installation will take place as soon as the messenger cable is installed and tensioned. The Wiring and final connection will be followed immediately after.

- **CABLE ANCHORAGES AND SADDLES**
  - Electrical work: dehumid unit hookups near West jacking saddle, East anchorages, Tower saddle (same as Tower Head)
  - Mechanical work: dehumid unit near west jacking saddle, East anchorages, and Tower saddle; dehumid ductwork at west saddle housings and shrouds, Tower saddle housing and shrouds, OBG anchorage and saddles
  - East anchorage dehumidification system installation is affected by cable installation and anchoring operations
  - Ductwork (and some electrical) installation must follow cable shroud and saddle housing installations at Tower Head and West Saddles
  - Saddle housings and cable shrouds will be installed after load transfer
  - What is predecessor to duct installation at East Anchorages?
    - Cable installation and erection of OBG anchorage enclosure
  - How/When can dehumid units be loaded into East anchorages?
    - It may be possible to hoist dehumid units into open sides of OBG for staging at (or near) their mounting locations

Attachment #1 (7/10)

- **E2 COLUMNS CAP**
  - Electrical work: pull boxes, conduits, cables
  - Access is required at side of cap
  - Will temporary work for bearings or shear keys limit MEP access to east side?
    - To be checked

- **E2 COLUMNS**
  - Electrical work: conduits, cables, supports
  - Access is required along full height of columns
  - Do temp structures affect access?
    - To be checked

- **E2 PILE CAP**
  - Electrical work: conduits, pull boxes, cables, lighting, Navigation Warning, Seismic
  - Do temp structures affect access?
    - To be checked

• LOAD TRANSFER CONSIDERATIONS

- How much barrier movement or compression is expected relative to deck?
  - Can conduit be secured to barrier and pull boxes prior to load transfer?
    - Yes, but only if conduit won't impede barrier bolting activities
- ~~Can conduit be secured to deck prior to load transfer?~~
- Will temp tower removal create more OBG movement or compression? No
- Will OBG movement or compression affect MEP installations inside the OBG? Likely not
- Does proper load transfer require weight of MEP materials to be installed in/on OBG? No
- ~~Does proper load transfer require weight of Travelers to be hung from OBG?~~
- Consult with Design JV regarding compression or relative bridge movements

• GENERAL MEP CONSIDERATIONS

- Structure transitions are likely to have temporary structures impeding MEP installations prior to removal of temporary structures
  - What effect would this have on system installation?
    - Discontinuity that may be overcome by temporary installations if need be
  - What effect would this have on system testing?
    - Potential to delay testing until transition zone MEP can be installed

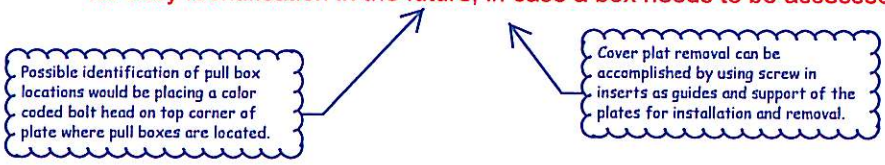
Need to develope other alteratives to get permanent installation installed without having both temporary installation/permanent installations. Time consuming and effecting completion possible (Costly).

- Must all work on cables be completed prior to opening roadways to traffic?
  - Perhaps not for some things, such as testing Seismic system, but completion of all MEP installations on main cables should be a consistent goal due to hazard of working above traffic
- Must all roadway lighting, MVDS units and call boxes be installed and operational prior to opening roadways to traffic?
- Must Tower outside work be completed prior to opening roadways to traffic?
- What areas will ABFJV make available for local storage or staging of materials?
  - ABF to coordinate storage/staging areas with Subcontractors. Space is limited.
- Review details of Temp Structures that may impede MEP work or be useful for access to MEP work

See attached sheet showing T1-ET conflict with pull box platform. Also other areas need to be reviewed (i.e... temporary catwalk for suspension cable - 2 panel points on either side of first suspension cable)

Attachment #1 (8/10)

- **MEP CONSIDERATIONS IN AND AROUND BARRIER**
  - Conduits are intended to be loaded from open end of barrier segments.
    - What is Bleyco plan for moving conduits into place and securing them?
      - Bleyco plan is to install and secure conduits as soon as they are allowed access to do so. For conduit installation they require access from the open end of barrier segments
    - Rigid conduit will typically be supplied in 10-feet lengths
  - Schedule currently shows all barrier (through Lift 14) getting set and bolted prior to conduit installation beginning
    - Can schedule be condensed to show conduit installation beginning sooner and progressing as barrier erection progresses? Perhaps
    - Will barrier bolting be impeded by conduit and pull box installation? Yes
      - Barrier bolting will be impeded but not completely. Lowest clearance for bolting access is to COM conduits and pull boxes
      - Bleyco may not want to install conduit ahead of time if they can't also install the associated pull boxes
    - What is predecessor for securing conduit to barrier and pull boxes?
      - Barrier bolting
    - Can pull box installation and conduit fastening progress shortly behind barrier bolting progress? Yes
  - Can piping installations progress shortly behind barrier bolting progress? No
    - Must piping installation be preceded by conduit and pull box installation? Yes
    - Must piping installation be preceded by cable pulling? Yes
  - Must electrical testing precede installation of barrier cover plates at pull box locations? At other locations?
    - No, but pull box locations should be labeled (permanently, as well as temporarily) for easy identification in the future, in case a box needs to be accessed.



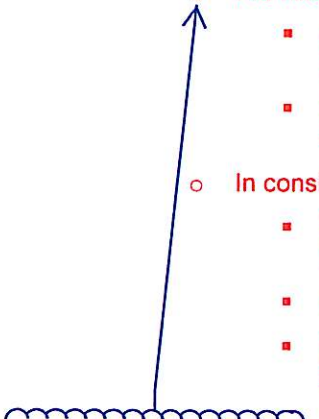
- **MECHANICAL SCHEDULE OR SEQUENCE CONSIDERATIONS**
  - Schedule currently shows work for both roadways being performed simultaneously. Considering the Phase 2 completion milestone, should work along Westbound roadway progress ahead of work along Eastbound roadway?
  - Must all pipe installation follow after load transfer?
    - Most pipe installation may have to follow (electrical) cable pulling as well as load transfer
  - What lengths of steel pipe will be preassembled prior to installation?
    - Lengths of pipe assemblies will be limited by length of truck trailer, assuming truck access onto OBG from Skyway. If lengths of pipe are hoisted to the bridge deck, there may be other limitations.
  - ABFJV consider painting steel pipes prior to their installation?
    - This is a Contractor Means and Methods topic that ABFJV will consider and discuss internally with the appropriate Subcontractors
  - Schedule currently shows testing activities for each each system by phase, followed by an overall performance test. Is schedule realistic or can some time get reeled in?
    - Testing requirements have many variables affecting their sequences that are very difficult to foresee at this time. This complex topic will have to be studied and monitored for impact by "Opportunity" decisions.
  - What is FWS plan for resource loading? To be discussed later
  - What is planned for local storage or staging of materials? To be discussed later

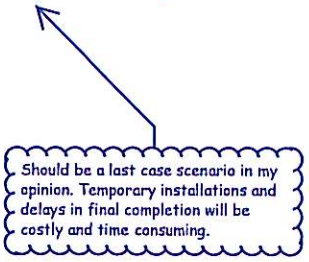
- **ELECTRICAL SCHEDULE OR SEQUENCE CONSIDERATIONS**
  - Can Bleyco procure and deliver materials and equipment prior to the current schedule completion date of January 2010? Not needed
  - What electrical activities have load transfer as a predecessor? Refer to Recap notes from distinct areas requiring MEP access.
  - What is BLI plan for resource loading? Labor supply will conform to project demands
  - What is planned for local storage or staging of materials? Storage at project site as per availability and provision from authorities in charge
  - What length of cable tray or conduit should be installed prior to cable pulling?
    - Prior to pulling cables, all cable trays and conduit should be installed. However, Bleyco may be able to work around discontinuities at limited locations such as transitions between W2, OBG, Tower and Cable

- **OUTSIDE AGENCY INVOLVEMENT**
  - Coordination is required for the following systems with the following groups. Can outside agencies be trusted to cooperate with SAS schedule opportunities?
    - Traffic Operation Systems - TOS Specialists (Caltrans non-SAS)
    - Strong Motion Detection & Recording Systems - CDMG
    - Navigation & Aviation Warning Systems - FAA & Coast Guard
    - BASE (Bay Area Security Enhancements) – Caltrans (non-SAS) & Federal Homeland Security
    - Elevator – D.O.S.H.
    - All outside agency involvement is the ultimate responsibility of the State, with some Contractor responsibility to coordinate work activities such as placement of strong motion detectors by CDMG.

- **DESIGN CONSIDERATIONS**
  - How does incomplete design work for electrical installations at Tower platform affect schedule opportunities?
  - What other designs are incomplete and have potential to delay the project schedule?
  - The Department must evaluate how incomplete design work affects the "Opportunities" being considered and the ability in general to schedule related construction work

- **OPPORTUNITY SCHEDULE SUGGESTIONS**
  - Sever the Finish-Start schedule ties between load transfer and barrier bolting. Complete barrier bolting as early as possible.
  - Don't change MEP layouts at Tower platform elevation 53.85. Have architect design curtain screens to hide all things they consider to be hideous.
  - For Architectural and Schedule considerations to resolve issues at OBG-Tower transition:
    - Change MEP platform design to make a separate MEP platform on Tower below roadway level.
    - Or, change MEP platform design to make a Tower Façade above Elev. 53.85 that houses MEP elements instead of structural elements
  - In consideration of opening roadways to the traveling public as early as possible:
    - State can decide to jettison requirement to complete some MEP work in any of the three Phase milestones, opting to complete them by a later date
    - Additional temporary MEP installments may be required to achieve this
    - Make a list of MEP items that can (or can't) wait to be completed at a more opportune time





Attachment #2 (1/2)

Michael
Travis/HQ/Caltrans/CAGov
03/18/2009 12:43 PM

To Gina Rizzardo/D04/Caltrans/CAGov@DOT
cc Bill Shedd/D04/Caltrans/CAGov@DOT, Michael Travis/HQ/Caltrans/CAGov@DOT, Grady Hart/HQ/Caltrans/CAGov@DOT,
bcc
Subject Teleconference - Team China / Team Oakland - Agenda 3.18.2009

Gina,

Attached is a copy of the agenda for this weeks teleconference.

Agenda : TEAM CHINA TELECONFERENCE Agenda - March 18 2009.pdf

Michael Travis
SFOBB Construction Offices
Design Campus Building
375 Burma Road
Oakland Ca. 94607
Phone: 510-808-4618

TELECONFERENCE – TEAM CHINA / TEAM OAKLAND - Agenda

March 18, 2009

Project Description: SAS SFOBB Project **EA #: 04-0120F4**

Attachment #2 (2/2)

Attendees:

Team Oakland:
- ☐ Michael Travis
- ☐ Grady Hart
- ☐ Saeed Shahmirzai
- ☐ Don Ross
- ☐ Tom Ho
- ☐ Nick King
- ☐ Sandy Michelotti
- ☐ Martin Chandrawinata
- ☐ Bill Shedd (Phone In)

Team China:
- ☐ Gina Rizzardo (011-86-136-1187-1856)

TOD Complete:
- ☐ Scott Kennedy (011-86-150-2131-3938)
- ☐ Ken Lee (011-86-158-2142-2546)

Communication Channels:

- Gmail Account (working) : Account ID: mep.china@gmail.com
- FTP site working
- Yahoo Messenger

Agenda:

- **Equipment Requested by Team China:**
  - Ear Plugs, Hart Hats, Safety Glasses (Regular & Tinted) and surveyor's vests.
- **Paint Shop Status:**
  - Last Week : Segment 3BE out of paint shop, Segment 4BW in Paint shop.
  - This Week :
  - Last Week : Segment 3AE Blasting, Segment 4AE Next.
  - This Week :
- **MEP Penetrations / Issues:**
  - Last Week: OBG – Status of RFI 1670. ZPMC proceeding with repair per RFI 1670 response.
  - This Week :
  - Last Week : Tower – no problems
  - This Week :
- **MEP Master Charts:**
  - Mike posted OBG Lifts 1-14 Update 3.09.2009 into FTP Site today.
- **Tower fabrication status:**
  - Last Week : Ongoing Lift 1 Plates – Lift 2 diaphragms.
  - This Week :
- **OBG fabrication status:**
  - Last Week : Shop 13: 1BE-2BE, 1BW-2BW; Shop 14: 6AW-7EW, 6AE-7CE; Shop 2: 1AW-1AE, 1AAW-1AAE; Bay 19: Crossbeam 3; Bay 3: Crossbeam 2; Bay 1: Crossbeam 1.
  - This Week:
- **Other Items:**
  -
- **Teleconference schedule:**
  - The next scheduled call will be on March 25, 2009.

TELECONFERENCE – TEAM CHINA / TEAM OAKLAND - Minutes

March 18, 2009

Project Description: SAS SFOBB Project **EA #: 04-0120F4**

Attachment #3 (1/1)

Attendees:

Team Oakland:	☑ Michael Travis	☐ Don Ross	☑ Sandy Michelotti
	☑ Grady Hart	☐ Tom Ho	☑ Martin Chandrawinata
	☐ Saeed Shahmirzai	☑ Nick King	☑ Bill Shedd (Phone In)
Team China:	☑ Gina Rizzardo (011-86-136-1187-1856)		
TOD Complete:	☐ Scott Kennedy (011-86-150-2131-3938)		
	☐ Ken Lee (011-86-158-2142-2546)		

Communication Channels:

- Gmail Account (working) : Account ID: mep.china@gmail.com
- FTP site working
- Yahoo Messenger

Agenda:

- **Equipment Requested by Team China:**
  - Hart Hats, Safety Glasses (Regular & Tinted) and surveyor's vests.
- **Paint Shop Status:**
  - Last Week : Segment 3BE out of paint shop, Segment 4BW in Paint shop.
  - This Week : Segment 3AE and Segment 4AE in Paint shop. Painted: 3BE, 4AW, 4BW, 5AE
  - Last Week : Segment 3AE Blasting, Segment 4AE Next.
  - This Week : Segment 5AW Blasting
- **MEP Penetrations / Issues:**
  - Last Week: OBG – Status of RFI 1670. ZPMC proceeding with repair per RFI 1670 response.
  - This Week : No Change
  - Last Week : Tower – no problems
  - This Week : No Change
- **MEP Master Charts:**
  - Mike posted OBG Lifts 1-14 Update 3.09.2009 into FTP Site today.
- **Tower fabrication status:**
  - Last Week : Ongoing Lift 1 Plates – Lift 2 diaphragms.
  - This Week : Lift 2 diaphragms being fit to skin plate, Skin plate butt welding.
- **OBG fabrication status:**
  - Last Week : Shop 13: 2BE, 1BW-2BW; Shop 14: 6AW-7EW, 6AE-7CE; Shop 2: 1AW-!AE, 1AAW-1AAE; Bay 19: Crossbeam 3; Bay 3: Crossbeam 2; Bay 1: Crossbeam 1.
  - This Week: Shop 13: 1BE-2BE, 1BW-2BW; Shop 14: 6AW-7EW, 6AE-7CE; Shop 2: 1AW-!AE, 1AAW-1AAE; Bay 19: Crossbeam 3; Bay 3: Crossbeam 2; Bay 1: Crossbeam 1.
- **Teleconference schedule:**
  - The next scheduled call will be on March 25, 2009.

Attachment #4 (1/6)

Mike Travis

From: Nancy Benner [nbenner@ewingfoley.com] **Sent:** Wed 3/18/2009 9:56 AM
To: Mike Travis
Cc: Todd Henry
Subject: Lane Engineering Hof Quote E031809NB
Attachments: Box Fabrication MFT.pdf(1MB)

Hi, Mike.

My name is Nancy Benner and I represent Hoffman in Northern California.

I believe that I talked to you before regarding this quote. Thank you for writing down the basic needs for your enclosures. It helped me to quote. You would have to buy these enclosures thru a Hoffman Northern California distributor, but I will quote on their behalf. We will not be supplying the vertical supports and hooks mentioned since there is no detail on that.

I am quoting custom sized, Nema 4X, 304 stainless steel enclosures with holes and cutouts.

(A) $3578.26 each. Lead time 5 weeks. FOB from Anoka, Minnesota.

(B) $3778.26 each. Lead time 5 weeks. FOB from Anoka, Minnesota

(C) $6970.56 each. Lead time 5 weeks. FOB from Anoka, Minnesota

(D) $8966.07 each. Lead time 5 weeks. FOB from Anoka, Minnesota

Hoffman Distributors in your area are:

Plough Electric

San Francisco, Ca. 415-431-6300

Alameda Electric

Alameda, Ca. 510-523-4075

Buckles-Smith

San Jose, Ca. 408-280-7777

Attachment #4 (2/6)

Regards,

Nancy Benner

Ewing-Foley, Inc.

Mark,

Attached you will find the information I was wanting to send to determine if these boxes can be fabricated by Hoffman.
Under your Modification Services Stanless Steel Large Enclosures.

Michael Travis
Electrical/Structural Construction Engineer

Lim And Nascimento Eng. Corp.
Department of Transportation
SAS Construction Office
333 Burma Road
Oakland, California 94607
510-808-4618 Office
916.919.7158 cell

From: marksaunders@hoffmanonline.com [mailto:marksaunders@hoffmanonline.com]
Sent: Tue 3/17/2009 2:42 PM
To: Mike Travis
Subject: Reply from Hoffman

Mike,

Somone from our local Sales Office will be contacting you about your request.

Mark Saunders
Hoffman Customer Service

ON 3/17/09 YOU WROTE:

Michael Travis
LANEngineering Corp. / Caltrans
375 Burma Road
Oakland Ca., CA 94607
Phone: 510-808-4618
Fax:

I would like to send some specifications and contract plan sheet to determine if the special order pull boxes shown can be fabricated by your company.
Please send an email address that I can send a .pdf with the information.

Attachment #4 (3/6)

Attachments can contain viruses that may harm your computer. Attachments may not display correctly.

Mike Travis

From: Mike Travis **Sent:** Wed 3/18/2009 11:25 AM
To: Brad Skinner
Cc: John Siglock
Subject: RE: Website Contact Email
Attachments: Box Fabrication MFT.pdf(874KB)

Good Morning Brad,

I am looking for a company that has the capability of fabricating some custom NEMA 4x Stainless Steel Pull Boxes.
Attached is a copy of the plan and specifications covering the pull boxes.
Please let me know if your company has the capability of fabricating these boxes.

Michael Travis
Electrical/Structural Construction Engineer

Lim And Nascimento Eng. Corp.
Department of Transportation
SAS Construction Office
333 Burma Road
Oakland, California 94607
510-808-4618 Office
916.919.7158 cell

From: Brad Skinner [mailto:bskinner@milbankmfg.com]
Sent: Wed 3/18/2009 8:24 AM
To: Mike Travis
Cc: John Siglock
Subject: FW: Website Contact Email

Michael,

Milbank is capable of fabricating all types of special enclosures. We have U/L ratings ranging from Type1,3R,12,,13,4,and 4X. If you would like to discuss our capabilities further please feel free to give me a call. I have attached a few pictures of some specials that we have recently shipped.

Thanks

Brad Skinner

Milbank Manufacturing
G.M Commercial & Industrial Products
Office 660-463-0838
Cell 816-510-8625
bskinner@milbankmfg.com

From: John Siglock
Sent: Wednesday, March 18, 2009 8:19 AM
To: Betty Keating
Cc: Brad Skinner
Subject: RE: Website Contact Email

Michael,

Attachment #4 (4/6)

I am referring you to the General Manager of our NEMA Enclosures group.
His name is Brad Skinner, and his email address is bskinner@milbankmfg.com.

Thank you for considering Milbank for your custom product requirements.

John V. Siglock
jsiglock@milbankmfg.com

VP of Engineering and R&D
Milbank Manufacturing co.
4801 Deramus
PO Box 419028
Kansas City, MO 64141-6028

Office 816-483-5314
Direct 816-410-7298
Fax 816-231-7680
Mobile 816-560-9329

From: Betty Keating
Sent: Wednesday, March 18, 2009 8:02 AM
To: John Siglock
Subject: FW: Website Contact Email

From: Michael Travis [mailto:Mike.Travis@LANEngineering.com]
Posted At: Tuesday, March 17, 2009 4:57 PM
Posted To: Mailbox
Conversation: Website Contact Email
Subject: Website Contact Email

Topic: Special Order NEMA 4x Stainless Steel Pull Boxes

Question/Comment:
I would like to email a .pdf information for some special Order Boxes that I would like to know if your company can fabricate. Please send me an email address if you have the capability of fabricating special Pull Boxes.

Attachment #4 (5/6)

Specifications and plan sheet (Attached)

With the information given in the specifications and on the attached plan sheet can the four electrical pull boxes be fabricated to meet the requirements indicated by your company ?

The boxes have the following special requirements:

1. Size requirements.
2. Hole location requirements.
3. Access requirements.
4. Interior cable support requirements.
5. NEMA 4x Stainless Steel.
6. Reinforcement for vertical support at bottom side of boxes.
   (for weighted conduit & cables inside)
7. Reinforcement for hooks for cable support grips on top side of the pull box.
   (Hooks on inside of box).

Pull Box "A" 1035x1000x380 (LxHxD-mm)
Pull Box "B" 1215x952x600 (LxHxD-mm)
Pull Box "C" 1495x600x660) (LxHxD-mm)
Pull Box "D" 2185x952x600 (LxHxD-mm)

NOTE:

The four pull boxes will be connect by Liquid Tight Flexible conduit from pull box bottom to pull box bottom on a bridge structure due to seismic requirements. The conduits will be supported by the messenger cable on each conduit. The messenger cable will be secured to the structural platforms that the boxes are mounter on.

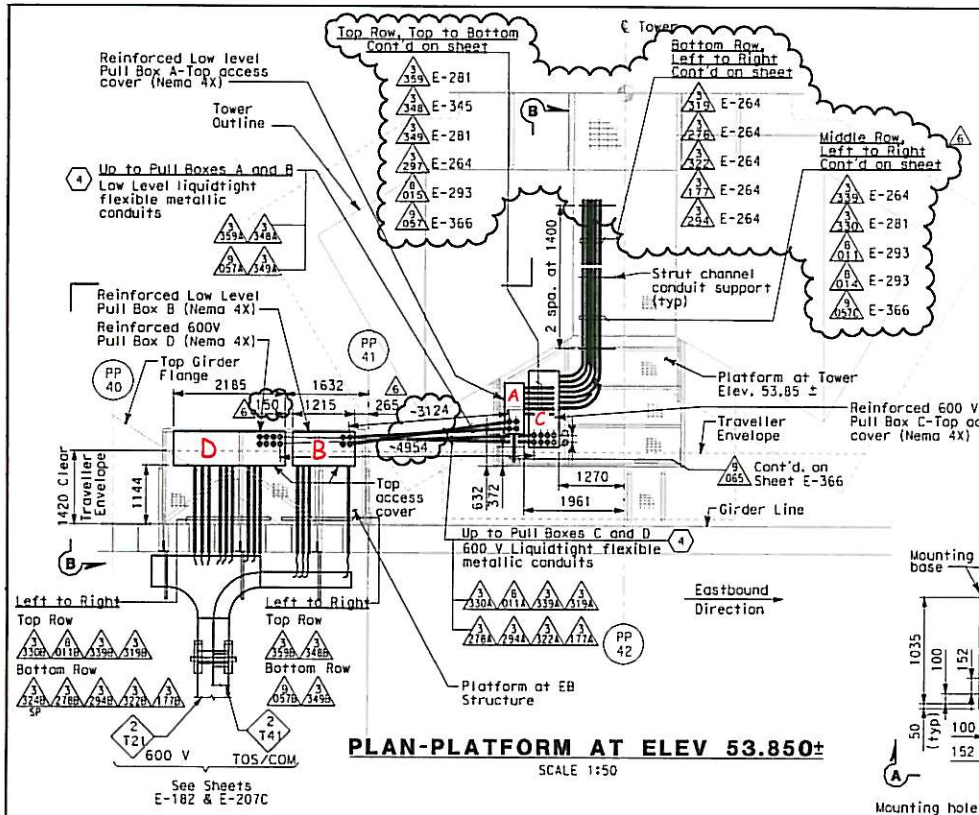
NEMA TYPE 4X STAINLESS STEEL PULL BOXES

The body and the cover plate of the NEMA Type 4X enclosure shall be made of 14-gage Type 304 or Type 316 stainless steel. The seams shall be continuously welded and ground smooth, no holes or knockouts. It shall have a seamless foam-in-place gasket that assures watertight and dust-tight seal. The gasket and adhesive shall be oil-resistant. All exterior hardware shall be Type 304 or Type 316 stainless steel.

The enclosure shall meet the latest edition of the following industry standards NEMA Type 4X Enclosure, UL870.

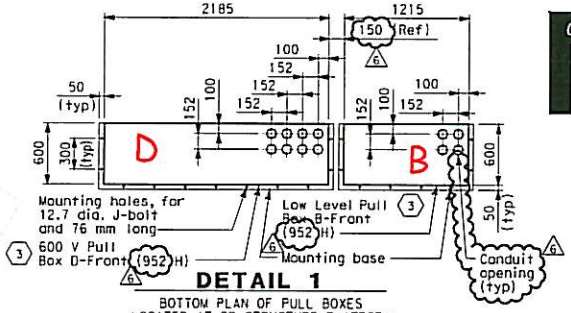
The box engraving, physical size and dimensions shall be as shown on the plans.

Attachment #4 (6/6)



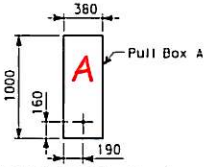
PLAN-PLATFORM AT ELEV 53.850±

SCALE 1:50



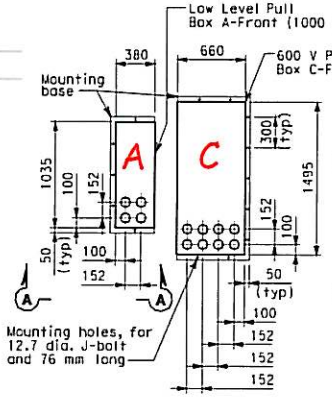
DETAIL 1

BOTTOM PLAN OF PULL BOXES LOCATED AT EB STRUCTURE PLATFORM
SCALE 1:25



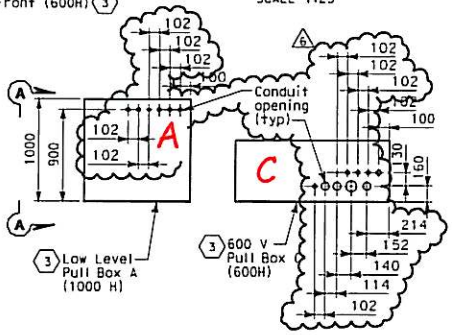
SECTION A-A

SCALE 1:25



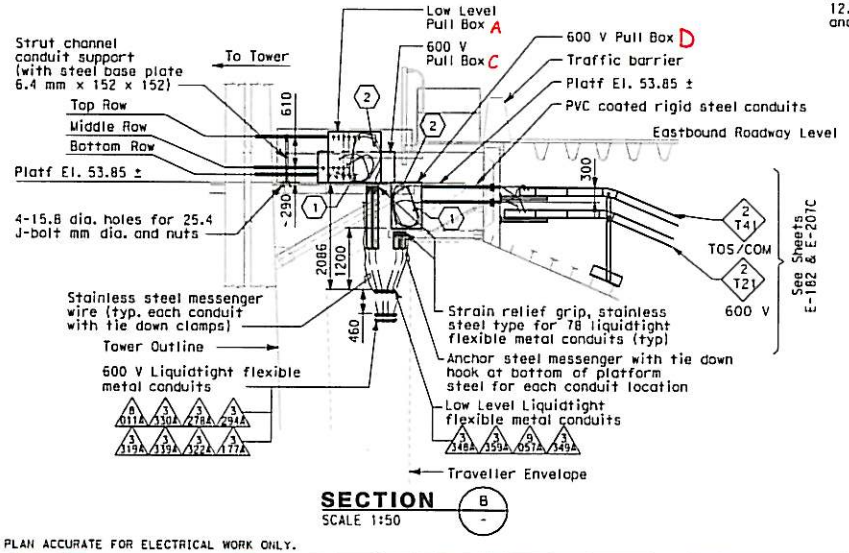
DETAIL 2

BOTTOM PLAN OF PULL BOXES LOCATED AT TOWER PLATFORM
SCALE 1:25



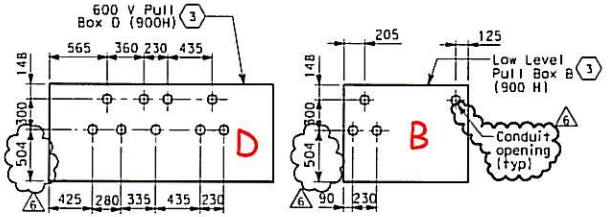
DETAIL 3

FRONT ELEVATION OF PULL BOXES LOCATED AT TOWER PLATFORM
SCALE 1:25



SECTION B

SCALE 1:50



DETAIL 4

FRONT ELEVATION OF PULL BOXES LOCATED AT EB STRUCTURE PLATFORM
SCALE 1:25

SHEET NOTES

1. Coil 3 meters long of cable for each circuits inside the pull boxes.
2. Provide hooked cable support grips for cable or groups of cables at each liquidtight flexible metallic conduit inside the pull box.
3. Pull Box shall be fabricated of Nema 4X stainless steel, type 304. Pull Box shall be of reinforced construction to provide vertical support at bottom side of box for weighted conduit and cables inside. The top side of the Pull Box shall be reinforced and provided with hooks for cable support grips inside the pull box.
4. Electrical conduit design between Eastbound Structure and Main Tower is based on the maximum expansion of 1000 mm all directions. For conduit support, see E-78H.

NOTES

1. For location of sleeves Eastbound Structure PP-40 and PP-41, see Structural Plans.
2. Each liquidtight flexible metallic conduit shall be provided with #6 green insulated ground conductor outside the conduit.
3. Contractor shall verify all the conduit opening prior to start work.

DETAILS
TOWER AND SUSPENSION CABLE

SCALE: AS NOTED

E-264A

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.