



**PHASE 2 PROTOCOL - SITE RESTORATION TO RIG READINESS
DRAFT – MAY 31, 2016**

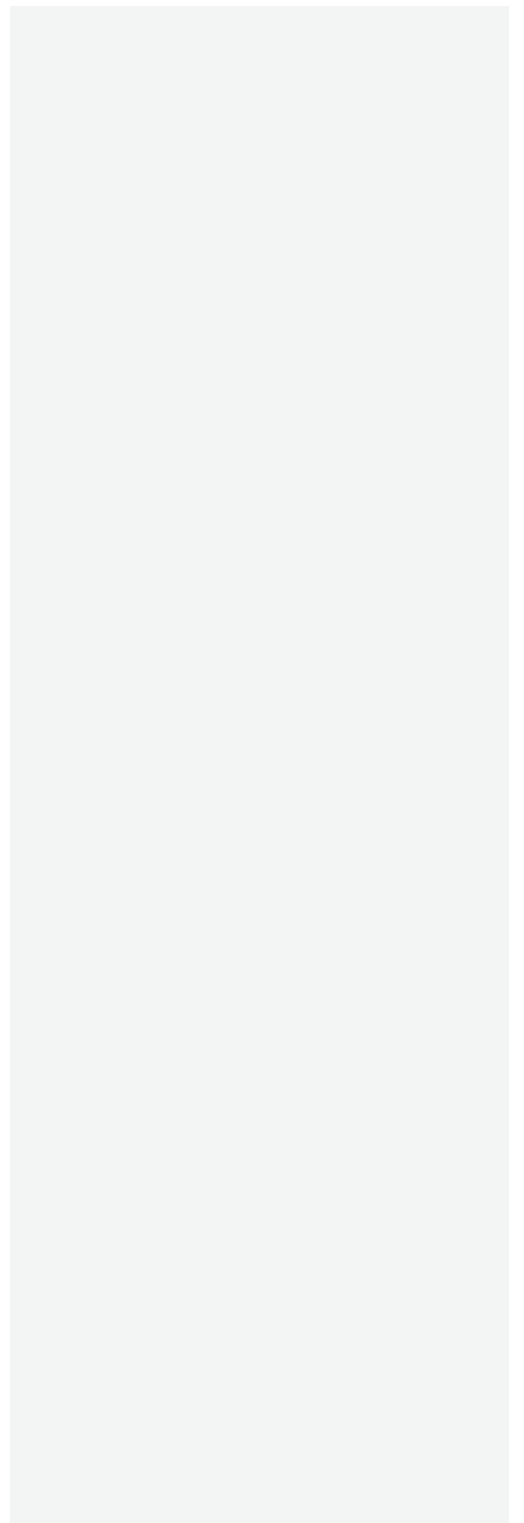


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2.0 INTRODUCTION

The purpose of this document is to provide a summary of planning for SS25 site restoration to rig readiness managed by AECOM and supporting contractors. This protocol provides the work plan overview of the scope elements in Phase 2 and may be subject to change as additional information becomes available and/or scope development progresses with increased definition. The list of elements in the work scope is provided in Section 2.4 of this Protocol. This Protocol defines the work associated with Phase 2 site restoration including preparation work at summary level supported by specific work plans including design drawings for review and approval prior to start of work.

2.1 GENERAL SCOPE DESCRIPTION

Phase 2 Site Restoration to Rig Readiness scope includes well site stabilization including all related work to safely expose the bottom of crater by excavation to allow for evidence collection. This will include safeguarding the well casing and using construction equipment to excavate appropriate side slopes of the crater and access the crater bottom. Disposition of remains of any pipe, metal, concrete, etc. existing below the fluid level is unknown and will be evaluated upon implementation. The balance of work after the bottom of crater is exposed and stabilized following evidence collection will include geomat, slurry capping, construction of new cellar, slab at grade and readiness for Phase 3, Tubing/Casings/Wellhead Extraction.

Note: Due to existing site constraints, certain activities of Phase 1 were deferred to be completed during Phase 2. Work such as well head cleaning and inspection, fluid evacuation and evidence collection. This work will be integrated and sequenced in the Phase 2 work plan.

2.2 SITE PLANNING AND COORDINATION

2.2.1 DAILY ON-SITE PRE-ACTIVITY MEETING

At the start of work each day there will be a daily on-site pre-activity meeting. Tailgate style meetings will be held at the SS25 well site for review of work activities, related safety hazards and coordination among all parties involved with accomplishing tasks.

2.2.2 MORNING BRIEFING MEETINGS

Morning briefing meetings will be on an as-required basis. If required, a request will be made the day before and meeting will be confirmed by close of business that day. If required, meetings will be held at the SS3 conference room approximately 30 minutes or less prior to start of SS25 site activities.

2.2.3 STATUS MEETINGS

Regular status meetings with the RCA Team for reviewing progress and presenting work plans will be held as needed.

2.3 PHASE 2 WORK PLAN DOCUMENTATION

Phase 2 Scope of Work is generally described in this Protocol 2 document with further details provided in supporting work plans for all activities. The work plans will be presented and reviewed as design and scope of work is developed.

2.3.1 WORK PLANS

Work plans will include design drawings, written narrative description of work planned, sequence of activities, time required, and vendor/material submittals necessary for review

and approval by the RCA Team.

Phase 2 project scope will be organized into work plan packages and approved by the RCA Team. Approved work plans will be incorporated into Section 2.10 of this Protocol. The following identifies Phase 2 scope of work elements that will be integrated into work plan submittals:

- Well Head Plumbness Survey (Complete)
- Crater Probing (Complete)
- Concrete Slab Removal (Complete)
- Super Sack Installation (Complete)
- Fluid Removal with Pneumatic Pump
- Bridge Removal
- SS25 Pipe Trench Removal
- Crater Excavation
- Address Well Cellar Disposition
- Slurry Backfill to -12ft
- Wellhead Cleaning Effort
- Scaffold Erection
- Slurry Backfill and Placement of Concrete Well Pad

2.4 BRIDGE REMOVAL

Bridge removal will include removal, separation of the two sections and transport to SS5 for decontamination. Removal will require a crane for lifting from well site to adjacent pad for unbolting the flanged connection at mid-point of the bridge and loading both sections on two trucks to transport.

2.4.1 WORK PLAN OVERVIEW

Work Plan for removing the SS25 Bridge will include logistics and rigging plan for crane position, load rating, site layout, rigging required, bridge frame staging location for immediate disassembly, and truck loading for demobilization of bridge sections (2) to decontamination.

2.4.2 CRATER EVACUATION / FLUID-SOLIDS SEPARATION

(Phase 1 Activity Schedule Change to Phase 2)

Background

Crater Evacuation of Phase 1 (RCA SS25 Protocol 1, Sec. 3.6) was not accomplished due to fluid consistency not being suitable for vacuum truck. Attempts made to remove material during Phase 1 were unsuccessful. Fluid removal will be performed by excavation following bridge removal and prior to crater slope stabilization as detailed in Section 2.6.

2.4.3 WORK PLAN OVERVIEW

SCG will support the RCA Team for efforts to determine a successful method of crater evacuation to remove fluids. Removed fluids will be contained and relocated to an onsite location for further handling.

2.5 REMOVAL OF SS25 PIPE TRENCHES

Concrete pipe trenches (2) on the west side of crater will be removed prior to crater side slope excavation. Pipe trenches are filled with soil debris generated during the well kill activities. Pipe trenches will be cleaned out following fluid evacuation. Following removal of debris, concrete structures will be removed by lifting in large sections to avoid in-situ demolition and/or falling debris depositing in the crater.

2.5.1 WORK PLAN OVERVIEW

Sand totes will be in place for removing pipe trenches and avoiding potential impact to the conductor pipe. Removal of concrete trenches including validation of concrete condition following the cleaning of trenches and exposing concrete surface will be performed. Any required plan adjustment will be made after visual inspection for cracks or exposing anything unknown.

2.5.1.1 Pipe Trench Cleaning – Removal of debris in pipe trench will include combination of shovels and vacuum truck that will be used to clean the pipe trenches that extend into the SS25 crater. Fluids used to assist with the vacuum process will be minimized to limit the potential of fluid going into the crater. Material will be loaded into Baker tanks and stored onsite at Aliso Canyon for further handling.

2.5.1.2 Pipe Trench Removal – Removal plan and rigging requirements for safe removal of trenches are currently under development. Work plan will be submitted for approval by RCA Team.

2.6 CRATER SLOPE STABILIZATION, BOTTOM GRADING & SONOTUBE INSTALLATION

Slopes of the crater will be excavated to 1:3 sloping for crater remediation. Grading around the crater will be done using an excavator to establish the 1:3 slope at all sides. (Note: personnel will not be allowed within 10ft of the edge of re-graded crater/slope without 100% tie-off.)

2.6.1 RE-VALIDATE PLUMBNESS OF WELLHEAD

Re-evaluation of well head plumbness to ensure it meets work over rig requirements prior to crater fill will be performed following crater slope stabilization and prior to crater infilling.

2.6.2 WORK PLAN OVERVIEW

A crater slope stabilization work plan will be prepared to include details about the excavation of slopes including final design drawings, excavation volume, and disposition of spoils. The work plan will include remediation sequence of activities and define stages of geotechnical engineer review and approval of crater bottom and installation of sonotube per approved designs.

2.7 SLURRY FILL

The crater will be backfilled with slurry to twelve feet below grade per approved drawings in accordance with the work plan. An access location will be graded into the partial slurry filled crater with 1:1 slope for safe access/egress to the slurry pad. Hard barricades for limits of safe areas will be placed in areas where personnel on the slurry pad have access while staying within 1:1 distance from the top of crater edge per OSHA compliance for working in a large excavation environment.

2.8 CONDUCTOR PIPE AND WELL HEAD CLEANING

Background (Phase 1 Activity Schedule Change to Phase 2)

Conductor pipe and well head cleaning plan during Phase 1 was not accomplished due to work area and access constraints.

2.8.1 WELL HEAD ACCESS FOR CLEANING AND INSPECTION

1:1 graded slope at pre-determined location to provide safe access for erection of scaffolding at the 12ft below grade elevation. Scaffolding will be erected as noted below to required dimensions for crews to perform the well head cleaning and inspection as required in Protocol 1.

2.8.2 SCAFFOLD ERECTION FOR WELLHEAD CLEANING

Contractor will be mobilized to erect scaffolding and perform wellhead cleaning per Blade Work Plan for wellhead cleaning. The work will be performed in an environment that is classified as an "Open Trench" environment from an OSHA and safety management perspective. Any unique safety concerns related to the work space, site conditions and/or work activities will be identified and planned to mitigate any hazards for well head cleaning and inspection before this stage of the project.

2.8.3 WORK PLAN OVERVIEW

Work plan will be prepared to include scaffold framing, size of scaffold platform access ladders, and gates required to perform wellhead cleaning and inspection per Blade Work Plan. Work plan to include defined safe work areas on the slurry pad and any restrictions related to OSHA compliance.

2.9 CONTINUE BACKFILL OF CRATER TO GRADE

Following completion of wellhead cleaning and inspection requirements of Protocol 1, concrete placement, cellar placement, slurry fill, and installation of well head grating which will be the structural support for releasing the tension cables will be performed. The remaining support cables will be removed from the well head and final precast cellar rings and slurry fill will be installed to grade per design drawings.

Final element of the site restoration will be placement of a reinforced concrete slab on the well site leaving only the 10ft cellar opening at the well for access. Concrete slab will be designed to accommodate the loading of the work over rig and related forces

2.9.1 WORK PLAN OVERVIEW

Protocol 2 Work Plans will be submitted for approval under separate cover.

2.10 APPENDICES

2.10.1 SS25 RCA PHASE 2 SCHEDULE

Phase 2 Protocol - Site Restoration to Rig Readiness

SCG - 25 Site Work		Proposed Schedule												Revision Date: 23-May-16
Activity Name	Orig No	1	2	3	4	5	6	7	8	9	10	11	12	13
25 Site Work														
Contract Milestones														
AT100	SCG to Issue MTP (Start Date TBD)	0.0												
AT101	M&E Design & Construction Plan Approved by SCG & CFCG (Start Date TBD)	0.0												
Procurement/Delivery														
PI100	Procure 12 Diameter 30" Top Containers & Deliver to Site #1-2	4.0												
PI101	Procure 12 Diameter 30" Top Containers & Deliver to Site #3-4	4.0												
Construction														
CO100	Installation & Set-up Safety Fence	1.0												
CO101	Site Cleanup Done By 3rd Party	1.0												
CO102	Set Superstacks	1.0												
CO103	Remove Concrete Pile Footings	2.0												
CO104	Cut Slabs to Engage Steel Safety Design & Lined Cut Soil in Containers	2.0												
CO105	Remove Superstacks	1.0												
CO106	Remove Well Cables (Estimated Duration)	2.0												
CO107	Excavate & Prepare Bottom	2.0												
CO108	Install 3 Layers of Filter Drains & Gravel	2.0												
CO109	Install Sandstone Around Conductor Pipe & Pour Slab Sandstone	1.0												
CO110	Pour Three (3) 12" Layers of 8000 PSI Concrete Around Sandstone	2.0												
CO111	Pour Three (3) 3" Layers of 2" Slab Slurry to 12" Elevation from Finish Grade	4.0												
CO112	Gravel Sand Slab for Conductor Clearing	1.0												
CO113	Clear Three (3) Slab Slurry	1.0												
CO114	Install Access Stairs & Safety Barrier for Working Limitations of Conductor Clearing	1.0												
CO115	Prepare for Conductor Clearing (Estimated Duration) Done By 3rd Party	8.0												
CO116	Pour 1" Thick 8000 PSI Base Slab for 12" Cylinder	1.0												
CO117	Fill Slab with 3" in Gravel Product	0.5												
CO118	Set 12" Diameter 30" Top Container Around Steel Head & Pour Slurry	1.0												
CO119	Set Slabing Material Inside 12" Cylinder	1.0												
CO120	Remove Safety Cable Supports (Estimated Duration)	1.0												
CO121	Set 12" Diameter 30" Top Container Around Steel Head & Pour Slurry 1" from Top of Elevation	1.0												
CO122	Slab, Setup Forms, Install Rebar, Pour 1" Thick 8000 PSI Slab & Perform Rebar Curing	6.0												
CO123	Rebar/Pipe Inside of Slab	1.0												
CO124	Hardware & Ho-City - Demobilization	1.0												
CO125	Concrete Cure Time	7.0												
CO126	Project Completion	0.0												

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