



**Geotechnical Manual - Supplement A
(GMSA)**

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Introduction - Background - Purpose

Introduction:

In May of 2014, Caltrans issued a new directive GS-01 “Policy for Borings, Borehole Backfilling and Local Enforcement Agency Engagement”. In addition, the Director issued a letter dated July 14, 2014, to the Department of Water Resources and our statewide Local Enforcement Agency partners reinforcing our commitment to comply with California Water Code requirements, as well as, Local Enforcement Agency ordinances. These two events resulted in a need to update the Geotechnical Manual dated 2012 to ensure compliance with new regulatory mandates and commitments by Caltrans to our local agency partners.

Attached: Directive GS-01
Directors Letter

Geotechnical Manual – Supplement A – Background & Purpose:

To ensure compliance with GS-01 and the Directors letter, a Project Manager and team of Geotechnical Services subject matter experts were tasked with developing a work plan to be incorporated into the Geotechnical Manual. This work plan is known as the “Geotechnical Manual - Supplement A (GMSA).

It was recognized GS-01 and the Director’s Letter required new business practices and procedures be developed and incorporated into the Geotechnical Manual. More specifically, GS-01 also required Caltrans utilize consultants with a C-57 Contractors Drilling License to perform oversight and/or drilling services as required in the California Water Code.

The GMSA development team was directed by executive management to develop processes and procedures ensuring Geotechnical Services operations and practices are compliant with GS-01 and the Director’s Letter. The GMSA team was tasked with integrating internal controls, performance measurements, quality enhancements, improved communications/teamwork and document management systems as part of Caltrans’ commitment to continuous improvement.

The GMSA is an interim step in the GS-01 compliance effort and may be modified at a future date as Caltrans secures internal C-57 license capability.

Geotechnical Manual – Supplement A – Order of Precedence:

- If a discrepancy exists between Supplement A and the Geotechnical Manual, Supplement A shall take precedence.
- If confusion arises or clarification is required, contact the Geotechnical Manual Manager.

GS Directive GS-01
Policy for Borings, Borehole Backfilling
and
Local Agency Enforcement
(Introduction - Background - Purpose)

GS Directive

Number: GS-01

Geotechnical Services (GS)

Effective Date: May 08, 2014

Title: Policy for Borings, Borehole Backfilling and Local Enforcement Agency Engagement

BACKGROUND

Recently the subject of the California Department of Transportation (Caltrans) needing a Water Well Drillers (C-57) license, obtaining drilling permits and paying inspection fees was raised by different local enforcement agencies (counties, cities, water districts, etc.). Some local enforcement agencies state that we are not in compliance with applicable laws. Consequently our drilling activities are being affected (projects being shut down by local enforcement agencies, etc.). In order to maintain project delivery and our environmental stewardship responsibilities, this Directive has been developed.

DIRECTIVE

This Geotechnical Services Directive supersedes the "Borehole Backfill Documentation" Memorandum dated March 10, 2010, and the "California Water Code and Well Drilling Permits" Issue Memorandum, dated August 10, 2012. Effective immediately Caltrans geoprofessionals are required to comply with State Water Code and any local enforcement agency (LEA) requirements by doing the following:

- Contact the LEA to determine if the proposed activities fall under the LEA definition of C-57 work.
- Discuss with the LEA project-specific details, such as number of borings/soundings, depths, if groundwater is expected to be encountered, the proposed grout mix and backfilling procedure.
- Obtain LEA requirements and special conditions to perform borings/soundings and backfilling requirements, document the LEA responses and archive the documentation.
- Perform and document field work consistent with Caltrans, State Water Code and LEA requirements.

PURPOSE

This Geotechnical Services Directive will:

- Reduce the risk of impacts to California's groundwater resources.
- Establish drilling practices that are compliant with State and local laws related to groundwater protection.
- Provide assurance to the LEAs that Caltrans will follow local requirements.
- Provide detailed instructions and requirements for proper documentation and the archiving of communication with LEAs to all affected Caltrans personnel.

DEFINITION

For the purposes of this policy, C-57 work is defined as:

- Any boring or sounding that encounters groundwater.
- Any boring or sounding that terminates at a specific distance above groundwater. The LEA determines this distance.

RESPONSIBILITIES

A. Geoprofessional Roles and Responsibilities

1. For C-57 Work:

- a) Contact the LEA to determine if the proposed activities fall under the LEA definition of C-57 work.
- b) Submit a Drilling Request (attached) to Drilling Services and/or a Cone Penetrometer Testing (CPT) Request (attached) to the Geotechnical Instrumentation Branch (GIB).
- c) Provide LEA requirements to the A&E consultant.
- d) Obtain and provide the A&E estimate to the District Project Manager.
- e) Notify Drilling Services if CPT soundings will be performed so they can schedule and perform grouting operations (this is an interim step until GIB obtains the required backfilling equipment).
- f) Ensure piezometers are properly constructed and capped in compliance to State Water Code and LEA requirements.
- g) Complete the Borehole Backfill Data Sheet (attached) and archive according to the Geotechnical Archive section of the Geotechnical Manual.

2. For Non C-57 Work:

- a) Contact the LEA to determine if the proposed activities fall under the LEA definition of C-57 work.
- b) If the LEA asserts permits/fees are required, contact the Office Chief of Geotechnical Support and suspend work pending resolution.
- c) Following resolution, submit a Drilling Request (attached) to Drilling Services and/or a Cone Penetrometer Testing (CPT) Request (attached) to the Geotechnical Instrumentation Branch (GIB).
- d) Complete the Borehole Backfill Data Sheet (attached) and archive according to the Geotechnical Archive section of the Geotechnical Manual.

B. Supervisor and Managers of Geoprofessional

1. Perform verification activities and document compliance with this Directive (e.g. periodic compliance reports, QC/QA reports, etc.)

C. A&E Consultant Roles & Responsibilities for C-57 work

1. Obtain LEA permits and pay fees.
2. Schedule backfill inspections with LEA and coordinate with the geoprofessional.

3. Observe Caltrans drilling and CPT operations, including borehole/sounding backfilling and standpipe piezometer construction/destruction to ensure compliance with enforcement agency requirements.
4. Complete and submit the Well Completion Report (WCR) to the LEA, the Department of Water Resources, and Drilling Services. The WCR is required to be submitted within 60 days after monitoring well (including standpipe piezometers) are constructed, altered or destroyed.

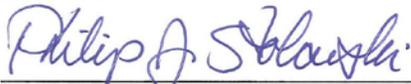
D. Drilling Services Roles & Responsibilities

1. For C-57 work as identified on the Drilling Request, obtain an A&E Task Order to have a C-57 licensed representative on-site during drilling and CPT operations.
2. For grouting operations: mix, pump and tremie according to LEA requirements as listed on the Drilling Request.
3. For backfilling with bentonite chips: tremie bentonite chips for holes deeper than 30 feet.
4. Displaced water shall be contained in a drum.
5. Receive the WCR and enter into the standpipe piezometer database.

E. Geotechnical Instrumentation Branch Roles & Responsibilities

1. For grouting operations: mix, pump and tremie grout according to LEA requirements as listed on the CPT Request.
2. For backfilling with bentonite chips: tremie bentonite chips for holes deeper than 30 feet.
3. Displaced water shall be contained in a drum.

APPROVED



PHILIP J. STOLARSKI
State Materials Engineer
Deputy Division Chief
Materials Engineering and Testing Services and Geotechnical Services (METS/GS)
Division of Engineering Services

5-8-14

Date

Attachments:

- Drilling Request
- Cone Penetrometer Test Request
- Borehole Backfill Data Sheet

Director's Letter

(Introduction – Background – Purpose)

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY 711
www.dot.ca.gov



*Serious drought.
Help save water!*

July 14, 2014

Dear Industry Partners:

The intent of this letter is to inform the Department of Water Resources (DWR) and the Local Enforcement Agencies (LEAs) in California of recently adopted business practices at the California Department of Transportation (Caltrans) that address exploratory borings in the development of transportation infrastructure on the State Highway System.

Caltrans is committed to protecting groundwater resources and recognizes that LEAs have regulatory authority with regard to groundwater. It is Caltrans' intention to cultivate healthy partnerships with LEAs in order to capture local concerns related with drilling operations. Caltrans understands that any time exploratory borings intersect groundwater the activity is subject to the Water Code. Caltrans also recognizes that there may be a zone (capillary fringe) higher than the measured groundwater surface that a LEA subjects to the Water Code. Policies have been established regarding practices in these circumstances.

Water Code work must be performed by an individual or a company that possesses a C-57 Water Well Drilling Contractor's license. Another key modification to Caltrans' practices is the incorporation of a C-57 licensed individual to oversee all drilling operations when performing Water Code work, to coordinate with LEAs, and to file Well Completion Reports when appropriate. Caltrans currently uses architectural and engineering (A&E) consultants to provide this service and is evaluating the potential to utilize in-house staff to serve this purpose in the future.

Caltrans will be reaching out to LEAs for projects moving forward. In fact, Caltrans met with the Water Well Technical Advisory Committee (WWTAC) on June 18, 2014, to discuss new Caltrans practices related to exploratory borings and monitoring wells. We have multiple projects throughout California at different stages of construction and are committed to working with each jurisdiction to ensure that bore holes and monitoring wells are appropriately mitigated. Caltrans will convey the scope of the work for individual projects to LEAs as it relates to subsurface investigations.

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Industry Partners
July 14, 2014
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Caltrans appreciates the role of the LEAs related to the protection of California's groundwater resources. We see ourselves as partners, committed to clear, effective communication in order to meet our goal of protecting California's resources and hope to nurture healthy relationships. Caltrans seeks continuous improvement and would like to receive feedback from DWR and the LEAs related to our subsurface activities. For questions and comments, please contact Tim Greutert at (916) 949-4939 or Timothy.Greutert@dot.ca.gov.

Sincerely,



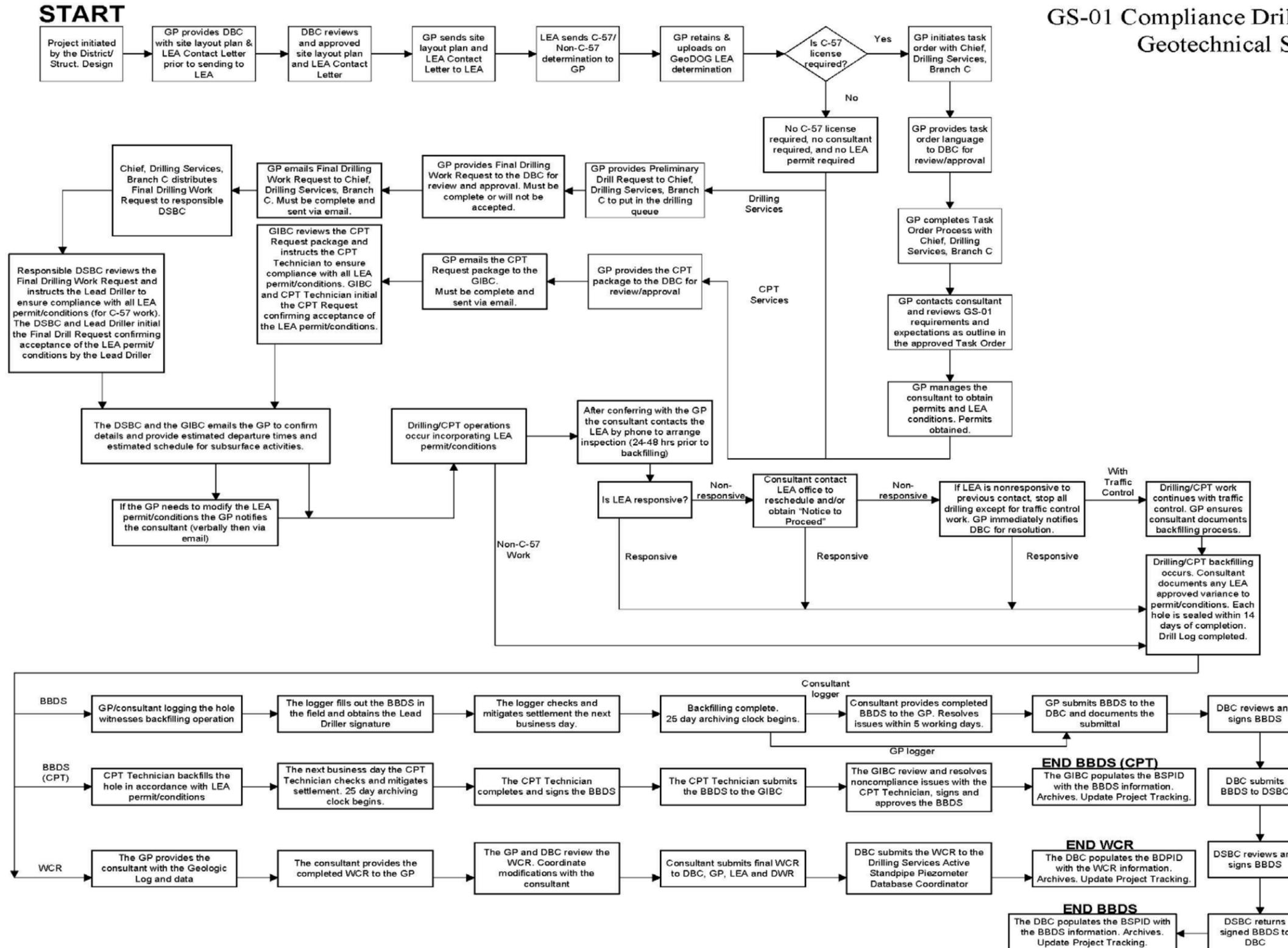
MALCOLM DOUGHERTY
Director

Attachment

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

GS-01 Compliance Drilling Flow Chart

GS-01 Compliance Drilling Flow Chart
Geotechnical Services



Last updated: 11-17-2014

Local Enforcement Agency Process (LEAP)

Local Enforcement Agency Process (LEAP)

The LEAP process ensures Geotechnical Services (GS) applies a uniform and consistent approach in interacting with Local Enforcement Agencies (LEA). This LEAP process provides specific direction to all Office Chiefs (OC), Design Branch Chiefs (DBC), Drilling Services Branch Chiefs (DSBC), and the Geotechnical Instrumentation Branch Chief (GIBC) to ensure compliance with GS-01 and LEA requirements. This LEAP process also provides instruction to Geoprofessionals (GP) and consultants regarding compliance with GS-01 and communication procedures with the LEA.

Note: For clarification purposes, the DSBCs shall include the Chief-Drilling Services-Branch C.

All GS employees are expected to fully cooperate with LEAs in order to facilitate work and ensure compliance with all LEA requirements.

Initial LEA Contact Process (Determination of C-57 or Non-C-57 Work)

1. The GP provides the DBC with a copy of the Layout Plan Sheet and LEA C-57 Determination Request Letter (see attached) prior to contacting the LEA. At a minimum all GPs are to ensure their Layout Plan Sheet includes all elements noted in the attached example.
Note: The content of the LEA C-57 Determination Request Letter cannot be modified without written approval from the DBC and Design OC.
2. The DBC conducts a detailed analysis of the LEA C-57 Determination Request Letter and Layout Plan Sheet to ensure full compliance with the examples. Any noncompliant issues identified by the DBC shall be mitigated in cooperation with the GP in a timely manner.
3. The GP forwards (e-mail, fax, letter) the LEA C-57 Determination Request Letter and Layout Plan Sheet to the LEA and provides a copy (e-mail, fax, letter) to the DBC.
4. LEA then determines if the work requires a C-57 license. This determination is requested to be transmitted to the GP (e-mail, fax, letter) within 5 days of submission. If the LEA contacts the GP via telephone to provide the determination, the GP will document the conversation by sending an email or fax to the LEA summarizing the determination (GP will copy the DBC). Please note the 5 days is a target, if the LEA fails to respond within the 5 working days, the GP will contact the DBC who will coordinate resolution with the LEA.
5. The LEA determination/correspondence is to be retained (uploaded in GeoDOG) by the DBC and included in the work request for drilling.

6. The GP provides a copy of the LEA determination/correspondence to the A&E consultant prior to the development of the Task Order.
7. It is important to note that LEA requirements may vary by each specific jurisdiction relating to how the LEA determines if work is subject to Water Code requirements.
 - a. If the LEA determines (based on the Layout Plan Sheet and other applicable data) the proposed work is subject to the Water Code requirements, a C-57 licensed consultant must be utilized.
 - b. In the event the LEA indicates a permit is not required and no groundwater is encountered during drilling activities, the GP will consider the drilling activities as LEA compliant. In this case, hole sealing shall be per the DWR Bulletins 74-81/74-90.
 - c. If drilling activities encounter groundwater and no permit was obtained, the GP must halt drilling activities and secure a permit via a task order.

The following steps are to be followed after LEA determines a C-57 license is required resulting in a need to comply with LEA permit/conditions.

1. The GP initiates a Task Order with the Chief-Drilling Services, Branch C.
2. The GP coordinates and manages the consultant (pursuant to the approved Task Order) to secure LEA permits, LEA conditions, and pay necessary fees.
3. Once the LEA permit and conditions are obtained, the consultant sends these documents to the GP.
4. If the LEA fails to provide the permit to the consultant within 20 workings days of the permit application, the GP will coordinate with the DBC to resolve.

For Drilling Work Requests

5. The GP emails the final work request for drilling which includes LEA permit/conditions to the drill.requests@dot.ca.gov.
6. The DSBC carefully reviews the final work request for drilling which includes LEA permit/conditions and instructs the Lead Driller to ensure a complete understanding exists regarding the LEA permit/conditions. The DSBC and Lead Driller initial the Drilling Request confirming the review/acceptance of the LEA permit/conditions by the Lead Driller.
7. Prior to drilling, the GP coordinates a meeting with the Lead Driller and C-57 consultant to ensure the drilling work is performed in accordance with LEA permit/conditions. The GP ensures the consultant documents this meeting on the consultant's Daily Field Report to ensure consensus was reached for all in attendance.

For CPT Requests

8. The GP emails the CPT work request which includes LEA permit/conditions to the GIBC.

9. The GIBC carefully reviews the CPT work request which includes LEA permit/conditions and instructs the CPT Technician to ensure a complete understanding exists regarding the LEA permit/conditions. The GIBC and CPT Technician initial the CPT Request confirming the review/acceptance of the LEA permit/conditions by the CPT Technician.
10. Prior to CPT work, the CPT Technician coordinates a meeting with the C-57 consultant to ensure the CPT work is performed in accordance with LEA permit/conditions. The CPT Technician documents this meeting on the Daily Field Report to ensure consensus was reached for all in attendance.

For Both Drilling and CPT Work

11. If the GP needs to modify the conditions (prior to or during drilling/CPT operations) of the LEA permit, the GP notifies the consultant verbally, then confirms with an email. The consultant notifies the LEA and retains written documentation of such changes.
12. After conferring with the GP, the consultant will contact the LEA by phone to arrange for LEA inspection within the prescribed LEA timeframe required (usually 24-48 hours prior to sealing).
13. If the LEA advises the consultant that no inspection is required (LEA accepts the work as compliant without inspection), the consultant will note the LEA “no inspection required” decision in the Daily Field Log. The consultant will then follow up (within 24 hours) with an email note to the GP confirming the above “no LEA inspection” decision. The GP will forward a copy of the email to the DBC and the LEA inspector.
14. If the LEA does not show up for the scheduled inspection, the consultant after conferring with the GP, will contact the LEA office to reschedule inspection and/or obtain a Notice to Proceed.
15. If the LEA is unresponsive to the above request, the GP will confer with the consultant to direct all drilling/CPT activities to stop until resolved with LEA, (exception – lane closures are considered a safety condition and therefore drilling/CPT activities will continue – to be clear, all other drilling/CPT activities will stop until LEA Notice to Proceed is received.)
16. The GP will immediately contact the DBC regarding the above stoppage of drilling/CPT activities and/or lane closure status when the LEA is nonresponsive. In addition, the Drilling Leadworker will immediately contact their Drilling Services Branch Chief. The CPT Technician will immediately contact the GIB Branch Chief.
17. If drilling/CPT activities continue (no LEA inspection) due to lane closure conditions, the GP will ensure the consultant documents (Daily Field Report) the sealing process and takes photos to demonstrate LEA compliance.
18. If drilling/CPT activities continue due to lane closure conditions, the GP will direct the consultant to submit, within 5 days of the completion of the drilling activities,

- the LEA contact effort, Daily Field Report and photo documents to inform the LEA permit office.
19. When site conditions warrant, (e.g. excessive grout take) the consultant may request a variance to LEA standards. The consultant must document via e-mail or fax the LEA-approved variance.
 20. The consultant will e-mail to the GP within 5 days of the completion of drilling/CPT activities the following documents:
 - A. The Daily Filed Log(s) from observing drilling operations
 - B. Any LEA-approved variance documentation
 - C. Any LEA documentation regarding LEA-approved permit modifications and any e-mailed Notice to Proceed.
 - D. Documents and/or photos relating to lane closure work.
- Note: The GP will ensure the DBC is copied on all documents. The DBC will ensure these documents are retained in the GS Design File Retention Center.
21. The DBC is responsible to ensure the LEA permit and any variances are archived into GeoDOG within 25 days of receipt of the documents noted in Item 19 above.

The GP may encounter special conditions (emergency work, etc.) that require LEA involvement. When issues arise such as these arise, the GP will contact the DBC for guidance and direction.

Requirements for Non-C-57 Work

For non-C-57 work the GP, CPT Technician and Lead Drill Worker will comply with GS-01 and all processes noted in the Geotechnical Manual – Supplement A excluding the Well Completion Report (WCR) Process and the Consultant Management Process. The DBC, DSBC, and GIBC shall ensure their staff complies with the above direction.

LEA C-57 Determination Request Letter (LEAP)

DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL SERVICES
Office's Street Address of DBC of Geoprofessional
Office's City, State, Zip Code of DBC of Geoprofessional
Phone: Phone Number of DBC of Geoprofessional



*Serious drought.
Help save water!*

Date: MM/DD/YYYY

Mr./Ms. LEA Name
Title
Agency Name
Address
City, State, Zip Code

Dear Mr./Ms. LEA Name

California Department of Transportation (Caltrans) is contacting your agency to comply with the applicable Local Enforcement Agency (LEA) regulations (pursuant to Section 13801 of the California Water Code) related with exploratory borings, cone penetrometer test (CPT) soundings, and the construction and destruction of monitoring wells. As mentioned in the Caltrans letter dated July 14, 2014, Caltrans recently adopted new business practices to ensure cooperative partnering with our LEA contacts, and more importantly, to ensure compliance with applicable state/local regulations.

In order to comply with licensing requirements contained in the Water Code, Caltrans secures the services of a consulting firm with a C-57 Water Well Drilling Contractor's license. Caltrans is also currently working with the Contractor's State License Board to secure C-57 licenses for Caltrans drillers.

This letter requests your agency make a determination as to whether or not the project work described in the attached Layout Plan Sheet requires a C-57 license and LEA permits. Your prompt attention in providing Caltrans with a decision is greatly appreciated given the impacts (commerce, traffic, safety, etc.) associated with Caltrans transportation projects. If your agency determines that the project work does require a C-57 license and LEA permits, please notify us by email or fax within 5 working days. Caltrans staff are not authorized to move forward with the project until we receive your determination.

If the proposed activities fall under the LEA definition of C-57 work, a Caltrans consultant representative will contact your agency to secure permits, pay fees, ensure LEA ordinance compliance, and schedule inspections.

We at Caltrans are committed to protecting groundwater resources and appreciate your cooperation to help us achieve our sustainable transportation system goals.

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Mr./Ms. LEA Name

MM/DD/YYYY

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If you have any questions regarding this letter, please contact Staff Name, Geotechnical Services, at (123) 456-789 or by e-mail sent to <staff_name@dot.ca.gov>.

Sincerely,

Branch Chief of Geoprofessional

Geotechnical Services

Enclosures

(1) LEA C-57 Determination

(2) Layout Plan Sheet

c: Office Chief of Geoprofessional

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Local Enforcement Agency (LEA) C-57 Determination:

After reviewing the Layout Plan Sheet, it has been determined that this project:

Does require a C-57 license and permits.

Does not require a C-57 license

Does require permits

Does not require permits

LEA Representative Name (print): _____

LEA Representative Signature

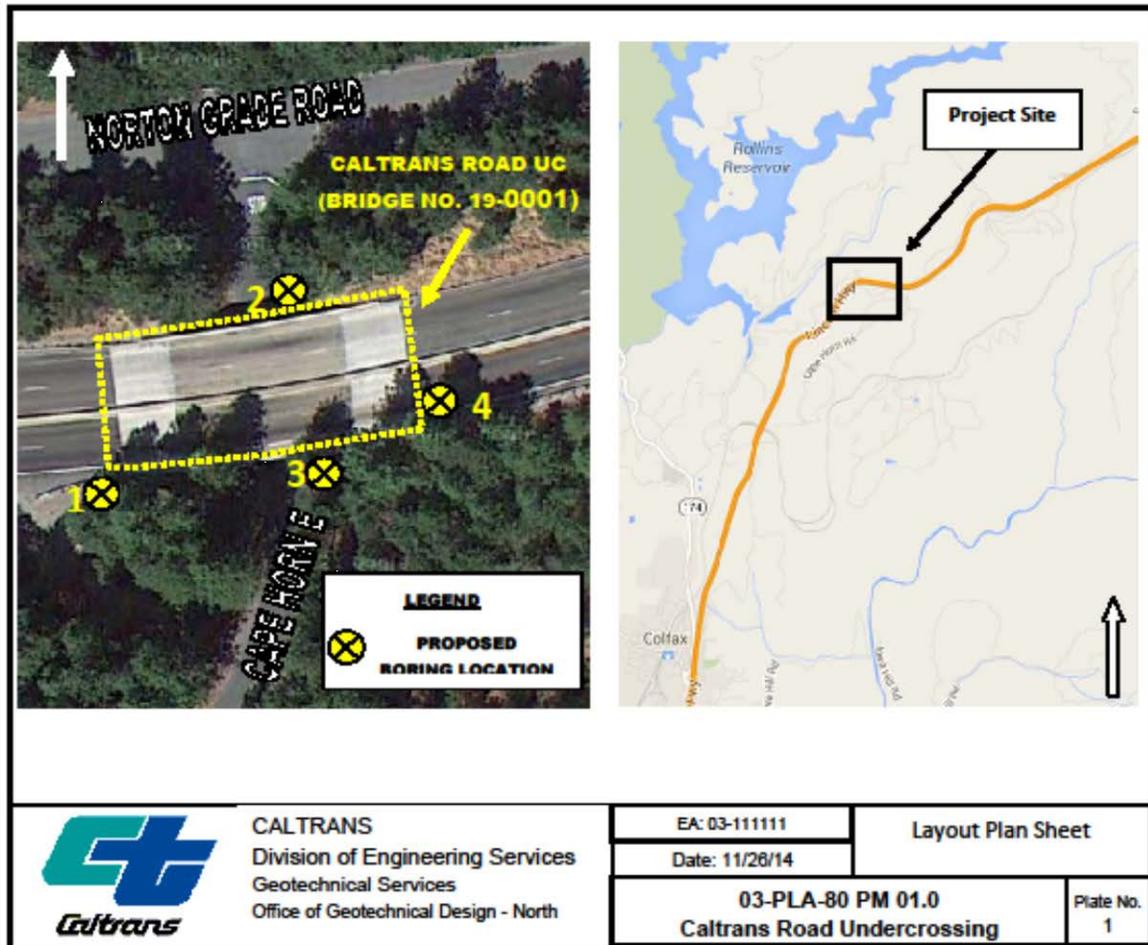
____/____/____
Date

() _____
LEA Rep. Contact Number

Layout Plan Sheet Example (LEAP)

| Number of Borings | Drilling Method | Maximum Diameter (in) | Maximum Depth (ft) | Estimated Groundwater Depth (ft) |
|-------------------|-----------------|-----------------------|--------------------|----------------------------------|
| 4 | Mud Rotary | 4.5 | 150 | 40 |

| Number of Soundings | Maximum Diameter (in) | Maximum Depth (ft) | Estimated Groundwater Depth (ft) |
|---------------------|-----------------------|--------------------|----------------------------------|
| 1 | 2 | 100 | 40 |



CONSULTANT MANAGEMENT PROCESS

Consultant Management Process

This Consultant Management Process is an outline of the procedures that are in place for the Geoprofessional (GP) to manage the Geotechnical Services Task Orders (TO). The main purpose of the TO will be to secure a C-57 licensed consultant and to obtain drilling permits from Local Enforcement Agencies (LEA) requiring C-57 license, in addition to other geotechnical services (such as lane closure, contract drilling, etc.)

Notification to the District Project Manager

The GP obtains and provides the A&E cost estimate to the District Project Manager prior to the start of drilling and/or CPT work.

C-57 License Criteria:

- A. A TO to secure the services of a C-57-licensed consultant is required whenever Water Code work is performed including borings, piezometers, and soundings.
- B. Caltrans requires a TO for Water Code work when:
 - a. Any boring (including all slope inclinometers and geophysical pipe) or sounding that encounters groundwater
 - b. Any boring or sounding that terminates at a specific distance above groundwater as determined by the LEA.
 - c. All standpipe piezometers.

Consultant Task Order Development/Management Process:

1. The Task Order Process begins once the LEA determination letter (Water Code work) is received by the GP.
2. The GP develops the draft Task Order language and submits the draft Task Order to the DBC along with the LEA determination/correspondence.
3. The draft Task Order must include the language outlined in the Mandatory GS-01 Task Order Language noted below.
4. After the DBC review and approval, the GP submits the draft Task Order to the Chief Drilling Services, Branch C.
5. The Chief Drilling Services, Branch C will review the draft Task Order to ensure Mandatory GS-01 Task Order Language and LEA determination/correspondence is incorporated. The GP coordinates with the Chief Drilling Services, Branch C to develop a final Task Order.
6. The Chief Drilling Services, Branch C shall retain all signed copies of Task Orders as well as any addendums/supplements.
7. The GP, DBC and Chief Drilling Services, Branch C must ensure all Task Orders are developed and managed pursuant to GS-01 and the Geotechnical Manual, Supplement A.

Mandatory GS-01 Task Order Language:

- A. Consultant shall review the attached GS-01 Directive prior to performing any work.
- B. Consultant shall review the LEA permits and requirements.

- C. When the C-57 license holder is performing drilling and/or CPT operations, that license holder is responsible to ensure all drilling activities and regulatory documents (ie. WCRs) are in compliance with all California Water Code and/or LEA permit/condition requirements.
- D. When the C-57 license holder is providing oversight of Caltrans drilling and/or CPT operations, that license holder is responsible to advise the GP or CPT Technician of work not performed pursuant to LEA permit/conditions and/or California Water Code requirements.
- E. Consultant shall perform all work in accordance with the LEA permit/conditions and the California Water Code.
- F. Consultant shall perform all tasks in a quality manner within the prescribed timeframes.
- G. Consultant shall provide a copy (email or other means) of the Daily Field Report to the GP/Task Order Manager within 5 days of completion of field activities.
- H. If the Consultant logs boreholes, the Consultant shall be responsible for completing and submitting the Borehole Backfill Data Sheets (BBDS) to Caltrans for review and approval within the required timeframe.
- I. When required, Consultant shall be responsible for completing and submitting the “Well Completion Report” (DWR Form 188) for construction and destruction of monitoring wells. The consultant will provide a copy of the DWR Form 188 for review within 5 days of construction/destruction. After Caltrans review and approval, the Consultant will submit a copy of the DWR Form 188 to the Local Enforcement Agency (LEA), Department of Water Resources (DWR), and Caltrans within the timeframes prescribed in the WCR Process.

Drilling Performed by Consultant

When a C-57 licensed consultant performs drilling as directed by Drilling Services, the GP will forward the Drill Log by email to the Chief, Drilling Services Branch C. In these cases, Drilling Services is unable to complete the Drill Log as required in the Drill Log for Drilling and CPT Process given there is no direct involvement by the lead Drill Worker and/or CPT technician. The following process will be utilized to ensure Drill Log(s) are completed:

- When a C-57 licensed consultant performs drilling, the Task Order must include language directing the consultant to provide a copy of all Drill Logs to the GP.
- The Chief Drilling Services Branch C is responsible to ensure Drill Log(s) are completed when the consultant provides the drilling rig and drilling crew.
- The Chief Drilling Services Branch C coordinates communications between the GP and Drilling Services to ensure completion of the Drill Log(s).
- Chief Drilling Services Branch C will enter the drilling information into the Drill Log Database (same information as required in the Drill Log for Drilling and CPT Process).
- The Chief Drilling Services Branch C performs weekly reviews to ensure all Drill Log(s) are completed pursuant to the process noted herein. If Drill Log(s) are not

completed in a quality and timely manner, the Chief Drilling Services Branch C will correct the problem, document how the correction was performed and ensure proper filing of all documents (hard copy and Drill Log Database).

- The Office Chief, Geotechnical Support will be emailed regarding any non-compliance issue relating to the above process.

Drill Logs must be submitted by the GP to the Chief, Drilling Services Branch C no less than weekly.

GS-01 Drilling Request Process

GS-01 Drilling Request Process

Note: All Geotechnical Services employees involved with drilling work requests are responsible to comply with the following process to ensure compliance with GS-01 and applicable LEA requirements.

More specifically, GS Managers and Supervisors are responsible to consistently monitor and actively manage this Drilling Request Process.

For additional information and direction, refer to the Geotechnical Manual - Geotechnical Drilling module.

The purpose of the GS-01 Drilling Request Process noted below is to outline the specific steps and responsibilities for the GP, DBC, DSBC, Lead Driller and the Chief-Drilling Services-Branch C related with GS-01 compliance.

A final work request is required before drilling is performed.

Final Work Request:

1. The GP obtains LEA determination document and LEA permits/conditions.
2. Geoprofessional (GP) completes the final work request which includes:
 - a. Drill Request (Final)
 - b. LEA C-57 determination document
 - c. LEA requirements including but not limited to special conditions, required grout mixes and standpipe piezometer details.
 - d. Other documents as defined in the Geotechnical Manual - Geotechnical Drilling module
3. The GP provides the final work request to the DBC to ensure the package contains all of the required documents including the LEA permit/conditions, is legible and completed in a quality manner.
4. If the DBC identifies any errors or problems, the GP will be instructed and notified in writing to ensure all corrections are resolved.
5. GP emails final work request to the Chief-Drilling Services-Branch C (drill.requests@dot.ca.gov)
6. Drilling Services will not accept the final work request unless it is complete and sent by email to drill.requests@dot.ca.gov (no hand delivered documents).
7. The Chief-Drilling Services-Branch C notifies (emails) the GP and DBC if the final work request is incomplete identifying item(s) requiring correction. The DBC and GP make necessary corrections and returns the corrected request to drill.requests@dot.ca.gov.
8. The Chief-Drilling Services-Branch C distributes the final work request to the DSBC responsible for the drilling activities and staff assigned to the project.
9. The DSBC carefully reviews the final work request and instructs the Lead Driller to ensure a complete understanding exists regarding the LEA permit/conditions. The

DSBC and Lead Driller initial the Drilling Request (Final) confirming the review/acceptance of the LEA permit/conditions by the Lead Driller.

10. The DSBC contacts (emails) the GP to confirm details and provide estimated departure times and estimated schedule for the drilling.

Note: DSBC retains the documents in the Drilling Services File Retention Center.

Drill Request Example

(GS-01 Drilling Request Process)

PRELIMINARY
 FINAL

DRILLING REQUEST
 OFFICE OF GEOTECHNICAL SUPPORT

Date: 11/24/14

Instructions: Please complete this form and email to drill.requests@dot.ca.gov

PROJECT INFORMATION

| | | | |
|---|--------------------------------------|--|--------------------|
| Geoprofessional Name/Initials 916-555-5555 | Senior Name/Initials 916-555-5555 | | |
| Geoprofessional Printed Name / Initials | Telephone No. | Approving Senior Printed Name / Initials | Telephone No. |
| Caltrans Drive Undercrossing (Br. No. 19-0001) Geographic Name / Bridge Name | District 03 | County PLA | Route 80 |
| | Post Miles 0.01 | | |

| | | | | | | |
|---------------------|-------|------------|----------|-------------------|-------------------|---------------|
| 0300000000/03-00000 | 1 | 240 | 80 | 690 | 1/15/12 - 1/30/16 | 1/8/14 |
| Project No. / EA | Phase | Sub Object | Activity | PRSM Hrs 3656 Res | PRSM Start Date | PRSM End Date |

DRILLING AND SAMPLING

| | | | |
|--|--|---|---------------------------------------|
| <input checked="" type="checkbox"/> Hxb / 94mm Diamond Core (2.4") | <input checked="" type="checkbox"/> Punch Core | Drive / Push Samples <input checked="" type="checkbox"/> SPT <input type="checkbox"/> Shelby Tube <input type="checkbox"/> Brass | Est. # Borings: <u>3</u> |
| <input type="checkbox"/> Nxb Diamond Core | <input type="checkbox"/> Horizontal Drilling | | <input type="checkbox"/> Auger Boring |
| <input type="checkbox"/> Hydraulic Drive Rig | <input type="checkbox"/> 1" Soil Tube (Wacker) | <input type="checkbox"/> Other _____ | |
| Expected Rock / Soil Type(s): <u>Soil-Sand, Clay and Gravels/Hard (Metamorphic Rock)</u> | | | |

| | | |
|---|---|---|
| <p align="center">TRAFFIC CONTROL</p> <input checked="" type="checkbox"/> Lane Closure <input type="checkbox"/> Ramp Closure <input type="checkbox"/> Shoulder Closure <input type="checkbox"/> Night <input checked="" type="checkbox"/> Day Attach lane closure schedule (from District) | <p align="center">MAINTENANCE YARD</p> Yard Name: <u>Gold Run Yard</u> Contact Person: <u>John Doe</u> Phone No: <u>916-555-5555</u> Cell No: <u>916-555-5556</u> Gate Code: <u>12B130 Key</u> | <p align="center">PERMITS</p> <input checked="" type="checkbox"/> LEA has been contacted <input checked="" type="checkbox"/> C-57 Work <input type="checkbox"/> Not C-57 Work <input type="checkbox"/> CDFW <input type="checkbox"/> Army Corp <input type="checkbox"/> USFWS <input type="checkbox"/> Other _____ <input type="checkbox"/> Private Property <input type="checkbox"/> Railroad <input type="checkbox"/> Tribal Lands Attach all permits to final Drilling Request |
|---|---|---|

Attach a vicinity map and general site plan identifying proposed hole locations.
 Please reference locations to latitude/longitude or Dist/Co/Rte/PM station and offset, if available.

REMARKS - Including details regarding standpipe piezometer destruction or repair

INSTALLATIONS

| | | |
|---|--|--|
| Est. # of SI Borings: _____ | Est. # of Piezo Borings: <u>1</u> | Monuments (Qty) |
| <input type="checkbox"/> 3.34" Geo-Lok _____ (ft) | PVC Slotted (0.020") | <input checked="" type="checkbox"/> 5.5" Flush Mount <u>1</u> (ea) |
| <input type="checkbox"/> 2.75" Geo-Lok _____ (ft) | <input checked="" type="checkbox"/> 1.5" (S-80) <u>40</u> (ft) | <input type="checkbox"/> 8" Flush Mount _____ (ea) |
| TDR Cable | <input type="checkbox"/> 2" (S-40) _____ (ft) | <input type="checkbox"/> Locking Standpipe _____ (ea) |
| <input type="checkbox"/> 18 Gauge _____ (ft) | <input type="checkbox"/> 4" (S-80) _____ (ft) | <input type="checkbox"/> Other _____ (ea) |
| <input type="checkbox"/> Other _____ (ft) | <input type="checkbox"/> Other _____ (ft) | |

BOREHOLE BACKFILL Neat Cement Cement-Bentonite Grout Bentonite Chips No. 8 Sand

gallons of water / 94# cement: 6 %bentonite: 0

Declaration of Review: I confirm I have reviewed the Local Enforcement Agency permit/conditions associated with this Drill Request and will incorporate them into the subsurface investigation for this project.

Received Date: _____ Completed Date: _____

Lead Driller Printed Name and Initials: Lead Driller Name/Initial Last Revised: 10/15/2014

DSBC Printed Name and Initials: DSBC Name/Initial

GS-01 CPT Request Process

GS-01 CPT Request Process

Note: All Geotechnical Services employees involved with CPT Requests are responsible to comply with the following process to ensure compliance with GS-01 and applicable LEA requirements.

More specifically, GS Managers and Supervisors are responsible to consistently monitor and actively manage this CPT Request Process.

For additional information and direction, refer to the Geotechnical Manual – Cone Penetration Test module.

The CPT work request is required before sounding work is performed.

CPT Work Request:

1. The GP obtains LEA determination document and LEA permits/conditions.
2. Geoprofessional (GP) completes the CPT work request which includes:
 - a. CPT Request
 - b. LEA C-57 determination document
 - c. LEA requirements including but not limited to special conditions and required grout mixes
 - d. Other documents as defined in the Geotechnical Manual – Cone Penetration Test
3. The GP provides the CPT work request to the DBC to ensure the package contains all of the required documents including the LEA permit/conditions, is legible and completed in a quality manner.
4. If the DBC identifies any errors or problems, the GP will be instructed and notified in writing to ensure all corrections are resolved.
5. GP emails the CPT work request to the GIBC (Gem-Yeu_Ma@dot.ca.gov)
6. Note: GIB will not accept the CPT work request unless it is sent by email to Gem-Yeu_Ma@dot.ca.gov (no hand delivered documents).
7. The GIBC carefully reviews the CPT work request and instructs the CPT Technician to ensure a complete understanding exists regarding the LEA permit/conditions. The GIBC and CPT Technician initial the CPT Request confirming the review/acceptance of the LEA permit/conditions by the CPT Technician.

Note: GIBC retains the documents in the GIB File Retention Center.

CPT Request Example

(GS-01 CPT Request Process)

CONE PENETROMETER TEST REQUEST
OFFICE OF GEOTECHNICAL SUPPORT

Date: 11/21/14

Instructions: Please complete this form and email to Gem-Yeu_Ma@dot.ca.gov, (916)227-1080

PROJECT INFORMATION

| | | | |
|--|-----------------------|---|---------------------------|
| Geoprofessional Name/Initial <u>916-555-5555</u> | | Senior Name/Initial <u>916-555-5555</u> | |
| Geoprofessional Printed Name / Initials | Telephone No. | Approving Senior Printed Name / Initial | Telephone No. |
| <u>Caltrans Drive UC (Br. No. 19-0001)</u> | | | |
| Geographic Name / Bridge Name | | | |
| | District <u>03</u> | County <u>PLA</u> | Route <u>80</u> |
| | | | Post Miles <u>0.01</u> |
| <u>0300000000/03-00000</u> | <u>1</u> | <u>240</u> | <u>80</u> |
| Project No. / EA | Phase | Sub Object | Activity |
| | | | PRSM Hrs 3650 Res |
| | | | PRSM Start Date |
| | | | PRSM End Date |
| | | | Requested Start Date |
| | | | <u>12/10/14</u> |

TYPE OF CONE PENETROMETER TEST (CPT) REQUIRED

| | | |
|--|--------------------------------|--|
| <input type="checkbox"/> Standard Cone | Estimated # of Holes: _____ | Estimated Depth Per Hole (ft) _____ |
| <input checked="" type="checkbox"/> Seismic Cone | Estimated # of Holes: <u>1</u> | Estimated Depth Per Hole (ft) <u>100</u> |
| Seismic Interval (ft) <u>5.0'</u> | | |
| <input type="checkbox"/> Piezometric Cone | Estimated # of Holes: _____ | Estimated Depth Per Hole (ft) _____ |

| | | |
|---|--|--|
| <p align="center">TRAFFIC CONTROL</p> <input checked="" type="checkbox"/> Lane Closure Performed By: <input type="checkbox"/> Ramp Closure <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Shoulder Closure <input type="checkbox"/> Construction <input type="checkbox"/> Night <input type="checkbox"/> Day <input type="checkbox"/> Task Order Attach lane closure schedule (from District) | <p align="center">MAINTENANCE YARD</p> Yard Name: <u>Gold Run</u> Contact Person: <u>John Doe</u> Phone No: <u>916-555-5555</u> Cell No: <u>916-555-5555</u> Gate Code: <u>12B130 Key</u> | <p align="center">PERMITS</p> <input checked="" type="checkbox"/> LEA has been contacted <input checked="" type="checkbox"/> C-57 Work <input type="checkbox"/> Not C-57 Work <input type="checkbox"/> CDFW <input type="checkbox"/> Army Corp <input type="checkbox"/> USFWS <input type="checkbox"/> Other _____ <input type="checkbox"/> Private Property <input type="checkbox"/> Railroad <input type="checkbox"/> Tribal Lands Attach all permits to final CPT Request |
|---|--|--|

Attach a vicinity map and general site plan identifying proposed hole locations.
 Please reference locations to latitude/longitude or Dist/Co/Rte/PM station and offset, if available.

REMARKS - Including details regarding standpipe piezometer destruction or repair

CORING DETAILS

Is pavement coring required? No
 If yes, coring must be coordinated by the Geoprofessional.
 The Geotechnical Instrumentation Branch will assist securing coring services upon request.

BOREHOLE BACKFILL Neat Cement Cement-Bentonite Grout Bentonite Chips

gallons of water / 94# cement: 6 % bentonite: 0

Declaration of Review: I confirm I have reviewed the Local Enforcement Agency permit/conditions associated with this Drill Request and will incorporate them into the subsurface investigation for this project.

Received Date: _____ Completed Date: _____

CPT Technician Printed Name and Initials: _____ CPT Tec Name/Initial
 Note: It is the Geoprofessional's responsibility to secure all permits, identify work boundaries and to coordinate Underground Services Alert (USA) operations prior to CPT work.

GIBC Printed Name and Initials: _____ GIBC Name/Initial
 Last Revised: 10/15/2014

Borehole Backfill Data Sheet (BBDS) for Borings

Borehole Backfill Data Sheet (BBDS) for Borings

Notes:

- A. Please note there are two BBDS processes and one BBDS form. The first BBDS process focuses only on boreholes while the second BBDS (CPT) process focuses on soundings (CPT holes).
- B. A BBDS is required for all boreholes except slope inclinometers that are drilled or slotted to measure groundwater and standpipe piezometers.
- C. The BBDS must be archived by the Design Branch Chief (DBC) within 25 calendar days of sealing of each borehole.
- D. The BBDS shall be completed for all borings (C-57 Work or Non C-57 Work) whether groundwater is encountered or not.
- E. The Office/Branch Chiefs utilize the GS-01 & GMSA Checklist (GGC) (checklist names vary by Office) to ensure compliance.
- F. BBDS data and information generated by the BBDS form/process will be entered into the Borehole Sounding Piezometer Inventory Database (BSPID) in Project Tracking by the DBC within 5 days of reception from the GP.

BBDS Processing Steps:

1. Upon completion of a borehole the GP completes a BBDS at the boring location.
Note: Each hole is to be sealed within 14 calendar days of completion (per DWR Bulletin), however the Local Enforcement Agency (LEA) may reduce the 14 calendar day requirement.
Note: The GP may assign completion of the BBDS to a consultant only when the consultant is tasked with logging as required in the Task Order.
Note: If the consultant is not assigned to perform logging, and is only performing C-57-related activities, the GP must provide the consultant a copy of the completed BBDS.
2. The GP is responsible to ensure the BBDS is filled out completely and accurately, in a quality manner, while ensuring compliance with GS-01.
Note: The GP or the C-57 consultant shall stop all work if the GP or the C-57 consultant determines the Caltrans Drilling Leadworker and/or the C-57 consultant drilling crew is performing work that is not in compliance with the LEA permit/conditions and/or the California Water Code. The GP shall immediately contact their DBC. The DBC coordinates resolution for noncompliance issues involving consultant drilling crews, and the DSBC resolves noncompliance issues relating to Caltrans drilling crews. The GP and DBC shall document all events with specific information related to the noncompliance event (persons involved, location, time, etc.)
3. The GP Task Order Manager is responsible for ensuring the consultant completes the BBDS in accordance with GS-01 when the consultant is logging the borehole as required in the Task Order. Note: The Geoprofessional is responsible for managing the consultant to complete the work as written for Items 4, 5, 6, 7.

4. The Geoprofessional/consultant logging the borehole must witness the sealing operations to ensure the work is accurately documented on the BBDS and in compliance with the California Water Code and LEA permit/conditions.
5. The Geoprofessional/consultant logging the borehole obtains the signature of the Drilling Leadworker on the BBDS at the site upon completion of the sealing operation.
6. The Geoprofessional/consultant logging the borehole checks top of sealing material for settlement the next business day after sealing. Settlement at top of sealing material must be mitigated in accordance with LEA permit/conditions and the California Water Code requirements. Settlement mitigation will be documented on the BBDS.
Note: In the event settlement occurs, the GP will inform Drilling Services in writing to coordinate sealing the hole within 3 working days. In the case of settlement, the 25-day clock starts after successful sealing of the borehole.
7. When the consultant logs the borehole as specified in the Task Order, the consultant provides the BBDS to the GP for review within 5 days of sealing each borehole.
8. The GP reviews the BBDS, including any BBDS generated by the consultant (to ensure the BBDS is complete, legible and compliant with GS-01 and the Task Order) prior to submittal to the Design Branch Chief (DBC).
9. The GP works with the consultant to resolve BBDS non-compliance issues.
10. The GP submits the BBDS to the DBC and documents (email, fax, memo, etc.) the submittal to the DBC.
11. The DBC reviews the BBDS, resolves non-compliance issues with the GP, signs and approves.
12. The DBC submits the BBDS to the Drilling Services Branch Chief (DSBC) for signature and approval.
13. The DSBC returns the signed BBDS to the DBC.
14. The DBC populates the BSPID using the data included in the BBDS.
Note: The DBC is responsible for ensuring the BSPID is populated accurately, completely, within the prescribed timeframe and in a quality manner.
15. The DBC archives (uploads) the completed BBDS into GeoDOG. The DBC provides a copy of the signed BBDS to the GP.
Note: The DBC is responsible for ensuring the BBDS is archived within the prescribed timeframe.
16. The DBC retains the e-mail (a cc: will be sent to the GP) from GeoDOG that confirms the BBDS was uploaded.
Note: Filing and retention of BBDS-related documents will be placed in the Design File Retention Center and the Drilling Services File Retention Center. The DBC and DSBC are responsible to ensure proper filing of all documents.

BBDS Example

(Borehole Backfill Data Sheet (BBDS) for Borings)

12/9/14

BOREHOLE BACKFILL DATA SHEET

Borehole/sounding completion Date

12/9/14

Sealing/Backfill Date:

PROJECT INFORMATION

Driller Name/Signature _____ 916-555-5555 DSBC Name/Initial _____ 916-555-5555

Drilling Leadworker/CPT Technician Printed Name / Signature _____ Phone No. _____ Drilling Services/GIB Branch Chief Name/Initial _____ Phone No. _____

Declaration of Seal Verification: I confirm I have installed seals in accordance with the California Water Code, Local Enforcement Agency requirements and Geotechnical Services Directive GS-01 in order to protect the subsurface environment and that our work was done conscientiously to the best of my ability.

| District | County | Route | Post Mile |
|----------|--------|-------|-----------|
| 03 | PLA | 80 | 00.1 |

0300000000 Caltrans Rd UC-Jackle Example GPNName/Initial _____ DBC Name/Initial _____

Project I.D. _____ Project Name _____ On-Site Geoprofessional or Consultant Printed Name / Initial _____ Design Branch Chief Name/Initial _____

LEA: Sac County LEA Inspector: John Doe LEA Phone No.: 916-555-5555

Did the LEA perform an inspection? Yes No C-57 Work? Yes No C-57 License No.: A11111

Drilling/Push:

Boring Number: RC-14-001 Depth to Groundwater (ft): ~50 GW not encountered
 Boring Type: CPT Mud Rotary Hollow Stem Augers Other: _____
 Hole diameter: 4.5 (in) Total Depth: 100 (ft) Vertical Inclined: _____ (degrees)
 Slope Inclinometer Installed? Yes No Length: _____ (ft) Diameter: _____ (in) Annulus grout Inside grout
 Geophysical pipe installed? Yes No Length: _____ (ft) Diameter: _____ (in) Annulus grout Inside grout

Sealing Materials:

Sealed full depth? Yes No If no, sealing interval: From: _____ (ft bgs²) To: _____ (ft bgs)
 Proportions used: 6 gallons of water per 94# sack of cement 0 % Bentonite (if allowed)
 Calculated Grout Volume³: 82.6 (gallons) Actual Grout Volume: 91 (gallons)
 Bentonite Chips: diameter: _____ (in) Calculated bags needed⁴: _____ Actual bags used: _____

Placement:

From Surface: or Tremie: Flush Thread: or Drill Steel: Diameter: 1.0 (in)

Revisit Site for Settlement: Date of Visit: 12/10/14 Sketch: _____

Settlement: 9 (ft) Grout to top off: 9 (gallons)

Backfill date: 12/10/14

Backfilled by: Driller Name Checked by: GP Name

Comments:

Directions:

This form is to be completed for each borehole and sounding by the individual logging the boring/sounding or the CPT Technician. This form is to be archived on GeoDOG by the Design Branch Chief or GIB Chief.

¹ If a Slope Inclinometer was installed and it has drilled holes or slots to measure water, then it is a Stand Pipe Piezometer then a Well Completion Report is required instead of a BBDS.

² BGS means Below Ground Surface

³ hole dia 4.5 (in) times hole dia 4.5 (in) times total depth 100 (ft) times 0.0408 = 82.6 gallons

⁴ See the information on the back of the Bentonite Chip bag

Revised 9/18/14

Borehole Backfill Data Sheet (BBDS) for CPT Holes

Borehole Backfill Data Sheet (BBDS) for CPT Holes

Notes:

- A. Please note there are two BBDS processes and one BBDS form. The first BBDS process focuses only on boreholes while the second BBDS (CPT) process focuses on soundings (CPT holes).
- B. A BBDS is required for all CPT holes.
- C. The BBDS for CPT holes must be archived by the Geotechnical Instrumentation Branch Chief (GIBC) within 25 working days of completion of each sounding.
- D. The BBDS (CPT) shall be completed for all soundings (C-57 Work or Non C-57 Work) whether groundwater is encountered or not.
- E. The Office/Branch Chiefs utilize the GS-01 & GMSA Checklist (GGC) (checklist names vary by Office) to ensure compliance.
- F. BBDS (CPT) data and information generated by the BBDS (CPT) form/process will be entered into the Borehole Sounding Piezometer Inventory Database (BSPID) in Project Tracking by the GIBC within 5 days of reception from the CPT Technician.

BBDS (CPT) Processing Steps:

1. Upon completion of a sounding the CPT Technician completes a BBDS (CPT) at the sounding location and provides the C-57 consultant a copy of the completed BBDS (CPT).
Note: Each hole is to be sealed within 14 calendar days of completion (per DWR Bulletin), however the Local Enforcement Agency (LEA) may reduce the 14 calendar day requirement.
2. The CPT Technician is responsible to ensure the BBDS (CPT) is filled out completely and accurately, in a quality manner, while ensuring compliance with GS-01.
3. If it is determined a consultant CPT rig is needed to perform CPT soundings, the GSOC must provide written authorization to proceed.
Note: The GSOC will ensure all consultant CPT rig work is compliant with GS-01, the Borehole Backfill and Geotechnical Manual – Supplement A, including but not limited to all applicable quality assurance requirements.
4. The CPT Technician will sign the BBDS (CPT) and ensure the work is accurately documented on the BBDS (CPT) in accordance with the California Water Code and LEA requirements.
5. The CPT Technician checks top of sealing material for settlement the next business day after sealing. Settlement at top of sealing material must be mitigated in accordance with LEA requirements. Settlement mitigation will be documented on the BBDS (CPT).
Note: In the event settlement occurs, the CPT Technician immediately seals the CPT hole. In the case of settlement, the 25-day clock starts after successful sealing of the CPT hole.
6. The CPT Technician reviews the BBDS (CPT) to ensure the BBDS (CPT) is complete, legible and compliant with GS-01 prior to submittal to the GIBC.

7. The CPT Technician submits the BBDS (CPT) to the GIBC and documents (email, fax, memo, etc.) the submittal to the GIBC.
8. The GIBC reviews the BBDS (CPT), resolves non-compliance issues with the CPT Technician, signs and approves.
9. BBDS (CPT) does not require the signature of the GP or DBC.
10. The GIBC populates the BSPID using the data included in the BBDS (CPT).
Note: The GIBC is responsible for ensuring the BSPID is populated accurately, completely, within the prescribed timeframe and in a quality manner.
11. The GIBC archives (uploads) the completed BBDS (CPT) into GeoDOG.
Note: The GIBC is responsible for ensuring the BBDS (CPT) is archived within the prescribed timeframe.
12. The GIBC retains the e-mail (a cc: will be sent to the CPT Technician) from GeoDOG that confirms the BBDS (CPT) was uploaded.
Note: Filing and retention of BBDS for CPT-related documents will be placed in the GIB File Retention Center. The GIBC is responsible to ensure proper filing of all documents.
13. The GIBC provides a copy of the BBDS (CPT) form after archiving to the C-57 consultant.

Well Completion Report (WCR) Process

Well Completion Report (WCR) Process

Notes:

- A. This process is based on utilization of a consultant with a C-57 contractor's license. This WCR process applies to all standpipe piezometers including slope inclinometers that have been drilled or slotted for the purpose of measuring groundwater. The WCR is required per the Water Code to be filed with Department of Water Resources (DWR).
- B. Consistent inspection and monitoring is required for active standpipe piezometers and slotted/drilled slope inclinometers.
- C. The WCR must be archived by the Design Branch Chief (DBC) within 25 calendar days of standpipe piezometer installation and destruction (Two separate WCRs are required).
- D. The Office/Branch Chiefs utilize the GS-01 & GMSA Checklist (GGC) (checklist names vary by Office) to ensure compliance.
- E. WCR data and information generated by the WCR form/process will be entered into the Borehole Sounding Piezometer Inventory/Status Database (BSPID) in Project Tracking by the DBC within 5 days of receipt from the GP.
- F. When a standpipe piezometers and slotted/drilled slope inclinometer is designated "active" status there are Code/policy requirements that must be adhered to until destruction. The Standpipe Piezometer Activity Form (SPAF) and process noted below provides specific instructions related to these conditions.
- G. The DSBC is responsible to ensure the Active Standpipe Piezometer Database is populated in a quality manner within 5 days of receipt.

WCR Processing Steps

1. When the C-57 license holder is performing drilling and/or CPT operations, that license holder is responsible to ensure all drilling activities and regulatory documents (ie. WCRs) are in compliance with all California Water Code and/or LEA permit/condition requirements.
2. When the C-57 license holder is providing oversight of Caltrans drilling and/or CPT operations, that license holder is responsible to advise the GP or CPT Technician of work not performed pursuant to LEA permit/conditions and/or California Water Code requirements.
3. The C-57 consultant must witness the construction and destruction of standpipe piezometers to ensure the work is accurately documented on the WCR and in compliance with Local Enforcement Agency (LEA) requirements.
Note: The Geoprofessional is responsible for managing the consultant to ensure compliance with all GS-01 and LEA requirements.
4. The GP and/or the C-57 consultant shall stop all work if the GP determines the Caltrans Drilling Leadworker and/or the C-57 consultant drilling crew is performing work that is not in compliance with the LEA. The GP shall immediately contact their DBC. The DBC coordinates resolution for noncompliance issues involving consultant drilling crews, and the DSBC resolves noncompliance issues relating to Caltrans drilling crews.

5. Upon the installation and destruction of a standpipe piezometers and slotted/drilled slope inclinometers, the consultant generates a WCR as required in the Task Order.
Note: A WCR is required at the time of installation of all standpipe piezometers and slotted/drilled slope inclinometers. A second WCR is required at the time of destruction.
Note: Each standpipe piezometer and slotted/drilled slope inclinometer is to be installed (sealed) within 14 calendar days of the completion for each borehole (per DWR Bulletin), however the Local Enforcement Agency (LEA) may reduce the 14 calendar day requirement.
6. The GP provides the consultant with the Geologic Log and data (as required to complete the WCR) after standpipe piezometer installation and destruction.
7. The consultant provides the WCR to the GP after incorporating the Geologic Log and data into the WCR.
8. The GP and DBC review the WCR after receipt for quality and compliance with GS-01, LEA permit/conditions and the California Water Code prior to submittal to DWR and LEA.
9. Any suggested modifications to the WCR will be reviewed and discussed with the consultant who will then incorporate modifications into the final WCR.
10. Consultant submits the final WCR to the DBC, GP, LEA and DWR after completed review.
11. The DBC submits the WCR to the Drilling Services Active Standpipe Piezometer Database Coordinator after the review is complete.
12. The Active Standpipe Piezometer Database Coordinator populates the Active Standpipe Piezometer Database using the data included in the WCR.
Note: The DSBC is responsible to ensure the WCR information is accurately populated into the Active Standpipe Piezometer Database, within the prescribed timeframe (within 5 days of receipt) and in a quality manner.
13. The DBC populates the BSPID using the data included in the WCR.
Note: The DBC is responsible for ensuring the BSPID is populated accurately, completely, within the prescribed timeframe and in a quality manner.
14. The DBC archives (uploads) the completed WCR into GeoDOG. Note: The DBC is responsible for ensuring the WCR is archived within the prescribed timeframe.
15. The DBC retains the e-mail from GeoDOG that confirms the WCR was uploaded (a cc: will be sent to the GP). Note: Filing and retention of WCR-related documents will be placed in the Design File Retention Center and the Drilling Services File Retention Center. The DBC and DSBC are responsible to ensure proper filing of all documents.

WCR Example

(Well Completion Report (WCR) Process)

ORIGINAL
File with DWR

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE

LONGITUDE

APN/RS/O/OTHER

Page 1 of 1

Owner's Well No. 1

No. **01020304**

Date Work Began 8/14/91, Ended 8/28/91

Local Permit Agency Tehama County Environmental Health

Permit No. 395-91 Permit Date 8/01/91

| GEOLOGIC LOG | | | WELL OWNER | | | |
|---|--|--|--------------------------------|-----------|--|---|
| ORIENTATION (°) | <input checked="" type="checkbox"/> VERTICAL | <input type="checkbox"/> HORIZONTAL | <input type="checkbox"/> ANGLE | (SPECIFY) | Name <u>John Smith</u> | |
| DEPTH FROM SURFACE | DRILLING METHOD | DESCRIPTION | FLUID | | Mailing Address <u>227 Bidwell Avenue</u> | |
| FL. to FL. | | Describe material, grain size, color, etc. | | | <u>Red Bluff</u> <u>Calif</u> | |
| 0 | 6 | topsoil | | | CITY <u>96080</u> STATE <u>Calif</u> ZIP | |
| 6 | 20 | brown clay | | | Address _____ | |
| 20 | 50 | brown clay & gravel | | | City <u>same as above</u> | |
| 50 | 62 | gravel (water) | | | County <u>Tehama</u> | |
| 62 | 80 | brown clay | | | APN Book <u>07</u> Page <u>120</u> Parcel <u>14</u> | |
| 80 | 100 | gravel to cobble size brown to tan | | | Township <u>25N</u> Range <u>03W</u> Section <u>10 MDBM</u> | |
| 100 | 116 | brown clay, fat changing to sand | | | Latitude <u>40.215</u> NORTH Longitude <u>122.27.2</u> WEST | |
| 116 | 133 | cobbles and gravel | | | DEG. <u>044</u> SEC. <u>104</u> SEC. <u>104</u> | |
| 133 | 168 | brown clay, fat with sandy lenses | | | LOCATION SKETCH | |
| 168 | 207 | gravel to cobble size | | | | |
| 207 | 288 | blue clay, fat | | | | |
| 288 | 305 | sand, medium size | | | | |
| 305 | 330 | blue clay | | | | |
| * screen type: shutter screen | | | | | | ACTIVITY (✓) |
| | | | | | | <input checked="" type="checkbox"/> NEW WELL <input type="checkbox"/> MODIFICATION/REPAIR <input type="checkbox"/> Deepen <input type="checkbox"/> Other (Specify) |
| | | | | | DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG") <input type="checkbox"/> | |
| | | | | | PLANNED USES (✓) WATER SUPPLY <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial MONITORING <input type="checkbox"/> TEST WELL <input type="checkbox"/> CATHODIC PROTECTION <input type="checkbox"/> HEAT EXCHANGE <input type="checkbox"/> DIRECT PUSH <input type="checkbox"/> INJECTION <input type="checkbox"/> VAPOR EXTRACTION <input type="checkbox"/> SPAFGING <input type="checkbox"/> REMEDIATION <input type="checkbox"/> OTHER (SPECIFY) <input type="checkbox"/> | |
| TOTAL DEPTH OF BORING <u>330</u> (Feet) | | | | | WATER LEVEL & YIELD OF COMPLETED WELL DEPTH TO FIRST WATER <u>47</u> (FL.) BELOW SURFACE DEPTH OF STATIC WATER LEVEL <u>54</u> (FL.) & DATE MEASURED <u>8/14/91</u> ESTIMATED YIELD <u>100</u> (GPM) & TEST TYPE <u>pump</u> TEST LENGTH <u>3</u> (Hrs.) TOTAL DRAWDOWN <u>19</u> (FL.) * May not be representative of a well's long-term yield. | |
| TOTAL DEPTH OF COMPLETED WELL <u>310</u> (Feet) | | | | | | |

| DEPTH FROM SURFACE | BORE-HOLE DIA. (Inches) | TYPE (✓) | | | | CASING (S) | | | DEPTH FROM SURFACE | ANNULAR MATERIAL | | | | | |
|--------------------|-------------------------|----------|--------|------------|-----------|------------------|----------------------------|-------------------------|--------------------|---------------------------|------------|-------------|----------------|----------|-------------------------|
| | | BLANK | SCREEN | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | Gauge OR WALL THICKNESS | | SLOT SIZE IF ANY (Inches) | FL. to FL. | CE-MENT (✓) | BEN-TONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
| 0 | 116 | 12 | ✓ | | | steel | 6 | .25 | | 0 | 110 | | | | |
| 116 | 133 | 12 | ✓ | | | steel | 6 | .25 | 1/8" x 2" | 110 | 310 | | | | #8 sand |
| 133 | 168 | 12 | ✓ | | | steel | 6 | .25 | | | | | | | |
| 168 | 207 | 12 | ✓ | | | steel | 6 | .25 | 1/8" x 2" | | | | | | |
| 207 | 288 | 12 | ✓ | | | steel | 6 | .25 | | | | | | | |
| 288 | 310 | 12 | ✓ | | | steel | 6 | .25 | 1/8" x 2" | | | | | | |

ATTACHMENTS (✓)

Geologic Log

Well Construction Diagram

Geophysical Log(s)

Soil/Water Chemical Analyses

Other _____

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME ESSIG WELL DRILLING
(PERSON, FIRM, OR CORPORATION) (TYPE OR PRINTED)

ADDRESS P.O. BOX 711 CITY WESTPORT STATE CALIF ZIP 91201

Signed Carl Essig DATE SIGNED Jan 1, 2020 WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED 0505051 C-57 LICENSE NUMBER

DWR 156 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

SPAF Example (Well Completion Report (WCR) Process)

STANDPIPE PIEZOMETER ACTIVITY FORM

| | | | | |
|--|----------|--------|-------|-----------|
| | District | County | Route | Post Mile |
| | 03 | PLA | 80 | 0.01 |

0300000000 Caltrans Drive UC Geoprofessional Name/Initial

Project I.D Project Name On-Site Geoprofessional or Consultant Printed Name / Initial

Boring / Piezometer Name: RC-14-001 Reference Elevation: 1000'

Initial Installation Date: 12/18/14 Initial Groudwater Measurement: 50'

Estimated Destruction Date: 12/25/15 Initial Groudwater Elevation: 950'

Quarterly Measurements

| Date | M easurement | Elevation | Condition Comment |
|----------|--------------|-----------|-------------------|
| 12/26/14 | 50' | 950' | Good |

Comments:

Notes:

The Geoprofessional (GP) or representative of the GP is required to complete an SPAF for activity related to a standpipe piezometer:

- Installation of a standpipe piezometer or slope inclinometer that is drilled or slotted to measure groundwater fluctuations.
- Quarterly groundwater level readings.
- Inspection of the standpipe piezometer for good repair.

The GP is responsible to ensure the SPAF is filled out completely and accurately, in a quality manner, and within 5 days after standpipe piezometer activity is completed and submits to the Design Branch Chief. The Design Branch Chief ensures the BSPID is populated within 5 days (10 days total)

Revised 10/13/14

Standpipe Piezometer Activity Form (SPAF) Process

Notes:

- A. The SPAF Process is used to track all standpipe piezometers and slotted/drilled slope inclinometers in the BSPID in Project Tracking to ensure the standpipe piezometers and slotted/drilled slope inclinometers are inspected, maintained, and properly destroyed when no longer needed for the project.
- B. The GP determines the number of standpipe piezometers and slotted/drilled slope inclinometers to be used on a project.
- C. The GP performs consistent visual surface inspection and monitoring of standpipe piezometers and slotted/drilled slope inclinometers to maintain active status.

Failure to perform the above work may cause the standpipe piezometers or slotted/drilled slope inclinometer to be designated as “abandoned” status. The GP determines when destruction is necessary.

To ensure compliance with GS-01, all GS Managers and Supervisors must ensure the SPAF is processed and completed per the instructions below. Compliance with the tasks below is necessary to meet Water Code, Caltrans policy, Department of Water Resources (DWR) Bulletin 74-81/74-90, and LEA requirements.

The DBC is responsible to ensure that all standpipe piezometers and slotted/drilled slope inclinometers are accurately tracked, inspected, and destroyed.

“Abandoned” standpipe piezometers and slotted/drilled slope inclinometers are a violation of the California Water Code.

SPAF Process:

1. At least quarterly the GP measures the groundwater level each standpipe piezometers and slotted/drilled slope inclinometer.
2. At least quarterly the GP inspects each standpipe piezometer and slotted/drilled slope inclinometer for good repair. If the GP determines the standpipe piezometers or slotted/drilled slope inclinometer is not in good repair, the GP submits a drilling work request (per the GS-01 Drilling Request Process) to perform the necessary repairs.
3. The GP fills out the SPAF (see attached) out completely and accurately, and in a quality manner.
4. The GP submits the completed SPAF within 5 days after the activity is completed to the DBC who reviews the SPAF to confirm the form is accurately completed.
5. The DBC ensures that SPAF information is populated into the BSPID within 5 days of receipt.
6. The DBC retains the hard copy SPAF in the Design File Retention Center.

7. After the standpipe piezometers or drilled/slotted slope inclinometer has served its intended purpose, the GP initiates the process to have the standpipe piezometers or slotted/drilled inclinometer destroyed. The following process is used.
 - a. The GP follows the Final Drill Request Process.
 - b. The GP follows the Well Completion Report Process.
 - c. The DBC supports and manages the GP to ensure compliance with the above processes.

SPAF Process for Existing Standpipe Piezometers:

Note:

- Some standpipe piezometers and drilled/slotted slope inclinometers were installed without submitting a Well Completion Report to DWR and the LEA.
 - It is critical that these installations are maintained in “active” status and then properly destroyed once they are no longer needed.
 - The LEA is to be contacted the next time a measurement/inspection is proposed for these installations.
 - The GP identifies each standpipe piezometer and drilled/slotted slope inclinometer that needs destruction and follows the Caltrans Local Enforcement Agency Process (LEAP) to initiate destruction.
1. The GP identifies that a measurement/inspection is necessary for a standpipe piezometer or drilled/slotted slope inclinometer.
 2. The GP generates a LEA Measurement/Inspection document (to be developed by each GP) describing the GP’s intention to measure and inspect the installation.
 3. The DBC conducts a detailed analysis of the LEA Measurement/Inspection document. Any issues identified by the DBC shall be mitigated in cooperation with the GP in a timely manner.
 4. The GP forwards (e-mail, fax, letter) the LEA Measurement/Inspection document to the LEA and provides a copy (e-mail, fax, letter) to the DBC.
 5. LEA then determines if the work may proceed.
 6. The LEA response is to be retained (uploaded in GeoDOG) by the GP.
 7. If the LEA responds that the installation(s) need to be destroyed, then the GP initiates the Drill Request Process to have the installation(s) destroyed.
 8. When the LEA responds that the proposed measurement/inspection can take place, the GP follows the SPAF process outlined above.

Note: For piezometers and slotted/drilled slope inclinometers without a WCR on file, the GP submits the SPAF to the Drilling Services Active Standpipe Piezometer Data Base Coordinator.

Drill Log for Drilling and CPT Process

Drill Log for Drilling and CPT Process

The Drill Log documents the status of each boring and CPT hole to ensure compliance with GS-01. In addition, the Drill Log provides a quality control mechanism for comparison between WCR/BBDS/inventory of holes directed by Design staff vs. the number of holes provided by Geotechnical Support.

When drilling is performed by a consultant the Drill Log information is provided by the consultant and uploaded by the Chief, Drilling Services, Branch C (See Consultant Management Process - Drilling Performed by Consultant).

Notes:

The DSBC and GIBC are responsible to ensure all Drill Logs are completed legibly, accurately, within the prescribed timeframe in accordance with the provisions of Geotechnical Manual – Supplement A, Drill Log for Drilling and CPT Process.

- A Drill Log is required for each hole for each day drilling/CPT work is performed.
- It is critical that the sealing of each boring/sounding is reflected in the Drill Log.
- The Drill Log must reflect the final documentation expected for archiving (e.g. WCR, BBDS) upon the completion of each boring/sounding.
- The DSBC and the GIBC will ensure that Drill Logs are accurately and consistently completed. The Office/Branch Chiefs utilize the GS-01 & GMSA Checklist (GGC) (checklist names vary by Office) to ensure compliance and to perform weekly reviews of Drill Log compliance requirements. Noncompliance will be immediately addressed and corrected with appropriate training and/or other measures.
- The Lead Driller and CPT Technician completes Drill Logs in a timely manner but no less than weekly.
- Lead Drillers should “Save” the Drill Log frequently during data entry to protect against loss of connection.

Drill Log Process:

1. Upon completion of a work day, the Lead Driller/CPT Technician records all of the data needed to complete the Drill Log for each hole drilled/pushed for that work day.
2. For each day of drilling the Lead Driller/CPT Technician records that “Status” and “Installation Type” and whether a BBDS or a WCR is required.
3. The Lead Driller/CPT Technician populates the information from the field activities into the Drill Log in a timely manner but no less than once per week.
4. When the Lead Driller is sealing a CPT hole, the CPT Technician completes the Drill Log to document sealing activities, specifically whether a BBDS or a WCR is selected under “Form Required”. The Lead Driller does not select a “Form Required” when sealing CPT soundings.

A Guide to Using the Boring Sounding Piezometer Inventory Database (BSPID)

A Guide to Using the Boring Sounding Piezometer Inventory Database (BSPID)

Notes:

- A. The existing GS Project Tracking Database has been modified to incorporate the requirements of GS-01.
- B. Key GS-01 compliance targets include LEA compliance, BBDS, and WCRs requirements.
- C. The BSPID provides a current status on the inventory of all borings, soundings and standpipe piezometers.
- D. The BSPID was created to support GS Management quality control and quality assurance reviews (monthly compliance period) to ensure compliance with GS-01.
- E. The BSPID will provide data points to populate the GS-01 Compliance Checklist, Branch Chief.
- F. The BSPID functions on a per hole basis given the Water Code and LEAs require specific responses and timelines per hole.
- G. Updated Work Status Reports have been developed to provide GS Management with specific data relating to GP, consultant, and Geotechnical Support relating to LEA, BBDS, and WCR compliance.
- H. The DBC and GIBC are responsible to ensure all information required in the BSPID process is populated on a real-time basis (no less than weekly).

Drilling Details and LEA Information – A new Tab has been created on the Work Status Report page within Project Tracking in order to ensure compliance with GS-01

LEA Information - The following process should be used for populating LEA information:

Note: LEA and Drilling information is covered under one tab on the Work Status Report.

Note: The DBC is responsible to ensure the following steps are performed.

1. Review the LEA Letter and the Layout Plan Sheet – enter the date reviewed and the date sent to the LEA.
2. Once the LEA determination is received (email etc.) from the LEA, enter the date received and whether the work being done is Water Code.
3. Enter whether an LEA permit is required and if so, archive the LEA permit in GeoDOG and enter the archive date.

Drilling and CPT Information - The following process should be used for populating drilling and CPT information:

Note: The DBC is responsible to ensure the following steps are performed.

1. Select “Yes” for drilling needed and- type of work (Boring or CPT) for the project. This will generate a Drill Request and/or a CPT Request and populate the project section of the requests (press the Drilling Request Form or CPT Request Form button to access these forms).
2. Enter the dates the Final Drill/CPT request package is reviewed and submitted.

3. Enter the actual start date when the drilling/CPT work begins.

BBDS for Boring Information - The following process should be used for populating BBDS information:

Note: The DBC is responsible to ensure the following steps are performed within 5 days of receipt from the GP.

Note: The DSBC is responsible to ensure Drill Log information is populated into the BSPID no later than Friday of each week.

1. The DBC enters (from the Drilling Request) the number of borings in the “Geo Planned” column of the Work Status Report (WSR). Select the BBDS button to access the Individual BBDS Detail page.
2. Complete the remaining sections of the Individual BBDS Detail page (this information is to be transferred directly from the BBDS).
3. For multiple BBDS, push the “Duplicate” button and modify the fields accordingly for subsequent entries.
4. The Individual BBDS Detail page entries will automatically populate in the Drilling Details as “Geo Actual” number of BBDS. Continue this process until the drilling is completed and all BBDS are received. The number of BBDSs indicated in the “Geo Actual” can be compared to the total number of BBDSs generated by the Drill Logs. The Drill Log data are automatically tabulated.
5. When drilling operation is completed, manually enter the actual number of borings (in the Drilling Details section in “Geo-Actual” column).

BBDS for CPT Information - The following process should be used for populating BBDS CPT information:

Note: The GIBC is responsible to ensure the following steps are performed within 5 days of receipt from the CPT Technician.

Note: The GIBC is responsible to ensure Drill Log information is populated into the BSPID no later than Friday of each week.

1. The DBC enters (from the CPT Request) the number of soundings in the “Geo Planned” column of the Work Status Report (WSR).
2. GIBC selects the BBDS button to access the Individual BBDS Detail page.
3. GIBC completes the remaining sections of the Individual BBDS Detail page (this information is to be transferred directly from the BBDS).
4. For multiple BBDS, push the “Duplicate” button and modify the fields accordingly for subsequent entries.
5. The Individual BBDS Detail page entries will automatically populate in the Drilling Details as “Geo Actual” number of BBDS. Continue this process until the CPT work is completed and all BBDS are received. The number of BBDSs indicated in the “Geo Actual” can be

compared to the total number of BBDSs generated by the Drill Logs. The Drill Log data are automatically tabulated.

6. When CPT work is completed, manually enter the actual number of soundings (in the Drilling Details section in “Geo-Actual” column).

WCR Information - The following process should be used for populating WCR information:

Note: Failure to complete a WCR is a violation of the California Water Code.

Note: The DBC is responsible to ensure the following steps are performed within the timeframes specified.

Note: The DSBC is responsible to ensure Drill Log information is populated into the BSPID no later than Friday of each week.

Note: The DSBC is responsible to ensure the Active Standpipe Piezometer Database is accurately completed within the prescribed timeframes. The Active Standpipe Piezometer Database will be used to compare the number of open standpipe piezometers and slotted/drilled slope inclinometers against the number open as reflected on the Individual WCR Detail pages.

Note: The BSPID incorporates the need to ensure a WCR is documented for both installation and destruction of each standpipe piezometer and slotted/drilled slope inclinometer.

Installation

1. The DBC enters (from the Drill Request) the number of standpipe piezometer and slotted/drilled slope inclinometer in the “Geo Planned” column of the Work Status Report (WSR).
2. During drilling operation, obtain each completed WCR for the installation - of each standpipe piezometer and slotted/drilled slope inclinometer from the Consultant.
3. From the WSR page select the WCR Button to access the Individual WCR Detail page and complete the remaining sections for the installation information of each standpipe piezometer and slotted/drilled slope inclinometer (GP provides the borehole completion date and estimated piezometer destruction date).
4. After completing the Individual WCR Detail page entries, the system will automatically populate in the Drilling Details as “Geo Actual” number of WCRs.
5. Continue this process until the drilling is completed and all WCRs are received. The number of WCRs indicated in the “Geo Actual” can be compared to the total number of WCRs generated by the Drill Logs. The Drill Log data are automatically populated.

Note: The DBCs are responsible to ensure all Individual WCR Detail page entries are completed at least weekly.

Note: Drill Log information is automatically populated in the BSPID. The DSBCs are responsible to ensure all Drill Logs are populated into the FileMaker Pro Drill Log database by Friday of each week.

6. When drilling operation is completed, enter the actual number of Piezometers (in the Drilling Details section in “Geo Actual” column).

Destruction

1. During drilling operation, obtain each completed WCR for the destruction of each standpipe piezometer and slotted/drilled slope inclinometer from the Consultant.
2. Follow steps 1 through 5 for the destruction of the standpipe piezometer and slotted/drilled slope inclinometers. Note: For every one Geo-Actual piezometer, there will be two Geo-Actual number of WCRs (one for installation and one for destruction).

Standpipe Piezometer Activity Form (SPAF) Information - The following process should be used for populating SPAF information for piezometers and slotted/drilled slope inclinometers installed/destroyed with a WCR on file:

Note: The DBC is responsible to ensure the following steps are performed when specified.

Note: The SPAF must be completed quarterly in order to maintain “active” status. “Abandoned” standpipe piezometers and slotted/drilled slope inclinometers are a violation of the California Water Code.

1. Obtain a SPAF from the GP for each active standpipe piezometers and slotted/drilled slope inclinometer at least quarterly.
2. Complete the “Groundwater Measurements/Conditions” section of the Individual WCR Detail page with the information on the SPAF within 5 working days of receipt.

Standpipe Piezometer Activity Form (SPAF) Information - The following process should be used for populating SPAF information for piezometers and slotted/drilled slope inclinometers installed/destroyed when there is no WCR on file:

The GP submits the SPAF to the Drilling Services Active Standpipe Piezometer Data Base Coordinator and follows steps 1 and 2 listed above.

Quality Assurance Plan

Quality Assurance Plan

The Quality Assurance Plan (QAP) defines approach GS Managers and Supervisors take to verify compliance with GS-01 and this GMSA. The QAP is divided into different sections:

1. Roles and Responsibilities for the following positions:
 - Design Office Chief
 - Design Branch Chief
 - Geotechnical Support Office Chief
 - Drilling Services Branch Chief
 - Geotechnical Instrumentation Branch Chief
 - Chief Drilling Services, Branch C
2. GS-01 & GMSA Checklists (GGC) for the following positions
 - Design Branch Chief
 - Drilling Services Branch Chief
 - Geotechnical Instrumentation Branch Chief
 - Chief Drilling Services, Branch C
3. Master Resolution Lists (MRLs)
 - METS/GS Deputy Chief – Corporate Design (CDGGC-MRL)
 - METS/GS Deputy Chief – Corporate Geo Support (CGSGGC-MRL)
 - Office Chief – Design – Monthly Compliance Period (DMCP-MRL)
 - Office Chief – Geo Support – Monthly Compliance Period (GSMCP-MRL)
4. GS-01 & GMSA QC/QA Schedule

Roles and Responsibilities (QAP)

METS/GS Deputy Division Chief - Roles & Responsibilities:

- a. Promotes teamwork, leadership, integrity, stewardship and open communication.
- b. Ensures adequate resource allocation to comply with GS-01 and the GMSA.
- c. Addresses key issues that cannot be resolved at the Office Chief level.
- d. Directs team members as necessary to comply with GS-01 and the GMSA.
- e. Conducts consistent meetings (MRL, Quality Reviews, etc) with the Office Chiefs to ensure compliance with GS-01 and the GMSA.
- f. Directs random evaluations of GS-01 and GMSA compliance, performance, provides recommendations for resolution for non-compliance events and promotes continuous improvement.

Design Office Chief(s) - Roles & Responsibilities:

The Design Office Chief has three primary responsibilities relating to the GMSA Implementation Plan (GIP) and GS-01/GMSA compliance:

- a. The Design Office Chief is directly and fully responsible to actively manage, provide oversight and ensure compliance with the GMSA Implementation Plan (GIP), GS-01 and GMSA.
- b. The Design Office Chief is responsible to consistently monitor the performance and quality of work performed by each Design Branch Chief (DBC) to ensure compliance with the GIP, GS-01 and GMSA.
- c. The Design Office Chief is responsible to provide consistent training, instruction and direction for all DBC/GP team members to ensure compliance with the GIP, GS-01 and GMSA.

Note: Delegation of GIP, GS-01 and GMSA responsibilities from the Design Office Chief to any DBC does not remove or reduce the Design Office Chiefs responsibility for GIP, GS-01 and GMSA compliance requirements.

1. After GS-01 and GMSA training, implements a GMSA Implementation Plan (GIP) to ensure all Design Branch Chiefs (DBC) and staff have clear instruction regarding how GS-01 and the GMSA is implemented, utilized and managed.
2. Develops a GIP Schedule for use by the DBCs and staff.
3. Monitors the performance of the DBCs regarding GIP compliance, takes appropriate actions to correct GIP non-compliance issues and ensures documentation of all events.
4. Ensures the DBC understands how to effectively manage the GS-01 and the GMSA.
5. Provide training and consistent oversight/support to ensure the DBC's ability to manage GP team members (DBC consistently ensures the GPs perform their duties in a quality and compliant manner as required in the GS-01 and GMSA processes).
6. Instructs, guides, trains and directs the DBC to ensure a working understanding exists regarding the GS-01 and GMSA processes/tool requirements.
7. Ensures the DBC complies with GS-01 and GMSA requirements with a special focus on LEA, WCR, BBDS, Quality Assurance (Design GS-01 & GMSA Checklist (DGGC) and Design Monthly Compliance Period – Master Resolution List (DMCP-MRL) and Document Control Processes.

Note: an DMCP-MRL is attached as a guideline for MRL development.

8. Conducts informal weekly meetings with the DBCs (and others as necessary) to:
 - a. review DGGC progress,
 - b. review GS-01 & GMSA quality of services and products (LEA, WCR, BBDS, etc),

- c. discuss GS-01 and GMSA non-compliance issues and corrections,
 - d. review the Design GS-01 & GMSA QC/QA January 2015 Compliance Schedule (see attached example) for compliance,
 - e. review Document Control Processes and status.
9. Ensures the DBC utilizes the DGGC and information shared at the weekly informal meeting noted in Item 8 above to populate the DMCP-MRL.
 10. Conducts bi-monthly DMCP-MRL meetings with the DBCs to ensure and document GS-01 and GMSA compliance.
 11. Understands and acknowledges GS-01 and GMSA products, services and activities are measured on a Monthly Compliance Period. Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month.
 12. Ensure all DBCs perform 100% quality reviews as required in the GMSA, Design Branch Chief, Roles and Responsibilities.
 13. Design Office Chief will conduct a 25% quality review of the DBC/GP generated work products.
 14. The number of 25% quality reviews to be performed by the Design Office Chief is established by the total number of 100% DBC quality reviews. For example, if 20 DBC quality reviews were performed by the DBCs for this Monthly Compliance Period, the Design Office Chief would randomly select 5 for his/her quality review. The BSPID provides data on workload numbers and activities.
 15. The 25% quality review is designed to ensure there is a second check on the DBC 100% quality evaluation.
 16. The 25% quality review will be performed on DBC DGGCs, LEA, WCR, BBDS, BSPID, etc., documents generated by the DBCs and GP team.
 17. The 25% quality review results will be noted on the DMCP-MRL.
 18. Manage and distribute the Corporate Design GS-01 and GMSA Compliance MRL (CDGGC-MRL) to the METS/GS Deputy for each compliance period. (See attached example)
 19. Significant GS-01 or GMSA non compliance issues (no LEA contact, violation of water code, no WCR, etc.), sent (via email) from the DBC to the Design Office Chief require immediate action by the DBC under the direction of the Design Office Chief to ensure the issue(s) is corrected and documented. Situations of this nature should be unique and occur on a limited basis – ensure these types of events are added to the DMCP-MRL.
 20. Promotes a team based atmosphere with open communication.
 21. Practices responsible stewardship, maintains integrity and excellence in the products and services.

Design Branch Chief (DBC) – Roles/Responsibilities:

1. After GS-01 and GMSA training, supports and implements the Design Office Chief's GMSA Implementation Plan (GIP). Ensure staff has clear instruction regarding how and when GIP is implemented.
2. Monitors the performance of staff regarding GIP compliance and takes appropriate steps to correct GIP non-compliance issues.
3. Ensure staff clearly understands (provide direction, training, support and openly communicate expectations) the requirements of GS-01 and GMSA.
4. Consistently review the GMSA with staff to ensure staff understands and complies with the processes and tools, including, but not limited to, Drill and CPT Requests, LEA, WCR, BBDS, Consultant Management Process, BSPID, Quality Assurance Plan and Document Control Processes.
5. Manages and monitors, on a consistent basis, the performance of all staff relating to compliance with GS-01 and GMSA requirements.
6. Takes appropriate actions to correct GS-01 and GMSA non-compliance issues, actions, deliverables, products and services.
7. Complies with this GMSA, DBC Roles & Responsibilities to ensure compliance with these important deliverables and requirements.
8. Ensures all meetings and tasks noted in the Design GS-01 & GMSA QC/QA January 2015 Compliance Schedule (see attached example) are completed in a quality manner within the prescribed timeframes.
9. Completes the Design GS-01 & GMSA Checklist (DGGC) within the prescribed timeframe with a focus on accuracy, quality and completeness.
10. Takes appropriate steps to correct DGGC non-compliance issues, quality problems while ensuring all issues and corrective actions are properly documented.
11. Communicates on a weekly basis with the Design Office Chief regarding DGGC critical issues relating to non-compliance, performance challenges, quality failures, etc.
12. Attends Design Monthly Compliance Period Master Resolution List (DMCP-MRL) meetings (bi-monthly) with the Design Office Chief (and others as necessary) to review DGGC compliance, staff performance relating to GS-01 and GMSA quality of services and products, mitigation of GS-01 and GMSA non-compliance issues, develop and implement corrections and ensure compliance with document control requirements.
13. Utilize the DGGC to populate the DMCP-MRL (see the DMCP-MRL attached example) for presentation to the Office Chief. Ensures all DMCP-MRLs are placed in Document Control.
14. Understands and acknowledges GS-01 and GMSA products, services and activities are measured on a monthly compliance period with specific time sensitive deliverables.

15. Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month.
16. The DBC performs 100% quality assurance reviews for each compliance period.
17. The DBC utilizes the BSPID to establish the total number of holes sealed within the compliance period. This number is then subject to a 100% quality review by the DBC.
18. The 100% quality assurance review requires the DBC conduct a hands-on review of key GS-01 and GMSA documents and services produced by the GP and C-57 Consultant during the compliance period.
19. More specifically, this review requires a quality assessment of the following GMSA requirements – staff/C-57 consultant performance:
 - a. Ensures compliance with the Drill Request and CPT Processes;
 - b. Ensures compliance with the Local Enforcement Agency Process (LEAP) with a focus on the LEA contact letter, permit, conditions and inspection requirements;
 - c. Ensures compliance with the Consultant Management Process with a focus on ensuring use of applicable mandatory Task Order language, compliance with the Consultant Task Order Development/Management Process, monitors C-57 consultant performance and quality of work.
 - d. Ensures GP compliance with the WCR process and WCR form quality, LEA - code compliant backfilling, sealing, destruction, delivery of WCR to LEA/DWR, etc., and DBC archiving within prescribed timeframe;
 - e. Ensures GP compliance with the Standpipe Piezometer Activity Form (SPAF) process, including compliance with proper groundwater readings and inspections while ensuring LEA-code compliant sealing, destruction and DBC archiving, all within the estimated timeframes;
 - f. Ensures GP compliance with the BBDS process and BBDS form quality, LEA - code compliant sealing, destruction, proper filing and DBC archive requirements, all within prescribed timeframes;
 - g. Ensures compliance with the “A Guide to Using the BSPID process”, performs all duties/functions as required and within the prescribed timeframes;
 - h. Ensures the BSPID is consistently updated.
 - i. Ensures compliance with the Quality Assurance Plan requirements with a special focus on the DGGC and the DMCP-MRL.
 - j. Ensures compliance with the Document Control requirements.
 - k. Note: the DBC also instructs/monitors the GP (Task Order Manager) to oversee and correct the performance of the C-57 consultant to ensure compliance with applicable GMSA processes and Task Order requirements.

20. For significant GS-01 or GMSA non compliance issues (critical safety condition, no LEA contact, violation of water code, no WCR, etc.), requires an immediate phone call and email be sent to the Design Office Chief. Correction of non-compliance issues are to be immediately mitigated by the DBC
21. Promotes a team based atmosphere with open communication.
22. Practices responsible stewardship, maintains integrity and excellence in the products and services.

Geotechnical Support Office Chief - Roles & Responsibilities:

The Geotechnical Support Office Chief has three primary responsibilities relating to the GMSA Implementation Plan (GIP) and GS-01/GMSA compliance:

- a) The Geotechnical Support Office Chief is directly and fully responsible to actively manage, provide oversight and ensure compliance with the GMSA Implementation Plan (GIP), GS-01 and GMSA.
- b) The Geotechnical Support Office Chief is responsible to consistently monitor the performance and quality of work performed by each Branch Chief to ensure compliance with the GIP, GS-01 and GMSA.
- c) The Geotechnical Support Office Chief is responsible to provide consistent training, instruction and direction for all supervisors/staff team members to ensure compliance with the GIP, GS-01 and GMSA.

Note: Delegation of GIP, GS-01 and GMSA responsibilities from the Geotechnical Support Office Chief to any Branch Chief does not remove or reduce the Geotechnical Support Office Chief's responsibility for GIP, GS-01 and GMSA compliance requirements.

- 1. After GS-01 and GMSA training, implements the GMSA Implementation Plan (GIP) to ensure all Branch Chiefs and staff have clear instruction regarding how GS-01 and the GMSA is implemented, utilized and managed.
- 2. Develops a GIP Schedule for use by the Branch Chiefs and staff.
- 3. Monitors the performance of the Branch Chiefs regarding GIP compliance, takes appropriate actions to correct GIP non-compliance issues and ensures documentation of all events.
- 4. Ensures the Branch Chiefs understand how to effectively manage the GS-01 and the GMSA.
- 5. Provide training and consistent oversight/support to ensure the Branch Chiefs ability to manage team members (Branch Chiefs consistently ensures the staff perform their duties in a quality and compliant manner as required in the GS-01 and GMSA processes).
- 6. Instructs, guides, trains and directs the Branch Chiefs to ensure a working understanding exists regarding the GS-01 and GMSA processes/tool requirements.
- 7. Ensures the Branch Chiefs complies with GS-01 and GMSA requirements with a special focus on LEA, WCR, BBDS, Drilling Request Process, CPT Request Process, Drill Log For Drilling & CPT Process, Quality Assurance (GS-01 & GMSA Checklists- DSGGC, GIBGGC, DSCGGB), Design GS-01 & GMSA QC/QA January 2015 Compliance Schedule and GMSA Office Chief Geotechnical Support Monthly Compliance Period MRL (GSMCP-MRL) and Document Control Processes.
 - a. Note: a GSMCP-MRL is attached as a guideline for MRL development.

8. Conducts informal weekly meetings with the Branch Chiefs (and others as necessary) to:
9. review GS-01 & GMSA Checklists- DSGGC, GIBGGC, DSCGGB progress,
10. review GS-01 & GMSA quality of services and products (LEA, WCR, BBDS- CPT, etc),
11. discuss GS-01 and GMSA non-compliance issues and corrections,
12. review Design GS-01 & GMSA QC/QA January 2015 Compliance Schedule for compliance,
13. review Document Control Processes and status.
14. Ensures the Branch Chiefs utilizes the GS-01 & GMSA Checklists- DSGGC, GIBGGC, DSCGGB and information shared at the weekly informal meeting noted in Item 8 above to populate the GSMCP-MRL.
15. Conducts bi-monthly GSMCP-MRL meetings with the Branch Chiefs to ensure and document GS-01 and GMSA compliance.
16. Understands and acknowledges GS-01 and GMSA products, services and activities are measured on a Monthly Compliance Period. Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The Design GS-01 & GMSA QC/QA January 2015 Compliance Schedule provides a good example of the steps and timeframes.
17. Ensure all Branch Chiefs perform 100% quality reviews as required in the GMSA, Geotechnical Support Branch Chief(s), Roles and Responsibilities.
18. Geotechnical Support Office Chief will conduct a 25% quality review of the Branch Chief/CPT Technician and Lead Driller work products.
19. The number of 25% quality reviews to be performed by the Geotechnical Support Office Chief is established by the total number of 100% Branch Chief quality reviews. For example, if 20 Branch Chief(s) quality reviews were performed by the Branch Chief(s) for this Monthly Compliance Period, the Geotechnical Support Office Chief would randomly select 5 for his/her quality review. The BSPID provides data on workload numbers and activities.
20. The 25% quality review is designed to ensure there is a second check on the Branch Chiefs 100% quality evaluation.
21. The 25% quality review should include, but not be limited to, the Branch Chiefs GS-01 & GMSA Checklists- DSGGC, GIBGGC, DSCGGB, LEA, WCR, SPAF, BBDS-CPT, Drill Log for Drilling & CPT Process, BSPID, etc., documents generated by the Branch Chiefs and drilling/CPT crews.
22. After identification of non-compliant issues, takes corrective actions to ensure compliance with GS-01 and the GMSA and documents the action taken on the GSMCP-MRL.
23. Manage and distribute the METS/GS Chief Deputy, Corporate Geotechnical Services GS-01 & GMSA Compliance MRL (CGSGGC-MRL) to the METS/GS Deputy for each compliance period.

24. Significant GS-01 or GMSA non compliance issues (no LEA contact, violation of water code, no WCR, etc.), sent (via email-phone call) from the Branch Chiefs to the Geotechnical Support Office Chief require immediate action by the Branch Chiefs under the direction of the Geotechnical Support Office Chief to ensure the issue(s) is corrected and documented. Situations of this nature should be unique and occur on a limited basis – ensure these types of events are added to the GSMCP-MRL. The METS/GS Deputy Chief will be immediately notified (email and phone call) of any significant safety, LEA, WCR, BBDS, etc., compliance issue.
25. Promotes a team based atmosphere with open communication.
26. Practices responsible stewardship, maintains integrity and excellence in the products and services.

Drilling Services Branch Chief(s) – Roles/Responsibilities:

1. After GS-01 and GMSA training, implements the Geotechnical Support Office Chief's GMSA Implementation Plan (GIP). Ensure staff has clear instruction regarding how and when GIP is implemented.
2. Monitors the performance of staff regarding GIP compliance and takes appropriate steps to correct GIP non-compliance issues.
3. Ensure staff clearly understands (provide direction, training, support and openly communicate expectations) the requirements of GS-01 and GMSA.
4. Consistently review the GMSA with staff to ensure staff understands and complies with the processes and tools, including, but not limited to, Consultant Management Process, Drilling Requests, LEA, WCR, BBDS, Drill Log for Drilling & CPT Requests, BSPID, Quality Assurance Plan and Document Control Processes.
5. Manages and monitors, on a consistent basis, the performance of all staff relating to compliance with GS-01 and GMSA requirements.
6. Takes appropriate actions to correct GS-01 and GMSA non-compliance issues, actions, deliverables, products and services.
7. Complies with this GMSA, Drilling Services Branch Chief(s), Roles & Responsibilities to ensure compliance with these important deliverables and requirements.
8. Ensures all tasks are completed in a quality manner within the prescribed timeframes.
9. Completes the Drilling Services GS-01 & GMSA Checklist (DSGGC) within the prescribed timeframe with a focus on accuracy, quality and completeness.
10. Takes appropriate steps to correct DSGGC non-compliance issues, quality problems while ensuring all issues and corrective actions are properly documented.
11. Communicates on a weekly basis with the Geotechnical Support Office Chief regarding DSGGC critical issues relating to non-compliance, performance challenges, quality failures, etc.
12. Attends bi-monthly GMSA Office Chief, Geotechnical Support Monthly Compliance Period Master Resolution List (GSMCP-MRL) meetings with the Geotechnical Support Office Chief (and others as necessary) to review DSGGC compliance, staff performance relating to GS-01 and GMSA quality of services and products, mitigation of GS-01 and GMSA non-compliance issues, develop and implement corrections and ensure compliance with document control requirements.
13. Utilize the DSGGC to populate the GSMCP-MRL for presentation to the Geotechnical Support Office Chief. Ensures all GSMCP-MRLs are placed in Document Control.
14. Understands and acknowledges GS-01 and GMSA products, services and activities are measured on a monthly compliance period with specific time sensitive deliverables.

15. Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The Design GS-01 & GMSA QC/QA January 2015 Compliance Schedule provides a good example of the compliance steps and timeframes.
16. The Drilling Services Branch Chief(s) performs 100% quality assurance reviews for each compliance period.
17. The Drilling Services Branch Chief(s) utilizes the BSPID and Drill Logs to establish the total number of holes completed within the compliance period. This number is then subject to a 100% quality review by the Drilling Services Branch Chief(s).
18. The 100% quality assurance review requires the Drilling Services Branch Chief(s) conduct a hands-on review of key GS-01 and GMSA documents relating to the following:
 19. Ensures compliance with the Drill Request Processes;
 20. Ensures compliance with the LEA Management Process with a focus on the LEA contact letter, permit, conditions with instructions to staff;
 21. Conducts monthly site visits to evaluate staff performance in the field and to ensure compliance with GS-01 and the GMSA. A field report (site, location, names of staff, description of the scope of work, C-57, LEA conditions, WCR or BBDS status, etc) will be sent to the Geotechnical Office Chief at the conclusion of each evaluation (no later than 5 days after the site visit).
 22. Ensures compliance with the Consultant Management Process with a focus on ensuring use of applicable mandatory Task Order language, compliance with the consultant task order development/management process, monitors C-57 consultant performance and quality of work.
 23. Ensures compliance with the WCR process and WCR form quality, LEA - code compliant backfilling, sealing, destruction, signatures, delivery of WCR to LEA/DWR, etc., and filing/documentation within prescribed timeframes;
 24. Monitors the Drilling Services Active Standpipe Piezometer Database to ensure timely data entries (coordinator) as required in the SPAF process;
 25. Ensures staff compliance with the BBDS/CPT process and BBDS form quality, LEA - code compliant sealing, destruction, proper filing and filing/document requirements within prescribed timeframe;
 26. Ensures compliance with the “A Guide to Using the BSPID process”, performs all duties/functions as required and within the prescribed timeframes;
 27. Ensures the BSPID is consistently updated.
 28. Ensures compliance with the Quality Assurance Plan requirements with a special focus on the DSGGC and the GSMCP-MRL.
 29. Ensures compliance with the Document Control requirements.

30. For significant GS-01 or GMSA non compliance issues (critical safety issue, no LEA contact, violation of water code, no WCR, no BBDS, etc.), requires an immediate email be sent to the Geotechnical Support Office Chief.
31. Promotes a team based atmosphere with open communication.
32. Practices responsible stewardship, maintains integrity and excellence in the products and services.

Geotechnical Instrumentation Branch Chief (GIBC) – Roles/Responsibilities:

1. After GS-01 and GMSA training, implements the Geotechnical Support Office Chief's GMSA Implementation Plan (GIP). Ensure staff has clear instruction regarding how and when GIP is implemented.
2. Monitors the performance of staff regarding GIP compliance and takes appropriate steps to correct GIP non-compliance issues.
3. Ensure staff clearly understands (provide direction, training, support and openly communicate expectations) the requirements of GS-01 and GMSA.
4. Consistently review the GMSA with staff to ensure staff understands and complies with the processes and tools, including, but not limited to, LEA Management Process, Consultant Management Process, CPT Process-Form, the BBDS CPT Process and BBDS form, Drill Log for Drilling and CPT Process, BSPID, Quality Assurance Plan and Document Control Processes.
5. Manages and monitors, on a consistent basis, the performance of all staff relating to compliance with GS-01 and GMSA requirements.
6. Takes appropriate actions to correct GS-01 and GMSA non-compliance issues, actions, deliverables, products and services.
7. Complies with this GMSA, GIBC Roles & Responsibilities to ensure compliance with these important deliverables and requirements.
8. Ensures all tasks are completed in a quality manner within the prescribed timeframes.
9. Completes the Geotechnical Instrumentation Branch Chief GS-01 & GMSA Checklist (GIBGGC) within the prescribed timeframe with a focus on accuracy, quality and completeness.
10. Takes appropriate steps to correct GIBGGC non-compliance issues, quality problems while ensuring all issues and corrective actions are properly documented.
11. Communicates on a weekly basis with the Geotechnical Support Office Chief regarding GIBGGC critical issues relating to non-compliance, performance challenges, quality failures, etc.
12. Attends GMSA Office Geotechnical Support Services Monthly Compliance Period Master Resolution List (GSMCP-MRL) meetings (bi-monthly) with the Geotechnical Support Office Chief (and others as necessary) to review GIBGGC compliance, staff performance relating to GS-01 and GMSA quality of services and products, mitigation of GS-01 and GMSA non-compliance issues, develop and implement corrections and ensure compliance with document control requirements.
13. Utilize the GIBGGC to populate the GSMCP-MRL (see the GSMCP-MRL attached example) for presentation to the Office Chief. Ensures all GSMCP-MRLs are placed in Document Control.

14. Understands and acknowledges GS-01 and GMSA products, services and activities are measured on a monthly compliance period with specific time sensitive deliverables.
15. Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The Design GS-01 & GMSA QC/QA January 2015 Compliance Schedule provides a good example of the compliance steps and timeframes.
16. The GIBC performs 100% quality assurance reviews for each compliance period.
17. The 100% quality assurance review requires the GIBC conduct a hands-on review of key GS-01 and GMSA documents and services relating to the following:
18. Ensures compliance with the LEA Management Process;
19. When applicable, ensures compliance with the Consultant Management Process;
20. Ensures compliance with CPT Process and Cone Penetrometer Test Request Form;
21. Ensures compliant filing and documentation of the CPT Process and CPT Request Form;
22. Ensures staff compliance with the BBDS CPT process and BBDS form quality, LEA - code compliant sealing, destruction and proper filing and GIBC archive requirements, all-within prescribed timeframes;
23. Ensures compliance with the Drill Log for Drilling and CPT Process;
24. Ensures compliance with the “A Guide to Using the BSPID process”, performs all duties/functions as required and within the prescribed timeframes;
25. Ensures the BSPID is consistently updated.
26. Ensures compliance with the Quality Assurance Plan requirements with a special focus on the GIBGGC and the GSMCP-MRL.
27. Ensures compliance with the Document Control requirements.
28. For significant GS-01 or GMSA non compliance issues (critical safety condition, no LEA contact, violation of water code, no WCR/BBDS-CPT form, etc.), requires an immediate email be sent to the Geotechnical Support Office Chief. Correction of non-compliance issues are to be immediately mitigated by the GIBC.
29. Promotes a team based atmosphere with open communication.
30. Practices responsible stewardship, maintains integrity and excellence in the products and services.

Chief Drilling Services, Branch C – Roles/Responsibilities:

Note: If no staff exists for this Branch Chief, the duties and requirements apply directly to the Branch Chief.

1. After GS-01 and GMSA training, implements a Geotechnical Support Office Chief's GMSA Implementation Plan (GIP). Ensure staff has clear instruction regarding how and when GIP is implemented.
2. Monitors the performance of staff regarding GIP compliance and takes appropriate steps to correct GIP non-compliance issues.
3. Ensure staff clearly understands (provide direction, training, support and openly communicate expectations) the requirements of GS-01 and GMSA.
4. Consistently review the GMSA with staff to ensure staff understands and complies with the processes and tools, including, but not limited to, LEA, Consultant Management Process, Drilling Request Process, Drill Log for Drilling and CPT Process, Quality Assurance Plan and Document Control Processes.
5. Manages and monitors, on a consistent basis, the performance of all staff relating to compliance with GS-01 and GMSA requirements.
6. Takes appropriate actions to correct GS-01 and GMSA non-compliance issues, actions, deliverables, products and services.
7. Complies with this GMSA, Chief-Drilling Services, Branch C, Roles & Responsibilities to ensure compliance with these important deliverables and requirements.
8. Ensures all tasks are completed in a quality manner within the prescribed timeframes.
9. Completes the Drilling Services Branch C - GS-01 & GMSA Checklist (DSCGGC) within the prescribed timeframe with a focus on accuracy, quality and completeness.
10. Takes appropriate steps to correct DSCGGC non-compliance issues, quality problems while ensuring all issues and corrective actions are properly documented.
11. Communicates on a weekly basis with the Drilling Services Office Chief regarding DSCGGC critical issues relating to non-compliance, performance challenges, quality failures, etc.
12. Attends bi-monthly Office Chief, Geotechnical Support Monthly Compliance Period Master Resolution List (GSMCP-MRL) meetings with the Geotechnical Support Office Chief (and others as necessary) to review DSCGGC compliance, staff performance relating to GS-01 and GMSA quality of services and products, mitigation of GS-01 and GMSA non-compliance issues, develop and implement corrections and ensure compliance with document control requirements.
13. Utilize the DSCGGC to populate the GSMCP-MRL (see the GSMCP-MRL attached example) for presentation to the Office Chief. Ensures all GSMCP-MRLs are placed in Document Control.
14. Understands and acknowledges GS-01 and GMSA products, services and activities are measured on a monthly compliance period with specific time sensitive deliverables.

15. Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The Design GS-01 & GMSA QC/QA January 2015 Compliance Schedule provides a good example of the compliance steps and timeframes.
16. The Chief, Drilling Services Branch C performs 100% quality assurance reviews for each compliance period.
17. The 100% quality assurance review requires the Chief, Drilling Services Branch C conduct a hands-on review of key GS-01 and GMSA documents and services relating to the following:
18. Ensures compliance with the Consultant Management Process with a key focus on ensuring all required language is incorporated into applicable task order(s) and compliance with the task order development procedures;
19. Ensures compliance with the Drill Request Process;
20. Ensures compliance with proper filing and archive requirements within prescribed timeframe;
21. Ensures compliance with the “A Guide to Using the BSPID process”, performs all duties/functions as required and within the prescribed timeframes;
22. Ensures the BSPID is consistently updated.
23. Ensures compliance with the Quality Assurance Plan requirements with a special focus on the DSCGGC and the GSMCP-MRL.
24. Attends all required GSMCP-MRL meetings.
25. Ensures compliance with the Document Control requirements (includes retention of final signed task orders).
26. For significant GS-01 or GMSA non compliance issues (critical safety issue, Consultant Management Process, Drilling Request Process and Drill Log for Drilling & CPT Request), requires an immediate email be sent to the Drilling Services Office Chief.
27. Promotes a team based atmosphere with open communication.
28. Practices responsible stewardship, maintains integrity and excellence in the products and services.

GS-01 & GMSA Checklist (GGC) (QAP)

Design GS-01 GMSA Checklist (DGGC)

Reporting Period - January 1 - January 31, 2015

GGC Purpose

This DGGC serves as a QC/QA checklist for the key deliverable/requirements noted in GS-01 and the Geotechnical Manual - Supplement A (GMSA) for the given compliance period. All holes (other than CPT holes) sealed during this compliance period are accounted for below.

Branch Senior Name: _____

Design Branch Chief

Branch Senior Signature and Date: _____

I certify that I performed 100% review of the information provided in this report in accordance with the GMSA.

- | | | |
|----|--|----------------------|
| 1. | Number of WCRs archived in GeoDOG. | <input type="text"/> |
| 2. | Number of WCRs resulting from Drill Log. | <input type="text"/> |
| 3. | Number of BBDSs for borings archived in GeoDOG. | <input type="text"/> |
| 4. | Number of BBDSs for borings resulting from Drill Log. | <input type="text"/> |
| 5. | Number of active standpipe piezometers and slotted/drilled slope inclinometers at the beginning of this compliance period. | <input type="text"/> |
| 6. | Number of standpipe piezometers and slotted/drilled slope inclinometers installed during this compliance period. | <input type="text"/> |
| 7. | Number of standpipe piezometers and slotted/drilled slope inclinometers destroyed during this compliance period. | <input type="text"/> |
| 8. | Number of active standpipe piezometers and slotted/drilled slope inclinometers remaining at the end of this compliance period. | <input type="text"/> |

Items 1. through 8. comes from the BSPID in Project Tracking.

Branch Senior Confirmation of Compliance, Noncompliance and Corrective Actions (Mark Yes or No.)

For each "No" identify the noncompliance and the corrective action taken to resolve the noncompliance

Branch Senior to ensure documentation of all actions taken and proper placement in GeoDOG and the Design File Retention Center.

| | Yes | No | Identify Noncompliance | Correction Action Taken |
|---|-----|----|------------------------|-------------------------|
| General Quality Control/Assurance Requirements | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 12. | | | | |
| 13. | | | | |

LEA

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| 14. | Was the work performed compliant with the Local Enforcement Agency Process (LEAP)? | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 15. | Was the LEA Contact Letter and Layout Plan Sheet reviewed and approved prior to submission to the LEA? | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 16. | Were the Drilling Request and/or CPT Request and LEA permit/conditions obtained, reviewed and submitted to Drilling Services? | <input type="text"/> | <input type="text"/> | <input type="text"/> |

Design GS-01 GMSA Checklist (DGGC)

Reporting Period - January 1 - January 31, 2015

- 17. Was the LEA inspection scheduled and performed or did the LEA advise the consultant that no inspection was required?
- 18. Was drilling work stopped due to LEA action?
- 19. Did drilling work proceed under traffic control due to nonresponsivness by the LEA?
- 20. Was all drilling and sealing work performed in accordance with the Water Code and LEA permit/conditions?

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WCR

- 21. Do the numbers in Items 1. and 2. match?
- 22. All WCRs have been submitted to the DBC, GP, LEA, DWR and the Drilling Services Active Standpipe Piezometer Database Coordinator within the prescribed timeframe.
- 23. WCR Process and Standpipe Piezometer Activity Form (SPAF) Process was followed for each standpipe piezometer within the prescribed timeframes.
- 24. GP and consultant performed WCR tasks per the Task Order Process and Task Order example.
- 25. All WCR have been archived in GeoDOG within the prescribed timeframe.

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BBDS for borings

- 26. Do the numbers in Items 3. and 4. match?
- 27. All BBDS for borings have been archived in GeoDOG within the prescribed timeframe.
- 28. BBDS for Borings Process was followed for each borehole.
- 29. GP and consultant performed BBDS tasks per the Task Order Process and Task Order example.

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BSPID in Project Tracking

- 30. The Guide to Using the BSPID was followed for all sealed holes within this compliance period.
- 31. All fields in the BSPID have been entered within 5 days of receipt by the DBC.
- 32. All required quarterly inspections and water level measurements have been performed and recorded in the BSPID.
- 33. All active standpipe piezometers and slotted/drilled slope inclinometers have not exceeded their estimated destruction date.

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Geotechnical Instrumentation Branch GS-01 GMSA Checklist (GIBGGC)
 Reporting Period - **January 1 - January 31, 2015**

GGC Purpose

This GIBGGC serves as a QC/QA checklist for the key deliverable/requirements noted in GS-01 and the Geotechnical Manual - Supplement A (GMSA) for the given compliance period. All CPT holes sealed during this compliance period are accounted for below.

Branch Senior Name: _____

Geotechnical Instrumentation Branch Chief

Branch Senior Signature and Date: _____

1. Number of BBDSs for CPT soundings archived in GeoDOG.
2. Number of BBDSs for CPT soundings resulting from Drill Log.

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I certify that I performed 100% review of the information provided in this report in accordance with the GMSA.

Items 1. and 2. come from the BSPID and Drill Log data.

Branch Senior Confirmation of Compliance, Noncompliance and Corrective Actions (Mark Yes or No.)
 For each "No" identify the noncompliance and the corrective action taken to resolve the noncompliance.
 Branch Senior to ensure documentation of all actions taken and proper placement in GeoDOG and the GIB File Retention Center.

General Quality Control/Assurance Requirements

3. Was this GIBGGC used to accurately populate the DSMCP-MRL?
4. All GS-01 and/or GMSA noncompliance issues have been identified and/or corrected as noted in the comment section.
5. Training for noncompliance issues was provided to all applicable staff to ensure continuous improvement.
6. Compliance achieved for all CPT soundings for this compliance period (GS-01, GMSA Processes).

| Yes | No | Identify Noncompliance | Correction Action Taken |
|-----|----|------------------------|-------------------------|
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LEA

7. Was the CPT Technician instructed on the LEA permit/conditions and the CPT Request initialed by the CPT Technician and GIBC?
8. Was CPT work stopped due to LEA action?
9. Did CPT work proceed under traffic control due to nonresponsiveness by the LEA?
10. Was all CPT and sealing work performed in accordance with the Water Code and LEA permit/conditions?

| Yes | No | Identify Noncompliance | Correction Action Taken |
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BBDS for CPT

11. Do the numbers in Items 1. and 2. match?
12. All BBDS for CPT have been reviewed and initialed by the CPT Technician and the GIBC. Signing the BBDS represents the sealing was completed per the LEA/Water Code requirements.
13. BBDS for CPT Process was followed for each sounding.
14. All BBDS for CPT have been archived in GeoDOG within the prescribed timeframe.

| Yes | No | Identify Noncompliance | Correction Action Taken |
|-----|----|------------------------|-------------------------|
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BSPID in Project Tracking

15. A Drill Log was accurately completed for each CPT sounding, for each day of CPT work within the prescribed timeframes.
16. All fields in the BSPID have been entered within 5 days of receipt by the CPT Technician.

| Yes | No | Identify Noncompliance | Correction Action Taken |
|-----|----|------------------------|-------------------------|
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Drilling Services, Branch C GS-01 GMSA Checklist (DSCGGC)
Reporting Period - January 1 - January 31, 2015

GGC Purpose

This DSCGGC serves as a QC/QA checklist for the key deliverable/requirements noted in GS-01 and the Geotechnical Manual - Supplement A (GMSA) for the given compliance period. Drilling Request information has been placed in the Geotechnical Manual

Branch Senior Name: _____

Chief, Drilling Services, Branch C

Branch Senior Signature and Date: _____

I certify that I performed 100% review of the information provided in this report in accordance with the GMSA.

1. Total number of final drilling work requests received for this compliance period.
2. Total number of Final C-57 or drilling related Task Orders written during this compliance period

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Branch Senior Confirmation of Compliance, Noncompliance and Corrective Actions (Mark Yes or No.)
 For each "No" identify the noncompliance and the corrective action taken to resolve the noncompliance
 Branch Senior to ensure documentation of all actions taken and proper placement in the Drilling Services File Retention Center.

Yes **No** **Identify Noncompliance/Comments** **Correction Action Taken/Comments**

Consultant/Task Order Management

3. Each Task Order includes the mandatory language contained in the GMSA Consultant Management Process.
4. All signed copies of Task Orders as well as any addendums/supplements are retained.

| Yes | No | Identify Noncompliance/Comments | Correction Action Taken/Comments |
|-----|----|---------------------------------|----------------------------------|
| | | | |
| | | | |

LEA

5. The Chief, Drilling Services, Branch C coordinated development of all C-57 and drilling related Task Orders.

| Yes | No | Identify Noncompliance/Comments | Correction Action Taken/Comments |
|-----|----|---------------------------------|----------------------------------|
| | | | |

Drilling Request Process & Drill Log Drilling Process

6. Compliance achieved for the Drilling Request Process.
7. Compliance achieved for the Drill Log for Drilling Process.
8. Noncompliance issues identified in the comments section.
9. Corrective action noted in the comments section.
10. All Drilling Work Requests have been reviewed.
11. GPs and DBCs were advised of all incomplete Drilling Work Requests.
12. All Final Drilling Work Requests were forwarded to the responsible DSBC.

| Yes | No | Identify Noncompliance/Comments | Correction Action Taken/Comments |
|-----|----|---------------------------------|----------------------------------|
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| | | | |

**METS/GS Deputy Chief –
Corporate Design (CDGGC-MRL)
(QAP)**

Project Manager: Design Office Chief – Insert Office Title = Example - Office of Geotechnical Design South 2

METS/GS Deputy Chief– Corporate Design GS-01 & GMSA Compliance MRL (CDGGC-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The CDGGC-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 7 below).

OPEN ITEMS

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|--|-------------------|----------|-----------------------------|---|
| 1 | On-going | NOTE: Design Office Chiefs are responsible to utilize the Design GS-01 and GMSA Compliance Checklists (DGGC) and 25% quality reviews to populate the Office Chief Design Monthly Compliance Period MRL (DMCP-MRL). The DMCP-MRL is then used to populate the METS/GS Deputy Chief Corporate Design GS-01 & GMSA Compliance MRL (CDGGC-MRL). | Office Chief | On-going | On-going | CDGGC-MRLs are to be presented to the METS/GS Deputy Chief at the conclusion of each compliance period. |
| 2 | TBD | Were the DMCP-MRL meetings and DMCP-MRL documents completed for this compliance period? | Office Chief | TBD | Yes/No If No explain why | DMCP-MRL documents must be attached. |
| 3 | TBD | Was the 100% quality review performed by all DBCs for this compliance period? | Office Chief | TBD | Yes/No If No explain why | 100% review must be done in accordance with the GMSA, Design Branch Chief, Roles and Responsibilities. |

Project Manager: **Design Office Chief – Insert Office Title = Example - Office of Geotechnical Design South 2**

METS/GS Deputy Chief– Corporate Design GS-01 & GMSA Compliance MRL (CDGGC-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The CDGGC-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 7 below).

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|--|-------------------|----------|--|---|
| 4 | TBD | Was the 25% quality review performed for this compliance period? | Office Chief | TBD | | 25% review must be done in accordance with the GMSA, Design Office Chief, Roles - Responsibilities. |
| 5 | TBD | Were there any GS-01 and/or GMSA non-compliance issues for this compliance period? Special focus must be placed on GMSA processes relating to: Consultant Management, Drill/CPT Requests, LEA, WCR, BBDS, BSPID, Quality Assurance Plan and Document Control compliance. If so, identify the non-compliance issue and correction taken in the comment section. | Office Chief | TBD | Yes/No If No explain Yes/No If No explain why in comment section | Non-Compliance Issue = Corrective Action Taken = Training Provided = |
| 6 | TBD | Was the GMSA Document Control Process followed and complied with for this compliance period? | Office Chief | TBD | Yes/No If No, why | |

Project Manager: **Design Office Chief – Insert Office Title = Example - Office of Geotechnical Design South 2**

METS/GS Deputy Chief– Corporate Design GS-01 & GMSA Compliance MRL (CDGGC-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The CDGGC-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 7 below).

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|---|-------------------|----------|--------|---|
| 7 | TBD | Other GS-01 and GMSA Compliance Issues? | Office chief | TBD | | The Design Office Chief can use this section to comment on issues of importance that warrant the attention of the METS/GS Deputy. |

CLOSED ITEMS

| Task No. | Date Assigned | FTMPP Manual Section | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|----------------------|--------------------|-------------------|----------|--------|------------------------|
| | | | | | | | |

**METS/GS Deputy Chief –
Corporate Geo Support
(CGSGGC-MRL)
(QAP)**

Project Manager: **Geotechnical Support Office Chief**

11-7-14

METS/GS Deputy Chief– Corporate Geotechnical Services GS-01 & GMSA Compliance MRL (CGSGGC-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The CGSGGC-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 7 below).

OPEN ITEMS

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|---|-------------------|----------|-----------------------------|--|
| 1 | On-going | NOTE: The Geotechnical Support Office Chief is responsible to utilize the GS-01 & GMSA Checklists (DSGGS, GIBGGC, DSCGGS) and the 25% quality review data to populate the GMSA Office Chief, Geotechnical Support Monthly Compliance Period MRL (GSMCP-MRL). The GSMCP-MRL is then used to populate the METS/GS Deputy Chief Corporate Geotechnical Services GS-01 & GMSA Compliance MRL (CGSGGC-MRL). | Office Chief | On-going | On-going | CGSGGC-MRLs are to be presented to the METS/GS Deputy Chief at the conclusion of each compliance period. |
| 2 | TBD | Were the GSMCP-MRL meetings and documents completed for this compliance period? | Office Chief | TBD | Yes OR If No, why not | GSMCP-MRL documents must be attached. |

Project Manager: **Geotechnical Support Office Chief**

11-7-14

METS/GS Deputy Chief– Corporate Geotechnical Services GS-01 & GMSA Compliance MRL (CGSGGC-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The CGSGGC-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 7 below).

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|--|-------------------|----------|---|---|
| 3 | TBD | Was the 100% quality review performed by all Branch Chiefs for this compliance period? | Office Chief | TBD | Yes OR If No, why not | 100% review must be done in accordance with the GMSA, Geotechnical Support Branch Chief(s), Roles and Responsibilities. |
| 4 | TBD | Was the 25% quality review performed for this compliance period? | Office Chief | TBD | | 25% review must be done in accordance with the GMSA, Geotechnical Support Office Chief, Roles - Responsibilities. |
| 5 | TBD | Were there any GS-01 and/or GMSA non-compliance issues for this compliance period? Special focus must be placed on GMSA processes relating to: Consultant Management, Drill/CPT Requests, LEA, WCR, BBDS, BSPID, Quality Assurance Plan and Document Control compliance. If so, identify the non-compliance issue and correction taken in the comment section. | Office Chief | | Yes/No If No explain Yes/No If No explain why in comment section | Non-Compliance Issue = Corrective Action Taken = Training Provided = |
| 6 | TBD | Was the GMSA Document Control Process followed and complied with for this compliance period? | Office Chief | TBD | Yes OR If No, why not | |

Project Manager: **Geotechnical Support Office Chief**

11-7-14

METS/GS Deputy Chief– Corporate Geotechnical Services GS-01 & GMSA Compliance MRL (CGSGGC-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The CGSGGC-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 7 below).

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|---|-------------------|----------|--------|---|
| 7 | TBD | Other GS-01 and GMSA Compliance Issues? | Office chief | TBD | | The Geotechnical Support Office Chief can use this section to comment on issues of importance that warrant the attention of the METS/GS Deputy. |

CLOSED ITEMS

| Task No. | Date Assigned | FTMPP Manual Section | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|----------------------|--------------------|-------------------|----------|--------|------------------------|
| | | | | | | | |

**Office Chief – Design – Monthly
Compliance Period
(DMCP-MRL)
(QAP)**

Project Manager: **Design Office Chief – Insert Office Title – Office of Geotechnical Design South 2**

11-24-14

GMSA – Office Chief– Design - Monthly Compliance Period MRL (DMCP-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The DMCP-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 11 below).

OPEN ITEMS

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|--|-------------------|----------|-----------------------------|---|
| 1 | On-going | NOTE: Office Chiefs are responsible to ensure all DBCs/staff comply with the requirements of GS-01, the GMSA and the Design GS-01 & GMSA Checklist (DGGC). | Office Chief | On-going | On-going | DMCP-MRL meetings must be conducted no less than twice a month. The DMCP-MRL is designed to promote open communication, identification and correction of non-compliance issues and documentation. The DMCP-MRL will be utilized by the Office Chiefs to populate the Corporate Design GS-01 & GMSA Compliance MRL (CDGGC-MRL) for presentation to the METS/GS Deputy. |
| 2 | TBD | Interact on a weekly basis with each DBC regarding Design GS-01 & GMSA Checklist (DGGC) quality, accuracy and completeness and GS-01 and GMSA compliance. | Office Chief | TBD | Yes OR If No, why not | Note: weekly meetings held with each DBC – addressed questions, provided support, compliance achieved for this week. |
| 3 | TBD | Conduct Design Monthly Compliance Period – Master Resolution List (DMCP-MRL) bi-monthly meetings. Note: Requires a minimum of 2 meetings a month. | Office Chief | TBD | Yes OR If No, why not | Meetings held with DBCs – no issues to report – compliance achieved. OR Problems with DGGC were corrected, LEA contact letter not sent – all issues resolved, training provided. Confirmation of actions taken is in document control. |

Project Manager: **Design Office Chief – Insert Office Title – Office of Geotechnical Design South 2**

11-24-14

GMSA – Office Chief– Design - Monthly Compliance Period MRL (DMCP-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The DMCP-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 11 below).

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|--|-------------------|----------|--|---|
| 4 | TBD | If needed, a backup DMCP-MRL meeting(s) must be <u>immediately</u> scheduled for any DBC that did not attend the original DMCP-MRL meeting. | Office Chief | TBD | No backup meeting required OR see comments | The GMSA DMCP-MRL was updated to reflect the backup meeting and actions taken (GS-01 & GMSA compliance issues, corrections, etc). |
| 5 | TBD | All DBCs presented DGGC documents for review, discussion and correction at DMCP-MRL meetings. | Office Chief | TBD | Yes Or see comments | DGGC was not presented by a DBC – meeting held – DGGC completed in a quality manner. |
| 6 | TBD | Conduct a 25% QC/QA review as required in the GMSA, Design Office Chief, Roles & Responsibilities. The total number of 25% reviews equaled = 5 (based on the BSPID and number of 100% reviews conducted by the DBCs = 20) | Office Chief | | Completed or Not Completed see comments | |
| 7 | TBD | All DGGC and 25% quality review evaluations were analyzed, non-compliance issues identified, corrective actions taken and documented on the DMCP-MRL. | Office Chief | TBD | Compliant OR 2 non compliant issues noted | Non-compliant Issues: xxxxxxxxxxxx Correction Taken: xxxxxxxxxxxx |

Project Manager: **Design Office Chief – Insert Office Title – Office of Geotechnical Design South 2**

11-24-14

GMSA – Office Chief– Design - Monthly Compliance Period MRL (DMCP-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The DMCP-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 11 below).

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|--|-------------------|----------|--|---|
| 8 | TBD | Ensure each DBC conducts a 100% QC/QA as required in the GMSA, DBC Roles & Responsibilities. | Office Chief | TBD | Complete Or Directed DBC X to complete 100% review | Note: training provided to DBC regarding completion of the 100% quality review. |
| 9 | TBD | Manage and distribute to the METS/GS Deputy Chief the Corporate Design GS-01 & GMSA Compliance MRL (CDGGC-MRL) for each compliance period. | Office Chief | TBD | Complete or Not complete | |
| 10 | TBD | Was training required for the DBCs or staff relating to GMSA compliance requirements, quality of work, performance expectations or document control process? | Office Chief | TBD | Yes Or No If Yes, why was it provided | NOTE: Office Chiefs are responsible to ensure <u>consistent and complete training</u> is provided to the DBCs and staff relating to GS-01, GMSA and DGGC compliance requirements. |

Project Manager: **Design Office Chief – Insert Office Title – Office of Geotechnical Design South 2**

11-24-14

GMSA – Office Chief– Design - Monthly Compliance Period MRL (DMCP-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The DMCP-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 11 below).

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|---|-------------------|----------|--|---|
| 11 | TBD | Ensure tasks are completed within the prescribed timeframes as outlined in the GMSA and also utilize the example - Design GS-01 & GMSA QC/QA January 2015 Compliance Schedule as a guide. | Office Chief | TBD | Yes OR If No, why not | |
| 12 | TBD | Were any significant (safety, no LEA contact, violation of water code, no WCR, etc) GS-01 or GMSA issues sent by the DBC? | Office chief | TBD | Yes Or No If Yes what was it? | |
| 13 | TBD | Other GS-01 and GMSA Compliance Issues? | Office Chief | TBD | | The Design Office Chief can use this section to comment on issues of importance that warrant the attention of the METS/GS Deputy. |

Project Manager: **Design Office Chief – Insert Office Title – Office of Geotechnical Design South 2**

11-24-14

GMSA – Office Chief– Design - Monthly Compliance Period MRL (DMCP-MRL)
[GMSA - Compliance Period January 1, 2014 – to January 31, 2014](#)

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The DMCP-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 11 below).

CLOSED ITEMS

| Task No. | Date Assigned | FTMPP Manual Section | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|----------------------|--------------------|-------------------|----------|--------|------------------------|
| | | | | | | | |

**Office Chief – Geo Support –
Monthly Compliance Period
(GSMCP-MRL)
(QAP)**

Project Manager: **Geotechnical Support Office Chief**

Last Revised: 11-7-14

GMSA – Office Chief– Geotechnical Support Monthly Compliance Period MRL (GSMCP-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The GSMCP-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 11 below).

OPEN ITEMS

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|--|-------------------|----------|-----------------------------|--|
| 1 | On-going | NOTE: Office Chiefs are responsible to ensure all Branch Chiefs and staff comply with the requirements of GS-01, the GMSA and the applicable GS-01 & GMSA Checklists (DSGGC, GIBGGC, DSCGGC). | Office Chief | On-going | On-going | GSMCP-MRL meetings must be conducted no less than twice a month. The GSMCP-MRL is designed to promote open communication, identification and correction of non-compliance issues and documentation. The GSMCP-MRL will be utilized by the Office Chief to populate the METS/GS Deputy Chief, Corporate Geotechnical Support GS-01 & GMSA Compliance MRL (CGSGGC-MRL) for presentation to the METS/GS Deputy. |
| 2 | TBD | Interact on a weekly basis with each Branch Chief regarding applicable GS-01 & GMSA Checklists (DSGGC, GIBGGC, DSCGGC) to ensure quality, accuracy and completeness with a focus on GS-01 and GMSA compliance. | Office Chief | TBD | Yes OR If No, why not | Note: weekly meetings held with each Branch Chief addressed questions, provided support, compliance achieved for this week. |
| 3 | TBD | Conduct Geotechnical Support Monthly Compliance Period – Master Resolution List (GSMCP-MRL) bi-monthly meetings. | Office Chief | TBD | Yes OR If No, why not | Meetings held with Branch Chiefs – no issues to report – compliance achieved. OR LEA contact letter not sent – all issues resolved. |

Project Manager: **Geotechnical Support Office Chief**

Last Revised: 11-7-14

GMSA – Office Chief– Geotechnical Support Monthly Compliance Period MRL (GSMCP-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The GSMCP-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 11 below).

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|---|-------------------|----------|---|---|
| | | Note: Requires a minimum of 2 meetings a month. | | | | training provided. Confirmation of actions taken is in document control. |
| 4 | TBD | If needed, a backup GSMCP-MRL meeting(s) must be <u>immediately</u> scheduled for any Branch Chief that did not attend the original GSMCP-MRL meeting. | Office Chief | TBD | No backup meeting required OR see comments | The GSMCP-MRL was updated to reflect the backup meeting and actions taken (GS-01 & GMSA compliance issues, corrections, etc). |
| 5 | TBD | All Branch Chiefs presented <u>applicable</u> GS-01 & GMSA Checklists (DSGGC, GIBGGC, DSCGGC) documents for review, discussion and correction at GSMCP-MRL meetings. | Office Chief | TBD | Yes Or see comments | The DSGGC was not presented by a Branch Chief – meeting held – DSGGC completed in a quality manner. |
| 6 | TBD | Conduct a 25% QC/QA review as required in the GMSA, Office Chief, Geotechnical Support , Roles & Responsibilities. The total number of 25% reviews equaled = 5 (based on the BSPID and number of 100% reviews conducted by the Branch Chiefs = 20) | Office Chief | | Completed or Not Completed see comments | |

Project Manager: **Geotechnical Support Office Chief**

Last Revised: 11-7-14

GMSA – Office Chief– Geotechnical Support Monthly Compliance Period MRL (GSMCP-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The GSMCP-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 11 below).

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|---|-------------------|----------|--|--|
| 7 | TBD | All <u>applicable</u> GS-01 & GMSA Checklists (DSGGC, GIBGGC, DSCGGC) and 25% quality review evaluations were analyzed, non-compliance issues identified, corrective actions taken and documented on the GSMCP-MRL. | Office Chief | TBD | Compliant OR 2 non compliant issues noted | Non-compliant Issues: xxxxxxxxxxxx Correction Taken: xxxxxxxxxxxx |
| 8 | TBD | Ensure each Branch Chief conducts a 100% QC/QA as required in the GMSA, Drilling Services Branch Chief, Geotechnical Instrumentation Branch Chief and Drilling Services Branch Chief C, Roles & Responsibilities. | Office Chief | TBD | Complete OR Directed DBC X to complete 100% review | Note: training provided to Branch Chief X regarding completion of the 100% quality review. |

Project Manager: **Geotechnical Support Office Chief**

Last Revised: 11-7-14

GMSA – Office Chief– Geotechnical Support Monthly Compliance Period MRL (GSMCP-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The GSMCP-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 11 below).

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|---|-------------------|----------|--|---|
| 9 | TBD | Manage and distribute to the METS/GS Deputy Chief, Corporate Geotechnical Support GS-01 & GMSA Compliance MRL (CGSGGC-MRL) for each compliance period. | Office Chief | TBD | Complete or Not complete | |
| 10 | TBD | Was training required for the Branch Chiefs or staff relating to GMSA compliance requirements, quality of work, performance expectations or document control process? | Office Chief | TBD | Yes OR No If Yes, why was it provided | NOTE: Office Chiefs are responsible to ensure <u>consistent and complete training</u> is provided to the Branch Chiefs and staff relating to GS-01, GMSA and all <u>applicable</u> GS-01 & GMSA Checklists (DSGGC, GIBGGC, DSCGGC) compliance requirements. |
| 11 | TBD | Ensure tasks are completed within the prescribed timeframes as outlined in the GMSA and also utilize the example - Design GS-01 & GMSA QC/QA January 2015 Compliance Schedule as a guide. | Office Chief | TBD | Yes OR If No, why not | |

Project Manager: **Geotechnical Support Office Chief**

Last Revised: 11-7-14

GMSA – Office Chief– Geotechnical Support Monthly Compliance Period MRL (GSMCP-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The GSMCP-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 11 below).

| Task No. | Date Assigned | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|---|-------------------|----------|---|---|
| 12 | TBD | Were any significant (safety, no LEA contact, violation of water code, no WCR, etc) GS-01 or GMSA issues sent by the Branch Chiefs? | Office chief | TBD | Yes Or No If Yes, what was it? | |
| 13 | TBD | Other GS-01 and GMSA Compliance Issues? | Office Chief | TBD | | The Geotechnical Support Office Chief can use this section to comment on issues of importance that warrant the attention of the METS/GS Deputy. |

Project Manager: **Geotechnical Support Office Chief**

Last Revised: 11-7-14

GMSA – Office Chief– Geotechnical Support Monthly Compliance Period MRL (GSMCP-MRL)
GMSA - Compliance Period January 1, 2014 – to January 31, 2014

Note: Monthly Compliance Period is defined as starting on the first day of each month and ending on the last day of that month. The GSMCP-MRL cannot be modified or altered without the written authorization for the METS/GS Deputy Chief (excluding Item 11 below).

CLOSED ITEMS

| Task No. | Date Assigned | FTMPP Manual Section | Description/Action | Responsible Party | Due Date | Status | Notes/Comments/History |
|----------|---------------|----------------------|--------------------|-------------------|----------|--------|------------------------|
| | | | | | | | |

Document Control

Document Control

What is Document Control?

- Instructions and processes ensuring retention of pertinent records and documents.
- Document Control may include, but is not limited to; forms, records, database entries, hard copies, internal/external correspondence, field reports, Task Orders, etc.

Why use Document Control?

- Provides verification and proof of GS-01 compliance.
- Executive Management requires documentation of GS-01 related work functions and actions.
- Documentation of GS activities provides information to evaluate performance and allow for continuous improvement.

Who uses Document Control?

- All GS Managers, GS Supervisors/Specialists, GS Staff, Drilling Services, GIB and C-57 Consultants.

How is Document Control Utilized?

- The GMSA modules (LEA, WCR, BBDS, etc.) each contain specific instruction relating to archiving of documents, retention of hard copies, filing system requirements, etc.
- All GS managers, supervisors and staff must follow the GMSA instructions as they relate to documentation, archiving and retention of records.

Document Control – Manager/Supervisor Responsibilities:

- All GS Managers and Supervisors are required to develop a Document Control Plan (DCP) for their respective offices.
- The DCP will incorporate the GMSA documentation, archive and file retention requirements.
- GS Managers and Supervisors will actively manage and ensure compliance with the DCP.

Document Control Tools:

- GeoDOG
- GS Project Tracking
- Design File Retention Center
- Drilling Services File Retention Center
- GIB File Retention Center
- BSPID
- Active Standpipe Piezometer Database

How long are records/documents Retained?

- Five years from the date of archiving or placement of the document in the applicable file retention system.