DEPARTMENT OF THE ARMY
SOUTH PACIFIC DIVISION, CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1399

REPLY TO
ATTENTION OF

CESPD-DE

1 May 2015

MEMORANDUM FOR Commander, US Army Corps of Engineers, Los Angeles District, (ATTN: CESPL-PM-N, Ms. Monica Eichler)

Subject: Pismo Beach, California, CAP 103 Shoreline Protection Project, Plans & Specifications, Review Plan Approval

1. Pismo Beach, California, CAP 103 Shoreline Protection Project, Plans & Specifications, Review Plan that is enclosed is in accordance with Engineering Circular (EC) 1165-2-214, Review of Decision Documents, dated 15 Dec 2012. The South Pacific Division, Planning and Policy Division, Regional Business Technical Division, and Los Angeles District Support Team have reviewed the Review Plan that has been submitted. The South Pacific Division approves the Pismo Beach, California, CAP 103 Shoreline Protection Project, Plans & Specifications, Review Plan.

2. With MSC approval the Review Plan will be made available for public comment via the internet and the comments received will be incorporated into future revisions of the Review Plans. The Review Plan excludes Independent External Peer Review Type II (SAR).

3. I hereby approve the Review Plan which is subject to change as study circumstances require. This is consistent with study and project development under the Project Management Business Process. Subsequent revisions to the Review Plan after public comment or during project execution will require new written approval from this office.

4. Points of contact for this action are Mr. Marc Goodhue, CESPD-RBT, 415-503-6568, marc.j.goodhue@usace.army.mil and Mr. Paul Bowers, CESPD-PDC, 415-503-6556, paul.w.bowers@usace.army.mil .

BUILDING STRONG and Taking Care of People!

Encl

R. MARK TOY
Brigadier General, USA
Commanding

US Army Corps
of Engineers
Los Angeles District

Review Plan:
Pismo Beach CAP 103 Shoreline Protection Study
Plans & Specifications

April 2015

ENCL

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Appendix A - Sample Statement of Technical Review for Plans & Specifications

1 PURPOSE

The purpose of this Review Plan is to outline the review processes that will be executed for the Pismo Beach CAP 103 Shoreline Protection Study, San Luis Obispo County, California, Plans & Specifications.

2 REFERENCES

1) EC 1165-2-214, Civil Works Review Policy, 15 December 2012

2) ECB 2013-28, Engineering and Construction Bulletin, 24 September 2013

3) ER 415-1-11, Biddability, Constructibility, Operability, Environmental and Sustainability (BCOES) Reviews, 1 January 2013

4) ER 1110-1-12, Quality Management, 30 Sep 2006

5) ER 1110-1-8159, Engineering and Design, DrChecks, 10 May 2001

6) ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999

7) ER 1180-1-9, Design-Build Contracting, 31 March 2012

8) UFC 1-300-07A, Design Build Technical Requirements, 01 March 2005

3 PROJECT INFORMATION

The project was authorized by Section 103, River and Harbor Act of 1962 (PL 87-874) commonly known as the Continuing Authorities Program (CAP).

The City of Pismo Beach is located within the upper reach of San Luis Bay in San Luis Obispo County, California. The majority of the shoreline consists of coastal bluffs backing rocky shores and narrow pocket beaches. The southern portion of the Pismo Beach shoreline is characterized by a broad sandy beach. The coastal bluffs are eroding with the primary factors including wave attack at the bluff base, and gradual erosion and flattening of the terrace deposits above the bluff due to runoff.

The purpose of the project is to provide bluff protection to the immediate section of bluff protecting the St. Andrews Lift Station. The St. Andrews Lift Station is a waste water pumping station that raises waste water from a lower elevation outfall line to a higher elevation outfall line. Loss of bluff material due to erosion of the bluff face has jeopardized the lift station, street rights-of-way, and public park space.

The project will entail a 150 ft long, 2 ft thick, sculpted concrete wall. Wall features include: the wall footprint meanders with the existing bluff contours; structural tie-backs; a stair case; rerouting a large storm drain currently extending out from the bluff face; and incorporating visual treatment (color/texture) of the wall to more closely mimic natural-looking bluff conditions.

The Design-Build (D-B) contract acquisition strategy has been selected for this project. The City of Pismo Beach is the project Customer and has indicated preference for the Contracting Officer and Project Delivery Team (PDT) to implement the two-phase D-B method in lieu of an existing available IDC multiple award task order contract. The District has agreed to this request.

4 DESIGN CONSIDERATIONS

4.1 Design Criteria

Based on UFC 1-300-07A, the Request for Proposal (RFP) shall be prepared using a mixture of *Partial* and *Full* levels of design criteria as discussed below. The resulting offeror's proposal shall respond to the level of criteria established in the RFP. The PDT shall determine the appropriate criteria for this project depending upon the specific requirements of the various technical areas, disciplines, and features. The goal is to provide a balance between the RFP and the proposal development which provides the Government and the D-B contractor a clear, mutual understanding of the contractually required end-product. The emphasis should be on performance criteria, in lieu of prescriptive criteria, to the extent practicable. The levels of criteria are described below.

Partial criteria represents the second level of technical criteria where the Government prepares concept site plans which may indicate required layout, overall dimensions, and desirable locations. For this project the Government shall provide a concept design that was previously prepared by an Architect-Engineer for the City of Pismo Beach and represents approximately a 30% design. Preliminary exterior elevations and cross sections shall be provided. Other partial criteria to be provided include the relocation of a storm drain pipeline, location and special features of a staircase, and special considerations for a potential easement/encroachment into the adjacent private property for connection to an existing seawall.

Full criteria represents the third level of technical criteria where the Government uses a more prescriptive approach to the design and construction. For this project the Government shall provide full criteria regarding: the precise project footprint which is the result of a USACE commitment to the California Coastal Commission; the results of a geotechnical bluff stability investigation conducted in advance of the Phase 2 solicitation; and texture and color requirements for the face of the concrete wall.

4.2 Design Complexity

The project includes proposed construction features for which the engineering analyses and design is considered non-complex. These features include tied-back concrete wall which are routinely designed and constructed within the South Pacific Division boundaries.

4.3 Construction Complexity

Construction of the project components is considered minimally-complex. The construction site is a 50 ft high, near vertical bluff face at the ocean's edge. The bluff toe intersects the beach, and the lack of open space on the beach in the presence of ocean tides and waves will preclude the majority of equipment from operating on the beach face. The tied-back concrete wall will mostly be constructed from the bluff top. The construction equipment will be required to be suspended over the bluff top for some of the operations. The degree of difficulty, however, is not without precedent. Nearly identical coastal bluff protection projects, in length, height, and type were constructed by the City of Pismo Beach in 2013 and the City of Santa Cruz in 2012. The construction effort was performed as planned with no extraordinary complexity considerations. The lessons learned will be incorporated into the current project design.

4.4 Special Considerations

The D-B contract acquisition strategy is a specialized form of a construction contract that combines design and construction within a single construction contract and uses competitive evaluation of technical and price proposals to select a contractor to design and build the project.

This acquisition strategy requires multiple special considerations as further described in this Review Plan.

4.5 Model Certifications / Acceptance

This project component will not utilize any modeling.

5 REVIEW PROCESS

The review process will consist of multiple standard reviews of all work products. The work products include the geotechnical investigation, the D-B solicitation Phase 1, the D-B solicitation Phase 2, the Design Documentation Report (DDR), the final Plans/Specifications, any environmental compliance documentation, the Operations & Maintenance manual, and as-built contract drawings. The reviews to be conducted include a discipline quality check of each design discipline prior to District Quality Control (DQC). Review information and processes are summarized below.

5.1 Review Management Organization (RMO)

The South Pacific Division (SPD) is designated as the RMO for this project.

5.2 Design Review and Checking System (DrChecks)

The DQC, ATR, BCOE, and Sponsor review teams will document all comments and recommendations in the DrChecks module in ProjNet in accordance with ER 1110-1-8159. Comments will be written to give a clear statement of the concern, basis of concern, and actions necessary to resolve the concern. Comments should cite appropriate references (ER, design memorandums, etc.). The responsible party will evaluate and respond to each comment in DrChecks. Responses will clearly state concurrence or non-concurrence with the comment. Non-concurrence will include an explanation or a proposed alternative action to address the concern. Concurrence will include what corrective action will be taken, when, and where it will be done (plan sheet #, specifications section #, etc.). All comments shall be resolved and back-checked in the DrChecks project record prior to the corresponding review certification.

5.3 Issue Resolution

If issues cannot be resolved between the PDT team members and the reviewer counterpart, the issue will be raised to the next level of management for both the PDT discipline and the review team discipline, and if necessary to the MSC or HQUSACE.

5.4 District Quality Control (DQC)

The District Quality Control (DQC) is conducted to include a comprehensive evaluation of correct application of methods, validity of assumptions, adequacy of basic data, completeness of documentation, compliance with guidance and standards, biddability, constructability, operability, and environmental considerations.

DQC will be applicable for the D-B solicitation Phase 1 (7 days) and the D-B solicitation Phase 2 (21 days) which will be developed by the USACE. DQC will be applicable for the geotechnical investigation (10 days) which will be performed by the USACE utilizing an existing IDIQ services contract. The Contractor's D-B work products for which DQC will be applicable are the DDR (21 days concurrent with the Plans/Specifications), the final Plans/Specifications (21 days concurrent with the DDR), environmental compliance documentation (21 days concurrent with the DDR and Plans/Specifications), final DDR (21 days concurrent with the

operations/maintenance manual and as-built drawings), operations and maintenance manual (21 days concurrent with the final DDR and as-built drawings), and as-built drawings (21 days concurrent with the DDR and operations/maintenance manual). The DQC comments shall be provided in DrChecks in accordance with paragraph 5.2 above. The DQC team members, upon review of the revised final work products, shall complete the Statement of DQC Certification.

The DQC team members shall include district staff members not directly involved in the design; Section and/or Branch Chiefs; and/or their representative staff member to ensure consistency and effective coordination across all disciplines, and to assure overall coherence and integrity of the final products.

5.5 Agency Technical Review (ATR)

5.5.1 Process

Agency Technical Review (ATR) is undertaken to "ensure the quality and credibility of the government's scientific information" and is in accordance with EC 1165-2-214 and ER 1110-1-12. The Contractor's D-B work products for which ATR will be applicable are the Design Documentation Report (28 days concurrent with the Plans/Specifications) and the final Plans/Specifications (28 days concurrent with the DDR).

ATR will be conducted by individuals and organizations that are external to the Los Angeles District. The ATR Team leader is a USACE employee from outside the South Pacific Division (SPD). The ATR Team required disciplines and experience are described below.

ATR comments shall be documented in the DrChecks review documentation database. DrChecks is a module within the ProjNet suite of tools.

At the conclusion of the ATR effort, the ATR team will prepare a Review Report summarizing the review. This Review Report will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organization, their position, and relevant expertise;
- Include the charge to the reviewer;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue(s) (if any); and
- Include a verbatim copy of each reviewer's comments, or represent the views of the group as a whole, including any disparate and dissenting views.

The ATR team, upon review of the revised final work products, shall complete the Statement of ATR Certification.

5.5.2 ATR Team Members and Responsibilities

As stipulated in ER 1110-1-12, ATR members will be sought from the following sources: regional technical specialists (RTS); appointed subject matter experts (SME) from other districts; senior level experts from other districts; Center of Expertise staff; experts from other USACE commands; contractors; academic or other technical experts; or a combination of the above. In accordance with ECB 2013-28, the ATR Team Leader and all reviewers within the Engineering and Construction Community of Practice shall be a Certified ATR Reviewer (CERCAP). The ATR Team will be comprised of the following disciplines; knowledge, skills and abilities; and experience levels:

- Civil Engineering: The team member should be a registered professional in civil engineering with experience in tied-back concrete bluff stabilization projects.
- Geotechnical Engineering: The team member should be a registered professional civil engineer with experience with tied-back concrete bluff stabilization projects.
- Coastal Engineering: The team member should be a technical expert in coastal engineering and have at least 10 years experience in shore protection projects.
- NEPA Compliance: The team member should have experience in NEPA compliance activities and preparation of Environmental Assessments and writing of specification section "Environmental Protection" for bluff stabilization projects.
- ATR Team Lead: The ATR Team Leader should have experience with bluff stabilization projects. The ATR Team Lead may be a co-duty to one of the above review disciplines.

5.6 Biddability, Constructability, Operability, and Environmental Review

Biddability, Constructability, Operability, and Environmental (BCOE) Review are conducted to ensure that:

- contract documents can be understood, bid, administered, and executed;
- the designed project can be built with ease;
- the project can be operated and maintained with ease; and
- the air, water, land, animals, plants and other natural resources are protected from the effects of the construction and operation of the project.

5.6.1 Process

The BCOE team members will review the work products for biddability, constructability, operability, and environmental in accordance with ER 415-1-11. All comments and responses shall be stated and provided in DrChecks in accordance with paragraph 5.2 above. The BCOE team, upon review of the revised final work products, shall complete the Statement of BCOE Certification.

The work products for which BCOE will be applicable are the D-B Phase 1 solicitation (7 days), the D-B Phase 2 solicitation (21 days), and the final Plans/Specifications (10 days). Timing of BCOE reviews shall be made after the partial/full technical criteria are sufficiently complete for substantive comments. The Phase 1 solicitation BCOE review shall be accomplished as a combined on-board functional review by senior representatives from applicable functional areas or various disciplines.

The Phase 2 solicitation BCOE review shall be performed as part of the review of the completed RFP package prior to it being advertised on FedBizOps. This review will include the requirements of the proposal evaluation and source selection policies and plans.

5.7 Customer Review

A customer review will be conducted to ensure the customer's expectations as agreed upon for the project are met. The customer review will take place concurrently with the ATR.

5.7.1 Process

The Sponsor review team members will review the work products. All comments and responses shall be stated and provided in DrChecks in accordance with paragraph 5.2 above.

5.8 Review Milestones and Costs

The schedule of milestones and/or work products and approximate costs are shown in Table 1. The duration represents the number of days allowed for the reviewing proponent to perform the review. The costs are aggregated by major milestone and represent a budget estimate only. The actual amounts may differ.

Table 1 Schedule of Milestones / Work Products

MILESTONE	DURATION (days)	COST[1] ($1000's)
1. Review Plan Approval	21	15
2. District Quality Control (DQC)		50
D-B Solicitation Phase 1	7	
D-B Solicitation Phase 2	21	
Geotechnical Investigation	10	
DDR[2]	21	
Plans and Specifications[2]	21	
Environmental Compliance[2]	21	
DDR[3,4]	21	
O&M Manual[4]	21	
As-Built Drawings[4]	21	
3. BCOE		15
D-B Solicitation Phase 1	5	
D-B Solicitation Phase 2	5	
Plans and Specifications	10	
4. Agency Technical review (ATR)		35
DDR[5]	28	
Plans and Specifications[5]	28	

Note 1: All costs are estimated in $1000's based on the expected number of technical disciplines and a unit rate of $1000 per day.

Note 2: Concurrent review.

Note 3: Finalized after construction completion.

Note 4: Concurrent review.

Note 5: Concurrent review.

6 TYPE II INDEPENDENT EXTERNAL PEER REVIEW (Safety Assurance Review)

6.1 Life Safety

A Type II Independent External Peer Review (IEPR) (Safety Assurance Review (SAR)) shall be conducted on design and construction activities for any project where: a) the Federal action is justified by life safety; b) potential hazards pose a significant threat to human life (public safety); or c) the failure of the project would pose a significant threat to human life. This applies to new projects and to the major repair, rehabilitation, replacement, or modification of existing facilities. Any project where the Federal action would pose a significant threat to human life (public safety) requires a Type II review.

External panels will review the design and construction activities prior to initiation of physical construction and periodically thereafter until construction activities are completed. The review shall be on a regular schedule sufficient to inform the Chief of Engineers on the adequacy, appropriateness, and acceptability of the design and construction activities for the purpose of assuring good science, sound engineering, and public health, safety, and welfare.

The District Chief of Engineering, as the Engineer-In-Responsible-Charge, needs to assess whether the threat is significant and document that in the Review Plan. A recommendation to not conduct a SAR shall (like any Review Plan recommendation) have the endorsement of the RMO prior to approval of the Review Plan.

When a Type II review is included in the project's approved Review Plan, the District Chief of Engineering, as the Engineer-In-Responsible-Charge, is responsible for ensuring the Type II review is conducted in accordance with this Circular, and will fully coordinate with the Chief of Construction, the Chief of Operations, and the project manager through the Pre-Construction, Engineering, and Design (PED) and construction phases.

6.2 Other Factors

Other factors to consider for conducting a Type II IEPR (Safety Assurance Review) of a project or components of a project are:

(1) The project involves the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices;

(2) The project design requires redundancy, resiliency, and robustness.

(a) Redundancy. Redundancy is the duplication of critical components of a system with the intention of increasing reliability of the system, usually in the case of a backup or fail-safe.

(b) Resiliency. Resiliency is the ability to avoid, minimize, withstand, and recover from the effects of adversity, whether natural or manmade, under all circumstances of use.

(c) Robustness. Robustness is the ability of a system to continue to operate correctly across a wide range of operational conditions (the wider the range of conditions, the more robust the system), with minimal damage, alteration or loss of functionality, and to fail gracefully outside of that range.

(3) The project has unique construction sequencing or a reduced or overlapping design construction schedule; for example, significant project features accomplished using the Design-Build or Early Contractor Involvement (ECI) delivery systems.

6.3 Risk Informed Assessment

In accordance with EC 1165-2-214, a risk informed assessment was made as to whether this project poses a significant threat to human life (public safety). The key factors considered are:

a. The Pismo Beach CAP 103 Shoreline Protection Study, San Luis Obispo County, California, was authorized under the Continuing Authorities Program (CAP) program for the principal purpose of providing bluff protection to the immediate section of bluff protecting the St. Andrews Lift Station in the City of Pismo Beach. Life safety was not a justification in this Congressional authorization.

b. This project does not protect life essential public facilities. The St. Andrews Lift Station is a waste water pumping station that raises waste water from a lower elevation outfall line to a higher elevation outfall line. Loss of bluff material due to erosion of the bluff face has jeopardized the lift station, street rights-of-way, and public park space. While vitally important to the overall community infrastructure, these facilities are not considered life essential. Furthermore, the project is located at the end of a residential cul-de-sac and failure of the project would not threaten human life or public safety. Failure of the project would result in the bluff reverting back to the pre-project condition. The project does not protect a primary or intermediate emergency evacuation route. All emergency evacuations can be accomplished by other thoroughfares within the project area.

c. The project will construct a concrete tie-back wall and result in an increase in bluff protection in the immediate project vicinity. Tied-back bluff protection is relatively common within Southern California and does not result in human injuries and/or deaths. It is similarly expected that this Federal action will pose no new hazards to public safety and/or threats to human life.

d. In reference to paragraph 6.2.(3), this project will be accomplished using the D-B contract acquisition strategy, however, fast-track design and construction will NOT be allowed. The construction sequencing will not be unique, reduced, or overlap the design schedule. Therefore, this chosen contract acquisition strategy induces no additional significant threat to human life or public safety

6.4 Chief of Engineering Life Safety Assessment

The Los Angeles District Chief of Engineering has determined that:

a) the Federal action is not justified by life safety;

b) potential hazards do not pose a significant threat to human life (public safety);

c) the failure of the project would not pose a significant threat to human life;

d) the Federal action would not pose a significant threat to human life (public safety); and

e) the "Other Factors", cited in paragraph 6.2 above, to consider for conducting a Type II IEPR (Safety Assurance Review) of a project are not applicable to this project.

Therefore, it is recommended that a Type II IEPR, or Safety Assurance Review (SAR), will not be conducted on the design and construction activities for this project.

7 DOCUMENTATION

The engineering technical team leader (ETL) will maintain a file of quality control records for the project. Documents to be stored in the project quality control file will include, but not be limited to: Review Plan, annotated DrChecks comments for all reviews, and review certifications. In addition, each PDT member is responsible for keeping adequate records of all design decisions, calculations, and process. Records should include applicable e-mails, meeting notes, telephone notes, and design notes.

8 PROJECT DELIVERY TEAM

The Project Delivery Team will be comprised of the following personnel.

Project Manager	[redacted]	[redacted]
Coastal Engineering	[redacted]	[redacted]
Civil (Soils) Engineering	[redacted]	[redacted]
Geology	[redacted]	[redacted]
Environmental	([redacted]	[redacted]

9 ATR TEAM

The ATR Team will be comprised of Honolulu District (POH) personnel. T[redacted]

10 REVIEW PLAN POINTS OF CONTACT

Project Manager (PM)

[redacted]

Engineering Technical Lead (ETL)

[redacted]

South Pacific Division (SPD)

[redacted]

APPENDIX A: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the *<type of product>* for *<project name and location>*. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-214. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks[sm].

SIGNATURE _____ Date _____

Name
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ Date _____

Name
Project Manager
Office Symbol

SIGNATURE _____ Date _____

Name
Review Management Office Representative
Office Symbol

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: *Describe the major technical concerns and their resolution.*

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

SIGNATURE _____ Date _____

Name
Chief, Engineering Division
Office Symbol

SIGNATURE _____ Date _____

Name
Chief, Planning Division
Office Symbol