

# SECTION 408 PERMISSION SUBMITTAL CHECKLIST

## United States Army Corps of Engineers, Los Angeles District

The following checklist is designed to assist you in providing a reviewable package when applying for permissions under Section 408. The intent is to provide a general outline of what our technical staff needs to complete an appropriate review. The list below is not all inclusive and may not apply to every situation; our technical staff may request additional documentation. Please refer to Engineering Circular 1165-2-216 for a complete guide to USACE Section 408 policy. For more information, please refer to [www.spl.usace.army.mil/Missions/Section-408-Permits/](http://www.spl.usace.army.mil/Missions/Section-408-Permits/).

All requests for a Section 408 permission must be submitted electronically to the District Commander of the appropriate USACE district office.

Please complete this checklist to the extent possible and submit with the "Application for Section 408 Permission" (CESPL Form 25).

### COMPLETE PERMISSION PACKAGE CONTENTS:

- A. General Documentation .....Page 3
- B. Technical Analysis and Design Documentation.....Page 4
- C. Operation and Maintenance Documentation .....Page 8
- D. Real Estate Documentation .....Page 9
- E. Environmental Compliance Documentation.....Page 10
- F. Appendix A: O&M Manual Addendum Guidance..... Appendix A-1

### NEW APPLICATION SUBMITTAL INSTRUCTIONS

Please provide the Complete Permission Package (above) digitally in a folder structure as shown in Figure 1.



**Figure 1**

Compile the Complete Permission Package into a (.zip) and email to [spl.408permits@usace.army.mil](mailto:spl.408permits@usace.army.mil) with the email guidelines shown below.

Email Subject Line:

New Section 408 Application Request – [INSERT PROJECT TITLE]

If your application is complete, we will reply back via email with the USACE File No. for your reference. If the application is incomplete, we will provide instructions on what you need to provide for a complete application.

## **RESUBMITTAL INSTRUCTIONS**

In many instances, you will be required to send a resubmittal addressing our review comments. Please send the resubmittal per the guidelines below.

Email Subject Line:

Resubmittal – SPL-408-20XX-XXX – [INSERT PROJECT TITLE]

## A. GENERAL DOCUMENTATION

Please provide at minimum the following items:

- Section 408 Permission Submittal Checklist
- Completed CESPL Form 25 "Application for Section 408 Permission"
- 8 ½" x 11" Project Location Map including:
  - Aerial Image of Project Vicinity, include City, County and State
  - Site Latitude and Longitude
  - River Mile
  - Channel Reference Station
  - Name of Stream, River or Body of Water
- As-Builts for Federally-constructed project (as available)
- Right-of-Way Maps from agency responsible for operating and maintaining the facility
- Geospatial Data Information
  - Survey, GIS, and Google Earth Data
  - Coordinate System
- Project Schedule
- Photographic Documentation of current conditions at the site.

The San Bernardino County Flood Control District will supply the following:

- Completed CESPL Form 25 "application for Section 408 Permission
- As-Builts for Federally-constructed project (as available)
- Right-of-Way Maps from agency responsible for operating and maintaining the facility

## **B. TECHNICAL ANALYSIS AND DESIGN DOCUMENTATION**

### **GENERAL**

1. Are you proposing new construction?

Yes

No

2. What type of features will you impact with the new construction? (check all that apply)

Levees

Channels

Dams

Reservoir/Basin

Retaining Wall

Side Drains

Maintenance Road

Recreation Trail

Spillway

Coastal Structure

Other Corps-Constructed Feature \_\_\_\_\_

### **REFERENCES**

Please consider the following references in the design, construction, and/or work to be performed for the proposed alteration. These references are not inclusive but needs to be considered prior to submitting the Complete Permit Package. USACE publications are available from the Internet at: <http://www.usace.army.mil/library>.

- 33 CFR 208.10, Local flood protection works; maintenance and operation of structures and facilities
- ASTM D5299-92, Standard Guide for Decommissioning Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes, and Other Devices for Environmental Activities
- EM 1110-2-1418, Channel Stability Assessment for Flood Control Projects
- EM 1110-2-1405, Flood Hydrograph Analyses and Computations
- EM 1110-2-1408, Routing of Floods through River Channels
- EM 1110-2-1409, Backwater Curves in River Channels
- EM 1110-2-1411, Standard Project Flood Determinations
- EM 1110-2-1416, River Hydraulics
- EM 1110-2-1417, Flood-Runoff Analysis
- EM 1110-2-1601, Hydraulic Design of Flood Control Channels
- EM 1110-1-1804, Geotechnical Investigations
- EM 1110-1-1906, Soil Sampling
- EM-1110-2-1901, Seepage Analysis and Control for Dams
- EM 1110-2-1906, Laboratory Soil Testing
- EM 1110-2-1913, Design and Construction of Levees
- EM 1110-2-1914, Design, Construction, and Maintenance of Relief Wells
- EM 1110-2-2104, Strength Design for Reinforced Concrete Hydraulic Structures
- EM 1110-2-2502, Retaining and Flood Walls

- EM 1110-2-2504: Design of Sheet Pile Walls
- EM 1110-2-2902, Conduits, Culverts and Pipes
- EM 1110-2-3102, General Principles of Pumping Station Design and Layout
- EM 1110-2-4000, Sedimentation Investigations of Rivers and Reservoirs
- ER 1110-2-401, Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual for Projects and Separable Elements Managed by Project Sponsors
- ER 1110-2-1807, Drilling in Earth Embankments, Dams and Levees
- TM 5-818-5/NAVFAC P –418. Dewatering and Groundwater Control
- ETL 1110-2-571, Engineering and Design: Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures.
- FHWA-IP-90-014, Stream Stability at Highway Structures, Hydraulic Engineering Circular No. 20
- FHWA-IP-90-017, Evaluating Scour at Bridges, Hydraulic Engineering Circular No. 18

**GEOTECHNICAL INVESTIGATION**

3. Will your work require excavation?  Yes  No
4. Will your work require a subsurface geotechnical investigation?  Yes  No

If **Yes** to Question 3 or 4, please provide the following:

- Work Plan which includes at minimum:
  - As-built plan sheets with boring location, station/offset, and northing/easting coordinates
  - Boring dimensions (hole-size and depth)
  - A typical cross-section showing relevant USACE features in relation to the proposed explorations
  - Drilling Equipment and Methods (e.g. Hollow Stem Auger or Rotary Wash)
    - If drilling will be performed through the concrete lined invert of the channel, the sponsor should provide a method of nondestructive testing to ensure channel lining reinforcement will not be affected by drilling, and provide a contingency plan for repair if reinforcement is compromised. Concrete repair methods should also be included.
    - An as-built plan sheet should be available on-site during drilling and any subsurface improvements noted.
    - Refer to ER 1110-2-1807 (Drilling in Earth Embankments, Dams and Levees)
  - Proposed method of boring abandonment/backfilling
  - Description of any in-situ testing
  - Description of any instrumentation installation
  - Staging Plan
  - Access to Facility
  - Note that the work plan only pertains to USACE requirements. There may be additional permits/submittals required from other agencies to perform a subsurface geotechnical investigation
- Post-Investigation Data Documentation (to be provided when complete)

## **REVIEW PLAN**

5. Will the proposed request temporarily impair the purpose and function of the existing Federally-constructed project?  Yes  No
6. Will the proposed request be a major repair, rehabilitation, relocation, replacement or modification of the existing Federally-constructed project?  Yes  No

If **Yes** to Questions 5 or 6, please provide the following:

- Independent External Peer Review (IEPR) Plan (Reference EC 1165-2-214)
- Design Quality Control Plan

## **CONSTRUCTION PLANS**

If applicable, the applicant must prepare **Construction Plans** depicting the proposed modifications in relation to the existing federally-constructed project. The plans need to be half-size (11"x17"), minimum 60% level of detail and include the proposed alteration in relation to the existing federally-constructed project. All sheets must contain a title block containing the project name, name of the applicant, name the sheet preparer (if different than the applicant) and the date the sheet was prepared. Please include the following:

- Project Location Map with Applicable Datum
- Grading Plan with existing Topographic Information
- Right-of-Way Map
- Layout, Profiles, and Cross-Sections of Proposed Alteration Sheets
- Structural Detail Sheets
- Geotechnical Boring and Log Sheets
- Temporary Construction Measures (Bypasses, Cofferdams, etc.)
- Staging, Disposal and Borrow Areas, Access and Detours
- Real Estate Plan (Existing Real Estate Rights, Additional Real Estate to be Required, Permanent and Temporary Construction Easements)
- Environmentally Sensitive Areas and Mitigation
- Utility Location and Identification
- Traffic Control Plan
- Specifications

## **GEOTECHNICAL ANALYSIS**

If applicable, a **Geotechnical Report** should be included addressing design considerations and recommendations pertinent to the proposed alteration. The report should be applicable to the work being performed and specifically reference the proposed plans. The following is a list of analyses or information that may be necessary to consider for geotechnical design and assessing their impacts if proposed alterations alter the levee, floodwall or channel bank cross-section or penetrate the natural blanket or foundation. Please provide an **Executive Summary** detailing how each of the below items is addressed or not addressed and how your project impacts the Federally-constructed project. Please cite applicable USACE references as necessary.

- Erosion Control
- Material Usage/Borrow/Waste/Transport/Hauling
- Method of Excavation and Installation/Backfill
- Type of Bedding/Filter Material Backfilled
- Compaction Reports and any other Pertinent Geotechnical Testing Reports performed during construction
- Placement of Stockpiles, Heavy Equipment, or Other Surcharges
- Results of Geotechnical Investigation (Boring Logs, Test Pit Logs, Laboratory Test Results when complete)
- Seepage Analysis
- Settlement Analysis
- Stability Analysis
- Vegetation

### ***STRUCTURAL ANALYSIS***

If applicable, the following is a list of analyses or information that may be necessary to evaluate the impacts of proposed alterations to concrete, sheetpiling, or drainage structures. Please provide an **Executive Summary** detailing how each of the below items is addressed or not addressed and how your project impacts the Federally-constructed project. Please cite applicable USACE references as necessary.

- Design analysis and calculations for retaining walls and excavation support system
- Design of shallow or deep foundations, including bearing capacity and settlement analysis if the construction is located within the line of protection or right-of-way and creates potential seepage problems
- Stability analysis including sliding, overturning, bearing, flotation, uplift and any seismic load effects for any alteration to the channel walls and/or flood walls
- Structural drainage control methods
- Water stops and contraction/expansion joints

### ***HYDROLOGIC AND HYDRAULICS ANALYSIS***

If applicable, the purpose of a hydrologic and hydraulics system performance analysis is to determine the potential hydrologic and hydraulics impact of proposed alterations. Please provide an **Executive Summary** detailing how each of the below items is addressed or not addressed and how your project impacts the Federally-constructed project. Please cite applicable USACE references as necessary.

- Summary of existing conditions and future conditions with proposed alterations
- Changes in velocity
- Changes in water surface profiles and flow distribution
- Scour Analysis
- Sediment Transport Analysis
- Upstream and Downstream impacts of proposed alterations
- Sources of pertinent data
- Watershed Hydrology
- HEC-RAS Model or Similar (include electronic files)

### **C. OPERATION AND MAINTENANCE DOCUMENTATION**

This section is only applicable if you are proposing an alteration. Requesters must identify any operations and maintenance requirements needed throughout the life of the proposed alteration and the responsible entity for the operations and maintenance into the future. For any alteration to a project operated and maintained by a non-federal sponsor and for which a new O&M Manual or an update to the existing O&M Manual is required, the non-federal sponsor will provide USACE with a new or updated O&M Manual. The non-federal sponsor will acknowledge in writing their continued responsibility to operate, maintain, repair, rehabilitate and replace/remove the USACE project at no cost to the government and will hold and save the government free from all damages arising from construction, operation, maintenance, repair, rehabilitation, replacement and/or removal of the project. An O&M Manual template for an addendum is provided as Appendix A.

- New or updated O&M Manual



#### **D. REAL ESTATE DOCUMENTATION**

A list of all real property interests required to support the proposed alteration must be provided, including those in federally managed lands and those owned by the requester. The purpose of this checklist is to provide sufficient information to certify that the real estate documentation is adequate for the proposed modification. If the lands are under the control of the Army, the applicant will work with the district to determine the lands impacted. If it is determined that an outgrant of Army land is required, a *Report of Availability and Determination of Availability* must be completed by the district in accordance with AR 405-80 and Chapter 8, ER 405-1-12 or subsequent regulation.

- Deed
- Agreements between the United States of America and Proponent
- Office of the Assessor Property Information Report
- Assessor's Parcel Number (APN)

**This section will be supplied by the San Bernardino County Flood Control District.**

## **E. ENVIRONMENTAL COMPLIANCE DOCUMENTATION**

The purpose of this Checklist is to provide the Los Angeles District of the U.S. Army Corps of Engineers sufficient information to determine if a Categorical Exclusion is legally sufficient, if an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) is required to comply with the National Environmental Protection Act (NEPA). It is recommended the individual filling out the Environmental Compliance portion of the checklist is familiar with environmental compliance undertaken for the proposed project.

Please Provide an Environmental Compliance POC, the POC should be familiar with environmental compliance undertaken for this proposed project. Please include e-mail address and phone number where the individual can be reached during normal business hours.

## **Project Description**

Please provide a detailed and complete project description, including all areas of disturbance to the federal structure or other structures; include areas to be used for ingress, egress, or staging of materials or equipment. Fully describe construction techniques to be used on that part of the project for which a 408 permit is required. Include quantities/types of materials used as fill or removed from the site. Accurately describe any ground disturbing activity that will occur and provide acreage or lineal area of impact. Include maps/pictures/figures as necessary to fully explain proposal. Include duration/timing of activity (year-round, seasonal, etc.).

**Purpose and Need**

Please provide a concise explanation for the project purpose and describe the need for the project.

**GENERAL**

- 1. Was a document prepared under the National Environmental Policy Act or the California Environmental Quality Act? (If yes, please provide electronic file)  
 Yes       No
- 2. Are you required to pursue authorization pursuant to Section 10 of the River & Harbors Act?  
 Yes       No       Don't Know
- 3. Are you required to pursue authorization pursuant to Section 404 of the Clean Water Act? (If dredged and/or fill material is to be discharged, provide reasons for discharge)  
 Yes       No       Don't Know
- 4. Are you required to pursue authorization pursuant to Section 103 of the Marine Protection, Research, and Sanctuaries Act?  
 Yes       No       Don't Know
- 5. Have any other permits been obtained for this action? (If yes, please provide electronic file)  
 Yes       No       Don't Know

**EARTH RESOURCES**

- 6. Would there be a significant change to local topography, increase in erosion, or increase in seismic impacts by the proposed project?  
 Yes       No

**BIOLOGICAL RESOURCES**

- 7. Are there any State or Federal Threatened or Endangered Species (TES) present?  
 Yes       No  
If yes, what species? \_\_\_\_\_

- 8. Has California Department of Fish and Wildlife (CDFW) consultation been initiated? (applicable only if Question 7 was answered "yes")  
 Yes       No

**NOISE**

- 9. Are there any sensitive receptors nearby?  
 Yes       No

- 10. If yes, provide description of the receptor and its distance from the source.  
\_\_\_\_\_  
\_\_\_\_\_

**HAZARDOUS, TOXIC AND RADIOACTIVE WASTE (HTRW)**

- 11. Is HTRW an issue on the site?  
 Yes       No

**RECREATION**

12. Will recreation amenities be impacted?  Yes  No

**CULTURAL RESOURCES**

13. Has a Records Search been done at the State Information Center? (If yes, please provide electronic file)  Yes  No
14. Has a Literature Review been prepared? (If yes, please provide electronic file)  Yes  No
15. Has a Cultural Survey been done in the last five years? (If yes, please provide electronic file)  Yes  No
16. Has a Tribal Contact List been obtained from the Native American Heritage Commission? (If yes, please provide electronic file)  Yes  No
17. Has Tribal Consultation been conducted under the National Historic Preservation Act (NHPA "Section 106"), California Assembly Bill 52 (AB-52) or Senate Bill 18 (SB-18)? (If yes, please provide electronic file)  Yes  No
18. Has consultation with the California State Historic Preservation Officer (SHPO) been conducted under Section 106 (Federal Agency) or through the Local Government Assistance Program? (If yes, please provide electronic file)  Yes  No

Note: If the Tribal Consultation is confidential, please call to be referred to a District Archaeologist. If Section 106 consultation is required, the project proponent is responsible to provide the background, field studies, and reports in consultation with the Federal Agency. The Federal Agency is required to conduct the Tribal and SHPO consultation; a minimum of 60 days is required.

**AIR QUALITY**

19. Has an Air Quality Analysis been prepared? (If yes, please provide electronic file)  Yes  No

**CLIMATE CHANGE**

20. Has a Climate Change Analysis been prepared? (If yes, please provide electronic file)  Yes  No

**WATER QUALITY**

21. Will 401 Certification be required?  Yes  No

**PUBLIC SERVICES**

22. Will any Public Services be disrupted by the proposed project?  Yes  No

**PUBLIC HEALTH AND SAFETY**

23. Will public health and/or safety be impacted or at risk by the proposed project?  
 Yes  No

**TRAFFIC AND TRANSPORTATION**

24. Will local traffic or other means of transportation be impacted by the proposed project? (if yes, please provide a Traffic Control Plan)  
 Yes  No

**SOCIOECONOMICS/ENVIRONMENTAL JUSTICE**

25. Would a minority or low income population be adversely impacted by the proposed project?  
 Yes  No

**OPERATIONS AND MAINTENANCE (O&M)**

26. Future Operations and Maintenance will be performed by: \_\_\_\_\_

By submittal of this information, the permittee certifies that the information provided is complete and correct, and acknowledges that if information provided is not sufficient for environmental review, the permittee will submit a draft environmental assessment for the proposed action developed in accordance with the National Environmental Policy Act before further action can be taken on the request for the permit.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name/Title

## **APPENDIX A**

### **O&M Manual Addendum Guidance**

#### Guidance on Operation and Maintenance Manual Addendums for Flood Risk Reduction Projects

1. **PURPOSE** – This information has been compiled to provide general guidance regarding developing an Addendum to Flood Risk Reduction Project's (FRRP) Operations and Maintenance (O&M) Manuals to reflect additions or modifications to the FRRP.
2. **RESPONSIBILITIES** - The U.S. Army Corps of Engineers (USACE) is responsible for maintenance of FRRPs where the land is owned in fee by the Corps of Engineers or where an agreement exists to operate and maintain portions of FRRPs for local flood control agencies. USACE is responsible for controlling all modifications to federally constructed FRRPs and also ensuring that O&M Manuals are complete and distributed to the appropriate parties.

The entity proposing a modification to the FRRP is responsible for the operation and maintenance of the proposed feature. Additionally, the entity is responsible for completing a supplemental appendix to the O&M Manual and is ultimately responsible to ensure that the modification does not adversely impact the operation or integrity of the FRRP. USACE provides review and approval of the O&M Manual.

3. **ADMINISTRATION**
  - a. **Copies** – As a general rule, one (1) complete printed set and a PDF digital version of all draft and final addendums should be provided to USACE. If additional copies are necessary, the entity proposing a modification will be notified.
  - b. **Review Timeframe** – The entity proposing a modification should allow six (6) to eight (8) weeks for USACE coordination, scheduling, comment development and consolidation, and mailing of comments to the sponsor for each submittal review.
  - c. **Final** – After all comments have been resolved, the final version of the O&M Manual must be provided to USACE for record.
4. **TEMPLATE** – A template for an O&M Manual Addendum that illustrates the types of information that should be provided and also offers additional guidance on developing the addendum is attached. The scope and complexity of the addendum can vary significantly depending on the nature of the added feature or modification and needs to be considered on a case-by-case basis. However, in all cases, sufficient information must be provided in the addendum to fully document what the addition or modification consists of, what the associated operation and maintenance requirements are for the added or modified feature, and any changes to the operation and maintenance requirements of the system.



OPERATIONS AND MAINTENANCE MANUAL ADDENDUM

PROJECT NAME

PERMIT/OUTGRANT NUMBER

BASIN/CHANNEL NAME

LOCATION (CITY AND STREETS)

DATE

TEMPPLATE

## TABLE OF CONTENTS

|  | Paragraph | Page |
|--|-----------|------|
| SECTION 1 - INTRODUCTION                             |           |      |
| Purpose  | 1-1       | XX   |
| Location of the Project                              | 1-2       | XX   |
| References   | 1-3       | XX   |
| SECTION 2 – PROJECT DESCRIPTION                      |           |      |
| Operation  | 2-1       | XX   |
| Maintenance and Inspections                          | 2-2       | XX   |
| Emergency Operations                                 | 2-3       | XX   |
| Repair, Replacement, Rehabilitation, and Removal     | 2-4       | XX   |
| Regulatory Requirements                              | 2-5       | XX   |
| Third Party Agreements                               | 2-6       | XX   |
| SECTION 3 – PROJECT FEATURES                         |           |      |
| Description of Modifications                         | 3-1       | XX   |
| Appendix A – Marked-up pages from current O&M manual |           | AX   |
| Appendix B – As-built drawings                       |           | BX   |
| Appendix C – Technical Specifications                |           | CX   |
| Appendix D – Catalog cut sheets and pertinent data   |           | DX   |
| Appendix E – <i>***Other Appendices as Needed***</i> |           | EX   |
| Appendix F – Electronic Version                      |           | FX   |

## SECTION 1 – INTRODUCTION

- 1-1 Purpose - *\*\*\*Provide a general description of the overall project and purpose of the project.\*\*\**
- 1-2 Location of the Project - *\*\*\*Provide a detailed description of the project location including legal and verbal descriptions.\*\*\**
- 1-3 References - *\*\*\*Provide all appropriate references including reference to the existing O&M manual.\*\*\**

## SECTION 2 – PROJECT DESCRIPTION

- 2-1 Operation - *\*\*\*Cover in detail the operations of the project that are necessary for the safe and efficient functioning of the project. This is to include whom is the responsible party and their contact information.\*\*\**
- 2-2 Maintenance and Inspections - *\*\*\*Cover the maintenance and inspection details required for the proper care and efficient operation of the various project elements. This is to include whom is the responsible party and their contact information.\*\*\**
- 2-3 Emergency Operations - *\*\*\*Present any emergency operation plans that cover preparations for the responses to project emergency conditions.\*\*\**
- 2-4 Repair, Replacement, Rehabilitation, and Removal - *\*\*\*Provide discussions on repair activities that are routine to maintain the project in a well kept condition, replacement activities for actions taken on worn-out elements or portion thereof to be replaced, rehabilitation activities necessary to bring deteriorated project back to its original condition, and removal activities that addresses responsibilities any actions necessary for removal of the feature after its service life.\*\*\**
- 2-5 Regulatory Requirements - *\*\*\*Although some activities which would normally be involved in maintenance of flood control are exempt from the statutory requirement for a Corps permit, or may be covered by a general permit, some maintenance activities may require specific authorization. Identify the operation and maintenance activities that will require a permit and those that are exempt.\*\*\**
- 2-6 Third Party Agreements - *\*\*\*Should the proposing entity enter a third-party agreement, provide point of contacts. This agreement does not diminish the overall responsibility of the proposing entity to operate and maintain the modified feature. USACE will still reserve the right to enforce all conditions and requirements against the proposing entity directly.\*\*\**

APPENDIX A

MARKED-UP PAGES FROM CURRENT O&M  
MANUAL

*\*\*\* Insert pages from the existing O&M manual or other addendums that have been marked-up to direct readers to this addendum due to conflicts or changes. Each holder of an O&M manual should insert these pages into their copy of the document.\*\*\**

APPENDIX B

AS-BUILT DRAWINGS

*\*\*\* Insert 11" by 17" or other appropriately sized drawings to scale showing as-built conditions of the added feature or modifications.\*\*\**

APPENDIX C

TECHNICAL  
SPECIFICATIONS

*\*\*\* Insert technical construction specifications/instructions of the added feature or modifications.\*\*\**

APPENDIX D

CATALOG CUT SHEETS AND PERTINENT DATA

*\*\*\* Insert catalog cut sheets, manufacturer's instructions, and/or any other pertinent data of the added feature or modifications.\*\*\**

APPENDIX E

*\*\*\* OTHER APPENDICES AS NEEDED\*\*\**

APPENDIX F  
ELECTRONIC  
VERSION

*\*\*\*Insert a CD/DVD that contains this addendum in its entirety. The addendum should be provided in a PDF format and in the format in which it was originally created in (e.g. Microsoft Word). As-built drawings and specifications similarly should be provided in a PDF format along with its original file (e.g. drawings in AutoCAD, Specifications in Microsoft Word. Shape file shall be provided with horizontal data set in State Plane Coordinates NAD83 (US feet) and elevation data shall be NAVD88 (US feet).\*\*\**