

**AMENDMENT NO. 2 TO
NAPA COUNTY FLOOD CONTROL AND
WATER CONSERVATION DISTRICT AGREEMENT NO. 220223B (FC)**

THIS AMENDMENT NO. 2 OF NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT AGREEMENT NO. 220223B (FC) (“Agreement”) is made and entered, effective as of the ___ day of _____, 2024 by and between the NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, a special district of the State of California, hereinafter referred to as “DISTRICT,” and HDR Engineering, INC., a Nebraska corporation, whose mailing address is 2365 Iron Point Road, Suite 300 Folsom, CA 95630, hereinafter referred to as "CONTRACTOR."

RECITALS

WHEREAS, on January 4, 2022, DISTRICT and CONTRACTOR entered into the Agreement for specialized services to complete the design of the Floodwalls North of the Bypass Project (PROJECT) to a 35% level, as directed by the District; and

WHEREAS, on March 14, 2023, DISTRICT and CONTRACTOR amended the Agreement to bring the PROJECT to final design and additional tasks related to design of the project; and

WHEREAS, DISTRICT has recognized necessary design changes during the design process moving from a 35% to a 65% completion level and DISTRICT has also been informed by the U.S. Army Corps of Engineers (USACE) that additional analyses, and work products that were previously unanticipated will be required to obtain final approval of the PROJECT design before DISTRICT can start the advertisement and bidding process, and DISTRICT anticipates the need for additional design services to complete these tasks; and

WHEREAS, CONTRACTOR is willing to continue to provide such additional specialized services to finalize the PROJECT design in preparation for bidding; and

WHEREAS, DISTRICT and CONTRACTOR now desire to modify the provisions of the Agreement to modify the scope of work and increase the maximum compensation by \$1,403,999.00 to a new total of (\$6,876,460.00).

TERMS

NOW, THEREFORE DISTRICT and CONTRACTOR hereby agree to amend the Agreement as follows:

1. Paragraph 2 of the Agreement is hereby amended in full to read as follows:
2. **Scope of services.** CONTRACTOR shall provide DISTRICT those services set forth in Exhibit “A,” attached to the original agreement, Exhibit “A-1,” attached to Amendment 1, and Exhibit “A-2,” attached to this Amendment 2 and incorporated by reference herein.

3. Paragraph 3, subd. (c), of the Agreement is hereby amended to read as follows:

Maximum Amount. Notwithstanding subparagraphs (a) and (b), the maximum payments under this Agreement shall not exceed a total of SIX MILLION EIGHT HUNDRED SEVENTY-SIX THOUSAND FOUR HUNDRED SIXTY DOLLARS AND ZERO CENTS (\$6,876,460.00) for professional services and expenses; provided, however, that such amounts shall not be construed as guaranteed sums, and compensation shall be based upon services actually rendered and reimbursable expenses actually incurred.

4. This Amendment No. 2 shall be effective as of the Effective Date first set forth above.
5. Except as provided in paragraphs (1) through (4), above, the terms and provisions of the Agreement shall remain in full force and effect as last approved.

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment No. 2 of the Agreement No. 220223B (FC) to be executed as of the date written on the first page of this Amendment.

HDR ENGINEERING, INC., a Nebraska Corporation

By: 

 HOLLY L. KENNEDY, Senior Vice President

“CONTRACTOR”

NAPA COUNTY FLOOD CONTROL AND
 WATER CONSERVATION DISTRICT, a special
 district of the State of California

By: _____
 SCOTT SEDGLEY,
 Chair of the Board of Directors

“DISTRICT”

<p>APPROVED AS TO FORM Office of County Counsel</p> <p>By: <u>Shana A. Bagley</u> District Counsel</p> <p>Date: <u>June 4, 2024</u></p>	<p>APPROVED BY THE BOARD OF DIRECTORS OF THE NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT</p> <p>Date: _____</p> <p>Processed By: _____</p> <p>Deputy Secretary of the District Board</p>	<p>ATTEST: NEHA HOSKINS Secretary of the District Board</p> <p>By: _____</p> <p>_____</p>
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EXHIBIT “A-2”

SCOPE OF WORK

CONTRACTOR shall provide DISTRICT with the following services:

I. DESCRIPTION OF SERVICES / SCOPE OF WORK

TASK 1. PROJECT MANAGEMENT

A. PROJECT MANAGEMENT SERVICES, MONTHLY PROGRESS REPORTS, AND INVOICES FOR THE EXTENDED PERIOD OF PERFORMANCE [IN PROGRESS]

- HDR’s Project Manager and Deputy Project Manager will provide Project management services for the duration of this task order, including providing monthly invoices and Project progress reports. The Project progress reports will summarize the work performed during the month; provide current task order budget and schedule status; and identify technical, budget, or schedule issues.

Deliverables:

- Monthly Invoices & Progress Reports (PDF).

Assumptions:

- The extended period of performance is from April 1, 2024, through September 26, 2025, but the majority of the Project management and coordination will end after the U.S. Army Corps of Engineers (USACE) Sacramento District begins the initiation of the routing of the final approval report. This is currently estimated to begin April 17, 2025. The continuation of Project management from April 17, 2025, to September 26, 2025, is to cover the minimal Project management effort to support the preconstruction surveys under Task 3.
- Bid support and engineering support during construction are not included as part of this Amendment and will be included in a future Amendment.

B. USACE IMPLEMENTATION PLAN [NEW TASK]

- HDR will review the Implementation Plan prepared by USACE, provide written comments, and coordinate with the Napa County Flood Control and Water Conservation District (District) and USACE to resolve comments.

Deliverables:

- Written review comments on the Implementation Plan (Microsoft [MS] Excel spreadsheet or comments inserted into the MS Word document).

Assumptions:

- HDR's Principal in Charge, Project Manager, Deputy Project Manager/Civil Lead, and Environmental Lead will perform one review of the Implementation Plan.
- HDR's reviewers will attend up to one virtual meeting (1 hour long) to provide clarifications and resolve comments.

C. USACE REVIEW PLAN [NEW TASK]

- HDR will review the Review Plan prepared by USACE, provide written comments, and coordinate with the District and USACE to resolve comments.

Deliverables:

- Written review comments on the Review Plan (MS Excel spreadsheet or comments inserted into the MS Word document).

Assumptions:

- One review of the Review Plan will be performed by HDR's Principal in Charge, Project Manager, Deputy Project Manager/Civil Lead, and Environmental Lead.
- HDR's reviewers will attend up to one virtual meeting (1 hour long) to provide clarifications and resolve comments.

D. PROJECT DESIGN RECOMMENDATIONS REPORT [NEW TASK]

- The USACE is developing a brief Design Recommendations Report (DRR) summarizing work completed by the Project delivery team (PDT) (District, HDR and USACE) to comply with federal regulations. In support of DRR development, HDR will provide write ups on technical sections, related to HDR's work, to the District and USACE for insertion into the DRR.

Deliverables:

- Write ups on technical sections for the Draft DRR (MS Word).
- Write ups on technical sections for the Final DRR (MS Word).

Assumptions:

- The DRR is a collaborative effort between the USACE, District, and HDR. The USACE is the lead author of the DRR.
- HDR will provide write ups on sections related to HDR's work only. A review of the full DRR is not included.

E. ADDITIONAL PRIMAVERA (P6) PROJECT SCHEDULE SUPPORT FOR THE ORIGINAL PERIOD OF PERFORMANCE [NEW TASK – COMPLETE]

- Amendment No. 1 assumed HDR would prepare an integrated Primavera (P6) schedule that would be updated monthly and coordinated with the District. Based on subsequent coordination with the USACE and District, the level of effort and detail in the P6 schedule was increased to meet the needs of the broader PDT (District, HDR, and USACE). Schedule updates were provided weekly, and HDR's P6 Scheduler met separately with the District and USACE to facilitate updates to the schedule. The P6 Scheduler was also included in the weekly PDT meetings to facilitate schedule walk throughs.

- Additional effort included:
 - Weekly 30-minute meetings attended by four HDR staff (Project Manager, Deputy Project Manager/Civil Lead, Environmental Lead, and P6 Scheduler), the District, and USACE to update the P6 schedule. Meetings began in January 2024 and were ongoing through April 2024.
 - Weekly 30-minute PDT meeting attended by HDR’s P6 Scheduler, the District, and USACE to incorporate changes to the schedule. Meetings began in January 2024 and were ongoing through March 2024.
 - Monthly 2-hour updates to the P6 schedule.

Deliverables:

- Weekly updates to the full P6 schedule and 3-week look ahead (PDF).

Assumptions:

- None.

F. ADDITIONAL PRIMAVERA (P6) PROJECT SCHEDULE SUPPORT FOR THE EXTENDED PERIOD OF PERFORMANCE [NEW TASK – IN PROGRESS]

- HDR will update the current integrated P6 schedule for design; environmental compliance through the National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), permitting, and USACE approval process; and a high-level estimated construction duration. HDR will coordinate with the District and USACE to provide a weekly update to the schedule showing current Project progress for the extended period of performance.

Deliverables:

- Draft P6 Project schedule and 3-week look ahead (PDF).
- Weekly updates to the Project schedule and 3-week look ahead (PDF).

Assumptions:

- P6 schedule updates are anticipated to continue through April 2025.
- Up to four HDR staff (Project Manager, Deputy Project Manager/Civil Lead, Environmental Lead, and P6 Scheduler) will attend one standing weekly schedule coordination meeting (30 minutes) with the District and USACE to update the P6 schedule. This meeting will be virtual.
- HDR’s P6 Scheduler will hold additional coordination meetings with the District, USACE, and HDR design team leads to incorporate changes to the schedule through the remaining Project duration, and will spend an additional 8 hours per month revising the schedule.
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TASK 2. PROJECT DELIVERY TEAM COORDINATION MEETINGS FOR THE EXTENDED PERIOD OF PERFORMANCE

A. WEEKLY DISTRICT, USACE, AND HDR COORDINATION MEETINGS FOR THE EXTENDED PERIOD OF PERFORMANCE [IN PROGRESS]

- HDR will attend two weekly coordination meetings for the duration of the extended period of performance: one meeting with the District and one meeting with the District and USACE (PDT coordination meetings). These meetings will inform the District and PDT,

respectively, of progress to date; critical activities; interdependencies of work products; key issues and resolutions; schedule status; and key decisions.

Deliverables:

- Meeting agendas and notes (PDF).

Assumptions:

- Weekly coordination meetings will continue through April 2025.
- HDR and District coordination meetings will be held weekly and attended by up to four HDR staff (Project Manager, Deputy Project Manager/Civil Lead, Environmental Lead, an additional technical lead will attend every third meeting. Meetings) will be virtual and up to 30 minutes each.
- HDR, District, and USACE PDT coordination meetings will be held weekly and attended by up to four HDR staff (Project Manager, Deputy Project Manager/Civil Lead, Environmental Lead, and P6 Scheduler). Meetings will be virtual and up to 1 hour each.

B. ADDITIONAL EFFORT FOR ISSUE-SPECIFIC DISTRICT COORDINATION MEETINGS FOR THE EXTENDED PERIOD OF PERFORMANCE [NEW TASK – IN PROGRESS]

- HDR will attend weekly meetings with the District to discuss Project-specific issues and potential resolutions with the intent of progressing the Project design.

Deliverables:

- Meeting agendas and notes (PDF).

Assumptions:

- Weekly issue-specific meetings will continue through April 2025.
- Meetings will be held weekly and attended by up to five HDR professionals (Project Manager, Deputy Project Manager/Civil Lead, and up to three additional technical leads attending one-third of the meetings). Meetings will be virtual and up to 1 hour each.

C. WEEKLY HDR PROJECT DELIVERY TEAM COORDINATION MEETINGS FOR THE EXTENDED PERIOD OF DESIGN [IN PROGRESS]

- HDR design leads will attend weekly PDT coordination meetings to discuss ongoing coordination between the disciplines.

Deliverables:

- Meeting agendas and notes (PDF).

Assumptions:

- Weekly coordination meetings will continue through April 2025.
- Meetings will be held weekly to discuss ongoing coordination between the disciplines and will be attended by the Project Manager, Deputy Project Manager/Civil Lead, Environmental Lead, Structural Lead, Geotechnical Lead, Utility Lead, Landscaping Lead, and Quality

Control Lead.

- Meetings will be virtual and up to 1 hour each.

TASK 3. ENVIRONMENTAL DOCUMENTATION AND PERMITTING

• The Project is subject to compliance with CEQA and NEPA as well as several other environmental regulations, specifically the Endangered Species Act (ESA), California Endangered Species Act (CESA), Clean Water Act (CWA), Clean Air Act (CAA), and National Historic Preservation Act (NHPA). The District will be the CEQA lead agency. The USACE will be the NEPA lead agency.

3.1.1 ENVIRONMENTAL DOCUMENTATION – SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT/ ENVIRONMENTAL IMPACT REPORT

- The following Scope of Work pertains to the preparation and completion of a Supplemental Environmental Assessment (EA)/ Environmental Impact Report (EIR), which the PDT determined to be the appropriate level of documentation in September 2023.

A. GEOTECHNICAL NOTICE OF EXEMPTION [COMPLETE]

- No changes or additions to the Scope of Work for this subtask.

B. CEQA/NEPA VALIDATION OF APPROACH [COMPLETE]

- No changes or additions to the Scope of Work for this subtask.

C. DRAFT PROJECT DESCRIPTION [COMPLETE]

- No changes or additions to the Scope of Work for this subtask.

D. ADDITIONAL EFFORT FOR THE REVISED DRAFT PROJECT DESCRIPTION [NEW TASK – IN PROGRESS]

- The Draft Project Description was developed in parallel with and based on the 35% Project design and was provided to the USACE and District for review in December 2023. USACE’s comments on the Draft Project Description were provided via email and were not tracked. Therefore, USACE’s comments had to be added to the file by HDR staff and interpreted. Subsequent design revisions, made after the 35% design submittal based on the risk assessment and dry bypass design alternatives workshops, and design changes resulting from USACE and District reviews, require additional revisions to the Draft Project Description and incorporation into the Administrative Draft Supplemental EA/EIR (Task 3.1, Subtask F).
- HDR will revise the December 2023 Draft Project Description and submit it electronically to the District and USACE for review and approval.

Deliverables:

- Revised Draft Project Description (PDF and MS Word).

Assumptions:

- Future design changes may require additional changes to the Revised Draft Project Description and Administrative Draft

Supplemental EA/EIR. If changes are substantial and require substantial revisions to the Administrative Draft Supplemental EA/EIR, then a separate Scope of Work and fee would be prepared for a subsequent Amendment.

- See the list of assumptions below that pertain to Task 3.1 subtasks (Section 3.1.1)

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E. INITIAL STUDY CHECKLIST AND NOTICE OF PREPARATION [COMPLETE]

- No changes or additions to the Scope of Work for this subtask.

F. ADMINISTRATIVE DRAFT SUPPLEMENTAL EA/EIR [IN PROGRESS]

- No changes or additions to the Scope of Work for this subtask.

G. SECOND ADMINISTRATIVE DRAFT SUPPLEMENTAL EA/EIR [NEW TASK]

- HDR will incorporate the District and USACE’s comments on the Administrative Draft Supplemental EA/EIR and prepare the Second Administrative Draft Supplemental EA/EIR. HDR will provide an electronic copy of the Second Administrative Draft Supplemental EA/EIR for USACE subject-matter-expert back-check review and District review. The District and USACE subject matter experts will evaluate HDR’s comment resolution and determine if HDR has appropriately addressed the District and USACE’s comments.

Deliverables:

- Second Administrative Draft Supplemental EA/EIR (PDF and MS Word).

Assumptions:

- See the list of assumptions below that pertain to the Task 3.1 subtasks (Section 3.1.1).

H. SCREEN-CHECK DRAFT SUPPLEMENTAL EA/EIR [NEW TASK]

- The USACE requested that Office of Counsel review be separate from the subject matter expert reviews and back checks, resulting in a “screen-check” Draft Supplemental EA/EIR. HDR will incorporate the District and USACE’s comments received on the Second Administrative Draft Supplemental EA/EIR and prepare the screen-check Draft Supplemental EA/EIR. HDR will submit the screen-check Draft Supplemental EA/EIR to the District and USACE Office of Counsel for review prior to approval for public distribution.

Deliverables:

- Screen-check Draft Supplemental EA/EIR (PDF and MS Word).

Assumptions:

- See the list of assumptions below that pertain to the Task 3.1 subtasks (Section 3.1.1).

I. ADDITIONAL EFFORT FOR THE PUBLIC DRAFT SUPPLEMENTAL EA/EIR [NOT YET INITIATED]

- HDR will prepare the Revised screen-check Draft Supplemental EA/EIR based on District and USACE Office of Counsel comments received on the Screen-check Draft Supplemental EA/EIR (see Task 3.1, Subtask H). As a part of this process, HDR will provide the District and USACE with an electronic copy of a Revised screen-check Draft Supplemental EA/EIR to review and determine if the District and USACE Office of Counsel comments have been appropriately addressed prior to finalization of the Public Draft Supplemental EA/EIR. The Public Draft Supplemental EA/EIR will then be prepared for publication as indicated in the original contract Amendment 1 scope of work, and will be circulated for a 45-day public review period as required by CEQA (30-day review period for an EA).

Deliverables:

- Revised screen-check Draft Supplemental EA/EIR (PDF and MS Word).

Assumptions:

- Based on experience with USACE Office of Counsel reviews, HDR has assumed it will take approximately 120 hours to address USACE Office of Counsel comments and make additional revisions to the Draft Public Supplemental EA/EIR.
- See the list of assumptions below that pertain to the Task 3.1 subtasks (Section 3.1.1).

J. RESPONSE TO COMMENTS, FINAL SUPPLEMENTAL EA/EIR, AND MITIGATION, MONITORING AND REPORTING PROGRAM [NOT YET INITIATED]

- No changes or additions to the Scope of Work for this subtask.

3.1.2 SUPPLEMENTAL EA/EIR ASSUMPTIONS

- HDR will support the District and USACE in evaluating the environmental documentation approach and findings to support the CEQA/NEPA process. If subsequent analysis or environmental documentation is necessary, HDR will work with the District to determine the additional level of effort, and will provide scope and fee to support this effort.
- No other studies, modeling, or surveys are included in this Scope of Work outside of what is provided below to support the CEQA/NEPA document.
- HDR will submit deliverables electronically.
- The District will consolidate its comments and provided them to HDR electronically in a single, tracked-changes MS Word document.
- USACE will consolidate its comments and provide them to HDR electronically in a single, tracked- changes MS Word document.
- The District will be the lead agency for CEQA. The City of Napa is a CEQA Responsible Agency. An estimated level of effort for incorporation of

City of Napa comments on the Draft Public Supplemental EA/EIR has been included in the fee.

- The USACE will be the lead agency for NEPA and is the only reviewing agency for the Supplemental EA/EIR. No other CEQA-responsible or cooperating agencies will be included in the Supplemental EA/EIR development.
- The District will be responsible for maintaining the mailing list, CEQA noticing, publications, and other lead agency activities.
- The USACE will be responsible for maintaining the mailing list, NEPA noticing, publications, and other lead agency activities.
- It is assumed that the District will coordinate and pay facility rental fees for the scoping and public meetings. No court reporter, professional facilitator, or meeting transcripts are included in the cost estimate.
- The District will be responsible for filing fees associated with filing the Supplemental EA/EIR and Notice of Determination with the county clerk.
- The USACE will be responsible for posting the EA and Finding of No Significant Impact (FONSI) in the *Federal Register*.
- It is assumed that no recirculation of the Draft Supplemental EA/EIR will be required due to the public and agency comments received.
- It is assumed that from this point forward, no substantive changes to the Project Description and technical analyses will be necessary for preparation of the Draft Public Supplemental EA/EIR.
- It is assumed that no substantive changes to the Project Description, technical analyses, or impact conclusions will be necessary for preparation of the Final Supplemental EA/EIR as a result of public or agency comments during the public review period.
- Monthly Project meetings regarding the environmental tasks were originally anticipated for the original 14-month CEQA/NEPA schedule. Meetings are anticipated to be virtual, via MS Teams or telephone. The period of performance for this Amendment has been extended to April 2025. The HDR Environmental Lead has been participating in weekly coordination meetings with the District, and weekly schedule and PDT meetings with the USACE and District. It is anticipated that this participation will be extended through April 2025. Hours associated with this effort are accounted for under Task 2. Additional bi-monthly environmental meetings per the District's request are included under Task 3.3, Subtask O. Meetings are anticipated to be virtual, via MS Teams or telephone.
- The Supplemental EA/EIR will need to be compliant with California Assembly Bill (AB) 434 for accessibility; therefore, this effort is included in the fee. The scope and fee do not assume that the CEQA/NEPA document needs to be Section 508 of the Rehabilitation Act compliant (federal).
- The schedule is dependent on the timeliness of the PDT's response to data needs and review of document sections.
- AB 52 compliance documentation will be developed under a separate task.

3.2 ENVIRONMENTAL TECHNICAL STUDIES

A. ADDITIONAL EFFORTS FOR BIOLOGICAL RESOURCES [COMPLETE]

- It was determined during the 65% Design submittal review that four additional staging areas are needed to facilitate construction. HDR Biologists surveyed these staging areas for habitat conditions and potential special-status species in April 2024. Habitat mapping and the biological resources assessment were updated at that time to reflect the additional staging areas. HDR will include the maps in the Draft Supplemental EA/EIR.

Deliverables:

- Updated habitat mapping and habitat impact calculations to be included in the Draft Supplemental EA/EIR.

Assumptions:

- Two HDR Biologists completed field surveys during 1 day.
- No additional site visits or surveys will be required for the biological resources section of the Draft Supplemental EA/EIR.

B. ADDITIONAL EFFORTS FOR CULTURAL AND TRIBAL RESOURCES [COMPLETE]

- A review of the 1999 Napa River/Napa Creek Flood Reduction Project Final Supplemental Environmental Impact Statement/EIR indicates that, in coordination with the State Historic Preservation Officer (SHPO), a Memorandum of Agreement (MOA) was to be developed to implement appropriate mitigation measures for the destruction of precontact archaeological site CA-NAP-261 (the River Glen Site). The status of the MOA was unknown at the time Contract Amendment 1 was prepared; therefore, it was not clear what steps were needed to resolve effects to CA-NAP-261. The Section 106 compliance approach changed in July/August 2023 after locating and reviewing the original Programmatic Agreement (PA) for the overall flood project. Through coordination with the USACE, and after three PDT meetings, it was determined that the Project (Increment 2) could proceed under the existing PA since it has no sunset clause. Therefore, the USACE asked for assistance in continuing consultation under Section 106. HDR prepared the continued consultation letter and assisted with submitting the letter to the USACE, previous consulting parties, and Tribes (as part of AB 52) in August 2023.

Deliverables:

- Draft and Final Section 106 Continued Consultation Letter (PDF)

Assumptions:

- HDR had originally assumed that an MOA under Section 106 had been established in 1999 and covered the Project area. This assumption changed when the PA that was established for the overall flood protection project was provided in July 2023. The PA is still valid; therefore, it was determined that consultation under Section 106 should

be continued. CA-NAP-261's status and the PA stipulations were not known at the time Contract Amendment 1 was prepared; therefore, additional coordination time and reviews have occurred to update the Section 106 compliance approach.

C. CA-NAP-261 (RIVER GLEN SITE) SUBSURFACE INVESTIGATIONS [NEW TASK – COMPLETE]

- After review of the PA and during preparation of the Draft Historic Properties Survey Report, it was determined through coordination with the USACE and after several meetings in July, August, and September 2023 that further investigation within known archaeological site CA-NAP-261 was warranted to define site limits and determine the proposed Project's effects. HDR prepared a Draft Work Plan for subsurface investigations within archaeological site CA-NAP-261. HDR submitted the Draft Work Plan to the District and USACE for review. HDR then prepared a Final Work Plan based on the District and USACE's comments. The Final Work Plan was shared with the Yocha Dehe and Mishewal-Wappo Tribes. Through coordination with the Tribes, additional revisions were made to the Work Plan, and it was re-finalized.
- Preparations were then made for subsurface investigations at archaeological site CA-NAP-261. Utility locating services and subsurface investigations were conducted in December 2023. Approximately four HDR Cultural Resources Specialists were on site for 3 days. After the subsurface investigations were completed, the results were incorporated into the Draft Historic Properties Inventory Report. The Draft Historic Properties Inventory Report was submitted in January 2024 to the District and USACE for review. HDR then prepared the final Historic Properties Inventory Report based on the District and USACE's comments. Additional follow up was also required with the Tribes due to USACE's comments. The Final Historic Properties Inventory Report and finding of effect letter were submitted to the Tribes and SHPO for review in March 2024.

Deliverables:

- Draft and Final Work Plan for the CA-NAP-261 (River Glen Site) (PDF).
- Spatial data to incorporate into Project design for avoidance purposes, if necessary.

Assumptions:

- Four HDR Cultural Resources Specialists completed field surveys over three 10-hour (including travel time) field days.
- This task did not include preparation of mitigation and/or treatment plans for adverse effects/significant impacts. Task 3.3, Subtasks M and N address development of treatment plans and implementation of treatment plans, respectively.

3.3 ENVIRONMENTAL PERMITTING AND CONSULTATION SUPPORT

A. CLEAN WATER ACT SECTION 404 PERMIT [IN PROGRESS]

- No changes or additions to the Scope of Work for this subtask.

B. CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION/WASTE DISCHARGE REQUIREMENTS PROGRAM [IN PROGRESS]

- No changes or additions to the Scope of Work for this subtask.

C. NATIONAL MARINE FISHERIES SERVICE ESA SECTION 7 CONSULTATION [IN PROGRESS]

- No changes or additions to the Scope of Work for this subtask.

D. U.S. FISH AND WILDLIFE SERVICE ESA SECTION 7 CONSULTATION [IN PROGRESS]

- No changes or additions to the Scope of Work for this subtask.

E. FISH AND WILDLIFE COORDINATION ACT [NEW TASK]

- The Fish and Wildlife Coordination Act (FWCA) of 1958, as amended (16 U.S. Code [U.S.C.] §661 et seq.) requires that federal agencies consult with the U.S. Fish and Wildlife Service (USFWS) and the head of the agency exercising administration over the wildlife resources of the particular state, “whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever” (16 U.S.C. 662). FWCA compliance was completed for the overall flood protection project in 1999. Supplemental FWCA reporting was completed in 2009 for the Napa Creek portion of the overall flood protection project. As a result, the USACE anticipates that the current Increment 2 design will also require a Supplemental Coordination Act Report. HDR will assist the USACE in compiling the Supplemental Coordination Act Report. The USACE will be the lead author for the Supplemental Coordination Act Report, which will be based largely off the Supplemental USFWS and National Marine Fisheries Service (NMFS) Biological Assessments (BAs). HDR will provide additional species information within the Project area to the USACE that may not be covered by the Supplemental USFWS and NMFS BAs for inclusion in the Supplemental Coordination Act Report. Documentation of compliance with the FWCA will be included in the Draft Supplemental EA/EIR.

Deliverables:

- None.

Assumptions:

- HDR will only support the USACE for this task. The USACE will be the lead author for the Supplemental Coordination Act Report.
- No additional habitat mapping nor habitat impact calculations

will be required to support the Supplemental Coordination Act Report.

**F. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE 2081
INCIDENTAL TAKE PERMIT [IN PROGRESS]**

- No changes or additions to the Scope of Work for this subtask.

**G. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE LAKE
AND STREAMBED ALTERATION AGREEMENT [IN PROGRESS]**

- No changes or additions to the Scope of Work for this subtask.

H. PRECONSTRUCTION BAT SURVEYS [NEW TASK]

- HDR will conduct a total of three daytime preconstruction surveys and six nighttime surveys within the Project area, specifically at the Lincoln Avenue Overcrossing (Bridge) and the surrounding riparian corridor. Preconstruction surveys will occur during summer and fall months (July through October) prior to work activities. Nighttime preconstruction surveys will occur on the same day of a daytime survey as well as the following night (two consecutive evenings). At least one qualified bat biologist will lead survey efforts in these cases. The HDR Biologist will survey the bridge, related infrastructure, and surrounding trees for bat signs, roosts, or individuals. HDR will summarize the survey results in a Technical Memorandum submitted to the District and USACE.

Deliverables:

- Draft and Final Technical Memorandum summarizing the results of each daytime and nighttime survey (PDF and MS Word).

Assumptions:

- One round of USACE and District review of the Draft Technical Memorandum is assumed to finalize the document.

I. BAT MITIGATION PLAN [NEW TASK]

- If bats are determined to be present, or their presence cannot categorically be ruled out, HDR will develop a Bat Mitigation Plan (BMP). The BMP will outline strategies to minimize impacts on bats during construction activities associated with in-water work at the Lincoln Avenue Overcrossing (Bridge). The BMP will address the need for follow-up surveys, long-term monitoring, and/or potential for humane bat eviction and exclusion, if deemed necessary. The BMP is completely contingent on the results of preconstruction surveys described in the Task3.3, Subtask H. HDR will submit the BMP to the District and USACE.

Deliverable:

- Draft and Final BMP (PDF and MS Word).

Assumptions:

- One round of USACE and District review of the Draft BMP is assumed to finalize the document.
- This task does not include implementation and monitoring of

the BMP, which would be covered under a separate Scope of Work and fee in a subsequent Amendment.

J. CITY OF NAPA TREE PERMIT SUPPORT [NEW TASK]

- Through coordination with the District and landscaping team, it was determined that a City of Napa tree permit is needed for the trees that are anticipated to be removed within the Project footprint. HDR will support the District with this task by helping to identify the protected trees that fall under the tree ordinance within the Project footprint. HDR will develop a table that identifies the protected trees to be removed within the Project footprint based off the tree survey data that has been collected for the Project. HDR will provide this table to the District so it can develop the tree permit application. The District will be responsible for preparing, submitting, and obtaining the tree permit for the Project.

Deliverable:

- Table of protected trees to be removed by the Project for inclusion in the tree permit application (MS Excel or MS Word).

Assumptions:

- HDR will use previously collected tree survey data for this task. HDR will not complete additional tree surveys under this task.
- HDR will not complete a certified arborist survey under this task. If a certified arborist survey is necessary, additional scope and fee will be prepared and included in a subsequent Amendment.
- HDR will not complete a site visit and tree tagging under this task. If tree tagging is necessary, additional scope and fee will be prepared and included in a subsequent Amendment.
- The District will lead preparation and submittal of the tree permit to the City of Napa.

K. ADDITIONAL EFFORT FOR AGENCY COORDINATION [IN PROGRESS]

- HDR’s Environmental Lead and Senior Biologists will coordinate directly with resource agency staff to facilitate permit issuance. This additional coordination involved/will involve:
 - One Early Agency Coordination Meeting to reintroduce the Project to the California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board, USFWS, and NMFS, and to inform them of the current design and Project schedule. This meeting occurred on January 17, 2024.
 - Up to 10 additional hours of post-application submittal coordination time for each resource agency—USACE San Francisco Regulatory Division, CDFW, NMFS, and USFWS—to provide written responses to resource agency comments necessary to deem the applications/consultations complete.

Deliverable:

- MS PowerPoint presentations, meeting agendas, and notes (PDF).

Assumptions:

- If, over the course of the Project, it is determined that additional coordination time is needed to secure permits and complete consultations beyond what has been assumed and included in the original Contract Amendment 1 and this Amendment, then additional fee will be prepared and included in a subsequent Amendment.

L. NHPA SECTION 106 CONSULTATION [IN PROGRESS]

- No changes or additions to the Scope of Work for this subtask.

M. HISTORIC PROPERTIES TREATMENT PLAN [NEW TASK – NOT YET INITIATED]

- A previous National Register of Historic Places (NRHP) eligibility assessment has determined that site CA-NAP-241 (the River Glen site) is eligible for the NRHP under Criterion D. The floodwall will physically affect the portion of the site that contributes to the significance of CA-NAP-241; therefore, the floodwall will cause an adverse effect on this historic property (pending SHPO concurrence). HDR will conduct the data recovery work to partially resolve the adverse effect in accordance with the Project's PA and Section 106 of the NHPA.
- HDR will prepare a Historic Properties Treatment Plan (HPTP), which includes a research design that will guide the field excavation strategy, laboratory and special study analyses, and interpretation. Previous subsurface excavations have demonstrated that the site is large, and parts of it are likely to be highly disturbed. However, the Project will only impact a small portion of the site, though admittedly the densest and most potentially sensitive part of the site. Accordingly, the data recovery effort will focus on locations likely to be disturbed or destroyed by Project construction. However, HDR acknowledges that the proposed effort in the HPTP is subject to consultation and up to two rounds of review by the participating Native American Tribes, USACE, and SHPO.
- To guide the fieldwork, laboratory processing, artifact analyses, and site interpretation, HDR will develop an HPTP containing the following elements:
 - A research design laying out the questions to be addressed through data recovery work, and informed by and building upon the findings in previous investigations.
 - A description of how the research design follows the requirements of the PA as well as the Secretary of the Interior (SOI) and SHPO guidelines.
 - A description of HDR's personnel qualifications.
 - A description of how placement of excavation units will be determined in the field.
 - A description of excavation techniques to be used.

- HDR’s screening and collection strategy.
- A description of the laboratory work and proposed special studies (e.g., lithic analysis, radiocarbon dating, obsidian hydration (OH) analysis, X-ray fluorescence (XRF) sourcing, starch grain analysis) to be completed.
- An estimated schedule for conducting field excavations and laboratory work associated with the Project and the analytical framework for analysis.
- The HPTP will also include specific protocol to be followed in the case of an inadvertent discovery of human remains. The provisions of the California Health and Safety Code and Public Resources Code will be fully adhered to, including contacting the Napa County coroner and the Native American Heritage Commission should human remains be discovered.
- The HPTP will provide accommodation for the uncertainties inherent in field work, allowing units to be moved, added, or dropped depending on results.

Deliverables:

- Draft, Revised Draft and Final HPTP (PDF and MS Word).
- Curation agreement (when finalized with approved repository).

Assumptions:

- Up to two rounds of review of the HPTP by the participating Native American Tribes, USACE, and SHPO.

**N.HISTORIC PROPERTIES TREATMENT PLAN
IMPLEMENTATION [NEW TASK – NOT YET INITIATED]**

- HDR will implement the data recovery program developed and approved in the HPTP. Fieldwork will conform to the research design, and the District, USACE, and participating Native American Tribes will review and approve variation from the HPTP. SOI-qualified personnel will oversee and directly supervise fieldwork. Additional fieldwork tasks include a pre-excavation walkover of the site to confirm the location of the excavation units, site photography, mapping, soil profiling, and unit backfilling. Following completion of the data recovery excavation, HDR will sort, process, and analyze the site assemblage.
- Based on artifact counts from previous investigations, HDR assumes that approximately 7,000 lithic artifacts, 70 to 90 flaked and ground stone tools, and faunal remains will be recovered during data recovery excavations. Radiocarbon and starch grain sample extractions will be completed during fieldwork, prepared in HDR’s laboratory, and submitted to the various specialists/laboratories for analysis.
- Assumptions include:
 - The data recovery excavation effort will consist of an estimated 7.0 cubic meters of cultural deposit and will exclude the postdeposition disturbance observed in the upper approximately 40 centimeters of the site.

- No historic-era features will be encountered requiring documentation. Recovery of historic-era artifacts will be minimal and is not a focus of the excavation.
- No more than one subsurface precontact feature will be identified during excavation.
- Fieldwork can be completed in up to 12 field days with a crew of 5 field archaeologists: 1 Field Director, 1 Crew Chief, 2 Field Technicians, and 1 Field Laboratory Technician.
- The Principal Investigator will be in the field for 50 percent of the time.
- Two HDR laboratory technicians will complete laboratory sorting and cataloging at HDR's facility in Sacramento, California.
- If applicable, special studies will consist of radiocarbon dates by Beta Analytic, and XRF/OH samples by Northwest Research Obsidian Studies Laboratory and Willamette Analytics.
- HDR will complete final curation preparation following completion of special studies, and will conform to the standards of the approved curation facility.
- HDR will prepare a technical report, which will follow a standard *Archaeological Resource Management Report* (published in 1990 by the California Office of Historic Preservation) format, incorporating and considering the results of the previous excavations.
- HDR will distribute the technical report to the District, USACE, and participating Native American Tribes for review and comment prior to completion.

Deliverables:

- Draft, Revised Draft, and Final technical report (PDF and MS Word).

Assumptions:

- No historic-era features will be encountered that require documentation.
- No more than one subsurface precontact feature will be identified during excavation.
- Fieldwork can be completed in up to 12 field days with a crew of 5 field archaeologists: 1 Field Director, 1 Crew Chief, 2 Field Technicians, and 1 Field Laboratory Technician.
- The Principal Investigator will be in the field for 50 percent of the time.
- The number and placement of excavation units may be revised based on observed conditions provided data recovery goals detailed in the HPTP are met.
- Final curation costs will be determined by the specific repository and are not included herein.
- Removal, analysis, and repatriation of encountered human remains during excavation will follow the approved protocol detailed in the HPTP (see Task 3.3, Subtask M) and will not significantly affect the excavation's schedule, scope, or budget.

O. BI-MONTHLY DISTRICT, USACE, AND HDR ENVIRONMENTAL MEETINGS FOR THE EXTENDED PERIOD OF PERFORMANCE [IN PROGRESS]

- HDR will attend environmental coordination meetings with the District and USACE twice per month for the duration of the extended period of performance. These meetings will inform the District and USACE of environmental-related task progress to date; critical activities; interdependencies of work products, including the design; key issues and resolutions; schedule status; and key decisions.

Deliverables:

- Meeting agendas and notes (PDF).

Assumptions:

- Bi-monthly environmental coordination meetings will continue through April 2025.
- Up to four HDR staff (Environmental Lead, Permitting Lead, Cultural Resources Lead, Supplemental EA/EIR Task Lead) will attend bi-monthly environmental coordination meetings.
- Meetings will be virtual and up to 1 hour each.

TASK 4. HAZARDOUS AND TOXIC MATERIALS SUPPORT

- No changes or additions to the Scope of Work for this task.

TASK 5. ECONOMICS

- No changes or additions to the Scope of Work for this task.

TASK 6. SITE RECONNAISSANCE

- No changes or additions to the Scope of Work for this task.

TASK 7. SUPPLEMENTAL SURVEY AND POTHOLING SURVEY FOR FINAL DESIGN

- No changes or additions to the Scope of Work for this task.

TASK 8. HYDROLOGY AND HYDRAULICS

- No changes or additions to the Scope of Work for this task.

TASK 9. SCOUR AND EROSION PROTECTION

- No changes or additions to the Scope of Work for this task.

TASK 10. GEOTECHNICAL

A. SITE INTERPRETATION AND PRESENTATION OF GEOTECHNICAL HISTORICAL DATA BASED ON 35% DQA COMMENTS [NEW TASK – COMPLETE]

- Analysis prepared for the 35% design submittal used soil information previously presented by USACE. However, based on review comments received on the 35% design submittal, USACE required additional

compilation, interpretation, discussion, and presentation of this past geotechnical data. The following tasks are required to address USACE's comments:

- Collect, review, and interpret available information on geologic conditions within the Project area to present a discussion of regional and site geology and seismicity.
- Prepare plan and profile drawings, and provide a geologic interpretation of subsurface conditions along the Project alignment as follows:
 - Obtain from USACE electronic records of past boring logs to develop boring sticks for soil profiles;
 - Manually generate boring stick and cone penetrometer test (CPT) traces from the PDF copies of explorations since electronic records of past CPTs and many of the past borings are not available. The sticks will include summaries of geotechnical data such as material type, sampler blow counts, and laboratory test data, where available;
 - Prepare plan and profile views of explorations; and
 - Make geologic and stratigraphic interpretations of subsurface conditions along the entire Project alignment.

Deliverables:

- Plan and profile figures to be included in 65% DDR (PDF).

Assumptions:

- USACE will provide available historic boring and CPT logs.

B. ADDITIONAL GEOTECHNICAL ANALYSIS FOR THE 65% DRY BYPASS ALTERNATIVE 2 DESIGN SUPPORT [NEW TASK – COMPLETE]

- HDR's original assumption for the geotechnical work associated with the Dry Bypass was that geotechnical information from the original Dry Bypass design and construction could be used to support the design of the floodwall closures and structures. However, due to the complexity of the additional structures and their interface with the floodwall, additional geotechnical analysis and design was required to support the 65% Design of the Dry Bypass. As agreed to with the District, the additional geotechnical analysis was completed using existing data, and no new data collection was performed. The design support and analysis consisted of the following:
 - Perform seepage and stability analyses at the following location along the proposed closure sections:
 - i. A representative cross section across the proposed vault structure for the closure section north of the Soscol Bridge abutment.
 - Perform steady-state seepage analyses at one cross section location for:
 - ii. Water at the design 100-year water surface elevation (WSE); and
 - iii. Water at top of wall WSE (100-year WSE plus 3 feet).
 - Perform analyses at one cross section location for:

- i. End of construction (EOC) stability.
 - ii. Long-term landside stability under steady-state seepage conditions at a typical non-storm period WSE.
 - iii. Long-term landside stability under steady-state seepage conditions with water at the design WSE.
 - iv. Long-term stability under steady-state seepage conditions with water at top of wall elevation.
 - v. Waterside rapid drawdown conditions.
- Perform settlement analysis at a location where the greatest amount of fill will be placed to estimate maximum magnitude of consolidation settlement and immediate settlement that could occur following embankment, structure, and T-wall construction.
 - Develop design seismic events for the Operating Basis Earthquake (OBE) and Maximum Design Earthquake (MDE) for the structures.
 - Perform analyses to estimate potential for liquefaction triggering and magnitudes of liquefaction-induced settlement for the OBE and MDE at a representative location for the vault/floodwall structure.
 - Perform analyses to estimate waterside pseudo-static seismic stability and magnitudes of waterside slope deformations for the vault/floodwall structure for the OBE and MDE events.
 - Develop and provide geotechnical recommendations for use in the design and incorporation into the specifications.

These include recommendations for:

- i. Earthwork, including site preparation, subgrade preparation, engineered fill material, and fill placement and compaction.
 - ii. Floodwall and vault structure foundation support recommendations, including soil-bearing capacity and modulus of subgrade reaction.
 - iii. Lateral loads on floodwalls, including static wall pressures and seismic wall pressures.
 - iv. Resistance to lateral loads on vault structure, including frictional resistance, passive pressure resistance, and passive pressure mobilization relationship (load versus displacement curve).
- Present the information described above in the 65% DDR for the Dry Bypass Alternative 2 design.

Deliverable:

- Geotechnical section in 65% DDR for Dry Bypass Alternative 2 Design.

Assumptions:

- As agreed with the District, HDR will base design of the Dry Bypass facilities on available, existing geotechnical data, and acquisition of additional geotechnical data will not be required.
- HDR will base the design on data from the following sources:
 - USACE Napa River Geotechnical Basis of Design Report (BODR);

- Logs of borings by Kleinfelder Inc. for the Soscol Avenue Bridge (as presented in 1999 drawings); and
- Logs of test borings by Transystems for the Napa Valley Wine Train (NVWT) Relocation project (as presented in 2006 drawings).
- HDR will conduct the seepage and stability analysis in accordance with USACE Engineer Manual (EM) 1110-2-1913, EM 1110-2-1902, and EM 1110-2-2502:
 - Development of seismic events for the OBE and MDE will follow guidance in EM 1110-2-2502.

**c. ADDITIONAL ANALYSIS TO ADDRESS 65% DQA/ATR
COMMENTS ON THE INCREMENT 2 FLOODWALLS [NEW TASK – COMPLETE]**

- The USACE also required soil-structure interaction analysis at multiple bend locations in the floodwall along Increment 2. Soil spring relationships (load versus displacement curves) were developed for use in soil-structure interaction analysis at these wall bend locations.

Deliverables:

- Tables presenting soil spring relationships (PDF).

Assumptions:

- Soil spring relationships are based on existing soil data.

**d. ADDITIONAL ANALYSIS TO ADDRESS 65% DQA/ATR
COMMENTS ON RIVERBANK SLOPE STABILITY [NEW TASK – COMPLETE]**

- The geotechnical slope stability work related to the riverbank scour analysis required by USACE was unanticipated. The original premise was that riverbank slopes were to be protected/fortified where needed such that no scour would occur and, therefore, no geotechnical stability analyses related to scour would be needed.

Deliverables:

- PDF figures presenting results of the stability analyses at Station (STA) 6+20 and STA 36+50 for incorporation into the scour analysis.

Assumptions:

- Stability analyses were performed at STA 6+20 and STA 36+50, corresponding to scour evaluation locations.

**e. ADDITIONAL EFFORT TO PREPARE MEMOS
REGARDING BORINGS AND SITE CLASSIFICATION
[NEW TASK – COMPLETE]**

- Addressing USACE comments received on the 65% DQA and ATR reviews will require the following unanticipated additional analyses:
 - Requests for more detailed discussion and presentation of the basis for the soil parameters used for analyses.

- Stability analysis for cross sections using a bi-linear soil strength envelope rather than the originally used single line envelope, which was selected based on the original USACE BODR.
- Seepage analysis at the STA 15+00 and STA 22+95 cross sections assuming a seepage block is in the permeable layers.
- Sensitivity analyses for cross sections, including adjusting stratigraphy and soil parameters to better bracket potential variation in subsurface conditions.

Deliverables:

- Response to comments to be provided in the (MS Excel) comment logs.
- Memoranda (MS Word) addressing critical DQA and ATR comments associated with the request for additional subsurface geotechnical borings and revisions to the site classifications.

Assumptions:

- None.

F. ADDITIONAL GEOTECHNICAL ENGINEERING ANALYSES REQUIRED TO ADDRESS THE GEOTECHNICAL MEETING REQUESTS AND PROVIDE GEOTECHNICAL DESIGN RECOMMENDATIONS [NEW TASK – IN PROGRESS]

- Addressing USACE’s comments received on the 65% SAR, DQA, and ATR reviews will require the following additional analyses:
 - Continue the work that was started under Task 10, Subtasks C and E to revise the soil parameters used for analysis by considering USACE’s comments on the DQA, ATR, and SAR.
 - Perform additional evaluation and analyses with the revised soil parameters, including sensitivity analyses, to respond to USACE’s comments on the DQA, ATR and SAR.
 - Incorporate updated and additional analyses as well as corresponding geotechnical conclusions and recommendations into the 95% DDR. These will include:
 - Revisions to the geotechnical recommendations, including foundation recommendations, for the T-wall south of Lincoln Avenue; and
 - Recommendations on whether a cutoff wall will be required north of Lincoln Avenue. This will include recommendations on the type of cutoff wall that would be adequate as well as the depth and lineal extent of such a wall, if needed.

Deliverables:

- Results of analyses to be included in 95% DDR.

Assumptions:

- Changes in soil parameters are anticipated to be refinements and will not affect previously prepared geotechnical and structural designs.

- No significant geotechnical analysis will be required to respond to comments on the 95% design submittal.
- Our design assumes that the existing geotechnical data is sufficient to support a risk informed design that does not require additional explorations, site characterization, and redesign. The adequacy of the existing geotechnical data and geotechnical site classification will be confirmed as a part of a future risk workshop. Additional explorations, site characterization, and redesign, should they be needed, are not included.

G. GEOTECHNICAL ANALYSIS FOR THE 65% DESIGN OF ALTERNATIVE NO. 5 FOR THE DRY BYPASS [NEW TASK]

- HDR proposes to perform the following geotechnical analyses for Alternative No. 5 for the Dry Bypass:
 - Perform seepage and stability analyses at the following locations along the closure section north of the Soscol Bridge abutment:
 - A representative cross section across the proposed vault structure. HDR will update the cross section previously developed for Alternative No. 2 for this purpose.
 - A representative cross section across the proposed floodwall. HDR will update the cross section previously developed for Alternative No. 2 for this purpose.
 - At each cross-section location, HDR will perform steady-state seepage analyses for:
 - Water at the design 100-year WSE; and
 - Water at top of wall WSE (100-year WSE plus 3 feet).
 - Perform analyses at each cross-section location for:
 - EOC stability;
 - Long-term landside stability under steady-state seepage conditions at a typical non-storm period WSE;
 - Long-term landside stability under steady-state seepage conditions with water at the design WSE;
 - Long-term stability under steady-state seepage conditions with water at top of wall elevation; and
 - Waterside rapid drawdown conditions.
 - Perform settlement analysis at a location where the greatest amount of fill will be placed to estimate maximum magnitude of consolidation settlement and immediate settlement that could occur following embankment, structure, and T-wall construction.
 - Perform analyses to estimate potential for liquefaction triggering and magnitudes of liquefaction induced settlement for the OBE and MDE at a representative location for the vault/floodwall structure.
 - Perform analyses to estimate waterside pseudo-static seismic stability and magnitudes of waterside slope deformations for the vault/floodwall structure for the OBE and MDE events.

- Develop and provide geotechnical recommendations for use in the design and incorporation into the specifications. These include recommendations for:
 - Floodwall and vault structure foundation support recommendations, including soil bearing capacity and modulus of subgrade reaction;
 - Lateral loads on floodwalls, including static wall pressures and seismic wall pressures; and
 - Resistance to lateral loads on vault structure, including frictional resistance, passive pressure resistance, and passive pressure mobilization relationship (load versus displacement curve).
- Present the information described above in the 65% DDR for the Dry Bypass Alternative 5 design.
- HDR will respond to the District and USACE’s DQA, ATR, and SAR comments to the geotechnical aspects of the 65% Dry Bypass Alternative 5 analysis and design.

Deliverables:

- Geotechnical section in 65% DDR (MS Word) for Dry Bypass Alternative 5 Design.
- Comment logs (MS Excel) with responses to 65% Dry Bypass Alternative 5 Design.

Assumptions:

- As agreed to with the District, HDR will base the design of the Dry Bypass facilities on available, existing geotechnical data and acquisition of additional geotechnical data will not be conducted.
- HDR will base the design on data from the following sources:
 - USACE Napa River Geotechnical Basis of Design Report (BODR);
 - Logs of borings by Kleinfelder Inc. for the Soscol Avenue Bridge (as presented in 1999 drawings); and
 - Logs of test borings by Transystems for the Napa Valley Wine Train (NVWT) Relocation project (as presented in 2006 drawings).
- HDR will conduct the seepage and stability analysis in accordance with USACE EM 1110-2-1913, EM 1110-2-1902, and EM 1110-2-2502:
- Development of seismic events for the OBE and MDE will follow guidance in EM 1110-2- 2502.

TASK 11. STRUCTURAL

- HDR will develop design calculations, drawings, and specifications as well as update the DDR for the 95% submittal as outlined in the subtasks below.

A. COMPLETE 65% DESIGN OF ALTERNATIVE 2 FOR THE DRY BYPASS [COMPLETE]

- The initial scope of the Dry Bypass did not include the design of the 30-foot-deep, rectangular- shaped vault structure, which is serving as a junction

box for the inflow of a 72-inch reinforced concrete pipe and outflow of a 48-inch and 42-inch reinforced concrete pipe. The vault serves as a portion of the flood control project; therefore, it was designed per USACE standards, which included designing the vault for USACE load cases and developing a finite element model of the vault due its size and configuration. Strength and stability analysis was performed for the rectangular-shaped vault structure. One circular vault structure specific for the Dry Bypass, which was also designed as part of the 65% design, serves as a junction for the inflow of a 72-inch and 48-inch reinforced concrete pipe as well as the outflow of a 72-inch reinforced concrete pipe. The circular vault structure was sized using the Portland Cement Association's guidance for circular concrete tanks, and uplift/floatation analyses were performed on the vault structure. Three plan sheets were developed for the 65% design of Alternative 2 along with an updated DDR specific for the vault design and flood protection system.

Deliverables:

- 65% Design of the Dry Bypass (PDF).

Assumptions:

- The design will not be progressed beyond the 65% design unless directed by the District. An Amendment will be required to complete the 95% and 100% designs.

B. GATE DESIGN [NEW TASK – IN PROGRESS]

- The 35% and 65% efforts included design of two 30-foot-wide swing gates at the Ace & Vine and Pet Hospital facilities, and one 15-foot-wide swing gate north of Lincoln Avenue at STA 10+10. The original scope only included the design of one swing gate type, which was assumed to be the 30-foot-wide gate at the Ace & Vine and Pet Hospital facilities. The design of the second swing gate north of Lincoln Avenue included analysis and design of the structural steel members and framing system of the swing gate using USACE standards and load cases. The design also included sizing of the hinge and pintle system connecting the gate to the floodwall north of Lincoln Avenue along with developing 35% and 65% level construction drawings of the swing gate. HDR understands that the swing gates at the Ace & Vine and Pet Hospital facilities are now being resized from an opening of 30 feet reduced to 20 feet per direction from the District. The structural framing members and hinge/pintle assemblies will require resizing but will attempt to replicate the original 30-foot-wide opening member sizes, if feasible, to minimize design costs.

Resizing requires additional effort to update and develop the construction drawings. HDR will design and submit the 20-foot-wide swing gate as part of the 95% design package.

Deliverables:

- Gate plans, specifications, calculations, and DDR updates as a part of the 95% Design Submittal (PDFs and MS Word).

Assumptions:

- The design is based on a 30-foot-wide gate design applied to a 20-foot wide opening. Deviations from this opening may result in an Amendment.

C. 36-INCH WATERLINE CROSSING – KING PILE PENETRATION DESIGN [NEW TASK – IN PROGRESS]

- The initial scope assumed that the 36-inch waterline could pass through the new sheet pile wall using a standard detail from the USACE EM specific to pipe penetrations. After receiving USACE’s comments on the 35% design and meeting with the City of Napa, alternatives were developed for the 36-inch waterline pipe penetration. The results of the alternatives and meetings resulted in a king pile wall system in lieu of the typical PZ-19 sheet pile wall with a pipe penetration that was originally scoped.

Deliverables:

- Presentation of the proposed design and construction sequence associated with the 36- inch waterline penetration through the wall.
- Revised design and details for the 36-inch waterline penetration through the king pile floodwall (PDF).

Assumptions:

- The City of Napa and USACE agree to the king pile floodwall alternative.

D. SECONDARY RETAINING WALLS [NEW TASK – IN PROGRESS]

- Secondary retaining walls are required just north of Lincoln Avenue and at the North Tie-In location. HDR will set the retaining walls toward the riverside of the floodwall to allow for vehicle access to the Operations and Maintenance (O&M) road. HDR will design the retaining wall for varying backfill slopes using USACE standards and load cases. HDR anticipates developing plan and profile monolith sheets for the retaining walls along with wall sections.

Deliverables:

- Submittal of the 95% and 100% design of the secondary retaining walls (PDF).
-

Assumptions:

- .The 95% and 100% submittal includes plans, calculations, and DDR updates specific to the secondary retaining walls and their design.

E. FLOODWALL REDESIGN BASED ON NEW GEOTECHNICAL INFORMATION [NEW TASK]

- Redesign of the floodwalls using new geotechnical information will be required based on changes needed to respond to USACE’s comments in the DQA, ATR, and SAR. HDR will incorporate the new geotechnical information into the redesign. The redesign is anticipated to include seepage cutoff walls for a number of sections within the stations north of Lincoln Avenue. The

calculations for the floodwalls will need to consider the cutoff as well as revise the uplift and stability calculations. Additional redesign efforts will include updating the floodwall sections, details, and monolith sheets for inclusion of the cutoff wall.

Deliverables:

- Submittal of the 95% and 100% design (PDFs) of the updated floodwalls.

Assumptions:

- The additional geotechnical sensitivity analysis performed under Task 10, Subtask F will result in new geotechnical soil parameters, requiring revisions to the structural calculations.
- No major changes to the floodwall geometry will result from the design.
- The 95% and 100% submittals include plans, calculations, and DDR updates specific to the updated floodwalls and their design.
-

F. COMPLETE THE 65% DESIGN OF ALTERNATIVE 5 FOR THE DRY BYPASS

- HDR will use the District's selected design alternative and move forward with performing the 65% design of the Dry Bypass. HDR understands that Alternative 5 consists of an approximately 25-foot-tall, semi-rectangular-shaped vault that will be integrated with the floodwall system, a new circular vault structure on the dry side of the bypass along with a trash rack system, and a new manhole located on the flood side of the bypass. The semi-rectangular vault serves as a portion of the flood control project; therefore, HDR will design it per USACE standards, which include designing the vault for USACE load cases and developing a finite element model of the vault due to its size and configuration.

Deliverables:

- Submittal of the 95% and 100% design of the updated Dry Bypass floodwall and vaults, including design drawings, calculations, specifications, and a design documentation report (MS Word).

Assumptions:

- The District and USACE approve the reconnaissance-level design for Alternative 5 of the Dry Bypass to move forward.
- HDR and the District will coordinate on developing and selecting a District-preferred alternative to take through 65% Design for the Dry Bypass. Alternative 5 has been used for development of this scope; deviations from Alternative 5 may result in an Amendment.
- The Alternative 5 design for the Dry Bypass will go through HDR's DQC and the District's ATR.
- The USACE DQA, ATR, and SAR reviews will take place as part of the 95% review process.

TASK 12. COMPLETE 35% DESIGN

- The floodwall alignment shown in the 35% Design Submittal required revisions based on District coordination with private homeowners along Shoreline Drive within the Lake Park Subdivision.

A. LAKE PARK FLOODWALL REALIGNMENT [NEW TASK – COMPLETE]

- HDR worked with the District to lay out the floodwall alignment through the Lake Park Subdivision, which was based on a concept of a Shared Use Easement. The Shared Use Easement (20-foot-wide setback from the existing City of Napa Flood Protection Easement and 15-foot-wide O&M easement) established the floodwall alignment through this reach. Homeowners along Shoreline Drive did not find this alignment agreeable. Based on additional coordination between the homeowners and the District, the District directed HDR to modify the floodwall alignment, which required development of alignment alternatives exhibits, feasibility level cost estimates, and additional coordination with the District.

Deliverables:

- Alignment Alternatives Exhibits (PDF).
- Feasibility-level cost estimates (PDF).

Assumptions:

- None.

TASK 13. 65% DESIGN

- The 65% Design Submittal was assumed to be further development of the Project presented as a part of the 35% Design Submittal; however, many of the key features presented in the 35% Design Submittal had been modified to meet the requests of the District, such as the waterside trail south of Lincoln, the 36-inch waterline City of Napa requirements, the access points north of Lincoln Avenue, and real estate coordination. Additionally, the complexity of the drainage system associated with the Dry Bypass increased from the concept presented in the 35% design. The design effort for the 65% design was greater than anticipated as the 35% design had estimated 175 sheets would be needed for the plans and the number of sheets required for the 65% design will be a total of 290 sheets. Efforts associated with additional work are detailed below.

A. DEVELOPMENT OF DRY BYPASS CONCEPTUAL DESIGN ALTERNATIVES FOR THE RISK INFORMED DECISION MAKING (RIDM) DESIGN CHARRETTE [NEW TASK – COMPLETE]

- The 65% design of the Dry Bypass included a new vault structure at the existing saddle manhole that tied the existing 42-inch storm drain line and extension of the 72-inch storm drain line into a single penetration through the floodwall. The landward location of the structure was raised as a concern during the Risk Informed Decision Making (RIDM) workshop that led to a follow-up design charrette to evaluate and select a preferred alternative for the Dry Bypass. Four conceptual design alternatives were developed for the

charrette and presented to the subject matter experts. The outcome of the charrette was the selection of a new design, Alternative 2, to move forward for design.

Deliverables:

- Four Conceptual Alternatives Plans (PDF).
- Presentations (PDF).

Assumptions:

- No additional changes to the Dry Bypass Design (Alternative 2) concept selected during the design charrette are anticipated.

B. DEVELOP 65% DESIGN FOR ALTERNATIVE 2 FOR THE DRY BYPASS [NEW TASK – COMPLETE]

- HDR developed the 65% designs for the Dry Bypass (Alternative 2) that included modifications and updates to calculations, plans, the DDR, and the Opinion of Probable Construction Cost. The Dry Bypass design included the floodwall closures, one large vault structure located on the waterside of the floodwall, two smaller vault structures, a saddle manhole, a drain inlet, and grading on the landside of the floodwall.
- HDR submitted the 65% design of the Dry Bypass (Alternative 2) to the District and USACE for review.

Deliverables:

- 65% design of the Dry Bypass (Alternative 2) calculations, plans (19 sheets), DDR, and OPCC (PDF).

Assumptions:

- None.

C. RECONNAISSANCE LEVEL EVALUATION OF ALTERNATIVE 5 FOR THE DRY BYPASS [NEW TASK]

- After receiving the revised design for the Dry Bypass, the District was not satisfied with the RIDM- selected alternative and asked HDR to develop an alternatives analysis in collaboration with the District to identify a District-preferred design alternative for the Dry Bypass. HDR will develop design concepts in collaboration with the District to evaluate and select a District-preferred alternative for the Dry Bypass.

Deliverables:

- Figures for a reconnaissance level alternative design for the District-preferred design for the Dry Bypass (PDF).

Assumptions:

- The alternatives analysis will focus on reducing the depth of the main vault structure at the floodwall closure by looking to eliminate the extension of the 72-inch drainage line; use the existing 42-inch pipe; avoid modifying the existing City of Napa drainage structures upstream of the closure, allowing the facilities to continue to function as they currently operate; and collect the surface discharge into a secondary

pipe that outfalls in the vault structure with a second penetration.

- HDR will develop a reconnaissance-level concept system layout figure for the District's selected design alternative and present it to the USACE's PDT and subject matter experts for approval prior to implementing changes to the design.
- HDR will develop a feasibility-level cost impact assessment on the concept design changes.
- If the changes are approved, HDR, the District, and USACE will coordinate to incorporate the revisions into the design package and progress the design to 95% and 100%.

D. COMPLETE THE 65% DESIGN OF ALTERNATIVE 5 FOR THE DRY BYPASS [NEW TASK]

- HDR will take the District's selected design alternative and progress to performing the 65% design of the Dry Bypass Alternative 5. The level of detail provided in the drawings and DDR will be expanded and refined as the design progresses through 65% design. HDR will prepare the drawings using AutoCAD software. These drawings will further refine and advance the reconnaissance-level design concept of the Dry Bypass to a 65% design and will include general Project layouts, updated survey and mapping data, floodwall alignments and profiles, typical sections, utility abandonment and relocation details, revetment details, structural details, landscaping and permanent irrigation improvements, and other necessary information to develop construction drawings. Additionally, HDR will coordinate engineering with the environmental team to support updates to the Project Description.

Deliverables:

- 65% Drawings for the Dry Bypass Alternative 5 (11- by 17-inch PDF).

Assumptions:

- The District and USACE approved the Reconnaissance Level Design for Alternative 5 of the Dry Bypass to move forward.
- The 65% design of Alternative 5 for the Dry Bypass will go through HDR's DQC and the District's ATR review, and HDR will present it to the USACE PDT members for review and comment.

E. REDESIGN OF THE 36-INCH WATERLINE (CULTURAL SITE) [NEW TASK – IN PROGRESS]

- Updates to the waterline alignment will require a redesign of the floodwall alignment, a penetration of the waterline, addition of a 36-inch butterfly valve, and revisions to construction sequencing requirements for the waterline construction to accommodate the waterline remaining in its existing alignment. HDR will update the plans, associated details, DDR, and OPCC as a part of the 95% Design Submittal.
- Prior to updating designs, HDR will prepare exhibits depicting the revised waterline alignment and construction sequencing for City of Napa and District coordination and acceptance. Once the alignment has been accepted, HDR will update the design documents.

Deliverables:

- Exhibits depicting the proposed design and associated construction sequence (PDF).
- Revised 36-inch waterline and floodwall design (plans, specifications, DDR updates, and OPCC) submitted as a part of the 95% Design Submittal (PDF).

Assumptions:

- HDR will incorporate redesign of the waterline into the 95% Design submittal (i.e., will not be a standalone submittal).
- HDR will setup a 1-hour virtual meeting with the City of Napa Water Department will be held to discuss watermain redesign requirements prior to the start of design.

F. REDESIGN OF THE 36-INCH WATERLINE (LAKE PARK RELOCATION) [NEW TASK – IN PROGRESS]

- The City of Napa Water Department provided direction to redesign the 36-inch waterline through the Lake Park area after submission of the 65% design. The requested redesign includes realigning the watermain, revising service closure duration requirements, and incorporating two additional butterfly valves. HDR will update the plans, associated details, DDR, construction sequencing, and OPCC as a part of the 95% Design Submittal. As a part of this task, HDR will prepare a technical memorandum detailing the alignment, design, and construction sequencing. HDR will submit a draft memorandum for City of Napa and District review. HDR will address comments and submit a final memorandum to serve as a basis for the waterline redesign.

Deliverables:

- Draft and Final Technical Memoranda (PDF).
- Revised 36-inch waterline and floodwall design (plans, specifications, DDR updates, and OPCC) submitted as a part of the 95% Design Submittal (PDF).

Assumptions:

- HDR will incorporate redesign of the waterline into the 95% Design Submittal (i.e., will not be a standalone submittal).
- The final memorandum will serve as a basis for the 95% Design Submittal.
- HDR will setup a one-hour virtual meeting with the City of Napa Water Department will be held to discuss the requirements on the modifications to the 36-inch waterline and butterfly valves prior to the start of design.

G. SOUTH OF LINCOLN PAVED WATERSIDE TRAIL AND FIRE ACCESS [NEW TASK – COMPLETE]

- The 35% design of the south of Lincoln Avenue recreation trail consisted of a joint, landside, aggregate base, O&M and recreation trail to be carried

through final design. Through coordination with the City of Napa and at the District's request, the design of the recreation trail south of Lincoln Avenue has changed to the waterside of the floodwall and will be a paved recreation trail, meeting the City of Napa's trail standards while having a structural section capable of supporting fire access for the City's smaller fire engine. The trail design required a new access point, with a closure structure near Wall Street and North Bay Drive. The access point was located and sized to accommodate fire access for the smaller fire engine by evaluating turning movements for the fire engine through different points of access. HDR will incorporate these changes into the 95% designs.

Deliverables:

- Recreational trail BODR (PDF).
- Vehicle turning exhibit of fire engine access through closure structure (PDF).
- Updated trail design and alignment to be provided in 95% Design Submittal (PDF).

Assumptions:

- The waterside trail will be required to support the City of Napa's smaller fire engine.
- The closure structure will need to be located to allow for access by the City of Napa's smaller fire engine.
- Crime Prevention Through Environmental Design lighting would not be required for the trail.

H. DESIGN OF THE GRADING FOR THE TIE-IN AT RIVER TERRACE INN TO ACCOMMODATE A WATERSIDE TRAIL AND LANDSIDE FIRE ACCESS [NEW TASK – COMPLETE]

- At the request of the City of Napa Fire Department and as directed by the District, HDR modified the design of the grading interface at the southern end of the Project to support access for the City's aerial ladder truck on the existing fire access easement through the MKD parking lot on the landside of the floodwall as well as accommodate the now waterside trail crossing up and over the floodwall at the high-ground tie-in. HDR will revise the grading plans to reflect the requested changes and will include these in the 95% design.

Deliverables:

- Updated trail design and alignment to be provided in 95% Design Submittal (PDF).

Assumptions:

- Fire access will use the same alignment of the existing trail access at the southern end of the MKD property.

I. DURING AND POST CONSTRUCTION ACCESS EVALUATION FOR NORTH BAY PLYWOOD AND PARIS TOW YARD [NEW TASK – COMPLETE]

- HDR performed a review of the existing access to both North Bay Plywood and the Paris Tow Yard. HDR completed an evaluation to assess impacts on access both during and post construction. HDR used input from the owners on the size and type of trucks entering the facilities to evaluate vehicle turning into the existing drive access points to determine what modifications to the trail or driveway approach aprons were needed. The assessment determined that the trail and O&M along Wall Street would need to be reduced in width, and the driveway apron to North Bay Plywood would need to be widened to allow for continued use of the eastern access for deliveries by truck and trailer. Access to North Bay Plywood during periods of construction would be restricted during utility relocations and roadway paving. The assessment determined that because the Paris Tow Yard requires access 24 hours per day, 7 days per week, temporary access during construction would be needed. Temporary access to the Paris Tow Yard would be provided off Lincoln Avenue through an existing vacant lot. No post Project vehicle impacts on access to the Paris Tow Yard would occur. HDR will incorporate these changes into the 95% design.

Deliverables:

- General construction impact duration expected based on proposed Project features (Email and PDF Figures).
- Vehicle Turning Exhibits for site access to North Bay Plywood (PDF).
- Recommendations on site access modifications (Email and PDF Figures).
- Revised access, paving, and site plans for Wall Street and the O&M recreational trail included as part of the 95% Design (PDF).

Assumptions:

- District/owners to provide access requirements and typical vehicle types to be used in the access evaluation.

J. RELOCATIONS OF EXISTING UTILITIES, PEDESTRIAN ACCESS GATE, AND ONSITE FACILITIES FOR THE PARIS TOW YARD [NEW TASK – COMPLETE]

- HDR performed a site visit with the District and owners of the Paris Tow Yard to evaluate modifications to their existing facilities. HDR and the District determined that their office trailer and restroom facilities would need to be relocated on site, the existing pedestrian gate system and fencing would need to be altered, and a new sewer lateral and cleanout would need to be installed and the existing facilities removed or abandoned. HDR provided an updated site for the Paris Tow Yard.

Deliverables:

- Revised site plan for the Paris Tow Yard, including modifications to the structure locations, gates, fencing and sewer system lateral as part of the 95% Design (PDF).

Assumptions:

- Existing site function will remain.
- The existing pedestrian gate will be reused.
- Security fencing will be provided around the Paris Tow Yard where it interfaces with the O&M road/trail.
- The Deputy Project Manager/Civil Lead, Utility Lead, and one additional staff member conducted one site visit to meet and coordinate with the land and business owners.

K. RESIZING OF THE SWING GATES FOR ACE & VINE AND THE PET HOSPITAL, AND THE EVALUATION OF SITE ACCESS [NEW TASK – IN PROGRESS]

- Per direction from the District, HDR downsized the swing gates for Ace & Vine and the Pet Hospital from 30 feet wide to 20 feet wide. This change was to reduce the cost of the gates and real estate impacts associated with the District's fee easement acquisition associated with the swing of the gates. As a result of the gate size reduction, the District asked HDR to evaluate site access to these two parcels. HDR performed a review of during and post construction access to the Ace & Vine and Pet Hospital. This included an evaluation of the temporary cross access between the two parcels as well as post construction access for delivery trucks through the resized gates for Ace & Vine. HDR used this information to provide Temporary Construction Easement and access easement updates to the District for their appraisals. HDR will incorporate these design changes into the 95% design.

Deliverables:

- Linework for updates to the TCE (CAD).
- Linework for updates to the access easement (CAD).
- Vehicle turning exhibits through cross connection of the properties (PDF).
- Vehicle turning exhibits for post construction access (PDF).
- Resized gates incorporated into the 95% design (PDF).

Assumptions:

- District/owners to provide access requirements and typical vehicle types to be used in the access evaluation.
- Task 11 captures the level of effort for the structural redesign of the swing gates.

L. REMOVAL OF TWO SWING GATES IN THE RIVERPOINTE AREA AND THE REVISED GRADING FOR THE WATERSIDE TRAIL NORTH OF LINCOLN [NEW TASK – IN PROGRESS]

- At the direction of the District, HDR removed two gates presented in the 35% design, a 15-foot- wide pedestrian swing gate and a 20-foot-wide O&M and Emergency Access swing gate, from the River Pointe area. For pedestrian, O&M, and emergency access to be maintain to the waterside, regrading of the waterside trail to provide an up-and-over crossing of the floodwall at Lincoln Avenue and realigning the floodwall at the southern end of the Lake Park City-

owned parcel was required. The trail section was designed to be Americans with Disabilities Act- (ADA-) compliant and modified to support fire access with a turnaround area.

Deliverables:

- The re-design of the waterside trail and removal of gates from the River Pointe area will be incorporated into the 95% design (PDF).

Assumptions:

- Task 11 captures the level of effort associated with the structural calculations of the stoplog gate at the trailhead at Lincoln Avenue.

M. ADDITIONAL TRAIL ACCESS SOUTH OF LAKE PARK [NEW TASK – IN PROGRESS]

- At the direction of the District, HDR created an additional ADA ramp at the southern end of the Lake Park Subdivision, where an existing City access easement exists to provide trail access for a future City access point off Shoreline Drive. HDR will modify grading of the O&M road and the embankment on the landside to allow for an at-grade crossing of the wall, with an unofficial trail access through the City-owned parcel at the southern end of Lake Park. HDR will include the ADA ramp and grading in the 95% design.

Deliverables:

- ADA ramp, access point grading, fencing, and O&M modifications will be included as part of the 95% submittal (PDF).

Assumptions:

- The same ADA ramp style that was used for the other two ramps will be applied for this ramp design.
- The landside access will be an at-grade crossing over the O&M road, and official trail infrastructure will not be included as part of the development on the landside of the floodwall as this will be part of a future City project associated with the site development.

N. LAKE PARK SLOPE EASEMENT EVALUATIONS [NEW TASK – COMPLETE]

- In support of the District’s coordination with the Lake Park homeowners, HDR was asked to evaluate the limit of excavation that could be allowed for future excavations into the existing embankment at the rear of the Lake Park yards as a benefit to the homeowners. This was defined as a slope easement, and HDR provided the lateral extent of this easement to the District for their real estate appraisals.

Deliverables:

- Delineation linework for the slope easement (CAD).

Assumptions:

- The slope easement will be developed by establishing a grading limit that starts 3 feet landward of the edge of the proposed O&M road

and slopes downward at 2 feet horizontal to 1 foot vertical and extends into the ground until it reaches an elevation roughly equal to the existing grades at landside toe of the existing levee in the rear of the yards. This location will be the slope easement line along the rear of the homes of the properties adjacent to the floodwall along Shoreline Drive.

TASK 14. 95% DESIGN

- The 95% design as originally scoped was assumed to reflect the designs for the Project features finalized and presented in the plans and specifications with additional detailing and refinement of the designs to be included with a 100% submittal. The revised scope for the 95% submittal will be to take the Project to 100% design such that the remaining work for the 100% submittal will consist of effort to respond to, address changes to, and close out open comments from the DQA, ATR, and SAR reviews. The 95% design will consist of an updated set of drawings (approximately 290), technical specifications, OPCC, construction schedule, and DDR expanded on the 65% design submittal. The submittal will also include written responses to DQA, ATR, and SAR comments on the 65% design submittal. The level of effort and designs will reflect changes required to meet the DQA, ATR, and SAR comments on the 65% submittal and will include the following additional tasks requested by the District.

A. COMPLETE THE 95% DESIGN OF ALTERNATIVE 5 FOR THE DRY BYPASS [NEW TASK]

- HDR will move forward with performing the 95% design of the Dry Bypass Alternative 5. The level of detail provided in the drawings and DDR will be expanded and refined as the design progresses through 95% design. The drawings will be prepared using AutoCAD software. These drawings will further refine and advance the 65% level design of the Dry Bypass to a 95% design and will include general Project layouts, updated survey and mapping data, floodwall alignments and profiles, typical sections, utility abandonment and relocation details, revetment details, structural details, landscaping and permanent irrigation improvements, and other necessary information to develop construction drawings. Additionally, HDR will coordinate engineering with the environmental team to support updates to the Project Description.

Deliverables:

- 95% drawings for the Dry Bypass incorporated into the 95% full submittal package (11- by 17-inch PDF).

Assumptions:

- The District and USACE approved the reconnaissance-level design for Alternative 5 for the Dry Bypass to move forward.
- The 95% Design of Alternative 5 will be included with the 95% submittal of the full package and go through HDR's DQC, USACE's DQA, and USACE and the District's ATR and SAR reviews.

B. LAKE PARK SUBDRAINAGE SYSTEM [NEW TASK]

- In support of the District's coordination with the Lake Park home owners and their concern for stormwater runoff flooding their back yards and at the District's direction, HDR revised the design of the O&M road to slope toward the floodwall instead of using the common practice of the O&M road draining away from the flood. This results in a standing water issue present along the landside face of the floodwall. To address this issue, HDR will design a subdrainage system to accommodate drainage along the floodwall. HDR will include this design in the 95% design.

Deliverables:

- Design of the subdrainage system for the Lake Park O&M road included as part of the 95% design (PDF).

Assumptions:

- None.

C. MID-BLOCK CROSSWALK DESIGN [NEW TASK]

Traffic Modification Plans

- HDR will develop 65%, 95%, and final design plans, specifications, and engineer's estimate of construction for the proposed pedestrian crossing mid-block along Lincoln Avenue, adjacent to the Napa River. HDR will finalize the location of the proposed pedestrian crossing along Lincoln Avenue based on discussions with the City of Napa. HDR will prepare plans under the City of Napa's design guidelines and the California Department of Transportation's Standard Plan for the crossing. The proposed improvements include rectangular rapid flashing beacons as well as required signage and striping for pedestrians.

Deliverables:

- Two plan sheets for 65%, 95%, and Final Plans, Specifications, and Estimate (1 inch = 20 feet) (PDF).
- Cost estimates (MS Excel).
- Technical specifications (MS Word).
- Final PDF plans.

Assumptions:

- Two 1-hour agency technical review/coordination meetings (one for each submittal).
- Eight 1-hour Project coordination meetings (four for each submittal).
- The conceptual alternatives will be detailed to present the site plan and facilities necessary to address the complexity of the drainage system and flood protection.
- One round of Quality Assurance (QA)/Quality Control (QC) review (one for each submittal).

Signing and Striping Plan

- HDR will develop signing and striping plans along Lincoln Avenue. HDR will develop the plans to comply with the City of Napa and California Manual on Uniform Traffic Control Devices' guidelines for signage, lane markings, and striping to address vehicular traffic, pedestrians and bicycles.

Deliverables:

- Two plan sheets. (1 inch = 40 feet) (PDF).
- Cost estimates (MS Excel).
- Technical specifications (MS Word).

Assumptions:

- None

TASK 15. 100% DESIGN

- No changes or additions to the Scope of Work for this task.

TASK 16. PUBLIC MEETINGS

- No changes or additions to the Scope of Work for this task.

TASK 17. EVALUATE ALIGNMENT ALTERNATIVES FOR THE ACE & VINE AREA

- No changes or additions to the Scope of Work for this task.

TASK 18. EXPANSION OF TOPOGRAPHIC SURVEY FOR ACE & VINE AND LINCOLN BRIDGE ANALYSIS

- No changes or additions to the Scope of Work for this task.

TASK 19. RISK ASSESSMENT/RISK INFORMED DESIGN

- No changes or additions to the Scope of Work for this task.

TASK 20. IMOLA AVENUE TO HATT BUILDING PRE-DESIGN AND SCOUR ANALYSIS

- No changes or additions to the Scope of Work for this task.

TASK 21. LANDSCAPING PLANS AND SPECIFICATIONS

- No changes or additions to the Scope of Work for this task.

II. COMPLIANCE WITH GOVERNMENT CODE SECTION 7550.

As required by Government Code section 7550, each document or report prepared by CONTRACTOR for or under the direction of District pursuant to this Agreement shall contain the numbers and dollar amounts of the Agreement and all subcontracts under the Agreement relating to the preparation of the document or written report. The Agreement and subcontract dollar amounts shall be contained in a separate section of the document or written report. If multiple documents or written reports are the subject of the Agreement or subcontracts, the disclosure section may also contain a statement indicating that the total contract amount represents compensation for multiple documents or written reports.