

**Meeting of the Central Valley Flood Protection Board
August 28, 2015**

Staff Report

**Three Rivers Levee Improvement Authority (TRLIA)
Yuba Goldfields 100-Year Interim Flood Protection Project, Yuba County**

1.0 – ITEM

Consider Central Valley Flood Protection Board (Board) approval to enlarge and reshape existing dredge tailing embankments in the Yuba Goldfields to provide interim 100-year protection for the urban area of Reclamation District 784 (RD 784) (Attachment A) through Permit No. 19046 (Attachment B).

2.0 – APPLICANT

Three Rivers Levee Improvement Authority (TRLIA)

3.0 – PROJECT LOCATION

The project is located adjacent to the upstream end of the Yuba River South Levee (YRSL) extending approximately 2.1 miles into the Yuba Goldfields (Goldfields), with a second embankment built at “Crossing 21” to the northeast. These locations lie within the floodplain of the left (south) overbank area of the Yuba River, upstream of its confluence with the Feather River and downstream of Daguerre Point Dam, in Yuba County (Attachment A). The State considers the Goldfields to be high ground which have historically been considered to provide flood protection to the urban area of RD 784.

4.0 – PROJECT DESCRIPTION

The proposed project would involve enlarging and reshaping existing dredge tailing embankments at two locations in the Goldfields that are designed to intercept and block 100-year breach flows originating from the South Bank dredge tailings embankment along the Yuba River and holding them long enough to allow flood peaks to pass. The blocked flows would then return to the Yuba River or percolate into underlying groundwater aquifers. These embankments would provide 100-year protection until a permanent 200-year project is constructed, which the applicant is currently evaluating alternatives to extend the existing YRSL in a north-easterly (upstream) direction around

the Goldfields' southern boundary. The first embankment would extend continuously for approximately 2.1 miles and the second would be located at "Crossing 21" (Attachment C). The embankments would be built in active mining areas that are regulated by the State Mining and Geology Board.

The proposed project also includes construction of a 16-foot wide patrol road on the embankment crest, and access ramps within the Goldfields.

If approved, the project will be constructed with 100 percent local funding (no State cost sharing).

5.0 – AUTHORITY OF THE BOARD

California Water Code § 8534, 8590 – 8610.5, and 8700 – 8710

Title 23:

- § 6 – Need for a Permit
- § 11 – Variances
- § 112 – Streams Regulated and Nonpermissible Work Periods
- § 116 – Borrow and Excavation Activities – Land and Channel
- § 121 – Erosion Control
- § 130 – Patrol Roads and Access Ramps

6.0 – AGENCY COMMENTS AND ENDORSEMENTS

The comments and endorsements associated with this project from all pertinent agencies are shown below:

- The U.S. Army Corps of Engineers' (USACE) non-federal letter was received on August XX, 2015 and indicated that the USACE District Engineer has no comments or recommendations regarding flood control because the project does not affect a federally constructed project. This letter has been incorporated into the permit as Exhibit A.
- TRLIA endorsed this project on May 28, 2015 with no conditions. (TRLIA will perform operations and maintenance throughout the interim life of the project since the Goldfields area is not part of an existing Local Maintaining Agency)

7.0 – PROJECT ANALYSIS

7.1 – Project Background

In April 2004, TRLIA was established as a Joint Powers Authority by Yuba County and RD 784. TRLIA's mission is to reduce the risk of flooding in south Yuba County through a group of projects designed to provide 200-year flood protection by improving the State Plan of Flood Control (SPFC) project levees, which protect the RD 784 urban area. Despite ten (10) years of partnership with the State and nearly \$400 million in SPFC improvements, the SPFC, in this area, operates with high risk due to the possibility of being out flanked at its terminus in the Goldfields. A permanent 200-year flood protection project for the Goldfields is currently in design.

The Goldfields encompass approximately 6,850 acres along the south side of the Yuba River near Daguerre Point Dam, approximately ten (10) miles northeast of Marysville. The Goldfields were formed by dredging hydraulic mining debris from the Yuba River floodplain beginning in the early 1900s. The remnant mounds of sands, gravels, and cobbles were deposited along the active riverbank and interior floodplain, generating irregular gravel/cobble hills and an undulating terrain interspersed with ponds.

The RD 784 levee system is part of the SPFC within the Sacramento River Flood Control Project (SRFCP). In a 1953 memorandum between the Federal government and the State of California, the Yuba River south levee of the SRFCP was described as extending from the "Feather River to high ground" for an approximate distance of 7.2 miles. The high ground referred to in the memorandum is the Goldfields.

Research of the history for the high ground determination indicates that the decision was made based on a Yuba River design flow of 120,000 cubic feet-per-second (cfs) in the Yuba River. The design flow was increased to 180,000 cfs in 1970 with the authorization of the New Bullards Bar Dam on the North Fork of the Yuba River. However to date, TRLIA has been unable to locate documentation from either the USACE or State to reaffirm that the Goldfields would continue to function as high ground at 180,000 cfs.

Hydraulic and geomorphic evaluations performed from 2010 to 2013 (by TRLIA) have identified significant erosion points in the south bank tailing mounds of the Yuba River, which could breach in future flood events and allow Yuba River flood flows to enter the Goldfields. If the Goldfields are unable to contain flood flows then flooding in the RD 784 urban area could occur for 100-year and greater events.

TRLIA developed the proposed interim project, in advance of the permanent future 200-year flood protection project for the Goldfields, to improve the functionality of the SPFC,

without modifying SPFC facilities or affecting the SRFCP. It will prevent flanking of the SPFC facilities during a 100-year event. This interim project would provide improved flood protection while TRLIA completes their design and pursues approval of a permanent 200-year Goldfields flood protection project.

7.2 – Project Construction Details

TRLIA proposes to construct the embankments using the Goldfields' existing dredge tailings. The embankments would have a minimum crown (top) width of 35 feet, a waterside slope of 3:1 (horizontal to vertical), and a landside slope of 5:1. The crown of the embankments would be constructed to a height of three (3) feet above the 100-year water surface elevation in the Goldfields.

Substantial portions of the proposed first embankment already exceed the embankment geometry required to construct the 100-year embankment. Approximately 200,000 cubic yards (CY) of tailings will be placed to extend approximately 2.1 miles of high ground into the Goldfields from the upstream end of the YRSL. An additional approximately 10,000 CY of tailings will be placed at "Crossing 21." The fill material would be taken either from adjacent areas that exceed the required flood protection elevation (100-year plus three feet) for the 100-year embankment, or from portions of the surrounding embankment located outside of the embankment geometry.

Where fill material is added to create the specified geometry for the 100-year embankment, the fill will have similar properties to the existing dredge tailing embankments, and therefore will not require stringent earthwork engineering controls. Fill material will be required to be primarily granular (based on USCS classification) and limited to a maximum particle size of ten (10) inches. Fill material will be spread in maximum 18-inch lifts and compacted by the weight of the scrapers and dozers used for material movement and at least one pass of either a vibratory or other compaction roller, so that the resulting mixture achieves the desired strength requirements. Fill will be pushed into ponds and then tracked when the fill is above the water level.

There are no existing Title 23 standards which cover the proposed use of dredge tailings to construct or modify embankments in the Goldfields. Board staff, after review of TRLIA's proposed construction methodology, concurs that this methodology is expected to achieve stable embankments capable of holding back 100-year flows until the permanent 200-year project is designed, approved and constructed.

A 16-foot wide patrol road will be constructed on the crest of the embankment. Six (6) inches of aggregate base rock will be used to construct the patrol road. The embankment crown will be graded to allow travel along the crown of the embankment with maximum 10% grades.

Western Aggregates owns the surface and aggregate rights under the embankment as well as similar rights on both sides of the embankment. Future aggregate mining activities will require that Western Aggregates have the ability to cross the embankment. This is easily done by constructing ramps up and over the embankment. These ramps will not harm the flood protection embankment or reduce its flood protection capability. Cal Sierra owns mineral rights (e.g. gold) within the Goldfields and currently performs dredging operations. The co-agreement with Cal Sierra addresses how dredging operations during the interim period are conducted so that there is no impact flood control.

7.3 – Hydraulic Summary

The proposed project is designed to intercept and block 100-year breach flows originating from YRSL and holding them long enough to allow flood peaks to pass. The blocked flows would then return to the Yuba River or percolate into underlying groundwater aquifers (Attachment D).

Both embankment locations are removed and separated from the Yuba River by thousands of feet of existing dredge tailings. The shaping of these embankments with dredge tailing material would result in no changes to the existing Yuba River floodway and thus no impacts to river hydraulics would result. The existing floodway would continue to convey flood flows in the same manner as today.

After review of TRLIA's proposal and all related design and supporting documents, Board staff has determined that the project is not anticipated to result in any adverse hydraulic impacts to the SRFCP, nor will it modify or affect existing SPFC facilities.

7.4 – Geotechnical Summary

The dredge tailings do not readily support vegetation growth, and no attempt to plant erosion control grasses or vegetation on the embankments is proposed. The dredge material offers its own protection to rain erosion once the surface fines have been washed away. Gullying is not an issue with this material.

Board staff agrees with TRLIA's assessments, which indicate that the proposed project and fill placement (within an active mining area outside of the SPFC) will cause no adverse geotechnical impacts to the SRFCP or existing SPFC facilities.

7.5 –Real Estate Considerations and Operations and Maintenance (O&M)

The proposed project is located on property owned in fee by Western Aggregates (for the 2.1 miles of embankment extension) and the USACE (for the "Crossing 21" embankment location). The lands are regulated by the State Mining and Geology

Board. Western Aggregates holds vested surface aggregate mining rights along the first embankment alignment and Cal-Sierra Development holds vested mineral rights along a portion of the first embankment alignment, and over the second embankment alignment.

Rather than obtaining fee title or an easement for the 100-year embankment footprint, TRLIA intends to sign co-operation agreements with Western Aggregates, Cal-Sierra Development, and the USACE. These agreements will allow TRLIA to construct and maintain the 100-year embankments for the next ten (10) years with options to extend the agreements if needed. Under these agreements TRLIA would be responsible for all regular O&M activities.

Board staff has incorporated Special Condition SEVENTEEN to require execution and review by the Board of said Co-operation Agreements prior to the start of construction at the specific project locations.

7.6 – Extended Permissible Construction Period Variance

Due to the current public safety risk TRLIA is requesting Board approval to begin construction of this locally funded interim 100-year flood protection project as soon as possible, and to be allowed to continue construction during the upcoming 2015-16 flood season, which per Title 23, Table 8.1 runs from November 1 to April 15. TRLIA has submitted a request (Attachment E) that would remove the standard flood season work restriction, contingent upon site and weather conditions.

The following Board standard applies to TRLIA's request:

§ 112(b)(2) – “The board, at the prior written request of the applicant, may allow work to be done during the flood season within the floodway, provided that, in the judgment of the board, forecasts for weather and river conditions are favorable.”

TRLIA has determined that it is possible to carry out construction during the flood season and in wet weather due to the material properties of the dredge tailings. The proposed embankment locations are physically removed and separated from the Yuba River by thousands of feet of existing dredge tailings. Shaping of these embankments with dredge tailing fill will not adversely impact river hydraulics during or after construction. The dredge tailing material is very granular and drains freely. Therefore, even if heavy rains occur over an extended period of time, a few days of dry weather will allow the material to drain so that it can be excavated, placed, and adequately compacted without encountering hydraulic pumping problems typically inherent with regular wet clay material.

Board approval of a variance to Board standards to work during the flood season will allow construction of critical flood control improvements as quickly as possible to provide a 100-year level of flood protection to the RD 784 urban area.

Based on Board staff's review of TRLIA's proposal, it has determined that TRLIA's request to work during the flood season can be granted by variance to the Board's standards without adverse risk to the SRFCP or SPFC facilities. Essentially, the project can be constructed in this area regardless of weather conditions with no impact to the SRFCP or SPFC facilities due to the nature of existing mining activities, material properties of the dredge tailings, and the distance from the main channel of the Yuba River. To incorporate this variance in the draft permit Board staff has added Special Condition TWENTY-FOUR to allow construction, subject to additional requirements, during the flood season.

8.0 – CEQA ANALYSIS

Board staff has prepared the following CEQA determination:

The Board, as a Responsible Agency under CEQA, has reviewed the Initial Study, Mitigated Negative Declaration (IS/MND) (SCH No. 2014022010, February 2014), Addendum (July 2015), and Mitigation Measures for the Yuba Goldfields 100-Year Flood Protection Project, prepared by the lead agency, TRLIA. These documents including project design may be viewed or downloaded from the Board's website at <http://www.cvpfb.ca.gov/meetings/2015/08-28-2015.cfm> under a link for this agenda item. The documents are also available for review in hard copy at the Board and TRLIA offices.

TRLIA determined that the project would not have a significant effect on the environment and adopted the IS/MND with Resolution 2014-3 on April 1st, 2014 and subsequently filed a notice of determination with the State Clearinghouse on April 4, 2014. Since the adoption of the IS/MND, it was determined that a short stretch of embankment was necessary at a location referred to as "Crossing 21" to meet the project objectives of providing 100-year flood protection. An addendum was prepared pursuant to CEQA Guidelines Section 15164 to address the impacts of the additional embankment at "Crossing 21" and a notice of determination was filed on July 16, 2015. Board staff finds that although the proposed project could have a potentially significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. The project proponent has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. These mitigation measures address impacts to air quality,

biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality.

The documents and other materials which constitute the record of the Board's proceedings in this matter are in the custody of Leslie Gallagher, Acting Executive Officer, Central Valley Flood Protection Board, 3310 El Camino Ave., Rm. 151, Sacramento, California 95821.

9.0 – CALIFORNIA WATER CODE SECTION 8610.5 CONSIDERATIONS

- Evidence that the Board admits into its record from any party, federal, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board has considered all the evidence presented in this matter, including the application for Permit No. 19046, supporting technical documentation provided by TRLIA, as well as all evidence submitted up through the hearing on this matter.

- The best available science related to the scientific issues presented by the executive officer, legal counsel, the Department of Water Resources, or other parties that raise credible scientific issues:

In making its findings, the Board has used the best available science relating to the issues presented by all parties.

- Effects of the decision on the facilities of the State Plan of Flood Control (SPFC), and consistency of the proposed project with the Central Valley Flood Protection Plan (CVFPP) as adopted by Board Resolution 2012-25 on June 29, 2012:

The proposed project is expected to result in no adverse hydraulic or geotechnical impacts on the facilities of the SPFC and is consistent with the CVFPP and current Title 23 standards because the project is anticipated to produce no increases in water surface elevation, increases in channel velocities, or adverse geotechnical impacts on SPFC facilities.

- Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

The proposed project will not affect hydrology, climate, or development in this area and only provides an interim solution that will be consistent with the future 200-year protection project for the Goldfields.

10.0 – STAFF RECOMMENDATION

Staff recommends that the Board:

Adopt:

- the CEQA findings;

Approve:

- a variance to the Board's standards to allow construction during flood season from November 1, 2015 through April 15, 2015;
- Draft Encroachment Permit No. 19046, in substantially the form provided; and

Direct:

- the Executive officer to take the necessary actions file a Notice of Determination and to execute the permit.

11.0 – LIST OF ATTACHMENTS

A – Project Maps

B – Draft Permit No. 19046

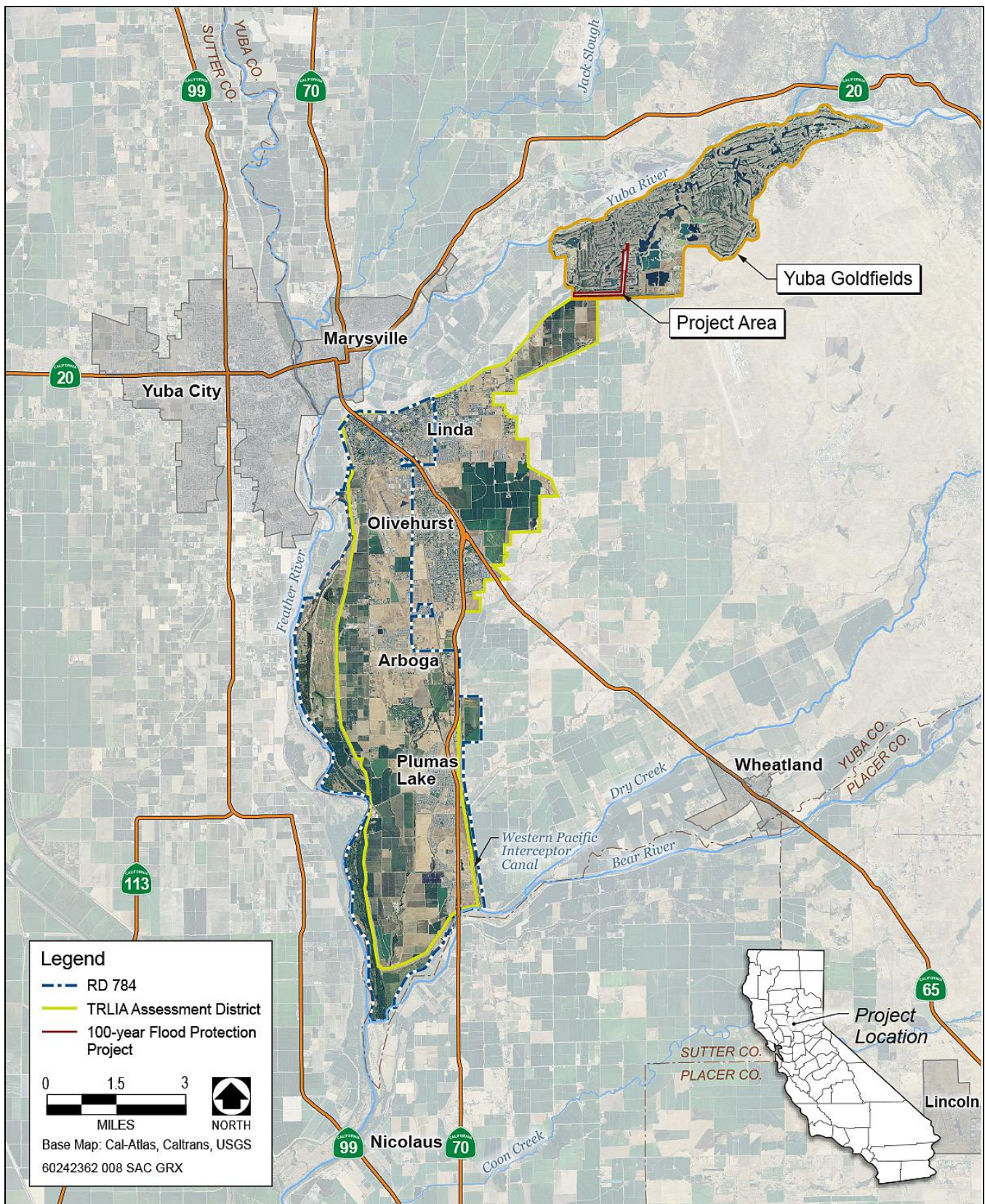
Exhibit A: USACE 408 Non-fed Letter

C – Project Drawings

D – Hydraulic Technical Memorandum

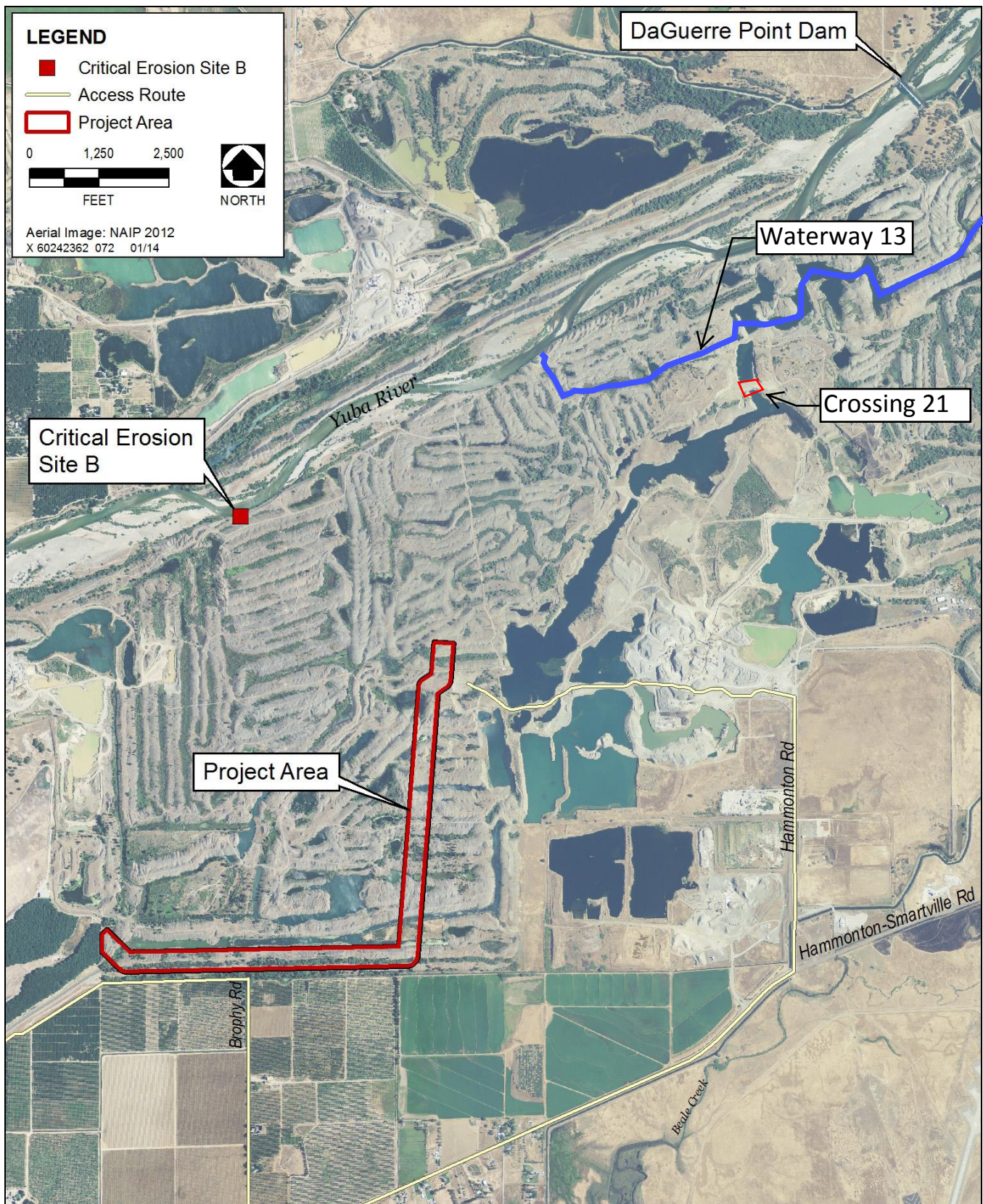
E – TRLIA Request for Extended Permissible Construction Period

Prepared By:	Nancy Moricz, PE, Senior Engineer, Planning Branch
Environmental Review:	Andrea Buckley, Senior Environmental Scientist
Staff Report Review:	Eric Butler, PE, Supervising Engineer, Projects & Environmental Branch Chief
	Mitra Emami, PE, acting on behalf of Len Marino, Chief Engineer
	Nicole Rinke, Deputy Attorney General
	Leslie Gallagher, Acting Executive Officer



Source: TRLIA 2013, adapted by AECOM in 2013

Figure 1
Project Location and Vicinity



Source: TRLIA 2013, adapted by AECOM in 2013

Figure 2
Yuba Goldfields 100-Year Flood Protection Project Area

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 19046 BD

This Permit is issued to:

Three Rivers Levee Improvement Authority
1114 Yuba Street, Suite 218
Marysville, California 95901

To enlarge and reshape existing dredge tailing embankments, construct a 16- foot - wide patrol road on the embankment crest, and construct access ramps within the Yuba Goldfields. The embankments will have a minimum 35- foot crest width, and 3:1 (horizontal to vertical) waterside and 5:1 landside slopes. Approximately 200,000 cubic yards (CY) of tailing embankment will be placed to extend approximately 2.1 miles of high ground into the Yuba Goldfields from the existing Yuba River South Levee, and approximately 10,000 CY of tailing embankment will be placed at Crossing 21 to the northeast.

The project is located adjacent to the upstream end of the Yuba River South Levee extending approximately 2.1 miles into the Yuba Goldfields and at Crossing 21 to the northeast. These locations lie within the floodplain of the left (south) overbank area of the Yuba River upstream of the confluence with the Feather River and downstream of Daguerre Point Dam (Section 1, 11, 12, T15N, R4E, MDB&M, Yuba River, Yuba County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 19046 BD

LIABILITY AND INDEMNIFICATION

THIRTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board (Board) and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State") safe and harmless, of and from all claims and damages related to the Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FOURTEEN: The permittee is responsible for all liability and shall defend, indemnify, and hold the Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State") safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FIFTEEN: The Board and Department of Water Resources (DWR) shall not be held liable for

damages to the permitted project resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

SIXTEEN: If the permittee does not comply with the conditions of the permit and enforcement by the Board is required, the permittee shall be responsible for bearing all costs associated with the enforcement action, including reasonable attorney's fees. Permittee acknowledges that State law allows the imposition of fines in enforcement matters.

REAL ESTATE

SEVENTEEN: The permittee shall execute co-operation agreements with Western Aggregates, Cal-Sierra Development, and the U.S. Army Corps of Engineers (USACE) prior to construction in the respective project areas; which will allow the permittee to construct, operate, and maintain the proposed project per the approved plans and specifications. A copy of all executed agreements shall be submitted to the Board's Chief Engineer for approval prior to construction.

AGENCY CONDITIONS

EIGHTEEN: A letter from the USACE District Engineer dated August XX, 2015 is attached to this permit as Exhibit A in reference to the project.

NINETEEN: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting. If any conditions issued by other agencies conflict with any of the conditions of this permit, then the permittee shall resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces.

PRE-CONSTRUCTION

TWENTY: The permittee shall contact the Board by telephone at (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 20 working days prior to start of work may result in delay of the project.

TWENTY-ONE: The permittee shall provide construction supervision and inspection services acceptable to the Board.

TWENTY-TWO: Prior to commencement of work, the permittee shall create a photo record, including associated descriptions, of the existing site conditions. The photo record shall be certified (signed and stamped) by a licensed land surveyor or licensed civil engineer registered in the State of California and submitted to the Board within 30 days of beginning the project.

CONSTRUCTION

TWENTY-THREE: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit (stated in the permit description), shall be done in the area

without prior approval of the Board.

TWENTY-FOUR: The permittee may continue construction activities to complete the approved project during the flood season from November 1 to April 15 by complying with the following: The permittee shall be responsible for any and all damages to the levees, floodway, and adjacent properties; the State of California, its officers, agents, and employees shall not be held liable for any damages to the project or properties affected by this project; the permittee will continuously monitor storm patterns, rainfall, and river flows to ensure the integrity of the existing flood protection facilities; if necessary the permittee will stop the project, move all equipment to elevations above the forecasted flood elevations, and monitor conditions in the Goldfields to patrol for possible flood flows through the Goldfields; and the permittee understands that this does not relieve them of their responsibility to obtain authorization from all concerned federal, State, and local agencies to work during this period.

TWENTY-FIVE: All addenda or other changes made to the submitted documents by the permittee after issuance of this permit shall be submitted to the Chief Engineer for review and approval prior to incorporation into the permitted project. The submittal shall include supplemental plans, specifications, and supporting geotechnical, hydrology and hydraulics, or other technical analyses. The Board shall acknowledge receipt of the addendum or change submittal in writing within ten (10) working days of receipt, and shall work with the permittee to review and respond to the request as quickly as possible. Time is of the essence. The Board may request additional information as needed and will seek comment from the USACE and / or the local maintaining agency when necessary. The Board will provide written notification to the permittee if the review period is likely to exceed thirty (30) calendar days. Upon approval of the submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes.

TWENTY-SIX: The stability of the Yuba River South Levee shall be maintained at all times during construction.

TWENTY-SEVEN: The permittee shall be responsible for all damages due to settlement, consolidation, or heave from any construction-induced activities.

TWENTY-EIGHT: All tailing embankments shall be constructed to have a minimum crest width of 35 feet, with a 16-foot patrol road located on the crest, with 3:1 (horizontal to vertical) waterside and 5:1 landside slopes. Tailing fill shall be placed in up to 18 inch lifts with a maximum particle size of ten (10) inches. The patrol road and access ramps shall be surfaced with a minimum of four (4) inches of compacted, Class 2, aggregate base (Caltrans Specification 26-1.02A) or equivalent.

TWENTY-NINE: Tailing fill material shall be compacted in lifts, at a minimum, with one pass from a vibratory (or other compaction) roller.

THIRTY: All debris generated by this project shall be disposed of outside the floodway.

THIRTY-ONE: Any damage to the levee crown roadway or access ramps that will be utilized for access for this project shall be promptly repaired to the condition that existed prior to this project.

THIRTY-TWO: Except with respect to the activities expressly allowed under this permit, the work area shall be restored to the condition that existed prior to start of work.

VEGETATION / ENVIRONMENTAL MITIGATION

THIRTY-THREE: The permittee will be responsible for securing any necessary permits incidental to habitat manipulation and restoration work completed in the flood control project, and will provide any biological surveying, monitoring, and reporting needed to satisfy those permits.

THIRTY-FOUR: Cleared trees and brush (or pruning therefrom) shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1st to April 15th.

POST-CONSTRUCTION

THIRTY-FIVE: Within 120 days of completion of the project, the permittee shall submit to the Board and DWR a copy of as-built drawings and a certification report, stamped and signed by a licensed civil engineer registered in the State of California, certifying the work was performed and inspected in accordance with the Board permit conditions and submitted drawings and specifications.

OPERATIONS AND MAINTENANCE

THIRTY-SIX: The permittee shall be responsible for repair of any damages to the levee, channel, banks, floodway, or any other flood control facilities due to construction, operation, or maintenance of the proposed project.

THIRTY-SEVEN: The permittee shall maintain the permitted project within the Goldfields in the manner required and as requested by the authorized representative of the Board, or any other agency responsible for maintenance.

THIRTY-EIGHT: If any feature of the project adversely impacts the successful execution, functioning, maintenance, or operation of the Yuba River floodway, the Yuba River South Levee, or any facilities of the Sacramento River Flood Control Project, the permittee must either remove or alter the feature, or mitigate for the adverse impact of the feature at the permittee's expense after approval of the proposed mitigations by the Board. If the permittee does not comply, the Board may modify or remove the feature at the permittee's expense.

PROJECT ABANDONMENT, CHANGE IN PLAN OF FLOOD CONTROL

THIRTY-NINE: If the project, or any portion thereof, is to be abandoned in the future, the permittee shall abandon the project under direction of the Board, at the permittee's cost and expense.

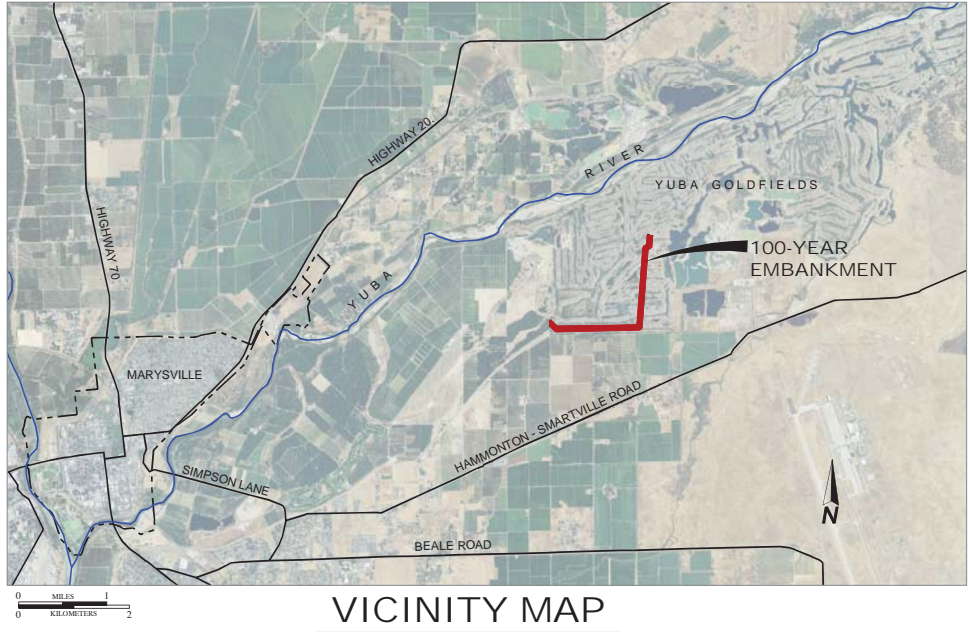
FORTY: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted project) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Board may remove the permitted project at the permittee's expense.

END OF CONDITIONS

ATTACHMENT B – Exhibit A: USACE Non-Fed Letter

This letter has not yet been received by Board staff; however, it is expected to arrive prior to the Board Meeting on August 28, 2015

YUBA GOLDFIELDS
100-YEAR PROJECT GRADING PLANS
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY



SHEET INDEX

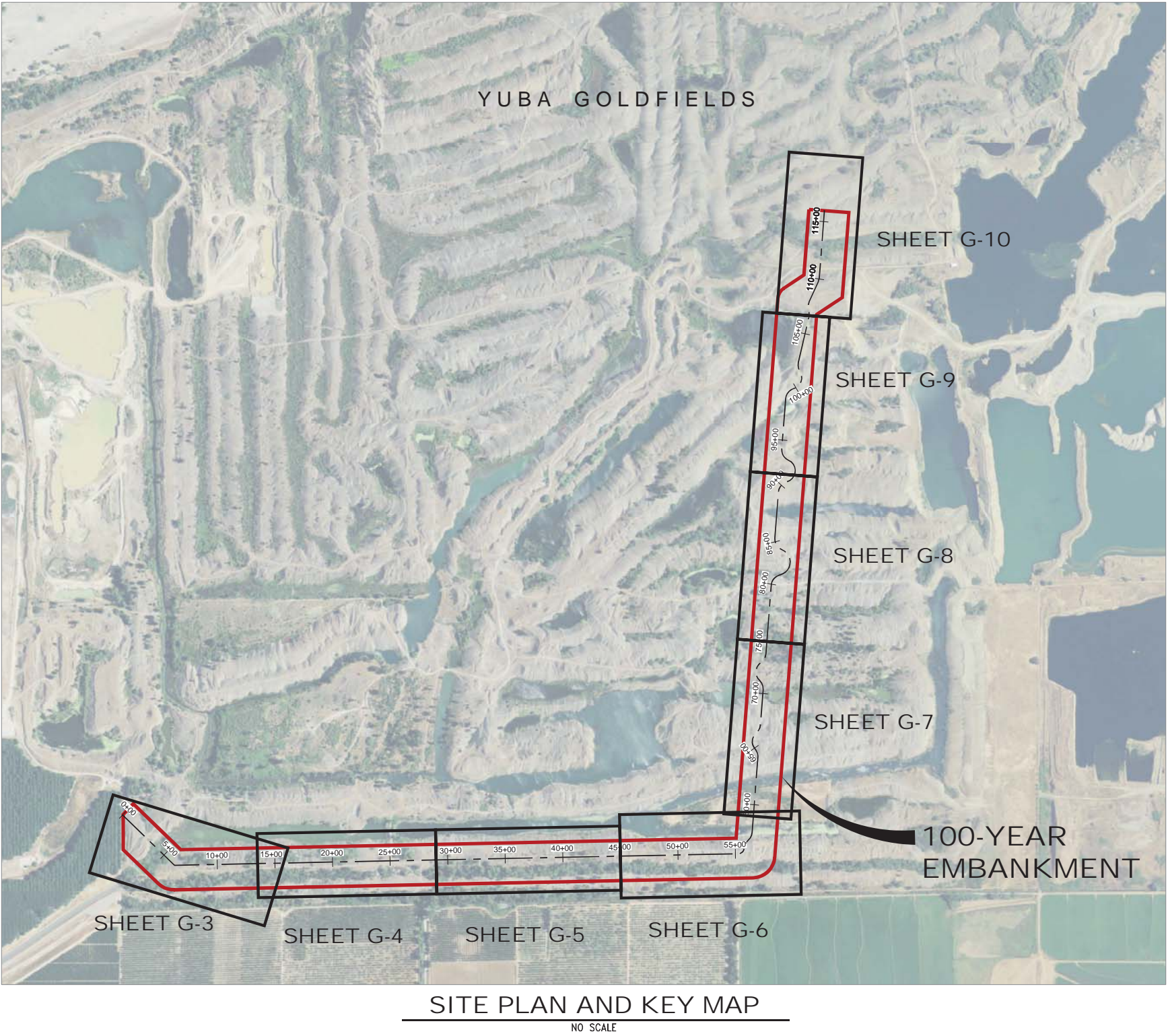
SHEET NUMBER	TITLE
G-1	COVER SHEET
G-2	CONSTRUCTION NOTES
G-3 - G-10	GRADING PLAN
G-11 - G-18	CROSS-SECTIONS

SURVEY CONTROL

ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN DATUM OF 1988 (NAVD88)

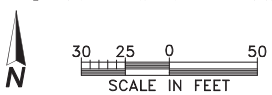
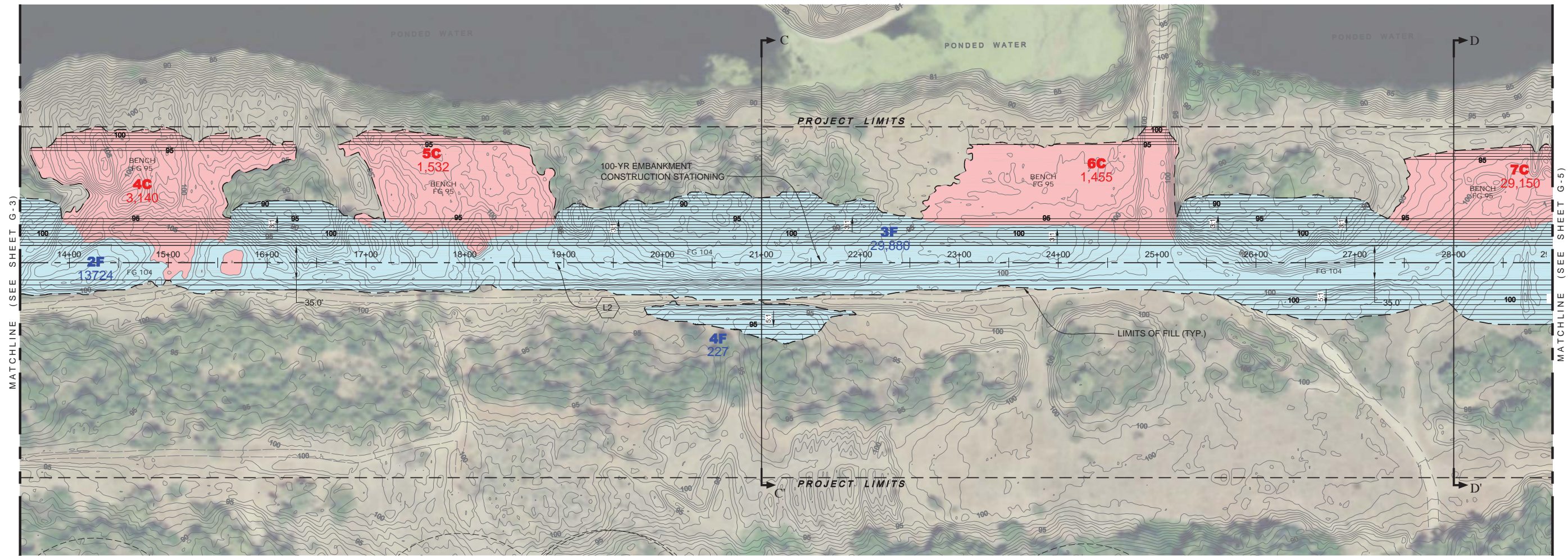
CONTROL POINTS:

BASIS OF BEARING:

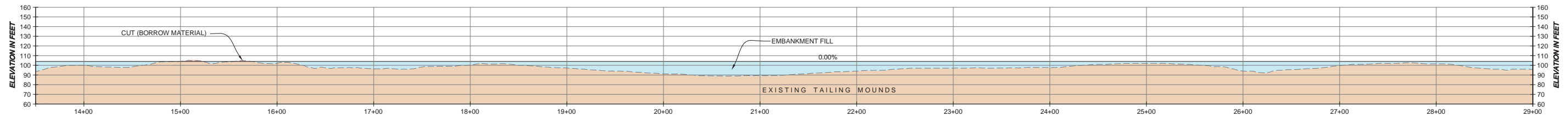


PRELIMINARY-NOT FOR CONSTRUCTION

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GRADING PLAN



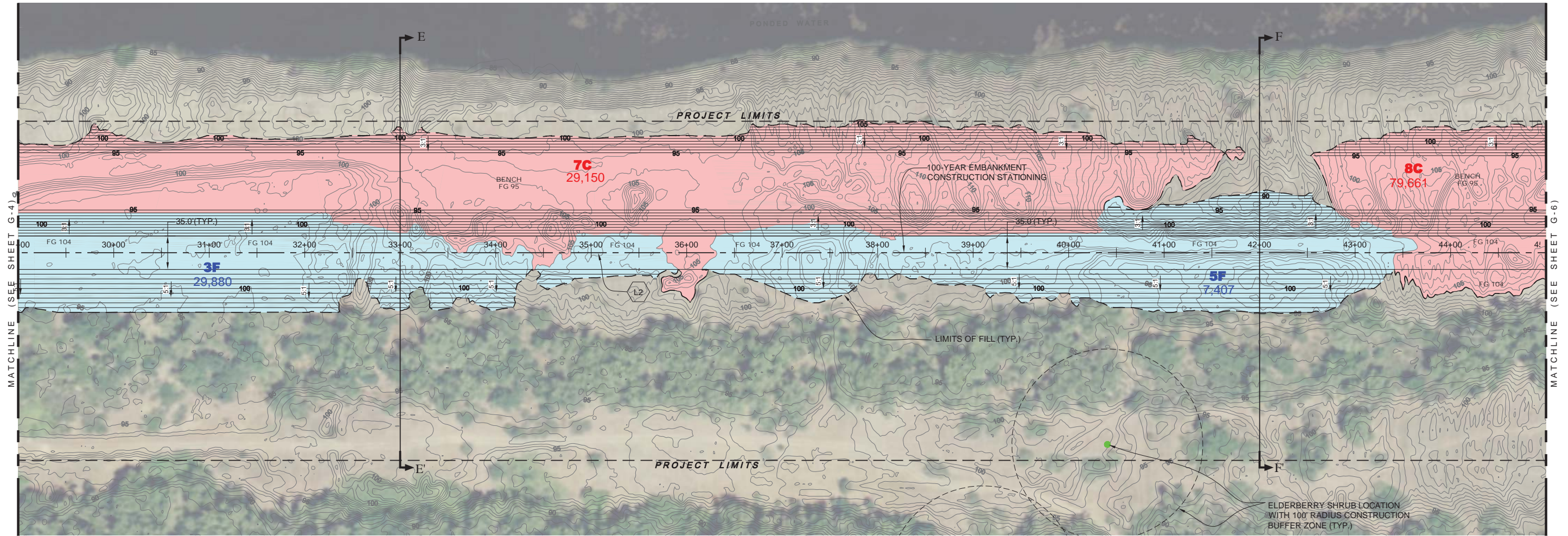
CENTERLINE PROFILE
SCALE: 1"=50' (H), 1"=50' (V)

PRELIMINARY-NOT FOR CONSTRUCTION

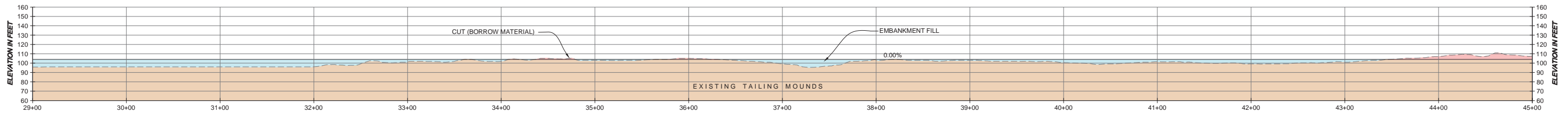
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GRADING PLAN



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SCALE: 1"=50' (H), 1"=50' (V)

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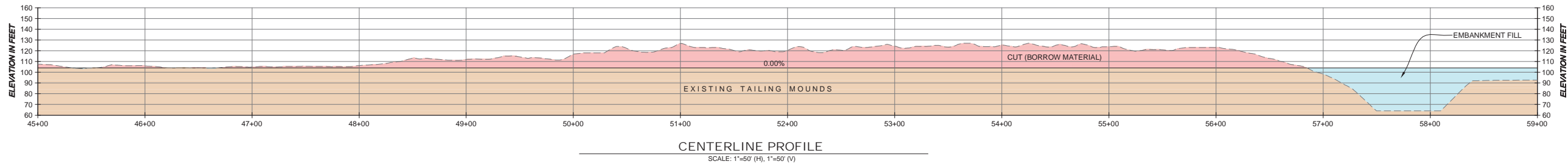
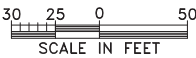
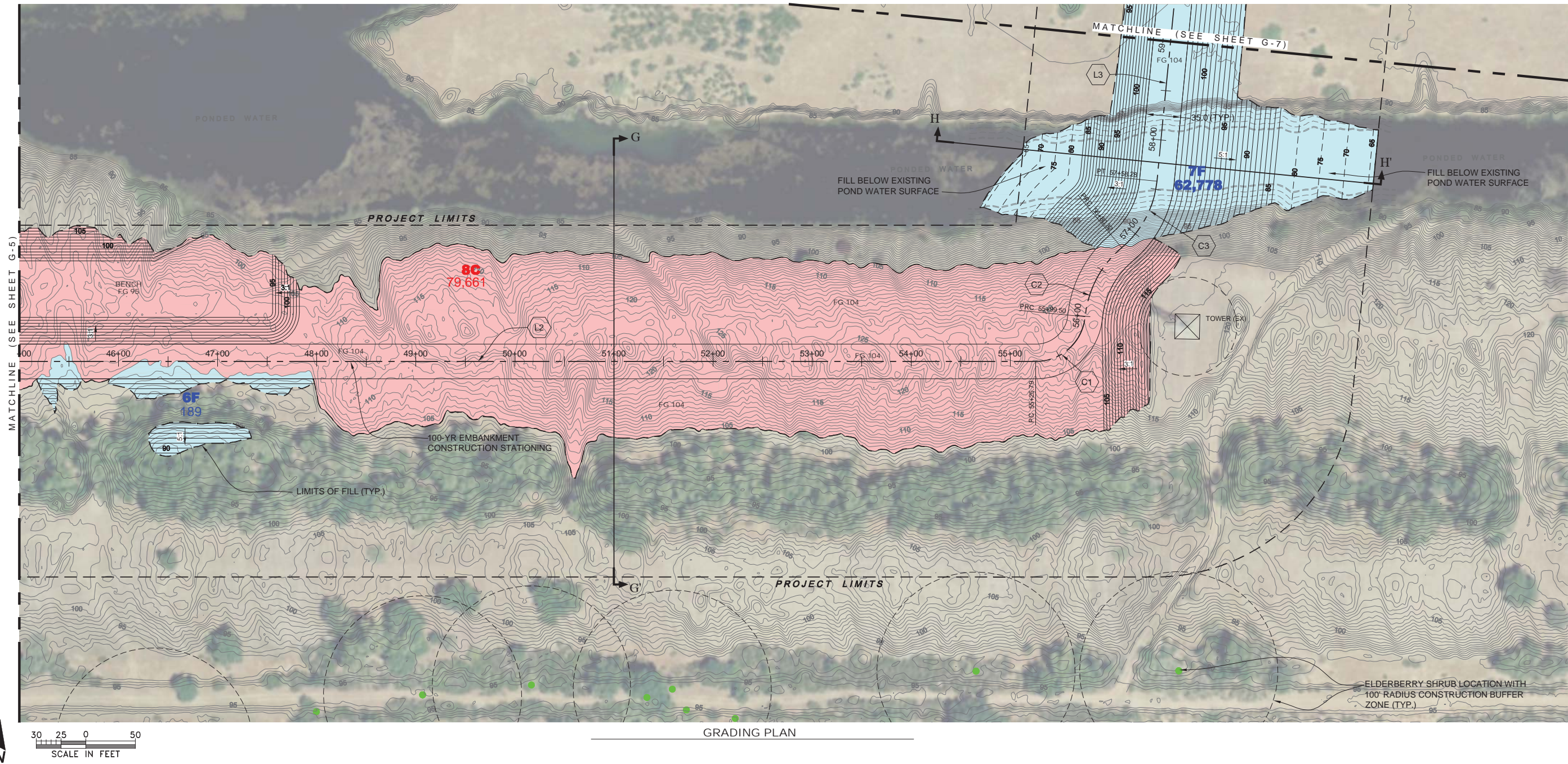
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FAX (916) 279-2698

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CHECKED BY:MMG
DATE: SEPT 2014
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GRADING PLAN
YUBA GOLDFIELDS - 100-YEAR EMBANKMENT
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
YUBA COUNTY, CALIFORNIA

SHEET NUMBER
G-5
OF 18 SHEETS
PROJECT NO.
9389.000.000

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GRADING PLAN
YUBA GOLDFIELDS - 100-YEAR EMBANKMENT
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
YUBA COUNTY, CALIFORNIA

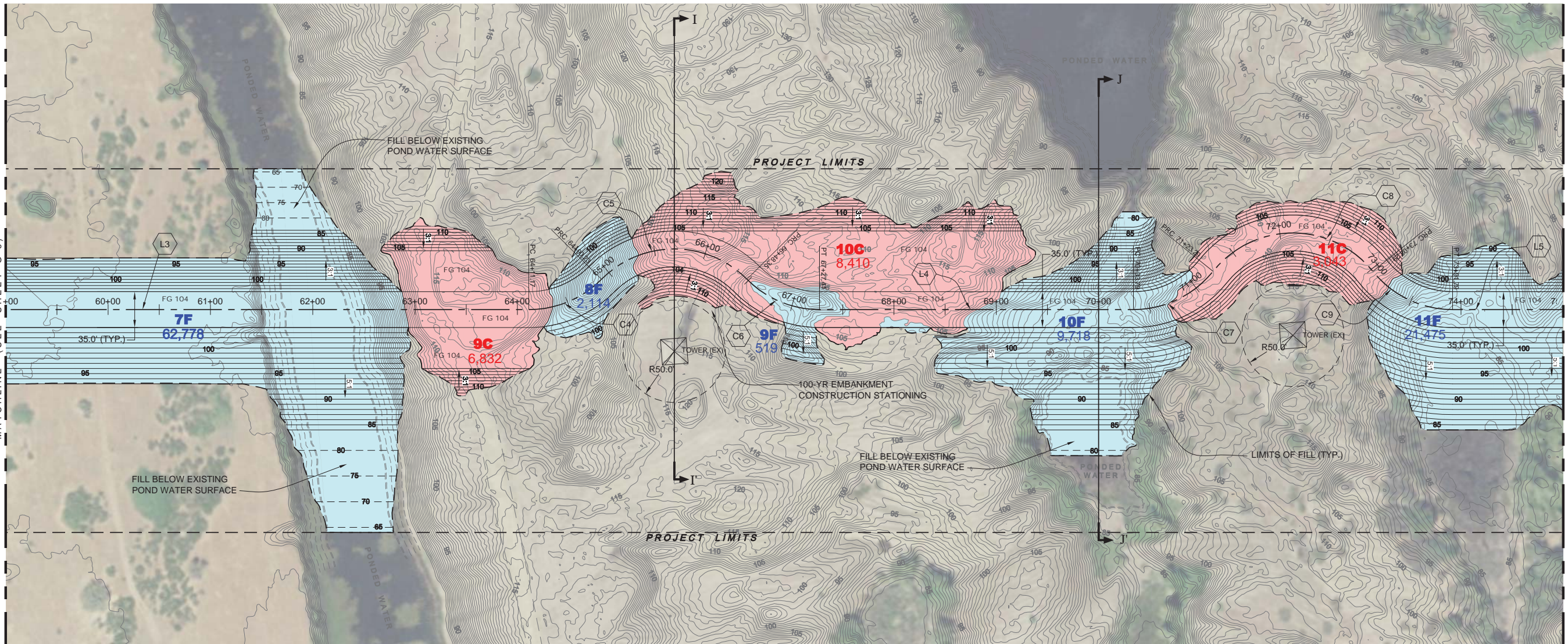
SHEET NUMBER
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OF 18 SHEETS
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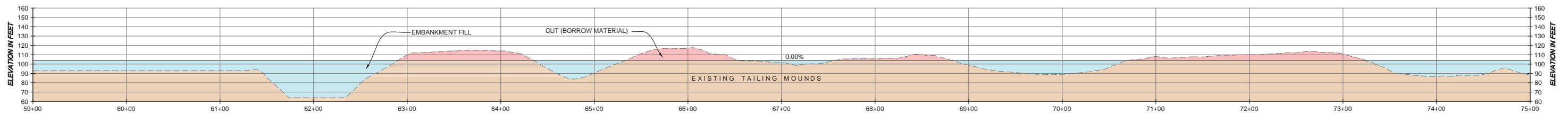
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MATCHLINE (SEE SHEET G-6)

MATCHLINE (SEE SHEET G-8)



GRADING PLAN



CENTERLINE PROFILE

SCALE: 1"=50' (H), 1"=50' (V)

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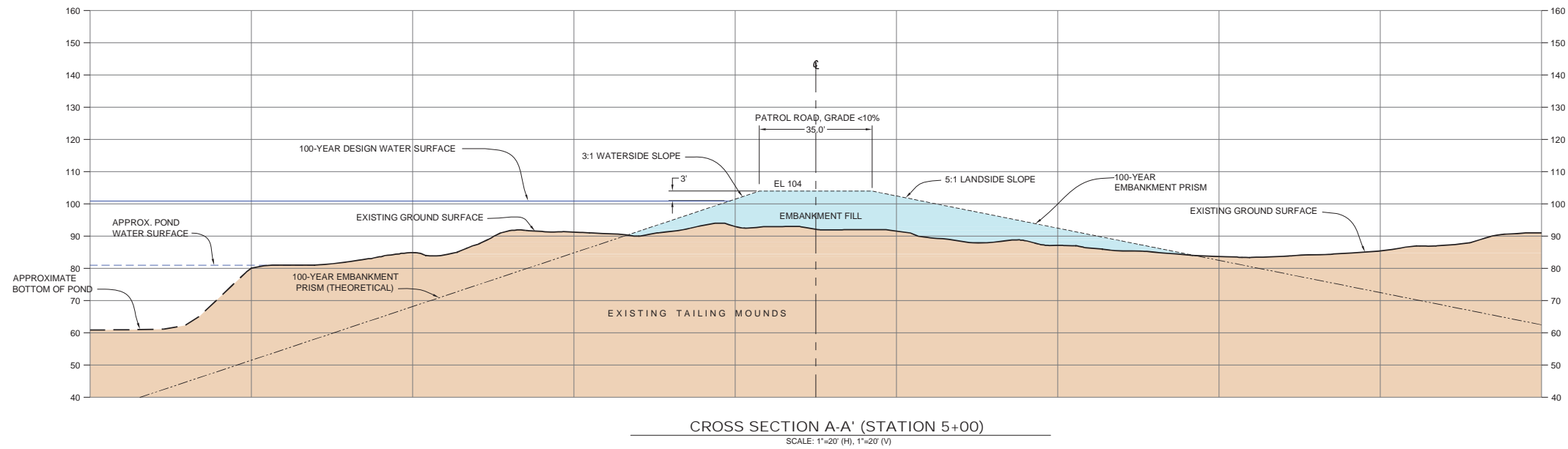
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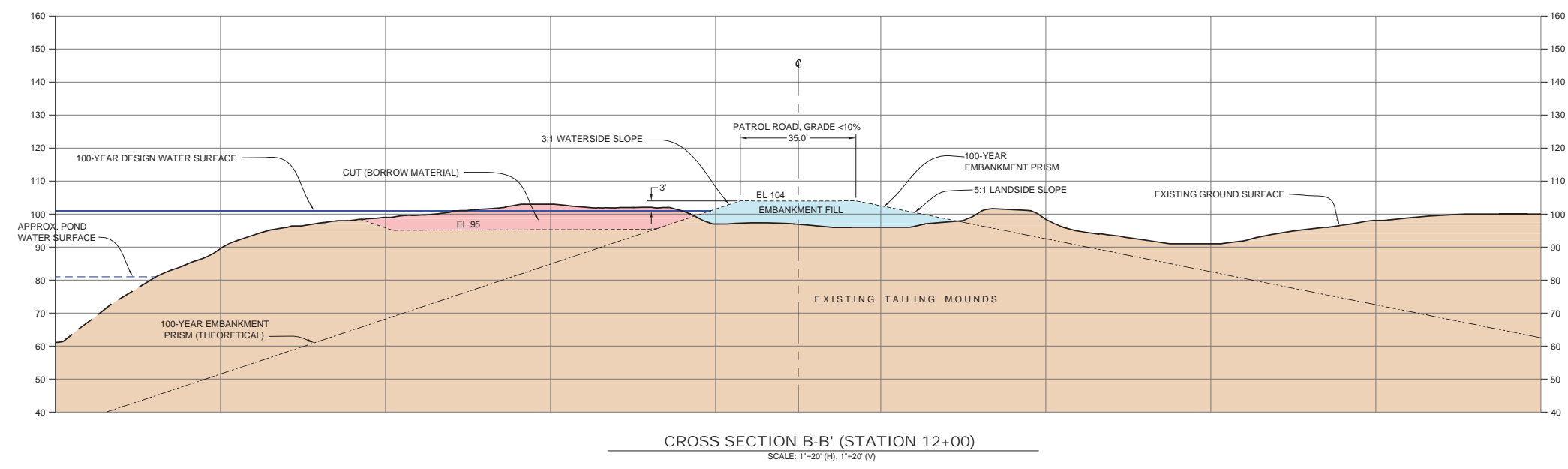
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CHECKED BY: MMG
DATE: SEPT 2014
SCALE: AS SHOWN

GRADING PLAN
YUBA GOLDFIELDS - 100-YEAR EMBANKMENT
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
YUBA COUNTY, CALIFORNIA

SHEET NUMBER
G-7
OF 18 SHEETS
PROJECT NO.
9389.000.000



CROSS SECTION A-A' (STATION 5+00)
SCALE: 1"=20' (H), 1"=20' (V)



CROSS SECTION B-B' (STATION 12+00)
SCALE: 1"=20' (H), 1"=20' (V)

PRELIMINARY-NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

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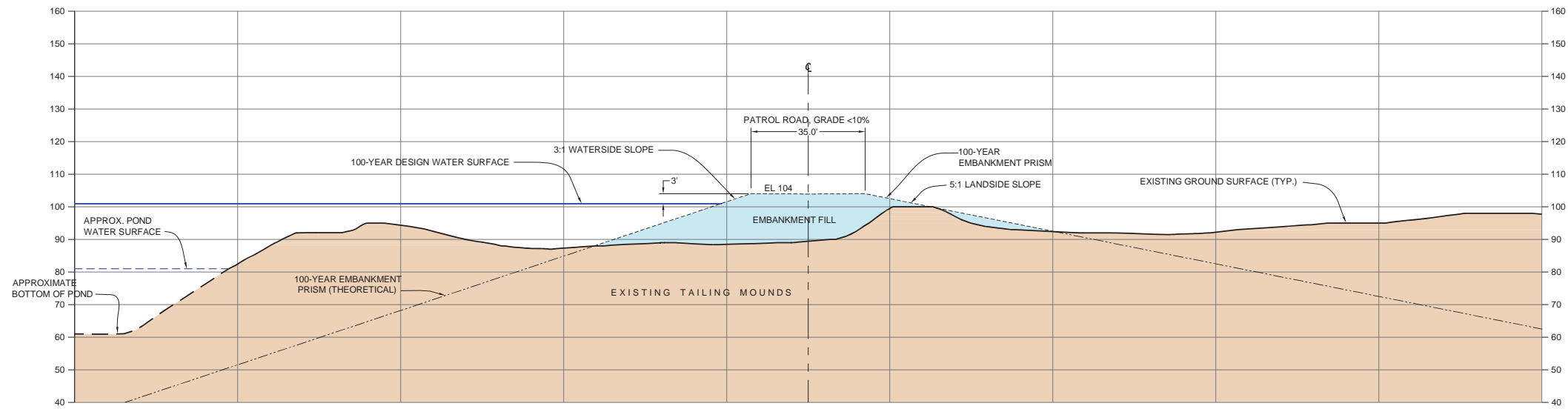
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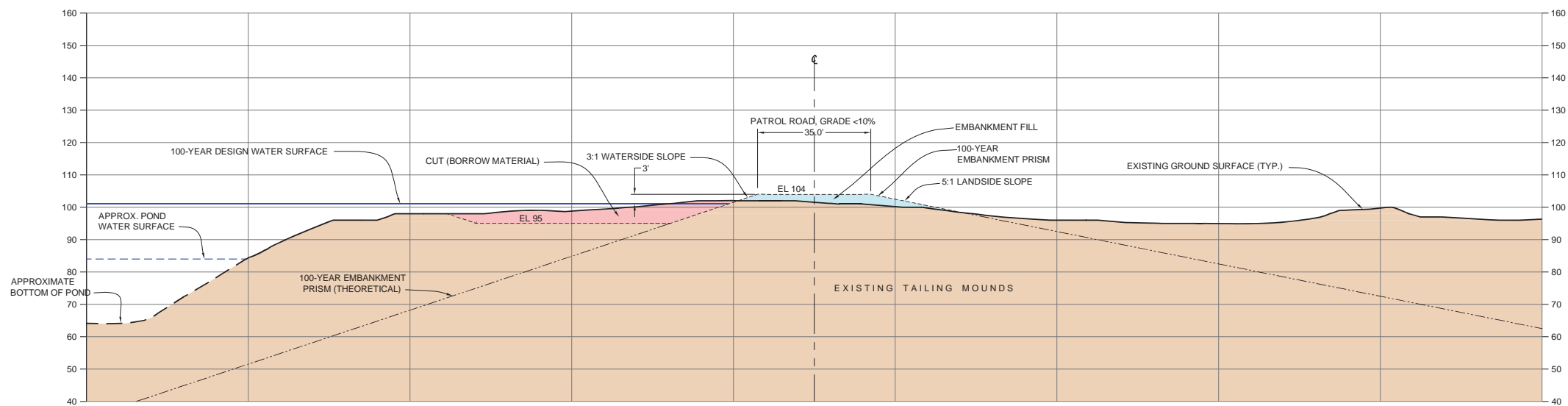
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DATE: FEBRUARY 2015	
SCALE: AS SHOWN	

CROSS SECTIONS A-A' AND B-B'
YUBA GOLDFIELDS - 100-YEAR EMBANKMENT
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
YUBA COUNTY, CALIFORNIA

SHEET NUMBER G-11 OF 18 SHEETS PROJECT NO. 9389.000.000
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CROSS SECTION C-C' (STATION 21+00)
SCALE: 1"=20' (H), 1"=20' (V)



CROSS SECTION D-D' (STATION 28+00)
SCALE: 1"=20' (H), 1"=20' (V)

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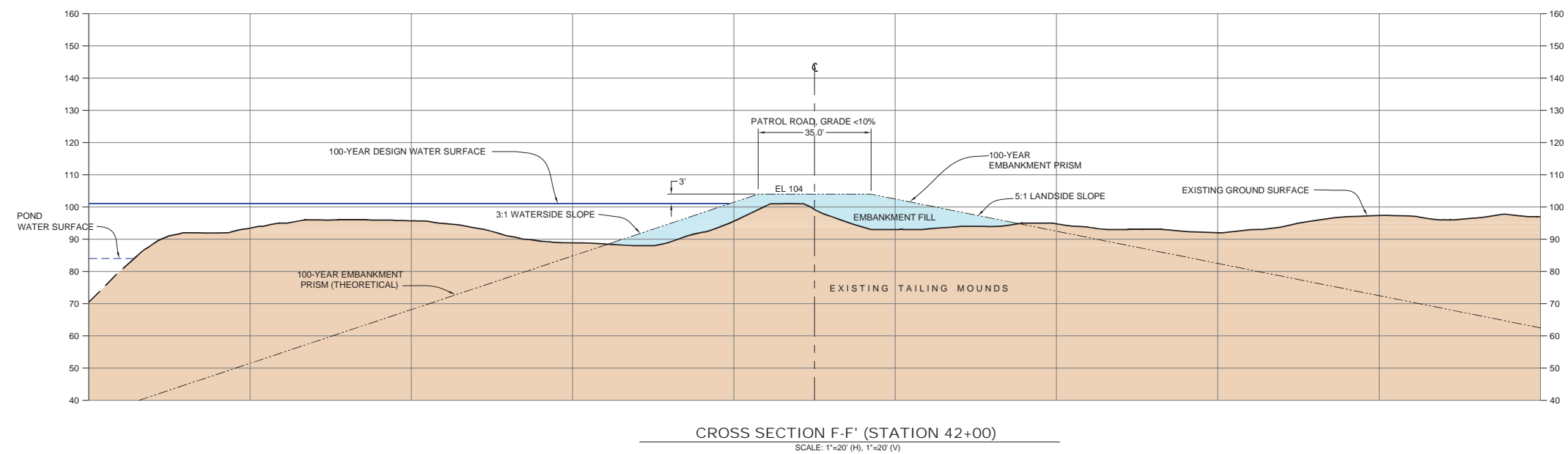
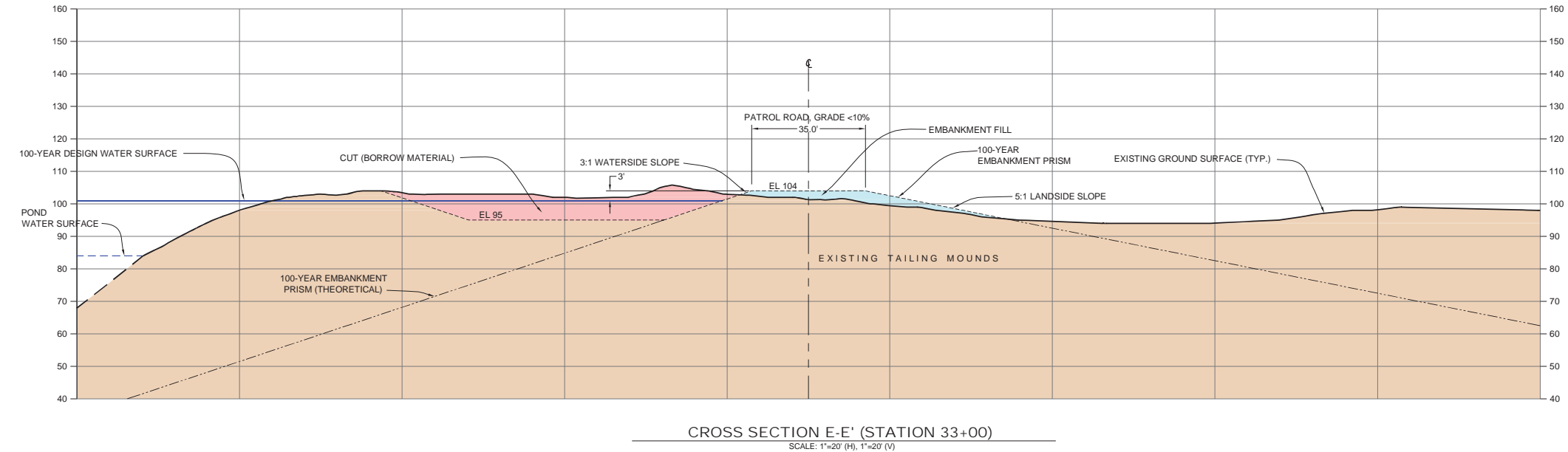
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DATE: FEBRUARY 2015
SCALE: AS SHOWN

CROSS SECTIONS C-C' AND D-D'
YUBA GOLDFIELDS - 100-YEAR EMBANKMENT
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
YUBA COUNTY, CALIFORNIA

SHEET NUMBER
G-12
OF 18 SHEETS
PROJECT NO. 9389.000.000



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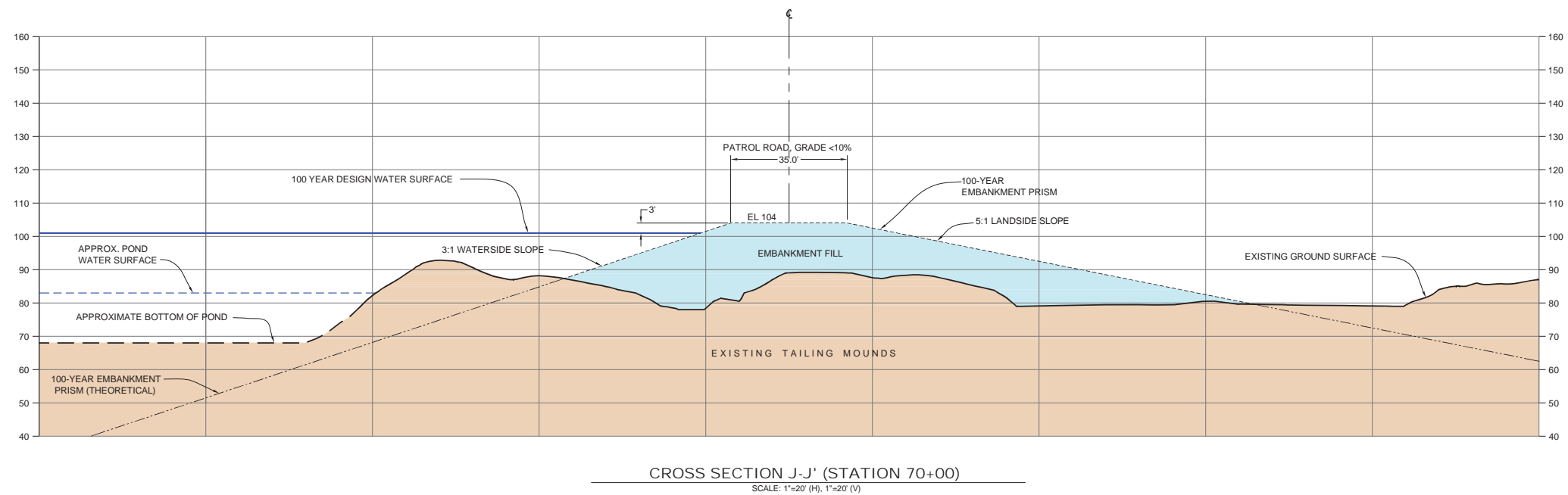
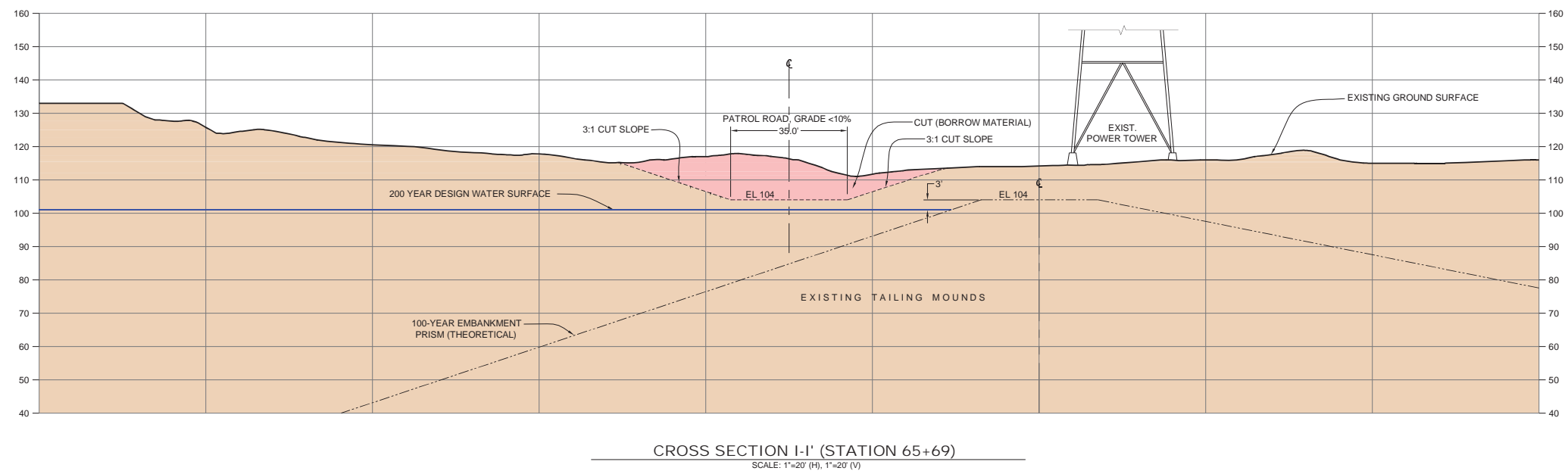
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DATE: FEBRUARY 2015
SCALE: AS SHOWN

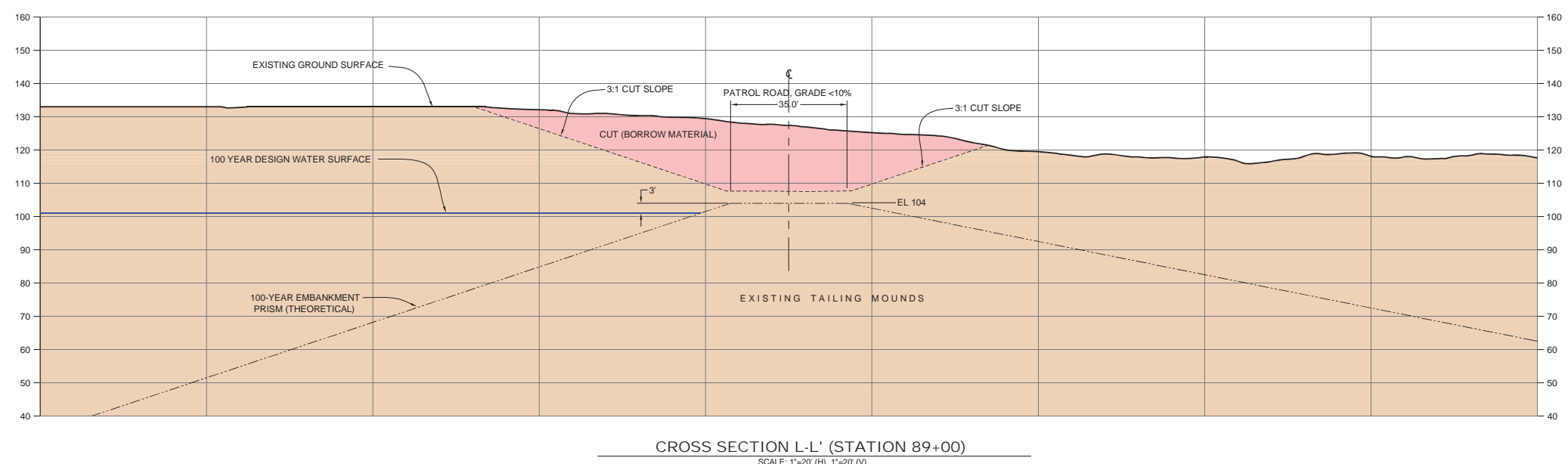
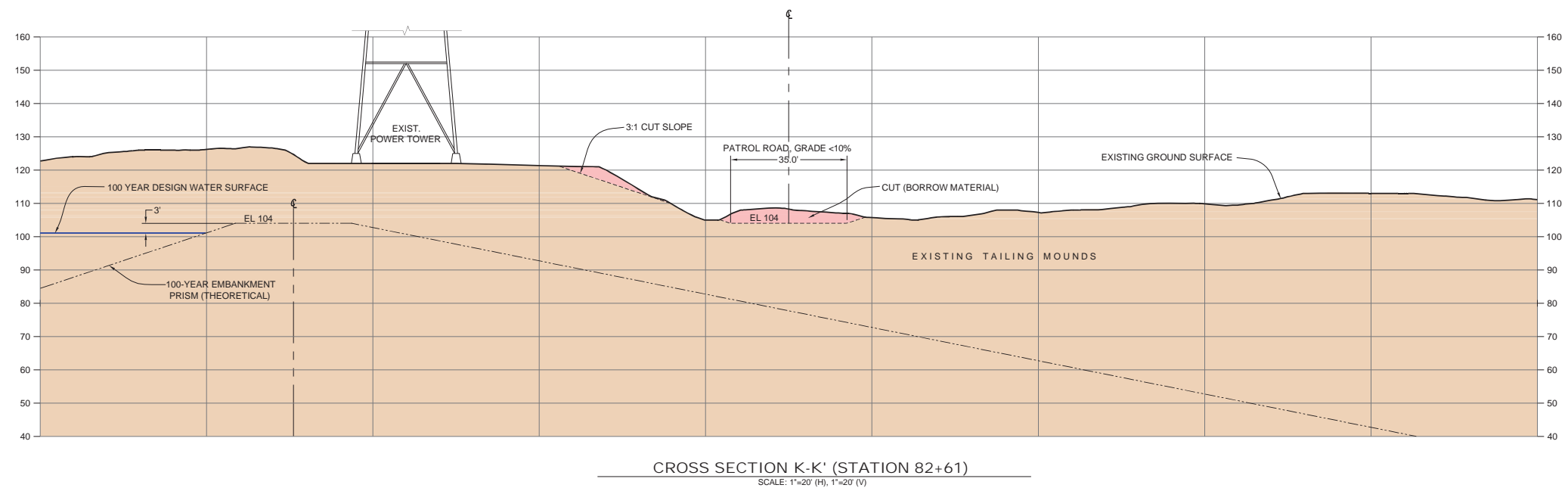
CROSS SECTIONS E-E' AND F-F'
YUBA GOLDFIELDS - 100-YEAR EMBANKMENT
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
YUBA COUNTY, CALIFORNIA

SHEET NUMBER
G-13
OF 18 SHEETS
PROJECT NO.
9389.000.000



PRELIMINARY-NOT FOR CONSTRUCTION

				 <p>2218 PLAZA DRIVE ROCKLIN, CALIFORNIA 95766 (916) 786-8883 FAX (888) 279-2698</p> <p>SAN RAMON - SAN JOSE - SAN FRANCISCO - OAKLAND - ROCKLIN - RIPON SANTA CLARITA - IRVINE - NEW ZEALAND</p>		DESIGNED BY: PC DRAWN BY: PRC CHECKED BY:MMG DATE: FEBRUARY 2015 SCALE: AS SHOWN		<p>CROSS SECTIONS I-I' AND J-J'</p> <p>YUBA GOLDFIELDS - 100-YEAR EMBANKMENT</p> <p>THREE RIVERS LEVEE IMPROVEMENT AUTHORITY</p> <p>YUBA COUNTY, CALIFORNIA</p>				SHEET NUMBER <p>G-15</p> OF 18 SHEETS PROJECT NO. 9389.000.000	
REV.	DATE	DESCRIPTION	BY										



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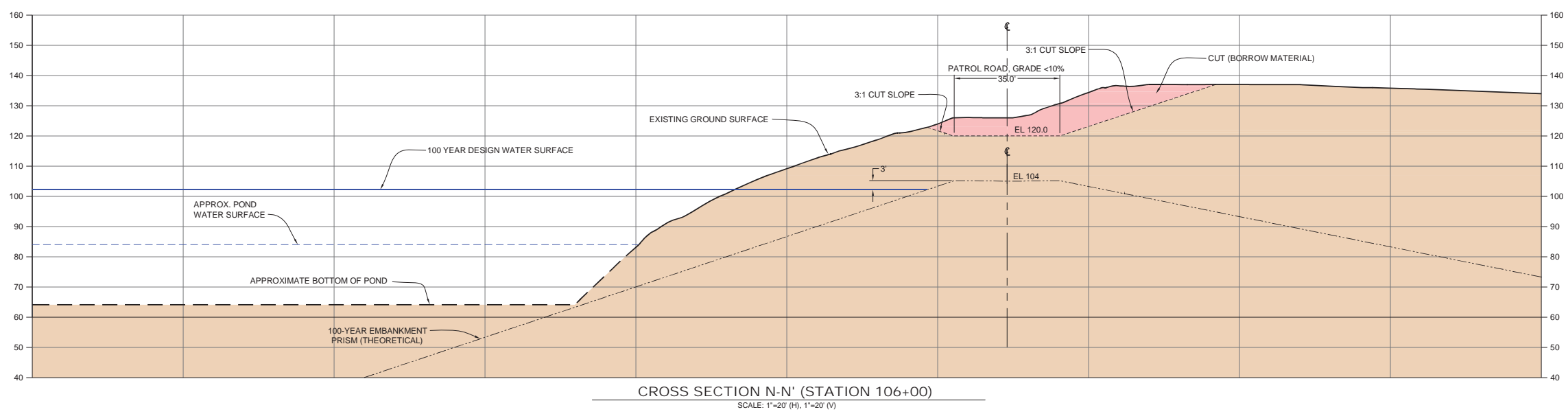
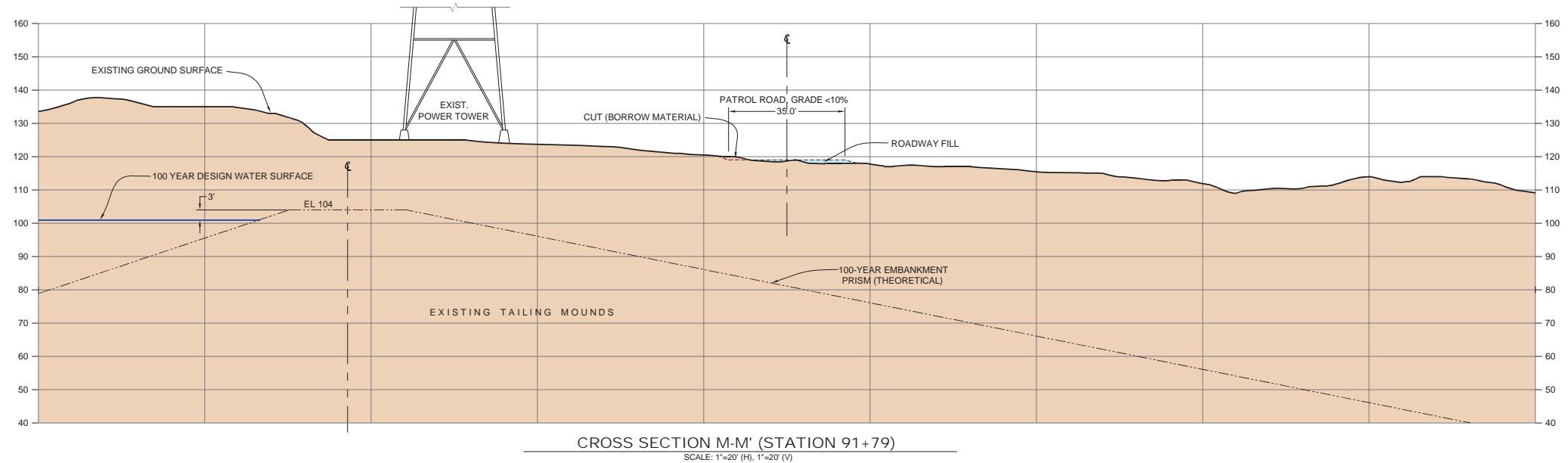
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CHECKED BY: MMG	
DATE: FEBRUARY 2015	
SCALE: AS SHOWN	

CROSS SECTIONS K-K' AND L-L'
YUBA GOLDFIELDS - 100-YEAR EMBANKMENT
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
YUBA COUNTY, CALIFORNIA

SHEET NUMBER	G-16
OF 18 SHEETS	
PROJECT NO.	9389.000.000

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C:\working\proj\18253_Three Rivers\18253-18253.dwg Plot Date: 2/11/15 10:00am



PRELIMINARY-NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

ENGEO
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SAN RAMON • SAN JOSE • SAN FRANCISCO • OAKLAND • ROCKLIN • RUPON
SANTA CLARITA • IRVINE • NEW ZEALAND

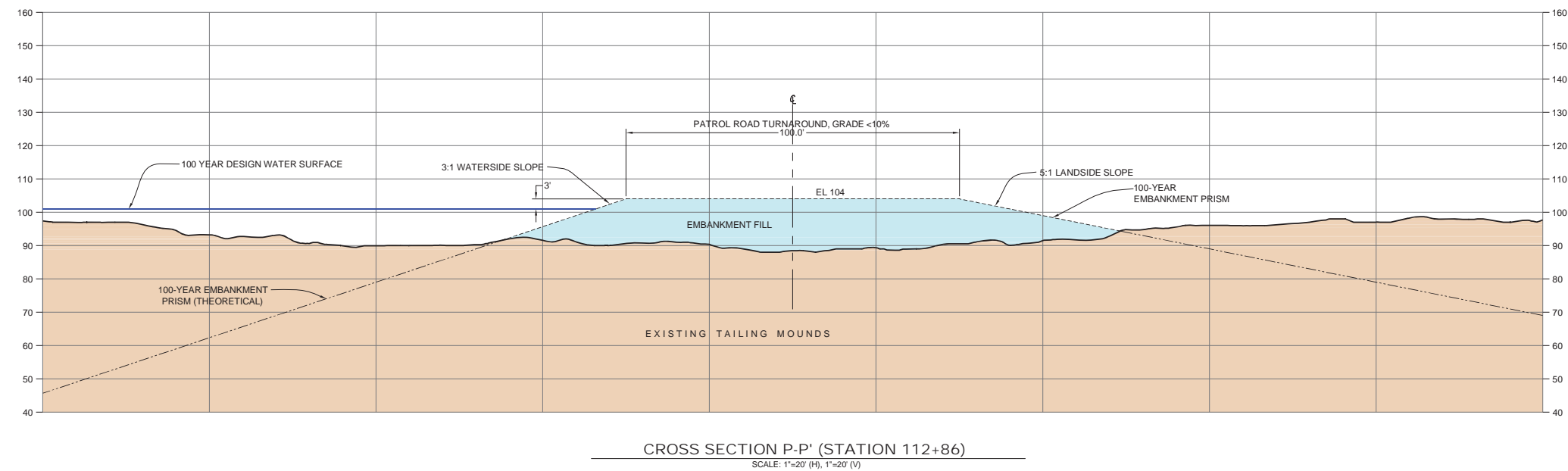
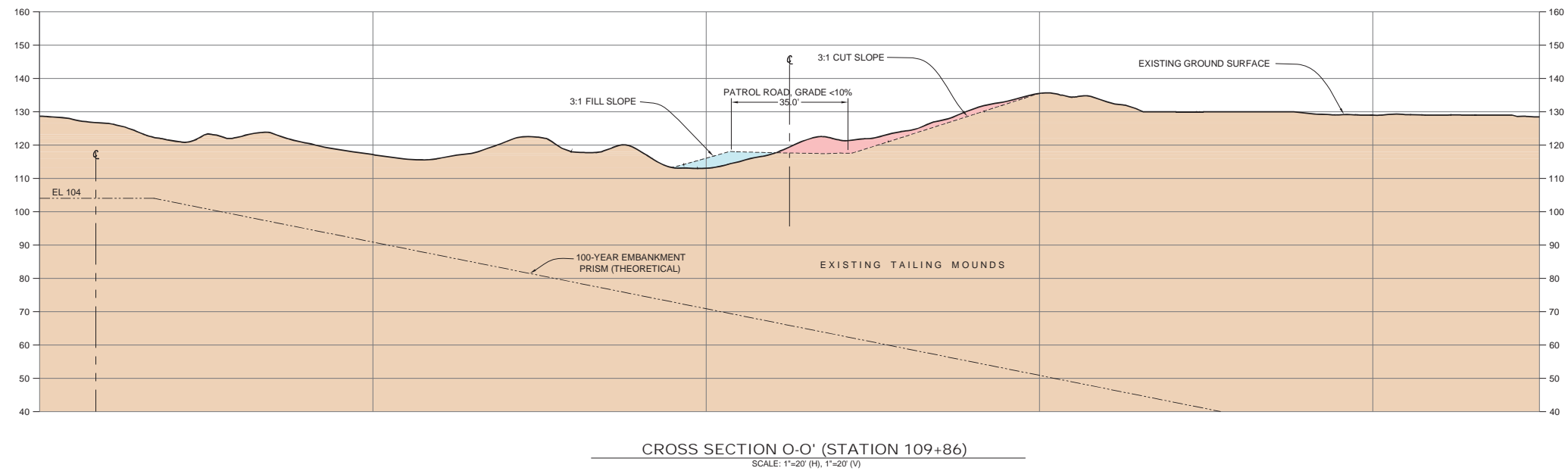
2213 PLAZA DRIVE
ROCKLIN, CALIFORNIA 95766
(916) 786-8883
FAX (916) 279-2698

DESIGNED BY: PC	
DRAWN BY: PRC	
CHECKED BY:MMG	
DATE: FEBRUARY 2015	
SCALE: AS SHOWN	

CROSS SECTIONS M-M' AND N-N'
YUBA GOLDFIELDS - 100-YEAR EMBANKMENT
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
YUBA COUNTY, CALIFORNIA

SHEET NUMBER
G-17
OF 18 SHEETS
PROJECT NO. 9389.000.000

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REV.	DATE	DESCRIPTION	BY

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2213 PLAZA DRIVE
ROCKLIN, CALIFORNIA 95766
(916) 786-8883
FAX (916) 279-2698

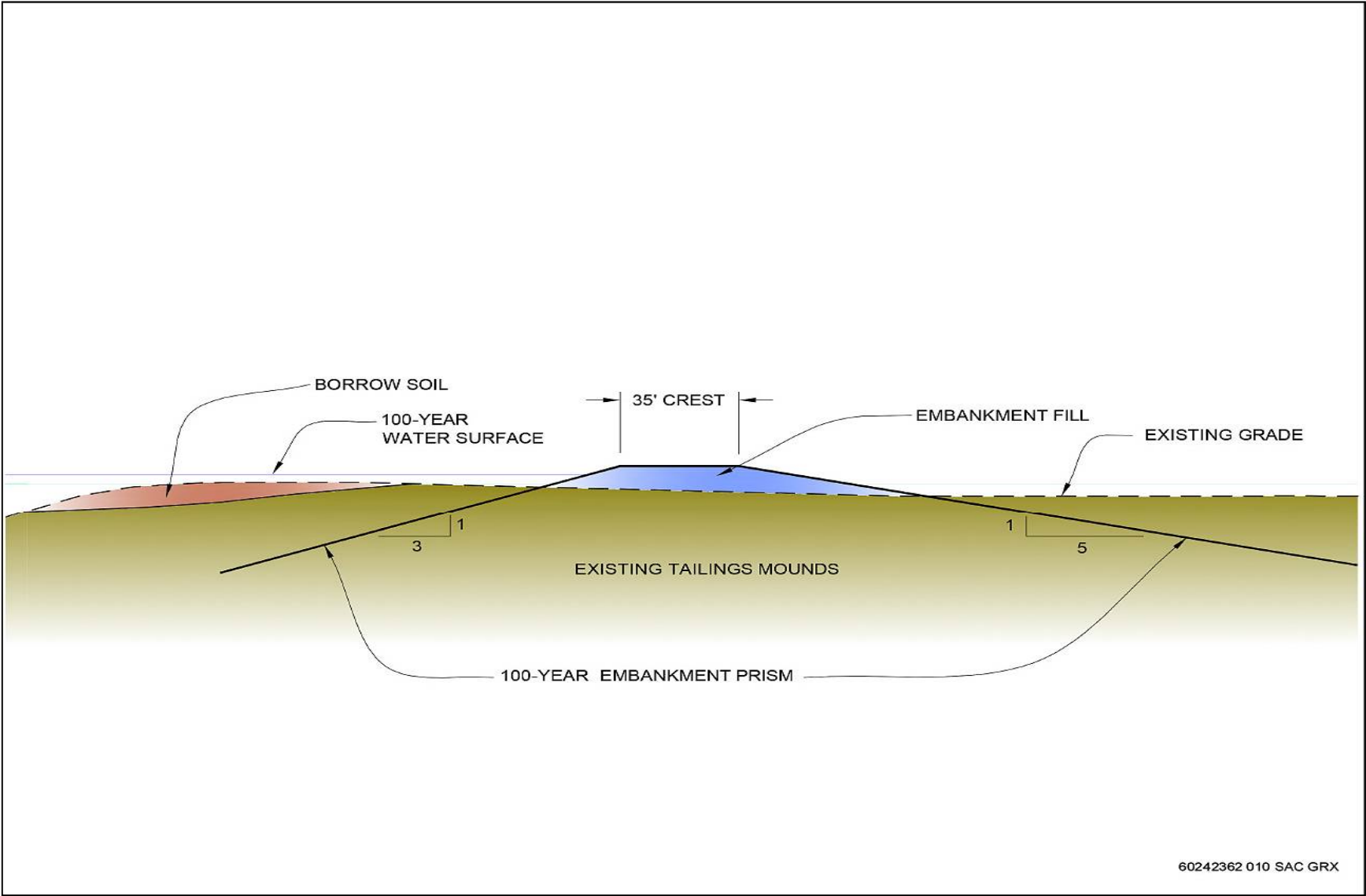
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SANTA CLARITA • IRVINE • NEW ZEALAND

DESIGNED BY: PC	
DRAWN BY: PRC	
CHECKED BY:MMG	
DATE: FEBRUARY 2015	
SCALE: AS SHOWN	

CROSS SECTIONS O-O' AND P-P'
YUBA GOLDFIELDS - 100-YEAR EMBANKMENT
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
YUBA COUNTY, CALIFORNIA

SHEET NUMBER
G-18
OF 18 SHEETS
PROJECT NO. 9389.000.000

Figure 3 Goldfields 100-Year Flood Protection Project Cross Section



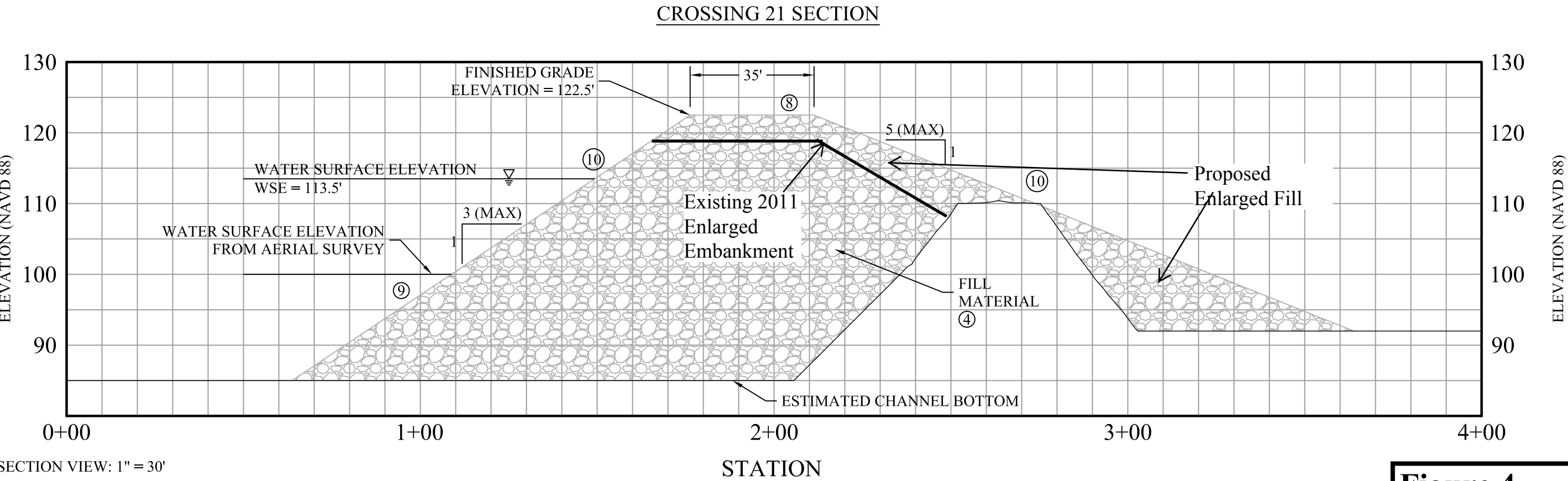
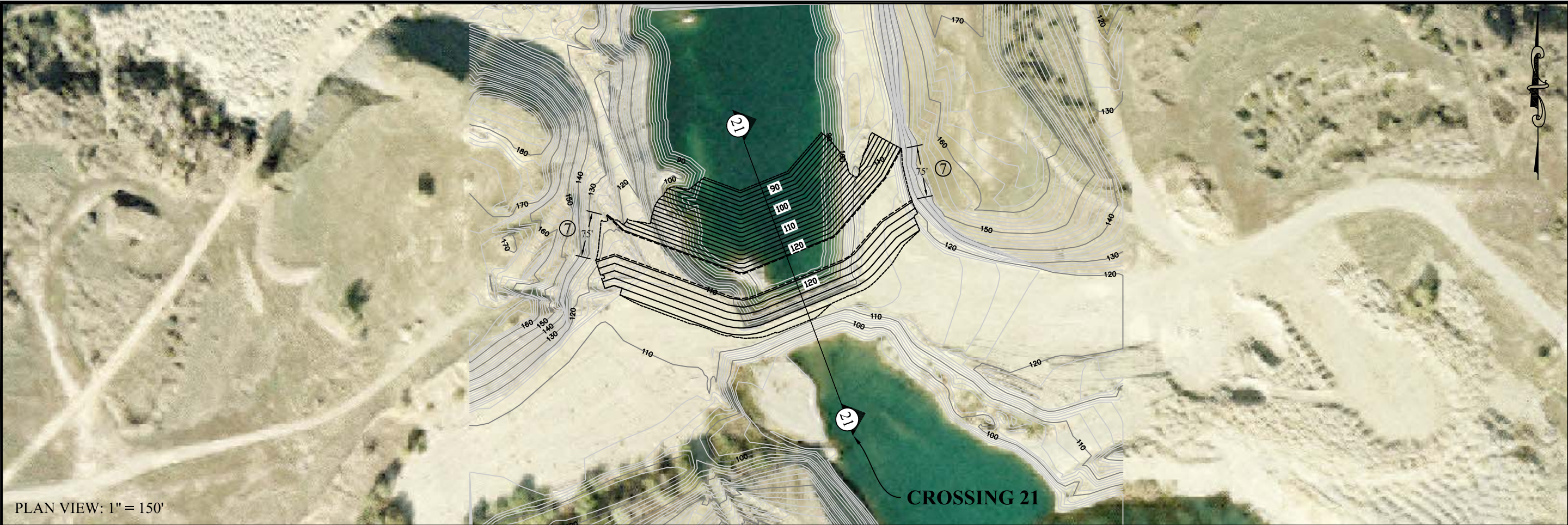


Figure 4

MBK ENGINEERS
1771 Tribute Road, Suite A
Sacramento, California 95815
Phone: (916) 456-4400 • Fax: (916) 456-0253

NO.	DATE	REVISION
PRELIMINARY		

GOLDFIELDS

CROSSING 21

PLAN AND SECTION VIEW

SCALE:	AS NOTED
JOB NO:	5141.5
BY:	BJ/NH
CHK:	DT
DATE:	09/01/2011
SHEET	1 OF 2
	SHEETS



Water Resources • Flood Control • Water Rights

TECHNICAL MEMORANDUM

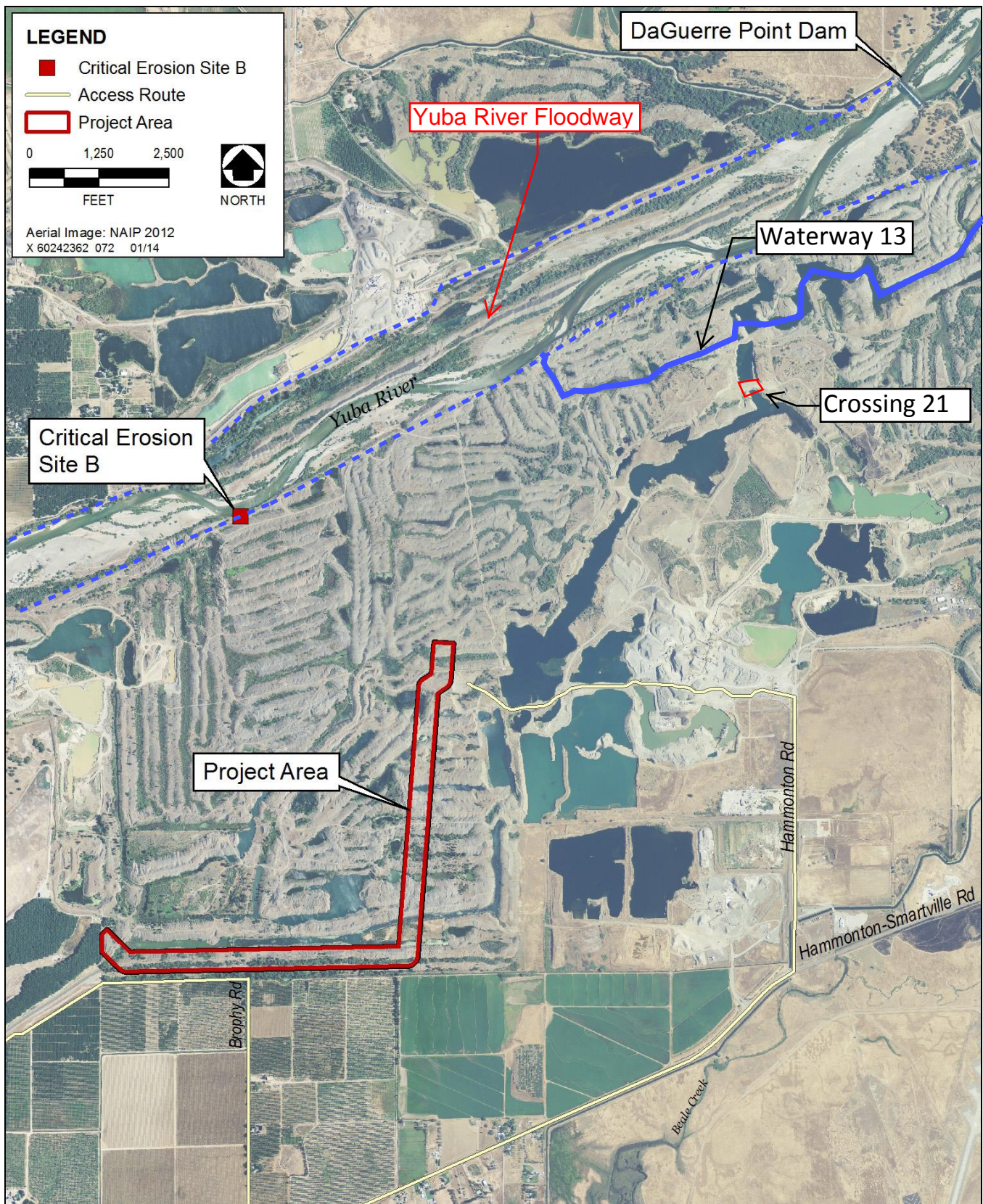
Date: August 11, 2015

Subject: Goldfields 100-Year Interim Flood Protection Project
Hydraulic Impacts of the Proposed Project

Prepared by: Larry Dacus

The proposed project would involve shaping and enlarging existing dredge tailings embankments at two locations in the Goldfields designed to intercept and block 100-year breach flows originating from the South Bank dredge tailings embankment along the Yuba River and holding them long enough to allow flood peaks to pass. The blocked flows would then return to the Yuba River or percolate into underlying groundwater aquifers. The first embankment would extend continuously for approximately 2.1 miles following the alignment shown in Figure 1. The second embankment would be at Crossing 21 as shown in Figure 1. TRLIA will construct the embankments using the Goldfields' existing dredge tailings.

Both of these locations to be modified are removed and separated from the Yuba River Floodway by thousands of feet of existing dredge tailings. The shaping of these embankments with dredge tailings fill material would not result in any changes to the existing Yuba River Floodway and thus no impacts to river hydraulics would occur. The existing floodway would continue to convey flood flows in the same manner as occurs today.



Source: TRLIA 2013, adapted by AECOM in 2013

Figure 1
Yuba Goldfields 100-Year Flood Protection Project Area



THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

1114 Yuba Street, Suite 218

Marysville, CA 95901

Office (530) 749-7841 Fax (530) 749-6990

August 11, 2015

Mr. Len Marino
Chief Engineer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, California 95821

Subject: Three Rivers Levee Improvement Authority, Exception Request for Winter Construction for Ongoing Work on the Goldfields 100-Year Interim Flood Protection Project Permit No. 19046 BD

Dear Mr. Marino,

The Three Rivers Levee Improvement Authority (TRLIA) has determined that there is a flood risk from the Yuba Goldfields (Goldfields). For many years the flood protection community has viewed the Goldfields as high ground for the State Plan of Flood Control. Recent evaluations by TRLIA has determined that erosion along the south bank of the Yuba River along the Goldfields and recent modifications to features within the Goldfields have greatly increased the risk of flood flows exiting the Yuba River, flowing through the Goldfields, and flanking the State Plan of Flood Control to flood the Reclamation District 784 urban area.

Due to this increased risk to public safety, TRLIA is attempting to construct an Interim 100-Year Flood Protection Project in the Yuba Goldfields as quickly as possible before or during the next flood season. The proposed project would involve shaping and enlarging existing dredge tailings embankments at two locations in the Goldfields designed to intercept and block 100-year breach flows originating from the south bank dredge tailings embankment along the Yuba River and holding them long enough to allow flood peaks to pass. The blocked flows would then return to the Yuba River or percolate into underlying groundwater aquifers. The first embankment would extend continuously for approximately 2.1 miles following the alignment shown in Figure 1. The second embankment would be at Crossing 21 as shown in Figure 1. TRLIA will construct the embankments using the Goldfields' existing dredge tailings material.

It is possible to do this work in the winter months during wet weather and winter construction would allow the implementation of this needed flood protection feature as soon as possible without impacting the flood protection capability of the rest of the State Plan of Flood Control. Both of these locations are removed and separated from the Yuba River Floodway by thousands of feet of existing dredge tailings. The shaping of these embankments with dredge tailings fill would not result in any changes to the existing Yuba River Floodway and thus no impacts to river hydraulics would occur during and after construction of the embankments. The dredge tailing material is very granular and drains freely. So even if heavy rains occur over an extended

Leslie Gallagher - CVFPB
Request for Construction Time Extension No.19046 BD

August 11, 2015

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period of time, a few days of dry weather will allow the material that is being used to raise the embankments to drain and it can be excavated, placed, and adequately compacted without encountering the pumping problems that are inherent with regular wet levee clay material.

Most encroachment permits do not allow construction work during the flood season from November 1 to April 15 without prior approval of the Central Valley Flood Protection Board.

The work for which this exception is sought consists of the following construction activities:

1. Excavate, transport, place, and compact granular fill on existing dredge tailings embankments.
2. Construct patrol road on crown of reshaped embankments.
3. Demobilization and site clean up

This work will not encumber flow in the Yuba River Floodway nor will it modify the geometry of any existing State Plan of Flood Control Project Features.

During the exception TRLIA will comply with the following:

- TRLIA will be responsible for any and all damages to the levees, floodway, and adjacent properties resulting from granting this exception.
- The State of California, its officers, agents, and employees shall not be held liable for any damages to the project or properties that might be affected by this project resulting from the granting of this exception.
- All other conditions of Permit No. 19046 BD shall remain in effect.
- TRLIA will continuously monitor storm patterns, rainfall, and river flows to ensure the integrity of the existing flood protection facilities. If necessary, TRLIA will stop the project, move all equipment to elevations above the forecasted flood elevations, and monitor conditions in the Goldfields to look for possible flows through the Goldfields.
- TRLIA understands that this letter of approval does not relieve it of the responsibility to obtain authorization from all concerned Federal, State, and local agencies; or to satisfy the California Environmental Quality Act (CEQA) requirements.

Leslie Gallagher - CVFPB
Request for Construction Time Extension No.19046 BD

August 11, 2015

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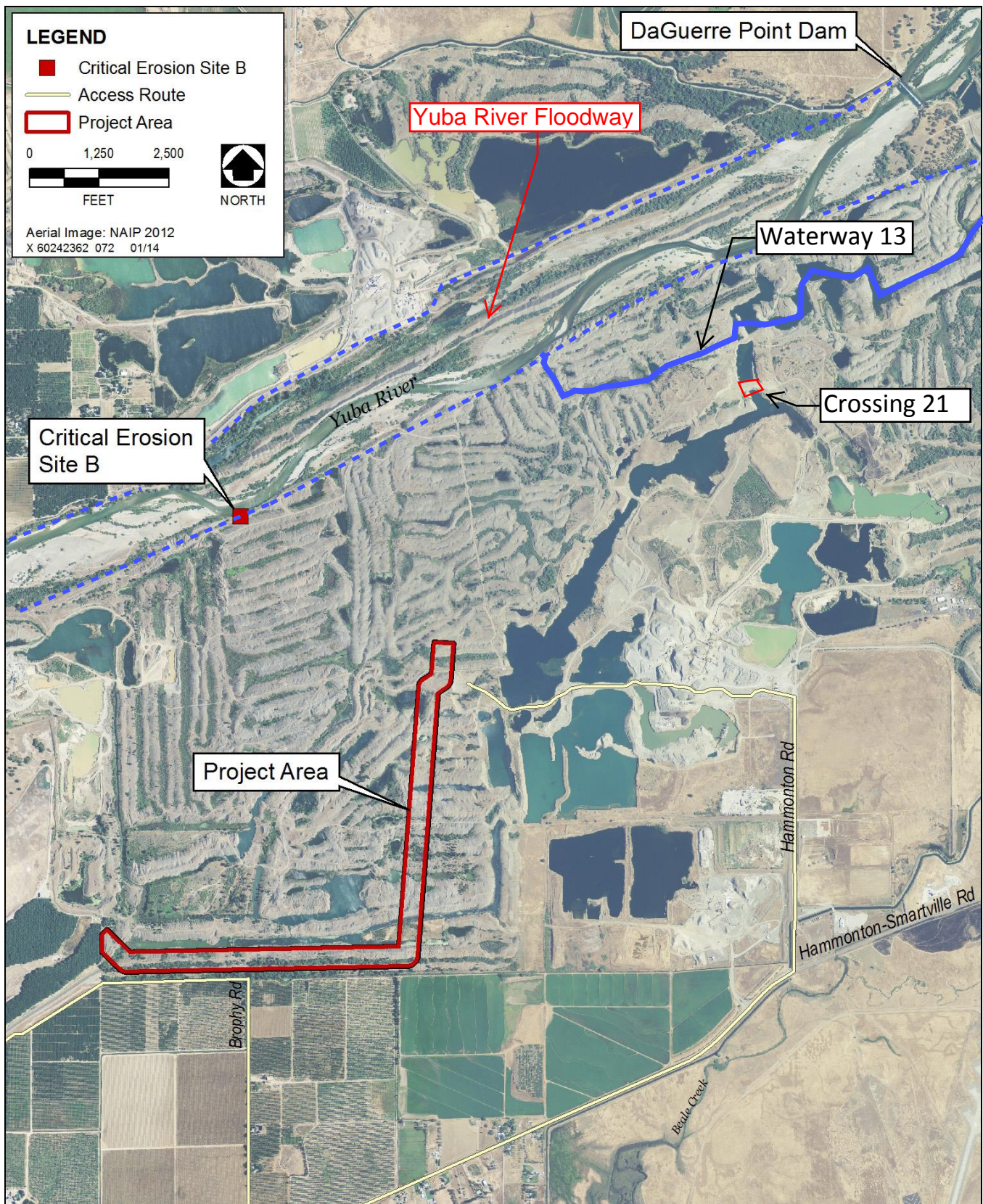
TRLIA requests Central Valley Flood Protection Board approval for an exception to work during the winter months of Permit 19046 BD for the work described above. TRLIA believes the proposed work can occur with no impacts to the flood protection system and asks for an exception to allow the construction season to extend through the winter from November 1, 2015 to April 15, 2016. TRLIA plans to expedite the construction of this needed flood protection feature and expects to complete construction by the end of the calendar year, but wet weather could slow construction progress and require the entire winter. While this may appear to be an extensive request, the lack of impacts from the winter construction do not change as the season progresses and TRLIA wishes to make one request for an exception rather than having to come back to the Board if additional time is needed to complete the work. You may contact me at (916) 437-7515, if you have any questions regarding this request.

Sincerely;



Mr. Larry Dacus
Design Manager
Three Rivers Levee Improvement Authority

cc: Paul G. Brunner – TRLIA Executive Director
Doug Handen – TRLIA Construction Manager
Steve Fordice – Reclamation District No. 784
Mitra Emami – CVFPB
Nancy Moricz – CVFPB
Preston Shopbell – DWR
Mark Gilbert – ENGEO, TRLIA Consultant



Source: TRLIA 2013, adapted by AECOM in 2013

Figure 1
Yuba Goldfields 100-Year Flood Protection Project Area