Meeting of the Central Valley Flood Protection Board
July 22, 2016

Staff Report – Encroachment Permit

Yuba County
New York House Road Bridge, Yuba County

1.0 – ITEM

Consider approval of Permit No. 19096. (Attachment B)

2.0 – APPLICANT

Yuba County Department of Public Works (County)

3.0 – LOCATION

The project is located at the intersection of New York House Road and Dry Creek in Brownsville, 0.8 miles east of Willow Glen Road and 28 miles northeast of Yuba City. (Dry Creek, Yuba County, see Attachment A)

4.0 – PROJECT DESCRIPTION

The County proposes to remove and replace an existing three-span reinforced concrete slab and steel beams bridge with a three-span, cast-in-place (CIP) concrete slab bridge. The proposed replacement bridge uses all new abutments and intermediate pier supports.

5.0 – AUTHORITY OF THE BOARD

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

California Code of Regulations Title 23 (Title 23)

- § 6, Need for a Permit
- § 112, Streams Regulated and Nonpermissible Work Periods
- § 121 Erosion Control
- § 128, Bridges

6.0 – PROJECT ANALYSIS

The proposed bridge will have an approximate span of 110 feet in length and 32 feet in width (Attachment C). Dry Creek is listed as a regulated stream in California Code of Regulations (CCR) Title 23, Division 1, Article 8, Section 112, Table 8.1. There are no levees along Dry Creek in the project area. The new bridge utilizes a three-span CIP reinforced concrete slab supported by two reinforced concrete pier walls and diaphragm type abutments. The proposed project will be in compliance with all CCR Title 23 standards.

6.1 – Hydraulic Analysis

The 100-year peak flow discharge for Dry Creek was determined to be 5,559 cubic feet per second (design flow). A HEC-RAS hydraulic model, one dimensional model developed by the USACE, was created in order to analyze the potential hydraulic impacts from the new bridge.

The lowest point on the bridge will be a minimum of 3.39 feet above the water surface elevation (WSE) at the design flow. The HEC-RAS analysis showed that all computed water surface elevations and velocity changes due to the new bridge are minor, with a decrease of 0.15 feet in WSE and an increase in velocity of 0.02 feet per second due to the proposed bridge (Attachment D). The bridge pier footings will be embedded several feet into the underlying scour resistant rock, any scour is expected not to reach the depth of the footings.

Based on Board staff's review of the proposed projects, it is anticipated that there will be no significant adverse hydraulic impacts to the Dry Creek channel or floodway.

6.2 – Geotechnical Analysis

There are no levees associated with this project; therefore, a geotechnical analysis is not required.

7.0 – AGENCY COMMENTS AND ENDORSEMENTS

The comments and endorsements associated with the project are as follows:

- The U.S. Army Corps of Engineers (USACE) Sacramento District decision letter was received on June 8, 2016. The letter indicates that the USACE District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally constructed

project. The letter is attached to the permit as Exhibit A in reference to the project

8.0 – CEQA ANALYSIS

Board staff has prepared the following California Environmental Quality Act (CEQA) determination:

The Board, as a responsible agency under CEQA, has reviewed the Initial Study/Mitigated Negative Declaration (IS/MND) (SCH Number: 2014042035, April 2014), and the Mitigation Monitoring and Reporting Plan for the New York House Road Bridge Rehabilitation Project prepared by the lead agency, the County. These documents, including project design, may be viewed or downloaded from the Central Valley Flood Protection Board (Board) website at: http://www.cvfpb.ca.gov/meetings/2016/07-22-2016.cfm under the link for this agenda item. These documents are also available for review in hard copy at the Board and the Yuba County Community Development & Services Agency Planning Department.

The County determined that the project would not have a significant effect on the environment and a Notice of Determination was filed on June 6, 2014 with the Yuba County Clerk. 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 to the project have been made, 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 biological resources, cultural resources, hazards and hazardous materials, air quality, and hydrology and water quality. The mitigation measures are further described in the adopted IS/MND.

The documents and other materials which constitute the record of the Board's proceedings in this matter are in the custody of Leslie Gallagher, Executive Officer, Central Valley Flood Protection Board, 3310 El Camino Ave., Suite 170, Sacramento, California 95821.

9.0 – CALIFORNIA WATER CODE SECTION 8610.5 CONSIDERATIONS

1. 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. 19096, and all supporting hydraulic, geotechnical, and other technical documentation provided by the County.

2. The best available science that 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:

   The accepted industry standards for the work proposed under this permit as regulated by CCR Title 23 have been applied to the review of this permit. On the issue of hydraulic impacts, the County developed and applied a HEC-RAS hydraulic model. This model is considered one of the best available scientific tools for the purpose of evaluating WSE changes developed by the proposed project.

3. 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 as adopted by Board Resolution 2012-25 on June 29, 2012:

   This project is located approximately 17 miles upstream of any State Plan of Flood Control facilities and the proposed project is not anticipated to have any adverse hydraulic impacts to water surface elevations or channel velocities. The project is consistent with the adopted 2012 Central Valley Flood Protection Plan and current CCR Title 23 standards.

4. 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 be constructed with 3.39 feet of clearance above the design WSE which is 1.39 feet in excess of what is required by the CCR Title 23 standard for a minor stream. Therefore, there are no expected adverse effects to the proposed project from reasonable projected future events.

10.0 – STAFF RECOMMENDATION

Board staff recommends that the Board:

Adopt:

- The CEQA findings;

Approve:

- Draft Encroachment Permit No. 19096 in substantially the form provided; and

Direct:

- The Executive Officer to take the necessary actions to execute the permit and file a Notice of Determination pursuant to CEQA with the State Clearinghouse.

11.0 – LIST OF ATTACHMENTS

A. Project Vicinity and Location Maps

B. Draft Permit No. 19096

C. Project Drawings

D. Hydraulic Profile Information

Prepared by:	Sungho Lee, Engineer, Water Resources, Permitting Section
Document Review:	Ruth Darling, Senior Environmental Scientist
	Gary Lemon, PE, Senior Engineer, Permitting Section
	Mitra Emami, PE, Acting Chief Engineer
Legal Review:	Kanwarjit Dua, General Counsel

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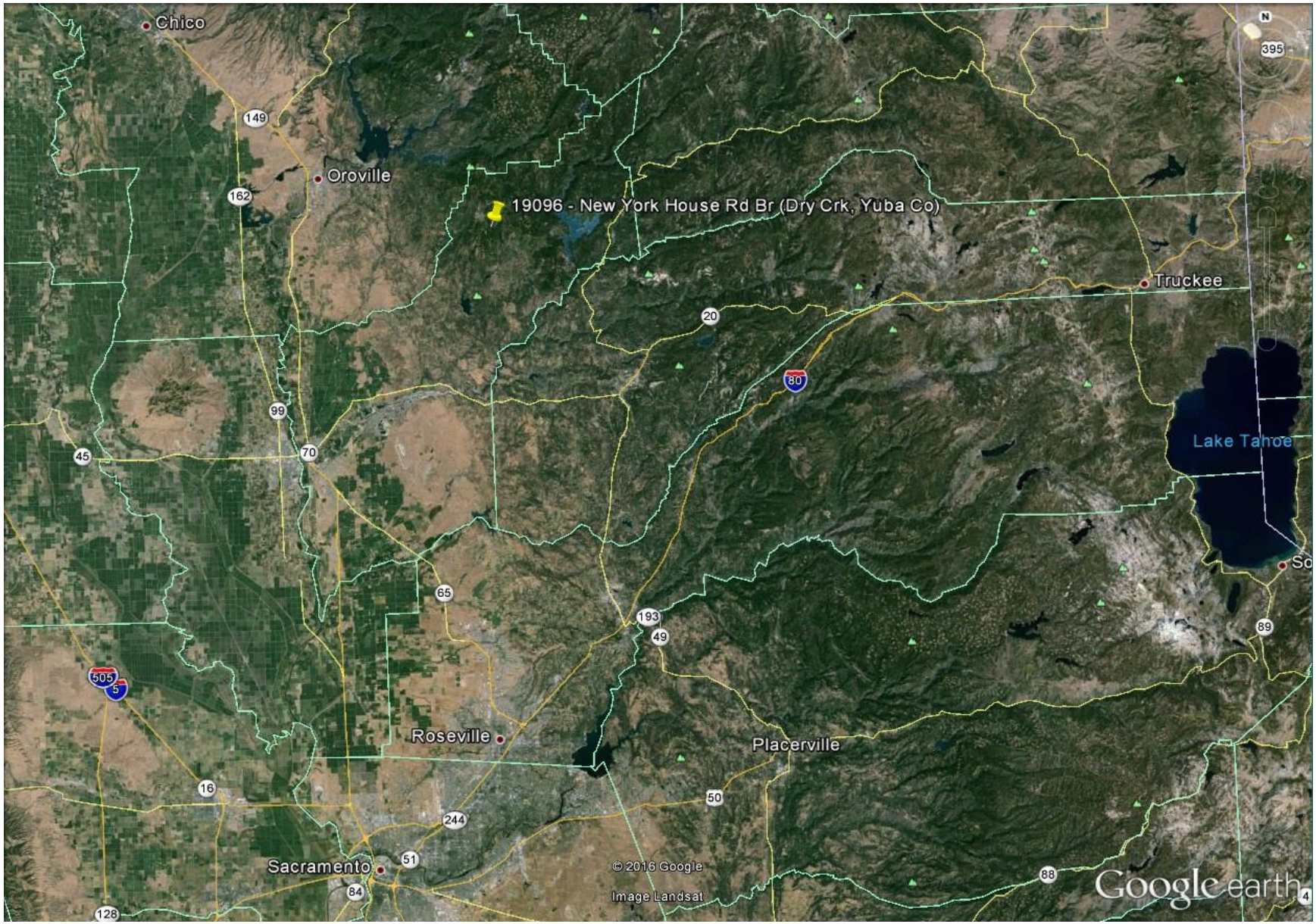
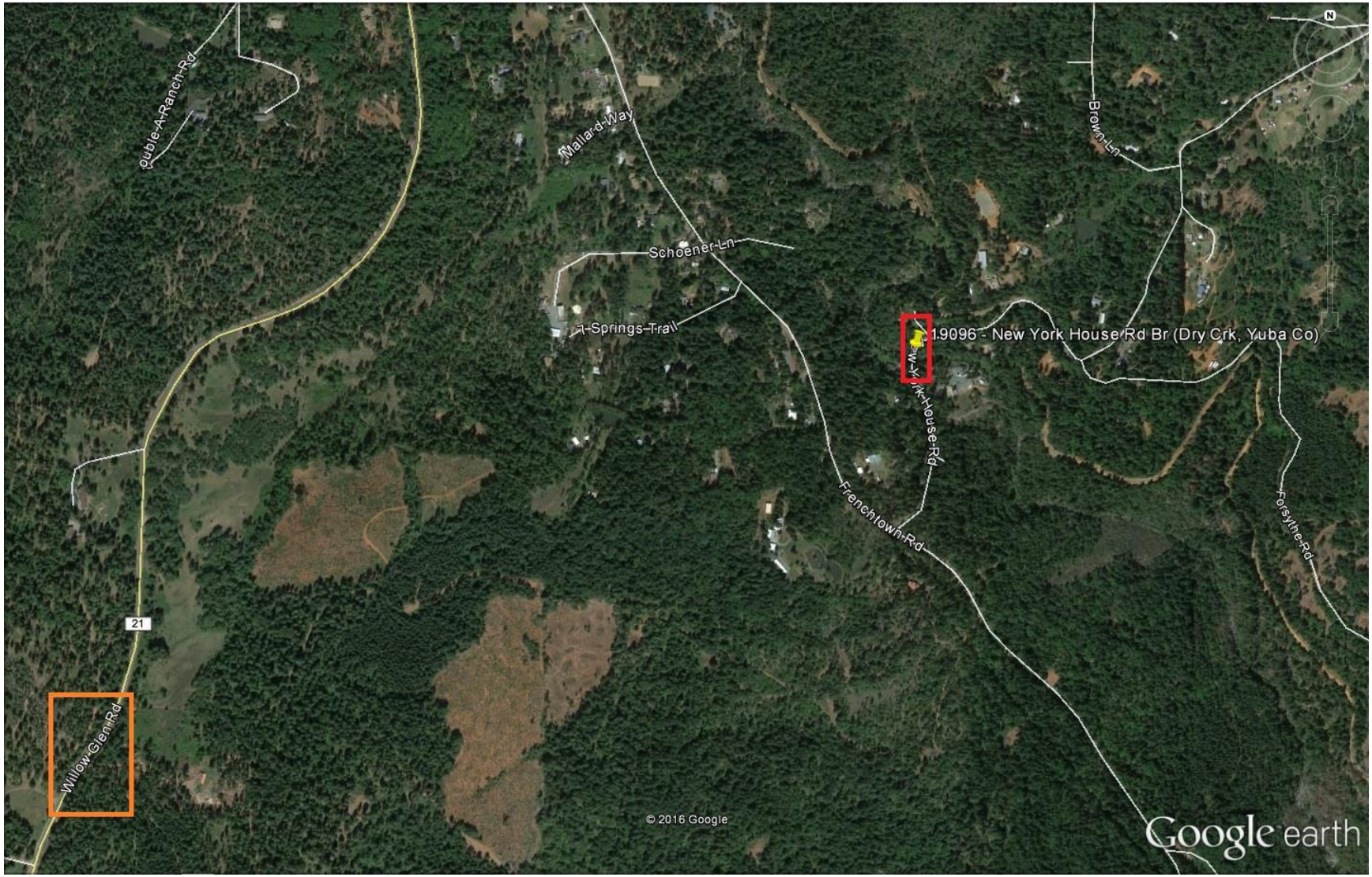
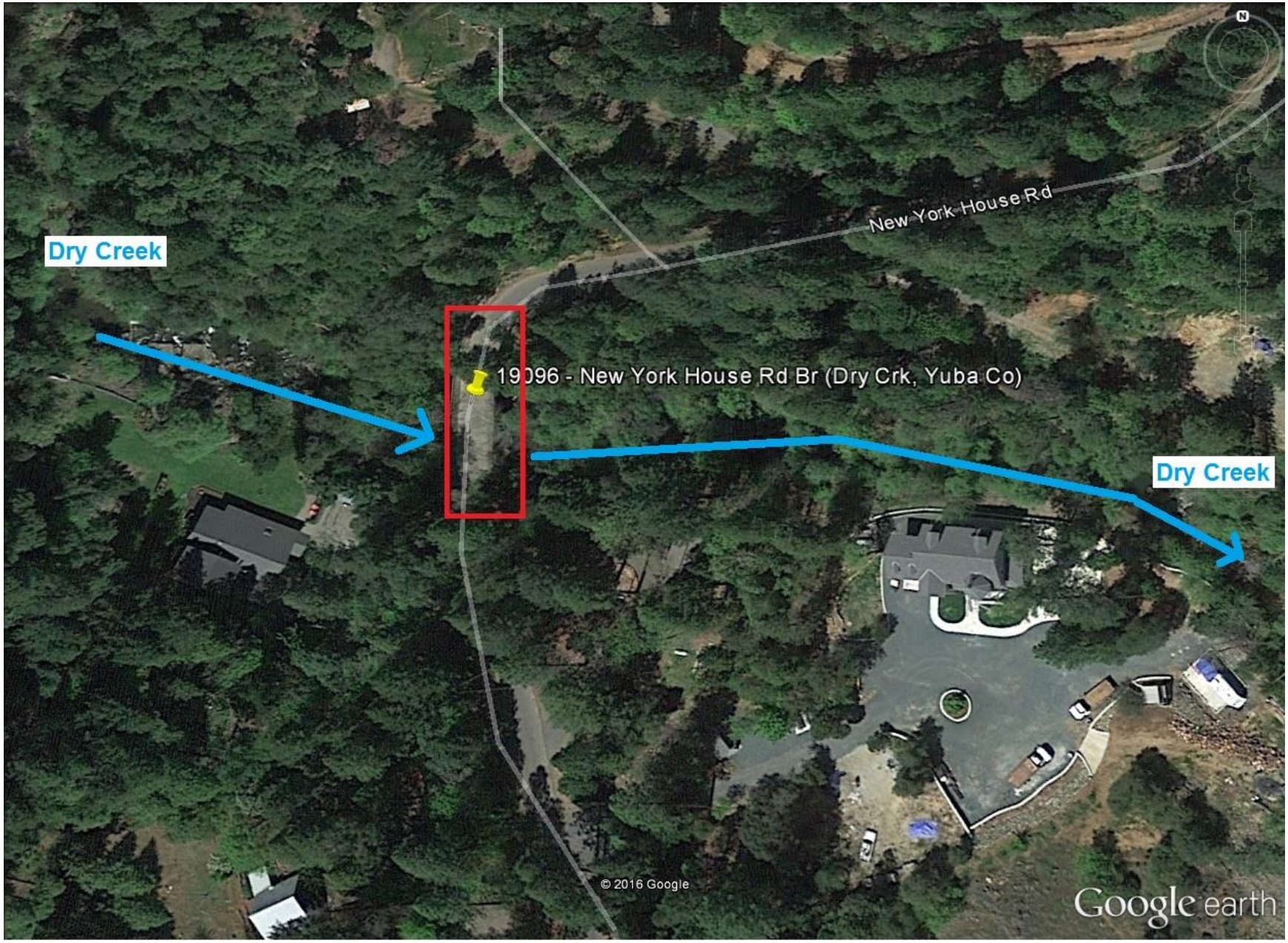

Chico
Oroville
19096 - New York House Rd Br (Dry Crk, Yuba Co)
Truckee
Lake Tahoe
Roseville
Placerville
Sacramento
© 2016 Google
Image Landsat
Google earth


Quible-A-Ranch-Rd
Mallard-Way
Brown-Ln
Schoener-Ln
1-Springs-Trail
1.9096 - New York House Rd Br (Dry Crk, Yuba Co)
New-York-House-Rd
Frenchtown-Rd
Forsythe-Rd
21
Willow-Glen-Rd
© 2016 Google
Google earth


Dry Creek
New York House Rd
19096 - New York House Rd Br (Dry Crk, Yuba Co)
Dry Creek
© 2016 Google
Google earth

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DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 19096 BD

This Permit is issued to:

Yuba County
915 8th Street, Suite 125
Marysville, California 95901

To replace an existing three-span reinforced concrete slab and steel beams with a three-span, cast-in-place concrete slab bridge.

The project is located where New York House Road crosses Dry Creek in Brownsville. (Section 2, T18N, R6E, MDB&M, Dry Creek, 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. 19096 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 associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Board and 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 the Department of Water Resources shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

AGENCY CONDITIONS

SIXTEEN: Board staff received a letter, dated June 8, 2016 from the U.S. Army Corps of Engineers (USACE) District Engineer stating that the District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally constructed project. This letter is attached to this permit as Exhibit A and is incorporated by reference.

SEVENTEEN: Permittee shall pay to the Board, an inspection fee(s) to cover inspection cost(s), including staff and/or consultant time and expenses, for any inspections before, during, post-construction, and regularly thereafter as deemed necessary by the Board.

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

PRE-CONSTRUCTION

NINETEEN: 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 10 working days prior to start of work may result in delay of the project.

CONSTRUCTION

TWENTY: All work approved by this permit shall be in accordance with the submitted drawings dated December 22, 2014 and specifications except as modified by special permit conditions herein. No work, other than that approved by this permit, shall be done in the project area without prior approval of the Board.

TWENTY-ONE: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Board.

TWENTY-TWO: All debris generated by this project shall be disposed outside of the Dry Creek floodway.

TWENTY-THREE: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1 to April 15.

TWENTY-FOUR: Piers and abutments being dismantled shall be removed to at least one (1) foot below the natural ground line and at least three (3) feet below the bottom of the low-water channel.

TWENTY-FIVE: Backfill material for excavations within 10 feet of bridge supports within the floodway shall be placed in 4- to 6-inch layers and compacted to a minimum of 90 percent relative compaction per ASTM Method D1557-91 and above optimum moisture content.

TWENTY-SIX: 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.

TWENTY-SEVEN: Cleared trees and brush 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 1 to April 15.

TWENTY-EIGHT: In the event that scour of channel bed injurious to the Dry Creek floodway occurs as a result of the project, the permittee shall repair the eroded area and propose measures, to be

approved by the Board, to prevent further erosion.

OPERATIONS AND MAINTENANCE

TWENTY-NINE: The permittee shall maintain the permitted encroachment(s) within the utilized area in the manner required and as requested by the authorized representative of the Board, the Department of Water Resources, or any other agency responsible for maintenance.

THIRTY: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season.

THIRTY-ONE: All debris that may accumulate around the bridge piers and abutments within Dry Creek shall be completely removed from the floodway following each flood season.

PROJECT ABANDONMENT, CHANGE IN PLAN OF FLOOD CONTROL

THIRTY-TWO: If the project works, 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.

THIRTY-THREE: The permittee may be required, at the permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted project works if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with implementation of the Central Valley Flood Protection Plan or other future flood control plan or project, or if damaged by any cause. If the permittee does not comply, the Board may perform this work at the permittee's expense.

END OF CONDITIONS

Exhibit A

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Flood Protection and Navigation Section (19096)

JUN 08 2016

Ms. Leslie M. Gallagher
Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, CA 95821

Dear Ms. Gallagher:

We have reviewed permit application number 19096 submitted by Yuba County. This project includes replacing an existing three-span railroad car bridge with a three span, cast-in-place concrete slab bridge over Dry Creek. The project is located at New York House Road in Brownsville, at 39.440389°N 121.270201°W NAD83, Yuba County, CA.

The District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally constructed project.

A Section 10 and/or Section 404 permit (SPK-2014-00408) has been issued for this work.

A copy of this letter is being furnished to Mr. Don Rasmussen, Chief, Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite 200, Sacramento, CA 95821.

Sincerely,

Ryan Larson, P.E.
Chief, Flood Protection and Navigation Section

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
03	YUB			16	27

REGISTERED CIVIL ENGINEER 12/22/15 DATE

PLANS APPROVAL DATE

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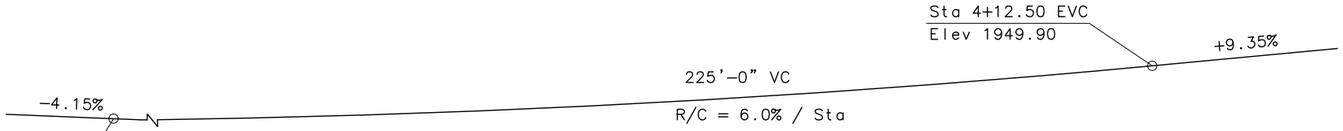
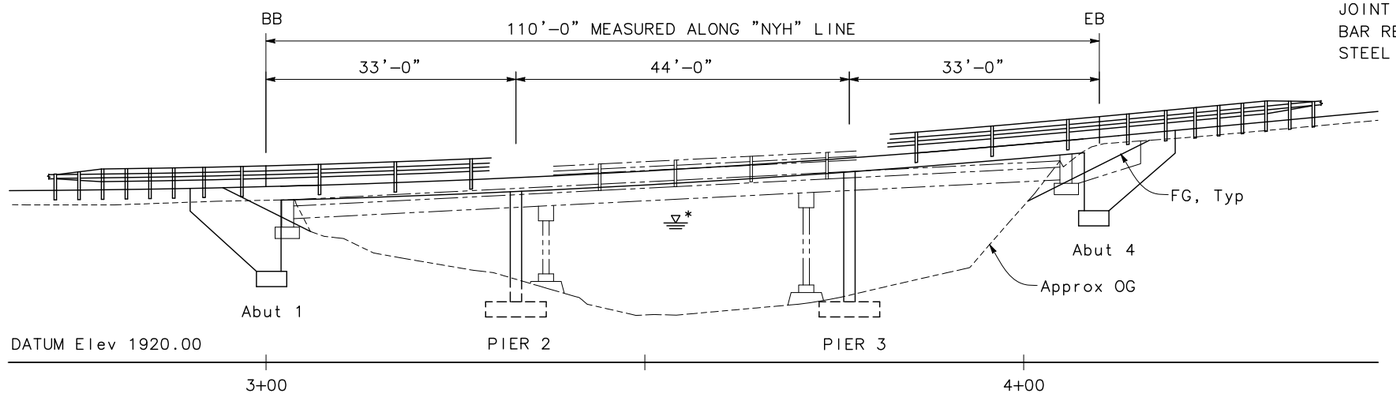
REGISTERED PROFESSIONAL ENGINEER JULIA ANN PASSALACQUA No. C68407 Exp. 9/30/15 CIVIL STATE OF CALIFORNIA

YUBA COUNTY PUBLIC WORKS DEPARTMENT
915 8TH STREET, SUITE 125
MARYSVILLE, CA 95901

MARK THOMAS & COMPANY, INC.
7300 FOLSOM BOULEVARD, SUITE 203
SACRAMENTO, CA 95826



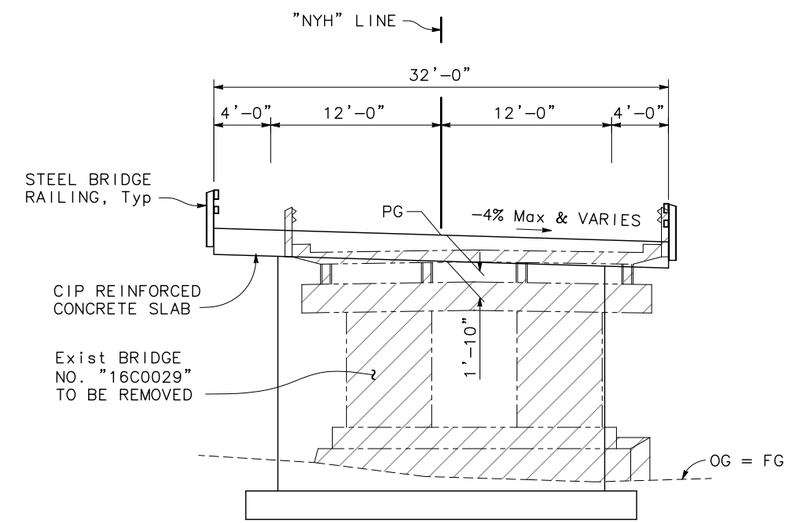
PROFILE
NO SCALE



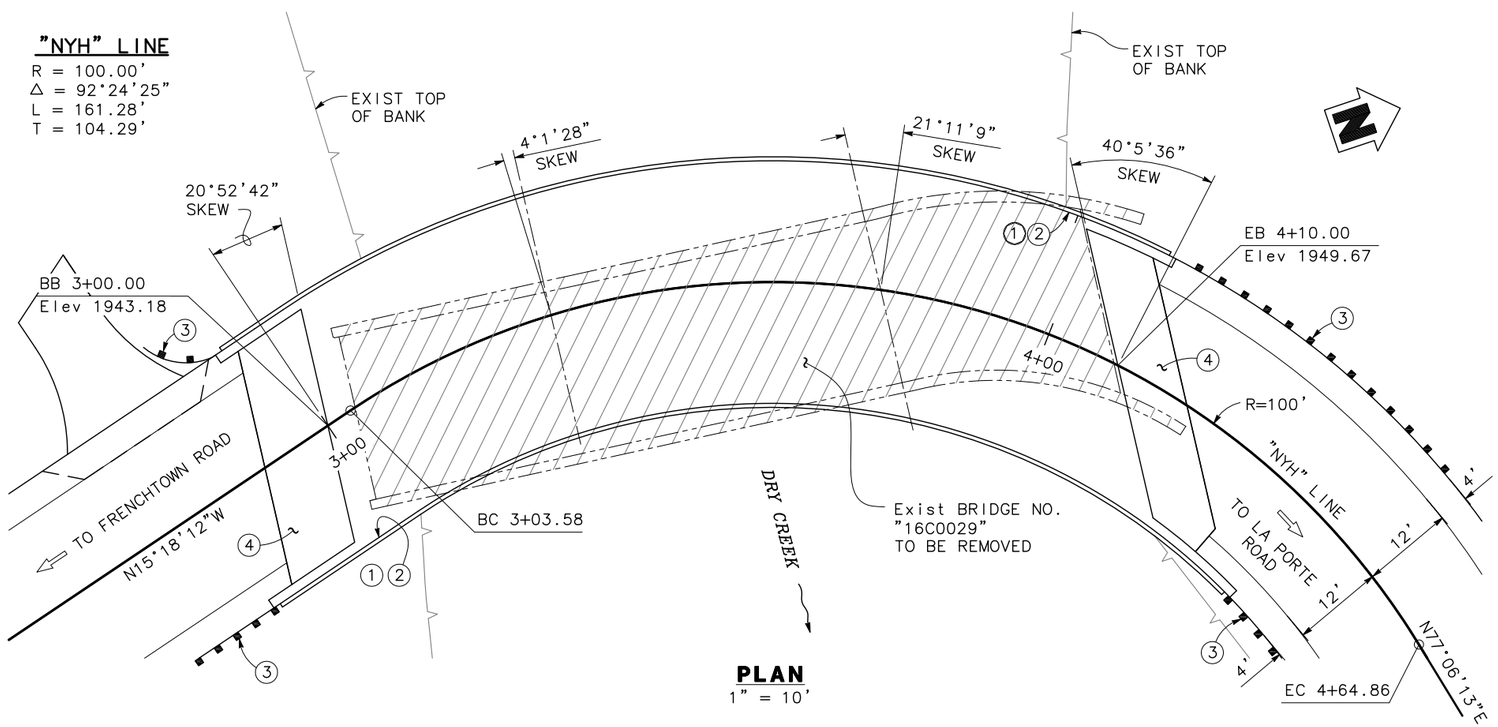
ELEVATION
1" = 10'

QUANTITIES

BRIDGE REMOVAL	1 LS
STRUCTURE EXCAVATION (BRIDGE)	145 CY
STRUCTURE EXCAVATION (ROCK)	119 CY
STRUCTURE BACKFILL (BRIDGE)	168 CY
STRUCTURAL CONCRETE, BRIDGE FOOTING	58 CY
STRUCTURAL CONCRETE, BRIDGE	343 CY
STRUCTURAL CONCRETE APPROACH SLAB (TYPE EQ)	20 CY
JOINT SEAL (MR 1/2")	76 LF
BAR REINFORCING STEEL (BRIDGE)	86,501 LB
STEEL BRIDGE RAILING	270 LF



TYPICAL SECTION
3/16" = 1'-0"



PLAN
1" = 10'

NOTES:

1. Paint "NEW YORK HOUSE ROAD BRIDGE"
2. Paint "BR NO. 16C0107"
3. MGS, see "ROAD PLANS"
4. Structure Approach Slab Type EQ(10)

*For "HYDROLOGIC SUMMARY", see "FOUNDATION PLAN" sheet.

For "GENERAL NOTES", see "DECK CONTOURS" sheet.

LEGEND:

Indicates Existing Structure

Indicates Bridge Removal

INDEX TO PLANS

DESIGN OVERSIGHT	DESIGN	BY V. SHERBY	CHECKED T. DUBOVIK	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VIHICLE
SIGN OFF DATE	DETAILS	BY G. BOYKO	CHECKED V. SHERBY	LAYOUT BY J. WEIR	CHECKED Z. SIVIGLIA
	QUANTITIES	BY V. SHERBY	CHECKED R. YANG	SPECIFICATIONS BY V. SHERBY	PLANS AND SPECS COMPARED

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

PREPARED FOR THE COUNTY OF YUBA DEPARTMENT OF PUBLIC WORKS

JASON HICKEY
PROJECT ENGINEER

UNIT: X
PROJECT NUMBER & PHASE: X

BRIDGE NO. 16C0107
POST MILES

NEW YORK HOUSE ROAD OVER DRY CREEK
GENERAL PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 05/14/13 9/30/13 9/26/13 1/02/14 2/19/14 8/18/14 9/26/14 11/24/14 12/22/14

SHEET 1 OF 12

FILE => $REQUEST

CONTRACT NO.: X PROJECT ID:

USERNAME => $USER DATE PLOTTED => $DATE TIME PLOTTED => $TIME

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
03	YUB			17	27

REGISTERED CIVIL ENGINEER 12/22/14 DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER JULIA ANN PASSALACQUA No. C68407 Exp. 9/30/15 CIVIL STATE OF CALIFORNIA

YUBA COUNTY PUBLIC WORKS DEPARTMENT
915 8TH STREET, SUITE 125
MARYSVILLE, CA 95901

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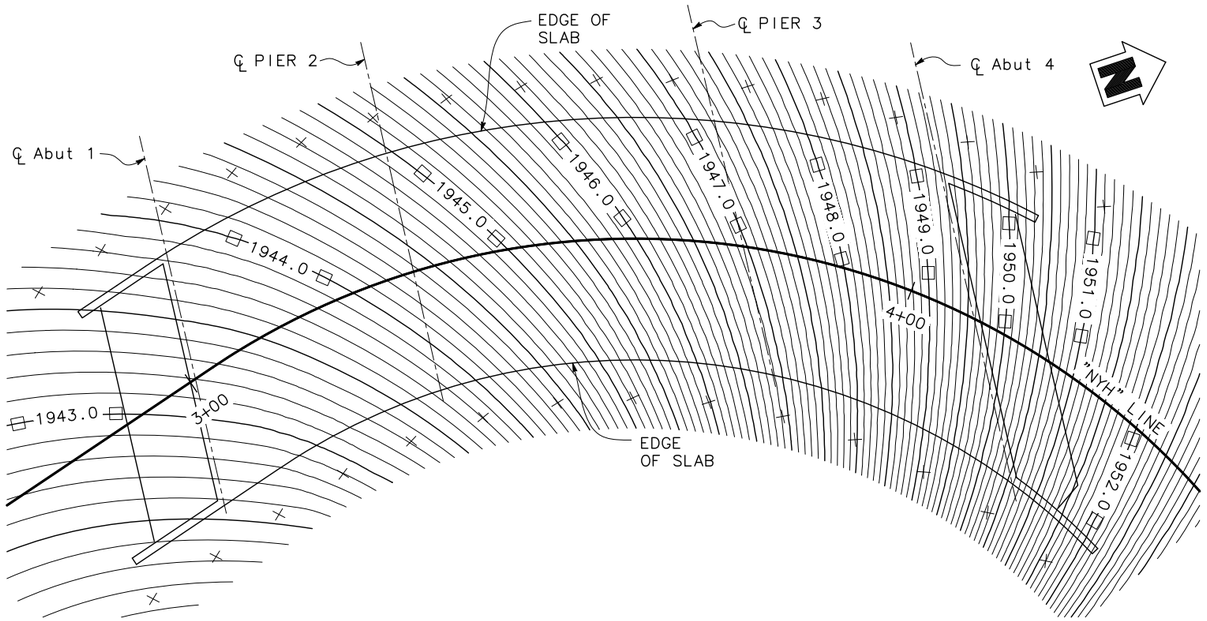
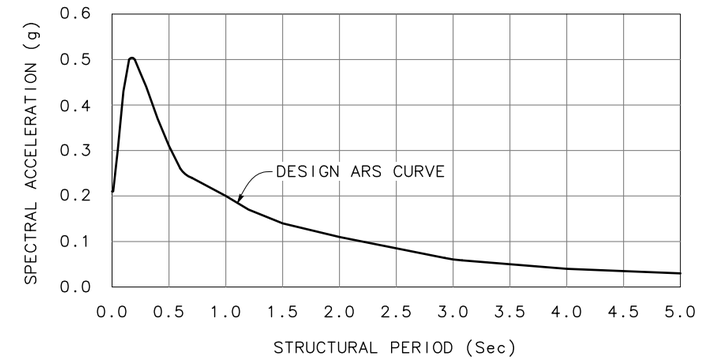


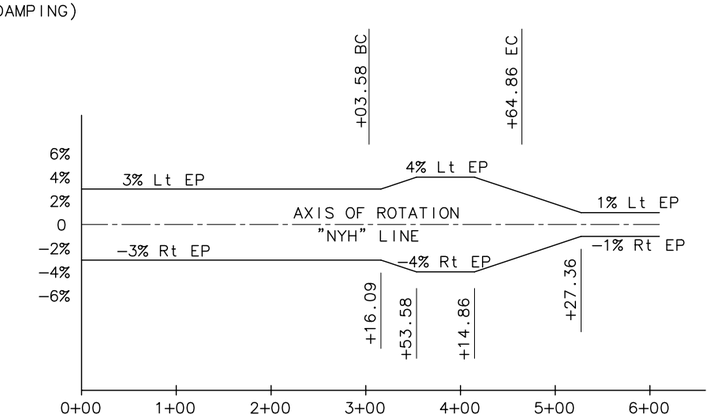
DECK CONTOURS
1" = 10'

NOTES:

1. Contour interval is 0.1 feet.
2. Contours do not include camber or falsework settlement.
3. × – Indicates 10 foot intervals.
4. □ – Indicates one foot contour.



MODIFIED ARS CURVE
(5% DAMPING)



SUPERELEVATION DIAGRAM
NO SCALE

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
AASHTO LRFD Bridge Design Specifications, 4th edition and the Caltrans Amendments, preface dated December 2011.

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC), Version 1.7 dated April 2013

DEAD LOAD:
Includes 35 psf for future wearing surface

LIVE LOADING:
HL93 and permit design load

SEISMIC LOADING:
Soil Profile: Vs30 = 560 m/s (1840 ft/s)
Moment Magnitude: 6.5
Peak Ground Acceleration: 0.21g
See Modified ARS Curve

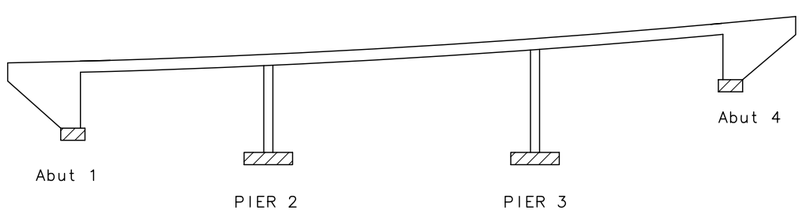
CONCRETE:
fy = 60 ksi
f'c = 3.6 ksi
n = 8

FOOTING PRESSURE:
See "SPREAD FOOTING DATA TABLE" on "FOUNDATION PLAN" sheet

STANDARD PLANS DATED 2010

	A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP	A10B	ABBREVIATIONS (SHEET 2 OF 2)
	A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
	A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
	A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
	A10F	LEGEND – SOIL (SHEET 1 OF 2)
	A10G	LEGEND – SOIL (SHEET 2 OF 2)
	A10H	LEGEND – ROCK
	A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL – BRIDGE
	B0-1	BRIDGE DETAILS
	B0-3	BRIDGE DETAILS

Standard Plan Sheet No.
Detail No.



Structural Concrete, Bridge
Structural Concrete, Bridge Footing

CONCRETE STRENGTH AND TYPE LIMITS
NO SCALE

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

	BY	CHECKED
DESIGN	V. SHERBY	T. DUBOVIK
DETAILS	G. BOYKO	V. SHERBY
QUANTITIES	V. SHERBY	R. YANG

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

PREPARED FOR THE COUNTY OF YUBA DEPARTMENT OF TRANSPORTATION

JASON HICKEY
PROJECT ENGINEER

UNIT:
PROJECT NUMBER & PHASE:

BRIDGE NO. 16C0107
POST MILES

NEW YORK HOUSE ROAD OVER DRY CREEK
DECK CONTOUR

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 9/10/13 9/26/13 1/02/14 8/18/14 11/24/14 12/22/14

SHEET 2 OF 12

FILE => $REQUEST

CONTRACT NO.:

PROJECT ID:

USERNAME => $USER DATE PLOTTED => $DATE TIME PLOTTED => $TIME

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
03	YUB			18	27

REGISTERED CIVIL ENGINEER 12/22/14 DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER JULIA ANN PASSALACQUA No. C68407 Exp. 9/30/15 CIVIL STATE OF CALIFORNIA

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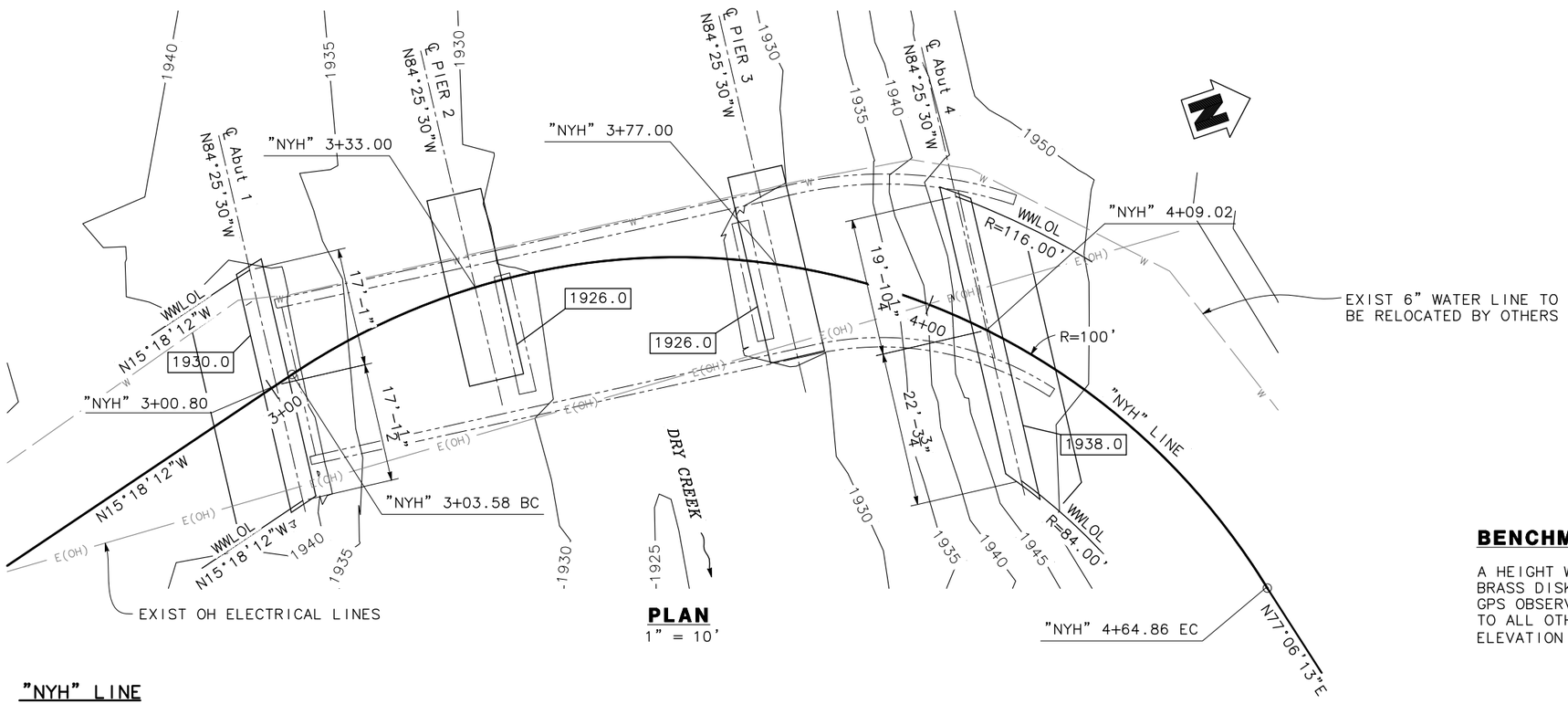
7300 FOLSOM BOULEVARD, SUITE 203
SACRAMENTO, CA 95826



PLAN
1" = 10'

"NYH" LINE
R = 100.00'
Δ = 92°24'25"
L = 161.28'
T = 104.29'

BENCHMARK

A HEIGHT WAS DETERMINED FOR POINT 3000, A FOUND 3" BRASS DISK STAMPED LS 3649, BY APPLYING GEOID09 TO GPS OBSERVATIONS. A LEVEL WAS RUN FROM POINT 3000 TO ALL OTHER SHOWN CONTROL POINTS HOLDING AN ELEVATION OF 2012.53'.

LEGEND

Indicates Bottom of Footing Elevation (feet)

Indicates Exising Structure

SPREAD FOOTING DATA TABLE

Support Location	Working Stress Design (WSD)		Load and Resistance Factor Design (LRFD)		
	Permissible Gross Contact Stress (Settlement) (ksf)	Allowable Gross Bearing Capacity (ksf)	Service Permissible Net Contact Stress (Settlement) (ksf)	Strength Factored Gross Normal Bearing Resistance φ_b = 0.45 (ksf)	Extreme Event Factored Gross Normal Bearing Resistance φ_b = 1.00 (ksf)
Abut 1	24.0	8.0	N/A	N/A	N/A
Pier 2	N/A	N/A	13.0	10.5	23.0
Pier 3	N/A	N/A	12.8	10.5	23.0
Abut 4	24.0	8.0	N/A	N/A	N/A

HYDROLOGIC SUMMARY

Drainage Area: 24.92 Square Miles

	Design Flood	Base Flood	Overtopping Flood
Frequency (Years)	50	100	N/A
Discharge (Cubic Foot per Sec)	4779	5559	N/A
Water Surface (Elevation at Bridge)	1937.69	1938.39	N/A

Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.

GEOTECHNICAL PROFESSIONAL APPROVAL DATE

DESIGN OVERSIGHT

SIGN OFF DATE

SCALE: No Scale | VERT.DATUM NAVD 88 | HORZ.DATUM CCS83(2007.00)Z2
PHOTOGRAMMETRY AS OF: | ALIGNMENT TIES
SURVEYED BY M. Stringer | DRAFTED BY
FIELD CHECKED BY O. Senda | CHECKED BY

	BY	CHECKED
DESIGN	V. SHERBY	T. DUBOVIK
DETAILS	G. BOYKO	V. SHERBY
QUANTITIES	V. SHERBY	R. YANG

PREPARED FOR THE COUNTY OF YUBA DEPARTMENT OF TRANSPORTATION

JASON HICKEY
PROJECT ENGINEER

BRIDGE NO. 16C0107
POST MILES

NEW YORK HOUSE ROAD OVER DRY CREEK
FOUNDATION PLAN

FOUNDATION PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT:
PROJECT NUMBER & PHASE:

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 09/08/13 01/02/14 02/28/14 08/18/14 09/08/14 11/24/14 12/22/14

SHEET 3 OF 12

FILE => $REQUEST

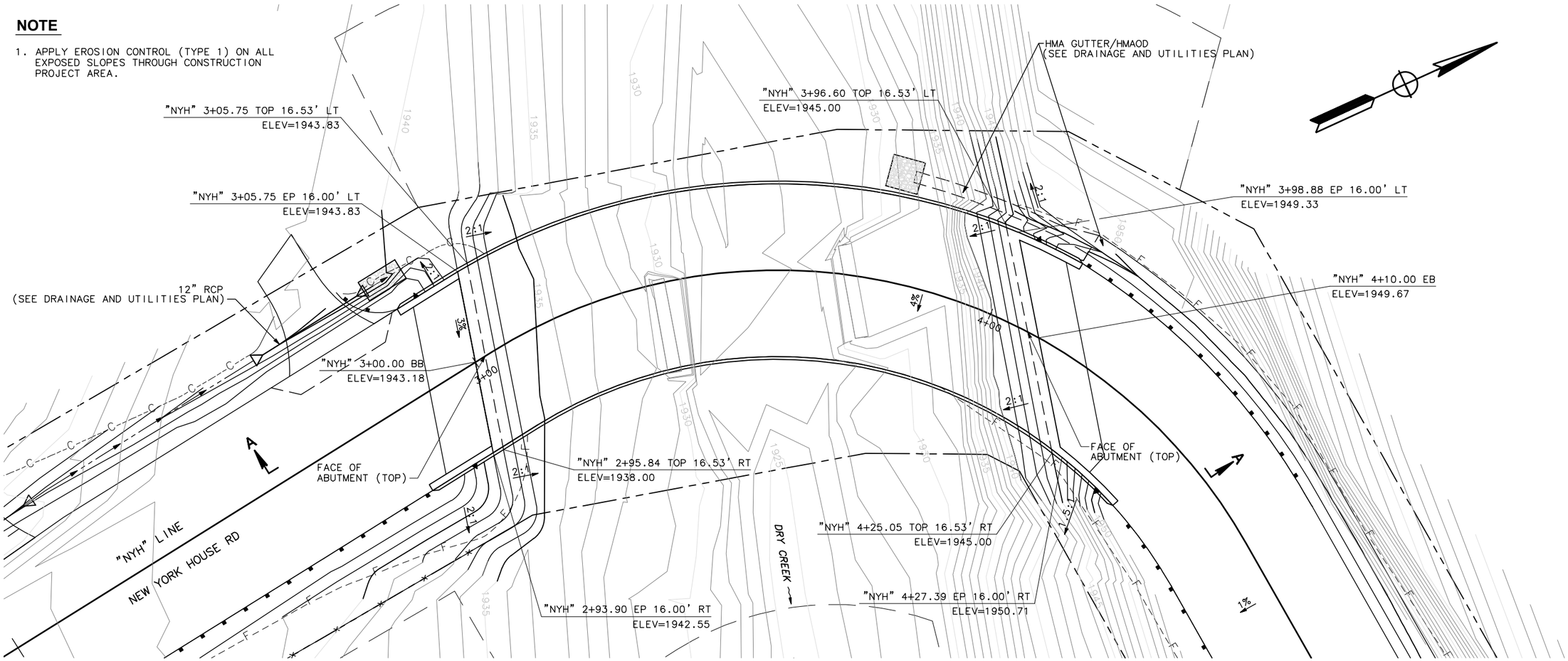
CONTRACT NO.:

PROJECT ID:

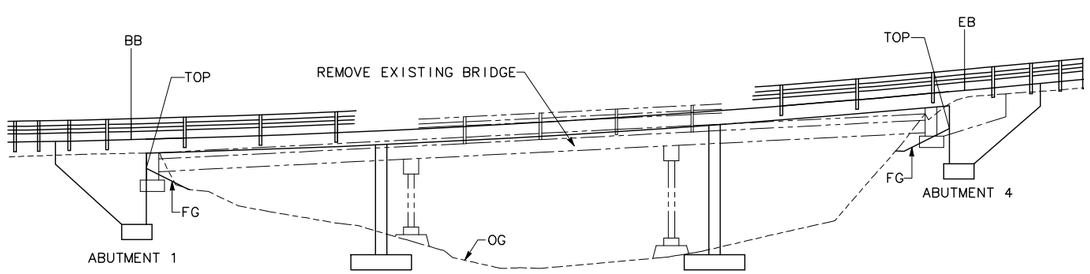
USERNAME => $USER DATE PLOTTED => $DATE TIME PLOTTED => $TIME

NOTE

1. APPLY EROSION CONTROL (TYPE 1) ON ALL EXPOSED SLOPES THROUGH CONSTRUCTION PROJECT AREA.



BRIDGE ABUTMENT AND GRADING DETAIL



SECTION A-A

NO SCALE

EROSION CONTROL (TYPE 1)

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE
		DESCRIPTION	TYPE	
STEP 1	HYDROSEED	SEED	MIX 1	150 LB/ACRE
		FIBER	15% – 90%– RICE STRAW MIX	4000 LB/ACRE
		COMMERICAL FERTILIZER		300 LB/ACRE
		STABILIZING EMULSION (SOLIDS)	MEDIUM	1.0 CY/ACRE
STEP 2	COMPOST	COMPOST	SOLIDS	200 LB/ACRE
STEP 3	ROLLED EROSION CONTROL PRODUCT (NETTING)	NETTING	TYPE A	

SEED MIX 1

BOTANICAL (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
Achillea millefolium (Yarrow)	80	5
Clarkia amonea (Farewell to Spring)	80	8
Elymus glaucus (Wild-Rye)	80	20
Eschscholzia californica (California Poppy)	80	2
Festuca idahoensis (Western Fescue)	80	12
Festuca californica (California Fescue)	80	5
Hordeum vuglare U.C. 603 (Common Barley)	80	40
Layia platyglossa (Tidy-Tips)	80	5
Lupinus nanus (Dwarf Lupine)	80	5
Trifolium hirtium (Rose Clover)	80	33

APPR.	REVISIONS	DATE
	REVISION TO CHANGE	MO/YEAR

MARK THOMAS & COMPANY
7300 FOLSOM BOULEVARD, SUITE 203
SACRAMENTO, CALIFORNIA 95826
(916) 381-9100 FAX:(916)381-9190

REGISTERED PROFESSIONAL ENGINEER
MATTHEW GROSCAVAGE
No. 63854
Exp. 9/30/16
CIVIL
STATE OF CALIFORNIA

YUBA COUNTY PUBLIC WORKS
CONSTRUCTION DETAILS
NEW YORK HOUSE ROAD AT DRY CREEK

PREPARED BY		DATE
SURVEY:	BGB	12/2014
DRAWN:	JLD	12/2014
DESIGNED:	JW	12/2014
CHECKED:	ZS	12/2014

SCALE

HORIZONTAL: 1" = 5'
VERTICAL: NO SCALE

INCHES 0 1 2
FEET 0 5 10

DRAWING
3 OF 3

SHEET
9 OF 27

Attachment C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
03	YUB			26	27

REGISTERED CIVIL ENGINEER — DATE 12/22/14

PLANS APPROVAL DATE

REGISTERED GEOLOGIST DAVID A. KITZMANN No. 2412 CERTIFIED ENGINEERING GEOLOGIST STATE OF CALIFORNIA

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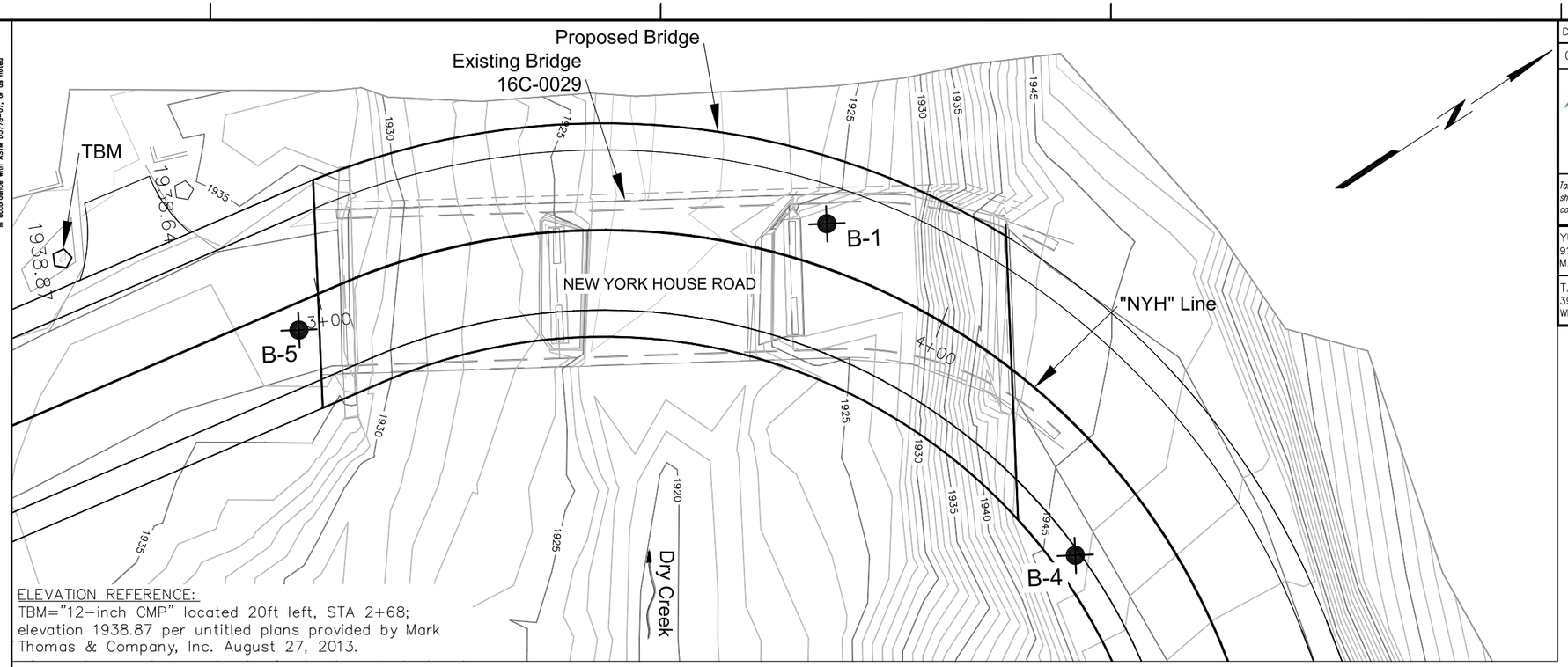
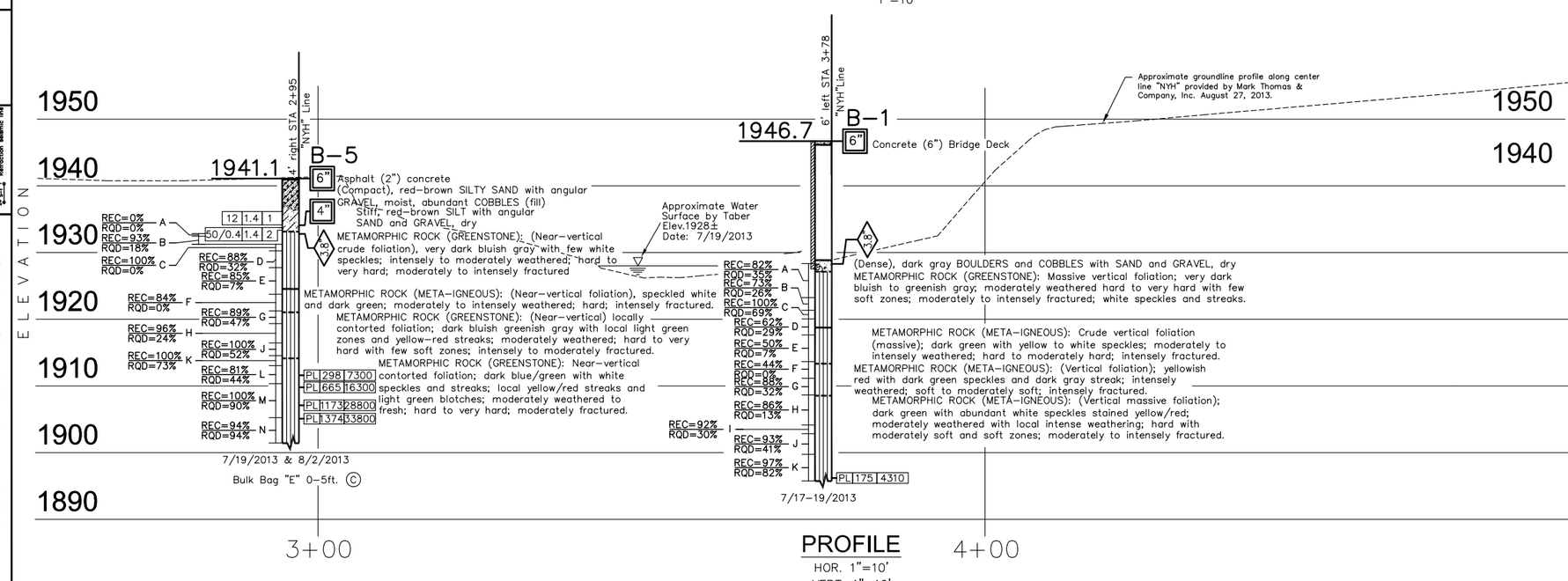
YUBA COUNTY PUBLIC WORKS DEPARTMENT
915 8TH STREET, SUITE 125
MARYSVILLE, CA 95901

TABER CONSULTANTS
3911 WEST CAPITAL AVENUE
WEST SACRAMENTO, CA 95691



ELEVATION REFERENCE:
TBM="12-inch CMP" located 20ft left, STA 2+68; elevation 1938.87 per untitled plans provided by Mark Thomas & Company, Inc. August 27, 2013.

PLAN
1"=10'



PROFILE
HOR. 1"=10'
VERT. 1"=10'

Notes:

1. Field classification of soils was in accordance with ASTM D 2488-09a "Description and Identification of Soils (Visual-Manual Procedure)".

2. Standard Penetration tests (SPTs) were performed in accordance with ASTM D 1586-11 using hammer operated with an automated drop system. Drill rods were 1 5/8-inch diameter "A"-rods; sampler was driven with brass liners. SPT hammer energy ratio (ETR) measurements indicate an ETR=74% as of 06/14/2012.

3. The length of each sampled interval is shown graphically on the boring log. Whole number blow counts ("N") represent the "standard penetration resistance" interval in accordance with ASTM D1586-11. Where less than 1 foot of penetration is achieved, the blow count shown is for that fraction of the "standard penetration resistance" interval actually penetrated. Where indicated by an asterisk (*) the number of blows shown is for only that fraction of the initial 0.5 ft "seating drive" interval penetration. Material characteristics shown in ( ) where estimated.

4. Rock classification according to Bureau of Reclamation, U.S. Department of the Interior (USBR), "Engineering Geology Field Manual", and "Manual of Field Geology", (Compton, Robert R.). USBR field descriptor sheet is attached. Rock Quality Designation (RQD), Weathering, Rock Hardness/Strength, Bedding, and Fracture Density, as shown on this sheet, were used to describe all rock core from borings B-1, B-4, and B-5, drilled in 2013. Descriptors were determined in the field. REC = Core Recovered (percent). RQD = Rock Quality Designation (percent).

5. Groundwater surface elevations in the borings indicated on the "Log of Test Borings" sheets reflect the fluid level in the borings on the specified date. Groundwater surface elevations are subject to seasonal fluctuations and may occur at higher or lower elevations depending on the conditions at any particular time.

6. Approximate boring elevations were surveyed by Taber Consultants in the field at the time of subsurface exploration and correlated to topographic survey provided by Mark Thomas & Company, Inc. Boring B-1, B-4 and B-5 elevation was estimated based on topography provided by Mark Thomas & Company, Inc.

7. Electronic media for plan view provided by Mark Thomas & Company, Inc.

8. The ground line profile is estimated from topography provided by Mark Thomas & Company, Inc.

LEGEND OF BORING OPERATIONS

LEGEND OF EARTH MATERIALS: GRAVEL, SAND, SILT, CLAY, PEAT and/or ORGANIC MATTER, FILL MATERIAL, IGNEOUS ROCK, SEDIMENTARY ROCK, METAMORPHIC ROCK, SANDY CLAY or CLAYEY SAND, SILTY SAND or SANDY SILT, SILTY CLAY or CLAYEY SILT

CONSISTENCY CLASSIFICATION FOR SOILS — According to the Standard Penetration Test

Standard Penetration "N"-Value	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
>70	Very dense	Very hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

DESIGN OVERSIGHT	DRAWN BY X. Vang	G. Wade, P.G. FIELD INVESTIGATOR	DESIGN	BY V. SHERBY	CHECKED
SIGN OFF DATE	CHECKED BY D. A. Kitzmann	DATE July 2013	DETAILS	BY G. BOYKO	CHECKED
			QUANTITIES	BY	CHECKED

PREPARED FOR THE COUNTY OF YUBA DEPARTMENT OF TRANSPORTATION

JASON HICKEY
PROJECT ENGINEER

BRIDGE NO. 16C0107
POST MILES

NEW YORK HOUSE ROAD OVER DRY CREEK
LOG OF TEST BORINGS 1 of 2

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT:
PROJECT NUMBER & PHASE:

DISREGARD PRINTS BEARING EARLIER REVISION DATES 9/24/14

REVISION DATES (PRELIMINARY STAGE ONLY) — SHEET 11 OF 12

FILE => $REQUEST — CONTRACT NO.: — PROJECT ID:

Attachment C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
03	YUB			27	27

REGISTERED CIVIL ENGINEER — DATE 12/22/14

PLANS APPROVAL DATE

REGISTERED GEOLOGIST DAVID A. KITZMANN No. 2412 CERTIFIED ENGINEERING GEOLOGIST STATE OF CALIFORNIA

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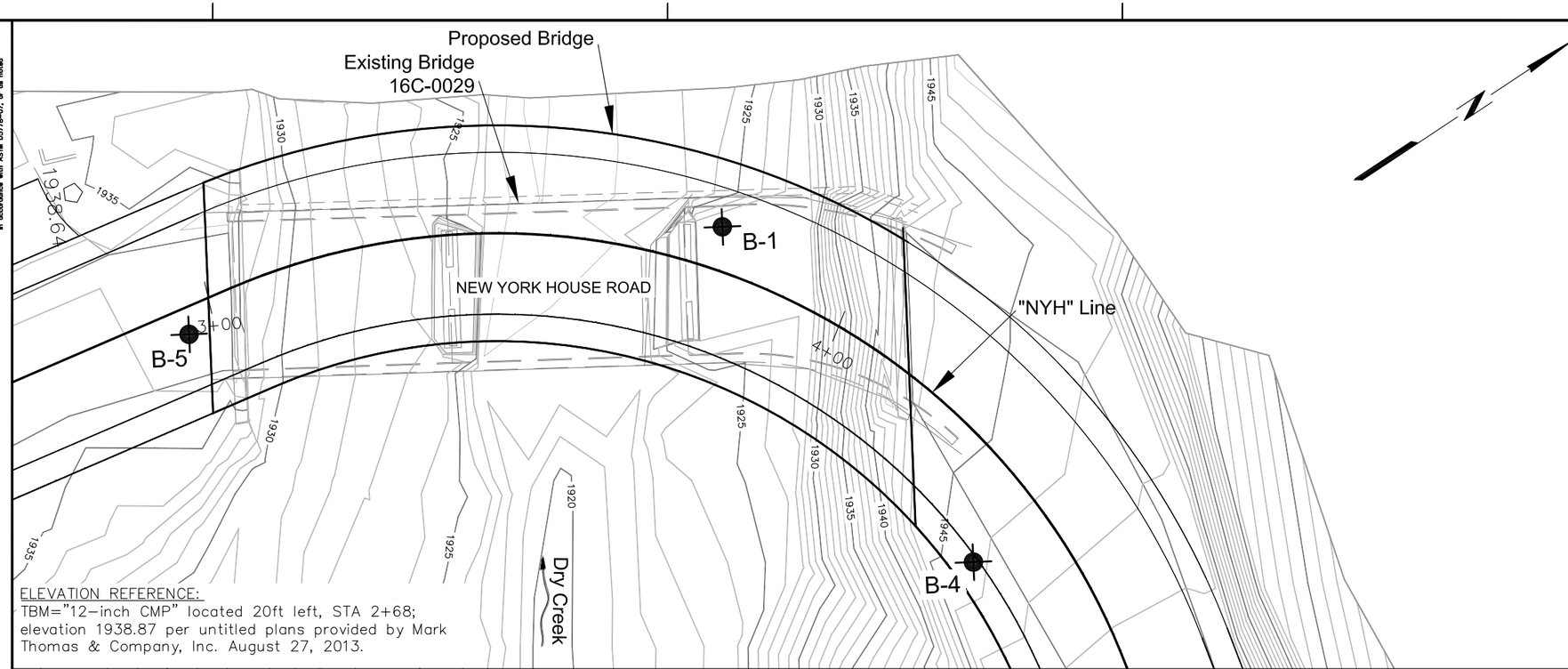
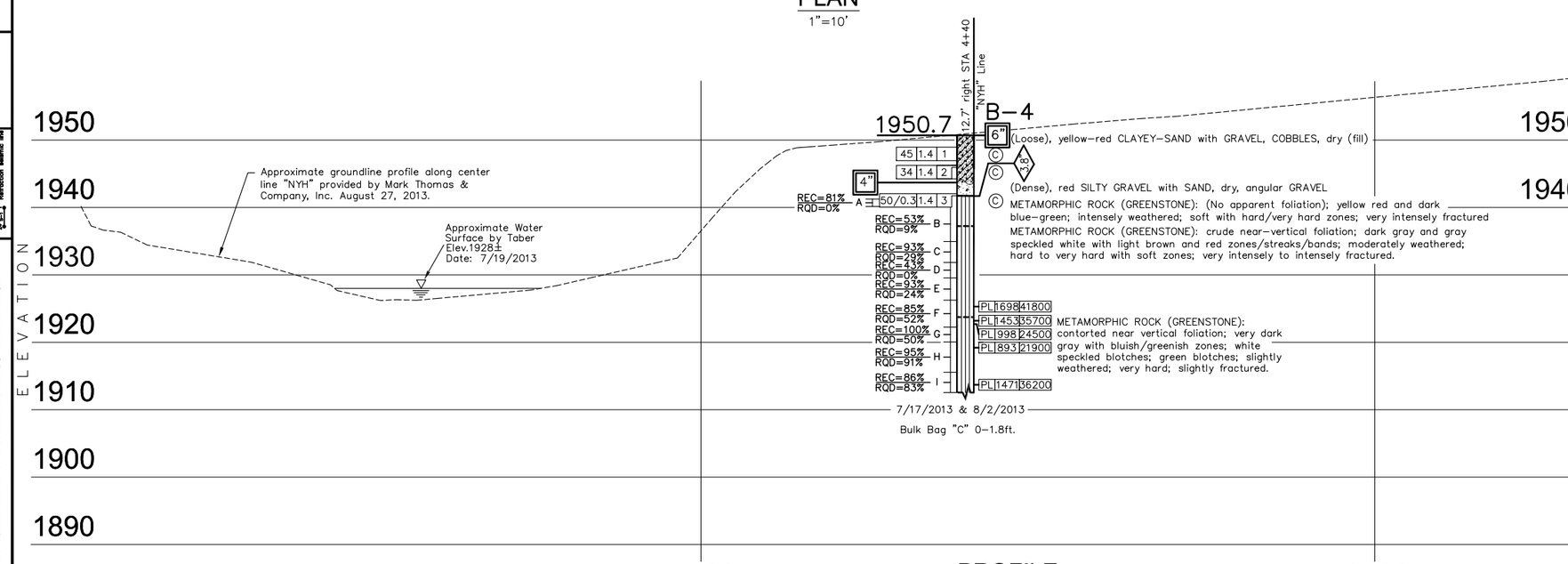


PLAN
1"=10'



PROFILE
HOR. 1"=10'
VERT. 1"=10'

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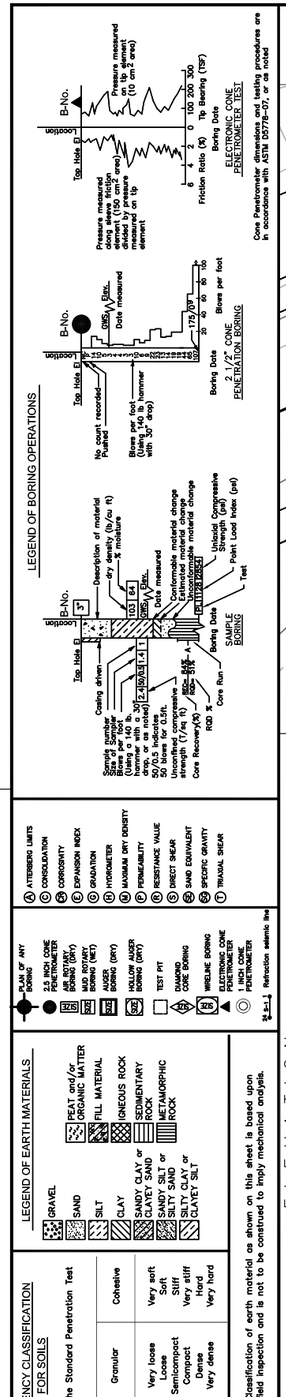


DESIGN OVERSIGHT	DRAWN BY X. Vang	G. Wade, P.G. FIELD INVESTIGATOR	DESIGN	BY V. SHERBY	CHECKED
SIGN OFF DATE	CHECKED BY D. A. Kitzmann	DATE July 2013	DETAILS	BY G. BOYKO	CHECKED
			QUANTITIES	BY	CHECKED

PREPARED FOR THE COUNTY OF YUBA DEPARTMENT OF TRANSPORTATION

JASON HICKEY
PROJECT ENGINEER

BRIDGE NO. 16C0107
POST MILES

NEW YORK HOUSE ROAD OVER DRY CREEK
LOG OF TEST BORINGS 2 of 2

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT:
PROJECT NUMBER & PHASE:

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 9/24/14

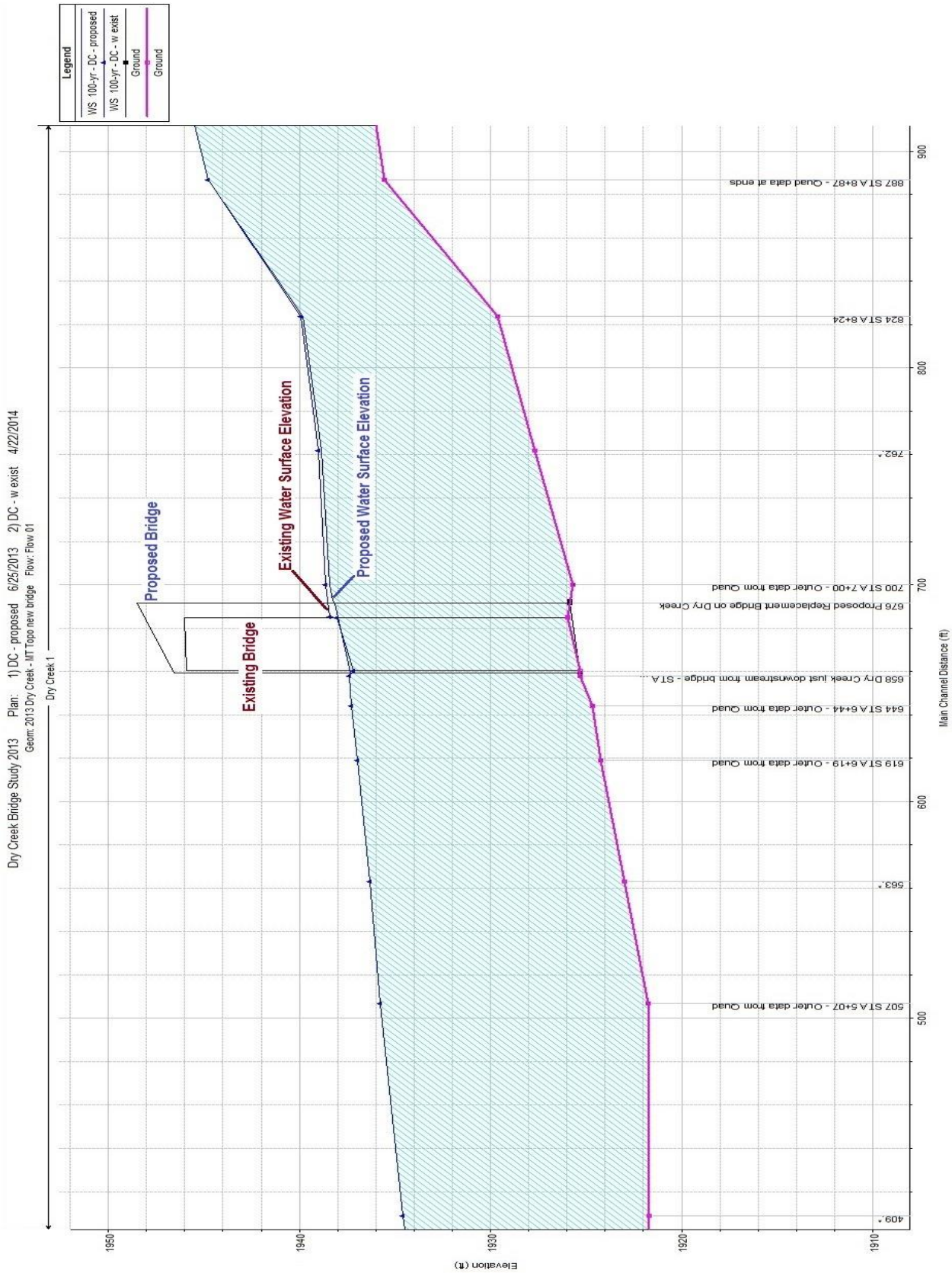
SHEET 12 OF 12

FILE => $REQUEST

CONTRACT NO.: PROJECT ID:

USERNAME => $USER DATE PLOTTED => $DATE TIME PLOTTED => $TIME

T:\Job Archive\2012\2012-0103 -- New York House Bridge Replacement\Drawings\Final Drawings\2012-0103 LOTB.dwg 12/16/2014 3:54 PM


Dry Creek Bridge Study 2013 Plan: 1) DC - proposed 6/25/2013 2) DC - w exist 4/22/2014
Geom: 2013 Dry Creek - MT Topo new bridge Flow: Flow 01
Dry Creek 1
Legend
WS 100-yr - DC - proposed
WS 100-yr - DC - w exist
Ground
Ground
Proposed Bridge
Existing Bridge
Existing Water Surface Elevation
Proposed Water Surface Elevation
409.*
507 STA 5+07 - Outer data from Quad
563.*
619 STA 6+19 - Outer data from Quad
644 STA 6+44 - Outer data from Quad
658 Dry Creek just downstream from bridge - STA ...
676 Proposed Replacement Bridge on Dry Creek
700 STA 7+00 - Outer data from Quad
762.*
824 STA 8+24
887 STA 8+87 - Quad data at ends
Elevation (ft)
1910
1920
1930
1940
1950
Main Channel Distance (ft)
500
600
700
800
900

Profile Output Table - Standard Table 1

File Options Std. Tables User Tables Locations Help

HEC-RAS River: Dry Creek Reach: 1 Profile: 100-yr

Reload Data

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	1328	100-yr	DC - proposed	5559.00	1941.30	1955.08		1956.36	0.010430	9.30	649.27	78.13	0.51
1	1328	100-yr	DC - w exist	5559.00	1941.30	1954.65		1956.06	0.012091	9.74	616.46	76.40	0.54
1	1247.5*	100-yr	DC - proposed	5559.00	1941.86	1953.93		1955.38	0.013464	9.74	594.41	77.40	0.57
1	1247.5*	100-yr	DC - w exist	5559.00	1941.86	1953.35		1954.94	0.015317	10.16	564.90	74.79	0.60
1	1167	100-yr	DC - proposed	5559.00	1942.43	1951.89		1953.86	0.025893	11.28	496.16	72.94	0.74
1	1167	100-yr	DC - w exist	5559.00	1942.43	1951.71		1953.48	0.021153	10.68	523.18	72.42	0.68
1	1096.*	100-yr	DC - proposed	5559.00	1940.20	1950.31		1952.10	0.022428	10.78	523.19	78.48	0.71
1	1096.*	100-yr	DC - w exist	5559.00	1940.20	1950.31		1951.99	0.020072	10.44	539.89	78.48	0.67
1	1025	100-yr	DC - proposed	5559.00	1937.97	1949.05		1950.58	0.018413	10.01	572.33	87.18	0.65
1	1025	100-yr	DC - w exist	5559.00	1937.97	1949.05		1950.58	0.018413	10.01	572.33	87.18	0.65
1	956.*	100-yr	DC - proposed	5559.00	1936.77	1946.74		1948.96	0.028105	12.16	489.46	85.11	0.80
1	956.*	100-yr	DC - w exist	5559.00	1936.77	1946.74		1948.96	0.028105	12.16	489.46	85.11	0.80
1	887	100-yr	DC - proposed	5559.00	1935.57	1944.79	1944.79	1946.84	0.029529	12.60	572.21	138.65	0.83
1	887	100-yr	DC - w exist	5559.00	1935.57	1944.79	1944.79	1946.84	0.029529	12.60	572.21	138.65	0.83
1	824	100-yr	DC - proposed	5559.00	1929.65	1939.84		1941.41	0.019597	10.04	557.39	82.27	0.65
1	824	100-yr	DC - w exist	5559.00	1929.65	1939.95		1941.47	0.018676	9.90	566.07	82.90	0.64
1	762.*	100-yr	DC - proposed	5559.00	1927.68	1938.83		1940.22	0.017154	9.44	590.12	84.27	0.62
1	762.*	100-yr	DC - w exist	5559.00	1927.68	1939.04		1940.35	0.015646	9.18	607.39	85.61	0.59
1	700	100-yr	DC - proposed	5559.00	1925.71	1938.39		1939.31	0.009416	7.67	726.42	89.74	0.46
1	700	100-yr	DC - w exist	5559.00	1925.71	1938.65		1939.51	0.008504	7.44	750.01	91.08	0.44
1	692.5	100-yr	DC - proposed	5559.00	1925.84	1938.26	1934.91	1939.24	0.007837	7.93	702.89	89.29	0.49
1	685	100-yr	DC - w exist	5559.00	1925.97	1938.41	1934.95	1939.38	0.007683	7.91	705.78	92.48	0.48
1	676			Bridge									
1	658	100-yr	DC - proposed	5559.00	1925.33	1937.41	1935.02	1938.63	0.011477	8.87	627.41	87.50	0.58
1	658	100-yr	DC - w exist	5559.00	1925.33	1937.41	1935.01	1938.63	0.011465	8.87	627.23	87.50	0.58
1	644	100-yr	DC - proposed	5559.00	1924.69	1937.26		1938.44	0.014085	8.73	650.23	98.84	0.56
1	644	100-yr	DC - w exist	5559.00	1924.69	1937.26		1938.44	0.014085	8.73	650.23	98.84	0.56
1	619	100-yr	DC - proposed	5559.00	1924.26	1936.97		1938.07	0.013523	8.43	664.00	98.17	0.55
1	619	100-yr	DC - w exist	5559.00	1924.26	1936.97		1938.07	0.013523	8.43	664.00	98.17	0.55
1	563.*	100-yr	DC - proposed	5559.00	1923.02	1936.30		1937.33	0.012229	8.18	687.17	101.11	0.52
1	563.*	100-yr	DC - w exist	5559.00	1923.02	1936.30		1937.33	0.012229	8.18	687.17	101.11	0.52
1	507	100-yr	DC - proposed	5559.00	1921.77	1935.78		1936.69	0.009648	7.68	749.53	126.18	0.47
1	507	100-yr	DC - w exist	5559.00	1921.77	1935.78		1936.69	0.009648	7.68	749.53	126.18	0.47