M & T / Llano Seco Fish Screen Facility
Long-Term Protection Project

Examination of Further Analysis of Workshop #5
Technical Team Recommended Alternatives
October 26, 2011
10:00 a.m to 4:00 p.m.
Holiday Inn
685 Manzanita Court, Chico, CA 95926

A G E N D A

8:00 – 9:00 **Meet at River Mile 193.7 - M&T/Llano Seco Pumping Plant Site** (see attached directions)
After site-visit, travel to 685 Manzanita Court, Chico, CA - **Tehama / Glenn Room**

10:00 – 10:15 **Welcome and Introductions / Purpose of Meeting** – Jim Well, Director, Ducks Unlimited (See attachment)

10:15 – 10:45 **Project Review** – Mike Harvey, Principal, Tetra Tech
Workshop #5 Recommendations (2,200 ft and 3,500 ft relocations)
West Bank Stabilization Project (Rock-Toe/Brush Revetment)
2007 Dry-Land Dredge

10:45 – 11:15 **Rock-Toe/Brush Revetment Project Update** – Mike Harvey, Principal, Tetra Tech
Structural Monitoring Reports Summary

11:15 – 11:45 **Topographic/Bathymetric Surveys -** Mike Harvey, Principal, Tetra Tech
Dredge Volumes and Dive Reports
Topographical Survey Results based on multiple surveys (2005-2011)

Lunch 11:45 to 1:00 - Working Lunch
(No Host – Please purchase Box Lunch and/or Soda at meeting. See attached menu.)

TECHNICAL ANALYSIS

12:00 – 1:00 **Physical Model** – Mike Harvey, Principal, Tetra Tech
2,200 ft relocation
3,500 ft relocation
Spoils placement on West Bank

1:00 – 1:30 **Two-dimensional Model Report** – Bob Mussetter, Principal, Tetra Tech

1:30 – 2:00 **J-Levee Impact Report** – Mike Harvey, Principal, Tetra Tech

2:00 – 2:45 **Estimated Costs for Recommended Alternatives** – Dennis Dorratcague, Principal, MWH Americas

2:45 – 3:00 Break

SUMMARY & DISCUSSIONS

3:00 – 4:00 **Discussions**

4:00 p.m. **Meeting End**

Please RSVP via e-mail (jwell@ducks.org) with Box Lunch Selection and/or Soft Drink preference. Thank you.

Box Lunches

$11.75 per person incl. sales tax

Sandwich Choices:

Ham and Swiss on Rye Bread

Turkey & Jack on Sourdough Bread

Roast Beef & Cheddar on French Roll

Vegetarian on French Roll

***Sandwiches include lettuce and tomato**

Box Lunches Include:

Fresh Whole Fruit

Chips

2 Cookies

Handy Wipe

Bottled water

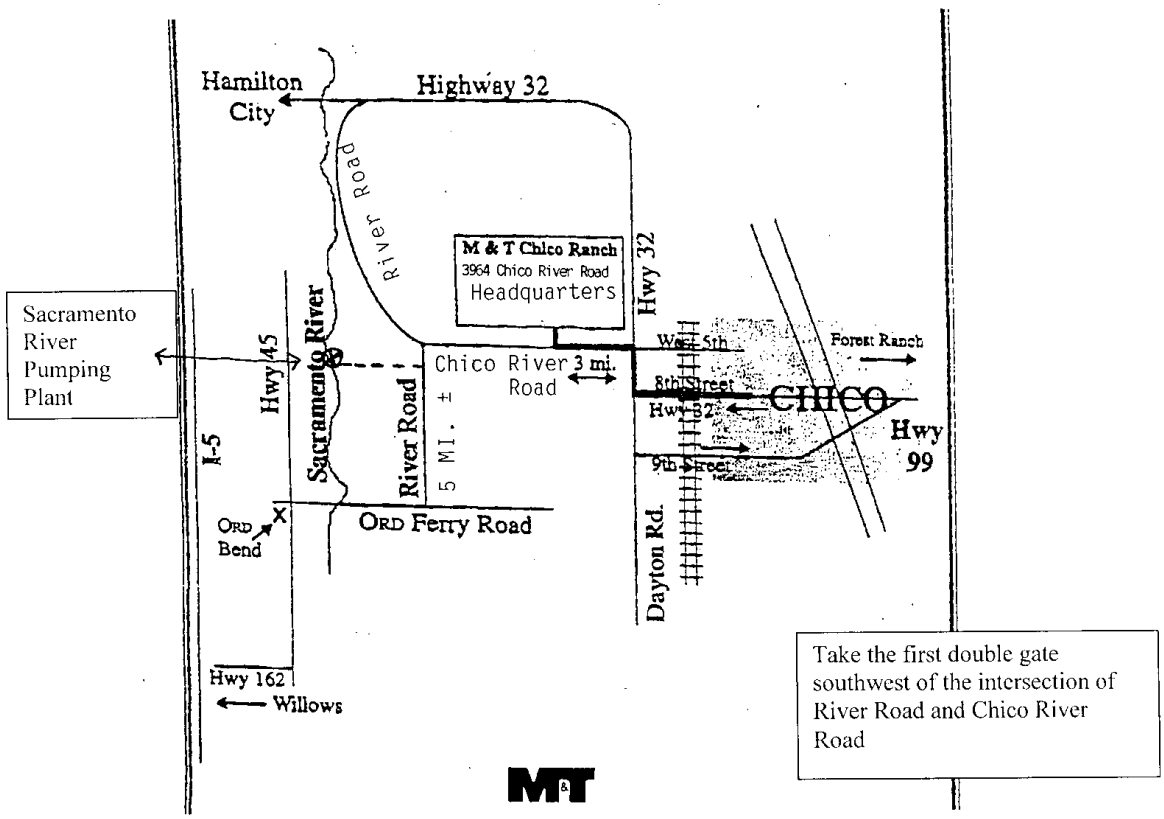
Plastic Knife and Fork

Mustard and Mayonnaise Packets

Sodas may be added for an additional $1.50 each

DIRECTIONS TO THE M&T/LLANO SECO PUMPING PLANT & FISH SCREEN FACILITY

M & T CHICO RANCH • 3964 CHICO RIVER ROAD • CHICO • CALIFORNIA 95928 • (916) 342-2954 • FAX (916) 342-4138



LES HERINGER, JR.

FARM DOLLARS AT WORK

(530) 342-2954 Bus.
518-9954 Mob.
342-4138 FAX

M & T Chico Ranch
3964 Chico River Road
Chico, CA 95928

M&T / Llano Seco Fish Screen Facility
Long-Term Protection Project

October 26, 2011

Purpose of Meeting
Examination of Further Analysis of Workshop #5
Technical Team Recommended Alternatives

On October 26, 2011, the M&T/Llano Seco Fish Screen Facility Long-Term Protection Project will hold an informational meeting to discuss the results and findings of the following Technical Studies that were recommended by the project Technical Team and approved by the Steering Committee in Workshop #5 held on September 30, 2008:

Phase III Two-Dimensional Modeling of M&T/Llano Seco Pumping Plant Reach, Sacramento River, RM 192.5

Tetra Tech updated the existing Two-Dimensional Model (2-D) Model) of the M&T/Llano Seco reach with new bathymetry and merged the model with the Army Corps of Engineers Hamilton City "J Levee" Model to evaluate hydrodynamic and sediment transport conditions within the wider reach of the Sacramento River project area; and, to provide boundary conditions for the reformulated physical model.

The two-dimensional hydraulic investigations of the M&T/llano Seco Pumping Plant reach of the Sacramento River were to meet the following specific objectives:

(1) Investigate the hydraulic impacts, if any, of the upstream Hamilton City Setback Levee project on the existing M&T Pumps and at the relocated City of Chico wastewater outfall;

(2) Evaluate the hydrodynamic conditions over a range of flows at two potential alternative pumping sites located 2,200 and 3,500 feet downstream, respectively from the existing pumping site;

(3) Investigate the hydraulic impacts, if any, of the Hamilton City Setback Levee project on the potential long-term solution alternatives at the M&T Pumps and the City of Chico outfall, and conversely, investigate the long-term solution alternatives impacts, if any, on the Hamilton City Setback Levee project; and

(4) Investigate the hydrodynamic impacts of locating a gravel stockpile on the west overbank opposite the M&T Pumps and to investigate the mobility of the sediments in the stockpile.

Physical Model – Colorado State University Hydrology Lab

Colorado State University Hydrology Lab formulated an existing physical model to evaluate hydraulic conditions and long-term sedimentation patterns near the current M&T/Llano Seco pump intake location and two alternative relocation sites (approx. 2,200 feet and 3,500 feet downstream of the current pump intake) across a variety of discharges and river configurations. Workshop #5 recommendations to investigate the two above-described relocation alternatives for the pump/intake were outside the footprint of the existing physical model, and thus the model required reformulation to encompass the new

alternatives. The physical model was reformulated with the current topography and bathymetry of the river determined by new hydrographic surveys.

The following three (3) channel configurations were also modeled: (1) existing channel conditions; (2) current conditions with the inclusion of a gravel dredge material stockpile on the west bank; and, (3) realignment of a section of the east bank. The physical model included a rigid west bank as the previously migrating west bank has been stabilized by revetment.

West Bank Stabilization Project

Report on performance and condition of the temporary bank protection placed at River Mile 193R on the U.S. Fish & Wildlife Service Capay Unit to prevent further river migration and preserve options for the long-term solution to protect the M&T/Llano Seco pump intake and fish screens.