



1346 Blue Oaks Blvd  
Roseville, CA 95678

916.648.1406 office  
916.648.1665 fax

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**Mr. Brendan Belby  
630 K Street, Suite 400  
Sacramento, CA 95814**

**Re: Hidden Valley Development Plan**

### **Wetland Construction Activities at Hidden Valley**

#### **Initial Project Development:**

Initial project development would start with the removal of all vegetation from the levee crowns and slopes where work will be conducted. The vegetation can be removed and either chipped and hauled off site or burned in place. Levees that will be removed should be cleared of existing vegetation as well. Existing trees that are to be saved can simply be avoided and worked around in most cases. It's recommended that all existing underground pipelines and old water control structures be removed prior to earthmoving activities and water control structure installation.. This will help avoid leakage issues following the project's completion.

Once site preparation has occurred wetland construction can begin.. Levees built, fields leveled out, and new pipelines will be installed. Water control structures will be installed once the dirt work is completed. Round stem tule (*Schoenoplectus acutus*) transplants can be planted once the final dirt work is wrapped up and a water source is ready to flood the units. Planting the tules from an existing source close by will help to give the emergent cover a jump start. A front end loader with a dump truck makes transplanting easy. The initial flooding of the new units can then take place. Water should be held throughout the winter and removed in the spring (late February) on units 2 & 3. Within three weeks germination will occur and an evaluation can assess the germinating plant community to see if a seeding is necessary to establish the desired plants. Many times the desired plants have an existing seed base due to the fact that this area regularly floods and seeds are deposited in the soils. Simply drawing down at the right time will germinate those seeds. If the desired plants are not there one could go about doing a seeding and then irrigation to germinate the seeded plants at that time. Then you will move on to management, see below for details.

#### **Development of Wetlands & Management:**

The provided development plan has designed three independent wetland units that provide two different types of management opportunities. The **PRINCIPLES OF WETLAND MANAGEMENT** write up is provided to give you an idea of what will be needed to undertake management of these three units in a way that will maximize their productivity and also aid you in maintenance over time.

**Unit 1** is designed as a semi-permanent wetland unit which will provide for brood rearing and production for a multitude of local bird species. A description of this habitat type and the resulting benefits can be found on Page 1 under the heading "**Types of Managed Wetlands**" see "**#2 – Semi-permanent Wetlands**" for a description. Management of this unit should follow closely the described management within the **WETLAND HABITAT MANAGEMENT GUIDE #4** on Page 8. The "**Semi-permanent Brood Pond**" section lays out what will be needed and should be strived for when managing Unit 1. Now this guide is waterfowl specific, but a multitude of species will be benefited by this management strategy for raising young.

**Unit 2 & 3** are designed as seasonal wetland units which will provide for wintering resources for migratory birds including waterfowl. A description of this habitat type and the resulting benefits can be found on Page 1 under the heading “**Types of Managed Wetlands**” see “**#1 – Seasonal Wetlands**” for a description. Management of this unit should follow closely the described management within the **WETLAND HABITAT MANAGEMENT GUIDE #1-3** on Page 4-7. The “**Seasonal Wetland**” section lays out what will be needed and should be strived for when managing Unit 2 & 3. In reality the practices of implemented management are the same for all the seasonal wetland types. You will likely get a combination of all three plants when it comes right down to it. These three all germinate based upon air temperatures when the water is removed. Getting all three is a great thing. But trial and error will tell you exactly what this site will support plant wise once you start managing it.

Throughout the process we are always available to answer questions or give advice and even help consult in any way you need us. We want to make sure that you are successful in the outcome of the project. Do not hesitate to call or email me with questions.

Look all of this over and let me know what your questions are and we can go over this on the phone if it makes it easier.

Sincerely,



Chadd Santerre  
Wetland Programs Supervisor