

**From:** Bayne, Ryan [<mailto:rbayne@croworld.com>]

**Sent:** Monday, April 15, 2013 10:51 AM

**To:** Tom Terpstra

**Cc:** Sustaita, Janie; Beerends, Michael; Haelzle, Jason; Project Email Hold

**Subject:** 82816 - Henry Tosta Dairy Proposed Improvements

Tom;

Please find attached a proposed conditions map for the Henry Tosta Dairy. One figure is an 8.5in by 11in figure and the second one is 11in by 17in figure. The preliminary layout we are showing is based on 1) the suggestions/goals/request of Henry Tosta Dairy and 2) the minimum requirements needed to meet the requirements of the Central Valley Water Board (CVWB). It is our understanding that Henry Tosta Dairy is working with, or has had discussion with the USDA-NRCS about doing Waste Management System (WMS) Improvements to the farm. Our proposed system may be different from the one proposed by the USDA-NRCS; however, a WMS designed by the USDA-NRCS should meet the requirement of the CVWB.

CRA preformed this work, in addition to the review and letter titled "Review of Administrative Civil Liability Complaint R5-2012-0561" prepared for Henry Tosta Dairy. The additional fees for work performed by CRA, and submitted within this email are \$1,200. CRA will be submitting an invoice for this amount separate from the agreed to \$5,000 in fees for professional services already rendered.

Below is a brief summary of each proposed improvement to Henry Tosta Dairy, the corresponding USDA-NRCS Conservation Practice Standard (CPS) name and number, what the practice is, what it will do, and its proposed design size. As stated earlier our proposed improvements are based on the information available to CRA and may vary from what the USDA-NRCS is proposing or what may actually be constructed.

1. **Waste Storage Facility (WSF) CPS-313:** A new dry stack facility is needed to store manure and other wastes produced in the Milk Cow Freestall Barn on the Farm. The WSF is proposed to have a concrete floor with the dimensions of approximately 200ft by 300ft. The size of proposed WSF should provide approximately 120 days

of storage, when stacked 2ft high. Concrete blocks can be used to border the WSF area to provide additional storage and provide a wall to assist with collection. The WSF should be sloped towards a designed collection area such that runoff from the WSF is managed.

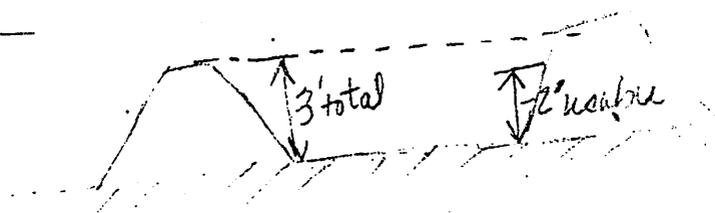
2. **Access Road CPS-560/Heavy Use Area (HUA) CPS-561:** HUAs are needed around proposed WSFs and other areas of the farm to provide a stable, non eroding surface that will assist farm vehicles with access to WSFs for collection and transfer of manure and other materials. The areas that do not come into contact with manure through scraping and stacking activates can be constructed with a gravel base. Areas that come into contact with manure, production area runoff, etc should be constructed with an impervious material such as concrete.
3. **Roof Runoff Structure CPS-558/Subsurface Drain CPS-606:** Roof runoff structures are proposed to collect clean runoff form roofs and divert the water away from production areas of the farm. Subsurface drains will also be needed to divert the collected clean runoff from production areas.
4. **Waste Storage Facility (WSF) CPS-313:** A new dry stack facility is needed to store manure and other wastes produced in the dry cow and heifer corrals and barns on the south side of the farm. The WSF is proposed to have a concrete floor with the dimensions of approximately 50ft for the length of the corrals. The size of proposed WSF should provide temporary storage and assist with collection and transfer of manure and other wastes. Concrete block can be used to border the WSF area to provide additional storage and provide a wall to assist with collection. The WSF should be sloped towards a designed collection area such that runoff from the WSF is managed.
5. **Drainage Management CPS-554:** Surface ditches will be needed to collect surface runoff from existing and proposed production areas of the farm and to divert the water to a long term storage facility. The drainage management system will reduce nutrients from reaching surface waters in the area of the farm by directing it to long term storage.
6. **Waste Transfer Facility CPS-634/Pumping Plant CPS-533:** A waste transfer structure is needed to collect parlor wastewater and production area runoff for transferring to a Waste Storage Pond (WSP) facility. A pumping plant is needed to pump collected wastewater from the waste transfer facility to a WSP. In addition to the tank and pump, pipelines will be needed to convey wastewater from the parlor to the tank and from the tank to a WSP. The proposed size of the tank is 6,000 gallons, which is approximately one day's amount of wastewater generated in the parlor. The pump should be on an automatic switch to run when wastewater reaches a specified level.
7. **Waste Storage Facility (WSF) CPS-313:** A new evaporation WSP is needed to store wastewater produced on the farm from the parlor and collected runoff from production areas of the farm. The WSP is proposed to have top dimensions of approximately 425ft by 425ft, with a total depth of 3 ft, and a useable depth of 2 ft. The WSP is sized to provide 6 months of storage, which will cover the wastewater production through the wettest 6 months of the year and should allow for evaporation of the wastewater throughout the year. The WSP is proposed to be lined with compacted clay and to be constructed above surface grade in order to provide at least 5ft of separation from estimated groundwater.   
*requires 2' of freeboard usually*

If you have any questions please let us know.

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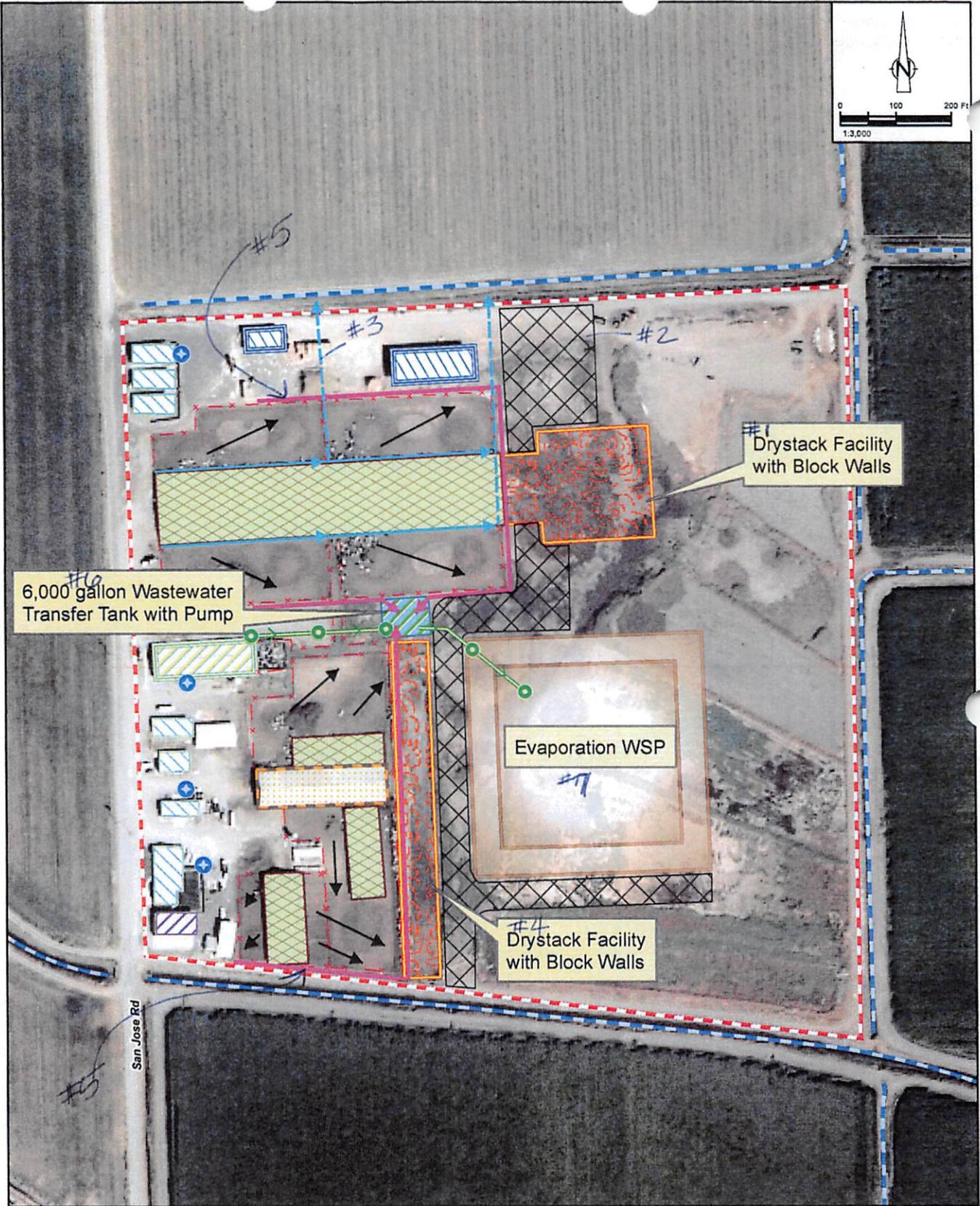
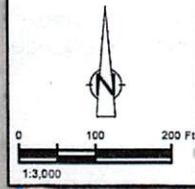
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4/15/13



Source: USDA-FSA-APFO Aerial Photography Field Office (2010)

**Legend**

- Well
- Drainage Flow
- Clean Water Diversion
- Production Area Drainage Ditch
- Irrigation Canal
- Wastewater Transfer Pipe
- Access Drive
- Drystack Facility
- Wastewater Transfer Tank
- Corral
- Evaporation WSP
- Milk Parlor
- Freestall Barn
- Shade Structure
- Feed Barn
- Commodity Barn
- Shed
- House
- Production Area



figure 1  
Production Area  
Henry Tosta Dairy  
San Joaquin County, California



Source: USDA/FSA/AFD Aerial Photography Field Office (2016)

**Legend**

- Well
- Drainage Flow
- Clean Water Diversion
- Production Area Drainage Ditch
- Irrigation Canal
- Wastewater Transfer Pipe
- Access Drive
- Drystack Facility
- Wastewater Transfer Tank
- Evaporation WSP
- Commodity Barn
- Shed
- House
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