



June 28, 2016

Ms. Rita Miller
 City of Santa Rosa
 Utilities Department
 4300 Llano Road
 Santa Rosa, California 95407

Re: Credit Verification and Annual Monitoring and Reporting for Beretta Dairy BMPs Nutrient Offset Project SRNO-1H

Dear Ms. Miller,

The following constitutes the annual monitoring and reporting for the Beretta Dairy per the Sonoma Resource Conservation District (SRCD) contract with the City of Santa Rosa SRNO Task 1H. BMPs #2 and #3 continued to be properly managed as proposed during this time period. BMP#1 was implemented in September 2015.

BMPs and associated credits for the Beretta Dairy Nutrient Offset Project approved as part of the City of Santa Rosa's Nutrient Offset Program by the Regional Water Quality Control Board (RWQCB), North Coast Region are listed in Table 1 below.

Table 1: Project Elements Approved by RWQCB¹

Approved Crediting Options	BMP Elements	Annual Phosphorus Credits (lbs. TP/yr.)	Annual Nitrogen Credits (lbs. TN/yr.)	BMP Eligibility Period
BMP 1: Concrete Stacking Pad	Concrete Stacking Pad	184	1,010	20 years
	Buffer	7	293	20 years
BMP 2: Heavy Use Area Upgrades	Fencing and Cattle Crossing	86	115	2.5 years
	Buffer	34	50	20 years
BMP3: Relocate Heavy Use Area	Relocation of use area to interior field	174	945	20 years
<i>Total Credits</i>		485	2,413	

¹: Information taken from City of Santa Rosa Offset Credit Proposal for Beretta Dairy BMPs, June 2012.

Project Implementation

BMP# 1 consists of a manure stacking pad installed in the bottom of the larger manure pond as opposed to the original plans that located the pad to the east of the manure pond. This BMP was installed in September 2015. The management of this BMP consists of pumping out the liquid portion from the pond and piling the manure in place on the pad within the pond to dry out. This will eliminate any potential leachate concerns when drying outside of the pond.

BMP #2 consists of the installation of an animal alleyway, fencing, and clean water culvert and was installed in September 2014. This BMP was implemented as proposed with the exception of some fence modifications. The internal cross fencing proposed to act as a 30 foot buffer along the clean water drainage in the pasture directly north of the pond was not installed per the original plans. Instead, the entire pasture (approximately 2+ acres in size) will act as the buffer with the area being managed by flash grazing.

Additional Credits for Consideration

Water quality improvements have been made on an approximately 0.28 acre area located directly east of the new alleyway, where the manure stacking pad (BMP#1) was originally proposed to be installed. This area was previously used as a heavy use area for cows and no vegetation was present. Improvements include exclusionary fencing, grading to allow site runoff to drain through a defined drainage channel away from the alleyway with reseeding to establish permanent vegetation. This area is now managed as a buffer with occasional flash grazing (BMP#2). These improvements were installed in September 2014 and have been maintained since to date. Please see Photo Plates on page 6.

BMP#3 consists of new water troughs and fencing and was installed in September 2014 and June 2015, respectively. This BMP was implemented as proposed.

BMP Inspection

RCD staff inspected all of the installed BMPs in June 2016 and all components were found to be properly installed, maintained and managed. Please refer to associated Photo Plates.

Credit Verification

Based on site inspections made by the RCD staff, the SRCD verifies the following:

- Mass of P controlled and credits eligible during the previous 12 months (July 1, 2015- June 30, 2016) =498 lbs
- Mass of N controlled and credits eligible during the previous 12 months (July 1, 2015- June 30, 2016) = 2,432 lbs

Please refer to Table 2 below for a breakdown of crediting options and annual credits verified. The estimated additional buffer area for BMP#2 of 0.28 acres was added to the original proposed buffer area of 0.73 acres for a total buffer of 1.01 acres. Annual credits have been increased by scaling the credits upward by a factor of 1.38 (1.01/0.73). Annual Credits for TP and TN for the BMP#2 buffer

were scaled upward from the previous years credits to 47 (34 x 1.38) and 69 (50 x 1.38) lbs/yr, respectively.

Table 2: Earned and Verified Credits for 2015-2016

Approved Crediting Options	BMP Elements	Annual Phosphorus Credits (lbs. TP/yr.)	Annual Nitrogen Credits (lbs. TN/yr.)	BMP Eligibility Period
BMP 1: Concrete Stacking Pad	Concrete Stacking Pad	184	1,010	20 years
	Buffer	7	293	20 years
BMP 2: Heavy Use Area Upgrades	Fencing and Cattle Crossing	86	115	2.5 years
	Buffer	47	69	20 years
BMP3: Relocate Heavy Use Area	Relocation of use area to interior field	174	945	20 years
<i>Total Earned Credits</i>		498	2,432	

Conclusions

BMPs #2 and #3 continued to be maintained and managed throughout the year since they were installed and BMP#1 has been properly maintained since it was installed in September 2015.

An additional 0.28 acres of impacted area has been converted into a permanent buffer since September 2014. The City of Santa Rosa proposes to earn additional nutrient offset credits for this practice as reflected in preceding Table 2, BMP#2 Buffer.

If you have any questions, please contact me at 707-569-1448 ext. 101 or at kwester@sonomarc.org.

Thank you,



Kari Wester
Project Manager
Sonoma Resource Conservation District

Appendix A: Photo Plates

BMP#1: CONCRETE STACKING PAD & BUFFER



Manure Pond Before Paving (Sept 2015)



Manure Pond Before Paving (Sept 2015)



Manure Pond After Paving (Sept 2015)



Manure Pond (June 2016)

BMP #2: HEAVY USE AREA UPGRADES



Alleyway looking south, buffer on left (2015).



Alleyway looking north, buffer on right (June 2016).



Alleyway looking north, buffer on right (May 2015)



Alleyway looking north, buffer on right (June 2016)

BMP#2 (Continued)



Clean water culvert at inlet and vegetated buffer managed by flash grazing (May 2015).



Clean water culvert at inlet and vegetated buffer managed by flash grazing (June 2016).



Clean water culvert at outlet (May 2015)



Clean water culvert at outlet (June 2016)

BMP #3: RELOCATION OF HEAVY USE AREA



New water troughs for relocation of heavy use area (May 2015)



Water troughs (June 2016)



New Rotational Grazing Paddocks (June 2015)

New Rotational Grazing Paddocks (June 2016)

BMP#3 (Continued)



New Rotational Grazing Paddocks (June 2015)



New Rotational Grazing Paddocks (June 2016)

RESTORED AREA, EAST OF ORIGINAL PROPOSED PAD AREA (CREDIT POTENTIAL)



February 2013



June 2013



April 2015



January 2016



June 2016



June 2016