



California Regional Water Quality Control Board

Central Valley Region



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19 April 2005

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Mr. Micah Bernstein
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NOTICE OF APPLICABILITY OF WATER QUALITY ORDER NO. 2004-0012-DWQ (GENERAL WASTE DISCHARGE REQUIREMENTS FOR THE DISCHARGE OF BIOSOLIDS TO LAND), McCORMACK FARMS (SO-21), SOLANO COUNTY

Synagro West, Inc. and Duncan McCormack (hereafter, "Discharger") submitted a Notice of Intent for coverage under State Water Resources Control Board Water Quality Order No. 2004-0012-DWQ, the *General Waste Discharge Requirements for the Discharge of Biosolids to Land* (Biosolids GO), on 6 December 2004. Based on the information submitted in the Notice of Intent, the proposed land application of biosolids satisfies the general and specific conditions of Order No. 2004-0012-DWQ, with exceptions as noted below. Therefore, this letter serves as formal notice that the Biosolids GO is applicable to the sites and discharge described below.

Site Description

The Notice of Intent stated that biosolids would be applied to approximately 1,920 acres of agricultural land owned by Mr. Duncan McCormack. However, due to groundwater issues (as discussed elsewhere), this Notice of Intent applies to only 1,120 acres of the proposed 1,920 acres. The permitted land comprises six designated sites in the southeastern portion of Solano County as summarized below. The sites are depicted on Attachment A.

<u>Site ID</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Gross Acreage</u>
SO 21-7	4	4N	2E	160
SO 21-8	4	4N	2E	160
SO 21-9	4	4N	2E	160
SO 21-12	8	4N	2E	160
SO 21-17	20	4N	2E	160
SO 21-18	20 and 29	4N	2E	320

The terrain is flat to gently sloping, with slopes of up to four percent on sites SO 21-17 and -18. Site drainage is to intermittent streams that traverse the site. Site soils are typically mixtures of silt and clay to

California Environmental Protection Agency

depths of 21 feet below ground surface (bgs) and exhibit cation exchange capacities ranging from 12 to 37 meq/100 g, which indicates a slight potential for degradation of soil and land productivity from biosolids application. Soil pH values are typically less than 6.0, indicating a moderate potential for crop damage and crop metals accumulation due to soluble metals in biosolids.

The sites are planted to pasture grasses and are used for cattle grazing. The pastures are not irrigated and receive approximately 15 inches of precipitation per year as the sole water source.

The Discharger installed three groundwater monitoring wells in field SO 21-7 in 2002. Based on a single monitoring event in April 2002, groundwater is encountered at approximately 17 feet above mean sea level (MSL), or 11 to 18 feet bgs in that field. Selected monitoring data from that event are summarized in the table below.

Constituent/Parameter	Analytical Result, mg/L except as noted		
	MW-1	MW-2	MW-3
pH	7.85	7.42	7.55
TDS	740	780	700
Nitrate (as nitrate)	24	27	17
Total Kjeldahl nitrogen	1.1	1.1	0.51
Sodium	180	110	91
Chloride	120	280	240
Mercury, ug/L	0.36	0.31	<0.20
Nickel, ug/L	480	2,700	150
Zinc, ug/L	330	500	110

Based on these data, it appears that groundwater beneath the site already exceeds the applicable water quality limits for TDS, sodium, chloride, and nickel. Nitrate was detected at approximately one-half of the applicable water quality limit (45 mg/L). With the exception of nickel, the existing groundwater quality may be a result of historical agricultural practices.

Discharge Description

Biosolids will be applied only between April 15 and October 15 and will be incorporated into the soil on the same day. Biosolids will not be applied during precipitation events (as required by Solano County ordinance). Setbacks that comply with the Biosolids GO and Solano County Ordinance will be marked prior to each application. The entire site boundary will have at least 33 feet of unmowed grass or similar vegetation. Therefore, storm water retention is not required.

The Discharger will apply biosolids at the sites only every third year, beginning in 2005. Because of the shallow water table in the northeastern portion of the site, it is appropriate to require groundwater monitoring using the three existing monitoring wells, which are shown on Attachment A.

However, the three existing wells are not sufficient to determine whether groundwater is also shallow in other areas of the proposed discharge site. Therefore, this Notice of Applicability is limited to those fields that are adequately monitored by the existing wells, and the three southernmost fields (which are at a

significantly higher elevation), until the Discharger submits site-specific data regarding the depth to groundwater and baseline groundwater quality for all of the proposed discharge areas. Accordingly, this Notice of Applicability is only valid for the following fields unless and until a revised Notice of Applicability is issued by the Executive Officer:

<u>Site ID</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Gross Acreage</u>
SO 21-7	4	4N	2E	160
SO 21-8	4	4N	2E	160
SO 21-9	4	4N	2E	160
SO 21-12	8	4N	2E	160
SO 21-17	20	4N	2E	160
SO 21-18	20 and 29	4N	2E	320

Monitoring and Reporting Program

The Discharger shall comply with Monitoring and Reporting Program (MRP) No. R5-2005-0814, which is attached to this Notice, and which replaces Monitoring and Reporting Program No. 2004-0012-DWQ. The MRP is effective immediately, and requires monthly monitoring reports. If biosolids were not applied during a particular month, the monthly monitoring report shall so state. Groundwater monitoring shall commence in the second quarter of 2005.

Conditions That Must be Met Prior to Discharge

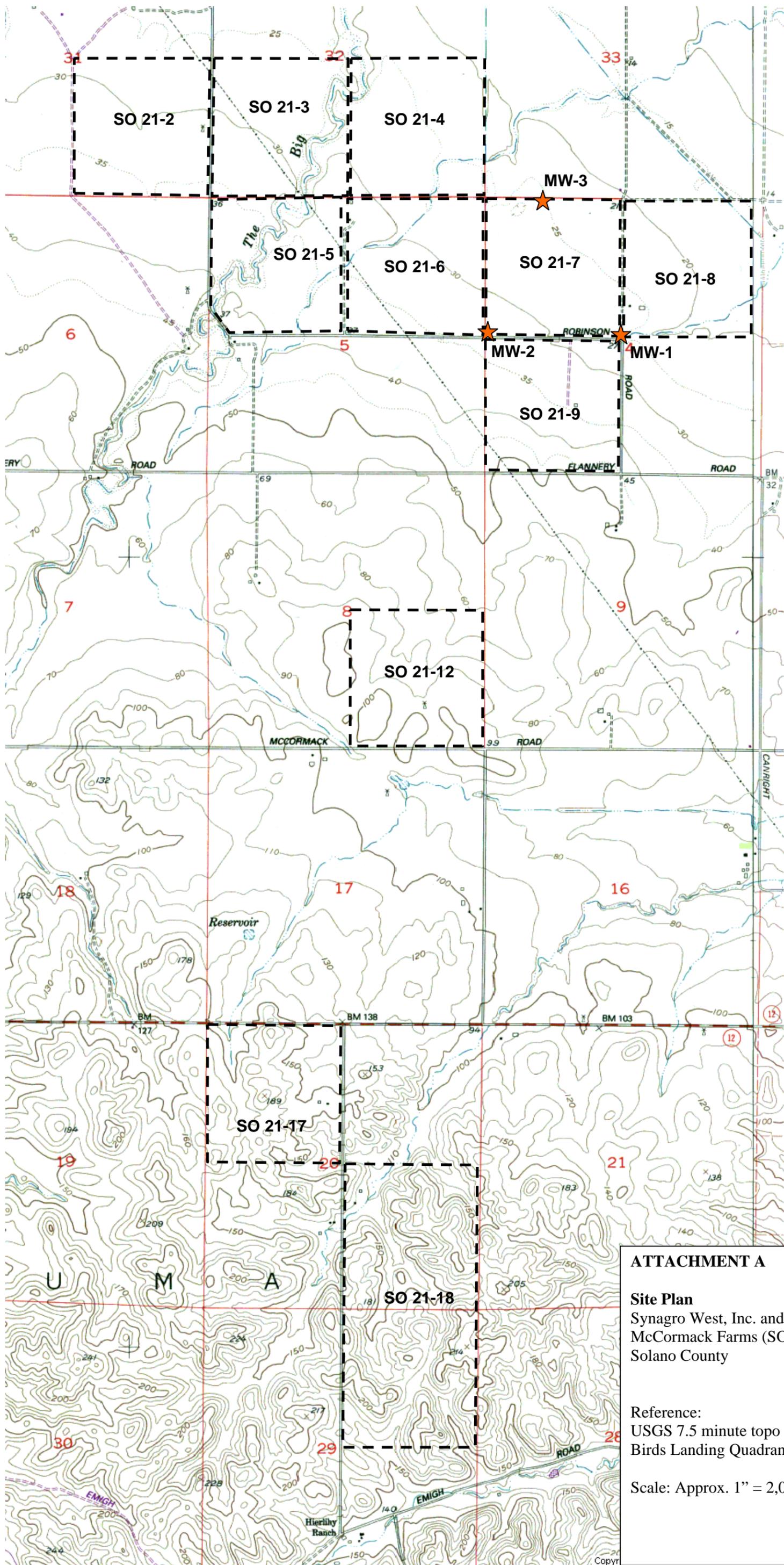
- A. At least **15 days** before the first planned biosolids application the Discharger shall submit the following to satisfy the Pre-Application Report requirement set forth in Provision D.1.a of the Biosolids GO:
 1. A Land Productivity Evaluation Report that complies with Item 10.A of the Pre-Application Report requirements in MRP No. 2004-0012-DWQ. The Land Productivity Report shall also consider whether soil pH control is needed to control leaching of soluble metals to the water table, and shall present a specific plan for soil pH monitoring and control.
- B. The Biosolids Storage, Spill Response and Traffic, and Adverse Weather and Alternative Plans submitted with the Notice of Intent are adequate and do not need to be resubmitted prior to the first application. The Discharger shall review these documents monthly during the application season for applicability, and any required revisions shall be submitted with the Monthly Monitoring Reports.
- C. At least **15 days** before the first planned biosolids application, the Discharger shall submit proof of compliance with Provision D.5 of the Biosolids GO.
- D. In determining allowable application rates to comply with Discharge Specification B.3, the Discharger shall calculate plant available nitrogen (PAN) using the procedure, volatilization factors, and mineralization rates described in Appendix E of the US Environmental Protection Agency's *Guide for Land Applicators* (EPA/831-B-93-002b), unless otherwise expressly approved. Determination of PAN shall consider nitrogen mineralization from previous years' biosolids applications and all supplemental nutrient sources.

If you have any questions regarding this Notice of Applicability, please contact Anne Olson at (916) 464-4740.

THOMAS R. PINKOS
Executive Officer

Enclosure: Attachment A
[State Board Order No. 2004-0012-DWQ](#)
Monitoring and Reporting Program No. R5-2005-0814

cc w/ enc.: Jeffrey Bell, Solano County Environmental Health Department, Fairfield
Mark Grey, Synagro West, Inc., Corona



ATTACHMENT A

Site Plan
 Synagro West, Inc. and Duncan McCormack
 McCormack Farms (SO-21)
 Solano County

Reference:
 USGS 7.5 minute topo
 Birds Landing Quadrangle

Scale: Approx. 1" = 2,000'

