

APPENDIX

*City of San Rafael – Initial Study/Mitigated Negative Declaration
Marin Sanitary Services Facility Project – 1050 Andersen Drive/535-565 Jacoby Street, San
Rafael, CA*

Source Reference 8

Traffic Analysis by George W. Nickelson, P.E.,
dated October 28, 2010 (aka, MUPA Appendix
A)

Marin Sanitary Service

Master Use Permit

December 2013

Appendix A: Traffic Analysis

George W. Nickelson, P.E.
Traffic Engineering – Transportation Planning

October 28, 2010

Mr. Nader Mansourian
Assistant Public Works Director
City of San Rafael
111 Morphew Street
San Rafael, CA 94915

Subject: *Final Report - Peak Hour Trip Comparison for the Marin Sanitary Service (MSS) Facility on Jacoby Street in the City of San Rafael*

Dear Mr. Mansourian:

In response to our meeting on August 19, I have prepared this letter comparing the MSS trip generation at the time of the 1992 Use Permit with current actual counts at the MSS facility.

1. MSS Traffic Calculations at the Time of the MSS 1992 Use Permit⁽¹⁾

The hourly trips associated with primary 1992 Use Permit MSS activities (based on actual counts) were outlined in the original Use Permit traffic analysis. From these data, the AM peak commute hour and PM peak commute hour trips were identified. It is noted that this original traffic analysis was somewhat unique in that only inbound vehicle trips were identified for the public disposal center and recycling center. The traffic study also had no data regarding employee trips. Based on recent inbound/outbound trip counts of the MSS facility (conducted in 2008-2009), the outbound peak hour trips associated with the 1992 Use Permit analysis were estimated. Finally, recent counts at the Andersen Drive driveways were used to estimate MSS peak hour employee trips that could be added to the 1992 Use Permit trip totals. The 2009 Andersen Drive counts were adjusted to reflect the 180 person 1992 MSS employment vs. the current 234 person MSS employment (see attached employee count data).

Although the Use Permit allowed up to 240 off-site storage units, no units were generating traffic at the time of the 1992 Use Permit. As indicated on Table 1, the traffic levels at the time of the 1992 MSS Use Permit reflect a total of 169 AM peak hour trips and 130 PM peak hour trips.

2. Traffic Counts at the MSS Facility⁽²⁾

Traffic counts were conducted at the MSS Andersen Drive and Jacoby Street driveways on weekdays during the 7:00-9:00 AM and 3:00-5:00 PM peak periods (see attached aerial photo/sketch for count locations). The highest hourly MSS traffic during the AM peak period and PM peak period were identified. It is noted that the listed PM peak hour trips reflect the 4:00-5:00 PM hour within the typical 4:00-6:00 PM peak commute period for background traffic.

The various count data have allowed a segregation of MSS activities. These include the primary MSS activities (public disposal, recycling and employees) and trips generated by on-site and off-site public storage containers.

As outlined in Table 1, the current MSS activities generate a total of 331 AM peak commute hour trips and 202 PM peak commute hour trips.

I trust that this letter responds to your needs. Please contact me if there are any questions or if further input is required.

Sincerely,



George W. Nickelson, P.E.

Attachments: Summarized trip data from the Dowling report.
Summarized MSS 2008-09 count data.

References:

- (1) Dowling Associates, *Marin Sanitary Service (MSS) Traffic Assessment*, December 30, 1991.
- (2) George W. Nickelson, P.E., traffic counts and observations conducted on December 11, 2008 and October 28-29, 2009.

**TABLE 1
COMPARISON OF PEAK HOUR VOLUMES
AT MARIN SANITARY SERVICE (MSS)
1992 CONDITIONS VS. CURRENT MSS USES**

Activity	1992 Conditions ⁽¹⁾	
	AM Peak Hour	PM Peak Hour
Public Disposal	112 AM trips; 67 in/45 out	49 PM trips; 21 in/28 out
Public Recycling	8 AM trips; 6 in/2 out	53 PM trips; 23 in/30 out
Employees ⁽²⁾	49 AM trips; 30 in/19 out	28 PM trips; 5 in/23 out
Total 1992 Conditions	169 AM trips; 103 in/66 out	130 PM trips; 49 in/81 out

- (1) Dowling Associates, *Marin Sanitary Service (MSS) Traffic Assessment*, December 30, 1991. This document only established inbound trips and excluded employee trips. The total trip estimates reflect the ratios of inbound/outbound trips established by the actual 2008-09 MSS counts.
- (2) Recent counts at the Andersen Drive driveways were adjusted (to reflect 1992 employment vs. current employment) to estimate MSS peak hour employee trips that could be added to the 1992 Use Permit trip totals.

Current Traffic Counts of MSS Uses

Activity	AM Peak Hour	PM Peak Hour
Public Disposal	109 AM trips; 65 in/44 out	53 PM trips; 5 in/48 out
Public Recycling	15 AM trips; 11 in/4 out	4 PM trips; 0 in/4 out
Employees ⁽¹⁾	64 AM trips; 39 in/25 out	36 PM trips; 6 in/30 out
On-site storage Containers	90 AM trips; 38 in/52 out	69 PM trips; 38 in/31 out
Off-Site Storage Containers	53 AM trips; 21 in/32 out	40 PM trips; 18 in/22 out
Total of All Existing MSS Uses	331 AM trips; 174 in/157 out	202 PM trips; 67 in/135 out

- (1) Employee trips reflect actual counts at the MSS Anderson Drive driveways.

**MSS HOURLY TRIP DATA FROM THE
1991 DOWLING REPORT FOR THE ORIGINAL USE PERMIT⁽¹⁾⁽²⁾**

Public Disposal AM In			Public Disposal PM In			Public Recycling In		
Time	Trips	Peak Hour	Time	Trips	Peak Hour	Time	Trips	Peak Hours
7:30	0		3:00	6		8:00 AM	0	6
7:35	0		3:05	5		8:30 AM	3	
7:40	0		3:10	5		9:00 AM	3	
7:45	1		3:15	5		9:30 AM	3	
7:50	5		3:20	4		10:00 AM	5	
7:55	5	67	3:25	6		10:30 AM	3	
8:00	5		3:30	5		11:00 AM	4	
8:05	4		3:35	6		11:30 AM	5	
8:10	3		3:40	6		12:00 PM	3	
8:15	8		3:45	7		12:30 PM	4	
8:20	6		3:50	5		1:00 PM	6	
8:25	10		3:55	8		1:30 PM	7	
8:30	15		4:00	9	21	2:00 PM	7	
8:35	4		4:05	3		2:30 PM	13	
8:40	1		4:10	5		3:00 PM	11	
8:45	2		4:15	3		3:30 PM	15	
8:50	4		4:20	0		4:00 PM	16	23
8:55	3		4:25	1		4:30 PM	7	
9:00	4		4:30	0				

- (1) Dowling Associates, *Marin Sanitary Service (MSS) Traffic Assessment*, December 30, 1991.
- (2) Trips represent actual inbound trip counts during Friday, August 9, 1991, a peak activity day at the MSS facility.

Marin Sanitation Trip Survey (12/11/08)
AM Volumes

Main Gate	IN		OUT		Total
	Contractor	Other	Contractor	Other	
7:00-7:15	10	4	6	1	7
7:15-7:30	11	6	11	4	17
7:30-7:45	3	4	2	5	17
7:45-8:00	9	12	9	9	24
8:00-8:15	9	10	15	4	25
8:15-8:30	9	9	13	2	20
8:30-8:45	11	11	15	7	27
8:45-9:00	6	12	11	5	21
Outside Gate Containers					
7:00-7:15	4	0	7	0	7
7:15-7:30	9	0	1	0	1
7:30-7:45	10	0	11	0	11
7:45-8:00	5	0	13	0	13
8:00-8:15	5	0	8	0	8
8:15-8:30	6	0	7	0	7
8:30-8:45	5	0	4	0	4
8:45-9:00	1	0	1	0	1
Recycler					
7:00-7:15					0
7:15-7:30					0
7:30-7:45					0
7:45-8:00					0
8:00-8:15					1
8:15-8:30					2
8:30-8:45					1
8:45-9:00					1
2-hr total:					215
15' totals					33
					49
					51
					73
					70
					59
					65
					49

745-845

Main Gate
In 103 96
Out 38 52
42 22
23 22
total: cntrctrs: other: ?

745-845

Outside Gate Containers
In 21 32
Out 21 32
0 0
0 0
total: cntrctrs: other: ?

745-845

Recycler
In 11
Out 4

7:45-8:45
Peak Hour
In 135
Out 132

2-hr total: 234

2-hr total: 215

Main Sanitation Trip Survey (12/11/08)
PM Volumes

Main Gate	IN		2	OUT		2	Total
	Contractor	Other		Contractor	Other		
3:00-3:15	3	4	2	3	7	16	
3:15-3:30	5	13	4	7	4	21	
3:30-3:45	2	6	2	7	7	23	
3:45-4:00	11	11	6	9	10	23	
4:00-4:15	15	0	2	8	9	25	
4:15-4:30	10	0	2	0	9	17	
4:30-4:45	8	0	1	0	11	17	
4:45-5:00	4	0	0	1	10	20	
	38	5		31	48	79	

Outside Gate Containers

3:00-3:15	0	1	0	0	0	0
3:15-3:30	3	0	0	0	0	0
3:30-3:45	4	1	0	0	0	2
3:45-4:00	0	0	0	0	1	1
4:00-4:15	6	0	0	2	1	7
4:15-4:30	2	0	0	0	0	4
4:30-4:45	6	0	0	0	0	6
4:45-5:00	3	1	0	1	0	5
	18	1		2	1	22

Recycler

3:00-3:15	4	1				
3:15-3:30	4	2				
3:30-3:45	5	6				
3:45-4:00	4	4				
4:00-4:15	0	2				
4:15-4:30	0	0				
4:30-4:45	0	0				
4:45-5:00	0	0				
	156	204		4		

4-5 PM 69 38/31 on-site containers
 40 18/22 off-site containers
 53 5/48 public disposal
 4 0/4 recycling

Andersen Dr. Trip Survey at Marin Sanitation Driveways:

AM (10/29/09 Thurs.):

	IN	OUT	
7:15-7:30	4	4	
7:30-7:45	10	5	
7:45-8:00	16	4	
8:00-8:15	9	3	
8:15-8:30	8	9	
8:30-8:45	6	9	
8:45-9:00	8	7	
9:00-9:15	7	8	
Peak Hour			
7:30-8:30	43	21	(64 total)
7:45-8:45	39	25	(64 total)

Approx. 60% cars & 40% trucks.

PM (10/28/09 Wed.):

	IN	OUT	
3:30-3:45	0	0	
3:45-4:00	0	2	
4:00-4:15	1	3	
4:15-4:30	2	6	
4:30-4:45	2	14	
4:45-5:00	1	1	
5:00-5:15	1	9	
5:15-5:30	2	1	
Peak Hour			
4:15-5:15	6	30	(36 total)

Approx. 90% cars & 10% trucks.

A R C H I T E C T S
FREDRIC C. DIVINE ASSOCIATES

August 31, 2010

To: Nader Mansourian
From: Patrick Cousens, Fredric C. Divine Associates
Re: Marin Sanitary Service
Traffic Analysis – Employee Counts 1992 and 2010

Dear Nader:

We obtained information on the total number of employees currently employed at Marin Sanitary from Mardell Sarkela, MSS in separate emails on 11-2-09 and 11-13-09. These totals were used in previously submitted parking calculations and are presented below. We obtained information on employment changes 1992 to present from Joe and Patty Garbarino.

2010 Total Employees 234

29 Office (staggered arrival/departure 6am to 5pm)
10 Mechanics (8am to 4:30pm)
75 Drivers (staggered starts between 3am and 6am)
35 Laborers MRRC (4am to 12:30pm)
30 Laborers MRRC (8am to 4:30pm)
25 Laborers MRRC (4pm to 12:30pm)
20 Laborers MRC (5:30am to 2pm)
10 Laborers MRC (10am to 6:30pm)

1992 Total Employees 180

29 Office
10 Mechanics
61 Drivers (14 drivers added since 1992 to handle new routes in San Anselmo & Fairfax)
80 Laborers (40 laborers added since 1992 to handle new dirt/concrete recycling operations)

Regards,


Patrick D. Cousens, Architect