

## SECTION 6

### ULTIMATE SEWER SYSTEM

#### 6-1 General Description

The ultimate sewer collection system will include service to New Model Colony as shown on Figure 6-1. Approximately 140,000 feet of additional trunk sewer will be added to the City's system in New Model Colony. The New Model Colony trunk sewers are planned to range in size from 12-inches to 36-inches as shown on Figure 6-2.

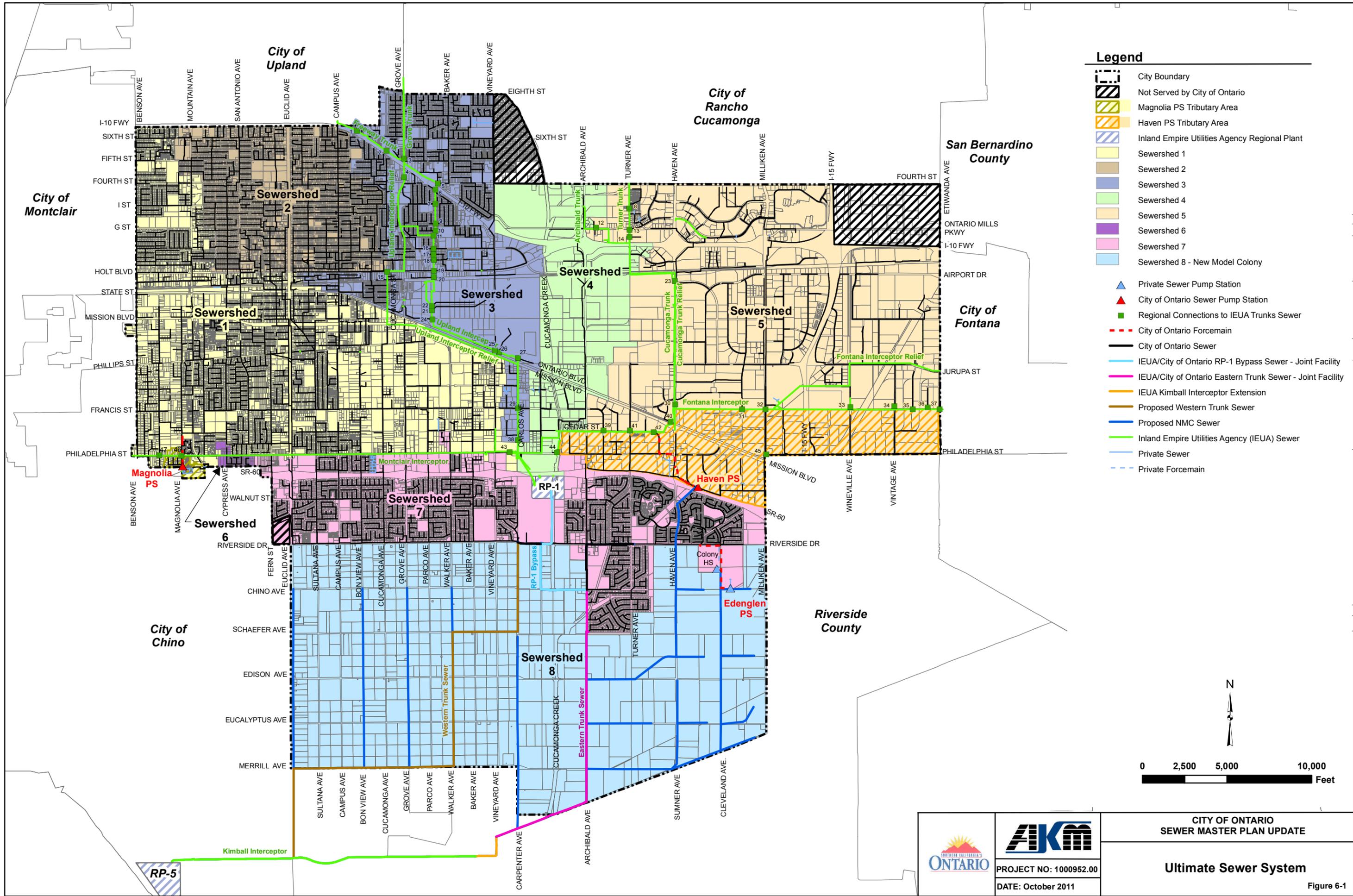
In New Model Colony, the Western Trunk Sewer is the primary sewer located west of Cucamonga Creek. It starts at the intersection of Whispering Lakes Drive/Carpenter Avenue and Riverside Drive, where it will intercept all of the Old Model Colony flows generated north of Riverside Drive and west of Whispering Lakes Drive that were originally tributary to the decommissioned Whispering Lakes Pump Station. The Western Trunk Sewer will then extend south to Schaefer Avenue (18-inch/21-inch), west to Walker Avenue (30-inch), south to Merrill Avenue (30-inch), west to Euclid Avenue (30-inch/36-inch), and south to Kimball Avenue (36-inch) where it ties into the existing IEUA Kimball Interceptor (54-inch/60-inch). The Western Trunk Sewer is currently sized to accommodate only City generated flows.

#### 6-2 Existing and Projected Sewage Generation

The total existing average sewer load for Old Model Colony is estimated at 18.75 mgd. This estimate is based upon the calibrated unit flow factors shown in Table 4-2, which were developed through flow monitoring conducted in 2006. The calibrated unit flow factors were based on the existing users and vacancies at that time.

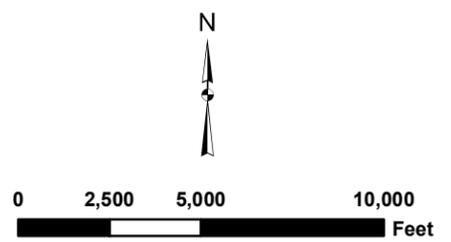
The ultimate average sewage generation for Old Model Colony and New Model Colony is estimated at 45.03 mgd. This estimate is based upon the ultimate unit flow factors shown in Table 4-3. The increase in ultimate flow is due to development of New Model Colony anticipated densification in land use and population per the City's 2010 General Plan and the assumption that the area will be fully occupied. Water conservation efforts were not included in the ultimate average sewage generation estimate. For planning purposes, it is believed to be better not to include water conservation efforts that are not definitive. This will prevent the undersizing of gravity sewers and pump stations.

A summary of the projected sewage generation by landuse is shown in Table 6-1. Airport sewage loads were generated based upon 90 percent of the average water use as shown in Table 6-2.



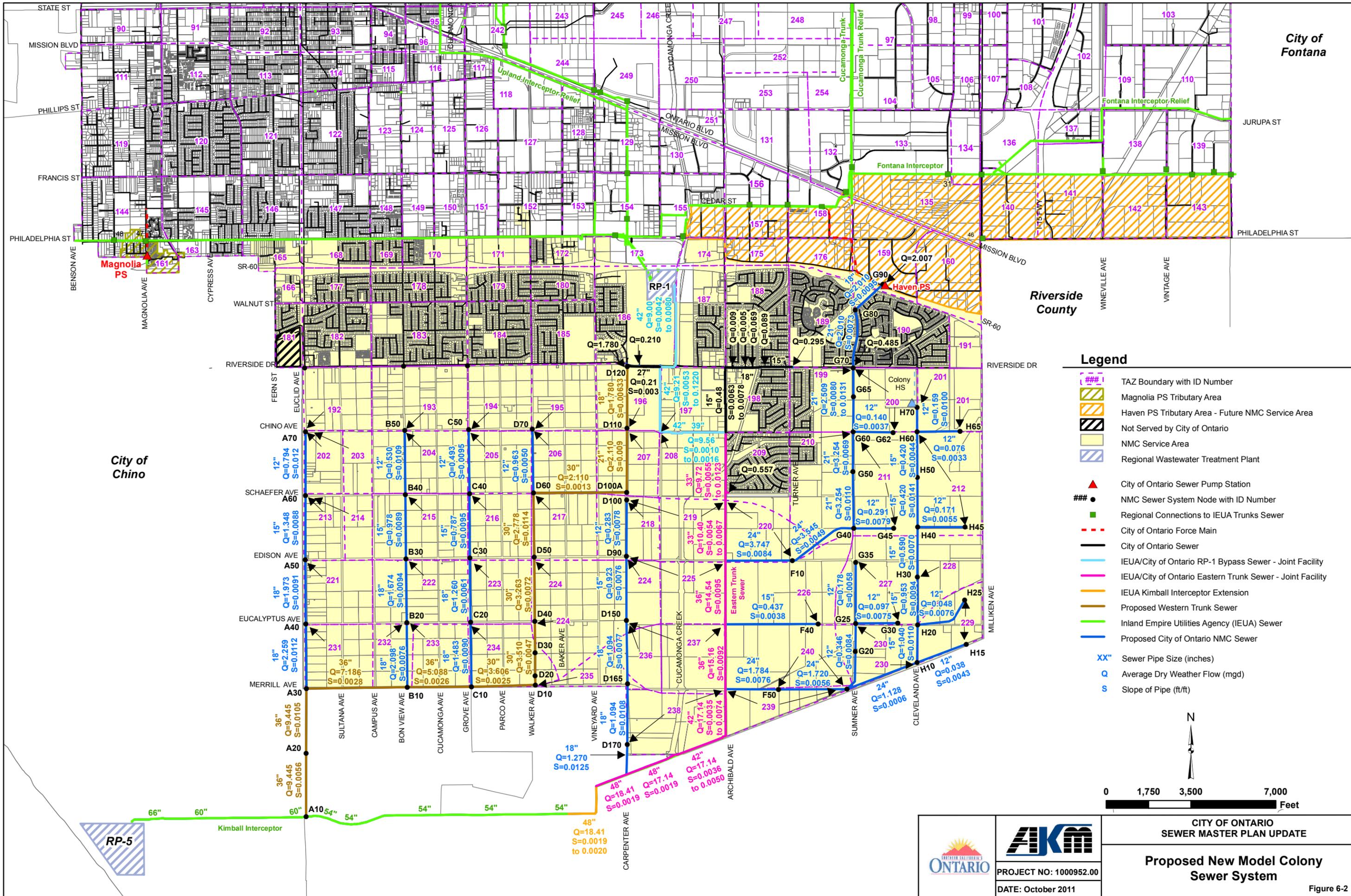
- Legend**
- City Boundary
  - Not Served by City of Ontario
  - Magnolia PS Tributary Area
  - Haven PS Tributary Area
  - Inland Empire Utilities Agency Regional Plant
  - Sewershed 1
  - Sewershed 2
  - Sewershed 3
  - Sewershed 4
  - Sewershed 5
  - Sewershed 6
  - Sewershed 7
  - Sewershed 8 - New Model Colony

- Private Sewer Pump Station
- City of Ontario Sewer Pump Station
- Regional Connections to IEUA Trunks Sewer
- City of Ontario Forcemain
- City of Ontario Sewer
- IEUA/City of Ontario RP-1 Bypass Sewer - Joint Facility
- IEUA/City of Ontario Eastern Trunk Sewer - Joint Facility
- IEUA Kimball Interceptor Extension
- Proposed Western Trunk Sewer
- Proposed NMC Sewer
- Inland Empire Utilities Agency (IEUA) Sewer
- Private Sewer
- Private Forcemain



		<b>CITY OF ONTARIO</b> <b>SEWER MASTER PLAN UPDATE</b>
	PROJECT NO: 1000952.00 DATE: October 2011	<b>Ultimate Sewer System</b>

Figure 6-1



City of Fontana

JURUPA ST

PHILADELPHIA ST

Riverside County

City of Chino

**Legend**

- TAZ Boundary with ID Number
- Magnolia PS Tributary Area
- Haven PS Tributary Area - Future NMC Service Area
- Not Served by City of Ontario
- NMC Service Area
- Regional Wastewater Treatment Plant
- City of Ontario Sewer Pump Station
- NMC Sewer System Node with ID Number
- Regional Connections to IEUA Trunks Sewer
- City of Ontario Force Main
- City of Ontario Sewer
- IEUA/City of Ontario RP-1 Bypass Sewer - Joint Facility
- IEUA/City of Ontario Eastern Trunk Sewer - Joint Facility
- IEUA Kimball Interceptor Extension
- Proposed Western Trunk Sewer
- Inland Empire Utilities Agency (IEUA) Sewer
- Proposed City of Ontario NMC Sewer
- Sewer Pipe Size (inches)
- Average Dry Weather Flow (mgd)
- Slope of Pipe (ft/ft)



0 1,750 3,500 7,000 Feet



PROJECT NO: 1000952.00  
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CITY OF ONTARIO  
SEWER MASTER PLAN UPDATE

**Proposed New Model Colony  
Sewer System**

Figure 6-2

**Table 6-1  
City of Ontario  
Ultimate Sewage Generation**

<b>Land Use Type</b>	<b>OMC Sewer Loads (gpd)</b>	<b>NMC Sewer Loads (gpd)</b>	<b>Sewer Loads due to High Water Users (gpd)</b>	<b>Total (gpd)</b>	<b>Total (mgd)</b>
Rural Residential	226,497	0	0	226,497	0.23
Low Density Residential	4,022,533	3,486,222	35,039	7,543,793	7.54
Low-Medium Density Residential	546,270	1,030,784	108,882	1,685,936	1.69
Medium Density Residential	3,100,730	5,082,309	250,186	8,433,225	8.43
High Density Residential	1,516,007	0	0	1,516,007	1.52
General Commercial	354,181	133,876	15,364	503,422	0.50
Business Park	718,599	936,539	3,155	1,658,293	1.66
Hospitality	631,304	0	0	631,304	0.63
Neighborhood Commercial	214,663	139,885	31,247	385,795	0.39
Office Commercial	1,178,265	367,181	0	1,545,446	1.55
Industrial	10,205,821	450,619	1,125,948	11,782,388	11.78
Public Facility	144,223	3,725	0	147,948	0.15
Public School	565,600		0	565,600	0.57
Airport	507,053		0	507,053	0.51
Mixed Use	4,971,008	1,791,707	2,298	6,765,013	6.77
Open Space - Non-Recreational	137,649	101,268	0	238,918	0.24
Open Space - Recreational	105,621	92,647	691,819	890,087	0.89
<b>Total</b>	<b>29,146,027</b>	<b>13,616,761</b>	<b>2,263,937</b>	<b>45,026,724</b>	<b>45.03</b>

**Table 6-2  
Ontario International Airport Sewage Load Estimates**

Name	Address	Water Use (gpd)	Sewer Load (gpd)	Model	Model ID	Total Sewer Load Applied to Model ID (gpd)
L A W A	1090 S Vineyard Ave	2,330	2,097	West	L17102	4,663
Guardian Air Service	1150 S Vineyard Ave	2,851	2,566			
City Of L.A. Ontario	1152 S Vineyard Ave	-	-			
Federal Express	1801 E Avion St	3,847	3,462	West	L17100	17,182
Lsg/Sky Chefs	1902 E Avion St	6,261	5,635			
L A Dpt Apts	1903 E Avion St	49	44			
Lsg Sky-Chefs	1904 E Avion St	1,892	1,703			
L A Dpt Apts	1923 E Avion St	7,042	6,338			
Mercury Air Group	2161 E Avion St	2,793	2,514	West	M18102	2,514
General Electric	2264 E Avion St	-	-			
U S Post Office	2300 E Airport Dr	204,958	184,462	East	K19101	383,801
L A Dpt Apts	2900 E Airport Dr	221,488	199,339			
L A Dpt Apts	3102 E Airport Dr	6,726	6,053	Sewage flow directly tributary to IEUA		
L A Dpt Apts	3200 E Airport Dr	22,009	19,808			
L A Dpt Apts	3450 E Airport Dr	81,146	73,031			
		<b>Total</b>	<b>507,053</b>			

**6-3 Cooperative Agreement between City of Ontario and IEUA**

A cooperative agreement between Inland Empire Utilities Agency (IEUA) and the City of Ontario for the sewer conveyance facilities of the Eastern Trunk Sewer, Kimball Interceptor Sewer Extension, and RP-1 Outfall (i.e. Conveyances) was made effective on October 7, 2003. Amendment No. 1 to this agreement was made June 4, 2004. The initial agreement established that the facilities be owned jointly between the agencies and that the share of ownership be based on average daily wastewater flows. The average daily wastewater flow capacity in each segment of the Conveyances was revised in Amendment No. 1 and is summarized in Table 6-3. Copies of the cooperative agreement and its amendment are provided in Appendix E.

IEUA and the City agreed to temporarily divert the Whispering Lakes Pump Station flow into the Conveyances. Amendment No. 1 temporarily reallocated capacity of up to 3 mgd to the City of Ontario, to facilitate the diversion without building excess capacity. Therefore, IEUA's original average daily flow capacity of 9 mgd was reduced to 6 mgd in any reach of the Conveyances, at all times during the day. It was agreed that when the Whispering Lakes Pump Station flow was eventually diverted to the Western Trunk Sewer, IEUA will have the right to increase its RP-1 Outfall bypass by up to 3 mgd (not peaked), for a total of 9 mgd average daily capacity. The City has the

option to replace the capacity for IEUA’s use in the Western Trunk Sewer and continue to utilize the Eastern Trunk Sewer.

**Table 6-3  
Summary of Average Daily Wastewater Flow (ADWF) Capacities for Conveyances**

Location	Total ADWF (mgd)	IEUA ADWF (mgd)	City of Ontario ADWF (mgd)	Estimated Ultimate City of Ontario ADWF (mgd)	Extra City ADWF Capacity (mgd)
<b>RP-1 Outfall</b>					
RP-1 to Riverside Dr and Riverside Dr, west of Cucamonga Creek	20.00	20.00	0.00	0.00	0.00
West of Cucamonga Creek, Riverside Dr to Chino Ave	23.00	20.00	3.00*	0.25	0.00
Chino Ave, west of Cucamonga Creek to Archibald Ave	9.00	9.00	0.00	0.00	0.00
<b>Eastern Trunk Sewer</b>					
Archibald Ave, Chino Ave to Schaefer Ave	9.77	9.00	0.77	0.72	0.05
Archibald Ave, Schaefer Ave to Edison Ave	11.00	9.00	2.00	1.40	0.60
Archibald Ave, Edison Ave to Eucalyptus Ave	15.26	9.00	6.26	5.53	0.73
Archibald Ave, Eucalyptus Ave to Merrill Ave	16.19	9.00	7.19	6.16	1.03
Archibald Ave, Merrill Ave to City Boundary	18.37	9.00	9.37	8.14	1.23
Adjacent City Boundary, Archibald Ave to Cucamonga Creek	18.37	9.00	9.37	8.14	1.23
Adjacent City Boundary, Cucamonga Creek to Vineyard Ave	18.37	9.00	9.37	8.14	1.23
<b>Kimball Interceptor Sewer Extension</b>					
Vineyard Ave and Kimball Ave	19.26	9.00	10.26	9.41	0.85
* 3.00 mgd temporarily allocated to City of Ontario to facilitate Whispering Lakes Pump Station Diversion					

The estimated ultimate City flows are shown in Table 6-3. These flows assume that the portion of TAZ area 197 located east of Cucamonga Creek between Riverside Drive and Chino Avenue, is tributary to the existing 15-inch City sewer in Archibald Avenue. The flows enter the Eastern Trunk Sewer at Schaefer Avenue.

The ultimate remaining capacity is also shown in Table 6-3 by reach of sewer, which was calculated under the assumption that the Whispering Lakes Pump Station flow is diverted to the Western Trunk Sewer.