

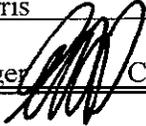


Meeting Date: 07/11/06

ACTION	TYPE OF ITEM
<input type="checkbox"/> Approved Recommendation	<input checked="" type="checkbox"/> Info/Consent
<input type="checkbox"/> Ord. No(s). _____	<input type="checkbox"/> Report
<input type="checkbox"/> Res. No(s). _____	<input type="checkbox"/> Public Hearing (Info/consent)
<input type="checkbox"/> Other _____	<input type="checkbox"/> Other _____

Prepared By: Mark S. Norris

Agenda Item No. I-8

Reviewed By: City Manager 

*Gillig*  
City Attorney 

Finance *b/c*

Public Works Director *Ortega* 

**DATE:** June 13, 2006

**TO:** City Council

**FROM:** Mark S. Norris, Assistant Public Works Director  
Public Works Department 

**SUBJECT:** Agreement with the Channel Islands Beach Community Services District for Sewer Transportation and Treatment

**RECOMMENDATION**

That City Council approve and authorize the Mayor to execute an agreement with the Channel Islands Beach Community Services District (A-6680) for wastewater transportation and treatment and connection into the Redwood Trunk Sewer System at Channel Islands Boulevard/Victoria Avenue, in West Oxnard.

**DISCUSSION**

Channel Islands Beach Community Services District (Channel Islands) recently acquired in a negotiated settlement with the City of Port Hueneme, in Case No. CIV217391, "the City of Port Hueneme vs Channel Islands Beach Community Services District", certain pipelines and ancillary facilities for transportation and disposal of wastewater.

As part of the negotiated settlement, Channel Islands also acquired from the City of Port Hueneme the right to use certain treatment capacity in the Oxnard Wastewater Treatment Plant (OWTP). Channel Islands acquired the right to utilize 0.5 million gallons per day (mgd) peak day dry weather flow and an equivalent 0.9 mgd peak day wet weather flow in the OWTP.

Channel Island's sewer will connect into the City's Redwood Trunk Sewer System at Channel Islands Boulevard/Victoria Avenue, in West Oxnard.

Channel Islands will have the right to transport up to 0.5 mgd of peak day dry weather flow and 0.9 mgd of peak day wet weather flow to the Channel Islands Boulevard/Victoria Avenue connection.

Agreement with the Channel Islands Beach Community Services District for Sewer Transportation and Treatment

June 13, 2006

Page 2

The City will own title to all of the Redwood Trunk Sewer System pipelines, pump stations, vaults, and other ancillary equipment.

## **FINANCIAL IMPACT**

Channel Islands will reimburse the City \$1,751,594 for capital and construction costs associated with the construction of the Redwood Trunk Sewer Project. Once received, these funds will be deposited in the Wastewater Conveyance Fund.

Once Channel Islands has connected to the City's system, Channel Islands will pay the City \$10,000 per month of operation and maintenance of pump station and associated collection system during the first fiscal year of operation. The operation and maintenance fee will be adjusted next fiscal year and yearly thereafter during the term of the Agreement. The adjusted fee will be the percentage allocation of the actual overall cost of operation and maintenance and energy attributable to the Channel Islands.

Attachment #1 – Wastewater Transportation and Treatment Agreement

MSN:TN:js

**000048**

**WASTEWATER TRANSPORTATION AND TREATMENT AGREEMENT**

This Agreement is entered into this \_\_\_ day of \_\_\_\_\_ by and between the City of Oxnard, a political subdivision of the State of California, hereinafter referred to as "Oxnard" and the Channel Islands Beach Community Services District, a Community Services District formed pursuant to California Government Code §61000, et seq., hereinafter referred to as "Channel Islands". The term of this Agreement is 30 years. The Agreement may, upon mutual written agreement of the parties, be extended upon terms and conditions the same as or similar to those contained herein.

**RECITALS**

A. Oxnard owns, operates and maintains the Oxnard Wastewater Treatment Plant, hereinafter referred to as the "Treatment Plant".

B. Channel Islands provides sewer and wastewater services to its constituents located within Channel Islands service area. Channel Islands recently acquired in a negotiated settlement with the City of Port Hueneme, in Case No. CIV217391, the *City of Port Hueneme vs. Channel Islands Beach Community Services District*, certain pipelines and ancillary facilities for the transportation and disposal of sewage and wastewater. Those facilities include pump stations and force mains described and set forth in Exhibit "A" attached hereto and incorporated herein.

C. As part of the negotiated settlement, Channel Islands also acquired from the City of Port Hueneme the right to use certain treatment capacity in the Treatment Plant. Channel Islands acquired the right to utilize 0.5 million gallons per day (mgd) peak day dry weather flow and an equivalent 0.9 mgd peak day wet weather flow in the Treatment Plant.

D. The parties recognize that Oxnard is presently constructing a new wastewater collection and transportation system including pipelines, pumps and ancillary equipment to be constructed along Victoria Avenue from Channel Islands Boulevard (Victoria Trunk Sewer) to Hemlock where it will connect and tie into Redwood Trunk Sewer as shown in Exhibit B.

E. The parties recognize that Oxnard will receive wastewater from Channel Islands near the location of what has historically been Pump Station "C" operated and maintained by the City of Port Hueneme.

F. The parties recognize that Oxnard services a portion of its service area and constituents, through the Channel Islands collections system. These areas are collected by Oxnard and pumped through various Pump Stations, including facilities owned and operated by Channel Islands, to Pump Station "C" as designated in Exhibit "A". The wastewater transported

to the Oxnard system at that point consists of wastewater generated from within Oxnard as well as Channel Islands.

G. Oxnard currently pays for the transport of that wastewater through an agreement with the City of Port Hueneme. Oxnard quarterly pays 91% of its regular sewer service charges collected from those properties served through Channel Islands system to the City of Port Hueneme. The City of Port Hueneme in turn pays Channel Islands the same amount it receives from Oxnard for that service.

H. Upon execution of this contract, and agreement by the City of Port Hueneme, the monthly sewer service fees collected from Oxnard by Port Hueneme and paid to Channel Islands, for the areas served through the Channel Islands system, will become a credit against the treatment costs associated with the all the wastewater flow from Channel Islands as discussed later in this document.

F. The parties wish to provide a methodology whereby Channel Islands participates in the capital and construction costs of the Victoria Trunk Sewer and Redwood Trunk Sewer projects and Channel Islands pays for the transportation, operation and maintenance of the pipeline, pumping and ancillary equipment necessary to convey Channel Island sewage and wastewater to the treatment plant. Furthermore the parties wish to set forth the terms and conditions upon which Oxnard will treat and dispose of Channel Islands sewage and wastewater at the Treatment Plant.

### AGREEMENT

But now therefore it is agreed as follows:

1. The parties agree that the wastewater generated within the service area of Channel Islands, and certain portions of the City of Oxnard, will be transported through the Victoria Trunk Sewer and Redwood Trunk Sewer for treatment at the Treatment Plant.

2. Channel Islands shall participate in the capital and construction costs of the Victoria Trunk Sewer and Redwood Trunk Sewer projects pursuant to the terms set forth herein. Channel Islands share of the capital and construction costs shall be as set forth in Exhibit "C" and incorporated herein by reference. Exhibit C shall be updated by Oxnard periodically until construction is completed.

3. a. The parties agree that Channel Islands shall pay for its share of the capital and construction costs of the Victoria Trunk Sewer and Redwood Trunk Sewer in progress payments that are set forth in Exhibit "C" which is attached hereto and incorporated herein. The parties further agree that said progress payments shall be not more often than once a month and request for such payments shall be in writing by Oxnard, and shall be in a form mutually agreeable by the parties. Channel Islands agrees that within twenty (20) days after the receipt of the request for a progress payment, it will make payment or set forth its reasons for refusing to make a payment. Oxnard's request for a progress payment shall include Oxnard's representation that, to Oxnard's knowledge, information and belief that the work has progressed to the point

indicated and that the conditions precedent to Oxnard be entitled to such payments have been fulfilled. In order to verify the capital and construction costs, Oxnard agrees that it will provide to Channel Islands, upon written request, any documentation relating to the costs of construction of Victoria Trunk Sewer Redwood Trunk Sewer as shown in Exhibit B for which Channel Islands is being asked to contribute. The cost of the reproduction of said documentation shall be borne by Channel Islands. Furthermore, Oxnard will provide to Channel Islands any working drawings, schematics, blueprints, or construction drawings, relating to the Victoria Trunk Sewer and Redwood Trunk Sewer projects. The cost of the reproduction of said documents shall be borne by Channel Islands.

b. In addition, should extensive repair or replacement of the Victoria Trunk Sewer and Redwood Trunk Sewer be necessary because of acts of nature, god, war, system age and wear, or other reasons beyond the control of Oxnard, Channel Islands shall contribute to the cost of replacement or repair according to the provisions of Section 3a and the methodology described in Exhibit C, or in the alternative, Channel Islands may terminate this agreement.

4. Channel Islands shall in addition to the capital and construction fees set forth herein, pay a monthly service charge to Oxnard for the transportation and treatment of sewage and wastewater generated within the Channel Islands service area (including that portion of the Oxnard Service Area that goes through Channel Islands force mains that are tributary to Pump Station "C"). The monthly service charge will be calculated based upon flow and strength characteristics as measured (for BOD and SS) at Pump Stations "A" and "B" and designated for illustration purposes only in Exhibit "A", or at such other locations as are mutually agreed upon by the parties. The sewer service charge shall be the sum of the then existing fee based upon the Regional Treatment and Disposal Facility User Charge in accordance with City Ordinance No. 2632, as may be amended from time to time.

Measurements for the calibration calculation shall be done twice annually in May and November. The cost of said measuring shall be borne equally by Channel Islands and Oxnard and shall be done by or at the direction of Channel Islands. Channel Islands shall provide the documentation calculations by these measurements to Oxnard.

5. Oxnard shall charge Channel Islands on a monthly basis for the transport and treatment of its sewage and wastewater as set forth in paragraph 4 herein. The parties recognize that the reading at Manhole MHC, upon which Channel Islands monthly charge is based, includes that area of Oxnard that has its sewage and wastewater collected and transported by the Channel Islands system to Manhole MHC.

The parties therefore agree that the monthly fee due to Oxnard shall be based upon monthly flow measurements of each party's area and shall be adjusted semiannually based upon samples collected and tested in May and November which shall measure BOD and Suspended Solids. In other words, there shall be a "true-up" with a corresponding offset to the amount owed by Channel Islands for the sewage and wastewater generated by the ratepayers in Oxnard's Service Area which flows through Pump Station MHC.

6. a. Channel Islands agrees to pay to Oxnard, operation and maintenance fee for the to be constructed pump stations in the City of Oxnard system which services the Hemlock

and Redwood Trunk Sewer Line. The parties estimate that Channel Islands flow and the Hemlock line is 7.7% and less than 2% in the portion that the Redwood Trunk Sewer that transports and conveys Channel Islands sewage and wastewater. The parties agree that for purposes of simplicity, Once the Victoria Line is in operation, Channel Islands shall pay to Oxnard a fee of \$10,000.00 per month which shall be for the purpose of paying for the operation and maintenance of the pump stations in the City of Oxnard system. The fee shall be adjusted on the first day of July after the first full year of operations. An adjustment shall be made for the next fiscal year and yearly thereafter during the term of the Agreement. The adjusted fee shall be the percentage allocation of the actual cost of operation and maintenance and energy attributable to Channel Islands Sewage and Wastewater, including direct cost of labor and material as well as reasonable overhead and indirect cost. If Channel Islands does not agree with the cost provided by the City, it shall forthwith monthly pay the amount which it agrees represents such cost, in no event less than \$10,000. The parties shall then promptly arbitrate the issue of costs payable under the rules of the American Arbitration Association for commercial arbitration. If the actual cost is determined to be more than the amount paid, Channel Islands will pay the difference within 30 days of the final decision. If such actual cost is determined to be less than the amount paid, the City shall pay the difference to Channel Islands within 30 days.

7. To the extent possible, Oxnard will provide to Channel Islands on at least a quarterly basis, a status report setting forth the construction schedule for the pipeline set forth herein as well as an estimated date of completion.

8. The provisions of this Agreement shall be entered to the benefit of and be binding upon each of the parties and their successors and assigns. This Agreement shall continue in full force and effect until terminated by the mutual consent of the parties hereto. This Agreement may only be amended in writing by both the parties.

9. Channel Islands agrees to indemnify, hold harmless and defend City, its City Council, and each member thereof, and every officer, employee, representative or agent of City, from any and all liability, claims, demands, actions, damages (whether in contract or tort, including personal injury, death at any time, or property damage), costs and financial loss, including all costs and expenses and fees of litigation or arbitration, that arise directly or indirectly from any acts or omissions related to this Agreement performed by Channel Islands or its agents, employees, subconsultants, subcontractors, consultants and other persons acting on Channel Islands's behalf. This agreement to indemnify, hold harmless and defend shall apply whether such acts or omissions are the product of active negligence, passive negligence, or acts for which Channel Islands or its agents, employees, subconsultants, subcontractors, consultants and other persons acting on Channel Islands' behalf would be held strictly liable.

10. The City agrees to indemnify, hold harmless and defend Channel Islands, its legislative body and each member thereof, and every officer, employee, representative or agent of Channel Islands, from any and all liability, claims, demands, actions, damages (whether in contract or tort, including personal injury, death at any time, or property damage), costs and financial loss, including all costs and expenses and fees of litigation or arbitration, that arise directly or indirectly from any acts or omissions related to this Agreement performed by the City

or its agents, employees, subconsultants, subcontractors, consultants and other persons acting on the City's behalf. This agreement to indemnify, hold harmless and defend shall apply whether such acts or omissions are the product of active negligence, passive negligence, or acts for which the City or its agents, employees, subconsultants, subcontractors, consultants and other persons acting on Channel Islands' behalf would be held strictly liable.

11. Insurance

Each party represents that it is self-insured under applicable provisions of California Law.

12. Successors and Assigns

Channel Islands and City agree that this Agreement shall be binding upon and inure to the benefit of the heirs, executors, administrators, successors and assigns of Channel Islands and City.

13. Force Majeure

Channel Islands and City agree that neither City nor Channel Islands shall be responsible for delays or failures in performance resulting from acts beyond the control of either party. Such acts shall include, but not be limited to acts of God, strikes, lockouts, riots, acts of war, epidemics, governmental regulations imposed after this Agreement was executed, fire, communication line failures, earthquakes, or other disasters.

14. Channel Islands and City agree that each term and each provision of this Agreement to be performed by Channel Islands shall be construed to be both a covenant and a condition.

15. Governing Law

City and Channel Islands agree that the construction and interpretation of this Agreement and the rights and duties of City and Channel Islands hereunder shall be governed by the laws of the State of California.

16. Compliance with Laws

Channel Islands agrees to comply with all City, State, and federal laws, rules, and regulations, now or hereafter in force, pertaining to the services performed by Channel Islands pursuant to this Agreement.

17. City and Channel Islands agree that the invalidity in whole or in part of any provision of this Agreement shall not void or affect the validity of any other provision.

18. City and Channel Islands agree that no waiver of a breach of any provision of this Agreement by either Channel Islands or City shall constitute a waiver of any other breach of the same provision or any other provision of this Agreement. Failure of either City or Channel Islands to enforce at any time, or from time to time, any provision of this Agreement, shall not be construed as a waiver of such provision or breach.

19. Counterparts

City and Channel Islands agree that this Agreement may be executed in two or more counterparts, each of which shall be deemed an original.

20. Expenses of Enforcement

Channel Islands and City agree that the prevailing party's reasonable costs, attorneys' fees (including the reasonable value of the services rendered by the City Attorney Office) and expenses, including investigation fees and expert witness fees, shall be paid by the non-prevailing party in any dispute involving the terms and conditions of this Agreement.

21. Authority to Execute

- a. City acknowledges that the person executing this Agreement has been duly authorized by the City Council to do so on behalf of City.
- b. Channel Islands acknowledges that the person executing this Agreement has been duly authorized by Channel Islands to do so on behalf of Channel Islands.

22. Notices

- a. Any notices to Channel Islands may be delivered personally or by mail addressed to:

353 Santa Monica Drive  
Channel Islands Beach, CA 93035-4473  
Attention: General Manager

- b. Any notices to City may be delivered personally or by mail addressed to:

City of Oxnard  
6001 S. Perkins Road  
Oxnard, CA 93033  
Attention: Assistant Public Works Director

23. Amendment

City and Channel Islands agree that the terms and conditions of the Agreement may be reviewed or modified at any time. Any modifications to this Agreement, however, shall be effective only when agreed to in writing by both Manager and Channel Islands.

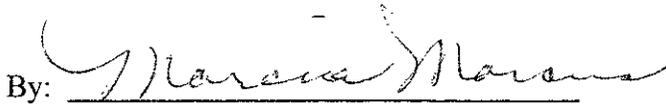
24. Entire Agreement

City and Channel Islands agree that this Agreement constitutes the entire agreement of the parties regarding the subject matter described herein and supersedes all prior communications, agreements, and promises, either oral or written.

**CITY OF OXNARD**

**CHANNEL ISLANDS BEACH COMMUNITY SERVICES DISTRICT**

By: \_\_\_\_\_  
Dr. Thomas E. Holden, Mayor

By:  \_\_\_\_\_  
Marcia Marcus, President

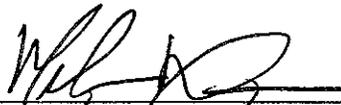
ATTEST:

\_\_\_\_\_  
Daniel Martinez, City Clerk

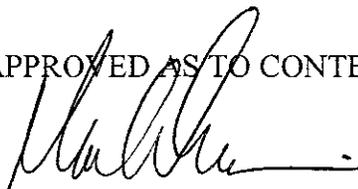
APPROVED AS TO FORM

  
\_\_\_\_\_  
Gary L. Gillig, City Attorney

APPROVED AS TO INSURANCE:

  
\_\_\_\_\_  
Marcie Medina, Finance Director

APPROVED AS TO CONTENT:

  
\_\_\_\_\_  
Mark S. Norris, Assistant Public Works Director

**EXHIBIT A**  
**Channel Islands Beach CSD Facilities**

**Lift Station A**

This facility is located on the northeast corner of Roosevelt Avenue and Highland Drive. The lift station consists of three below ground structures; a wet well, a utility vault that houses the pump and electrical equipment, and a meter vault. These are located within the improved right of way of Roosevelt Avenue. The pump equipment utility vault and the wet well are situated in the sidewalk on the east side of Roosevelt. The area surrounding the lift station is a mix of residential and commercial development.

This lift station serves an area that measures approximately 129 acres and serves approximately 1,200 parcels within the service area. The service area of this lift station is basically built out and the potential for future increased flows is minimal.

The buried circular precast concrete wet well collects wastewater from the adjacent collection system and serves as a forebay to the lift station. The only component of the wet well that is visible from the surface is the manhole cover located in the sidewalk.

Two recessed impeller sewage pumps (20 hp) are located adjacent to the wet well in a precast concrete utility vault also located belowground. The utility vault measures approximately 8 feet by 15 feet and is 17 feet deep. The pump units are equipped with suction and discharge piping and respective isolation valves. The pumps are actuated based on wastewater levels and speed is varied by variable frequency drives to maintain set levels in the wet well. The motor control center, and electrical and control equipment are contained within electrical panels situated within the utility vault. The control of the pump station is all located in the utility vault. Flow and pressure are monitored and recorded, but the information must be manually downloaded. Alarms are dialed into an emergency service via dedicated telephone lines.

The two pumps at this lift station are identical. Both pump units are rated for a flow of 470 gallons per minute at a total dynamic head of 66 feet. The lead-lag status of the two pumps has routinely been alternated to equalize wear on the units.

**Lift Station B**

The components of Lift Station B are virtually identical to those described above -on the west side of Ocean Drive immediately adjacent to the intersection of Ocean Drive and La Crescenta Street. The lift station is situated within a residential neighborhood. This lift station serves an area that measures approximately 174 acres and serves approximately 800 parcels within the service area. The service area of this lift station is basically built out and the potential for future increased flows is minimal.

Similar to Lift Station A, this lift station also has a buried circular precast concrete wet well which collects the sewage from the surrounding area. Two recessed impeller sewage pumps (20 hp) are located adjacent to the wet well in an 8 feet by 15 feet and 17 feet deep, belowground utility vault.

The two pumping units are identical; both units are rated for a flow of 470 gallons per minute at a

total dynamic head of 66 feet. The pumps are actuated based on wastewater levels in the wet well and speed is varied by variable frequency drives to maintain a set level in the wet well. Flow and pressure are monitored and recorded, but the information must be manually downloaded. Alarms are dialed into an emergency service via dedicated telephone lines.

**Lift Station H**

The components that comprise Lift Station H are virtually identical to those described above for Lift Station A and Lift Station B, with a few exceptions. These exceptions include; smaller pumping units, constant speed drivers, and no meter to measure the flow pumped by Lift Station H.

Lift Station H is located on the south side and within the improved right of way of Channel Islands Boulevard approximately 200 feet east of the intersection of Channel Islands Boulevard and Peninsula Road. The pumping station is situated in the sidewalk of a mixed residential/commercial area. Both the pump equipment utility vault and the wet well are situated in the sidewalk on the south side of Channel Islands Boulevard.

The station has a buried circular precast concrete wet well that collects the sewage from the surrounding area. Two recessed impeller sewage pumps (5 hp) are located adjacent to the wet well in an 8 feet by 15 feet and 17 feet deep utility vault. The pumping units are constant speed pumps and are equipped with suction and discharge piping and respective isolation valves. The pumps are actuated based on wastewater levels in the wet well.

**FORCEMAINS**

Separate forcemains convey the wastewater flows pumped from Lift Station A and Lift Station B to Manhole C. For the purpose of this document, those forcemains are referred to as Forcemain A and Forcemain B, respectively. In addition, there is a short segment of forcemain, referred to as Forcemain H, that connects the discharge piping of Lift Station H to Forcemain B. Table 1 provides a summary of the lengths of pipe, their diameters, and the materials that makeup these forcemains.

**Table 1  
Summary of Sewer Forcemains**

Forcemain	Street	Size	Material	Length
A	Roosevelt Boulevard	8-Inch	AC	589
	Victoria Avenue	8-Inch	AC	967
		8-Inch	PVC	3,279
		8-Inch	Techite	2,144
Subtotal	N/A	N/A	6,979	
B	La Crescenta Avenue	8-Inch	AC	167
	Sunset Lane	8-Inch	AC	1,868
	Channel Islands Boulevard	8-Inch	AC	896
		12-Inch	AC	1,114
		12-Inch	CI	585
		12-Inch	DI	16
	12-Inch	PVC	1,512	
Subtotal	N/A	N/A	6,158	

H	Channel Islands Boulevard	6-Inch	DI	198
Total	N/A	N/A	N/A	13,335

Forcemain A extends from Lift Station A to Manhole C and is approximately 6,979 lineal feet in length. This forcemain entirely comprises of 8-inch diameter pipe. The forcemain begins on the discharge side of Lift Station A (northeast corner of Highland Avenue and Roosevelt Boulevard). The pipeline proceeds in a northwest direction and within the public right of way of Roosevelt Boulevard. At the intersection of Roosevelt Boulevard and Victoria Boulevard, the pipeline alignment turns and proceeds in a northerly direction within the public right of way of Victoria Boulevard. The forcemain discharges to Manhole C located near the northeast corner of the intersection of Victoria Boulevard and Channel Islands Boulevard.

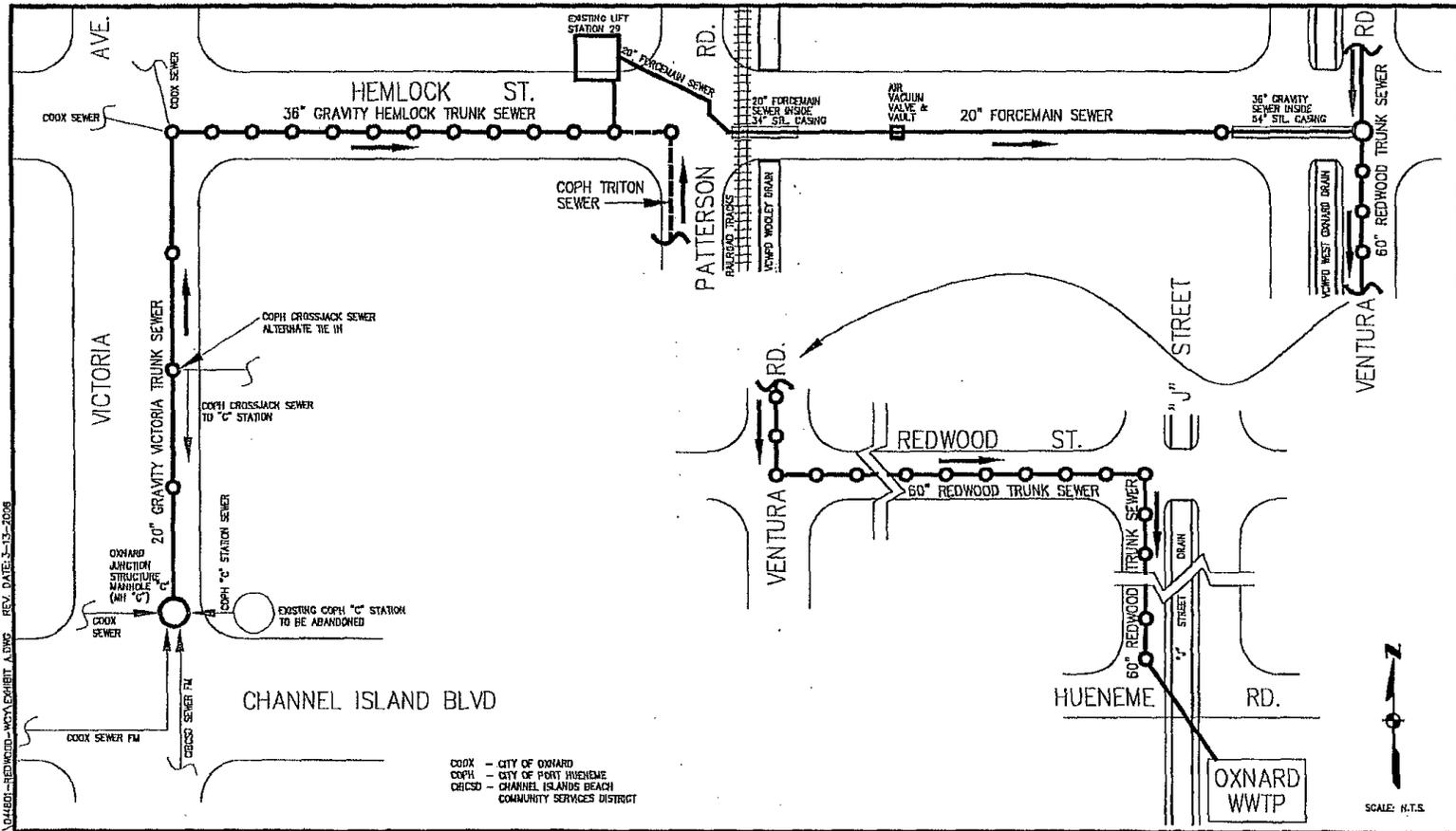
Forcemain B extends from Lift Station B to Manhole C and is approximately 6,160 lineal feet in length. This forcemain comprises of 8-inch diameter and 12-inch diameter pipe. The forcemain begins on the discharge side of Lift Station B (intersection of La Crescenta Street and Ocean Drive). The pipeline proceeds in an easterly direction and within the public right of way of La Crescenta Street. At the intersection of La Crescenta Street and Sunset Lane, the pipeline alignment turns and proceeds in a northerly direction within the public right of way of Sunset Lane. At the intersection of Sunset Lane and Channel Islands Boulevard, the pipeline alignment turns and proceeds in an almost easterly direction within the public right of way of Channel Islands Boulevard. The forcemain discharges to Manhole C located near the northeast corner of the intersection of Victoria Boulevard and Channel Islands Boulevard. This forcemain begins as an 8-inch diameter pipeline and then its diameter is enlarged to 12-inches near the intersection of Channel Islands Boulevard and Harbor Boulevard.

There are two bridges on Channel Islands Boulevard crossings over the east and west boat waterways (channels). On the west channel bridge, the forcemain was installed within a utility port built into the bridge. On the east channel bridge, the forcemain is suspended under the bridge with steel pipe hangers.

Forcemain H is approximately 198 feet long and extends from Lift Station H to its connection point to Forcemain B. The pipe connects to Forcemain B at a point immediately west of the east channel bridge. The connection point is an 8" x 12" x 12" wye installed on Forcemain B. An 8" x 12" reducer and an 8-inch diameter gate valve complete this connection.

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Attachment #1  
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**Kennedy/Jenks Consultants**  
 1000 HILL ROAD, SUITE 200  
 VENTURA, CALIFORNIA 93003

**MEMORANDUM OF UNDERSTANDING**

**EXHIBIT B**

X:\DWG\2004\04\01\REDWOOD-NEW EXHIBIT A.DWG REV. DATE: 3-13-2008

MEMORANDUM OF UNDERSTANDING

EXHIBIT C WORKSHEET

Reach	Description	Peak Capacity (MGD)	COOX (MGD)	% Capacity	COPH PWWF (MGD)	% Capacity	CIBCSD PWWF (MGD)	% Capacity
1	Victoria Avenue Line	2.15	1.03	47.67	0.225	10.47	0.9	41.86
2	Hemlock Trunk to MH AT+68	11.69	10.57	90.38	0.225	1.92	0.9	7.70
3	Hemlock Trunk - MH AT+68 to LS 29	11.69	10.12	86.53	0.675	5.77	0.9	7.70
4	LS 29 and Hemlock Force Main	18.3	16.73	91.39	0.675	3.69	0.9	4.92
5	Redwood Trunk Sewer	45.63	44.06	96.55	0.675	1.48	0.9	1.97

Reach	Description	Construction	Change	Const. Mgmt.	Eng. Costs	Total Costs	
		Bid Cost	Orders Cost	Cost			
1	Victoria Avenue Line (estimate)	\$960,000	\$0	\$250,000	\$87,500	\$1,297,500	Open Cut Construction
2	Hemlock Trunk to MH AT+68	\$4,182,407	\$1,287,500	\$366,995	\$144,450	\$5,981,352	
3	Hemlock Trunk - MH AT+68 to LS 29	\$46,518	\$0	\$4,082	\$1,613	\$52,213	
4	LS 29 and Hemlock Force Main	\$3,951,772	\$0	\$1,006,416	\$607,436	\$5,565,624	
5	Redwood Trunk Sewer	\$21,652,269	\$584,911	\$1,017,715	\$585,154	\$23,840,049	

Reach	Description	COOX Cost	COOX %	COPH Cost	COPH %	CIBCSD Cost	CIBCSD %
1	Victoria Avenue Line	\$618,576	47.67	\$135,785	10.47	\$543,140	41.86
2	Hemlock Trunk to MH AT+68	\$5,405,730	90.38	\$115,124	1.92	\$460,498	7.70
3	Hemlock Trunk - MH AT+68 to LS 29	\$45,178	86.53	\$3,015	5.77	\$4,020	7.70
4	LS 29 and Hemlock Force Main	\$5,086,615	91.39	\$205,289	3.69	\$273,719	4.92
5	Redwood Trunk Sewer	\$23,017,168	96.55	\$352,663	1.48	\$470,218	1.97
	Totals	\$34,173,267		\$811,877		\$1,751,594	

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