CITY OF LIVE OAK

Study Session of the City Council
Live Oak Council Chambers
9955 Live Oak Blvd., Live Oak, CA 95953

The Council may take up any agenda item at any time, regardless of the order listed. Action may be taken on any item on this agenda. ***Members of the public may comment on any item on the agenda at the time that it is taken up by the Council. Requests to speak on the item should be made to the Mayor at the time an item is discussed****. We ask that members of the public come forward to be recognized by the Mayor and keep their remarks brief. Absent permission from the Mayor, comments will be limited to three (3) minutes.*

Mayor – Gary A. Baland
Vice Mayor – Steve Alvarado
Council Member – Rob Klotz
Council Member – Felicity Clark
Council Member – Diane Hodges

February 15, 2011 6:00 PM

A. CALL TO ORDER

B. ROLL CALL

C. REPORTS AND MISCELLANEOUS

1. Sheriff Services Update

   Presentation by Representatives of the Sutter County Sheriff's Department

2. Water and Sewer Connection Fees

D. ADJOURNMENT

1. Sheriff Services Update

   Presentation by Representatives of the Sutter County Sheriff's Department

CITY OF LIVE OAK

DATE: February 9, 2011

TO: Honorable Mayor and Members of the City Council

FROM: Jim Goodwin, City Manager

SUBJECT: Water and Sewer Connection Fees

RECOMMENDATION: Review recommendation for new water and sewer connection fees as result of adoption of water and sewer master plans

FISCAL IMPACT: No General Fund impact. Anticipation of future fees predicated on new construction

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In 2010, your City Council adopted both the City of Live Oak Waste Water Collection System Master Plan and Water Master Plan. Both plans were completed with the intent of determining the overall capital investment required to support build-out of the project area included in the 2030 General Plan

In addition, both plans included an analysis to determine appropriate connection fees. Memos outlining the methodology used to determine the recommended fee were prepared and included in the studies. Both memos are attached for your review.

Staff and consultants will be available during the Study Session to answer any questions you may have about the proposed connection fees.

Respectfully Submitted,

Jim Goodwin
City Manager

ECO:LOGIC
ENGINEERS CONSULTANTS

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To: **Satwant Takhar, City of Live Oak**

From: **Georgette Aronow**

CC: **Michael Harrison, Cindy Bertsch**

Date: **November 23, 2009**

RE: **Revised Draft Water Connection Fee Analysis**

ECO:LOGIC is currently in the process of preparing the Water Master Plan for the City of Live Oak. As part of that analysis it was requested that the Wter Connection Fee and the AB 1600 Fee be updated.

This analysis calculates one fee that would replace both the current Water Connection Fee and the AB 1600 Fee. The fee calculated in this analysis will be referred to as the 2009 Connection Fee and includes three components:

1) ***System Buy-In***: The system buy-in charge based on the City's existing water infrastructure assets. The analysis is based on the total cost of all of the water assets at installation less accumulated depreciation. The asset value information is based on the City's water asset depreciation table, which is included as Appendix A.

2) ***Future CIP Project Costs***: The future CIP project costs are based on the projected facility needs as identified in the Water Master Plan. These costs were split between existing and future users based on benefit. The costs allocated to future users are included in the 2009 Water Connection Fee.

3) ***Meter Installation Costs***: The cost of installing and connecting a water meter to the City's distribution system is also included in the 2009 Water Connection Fee.

Each of these fee components and how they were computed are discussed in greater detail below. **Table 1** summarizes the calculated connection fee.

Table 1
City of Live Oak
Water Connection Fee Analysis
Summary of the Calculated 2009 Water Connection Fee

DRAFT

Meter Size	EDU Factor	Infrastructure: Existing Buy-in Charge	Infrastructure: Future CIP Costs	Meter Installation Costs	Subtotal Cost	Admin. Charge 1.50%	Total Connection Fee
Less than 1"	1.00	$682	$5,127	$1,480	$7,289	$109	$7,398
1"	1.67	$1,137	$8,544	$1,520	$11,202	$168	$11,370
1 1/2"	3.33	$2,274	$17,089	$1,720	$21,083	$316	$21,399
2"	5.33	$3,639	$27,342	$1,920	$32,901	$494	$33,394
3"	11.67	$7,961	$59,810	$3,700	$71,471	$1,072	$72,543
4"	21.00	$14,329	$107,658	$5,980	$127,967	$1,920	$129,887
6"	46.67	$31,842	$239,241	$8,020	$279,103	$4,187	$283,290

MAJOR ASSUMPTIONS

This analysis and calculation of the 2009 Water Connection fee is predicated on several major assumptions, discussed in further detail below.

EQUIVALENT DWELLING UNITS (EDUS)

For water service, one equivalent dwelling unit (EDU) is the amount of water an average single family residence is assumed to use. The Water Master Plan assumes that one EDU uses 500 gallons per day.

The total capacity added to the water system by future improvements is estimated at 7.4 million gallons per day (gpd). This capacity would serve approximately 14,800 future EDUs.

Total water sold in 2008 was approximately 469 million gallons. This equates to approximately 1.3 million gallons per day and 2,570 current (existing) EDUs, assuming 500 gpd per EDU.

Therefore, there is capacity for 17,370 EDUs to be serviced upon completion of water infrastructure improvements described in the Water Master Plan.

EDU FACTORS

EDU factors are the method for equating a single family unit to other types of customers, such as non-residential customers. In the case of water infrastructure, it is typical to use the water meter size as a way of establishing EDU factors. Each meter size has a maximum flow rate and can be equated

back to one EDU (a single family unit). The meter flow rates were determined based on the INVENSYS Catalog, the typical type of meter installed by the City of Live Oak. Those flow rates and EDU factors are shown in **Table 2**.

Table 2
City of Live Oak
Water Connection Fee Analysis
Proposed EDU Factors

Meter Size, in	Capacity (gpm) [1]	Proposed EDU Factor
Less than 1	30	1
1	50	1.7
1.5	100	3.3
2	160	5.3
3	350	11.7
4	630	21.0
6	1,400	46.7

[1] Based on INVENSYS Catalog

SYSTEM BUY-IN CHARGE

The system buy-in costs are based on an inventory of the City's existing water assets (water lines, wells, and water storage tank). The analysis uses the City's water asset depreciation schedule as the basis for this calculation and is included as Appendix A.

The total water assets are estimated at $14.33 million, based on estimated costs at installation. Of that $14.33 million, the City has accumulated approximately $2.48 million in depreciation. The remaining net value of the assets, is therefore, estimated at $11.85 million as shown in Table 3.

The $11.85 million represents the value of the assets to spread over both existing and future users. The total cost is divided by the total EDUs, estimated at 17,370, for a cost per EDU of $682.33.

Table 3
City of Live Oak
Water Connection Fee Analysis
Summary of the Buy-In-Cost Analysis

Utility	Estimated Cost at Installation	Est. Total Accumulated Depreciation	Buy-In Costs Net of Accumulated Depreciation
	Costs Rounded to Thousands of Dollars		
Water	$14,335,196	$2,483,191	$11,852,004
EDUs			
Existing			2,570
Future			14,800
Total			**17,370**
Cost per EDU			**$682.33**

FUTURE CIP COSTS

The future CIP costs represent the costs of future facilities to be built to serve new development. Table 4 shows the facilities and costs as identified by the Water Master Plan. These costs are then distributed to existing and future users based on benefit of the facilities. The majority of the costs, $49.38 million of the $55.14 million in total costs, are allocated to new development.

Table 4
City of Live Oak
Water Connection Fee Analysis
Summary of Water Master Plan Capital Improvement Costs and Allocation to Existing and New Users

Description	Master Plan Capital Cost	Cost Distribution		Cost Allocation	
		Existing	New	Existing	New
Water Pipeline Replacement/ Paralleling Projects	$1,870,000	100%	0%	$1,870,000	$0
Two 0.7 MG Tanks	$2,016,000	0%	100%	$0	$2,016,000
Two 230 HP Booster Pump Stations	$3,398,000	0%	100%	$0	$3,398,000
Nine Wells with Arsenic Treatment	$34,992,000	11%	89%	$3,888,000	$31,104,000
Distribution System Improvements	$12,860,000	0%	100%	$0	$12,860,000
Total	**$55,136,000**			**$5,758,000**	**$49,378,000**

It is likely that the City will have to finance these costs at some future date in order to move forward with construction. Therefore, Table 5 calculates the cost per EDU including a financing factor.

The financing factor included in this initial calculation does not represent the full cost of financing, if the City were to finance all of the projects today, which is not likely. The annualized debt service payments are discounted by 3.5 percent, to reflect that the City is not planning to build these projects immediately. This results in the interest cost being cut by a factor of 50 percent.

The new facilities will add approximately 7.4 million gallons of additional capacity. If the total cost by the additional capacity is divided by the total gallons of treated water, the cost per treated gallon is estimated at $10.25.

One EDU is assumed to use approximately 500 gallons per day. Therefore, the cost per EDU is calculated at $10.25 * 500 to equal $5,127 per EDU.

Table 5
City of Live Oak
Water Connection Fee Analysis
Water - New Capacity and Fee per EDU

DRAFT

ITEM	*Assumption*	TOTAL COST
Total Project Cost		$49,378,000
Financing Factor [1]	0.54	$26,495,563
TOTAL COST		**$75,873,563**
Additional Capacity Added (GPD) [2]		7,400,000
Cost per Gallon		**$10.25**
Gallons/Day per EDU		500
Cost per EDU [3]		**$5,127**

"cost_EDU"

[1] Assumes that 100 percent of the costs are financed:

Financing Costs:	
Amount Financed	$49,378,000.00
Rate	6.00%
Term	30
Bond Load Factor	15%
Annual Debt Service	$4,125,346.64
Total Debt Service	$123,760,399.33
Net Present Value of Debt Service 3.5% *discount factor*	$75,873,562.82
Net Proceeds	$49,378,000.00
Financing Cost	$26,495,562.82

[2] As determined by ECO:LOGIC
[3] Assumes that the Fee will be escalated by 3.5% each year.

METER INSTALLATION COST

Table 6 shows the City's estimated cost for installing a meter, by the various meter sizes. This cost is included in the fee amount. It includes both the capital cost and the labor cost for the meter installation.

Table 6
City of Live Oak
Water Connection Fee Analysis
Calculation of Water Meter Installation Cost by Meter Size

					Labor				Total
Meter Size	Meter	Box	Lid	Subtotal	Hours	Cost Per Hour	Labor Cost	Total	Rounded
Less than 1"	$143.23	$23.85	$30.97	$198.05	16.00	$80.00	$1,280.00	**$1,478.05**	**$1,480.00**
1"	$180.87	$23.85	$30.97	$235.69	16.00	$80.00	$1,280.00	**$1,515.69**	**$1,520.00**
1 1/2"	$377.04	$27.05	$35.61	$439.70	16.00	$80.00	$1,280.00	**$1,719.70**	**$1,720.00**
2"	$573.21	$30.25	$40.24	$643.70	16.00	$80.00	$1,280.00	**$1,923.70**	**$1,920.00**
3"	$1,695.00	$36.67	$45.05	$1,776.72	24.00	$80.00	$1,920.00	**$3,696.72**	**$3,700.00**
4"	$2,805.00	$127.74	$489.14	$3,421.88	32.00	$80.00	$2,560.00	**$5,981.88**	**$5,980.00**
6"	$4,845.00	$127.74	$489.14	$5,461.88	32.00	$80.00	$2,560.00	**$8,021.88**	**$8,020.00**

Note: Costs for a 3, 4 and 6 inch meter is for a compound meter.

These three cost components are added together to compute the 2009 Water Connection Fee as shown in Table 1 above.

OTHER RECOMMENDATIONS

It is recommended that the City establish in its ordinance, at the time of fee adoption, the ability to increase the fee by 3.5% annually, at a minimum. The annual increase could also be linked to consumer price index (CPI) or the ENR Construction Cost Index.

This is particularly important if the City does plan to move forward with financing any of the CIP projects. If the fee is inflated annually, then the City should be able to recuperate the majority of the financing costs over time. The annual adjustment will also allow the City to stay current as the actual costs of meter installation will likely increase over time.

The City should also consider reviewing and updating the fee analysis every three years, particularly since at this time the construction timing of the projects are unkown.

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To: **Satwant Takhar, City of Live Oak**

From: **Georgette Aronow**

CC: **Michael Harrison, Melissa Lee**

Date: **October 26, 2009**

RE: **Draft Sewer Connection Fee Analysis**

ECO:LOGIC is currently in the process of preparing the Wastewater Collection System Master Plan for the City of Live Oak. As part of that analysis it was requested that the Sewer Connection Fee and the AB 1600 Fee be updated.

This analysis calculates one fee that would replace both the current Sewer Connection Fee and the AB 1600 Fee. The fee calculated in this analysis will be referred to as the 2009 Sewer Connection Fee and includes three components:

1) ***System Buy-In***: The system buy-in charge based on the City's existing sewer infrastructure assets. The analysis is based on the total cost of all of the sewer assets at installation less accumulated depreciation. The asset value information is based on the City's sewer asset depreciation table, which is included as Attachment 1.

2) ***Future CIP Project Costs***: The future CIP project costs are based on the projected facility needs as identified in the Sewer Master Plan. These costs were split between existing and future users based on benefit. The costs allocated to future users are included in the 2009 Sewer Connection Fee.

3) ***Sewer Lateral Installation***: Like the 2009 Water Connection Fee that includes the cost of installing the water meter, the 2009 Sewer Connection Fee includes the cost of installing the sewer lateral connection from the property line to the main trunkline.

Each of these fee components and how they were computed are discussed in greater detail below. **Table 1** summarizes the calculated connection fee. The fee includes a 1.5 percent administration charge to help cover the cost of City staff's administration of the fee program.

Table 1
City of Live Oak
Sewer Connection Fee Analysis
Summary of the Calculated 2009 Sewer Connection Fee

DRAFT

Meter Size	EDU Factor	Infrastructure: Existing Buy-in Charge	Infrastructure: Future CIP Costs	Sewer Lateral Connection	Subtotal Cost	Admin. Charge 1.50%	Total Connection Fee
Less than 1"	1.00	$459	$6,752	$1,431	$8,642	$130	$8,772
1"	1.67	$766	$11,253	$1,431	$13,449	$202	$13,651
1 1/2"	3.33	$1,531	$22,506	$1,431	$25,468	$382	$25,850
2"	5.33	$2,450	$36,009	$1,431	$39,890	$598	$40,489
3"	11.67	$5,359	$78,771	$1,431	$85,560	$1,283	$86,844
4"	21.00	$9,646	$141,787	$1,431	$152,864	$2,293	$155,157
6"	46.67	$21,435	$315,083	$1,431	$337,949	$5,069	$343,018

MAJOR ASSUMPTIONS

This analysis and calculation of the 2009 Sewer Connection Fee is predicated on several major assumptions, discussed in further detail below.

EQUIVALENT DWELLING UNITS (EDUS)

For sewer service, one equivalent dwelling unit (EDU) is the amount of sewer flow an average single family residence is assumed to use. The Wastewater Collection System Master Plan assumes that one EDU uses 192 gallons per day.

The total capacity added to the sewer system by future improvements is estimated at 3.3 million gallons per day (gpd). This capacity would serve approximately 17,188 future EDUs, assuming 192 gallons per day of sewer flow per EDU.

Existing EDUs are based on the 2009 Water Connection Fee analysis, which is based on water sold in 2008. Total water sold in 2008 was approximately 469 million gallons. This equates to approximately 1.3 million gallons per day and 2,570 current (existing) EDUs, assuming 500 gpd per EDU.

Therefore, there is capacity for 19,757 EDUs to be serviced upon completion of sewer infrastructure improvements described in the Sewer Master Plan.

EDU Factors

EDU factors are the method for equating a single family unit to other types of customers, such as non-residential customers. In the case of water infrastructure, it is typical to use the water meter size as a way of establishing EDU factors. Each meter size has a maximum flow rate and can be equated back to one EDU (a single family unit). The water meter flow rates for Live Oak were determined based on the INVENSYS Catalog, the typical type of meter installed by the City of Live Oak.

It is not uncommon to use the same EDU factors for sewer fees. Presumably not all water flows to the sewer, however, the relationship between the less than 1 inch meter, based on capacity, to other meter sizes remains the same as for water. The water flow rates and EDU factors are shown in **Table 2**. It is proposed that these same EDU factors be used for sewer.

Table 2
City of Live Oak
Sewer Connection Fee Analysis
Proposed EDU Factors

Meter Size, in	Capacity (gpm) [1]	Proposed EDU Factor
Less than 1	30	1
1	50	1.7
1.5	100	3.3
2	160	5.3
3	350	11.7
4	630	21.0
6	1,400	46.7

[1] Based on INVENSYS Catalog

SYSTEM BUY-IN CHARGE

The system buy-in costs are based on an inventory of the City's existing sewer assets (sewer pipelines, pump stations, existing treatment plant facilities, etc.). The analysis uses the City's sewer asset depreciation schedule as the basis for this calculation and is included as Attachment 1.

The total sewer assets are estimated at $11.28 million, based on estimated costs at installation. Of that $11.28 million, the City has accumulated approximately $2.20 million in depreciation. The remaining net value of the assets, is therefore, estimated at $9.07 million as shown in Table 3.

The $9.07 million represents the value of the assets to spread over both existing and future users. The total cost is divided by the total EDUs, estimated at 19,757, for a cost per EDU of $459.32.

Table 3
City of Live Oak
Sewer Connection Fee Analysis
Summary of the Buy-In-Cost Analysis

DRAFT

Utility	Estimated Cost at Installation	Est. Total Accumulated Depreciation	Buy-In Costs Net of Accumulated Depreciation
	Costs Rounded to Thousands of Dollars		
Sewer Assets	$11,281,499	$2,206,627	$9,074,872
EDUs			
Existing			2,570
Future			17,188
Total			**19,757**
Cost per EDU			**$459.32**

FUTURE CIP COSTS

The future CIP costs represent the costs of future facilities to be built to serve new development. Table 4 shows the facilities and costs as identified by the Sewer Master Plan. These costs are then distributed to existing and future users based on benefit of the facilities. The majority of the costs, $75.52 million of the $104.35 million in total costs, are allocated to new development.

The City received a $10 million grant from the Clean Water State Revolving Fund (CWSRF) as part of the ARRA stimulus monies to help fund the Wastewater Treatment Plant Upgrades (Phase I) currently underway. The project will benefit both existing and new users equally and so, the grant was distributed equally among existing and future users as well.

It is likely that the City will have to finance the costs of the future infrastructure improvements. At the moment, the timeframe for these projects (collection system improvements and future improvements to the WWTP) is unknown. However, Table 5 calculates the cost per EDU including a financing factor.

The financing factor included in this initial calculation does not represent the full cost of financing. The annualized debt service payments are discounted by 3.5 percent, to reflect that the City is not planning to build these projects immediately. This results in the interest cost being cut by a factor of 50 percent.

Table 4
City of Live Oak
Sewer Connection Fee Analysis
Summary of Master Plan Capital Improvement Costs and Allocation to Existing and New Users

Description	Master Plan Capital Cost	Cost Distribution			Cost Allocation		
		Grant	Existing	New	Grant	Existing	New
Collection System Improvements	$25,592,051		0%	100%		$0	$25,592,051
Treatment Plant Upgrades & Expansions							
Phase I WWTP [1]	$22,060,000	45%	27%	27%	$10,000,000	$6,030,000	$6,030,000
Phase II WWTP	$12,800,000		100%	0%		$12,800,000	$0
Phase III WWTP	$23,300,000		0%	100%		$0	$23,300,000
Phase IIII WWTP	$20,600,000		0%	100%		$0	$20,600,000
Total	**$104,352,051**				**$10,000,000**	**$18,830,000**	**$75,522,051**

[1] Currently under construction.

Table 5
City of Live Oak
Sewer Connection Fee Analysis
Sewer - Future Facility Cost per EDU

DRAFT

ITEM	*Assumption*	TOTAL COST
Total Project Cost		$75,522,051
Financing Factor [1]	**0.54**	$40,524,105
TOTAL COST		**$116,046,156**
Additional Capacity Added (GPD)		3,300,000
Cost per Gallon		**$35.17**
Gallons/Day per EDU		192
Cost per EDU [3]		**$6,752**

"cost_EDU"

[1] Assumes that 100 percent of the costs are financed:

Financing Costs:	
Amount Financed	$75,522,051.00
Rate	6.00%
Term	30
Bond Load Factor	15%
Annual Debt Service	$6,309,584.02
Total Debt Service	$189,287,520.55
Net Present Value of Debt Service 3.5% *discount factor*	$116,046,155.79
Net Proceeds	$75,522,051.00
Financing Cost	$40,524,104.79

[2] As determined by ECO:LOGIC
[3] Assumes that the Fee will be escalated by 3.5% each year.

The new facilities will add approximately 3.3 million gallons of additional capacity. If the total cost is divided by the additional capacity, the resulting cost per treated gallon is estimated at $35.17.

One EDU is assumed to use approximately 192 gallons per day of sewer flow. Therefore, the cost per EDU is calculated at $35.17 * 192 to equal $6,752 per EDU.

SEWER LATERAL INSTALLATION COST

Table 6 shows the City's estimated cost for installing a sewer lateral connection. This cost is included in the fee amount. It includes both the capital cost and the labor cost for the sewer lateral installation.

Table 6
City of Live Oak
Sewer Connection Fee Analysis **DRAFT**
Cost of Installation for a 4-inch Lateral

	Hours	Cost/Hour	Cost
Piping[(1)]			$400.00
Tapping Saddle			$100.00
Wye			$260.00
Cleanout Lid and Concrete			$30.97
Subtotal			$790.97
Labor	8	$80.00	$640.00
Total			$1,430.97
Total Rounded			$1,431.00

Notes:
(1) Assume 20 LF of piping and $10/in LF unit cost

These three cost components are added together to compute the 2009 Sewer Connection Fee as shown in Table 1 above.

OTHER RECOMMENDATIONS

It is recommended that the City establish in its ordinance, at the time of fee adoption, the ability to increase the fee by 3.5% annually, at a minimum. The annual increase could also be linked to consumer price index (CPI) or the ENR Construction Cost Index.

This is particularly important if the City does plan to move forward with financing any of the CIP projects. If the fee is inflated annually, then the City should be able to recuperate the majority of the financing costs over time. The annual adjustment will also allow the City to stay current as the actual costs of the sewer lateral installation will likely increase over time.

The City should also consider reviewing and updating the fee analysis every three years, particularly since at this time the construction timing of the projects are unknown.