# Regional Wastewater System Financial Assessment Technical Memorandum

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| To: | Sarpy County |
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| CC: | File |
| Project: | Southern Sarpy County Wastewater Study – Phase IB |
| Subject: | Regional Wastewater System Preliminary Financial Assessment |
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This Technical Memorandum reviews the preliminary financial feasibility of a regional wastewater system. The preliminary financial feasibility is intended to provide, at a preliminary level, the financial feasibility of regionalization and identification of the major considerations associated with the funding of a regional entity. This preliminary financial feasibility, on its own, is not a go/no go decision. Rather, it should identify any potential financial fatal flaws and provide possible alternative funding solutions.

This Technical Memorandum follows the general approach used to review this area. The Technical Memorandum is organized as follows:

- Review of the key objectives
- Summary findings and conclusions
- Review of the regionalization scenario evaluated
- Source of the major inputs used in the financial assessment
- Development of the financial assessment model
- Summary of the key assumptions
- HDR's key observations
- Assessment of the financial benefit of funding alternatives
- Review of the revised financial feasibility analysis
- Summary conclusions
- Next steps - financial

The following Attachments provide supporting information:

- Attachment A – Initial Financial Feasibility Analysis
- Attachment B – Revised Financial Feasibility Analysis

## Key Objectives

This Technical Memorandum documents the process used to develop a preliminary financial feasibility analysis of regionalization. The feasibility study is viewed at a combined overall regional level, and did not evaluate individual community impacts. The key objectives for this study were as follows:

- Review and analyze at a preliminary level the financial feasibility of regionalization and identify major considerations associated with the funding of a regional entity.
- Identify funding levels through time from some combination of regional rates and regional capital payments
- Analyze and evaluate a set of regional rates and/or capital payments, not individual stakeholder assessed.[1]

The preliminary financial feasibility conducted herein, on its own, should not be considered a "go/no go" decision. As will be seen, a combination of funding sources will likely be required in order to provide adequate and reliable funding. Additional stakeholder discussion and community input will likely be required to ascertain from the various parties their willingness to consider and accept these various funding solutions. While this preliminary feasibility study of regionalization may indicate a possible financial solution, the provided solution may need to be revisited in order to be a politically acceptable solution for the region.

## Summary Findings and Conclusions

The key objectives in conducting this financial feasibility assessment were to identify the major financial and rate considerations and challenges associated with regionalization. The regional system will be paid from a combination of regional rates, capital payments/connection fees and any other funding sources. The financial feasibility assessment was designed to analyze and evaluate the needed regional rates and/or capital payments to support regionalization. At this point, the feasibility analysis has evaluated these issues on a system-wide basis and not at an individual stakeholder level.

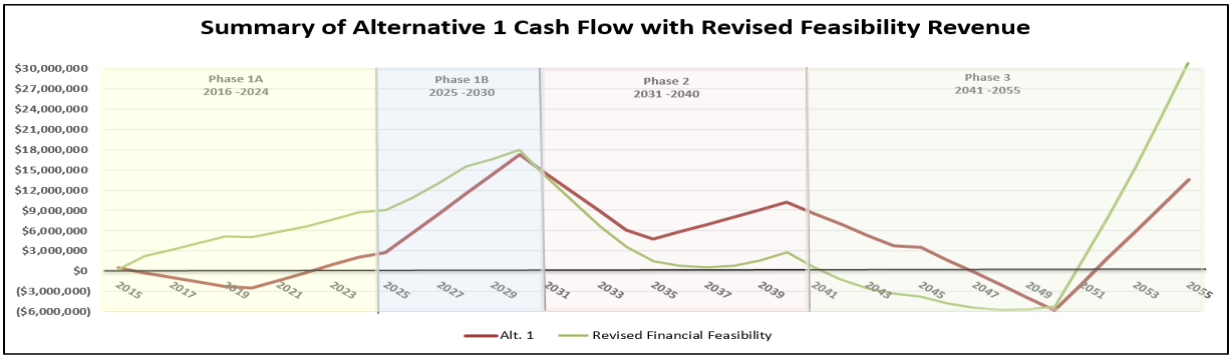
Prior to this financial feasibility analysis, a number of alternatives for regionalization have been explored. This analysis reviewed the current preferred alternative, generally described as the expansion of the existing Springfield WWTF (for Buffalo Creek, Springfield Creek and Zweibel Creek basins).

The financial feasibility analysis initially assumed that the capital infrastructure costs would be paid for via capital payment/connection fees and the annual operating costs would be paid for through user rates. In developing this funding alternative, the results indicated a number of issues and concerns. The initial calculated connection fees appeared to be significantly high and the annual user rates were also high in the initial years, but very reasonable as more customers are connected to the system. The

[1] The preliminary financial feasibility is the first checkpoint for overall financial feasibility. <u>If feasible at an overall regional level</u>, additional analyses and stakeholder discussions will be needed to refine the plan at a regional and individual community level.

feasibility analysis concluded that there was a need for a "cash infusion" in the initial years as customers are connecting to the system. In addition, there is a need for a reliable, non-growth related third revenue source. The "cash infusion" can take the form of a grant and the reliable, non-growth related revenue source may be provided by some combination of funding from a dedicated sales tax, property tax or a rate surcharge placed upon existing sewer rates.

Given the above conclusion concerning the initial funding plan, an alternative funding scenario was developed which assumed a capital payment/connection fee of $3,500/equivalent dwelling unit, a monthly user fee of $35, a $10 million grant in the initial years for a "cash infusion", and $1.3 million/year for 20 years from a reliable, non-growth related third funding source. Shown below is a graphical summary of the cash flow/fund balance for the original feasibility analysis (red line) compared to the revised financial feasibility analysis (green line).



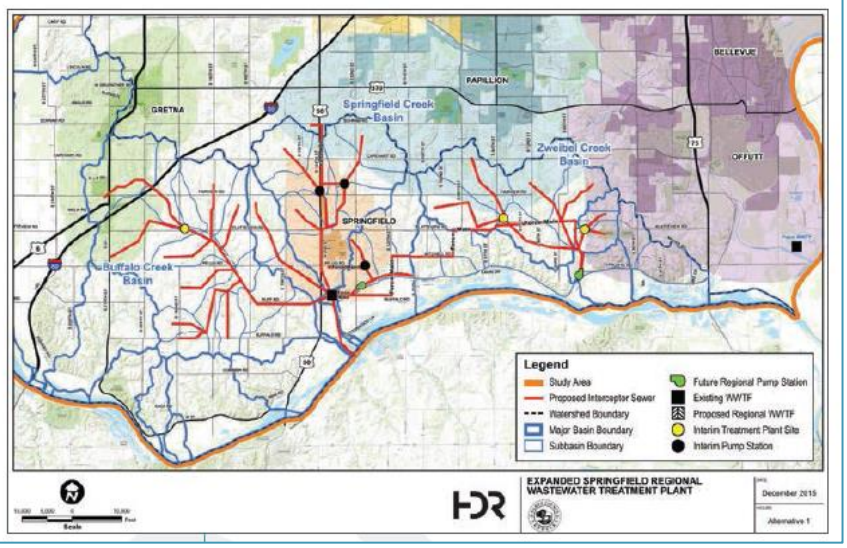

The combination of these funding sources indicates adequate fund balances and cash flow through Phase 2 (2040). For Phase 3, the Regional system would need to evaluate their financial options and could renew the third funding source or adjust upward the capital payment/connection fees to support Phase 3.

In summary, the feasibility analysis indicated that regionalization can be financially feasible but needs a grant and some form of a reliable third funding source. Each of these do not seem insurmountable to regionalization and there are various combinations of these inputs that would seem to provide a regionalization scenario which is financially feasible and politically achievable.

## Review of the Regionalization Scenario Evaluated

HDR, as a part of the overall regionalization study, has evaluated a number of different alternatives for delivery of regional wastewater service. These alternatives are discussed in more detail in the Platte River Regional Wastewater System Refinement Technical Memorandum and the Regional Wastewater Treatment Alternatives Technical Memorandum. Following review of the alternatives, Alternative 1 was

| BASELINE CONCEPT SUMMARIZED STATISTICS | |
|---|---|
| **Parameter** | **Value** |
| Location of Regional Wastewater Treatment | Expanded Springfield WWTF |
| Capacity of Regional WWTF/ Expanded WWTF | 9.9 MGD |
| Anticipated No. of Phases for Implementation | 4 (Phases 1A, 1B, 2, 3) |
| No. of Interim Satellite WWTF/Existing Facility Expansions | 4 |
| No. of Pump Stations | 5 |
| Approximate Linear Footage of Force Main | 80,000 |
| Approximate Linear Footage of Interceptor Sewer | 275,000 |
| Approximate Linear Footage of Outfall Sewer | 11,000 |




selected as the preferred alternative. This alternative has been described as the expansion of the existing Springfield WWTF (for Buffalo Creek, Springfield Creek and Zweibel Creek basins). The initial planning and feasibility review of this alternative provided a number of key assumptions useful for this analysis. These key assumptions included the assumed growth on the regional system, the capital costs of the improvements and the annual O&M costs. To remain consistent with the original evaluation of this alternative, the preliminary financial feasibility study carried these planning level estimates forward.

This preliminary financial feasibility analysis did not review the other regionalization alternatives. For purposes of this study, only Alternative 1 was reviewed to determine the preliminary financial feasibility. The financial model developed as a part of this study provides the capability to review other alternatives should there be interest in exploring another alternative.

## Source of the Major Inputs Used in the Financial Assessment

As noted above, this preliminary financial feasibility assessment is being undertaken after much of the preliminary engineering and planning evaluation has been completed. The prior regionalization efforts have identified a preferred alternative, but more importantly provided to this portion of the regionalization assessment a number of key assumptions. More specifically, among the key assumptions previously developed in the engineering and planning evaluation phases of this study included the following:

- Estimates of the amount of growth and potential new connections by year (acres and developable acres).
- Estimates of the total capital infrastructure costs, by development phase (i.e., amount and timing of the capital infrastructure expenditure).
- Estimates of the annual O&M costs.

While the above information provided the key inputs of new connections, capital costs and O&M costs, a number of additional assumptions or refinements to those assumptions were needed. For example, the initial planning study estimated the annual O&M costs at the full operation of the regional wastewater treatment facility. As the plant is brought on-line and additional customers added, the annual operating cost would be expected to eventually reach the planning study's cost estimate. However, since O&M is a function of both fixed and variable costs, in the initial years, a slightly lower annual O&M cost may be expected due to fewer connections and lower variable costs being incurred. This study took the original O&M cost estimate and attempted to estimate or better reflect the way that these O&M costs will likely be incurred over time. This is a simple example of how some of the initial planning data was refined for purposes of the preliminary financial feasibility analysis, but it does highlight that certain additional assumptions were needed within this study. A more detailed discussion of the key assumptions is provided later in this technical memorandum.

## Development of the Financial Assessment Model

As a part of this study, a financial assessment model was developed specifically for this regionalization evaluation. The model developed was an Excel™-based model and was designed to evaluate the total costs of regionalization over an extended time period. In the development of the model, the capital costs were separately analyzed from the annual O&M expenditures.

In the development of the model, an initial key assumption used for regionalization was that capital costs and the debt associated with it would be paid via a connection fee (i.e. a capital payment fee) and the operating costs would be paid via user rates. Hence, the need to segregate and analyze the capital costs from the annual O&M costs. The capital costs would be evaluated and then stated as a capital payment/connection fee (e.g. $/equivalent dwelling unit or $/acre) and the operating costs would be separately evaluated and stated as a user rate in $/1,000 gallons.

The model was also developed to evaluate and analyze costs over an extended time period. In this case, the model is capable of evaluating costs over a time period of 2016 – 2062, or through the Phase 3 time period. It should be noted that Phase 2 is assumed to begin in 2031 and go through 2040. For purposes of this evaluation, the capital and O&M costs were evaluated over the entire time frame of 2016 – 2062.

The final important element of the model is how the time value of money is handled within this model. The model is capable of evaluating costs in both constant and inflated dollars. This study has utilized constant dollars. This choice was consciously made primarily for two reasons. First, the capital and O&M cost estimates from the preliminary engineering and planning studies was provided in current

(constant) dollars. To be consistent with those previous cost estimates they were evaluated as constant dollars. The other reason for using constant dollars is that the results of the study (e.g. potential rates) when stated in inflated dollars are more difficult to comprehend and understand. For example, a current customer bill of $35.00/month, when inflated over a 20 year period at 3% is equal to approximately $61/month. In current dollars, when discounted, the $61 is equal to the current $35 dollars.[2] To avoid confusion, when using inflated dollars in an analysis, they are often discounted back to current dollars to provide stakeholders with an appropriate perspective and understanding of the potential impacts to customers.

The key outputs of the model are stated at a regional level and not at an individual community level. The key outputs of the model include the following:

- Summary of acres, developable acres, equivalent dwelling units (EDUs)[3] and estimated wastewater flows (1,000 gallons).
- Summary of the capital expenditures by phase and by year, and the amount of capital expenditures funded from long-term debt and the associated annual debt service payments.
- Summary of the annual cash flow needs (i.e. revenue requirements) for debt service and O&M.
- Overall annual O&M costs, by year, stated in $/1,000 gallons.
- Regional treatment rates in comparison to current local treatment costs ($/1,000 gallons)
- Potential monthly bill impacts to a typical residential customer (i.e. an assumed average residential customer within the region)
- Projected regional capital payments (i.e., connection fees in $/EDU) in comparison to current local connection fees (by local community)

The key outputs are intended to provide a simple measurement of three important and very basic parameters for regionalization. These three basic parameters are the overall cash flow of regionalization, the level of the resulting capital/connection fee and finally, the level of the annual O&M rate. Cash flow is simply the ability to pay the bills as they become due and to maintain adequate cash working capital reserve balances. The “bills” to be paid by the regional entity includes the annual debt service payments and the annual operating costs. To meet cash flow requirements the regional entity will need to have sufficient revenue from capital payment/connection fees and user rates. These projected capital payment/connection fees and user rates need to be compared to the existing connection fees[4] and user rates to gain some sense or perspective as to the cost competitiveness of

[2] This is a very simplistic discussion and the example is intended to provide a very simple illustration of the concepts of inflated and discounted dollars.
[3] An equivalent dwelling unit or EDU is a common approach used by wastewater utilities to place customers with differing demands on an equivalency basis. One (1) EDU is generally defined as the usage of an average residential customer (e.g., 6,000 gallons per month). A commercial customer with a projected usage of 18,000 gallons/month would be equal to 3 EDUs (18,000 ÷ 6,000 = 3 EDUs). The concept of an EDU may also be referred to as an equivalent residential unit or ERU.
[4] These may also be referred to as general facility charges.

regionalization compared to current connection fees and user rates. If there is negative cash flow and/or the calculated connection fees and user rates are too high, then regionalization may require additional outside funding sources to address the financial/rate issue. The model, as developed, contains the capability to consider and incorporate into the feasibility analysis funding sources other than strictly connection fees and user rates.

## Summary of the Key Assumptions

A financial feasibility assessment developed herein utilized a number of detailed assumptions. As noted previously, a number of these key assumptions were taken directly from the Platte River Regional Wastewater System Refinement Technical Memorandum and the Regional Wastewater Treatment Alternatives Technical Memorandum. In other cases, HDR needed to refine the assumption to fit the financial feasibility analysis. Provided below is a discussion and summary of the key assumptions used within the initial screening of the regional financial feasibility analysis.

- The timing and amount of capital investment were derived from the prior Technical Memoranda. The total capital investment, through Phase 3 is approximately $219 million. The size and timing of these investments are summarized in the table to the right.

| Year | | Phase Completion | Capital Expenditure | Total Capital Expenditure |
|---|---|---|---|---|
| 2016 | Phase 1A | 10% | $2,260,361 | |
| 2017 | | 40% | 9,041,443 | |
| 2018 | | 40% | 9,041,443 | |
| 2019 | | 10% | 2,260,361 | $22,603,608 |
| 2025 | Phase 1B | 10% | $2,848,315 | |
| 2026 | | 40% | 11,393,260 | |
| 2027 | | 40% | 11,393,260 | |
| 2028 | | 10% | 2,848,315 | $28,483,151 |
| 2031 | Phase 2 | 8% | $9,129,073 | |
| 2032 | | 28% | 31,951,756 | |
| 2033 | | 29% | 33,092,890 | |
| 2034 | | 29% | 33,092,890 | |
| 2035 | | 6% | 6,846,805 | $114,113,414 |
| 2041 | Phase 3 | 10% | $5,413,580 | |
| 2042 | | 40% | 21,654,322 | |
| 2043 | | 40% | 21,654,322 | |
| 2044 | | 10% | 5,413,580 | $54,135,804 |
| | Grand Total Capital Expenditures | | | $219,335,977 |

- The total acres and developable acres were established from the prior Technical Memoranda. The total number of acres, by year, was used to ultimately derive an estimate of the annual equivalent dwelling units (EDUs) or new connections to the regional system. To make this conversion, the following assumptions from the prior Technical Memoranda were also utilized:
  - A ratio of 60% developable acre to a total acre
  - There are 5 dwelling units per developable acre

| Year | Phase | Total Acres | Total Develop. Acres | Populat. | Yearly EDUs | Cumul. EDUs |
|---|---|---|---|---|---|---|
| 2020 | Phase 1A | 48.6 | 29.5 | 362 | 148 | 513 |
| 2025 | Phase 1B | 170.4 | 103.5 | 1,269 | 518 | 2,507 |
| 2030 | | 292.7 | 177.8 | 2,175 | 889 | 6,948 |
| 2035 | Phase 2 | 366.2 | 222.5 | 2,718 | 1,112 | 11,619 |
| 2036 | | 439.4 | 266.9 | 3,262 | 1,335 | 12,954 |
| 2040 | | 439.7 | 267.1 | 3,262 | 1,335 | 18,295 |
| 2045 | Phase 3 | 439.9 | 267.2 | 3,262 | 1,336 | 24,974 |
| 2050 | | 350.8 | 213.1 | 2,560 | 1,066 | 30,297 |
| 2055 | | 351.4 | 213.5 | 2,560 | 1,067 | 35,631 |
| | TOTAL | 11,730 | 7,126 | 86,674 | 35,631 | |

- To project annual flows of wastewater, stated in 1,000 gallons, the prior Technical Memoranda provided the estimated number of persons per dwelling unit (2.7 persons per dwelling unit), along with the estimated maximum monthly flow stated in gallons per capita per day (gpcd). Within the prior Technical Memoranda, the maximum monthly flow was estimated at 100 gpcd. The maximum monthly flow of 100 gpcd is the high flow during the highest flow month, generally resulting from wet weather and associated infiltration and inflow. The 100 gpcd is not an average flow estimate. For purposes of estimating average annual flow, the 100 gpcd was set at 80% or an average monthly flow of 80 gpcd. Given a number of persons per household, an average gpcd flow and the number of total EDU's by year, the total annual flow could be estimated for each year. While the maximum month flow is more useful for sizing facilities, the average annual flow of wastewater is ultimately used to develop a usage rate, stated in $/1,000 gallons.

| Year | Phase | Cumul. EDUs | Average Annual Flow per 1,000 gallons |
|---|---|---|---|
| 2020 | Phase 1A | 513 | 41,499 |
| 2025 | Phase 1B | 2,507 | 202,892 |
| 2030 | | 6,948 | 562,309 |
| 2035 | Phase 2 | 11,619 | 940,376 |
| 2036 | | 12,954 | 1,048,385 |
| 2040 | | 18,295 | 1,480,608 |
| 2045 | Phase 3 | 24,974 | 2,021,176 |
| 2050 | | 30,297 | 2,452,019 |
| 2055 | | 35,631 | 2,883,652 |

- Given the amount and timing of the capital costs, certain assumptions needed to be made concerning the funding/financing of the capital costs. As noted above, there is an estimated $219 million in capital costs to be funded and financed over the next 30 years or so. For purposes of the initial review of the financial feasibility, the following assumptions were utilized:
    - Assumed no grants from outside parties. The initial run or scenario of the financial feasibility analysis should be the least optimistic in terms of obtaining outside grants. This assumption does not presume that grants are not available or obtainable, but rather, simply provides the most conservative assumption regarding grants from a financial funding and feasibility analysis perspective.
    - All capital costs are assumed to be borrowed via long-term debt. The source of the borrowing and long-term debt is not specified (e.g. a revenue bond, low-interest loans, G.O. bond, etc.).
    - The debt service payments associated with the long-term borrowing are assumed to be fully repaid from the regional utility. No additional outside funding to repay debt (e.g. sales tax revenue, property tax revenue, etc.) is assumed in the initial feasibility analysis.
    - The debt service payments are assumed to be paid from new customers connecting to the system.
    - No interest is assumed on the debt. This is consistent with using constant dollars for the capital and O&M estimates. The feasibility analysis states the capital/connection

fee in constant dollars, but in actual practice, the capital/connection fees should be annually adjusted for the time value of money[5]. This adjustment for the time value of money within the capital/connection fees will be directed and applied towards interest payments.

- The borrowing for capital projects ($219 million) are converted to annual debt service payments based upon the timing of when each phase is constructed. For purposes of this preliminary financial feasibility analysis, it was assumed that the debt had a 20 year repayment period and consisted of uniform payments for the particular debt issue. No structuring of the debt was assumed.[6]
- The annual debt service payments were converted to a $/EDU capital payment/connection fee based upon the previously projected total EDUs. As calculated, the $/EDU fee assumes a shared debt cost. Stated another way, this means that all regional customers connecting to the system will pay for the built-out regional system regardless of when they connect to the system.

Provided in the table below is a summary of the debt service payments and the revenue to be derived from the regional capital payment (connection fee). As can be seen, the total regional capital payment revenues are equal to the total debt payments. This occurs because the total regional capital payment is derived based upon the total debt costs and set at $6,156/EDU.

| Year | Phase | Debt Service Payment | Yearly EDUs | Total Regional Capital Payment $/EDU | Total Regional Capital Payment Revenues |
|---|---|---|---|---|---|
| 2020 | Phase 1A | $1,130,180 | 148 | $6,156 | $908,376 |
| 2025 | Phase 1B | 2,554,338 | 518 | 6,156 | 3,186,841 |
| 2030 | | 2,554,338 | 889 | 6,156 | 5,473,393 |
| 2035 | Phase 2 | 8,260,009 | 1,112 | 6,156 | 6,846,990 |
| 2036 | | 7,129,828 | 1,335 | 6,156 | 8,215,335 |
| 2040 | | 7,129,828 | 1,335 | 6,156 | 8,220,745 |
| 2045 | Phase 3 | 8,412,461 | 1,336 | 6,156 | 8,224,747 |
| 2050 | | 8,412,461 | 1,066 | 6,156 | 6,559,615 |
| 2055 | | 2,706,790 | 1,067 | 6,156 | 6,570,082 |
| | TOTAL | $219,335,977 | 35,631 | | $219,335,977 |

In this case, the regional capital payment has been stated as a $/EDU. As may be recalled, it was assumed that an acre contains, on average, five (5) EDUs. Therefore, if one is more conversant in thinking about such capital payments as a $/acre, then the $/EDU capital payment can be converted to a $/acre fee by simply multiplying by five (5). In this case, the $/acre capital payment/connection fee would be $30,780/acre.

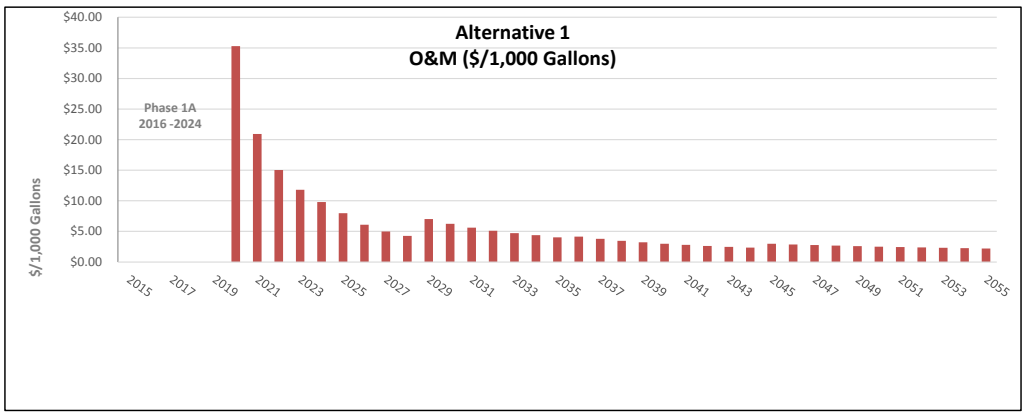
At this point, the initial feasibility analysis is not concerned with the level of, or acceptability of, the capital payment on a $/EDU basis. Rather, the basic premise of the initial financial feasibility scenario is that all debt payments on the capital infrastructure would be paid via capital payment/connection fees. The regional capital payment of $6,156/EDU, based upon the assumed future debt costs and EDUs connecting to the system, accomplishes that basic tenet.

[5] This adjustment is typically made using the Engineering News Record Construction Cost Index (ENR-CCI).
[6] HDR is not registered as a Municipal Advisor as defined by the Securities and Exchange Commission and HDR is not providing "advice" as defined by the SEC related to the size, timing, terms and conditions of a debt issue. An engineering financial feasibility study is exempt for the Municipal Advisory rule.

Certain assumptions also needed to be made about the annual operating costs (O&M). The engineering study developed for regionalization provided estimates of the annual operating costs for each phase and at build-out. As the regional system is developed, and new customers are connected to the system, a certain portion of the O&M costs will be related to the number of customers being served. As the system is being developed by phase, the study has assumed a certain portion of the regional O&M costs as being fixed and variable in nature. The study assumed that 80% of the regional O&M costs were of a fixed nature incurred as soon as the associated facilities are constructed and the remaining 20% were more variable in nature and dependent upon the number of service connections. Given this assumption, the variable portion of the O&M costs was adjusted by year to reflect the estimated volume of wastewater being treated.

For purposes of this initial feasibility analysis, the study has assumed that all operating costs are collected through user rates. This simply means that the annual operating costs for each year are divided by the assumed volumes for each year to derive a user rate that is stated in $/1,000 gallons. A summary of the estimated annual O&M costs and resulting rates can be seen in the table. As can be seen, as customers connect to the system, the annual flow stated in 1,000's of gallons increases. At the same time, the annual O&M expenses also increase. As previously discussed, these O&M costs were estimated as a part of the prior engineering and planning analysis for this alternative. The user rate shown, stated in $/1,000 gallons[7], provides an understanding of the dynamics of growth and expansion on the regional system. As shown, the per unit rate in Phase 1A is exceptionally high. However, as additional customers connect to the system, the per unit rate reduces rather quickly and significantly.

| Year | Phase | Annual Flow per 1,000 gallons | Cumulative EDUs | Annual O&M | $/1,000 Gallons | $/EDU |
|---|---|---|---|---|---|---|
| **2020** | **Phase 1A** | 41,499 | 513 | $1,464,814 | $35.30 | $2,857 |
| **2025** | **Phase 1B** | 202,892 | 2,507 | 1,615,415 | 7.96 | 644 |
| **2030** | | 562,309 | 6,948 | 3,500,487 | 6.23 | 504 |
| **2035** | **Phase 2** | 940,376 | 11,619 | 3,791,498 | 4.03 | 326 |
| **2036** | | 1,048,385 | 12,954 | 4,351,327 | 4.15 | 336 |
| **2040** | | 1,480,608 | 18,295 | 4,411,840 | 2.98 | 241 |
| **2045** | **Phase 3** | 2,021,176 | 24,974 | 5,994,625 | 2.97 | 240 |
| **2050** | | 2,452,019 | 30,297 | 6,158,974 | 2.51 | 203 |
| **2055** | | 2,883,652 | 35,631 | 6,323,625 | 2.19 | 177 |
| **TOTAL** | | | | **$147,147,931** | | |




[7] 7.48 gallons = 1 cubic foot of water. 1,000 gallons of water = 133.68 cubic feet of water.
133.68 cubic feet of water = 1.33 hundred cubic feet (CCF) of water.

The $/EDU rate is simply the annual O&M cost divided by the number of EDU's in any particular year. This also illustrates the exceptionally high rate for O&M in the Phase 1A portion of regionalization. The initial rate as shown in 2020 produces an annual bill of $2,857/EDU or a monthly bill of approximately $238/month. This level of a user rate in 2020 is clearly not feasible. However, as time goes on the annual user rate to pay for O&M is as low as $177/EDU or $14.75/month. This seems to clearly indicate that regionalization can be very cost effective if sufficient customers are connected to the system.

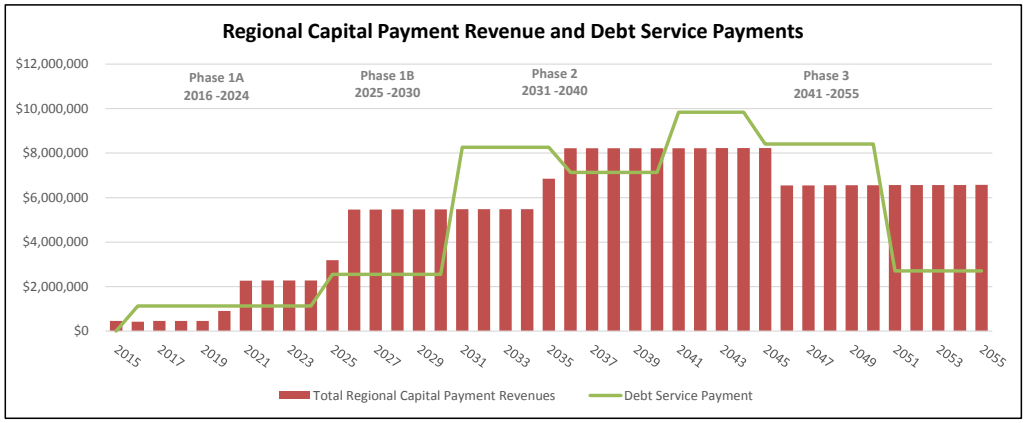
Given the above calculations, the results can be summarized.

## Summary of the Initial Financial Feasibility Assessment

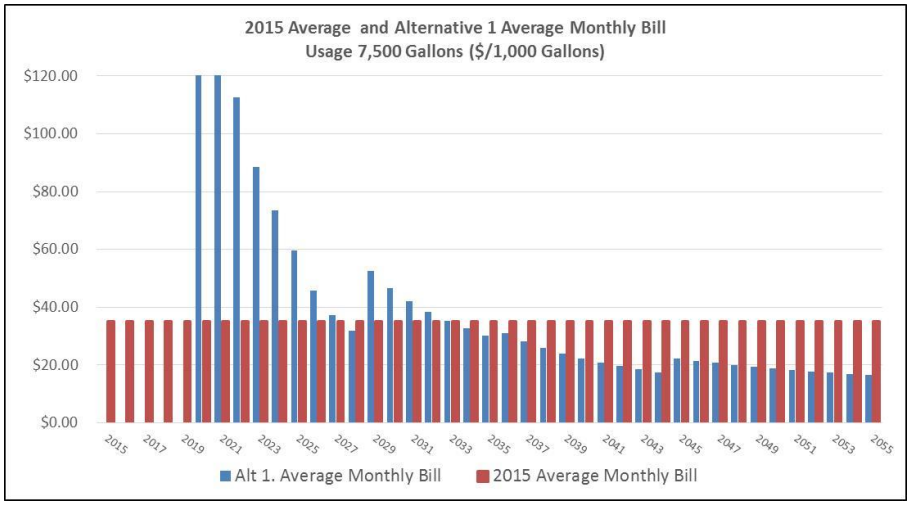
The key assumptions discussed above were analyzed within the financial feasibility model and capital payment/connection fees and user rates were calculated. The intent of the analysis was to generate a sufficient level of revenue to cover both the capital and operating costs. While the calculated capital payment/connection fee and user rates generated sufficient revenue, an important perspective in the financial feasibility is related to cash flow and fund balance. The results from both of these perspectives are summarized in the table to the right. As can be seen in this table, it is summarized by phases and segregated between capital and O&M. In viewing the capital costs and revenues from capital payment/connection fees ($6,156/EDU), the total revenue generated is equal to the total debt service cost through Phase 3 (i.e., $219 M). However, the cash flow varies from year to year and in certain years there is a surplus of revenue from capital payment/connection fees, and in other years there are deficiencies between the revenues collected and the payments made which leads to negative fund balances. In contrast to this, the revenue derived from O&M user rates is exactly equal to the annual O&M costs for each year. This occurs simply because user rate was determined by taking the total O&M cost in any year and dividing by the corresponding volume sales in that year. While that meets the cash flow requirements of the regional utility, as was observed and noted previously, it produces user rates which are too high and unacceptable in the Phase 1A time period (i.e. initial startup of regionalization).

| | | CAPITAL | | | O&M | | |
|---|---|---|---|---|---|---|---|
| Year | Phase | Total Debt Service | Total Regional Capital Payment Revenue | Cash Flow +/- | Total O&M | Total Rate Revenue | Cash Flow +/- |
| 2020 | Phase 1A | $1,130,180 | $908,376 | (221,804) | $1,464,814 | $1,464,814 | $0 |
| 2025 | Phase 1B | 2,554,338 | 3,186,841 | 632,503 | 1,615,415 | 1,615,415 | 0 |
| 2030 | | 2,554,338 | 5,473,393 | 2,919,055 | 3,500,487 | 3,500,487 | 0 |
| 2035 | Phase 2 | 8,260,009 | 6,846,990 | (1,413,019) | 3,791,498 | 3,791,498 | 0 |
| 2036 | | 7,129,828 | 8,215,335 | 1,085,506 | 4,351,327 | 4,351,327 | 0 |
| 2040 | | 7,129,828 | 8,220,745 | 1,090,916 | 4,411,840 | 4,411,840 | 0 |
| 2045 | Phase 3 | 8,412,461 | 8,224,747 | (187,714) | 5,994,625 | 5,994,625 | 0 |
| 2050 | | 8,412,461 | 6,559,615 | (1,852,846) | 6,158,974 | 6,158,974 | 0 |
| 2055 | | 2,706,790 | 6,570,082 | 3,863,291 | 6,323,625 | 6,323,625 | 0 |
| TOTAL | | $219,335,977 | $219,335,977 | ($0) | $147,147,931 | $147,147,931 | $0 |

The cash flow issues shown in the table above can also be illustrated in graphical form. Shown below is a comparison of the total regional capital (debt service) payments [green line] compared to the total revenues derived regional capital payment/connection fees [red bars]. As can be seen in the graph, during the initial years of regionalization the debt service payments are greater than the revenues collected from the capital payment/connection fees. As regionalization and customer growth occurs, there are periods where the revenues derived from capital payment/connection fees exceed the annual debt service payments. This balance of funds can be placed in cash reserves and used at a later date to make debt service payments when the debt service payments exceed the revenues being derived in that particular year. The Phase 1B period illustrates this situation. When Phase 2 occurs, debt service payments increase significantly to pay for the construction and the revenues derived during that period from capital payment/connection fees are less than debt payments. The prior balance of funds is used to make up that difference. The same cash flow issues continue into Phase 3. This graph simply illustrates the cash-flow challenges posed by regionalization and the dependence upon growth-dependent capital payment/connection fees for repayment of the debt



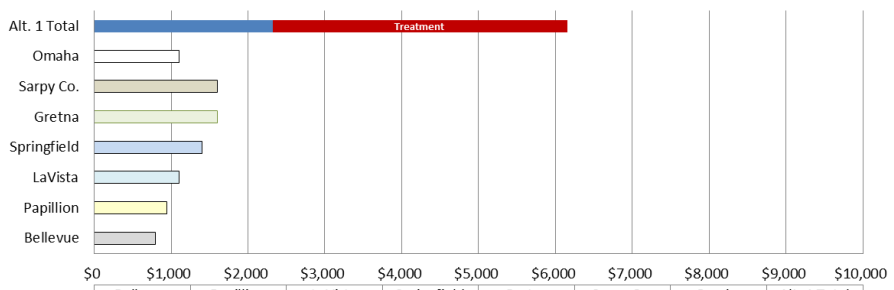

Another perspective to summarize financial feasibility of regionalization is to compare the rates derived within this feasibility scenario to the current typical sewer rates. At the present time, a typical or average bill for the stakeholder communities may be in the range of roughly $35.00 per month. The graphic compares the current or typical bill (red bars) to the calculated user rates derived from the scenario (blue bars). Not surprisingly, in the initial years of regionalization, the calculated user rates are exceptionally high and not acceptable or feasible. However, as noted previously in the O&M discussion, as more customers connect to the regional system, the per



unit cost of the user rates decline on a per unit basis and become very reasonable and affordable. One of the reasons why the regional rates appear to be less than the current rates in later years is that the calculated regional rates include only O&M costs and no capital costs. By comparison, the current user rates charged to retail customers includes both O&M and capital costs within the user rates.

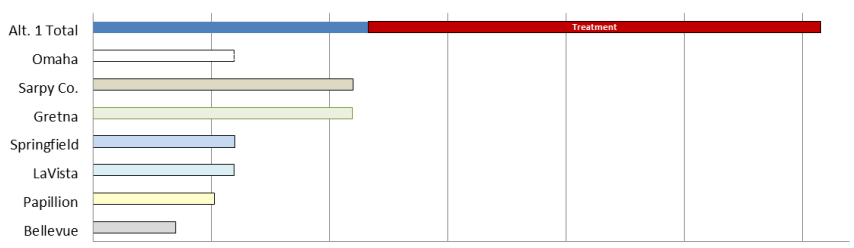
The final comparison which may be helpful to place regionalization in perspective is the level of the capital payment/connection fees calculated within the study. As was noted within the capital costs/debt service discussion, the calculated capital payment/connection fee for regionalization would be $6,156/EDU. This amount is composed of infrastructure related to both regional collection and treatment facilities. The $6,156/EDU was divided into $2,326/EDU for collection facilities (blue bar) and $3,830/EDU for treatment facilities (red bar). These segregated amounts are based upon a review of the capital investments within the regionalization alternative.

The graph below illustrates the regionalization capital payment/connection fees on a dollar per EDU basis compared to other local residential general facility charges (i.e. connection fees). While regionalization appears to be exceedingly higher than the current residential general facility charges of the various stakeholders, the current general facility charges are related to collection system costs only. Current customer's capital costs for treatment are paid for through rates. Given that, the calculated regional capital payment/connection fee must be compared on a segregated basis. As noted above, the collection system portion of regionalization is approximately $2,326/EDU. While this is somewhat higher than the other local community's current general facility charges, it is not exceedingly high or unreasonable given that it reflects current costs of construction. Overall, the calculated capital payment/connection fee of $6,156/EDU for regionalization is exceptionally high when compared to the other general facility charges within the region. Finally, to help place this fee in context of a dollar per acre cost, this study has assumed five EDU's per developable acre. That implies that the capital payment/connection fees for an acre would be approximately $30,780 (5 x $6,156).




| | Bellevue | Papillion | LaVista | Springfield | Gretna | Sarpy Co. | Omaha | Alt. 1 Total |
|---|---|---|---|---|---|---|---|---|
| Collection | $800 | $947 | $1,100 | $1,400 | $1,600 | $1,600 | $1,100 | $2,326 |
| Treatment | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $3,830 |
| TOTAL | $800 | $947 | $1,100 | $1,400 | $1,600 | $1,600 | $1,100 | $6,156 |

A similar graph was developed for commercial and industrial customers. For these customers, the capital payment/connection fees have been stated in a dollar per acre comparison. The graph looks nearly identical to the residential graph. The regionalization capital payment/connection fees appear to be excessively high and not feasible. However, similar to the residential graph, the regionalization alternative includes both collection (blue bar) and treatment costs (red bar), and the stakeholder general facility charges include only collection system costs. Current customer's capital costs for treatment are paid for through rates.




| | Bellevue | Papillion | LaVista | Springfield | Gretna | Sarpy Co. | Omaha | Alt. 1 Total |
|---|---|---|---|---|---|---|---|---|
| Collection | $3,500 | $5,142 | $5,973 | $6,000 | $10,968 | $11,000 | $5,973 | $11,631 |
| Treatment | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $19,150 |
| TOTAL | $3,500 | $5,142 | $5,973 | $6,000 | $10,968 | $11,000 | $5,973 | $30,780 |

## Key Observations

Based upon the initial analysis, regionalization appears to be financially feasible but the initial funding plan is problematic. The problems with initial funding plan are as follows:

- The regional plan is "cash poor" in that there are no working capital cash reserves to begin with.
- Repayment of outstanding debt is dependent upon growth-related revenues. Sole reliance upon growth-related revenues will make it difficult, if not impossible, to obtain funding for regionalization. This is particularly true if revenue bond funding is utilized.
- The initial capital payment/connection fees are high. It may be difficult to implement that level of fees and the development community will likely object to the level of the calculated fees (i.e. $6,156/EDU; $30,780/acre).
- The initial O&M user rate is prohibitively high, particularly during Phase 1A. However with development and over time the usage rate becomes very affordable.
- There also is the potential problem of the establishment of, or need for, "old" and "new" customer rates. This refers to a utility having two sets of rates; one set of rates for the existing customers and the other set of rates for the new regional customers. This would be administratively difficult for many utilities and potentially confusing for customers. There could also be a perception of inequity by the customers between the two sets of rates. Ideally and preferably, a local utility would have one set of rates for their existing and new regionalization customers.

As can be seen from the above list, there are a number of issues that need to be addressed in the regionalization financial feasibility analysis in order to make it both financially feasible and politically acceptable.

## Assessment of the Financial Benefit of Funding Alternatives

To help address the issues noted above, there are a number of different potential solutions or funding alternatives. The solutions appear to revolve around the need for a "cash infusion" to provide working capital along with the need for a third funding source which is reliable (i.e. non-growth related). A cash infusion would provide the cushion of working capital needed to handle certain cash flow issues. A reliable non-growth dependent third funding source would provide a more secure funding source for repayment of the debt and help to "buy down" the high initial user rates. Among the alternatives to accomplish this are the following:

- To address the issue of the need for a "cash infusion" or cash working capital, a major grant would provide immediate working capital. The grant could be used for working capital or to also offset the upfront capital costs of Phase 1A. The most likely source for a grant would be the State of Nebraska. Other grants may also be available and will need to be explored.
- A reliable and non-growth related third funding source (in addition to capital payment/connection fees and user rates) could be provided by the imposition of a modest sales tax and/or property tax levy. Both of these funding sources would likely need to be voter approved.[8]

The initial financial feasibility analysis did not consider (include) these potential alternative funding sources. The initial financial feasibility analysis viewed regionalization on a financial "stand-alone" basis in which only the rates and fees derived from new customers would be applied to the regional system. Given these alternative funding sources, the initial financial feasibility analysis was rerun to determine the potential financial impacts and benefits from these alternative funding sources.

**Grants** - The first area that was explored in more detail was the use of a grant. A grant provides an immediate "cash infusion" to the regional system and can be used for cash flow purposes or to offset the initial capital costs of the regional system and thereby minimize the initial debt service payments of the regional system. A key question would be the basis or benefit of providing a grant to the regional system. As this entire regionalization study has demonstrated, there are significant benefits to the County, region and the State from regionalization. Primarily, regionalization allows for development to stay within the County, region and the state. All parties would be positioned for economic development

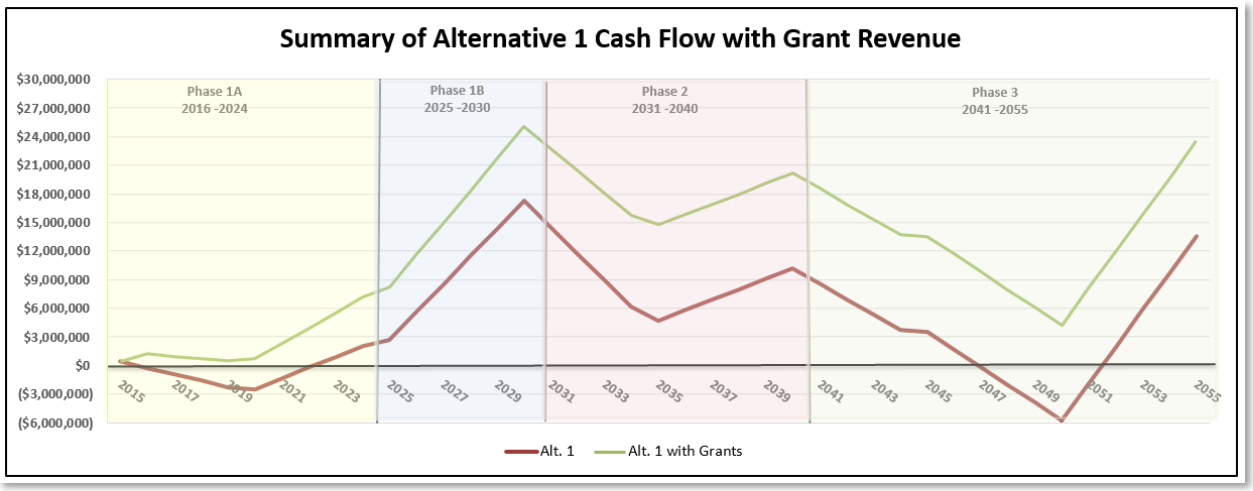
[8] Another reliable and non-growth related funding source would be a rate increase or surcharge applied to the existing sewer customers and dedicated for regional wastewater. While this Technical Memorandum has not explored this alternative it was screened at a high level and a 10% adjustment to existing rate revenues would provide approximately $1.0 million in revenue.

and corporate investment. Absent regionalization and wastewater capacity in Southern Sarpy County, growth and jobs may go elsewhere.

Growth within the County provides the added benefit of additional property and sales tax revenues. South of the Ridgeline growth is estimated to generate ***incremental revenue on the order of***:

- $15 million per year sales tax revenue for Sarpy County cities
- $45 million per year sales tax revenue for the State of Nebraska
- $19 million per year property tax revenue for Sarpy County cities
- $21 million per year property tax revenue for Sarpy County government

To assess the financial impact of a grant, certain assumptions were made about obtaining a grant. In this case, a $10.0 million grant is assumed during Phase 1A. Of this $10.0 million, $1.0 million of the grant would be placed in cash reserves to be used to handle working capital needs. The remaining $9.0 million would be used to offset the initial Phase 1A capital costs of approximately $22.6 million. Provided below is a graphical comparison of the annual cash flow between the initial financial feasibility analysis and the initial financial feasibility with the addition of a $10.0 million grant in Phase 1A.




As can be seen, the initial financial feasibility on a cash flow (ending fund balance) basis has certain time periods during which there are no cash reserves (red line). With the addition of a $10.0 grant (green line), the cash flow remains positive (i.e. above $0 reserves) over the entire course of the regionalization project. However, it is important to note that all other key assumptions contained within the initial base case financial feasibility analysis remain intact. This includes the capital payment/connection fees of $6,156/EDU and the high O&M usage rates during Phase 1A. While the grant has addressed the cash flow issues to a certain extent, it is not able to address the issue of the high capital payment/connection fees, high initial usage rates, and providing a reliable funding source for the repayment of the debt.

**Sales Tax** - One alternative for addressing the need for a third (reliable) funding source is the imposition of a county-wide sales tax. To implement a sales tax, there would likely need to be voter approval for an increase to the existing sales tax. There are certain advantages and disadvantages to a sales tax to fund a portion of the regional wastewater system. In summary form these include:

***Advantages:***

- Relatively stable source of income
- Minimal financial impact to consumers in exchange for a major benefit to the County and its citizens in the form of growth, economic development and jobs
- A sales tax is paid over a broader base of individuals, including individuals outside of the county
- A sales tax may be used for a specific or general purpose use and implemented for a defined period, with a sunset clause

***Disadvantages:***

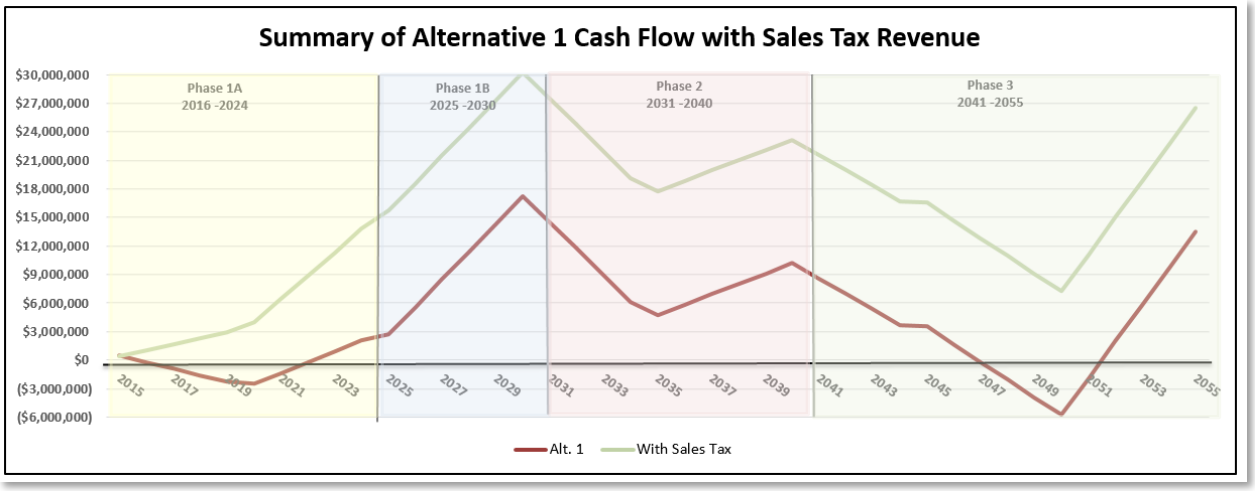
- All wastewater customers contribute (existing and future regional customers). There could be a perception that the existing customers already paid their fair share for wastewater treatment.
- A sales tax is not directly correlated to the users of the system

While there certainly are advantages and disadvantages, the key question is the financial benefits to be derived from a possible sales tax as a reliable third funding source. To assess that, certain assumptions were made about a possible sales tax. These included the following:

- A sales tax of 1/10 of 1¢ or 0.1% would be imposed for a period of 10 years.
- The sales tax is assumed to provide roughly $1.3 million annually for a period of 10 years. This is based upon the County's current annual taxable sales of approximately $1.4 billion.
- The sales tax is assumed to be within the state maximum of 7.5%. The state tax ceiling is 5.5% and the local tax ceiling is 2.0%. Currently, the local stakeholder communities have sales taxes in the range of 6.5% to 7.5% with most local communities at 7.0%; 0.5% below the defined maximum sales tax. The exception appears to be one community which is currently at the maximum of 7.5%.
- The impact to the consumer of this additional sales tax would be very minimal. On a $100 transaction, the impact would be ten cents ($0.10).

Provided below is a graphical representation, similar to that used for the grant analysis, to determine the financial impact and benefit of the addition of a sales tax. The graph below is the initial financial feasibility analysis with only the addition of a sales tax.

Similar to the results of the grant analysis, the addition of a sales tax revenue of $1.3 million per year for the first 10 years has provided a significant cash flow benefit (green line) when compared to the initial base case cash flow and fund balances (red line). In all cases, with the addition of the sales tax, the




reserves are higher and positive in all years. This is not an unexpected result. Similar to the grant analysis, this alternative assumes that all initial financial feasibility assumptions are maintained including the capital payment/connection fee of $6,156/EDU and the high initial O&M usage rates. In this analysis, the only change from the initial feasibility analysis is the addition of the property tax revenue.

**Property Taxes:** Another reliable third funding source that was explored was property taxes. Similar to the sales tax, a property tax would likely require a vote of the people. There are certain advantages and disadvantages to a sales tax to fund a portion of the regional wastewater system. In summary form these include:

***Advantages:***

- Very stable source of income
- Minimal financial impact to consumers in exchange for a major benefit to the County and its citizens in the form of growth, economic development and jobs
- Tax is paid by the property owners within the County
- Some correlation and corresponding benefit to property values as county growth and economic development occurs. Presumably, as the county grows and there is economic development, property values may correspondingly increase as demand for land and developable property becomes scarcer.

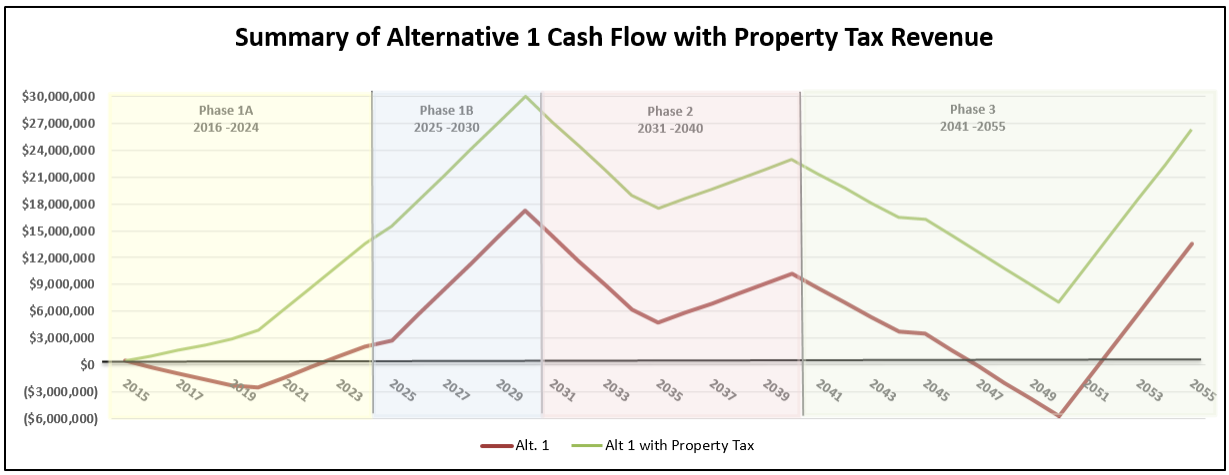
***Disadvantages:***

- All wastewater customers contribute (existing and future regional customers)
- Not directly correlated to capacity use. A more expensive home will pay more compared to a less expensive home even though both are 1 EDU of capacity.

Similar to the discussion of a sales tax, there are similar but different advantages and disadvantages to a property tax levy. For purposes of this study, the key question is the financial benefits to be derived from a possible property tax as a reliable third funding source. To assess that, certain assumptions were made about a possible property tax. These included the following:

- The County's current property tax rate is $0.2969/$100 of assessed value (2015 rate)[9]
- The County's current assessed value is approximately $12.8 billion. At this valuation and tax rate, the County currently collects approximately $38 million on an annual basis.
- Assuming a 1 cent ($0.01) per $100 of assessed value property tax for a ten year period, it would produce approximately $1.3 million of additional revenue per year for a 10-year period for regionalization.
- The impact of the property tax on a home assessed at $200,000 would be $20 per year
- The property tax could be designated for a specific or general purpose use, and set for a defined period with a sunset clause.

Provided below is a graphical representation, similar to that used for the grant and sales tax analysis, to determine the financial impact and benefit of addition of a property tax. The graph below is the initial financial feasibility analysis with only the addition of a property tax.




The results shown in the graph are very similar and nearly identical to the results shown in the analysis of the sales tax. The addition of a property tax revenue of $1.3 million per year for the first 10 years has provided a significant cash flow benefit (green line) when compared to the initial feasibility analysis cash flow and fund balances (red line). In all cases, with the addition of the sales tax, the reserves are higher and positive in all years. As with the prior analyses, this assumes that all base case assumptions are

[9] The $0.2969/$100 of assessed value does not reflect the total property tax rate paid by a property owner in the County. Local communities also have local property tax levies in addition to the County-wide rate. For purposes of regionalization and funding, it is presumed that the property tax would be a county-wide levy.

maintained including the capital payment/connection fee of $6,156/EDU and the high initial O&M usage rates. The only change from the initial feasibility analysis is the addition of the property tax revenue.

**Rate Reserves:** As noted previously, another possible alternative reliable and non-growth related funding source would be an increase to the existing retail sewer rate revenues. For the region, the total current rate revenues are approximately $10 million per year. To generate $1.3 million would require each local entity to increase their rate an average of 13%. For purposes of this technical memorandum, this alternative was not explored further, but could remain an option for the regionalization effort.

In each case, it appears that the addition of a grant, sales tax or property tax has a positive financial impact to regionalization. However, in each of the alternatives addressed above, the calculated capital payment/connection fee of $6,156/EDU was maintained, along with the high initial O&M user rates in Phase 1A. While the addition of a grant and a reliable third funding source solves part of the problem, it does not appear to directly resolve the issue of high capital payment/connection fees and user rates. To explore that issue in greater detail, a revised financial feasibility analysis was developed. This is discussed in more detail below.

## Revised Financial Feasibility Analysis

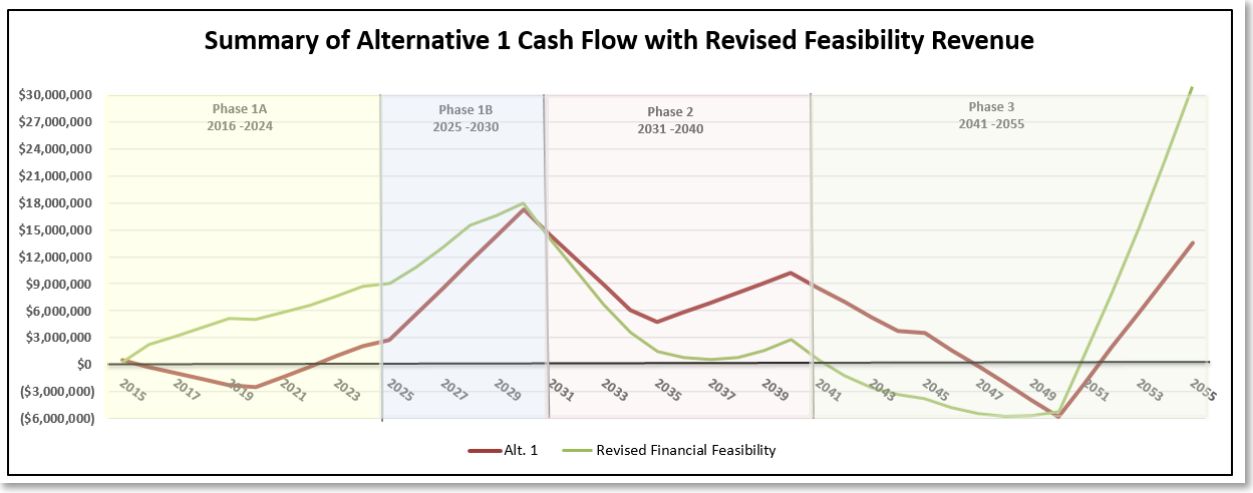
To develop the revised financial feasibility analysis, it began by utilizing the same assumptions as the initial feasibility analysis. This included assumptions about the size and timing of the capital costs, growth in the addition of equivalent dwelling units (EDU's), the annual O&M expenses and expected volumes of wastewater flows. The key changes to the assumptions within the revised financial feasibility analysis included the following:

- Assumed a $10.0 million grant from the state of Nebraska for Phase 1A. Of this grant, $1.0 million was placed in cash working capital reserves and the balance of $9.0 million was applied against Phase 1A capital projects.
- Assumed a third "reliable" funding source of $1.3 million/year for 20 years. For purposes of this analysis, the funding source is not specified as being from sales taxes, property taxes or from current customer rate revenues. The "reliable" funding source is also presumed for 20 years to match the assumed term for debt service repayments of 20 years. The 20-year time period provides bondholders with a greater assurance of repayment over the life of the bonds.
- Reduce the capital payment/connection fee to $3,500/EDU. This assumes a collection component of $1,500/EDU which is not to dissimilar to the current general facility charges being assessed by other local stakeholder communities. The balance of the fee, or $2,000/EDU, is for treatment costs. The overall fee of $3,500/EDU is comparable to the national average for a residential wastewater system development charge.[10]

[10] Source: AWWA/Raftelis rate survey. A system development charge is the same as a connection fee or general facility charge.

- Set the O&M usage rate at $4.60/1,000 gallons. For a customer that uses 7,500 gallons per month this produces a bill ($34.50/month) that is roughly equal to the current average bill paid by local stakeholders.[11]

Given the above assumptions, a revised financial feasibility analysis was developed. The results of that analysis are shown below in graphical form.




As can be seen in this graph, the revised feasibility analysis (green line) provides positive cash flow all the way through Phase 2 and then goes to a negative balance. In part this is a result of the third funding source being eliminated (i.e. sunset after 20 years). The more important takeaway is that this revised feasibility analysis indicates that with a grant and a reliable third funding source for a 20 year period, the capital payment/connection fee and user rates can be set at very competitive levels. It is recognized and acknowledged that there are numerous variations and combinations of fees, rates, grants and other funding sources that could be analyzed and likely produce similar results. However, this preliminary financial feasibility analysis is not intended to convey or imply that this is the only possible funding plan. Rather, it simply demonstrates that given the key assumptions used within this preliminary analysis, **regionalization appears to be financially feasible through Phase 2, but it will require some additional outside funding assistance.** The additional funding that may be required is an upfront grant of at least $10 million and a sales tax, property tax or a surcharge on current customer rate revenues for 20 years of at least $1.3 million per year.[12]

While this version of the revised financial feasibility analysis indicated that Phase 3 may pose different funding issues it does not appear to be insurmountable. The regional entity can attempt to renew the sales/property tax, gain additional grants, and/or revise the capital payment/connection fee and user

[11] Monthly bills vary by stakeholder communities. This is a county-wide average bill and not related to a specific community.
[12] These amounts are stated in constant dollars for purposes of this analysis.

rates. Given that Phase 3 is approximately 25 years into the future, the regional entity would have sufficient time to assess and plan for the financial needs posed by Phase 3.

## Summary Conclusions

The preliminary financial feasibility analysis conducted herein identified a number of key financial and funding issues which posed problems for regionalization. The study identified possible funding solutions to address those issues and when incorporated into the financial feasibility analysis produced a result which indicated positive cash flows and reserve balances through Phase 2 of regionalization, while utilizing a capital payment/connection fee of $3,500/EDU ($17,500/acre) and a usage rate of $4.60/1,000 gallons, which produces a monthly bill of approximately $35.00 per month.[13] The feasibility analysis indicated the need for a grant and some form of a reliable third funding source. Each of these do not seem insurmountable to regionalization and there are various combinations of these key inputs that would seem to provide a regionalization scenario which is financially feasible and politically achievable.

## Next Steps – Financial

This financial feasibility analysis has demonstrated that regionalization is possible and beneficial from a financial and rate/fee perspective. While this is a positive result, there are additional activities that need to be undertaken in this area. These include the following:

- Explore grant funding opportunities with State. This financial plan heavily depends upon a grant of at least $10 million for Phase 1A to provide a cash infusion and help minimize total capital costs and debt service payments during Phase 1A. Possible grant sources include, but are not limited to, the following:
    - Site and Building Development Fund ($2.3 million/year)
    - Water Sustainability Fund ($66 million over 6 years)
    - Legislative action (similar to $25 million in Bill 1091 for site and building development)
    - Any other federal, state or local grants
- Assess the "will" for a reliable third funding source
    - Sales tax (level and time period)
    - Property tax (level and time period)
    - Local sewer rate increase (surcharge for regionalization); a 10% increase in local sewer rates/revenues ≈ $1.0 million/year
- Review and assess potential borrowing sources for terms, conditions and availability
    - SRF low-interest loans
    - Revenue bonds; particularly as they relate to debt service coverage (DSC) requirements and bond reserve requirements and use of growth-dependent sources of revenue for repayment

[13] The fees and rates are stated in 2016 dollars and subject to escalation (cost adjustment) over time.

    - General Obligation (G.O.) bonds
- Solicit input from the development community

The above list of next steps is designed and intended to better assess the technical and political aspects of grants, sales and property taxes and long-term borrowing for a new regional entity. From this additional investigation and research, the financial feasibility analysis can be updated to better reflect the anticipated actual funding sources and terms and conditions of any long-term borrowing.

This financial feasibility assessment has been developed at a very preliminary and high-level. Should regionalization continue to move forward, a more detailed financial plan will need to be developed and greater detail and analysis applied to the financial forecast, the establishment of regional rates and the approach to be used for capital payments/connection fees.

# Attachment A – Initial Financial Feasibility Analysis

**TABLE 1**
**SUMMARY OF ACRES, EDU'S AND FLOW**

| Year | Phase | Acres (1) | Developable Acres (2) | Population (3) | EDUs (4) | Cumulative EDUs | Average Annual Flow per 1,000 gallons (5) |
|---|---|---|---|---|---|---|---|
| 2020 | Phase 1A | 48.6 | 29.5 | 362 | 148 | 513 | 41,499 |
| 2025 | Phase 1B | 170.4 | 103.5 | 1,269 | 518 | 2,507 | 202,892 |
| 2030 | | 292.7 | 177.8 | 2,175 | 889 | 6,948 | 562,309 |
| 2035 | Phase 2 | 366.2 | 222.5 | 2,718 | 1,112 | 11,619 | 940,376 |
| 2040 | | 439.7 | 267.1 | 3,262 | 1,335 | 18,295 | 1,480,608 |
| 2045 | Phase 3 | 439.9 | 267.2 | 3,262 | 1,336 | 24,974 | 2,021,176 |
| 2050 | | 350.8 | 213.1 | 2,560 | 1,066 | 30,297 | 2,452,019 |
| 2055 | | 351.4 | 213.5 | 2,560 | 1,067 | 35,631 | 2,883,652 |
| | | | | | | 35,631 | |
| | **TOTAL** | **11,730** | **7,126** | **86,674** | **35,631** | | |

**Notes:**

(1) Southern Sarpy County projected acres by basin. Table 5, page 13 of Platte River Regional Wastewater System Refinement (PRRWSR) Technical Memorandum dated 12/15/2015.

(2) Estimated 61% per cent of one total acre is equal to one developable acre. Table 5, page 13 PRRWSR.

(3) Southern Sarpy County population from Table 4, page 10 of PRRWSR.

(4) EDUs estimated 5 dwelling units per one developable acre times developable acres. Table 3, page 9 of PRRWSR.

(5) Annual flow per 1,000 gallons calculated based on Table 7, page 14 of PRRWSR for maximum day.

| | | | |
|---|---|---|---|
| 9,875,521 | gallons per day | 3,604,565 | / 1,000 gallons per year |
| 365 | X days | 80.0% | percentage average day |
| 3,604,565,165 | gallons per year | 35,631 | Estimated EDUs |
| | | 80.9 | EDU flow in 1,000 gallons average day |

**TABLE 2**
**SUMMARY OF CAPITAL, DEBT SERVICE PAYMENTS**

| | | | | | | | PHASE 1A | | | PHASE 1B | | | PHASE 2 | | | PHASE 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Phase | Capital Construction Cost | Debt Issues | Debt Service Payment | Debt $/Total Dev. Acre | Debt $/Total EDUs | Debt Service Payment | Total EDUS | $/EDU /YEAR | Debt Service Payment | Total EDUS | $/EDU /YEAR | Debt Service Payment | Total EDUS | $/EDU/ YEAR | Debt Service Payment | Total EDUS | $/EDU/ YEAR | Total Debt Service Payment | EDUs | Total Regional Capital Payment $/EDU | Total Regional Capital Payment Revenues |
| 2020 | Phase 1A | 0 | | 1,130,180 | 159 | 32 | 1,130,180 | 35,631 | $32 | | | | | | | | | | 1,130,180 | 148 | 6,156 | 908,376 |
| 2025 | Phase 1B | 2,848,315 | 28,483,151 | 2,554,338 | 358 | 72 | 1,130,180 | 35,631 | $32 | $1,424,158 | 35,631 | $40 | | | | | | | 2,554,338 | 518 | 6,156 | 3,186,841 |
| 2030 | | 0 | | 2,554,338 | 358 | 72 | 1,130,180 | 35,631 | $32 | 1,424,158 | 35,631 | 40 | | | | | | | 2,554,338 | 889 | 6,156 | 5,473,393 |
| 2035 | Phase 2 | 6,846,805 | | 8,260,009 | 1,159 | 232 | 1,130,180 | 35,631 | $32 | 1,424,158 | 35,631 | 40 | 5,705,671 | 35,631 | 160 | | | | 8,260,009 | 1,112 | 6,156 | 6,846,990 |
| 2040 | | 0 | | 7,129,828 | 1,001 | 200 | | | | 1,424,158 | 35,631 | 40 | 5,705,671 | 35,631 | 160 | | | | 7,129,828 | 1,335 | 6,156 | 8,220,745 |
| 2045 | Phase 3 | 0 | | 8,412,461 | 1,181 | 236 | | | | 0 | 35,631 | 0 | 5,705,671 | 35,631 | 160 | 2,706,790 | 35,631 | 76 | 8,412,461 | 1,336 | 6,156 | 8,224,747 |
| 2050 | | 0 | | 8,412,461 | 1,181 | 236 | | | | | | | 5,705,671 | 35,631 | 160 | 2,706,790 | 35,631 | 76 | 8,412,461 | 1,066 | 6,156 | 6,559,615 |
| 2055 | | 0 | | 2,706,790 | 380 | 76 | | | | | | | | | | 2,706,790 | 35,631 | 76 | 2,706,790 | 1,067 | 6,156 | 6,570,082 |
| | | **$219,335,977** | **$219,335,977** | **$219,335,977** | **$30,780** | **$6,156** | **$22,603,608** | **35,631** | **$634** | **$28,483,151** | **35,631** | **$799** | **$114,113,414** | **35,631** | **$3,203** | **$54,135,804** | **35,631** | **$1,519** | **$219,335,977** | **35,631** | | **$219,335,977** |

**TABLE 3**
**SUMMARY OF ANNUAL O&M EXPENSE**

| Year | Phase | Annual Flow per 1,000 gallons | Cumulative EDUs | Annual O&M | O&M/Annual Flow $/1,000 Gallons | O&M/ Cumulative EDU $/EDU |
|---|---|---|---|---|---|---|
| 2020 | Phase 1A | 41,499 | 513 | 1,464,814 | 35.30 | 2,857 |
| 2025 | Phase 1B | 202,892 | 2,507 | 1,615,415 | 7.96 | 644 |
| 2030 | | 562,309 | 6,948 | 3,500,487 | 6.23 | 504 |
| 2035 | Phase 2 | 940,376 | 11,619 | 3,791,498 | 4.03 | 326 |
| 2040 | | 1,480,608 | 18,295 | 4,411,840 | 2.98 | 241 |
| 2045 | Phase 3 | 2,021,176 | 24,974 | 5,994,625 | 2.97 | 240 |
| 2050 | | 2,452,019 | 30,297 | 6,158,974 | 2.51 | 203 |
| 2055 | | 2,883,652 | 35,631 | 6,323,625 | 2.19 | 177 |
| | | $47,098,772 | | $147,147,931 | | |

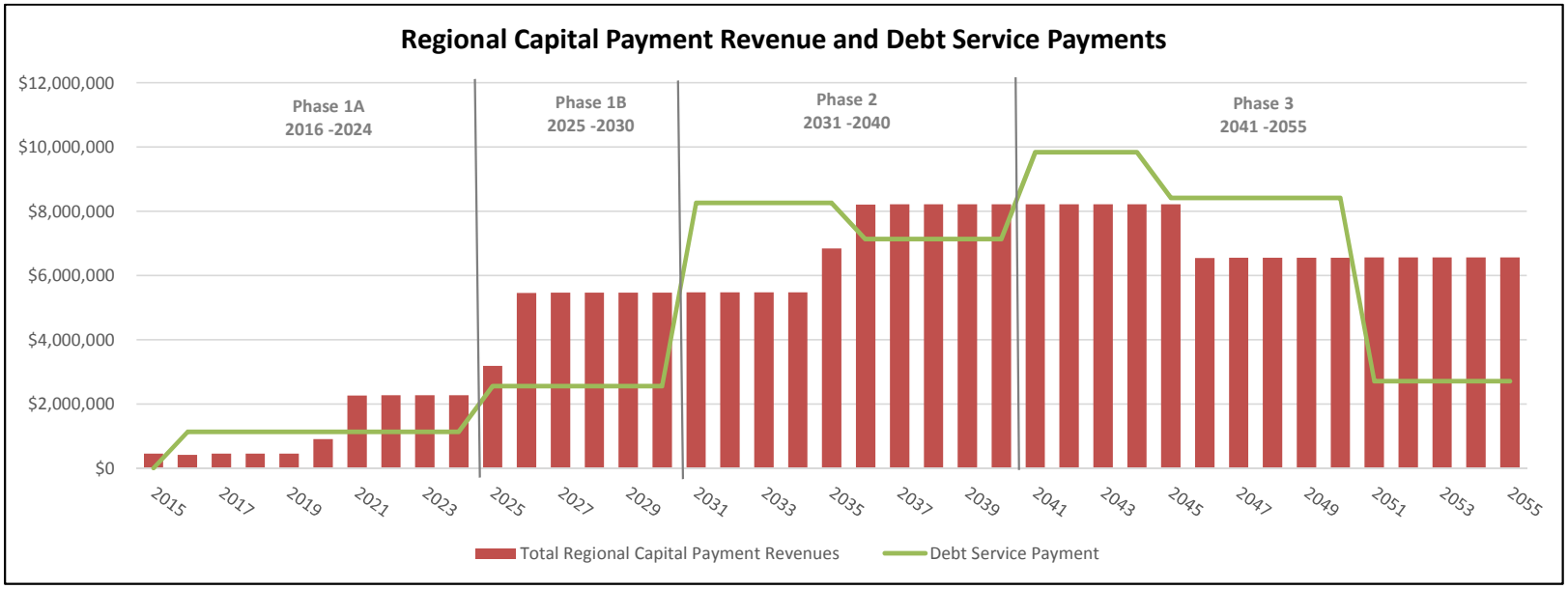
**TABLE 4**
**SUMMARY OF CASH FLOW**

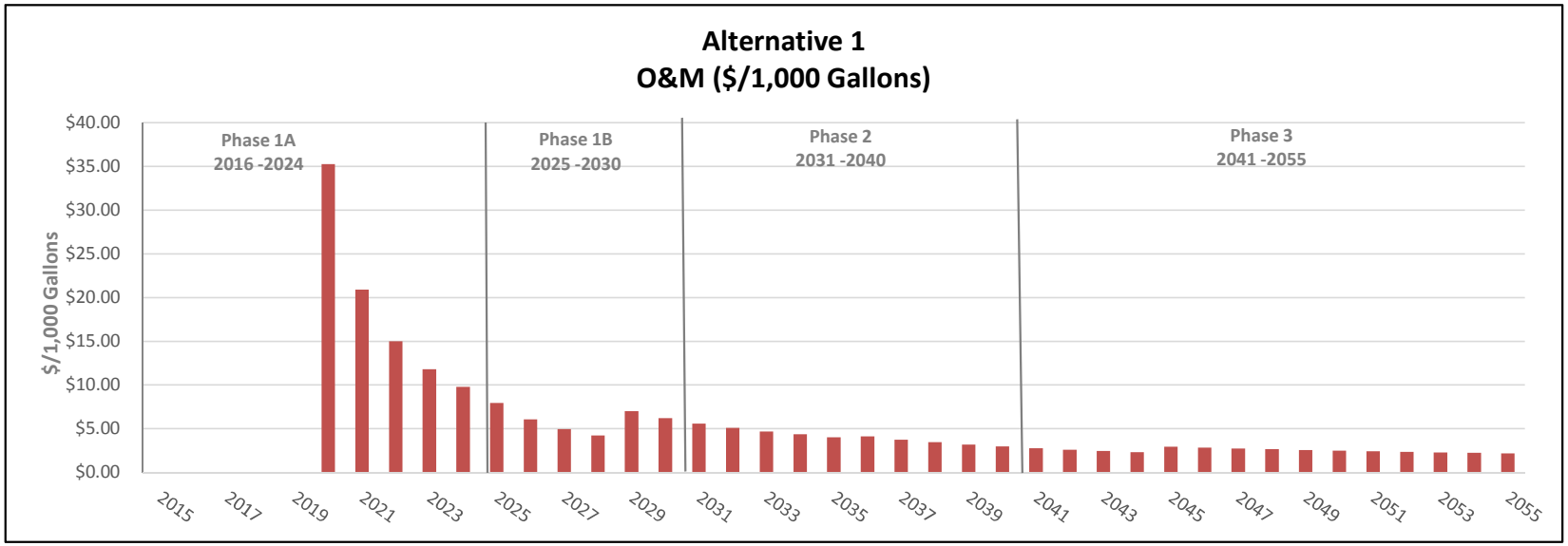
| | | CAPITAL | | | O&M | | |
|---|---|---|---|---|---|---|---|
| Year | Phase | Total Debt Service | Total Regional Capital Payment Revenue | Cash Flow +/- | Total O&M | Total Rate Revenue | Cash Flow +/- |
| 2020 | Phase 1A | 1,130,180 | 908,376 | (221,804) | 1,464,814 | 1,464,814 | 0 |
| 2025 | Phase 1B | 2,554,338 | 3,186,841 | 632,503 | 1,615,415 | 1,615,415 | 0 |
| 2030 | | 2,554,338 | 5,473,393 | 2,919,055 | 3,500,487 | 3,500,487 | 0 |
| 2035 | Phase 2 | 8,260,009 | 6,846,990 | (1,413,019) | 3,791,498 | 3,791,498 | 0 |
| 2040 | | 7,129,828 | 8,220,745 | 1,090,916 | 4,411,840 | 4,411,840 | 0 |
| 2045 | Phase 3 | 8,412,461 | 8,224,747 | (187,714) | 5,994,625 | 5,994,625 | 0 |
| 2050 | | 8,412,461 | 6,559,615 | (1,852,846) | 6,158,974 | 6,158,974 | 0 |
| 2055 | | 2,706,790 | 6,570,082 | 3,863,291 | 6,323,625 | 6,323,625 | 0 |
| | | $219,335,977 | $219,335,977 | ($0) | $147,147,931 | $147,147,931 | $0 |

**TABLE 5**
**SUMMARY OF MONTHLY BILL COMPARISON**

| | | Monthly Usage at 7,500 Gallons (1) | | | |
|---|---|---|---|---|---|
| **Year** | **Phase** | **2015 Average Monthly Bill** | **2015 Escalated Avg Bill (2)** | **Alt 1. Average Monthly Bill** | |
| 2020 | **Phase 1A** | 35.00 | 40.59 | 264.73 | |
| 2025 | **Phase 1B** | 35.00 | 47.08 | 59.71 | |
| 2030 | | 35.00 | 54.61 | 46.69 | |
| 2035 | **Phase 2** | 35.00 | 63.34 | 30.24 | |
| 2040 | | 35.00 | 73.46 | 22.35 | |
| 2045 | | 35.00 | 85.20 | 22.24 | |
| 2050 | **Phase 3** | 35.00 | 98.82 | 18.84 | |
| 2055 | | 35.00 | 114.62 | 16.45 | |
| | | | | | Average |
| Monthly Bill at 7,500 gallons | $31.84 | $35.24 | $28.86 | $31.81 | $31.93 |

(1) Estimated bill based on 7,500 gallons a month.
(2) Estimated inflation at 3.01%.
(3) Bellevue the first 2 CCF are included in customer charge. Flow charge is per CCF.


Regional Capital Payment Revenue and Debt Service Payments
$12,000,000
$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$0
Phase 1A
2016 -2024
Phase 1B
2025 -2030
Phase 2
2031 -2040
Phase 3
2041 -2055
2015
2017
2019
2021
2023
2025
2027
2029
2031
2033
2035
2037
2039
2041
2043
2045
2047
2049
2051
2053
2055
Total Regional Capital Payment Revenues
Debt Service Payment


Alternative 1
O&M ($/1,000 Gallons)
$/1,000 Gallons
$40.00
$35.00
$30.00
$25.00
$20.00
$15.00
$10.00
$5.00
$0.00
Phase 1A
2016 -2024
Phase 1B
2025 -2030
Phase 2
2031 -2040
Phase 3
2041 -2055
2015
2017
2019
2021
2023
2025
2027
2029
2031
2033
2035
2037
2039
2041
2043
2045
2047
2049
2051
2053
2055

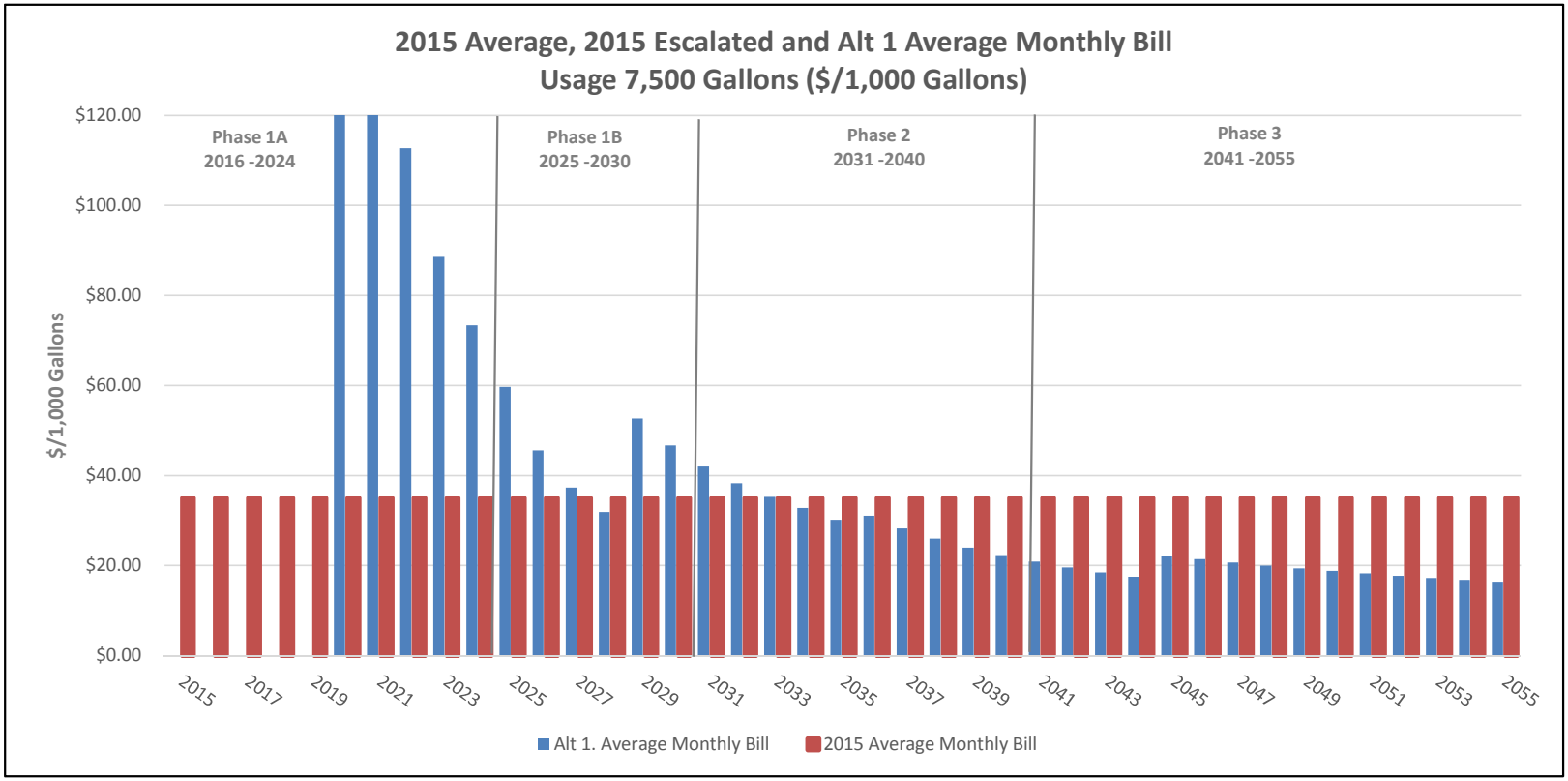
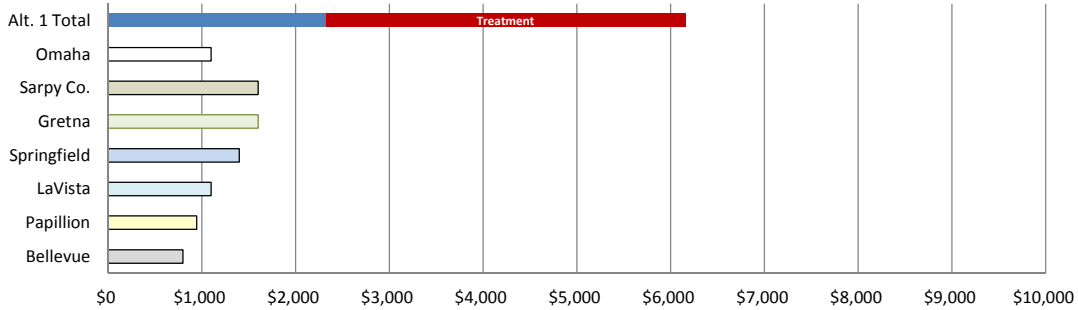

2015 Average, 2015 Escalated and Alt 1 Average Monthly Bill
Usage 7,500 Gallons ($/1,000 Gallons)
$/1,000 Gallons
$120.00
$100.00
$80.00
$60.00
$40.00
$20.00
$0.00
Phase 1A
2016 -2024
Phase 1B
2025 -2030
Phase 2
2031 -2040
Phase 3
2041 -2055
2015
2017
2019
2021
2023
2025
2027
2029
2031
2033
2035
2037
2039
2041
2043
2045
2047
2049
2051
2053
2055
Alt 1. Average Monthly Bill
2015 Average Monthly Bill

**TABLE 6**
**ALTERNATIVE 1**
**SUMMARY OF GENERAL FACILITY CHARGES - RESIDENTIAL & COMMERCIAL**

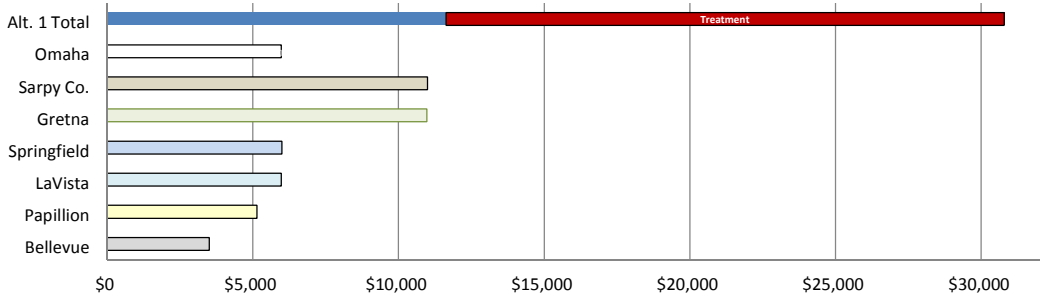
**2015 Residential**
**General Facility Charges $/Unit**
**Alternative 1 Regional Capital Payment $/EDU**
**(Alternative 1 includes Treatment)**




| | Bellevue | Papillion | LaVista | Springfield | Gretna | Sarpy Co. | Omaha | Alt. 1 Total |
|---|---|---|---|---|---|---|---|---|
| Collection | $800 | $947 | $1,100 | $1,400 | $1,600 | $1,600 | $1,100 | $2,326 |
| Treatment | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $3,830 |
| TOTAL | $800 | $947 | $1,100 | $1,400 | $1,600 | $1,600 | $1,100 | $6,156 |

[1] Omaha approved Residential charges **2016**-$1,166, **2017**-$1,232, **2018**-$1,298, **2019**-$1,364

**2015 Comm./Indus.**
**General Facility Charges $/Acre**
**Alternative 1 Regional Capital Payment $/Acre**
**(Alternative 1 includes Treatment)**

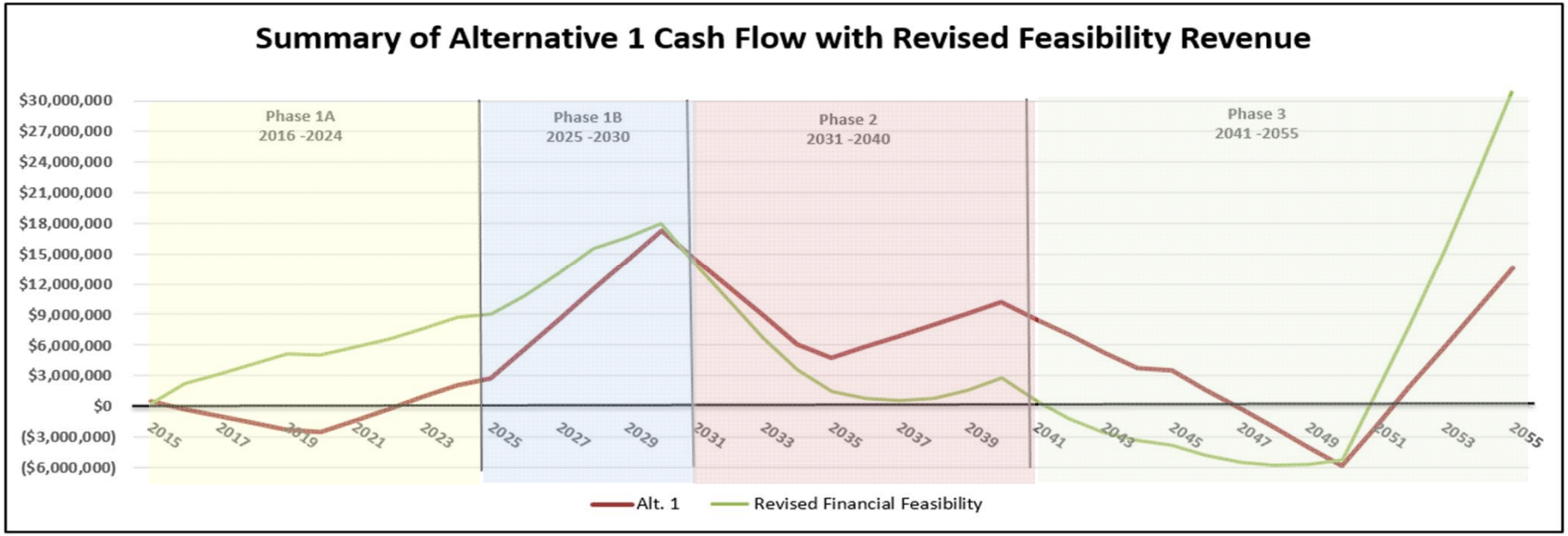



| | Bellevue | Papillion | LaVista | Springfield | Gretna | Sarpy Co. | Omaha | Alt. 1 Total |
|---|---|---|---|---|---|---|---|---|
| Collection | $3,500 | $5,142 | $5,973 | $6,000 | $10,968 | $11,000 | $5,973 | $11,631 |
| Treatment | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $19,150 |
| TOTAL | $3,500 | $5,142 | $5,973 | $6,000 | $10,968 | $11,000 | $5,973 | $30,780 |

[1] Omaha approved Comm./Indus. charges **2016**-$6,331, **2017**-$6,690, **2018**-$7,048, **2019**-$7,407

# Attachment B – Revised Financial Feasibility Analysis

**TABLE 1**
**SUMMARY OF CASH FLOW FINANCIAL FEASIBILITY**

**Input - $/EDU**

| | | COST | | | REVENUE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Phase | Debt Service Payment | Annual O&M | Total Cost | Yearly EDUs | Input $/EDU | Total Capital Revenue | Annual Flow per | $/1,000 Gallons | Total Capital Revenue | Adjusted Cash Flow +/- | Alt. 1 with Grants | Alt 1 with Sales Tax | Alt 1 with Property Tax | Revised Balance |
| 2020 | Phase 1A | 680,180 | 1,464,814 | 2,144,995 | 148 | $3,500 | 516,475 | 41,499 | $4.60 | 190,896 | (1,437,624) | $0 | $1,300,000 | $0 | $5,025,389 |
| 2025 | Phase 1B | 2,104,338 | 1,615,415 | 3,719,753 | 518 | $3,500 | 1,811,939 | 202,892 | $4.60 | 933,302 | (974,512) | 0 | 1,300,000 | 0 | 8,996,710 |
| 2030 | | 2,104,338 | 3,500,487 | 5,604,825 | 889 | $3,500 | 3,112,002 | 562,309 | $4.60 | 2,586,620 | 93,798 | 0 | 1,300,000 | 0 | 18,016,787 |
| 2035 | Phase 2 | 7,810,009 | 3,791,498 | 11,601,507 | 1,112 | $3,500 | 3,892,987 | 940,376 | $4.60 | 4,325,731 | (3,382,788) | 0 | 1,300,000 | 0 | 1,453,510 |
| 2040 | | 7,129,828 | 4,411,840 | 11,541,669 | 1,335 | $3,500 | 4,674,062 | 1,480,608 | $4.60 | 6,810,799 | (56,808) | 0 | 1,300,000 | 0 | 2,842,613 |
| 2045 | Phase 3 | 8,412,461 | 5,994,625 | 14,407,086 | 1,336 | $3,500 | 4,676,337 | 2,021,176 | $4.60 | 9,297,410 | (433,338) | 0 | 0 | 0 | (3,818,660) |
| 2050 | | 8,412,461 | 6,158,974 | 14,571,435 | 1,066 | $3,500 | 3,729,595 | 2,452,019 | $4.60 | 11,279,287 | 437,447 | 0 | 0 | 0 | (5,283,611) |
| 2055 | | 2,706,790 | 6,323,625 | 9,030,415 | 1,067 | $3,500 | 3,735,546 | 2,883,652 | $4.60 | 13,264,800 | 7,969,930 | 0 | 0 | 0 | 30,912,062 |
| | TOTAL | $210,335,977 | $191,413,306 | $401,749,283 | 35,631 | | $124,707,666 | | | $309,507,951 | $32,466,334 | $1,000,000 | $32,500,000 | $0 | |