Appendix A
Response to City Comments

c. Include the following sentence at the end of the second paragragh: "A more detailed description of the modeling process is shown in section X, "Capacity Evaluation."

d. Revise the fourth paragragh of the page as follows: "Some areas of the City either drain directly into the METRO Interceptor (Bayfront Sewer Basin), or are served by the Spring Valley Sanitation District's "Spring Valley Outfall" (Sweetwater Basins). Flows generated in these areas were based on land use data from the City's GIS parcel database and house count information provided by the City's Wastewater Engineering Section. The Metro Sewer Interceptor and the Spring Valley Outfall were not modeled. Summaries of the land use data from each is shown in Appendix A

4. Table 2 – Page 3

a. Revise to show how the design criteria compares to the unit generation rates determined for each of the modeled Basins.

b. Place a note below the table to explain why there are negative factors for schools and zero generation for Institutions.

5. Table 3 – Page 4

Revise the table to show a column for 2004 (Existing).

6. Figure 1- Page 4

Revise the figure and show a dashed vertical line for 2004, and callout the current population.

7. SANDAG Population-Based Flow Projections

Revise line 8 of this section to clarify the word *substantial*, if a percentage of build-out is projected/assumed, state that percentage.

8. Table 3- Page 4

The employment projections within the Salt Creek Basin, Main Street Basin and Date-Fairve Basin do not reflect any annual growth for the period between 2000 to 2010. Please verify that this assumption is accurate, it does not seem to be consistent with current land use plans.

9. Figure 3 – Page 6

Revise the graph, there appears to be an inconsistency between the growth rate shown in Figure 1 and the annual growth rate shown in Figure 3, verify the percentage increases.

3c. Reference to Chapter 4 added

3d. Text revisions and reference to land use data presented in Chapter 4 added

4a. Different model loading methodologies used in development of the four Master Plan models (based on different EDU conversion rates) do not allow for a consistent comparison with Subdivision Manual design criteria. Discussion of the various model unit generation rates is provided in Chapter 4.

4b. Footnote added to Table 3-2

5. SANDAG Projections are reported in five-year increments, annual estimates are not provided in the SANDAG long-range forecast

6. Figure 3-1 revised to include estimated 2005 population

7. Word substantial deleted, no percentage was projected or assumed

8. SANDAG projections verified. Concur that SANDAG projections are inconsistent with current City land use forecasts. Inconsistencies appear to reflect different spatial variations in the growth forecasts; total population projections for the City are generally consistent between SANDAG and City forecasts.

9. Percentages shown on Figures 3-1 and 3-3 were verified. Note that Figure 3-1 illustrates separately the projected growth rates for residential and employment populations and Figure 3-3 presents total City wastewater flow projections that were estimated by applying different unit generation factors to the residential and employment populations and summing. Consequently, the rate of growth shown on the curves will be different.

10. Figure 4 Page 7

Upon re-evaluation of all the applicable population projections listed above, revise Figure 4 to show the capacity timeline in five-year increments.

11. Metro Capacity Page 6

Revise the first sentence in this section to restate that the City has capacity rights of 19.843 mgd and will soon be allocated additional capacity through the re-rating process currently underway.

12. Conclusions – Page 8

Revise the second paragraph of this section to indicate that the City currently has capacity rights to 19.843 mgd.

13. Create Summary Table

a. Revise the summary data shown under "Chula Vista Master Plan Hydraulic Models Buildout Flow Projections. Create a summary Table that shows two columns "Existing", and "Buildout (under adopted General Plan)".

b. To facilitate a more accurate verification of the analysis, revise the results from the modeling to show the existing and buildout results by basin. It will be significantly difficult to utilize the current version of this document as a policy document, if the data for the basins are not presented individually. For example the Master Plan Update has to be able to answer the following questions:

i. What is the current flow generation in each basin?
ii. What is the buildout flow?
iii. What is the capacity of the trunk line that serves each basin?
iv. What is the remaining capacity? (i.e. Q not EDU's)
v. Is there sufficient capacity in each trunk line to serve the buildout of each basin? If not, what areas need to be improved?

10. Figure 3-4 revised to show annual and 5-year increments

11. Text revised

12. Text revised

13a. Summary Table in Appendix D revised to show existing model flow projections

13b. Model boundaries, flow projections, capacity constraints, and recommended improvements are presented in Chapter 4. Note that all identified capacity constraints were identified as existing deficiencies, therefore, future capacity thresholds (i.e. analysis of remaining capacity) are not applicable.

CITY OF CHULA VISTA

ENGINEERING DEPARTMENT

MEMORANDUM

October 19, 2004
0735-10 SW223

TO: Dan Brogadir, Project Manager, PBS&J

FROM: Anthony Chukwudolue, Civil Engineer
Mario Ingrasci, Assistant Civil Engineer

SUBJECT: Comments on the Wastewater Master Plan Technical Memorandum – Sewer Capacity Evaluation prepared by PBS&J dated July 2004.

1. Figure 1 – Page 2

   Please show the Metro Line and the Spring Valley line in their proper place. This also applies to Figures 2 and 22.

2. Page 6

   Revise the last sentence in the first paragraph of this page to indicate that Figures 3 through 6, show the flow data and the I & I impacts.

3. Page 12

   Revise the first paragraph of this page to replace the word "complies" with the word "compiles".

4. Land Use Table

   a. Show the Land Use tables, which formed the basis of the flow analysis i.e. tables should show various the land uses under the following conditions:

      i. Existing Conditions
      ii. Ultimate buildout condition under the adopted General Plan.
      iii. General Plan Alternative A
      iv. General Plan Alternative B
      v. General Plan Alternative C
      vi. Preferred General Plan Alternative

   b. How was the # of Multi-Family Dwelling Units determined?

Comments dated October 19, 2004
Draft Sewer Capacity Evaluation, dated July 2004
(Final Report Chapter 4)

1. METRO and Spring Valley Lines are not shown. What was shown were fictitious model pipe links that are required to achieve a model solution (within the model they connect the downstream manholes to a fictitious outfall). These links were removed from Figure 4-1.

2. Text revised

3. Text revised

4a. Land uses for existing and ultimate buildout conditions under the Adopted General Plan (items i and ii) are included in Appendix D. Land use projections for ultimate buildout conditions under the General Plan Update Alternatives (items iii – vi) are included in Appendix F.

4b. Multi-family dwelling unit counts were based on the City parcel database, TAZ database, and tentative maps.

Dan Brogadir - 2 - October 19, 2004

5. Diurnal Curves Figures 7 through 16

Please add some more information to the figures for clarity for example: unit of measure for depth, size of pipe, better description of location, correct Manhole identification, what Model is the figure for i.e. North-West or Telegraph, etc.

6. North-West Sewer Model - Diurnal Curves Figures 7 through 16

a. Above comment is also applies.

b. The modeled diurnal curves seem significantly different from the composite curve developed from metered data. Is there any indication that this difference does not make a significant impact on the modeling?

c. MH 5078 Why is it that although the calibrated diurnal curve shows lower flows, the depth of flow is higher for the calibrated curve than the depth curve derived from meter records?

d. MH 5122 Verify depth of flow curve, this also seems inconsistent with flow curve.

e. MH 4223 - Verify depth of flow curve, this also seems inconsistent with flow curve.

f. MH 4243 - Verify depth of flow curve, this also seems inconsistent with flow curve.

g. MH 914 – Could this curve be further refined?

h. Revise Table 1 to indicate that the generation rate of 195gpd/DU is for the combination of Telegraph Canyon West and a portion of Main Street Basin.

i. Is it not confusing to model a combination of a portion of Telegraph Canyon Basin with a portion of Main Street Basin and then also model Poggi Canyon Basin with another portion of Main Street Basin?

j. Telegraph Canyon Model

Although it is understandable that this model was created in two parts, it should be presented in a manner that makes it seamless to the reader or user of this data. The results of the analysis of this model seems to be inconsistent for the following reasons:

i. The downstream Q at the westerly end of the Telegraph Canyon East Model should match the Q at the easterly end of the Telegraph Canyon West Model under all the 6 scenarios modeled. This does not seem to be the case. If it is, it is not clearly evident.

5. Figures 4-7 through 4-16 revised to include clarifying descriptions

6a. Figures 4-7 through 4-16 revised to include clarifying descriptions

6 b-g. Calibration curves, Figures 4-7 through 4-16, were verified. These curves represent the final simulations in the iterative process used to calibrate the model parameters such that the simulated flow conditions adequately match the recorded field conditions. The calibration process and assessment of each of the curves was presented at a 12/20/04 meeting held at PBS&J (Attendees – City staff Anthony Chukwudolue and Mario Ingrasci, and PBS&J staff Dan Brogadir, Dave Smith and Kyle McCarty)

6h. Table 4-1 revised to include clarifying notes

6i. The entire Main Street Basin was included in the North-West Model. The Poggi Canyon Model includes the Poggi Canyon and Date-Faivre Basins.

6j. The Telegraph Canyon East Model was calibrated to metered flow at the downstream reach (MH35). While the calibration of the model was very reasonable, the simulated flow conditions do not match the metered data exactly (most pronounced in simulated effects of upstream pump stations on the flow and depth). Therefore, the metered flow at MH 35 was used as the upstream inflow for the Telegraph Canyon West (North-West Model).

The modeled alignment and connectivity of parallel mains in J Street were verified by comparison to City GIS database and as-built drawings. Graphical review of the model network is best completed through the XP-SWMM or ArcGIS programs. Model results (presented in the appendices) were reformatted to more clearly present the data and allow for a consistent review of the different model results.

The unit generation rate for the Telegraph Canyon Model was calibrated to current meter data collected as part of the Master Plan. The calibration rate is 160 gpd/EDU

ii. Some thought needs to be given as to the best way to present this data whether it is still prudent at this time to continue to show this model in parts or to combine it for clarity.

iii. Portions of the Telegraph Canyon Sewer Trunk Sewer Line have parallel lines; it is not clearly evident how these areas were modeled. Because of the complexity of this line, it may be beneficial to provide more detailed graphics of this line, an example of the level of detail is shown in the attached exhibit 1excerpted from the 1992 Willdan Study.

iv. Page 24 – Was the flow generation for the Telegraph Canyon East Sewer Model updated? The 160 gpd/EDU generation factor was earlier determined in the 2000 PBS&J study based on meter data obtained in 1997. Is it still adequate to use that data in this analysis? If was re-verified, this paragraph should clearly state that.

7. Telegraph Canyon East Sewer Model – Page 24

a. How does the flow generation rate shown on Table 1 (page 23) for Telegraph Canyon and Main Street Basins compare to those on page 24 for Telegraph Canyon East Sewer Model?

b. The first sentence indicates that the diurnal pattern for CV-10 (in Bonita) was used as the basis of analysis for Telegraph Canyon Basin, why is this being used?

c. The Pumped Flow Study prepared by PBS&J in 2002 identified potential future constraints within MH 107 and MH 110. That section of the trunk line was originally intended to be upsized with the improvements that were made about a year and half ago but was ultimately dropped. Was this section metered as part of this study to verify those earlier projections? If not how does that section perform under the various alternatives evaluated as part of this study? It was a bit challenging trying to answer these questions from the current draft. There are recent indicators that the section may need to be re-evaluated.

8. Poggi Canyon Sewer Model

The meter data used in developing this model is based on MH 5201, MH 5163 and CV-2. However, data from MH 6836 (i.e. MH in Reach 205) should have been used in this analysis. The data from MH 5201 may not be quite applicable since it has a combination of flow from both Poggi Canyon Basin and Main Street Basin. Re-check this analysis.

9. Manhole numbering in Figures/Exhibits/Text – All

The use of manhole numbers (AC No.) is not consistent. In most of the Text you use the Wwa_lk number form the City's database. On the exhibits several different numbers are used. On the North-West Model Exhibit Wwac_id were used. On the Poggi Canyon Model Exhibit a different system is used. For the Telegraph Canyon Models, where the

7a. Telegraph Canyon East model loading was based on EDU conversion factors from the City Subdivision Manual. Using these conversion factors and the calibrated generation rate yields the following unit flow rates for different land use categories:

SF Residential	-	160 gpd/DU
MF Residential	-	120 gpd/DU
Commercial/Industrial	-	2,500 gpd/DU
Elementary School	-	9,000 gpd/site

7b. CV-10 basin assumed similar in developed land use to the Eastern Telegraph Canyon Basin. The modeled diurnal pattern was refined as part of the model calibration process.

7c. No metering of these reaches was performed as part of the Master Plan. Previous studies indicated that these reaches may surcharge under future loading conditions that included inter-basin pumping into Telegraph Canyon. Ultimate model simulations without flows from the Otay Lakes Road temporary pump station indicate no capacity constraints within these reaches.

8. The Poggi Canyon Model was not calibrated as part of this Master Plan. Since recent general development patterns within the basin remain consistent with the existing land use at the time the Poggi Canyon Model was developed (2002), the calibrated generation rates from the existing model were used as the basis for ultimate Poggi Basin simulations.

9. Text, table, and graphic labeling revised to ensure consistency

Dan Brogadir - 4 - October 19, 2004

Willdan Study Nos. have be used in a variety of City studies, it may be prudent for clarity to retain those numbers, however, where possible also show the (Wwa_lk) next to it.

Please reconcile manhole or (AC) numbers so that they are the same on the Exhibits, the Figures, and the Appendices and in the text. They should also match the City's database. Verify the nodes in the appendices to ensure that they match the City's database.

10. Poggi Canyon Model – Page 27

The Poggi Canyon Line flows into the Salt Creek Line at Main Street. Why is it still being modeled with the Date Faivre Line?

11. Capacity Analysis Bottom of page 31

This should begin a new section. Start at the next page or do something so that it does not look like part of the Salt Creek Model.

12. Capacity Analysis – Bottom of page 32

The four locations that show overcapacity were during wet-weather conditions. How much extra flow is due to wet-weather? (20% to 40% from page 4)

13. ADS Flow Monitoring Report –

a. Please revise the numbering system for the metering points. The current numbering conflicts with the numbering of the City's permanent flow meters, which are also referenced in this report.

b. Revise the Flow Schematic to clearly identify the trunk lines and meter locations or provide a table at the beginning of this section of the report, which shows the meter locations.

c. Please add the existing MH ID's from the City's database for greater clarity.

d. Revise the Summary Pages (i.e. the Page after Site Reports) by adding other pertinent data such as pipe size, to make the Flow Condition Data more meaningful.

e. ADS meter locations "CV-1, CV-2 and CV-4" shown in this report shows metered locations within streets where there were two sewer lines. The schematic should be revised and made clearer in the report so that it is immediately apparent one which of the lines was being monitored.

10. Poggi Canyon connects to Salt Creek Interceptor at Main Street in model. Date-Faivre trunk is modeled with no connection to Poggi Canyon Interceptor

11. Text revised

12. Wet-weather flows were simulated by adding 10 percent of the average flow to account for rainfall dependant infiltration

13. Metering report only available as non-editable .pdf document

n Brogadir - 2 - July 19, 2004

5. Findings – Page 3

   a. Revise the first sentence in this section to indicate that the modeling included 8-inch diameter mains (Moss Street).

   b. Revise Table 2

      i. Revise the table, which currently shows simulated peak flow depth to diameter impacts by adding a column, which shows existing conditions. Since the model was calibrated from existing metered flow, that data should also be included.

      ii. Revise and identify the trunk sewers as shown on the attached marked up sheet.

6. Metro Capacity Impacts – Page 8

   Revise this section to clearly quantify the Metro Capacity City needs for each of the alternatives analyzed (for example Alternative 2 would require the City to have Metro Capacity rights of 20 mgd. etc.)

7. Additional Comments

   a. The City is in the process of updating the General Plan, and part of the update involves the impacts resulting from the intensification of land uses. For this reason, it is important to critically examine the impacts of the land use intensification primarily on the western side of the City (specifically "downtown Chula Vista). A more detailed analysis of the impacts needs to be included in this study, to show the impacts on 8-inch diameter pipes within the corridors where the City is considering more intense development. It is important to identify any required improvements that will be required within the downtown area.

   b. Although the City is still in the early stages of developing the preferred land use alternative for the Bayfront. there is enough information at this time to generate a preliminary estimate of potential flows that will be generated from that portion of the City. Therefore, modify this analysis to include an analysis of the Bayfront (which includes Chula Vista Ownership and the Port District Ownership). This is particularly crucial since the City will soon begin the process of developing a strategy for the acquisition of additional capacity rights.

5a. Text revised

5b. Table 2 revised to show modeled existing flow conditions and reach locations with

6. Text and Table 5-3 revised to clarify Metro capacity requires consistent

7. Analysis of local collectors within the urban core area is beyond the scope of this study and would require detailed site development planning information not currently available. City Planning Department staff indicated that the level of detail provided in Master Plan is sufficient for evaluation of the General Plan Update alternatives.

   Future flow projections for the Bayfront Basin were included in the Wastewater Generation and Metro Capacity analysis. These projections were based on assumed development of currently vacant parcels per current land use plans.

CITY OF
CHULA VISTA

ENGINEERING DEPARTMENT

MEMORANDUM

July 19, 2004
0735-10-SW223

TO: Dan Brogadir, Project Manager, PBS&J

FROM: Anthony Chukwudolue, Civil Engineer
Michael Ralbovsky, Engineering Intern

SUBJECT: Comments on the Wastewater Master Plan Technical Memorandum - Draft Sewer Pump Stations Assessment and Rehabilitation Plan, dated April 2004

The Wastewater Engineering group has completed the review of the above document and we have the following comments:

1. Introduction

   Revise this section to include the following information: At the time of the City's last Wastewater Master Plan in 1990, the following Pump Stations were operational (see attached list). Since then, XX new pump stations have been added to the system and XX pump stations have been decommissioned. Below is a list of pump stations in existence today (see attached). With the recent completion of the Salt Creek Trunk Sewer, four of these pump stations are slated to be decommissioned, and they are as follows …

   Then indicate that for that reason, these four pump stations were not analyzed in this study.

2. Provide graphics showing the locations of all the pump stations and clearly identify the pump stations being decommissioned. Clearly identify the areas served by each of the pump stations.

3. Identify which pump stations were built by developers and those that were constructed by the City.

4. In the third paragraph under "Pumping Capacity, it should noted that since this assessment is part of the General Plan update, the pump were analyzed for their ability to support the ultimate build-out of the tributary area.

Comments dated July 19, 2004
Sewer Pump Station Assessment and Rehabilitation Plan, dated April 2004
(Final Report Chapter 6)

1. Text revised

2. Figure 6-1 included that shows location of existing pump stations. Service area delineation was not available and is not included on the Figure.

3. Information not available from City.

4. Text revised

Dan Brogadir - 2 - July 19, 2004

5. Under all stations reviewed, describe the existing equipment and describe the proposed equipment to a semi-technical degree. Name the pump, the size, efficiency rating, head rating, NEMA rating, H.P., estimated energy costs with and without improvements per annum, the controller system, the SCADA parameters involved in monitoring of the station.

The Wastewater Operations group has completed the review of the above document and they have the following comments:

Revise the recommended improvements to the pump stations as follows:

- PS-01- Old Police Dept Pump Station

  The facility has a generator on site, however it is not currently connected to the pump station circuit. We recommend that the station be connected to this generator.

- PS-12 - Parkside Dr. Pump Station.

  Provide a backup source of fuel for the emergency motor; this could be accomplished through the installation of a propane tank or a compressed natural gas tank.

- PS-15, Max field Pump Station.

  Coordinate the proposed upgrade with future restroom ADA upgrades.

- PS-25, Corral Ct Pump Station

  Provide a back-up power generator at this site. The draft assessment currently indicates that a shared generator could be utilized to provide backup power supply. However, since this area is prone to power outages, and has required the intervention of City crews, and since City crews have the burden of responding to the emergency in addition to other scheduled activities, we recommend the provision of a separate generator at this location. Furthermore, due to the proximity of adjacent homes and the potential of discharging into adjacent properties if there is a pump failure, there is definitely a need to provide a back-up power generator at this site.

5. Station technical data added in Appendix G. Energy costs were not included in the evaluation.

Wastewater Operations Comments:

Text revised to incorporate comments regarding recommended improvements to PS-01, PS-12, PS-15, and PS-25

CITY OF CHULA VISTA

ENGINEERING DEPARTMENT

MEMORANDUM

July 21, 2004
0735-10-SW223

TO: Daniel Brogadir, Project Manager, PBS&J

FROM: Anthony Chukwudolue, Civil Engineer
Michael Ralbovsky, Engineering Intern

SUBJECT: Comments Regarding the Review of The Wastewater Master Plan Technical Memorandum "Capital Improvement Projects" dated May 2004.

Comments dated July 21, 2004
Capital Improvement Program, dated May 2004
(Final Report Chapter 8)

1. Background

   Page 1- Revise the second sentence in this section to read as follows:

   "The recommended CIP includes pipeline capacity improvements, pump station operational and capacity improvements, the implementation of a new Video Inspection Program, and the several other miscellaneous programs".

   1. Text revised

2. Rehabilitation and Replacement Budget

   Revise the fourth paragraph on page 4 to include a reference to the spreadsheet shown in Exhibit 1.

   2. Text revised

3. Sewer Capacity Expansion Projects - Methodology

   Revise the last paragraph of this section to indicate the conclusion that the City has a "very limited capacity-constrained sewers..." was based on the evaluation of the impacts resulting from the development of the City under the current adopted General Plan. State that, the impacts resulting from the buildout of the General Plan would be further exacerbated by the adoption of some any one of the land use alternatives currently being considered through the general Plan Update, which is being prepared concurrently with this Wastewater Master Plan Update. Further indicate that these impacts are discussed in greater detail in Chapter XX of this Master Plan.

   3. Text revised

4. Capacity Improvement Budget

   Change the title of Table 4, from:

   "Pump Station Improvements CIP Budget Estimates" to:

   "Sewer Main Improvements CIP Budget Estimates".

   4. Table 8-4 title revised

CITY OF CHULA VISTA

ENGINEERING DEPARTMENT

MEMORANDUM

September 29, 2004
0735-10 SW223

TO: Dan Brogadir, Project Manager, PBS&J

FROM: Anthony Chukwudolue, Civil Engineer

SUBJECT: Comments on the Wastewater Master Plan Technical Memorandum - Capacity Fee Update Study and Capital Facilities Financing Plan dated June 2004.

1. Page 5 – System Buy - in Method

   Revise the system buy-in method to include the following language (if valid):

   "This system is usually applicable in situations where the existing system has adequate surplus capacity and does not require major upgrades or improvements."

2. Page 8 – Service Level Standards

   Define Level of Service

3. Page 10 - Equivalent Dwelling Unit

   Please refer to the specific section of the Master Plan where the average flow per EDU was determined.

4. Page 12 - Table 1 – Valuation of Existing City Pipeline Assets

   What is the source of the data shown on Table 1? it does not seem to match the data shown in Appendix B – GASB34 study for Chula Vista. Please verify the data or change the Appendix.

5. Page 13 - Table 2 – Valuation of Existing City Pipeline Assets

   a. Revise Table 2 as shown on Attachment A.

   b. Appendix D was not included.

Comments dated September 29, 2004
Capacity Fee Update Study and Capital Facilities Financing Plan, dated June 2004
(Final Report Chapter 9)

1. Text revised to include statement

2. Text revised to include a definition of "level of service" as the standard that the City uses to maintain their facilities

3. City staff requested the use of the average flow per EDU as specified in the adopted Subdivision Manual

4. The basis of the asset valuation was the GASB-34 data presented in Appendix I1. The data shown in Table 9-1 includes additional assets not included in the GASB-34 report and reflects costs in 2004 dollars as opposed to 2002 dollars in the GASB-34 report. The analysis on which Table 9-1 is based is presented in Appendix I2.

5a. Table 9-2 revised

5b. Updated financial plans are included in final report in Appendix K

6. Page 13 – Calculation of Proposed Capacity Charges

   The buy-in equation on Page 10 seems to indicate that the capacity of the asset would be overall capacity of the system. Therefore, for the City of San Diego system, the capacity would be 255 mgd – since the system can handle that level of flow without any improvements. Also, for the City of Chula Vista, since this Master Plan effort identified system deficiencies/constraints, which needed to be mitigated through future capacity enhancement projects, there is a justification to show the "system capacity" as the current level of flow of 16.346 mgd. Using these parameters yields a rate of $3,085/EDU. However, if you have to use the current flows as the capacity of the system for both agencies, there has to be a greater explanation for that because it seems slightly inconsistent with the equation.

7. Page 15 – Long Range Plan - Table 4 – Multi-Year Financial Plan Assumptions

   Why is the Capacity Fee shown at a flat rate of $3,000 EDU even though the discussion below the table indicates that the fee is being escalated by the ENR-CCI-LA. Review and re-evaluate Tables 5 & 6.

8. Page 15 – Long Range Plan

   Insert a heading prior to the last paragraph titled "Capital Improvement Projects"

9. Page 15 – Long Range Plan

   a. Revise the last paragraph of this page to refer to a new Appendix, which will be the Long Range Plan for Capital Improvement Projects and their funding sources. See Attachment B. The Appendix will clearly show which projects are funded using Trunk Sewer Capital Reserve Funds and those funded using Sewer Facilities Replacement Fund. This will provide the link needed to understand Tables 5 and 6.

   b. Revise the last paragraph of this page to show that the multi-family and non-residential sewer service rate is $0.06/HCF.

10. Page 16 – Long Range Plan

    Revise the second paragraph of this page to add the following language, at end of the second sentence:

    "The City is also in the process of updating its General Plan, as part of this effort, it was determined that, if the City adopts its preferred alternative, the ultimate flows generated from the City would be X mgd., therefore, the City may need to acquire a total of Y Mgd at a cost of $Z. The projected source of revenue ....."

6. Calculation revised based on City staff input. San Diego flow kept the same at 198.392 mgd, City flow increased to existing Chula Vista Metro capacity of 19.843 mgd, and unit flow rate increased to adopted City standard of 265 gpd/EDU. Resulting cost per EDU is $3,478.09.

7. Table 9-4 revised to show escalation

8. Text revised

9a. The detailed Financial Plans are included in Appendix K. These plans show funding sources for each project.

9b. Text revised in Section 9.5 to specify current sewer service rates

10. Text revised in Section 9.5 to include discussion of General Plan Update impacts

11. Page 16 – Long Range Plan – Option 1 Base Case (Table 5)

    a. Revise the second sentence of Item 2 to read as follows: "Transfers from the Trunk Sewer Capital Reserve fund would be required to fund the shortfall in revenue needed for the replacement/rehabilitation projects."

    b. Revise the last paragraph of this page to show that after the first purchase of additional Metro Capacity, there is a revenue shortfall of $3 Million as shown on Table 5.

12. Page 17 - Long Range Plan – Option 1 Base Case Contd.

    a. Revise Table 5 based on recent discussions with staff regarding the funding sources for the new projects identified through the Master Plan effort.

    b. Revise the first paragraph under Table 5 to indicate that the shortfall is $3 Million.

13. Page 18 – Long Range Plan – Option 2

    a. Revise Table 5 based on recent discussions with staff regarding the funding sources for the new projects identified through the Master Plan effort.

    b. Insert a new Table after Table 6 or refer to an Appendix, which shows how the Sewer Facilities Replacement Fee was determined (use Attachment C attached).

    c. Revise Table 7 to show that the multi-family and non-residential sewer service rate is $0.06/HCF

14. Page 19 - Metro Capacity Issues

    a. Revise the first paragraph on this page to indicate that the City is currently estimated to receive an additional 1.027 MGD.

    b. Revise the first paragraph on this page to indicate that the City is currently generating approximately 16.346 mgd. to be consistent with an earlier statement on Page 13.

    c. Revise the second to the last sentence of paragraph on this page and reconcile it with the second paragraph on Page 16, which showed the current cost of Metro capacity at $18/gal., and a potential cost of $23.4 Million. That amount was used in Tables 5 & 6. This paragraph shows it at a cost of $14/gal., with a potential cost of $18.2 Million.

11a. Text revised

11b. Updated financial plan indicates a shortfall of $4 million. Text revised to reflect this amount.

12a. Table 9-5 revised to reflect specified funding sources.

12b. Text revised to indicate $4 million shortfall

13a. Table 9-6 revised to reflect specified funding sources.

13b. Detailed Facilities Replacement Fee calculations table included in Appendix M

13c. Table 9-7 revised to show specified sewer service rate

14a. Text revised

14b. Text revised

14c. Text revised to shown estimated cost of $18/gal for a cost of $27 million

14d. Section headings revised as specified

d. It may be helpful to revise this section and show the paragraphs under the following sub-headings:

   i. Capacity Requirements – Page 19
   ii. Planned Metro Facilities – Page 21
   iii. Allocation of Additional Metro Capacity – Page 21

If you have any questions or need clarification regarding these comments, please call me at ext. 6129.

Attachments

CITY OF CHULA VISTA

ENGINEERING DEPARTMENT

MEMORANDUM

February 21, 2005
0735-10-SW223

TO: Dan Brogadir, Project Manager, PBS&J

FROM: Anthony Chukwudolue, Civil Engineer
Luis Pelayo, Assistant Civil Engineer

SUBJECT: Comments on the Wastewater Master Plan – Draft, dated January 2005

The Engineering and Public Works Division have reviewed the first check of the Wastewater Master Plan for the City of Chula Vista dated January 2005. The following are comments from our review:

Wastewater Comments

1. Please provide a written response to each of the comments made to the following memorandums:

   a. Comments on the Wastewater Master Plan Technical Memorandum-Sewer Pump Stations Assessment and Rehabilitation Plan dated April 2004

   b. Comments on the Wastewater Master Plan Technical Memorandum-Sewer Capacity Evaluation dated July 2004

   c. Comments on the Wastewater Master Plan Technical Memorandum-General Plan Update dated March 2004

   d. Comments on the Wastewater Master Plan Technical Memorandum-Capacity Fee Update Study and Capital Facilities Financing Plan dated June 2004

   e. Comments on the Wastewater Master Plan Technical Memorandum-Revised Draft Capacity Fee Update Study and Capital Facilities Financing Plan dated October 2004

   f. Comments on the Wastewater Master Plan Technical Memorandum-Wastewater Generation Analysis dated April 2004

Comments dated February 21, 2005
Wastewater Master Plan – Draft, dated January 2005

1. This documents provides written response to all City comments

2. Executive Summary.

   a. Page E-2 -Study Area

      (i) Please provide source of information for Table E-1, City of Chula Vista Existing Land Use Table.

      (ii) Revise the first sentence in this section to indicate that the City's population is currently estimated at 224,003 per SANDAG (see attached). *(Although this WWMP effort was started in 2003, the population had already exceeded 199,700 at that point, please verify)*

   b. Page E-12 Table E-9 Proposed Capacity Charge based on system Buy-in Methodology. Revise the Table to add a column showing the generation factor per EDU, and correct the amount shown for the values of Chula Vista's collection system per EDU (i.e. $974.86).

3. Introduction, Sewer System Design Standards, page E-8

   Currently the City utilizes a unit generation rate for residential (R1) of 265 gpd per dwelling unit, however the report recommends a unit rate of 250 gpd per dwelling unit for residential (R-1 and R-2) and 190 gpd per dwelling unit for residential (R-3 and MHP). A policy decision regarding these rates is still under discussion at this time. We will advise at a later time.

4. Chapter 1-Section 1.2- Background, page 1-2

   Revise paragraph 2 line 8 to add San Miguel Ranch Road and revise paragraph 4 line 14 with correct no. of pump stations per Operation's comments.

5. Chapter 2-Section 2.2-Sewer Basins, Figure 2-2

   a. Revise the third paragraph of this section to indicate that the City's population is currently estimated at 224,003 per SANDAG (see attached).

   b. Please provide an updated "Existing Land Uses Exhibit" showing additional eastern areas such as Village 11, Village 6, Eastlake Woods and Vistas, Village Center West, Village Center North, etc.

6. Chapter 2-Poggi Canyon Basin, page 2-13

   Revise paragraph 1, line 4 to add "and commercial developments within the Freeway Commercial Planning Area 12 and Eastlake Terraces.

2a. Source of existing land use data was the City's GIS parcel database provided by the Chula Vista Public Works Department. Dwelling units and acreage for each land use category were extracted from the database through ArcGIS applications.

Text revised to show current population of 224,003 people.

2b. Table E-9 revised to include unit generation rates and correct cost amounts

3. Per City direction, no recommendation is provided in the Master Plan to modify currently adopted design unit generation rates. Table E-5 revised to show adopted unit generation rates of 265 gpd per EDU.

4. Revised text

5a. Section 2.1 text revised to show current population of 224,003 people.

5b. Figure 2-2 based on available data provided by City Public Works and is current as of 2001.

6. Text revised

Dan Brogadir - 3 - February 21, 2005

7. Chapter 3-Section 3.1 Introduction, page 3-1

   a. Recheck Table 3-3 SANDAG Population Projections, it is significantly different from the SANDAG projections provided by the Planning Department to the Wastewater Engineering Unit (see attached).

   b. Revise line 5, "1.27 mgd" should read "1.027 mgd".

8. Chapter 5-Section 5.3 General Plan Alternatives, page 5-3

   a. Revise paragraph 2 to include the Bayfront area. Revise paragraph 2, line 5 to add Village 7 and Village 10.

9. Chapter 7-Section 7.1 Introduction, page 7-1

   Revise paragraph 2, line 4 to replace (August 2001) with (January 2005).

10. Chapter 9-Section 9.6 Metro Capacity Issues, page 9-20

   a. Revise Table 9-5 to match Exhibit 5. The CIP expenditures do not seem to match the projections shown in Exhibit 5..

11. Appendix A – Hydraulic Model Flow Projection Summaries

   a. Revise all the Tables to include a column for cumulative design flow Qs from upstream to downstream MHs

   b. Review/revise the tables to ensure that the manholes are numbered from upstream to downstream (The East Telegraph Model does not seem to be)..

   c. Revise table to clearly identify the various trunk lines by inserting a row with a heading identifying the particular stretch of sewer line (i.e. "G" Street Trunk Sewer or Telegraph Trunk Sewer etc.)

12. Appendix D – Model Land Use and Wastewater Loading Calculations

   a. Revise all the Tables to include a column for cumulative design flow Qs from upstream to downstream MHs

   b. Review/revise the tables to ensure that the manholes are numbered from upstream to downstream.

   c. Please provide the East Telegraph Model Land Use, it was not included.

   d. Revise table to clearly identify the various trunk lines by inserting a row with a heading identifying the particular stretch of sewer line (i.e. "G" Street Trunk Sewer or Telegraph Trunk Sewer etc.)

7a. The projections were from SANDAG Series 8 MGRA data provided by the City of San Diego Metropolitan Wastewater Department and were consistent with the data that Metro was using at the time of model development. These projections may be different than later SANDAG forecast series.

7b. Text revised

8a. Text revised

9a. Text revised

10a. Improvement cost estimates provided in Exhibit 5 – Chula Vista Capital Improvement Program are given in 2004 dollars (see table footnote). The financial plans shown in Tables 9-5 and 9-6 use an escalation factor of 4% to adjust for inflation. No revisions to Table 9-5 were made.

11a. Tables included in Appendix D revised to include cumulative flows

11b. Tables included in Appendix D revised to provide sequential manhole numbering

11c. Tables included in Appendix D revised to include sewer location

12a. Tables included in Appendix D revised to include cumulative flows

12b. Tables included in Appendix D revised to provide sequential manhole numbering

12c. EDU Table for East Telegraph Canyon Model included in Appendix D

12d. Tables included in Appendix D revised to include sewer location

13. Appendix E – Model Results

a. Please include the model results for the other models (i.e. Northwest model, Poggi Canyon Date-Faivre and Salt Creek).

b. Add footnote to the effect that the modeled Max Q is the Peak Flow in the system (for example, the East Telegraph Model showed an average daily flow of 2.462 mgd, however at MH 35, the Table shows the Max Q at that location to be 6.710 cfs (4.337 mgd)).

13. Appendix F – General Plan Land Use Tables

a. Please revise the Title of Appendix F to be Land Use tables and Model Results.

b. Please provide the Model results for the various Land Use Alternatives.

14. Appendix H- City of Chula Vista March 18, 2003 City Council Agenda Statement Regarding Current Sewerage Capacity Charge.

Please include the Agenda Packet mentioned above i.e. Council Agenda Statement, Resolutions and Ordinances (these items were included in the previous drafts).

15. Appendix K – Updated Financial Plans

Please provide a copy of the Base Case financial plan, only Option 2 was provided I this draft.

16. Exhibit 5 – Capital Improvement Program

a. Please include the comprehensive Capital Improvement Program Table, which was previously routed with the earlier drafts of the Tech Memos. That Table showed an itemized list of the projects in the CIP and their funding sources. It also showed what year the expenditure was planned for.

Public Works Operations Comments

Please incorporate the findings and recommendations of the attached City's Sewer Overflow Response and Prevention Plan to Chapter 7 of the Master Plan.

Please call Luis Pelayo at (619) 397-6093 for any questions regarding these comments.

cc: Frank Rivera, Deputy City Engineer
Alex Al-Agha, City Engineer

Attach.

13(i)a. Results for Northwest, Poggi Canyon/Date Faivre, Salt Creek and Telegraph Canyon included in Appendix E

13(i)b. Column heading in results tables revised from Max Q to Peak Flow

13(ii)a. Appendix F titled revised

13(ii)b. Model results for General Plan Alternative model simulations included in Appendix F

14. Agenda packet included in Appendix H

15. Base case and Option 1 Long-Range Financial Plans are included in Appendix K

16. Exhibit 5 includes list of projects, funding sources, and projected year of expenditure

Public Works Operations Comments:

The findings and recommendations of the City's Sewer Overflow Response and Prevention plan are summarized in Chapter 7.

CITY OF CHULA VISTA

ENGINEERING DEPARTMENT

MEMORANDUM

March 29, 2005
0735-10-SW223

TO: Dan Brogadir, Project Manager, PBS&J

FROM: Anthony Chukwudolue, Civil Engineer
Luis Pelayo, Assistant Civil Engineer

SUBJECT: Final Draft comments on the Wastewater Master Plan – Draft, dated March 2005

The Engineering and Public Works Divisions have reviewed the Final Draft of the Wastewater Master Plan March 2005. The following are comments from our review:

1. Executive Summary,

   a. Page E-1 –Introduction. Revise paragraph 3, line 2, 14 sewer pump stations should read 12 sewer pump stations

2. Chapter 1-Section 1.2- Background, page 1-2

Revise paragraph 4 line 2- 14 sewer pump stations should read 12 sewer pump stations.

3. Chapter 2-Section 2.2-Sewer Basins, Figure 2-2

Please provide an updated Figure 2-2 "Existing Land Uses Exhibit" (dated 2001) showing additional eastern areas such as Village 11, Village 6, Eastlake Woods and Vistas, Village Center West, Village Center North, etc.

4. Chapter 2-Poggi Canyon Basin, page 2-13

Revise paragraph 1, line 5 to replace "and commercial developments within the Freeway Commercial Planning Area 12 and Eastlake Terraces" with "commercial developments within the Eastlake Terraces, and future developments within the Freeway Commercial Planning Area 12".

5. Chapter 5-Section 5.3 General Plan Alternatives, page 5-3

   Revise paragraph 2, line 6 to add to the East area the "Eastern Urban Center".

Comments dated March 29, 2005
Wastewater Master Plan – Draft, dated January 2005

1a. Text revised

2. Text revised

3. Figure 2-2 was revised to show additional eastern areas.

4. Text revised

5. Text revised

Dan Brogadir - 2 - March 29, 2005

6. Chapter 6-Section 6.1 Introduction, page 6-1

   a. Revise paragraph 2 to reflect 12 operational pump stations and update the list of pump stations per latest information provided by Brian W. from Public Works Ops. (see attached list).

   b. Revise Figure 6-1 to add new Police Department pump station PS-07 at 4th and F Street and revise Olympic Training Center Boat House 1 to "temporary" status (not yet decommissioned).

7. Chapter 8-Section 8.3 Rehabilitation and Replacement Budget, page 8-5

Paragraph 2 and Exhibit 5 (at end of the report) are not consistent with the summary provided in this paragraph. Paragraph 2 shows $400K, $600K, and $900K while the Exhibit 5 shows $300K, $500K, and $800K respectively, please reconcile.

8. Chapter 9

   a. Section 9.5, Metro Capacity Issues, page 9-18. Revise Table 9-5 to match Exhibit 5. The CIP expenditures do not seem to match the projections shown in Exhibit 5.

   b. Section 9.6, page 9-20. Footnote 7-Appendix M should read Appendix L.

   c. Section 9.3, Table 9-3, page 9-14 – Proposed Capacity Charge based on system Buy-in Methodology. Revise the Table to add a column showing the generation factor per EDU, and correct the amount shown for the values of Chula Vista's collection system per EDU (i.e. $974.86).

11. Appendix E – Ultimate Conditions Wet Weather Salt Creek Model Table

   a. At Node 83, there should be increased flows resulting from the two inflow sources i)Poggi Canyon Trunk Sewer connection, and ii)Main Street Trunk Sewer connection both coming in to Node 86 of the Salt Creek Model.

   b. Northwest Model-Ultimate Condition-Revise Exhibit 1 and Data Table provided in Appendix E in order to make it easier to the reader to follow all the nodes of the two parallel mains in J Street.

   c. Northwest Model-Existing and Ultimate Condition-It appears that the following sub-basins are missing from the model calculations:
      i) MH CV8-East of Second Ave, North of F St, West of I-805, South of National City boundary,
      ii) MH CV12-portions of San Miguel Ranch, North of Rolling Hills,
      iii) MH CV4-Water Park and Coors Amphitheater, and

6a. Table and list revised per information provided.

6b. Figure revised.

7. Chapter text revised to be consistent with Exhibit 5.

8a. Tables are consistent, note that Table 9-5 includes inflationary adjustment for future CIP expenditures, while Exhibit 5 gives expenditures in 2004 dollars.

8b. Footnote revised.

8c. Table expanded.

11a. Increased flows can be seen at Node 83 from Poggi Canyon Trunk Sewer. The Inflow from the Poggi Canyon Trunk Sewer occurs at model Node 344, which then connects to Node 83. No inflows from the Main Street Trunk Sewer were included in the Salt Creek model. The interconnection between the Main Street Trunk Sewer and the Salt Creek Interceptor was planned and designed by the City of Chula Vista after final models were developed.

11b. Added detail to Exhibit 1 to better show connectivity of the parallel mains in J Street. No changes were made to Appendix E.

11c. These subbasins were not included in models due to either the small size of the tributary area or a lack of facility data.

Dan Brogadir - 3 - March 29, 2005

iv) Area located within West of the Landfill, South of East Palomar, East of Palm Ave, and North of the City boundary.

12. Appendix F – General Plan Land Use Tables

a. Missing Poggi Canyon and Telegraph Canyon Models Land Use projections and Model Results for the ultimate buildout conditions under the various Land Use Alternatives.

b. Salt Creek Model-All Alternatives. The cumulative flows for Node 383 of 224,340 GPD appears to be low compared to upstream Node 357 and downstream Node280.

c. Please Q/C the whole Salt Creek Model.

General Comments

- Provide an additional Exhibit showing the overall basins and directional main line flow lines with their respective sub-basins color coded.

Please call Luis Pelayo at (619) 397-6093 for any questions regarding these comments.

12a. Poggi Canyon and Telegraph Canyon Models were not modeled under the various Land Use Alternatives. In the Poggi Canyon Model, there was a slight decrease in cumulative model flow and a significant decrease in model flow in the upstream reaches of the trunk sewer. There were no changes in land use in the Telegraph Canyon Model.

12b. Node 383 is the Inflow node for a tributary sewer to the Salt Creek Intercepter (i.e., Node 383 is not on Interceptor). The tributary sewer connects to the Salt Creek Interceptor at Node 348. This connection is illustrated graphically in Exhibit 4.

12c. After further evaluation of the Salt Creek Model, it has been determined that the model is accurate and consistent with available facility data provided by City.

General Comments:

Additional Exhibit provided.