Summit County Concurrency Report Instructions

Version 19.2 5/07/2019

INTRODUCTION:

CONCURRENCY is a program implemented by Summit County to protect both the Water Systems and the Public, who rely on said water services. In this context - the term Concurrency describes "a water supplier's ability to develop water sources, at a rate needed to safely keep up with (or stay concurrent) with any new growth demands imposed upon it."

It is also very important to remember that Concurrency examines current and projected Water Source capacities and demands only, and does not take into consideration other possible servicing constraints, such as Legal issues relative to contracts or supply, Water Rights limitations, Water Quality issues, Storage deficiencies, and other possible Distribution System constraints, i.e. pumping and pipe pressure losses, etc. These issues should be regularly evaluated by each water system individually, and factored into a reasonable reserve factor beyond the surplus capacities provided in this Concurrency program.

SIMPLIFICATION - This newer report is greatly simplified from previous submission requirements. It is designed to provide only key information for County review, as well as information which would also be extremely valuable to water system personnel for their own review and performance monitoring.

IMPORTANT UNIT DEFINITIONS:

Gallons: Use gallon figures from your records or convert to them if needed. If your system records are in 1,000 gallon units, add the appropriate 3 zero's after the figures.

ERC: Means "Equivalent Residential Connection", and is a standardized unit of water demand which equates to the consumption of an average residential customer. This unit is typically unique to each system. It is used to identify the impact or quantity a non-residential type user has on the system, i.e. commercial entity equals 12 ERC's, etc.

Peak Month: The highest Supply Production Month or User Demand Month on a system. The two could possibly be on different months, but not typically.

Peak Day: The peak Supply or Demand day on a system, assumed to be during the peak month. If meters are not read every day, it is assumed to be the Peak Month volume, divided by the number of days, and multiplied by a factor of 1.3 to arrive at an estimated peak day. This number is divided by 1,440 to arrive at a peak day GPM.

M&I Water: A common industry term used to signify typical Municipal, Commercial, and Industrial water users served by a system. This is usually where the vast majority of metered

customers lie, and excludes agricultural and large irrigation type customers.

Peaking Factor: This is a ratio of the Current Year Peak Month to the Average Month, and is often used to determine the impact irrigation or non-typical (large) types of users have on a water system. A typical system should have a peaking factor of approximately 2.0.

DATA ENTRY AND CALCULATIONS:

*(**NOTE**: All Data is entered ONLY in the White Cells. All colored cells are derived or calculated. Cells or groups of cells are referred by Row numbers and Column letters as marked on the form, i.e. 2a or 17d, 27e - 39e, etc.*

COVER - REPORT Page 1

COVER LETTER - This page provides space to enter a cover letter with any detailed explanations needed to understand or highlight key areas in the report. For Line Breaks in the description box, please use Alt-Enter key combinations.

SUPPLY and DEMAND - REPORT Page 2

1j - Do not use this cell - This date will be entered by the Concurrency Engineer when the form or any adjustments have been approved.
2b - Enter your System Name in this cell.
2j - Enter date submitted or when the form was completed OR when the most recent Supply and/or Demand data was updated.

SUPPLY - DEMAND TABLE - The next table consists of monthly data (Rows 3-14) entered from your source production records, billing system, etc. And is divided into a Date of Month section (Column a), a Supply section (Columns b-d), a Demand section (Columns e-h), and a Balance section (Columns i-j). Rows 15 and 16 show the Totals in gallons AND Acre-Feet for each corresponding column.

3a-14a - This is the Month of each data row entry by (initially) a calendar year, and can be updated on a rolling basis if data is updated to more recent conditions, say half way through the year. When 6 or more months are updated to the most recent year, the year in the cell above this column is updated. These dates also carry through to the column headings on the Production and Sales Report on Page 3, and the months updated on this table Supply and Demand Table (in the Total Demand Column) MUST ALSO be fully updated on the corresponding columns in the Production and Sales Report, in order to generate a report with valid data.

3b-14b - This is the Production Totals of ALL of your water sources, including wells, springs, surface water, etc. This data is automatically transferred from the sum of (Rows 51 - 63) or Row 64, on the Page 3 Data Entry Worksheet.

3c-14c - This is the monthly sum of all Contract or Wholesale Water Purchased and delivered to your system by month. This data is automatically transferred from the sum of (Rows 65 - 68) or Row 69, on the Page 3 Data Entry Worksheet.

3d-14d - This is a calculated Sum of Supply of columns b and c above, and should represent the TOTAL source water delivered into your water system each month.

3e-14e - In the Demand section, this column represents all of the metered M&I Water Portion, or Municipal, Commercial, and Industrial water which is typically sold to your customers and derived from their user meters. Most of your customers meters reside in this section. It is calculated by taking Column h and subtracting columns f and g.

3f-14f - This column represents all Secondary (raw) water sold, as well as large agricultural and irrigation only customers. This would also represent the use of any golf courses or other large recreational customers which would only be irrigation, including snowmaking water. Do not include customers such as schools, where their irrigation is tied to a building or structure, etc. None of this water should have been included in column e above. This data is automatically transferred from the sum of (Rows 75 - 82) or Row 83, on the Page 3 Data Entry Worksheet.

3g-14g - This column represents the monthly sum of all Contract or Wholesale water sales and deliveries made from your system to another, by month. This data is automatically transferred from the sum of (Rows 70 - 73) or Row 74, on the Page 3 Data Entry Worksheet.

3h-14h - This is a where you enter the Total Metered Demand of ALL of your customers. This data should represent the TOTAL demands of water consumed by your water system users, each month.

3i-14i - This figure represents the Total Supply Less the Total Demand, and equates to the total Unaccounted Water or losses on the system.

3j-14j - This column of monthly figures represents the portion of the system's Total Supply needed to just supply the many M&I customers. This is the Total Supply figure, less the Agricultural/Irrigation customers and the Contract Sales customers. In other words, it is the M&I Demands plus all unaccounted for water losses. These totals are capacity rich, and are used extensively in the Concurrency calculations at the bottom of "Report Pg2".

RESULTS SECTION - Rows 17-27 at the bottom of "Report Pg1" provides the key results and data compiled by the submission. The descriptions below identifies each relevant cell:

> **NOTE**: Column d identifies calculations dealing with the SOURCE Supply (GPM related), and Column j deals with mainly the M&I DEMANDS and is more ERC related.

17e - Begin by entering the number of metered (or connected) M&I ERC's served, as of the end of the report year from the System's Billing system or other reports.

18e - Enter the number of metered (or connected) M&I Customers served, as of the end of the report year from the System's Billing system or other reports.

19d is the "Percent of Contract Supply to Source Production", and is an indicator of system contractual dependence. This is Cell 15c divided by 15b.

20d Shows the "Total SUPPLY Peaking Factor" and Cell 20j shows the "M&I Demand's call on Supply Peaking Factor". Again, the ratio of the peak month to the average month.

21d is the "Peak SUPPLY Month This Year in Gals" cell and represents the peak Supply Month in gallons carried to this cell. The Peak month is also shown in the designation.

22d is the "Estimated Peak DAY SUPPLY Required in GPM" cell and is derived by dividing cell 21d above by the minutes in the month, and multiplying this by 1.3.

23d is the "Capacity of All Sources on Peak DAY in GPM" cell and is carried up from the table Total in Cell 41j Below.

24d is the "CURRENT PEAK DAY Surplus or (Deficit) in GPM" cell and is a Key Metric. It is found by subtracting Cell 22d from 23d above.

25d is the "LESS Future Projected Demands in GPM" cell and is carried up from the table Total in Cell 41n below.

26d is the "PLUS Future Projected Sources in GPM" cell and is carried up from the table Total in Cell 48n below.

27d is the "FUTURE AVAILABLE SOURCE CAPACITY in GPM" cell and is a Key Metric. It is found by subtracting 25d from 24d, and then adding 26d above.

17i is the "TOTAL Annual % Water Loss" cell and is derived by dividing Cell 15i by Cell 15d above

19j-k is the "Water Loss as a % of M&I Water" cell and is similar to 17i above, but this looks at the loss as a percent of M&I water, or Cell 15i divided by Cell 15j.

20j-k is the Current M&I ERC Commitment obligations to serve, which were in effect as of the initial submission of this report program, plus any outstanding commitments to date from the Water Letter Ledger, but are not active and connected to a meter.

21j-k - Shows the "Peak M&I Peaking Factor" calculated by dividing the peak monthly supply used in Cells 3j-14j divided by the average monthly supply (Cell 15j divided by 12 months). Under the approved column (k) the peaking factor is set to an industry standard of 2.0.

22j-k is the "Average SUPPLY Gallons per ERC" cell and is the Total M&I water divided by the number of ERC's currently served, or Cell 15j divided by Cell 17e.

23j-k is the "Average SUPPLY per ERC in Acre-Feet" cell and is Cell 22j or 22k above converted to Acre Feet.

24j-k is the "Average PEAK DAY SUPPLY GPM per ERC" and is Cell 22j or 22k above converted to average GPM over a year, then multiplied by the Peaking Factor in Cell 21j or 21k above and multiplied by 1.3. This value as also known as the "Demand Factor" (as referenced in the Concurrency Ordinance). Under the approved column (k) the value is set as determined by the Concurrency Engineer.

25j-k is the "ADDITIONAL ERC's THAT COULD CURRENTLY BE SERVED" cell and is a Key Metric and is derived by dividing Cell 24d to the left by Cell 24j or 24k above.

26j-k is the "Percent of Capacity Currently Utilized" cell and is a Key Metric and derived by dividing Cell 17e above, by the Sum of Cell 17e and Cell 25j or 25k above.

27j-k is the "LESS Future Potential ERC Development" cell and is calculated by taking 26d less 27d, and then dividing that value by 24j or 24k above, depending on the relevant column.

28j-k is the "FUTURE ADDITIONAL ERC DEVELOPMENT CAPACITY" Key Metric and is derived by subtracting Cell 27j or 27k above, and the Committed ERC's in Cell 20j or 20k, from Cell 25j or 25k above.

INVENTORY - REPORT Page 3

CURRENT WATER SOURCE INVENTORY and TESTING - This table uses data extracted from the past Concurrency approvals for all of your sources and contracts used for supply. Each source is listed in Column **28a-40a**, with its reported production in Column **28c-40c**. This data is transferred automatically from Page 3 of the Data Entry Worksheet.

In Column **28b-40b**, identify whether the source is or is not a well.

In Column **28d-40d**, enter the TDS for each source as taken during the first week of September.

In Column **28e-40e**, enter the average August static drawdown level of each source (only if a well) from the surface in feet.

In Column **28f-40f**, enter the average August dynamic drawdown level of each source (only if a well) from the surface in feet.

Now enter the source developed or tested capacity in GPM in Column **28g-40g**.

Enter the amount of State reduction(s) for each source in Column **28h-40h.** If there is no State reduction, a 15% reduction used in the Concurrency program will be applied in Column **28i-40i**.

The row data in the previous columns are then Totaled in Column **28j-40j**.

Each Column is also Totaled below in Row 41, with Cell 41j carried above for use in Cell 23e. This final figure is your legal and realistic Peak Capacity Available, recognizing that this should further be reduced by system management for any water quality, water right, or other possible constraints as discussed in the introduction on Page 1 above.

10 YEAR PROJECTED DEMANDS - This table shows 10 year future projected water demands and contracts which will increase the demands on water source capacity of the system.
In Cells **28l-37l**, enter the total anticipated GPM demands each year for NON-M&I (Irrigation) and Contract sales anticipated. Carry this number forward for each year, even if there are no new increases or demands anticipated.

In Cells **28m-37m**, enter new ERC's as anticipated each year. This is only new ERC's for any given year, not an accumulated total. If no growth is anticipated in a specific year(s), just enter zero. Cells **28n-37n** totals the demand in GPM for each year. **Row 38** also sums each column. Cell **39n** also calculates an estimate of new Water Rights needed in Acre-Feet to serve future growth. Cell **40n** shows all of the outstanding concurrency letter demands from the Outstanding Sheet plus the unused demands on the Ledger in GPM. Cell **41n** adds cell 38n and 40n together to arrive at a Total Projected Future Demand in GPM, and this figure is carried forward to Cell 25e in the Supply and Demand Report above.

10 YEAR PROJECTED SOURCE DEVELOPMENT - In this table, enter the applicable Year in Cells **44k-48k**, and corresponding amount of water estimated to be developed by new sources in GPM in Cells **44l-48l**, and estimated new contract supplies in GPM in Cells **44m-48m**. Only enter years where expansion is expected. Cells **44n-48n** show a running total with the final total listed in Cell **48n** carried forward to Cell 26e Supply and Demand Report above.

QUESTIONS - On the bottom of Page 2, enter YES or NO beside each corresponding question in Column b-j. If you answer YES to any question, provide comments and documentation of the same on Page 4, including any separate supporting documentation as may be needed.

CERTIFICATION - Carefully read the Certification on line 49, then Sign, and Print your Name, Title, and Contact Phone in the accompanying spaces specified on line 50.

PRODUCTION and SALES - REPORT Page 4

DATA ENTRY WORKSHEET - Pg3 - Enter monthly production and other data totals (in gallons) by month, for each source, and where applicable, all contract supply and demand, as well as irrigation uses as displayed in white Cells from Rows 51 - 81. Row 82 allows for an other described non M&I usage to be entered, i.e. Main Flushing, etc.

EXPLANATORY - REPORT Page 5

DOCUMENTATION & EXPLANATION WORKSHEET - Pg4 - This sheet is for entering explanations of YES answers on the question section of Page 2. If additional supporting documentation is provided beyond the scope of this sheet, please enter the reference thereto in the reference column.

STANDBY FEE CUSTOMER WORKSHEET - Pg4 - The lower section of Page 4 is for listing the quantity of Standby Fee Customers (OR) ERC's that the system assesses, if applicable. If you have these types of customer please list the quantity below each year for the current report year and past years, and projections for future 10 year periods. PLEASE select whether you are showing total customers OR ERC's with the last cell on the right.

LEDGER - Page 6

CONCURRENCY LETTER LEDGER WORKSHEET - This ledger page is where all data is entered for new water concurrency letters. There is enough rows set up at this time for 500 letters. All data is entered in the WHITE columns. When a name is entered, the row will be assigned a Concurrency Letter Number. The first row (or initial letter) is filled out by the Concurrency Engineer

Column **q** through **x** correspond to the rows 1 through 8 of the letter issued, or about to be issued. Of particular importance is the Column **y**, which shows all outstanding ERC's issued water concurrency letters and which have not been formally connected to the water system, as evidenced by a missing meter connection date and/or a meter number, as assigned to such relevant letter. These ERC's are totaled in the top of column **p**. At the top of Column m are the Total ERC's which are connected, and the top of Column **j** shows the Total GPM committed but not yet connected to the system.

To CANCEL a Concurrency Letter, simply write CANCELED in the appropriate Project Description Column, and then enter a ZERO in the ERC Committed Column.

CONCURRENCY ENGINEERS LEDGER - On the far right of this Ledger are 3 Columns (which may be hidden) to be used EXCLUSIVELY by the Concurrency Engineer for making adjustments to available capacity on the INITIAL and any FUTURE Letters. The first row consists of data from the Supply and Demand Report (Note identical color of cell), and the first date field in this ledger represents the initial approval date of the submission.

As new Supply and/or Demand type data is added or updated in the future on Pages 1 through 4, and following a review and approval by the Engineer, he or she should make an adjustment beginning with the last letter or line in this ledger to update GPM Supply numbers and GPM per ERC numbers. An effective date must be entered, corresponding as close as possible to the applicable letter date of the nearest line. This latest approval date is then carried forward to the Supply and Demand Report on Page 1, in **Cell 1j,** demonstrating the latest date of Concurrency approval. The Concurrency Engineer should then copy for permanent record the entire worksheet with a new date in the name, capturing a snapshot of all the data at that approved point in time.

CONCURRENCY LETTER - Page 7

CONCURRENCY LETTER WORKSHEET - This sheet is where the actual Water System Commitment of Service Letter, or Concurrency Letter is viewed and/or Printed. The only editable box is in the upper right and in Tan. You can enter the number of the Letter you wish to view or print on the Ledger Page here. You may also use the Drop-Down Selector to select an existing letter.

GROWTH - Page 8

HISTORICAL ERC GROWTH DATA - This sheet provides a read only report showing the growth in ERC's as entered in the LEDGER sheet. It shows both connected and unconnected commitments, the TOTAL ERC's, the Annual Approved GPM per ERC and the Total GPM of Commitments. The **Letters Currently Entered but Not Issued** line at the bottom shows letters entered into the Ledger which have not been issued a date yet, i.e. are held for future commitments or have not paid all fees etc. needed for a formal issue. A Chart is also provided showing the historical and current ERC commitments as compared to the ERC projections for the next 10 years as entered in the INVENTORY sheet.

SUPPLY and DEMAND CHART - Page 9

SUPPLY and DEMAND CHART - This chart shows the most recent report year and the ten year projection, as reported of: SUPPLY in GPM, DEMAND in GPM, including the forecast of new projected ERC counts. The critical illustrative of this chart is that the SUPPLY curve should stay a comfortable distance above the DEMAND curve. If they are close or appear to cross, this would become an important indication that new source development or contract purchases should become a priority in the water entities business plan(s).

OUTSTANDING LETTERS - Page 10

OUTSTANDING CONCURRENCY LETTERS - This sheet allows you to enter all of your outstanding concurrency letters issued on paper, up to the date of conversion to this newer electronic reporting system. These letters should include all commitments made in the past where letters were issued but

the customer(s) have not been connected to the water system. The total ERC count of this sheet is carried forward to cell 19j of the Supply & Demand Report, along with any outstanding ERC in the Ledger sheet.
When an outstanding letter receives actual service, the ERC Commitment AND the Original GPM/ERC value should be zeroed out. Do not delete the line item for the letter. If a letter is canceled, do the same thing, but also append "CANCELED" in the Name and/or Comment column.

IMPORTANT INSTRUCTIONS FOR PRINTING SHEETS

While Google Sheets offers many printing options - one of the options it seriously lacks is the ability to save print options. All printing is accessed by hitting the printer icon in the upper left corner, just below the file menu. This will bring up a print view with an option bar on the far right. To assist in an improved printing experience for each page(s), please see below:

Page 1 through 4 - On the settings bar, select the following:
Print = Current Sheet
Paper Size - 8.5" x 11"
Paper Orientation = Landscape
Scale = Fit to Page
Margins = Narrow
Formating = No changes needed
Headers and Footers = Select: Workbook Title, Sheet Name, and Current Date

Ledger - On the settings bar, select the following:
Print = Current Sheet
Paper Size - 8.5" x 11" (If you can print to a Tabloid Size [11x17] use that)
Paper Orientation = Landscape
Scale = Fit to Width
Margins = Narrow
Formating = No changes needed
Headers and Footers = Select: Page Numbers, Workbook Title, Sheet Name, and Current Date and Repeat Frozen Rows

Concurrency Letter - On the settings bar, select the following:
Print = Current Sheet
Paper Size - 8.5" x 11"
Paper Orientation = Portrait
Scale = Fit to Page
Margins = Narrow

Formating = No changes needed
Headers and Footers = Select: Workbook Title, Sheet Name, and Current Date

Supply and Demand Chart - On this, you will find the print icon in the File Menu, at the bottom. On the settings bar, select the following:

Print = Current Sheet
Paper Size - 8.5" x 11"
Paper Orientation = Landscape
Scale = Fit to Page
Margins = Narrow
Formating = No changes needed
Headers and Footers = Select: Workbook Title, Sheet Name, and Current Date

Outstanding - On the settings bar, select the following:

Print = Current Sheet
Paper Size - 8.5" x 11"
Paper Orientation = Landscape
Scale = Fit to Width
Margins = Narrow
Formating = No changes needed
Headers and Footers = Select: Page Numbers, Workbook Title, Sheet Name, and Current Date and Repeat Frozen Rows

IMPORTANT NOTE: After you have made the appropriate selections for the each page above, Hit NEXT in the upper right and this will take you to your printer selection page. From here you may also select to save the page as a PDF, instead of Printing (for emailing, etc). ALSO - make sure your printer selection uses the same page size and orientation as selected above. Often Google remembers the last printer page settings which were used for any application, including printing WEB pages, etc.