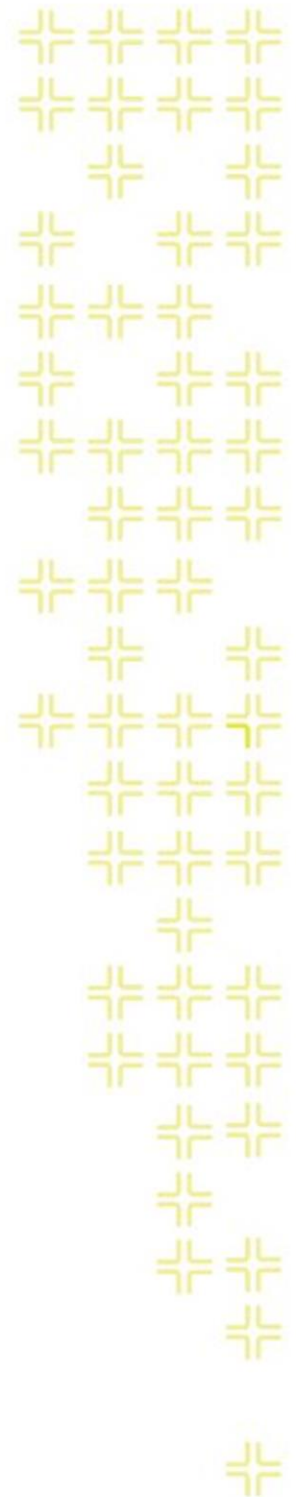




TRAINING GUIDE

# Intermediate Crystal 2



# Using Crystal Reports with Lucity

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## Intermediate - 2

The fourth of a seven-part series, this workbook is designed for Crystal Reports® users with some experience. Here, you'll learn how to add subreports. Specifically, we'll look at the Work Order Locations subreport and the module's Comment section. Both the general Comment sections and the Work Order/Request Comment sections will be addressed.

### Table of Contents

- Subreports ..... 2
  - Accessing Subreports ..... 2
  - Inserting a Work Order Locations Subreport ..... 2
    - Finding Tables and Fields ..... 2
    - Inserting the Subreport ..... 4
    - Formatting the Subreport ..... 6
    - Subreport Links..... 8
    - Adding Fields to the Subreport ..... 9
  - Copying a Subreport ..... 10
  - Grid Data with Associated Data ..... 12
  - Date Parameters to a Subreport..... 16
  - Adding a General Comments Section ..... 18
    - Option 1 - Creating a Subreport from Scratch ..... 18
    - Option 2 - Creating a Subreport with the Report Wizard ..... 22
  - Adding a Comments Section to Work Orders and Requests and Dated Comments for Inventory Modules ..... 23
  - Unlinked Subreports ..... 27

## Subreports

Subreports are simply reports within other reports. They can stand alone or be linked. Lucity typically uses subreports to display information stored in the child records (shown in grids or dialogs), information from other related modules, and the Comments sections. Subreports can vary in size and can be placed wherever you wish. Typically, subreports are inserted into their own Detail section.

One issue with subreports is the data in a subreport does not receive the filter out in Lucity. If this is required, then try to use grouping as previously discussed.

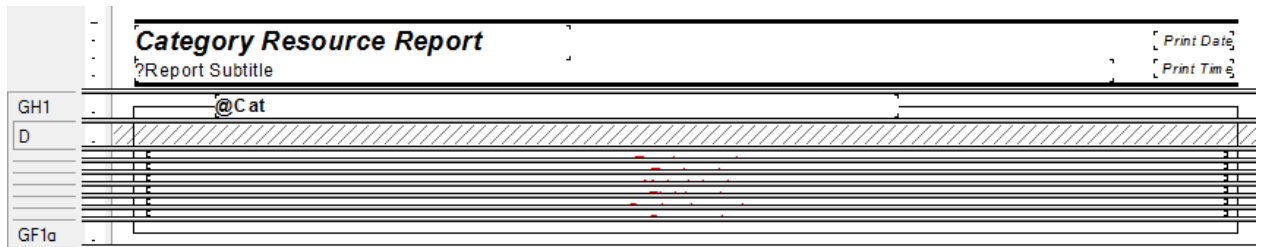
A second issue with using subreports is that it is not possible to place a subreport within another subreport. Thus, it can be challenging to show the child of a child relationship. Usually this is handled with grouping in a subreport.

A third issue is that each subreport is seen as a separate report when the report is run. If there are many Web users running reports at the same time then the system can slow down.




## Accessing Subreports

A few Detail reports have subreports that may be minimized to a point where you cannot read the titles.

1. In the Reports Work file open the **CatRes.rpt** report.
2. The minimized sections below the Detail section contain subreports.



The screenshot shows a report window titled "Category Resource Report". Below the title bar, there is a section labeled "GH1" containing a subreport titled "@Cat". The subreport content is minimized, showing a grid with a hatched pattern. To the right of the subreport, there are two buttons: "Print Date" and "Print Time". Below the subreport, there is a section labeled "D" and another section labeled "GF1a".

3. To view the subreport title, place the cursor over a subreport and the name will appear briefly (if the *Tooltips* are turned on). To open the subreport, simply double click on it.
4. It is also possible to navigate to a subreport using the *Report Explorer* . Make sure the *Show/Hide Grids and Subreports* is turned on . Then click on *Expand* . Subreports can be opened from this section or from the subreport itself by right clicking on the subreport name and selecting *Edit Subreport*.

## Inserting a Work Order Locations Subreport

The data in many of the grids in the Lucity modules can be connected to the parent report. In the following example, we'll demonstrate the use of a subreport to bring in the information from the *Work Order Location* grid in the **Work Orders** module to the **Aging Work Order Report**.


## Finding Tables and Fields

1. In the **Work Order** module open a record in the *Work Order Location* grid to find field definitions.

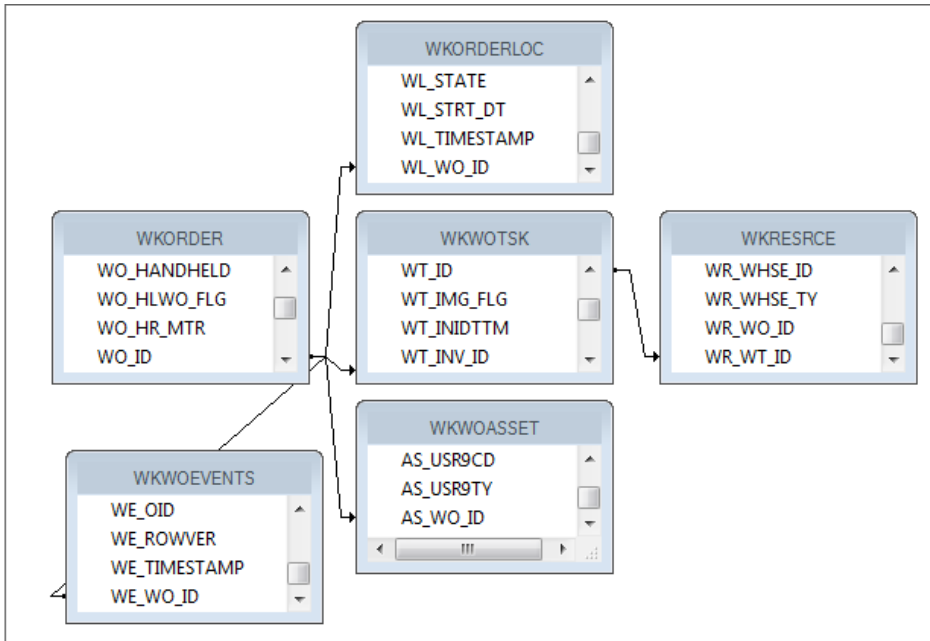
- a. Open the **Work>>Work Orders>>Standard** module and click on the *Location* tab.
- b. Open an existing record in the *Work Order Location* grid (right click - *View Record*) or right click in the grid and select *Add Record*.
- c. Find the field definition of the *General Location* field by pressing Ctrl and right clicking on the field and selecting *Field Definition* or *Field Properties*. There, you'll see the following:
  - The table name is **WKORDERLOC**.
  - The field name is **WL\_GENLOC**.
- d. If you do the same thing to the second field of the Address, the field name will show up as **WL\_ADR\_DIR**. This is not the correct field name for the information in the box. It is only one of the fields that are joined to create the address in this box. Thus, a formula is needed to address all the fields in a concatenated formula. Not all of the modules use this special address that pulls from the General Address module, some allow you to manually type in the address and store it in a single field.

The screenshot shows a window titled "Work Locations". It contains a toolbar with icons for file operations, editing, and navigation. Below the toolbar are four input fields:

- Location No:** 2
- Address:** 821 S ROANOKE ST (The text "S ROANOKE ST" is circled in black.)
- Address 2:** (Empty)
- General Location:** (Empty, circled in black.)


2. We will modify the **Aging Work Order Report (WOsAging.rpt)** from the Work module. In the Work report folder open **LC\_WOsAgingLoc.rpt**.
3. Open the new report and delete the **WO\_CAT\_TY** field.
4. Delete the **WO\_PROB\_TY** field.
5. Change the **Category** column header to **Address**.
6. Change the **Problem** column header to **General Location**.
7. Click the *Database Expert* button .

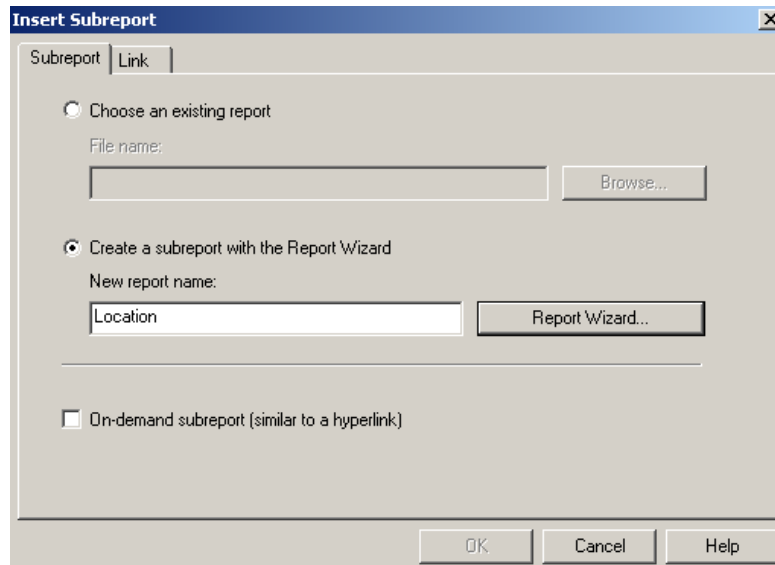
8. Open the *Links* tab and note where the “tree” of tables begins; most often it is the top table on the far left side (frequently, this is the table the subreport will link to).
  - For example, this tree starts with the **WKORDER** table.



9. Close the Database Expert.

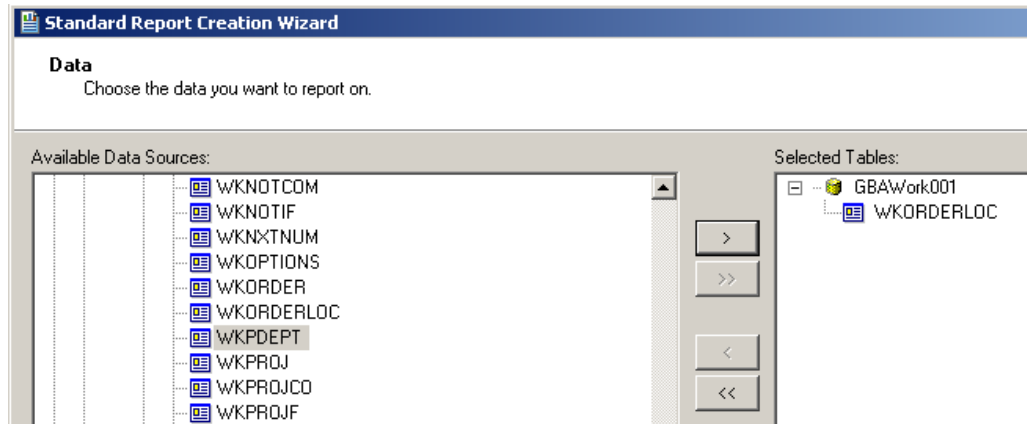
## Inserting the Subreport

1. Click Insert Subreport .
  - a. You’ll need to type in the *New report name*. For example, we’ve called this subreport, **Location**.

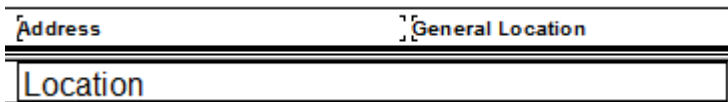


- b. Then, select the *Report Wizard*.

2. Open *Create New Connection > ODBC (RDO) > GBWork001 (Finish key) > Tables*.
  - a. Select the **WKORDERLOC** table and move it to the *Selected Tables* box on the right-hand side of the screen.



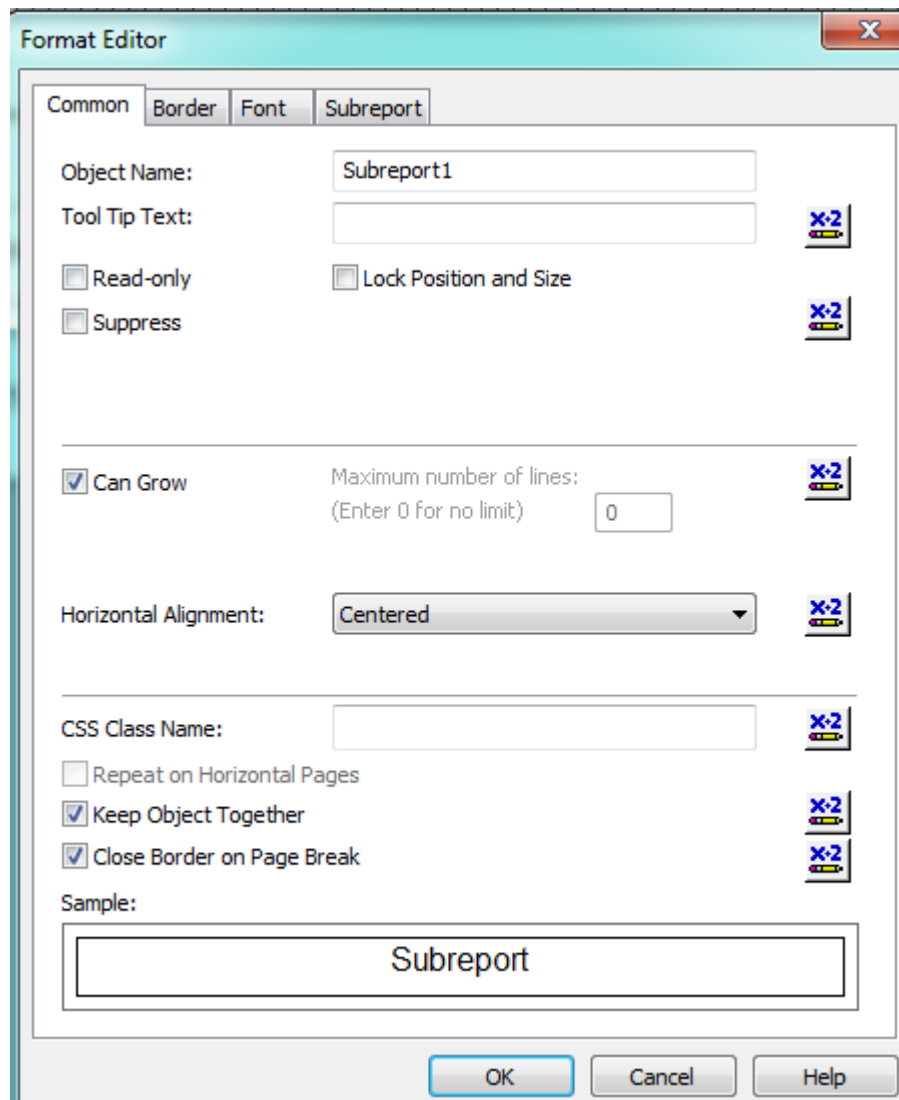
- b. Click *Finish*.
  - c. Click *OK*.
3. Place the subreport "box" in the *Detail* section with the left edge aligned with the left edge of the Address column header.
4. Resize the box to fit under the Address and General Location area.



## Formatting the Subreport

Right click in the **Location** subreport box and click *Format Subreport*. Choose the formatting options that you prefer.

- For example, in the **Format Editor** dialog below, we've selected to center the report title. You can see a sample of your formatting selections at the bottom of the **Format Editor** dialog.
- The *Keep Object Together* option can cause issues with large blank spaces.



The screenshot shows the **Format Editor** dialog box with the **Subreport** tab selected. The dialog has a title bar with a close button (X) and a tabbed interface with **Common**, **Border**, **Font**, and **Subreport** tabs. The **Subreport** tab is active, showing the following options:

- Object Name:** Subreport1
- Tool Tip Text:** (empty text box)
- Read-only
- Lock Position and Size
- Suppress
- Can Grow
- Maximum number of lines:** (Enter 0 for no limit) 0
- Horizontal Alignment:** Centered
- CSS Class Name:** (empty text box)
- Repeat on Horizontal Pages
- Keep Object Together
- Close Border on Page Break
- Sample:** A preview box showing the word "Subreport" centered within a rectangular border.

At the bottom of the dialog are three buttons: **OK**, **Cancel**, and **Help**.

- Additionally, we've chosen to not use a predefined border.

Common | Border | Font | Subreport

Line style:

Left: None Top: None

Right: None Bottom: None

Tight Horizontal  Drop Shadow

Color:

Border: Black

Background: White

- For the subreport title we've chosen 10 point Arial for our font, and made the text red.

Common | Border | Font | Subreport

Font: Arial

Style: Regular

Size: 10

Color: Red

Effects:

Strikeout  Underline

- Finally, we've chosen to Suppress Blank Subreports.

Common | Border | Font | Subreport

Subreport options :

Subreport Name: Location

On-demand Subreport

On-demand Subreport Caption

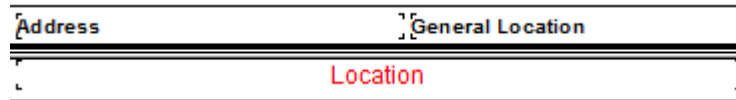
Subreport Preview Tab Caption

Re-import When Opening

Suppress Blank Subreport



- Once you've finished selecting your formatting options, select *OK*.

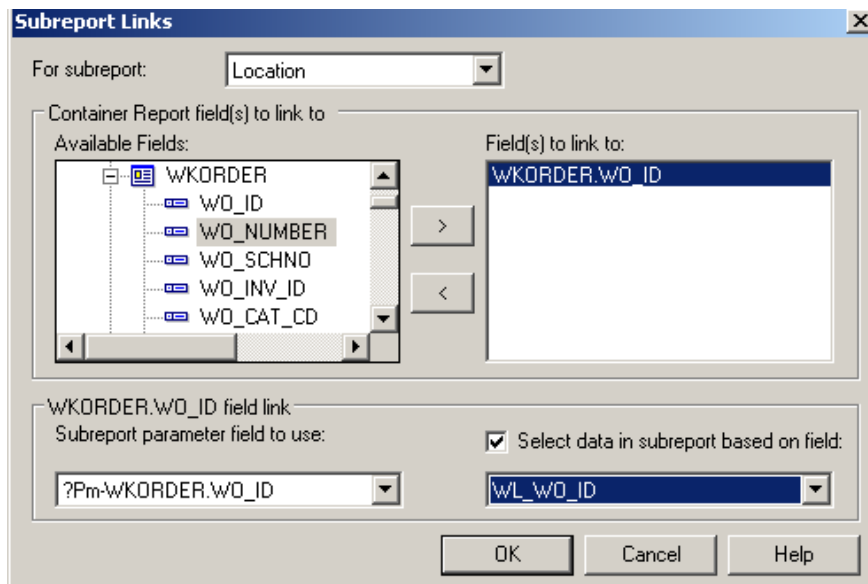


*Note: Some of the formatting options are strictly for the creator of the report like having the title centered and red. When working on a report this is a quick visual as to which parts of the report are subreports. Some of the formatting will affect the user end of the report like the border lines, empty space or whether the subreport Can Grow.*

## Subreport Links

Subreports can stand alone; however, typically they are linked to the main report. You'll need to find the correct table and field to link your subreport to. This will allow the main report and subreport to communicate effectively.

1. Right click in the **Location** subreport box and select *Change Subreport Links*.
  - The linked tables usually have an **ID** field with a common part; in this case it is **WO**.
2. Open the **WKORDER** table and move the **WO\_ID** field over to the *Field(s) to link to* box on the right-hand side of the screen.
3. Click the arrow beside the field at the bottom-right of the screen and select the **WL\_WO\_ID** field.
4. Click *OK*.



The linking creates a formula in the Subreport in the *Select Expert*.

`{WKORDERLOC.WL_WO_ID} = {?Pm-WKORDER.WO_ID}`

Note: The Web reports require any linking formula to have the “?Pm-XXXX” type formatting. This is automatically created through Crystal when using the Subreport Links dialog box. Remember to use this format if creating manually.

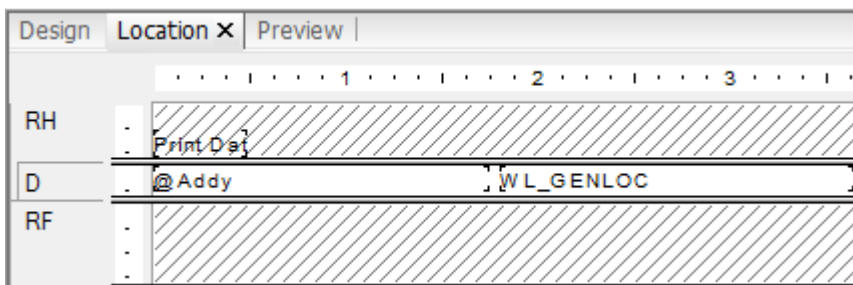
## Adding Fields to the Subreport

The subreport is basically a report and so it has the various options of a report such as Select Expert, Section Expert, Grouping and Sorting.

1. Open the Location subreport by double clicking  
OR right click and selecting *Edit Subreport...*
2. There will always be at least three sections; the Report Header, Detail and Report Footer. Suppress all sections other than the Detail section.
3. As mentioned earlier the address is a concatenated field. This formula will be borrowed from a standard report.
  - a. Open the Work Order Detail report (**WODetail.rpt**).
  - b. Locate the **Locations.rpt** subreport and double click on it.
  - c. Find the address formula within the report (**@Addy**). Right click on it and click *Copy*.
  - d. Close **WODetail.rpt**.
4. Go back to the **LC\_WOsAgingLoc.rpt** report.
5. Make sure you are in the **Location** subreport. Paste the address formula into the *Detail* section. Resize.
  - The address formula is shown below:

```
{If isNull({WKORDERLOC.WL_ADR_BDG}) then "" else Trim(ToText({WKORDERLOC.WL_ADR_BDG},0,"","")))+" "+
{If isNull({WKORDERLOC.WL_ADR_B2}) then "" else Trim({WKORDERLOC.WL_ADR_B2})+" "+
{If isNull({WKORDERLOC.WL_ADR_DIR}) then "" else Trim({WKORDERLOC.WL_ADR_DIR})+" "+
{If isNull({WKORDERLOC.WL_ADR_PT}) then "" else Trim({WKORDERLOC.WL_ADR_PT})+" "+
Trim({WKORDERLOC.WL_ADR_STR})+" "+
{If isNull({WKORDERLOC.WL_ADR_TY}) then "" else Trim({WKORDERLOC.WL_ADR_TY})+" "+
{If isNull({WKORDERLOC.WL_ADR_SFX}) then "" else Trim({WKORDERLOC.WL_ADR_SFX})+" "+
{If isNull({WKORDERLOC.WL_ADR_APT}) then "" else Trim({WKORDERLOC.WL_ADR_APT})}
```

6. Open *Field Explorer > Database Fields > WKORDERLOC*.
7. Drag the **WL\_GENLOC** field into the *Detail* section.



WO #	Status	Age	Create Date	Address	General Location	Action	Supervisor
WO_NUMBER	WO_STAT_TY	Age	@WO Created		Location	WO_ACTN_TY	WO_SUPR_TY

## Preview

<b>Aging Work Order Report</b>							3/3/2014 1:42 PM
WO #	Status	Age	Create Date	Address	General Location	Action	Supervisor
2008-01129	New Work Order	2,909	3/18/2008			Residential Collections	KURT VONHOSEN
2008-01608	New Work Order	2,797	7/8/2008			Sewer Line Cleaning	SHIELA KAMDON
2008-01610	New Work Order	2,797	7/8/2008	E CIVIC CENTER DR	by chipotle	SEWER OVERFLOW	SHIELA KAMDON
2008-01611	New Work Order	2,797	7/8/2008	1584 E VALENCIA ST			SHIELA KAMDON

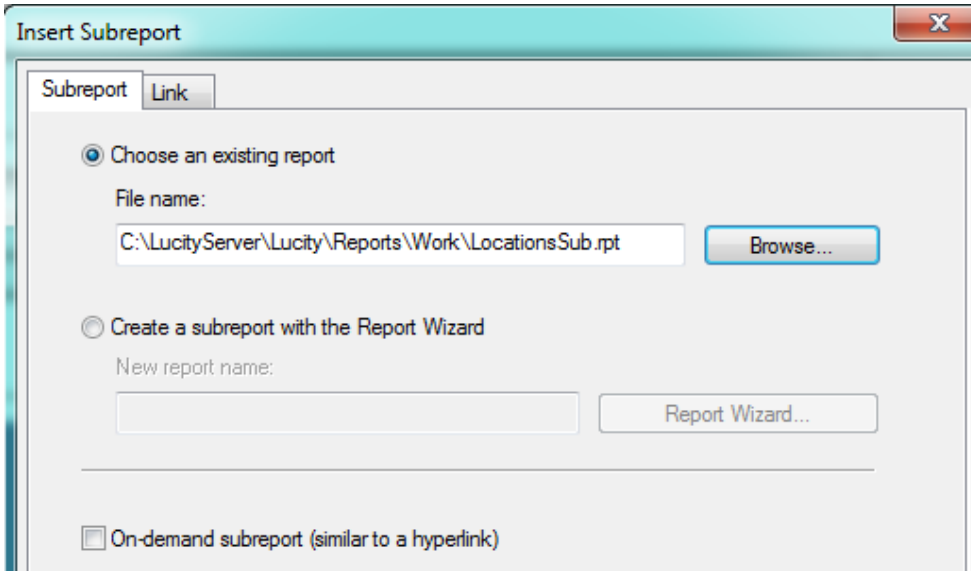
8. Save and close the report.

Example 17

## Copying a Subreport

You can use an existing subreport or report in the same family (i.e. Work, Sewer, Storm, etc.) as long as you are careful with the linking. In our example below, we'll show you how to copy the more detailed Location subreport from the **Work Order Detail Report** and place it in the **Summary Report**.

1. Open **WODetail.rpt**.
2. Right click on the **Location** subreport and select *Save Subreport As*.
  - a. Make sure you are in the correct report file (**Work**).
  - b. Enter a *File Name* (**LocationsSub.rpt**).
  - c. Save the subreport and close the Detail report.
3. We will modify the **Work Order Summary Report (WOSum.rpt)** from the Work Order module. From the Work report folder open **LC\_WOSumDetLoc.rpt**.
4. Delete the **Address** column title.
5. Delete the **Locations** subreport.
6. Add a new section under *Group Footer 1a* and increase the size slightly to accommodate the new subreport.
7. Select *Insert Subreport*.
  - a. Click *Choose an existing report*.
  - b. Click **Browse**.
  - c. Locate the Reports\Work folder and double click on **LocationsSub.rpt**. You'll see the **Insert Subreport** dialog box.
  - d. Click **OK**.



8. Place the subreport “box” in the newly created *Group Footer 1b* section.
9. Choose the desired subreport formatting options discussed earlier.
10. Resize to fit the report.
11. Right click on the subreport and choose *Change Subreport Links*.
  - {WKORDERLOC.WL\_WO\_ID} = {?Pm-WKORDER.WO\_ID}
12. Open the subreport and delete any empty sections.
13. Open the *Select Expert* and delete one of the parameter formulas. Even though the correct formula existed in the subreport’s *Select Expert*, the main report doesn’t recognize it, so it needed to be linked correctly again.
  - {WKORDERLOC.WL\_WO\_ID} = {?Pm-WKORDER.WO\_ID} and  
{WKORDERLOC.WL\_WO\_ID} = {?Pm-WKORDER.WO\_ID}
  - You’ll see a duplicate formula because the subreport was taken from a report with the same parent table. Delete one of the duplicate formulas or if they differ then keep the formula that reflects the correct linking, deleting the other.
14. Select *Save and Close*.
15. *OK*

WO #	Status	Status Date	Category	Main Task
05-03-0008	Complete	3/9/2005	Meter Repair Calls	Adjust Meter Box/Vault To Grade

Work Order Locations			
Address	Address 2		
X Coord	Y Coord	General Location	
803	RICHARD ST		

*Note: Do not use a subreport from one family of reports in another family, such as a Work subreport in a Sewer report.*

**Example 18**

## Grid Data with Associated Data

There are several cases throughout the Lucity modules where you click on data in one grid and information associated to that record shows up in the lower grid. A good example of this is in the *Work Order* module where the Resources are listed for each Work Task.

No	Task Text	Task Start Date	Task End Date	Status Text
2	Sewer Line Cleaning	07/07/2006	07/07/2006	F
1	Sewer Line Cleaning	07/06/2006	07/06/2006	F

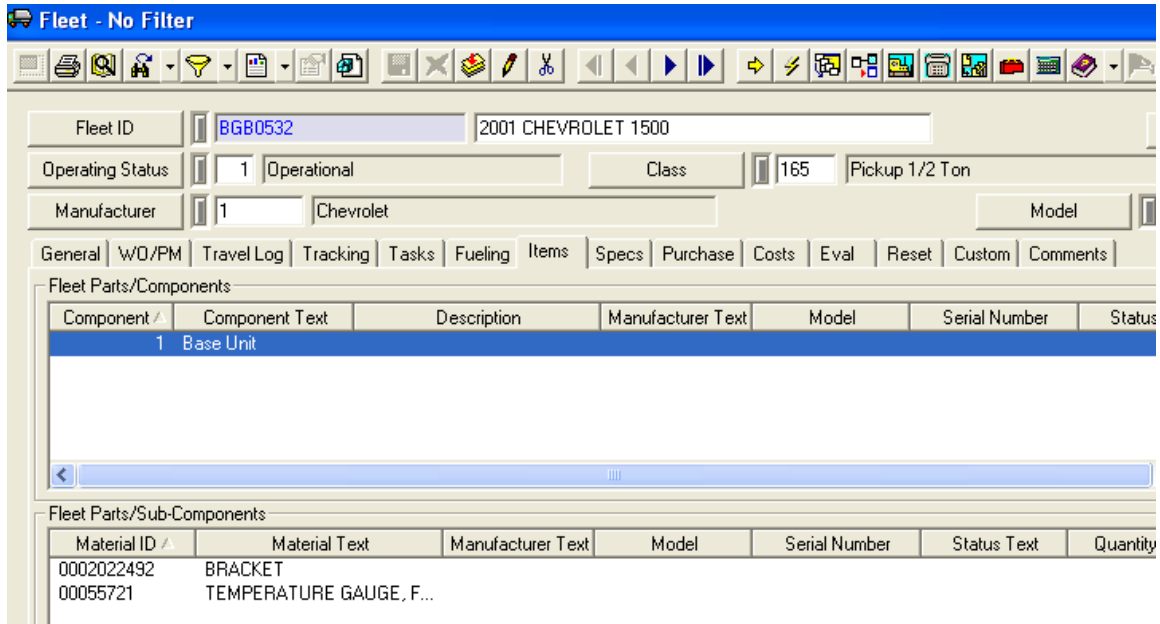
Group	Type	Resource	Resource Text	UOM	Units
	Employee	3	FRED MASON	Hours	0.50
	Employee	87	SHIELA KAMDON	Hours	0.50
	Employee	144	ZACH TURTLE	Hours	0.50

The *TaskRes.rpt* subreport in the **Work Order Detail** report (*WODetail.rpt*) shows this relationship.

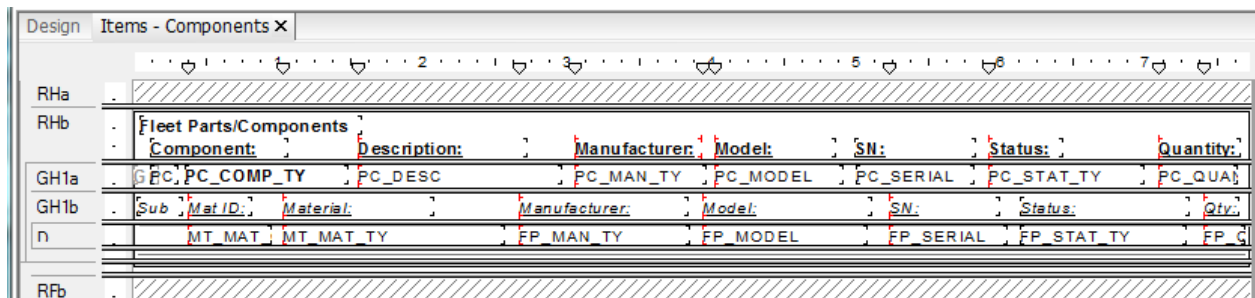
Group	Field	Description
RHa		TasksResources
RHb		
GH1	@Tsk	
	Crew: WT_CREW_TY	Task Cost: WT_TOTCOST
GH2	WR_RTYP_TY	Time Type
	Resource	Reg OT Normal Type Total Time Units Total Cost
D	R_SRC_CD, WR_RSRC_TY	UNIT, UNITS, R_UNIT, WR_TIME_TY, R_UNITS, R_UOM, TCST_GT
RFb		

The first group (*GH1*) is the Work Task and the second group (*GH2*) is the listing of the Resources associated with each Task.

Another example is in the *Fleet* module where the Sub-Components are associated with each Component.



In the Fleet Detail report (**FLDet.rpt**) a subreport (Items-Components) groups on the Components (GH1) and shows the subcomponents in the Detail section.



There is an additional type of grid association. Within the *Work Order* module, *Links* tab, you'll see a *Daily Inspections* grid. Within each Daily Inspection record there are several grids containing information.

**Work Orders - No Filter**

Work Order # 2006-01610 Category

Status 2 New Work Order Problem

Status Date 07/06/2006 10:23 AM Main Task

WD Location Assets List/Events Tasks/Res Routing Costs Billing

Daily Inspections

Inspection Date	Report #	Master Project ID	Master Project Name
08/31/2009	1		

**Daily Inspections - Unnamed Filter Set**

Daily Inspect Rec # 10 Work Order # 2006-01610

Inspection Date 08/31/2009 Employee 1 RICK HONAS

General Contractors Staff/Equipment Construction Activity Field Work Custom Comments

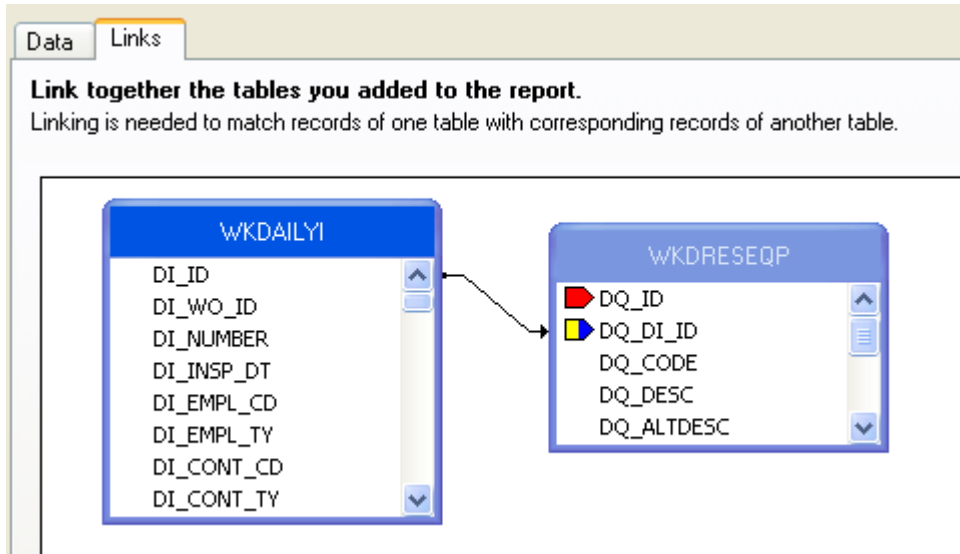
Staff

Type	Type Text	Quantity
1	Foreman	1
3	Labor	2

Equipment

Equipment	Equipment Description	In Use	Quantity	Model
BGS0385	1998 CHEVROLET SILVERADO	No		
PDP0293	2005 FORD CROWN VIC	No		

At first glance, it would appear the only way to show this data would be a subreport within a subreport; however, this is not possible at this time. Sometimes it is possible to link the grid table and group. The following Inspection subreport shows the Equipment associated with each Inspection date.



The report groups on the Inspection Date (*GH1*) and then lists the Equipment for that Inspection record in the *Detail* section.

Design Inspections x							
Daily Inspections							
	Insp Date	Report #	Master Project ID	Master Project Name	Sub-Project ID	Sub-Project Name	Rec Lock
GH1a	@InspDt	DI_NUM	DI_MP_NUM	DI_MP_NAME	DI_PJ_NUM	DI_PJ_NAME	DI_LO
GH1b	Equipment						
D	DQ_CODE	DQ_DESC					
GF1							
RFb							

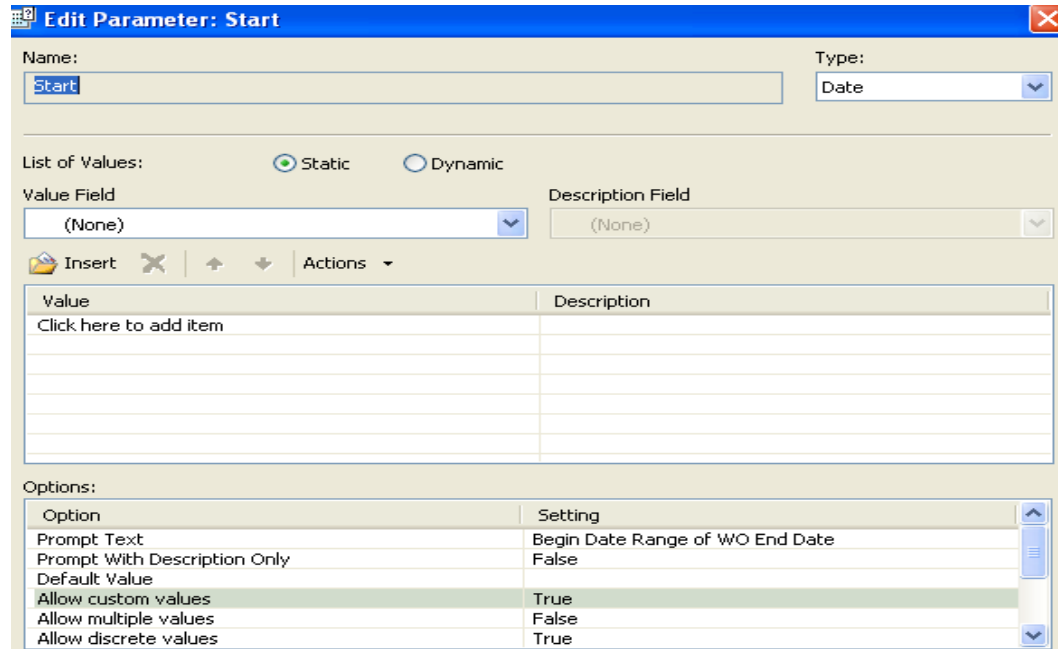


## Date Parameters to a Subreport

Frequently subreport records need to be selected for a date range. If the main report and subreports are using the same date range then the date parameter should be created in the main body of the report and linked to the subreport(s). If only the subreport requires the date selection then the parameters can be created within the subreport.

The **Fleet Cost Report (FleetCost.rpt)** passes the parameters from the main body to both the **fuel** subreport and the **Work Order** subreport.

First the date parameters were created in the main body of the report.



**Edit Parameter: Start**

Name:  Type:

List of Values:  Static  Dynamic

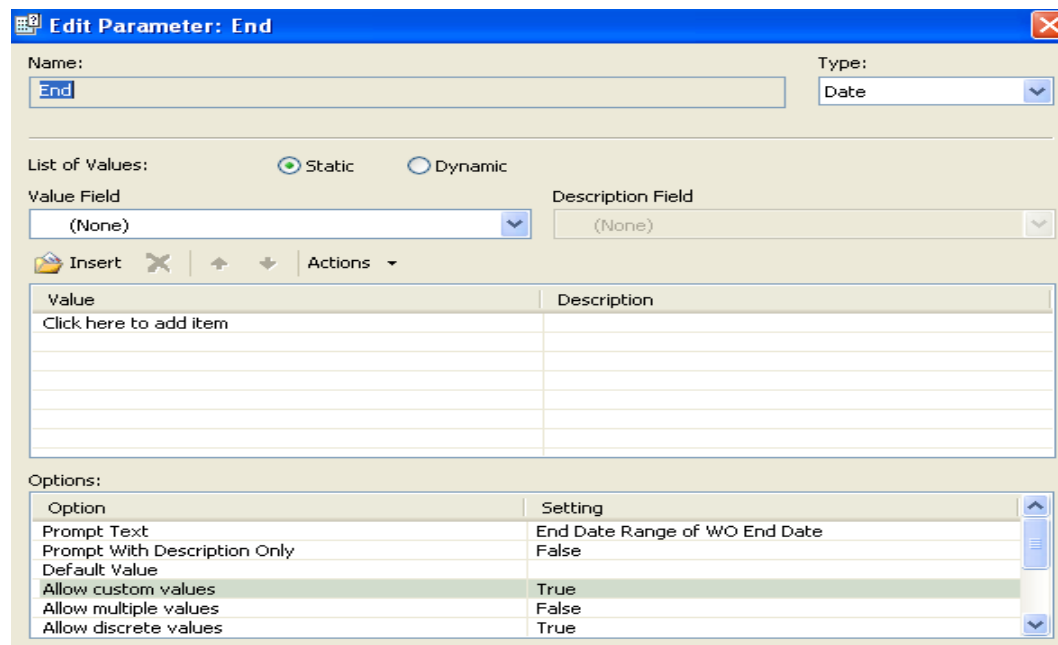
Value Field:  Description Field:

Insert    Actions

Value	Description
Click here to add item	

Options:

Option	Setting
Prompt Text	Begin Date Range of WO End Date
Prompt With Description Only	False
Default Value	
Allow custom values	True
Allow multiple values	False
Allow discrete values	True



**Edit Parameter: End**

Name:  Type:

List of Values:  Static  Dynamic

Value Field:  Description Field:

Insert    Actions

Value	Description
Click here to add item	

Options:

Option	Setting
Prompt Text	End Date Range of WO End Date
Prompt With Description Only	False
Default Value	
Allow custom values	True
Allow multiple values	False
Allow discrete values	True

Within the **Fuel** subreport the date formula that will be used with the parameter dates was placed in the body of the report.

RHa	-				
RHb	-				
D	-	FFLEET.FL_ID	@date	FHELAMT	TOT_CST
RFa	-				@FuelCost
RFb	-				

The parameter fields were brought to the subreport in the subreport linking.

**Subreport Links**

For subreport: fuel

Container Report field(s) to link to

Available Fields:

- Report Fields
  - EFFLEET.FL\_VEH\_CD
  - EFFLEET.FL\_VEH\_TY
  - EFFLEET.FL\_DEPT\_CD
  - EFFLEET.FL\_DEPT\_TY
  - EFFLEET.FL\_ID

Field(s) to link to:

- EFFLEET.FL\_ID
- ?Start
- ?End

?Start field link

Subreport parameter field to use: ?Pm-?Start

Select data in subreport based on field: @date

**Subreport Links**

For subreport: fuel

Container Report field(s) to link to

Available Fields:

- Report Fields
  - EFFLEET.FL\_VEH\_CD
  - EFFLEET.FL\_VEH\_TY
  - EFFLEET.FL\_DEPT\_CD
  - EFFLEET.FL\_DEPT\_TY
  - EFFLEET.FL\_ID

Field(s) to link to:

- EFFLEET.FL\_ID
- ?Start
- ?End

?End field link

Subreport parameter field to use: ?Pm-?End

Select data in subreport based on field: @date

The linking process set the fields up in an “=” formula. This was changed in the *Select Expert* in the subreport.

- Formula Crystal created:  
{@date} = {?Pm-?Start} and  
{@date} = {?Pm-?End}
- Changed to:  
{@date} in [{?Pm-?Start} to {?Pm-?End}]

The date parameters were brought to the **Work Order** subreport in a similar manner.

It is a good practice to make sure formulas and parameters have unique names within the report. There should not be duplication of names from the main report to the subreports. The web reports will not support duplicate parameter names.

Our Web code looks for parameters that start with “Pm-“, it assumes these are subreport linking parameters and does not ask the user to provide this data. If you do not follow this convention our software will prompt you for the parameter values instead of letting Crystal automatically set those values.

Example 19

## *Adding a General Comments Section*


**(Not Valid for Dated General Comments in Work Orders or Requests)**

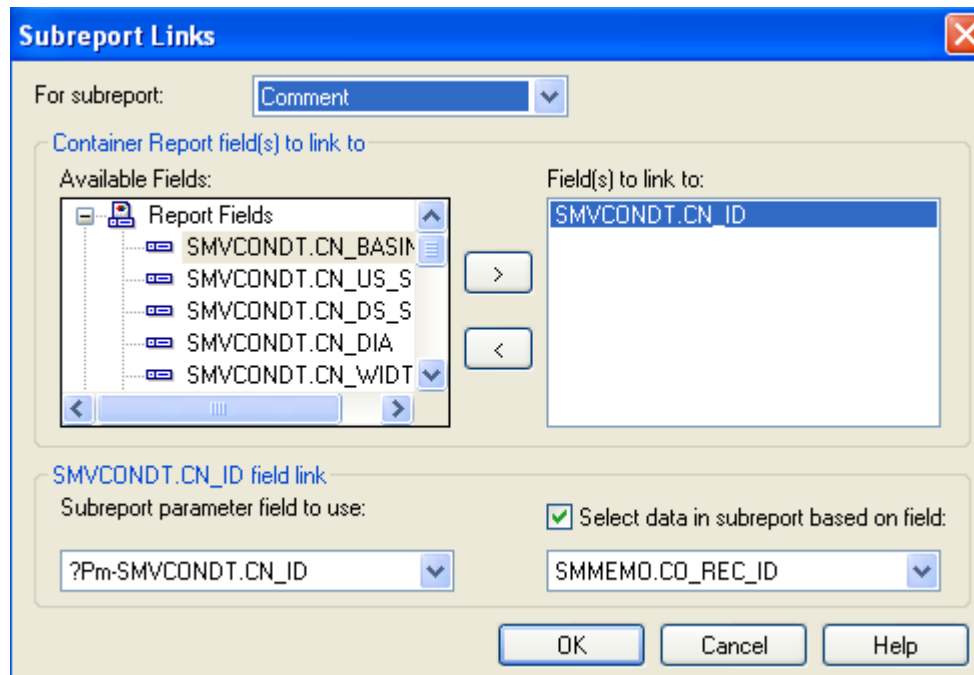
The system handles Comment grids differently than other types of grids in Lucity. For these grids, the information is stored in a **MEMO** table. The parent table communicates with this **MEMO** table to retrieve the Comment information. Typically in the Field Definition for the Comment section the field name will be MEMO1 or MEMO2 and the table shows as the parent table of the module you are currently in. This is misleading because the field is not in this table.

In the example below, we’ll show how to add the **Comment** field for the **Storm Conduit Inventory** module to the **Conduit Physical Data Check Report (SMcnphck.rpt)**. These same steps are used to add Comment sections to all modules other than the Work Orders and Requests comment section. It will work for the Memo type fields in Work Order like **Comment From Request** or in Request like the **Information for Work Order** memo fields.

### **Option 1 - Creating a Subreport from Scratch**

1. First we’ll locate the field definition information for the Comment section.
  - a. From **Storm** open the **Conduit Inventory** module and click on the *Comment* tab.
  - b. Use the Ctrl + right click function to view the field definition. Make a note of the table name (**SMVCOND**T) and field name (**CN\_MEMO1**). The **SMVCOND**T table is NOT where the data is stored. The data is in the **SMMEMO** table. All Storm comments are stored in this table.
2. We will modify the Conduit Physical Data report (**SMcnphck.rpt**) from the Storm Conduit Inventory module. From the Storm reports folder open **LC\_SMConChkCom.rpt**.
3. Right click in the margin to the left of the *Details* section and select *Insert Section Below*.

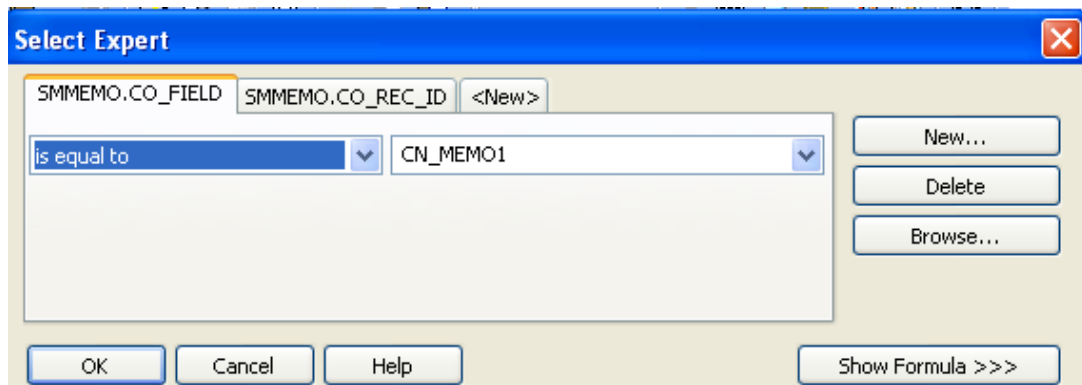
4. Increase the size of the new section slightly to accommodate the new **Comment** subreport.
5. Click Insert Subreport .
  - a. Type in the *New report name* (**Comment**).
  - b. Select *Report Wizard*.
6. Open *Create New Connection > ODBC (RDO) > GBASstorm001* (Finish key) > *Tables*.
  - a. Select **SMMEMO** and move it to the right-hand box, *Selected Tables*.
  - b. Click *Finish*.
  - c. Click *OK*.
7. Place the “box” in the *Details b* section.
8. Right click in the **Comment** subreport box and click *Format Subreport*. Choose the formatting options that you prefer.
9. Select *OK*.
10. Resize the subreport box.
11. Right click in the **Comment** box and select *Change Subreport Links*. The Field to link to will be the **ID** field for the table referenced when checking for the field name in step 1, **SMVCONDT**.
  - a. Open **SMVCONDT** and move the **CN\_ID** field over to the *Field(s) to link to* box on the right-hand side of the screen.
  - b. Click on the arrow beside the box at the bottom-right of the dialog and select the **CO\_REC\_ID** field.
  - c. Click *OK*.



12. Double click on the **Comment** subreport box. You are now within the subreport.

13. Click on the *Select Expert* .

- a. Click on the *New* tab.
- b. Click on the **CO\_FIELD** and then *OK*.
- c. Click on the down arrow within *Select Expert* and select “is equal to”.
- d. Click on the down arrow for the right hand drop down box. Select “**CN\_MEMO1**”. (The comment field name, **CN\_MEMO1**, was previously found using the Field Definition.) The field is only available in the drop down box if there is a record that has the Comment field populated with data. Otherwise, type in the field name.



- e. Click *OK*.
- f. To view the formulas created within the *Select Expert*, click on *Select Expert* and then *Show Formula>>>*.

{SMMEMO.CO\_REC\_ID} = {?Pm-SMVCONDT.CN\_ID} and  
{SMMEMO.CO\_FIELD} = "CN\_MEMO1"

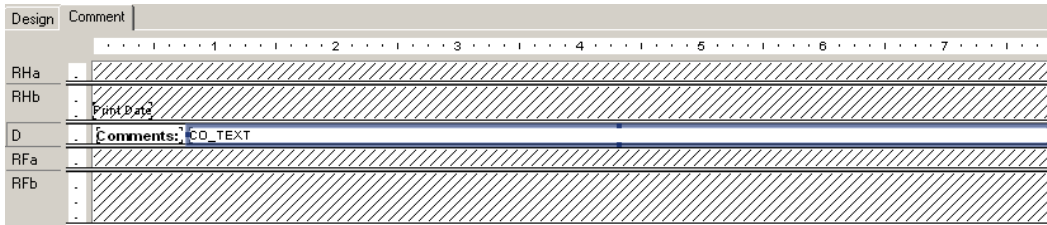
*Note: The CO\_REC\_ID and CO\_FIELD are the same for all general Comment subreports; however, the linking table and the field name in quotations changes for each module. The XXMEMO table name also changes depending on which suite of modules you are working in. For example, Street is STMEMO, Water is WTMEMO etc.*


14. Suppress *Report Header a* and *b* and *Report Footer a* and *b*.

15. Create a “Comments” text object field in the *Detail* section.

16. Drag in the **CO\_TEXT** field from *Field Explorer* and resize the field.

- o It is important that the **CO\_TEXT** field be able to grow, so remember to check the *Can Grow* option within *Format Field*. Right click on the field and select *Format Field>>Common (tab)>>Can Grow (checked)>>OK*.



17. Click on the *Design* tab and then the *Print Preview* button .

<b>Conduit Physical Data Check Report</b>							Print Date
?Report Subtitle							Print Time
Basin	US Structure	Dia/Height	Length	Manning	US Rim	US Invert	
	DS Structure	Width	Slope (%)		DS Rim	DS Invert	
Da	CN_BASIN	CN_US_STR	CN_DIA	LENGTH	MANNING	CN_US_RIM	CN_US_INV
		CN_DS_STR	N_WIDTH	N_SLOPE		CN_DS_RIM	CN_DS_INV
Db	Comment						

## Preview

<b>Conduit Physical Data Check Report</b>							8/31/2010
							8:52:57AM
Basin	US Structure	Dia/Height	Length	Manning	US Rim	US Invert	
	DS Structure	Width	Slope (%)		DS Rim	DS Invert	
250	1120	15	97.30	2.00	22.00	21.00	
	1119	6	0.01		11.00	11.00	
<b>Comments:</b>	comment for conduit 1120 1119						
1645	1121	15	50.60	2.00	24.00	24.00	
	1122	6	0.00		15.00	15.00	
<b>Comments:</b>	Comment for 1121 to 1122						
5615	1124	15	127.00	2.00	40.00	43.00	
	1123	8	0.00		33.00	34.00	
654135	1126	18	553.00	1.00	45.00	44.00	
	1125	8	0.00		33.00	33.00	


18. If you had tried to Preview the report while still in the subreport, something similar to the following would appear:

**Enter Values** ✖

---

Pm-SMVCONDT.CN\_ID Pm-SMVCONDT.CN\_ID(Comment)

19. Press *Cancel* and then go to the report *Design* tab to run the report.

20. After reviewing the report, further modifications may seem necessary to make it easier to read.
  - o In our example, a line should be added below the **Comments** line.
21. Add a *Detail* section below *Detail b*.
22. Add a line to *Detail c*.
23. Format the line to silver.
24. Even when a record has no comments, the space for the **Comments** subreport will still appear. This space can be removed as follows:
  - a. Click *Section Expert* .
  - b. Click *Detail b* and select the *Suppress Blank Section* option.
  - c. *OK*.

## Preview

<b>Conduit Physical Data Check Report</b>						
						8/31/2010
						8:56:23AM
<b>Basin</b>	<b>US Structure DS Structure</b>	<b>Dia/Height Width</b>	<b>Length Slope (%)</b>	<b>Manning</b>	<b>US Rim DS Rim</b>	<b>US Invert DS Invert</b>
250	1120	15	97.30	2.00	22.00	21.00
	1119	6	0.01		11.00	11.00
<b>Comments:</b> comment for conduit 1120 1119						
1645	1121	15	50.60	2.00	24.00	24.00
	1122	6	0.00		15.00	15.00
<b>Comments:</b> Comment for 1121 to 1122						
5615	1124	15	127.00	2.00	40.00	43.00
	1123	8	0.00		33.00	34.00
654135	1126	18	553.00	1.00	45.00	44.00
	1125	8	0.00		33.00	33.00

## Option 2 - Creating a Subreport with the Report Wizard

1. We will modify the Conduit Physical Data report (**SMcnpchk.rpt**) from the Storm **Conduit Inventory** module. From the Storm reports folder open **LC\_SMConChkCom2.rpt**.
2. Add a *Detail* section.
3. Click *Insert Subreport*.
  - o Name it **Comment**, and click *Report Wizard*.
4. Open *Create New Connection* > *ODBC* > *GBAStorm001* > *Next* > *Finish* > *Tables*.
5. Move **SMMEMO** to *Selected Tables*. Then click *Next*.
6. Move **CO\_TEXT** to *Fields to Display*. Then click *Next*.
7. There will be no grouping, so select *Next* in the *Grouping* dialog box.

8. In *Record Selection*, move the **CO\_FIELD** to the *Filter Fields*.
  - o Using the drop down box, select *is equal to*.
  - o Using the next drop down box, select **CN\_MEMO1**. Then, click *Next*.
9. Select *No Template* and *Finish*.
10. Select the *Link* tab.
  - o Set this up as described in **Option 1**.
11. Select *OK* and drop the new subreport box in the new *Detail* section.
12. Set up and format the subreport as described in Option 1.

Example 20

## *Adding a Comments Section to Work Orders and Requests and Dated Comments for Inventory Modules*


The *Comment* tab within **Work Orders** and **Requests** is formatted differently than the *Comment* sections in other modules. For this example, we'll add a Comment subreport to the **Work Order Summary Report**.

1. First, we'll find the field definition for the Work Order Comment section.
  - a. Open the **Work Orders Standard** module. Click on the *Comments* tab.

Recorded By ▲	Recorded Date	Recorded Time	Comment
GBA	04/09/2007	08:53 PM	This is also a special type of memo

- b. Right click in the grid.
- c. Select *Add Comment* or *View Details* for an existing comment.
- d. Ctrl + right click in the large comments box to view the field definition. Note that the table name is **WKGDMEMO** and the field name is **GM\_MEMO**.
- e. Close the comment dialog.

*Note: This Comment section does not hit the WKMEMO table. Instead, it uses the WKGDMEMO table.*

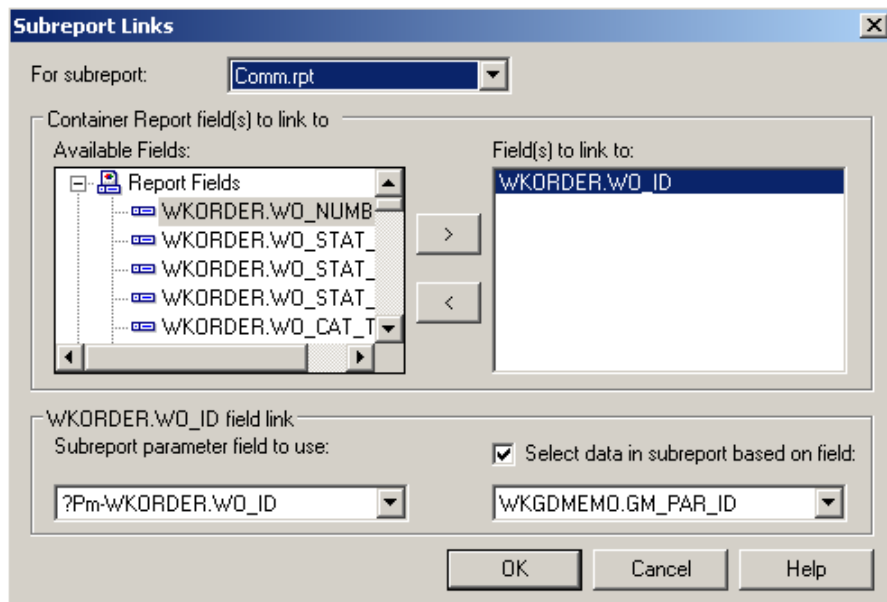
2. We will modify the **Work Order Summary Report (WOSum.rpt)** from the Work Order module. From the Work report folder open **LC\_WOSumComment.rpt**.
3. Right click in the left margin of the *Group Footer 1a* section and select *Insert Section Below*.
4. Click *Insert Subreport* .
  - a. Type a name for the subreport (**Comment**) in the *New report name* section.
  - b. Click *Report Wizard*.



5. Open *Create New Connection > ODBC > GBAWork001 (Finish) > Tables*.
  - a. Move the **WKGDMEMO** table to *Selected Tables*.
  - b. Click *Finish*.
  - c. Click *OK*.
6. Insert the **Comment** “box” into the *Group Footer 1b* section.
7. Choose subreport formatting options and resize the box.

<b>Work Order Summary Report</b>								Print Date
Report Subtitle								Print Time
WO #	Status	Status Date	Category	Main Task	Address		Total Cost	
GH1	Group #1 Name							
D								
GF1a	WO_NUMBER	WO_STAT_TY	@Status Date	WO_CAT_TY	WO_ACTN_TY	Locations.rpt	@CostTo@WOCost	
GF1b	Comment							

8. Next, right click within the **Comment** box and select *Change Subreport Links*.
  - a. Select fields so it looks like the following:



- b. Click *OK*.
9. Double click on the **Comment** box. You are now in the **Comment** subreport.
  - a. Click *Select Expert* and click the *New* tab.
  - b. Click and highlight **GM\_PARENT**.
  - c. Click *OK*.
  - d. With the drop down arrow select *is equal to*.

- e. With the right drop down box select **WKORDER**. (This will only show as a choice if there is at least one record with a comment. Otherwise type **WKORDER**.)
- f. Click **OK**.

{WKGDMEMO.GM\_PAR\_ID} = {?Pm-WKORDER.WO\_ID} and  
 {WKGDMEMO.GM\_PARENT} = "WKORDER"

*Note: The formula in Requests would look like this:*

{WKGDMEMO.GM\_PAR\_ID} = {?Pm-WKREQ.RQ\_ID} and  
 {WKGDMEMO.GM\_PARENT} = "WKREQ"

10. Add column titles. You'll want to make the titles **bold** and underlined in order to make them distinct.
11. Drag in the appropriate fields.
  - You'll need to create formulas before you can add the **Date** and **Time** fields.
12. Increase the size of the **GM\_MEMO** field and format it so it *Can Grow*.
13. Place a box around the **Comment** subreport to separate it from the rest of the data. Make sure the bottom of the box is in the Report Footer section so the box will grow to accommodate the Memo field if necessary.
  - a. Add a title for the box (**Comments**).
  - b. Format the **Comments** text box with a *white background* (Format Editor > Border tab > Color: Background checked with White).

Report Header a				
Report Header b	<b>Comments</b>			
	<u><b>Recorded By:</b></u>	<u><b>Date:</b></u>	<u><b>Time:</b></u>	<u><b>Comment:</b></u>
Details	@M_REC_BY	@Date	@Time	@M_MEMO
Report Footer b				

14. Click the *Design* tab.
15. Click the *Section Expert* button.
  - a. Select *Group Footer1b* and the *Suppress Blank Section* option.
  - b. Select *Group Footer 1* and the *Keep Together* option.
  - c. **OK**

Preview

### Work Order Summary Report

WO #	Status	Status Date	Category	Main Task
98-000027	Complete		Administrative	General Office
<b>Comments</b>				
<u>Recorded By:</u>	<u>Date:</u>	<u>Time:</u>	<u>Comment:</u>	
G BA	4/16/2007	2:33:00PM	This is a comment for 98-000027	
98-000028	Complete		Administrative	General Office
<b>Comments</b>				
<u>Recorded By:</u>	<u>Date:</u>	<u>Time:</u>	<u>Comment:</u>	
G BA	4/16/2007	2:34:00PM	This is a comment for 98-000028	
98-000029	Complete		Pavements	Asphalt Preparation
98-000005S	Completed		Pavements	Mudjacking
98-000030	Complete		Pavements	Repair Potholes

The Inventory modules have a second grid in the Comment tab with Dated Comments. The table will be obvious from the field definition and should reflect the suite of modules. For Storm - **SMGDMEMO**, for Sewer - **SWGDMEMO** etc. The setup would be similar to the Work/Request comment setup.

Example 21

## Unlinked Subreports

There are times when the subreports do not need to be linked.

- This can be used when running individual reports as subreports in one document. This can be useful in a Year End Report.
- In *Lucy* Detail reports the Custom User field captions are brought in by setting up variables in an unlinked subreport and passing these values into the main report. (More on variables in the Advanced 2 section)

In *Lucy* software the button captions may be altered to suit individual needs. These field captions may be reflected in the report by one of the following methods:

- Add or Edit the appropriate text object in the report as discussed in the related Beginning Crystal workbooks.
- Pull the value that is stored in the database and display it on the report using an unlinked subreport with variables.

*Lucy* uses this type of unlinked subreport in many of the Detail reports. It is hidden in a Report Header subreport. It contains a formula declaring variables that are associated with the User button captions in the Custom tab.



RHa	-	
RHb	-	
D	-	@StoreUserBtns
RFa	-	
RFb	-	

The `@StoreUserBtns` formula appears on the following page. Note that this is only part of the formula. We've included this to make you aware of what happens behind the scenes.

Any line starting with `//` is just a comment; it is not part of the formula.

The formula for each User button caption looks something like this:

```
WhilePrintingRecords;  
Shared StringVar strUser1;  
strUser1
```

```

//The subreport that this formula belongs to must contain the following
//Select Expert statement:
//{WTFIELDS.FieldName} like ["BD_USE*"]
//The Fields table reference should match your database. The two character
//data field prefix and suffix must be changed for each report.
//You must also enter your specific Fields Table name in the "IF" statements
//found below (e.g. - WTFIELDS):
WhilePrintingRecords;
//Enter two-character field prefix here (e.g. - 'BD'):
StringVar ModPrefix:='BD';
StringVar strUser1Field:=ModPrefix+'_USER1CD';
StringVar strUser2Field:=ModPrefix+'_USER2CD';
StringVar strUser3Field:=ModPrefix+'_USER3CD';
StringVar strUser4Field:=ModPrefix+'_USER4';
StringVar strUser5Field:=ModPrefix+'_USER5';
StringVar strUser6Field:=ModPrefix+'_USER6';
StringVar strUser7Field:=ModPrefix+'_USER7';
StringVar strUser8Field:=ModPrefix+'_USER8';
StringVar strUser9Field:=ModPrefix+'_USER9';
StringVar strUser10Field:=ModPrefix+'_USER10';
StringVar strUser11Field:=ModPrefix+'_USER11';
StringVar strUser12Field:=ModPrefix+'_USER12';
StringVar strUser13Field:=ModPrefix+'_USER13';
StringVar strUser14Field:=ModPrefix+'_USER14';
StringVar strUser15Field:=ModPrefix+'_USER15';
Shared StringVar strUser1;
Shared StringVar strUser2;
Shared StringVar strUser3;
Shared StringVar strUser4;
Shared StringVar strUser5;
Shared StringVar strUser6;
Shared StringVar strUser7;
Shared StringVar strUser8;
Shared StringVar strUser9;
Shared StringVar strUser10;
Shared StringVar strUser11;
Shared StringVar strUser12;
Shared StringVar strUser13;
Shared StringVar strUser14;
Shared StringVar strUser15;
If {WTFIELDS.FieldName} = strUser1Field then
    If not IsNull ({WTFIELDS.UserName}) and {WTFIELDS.UserName} <> '' then
        strUser1:={WTFIELDS.UserName}+':';
    Else strUser1:={WTFIELDS.DefaultName}+':';

If {WTFIELDS.FieldName} = strUser2Field then
    If not IsNull ({WTFIELDS.UserName}) and {WTFIELDS.UserName} <> '' then
        strUser2:= {WTFIELDS.UserName}+':';
    Else strUser2:= {WTFIELDS.DefaultName}+':';

If {WTFIELDS.FieldName} = strUser3Field then
    If not IsNull ({WTFIELDS.UserName}) and {WTFIELDS.UserName} <> '' then
        strUser3:= {WTFIELDS.UserName}+':';
    Else strUser3:= {WTFIELDS.DefaultName}+':';

```