RMS

Resident Management System

RESIDENT MANAGEMENT SYSTEM

Getting Started with Telerik Custom Reports

RMS 3.0 Custom Reports

Version 1.0

June 7, 2021

Version Number	Date	Author	Description
00	May 12, 2021	R. Holland	Initial Draft
.01	06/03/2021	W. Liebe	Updated all sections
1.0	06/07/2021	W. Liebe	Initial release

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Introduction

Due to security concerns, RMS was required to replace the existing Fast Reports reporting engine. The new reporting engine is Telerik DevCraft. Telerik can run on various platforms and is a very flexible technical tool. All standard reports in RMS have been duplicated in Telerik. The existing "custom reports" that were specially designed by users will need to be recreated in Telerik by the users.

Telerik and Fast Reports are different tools and are not identical in functionality. Each has its own strengths and weaknesses. In general, Telerik is a more robust tool with several advantages over Fast Reports but it does have limitations. Some things that were easy to do in Fast Reports may be perceived as difficult in Telerik or may not exist at all. The AstraFire developers have worked diligently to duplicate the existing standard reports but users should expect to find some differences. These differences do not impact the content or data displayed in the reports and should only be seen in the way the user interacts with Telerik and the look and feel of the reports. The data contained in the reports should be exactly the same.

Downloading Telerik

As is customary with the RMS application modifications and updates, a new patch must be downloaded which will include the updates to the standard Telerik reports as well as the executable file needed to use the Telerik Custom Report Engine. No other actions are required.

Custom Report Access

Only Government users that have been granted the role or privileges are allowed to create custom reports. Custom report creation is not available for contractors.

To grant access to the Custom Report module to other users the user must have either:

1. Full district administrative rights
2. Partial district administrative rights with the custom reports option checked

Once a custom report is created, it can be seen and used by any Government user. District level custom reports will be available via Summary Reports in each district. Contract level custom reports will be available via Contract Reports for each contract.

Contract level custom reports can be made available to contractors on an individual report basis and will be available in CM mode via Contract Reports for each contract. District level custom reports are not available to contractors.

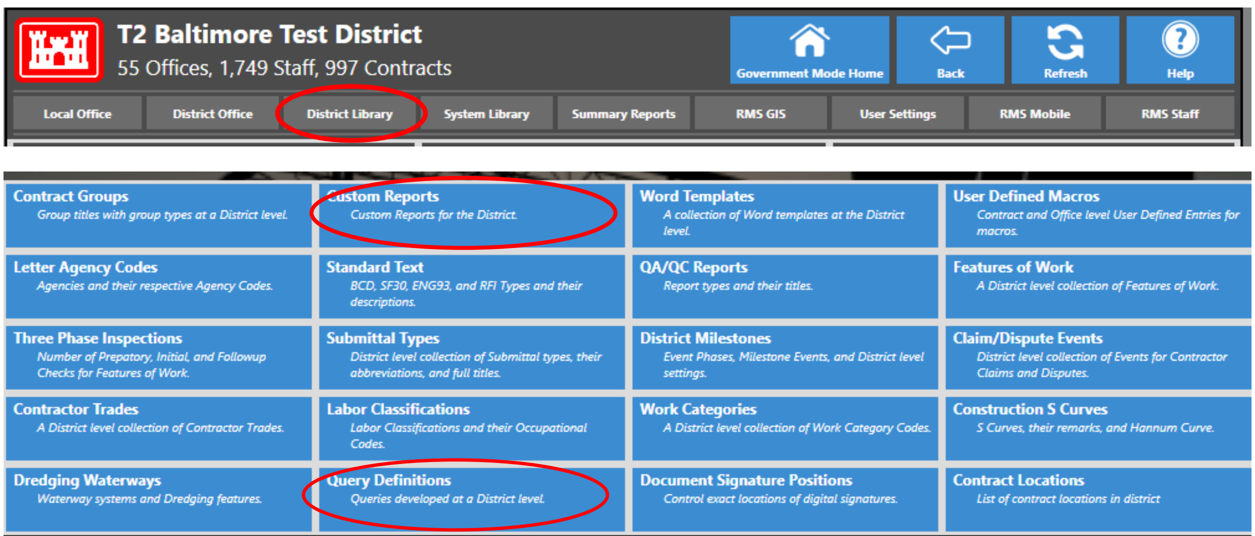
Custom Report Engine

The ability to create custom reports places the design power in the hands of the creator. The creator can decide the dimensions, background colors, number of rows to print per page, page orientation and other design features such as allowing graphs, images, and performance indicators to be added to the reports.

The report output can be displayed in various layouts and can be saved in multiple file formats, such as PDF, XLS, or CSV.

There are two modules, available via the District Library within each District, which have access to the Telerik Custom Reports Engine:

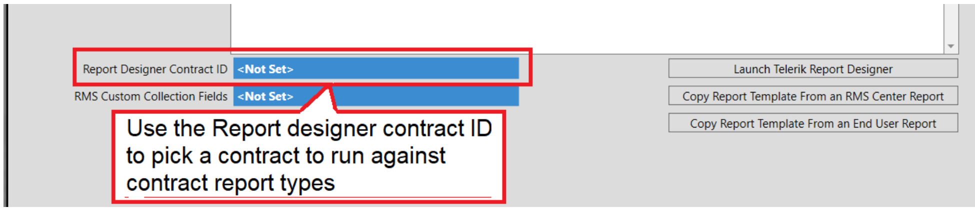
1. Custom Reports
2. Query Definitions



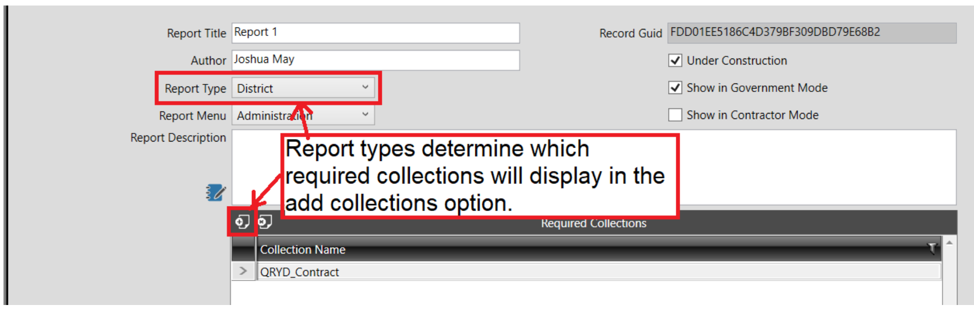
Custom Reports

The Custom Reports Module displays all the report templates. Anyone that has access to the Custom Reports Module has access to all the templates. Once the custom report is written it can be saved, edited, copied and used by anyone that has access to the report.

The RMS Telerik Custom Reports Module allows the use of contract collections and district collections. This allows users to create contract reports using contract specific data. Users can select which contract to report on using the blue tile at the bottom of the screen.



The report type for Telerik filters the required collections and the lookup for selecting data collections. This means when a user switches the report type, the required collections will only show collections that are relevant to the selected type; either contract or district.



Users can also create custom queries in the district library under the query definition module. This allows users to create custom reports against all contracts within their district.

Note: Users can copy report templates from the RMS center or other user defined templates. However, the only templates available are Telerik Report Templates while using the Telerik Version of Custom Reports, no data or collections will be available unless specifically added separately.

Query Definitions

The Query Definitions Module is primarily used to assist with dynamic reporting on all the data available in the database. Queries give the user advanced tools for searching and determining which data fields to include. When complete, the report can be viewed or exported.

Query Definitions can be used in several different ways:

1. A simple list query can be generated for a list report.
2. A more complex report can be created with table joins.
3. A query can be created to assist with the design of a summary level custom report.

Custom Report Template Screen

The Custom Reports template screen can be accessed via the District Library. Within the template screen the user can add, edit or delete templates.

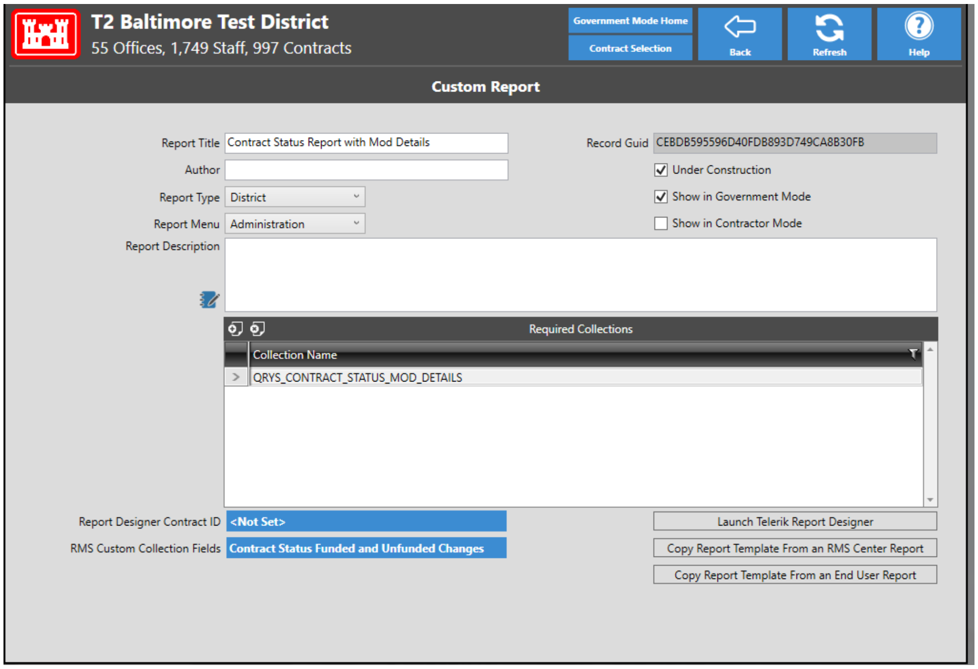
There are still two levels of reporting in RMS:

1. Contract reports - data on an individual contract
2. District reports - data on all contracts within a district

Custom reports can be created on either the contract or district level.

Custom Report Definition View

To generate a new Custom Report Template, click the "Add" button to display the Custom Report definition view.



- Report Title – The report title
- Report GUID – Computer generated global unique identifier. *This is set by the system and cannot be changed.*
- Author – The name of the author or report creator.
- Report Type –Determines which type of report to create
    - Contract – Contract level report
    - District – District level report
- Report Menu – Specifies the module to associate the report with:
    - Administration
    - Finances
    - QA/QC
    - Submittals
    - Schedules
    - Closeout
    - Library
- Report Status
    - Under Construction – Under construction indicates that the report is "under construction". *This prevents the custom report from being visible to other users.*
    - Show in Government Mode – Allows the report to be viewed by other Government users.

    - Show in Contractor Mode – Allows the report is to be viewed in contractor mode. *This option only works with the “Contract” report type*
- Report Description – General description of the report.
- Required Collections Select the data needed to execute the report.
    - Select from a valid list of data collections, the data collection needed for your report.
    - The list will only display “District” data if District is the report type selected or “Contract” data if contract is the report type selected.
- Report Designer Contract ID – Allows the selection of the contract to use for the custom report. *This option is required when the report type is set to “Contract.”*
- RMS Custom Collection Fields - Provides the user access to database fields not normally available to custom reports. These special collections must be defined by the RMS development team. If a user has the need for additional fields that are not currently available to custom reports, a request may be submitted through the help desk to have a developer create a special collection containing those fields.
- Launch Telerik Report Designer – Launches the stand-alone Telerik report designer.
- Copy Report Template from RMS Center Report – Brings up a list of RMS Center developed report templates that may be selected for copying. *Copying the report template does not copy data collection.*
- Copy Report from End User Report - Click to bring up a list of user developed (another custom report) report templates that may be selected for copying. Copying the report template does not copy data collection.

Perform the following steps to complete a new template.

1. Give the report an appropriate title
2. Select the report type
3. Select a report menu with which to associate the new report
4. Provide a brief description of the purpose and content of the report.
5. Click the “Add” button for Required Collections and select the applicable collection from the Report Collection Lookup dialog which will be displayed (see Figure 1 below). The standard search feature is available for convenience. *Multiple data collections cannot be selected. If data needs to come from multiple sources, a custom query will need to be created and added as a single collection.*
6. If desired, a target contract may be selected by clicking in the Report Designer Contract Id field which will bring up the Contract Lookup dialog (see Figure 2 below). This will allow the report preview to include the data needed to see exactly what the report will look like. *The search box at the top of the screen can be used to help locate a specific contract.*
7. Once all of the information has been entered and the data collection selected has been verified, click on “Launch Telerik Report Designer” to create a custom report. *Using the Telerik Report Designer is described later in this document.*

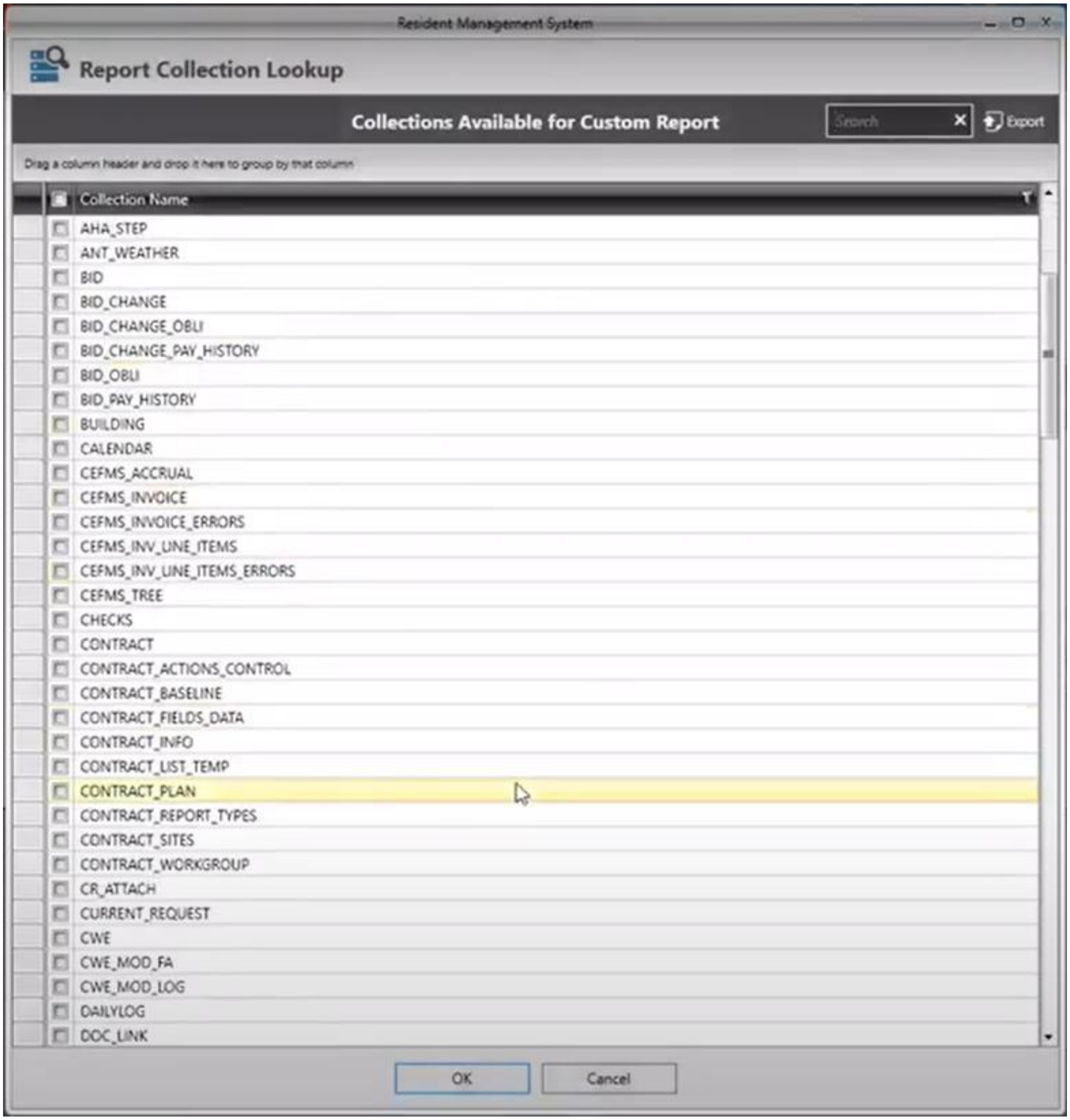
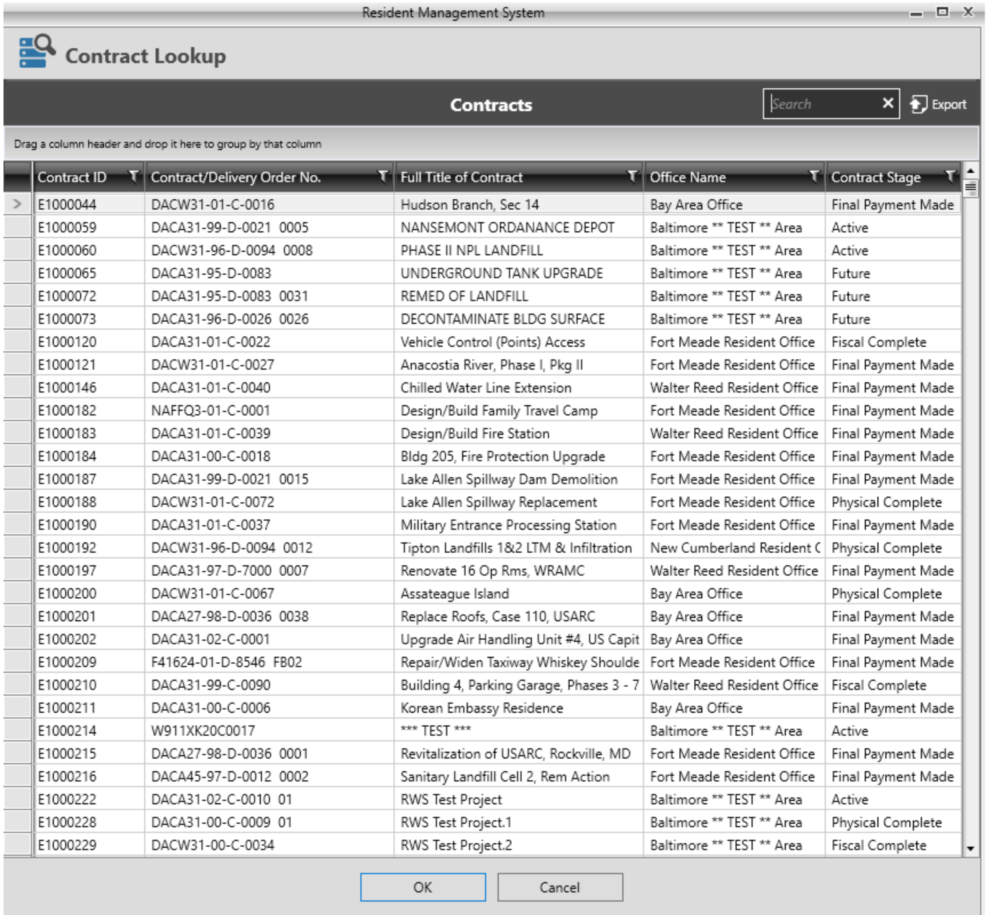

Resident Management System
Report Collection Lookup
Collections Available for Custom Report
Search
Export
Drag a column header and drop it here to group by that column
Collection Name
AHA_STEP
ANT_WEATHER
BID
BID_CHANGE
BID_CHANGE_OBLI
BID_CHANGE_PAY_HISTORY
BID_OBLI
BID_PAY_HISTORY
BUILDING
CALENDAR
CEFMS_ACCRUAL
CEFMS_INVOICE
CEFMS_INVOICE_ERRORS
CEFMS_INV_LINE_ITEMS
CEFMS_INV_LINE_ITEMS_ERRORS
CEFMS_TREE
CHECKS
CONTRACT
CONTRACT_ACTIONS_CONTROL
CONTRACT_BASELINE
CONTRACT_FIELDS_DATA
CONTRACT_INFO
CONTRACT_LIST_TEMP
CONTRACT_PLAN
CONTRACT_REPORT_TYPES
CONTRACT_SITES
CONTRACT_WORKGROUP
CR_ATTACH
CURRENT_REQUEST
CWE
CWE_MOD_FA
CWE_MOD_LOG
DAILYLOG
DOC_LINK
OK
Cancel

Figure 1



Resident Management System

Contract Lookup

Contracts

Search

Export

Drag a column header and drop it here to group by that column

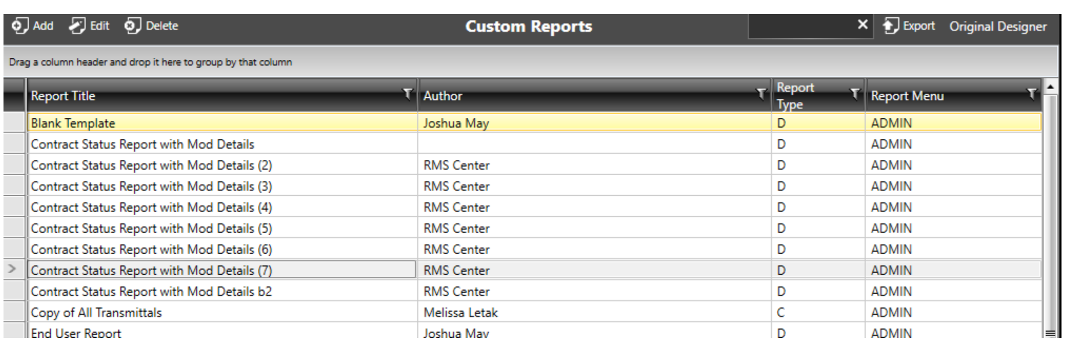
Contract ID	Contract/Delivery Order No.	Full Title of Contract	Office Name	Contract Stage
E1000044	DACW31-01-C-0016	Hudson Branch, Sec 14	Bay Area Office	Final Payment Made
E1000059	DACA31-99-D-0021 0005	NANSEMONT ORDANANCE DEPOT	Baltimore ** TEST ** Area	Active
E1000060	DACW31-96-D-0094 0008	PHASE II NPL LANDFILL	Baltimore ** TEST ** Area	Active
E1000065	DACA31-95-D-0083	UNDERGROUND TANK UPGRADE	Baltimore ** TEST ** Area	Future
E1000072	DACA31-95-D-0083 0031	REMED OF LANDFILL	Baltimore ** TEST ** Area	Future
E1000073	DACA31-96-D-0026 0026	DECONTAMINATE BLDG SURFACE	Baltimore ** TEST ** Area	Future
E1000120	DACA31-01-C-0022	Vehicle Control (Points) Access	Fort Meade Resident Office	Fiscal Complete
E1000121	DACW31-01-C-0027	Anacostia River, Phase I, Pkg II	Fort Meade Resident Office	Final Payment Made
E1000146	DACA31-01-C-0040	Chilled Water Line Extension	Walter Reed Resident Office	Final Payment Made
E1000182	NAFFQ3-01-C-0001	Design/Build Family Travel Camp	Fort Meade Resident Office	Final Payment Made
E1000183	DACA31-01-C-0039	Design/Build Fire Station	Walter Reed Resident Office	Final Payment Made
E1000184	DACA31-00-C-0018	Bldg 205, Fire Protection Upgrade	Fort Meade Resident Office	Final Payment Made
E1000187	DACA31-99-D-0021 0015	Lake Allen Spillway Dam Demolition	Fort Meade Resident Office	Final Payment Made
E1000188	DACW31-01-C-0072	Lake Allen Spillway Replacement	Fort Meade Resident Office	Physical Complete
E1000190	DACA31-01-C-0037	Military Entrance Processing Station	Fort Meade Resident Office	Final Payment Made
E1000192	DACW31-96-D-0094 0012	Tipton Landfills 1&2 LTM & Infiltration	New Cumberland Resident (	Physical Complete
E1000197	DACA31-97-D-7000 0007	Renovate 16 Op Rms, WRAMC	Walter Reed Resident Office	Final Payment Made
E1000200	DACW31-01-C-0067	Assateague Island	Bay Area Office	Physical Complete
E1000201	DACA27-98-D-0036 0038	Replace Roofs, Case 110, USARC	Bay Area Office	Final Payment Made
E1000202	DACA31-02-C-0001	Upgrade Air Handling Unit #4, US Capit	Bay Area Office	Final Payment Made
E1000209	F41624-01-D-8546 FB02	Repair/Widen Taxiway Whiskey Shoulde	Fort Meade Resident Office	Final Payment Made
E1000210	DACA31-99-C-0090	Building 4, Parking Garage, Phases 3 - 7	Walter Reed Resident Office	Fiscal Complete
E1000211	DACA31-00-C-0006	Korean Embassy Residence	Bay Area Office	Final Payment Made
E1000214	W911XK20C0017	*** TEST ***	Baltimore ** TEST ** Area	Active
E1000215	DACA27-98-D-0036 0001	Revitalization of USARC, Rockville, MD	Fort Meade Resident Office	Final Payment Made
E1000216	DACA45-97-D-0012 0002	Sanitary Landfill Cell 2, Rem Action	Fort Meade Resident Office	Final Payment Made
E1000222	DACA31-02-C-0010 01	RWS Test Project	Baltimore ** TEST ** Area	Active
E1000228	DACA31-00-C-0009 01	RWS Test Project.1	Baltimore ** TEST ** Area	Physical Complete
E1000229	DACW31-00-C-0034	RWS Test Project.2	Baltimore ** TEST ** Area	Fiscal Complete

OK Cancel

Figure 2

Editing Custom Report Templates

To access an existing template, find the report of interest in the Report Title List and either select it and click the “Edit” button or double click the report name.

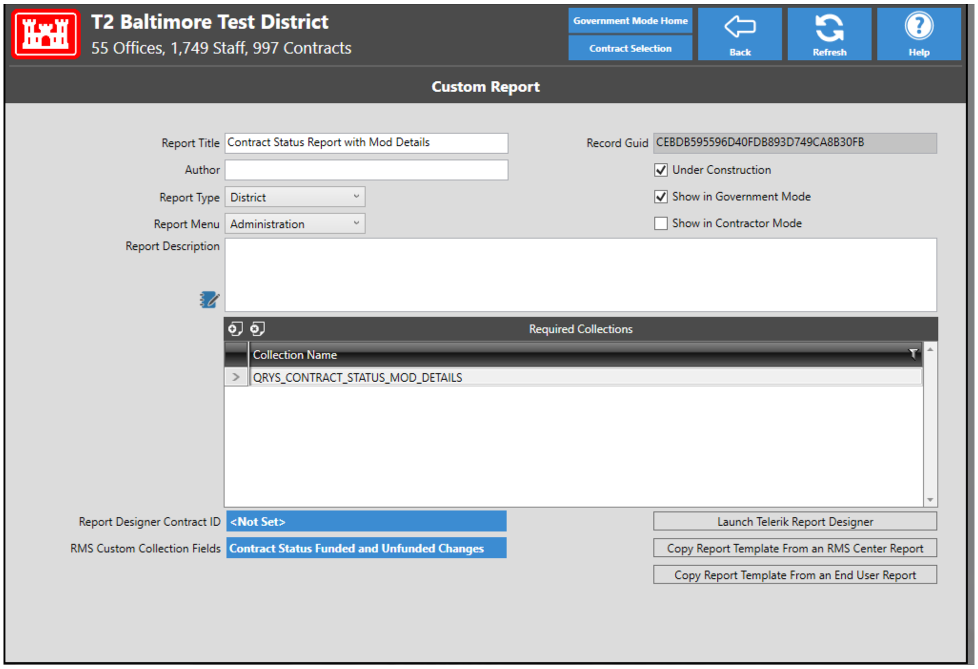


Add Edit Delete Custom Reports Export Original Designer

Drag a column header and drop it here to group by that column

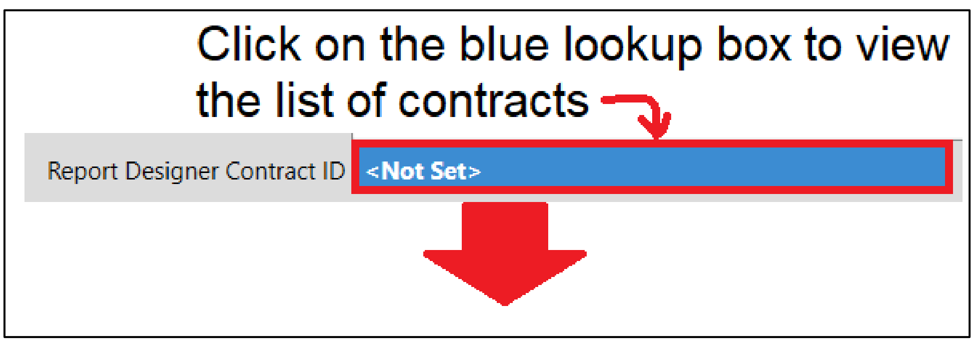
Report Title	Author	Report Type	Report Menu
Blank Template	Joshua May	D	ADMIN
Contract Status Report with Mod Details		D	ADMIN
Contract Status Report with Mod Details (2)	RMS Center	D	ADMIN
Contract Status Report with Mod Details (3)	RMS Center	D	ADMIN
Contract Status Report with Mod Details (4)	RMS Center	D	ADMIN
Contract Status Report with Mod Details (5)	RMS Center	D	ADMIN
Contract Status Report with Mod Details (6)	RMS Center	D	ADMIN
Contract Status Report with Mod Details (7)	RMS Center	D	ADMIN
Contract Status Report with Mod Details b2	RMS Center	D	ADMIN
Copy of All Transmittals	Melissa Letak	C	ADMIN
End User Report	Joshua May	D	ADMIN

The custom report definition screen will be displayed.



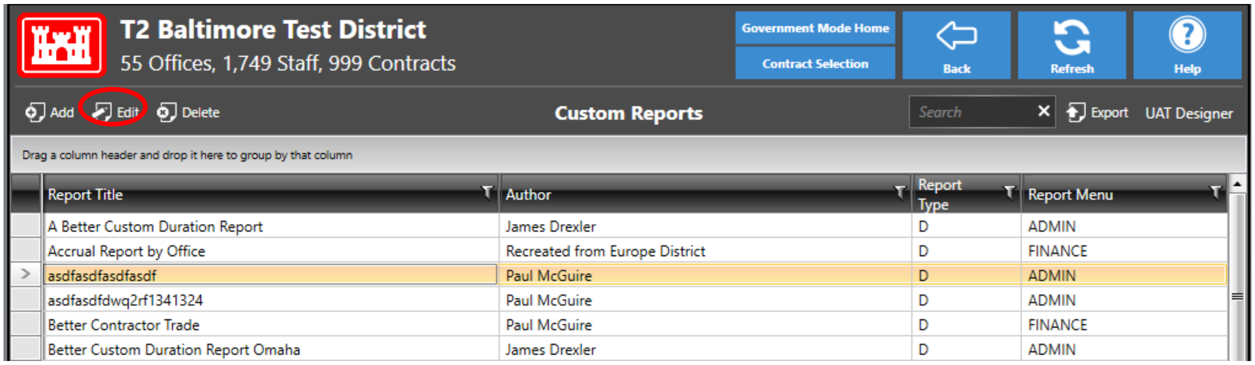
Note: The Report Design Contract ID is not assigned. Assigning a contract ID will allow you to see the draft or a view of the report with the contract data specified when using the ‘Custom’ report type.

Click the “Not Set” blue lookup box and a list of valid Contract Ids will be displayed.



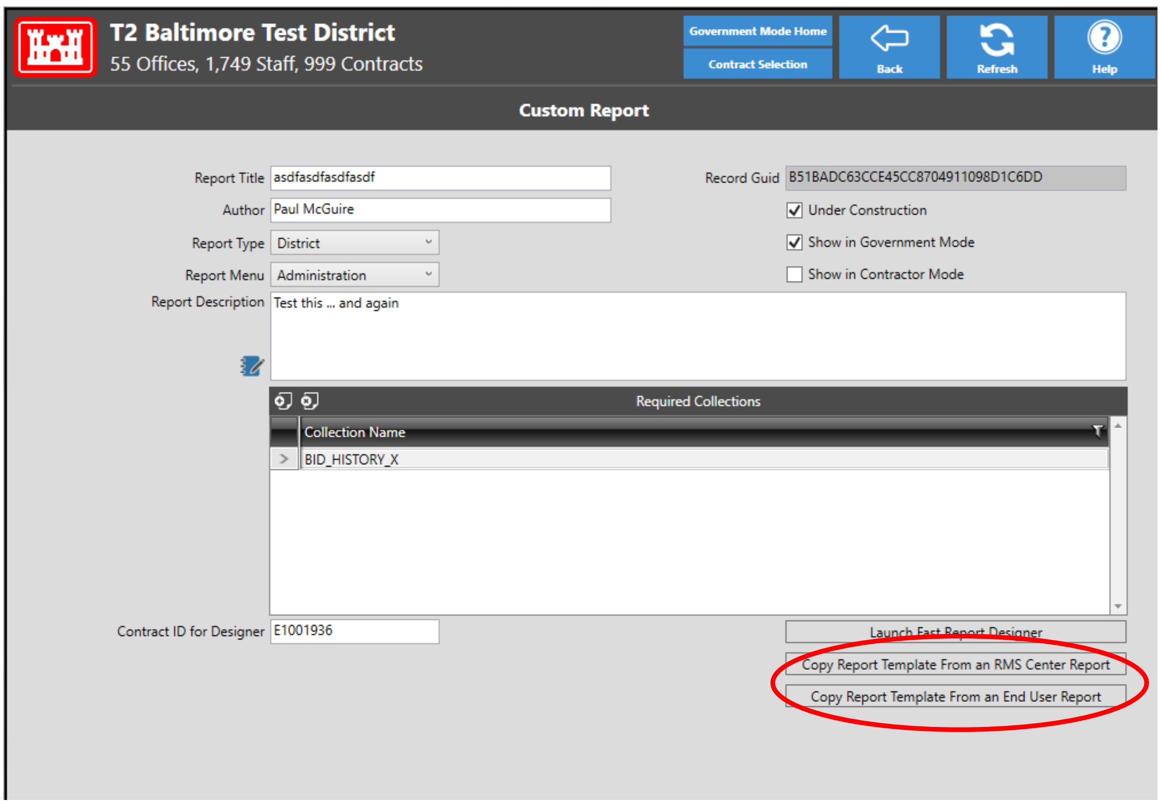
Copying Custom Report Templates

Copying an existing custom report template is a very helpful tool. Once the report to be copied has been identified, double click the report name or click ‘Edit’ to display the Custom Reports screen.

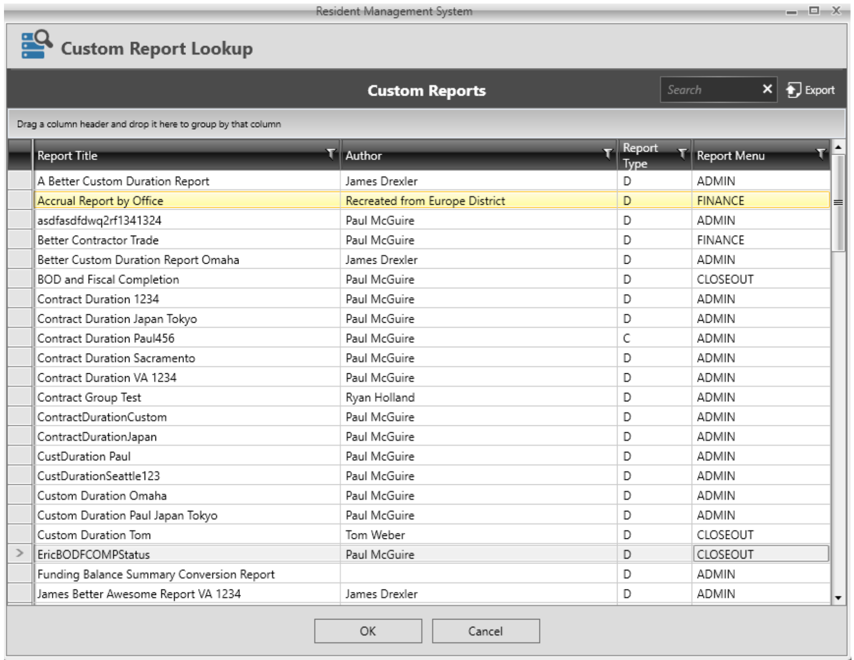


Note: Do not change the name of the original report. Each report is provided a unique record ID, referred to as the record GUID (Global Unique identifier). Any attempt to realign the identifier to a different report will cause identification problems for that custom report.

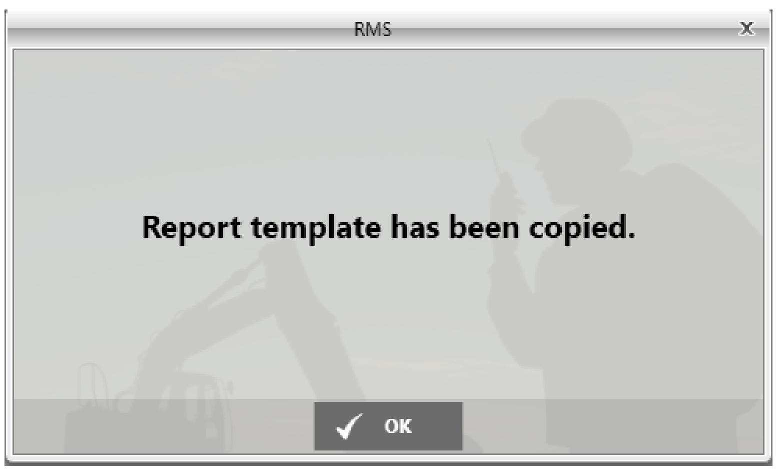
To copy the report, click the Copy Report Template from an RMS Center Report button or Copy Report Template from an End User Report button.



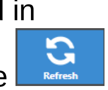
A custom report look-up dialog will be displayed. Select the report to be copied.



When the report copy function is complete a dialog window will be displayed. Click OK to proceed.



The screen will refresh. Rename the copied report and proceed with design. Clicking the 

back button on the upper right of the screen will save the report. RMS will refresh the screen display and add the name of the new created report. These reports are listed in alphabetical order. If for some reason the new report is not being displayed, click the 

refresh button located in the upper right of the screen next to the back button. To edit the report double click the newly copied report or select the report and click “Edit”.

Telerik Custom Reports Designer

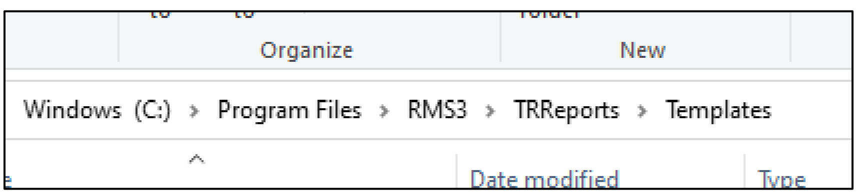
RMS application allows the user to define ad hoc custom reports based on a set of specific requirement needs of a district. These custom reports can be written at the district level or summary level. This is a powerful tool allowing graphs, images, forms, success indicators etc.

The report designer tool provides access to a page designer as well as the data storage fields. Filters are then applied for proper formatting and grouping. The report allows the data to be exported in PDF, EXCEL or CSV formats.

Use of Telerik Report Designer will place in the hands of the user a wide range of User Interface (UI) controls for report definition. The use of Telerik Report Designer can be a bit challenging for individuals who are unfamiliar with standard software integrated design environments (IDE). Getting familiarized with Telerik's Report Designer User Interface (UI) will assist with ease of use. There are several online resources that can assist with understanding and mastering the report designer. Take some time to become familiar with Telerik (see Telerik Learning Resources later in this document). Online searches can also provide useful information on the Telerik Report Designer.

Launching Telerik Reports Designer

When the Telerik Report Designer is launched, a default report template is created for the user. This provides a good foundational start for designing reports. The report template is automatically downloaded to the user's local directory. This is stored in the default path shown below:



The path may be changed by the user if desired. Storing the template on the local machine allows the users to make off-line edits to the "template only". When working off-line the data will not be visible, but the template can be adjusted. This also allows report templates to be:

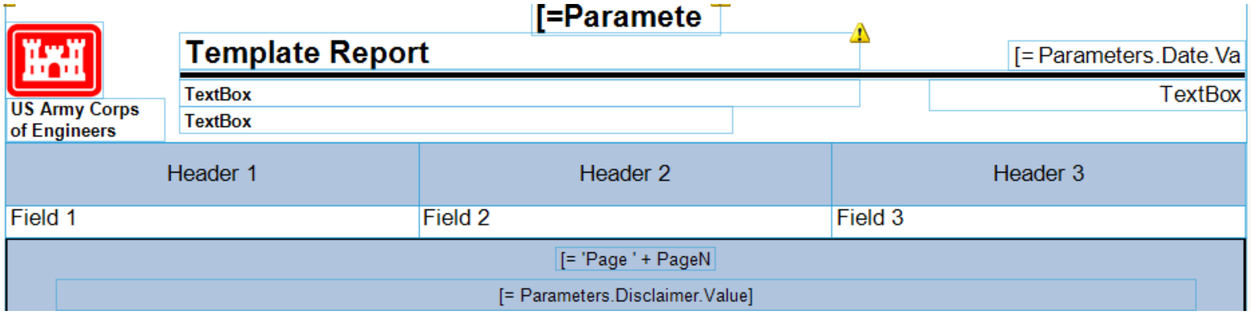
1. Copied
2. Backed up.
3. Sent to other users.

Telerik Tool Overview

A brief description of the report designer is provided in the sections below.

Report Interface Section(s)

The report interface section is used to drop, drag, move, and resize the report objects. This includes the report headers, footers, and details for each report section.

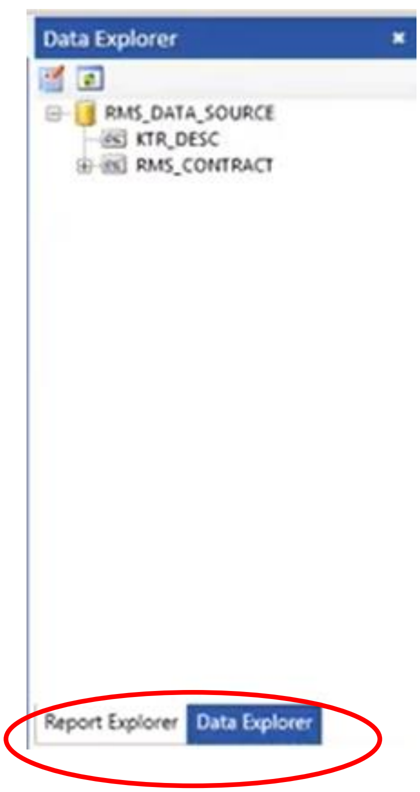


This is the primary place to interact with the report template.

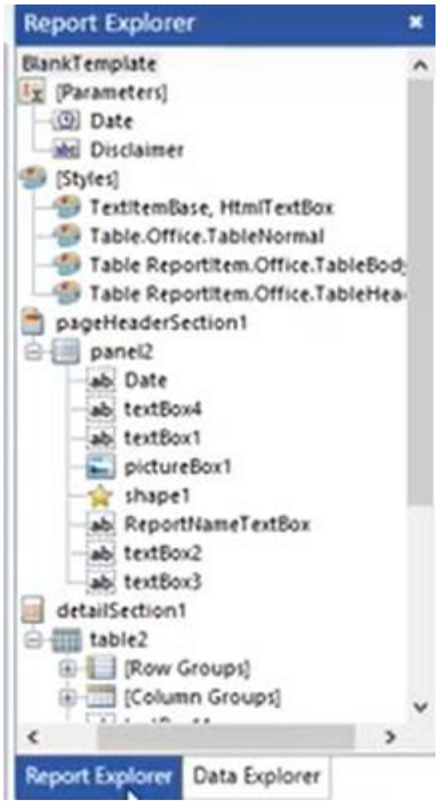
Data and Report Explorer Panel

The data and report explorer can be accessed from the context menu as well as a at specific field level in the report interface. To toggle between the two views, click the button for the desired view at the bottom of the explorer.

The data explorer window lists data source columns allowing the user to drag the field name to the interface section during page designing. The data explorer also allows the user to aggregate or calculate fields that are not stored in the database.



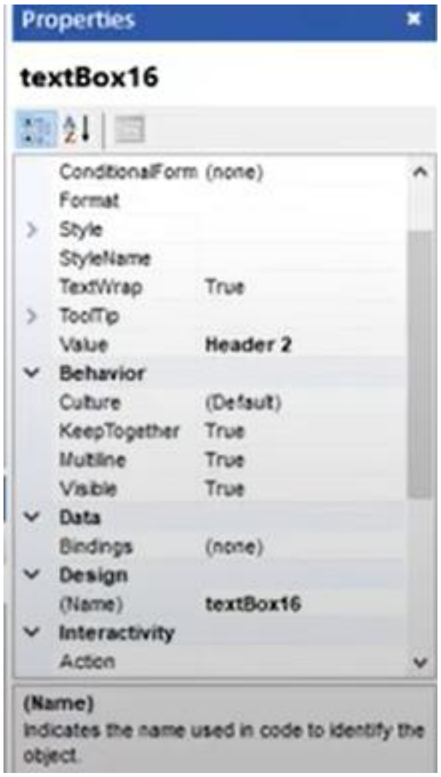
The Report Explorer provides details on all the report objects within the report template and allows the user to navigate to and arrange the report elements. The Report Explorer supports standard cut-n-paste actions allowing the user to select cute, paste move and/or delete from the Report Interface section.



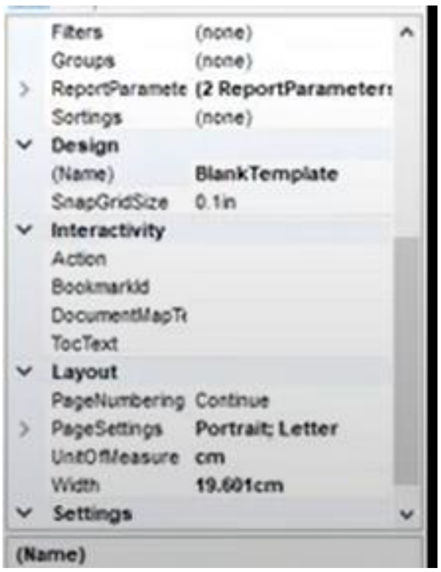
Clicking a report object in the report explorer window will highlight the correlating report object on the report interface.

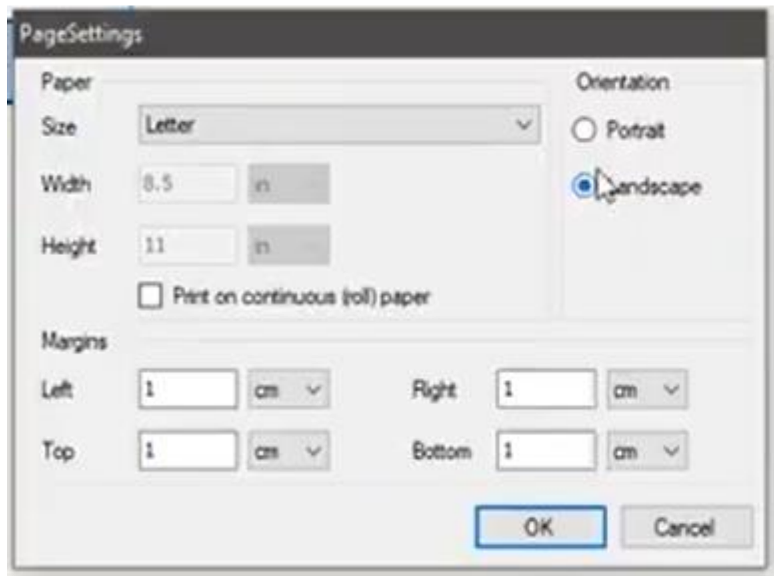
Properties Panel

The properties panel is where all the properties for each report object are shown. This panel allows the user to change the properties of the various elements of the report such as background color, text color, data bindings, report layout, etc. There are different report properties characteristics for each object including the report template. To access the properties panel for the different elements, right click the element and select “properties”. If the properties panel is already visible, simply clicking an element will display its properties.

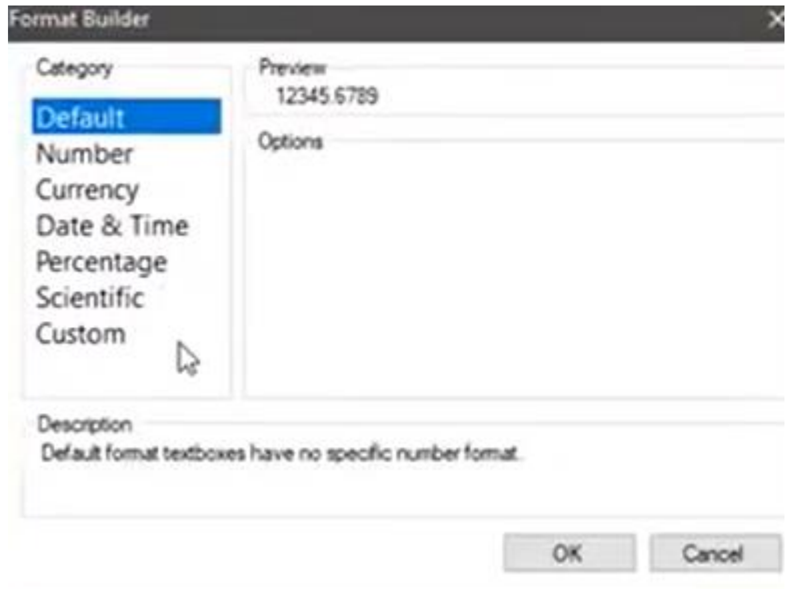


Layout Properties Example: The default setting for the initial report template is “portrait”. To change the report template from portrait to landscape select the properties for the template by right clicking in the area outside the fields and click on the Page Settings option on the property panel. The page settings window dialogue will be displayed. Select the page layout option of choice and then click ok.





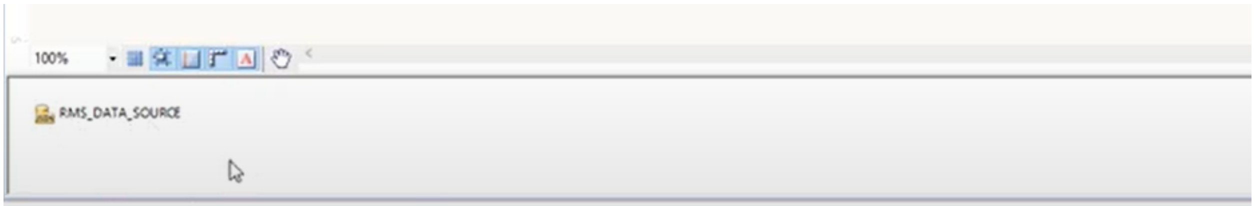
Formatting Objects
Objects on the Report Interface can easily be formatted by right clicking and selecting format.



The format dialogue window will be displayed. The format categories will depend on the item selected.

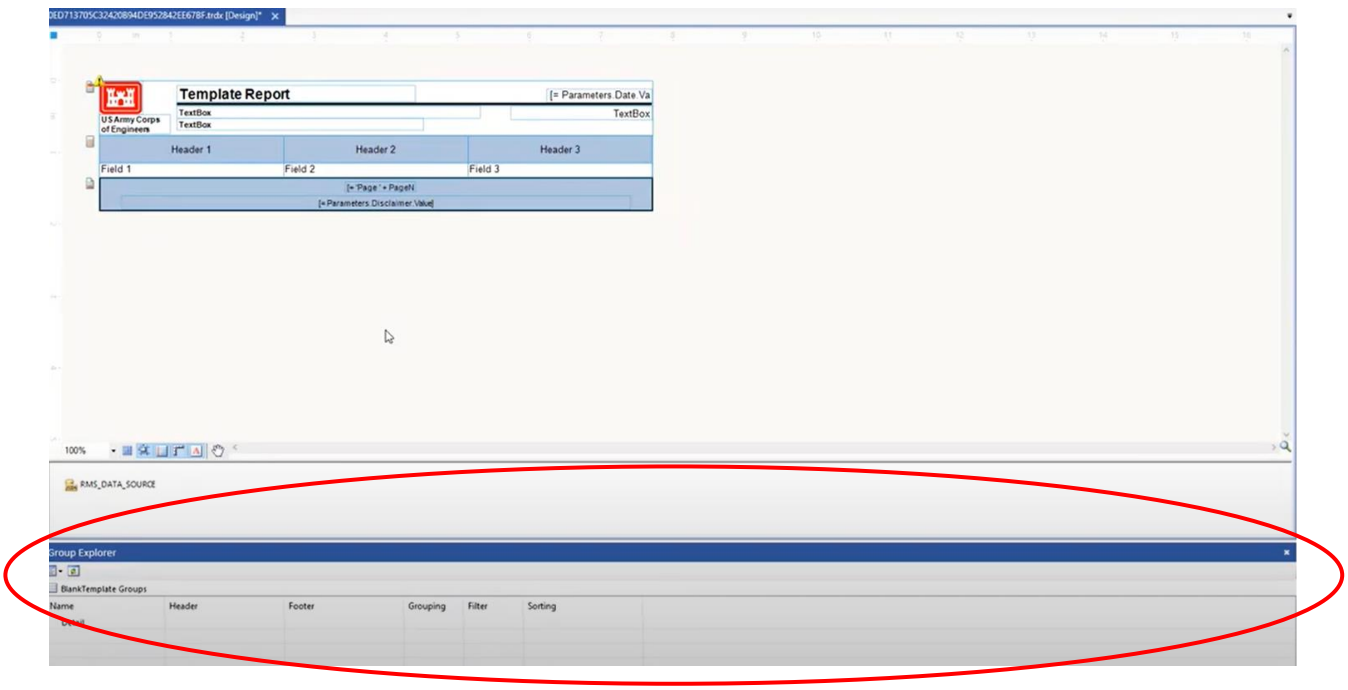
Data Source Panel

The data source panel, located below the design window, is used to display the data sources available to the template.



Group Explorer

The Group Explorer is used to show if there are any data groupings in the objects selected in the report interface window.



Designer Toolbar

The designer toolbar works a lot like Microsoft Word Toolbars. Depending on what tab is selected the toolbar view will change.

Preview Mode – Allows the report preview to be seen. The default report preview does not show page breaks. To see how the printed report would look select Print Preview from the Report Preview toolbar.

Home – Standard formatting options for centering and text fonts.

Layout – Center, right justify, left justify options for a report object.

Border – Allows borders to be placed around text objects.

Insert – The tab used to add all the report objects. The table set to bind collections and queries to report objects. Charts, maps, reports, text boxes, panels can be added.

Data Tab – When the data tab is displayed the data explorer on the right hand side will show the data collections used. Some data collections will have a drop down list of fields and some will not. This is because Telerik cannot distinguish between the data required for a list table.

Binding allows a data object to be tied to a data source component. A report object can also be bound to an expression. Example: If a number displayed is positive, the number field can have a green color, if the number is negative it can be bound to a red display.

Binding a collection to a table:

1. Select the table.
2. From the property panel click on bindings
3. Then Click “NEW”
4. Select the object and select the expressions.

Setting the Fields

To map a data field object to the defined header object the syntax used is very important. The syntax "=fields" tells Telerik to use a field from the corresponding data collection. To use the contractor name as an example, the proper Telerik syntax would be =fields.full_name.

Telerik Learning Resources

Below are some general links that may help with understanding Telerik.

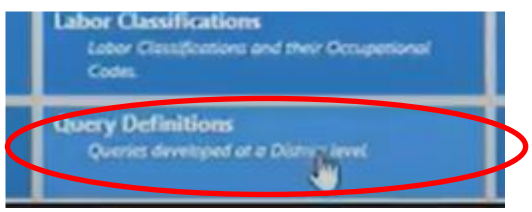
- https://docs.telerik.com/reporting/standalone-report-designer - Stand Alone Report Designer
- https://www.telerik.com/forums/reporting?_ga=2.40201060.73815253.1621959892-141447797.1620059582 – Telerik Report Forums
- https://www.youtube.com/watch?v=18EKkZ5AgPA – Beginners Guide to Telerik Reporting

How to Create A Custom Query (Step-By-Step)

To create a custom query, access the menu tile for Query Definitions as described in the Custom Report Engine introduction. To navigate to the query definitions menu:

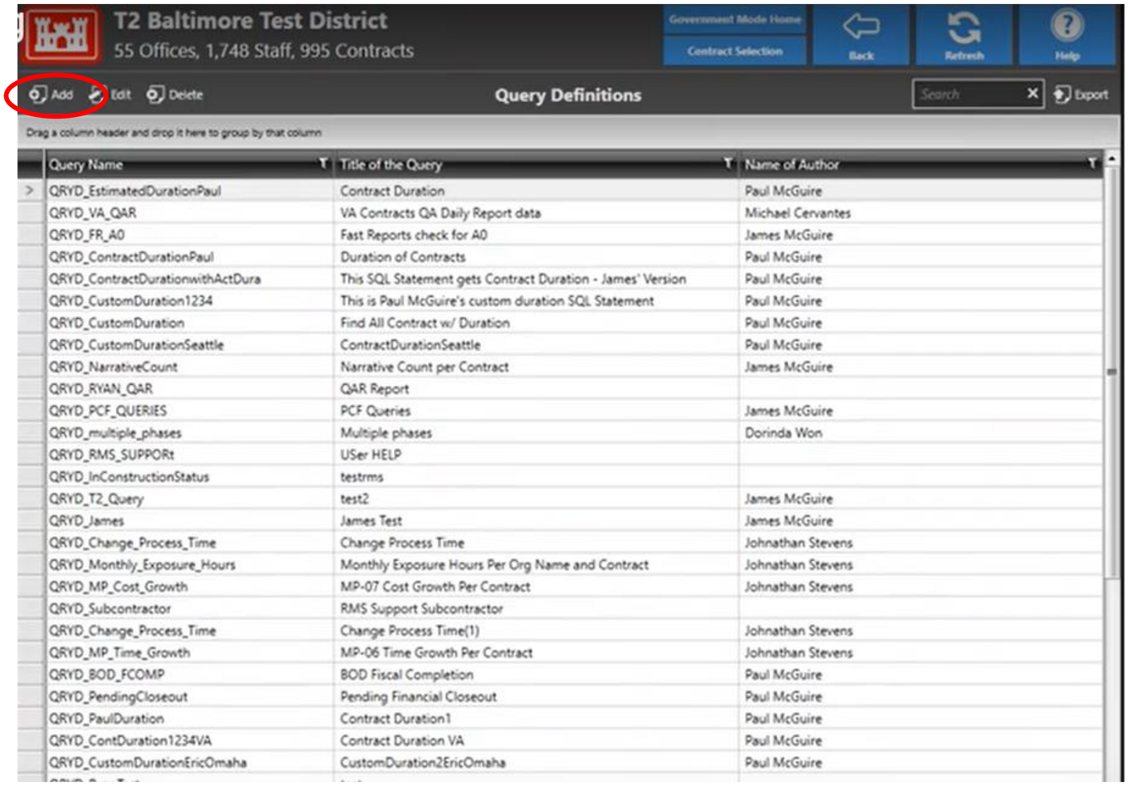
1. Log on to RMS.
2. Select a district.
3. Click the District Library Tile at the top of the screen.
4. Click the Query Definitions menu option.

Note: Only Government users have access to the Query Definitions and Custom Report menu options.



Adding a Custom Query

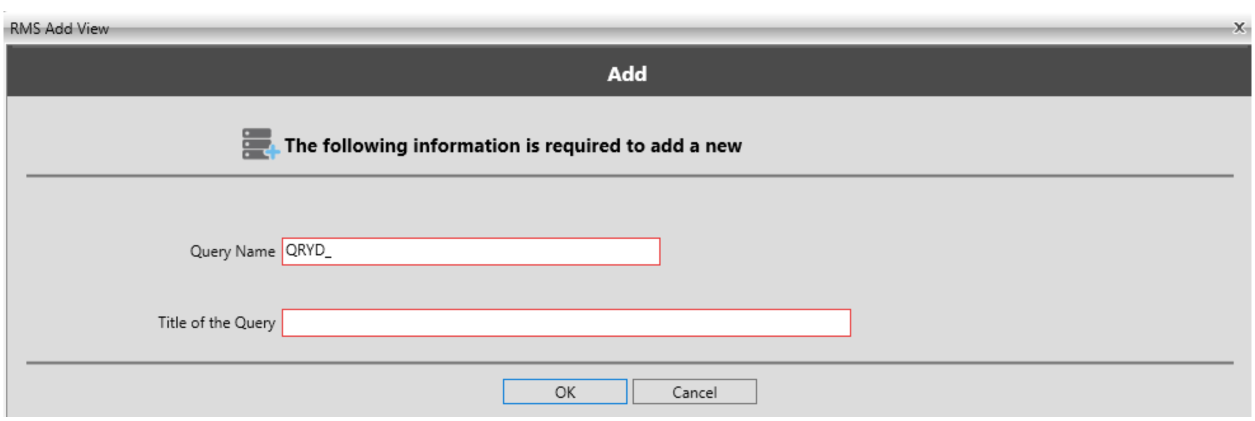
To create a new custom query definition, Click the "Add" icon that is located at the top left side of the view.



Once this view is displayed all custom queries that have been created will be displayed.

Note: Custom queries built using Fast Reports may be used with Telerik reports.

To add a query definition, click on the add button as shown above. The add query dialog window will be displayed.



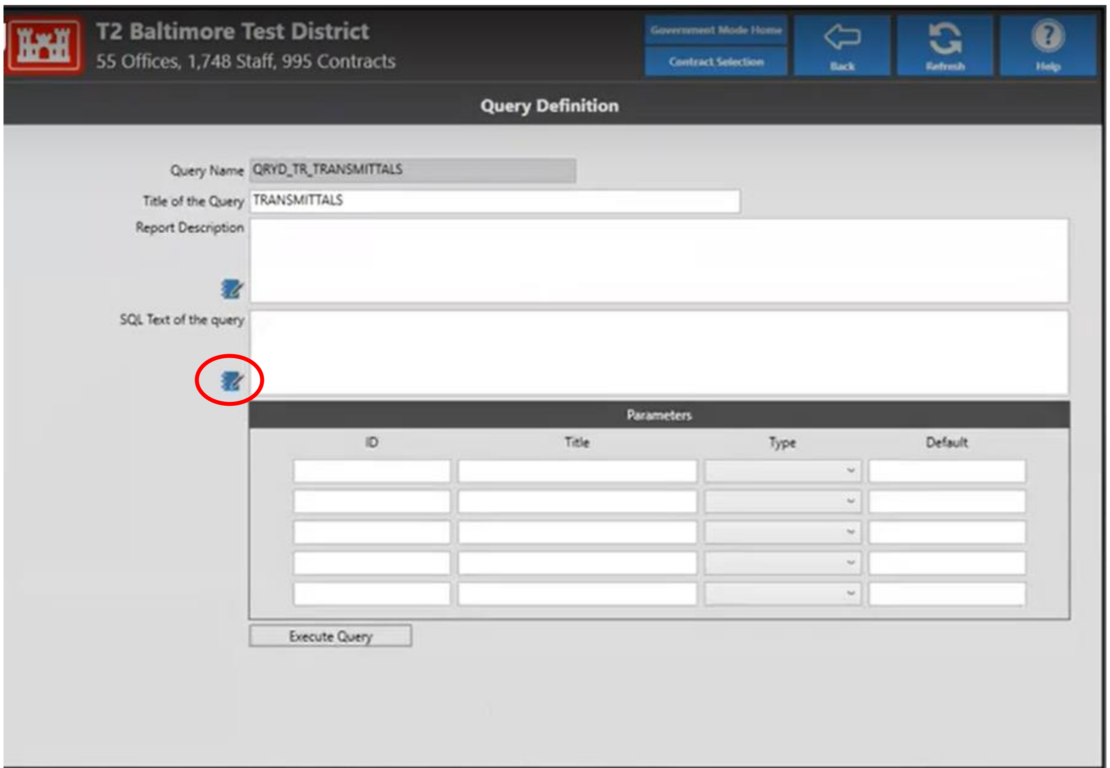
Query Name – The default prefix for the query name will be automatically displayed 'QRYD_'. There are three different query prefixes.

- QYRG – For custom group reports
- QYRS – System queries added by the developers that support RMS.
- QYRD – For custom district reports

The suffix entered is up to the creator. It is advised to use a query name that easily identifies the query area of focus. Example: QYRD_QC_Report.

Title of the Query – Enter a brief one line title of the query.

After entering the query name and title and click "Ok". The query definition detail screen will be displayed.



The Query Name and Title of the Query will be automatically populated. At this point the Query Name is no longer editable. However, the Title of the Query can be modified. Complete the Query Definition screen by entering data into the remaining fields as defined below.

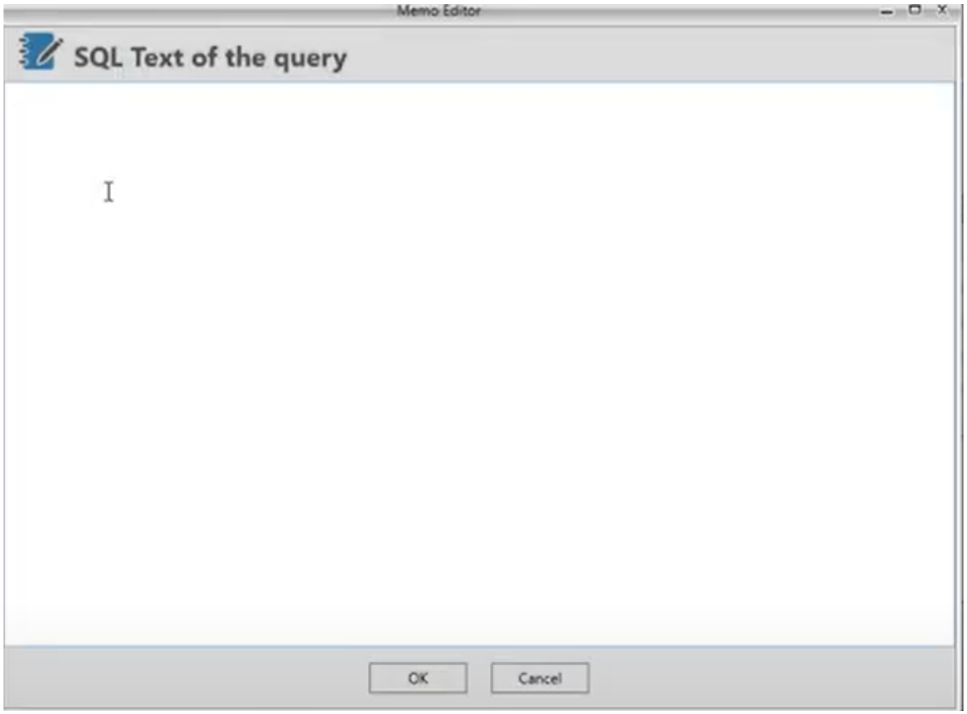
Title of the Query – Enter the brief one line title of the query.

Report Description – Enter the report description listing columns, summary information etc. This will aid others in searching for predefined custom query.

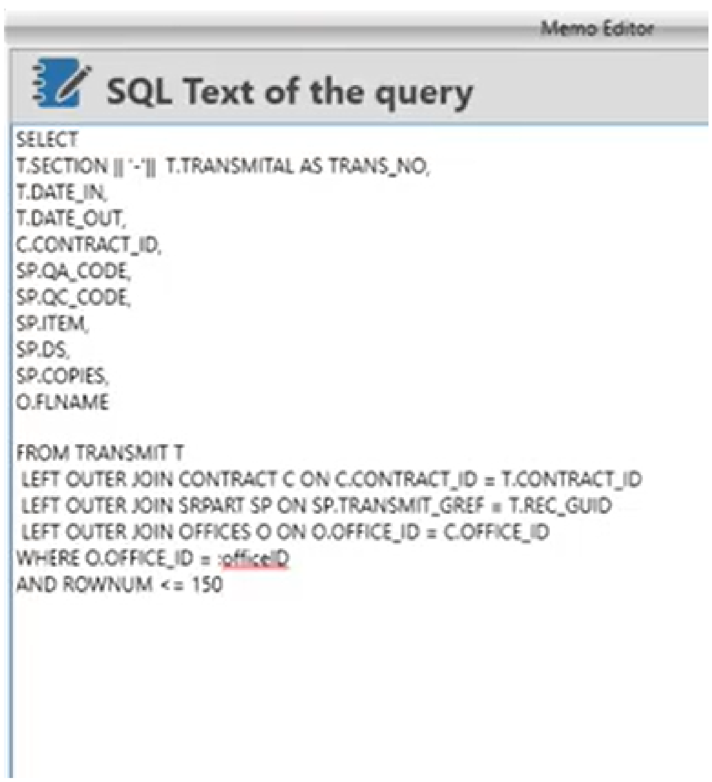
SQL Text of the Query (Required)- Enter the standard structured query language to be executed to fetch the data. (There are many on-line tutorial resources on how to build queries. https://www.w3schools.com/sql/ is one of the easier on-line tutorial sites)

Parameters – Enter the query parameters that are used as placeholders or arguments that assist in restricting data search.

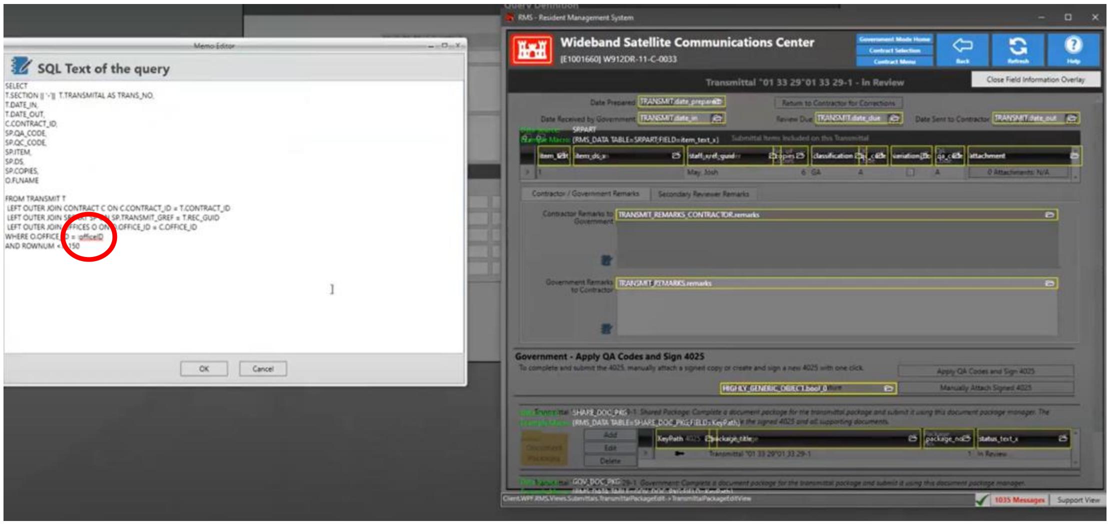
As an example, a custom query will be designed to provide a list of transmittals for a district. The query can be written in the "SQL Text of the query" field or If this is not enough space, click the database icon (circled red in the above image) and the query memo editor will be displayed.



A standard SQL query for transmittals is shown below. Enter this query exactly as shown in the "SQL Text of the query" field. Once complete click ok.

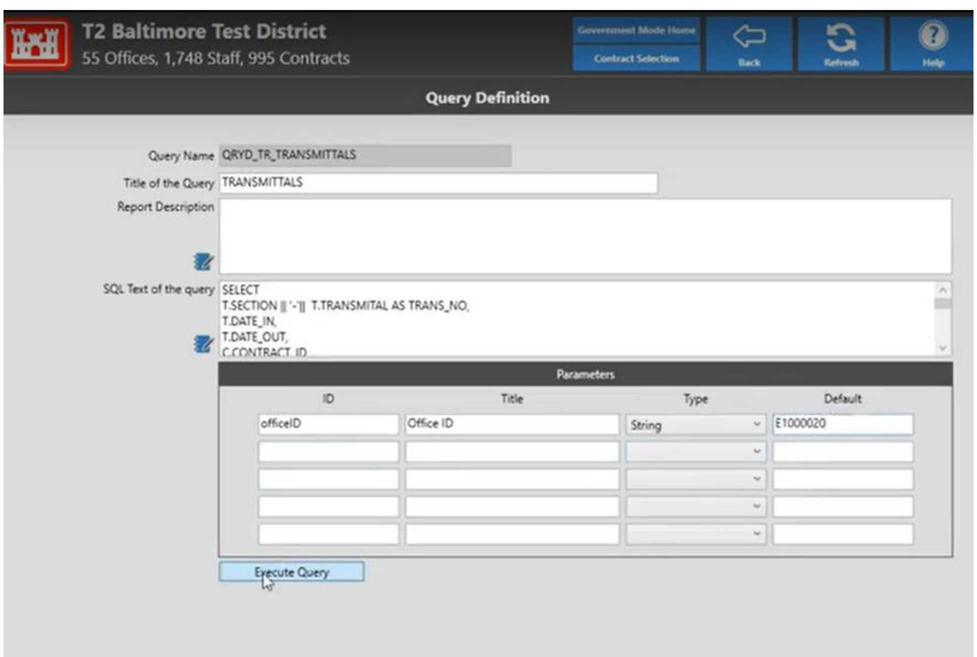


Below is an example of how the determine the data needed for the query. The use of the short cut (ctrl/right click) is displayed below. The table name and the fields as they appear in the table are displayed on the right.



RMS custom query tool allows the user to map the custom query to a specific set of data using parameters. On the left side image, the parameter that is defined is circled. Use of parameters will prompt the user to provide information if defaults are not set.

Enter the parameter ID, Title, Type and default value. When the query is executed, the system will automatically supply the office ID identified prior to running the query. However, this value can be manually changed. A completed Query Definition view is displayed below.

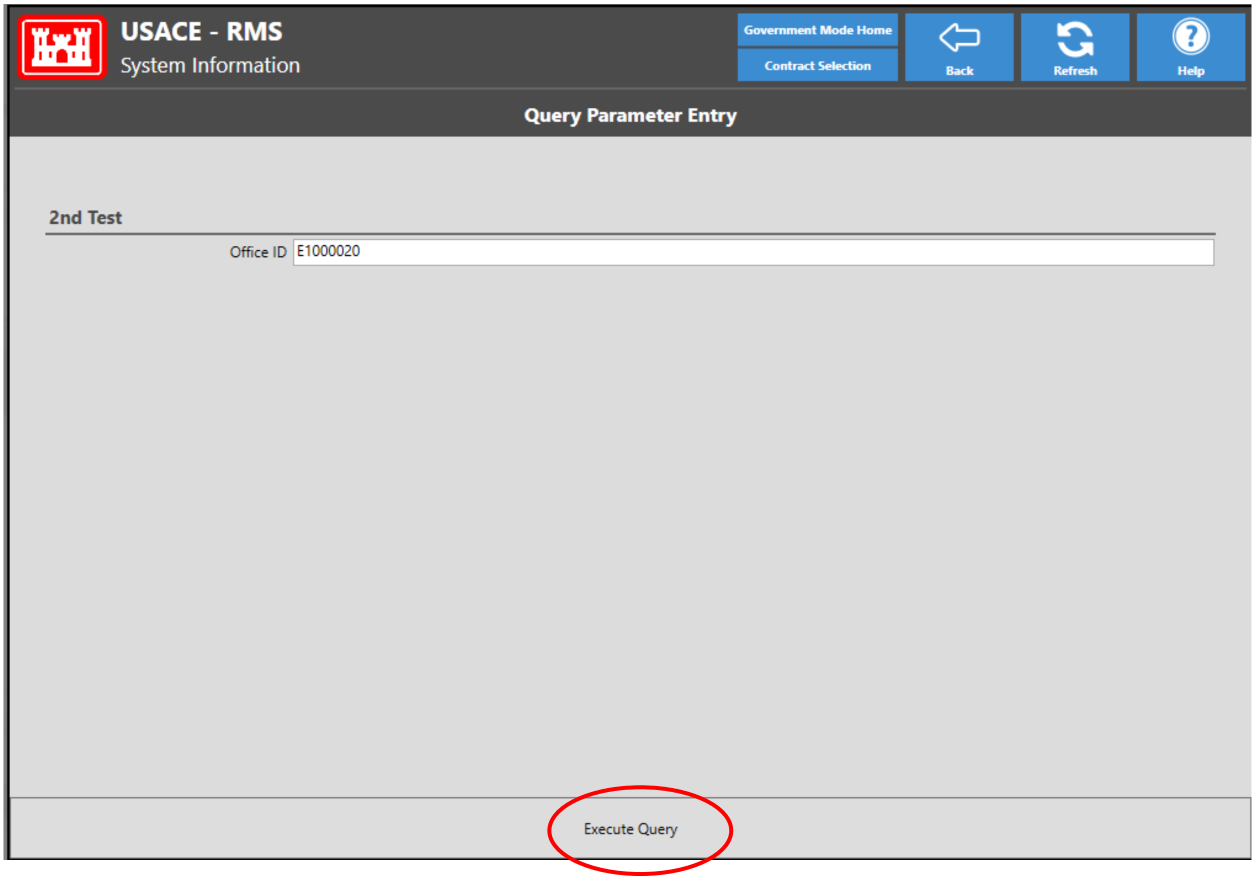


ID – Enter the parameter ID used the SQL text.
Title – Enter the tile or name of the parameter in plain English.
Type – Enter the type of data that will be assigned to the parameter.

- String – Character data
- Date – Standard date format
- Double – Numbers with floating points allowed.
- Integer – Whole numbers ranging between -/+ 2,147,483,648

Default – The assigned parameter default; the literal data information.

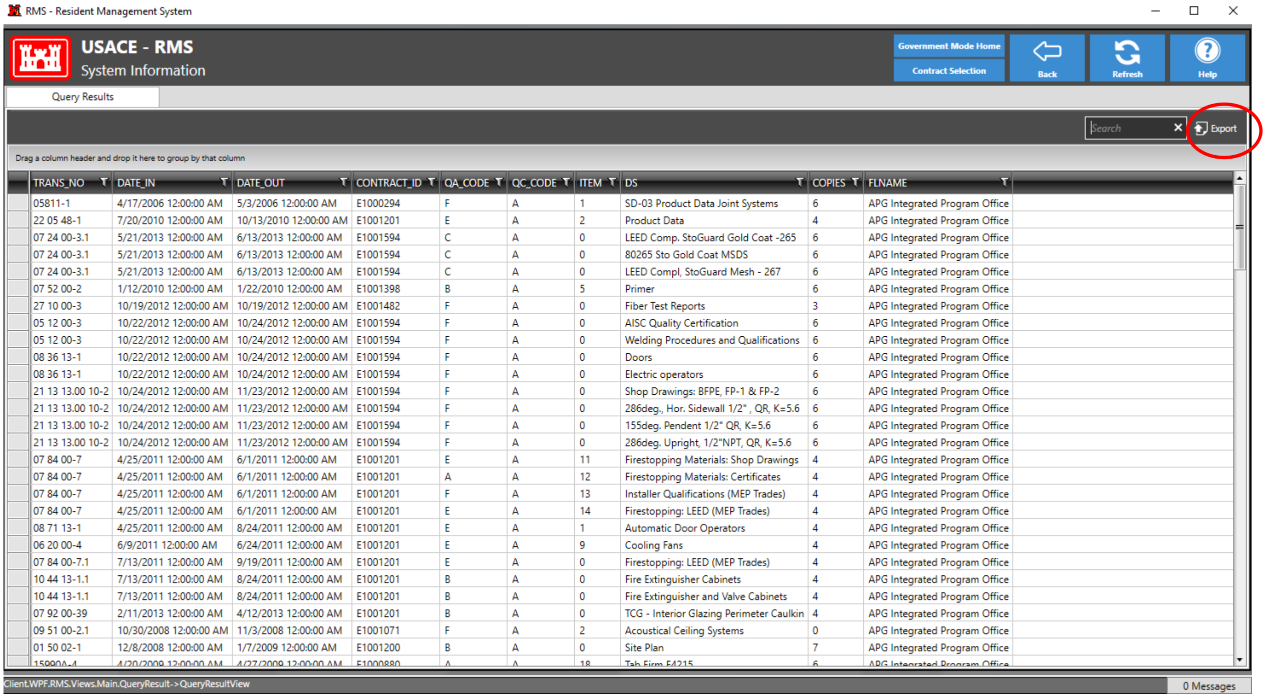
If the default is set simply click execute to continue to the next entry screen.



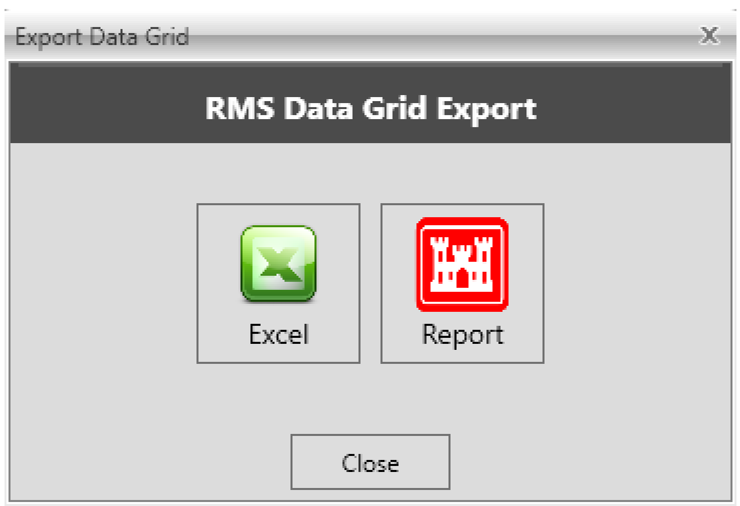
Press “Execute” located at the bottom of the Query Parameter Entry screen.

The final execution of the query will result in a list of all the transmittals for the specified office. This query can now be used in the district custom reports. RMS does have district data collections available. Thus, it is not required to create a custom query for all summary level reports. This can only be determined based on the needs of the report creator.

The report is displayed on the screen as shown below. To export the file, click the “Export” icon in the right portion of the title screen.



The export dialogue window will be displayed. Clicking the castle Icon will export the report to PDF.



Editing Custom Query

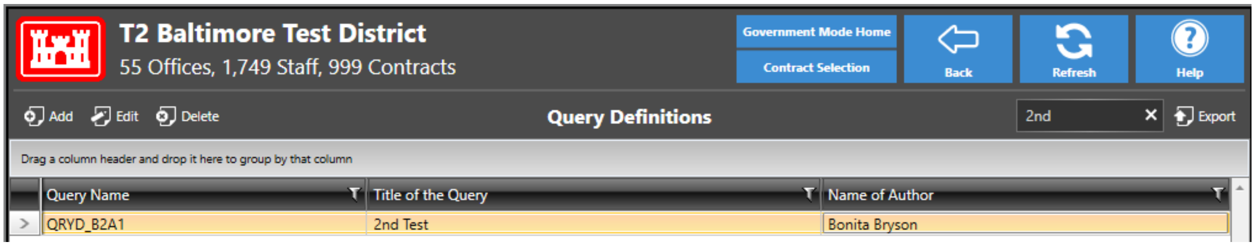
The first set of steps for editing a custom query are identical to the steps for creating a custom query. Access the custom query, access the menu tile for Query Definitions as described in the Custom Report Engine introduction.

To navigate to the query definitions menu:

1. Log on to RMS.
2. Select a district.

3. Click the District Library Tile at the top of the screen.
4. Click the Query Definitions menu options.

Once the query definitions are displayed select the query of interest. To make the search easier the search box on the top right side of the Query Definitions title bar can be used. In the search box, the partial or entire string can be entered.



Double click on a row or select a row and click “Edit” and the Query Definition view will be displayed.

Here you can replace the query with a new SQL statement, modify the existing SQL statement, and/or add parameters. The rest of the steps are identical to the “Create Query” steps.

Caution: Changing a query that is used in a Custom Summary Report may result in Custom Report becoming non-functional.

Tips and Tricks for Custom Queries

Below are several tips that will make using custom queries easier.

Tip #1

If there is an existing custom query by a different author that provides the data and information that is needed, then use that query to your advantage. Although there is not a “copy” button the SQL text can be copied and then pasted into a new query. *To make copying easier the user can open two (or more) copies of the RMS application.*

- Copy the existing SQL text (this will save the text to the copy/paste buffer).
- Click the back button and then “Add” new query.
- Paste the copied SQL into the “SQL Text of the query” field
- Modify the query as needed.

Tip #2

Add as much information as possible to assist with identifying the query output and function at a glance.

- User a query name that is readable.
  - Bad Example: QRYD_PRJ_DRNT
  - Good Example: QRYD_LONG_PROJECT_DURATION
- Create Query Titles that provide help to others that may use the same query.
  - Bad Example: Projects with Long Durations
  - Good Example: Projects with Durations over 1000 days

Tip #3

Add as much detail in the report description as possible. This allows other users to determine the purpose of the query and avoids the need to reverse engineer the query at a later date to determine its purpose.

- Bad Example: Prints contracts with long durations
- Good Example: This custom query polls the database for the contract id, contract number, the contract's long title, estimated duration where duration is greater than (1000 days default). It will ask the user to type in a number for how many days they wanted for the duration.

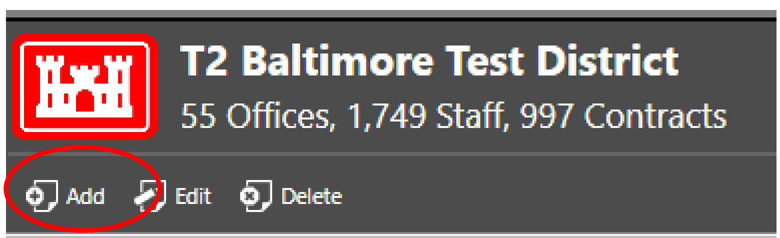
Tip #4

Avoid recreating work that is already done. Take time to explore the existing custom queries. The query needed for a new report may already exist but if it is necessary to create a new query, copying from the existing queries can speed up that process.

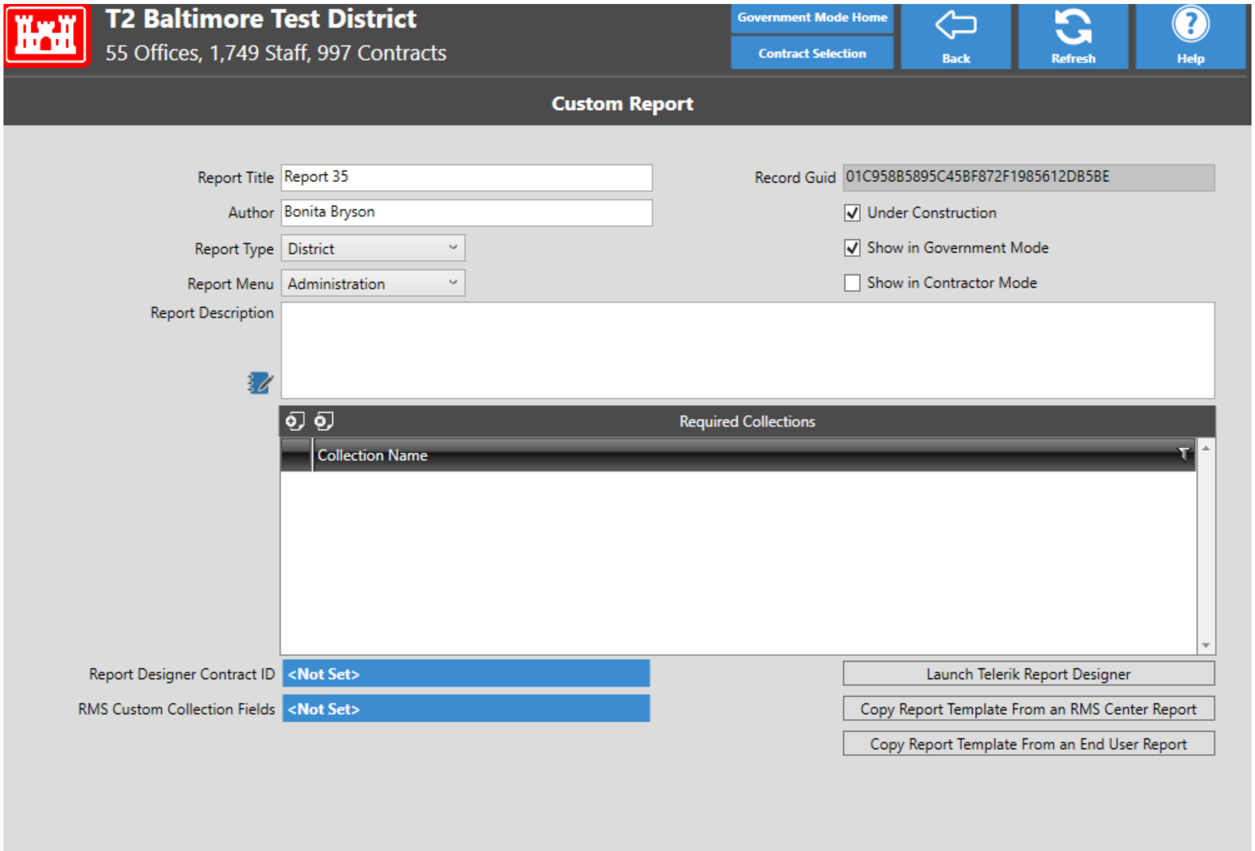
How to Create a Contract Report Template (Step-By-Step)

Once the custom report module screen has been accessed as described in the Custom Report Engine section the process of creating a new custom report template can begin.

To get started, click the Custom Report menu tile. The screen will display the list of all users defined custom report templates. Click the "Add" button in the upper left corner of the screen.



The next screen that will be displayed is the Telerik report edit view.



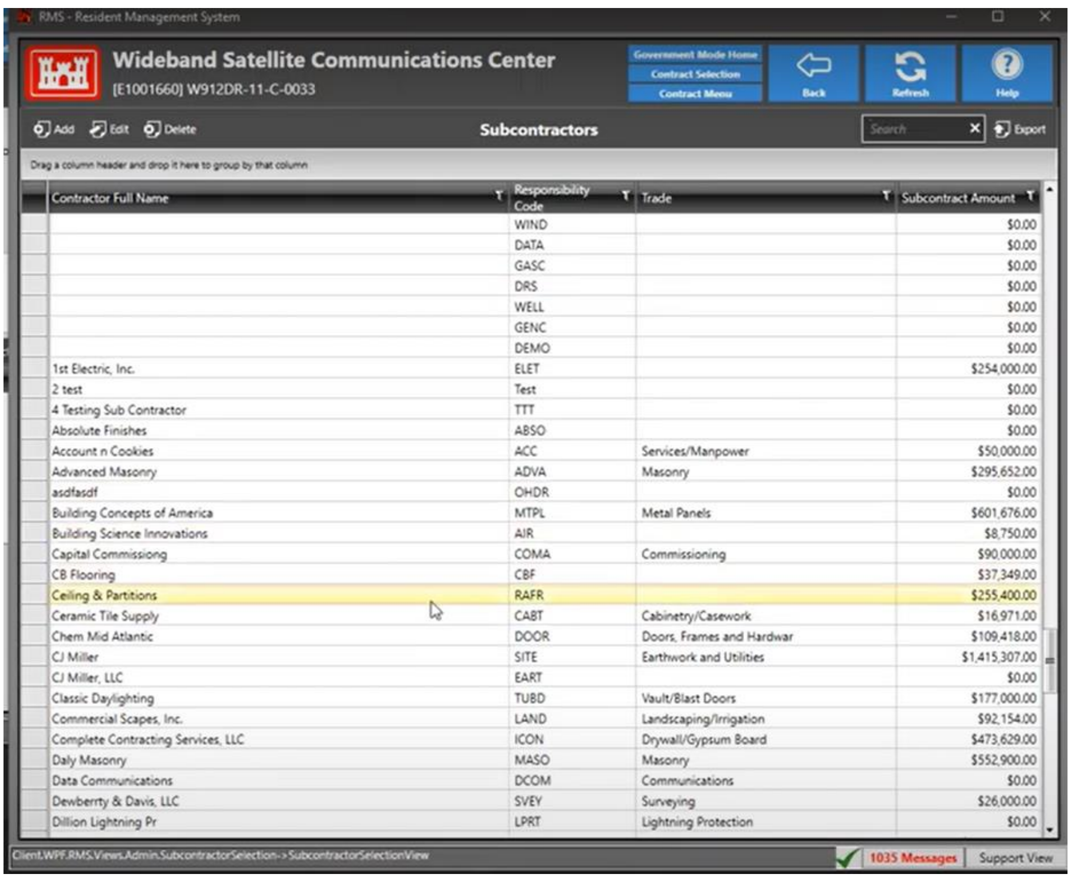
- Report Title – Enter the desired report title
- Report GUID – Computer generated globally unique identifier. This is not enterable by the user.
- Author – Enter the name of the author or report creator.
- Report Type –
  - C – Contract level report
  - D – District level report
- Report Menu – Specify the module menu area to associate the report on
  - Administration
  - Finances
  - QA/QC
  - Submittals
  - Schedules
  - Closeout
  - Library
- Report Status
  - Under Construction – Click under construction to indicate that the report is “under construction”. This prevents the custom report from being visible to other users.
  - Show in Government Mode – Click “Government Mode” if the report can be seen by other Government users.
  - Show in Contractor Mode – Click “Contractor Mode” if the report can be seen by other Contractor users.
- Report Description – Enter general description of the report.

- Report Data Collections Area- Select the data needed to execute the report.
    - Select from a valid list of data collections, the data collection needed for your report.
    - The list will only display “District” data if District is report type selected or “Contract” data if contract is the report type selected.
- Report Designer Contract ID – Select the contract ID to use to view the custom report.
- Launch Telerik Report Designer – Launches the stand-alone Telerik report designer.
- Copy Report Template from RMS Center Report – Click to bring up a list of RMSC developed report templates that may be selected for copying. Copying the report template does not copy data collection.
- Copy Report from End User Report - Click to bring up a list of users developed report templates that may be selected for copying. Copying the report template does not copy data collection.

Define the Data Collections

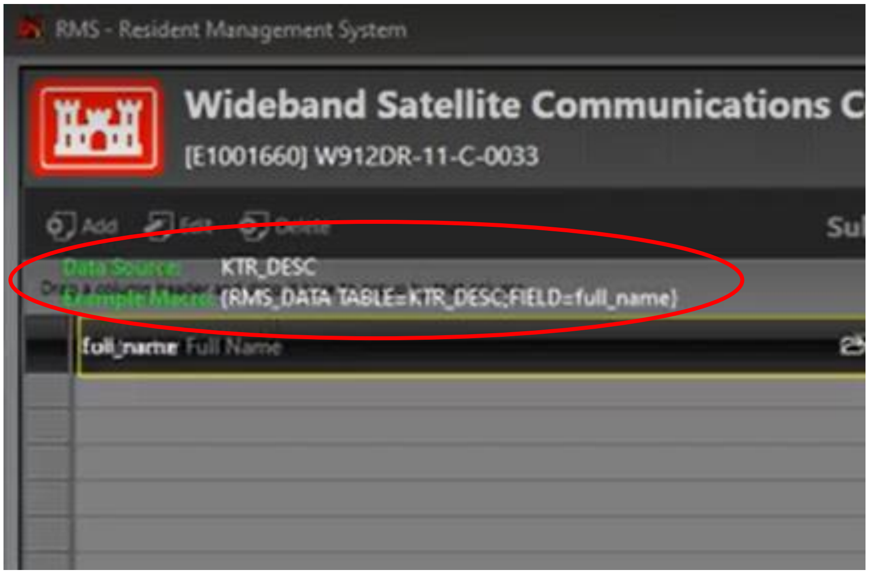
Determining the data collection needed for the report output can be a bit tricky. The easiest way to make sure the correct data is selected is to identify the data in the data view in the RMS application by function.

In the example screen shown below a list of all the subcontractors for a contract is displayed.



This view provides the name of the subcontractor, responsibility code and the subcontract amount.

The names of the data collections are not an intuitive one-to-one match with the data view shown in the application. While on the Sub-Contractor list view, press “CNTRL” and “Right Click” on the mouse to display the data source and field names used in the view. The data source is shown at the top along with an example of usage and the field names are overlaid on the column headers.



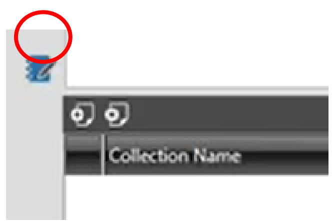
Data Source = The Data Collection/ Table name

Example Marco = The list of fields in the table

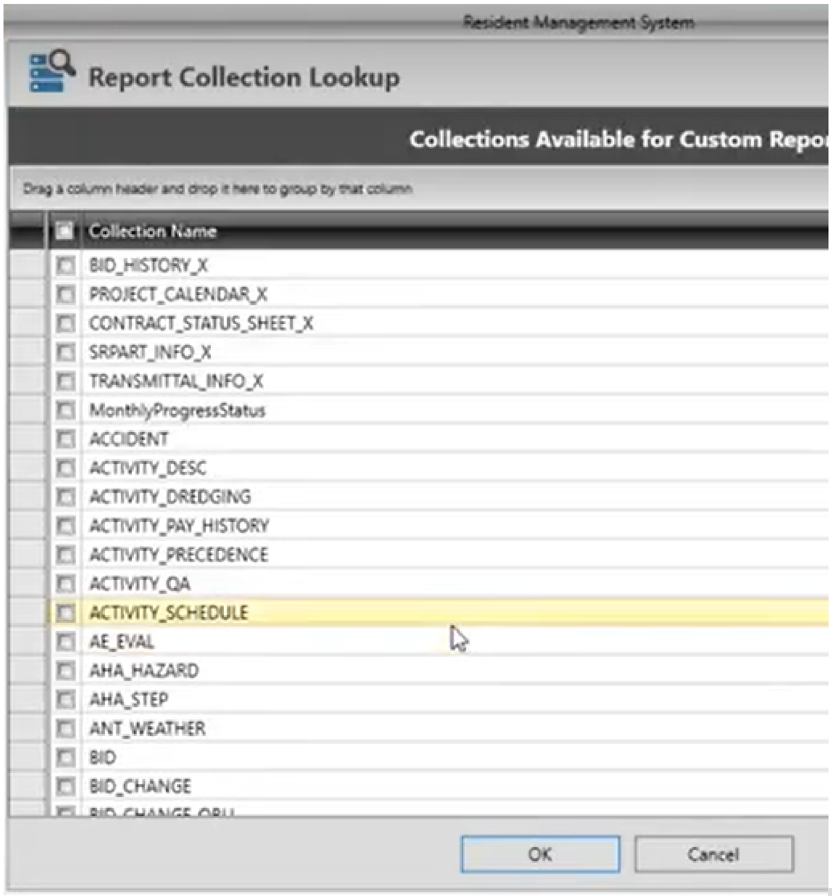
Note: If the suffix “_X” is displayed, that means the data collection is only available for the developers.

Once the data source has been determined, go back to the Telerik report edit view and

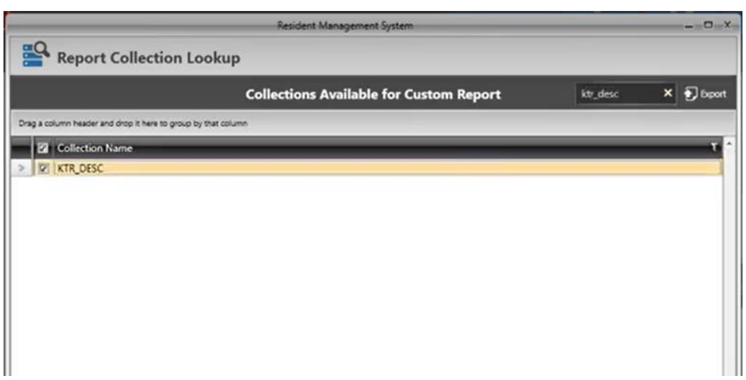
Click on “Add Data Collections”



A list of all the data collections will be displayed. Although the data source is not a one to one match with the data collections the above information should help identify the collection needed.

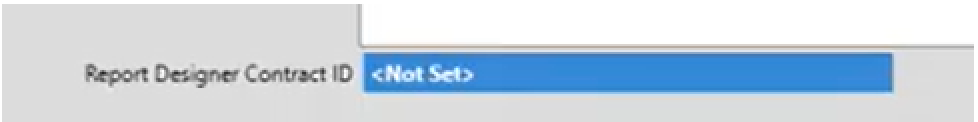


Once the data collection has been identified, click on the name of the data collection to be added in the data collection section of the custom report details screens.



Assign the Report to A Contract

It is not required that the report template be assigned to a contract if the report template is for a "District Report" but when designing a contract report it makes it easier to see exactly how the report will print out if a contract is selected. To assign a contract to the report template, click in the blue drop down section that says "Not Set".

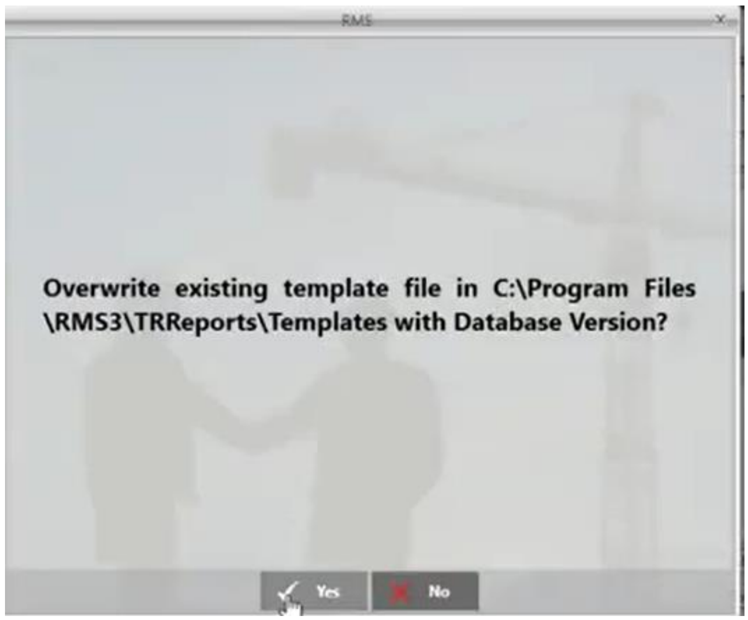


Next, select the contract from the list of valid values.

At this point the report detail description view has everything needed to launch the report designer.

Launch Report Designer

The first thing the report designer does is set up the report template in a temporary folder. Once the tool is loaded the following program dialogue window will be displayed.

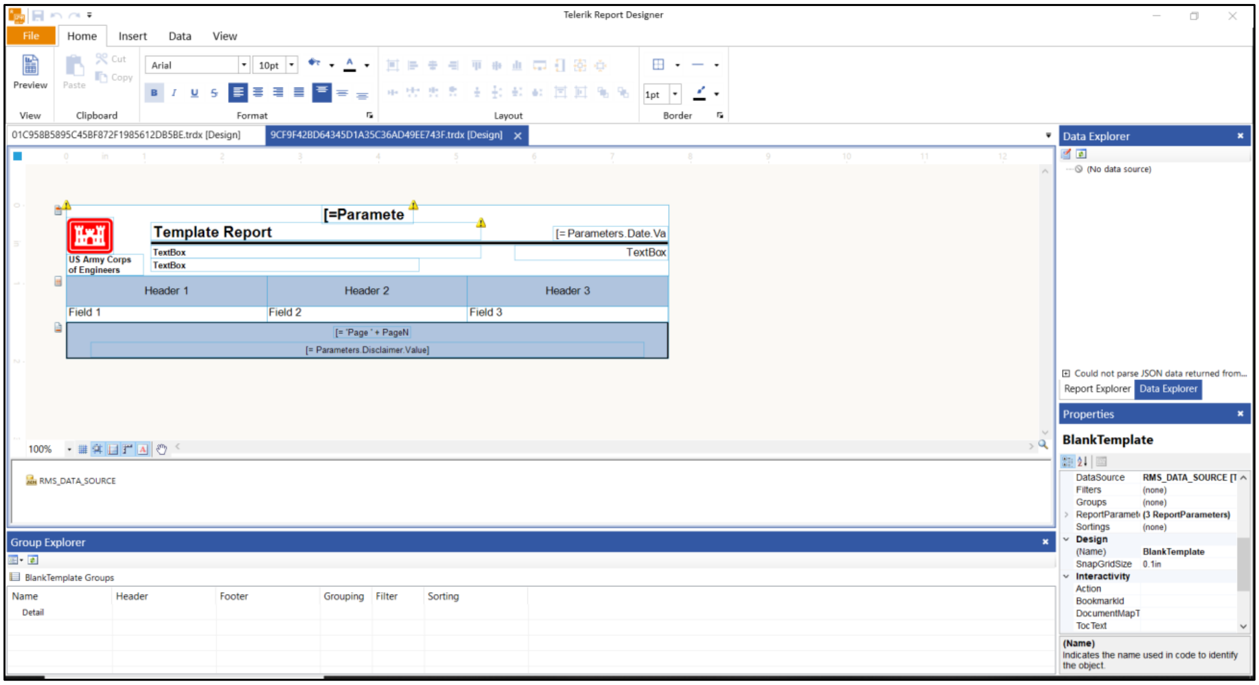


Clicking “Yes” will result in overwriting an existing template with the same name. Click “No” to rename the file uniquely. If this is the first time a particular template has been created, then click “yes”.

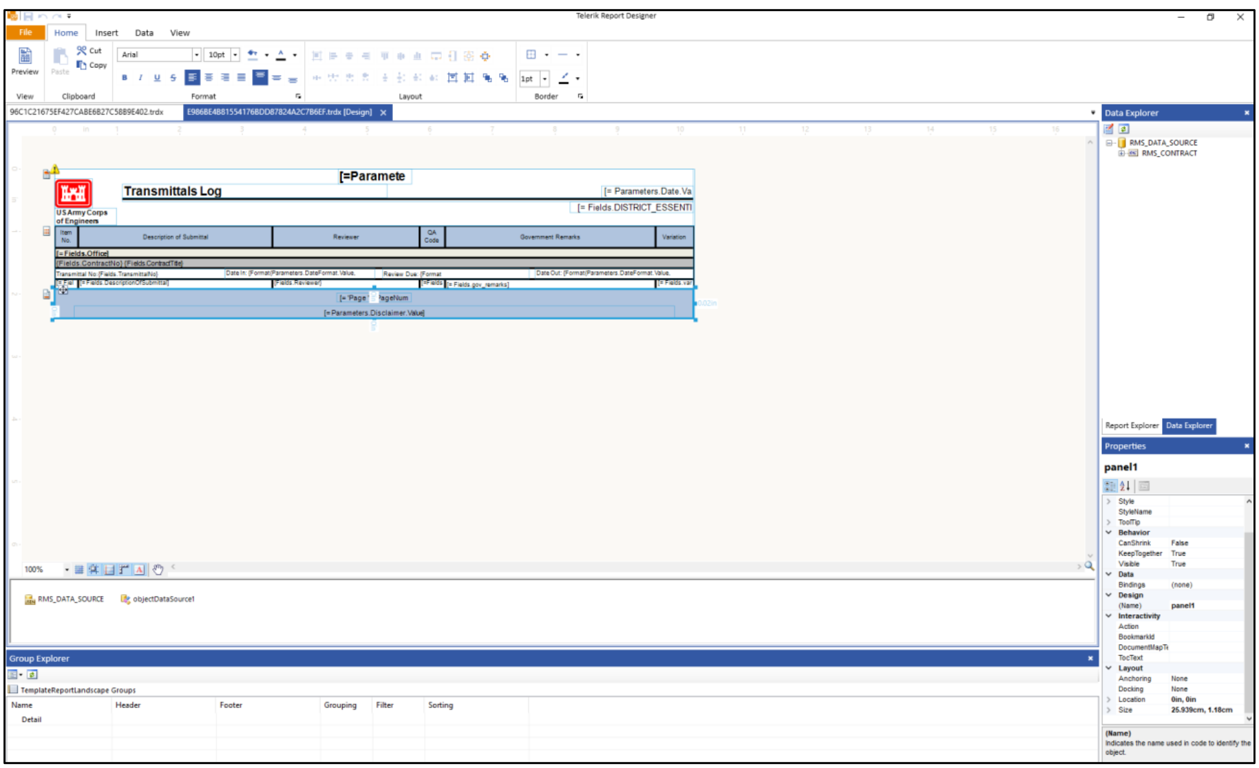
The actual process of creating the custom report is summarized below.

1. Design report interface
2. Link report to data collections
3. Add the data fields to the report interface specification.
4. Complete all report bindings.

The Telerik Custom Report Designer screen will be displayed as shown below.

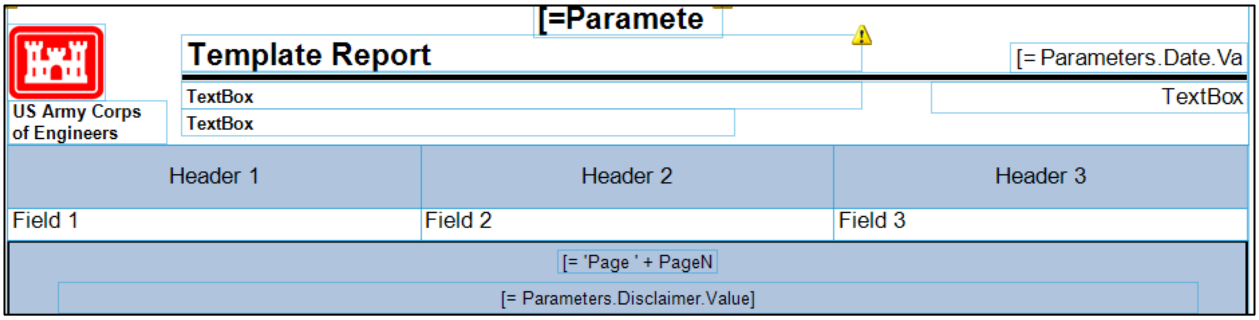


The blank portrait template is automatically loaded.



Report Interface

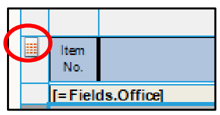
The report interface is used to drop, drag, move, and resize the report objects.

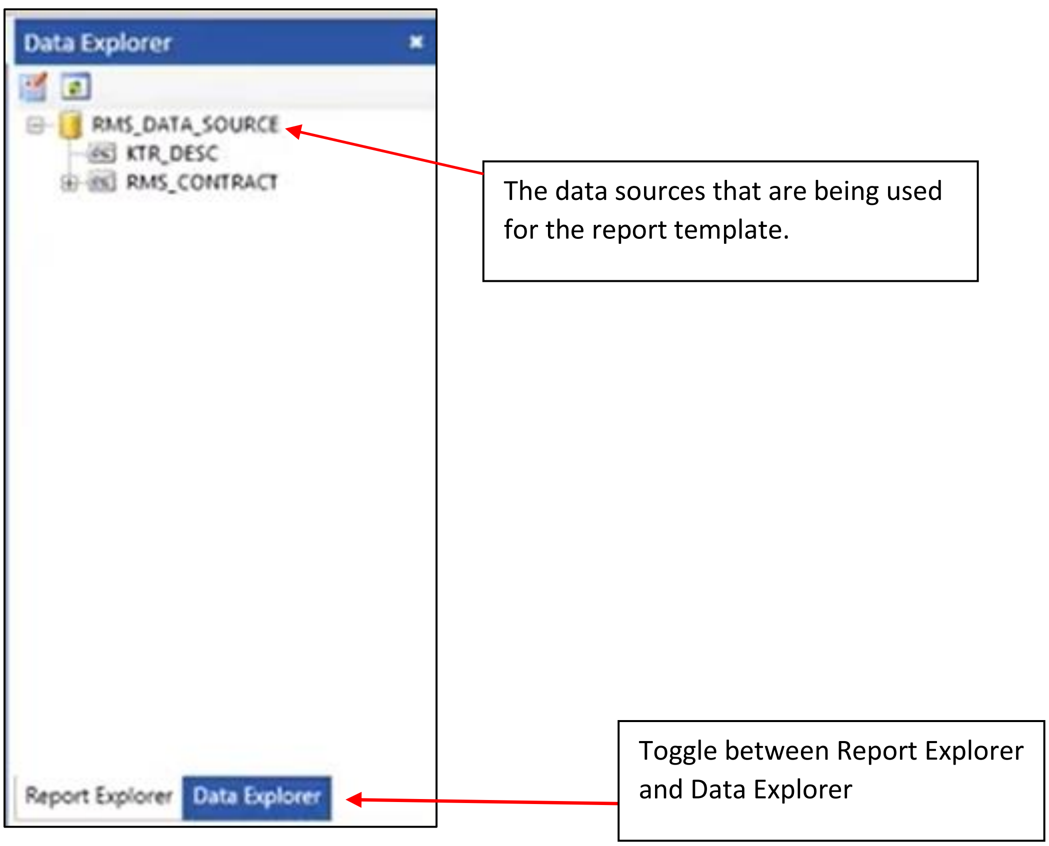


This is the primary place to interact with the report template. Make sure the fields, headers, and footers are designed.

Data and Report Explorer Panel

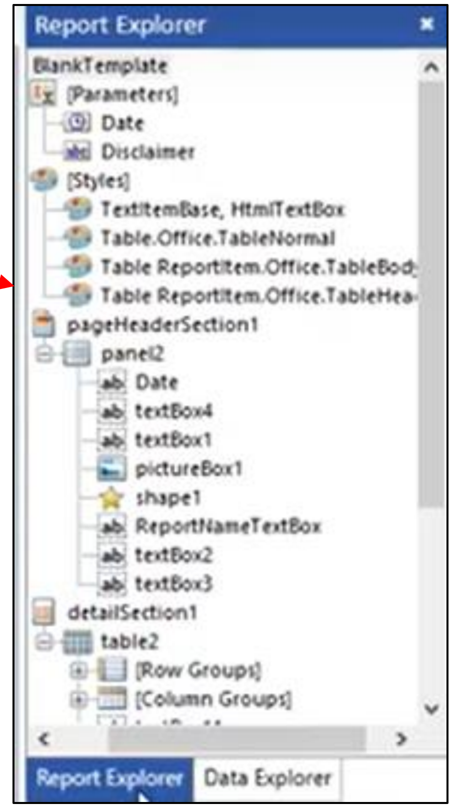
To see the data explorer make sure the data icon is selected in the report interface.





Once the data sources are loaded clicking the "+" will expand the list of fields that can be used on the report.

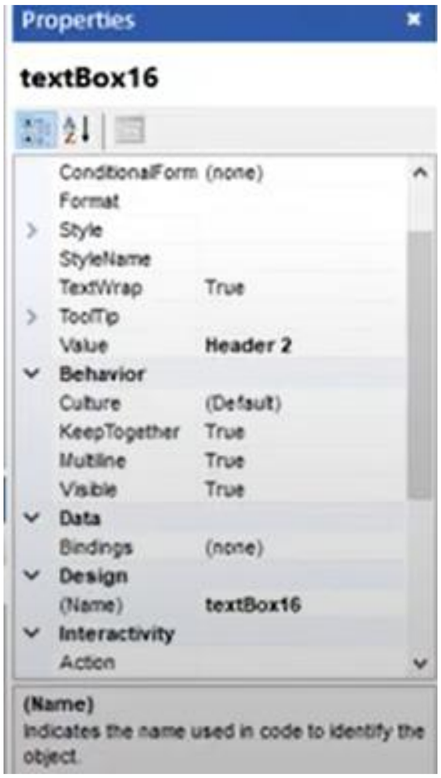
The Report Explorer provides details on all the report objects within the report template.



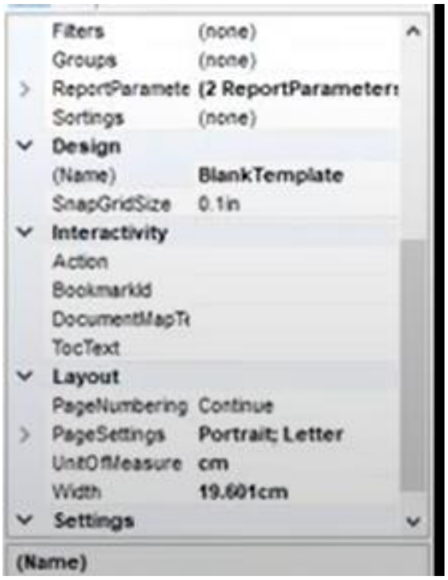
Clicking a report object in the report explorer window will highlight the correlating report object in the report interface.

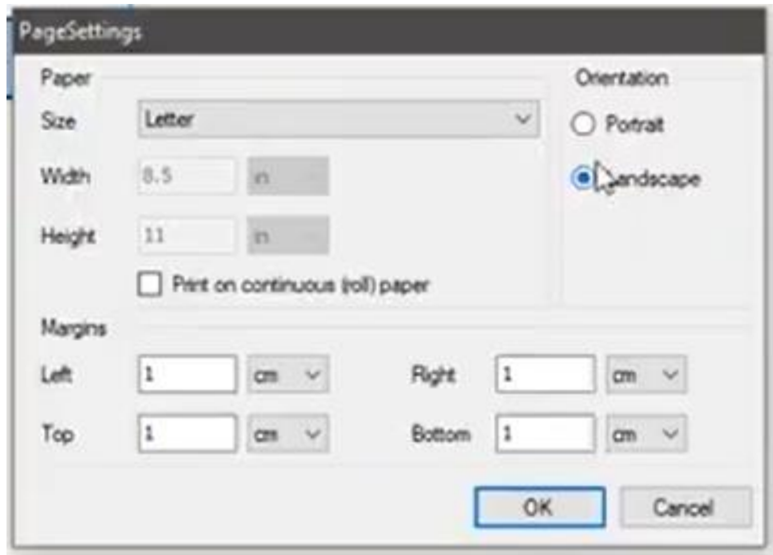
Properties Panel

The properties panel is where all the properties for each report object are shown. This panel allows the user to change the properties of the various elements of the report such as background color, text color, data bindings, report layout, etc. There are different report properties characteristics for each object including the report template. To access the properties panel for the different elements, right click the element and select “properties”. If the properties panel is already visible, simply clicking an element will display its properties.



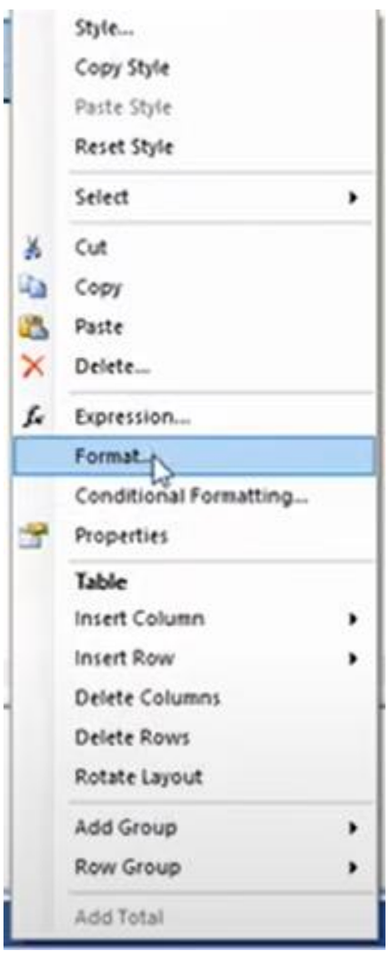
Layout Properties Example: The default setting for the initial report template is “portrait”. To change the report template from portrait to landscape select the properties for the template by right clicking in the area outside the fields and click on the Page Settings option on the property panel. The page settings window dialogue will be displayed. Select the page layout option of choice and then click ok.



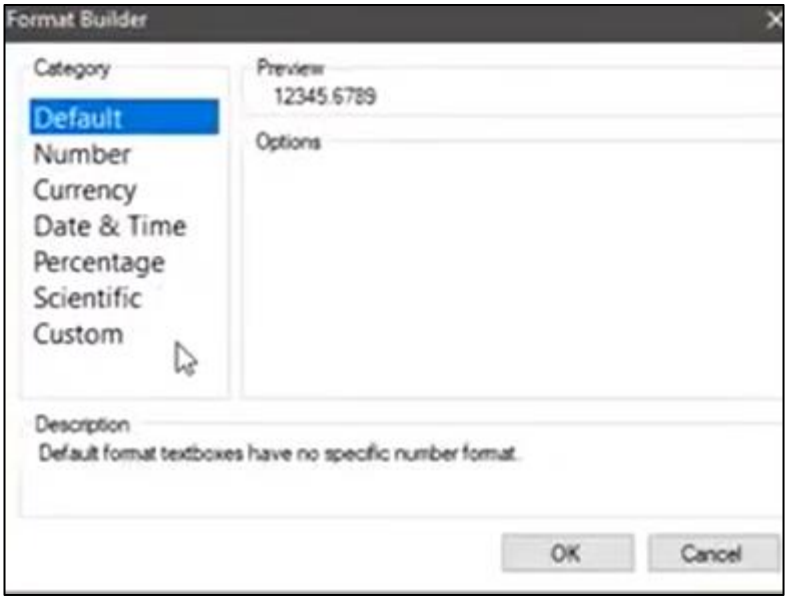


Formatting Objects

Objects on the Report Interface can easily be formatted by right clicking and selecting format.

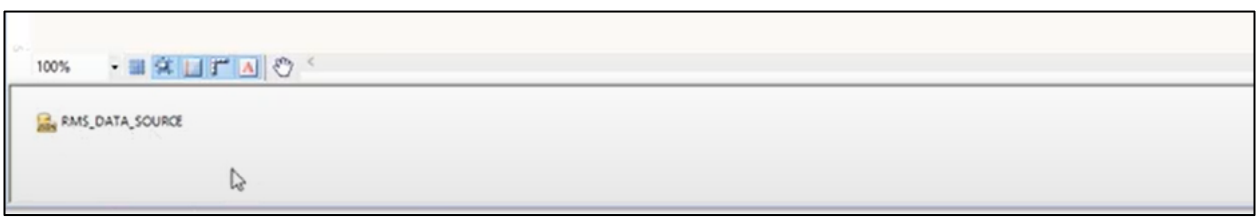


The format dialogue window will be displayed. The format categories will depend on the item you are formatting.



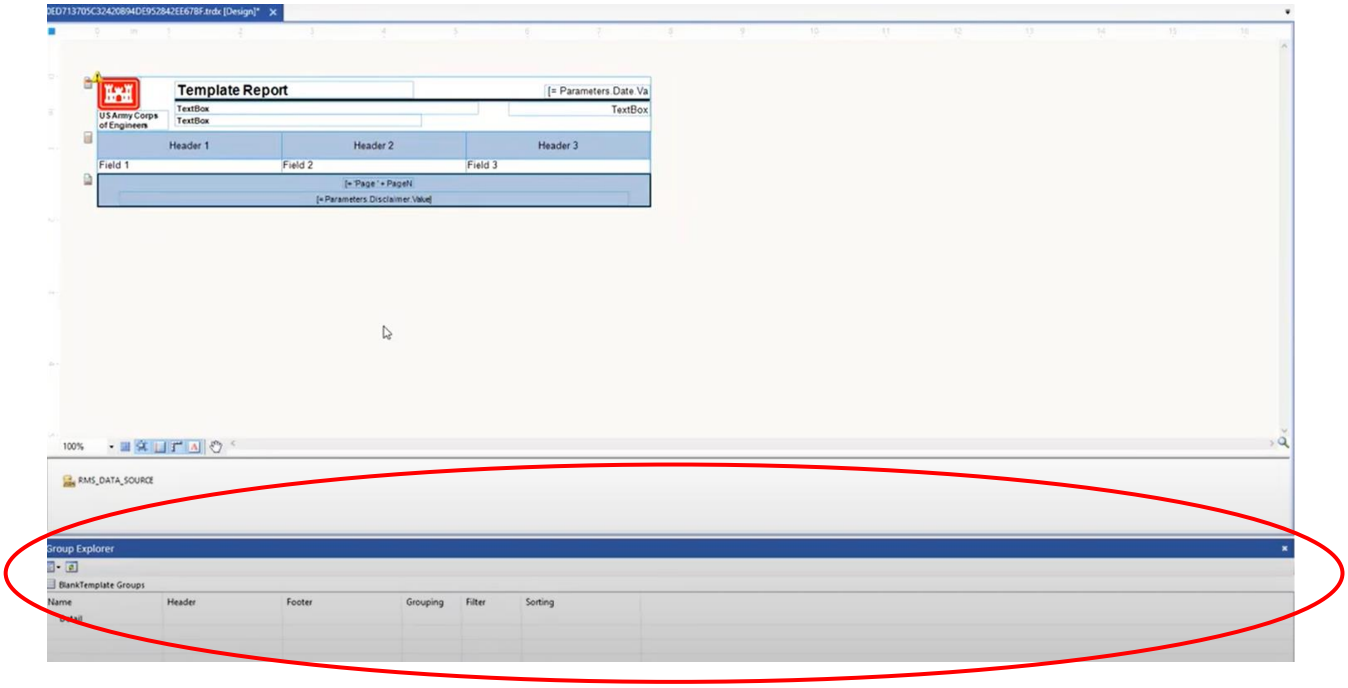
Data Source Panel

The data source panel is used to display the data sources in the template.



Group Explorer

The Group Explorer is used to show if there are any data groupings in the objects selected in the report interface window just above.



Designer Toolbar

The designer toolbar works a lot like Microsoft Word Toolbars. Depending on what tab is selected the toolbar view will change.

Preview Mode – Allows the report preview to be seen. The default report preview does not show page breaks. To see how the printed report would look select Print Preview from the Report Preview toolbar.

Home – Standard formatting options for centering and text fonts.

Layout – Center, right justify, left justify options for a report object.

Border – Allows borders to be placed around text objects.

Insert – The tab used to add all the report objects. The table set to bind collections and queries to report objects. Charts, maps, reports, text boxes, panels can be added.

Data Tab – When the data tab is displayed the data explorer on the right side will show the data collections used. Some data collections will have a drop down list of fields and some will not. This is because Telerik cannot distinguish between the data required for a list table.

Binding allows a data object to be tied to a data source component. A report object can also be bound to an expression.

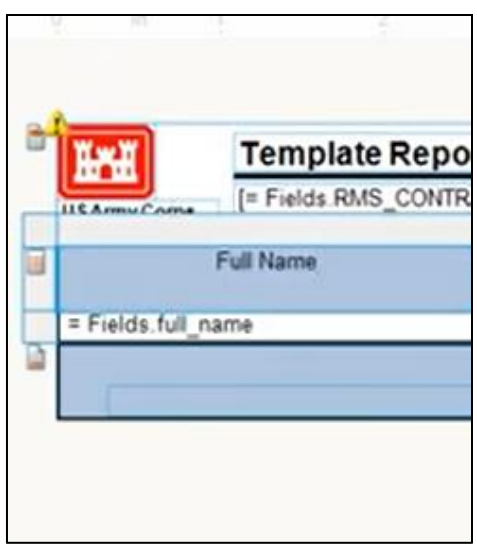
Example: If a number displayed is positive, the number field can have a green color, f the number is negative it can be bound to a red display.

To bind a collection to a table:

1. Select the table.
2. From the property panel click on bindings
3. Then Click "NEW"
4. Select the object and select the expressions.

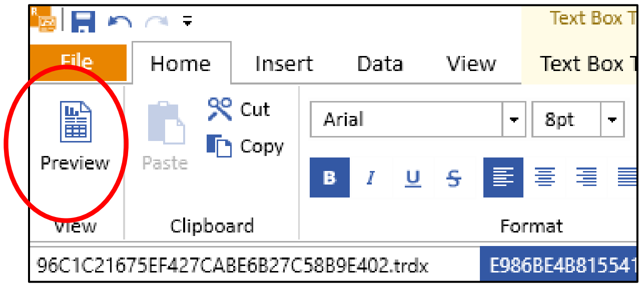
Setting the Fields

To map a data field object to the defined header object the syntax used is very important. The syntax "=fields" tells Telerik to use a field from the corresponding data collection. To use the contractor name as an example, the proper Telerik syntax would be =fields.full_name.

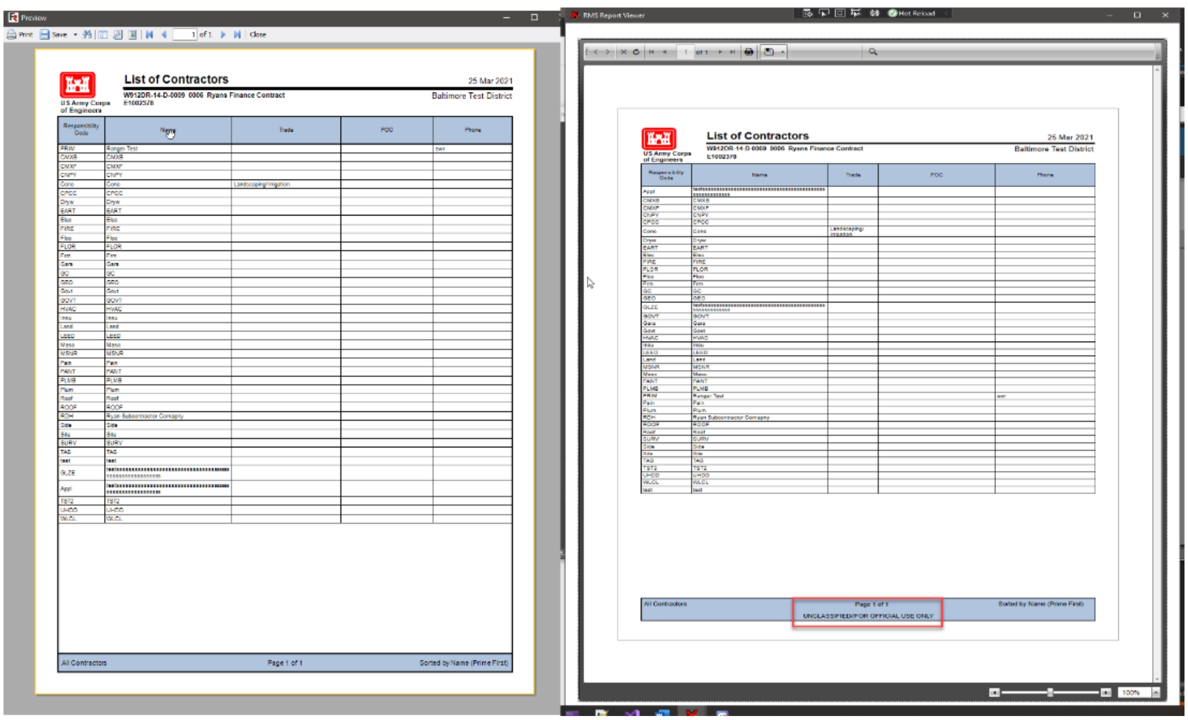


Preview / Execute Report

Click Print preview to view the report. Once preview has been clicked the options shown on the right side will be displayed. The user can send the report to a printer, export the results display a print preview.



The display below is the preview of our example.



To save the report, simply exit out of the report designer. Telerik will ask if the report should be saved to the designer. This is not required. An RMS dialogue will be display prompting the user to save the report.

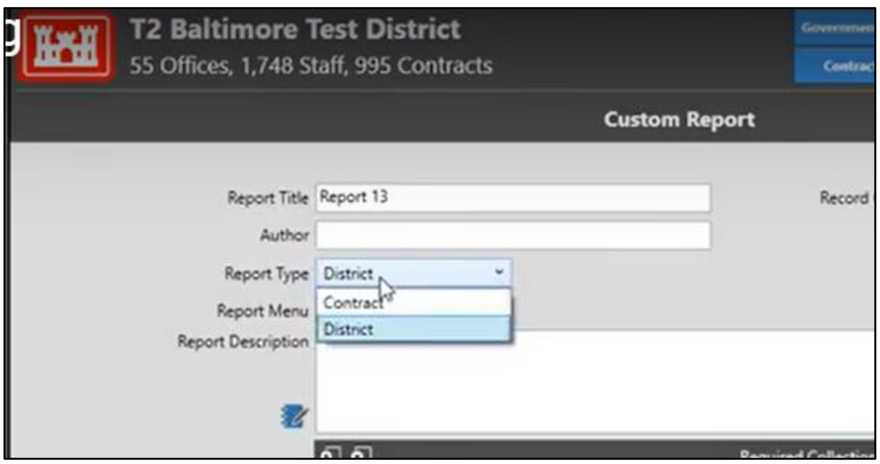
How to Create A Summary Report Template (Step-By-Step)

Once the custom report module screen has been accessed as described in [Custom Report Engine section]() the process of creating a new custom summary report template can begin.

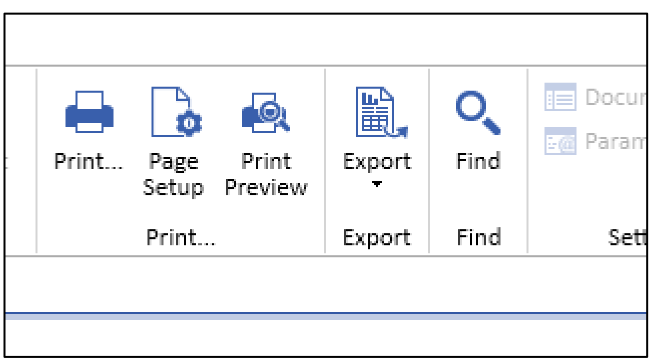
To get started, click the Custom Report menu tile. The screen will display the list of all user defined custom report templates. Click the "Add" button in the upper left-hand corner of the screen.

Perform the following steps to create a Summary Report:

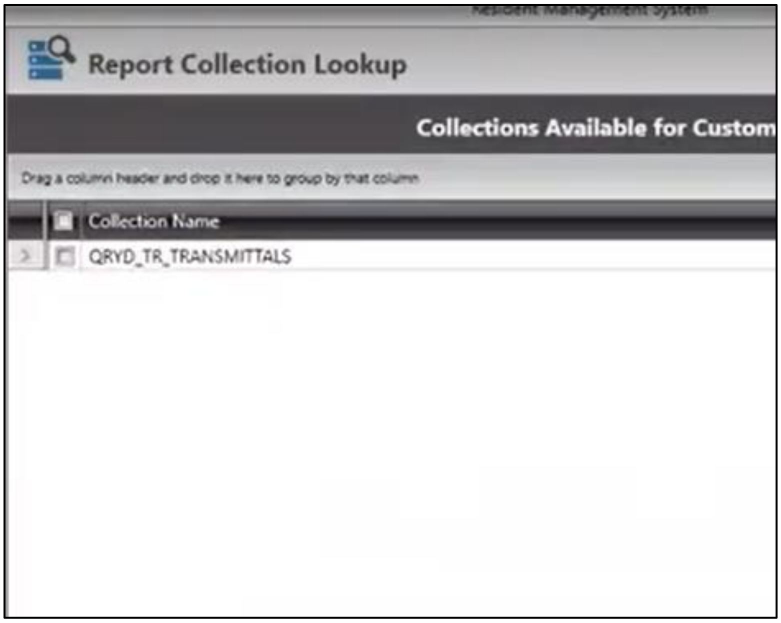
1. Provide a title for the report.
2. Set the report type to "District".
   One distinct difference between a contract specific report and a summary report is making sure the report type is set to "District".



3. Use the Report Menu field to associate the report with an area if desired.
4. Add the data collection that is specific for the desired report. For this example the use of



a report collection that was written to show all the transmittals in a district.



5. Launch the Telerik report designer. Before the report designer is launched the paramter default will be displayed. Click “Execute”. The report designer will then be displayed.

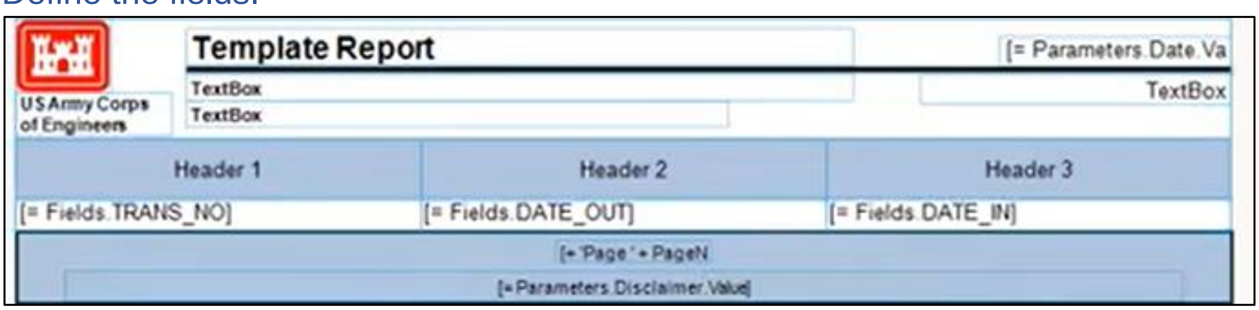
Adding the Fields

The standard tools for Telerik Report designer are the same. The basic steps do not change.

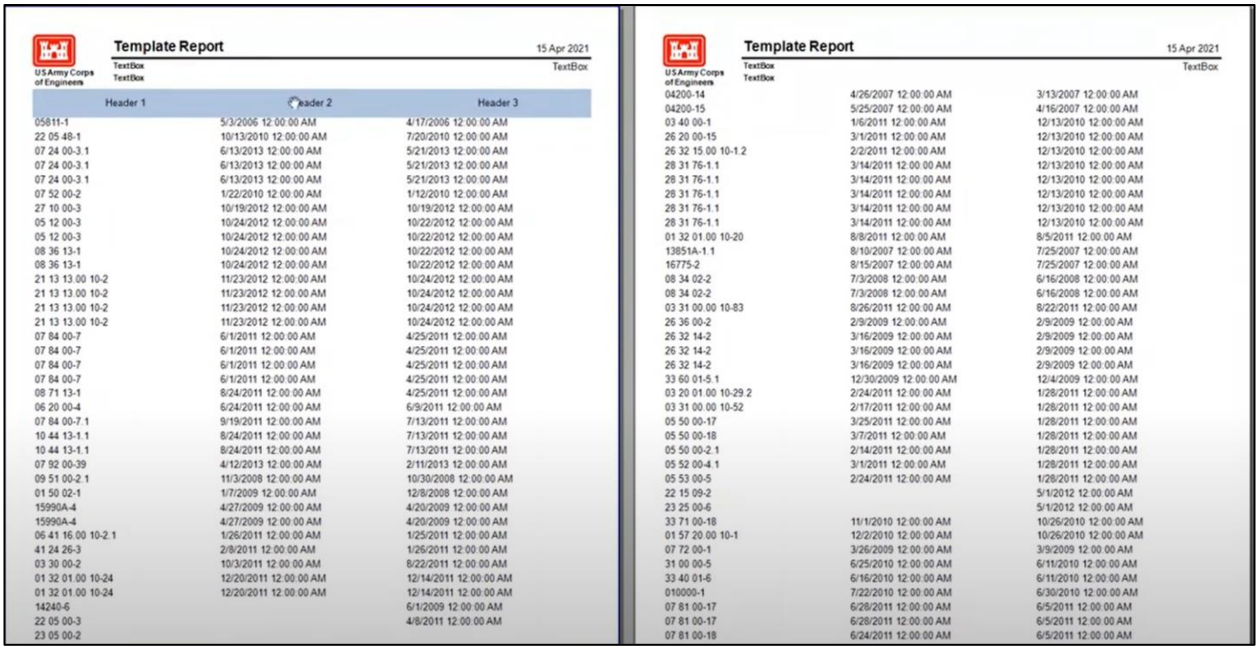
1. Bind the table to the collections to a query.
2. Define the fields.

Bind the data source the desired query.

Define the fields.



Preview data in PDF/Print format



Template Report 15 Apr 2021

US Army Corps of Engineers

TextBox TextBox TextBox

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22 05 48-1	10/13/2010 12:00:00 AM	7/20/2010 12:00:00 AM
07 24 00-3.1	6/13/2013 12:00:00 AM	5/21/2013 12:00:00 AM
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07 24 00-3.1	6/13/2013 12:00:00 AM	5/21/2013 12:00:00 AM
07 52 00-2	1/22/2010 12:00:00 AM	1/12/2010 12:00:00 AM
27 10 00-3	10/19/2012 12:00:00 AM	10/19/2012 12:00:00 AM
05 12 00-3	10/24/2012 12:00:00 AM	10/22/2012 12:00:00 AM
05 12 00-3	10/24/2012 12:00:00 AM	10/22/2012 12:00:00 AM
08 36 13-1	10/24/2012 12:00:00 AM	10/22/2012 12:00:00 AM
08 36 13-1	10/24/2012 12:00:00 AM	10/22/2012 12:00:00 AM
21 13 13.00 10-2	11/23/2012 12:00:00 AM	10/24/2012 12:00:00 AM
21 13 13.00 10-2	11/23/2012 12:00:00 AM	10/24/2012 12:00:00 AM
21 13 13.00 10-2	11/23/2012 12:00:00 AM	10/24/2012 12:00:00 AM
21 13 13.00 10-2	11/23/2012 12:00:00 AM	10/24/2012 12:00:00 AM
07 84 00-7	6/1/2011 12:00:00 AM	4/25/2011 12:00:00 AM
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08 71 13-1	8/24/2011 12:00:00 AM	4/25/2011 12:00:00 AM
06 20 00-4	6/24/2011 12:00:00 AM	6/9/2011 12:00:00 AM
07 84 00-7.1	9/19/2011 12:00:00 AM	7/13/2011 12:00:00 AM
10 44 13-1.1	8/24/2011 12:00:00 AM	7/13/2011 12:00:00 AM
10 44 13-1.1	8/24/2011 12:00:00 AM	7/13/2011 12:00:00 AM
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01 50 02-1	1/7/2009 12:00:00 AM	12/8/2008 12:00:00 AM
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06 41 16.00 10-2.1	1/26/2011 12:00:00 AM	1/25/2011 12:00:00 AM
41 24 26-3	2/8/2011 12:00:00 AM	1/26/2011 12:00:00 AM
03 30 00-2	10/3/2011 12:00:00 AM	8/22/2011 12:00:00 AM
01 32 01.00 10-24	12/20/2011 12:00:00 AM	12/14/2011 12:00:00 AM
01 32 01.00 10-24	12/20/2011 12:00:00 AM	12/14/2011 12:00:00 AM
14240-6		6/1/2009 12:00:00 AM
22 05 00-3		4/8/2011 12:00:00 AM
23 05 00-2		

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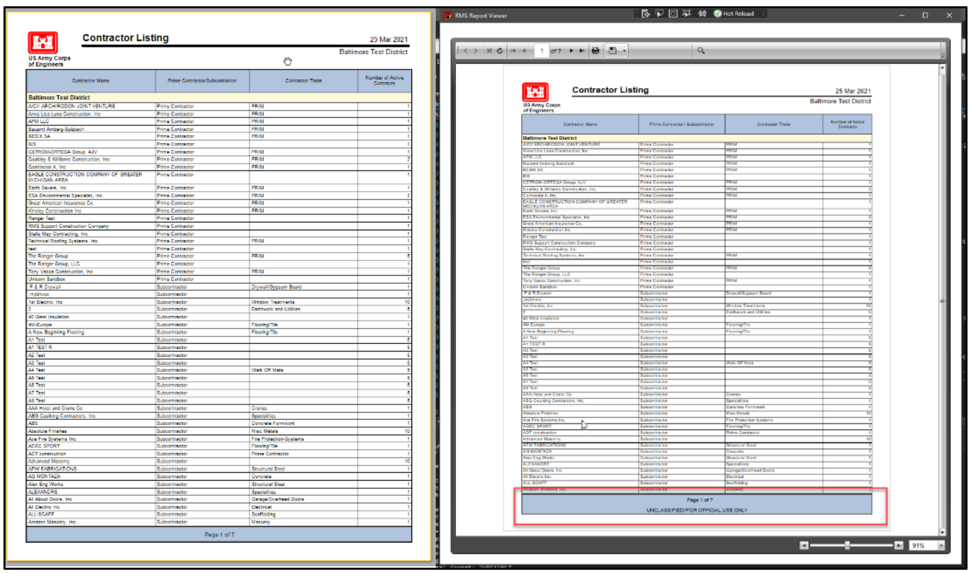
TextBox TextBox TextBox

04200-14	4/26/2007 12:00:00 AM	3/13/2007 12:00:00 AM
04200-15	5/25/2007 12:00:00 AM	4/16/2007 12:00:00 AM
03 40 00-1	1/6/2011 12:00:00 AM	12/13/2010 12:00:00 AM
26 20 00-15	3/1/2011 12:00:00 AM	12/13/2010 12:00:00 AM
26 32 15.00 10-1.2	2/2/2011 12:00:00 AM	12/13/2010 12:00:00 AM
28 31 76-1.1	3/14/2011 12:00:00 AM	12/13/2010 12:00:00 AM
28 31 76-1.1	3/14/2011 12:00:00 AM	12/13/2010 12:00:00 AM
28 31 76-1.1	3/14/2011 12:00:00 AM	12/13/2010 12:00:00 AM
28 31 76-1.1	3/14/2011 12:00:00 AM	12/13/2010 12:00:00 AM
28 31 76-1.1	3/14/2011 12:00:00 AM	12/13/2010 12:00:00 AM
01 32 01.00 10-20	8/8/2011 12:00:00 AM	8/5/2011 12:00:00 AM
13851A-1.1	8/10/2007 12:00:00 AM	7/25/2007 12:00:00 AM
16775-2	8/15/2007 12:00:00 AM	7/25/2007 12:00:00 AM
08 34 02-2	7/3/2008 12:00:00 AM	6/16/2008 12:00:00 AM
08 34 02-2	7/3/2008 12:00:00 AM	6/16/2008 12:00:00 AM
03 31 00.00 10-83	8/26/2011 12:00:00 AM	8/22/2011 12:00:00 AM
26 36 00-2	2/9/2009 12:00:00 AM	2/9/2009 12:00:00 AM
26 32 14-2	3/16/2009 12:00:00 AM	2/9/2009 12:00:00 AM
26 32 14-2	3/16/2009 12:00:00 AM	2/9/2009 12:00:00 AM
26 32 14-2	3/16/2009 12:00:00 AM	2/9/2009 12:00:00 AM
33 60 01-5.1	12/30/2009 12:00:00 AM	12/4/2009 12:00:00 AM
03 20 01.00 10-29.2	2/24/2011 12:00:00 AM	1/28/2011 12:00:00 AM
03 31 00.00 10-52	2/17/2011 12:00:00 AM	1/28/2011 12:00:00 AM
05 50 00-17	3/25/2011 12:00:00 AM	1/28/2011 12:00:00 AM
05 50 00-18	3/7/2011 12:00:00 AM	1/28/2011 12:00:00 AM
05 50 00-2.1	2/14/2011 12:00:00 AM	1/28/2011 12:00:00 AM
05 52 00-4.1	3/1/2011 12:00:00 AM	1/28/2011 12:00:00 AM
05 53 00-5	2/24/2011 12:00:00 AM	1/28/2011 12:00:00 AM
22 15 09-2		5/1/2012 12:00:00 AM
23 25 00-6		5/1/2012 12:00:00 AM
33 71 00-18	11/1/2010 12:00:00 AM	10/26/2010 12:00:00 AM
01 57 20.00 10-1	12/2/2010 12:00:00 AM	10/26/2010 12:00:00 AM
07 72 00-1	3/26/2009 12:00:00 AM	3/9/2009 12:00:00 AM
31 00 00-5	6/25/2010 12:00:00 AM	6/11/2010 12:00:00 AM
33 40 01-6	6/16/2010 12:00:00 AM	6/11/2010 12:00:00 AM
010000-1	7/22/2010 12:00:00 AM	6/30/2010 12:00:00 AM
07 81 00-17	6/28/2011 12:00:00 AM	6/5/2011 12:00:00 AM
07 81 00-17	6/28/2011 12:00:00 AM	6/5/2011 12:00:00 AM
07 81 00-18	6/24/2011 12:00:00 AM	6/5/2011 12:00:00 AM

Just like contract reports the only difference that can be seen is the footer.

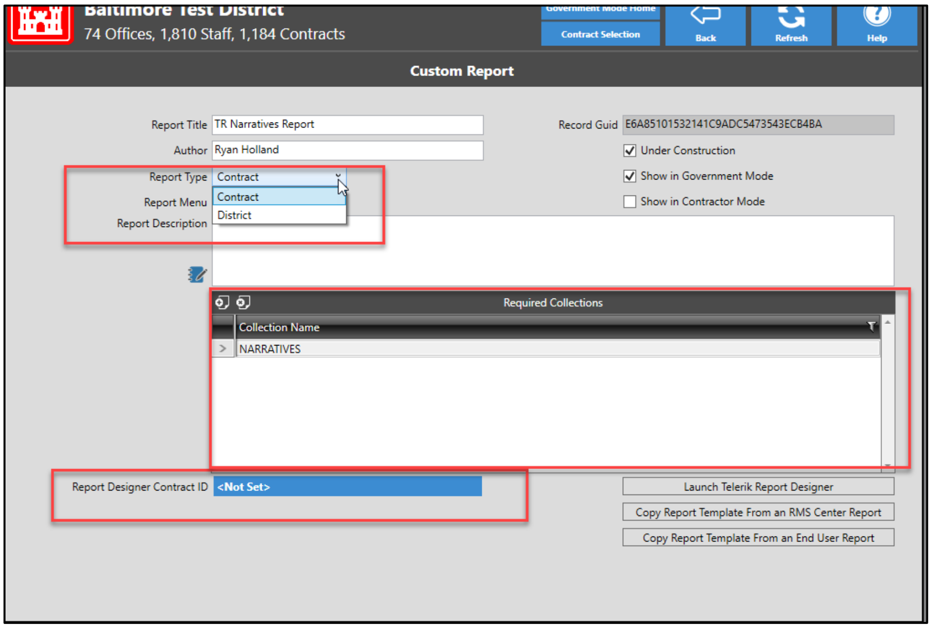


Telerik reports now allows the ability to use contract collections, this feature was not completed in Fast reports. This allows users to create contract reports using contract specific data. Users can select which contract to run data against using the blue tile at the bottom of the screen.

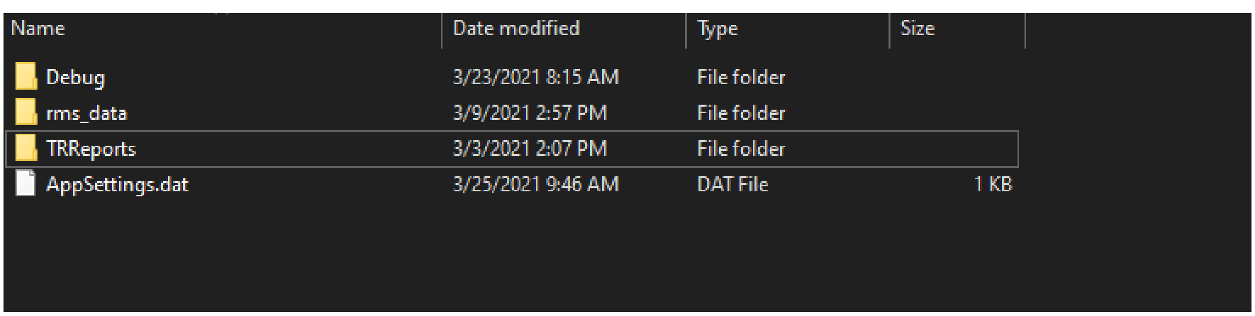
Users can also create custom queries in the district library like fast reports under the query definition module. This also allows the user to create custom reports against all contracts within their district.

The report type for Telerik filters the required collections and the lookup for selecting data collections. This means when a user switches the report type, the required collections will only show collections that are at the same level of the report being either contract or district.

Note that users can copy report templates from the RMS Center or other end user templates. However, the only templates available are Telerik Report Templates while using the Telerik Version of Custom Reports.

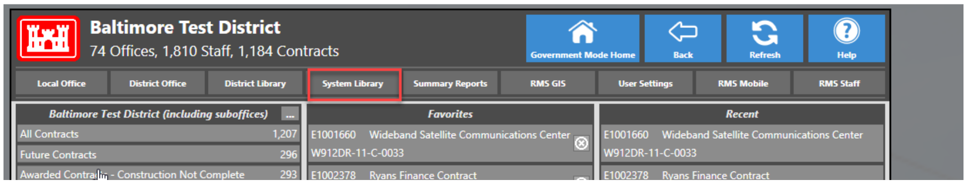


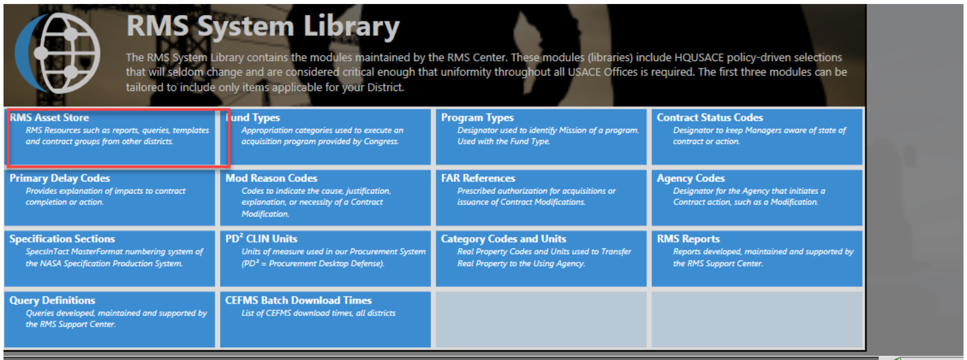
Telerik reports templates are also brought down to the client's machine. This allows users to design the templates using the Telerik report designer. The Telerik reports designer is a standalone tool that resides on the user's machine. This is different from the Fast reports designer, which was integrated within RMS. The standalone nature of Telerik provides some additional functionality by allowing the user to do some report design offline.



Asset Store

The RMS Assets store is used for sharing custom report templates across districts. This area can only be accessed through the system library menu and by clicking on the tile RMS Asset Store Tile as shown below.





Users can view Telerik custom reports in the asset store by clicking on the tile "New TR templates" this will filter out any other sharable content within the asset store. To add Telerik custom report to the asset store click on the add button and select the "add existing New TR template to RMS asset store" option.