



Exor Corporation Limited



***Locator V 4.1
User Guide***



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Infrastructure Asset Management***



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Quality Assurance Statement

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CONTENTS

Quality Assurance Statement	ii
Locator - NM0572	7
Locator – ‘Standard’ Search Panel.....	7
Restrict Search by Network Location / Locate by Network Location.....	8
Search For	9
‘Search For’ Attributes.....	10
Locator – ‘Advanced’ Search Panel	12
Attributes Criteria Panel	13
Attribute Value Panel	14
Saving the Search Criteria	15
Loading a Saved Search	16
Deleting a Saved Search.....	17
Results Grid	18
Hint Text.....	19
Sorting Results	19
Results Grid – Location Panel.....	20
Exporting Results	21
Refreshing a set of Search Results (Back Button)	23
Selecting Data Items from the Grid for Display on Map	25
Using ‘Sub Select Existing’.....	27
Searching Using Coordinates.....	29
Locator Map Window.....	30
‘Unpinning’ the Map Window.....	32
Map Window Toolbar	34
Navigation Tools.....	35
Show Buffer Area	36
Measurement Tools.....	37
Identify Feature	38
Select Feature Tool	39
Feature Edit Tool.....	40
Map Legend	41
Layer Control.....	42
Refresh Map.....	42
Toggle Tool Tips.....	43
Print Map	43
Refresh Metadata.....	43
Query Layer	44
Creating Enquiries	47
Create Enquiry	47
Create Enquiry on Asset	50
Creating Defects	53
Create Defects On Assets.....	53
Defect Repairs.....	59
Permanent Repair	59
Temporary Repair	60
Immediate Repair	62
Create Defects On Asset at X, Y.....	67
Create Defects On Network at X, Y.....	68
Defect Repairs.....	74

Permanent Repair	74
Temporary Repair	75
Immediate Repair	77
Calling Exor Modules and Custom Built PL/SQL procedures	82
Create a Work Order from Existing Defects	84
Bulk Update Assets - Background	88
Bulk Update Asset Attributes.....	88
Bulk Asset Update	90
Hint Text	91
Sorting Results	91
Selecting Assets within the Grid for Update	92
Updating Attributes of Selected Assets	92
Bulk Network Update – Background.....	94
Bulk Attribute Updates.....	94
Selected Network	97
Attribute Tab	98
Updating an Attribute Value to a NULL	99
Admin Unit Security	99
Groups Tab	100
Allowable Group Types	100
Groups	101
Exclusive Group Type Validation	103
Admin Unit Security	103
Displaying Group Details.....	104

CHAPTER

1

Introduction

This Guide provides information on the use of Locator and Exor's Web mapping in general.

Locator – NM0572 provides **Exor** Users with an easy to use web based spatial interface that allows information to be quickly found and viewed on a map. This might include searching for a Street Address, a Property or Land Parcel, an Asset such as a Street Light or Bus Stop or any Network Group or Element defined within **Exor**.

Once 'located', business functions such as creating an Enquiry, creating a Defect, raising a Work Order or relocating an Asset may be carried out.

Locator allows ANY data set either held within **Exor** or data held externally to **Exor**, which has been defined as an 'External Asset' (refer to the Asset Manager System Admin Guide for more information on External Assets), to be queried using the defining attributes of the object type. This includes data that has no spatial representation.

The **Locator** query is based on the data items Attributes and not necessarily on the items location, allowing data items that are not located on a Network to be easily found. However, the selection criteria may optionally be restricted to a defined Region of Interest that could represent a County/State Route, Maintenance Section, Parish, Town or any other Network Group of Network Extent defined within Network Manager.

Once defined, the criteria for a Locator search may be saved and re-used for future searches.

The records returned by the **Locator** search are displayed in a Grid format that displays the records attributes and Network location if applicable. This enables Users to confirm that the correct item(s) has been found or select the required record(s) from a list of all records which match the search criteria.. The entire results set may subsequently be exported from the Grid in either Comma Separated Value (csv) or Extensible Mark-up Language (xml) format allowing manipulation or viewing in other Applications such as MS-Excel.

If the object type used within the **Locator** search has a spatial representation, one or more of the selected results may be viewed on the map. When the

[Show Map] button is pressed the map will zoom and centre on the selected item(s) making the selected data type the Active Map Layer.

Standard **Exor** modules, such as Maintain Enquiry, Maintain Defects or Maintain Assets may be called from **Locator** for a given selected set of results. This allows updates, edits and any other business functions associated with the called module to be carried out on the selected data items. The Modules that can be called must be added as Theme Functions within **GIS Themes – GIS0010** (refer to General System Admin Guide)


In addition to standard **Exor** modules, **Locator** also allows custom-built PL/SQL procedures to be executed against a selected set of results. This allows an Organisations business processes to be closely mirrored within **Exor**. Examples may include the update of Street Lights within a Park which have had bulb replaced or the sending of an escalation e-mail for Defects which are overdue for repair.

Note: Custom Built PL/SQL procedures are written by Exor Services. Contact you Account Manager for further details.

Locator can be used in either 'Standard' (the default) or 'Advanced mode'. Both modes of operation limit the search to a single data type, for example 'Street Address' or 'Bus Stop'. When using multiple attribute values within the search criteria via the 'Standard' mode of operation, the relationship between the attribute values is always an 'AND' relationship.

The 'Advanced' mode allows a more complex query to be constructed where, if multiple attributes are selected the relationship between the attributes may be defined as an 'AND' or 'OR' relationship and attribute value conditions may be defined as 'greater than', 'less than', 'like' etc. Attribute criteria may be nested with 5 levels of nesting available if required.

To select all Items of a particular data type no attribute criteria should be applied, i.e. the only selection criteria entered is the required data type.

Locator may be called as a Module from the Asset menu or from any of the Map enabled Modules e.g. **Asset Items – NM0510**, by pressing the **[Show Map]**  button on the menu toolbar.

Locator - NM0572

Figure 1

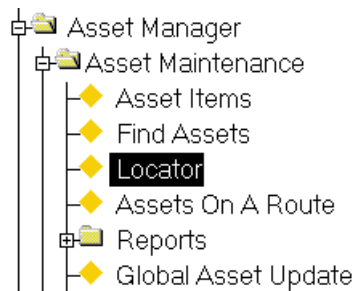
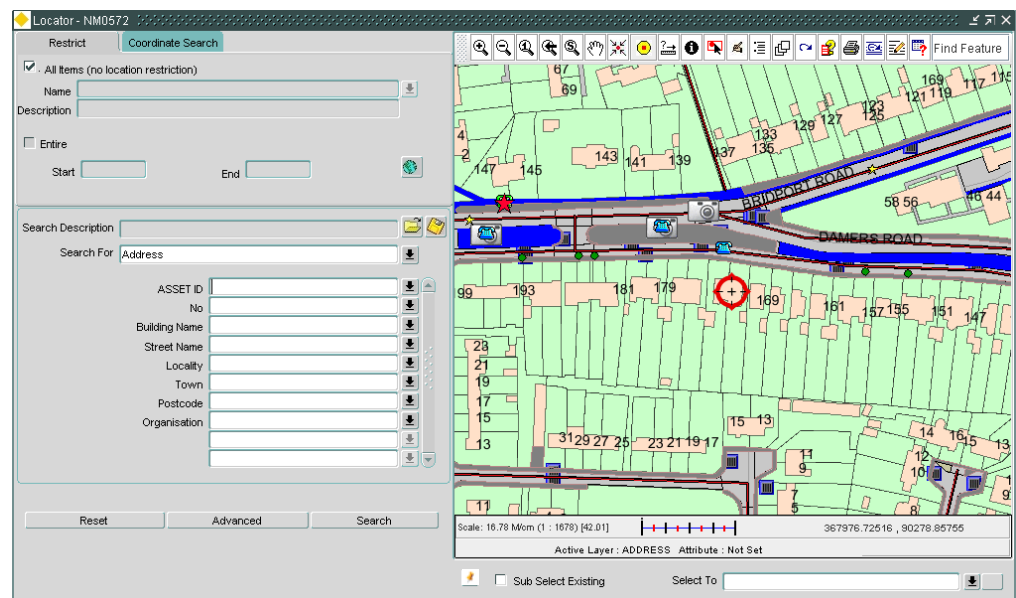


Figure 2



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Locator – ‘Standard’ Search Panel

The Search panel of the **Locator** module is used to enter the data type and attribute values for which to search and optionally the Region of Interest, if the search is to be restricted by a Network Location.

If the search is restricted by a Network Location only the items which both match the defined selection criteria and which are also located either wholly or partially within the selected extent of network will be found.

Once defined the Search criteria may be saved for future use using the **[Save]** icon adjacent to the ‘Search Description’ field.

If a Network Restriction has been defined it will also be saved.



Note


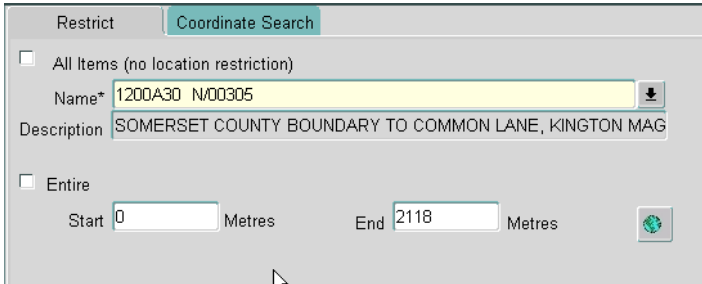
The Network Location panel may also be used to define a Network element (Maintenance Section, Street etc) to select and zoom to on the map. To select and zoom to a Network element on the map enter the required Network Name as described below and press the **[Show Map]**  on the menu toolbar.

Figure 3



Restrict Search by Network Location / Locate by Network Location

By default the **[All Items]** check box is checked, which means that searches are not restricted by a Network Selection. To restrict the **Locator** search to data items by a Network location the **[All Items]** checkbox must be unchecked.

All Items (Checkbox)

If this option is selected the Locator search will be based purely on the selection criteria defined and not further restricted by the location of a data object. If the option is selected the remaining fields within the Location Panel will be disabled.

Name

Enter the required Region of Interest or select from the Gazetteer (refer the Network Manager User guide). If a Default Region of Interest has been defined using the **User Preferences** module (General User Guide) it will be automatically displayed. Default Regions of Interest allow commonly used network areas such as Divisions, Council Office area's or Regional Office area's to be pre-selected in various modules within Exor making the system faster and easier to use. If a Default Region of Interest has been defined it may be overridden if required.

Description

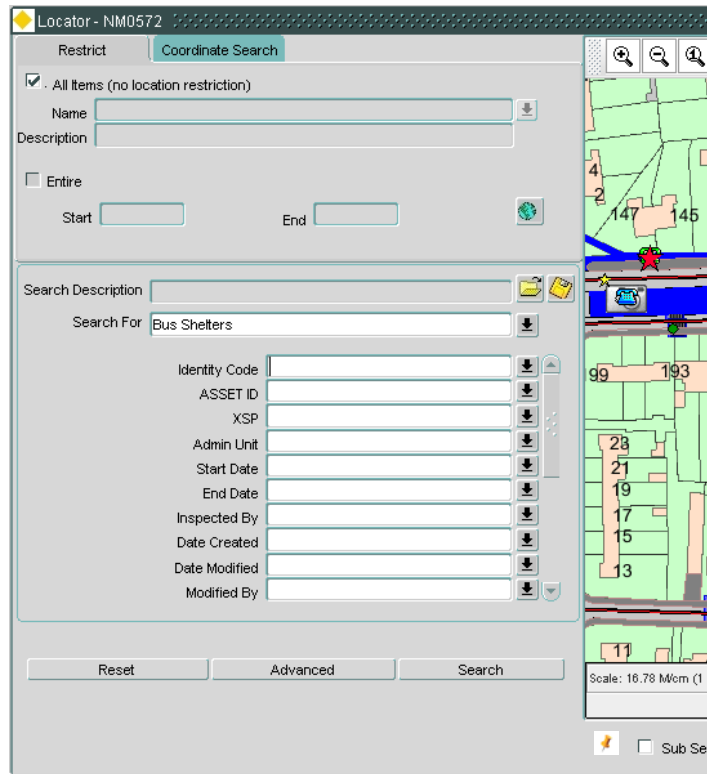
The description of the selected Region of Interest will be displayed.

Entire (Checkbox)

If a Linear Group or Route has been selected, a filter may be applied so as to return only those data items which meet the defined selection criteria and which are located within the extent of network between the specified Start and End Offsets on the Route. The default option is to return all matching items for the entire Route or Linear Group. To restrict the **Locator** search to the extent of network between the specified Start and End Offsets, uncheck the **[Entire]** check box and add the start and end Offsets as required in the 'Start' and 'End' fields respectively.

This Checkbox is disabled if a non-linear group is selected

Figure 4



Search For

The 'Search For' panel of the **Locator** module is used to define the object type, e.g. Bus Shelters, Street Address Point etc, and attribute values for which to search. Once the search criteria have been entered they can be saved for future use using the **[Save]** icon adjacent to the 'Search Description' field.

Note that object types must be Exor Assets Types or data object types defined as Exor Foreign Tables in the Asset Metamodel – NM0410. Refer to the Asset Manager System Admin Guide for details of this module.

A default Object (Asset) Type may be defined using Product / User Option **DEFASSTYPE** (refer to the System Admin Guide or Asset Manager Admin Guide for more information relating to this option).

Search For

(List)

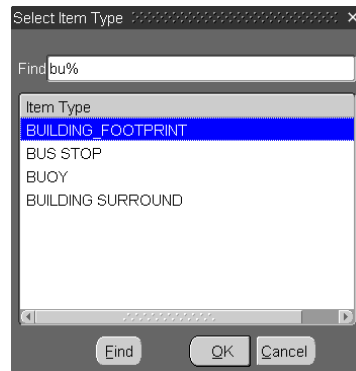
Enter the required Asset Type or select from the allowable list of values.

Locator uses the Asset Type description, e.g. '*BUS SHELTERS*' and not the Asset Type code, e.g. '*BSST*' when displaying and validating the Asset Type for which to search.

Locator uses 'Auto Complete' when the entering the 'Search For' Asset Type. For example, if '*BU*' was entered, upon exiting the field the system will atomically populate the field with the appropriate Asset Type that begins with '*BU*'. If more than a single Asset Type matches the text string entered, a list of potential values is displayed allowing the User to select the required Type.

The list of values displays the Asset Type description and is sorted in alphabetic order as shown in the example in Figure 5.

Figure 5



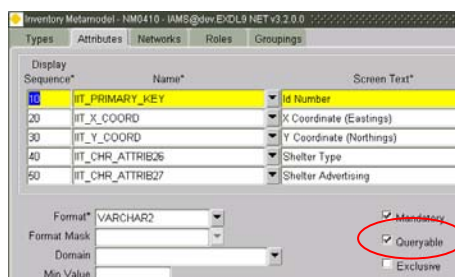
Only those Asset Types to which the User has been granted Role based access will be available.

'Search For' Attributes

When **Locator** is used in 'Standard mode' (the default) the relationship between attributes values is always an 'AND' relationship when using multiple attribute criteria. To create more complex search criteria press the **[Advanced]** button at the bottom of the Locator Search panel (page 12).

The Attributes available as search criteria are restricted to Attributes of the selected Asset Type that have been flagged as 'Queryable' in the **Asset Metamodel – NM0410** module. Figure 6 shows an example.

Figure 6



Queryable Attributes will be ordered as per the 'Display Sequence' defined for the Attribute.

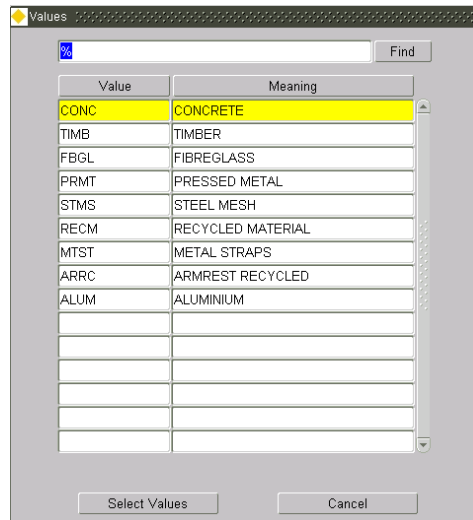
Search Attributes

Enter the value(s) for the required Attributes to be matched. If the attribute value is validated against a look up, **Locator** uses the lookup value meaning and not the actual lookup code value. For example, an attribute of Sign Type may be validated against a list of values of 01-Metal, 02 – Steel, 03 – Plastic. To search for a Sign Type of 03 – Plastic, the attribute value should be entered as 'Plastic' and not '03'.

Locator uses 'Auto Complete' when the entering attribute values which are validated against a Domain Lookup. For example, if 'PLA' was entered, upon

exiting the field the system will automatically populate the field with the appropriate domain lookup that begins with 'PLA'. If more than a single domain lookup matches the text string entered the User will be prompted to select the required value from a List of Values. An example is shown in Figure 7.

Figure 7



The list of allowable attribute values will display both the lookup code Value and its Meaning

The list of the available values may be ordered by the Value or by the Meaning by pressing the **[Value]** button or the **[Meaning]** button respectively.

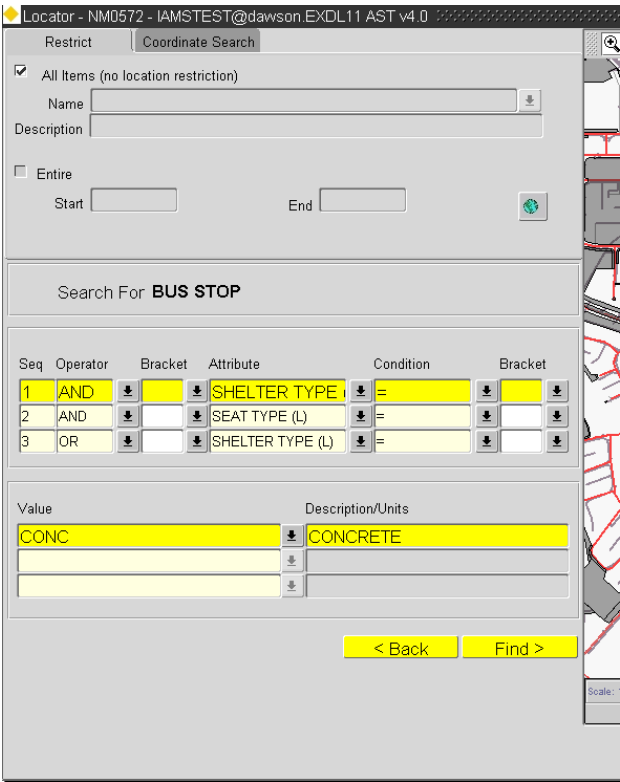
The column used to determine the list will also determine which field (Value or Meaning) will be used when refining the search criteria to limit the values displayed. For example, to search for all values where the Meaning begins with 'ALU', press the **[Meaning]** button then enter 'ALU%' in the 'Find' field and press the **[Find]** button on the window.

Click on the required lookup value to select, and press the **[Select Values]** button. To close the window without selecting a value, press the **[Cancel]** button.

To reset the criteria and search for a new Object Type press the **[Reset]** button on **Locator**.

To execute the search press the **[Search]** button on **Locator**.

Figure 8



Seq	Operator	Bracket	Attribute	Condition	Bracket
1	AND		SHELTER TYPE	=	
2	AND		SEAT TYPE (L)	=	
3	OR		SHELTER TYPE (L)	=	

Value	Description/Units
CONC	CONCRETE

Locator – ‘Advanced’ Search Panel

The ‘Advanced’ Search panel of the Locator module allows a more complex query to be constructed where, if multiple attributes are selected, the relationship between the attributes may be defined as an ‘AND’ or ‘OR’ relationship and attribute value conditions may be defined as ‘greater than’, ‘less than’, ‘like’ etc. Attribute criteria may also be nested with 5 levels of nesting available if required. When using the ‘advanced’ Search the query may be restricted to a defined Region of Interest’ as described on page 8.

Note that the ‘Advanced’ Search panel is only available once an Object (Asset) Type has been selected and the [Advanced] button pressed.

Search For (Display Only)

The Object (Asset) Type meaning already selected will be displayed.

Figure 9

Search For Bus Stop						
Seq	Operator	Bracket	Attribute	Condition	Bracket	
1	AND	(SHELTER TYPE	=		
2	AND		SEAT TYPE	=)	
3	OR		SHELTER TYPE	=		

Attributes Criteria Panel

The Attributes Criteria panel is used to define the Attributes of the selected Object (Asset) Type to be used within the search. If multiple Attributes are selected the relationship between the Attributes may be defined as an 'AND' or 'OR' relationship. Attribute criteria may also be nested with 5 levels of nesting available if required by using the Pre and Post brackets as required.

Seq (Required)

Enter the sequence number for the Attribute. Attributes values are resolved in the defined sequence order.

Operator (Required) List

Select the required Boolean connector.

Note that the Operator or the Sequence 1 Attribute must always be 'AND'.

Bracket List

If required select the appropriate Pre Bracket.

Attribute (Required) List

Select the Attribute of the selected Item to be used in the Gazetteer Filter.

Condition (Required) List

Enter the condition for the selected attribute. These are standard Oracle conditions and are set up and maintained using **Domains - HIG9120** and updating the PBI_CONDITION option.

Bracket List

If required select the appropriate Post Bracket.

Figure 10

Search For **Bus Stop**

Seq	Operator	Bracket	Attribute	Condition	Bracket
1	AND	(SHELTER TYPE	=	
2	AND		SEAT TYPE	=)
3	OR		SHELTER TYPE	=	

Value

CONC

Description/Units

CONCRETE

Attribute Value Panel

The ‘Attribute Value’ panel is used to define the parameter values for the currently selected Attribute.

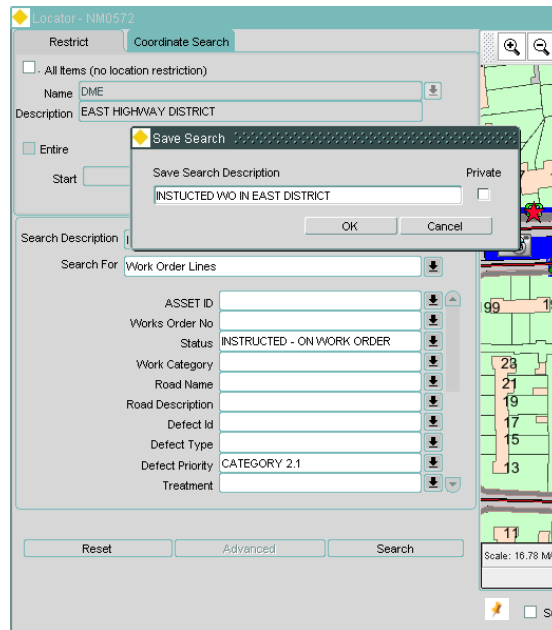
Value (Required) (List)

Enter the required ‘search’ value for the currently selected Attribute. If the attribute values are held in a Domain, the List of Values may be called and the description of the selected value will be displayed. If the ‘Condition’ entered for the Attribute is ‘BETWEEN’ enter the second value in the field below.

To return to the ‘Standard’ Locator Search panel press the [**<Back**] button.

To execute the search and display the results press the [**Find>**] button.

Figure 11



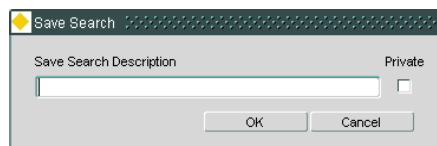
Saving the Search Criteria



Search Criteria may be saved and re-used at any time using the **[Save]** icon adjacent to the 'Search Description' field. If the Search Criteria includes a Network based Restriction, the selected Network Section or Group will also be saved.

When saving a Search the User has an option to make in either 'Private' or 'Public'. Private Searches are only available to the User who created it whilst Public searches are available to all Users.

To save a Search press the **[Save]** button adjacent to the 'Search Description' field.



Save Search Description

Enter a unique name for the search Criteria.

Private (Checkbox)

To make the Search 'Private' and therefore not available to other Users tick the 'Private' Checkbox.

Press **[OK]** to Save the search criteria.

Loading a Saved Search

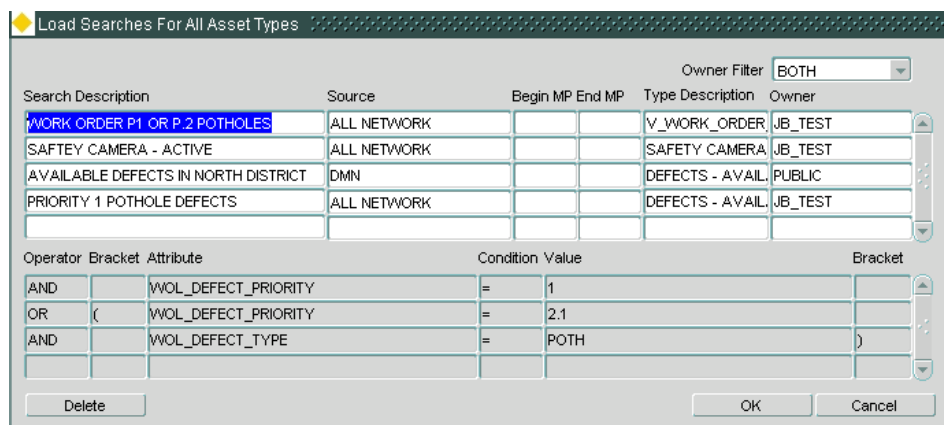
To use a previously saved Search press the **[Load Search]** (Figure 12) button adjacent to the Search Description field.

Figure 12



The 'Load Search' window (Figure 13) will be displayed showing all 'Public' searches and the 'Private' Searches for the current User. This is a non updateable window showing the complete Search Criteria.

Figure 13

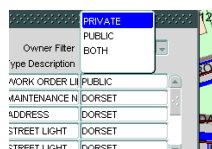


Search Description	Source	Begin MP	End MP	Type Description	Owner
WORK ORDER P1 OR P.2 POTHOLES	ALL NETWORK			V_WORK_ORDER	JB_TEST
SAFETY CAMERA - ACTIVE	ALL NETWORK			SAFETY CAMERA	JB_TEST
AVAILABLE DEFECTS IN NORTH DISTRICT	DMN			DEFECTS - AVAIL.	PUBLIC
PRIORITY 1 POTHOLE DEFECTS	ALL NETWORK			DEFECTS - AVAIL.	JB_TEST

Operator	Bracket	Attribute	Condition	Value	Bracket
AND		WVOL_DEFECT_PRIORITY	=	1	
OR	(WVOL_DEFECT_PRIORITY	=	2.1	
AND		WVOL_DEFECT_TYPE	=	POTH)

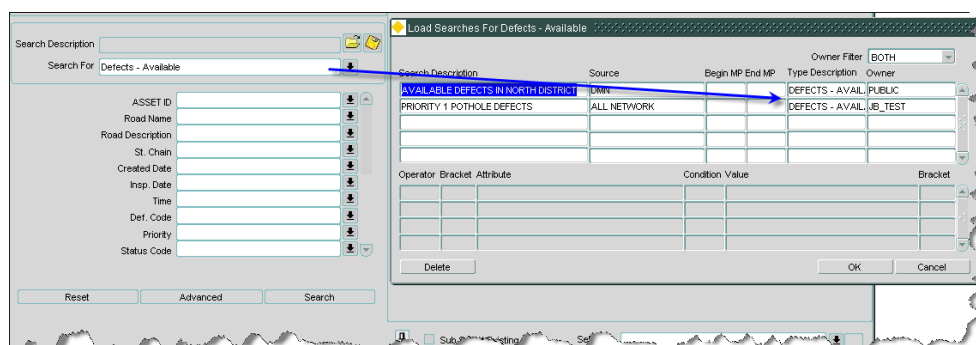
Buttons: Delete, OK, Cancel

The list of available Searches can be restricted to either 'Private' or 'Public' Searches by applying a filter by pressing the drop list icon on the 'Owner Filter' field.



Note

If a value has been entered into the 'Search For' field, the list of available Searches will only include those Searches written for the object type entered. The example shown below shows the saved Searches for Defects - Available.



Search Description	Source	Begin MP	End MP	Type Description	Owner
AVAILABLE DEFECTS IN NORTH DISTRICT	DMN			DEFECTS - AVAIL.	PUBLIC
PRIORITY 1 POTHOLE DEFECTS	ALL NETWORK			DEFECTS - AVAIL.	JB_TEST

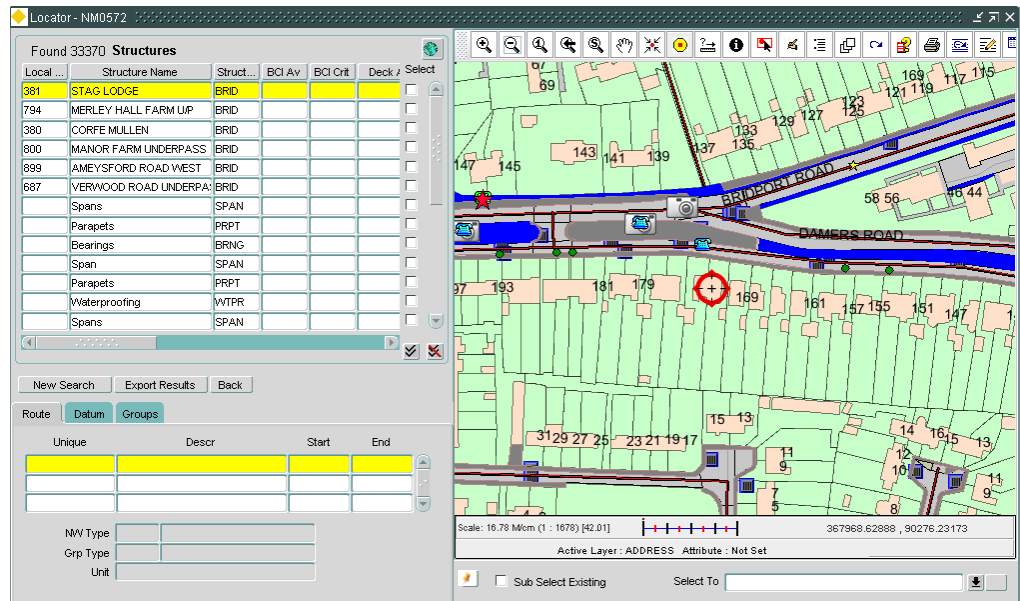
Buttons: Delete, OK, Cancel

Highlight the required saved Search criteria and press **[OK]** or double click the record to select. The Search Criteria will be displayed within Locator in either the Standard or Advanced mode depending on how the Search was created.

Deleting a Saved Search

To delete a previously saved Search, press the **[Load Search]** button, select the required record and press the **[Delete Record]** button on the menu toolbar.

Figure 14



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Results Grid

The results of the **Locator** search are displayed in a Grid format which displays the assets attributes and Network location if applicable for all records which match the search criteria. This enables confirmation that the correct item(s) has been found, or to select the desired record from all records that match the search criteria. The entire results set may subsequently be exported from the Grid in either Comma Separated Value (csv) or Extensible Mark-up Language (xml) format allowing manipulation or viewing in other Applications such as MS-Excel.



Show Map
Button

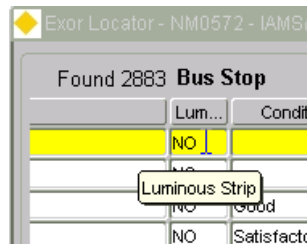
If the object type used within the **Locator** search has a spatial representation, one or more of the selected results may be viewed on the map. When the **[Show Map]** button is pressed the map will zoom and centre on the selected item(s) making the selected data type the Active Map Layer. If the search results in a single item being found, the Map will automatically zoom and centre on the item, assuming it has a spatial representation.

Only those attributes flagged as 'Displayed' in the **Asset Metamodel – NM0410** module (Refer to the Asset Manager System Admin Guide) will be displayed within the Results Grid. The Attribute column widths within the Grid are determined by the value populated for the 'Width' field for the Attribute in the **Asset Metamodel – NM0410** module. If no 'Width' value has been defined for an Attribute the column width is automatically sized in accordance with the Attribute values and not the Attribute Display (column heading text) Name. Hint Text is available to view the Column Heading if the Grid Column width is less than the Display Name.

For Attributes which are validated against a look up, the Results Grid displays the value Meaning and not the actual lookup code value. For example, an attribute of 'Sign Type' may have a Value of '01' meaning 'Metal', the Results Grid will display a value of 'Metal' as this is more meaningful to the User.

Attribute values and data Items within the Grid may be viewed by using the horizontal and vertical scroll bars respectively.

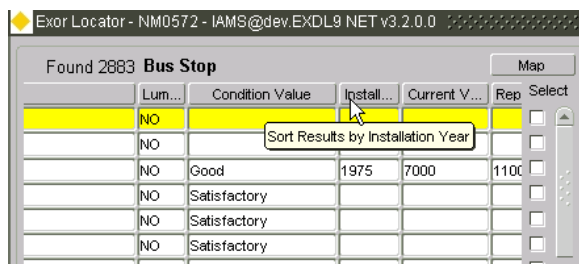
Figure 15



Hint Text

The entire Attribute Name is displayed in the 'hint text' that is automatically displayed when the mouse cursor is hovered over any value within the column. An example is shown in Figure 15.

Figure 16



Sorting Results

Results within the Grid may be sorted by any of the displayed Attributes by pressing the Attribute Names (column headings), which are also 'Sort' buttons. The first time a heading is pressed the records are sort in ascending order. If pressed again the records within the Grid will be sorted in descending order of the selected Attribute. A 'carat' (^) symbol or lower case 'v' (v) is displayed adjacent to the Attribute Name to indicate that the data has been sorted in ascending or descending order respectively as shown in Figure 17.

Figure 17

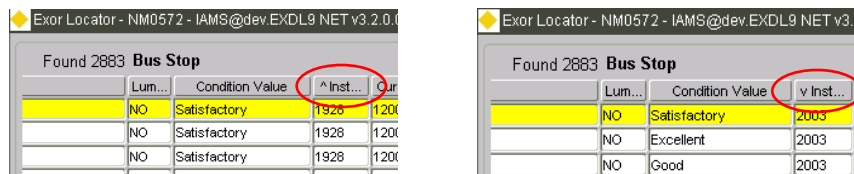


Figure 18

New SearchExport Results

Route

Datum

Groups

Unique	Descr	Start	End
ABERCORN CR.	ABERCORN CRESCENT	.108	.258

NW Type

ROAD

ACT ROAD

Grp Type

ROAD

ACT ROADS

Unit

KILOMETERS

Results Grid – Location Panel

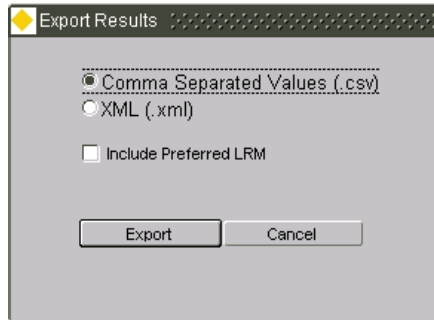
The ‘Results Grid – Location Panel’ displays the Network Location of the selected Item if applicable. The Network Location of an item is displayed relative to all Routes (linear groups), Datum Elements or Groups (non linear) on which it is located. The Network Type, Group Type and Unit of Measurement are displayed for the currently selected record in the 'Route' tab. The Unit of Measurement displayed will be in accordance with the Unit defined for the Group Type or Datum Network on which the Item is located.

The display of an Items location(s) may be restricted to a specific LRM (linear Referencing Method) by setting the Preferred LRM to the appropriate Group Type. This is done within the User Preferences Form (refer to the General User Guide). If an Item is not located on a Route of the specified Type, then the Items location will be displayed relative to ALL LRMS on which it has a location.

Exporting Results

The entire contents of the Results Grid may be exported in either Comma Separated Value (csv) or Extensible Mark-up Language (xml) format allowing manipulation or viewing in other Applications such as MS-Excel. To export the contents of the Results Grid press the **[Export Results...]** button. The dialog shown in Figure 19 will be displayed.

Figure 19

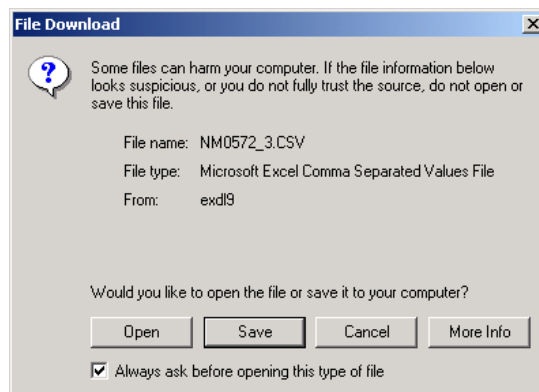


The default export format may be set as either CSV or XML using User/Product option **SAV_FORMAT** (refer to the General System Admin Guide for further details relating to User and Product Options).

When exporting results in either format, the Network Location (if applicable) of Items is not included within the export unless the 'Include Preferred LRM' check box is selected. This will then include the Items Network Location relative to the User defined preferred Linear Referencing Method (refer to the Network Manager User Guide for more information relating to Preferred LRM).

To export the data within the Results Grid press the **[Export]** button. When exporting in CSV format a standard Windows File Download dialogue will be displayed (Figure 20) allowing the csv file to be saved to the Client PC or any other network location accessible.

Figure 20

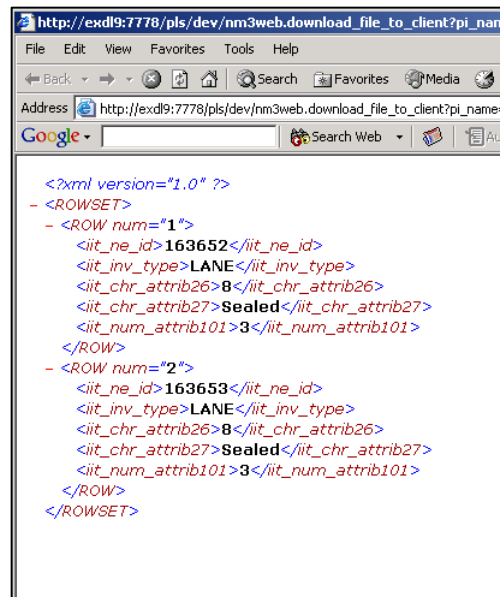


Note :

Some Pop-up blockers prevent the display of the 'File Download' dialogue. If the dialogue is not displayed the Pop Up blocker should be configured to allow the display of Pop-Ups from the Exor Application.

When exporting to XML format the xml data is displayed in a browser window allowing the user to select the 'Save As' option on the Windows File menu. An example of an xml formatted export is shown in Figure 21

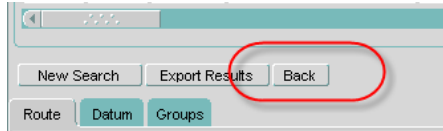
Figure 21



Refreshing a set of Search Results (Back Button)

If since the time a Locator search was executed, the data has changed in such a way that the results displayed within the Results Grid are no longer valid, the Search may be re-executed and the results set refreshed by pressing the **[Back]** button (Figure 22) on the Locator Results Grid.

Figure 22

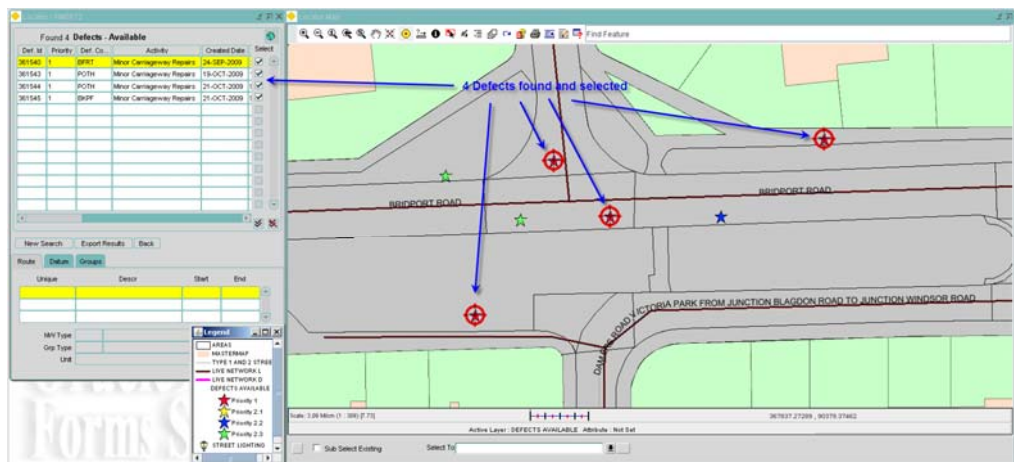


When the button is pressed the Search Criteria window will be momentarily displayed whilst the query is executed. Once complete the Results Grid will be re-displayed.

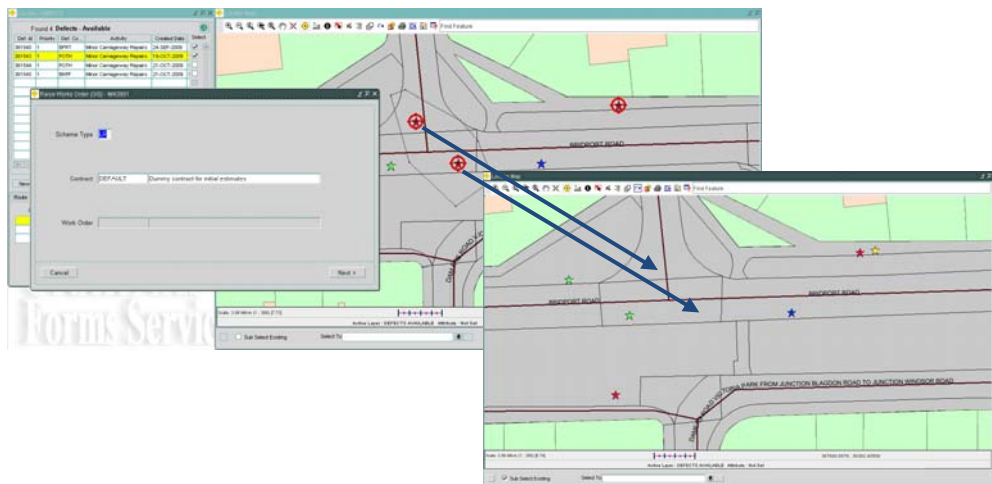
Consider the example below of a practical application of this functionality.

A Locator Search has identified 4 Priority 1 Defects Available to be placed on a Work Order as shown in Figure 23.

Figure 23



The User selects 2 of the Defects and places them on a Work Order, therefore changing their Status Code from Available to Instructed. Upon completion of the Work Ordering process the map is refreshed and the Defects no longer appear within the Available Defects Theme.



To re-execute the Locator Search and refresh the Results Grid press the **[Back]** button. The Search will be re-executed and the results grid refreshed as shown in Figure 24.

Figure 24

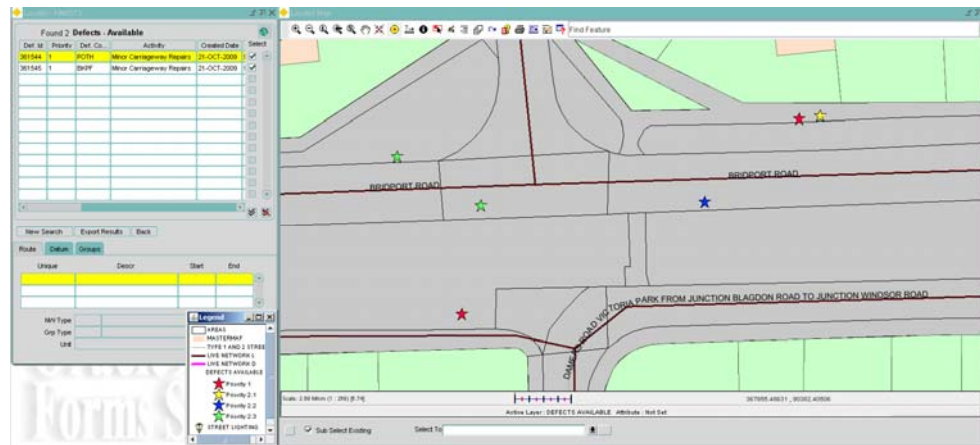
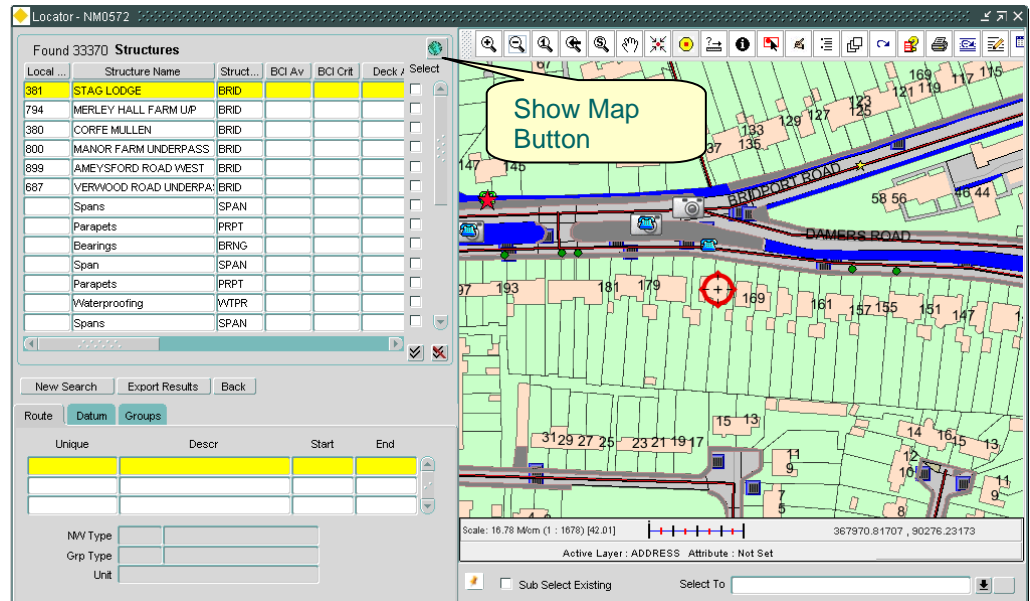



Figure 25



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Selecting Data Items from the Grid for Display on Map

If the Object (Asset) type used within the **Locator** search has a spatial representation, one or more of the selected results may be viewed on the map. When the **[Show Map]**  button is pressed the map will zoom and centre on the selected item(s) making the selected data type the Active Map Layer. If the search results in a single item being found, the Map will automatically zoom and centre on the item, assuming it has a spatial representation.

To view the required Item(s) on the Map check the appropriate 'Select' check box and press the **[Show Map]** button.

All items within the Grid may be selected or deselected using the 'Select All' and 'De-select All' buttons respectively as shown in Figure 26.

If multiple GIS Themes have been defined for the selected Asset Type, a list will be displayed to allow the User to select the appropriate Theme.

Selected Data Items are highlighted on the Map depending on their data type. These are as follows:

Figure 26



- ‘Point’ Items, e.g. Bus Stops are highlighted with a circle. An example is shown in Figure 27. The Map highlight style for Point data items may be changed using Product Option ‘**POINTSTYLE**’. Refer to the General System Admin Guide or Map Services Admin guide for more information on Product Options.

Figure 27



- ‘Line’ Items, e.g. Guard Rails, including selected Network Elements and ‘Polygon’ Items, e.g. Parks or Property Boundaries are highlighted in the defined selection colour and width select for Product Option ‘**LINESTYLE**’. Examples of these are shown in Figure 29 and Figure 28 respectively.

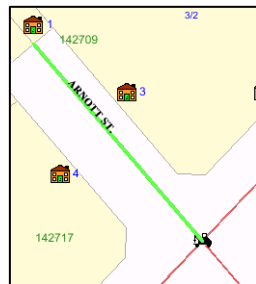


Figure 29
Line Item

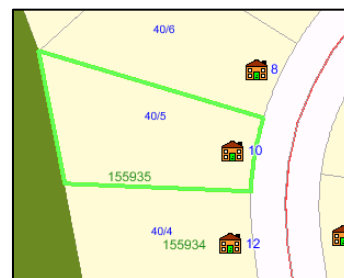


Figure 28
Polygon Item

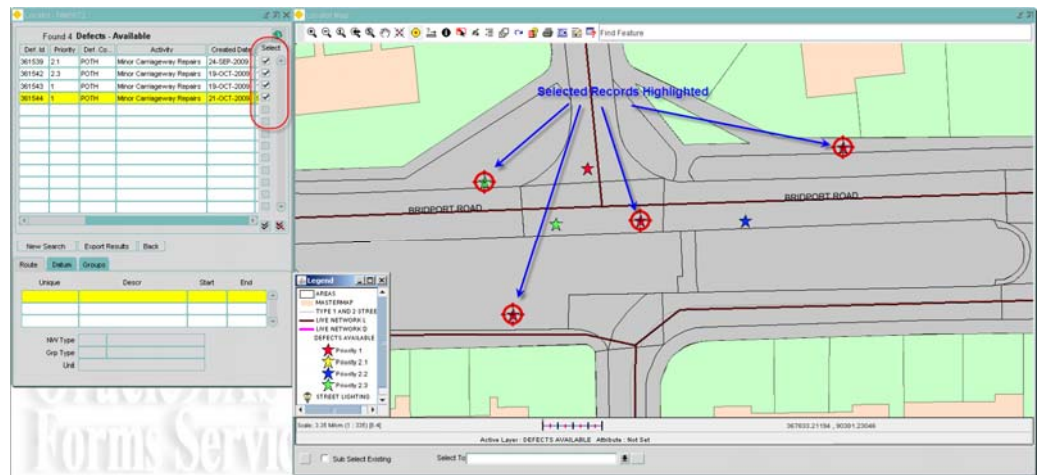
Using 'Sub Select Existing'

The 'Sub Select Existing' feature allows a spatial query, using tools such as 'Select by Polygon' or 'Select by Rectangle' to be combined with a previously executed 'Attribute' based search. When the 'Sub Select Existing' flag is set the spatial query returns a subset of the features previously selected.

Consider the example below.

A Locator attribute search has been executed against a Theme showing 'Available Defects'. The search has returned 4 records all of which have been selected within the results grid and are highlighted on the map as shown in Figure 30.

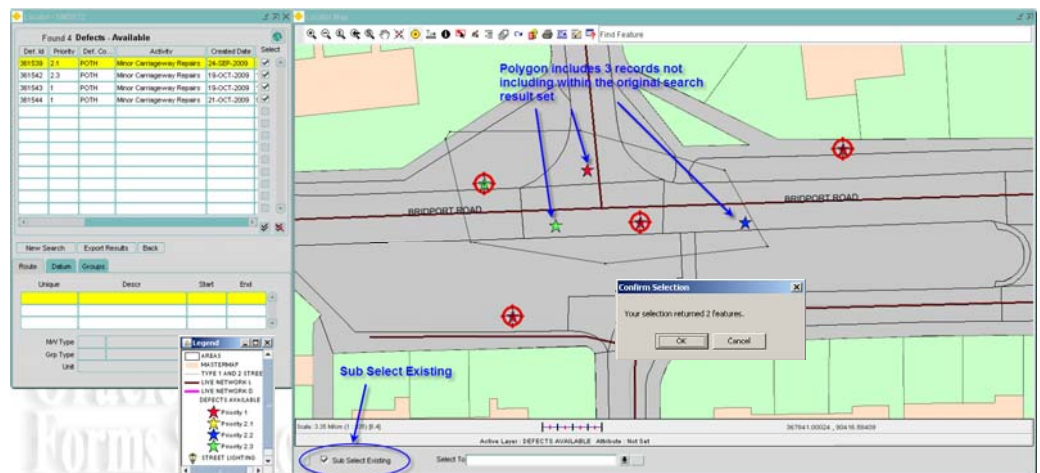
Figure 30



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The User has decided that they need a smaller sub set of the original search results so has ticked the 'Sub Select Existing' checkbox and using the 'Select by Polygon' tool has digitised a polygon around the required items. Note that the Polygon also includes 3 records that were not included within the original search results set. The Confirmation dialog informs the User that only 2 features have been selected. This can be seen in Figure 31.

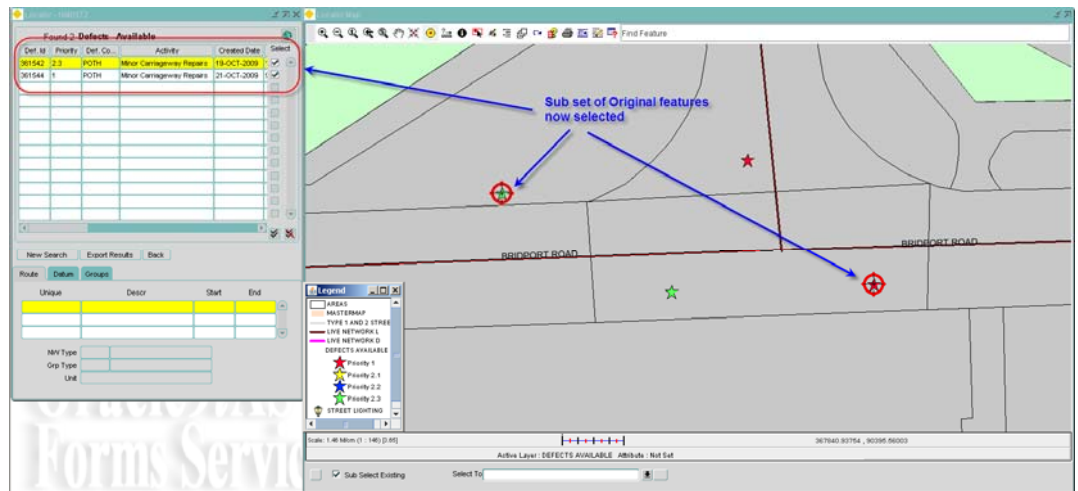
Figure 31



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The end result is that only the features within the polygon that were part of the original selection are included within the spatial query. The Locator results grid and map have been updated to reflect this Sub query as shown in Figure 32.

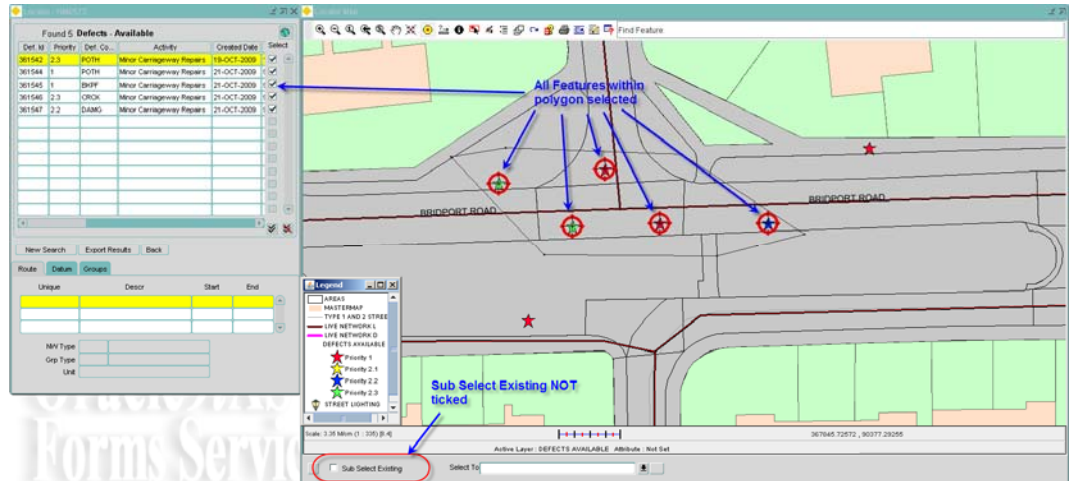
Figure 32



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Figure 33 shows the result of same set of queries where the 'Sub Select Existing' checkbox has NOT been ticked. Note that all features within the polygon are selected, irrespective of whether they were included within the original selected set.

Figure 33

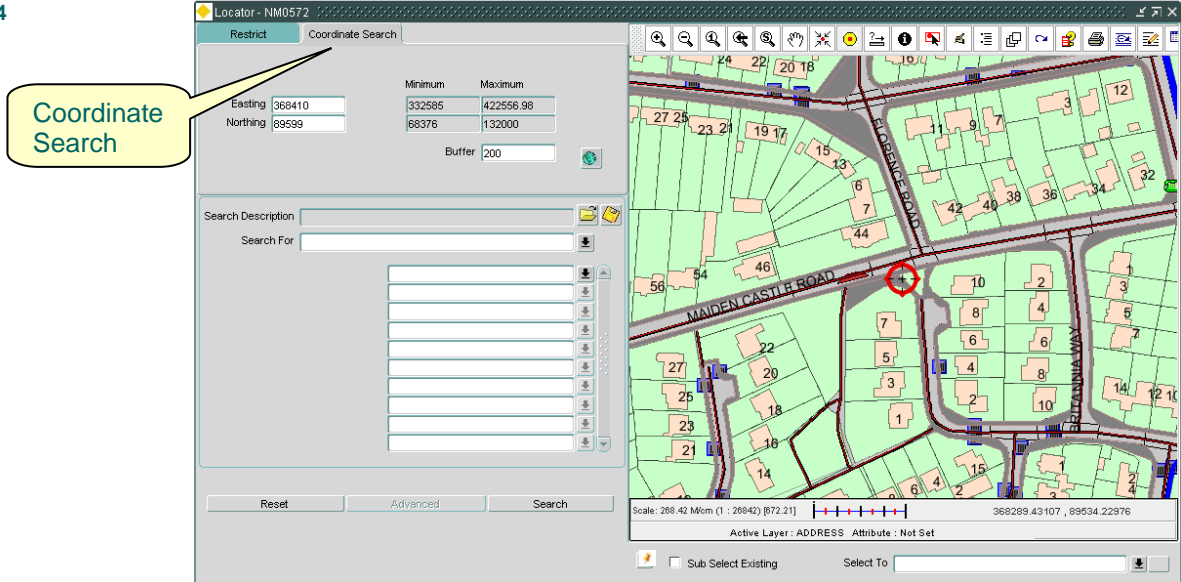


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Searching Using Coordinates

The required position on the Map can be navigated to, by using the grid coordinates to which you want to Zoom. This is done using the Coordinate Search Tab (Figure 34).

Figure 34



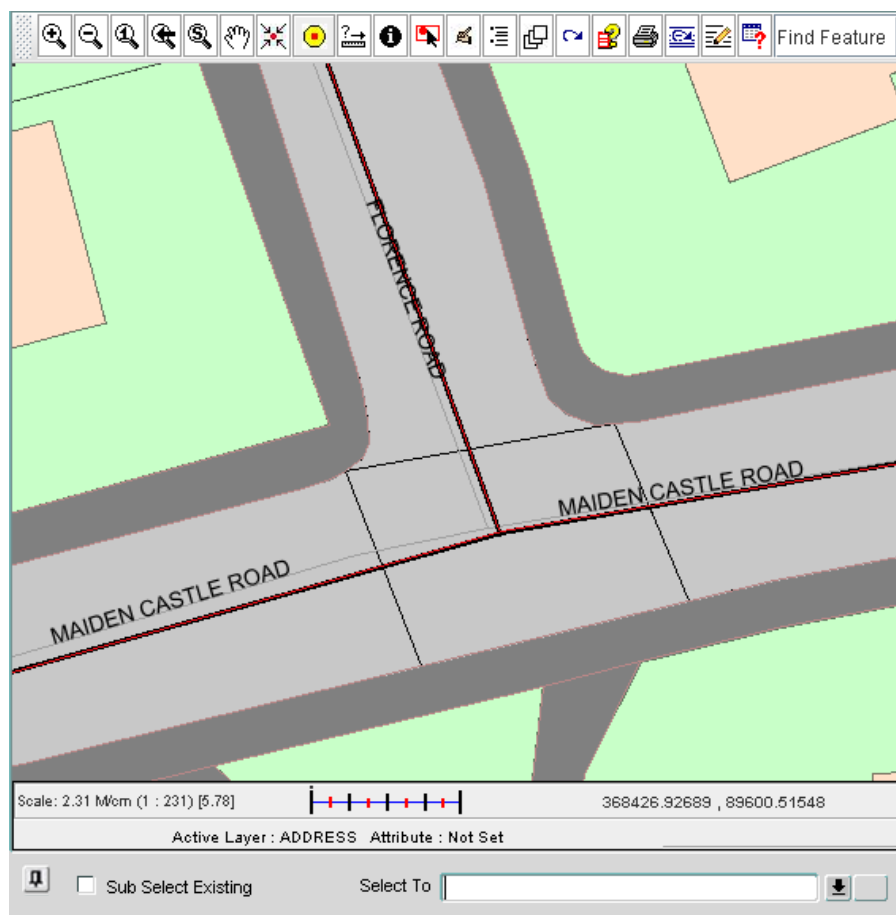
© Crown copyright and database right. All rights reserved

The Coordinate Search allows a set of Grid Coordinates to be entered and zoomed to by pressing the **[Zoom to Map]**  button.

The Maximum and Minimum values are displayed for both the Easting and Northings. These values are derived from the aggregate minimum and maximum spatial extents of any Datum Networks defined within the system.

When the Coordinate Search is used the map will zoom and centre on the Grid Coordinates entered. The 'Zoom buffer' can be set if required, but defaults to the value entered in Product / User Option **SDOPTZOOM**.

Figure 35



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Locator Map Window

The **Locator** Map window provides a map based environment in which to view and manage data held within the Exor database or data held externally which has been registered as an 'External Asset' (refer to the Asset Manager System Admin Guide for more information relating to External Assets / Foreign Tables).

The Map can be 'unpinned' from the Locator Form and resized to fit any screen resolution.


The **Locator** Map window has a number of embedded functions, available from the Map window Toolbar, which allows for the creation of Enquiries and Defects as well as the relocation of features, such as Assets, Enquiries, Defects or any other data item where the GIS Theme (refer to the General System Admin Guide) has been defined as to allow the relocation of data Items.

In addition to the embedded Map window functions, there is a "Select to" function in **Locator** that allows Standard **Exor** modules, such as Maintain Enquiry, Maintain Defects, Maintain Assets or Create Works Order to be called for a given selected set of results. This allows updates, edits and any

other business functions associated with the called module to be carried out on the selected data items. The “Select to” function can call any module that is specified within the **GIS Themes – GIS0010** module.

In addition to standard **Exor** modules, the **Locator** ‘Select To’ functionality also allows custom-built PL/SQL procedures to be executed against a selected set of results. This allows an Organisations business processes to be closely mirrored within **Exor**. Examples may include the update of Street Lights within a Park which have had bulb replaced or the sending of an escalation e-mail for Defects which are overdue for repair.

Note: Custom Built PL/SQL procedures are written by Exor Services. Contact your Account Manager for further details.

The initial Map Extent, Active Layer and selected features used within the Map window are dependent on how **Locator** is called. If **Locator** is called using the [Show Map]  button on the Exor Menu Toolbar within a map enabled Exor Module, e.g. **Asset Items – NM0510**, the Map extent will zoom to the selected Item and the feature Layer will be made the Active Layer. If however **Locator** is called as a Module from the Exor menu the initial Map Extent will be calculated based upon the feature metadata for the Oracle Spatial Layers.

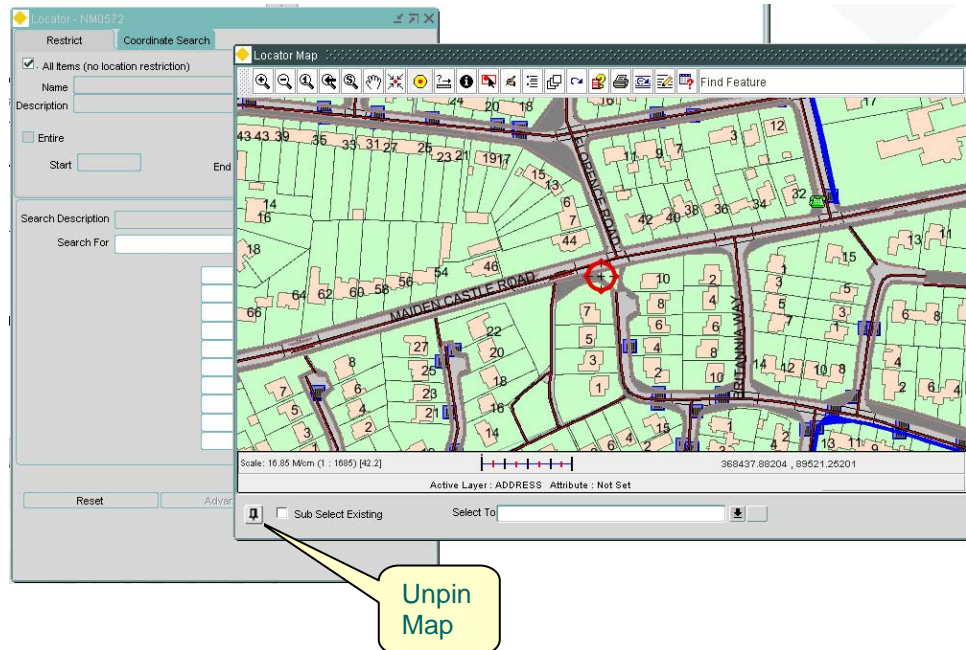
The **Locator** Map window can display any Layer that is defined within the **GIS Themes – GIS0010** module. These may include Layers that do not contain data held within Exor. The **Locator** Map window may also display any Open GIS Consortium (OGC) Web Map Service (WMS) Layers. Refer to the Exor Map Services System Admin Guide for details.

Note that only the Layers defined within GIS Themes – GIS0010 to which the User has Role based access will be available to a User.

The display of a layer can be scale dependant, which means that it will only be displayed if the map is above or below a pre-configured scale.

'Unpinning' the Map Window

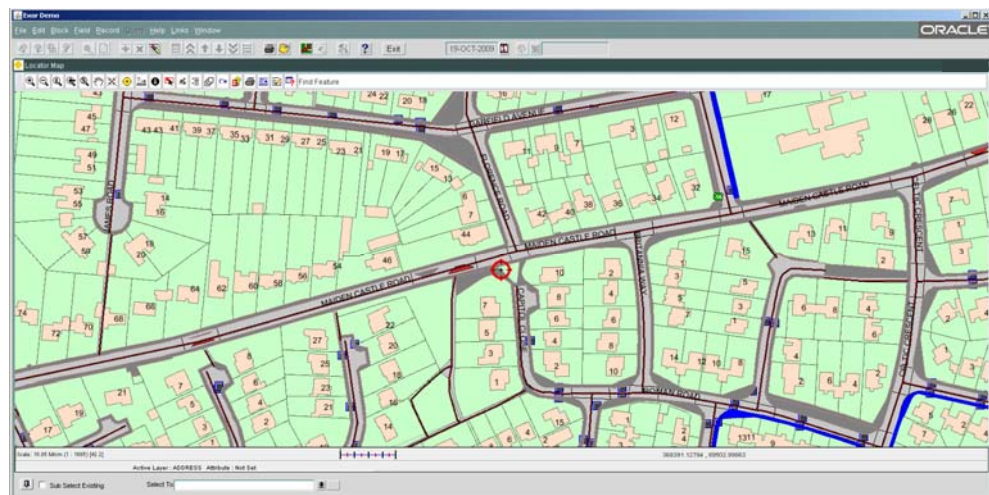
The Map Window may be 'Unpinned' from the Forms module and resized as required. To 'Unpin' the Map press the unpin icon.



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Once unpinned the Map can be resized as required by dragging the window edges to the required size. Figure 36 shows an example where the Map has been resized to fit the entire screen.

Figure 36



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Important Notice

When the Map is unpinned from the Locator Module a new Map session is invoked. The new map will re-centre on the currently selected feature. However, if the User has used the pan, zoom or any other navigation tools or

has no selected feature within the Locator Module, the Map will centre on the last selected location.

Figure 37



Map Window Toolbar

The Map window Toolbar has a number of functions enabling interaction with the Map and displayed features. These are as follows:

- Navigation Tools
 - Zoom In
 - Zoom out
 - Zoom to Initial Extent
 - Zoom to Previous Extent
 - Zoom to Selected Feature
 - Pan
 - Re-Centre Map at selected point
- Show Buffer Area
- Measurement Tools
 - Route Offset (LRM Measure Tool)
 - Measure Length
 - Measure Area
- Identify Feature
- Select Feature Menu
 - Select by Rectangle
 - Select by Polygon
 - Select Nearest Neighbour
 - Select By Buffer Area
- Feature Edit Menu
 - Send X,Y value to application
 - Send Multiple Points to an application
 - Create Public Enquiry
 - Create Public Enquiry on Asset
 - Relocate Enquiry
 - Create Defects on Assets
 - Create Defects on Asset at X,Y
 - Create Defect on Network at X,Y
- Map Legend Display (pop up window)
- Map Layer Control (pop up window)
- Refresh Map
- Toggle Tool Tips
- Print Map
- Refresh Metadata
- Query Layer
 - Set Query Attribute
 - Find

Each of these functions is described in the following section.

Navigation Tools

The following Navigation tools are available:

- Zoom In
- Zoom out
- Zoom to Initial Extent
- Zoom to Previous Extent
- Zoom to Selected Feature
- Pan
- Re-Centre Map at selected point

Zoom In



The Zoom In tool enables users to see more detail on the Map. This tool must be clicked on before it can be used to zoom in on the map.

There are two ways to use the “Zoom in” tool. One is to click and drag a rectangle on the Map. The area inside dragged rectangle will be enlarged to fill the entire Map window. The other is to click anywhere on the Map. The Map will be redrawn at a larger scale (factor of 2) and centre on the location of the click. The Zoom in Tool remains active until another function is selected.

Zoom Out



The Zoom Out tool enables Users to display a larger area on the map. Click on the Zoom Out button and the current map will be redrawn at a smaller scale to show a larger area. The Zoom Out Tool remains active until another function is selected.

Zoom to Initial Extent



The Zoom to Initial Extent tool resets the Map to the default Map extent. This is calculated based upon the feature metadata for the Oracle Spatial Layers.

Zoom to Previous Extent



The Zoom to Previous Extent tool resets the Map to the previously defined map extent.

Zoom to Selected Feature



The Zoom to Selected Feature tool allows the Map to zoom and re-centre on the selected feature(s). This is useful if the User has selected an Item using Locator or the Map window ‘Query Layer’ tool and subsequently ‘Panned’ or Zoomed out to an extent where the selected Item is no longer visible.

Pan



The Pan tool enables the User to ‘Grab’ the current Map image and drag it in any given direction. Click on the Pan button, then click and drag on the map window. When you release the mouse button the map will be redrawn with its centre where you leave the cursor. The Pan Tool remains active until another function is selected.

Re-Centre Map at Selected Point



This tool allows the User to click at a point on the Map and have the map extent Re-Centre on that point. Click on the 'Re-Centre' button then click on the required location on the Map. The Map window will automatically be re-centred. The Re-Centre Map Tool remains active until another function is selected.

Show Buffer Area

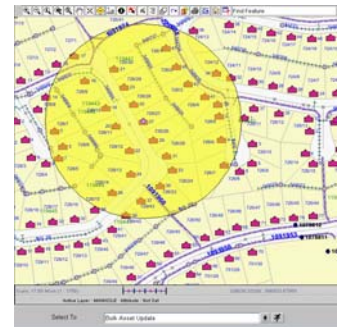
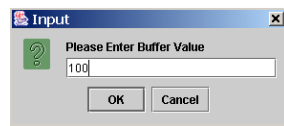
Show Buffer Area



This tool allows you to add a transparent buffer to your map. When you use the tool, you will be prompted to enter a buffer value (Figure 38). This value is in meters. The map will then display a transparent buffer around the current centre point with a radius equal to the buffer size. This means that you can easily see all features within a known distance to a point. Once you have created a buffer on the map, you will be able to select all the items of a particular type that are within the buffer, using the 'Select By Buffer' tool (page 40).

To centre the map on an Asset or another feature, select the required item and press the 'Re-centre Map on Selected Point' tool.

Figure 38



Measurement Tools



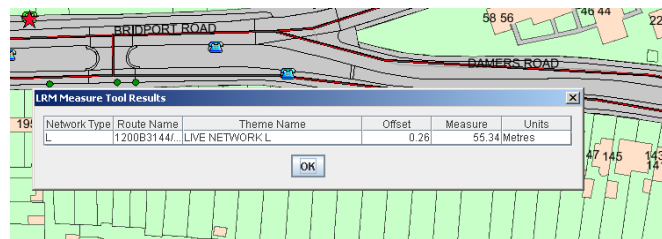
The following tools are available:

- Route Offset (LRM Measure Tool)
- Measure Length
- Measure Area

Route Offset

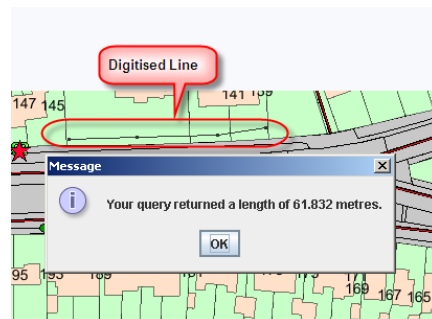
The Route Location tool allows the User to click on a Network feature and display the Route Measure at the selected point. The tool is only available when a Network Layer is the Active Layer. An example of a Route Location message is shown below.

Figure 39



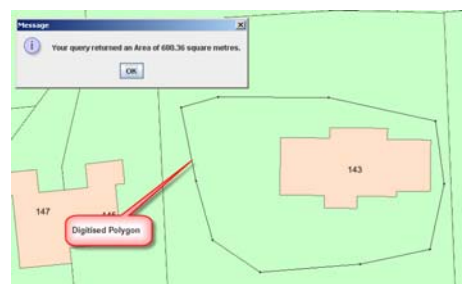
Measure Length

The Measure Length tool allows the User to digitise a line (polyline) and return its length. To finish the line and display the line length double click the mouse when adding the last vertex. An example is shown below.



Measure Area

The Measure Area tool allows the User to digitise a polygon and return its area. To finish and close the polygon, double click the mouse when adding the last vertex. An example is shown below.



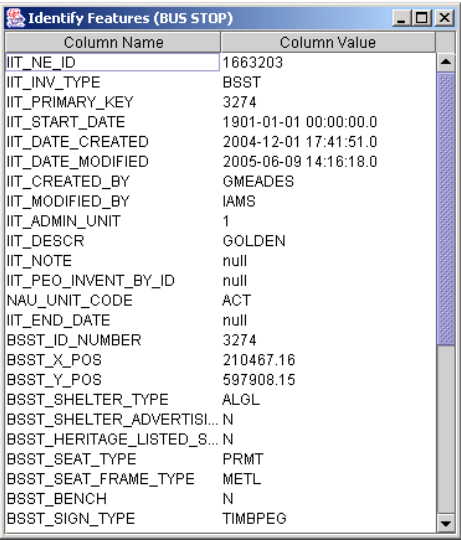
Identify Feature



Identify Feature

The Identify Tool enables Users to view the details of the feature on which they click. To use the “Identify” tool, the Layer containing the feature the User wants to identify must be the Active Layer (see page 42 for information on Layer Control). Click the mouse pointer over the map feature you want to identify. The details of the identified feature will be displayed in a pop up window. An example is shown in Figure 40.

Figure 40



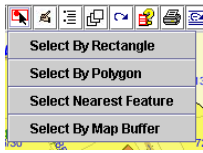
Column Name	Column Value
IIT_NE_ID	1663203
IIT_INV_TYPE	BSST
IIT_PRIMARY_KEY	3274
IIT_START_DATE	1901-01-01 00:00:00.0
IIT_DATE_CREATED	2004-12-01 17:41:51.0
IIT_DATE_MODIFIED	2005-06-09 14:16:18.0
IIT_CREATED_BY	GMEADES
IIT_MODIFIED_BY	IAMS
IIT_ADMIN_UNIT	1
IIT_DESCR	GOLDEN
IIT_NOTE	null
IIT_PEO_INVENT_BY_ID	null
NAU_UNIT_CODE	ACT
IIT_END_DATE	null
BSST_ID_NUMBER	3274
BSST_X_POS	210467.16
BSST_Y_POS	597908.15
BSST_SHELTER_TYPE	ALGL
BSST_SHELTER_ADVERTISI...	N
BSST_HERITAGE_LISTED_S...	N
BSST_SEAT_TYPE	PRMT
BSST_SEAT_FRAME_TYPE	METL
BSST_BENCH	N
BSST_SIGN_TYPE	TIMBPEG

The Identify Feature tool remains active until another function is selected.



Select Feature Tool

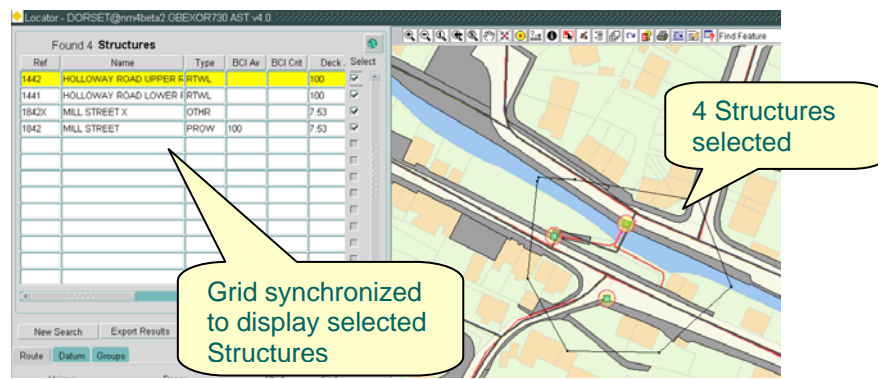
Figure 41



The Select Feature tool calls a Menu (Figure 41) that offers 4 different ways of selecting features of the Active Layer. These are

- Select by Rectangle
- Select by Polygon
- Select Nearest Feature
- Select By Map Buffer

When using any of the Selection methods, the Locator Grid will automatically synchronise with the selected objects on the map, if the Grid is currently displaying the Active selected Layer. The example below shows the grid synchronised to display 4 selected Structures.



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Select by Rectangle

The Select by Rectangle tool allows features of the Active Layer, which fall within a rectangle drawn by the User to be selected. To use this tool, click on the menu option, then click and hold the mouse button whilst dragging the cursor to form a rectangle. Release the mouse button when finished. The Items within the Rectangle will be selected and highlighted as described on page 25.

Select by Polygon

The Select by Polygon tool allows features of the Active Layer, which fall within a polygon drawn by the User to be selected. To use this tool, click on the menu option, and then digitise the polygon's vertices. Double clicking will automatically close the polygon. The Items within the Polygon will be selected and highlighted as described on page 25.

Select Nearest Feature

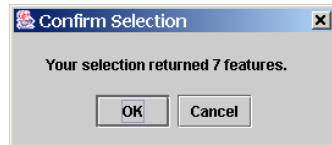
The Select Nearest Feature tool allows the nearest feature to position the User clicks on of the Active Layer to be selected. To use this tool click on the menu option, then click on the required position on the map. The nearest feature of the Active Layer will be selected and highlighted as described on page 25.

Select By Map Buffer

The Select by Map Buffer tool allows features of the Active Layer, which fall within a Buffer created using the 'Show Buffer Area' tool (page 36).

When using the 'Select by Rectangle', 'Select by Polygon' or 'Select By map Buffer' selection methods, the number of records selected will be displayed in a dialogue, as shown in Figure 42, allowing the User to confirm their selection.

Figure 42



Feature Edit Tool

Figure 43

Send X,Y value to application
Send Multiple Points to application
Create Enquiry
Create Enquiry On Asset
Relocate Enquiry
Create Defects On Assets
Create Defects On Asset at X,Y
Create Defects on Network at X,Y

The Feature Edit Tool calls a menu (Figure 43) which allows for the creation of new Enquiries and Defects as well as the relocation of features, such as Assets, Enquiries, Defects or any other data item where the GIS Theme (refer to the General System Admin Guide) has been defined as to allow the relocation of spatial features.

The 'Create Public Enquiry...' options are only available if **Enquiry Manager by Exor** (product code ENQ) is licensed and the current User has been granted either the **ENQ_USER** or **ENQ_ADMIN** Roles.

The 'Create Defect...' options are only available if **Maintenance Manager by Exor** (product code MAI) is licensed and the current User has been granted either the **MAI_USER** or **MAI_ADMIN** Roles.

The available functions are:

- Send X,Y value to application
- Send Multiple Points to application
- Create Enquiry
- Create Enquiry On Asset
- Relocate Enquiry
- Create Defects on Assets
- Create Defects on Asset at X,Y
- Create Defects on Network at X,Y

Each of these options is detailed later in this section.

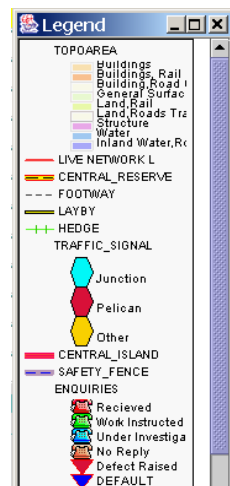
Map Legend

Map Legend

The 'Display Map Legend' tool allows the Map Legend to be Toggled on or off. The Legend window lists the Layers visible in the current Map, and the set of symbols that is used for each. An example is shown in Figure 44. Refer to the Exor map Services System Admin Guide for more information relating to defining Map legends.



Figure 44



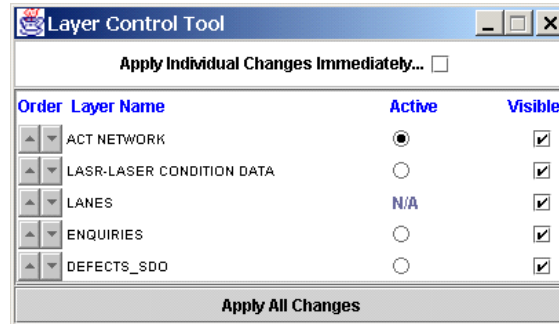
Layer Control

Layer Control



The Layer Control Tool is used to determine which Layers are displayed and which is the Active Layer. An example is shown in Figure 45.

Figure 45



Each Layer can be set to display or not display by checking or unchecking the check box next to the Layer in the 'Visible' column. The Layers that are checked are included in the Map Legend Window.

Only one Layer can be active at any time. The Active Layer is selected by clicking on the radio button next to it in the 'Active' column. Tools like identify and search operate only on the Active Layer. The modules available from the 'Select To' panel are also determined by the Active Layer.

Layers are drawn in the order in which they are listed within the Layer Control Tool window. The top Layer is drawn first, then the second Layer is drawn over the first, and so on. Web Map Service (WMS) Layers are always drawn first, and will therefore always be listed first.

You can set the Layer Control Tool to automatically refresh the Map and apply any change. To do this, check the "Apply Individual Changes Immediately" check box.

Refreshing the Map takes time and you may prefer to make a number of changes before applying any of them. If you leave the "Apply Individual Changes Immediately" check box unchecked then you must click on the "Apply All Changes" button for any changes to take effect.

Note that neither of the 'Apply changes...' options need be applied when changing Active Layers.

Refresh Map

Refresh Map



The Refresh tool re-draws the current Map window if needed.

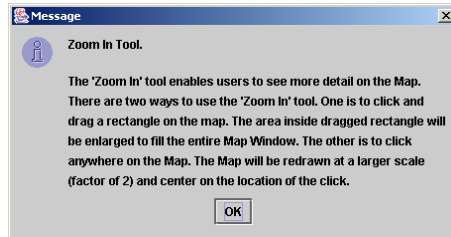
Toggle Tool Tips

Toggle Tool Tips



The 'Toggle Tool Tips' option allows simple help tips for each of the Map Window Toolbar buttons to be switched on or off. When the Tool Tips are switched on a help message is displayed when the option is selected. Pressing the **[OK]** button will close the message and immediately make the toolbar function available. An example of the help message for the 'Zoom In' tool is shown in Figure 46.

Figure 46



The 'Toggle Tool Tips' icon is displayed in Red or Green when the option is switched Off and On respectively.

Print Map

Print Map



The Print Map tool creates GIF image of the current Map window and displays it in an Internet browser window from where it can be saved or printed etc.

Refresh Metadata

Refresh Metadata



The Refresh Meta Data tool allows you to refresh the map meta data held in memory when the meta data in the server has been updated. Meta data is loaded from the server when the map starts and will not be updated unless you use this tool. For detailed information about each of these, please consult the administrator's guide.

The Items that are updated in memory when you use this tool are:

- **ENQLICENSED** Defines whether PEM product is licensed
- **USERHASENQROLE** Defines whether the user has the ENQ Role
- **MAILICENSED** Defines whether MM product is licensed
- **USERHASMAIROLE** Defines whether the user has the MAI Role
- **DEBUGLEVEL** Debug level (0 = off : 1 = on)

- **MAPTITLE** Specifies the text to be used for the map title bar
- **OVERVIEWLINESTYLE** Specifies the style used by the overview map outline
- **HIGHLIGHTLINESTYLE** Specifies the style used to highlight linear features
- **HIGHLIGHTPOINTSTYLE** Specifies the style used to highlight point features
- **WMSSERVERURL** Specifies the WMS Server URL
- **WMSDATA LAYERS** Specifies the data layers in the WMS service
- **WMS LAYERNAME** Specifies the text to display for WMS layer name
- **WMSSERVICENAME** Specifies the WMS Service name to be used to read data
- **WMSIMAGEFORMAT** Specifies the image format used to render WMS layers
- **PEMTHEMEID** Specifies the theme ID for the PEM layer
- **DEFECTTHEMEID** Specifies the theme ID for the Defect layer
- **JDBC HOST** Specifies the Host name for the JDBC data source
- **JDBC PORT** Specifies the IP port number for the JDBC data source
- **JDBC SID** Specifies the Oracle SID used for the JDBC data source

Query Layer

The Map Window includes its own Query function. This enables Users to select records based on the values of any of their attributes. The Query will only be executed against the Active Layer.

Searching is a two-step process:

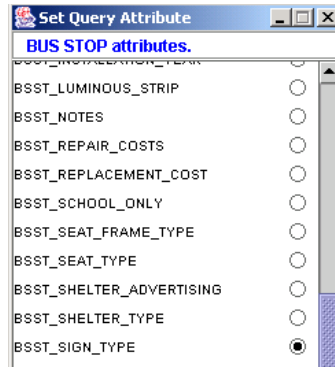
1. Set the Query Attribute field
2. Specify the value for the Attribute

Set Query Attribute



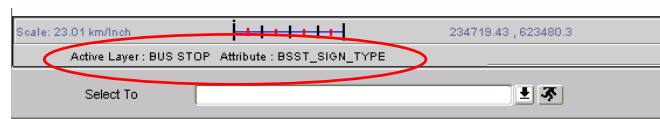
To set the Query Attribute click on the 'Set Query Attribute' button. This will open the Set Query Attribute window listing the Attributes that are available from the Active Layer. Click in the radio button next to the Attribute that you want to use for the query. An example is shown in Figure 47.

Figure 47



The selected Query Attribute will be displayed adjacent to the Active Layer description on the Map Window footer. An example is shown in Figure 48.

Figure 48



Specify Value for Attribute



To set the Attribute criteria on which to query, type the required value into the 'Specify Value for Attribute' field and press [Enter] on the Keyboard.

Wildcards may be used to search for a string that contains specific characters. For example, to search for a 'Bus Stop Type' value that started with 'TIM', the criteria may be entered as 'TIM%'. The query will return all features of the Active Layer matching the query criteria. The search function will only accept '%' as a wildcard.

If a wildcard operator is placed at the beginning, a search for every record ENDING with the search string will be returned. If a wildcard operator is placed at the end, a search for every record BEGINNING with the search string will be returned. If wildcard operators are placed at both the beginning and end of the search string, the records that CONTAIN the search string will be returned.

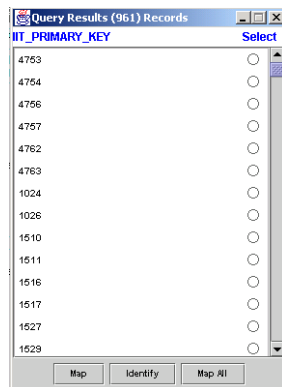
If the search string does not include any wildcard operators only exact matches will be returned.

The speed of the search depends on the size and number of the records that are retrieved.

If only one record matches the search criterion the Map will automatically zoom to the matching record. If more than one record matches the criterion then all the matching records will be listed in the Query Results window. An example is shown in Figure 49.

Note that the Data column displayed within the Query Results window is determined by the Value populated for the Layer in the 'Display' column of the GIS Theme – GIS0010 module.

Figure 49



The required record can be selected clicking on the radio button next to its listing.

There are three options for Query Results listed in the Query Results window. These are

- Map
- Identify
- Map All

Map

Choose this option to zoom and centre the Map on the Selected record.

Identify

Choose this option to call the Identify (page 38) window for the selected record.

Map All

Choose this option to select, zoom and centre the Map on All Query Results.

Creating Enquiries

New Enquiries can be created directly from within the Locator Map window using the 'Create Enquiry...' function available on the 'Feature Edit Tool'.

This provides a simple to use spatial interface allowing more accurate location of issues, leading to better information gathering and dissemination to Customers and efficiency improvements enabling Contractors to find the problem quickly thereby reducing travel time and costs.

The 'Create Public Enquiry...' options are only available if **Enquiry Manager by Exor** (product code ENQ) is licensed and the current User has been granted either the **ENQ_USER** or **ENQ_ADMIN** Roles.

Two options relating to the creation of Enquiries are available: These are

- Create Enquiry
- Create Enquiry On Asset

Note that the Enquiry Layer does not need to be the Active Layer in order to create an Enquiry.

Create Enquiry

Create Enquiry



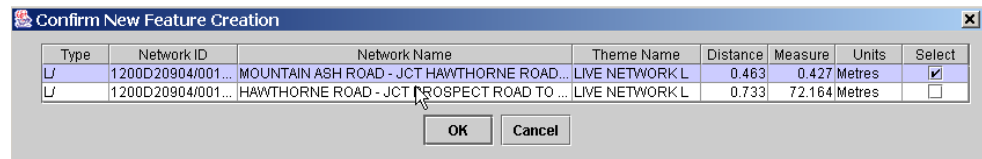
The Create Public Enquiry function option allows an Enquiry to be created by clicking on the required location on the Map window. Enquiries created in this manner may be 'snapped' to a Network Location if required.

To Create an Enquiry that is not associated with an Asset, firstly navigate to the appropriate map extent using the Locator Search facilities, described earlier in this section, the Map window Navigation tools or a combination of both.

Select the 'Create Public Enquiry' function from the 'Feature Edit' tool. The mouse cursor will change to a 'cross hair'. To create the Enquiry click on the required location within the Map window.

The system will attempt to derive a Network location by snapping to an available Layer. Only the visible Layers (defined within the Layer Control tool) which have been defined as 'Snapping Layers' for the Enquiry theme (in **GIS Themes – GIS0010**) will be used by this 'snapping' process. A list of all Network Elements (Datum's or Groups) within a defined snapping tolerance (defined in **GIS Themes – GIS0010**) from the Visible Active Layers is displayed to allow the User to select the appropriate Network element to which to Snap and derive its location. An example is shown in Figure 50.

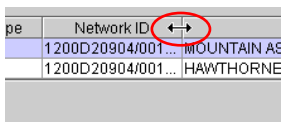
Figure 50



The following details are displayed within the 'Confirm New Feature Creation' window.

- Network/ Group Type of Element
- Element Name
- Element Description
- Theme or Layer name of snapping theme
- Perpendicular distance to the Element from the click position
- Offset measure along the Element at the 'snapping' point
- Units of measurements

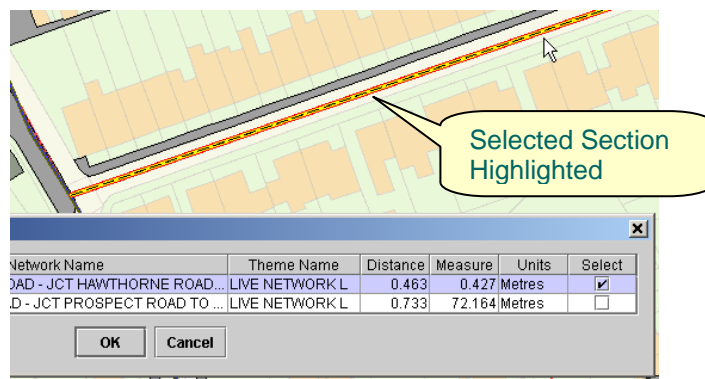
Figure 51



The displayed width of a column may be changed by dragging the boundary of the column heading until it is the required width (Figure 51).

Each Section within the List may be 'highlighted' on the Map in turn by checking the 'Select' option. This allows the User to select the correct Section on which to create the Enquiry (Figure 52).

Figure 52



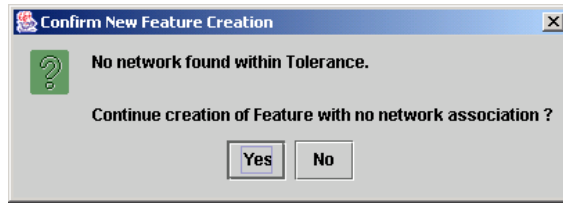
To Create the Enquiry and derive a Network Location using the Snapping facility select the appropriate Network Element by checking the 'Select' checkbox and press the **[OK]** button.

To cancel the entire Create Enquiry process, press the **[Cancel]** button.

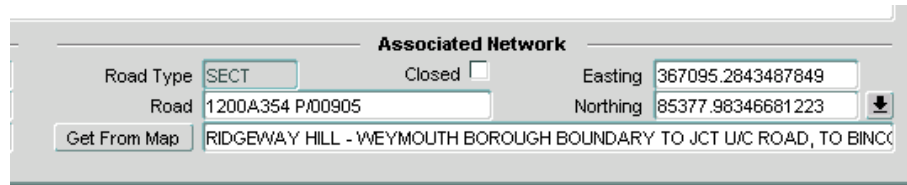
If none of the available 'Snap to' options are selected and the **[OK]** button is pressed the Enquiry record will be created without a Network Location.

If the User clicks on the Map window outside the defined snapping tolerance or there are no Visible Active 'Snapping Layers' available a message will be displayed advising the User that no Network could be found within Tolerance (Figure 53). The User may then continue and create the Enquiry without a Network Location or choose to cancel the entire Create Enquiry process.

Figure 53



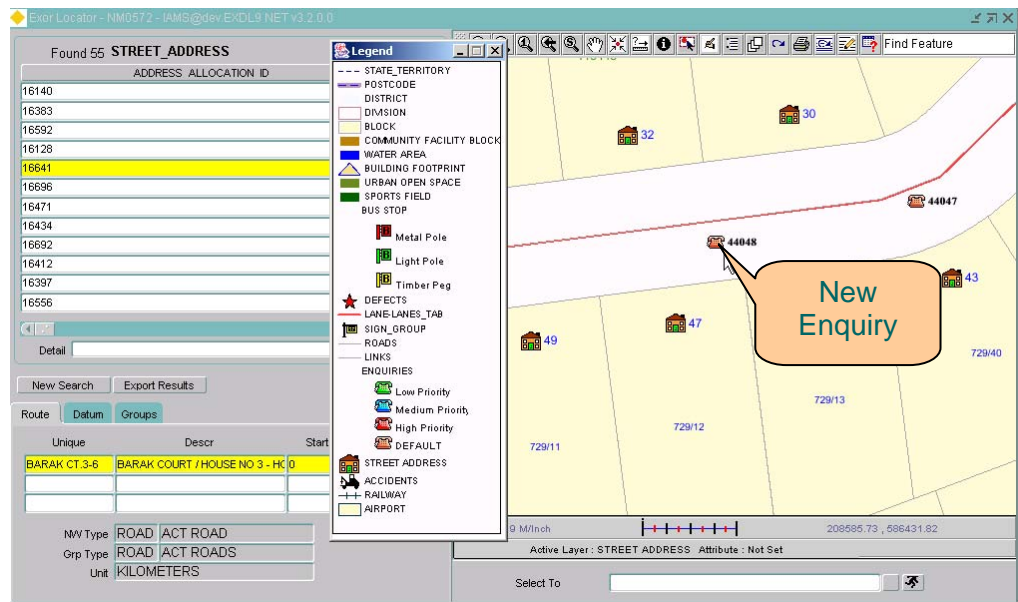
When the [OK] button is pressed to confirm the creation of the Enquiry, Locator will automatically call the **Maintain Enquiries – DOC0150** module allowing the remainder of the Enquiry details to be entered. If the Enquiry has been snapped to a network location the details will be displayed in the form along with the X and Y coordinates of the 'click' point on the Map window.



A form titled "Associated Network". It contains fields for "Road Type" (SECT), "Closed" (checkbox), "Easting" (367095.2843487849), "Road" (1200A354 P/00905), "Northing" (85377.98346681223), and a "Get From Map" button. Below these is a text field containing "RIDGEWAY HILL - WEYMOUTH BOROUGH BOUNDARY TO JCT U/C ROAD, TO BINCC".

The Map window will automatically refresh and display the newly created Enquiry record as shown in Figure 54.

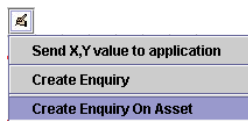
Figure 54



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Create Enquiry on Asset

Figure 55



The Create Public Enquiry on Asset function allows an Enquiry to be raised against an Asset and optionally 'snapped' to a Network location if required. The Assets on which an Enquiry may be raised may include Point, Linear or Polygon Asset Types that are stored within the Exor database or Asset data stored in other external Applications that have been defined as External Asset Types (refer to the Asset Manager System Admin guide or details relating to Foreign Tables). This allows Enquiries to be raised against Items such as Bus Stops, Parks, Grass Verges and Buildings etc.

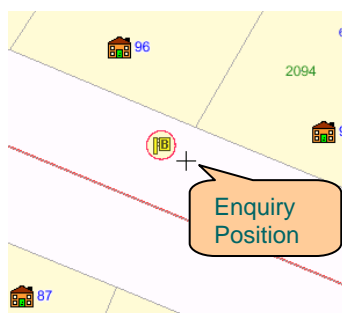
To Create an Enquiry on an Asset, the Asset in question must firstly be selected. This can be done using the Locator Search functionality as described earlier in this section or by using the Navigation and Feature Selection tools available within the Map window. If a Locator Search is used to select and zoom to the required Asset, the Asset Layer will automatically be made the Active Layer. When selecting an Asset directly from the Map window the appropriate Asset Layer must be the Active Layer. This is done using the Layer Control Tool (page 42).

After selecting the required Asset feature, select the 'Create Enquiry on Asset' function from the 'Feature Edit' Tool (Figure 55). The mouse cursor will change to a 'cross hair'. To create the Enquiry, click on the required location within the Map window.

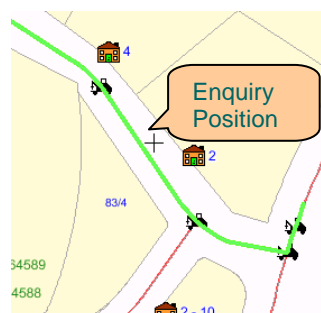
Note that when raising an Enquiry against a Point or Line feature the click point does not have to intersect with the feature.

Figure 56 shows examples of Enquiry's being raised against Point, Line and Polygon Features respectively.

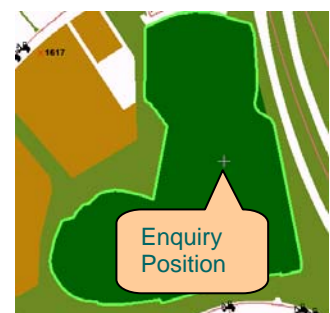
Figure 56



Point feature (Bus Stop) circled. Enquiry raised against Bus Stop but positioned adjacent to Asset.



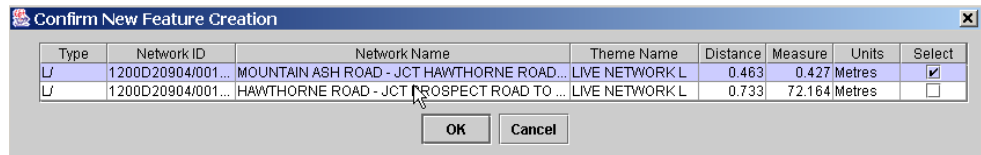
Line feature (Drainage) highlighted in green. Enquiry raised against Drain but positioned adjacent to Asset.



Polygon feature (Park) highlighted in green. Enquiry raised against Park and positioned within the Park.

The system will attempt to derive a Network location by snapping to an available Layer. Only the visible Layers (defined within the Layer Control tool) which have been defined as 'Snapping Layers' for the Enquiry theme (in **GIS Themes – GIS0010**) will be used by this 'snapping' process. A list of all Network Elements (Datum's or Groups) within a defined snapping tolerance (defined in **GIS Themes – GIS0010**) from the Visible Active Layers is displayed to allow the User to select the appropriate Network element to which to Snap and derive its location. An example is shown in Figure 57.

Figure 57

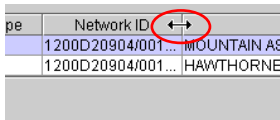


Type	Network ID	Network Name	Theme Name	Distance	Measure	Units	Select
L	1200D20904/001...	MOUNTAIN ASH ROAD - JCT HAWTHORNE ROAD...	LIVE NETWORK L	0.463	0.427	Metres	<input checked="" type="checkbox"/>
L	1200D20904/001...	HAWTHORNE ROAD - JCT PROSPECT ROAD TO ...	LIVE NETWORK L	0.733	72.164	Metres	<input type="checkbox"/>

The following details are displayed within the 'Confirm New Feature Creation' window.

- Network/ Group Type of Element
- Element Name
- Element Description
- Theme or Layer name of snapping theme
- Perpendicular distance to the Element from the click position
- Offset measure along the Element at the 'snapping' point
- Units of measurements

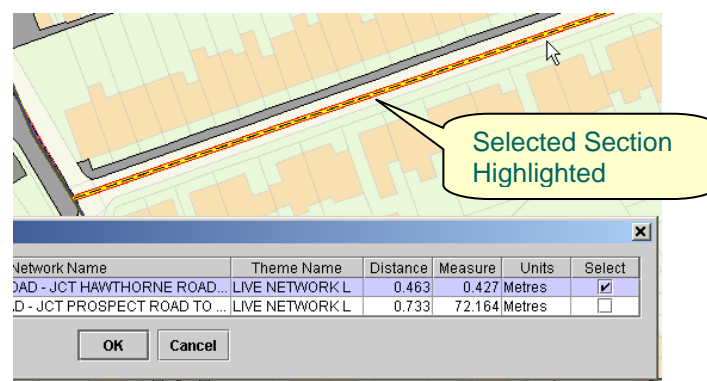
The displayed width of a column may be changed by dragging the boundary of the column heading until it is the required width.



pe	Network ID
	1200D20904/001... MOUNTAIN ASH ROAD - JCT HAWTHORNE ROAD...
	1200D20904/001... HAWTHORNE ROAD - JCT PROSPECT ROAD TO ...

Each Section within the List may be 'highlighted' on the Map in turn by checking the 'Select' option. This allows the User to select the correct Section on which to create the Enquiry (Figure 58).

Figure 58



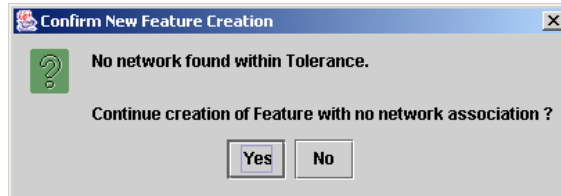
To Create the Enquiry and derive a Network Location using the Snapping facility select the appropriate Network Element by checking the 'Select' checkbox and press the **[OK]** button.

To cancel the entire Create Enquiry process, press the **[Cancel]** button.

If none of the available 'Snap to' options are selected and the **[OK]** button is pressed the Enquiry record will be created without a Network Location.

If the User clicks on the Map window outside the defined snapping tolerance or there are no Visible Active 'Snapping Layers' available a message will be displayed advising the User that no Network could be found within Tolerance (Figure 59). The User may then continue and create the Enquiry without a Network Location or choose to cancel the entire Create Enquiry process.

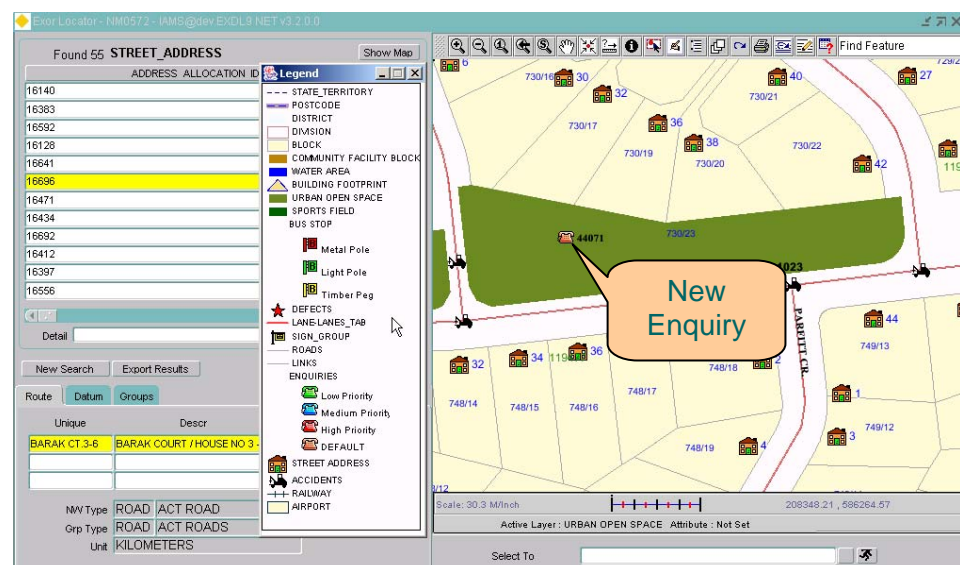
Figure 59



When the **[OK]** button is pressed to confirm the creation of the Enquiry, Locator will automatically call the **Maintain Enquiries – DOC0150** module allowing the remainder of the Enquiry details to be entered. The details of the Asset on which the Enquiry was raised, along with the Network details (if applicable) and the X and Y coordinates of the click point are automatically passed into the Enquiry records and displayed.

The Map window will automatically refresh and display the newly created Enquiry record as shown in Figure 60. The Enquiry Shown was raised against a 'Park' that is a Polygon feature held externally to the **Exor** database. This is an example of an Enquiry raised against a 'Foreign Table' Asset.

Figure 60



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Creating Defects

Send X,Y value to application
Send Multiple Points to application
Create Enquiry
Create Enquiry On Asset
Relocate Enquiry
Create Defects On Assets
Create Defects On Asset at X,Y
Create Defects on Network at X,Y

Defects may be created on the Network or against Assets directly from within the Locator Map window using the 'Create Defects ...' functions available on the 'Feature Edit Tool'.

Asset's against which Defects can be created, include Assets held within the **Exor** Database AND Assets Items held externally to **Exor** in other Asset Management applications. These external Assets must be modelled as 'External Asset Types' (refer to the Asset Management System Admin Guide for further information relating to External Assets functionality).

Defects may be raised against Assets that have a Network location or Assets that are not located. Assets that are not located are known as 'Off Network Assets'. In order to create Defects on 'Off Network Assets' the Asset Type must be assigned a Budget Allocation. This defines a Budget for Work carried out on Assets of this Type. Budget Allocations are defined using the **Budget Allocations - MAI3630** module (refer to the Maintenance Manager System Admin Guide for details relating to Budget Allocations for 'Off Network Assets').

Defects may also be created on hierarchical Assets. The defects can be created on either the parent asset or the child asset(s) as required.

This gives a User the ability search on ANY spatially enabled dataset and to visually display Defective Assets and generate Work Requests in a simple, efficient mapping interface.

The 'Create Defects...' Functions are only available if **Maintenance Manager by Exor** (product code MAI) is licensed and the current User has been granted either the **MAI_USER** or **MAI_ADMIN** Roles.

Three options relating to the creation of Defects are available: These are

- Create Defects On Assets
- Create Defects On Asset at X,Y
- Create Defects On Network at X,Y

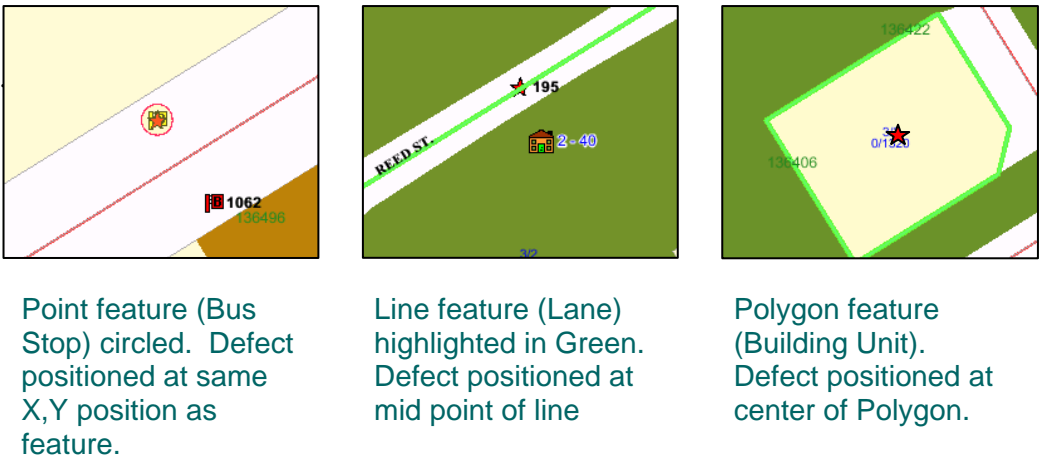
Create Defects On Assets

Create Defects On Assets

This option allows a single Defect to be created against an Asset. If multiple Assets are selected a separate Defect will be created for each. When Defects are created using this option the spatial position of the Defect is derived from the centroid of the associated Asset.

Figure 61 shows examples of Defects raised against Point, Line and Polygon Assets respectively (Defects are shown as Red Stars★).

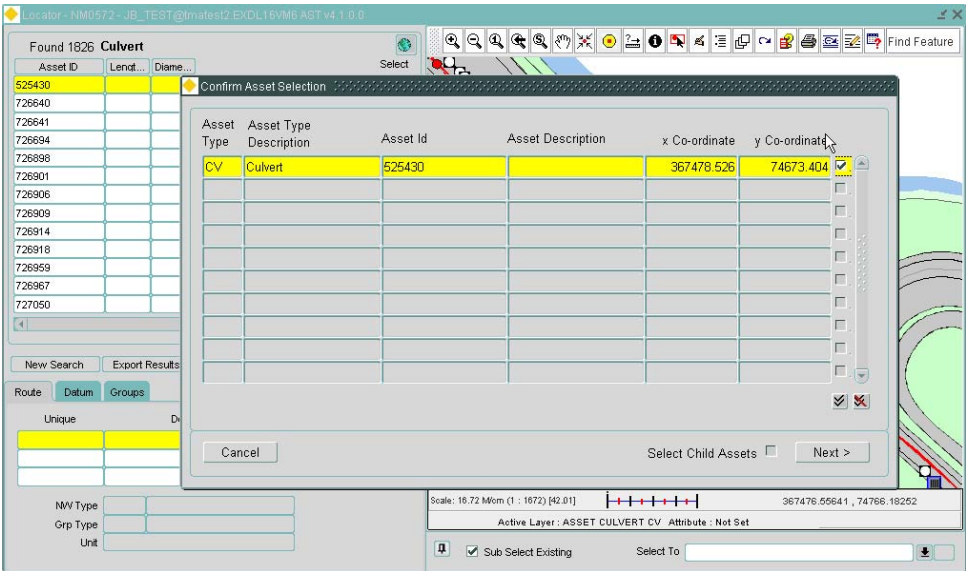
Figure 61



To Create a Defect on an Asset, the Asset(s) in question must firstly be selected. This can be done using the Locator Search functionality as described earlier in this section or by using the Navigation and Feature Selection tools available within the Map window. If a Locator Search is used to select and zoom to the required Asset(s), the Asset Layer will automatically be made the Active Layer. When selecting an Asset directly from the Map window the appropriate Asset Layer must be the Active Layer. This is done using the Layer Control Tool (page 42).

After selecting the Asset(s) on which the Defect(s) is to be created select the 'Create Defects On Assets' option from the 'Feature Edit Menu' Tool. This will call a form displaying details of the selected Assets (Figure 62) that allows the User to confirm their selection prior to raising Defects. If an Asset Item has been selected erroneously it may be de-selected by unchecking the record selection flag on the right hand side of the form. Only Assets that are flagged as 'selected' will have Defects raised against them.

Figure 62



The following Asset Details are displayed on the 'Confirm Asset Selection' window:

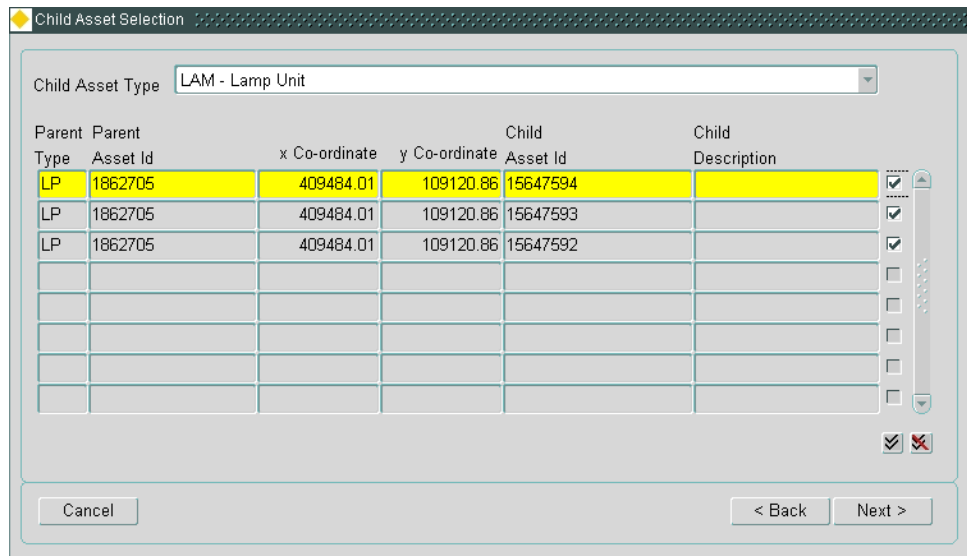
- Asset Type Code
- Asset Type Description
- Asset Id (Primary Key)
- Asset Item Description
- X and Y coordinates of the Item centroid position
- Select Child Assets checkbox

Create Defects On Hierarchical Assets

If a hierarchical asset is selected the 'Select Child Asset' checkbox will be available, if the checkbox is selected the window will be displayed in figure 4. This allows the user to select the child asset type from a picklist, once selected, all child assets of the selected type for the parent asset will be displayed in the window. The user may now choose to log a defect on one or more of the child assets by selecting the checkbox indicating the required child asset.

Select the **[Next>]** button will take the user to the Defect Details window. If multiple child assets are selected one defect with its associated repairs will be created for each child asset.

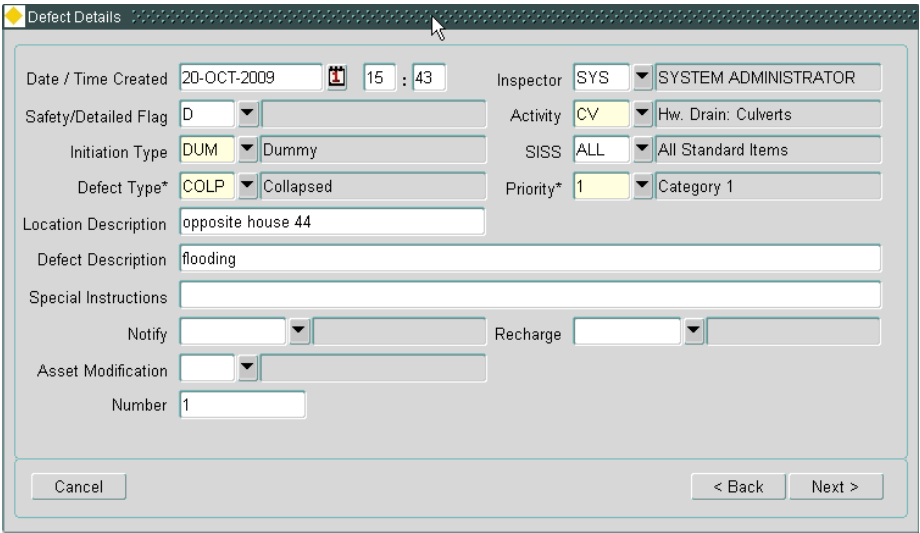
Figure 63



Parent Type	Parent Asset Id	x Co-ordinate	y Co-ordinate	Child Asset Id	Child Description	
LP	1862705	409484.01	109120.86	15647594	15647594	<input checked="" type="checkbox"/>
LP	1862705	409484.01	109120.86	15647593	15647593	<input checked="" type="checkbox"/>
LP	1862705	409484.01	109120.86	15647592	15647592	<input checked="" type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>

To continue the process of raising Defects against the selected Assets press the **[Next >]** button or **[Cancel]** to abandon the operation.

Figure 64



A new window (Figure 64) will be displayed allowing the Defect details to be entered. To abandon the Defect creation process press the **[Cancel]** button.

To reselect the Assets on which to create the Defects press the **[< Back]** button.

Note

When defects are created on multiple assets or child assets, the defect/repairs/BOQ's created will be identical for each selected asset although the defect id will be unique for each defect created.

One inspection batch will be created with an inspection record for each defect/asset combination.

Date / Time Created	(Default)	
The current system date and time will be populated. These may be amended if required.		
Inspector	(Default)	List
The current users initials will be displayed. These may be amended if the defect is being located on behalf of another user.		
Safety/Detailed Flag	(Default)	List
Enter either S-Safety or D-Detailed to indicate the type of inspection. The default value will depend on the value set in the product option INSP_SDF .		
Activity	(Required)	List
Select the appropriate 'Activity' from the list provided. Only the Activities associated with the selected Asset Type will be available for selection. Activities and Asset Types are associated using Asset Activities – MAI3632 (refer to the Maintenance Manager System Admin Guide).		
Initiation Type	(Required)	List
This is the Initiation Type used for the related Inspection record created for the Defect. The default value is defined using Product Option INSP_INIT . This must contain a valid value as defined for the INITIATION_TYPE Domain using Domains - HI9120 (refer to the General System Admin Guide).		

SISS Code	List
------------------	-------------

If required, enter a SISS code (Standard Item Sub-Section). The default value is defined using Product Option **DEF_SISS**. Standard Items and Standard Item Sub-Sections are maintained using **Standard Item Sections and Sub-Sections - MAI3886** (refer to the Maintenance Manager System Admin Guide).

Defect Type	(Required)	List
--------------------	-------------------	-------------

Select the appropriate 'Defect Type' from the list provided. Only those Defect Types associated with the previously selected 'Activity' will be available for selection. Defects and Activities are associated using **Defect Control Data - MAI1300** (refer to the Maintenance Manager System Admin Guide).

Priority	(Required)	List
-----------------	-------------------	-------------

Select a 'Defect Priority' from the list provided. Only those Defect Priorities associated with the previously selected 'Activity' will be available for selection. The Priority selected will be used to generate a Target Date for the Defect Repair, which is displayed in the bottom right hand corner of the Defect Details window. Defect Priorities and Activities are associated using **Defect Priorities - MAI3812** (refer to the Maintenance Manager System Admin Guide).

Location Description

If required, enter a description for the Location of the Defect. A maximum of 40 characters is allowed.

XSP

If appropriate, select a Cross Sectional Position for the Defect.

Defect Description

A description of the Defect may be entered if required. A maximum of 240 characters is allowed.

Special Instructions

If required, enter any additional instructions or comments relating to the defect. A maximum of 254 characters is allowed.

Notify	(Optional)	List
---------------	-------------------	-------------

Enter the Notifyable organisation. These will have been entered using **Organisations - MAI1870** with a Type of **NO - Notifyable**.

Notifyable organisations visible will be both those that are in the Admin Unit of the Section selected and those Organisations that have a top level Admin Unit. This allows both local and global organisations to be set up and used.

Recharge	(Optional)	List
-----------------	-------------------	-------------

Enter the Rechargeable organisation. These will have been entered using **Organisations - MAI1870** with a Type of **RE - rechargeable**.

Rechargeable Organisations visible will be both those that are in the Admin Unit of the Section selected and those Organisations that have a top level

Admin Unit. This allows both local and global organisations to be set up and used.

Asset Modification

List

An Asset Modification Flag may be set for the Defect Repair. This allows an indicator to be set to signify that the affected Asset has been 'Replaced', 'Renewed' or 'Repaired' for example. This is useful when carrying out Asset Valuations. The list of Asset Modification Flags is maintained using **Domains – HIG1920** and updating Domain name **ASSET_MODIFICATION** (refer to the General System Admin Guide for information relating to System Domains).

Flexible Defect Attributes

If any Attributes have been defined for the selected Defect Type using **Defect Control Data – MAI1300**, these will be displayed at the bottom of the Defect Details window.

Select the **[Next>]** button to add the required repair details for the selected defect.

Defect Repairs

Repairs will allow the user to enter multiple repairs for each defect providing the appropriate repairs have been set up using **Defect Priorities – MAI3812**.

The following repairs may be available:

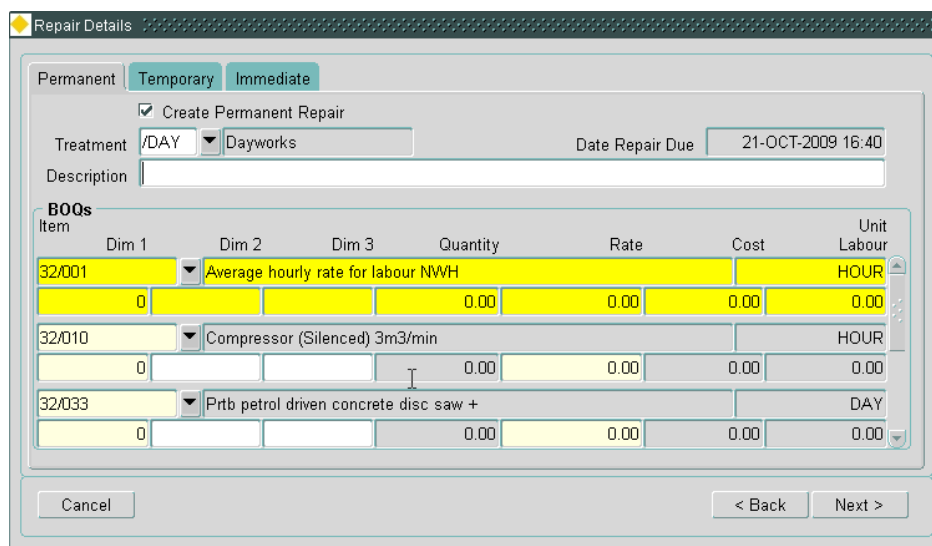
- Immediate
- Temporary
- Permanent

Where appropriate, once a repair has been entered the BOQs will be automatically populated using the appropriate treatment model as set up in **Treatment Models – MAI3814**.

Note that if multiple repairs are required they must all be entered before selecting the [Next>] button.

The repairs step now has the following three tabs to allow the user to enter the repair details.

Figure 65



Repair Details

Permanent Temporary Immediate

☒ Create Permanent Repair

Treatment /DAY Dayworks Date Repair Due 21-OCT-2009 16:40

Description

BOQs Item	Dim 1	Dim 2	Dim 3	Quantity	Rate	Cost	Unit Labour
32/001				0.00	0.00	0.00	Hour
Average hourly rate for labour NVH							
32/010				0.00	0.00	0.00	Hour
Compressor (Silenced) 3m3/min							
32/033				0.00	0.00	0.00	Day
Prtb petrol driven concrete disc saw +							

Cancel < Back Next >

Permanent Repair

This tab allows the user to associate a permanent repair and its associated BOQ items to the selected Defect.

Create Permanent Repair Default ☐

This will default to be checked when the tab is entered.

Treatment List

Enter the Treatment that is associated with the selected Activity / Defect combination. These values are set up and maintained using **Treatment Data - MAI1315**.

Date Repair Due

Default

The date the permanent repair is due will be displayed, this will depend on the priority that has been set using *Defect Priorities – MAI3812*. This date will change if a temporary repair is also entered and the product option *REPSETPERD or REPSETPERL* have been set to ‘Y’.

Description

Optional

Enter the description of the permanent repair.

BOQ's

Optional

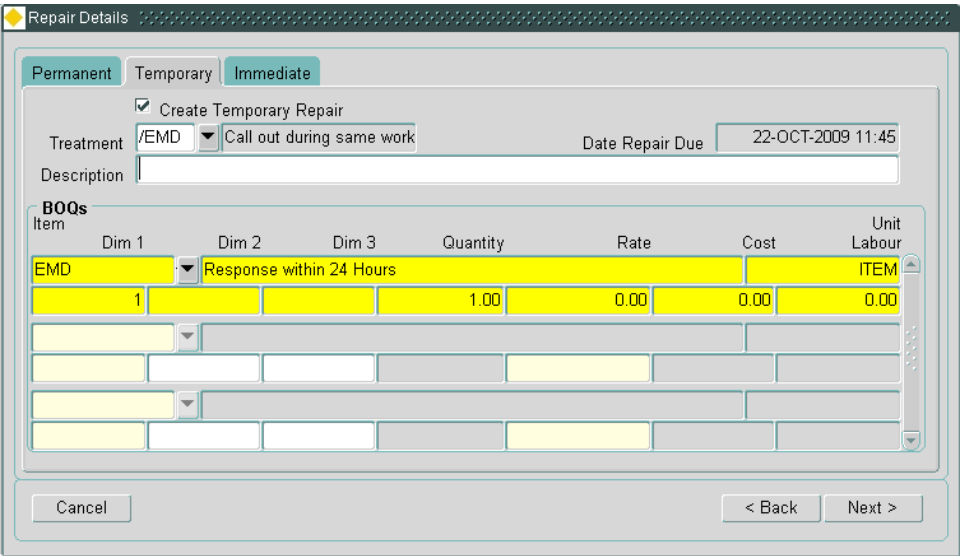
The BOQ's for the selected permanent repair can be entered with their appropriate dimensions.

If treatment models are being used the BOQ's will be automatically populated, these BOQ items can be amended, removed using **[Delete Record]** or added to using **[Create Record]**.

Selecting the **[<Back]** button will return you to the Defect Details window. Selecting the **[Next>]** button will take you to the Defect Created window.

Note that if the [Cancel] button is pressed the entire Defect creation process will be cancelled and no Defects will be created.

Figure 66



Item	Dim 1	Dim 2	Dim 3	Quantity	Rate	Cost	Unit Labour
EMD				1.00	0.00	0.00	0.00

Temporary Repair

This tab allows the user to associate a temporary repair and its associated BOQ items to the selected Defect.

This tab will only be available if a temporary repair has been associated with the selected activity using *Defect Priorities – MAI3812*.

Create Temporary Repair

Checkbox

This checkbox will automatically populate as the user starts to enter repair details.

Treatment**List**

Enter the Treatment that is associated with the selected Activity / Defect combination. These values are set up and maintained using **Treatment Data - MAI1315**.

Date Repair Due**Default**

The date the temporary repair is due will be displayed, this will depend on the priority that has been set using **Defect Priorities – MAI3812**.

Description**Optional**

Enter the description of the temporary repair.

BOQ's**Optional**

The BOQ's for the selected temporary repair can be entered with their appropriate dimensions.

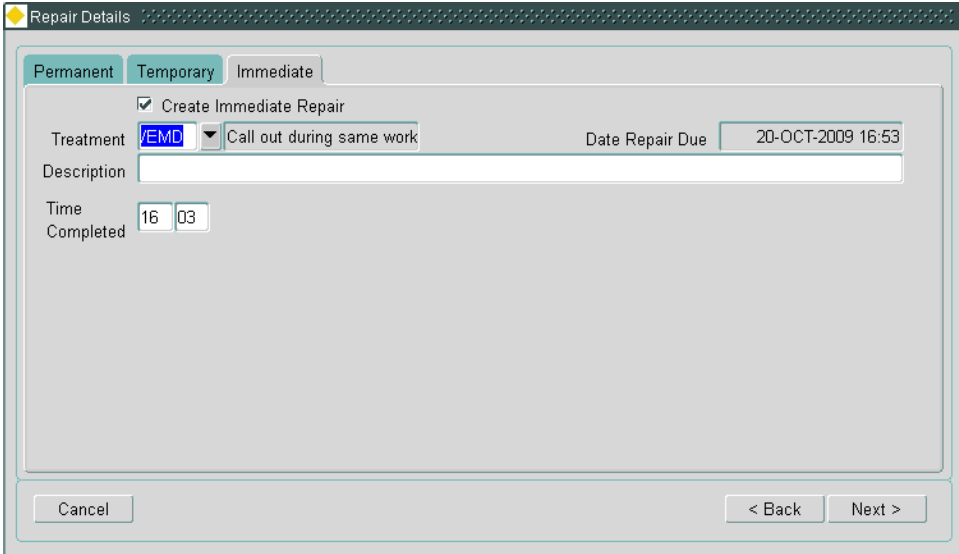
If treatment models are being used the BOQ's will be automatically populated, these BOQ items can be amended, removed using **[Delete Record]** or added to using **[Create Record]**.

Selecting the **[<Back]** button will return you to the Defect Details window.

Selecting the **[Next>]** button will take you to the Defect Created window.

Note that if the [Cancel] button is pressed the entire Defect creation process will be cancelled and no Defects will be created.

Figure 67



Immediate Repair

This tab allows the user to associate an immediate repair to the selected Defect.

This tab will only be available if an immediate repair has been associated with the selected activity using **Defect Priorities – MAI3812**.

Create Immediate Repair

Checkbox

This checkbox will automatically populate as the user starts to enter repair details.

Treatment

List

Enter the Treatment that is associated with the selected Activity / Defect combination. These values are set up and maintained using **Treatment Data – MAI1315**.

Date Repair Due

Default

The date the immediate repair is due will be displayed, this will depend on the priority that has been set using **Defect Priorities – MAI3812**.

Description

Optional

Enter the description of the immediate repair.

Time Completed

Required

Enter the time the immediate repair was carried out. The **[Next>]** button is inactive until a time has been entered and the user has tabbed out of the field.

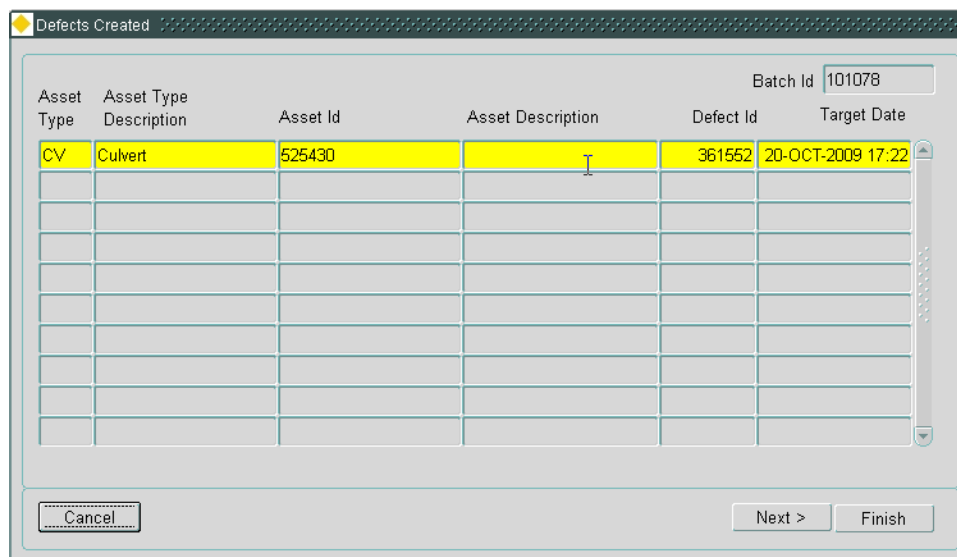
Selecting the **[<Back]** button will return you to the Defect Details window.

Selecting the **[Next>]** button will take you to the Defect Created window.

Note that if the [Cancel] button is pressed the entire Defect creation process will be cancelled and no Defects will be created.

To continue creating the Defects, press **[Next >]**.

Figure 68



Asset Type	Asset Description	Asset Id	Asset Description	Defect Id	Target Date
CV	Culvert	525430		361552	20-OCT-2009 17:22

The following Defect Summary details are displayed:

- Inspection Batch Id
- Asset Type Code and Description
- Asset Item Id (Primary Key)
- Asset Item Description
- Defect Id
- Target repair Date and Time (minimum repair date due indicator)

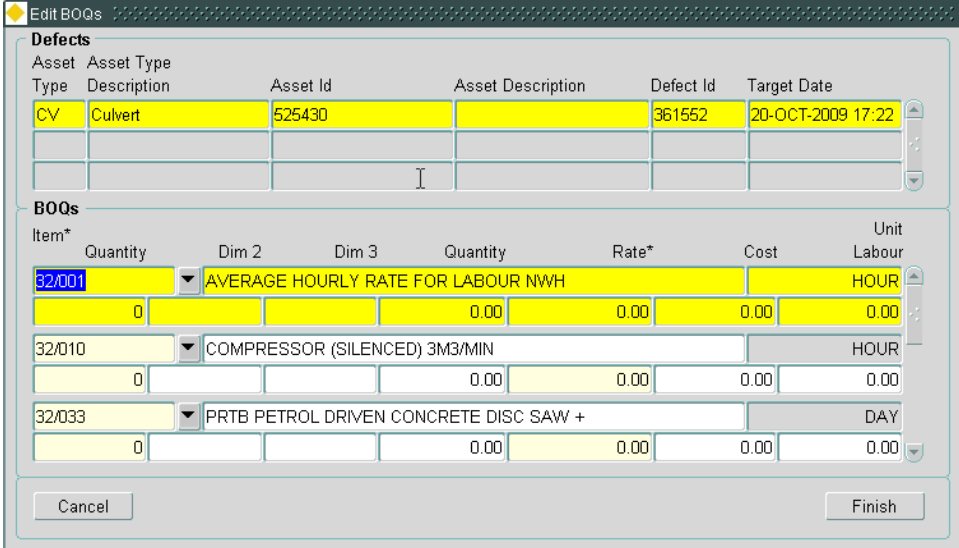
Note that a separate Inspection Record is created for each Asset / Defect for the batch identified.

To cancel the Defect creation process press **[Cancel]**, no defects will be created.

To create the Defect(s) without editing the BOQ's for an individual Defect press **[Finish]**.

The BOQ items for individual Defects can be changed by pressing the **[Next >]** button. This will display the **Edit BOQ's** window (Figure 69).

Figure 69



Asset Type	Asset Description	Asset Id	Asset Description	Defect Id	Target Date
CV	Culvert	525430		361552	20-OCT-2009 17:22

Item*	Quantity	Dim 2	Dim 3	Quantity	Rate*	Cost	Unit Labour
32/001	0			0.00	0.00	0.00	HOUR
32/010	0			0.00	0.00	0.00	HOUR
32/033	0			0.00	0.00	0.00	DAY

The **Edit BOQ's** window allows Bill of Quantity Items to be amended for individual defects. This is useful if Treatment Models have been used and the defect repairs differ from the standard treatment, or where Treatment Models are not in use and BOQ Items and quantities need to be added for a Defect before it is placed on a Works Order.

The Window is divided into 2 panels. The top panel displays each of the Defects being created. The following details are displayed for each Defect.

- Asset Type Code and Description
- Asset Id (Primary key)
- Asset Description
- Defect Id
- Target Repair Date

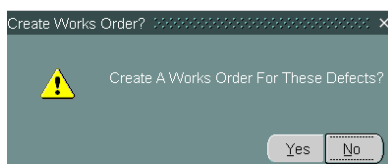
The bottom panel allows BOQ Items to be added/removed, quantities changed etc for the selected Defect.

Once all required BOQ's are correct press the **[Finish]** button to create the Defects

Note that if the [Cancel] button is pressed the entire Defect creation process will be cancelled and no Defects will be created.

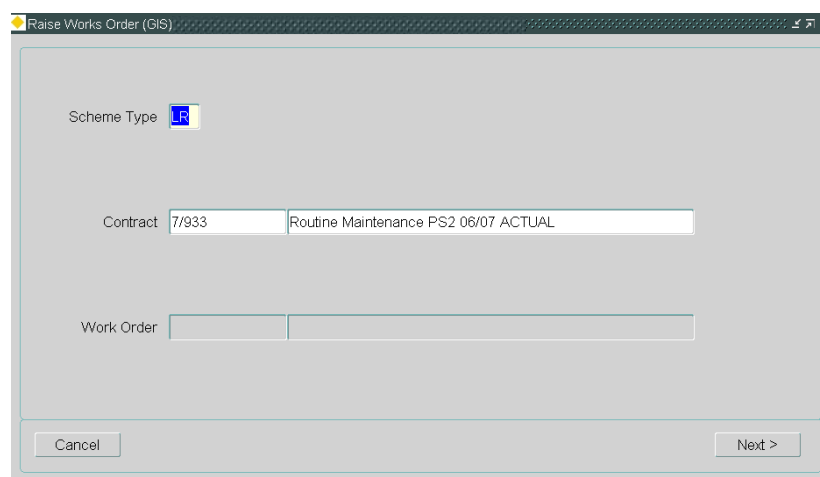
At the end of the Defect creation process a message will be displayed, offering the option to raise a Works Order to include the Defects just raised. To raise a Work Order press **[Yes]** or **[No]** to finish the entire process.

Figure 70



If a Works Order is to be raised the Form shown in Figure 71 will be displayed.

Figure 71



The Raise Works Order form allows the required Scheme Type and Works Order Contract to be selected.

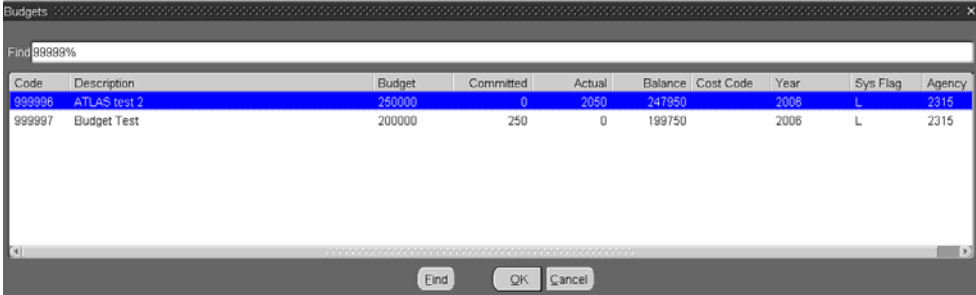
Scheme Type	(Default)	List
<p>This is the Scheme Type for the Work Order. The default value is determined by the value set for Product Option DEFSCHTYPL or DEFSCHTYPD (depending on the System Flag set for the Section or Budget Allocation Group on which the Defect is raised). The default value may only be updated if product option DEFSCHTYPU is set to 'Y'</p>		

Contract	(Default)	List
<p>This is the Contract used within the Work Order. The default value is determined by the value set for product Option DUMCONCODE. Once the appropriate Contract has been selected press the [Next] Button.</p>		

Work Order
<p>If Product Option WORREFGEN Is set to M – manual, the Work Order Number and Description should be entered. If set to C- Contract based or A – Admin Unit based the work order number will be automatically generated when the [Next >] button is pressed and a valid Budget is selected.</p>

If Multiple Budgets exist for the defect Activity/Scheme Type/Section or Budget Allocation Group combinations, a list will be displayed from which to select the required Budget.

Figure 72

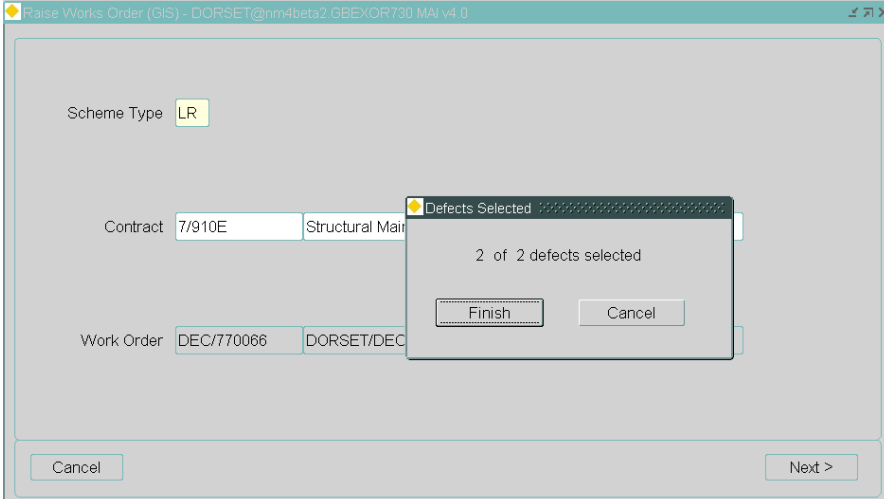


Code	Description	Budget	Committed	Actual	Balance	Cost Code	Year	Sys Flag	Agency
999996	ATLAS test 2	250000	0	2050	247950		2006	L	2315
999997	Budget Test	200000	250	0	199750		2006	L	2315

Once a Budget has been selected the Number of Defects added to the Work Order will be displayed in a pop-up dialogue. Press **[Finish]** to create the Work Order

Note that not all the selected Defects may be added to a Work Order. This may be caused by one of more of the Defects not matching the selected Budget due to differences in the associated Activity Code or Road Group for example. If both a Permanent and Temporary repair have been created the message will read '2 of 1 defects selected' indicating the above. If one repair is not required in this work order it may be removed so it can be added to another work order at a later date.

Figure 73



Scheme Type:

Contract: Structural Main

Work Order: DORSET/DEC

Defects Selected: 2 of 2 defects selected

Finish Cancel

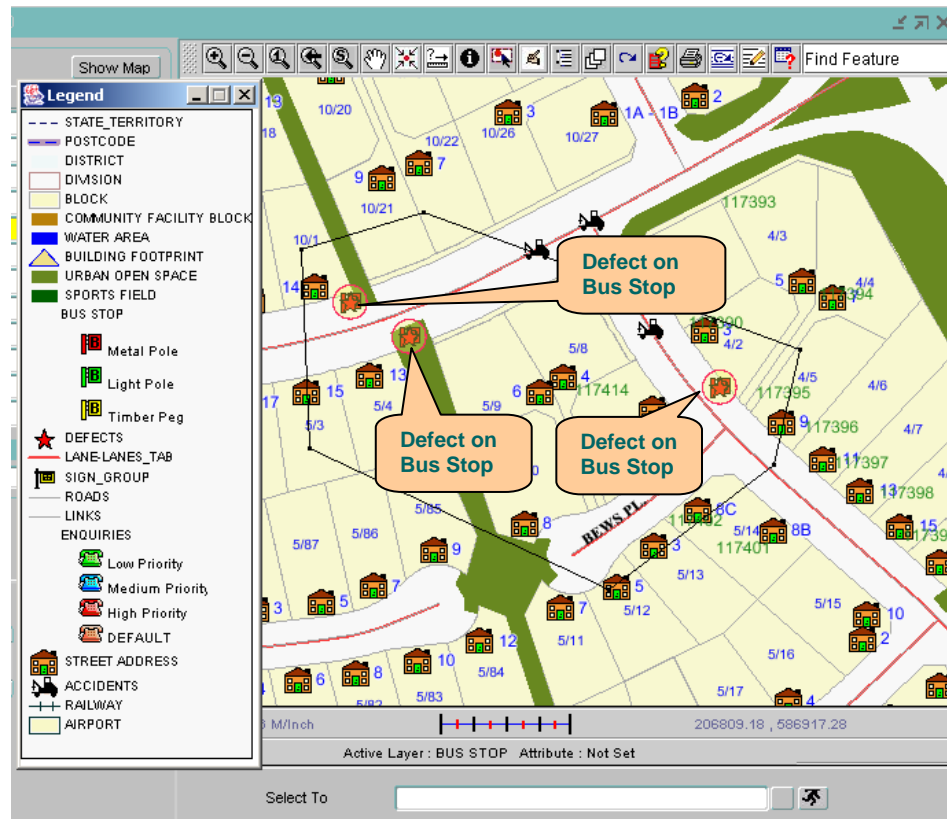
Cancel Next >

When the **[Finish]** button is pressed the **Work Order (Defects) – MAI3800** module will be called and the Work Order will be displayed.

The Map window will be automatically refreshed and the newly created Defects will be displayed.

Figure shows an example where 3 Defects have been created against 3 separate Bus Stops. The Defects are indicated by a Red Star ★

Figure 74



To view the full details of a Defect or set of Defects make the Defects Layer the Active Layer using the Layer Control Tool select the required Defects as described earlier and call the **Defects – MAI3806** module from the 'Select To' list at the bottom of the Locator Map window. This will call the Defects module and display full details of the selected Defects.

Calling standard **Exor** Modules is described on page 82 .

Create Defects On Asset at X,Y

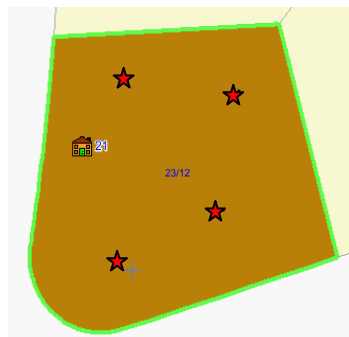
Create Defects On Asset at X, Y

This option allows the creation of multiple Defects against a single selected Asset. Defects created using this option are associated with the selected Asset but are located at the X,Y position at which the User clicks and not at the centre of the selected Asset as is the case when using the 'Create Defects On Assets' option previously described.

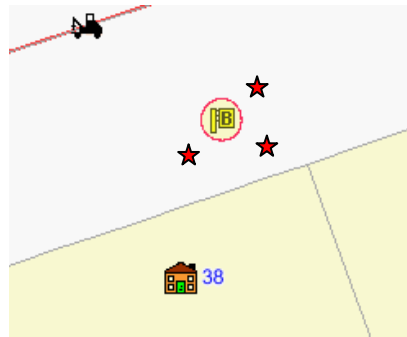
This is useful when creating Defects or Work Requests at known locations within a Park or Land Parcel or creating Defects adjacent to but not coincident with a Bus Stop or Guard Rail etc. Figure shows examples of Defects created at XY locations (shown as Red Stars★) within a Park (polygon feature) and adjacent to a Bus Stop (point feature) respectively.

Note that no tolerance or validation is considered when creating Defects using this option. Therefore Defects may be created at any distance from the selected Asset or created outside the boundary of a selected polygon feature.

Figure 75



Defects created against a Park and located within the park (polygon feature) highlighted in Green.



Defects created against a Bus Stop and located adjacent to the Bus Stop (point feature) circled in red.

To Create Defects on an Asset at XY, the Asset in question must firstly be selected. This can be done using the Locator Search functionality as described earlier in this section or by using the Navigation and Feature Selection tools available within the Map window. If a Locator Search is used to select and zoom to the required Asset(s), the Asset Layer will automatically be made the Active Layer. When selecting an Asset directly from the Map window the appropriate Asset Layer must be the Active Layer. This is done using the Layer Control Tool (page 42).

After selecting the Asset on which the Defects are to be created, select the 'Create Defects On Assets at XY' option from the 'Feature Edit Menu' Tool. Click the left mouse button at each of the appropriate XY locations for the Defects. A 'dot' will be displayed at each 'click point' to indicate the position at which the Defect will be created. To complete the creation of the Defects against the Asset, Click the Right mouse button. The Confirm Asset Selection and Defect Details window will be called as described on page 55 to allow the defect details to be entered.

Create Defects on Network at X,Y

Create Defects On Network at X, Y

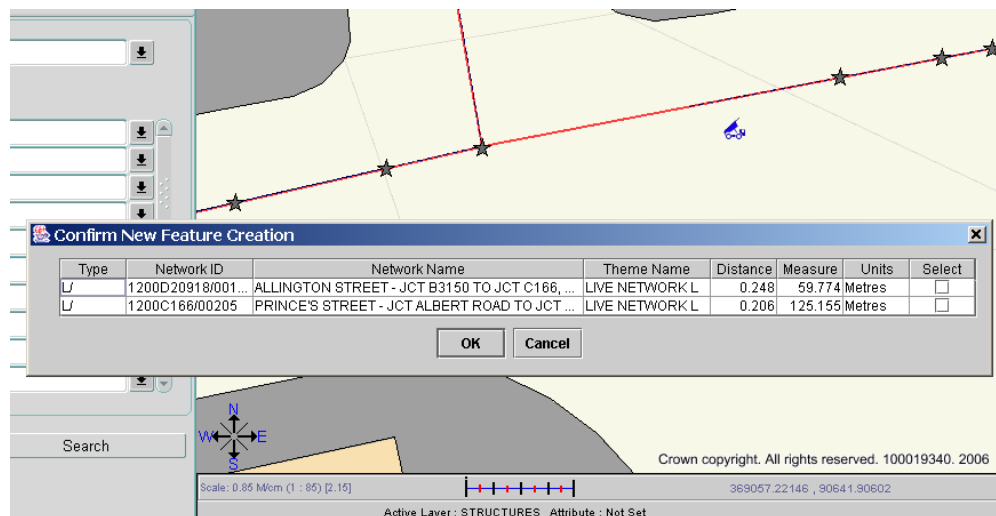
This option allows a Defect to be created on a Network Section, by clicking at the appropriate location on the map.

To create a Defect on the network, firstly navigate to the appropriate map extent using the Locator Search facilities, described earlier in this section, the Map window Navigation tools or a combination of both.

Select the 'Create Defects on Network at X,Y' function from the 'Feature Edit' menu. The mouse cursor will change to a 'cross hair'. To create the Defect, click on the required location within the Map window.

The system will attempt to derive a Network location by snapping to an available Layer. Only the visible Layers (defined within the Layer Control tool) which have been defined as 'Snapping Layers' for the Defect theme (in **GIS Themes – GIS0010**) will be used by this 'snapping' process. A list of all Network Elements (Datum's or Groups) within a defined snapping tolerance (defined in **GIS Themes – GIS0010**) from the Visible Active Layers, is displayed to allow the User to select the appropriate Network element to which to Snap and derive its location. An example is shown in Figure .

Figure 76

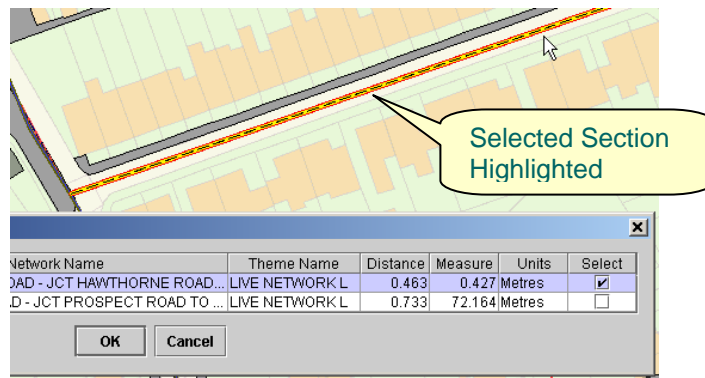


The following details are displayed within the 'Confirm New Feature Creation' window.

- Network/ Group Type of Element
- Element Name
- Element Description
- Theme or Layer name of snapping theme
- Perpendicular distance to the Element from the click position
- Offset measure along the Element at the 'snapping' point
- Units of measurements

Each Section within the List may be 'highlighted' on the Map in turn by checking the 'Select' option. This allows the User to select the correct Section on which to create the Defect (Figure).

Figure 77

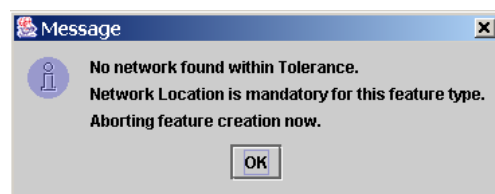


To create the Defect on the selected Network press the **[OK]** button.

To cancel the entire Defect Creation process press the **[Cancel]** button.


If the position at which the User Clicks to create the Defect on the Network is outside the Tolerance set an error message will be displayed. Acknowledge the message by pressing the **[OK]** button and re-select the 'Create Defects on network at X,Y ' option if the Defect is still required.

Figure 78



When the correct position for the Defect on the Network has been selected the 'Confirm Network Selection' window (Figure) will be displayed. If the incorrect Section has been selected press **[Cancel]** otherwise press **[Next >]** to continue with the defect creation process.

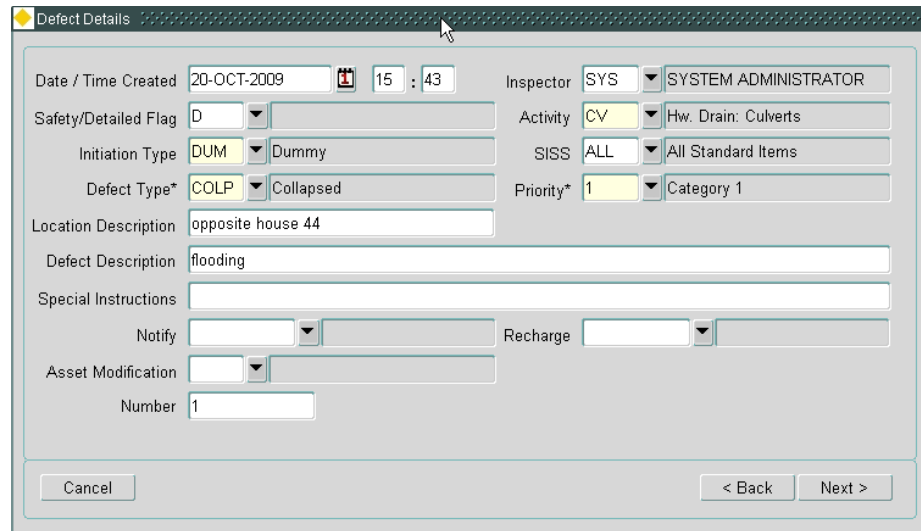
Figure 79



The following Details are displayed on the 'Confirm Network Selection' window:

- Network Type and Description
- Section Name and Description
- Section Admin Unit
- X and Y coordinates of the 'defect'

Figure 80



A window (Figure) will be displayed allowing the Defect details to be entered. To abandon the Defect creation process press the **[Cancel]** button.

To return to the Confirm Network Selection window press the **[< Back]** button.

Date / Time Created (Default)

The current system date and time will be populated. These may be amended if required.

Inspector (Default) List

The current users initials will be displayed. These may be amended if the defect is being located on behalf of another user.

Safety/Detailed Flag (Default) List

Enter either S-Safety or D-Detailed to indicate the type of inspection. The default value will depend on the value set in the product option **INSP_SDF**.

Activity (Required) List

Select the appropriate 'Activity' from the list provided. Activities are set up using **Activities – MAI1200** (refer to the Maintenance Manager System Admin Guide).

Initiation Type (Required) List

This is the Initiation Type used for the related Inspection record created for the Defect. The default value is defined using Product Option **INSP_INIT**.

This must contain a valid value as defined for the **INITIATION_TYPE** Domain using **Domains - HI9120** (refer to the General System Admin Guide).

SISS Code

List

If required, enter a SISS code (Standard Item Sub-Section). The default value is defined using Product Option **DEF_SISS**. Standard Items and Standard Item Sub-Sections are maintained using **Standard Item Sections and Sub-Sections - MAI3886** (refer to the Maintenance Manager System Admin Guide).

Defect Type

(Required)

List

Select the appropriate 'Defect Type' from the list provided. Only those Defect Types associated with the previously selected 'Activity' will be available for selection. Defects and Activities are associated using **Defect Control Data - MAI1300** (refer to the Maintenance Manager System Admin Guide).

Priority

(Required)

List

Select a 'Defect Priority' from the list provided. Only those Defect Priorities associated with the previously selected 'Activity' will be available for selection. The Priority selected will be used to generate a Target Date for the Defect Repair, which is displayed in the bottom right hand corner of the Defect Details window. Defect Priorities and Activities are associated using **Defect Priorities - MAI3812** (refer to the Maintenance Manager System Admin Guide).

Location Description

If required, enter a description for the Location of the Defect. A maximum of 40 characters is allowed.

XSP

If appropriate, select a Cross Sectional Position for the Defect.

Defect Description

A description of the Defect may be entered if required. A maximum of 240 characters is allowed.

Special Instructions

If required, enter any additional instructions or comments relating to the defect. A maximum of 254 characters is allowed.

Notify

(Optional)

List

Enter the Notifiable organisation. These will have been entered using **Organisations - MAI1870** with a Type of NO - Notifiable. Notifiable organisations visible will be both those that are in the admin unit of the section selected and those organisations that have a top level admin unit. This allows both local and global organisations to be set up and used.

Recharge

(Optional)

List

Enter the Rechargeable organisation. These will have been entered using **Organisations - MAI1870** with a Type of RE - rechargeable. Rechargeable organisations visible will be both those that are in the admin unit of the section selected and those organisations that have a top level

admin unit. This allows both local and global organisations to be set up and used.

Asset Modification

List

An Asset Modification Flag may be set for the Defect Repair. This allows an indicator to be set to signify that the affected Asset has been 'Replaced', 'Renewed' or 'Repaired' for example. This is useful when carrying out Asset Valuations. The list of Asset Modification Flags is maintained using **Domains – HIG1920** and updating Domain name **ASSET_MODIFICATION** (refer to the General System Admin Guide for information relating to System Domains).

Flexible Defect Attributes

If any Attributes have been defined for the selected Defect Type using **Defect Control Data – MAI1300**, these will be displayed at the bottom of the Defect Details window.

Select the **[Next>]** button to add the required repair details for the selected defect.

Defect Repairs

Repairs will allow the user to enter multiple repairs for each defect providing the appropriate repairs have been set up using **Defect Priorities – MAI3812**. The following repairs may be available:

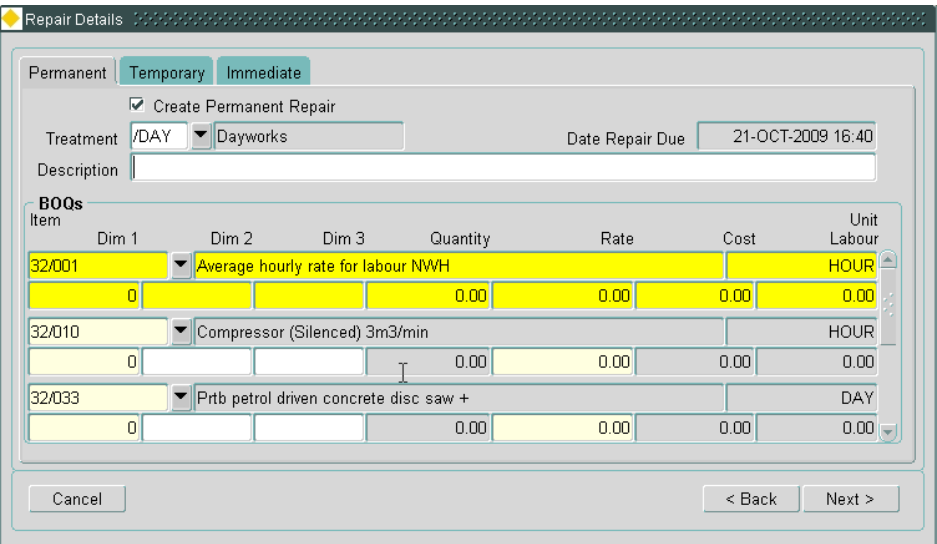
- Immediate
- Temporary
- Permanent

Where appropriate, once a repair has been entered the BOQs will be automatically populated using the appropriate treatment model as set up in **Treatment Models – MAI3814**.

Note that if multiple repairs are required they must all be entered before selecting the [Next>] button.

The repairs step now has the following three tabs to allow the user to enter the repair details.

Figure 81



Item	Dim 1	Dim 2	Dim 3	Quantity	Rate	Cost	Unit Labour
32/001				0.00	0.00	0.00	Hour
32/010				0.00	0.00	0.00	Hour
32/033				0.00	0.00	0.00	Day

Permanent Repair

This tab allows the user to associate a permanent repair and its associated BOQ items to the selected Defect.

Create Permanent Repair **Default** **Checkbox**

This will default to be checked when the tab is entered.

Treatment **List**

Enter the Treatment that is associated with the selected Activity / Defect combination. These values are set up and maintained using **Treatment Data - MAI1315**.

Date Repair Due

Default

The date the permanent repair is due will be displayed, this will depend on the priority that has been set using **Defect Priorities – MAI3812**. This date will change if a temporary repair is also entered and the product option **REPSETPERD or REPSETPERL** have been set to 'Y'.

Description

Optional

Enter the description of the permanent repair.

BOQ's

Optional

The BOQ's for the selected permanent repair can be entered with their appropriate dimensions.

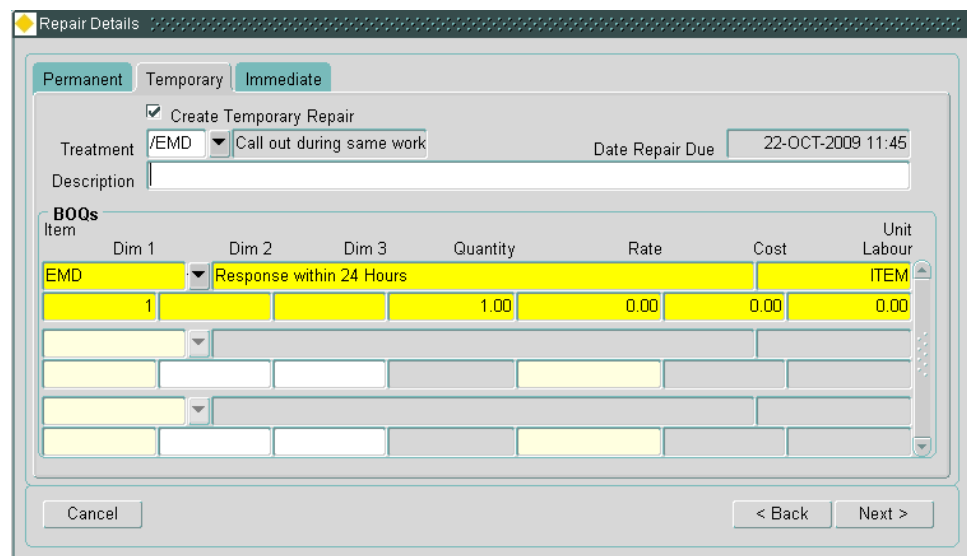
If treatment models are being used the BOQ's will be automatically populated, these BOQ items can be amended, removed using **[Delete Record]** or added to using **[Create Record]**.

Selecting the **[<Back]** button will return you to the Defect Details window.

Selecting the **[Next>]** button will take you to the Defect Created window.

Note that if the [Cancel] button is pressed the entire Defect creation process will be cancelled and no Defects will be created.

Figure 82



Temporary Repair

This tab allows the user to associate a temporary repair and its associated BOQ items to the selected Defect.

This tab will only be available if a temporary repair has been associated with the selected activity using **Defect Priorities – MAI3812**.

Create Temporary Repair

Checkbox

This checkbox will automatically populate as the user starts to enter repair details.

Treatment**List**

Enter the Treatment that is associated with the selected Activity / Defect combination. These values are set up and maintained using **Treatment Data - MAI1315**.

Date Repair Due**Default**

The date the temporary repair is due will be displayed, this will depend on the priority that has been set using **Defect Priorities – MAI3812**.

Description**Optional**

Enter the description of the temporary repair.

BOQ's**Optional**

The BOQ's for the selected temporary repair can be entered with their appropriate dimensions.

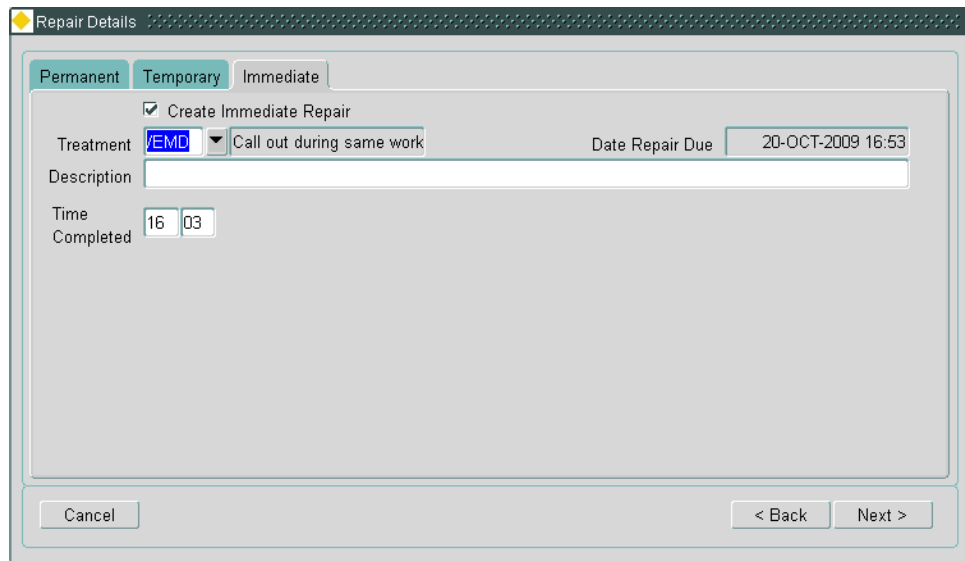
If treatment models are being used the BOQ's will be automatically populated, these BOQ items can be amended, removed using **[Delete Record]** or added to using **[Create Record]**.

Selecting the **[<Back]** button will return you to the Defect Details window.

Selecting the **[Next>]** button will take you to the Defect Created window.

Note that if the [Cancel] button is pressed the entire Defect creation process will be cancelled and no Defects will be created.

Figure 83



Immediate Repair

This tab allows the user to associate an immediate repair to the selected Defect.

This tab will only be available if an immediate repair has been associated with the selected activity using **Defect Priorities – MAI3812**.

Create Immediate Repair

Checkbox

This checkbox will automatically populate as the user starts to enter repair details.

Treatment

List

Enter the Treatment that is associated with the selected Activity / Defect combination. These values are set up and maintained using **Treatment Data - MAI1315**.

Date Repair Due

Default

The date the immediate repair is due will be displayed, this will depend on the priority that has been set using **Defect Priorities – MAI3812**.

Description

Optional

Enter the description of the immediate repair.

Time Completed

Required

Enter the time the immediate repair was carried out. The **[Next>]** button is inactive until a time has been entered and the user has tabbed out of the field.

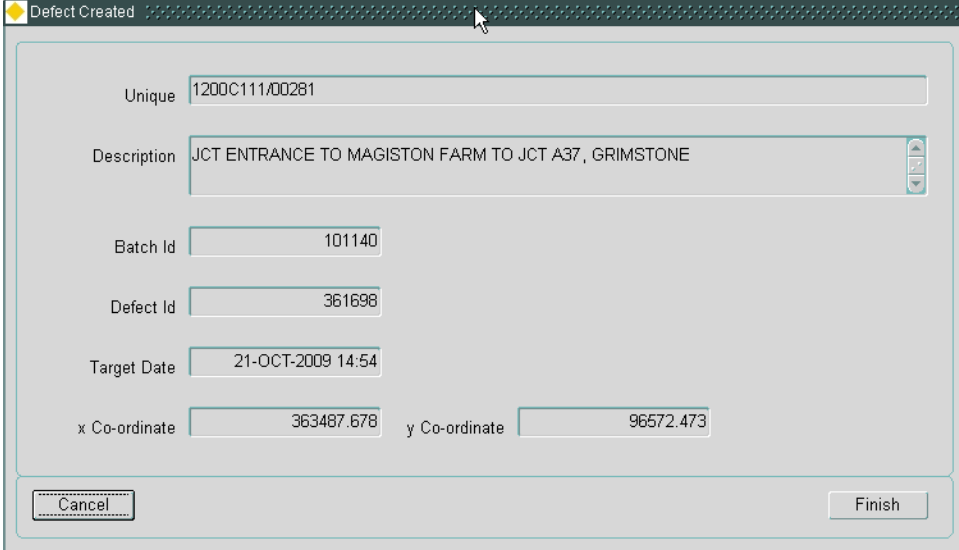
Selecting the **[<Back]** button will return you to the Defect Details window.

Selecting the **[Next>]** button will take you to the Defect Created window.

Note that if the [Cancel] button is pressed the entire Defect creation process will be cancelled and no Defects will be created.

To continue creating the Defects, press **[Next >]**.

Figure 84



A screenshot of a 'Defect Created' dialog box. The dialog has a title bar with a yellow diamond icon and the text 'Defect Created'. Inside, there are several input fields: 'Unique' with the value '1200C111/00281', 'Description' with the text 'JCT ENTRANCE TO MAGISTON FARM TO JCT A37, GRIMSTONE', 'Batch Id' with '101140', 'Defect Id' with '361698', 'Target Date' with '21-OCT-2009 14:54', 'x Co-ordinate' with '363487.678', and 'y Co-ordinate' with '96572.473'. At the bottom, there are two buttons: 'Cancel' on the left and 'Finish' on the right.

The following Defect Summary details are displayed:

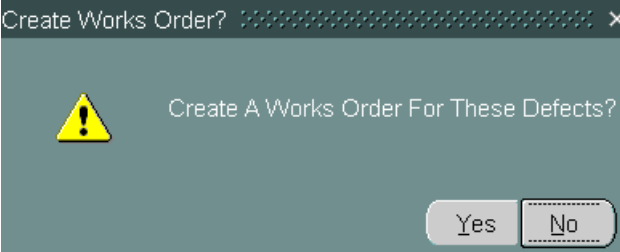
- Section Name and Description
- Inspection batch Id
- Defect Id
- Target Repair Date
- X and Y coordinates of the Defect

Note that if the [Cancel] button is pressed the entire Defect creation process will be cancelled and no Defects will be created.

To create the Defect press **[Finish]**.

At the end of the Defect creation process a message will be displayed, offering the option to raise a Works Order to include the Defects just raised. To raise a Work Order press **[Yes]** or **[No]** to finish the entire process.

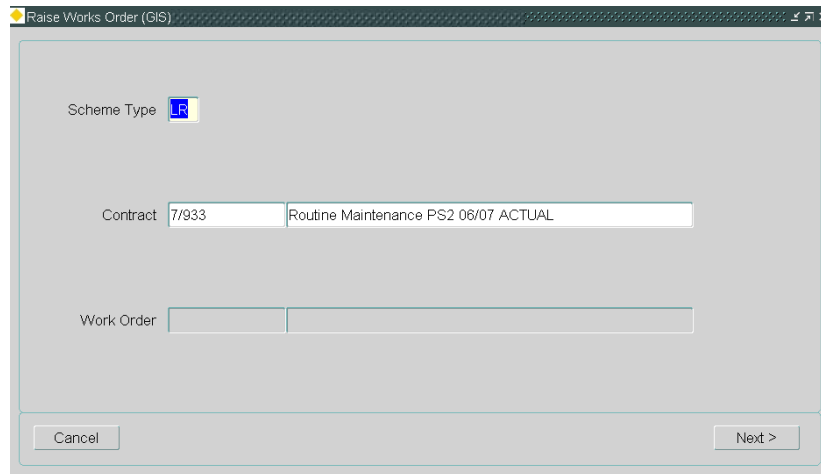
Figure 85



A screenshot of a 'Create Works Order?' dialog box. The dialog has a title bar with the text 'Create Works Order?' and a close button (X). Inside, there is a yellow warning triangle icon on the left and the text 'Create A Works Order For These Defects?' in the center. At the bottom, there are two buttons: 'Yes' and 'No'.

If a Works Order is to be raised the Form shown below will be displayed.

Figure 86



The Raise Works Order form allows the required Scheme Type and Works Order Contract to be selected.

Scheme Type (Default) List

This is the Scheme Type for the Work Order. The default value is determined by the value set for Product Option **DEFSCHTYPL** or **DEFSCHTYPD** (depending on the System Flag set for the Section or Budget Allocation Group on which the Defect is raised). The default value may only be updated if product option **DEFSCHTYPU** is set to 'Y'

Contract (Default) List

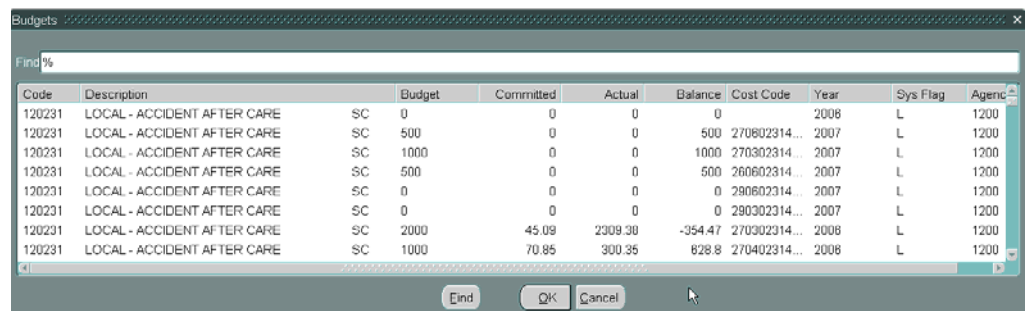
This is the Contract used within the Work Order. The default value is determined by the value set for product Option **DUMCONCODE**. Once the appropriate Contract has been selected press the **[Next]** Button.

Work Order

If Product Option **WORREFGEN** Is set to **M** – manual, the Work Order Number and Description should be entered. If set to **C**- Contract based or **A** – Admin Unit based the work order number will be automatically generated when the **[Next >]** button is pressed and a valid Budget is selected.

If Multiple Budgets exist for the defect Activity/Scheme Type/Section or Budget Allocation Group combinations, a list will be displayed from which to select the required Budget.

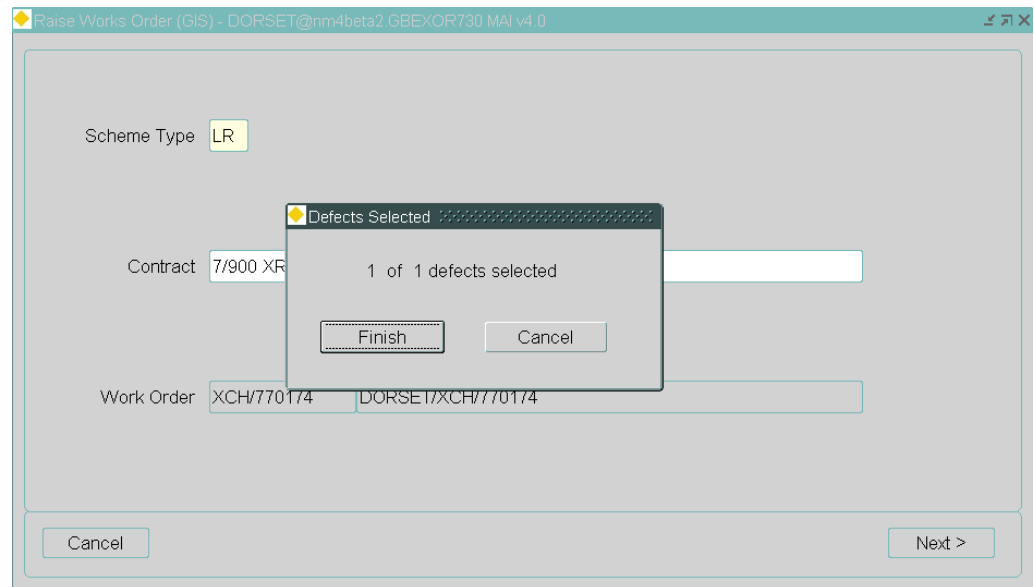
Figure 87



Code	Description	Budget	Committed	Actual	Balance	Cost Code	Year	Sys Flag	Agency
120231	LOCAL - ACCIDENT AFTER CARE	SC 0	0	0	0		2008	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 500	0	0	500	270802314...	2007	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 1000	0	0	1000	270302314...	2007	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 500	0	0	500	260602314...	2007	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 0	0	0	0	290602314...	2007	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 0	0	0	0	290302314...	2007	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 2000	45.09	2309.30	-354.47	270302314...	2008	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 1000	70.85	300.35	628.8	270402314...	2008	L	1200

Once a Budget has been selected the Number of Defects added to the Work Order will be displayed in a pop-up dialogue. Press **[Finish]** to create the Work Order

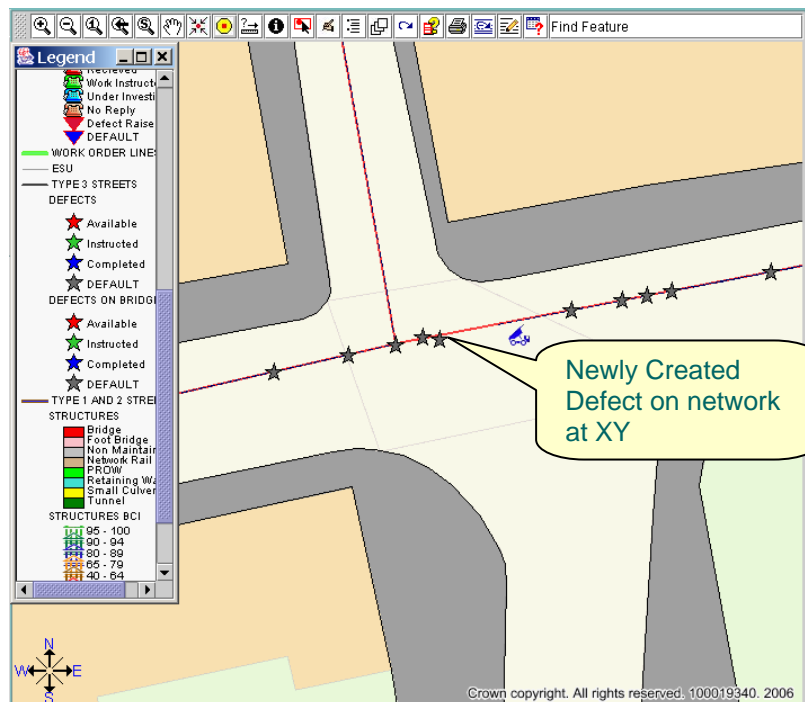
Figure 88



When the **[Finish]** button is pressed the **Work Order (Defects) – MAI3800** module will be called and the Work Order will be displayed.

The Map window will be automatically refreshed and the newly created Defects will be displayed. Figure shows an example of this.

Figure 89



To view the full details of a Defect or set of Defects make the Defects Layer the Active Layer using the Layer Control Tool (page 42), select the required Defects as described earlier and call the **Defects – MAI3806** module from the 'Select To' list at the bottom of the Locator Map window. This will call the Defects module and display full details of the selected Defects.

Calling standard **Exor** Modules is described on page 82.

Calling Exor Modules and Custom Built PL/SQL procedures

Standard **Exor** modules, such as Maintain Enquiry, Maintain Defects, Maintain Assets or Bulk Asset Update may be called from **Locator** for a given selected set of results using the 'Select To' function. This allows updates, edits and any other business functions associated with the called module to be carried out on the selected data items.

In addition to standard **Exor** modules, **Locator** also allows custom built PL/SQL procedures to be executed against a selected set of results. This allows an Organisations business processes to be closely mirrored within **Exor**. Examples may include the update of Street Lights within a Park which have had bulb replaced or the sending of an escalation e-mail for Defects which are overdue for repair.

The **Exor** modules and/or PL/SQL procedures available for the Active Layer are dependant on the Theme Functions defined for the Layer. This allows the appropriate Modules to be called for the data contained within the Layer. For example modules available to an Asset Layer, e.g. Bus Stops or Guard Rails may include the **Asset Items – NM0510** module whilst an Accidents Layer would have the **Accident Items – ACC3021** module available. Theme Function modules are defined for a Layer using **GIS Themes – GIS0010** (refer to the General System Admin Guide for more information relating to GIS Themes).

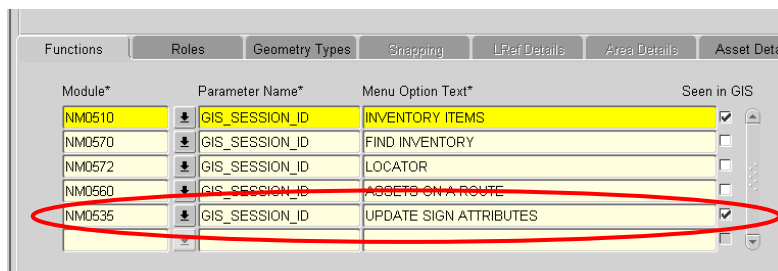
Exor Modules and/or custom built PL/SQL Procedures are called for a given set of selected features using the 'Select To' field below the Locator Map window.

Select To

To call an **Exor** module or custom built PL/SQL procedure, press the 'List' button adjacent to the 'Select To' field and select the required option. An example of a 'Function List' is displayed in Figure 75. The name of the selected Module will be displayed within the 'Select To' field.

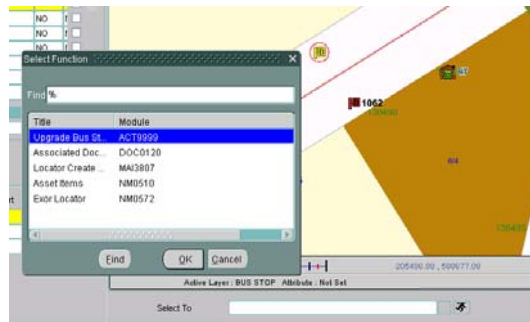
Note that the Module name displayed within the list is determined by the value entered in the 'Menu Option Text' field, for the Theme Function within the GIS0010 – GIS Themes module and not the actual Module Name. Figure 74 shows an example of a GIS Theme Function where the NM0535 – Bulk Asset Update module has been 'renamed' as 'UPDATE SIGN ATTRIBUTES'. This allows module names to be more closely associated with the currently selected Asset Type and business process.

Figure 90



Module*	Parameter Name*	Menu Option Text*	Seen in GIS
NM0510	GIS_SESSION_ID	INVENTORY ITEMS	<input checked="" type="checkbox"/>
NM0570	GIS_SESSION_ID	FIND INVENTORY	<input type="checkbox"/>
NM0572	GIS_SESSION_ID	LOCATOR	<input type="checkbox"/>
NM0580	GIS_SESSION_ID	ASSETS ON A ROUTE	<input type="checkbox"/>
NM0535	GIS_SESSION_ID	UPDATE SIGN ATTRIBUTES	<input checked="" type="checkbox"/>

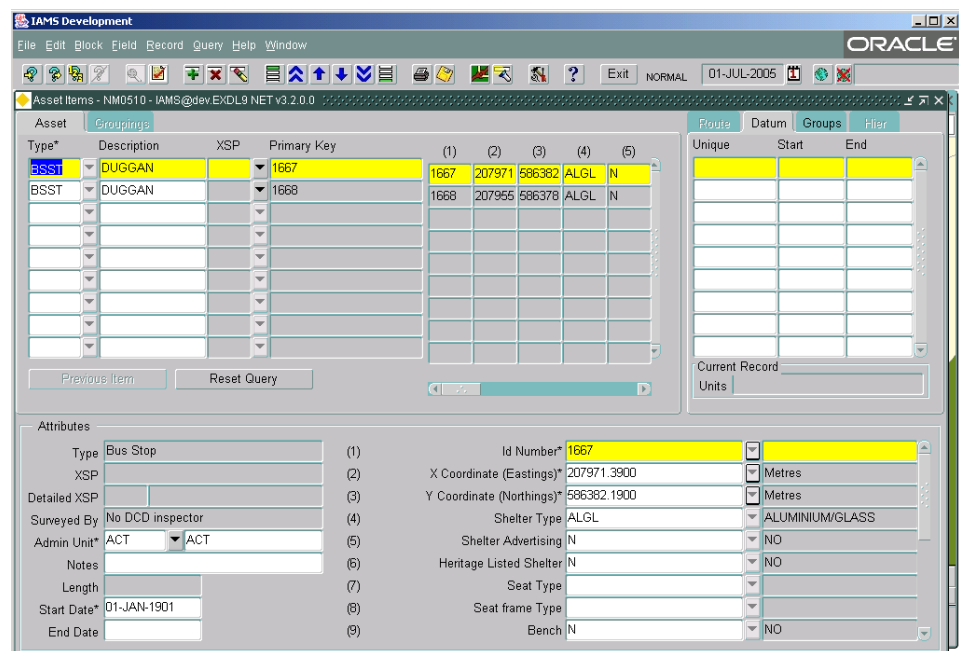
Figure 91



To call the **Exor** module or execute the custom built PL/SQL procedure, select the required option from the list.

Note that if no features of the Active Layer are selected on the Map the Exor module will still be called.

When the called Module is closed the Map will return to the same Map Extent as previously selected.



IAMS Development

File Edit Block Field Record Query Help Window

Asset Items - NM0510 - IAMS@dev.EXDL9.NET v3.2.0.0

Asset	Description	XSP	Primary Key	(1)	(2)	(3)	(4)	(5)
BSST	DUGGAN		1667	1667	207971	586382	ALGL	N
BSST	DUGGAN		1668	1668	207955	586378	ALGL	N

Previous Item Reset Query

Attributes

Type	Bus Stop	(1)	Id Number*	1667
XSP		(2)	X Coordinate (Eastings)*	207971.3900
Detailed XSP		(3)	Y Coordinate (Northings)*	586382.1900
Surveyed By	No DCD inspector	(4)	Shelter Type	ALGL
Admin Unit*	ACT	(5)	Shelter Advertising	N
Notes		(6)	Heritage Listed Shelter	N
Length		(7)	Seat Type	
Start Date*	01-JAN-1901	(8)	Seat frame Type	
End Date		(9)	Bench	N

Route Datum Groups Hier

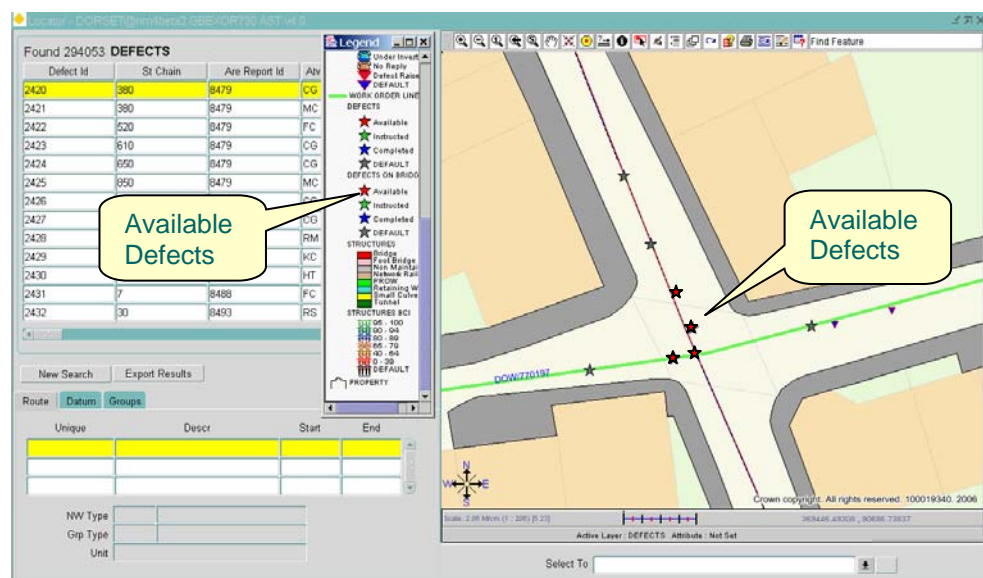
Unique	Start	End

Current Record
Units

Create a Work Order from Existing Defects

Work Orders may be created directly from within Locator by selecting existing 'Available' Defects on the map and then calling the 'Place Defects on a Work Order' module from the 'Select To' feature at the bottom of the screen. Figure 76 shows an example of a 'cluster' of 'Available' Defects in the vicinity of a Road Junction.

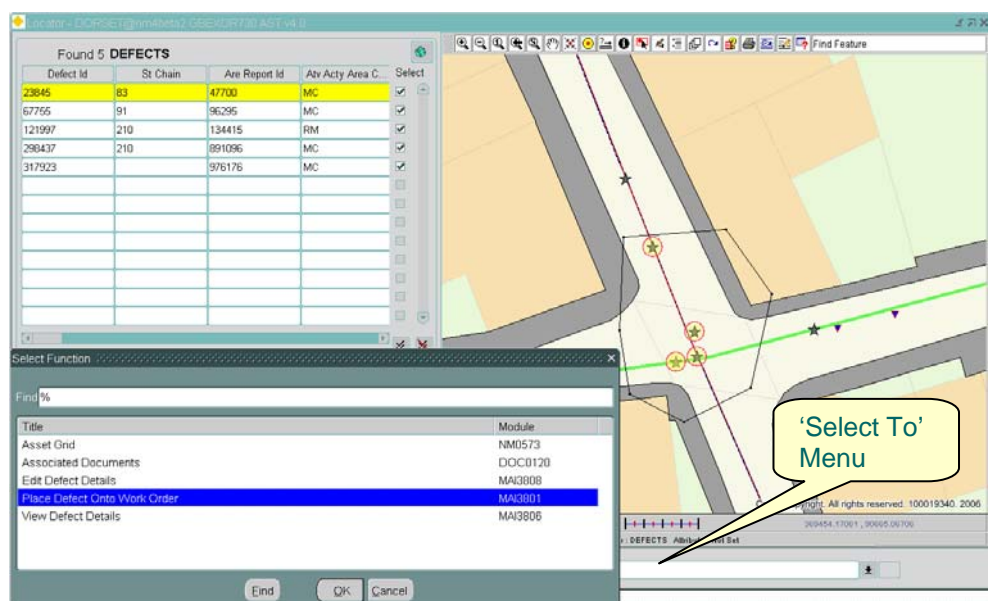
Figure 92



To select the Defects to place on a Work Order, ensure that the Defect Layer is the 'Active Layer' using the Layer Control Tool (page 42) and use one of the 'Select Tools' available on the Feature Select menu. Figure 77 shows an example where the 'Select by Polygon' tool has been used.

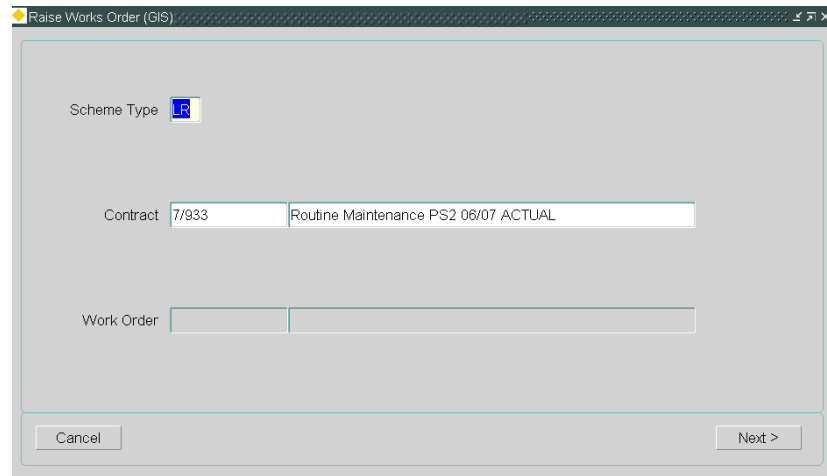
Note that Defects with a Status of 'Instructed', 'Completed', etc, can also be selected, but only 'Available' Defects are processed during the creation of a Work Order.

Figure 93



To raise the Work Order select the 'Place Defect onto Works Order' option from the 'Select To' menu at the bottom of the locator window. This will call the Raise Works Order form (Figure 78).

Figure 94



The Raise Works Order form allows the required Scheme Type and Works Order Contract to be selected.

Scheme Type (Default) List

This is the Scheme Type for the Work Order. The default value is determined by the value set for Product Option **DEFSCHTYPL** or **DEFSCHTYPD** (depending on the System Flag set for the Section or Budget Allocation Group on which the Defect is raised). The default value may only be updated if product option **DEFSCHTYPU** is set to 'Y'

Contract (Default) List

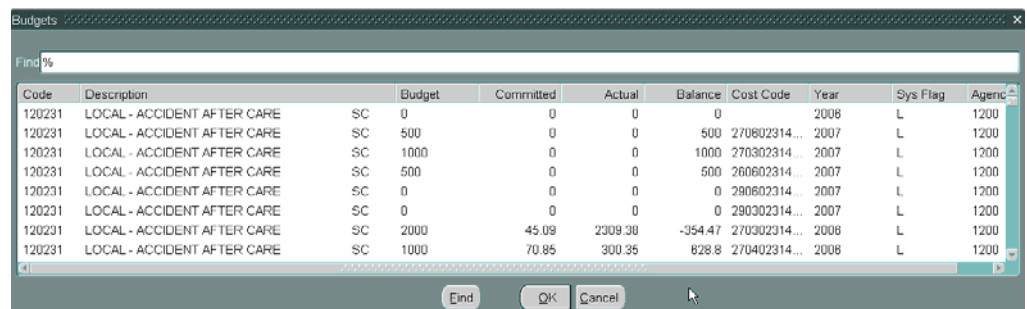
This is the Contract used within the Work Order. The default value is determined by the value set for product Option **DUMCONCODE**. Once the appropriate Contract has been selected press the [Next] Button.

Work Order

If Product Option **WORREFGEN** Is set to **M** – manual, the Work Order Number and Description should be entered. If set to **C**- Contract based or **A** – Admin Unit based the work order number will be automatically generated when the [Next >] button is pressed and a valid Budget is selected.

If Multiple Budgets exist for the defect Activity/Scheme Type/Section or Budget Allocation Group combinations, a list will be displayed from which to select the required Budget.

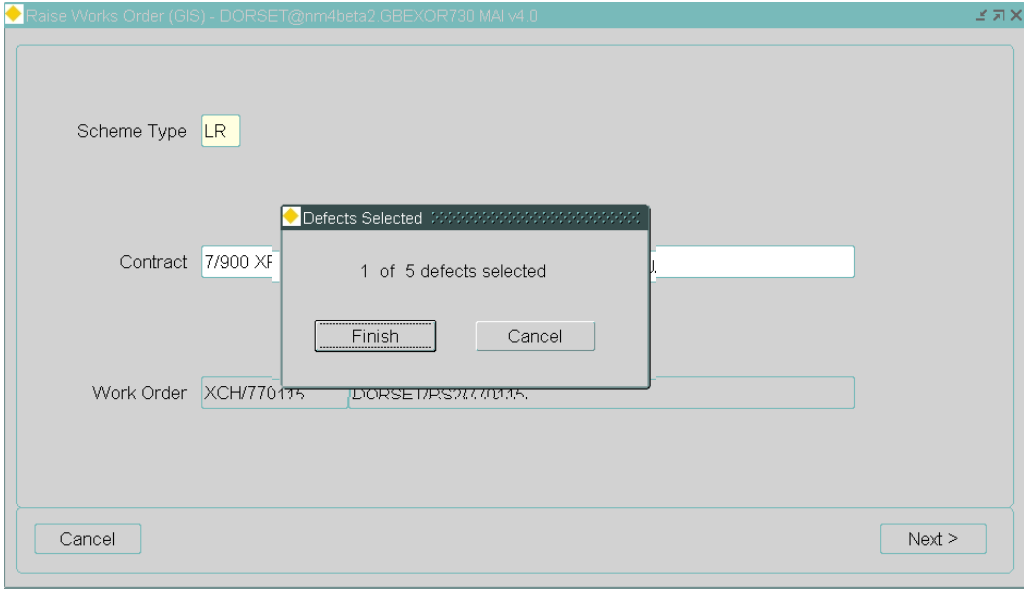
Figure 95



Code	Description	Budget	Committed	Actual	Balance	Cost Code	Year	Sys Flag	Agency
120231	LOCAL - ACCIDENT AFTER CARE	SC 0	0	0	0		2008	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 500	0	0	500	270802314...	2007	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 1000	0	0	1000	270302314...	2007	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 500	0	0	500	260602314...	2007	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 0	0	0	0	280602314...	2007	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 0	0	0	0	290302314...	2007	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 2000	45.09	2309.38	-354.47	270302314...	2008	L	1200
120231	LOCAL - ACCIDENT AFTER CARE	SC 1000	70.85	300.35	628.8	270402314...	2008	L	1200

Once a Budget has been selected the Number of Defects added to the Work Order will be displayed in a pop-up dialogue. Press **[Finish]** to create the Work Order

Figure 96

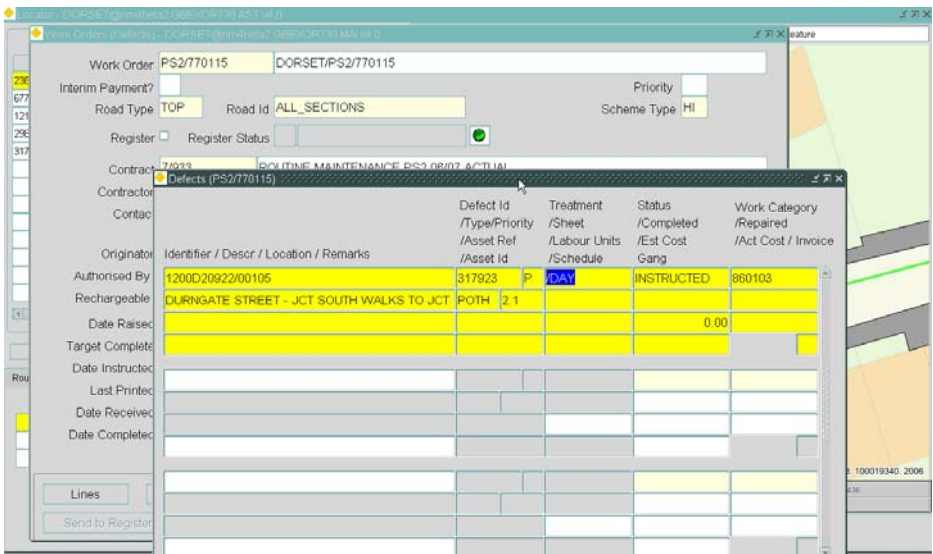


Note

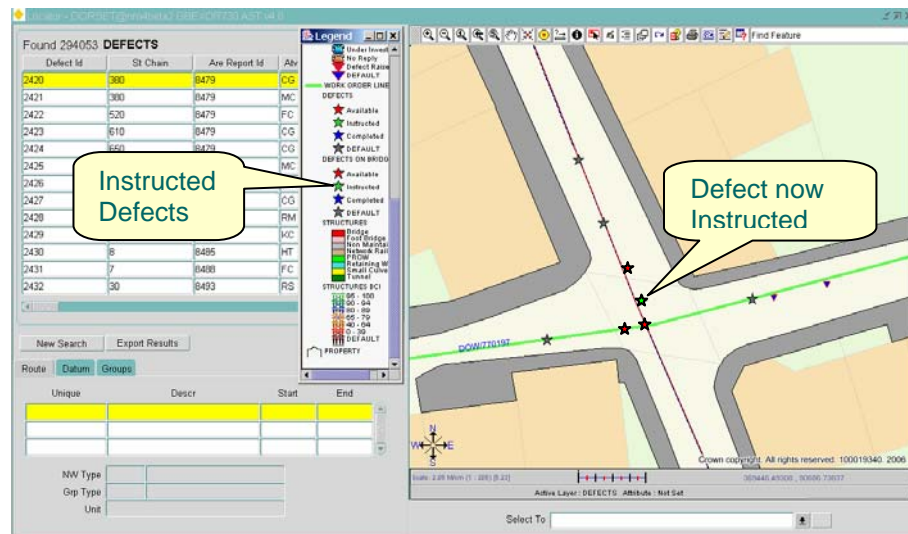
Only ‘Available’ Defects where the Defects Type, Activity Type and location (Road Section) match the selected Budget will be placed on the Work Order. In the example above only 1 of the originally selected 5 Defects matched all the criteria.

When the **[Finish]** button is pressed the Work Order (Defects) – MAI3800 module will be called and the Work Order will be displayed.

Figure 97



The Map window will be automatically refreshed to reflect the change in Defect Status Code.



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Bulk Update Assets - Background

Road Maintainers are under increasing pressure to deliver Asset Management Plans and Asset Valuation for the Assets under their stewardship. The base Asset Register is a critical component that underpins these 2 deliverables. One of the most difficult problems is how the Asset Register is kept up to date to ensure the Asset Management Plan is being delivered and to underpin an accurate Asset Valuation.

Combining this new Bulk Asset Update Tool with our Web Mapping option, Exor can deliver an easy to use, map based Asset Updating environment which will help the Road Maintainer to change the Business Processes within their Organisation to ensure Asset Updates are performed on time and with high accuracy.

The security features and Web architecture available within Exor would allow the Road Maintainer to give Asset Update tool to Client, Internal Contractors or even External Contractors.

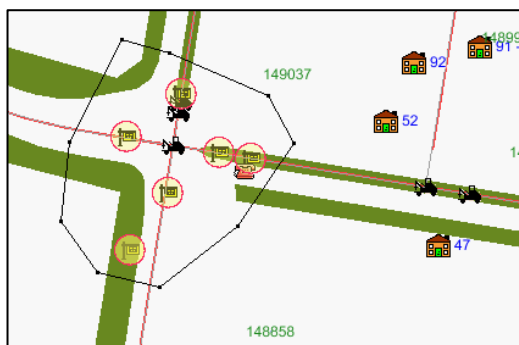
Bulk Update Asset Attributes

Asset Attributes may be updated directly within the web-mapping environment using the **Bulk Asset Update – NM0535** module. This allows any number of Attribute values to be updated for ALL selected Assets. This is particularly useful when large numbers of Assets must be updated to share the same Attribute values. For example, a Bulb Replacement Programme may have been undertaken on all Street Lights along a Street or within a Park. An attribute of 'Bulb Installation Date' could be updated in bulk for all Street Lights within the programme to reflect the new attribute value.

Note that the Bulk Asset Update – NM0535 module must be defined as a Theme Function for the required GIS Layer within the GIS Themes - GIS0010 module.

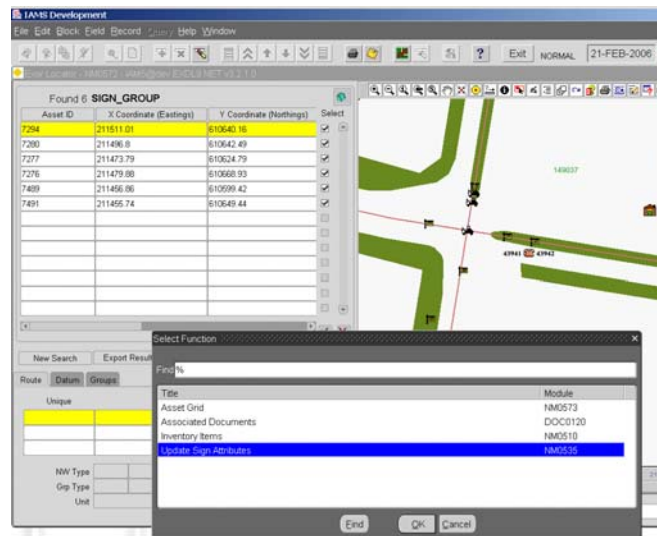
To Update Asset Attributes in bulk select the Assets required as described on page 39. Figure 82 shows an example where 6 Signs have been selected for Update.

Figure 98



Using the 'Select to' LOV below the Map window, select the **Bulk Asset Update – NM0535** option (the name of the module may vary depending on

the 'Function Name' value defined for the Layer in GIS Themes – refer to the note on page 82).



This will call the Bulk Asset Update module allowing the required Asset Attributes to be updated.

Figure 99

Bulk Asset Update - NM0535 - IAMS@dev EXDL9 AST v3.2.1.0

Inventory Type: **SGNG - SIGN_GROUP** Count: **6** Selected Count: **0**

Asset Items

Asset Id	X Coordinate (Easting)	Y Coordinate (Northings)	No o...	Post Type	Post ...	Post...	Post...	Select
7294	211511.01	610640.16	3	MILD STEEL PIPE				<input checked="" type="checkbox"/>
7280	211496.8	610642.49	2	MILD STEEL PIPE				<input type="checkbox"/>
7277	211473.79	610624.79	2	MILD STEEL PIPE				<input type="checkbox"/>
7276	211479.88	610668.93	2	MILD STEEL PIPE				<input type="checkbox"/>
7489	211456.86	610599.42	2	MILD STEEL PIPE				<input type="checkbox"/>

Select All Unselect All

Asset Item Attributes

Mandatory	Attribute	Value	Meaning	Update to Null
<input checked="" type="checkbox"/>	X Coordinate (Easting)			<input type="checkbox"/>
<input checked="" type="checkbox"/>	Y Coordinate (Northings)			<input type="checkbox"/>
<input type="checkbox"/>	No of Posts			<input type="checkbox"/>
<input type="checkbox"/>	Post Type			<input type="checkbox"/>
<input type="checkbox"/>	Post Outside Diameter (mm)			<input type="checkbox"/>
<input type="checkbox"/>	Post Wall Thickness (mm)			<input type="checkbox"/>
<input type="checkbox"/>	Post Grade (mm)			<input type="checkbox"/>
<input type="checkbox"/>	Footings Type			<input type="checkbox"/>

Update Selected Items

Bulk Asset Update

The selected Assets will be displayed in a Grid format, which shows the Assets attributes. This enables confirmation that the correct Asset(s) are selected. The Asset Type and Asset Type Description along with a count of the Assets within the Grid and a Count of the Assets selected for Update are displayed at the top of the Form. The 'Selected Count' value will change dynamically as Assets within the Grid are selected and deselected.

Only those attributes flagged as 'Displayed' in the **Asset Metamodel – NM0410** module (Refer to the Asset Manager System Admin Guide) will be displayed within the Assets Grid. The Attribute column widths within the Grid are determined by the value populated for the 'Width' field for the Attribute in the **Asset Metamodel – NM0410** module. If no 'Width' value has been defined for an Attribute the column width is automatically sized in accordance with the Attribute values and not the Attribute Display (column heading text) Name. Hint Text is available to view the Column Heading if the Grid Column width is less than the Display Name.

For Attributes which are validated against a look up, the Results Grid displays the value Meaning and not the actual lookup code value. For example, an attribute of 'Sign Type' may have a Value of '01' meaning 'Metal', the Results Grid will display a value of 'Metal' as this is more meaningful to the User.

Attribute values and data Items within the Grid may be viewed by using the horizontal and vertical scroll bars respectively.

Figure 100

(Northings)	No o...	Post Type
Sort Results by No of Posts		
	2	MILD STEEL PIPE
	2	MILD STEEL PIPE
	2	MILD STEEL PIPE
	2	MILD STEEL PIPE

Hint Text

The entire Attribute Name is displayed in the 'hint text' that is automatically displayed when the mouse cursor is hovered over any value within the column. An example is shown in Figure 85.

Figure 101

inate (Northings)	No o...	Post Typ
Sort Results by No of Posts		
	2	MILD STEEL PIPE
	2	MILD STEEL PIPE
	2	MILD STEEL PIPE
	2	MILD STEEL PIPE

Sorting Results

Results within the Grid may be sorted by any of the displayed Attributes by pressing the Attribute Names (column headings) which are also 'Sort' buttons. The first time a heading is pressed the records are sort in ascending order. If pressed again the records within the Grid will be sorted in descending order of the selected Attribute. A 'carat' (^) symbol or lower case 'v' (v) is displayed adjacent to the Attribute Name to indicate that the data has been sorted in ascending or descending order respectively as shown in Figure 86.

Figure 102

hings)	^ No...	Post
	3	MILD STEEL P
	2	MILD STEEL P
	2	MILD STEEL P

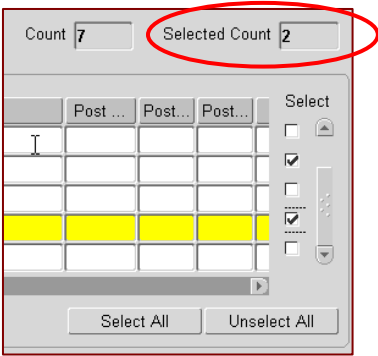
rthings)	v No...	P
	2	MILD STEE
	2	MILD STEE
	2	MILD STEE

Selecting Assets within the Grid for Update

In some instances you may not want to update all Assets originally selected from the Web Map. The Asset Grid allows the User to select the required Assets by either selecting individual Assets using the 'Select' checkbox adjacent to the Asset or by using the **[Select All]** or **[Unselect All]** buttons on the Grid.

The total number of Assets selected is dynamically updated and displayed in the 'Selected Count' field highlighted below

Figure 103

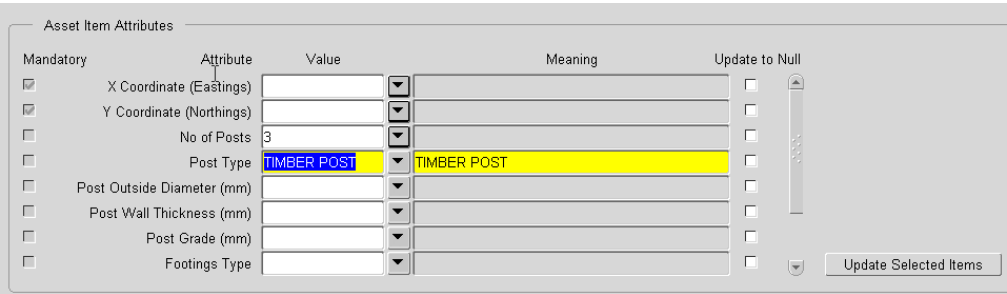


The screenshot shows a software interface for managing assets. At the top, there are two input fields: 'Count' with the value '7' and 'Selected Count' with the value '2'. The 'Selected Count' field is circled in red. Below these fields is a grid with columns labeled 'Post ...', 'Post...', and 'Post...'. To the right of the grid is a 'Select' column with checkboxes. At the bottom of the grid are two buttons: 'Select All' and 'Unselect All'.

Updating Attributes of Selected Assets

Any number of Attribute values of the selected Asset Type may be updated using the **Bulk Asset Update – NM0535** module. All Attributes defined for the Asset Type in the **Asset Metamodel – NM0410** (refer to Asset Manager Admin Guide) module plus the 'End Date' attribute may be updated irrespective of whether it has been flagged as 'Displayed' within the Asset Metamodel.

Figure 104



The screenshot shows a form titled 'Asset Item Attributes'. It contains a table with columns: 'Mandatory', 'Attribute', 'Value', 'Meaning', and 'Update to Null'. The table lists several attributes, including 'X Coordinate (Eastings)', 'Y Coordinate (Northings)', 'No of Posts', 'Post Type', 'Post Outside Diameter (mm)', 'Post Wall Thickness (mm)', 'Post Grade (mm)', and 'Footings Type'. The 'Post Type' row is highlighted in yellow, and its value is 'TIMBER POST'. To the right of the table is a vertical scroll bar and an 'Update Selected Items' button.

Mandatory (Display Only)

The Mandatory flag will be checked if an Attribute value is mandatory for a given Asset. Mandatory Attributes cannot be updated to Null.

Attributes

All User defined Attributes plus the End Date attribute will be displayed and may be updated. LOV's will be available for those attributes, which are validated against an Asset Domain.

All values entered will be validated against any Minimum or Maximum values, Asset Domains or Cross Attribute Validation rules defined, to ensure data integrity and quality with appropriate error messages being displayed when appropriate.

Update to Null (checkbox)

To update an Attribute value to Null, this checkbox should be selected. Mandatory Attributes cannot be updated a Null value.

To carry out the Bulk Asset Update on the selected Assets press the [**Update Selected Items**] button. A confirmation dialogue will be displayed (Figure 89) allowing the User to proceed with the update or Cancel the operation.

Figure 105



If the User chooses to proceed, the selected Assets will be updated and saved. The Asset Grid will also be synchronised to reflect the new Asset Attribute values.

Note that no History of the amended Asset Attributes is retained.

Bulk Network Update – Background

The Bulk Network Update module allows Network attributes, i.e. attributes for a Section/Datum or Group, to be amended and can operate on multiple Network Elements simultaneously, i.e. multiple Sections or groups can be updated in a single operation.

It also allows the selected Sections/Datum's or Groups to be added as members of an appropriate Group Type thus allowing Bulk Group membership updates. This could be used to either add the selected Sections/Datum's or Groups to a Group or Group of Groups for the first time or to re-assign them to another Group of the same type. For example, the selected Sections could be re-assigned from one Inspection Group or Parish Group to another.

The selection of the required Sections or Groups can be undertaken within Locator using either an attribute search or spatial query. Once completed, the selected Sections can be passed into the Bulk Network Update module by calling it from the 'Select To' menu at the bottom of the Locator Form.



Note

The Bulk Network Update functionality is also available within Spatial Manager.

Bulk Attribute Updates

Bulk updates can be carried out on any Network Attributes including those used within Network Type Inclusions (auto inclusions). However, attributes used to construct the Unique Id of a Datum/Section or Group CANNOT be updated using this module. To change an Attribute used to construct the Unique Id (and therefore the Unique Id of the Datum/Section or Group) use the Reclassify Module.

Attributes used within a Network Type Inclusion

The ability to update an Attribute used within a Network Type Inclusion provides a simple method of Group membership maintenance. For example, a Section may have been defined with an attribute of 'Region' to determine the administrative area in which the Section is located. The value of this attribute could in turn be used within a Network Type Inclusion to automatically add a Section as a member of the appropriate 'Region Group'.

There are a number of scenarios where the Bulk Network Update module could be used to manage both the 'Region' attribute values and the Region Group Memberships.

1. A Regions boundary changes

In this scenario several Sections need to move from one Region to another. This can be achieved by selected the required Sections and simply updating the 'Region' attribute to equate to the new Region. This will update the Section attribute values but also end date the Sections membership from the existing Region Group and re-assign to the new Region.

2. Several Sections have a NULL value for the Region attribute

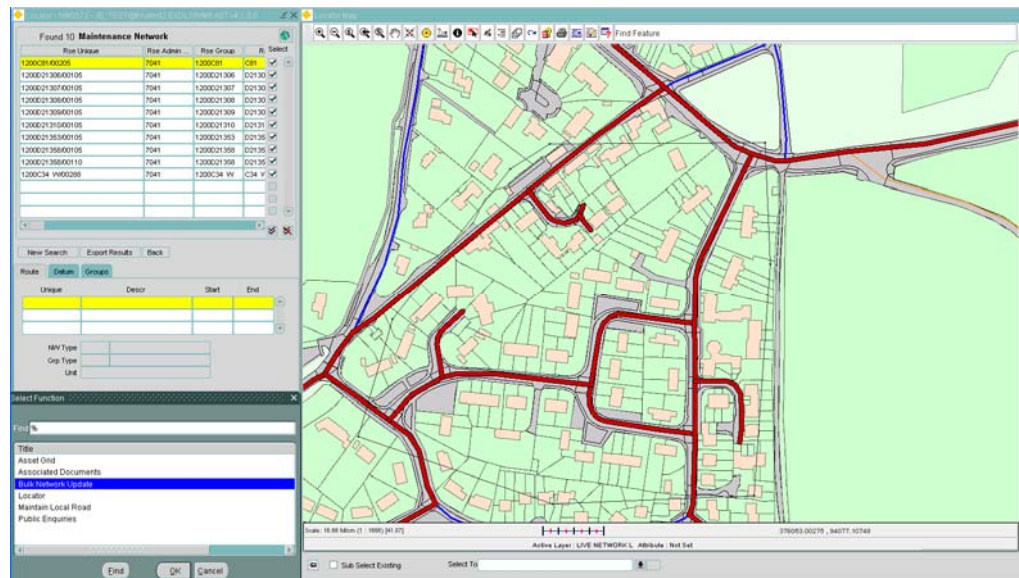
In this scenario several Sections have not had the Region attribute value populated when the Section has been created (attribute has been defined as non-mandatory). The Bulk Network Update module can be used to set the Region attribute to the required value. This will also add the selected Sections as members of the relevant 'Region' Group.

3. Several Sections are no longer part of any Region

In this scenario several Sections currently belong to a particular Region but are to be 'unadopted' and therefore need to be removed from the appropriate Region Groups. Using the Bulk network Update module the 'Region' attribute value can be set to NULL for the selected Sections. This will also end date the Sections as members of the relevant 'Region' Group.

To carry out a Bulk Network Update select the required Sections using either an Attribute based Search, a Spatial query using tools such as the Polygon select or a combination of both using the 'Sub Select' feature, then call the Bulk Network Update module from the 'Select To' menu at the bottom of the Map Window. Figure 90 shows an example.

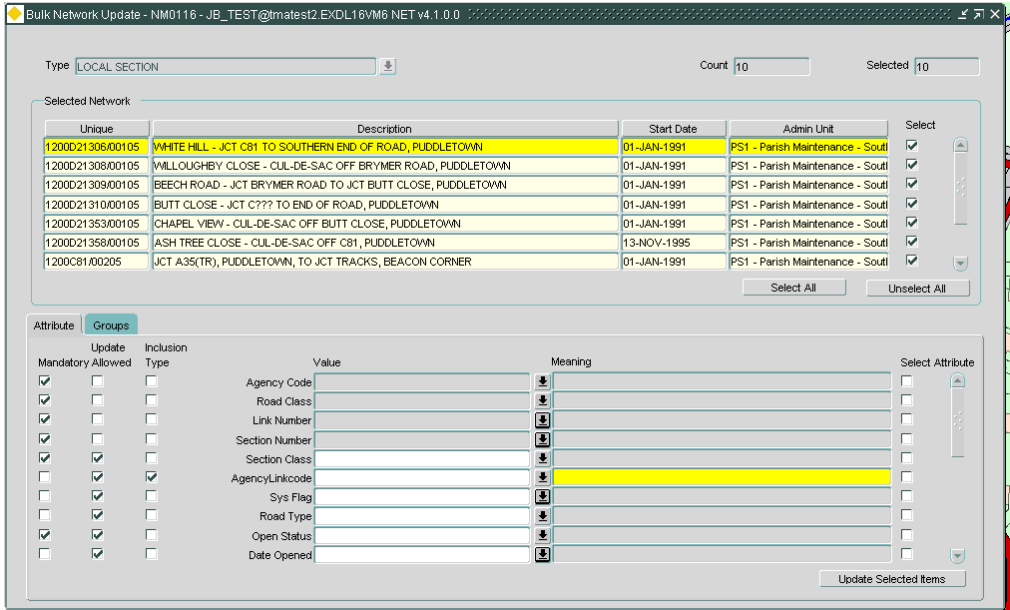
Figure 106



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The Bulk Network Update module will display the selected Section/Datum or Group details along with the network Attributes an example of which is shown in Figure 91.

Figure 107



The screenshot shows the 'Bulk Network Update' window. At the top, there's a title bar with the text 'Bulk Network Update - NM0116 - JB_TEST@mates2.EXDL16VM6 NET v4.1.0.0'. Below the title bar, there's a 'Type' dropdown menu set to 'LOCAL SECTION', a 'Count' field showing '10', and a 'Selected' field showing '10'. The main area is divided into two sections. The top section, 'Selected Network', contains a table with columns: Unique, Description, Start Date, Admin Unit, and Select. The bottom section, 'Attribute Groups', contains a table with columns: Attribute, Update Mandatory, Inclusion Allowed, Value, Meaning, and Select Attribute.

Unique	Description	Start Date	Admin Unit	Select
1200D21306/00105	WHITE HILL - JCT C81 TO SOUTHERN END OF ROAD, PUDDLETOWN	01-JAN-1991	PS1 - Parish Maintenance - Sout	<input checked="" type="checkbox"/>
1200D21308/00105	MILLLOUGHBY CLOSE - CUL-DE-SAC OFF BRYMER ROAD, PUDDLETOWN	01-JAN-1991	PS1 - Parish Maintenance - Sout	<input checked="" type="checkbox"/>
1200D21309/00105	BEECH ROAD - JCT BRYMER ROAD TO JCT BUTT CLOSE, PUDDLETOWN	01-JAN-1991	PS1 - Parish Maintenance - Sout	<input checked="" type="checkbox"/>
1200D21310/00105	BUTT CLOSE - JCT C??? TO END OF ROAD, PUDDLETOWN	01-JAN-1991	PS1 - Parish Maintenance - Sout	<input checked="" type="checkbox"/>
1200D21353/00105	CHAPEL VIEW - CUL-DE-SAC OFF BUTT CLOSE, PUDDLETOWN	01-JAN-1991	PS1 - Parish Maintenance - Sout	<input checked="" type="checkbox"/>
1200D21358/00105	ASH TREE CLOSE - CUL-DE-SAC OFF C81, PUDDLETOWN	13-NOV-1995	PS1 - Parish Maintenance - Sout	<input checked="" type="checkbox"/>
1200C81/00205	JCT A35(TR), PUDDLETOWN, TO JCT TRACKS, BEACON CORNER	01-JAN-1991	PS1 - Parish Maintenance - Sout	<input checked="" type="checkbox"/>

Attribute	Update Mandatory	Inclusion Allowed	Value	Meaning	Select Attribute
Agency Code	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Road Class	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Link Number	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Section Number	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Section Class	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Agency/Linkcode	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>
Sys Flag	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>
Road Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Open Status	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Date Opened	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>

The various fields and flags and described in detail in the remainder of this section.

Figure 108

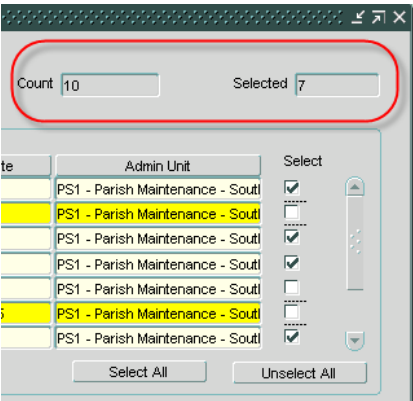


The screenshot shows the 'Bulk Network Update' window. A red circle highlights the 'Type' dropdown menu, which is set to 'LOCAL SECTION'. The 'Count' field shows '10' and the 'Selected' field shows '10'.

Type

When the module is called from Locator this is a non updateable field and displays the Network Type or Group description of the selected Datum/Section or Group.

Figure 109



The screenshot shows the 'Bulk Network Update' window. A red circle highlights the 'Count' field, which shows '10', and the 'Selected' field, which shows '7'. Below the fields is a table with columns: Admin Unit, Select, and a list of records.

Admin Unit	Select
PS1 - Parish Maintenance - Sout	<input checked="" type="checkbox"/>
PS1 - Parish Maintenance - Sout	<input type="checkbox"/>
PS1 - Parish Maintenance - Sout	<input checked="" type="checkbox"/>
PS1 - Parish Maintenance - Sout	<input type="checkbox"/>
PS1 - Parish Maintenance - Sout	<input checked="" type="checkbox"/>
PS1 - Parish Maintenance - Sout	<input type="checkbox"/>
PS1 - Parish Maintenance - Sout	<input checked="" type="checkbox"/>
PS1 - Parish Maintenance - Sout	<input type="checkbox"/>

Count

(Display Only)

A count of the total number of records originally selected for edit will be displayed.

Selected

(Display Only)

A count of the total number of network records selected in the form (those with the 'Select checkbox ticked) will be displayed. This may differ from the overall count originally selected.

Figure 5

Unique	Description	Start Date	Admin Unit	Select
1200D21306/00105	WHITE HILL - JCT C81 TO SOUTHERN END OF ROAD, PUDDLETOWN	01-JAN-1991	PS1 - Parish Maintenance - Soutl	<input checked="" type="checkbox"/>
1200D21308/00105	WILLOUGHBY CLOSE - CUL-DE-SAC OFF BRYMER ROAD, PUDDLETOWN	01-JAN-1991	PS1 - Parish Maintenance - Soutl	<input checked="" type="checkbox"/>
1200D21309/00105	BEECH ROAD - JCT BRYMER ROAD TO JCT BUTT CLOSE, PUDDLETOWN	01-JAN-1991	PS1 - Parish Maintenance - Soutl	<input checked="" type="checkbox"/>
1200D21310/00105	BUTT CLOSE - JCT C??? TO END OF ROAD, PUDDLETOWN	01-JAN-1991	PS1 - Parish Maintenance - Soutl	<input checked="" type="checkbox"/>
1200D21353/00105	CHAPEL VIEW - CUL-DE-SAC OFF BUTT CLOSE, PUDDLETOWN	01-JAN-1991	PS1 - Parish Maintenance - Soutl	<input type="checkbox"/>
1200D21358/00105	ASH TREE CLOSE - CUL-DE-SAC OFF C81, PUDDLETOWN	13-NOV-1995	PS1 - Parish Maintenance - Soutl	<input type="checkbox"/>
1200C81/00205	JCT A35(TR), PUDDLETOWN, TO JCT TRACKS, BEACON CORNER	01-JAN-1991	PS1 - Parish Maintenance - Soutl	<input checked="" type="checkbox"/>

Selected Network

The details of the Datums/Sections or Groups selected for update will be displayed. The following details are displayed:

- Unique Name
- Description
- Start Date
- Admin Unit Code and Name

The column headings can be used as sort buttons to order the data in the column.

Click once on the column head to sort one way, click again to reverse the sort.

Figure 6
Sort

Start Date ^	Start Date v
01-JAN-1991	07-MAR-2000
01-JAN-1991	13-NOV-1995
01-JAN-1991	13-NOV-1995
01-JAN-1991	01-JAN-1991
01-JAN-1991	01-JAN-1991
01-JAN-1991	01-JAN-1991
01-JAN-1991	01-JAN-1991



Note

When the Network Elements are sorted using the Column Headings all items are 'reselected'.

Select

(Checkbox)

Network Sections/Datums or Groups may be deselected for update by unchecking the 'Select' box adjacent to its details.

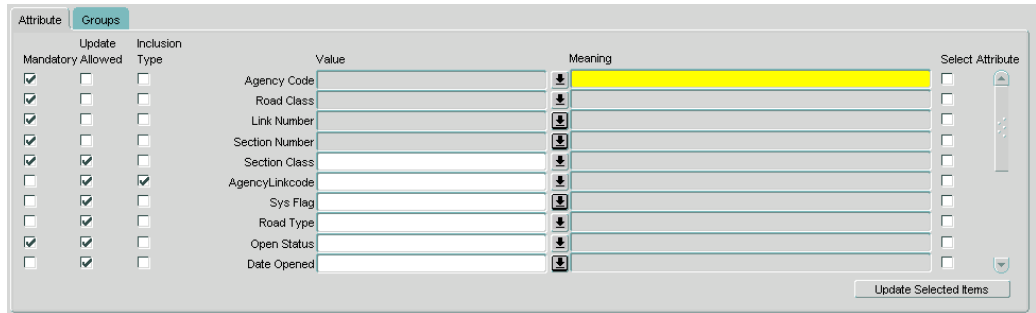
Use the [Select All] and [Unselect All] to bulk select/deselect records.

Only those records marked as selected will be updated.

Select
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>

Unselect All

Figure 7



Attribute	Mandatory	Update Allowed	Inclusion Type	Value	Meaning	Select Attribute
Agency Code	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Road Class	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Link Number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Section Number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Section Class	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
AgencyLinkcode	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>
Sys Flag	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Road Type	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Open Status	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Date Opened	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>

Attribute Tab

The Attribute Tab displays the attributes of the selected Datum/Section or Group Type and is used to enter the new values for the bulk update. More than one attribute may be updated at a time if required. As previously mentioned in this section of the document, attributes which are used in the construction of the Unique name cannot be updated. Such attributes are displayed but are 'greyed' out and cannot be amended.

To update an attribute it **MUST** be ticked by selecting the 'Select Attribute' checkbox.

A number of flags are displayed for each attribute. These are non updateable and are intended to provide information for the User. The flags displayed are:

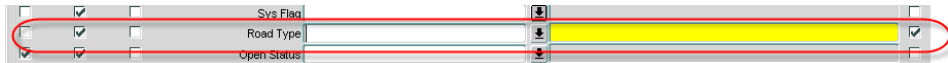
Mandatory	This flag indicates that a value must always exist for this attribute. Mandatory Attributes cannot be set to NULL values
Update Allowed	This flag indicates whether the attribute can be updated. Non updateable attributes are disabled and 'greyed' out.
Inclusion Type	This flag indicates whether the attribute is used within a Network Type Inclusion (Auto Inclusion). Such attributes can be updated except if they are also used within the construction of the Unique Name of the Section/Datum or Group.

When the required attribute values have been entered press the **[Update Selected Items]** button to perform the Bulk Network Update. Remember that only those attribute with the 'Select Attribute' check box selected will be updated.

Updating an Attribute Value to a NULL

To set an attribute to a NULL value simply tick the 'Select Attribute' checkbox and leave the value field empty. Upon update any existing values will be nulled. The example shown below would result in the 'Road type' attribute being nulled for all selected Sections/Datums or Groups.

Figure 110



	Sys Flag	Road Type	Open Status
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Admin Unit Security

If an attribute used within a Network Type Inclusion (Auto Inclusion) is updated, the selected network elements will be added as members of a new Group (with the existing members being end dated). In some implementations this may lead to a conflict in Admin Unit security resulting in a message being displayed and example of which is shown below.



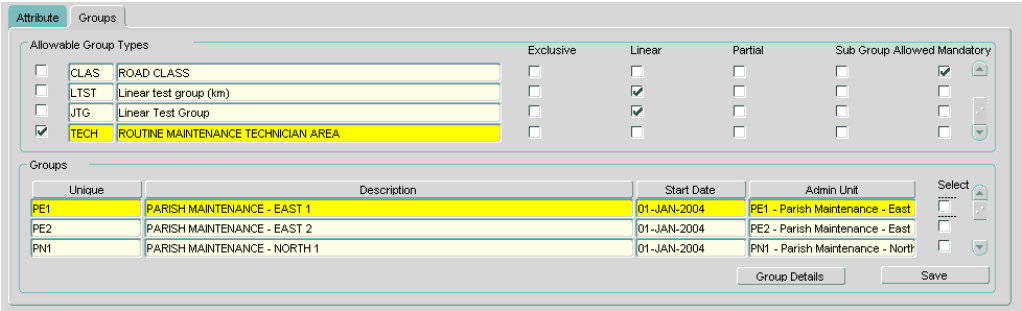
In these cases the Bulk Network Update operation will be cancelled protecting the integrity of the data.



Note

*If Admin Unit security on Group Memberships is not required Product Option **USEGRPSEC** should be set to 'N'.*

Figure 9



The screenshot shows the 'Groups' tab in a software interface. It has two main sections: 'Allowable Group Types' and 'Groups'.

Allowable Group Types:

		Exclusive	Linear	Partial	Sub Group Allowed Mandatory
<input type="checkbox"/>	CLAS ROAD CLASS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	LTST Linear test group (km)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	JTG Linear Test Group	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	TECH ROUTINE MAINTENANCE TECHNICIAN AREA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Groups:

Unique	Description	Start Date	Admin Unit	Select
PE1	PARISH MAINTENANCE - EAST 1	01-JAN-2004	PE1 - Parish Maintenance - East	<input checked="" type="checkbox"/>
PE2	PARISH MAINTENANCE - EAST 2	01-JAN-2004	PE2 - Parish Maintenance - East	<input type="checkbox"/>
PN1	PARISH MAINTENANCE - NORTH 1	01-JAN-2004	PN1 - Parish Maintenance - North	<input type="checkbox"/>

Buttons: Group Details, Save

Groups Tab

The Groups Tab is used to bulk update Group memberships for the selected Sections/Datum's or Groups. This could be either adding Elements to a Group Type for the first time or re-assigning group members from one group of a given type to another group of the same type.

The 'Allowable Group Types' panel displays the Group Types of which the selected network elements may be a member whilst the 'Groups' panel displays the actual Groups of the selected Allowable Group Type.

To add the selected network elements to a Group first select the Allowable Group Type, then select the Group of that Type and press **[Save]**.

The Groups Tab does not affect or include Network Type Inclusions (Auto Inclusions)



Note

Figure 10



The screenshot shows the 'Allowable Group Types' panel. It has a table with columns for selection, group type, and flags.

		Exclusive	Linear	Partial	Sub Group Allowed Mandatory
<input type="checkbox"/>	CLAS ROAD CLASS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	LTST Linear test group (km)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	JTG Linear Test Group	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	TECH ROUTINE MAINTENANCE TECHNICIAN AREA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Allowable Group Types

The Allowable Group Types panel is used to select the Target Group Type for the bulk Group Membership update. Only a single Group Type can be selected at a time.

A number of flags are displayed for each Allowable Group Type. These are non updateable and are intended to provide information for the User. The flags displayed are:

Exclusive This indicates whether the Group Type is Exclusive, i.e. a network element (or any single part of a network element) may only be a member of one Group of this Type at any given date.

Linear This indicates if the Group Type is Linear, i.e. has route measures and can be used as a Linear Referencing method.

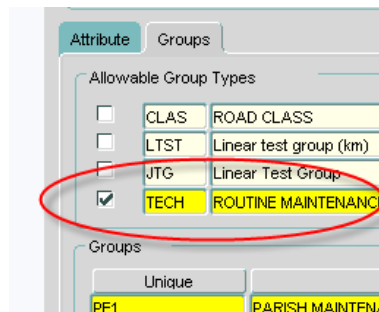
Partial This indicates if the Group Type is Partial, i.e. an entire Section/Datum does not have to be a member of the Group

Sub Group Allowed This indicates if the Group Type is a Group of Groups

Mandatory This indicates if a Section / Datum or Group **MUST** belong to a group of this type.

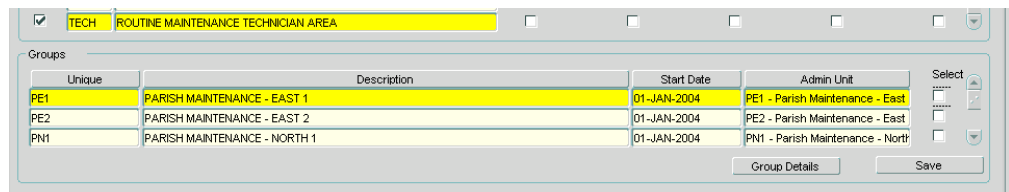
To choose a target Group Type select the appropriate checkbox, an example of which is shown in Figure 95.

Figure 111



When the Group Type is selected all open Groups of that type will be displayed within the 'Groups' Panel at the bottom of the screen.

Figure 11



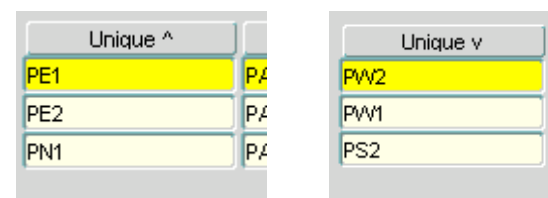
Groups

The Groups panel is used to select the actual target Groups into which the selected Sections/Datum's or Groups will be added as members. All open Groups of the selected Group Type will be displayed.

The Column Headings can be used as sort buttons to order the data.

Click once on the column head to sort one way, click again to reverse the sort.

Figure 12

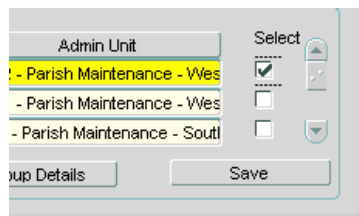




Note

The standard query tools available on the main menu Toolbar may also be used to search for the required Group of the selected Type.

To add the selected elements to a Group, select the required record and press the **[Save]** button an example of which is shown below.

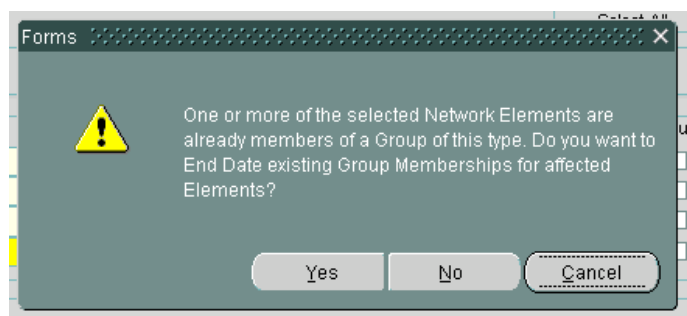


If the Group Type selected is non exclusive multiple Groups may be selected. For exclusive Group Type only a single record is allowed.

Non Exclusive Group Validation

If the selected target Group Type is not flagged as 'Exclusive' and any of the the selected Sections/Datum's or Groups is already a member of a Group of the selected Type the following message will appear:

Figure 16

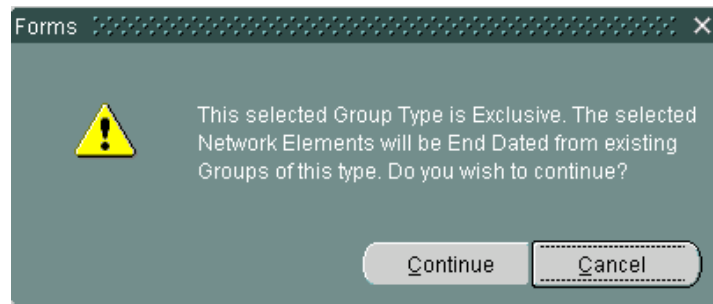


Choose the appropriate option from the choices below:

- | | |
|-----------------|---|
| [Yes] | End Date the existing membership(s) and create new memberships for the selected Sections/Datums or Groups. |
| [No] | Do not end date existing group memberships and create new memberships for the selected Sections/Datums or Groups (in this case the selected elements may exist in more than one Group of the selected Type) |
| [Cancel] | Cancel the entire Bulk Network Update operation |

Exclusive Group Type Validation

If the selected target Group Type is flagged as 'Exclusive' and the selected network is already a member of a group of that Type the following message will appear:



Choose the appropriate option from the choices below:

- | | |
|-------------------|--|
| [Continue] | End date existing membership and create new membership with the selected group |
| [Cancel] | Cancel the entire Bulk Network Update operation |

Admin Unit Security

If an attribute used within a Network Type Inclusion (Auto Inclusion) is updated, the selected network elements will be added as members of a new Group (with the existing members being end dated). In some implementations this may lead to a conflict in Admin Unit security resulting in a message being displayed and example of which is shown below.



In these cases the Bulk Network Update operation will be cancelled protecting the integrity of the data.



Note

*If Admin Unit security on Group Memberships is not required Product Option **USEGRPSEC** should be set to 'N'.*

Displaying Group Details

The details of the selected Group may be viewed by pressing the **[Details]** button. This either call the ***Group of Sections – NM0110*** or ***Group of groups – NM0115*** modules, depending on the group type selected.

Index

Asset Items – NM0510	6, 31	Sorting Results	19
BOQ	60, 61, 63, 64, 75, 76	Standard' Search Panel	7
Budget Allocations	53	MAILICENSED	43
Comma Separated Value	18	Map Legend	34, 41, 42
Comma Separated Value	5, 21	MAPTITLE	44
Coordinate Search	29	Navigation Tools	34, 35
Create a Work Order from Existing Defects	84	OVERVIEWLINESTYLE	44
Create Defects On Asset at X, Y	67, 68	Pan	34, 35
Create Defects On Assets	53, 54, 55, 67, 68	PENTHEMEID	44
Create Defects On Network	53, 68	PL/SQL	6, 31
Create Enquiry	40, 47, 48, 51, 52	Primary Key	55, 63
Create Public Enquiry on Asset	34, 50	Print Map	34, 43
DEBUGLEVEL	43	Product Option	26, 56, 57, 65, 71, 72, 79, 85
DEFECTTHEMEID	44	Query Layer	34, 44
Edit BOQ's	60, 61, 64, 75, 76	Re-Centre Map at Selected Point	36
ENQLICENSED	43	Refresh Map	34, 42
Exporting	21	Refresh Metadata	34, 43
Extensible Markup Language	5, 18, 21	Region of Interest	5, 7, 8, 12
Feature Edit Tool	40	Relocate Feature	40
GIS Themes – GIS0100	31	Route Location	34, 37
Grid	5, 18, 19, 25	SDOPTZOOM	29
HIGHLIGHTLINESTYLE	44	Select by Polygon	34, 39
HIGHLIGHTPOINTSTYLE	44	Select by Rectangle	34, 39
Hint Text	18, 19	Select Feature Tool	39
Identify Feature	34, 38	Select Nearest Feature	39
JDBCHOST	44	Show Map	6, 7, 18, 25, 31
JDBCPORT	44	Snapping Layers	47, 48, 51, 52, 69
JDBCSID	44	synchronised	39, 93
Layer Control... ..	34, 38, 42, 47, 50, 51, 54, 67, 68, 69, 81	Toggle Tool Tips	34, 43
Location Panel	8, 20	USERHASENQROLE	43
Locator	7	USERHASMAIROLE	43
Advanced' Search Panel	12	WMS	31, 42, 44
Attribute Value Panel	14	WMSDATALAYERS	44
Attributes Criteria Panel	13	WMSIMAGEFORMAT	44
Creating Defects	53	WMSLAYERNAME	44
Creating Enquiries	47	WMSSERVERURL	44
Exporting Results	21	WMSSERVICENAME	44
Locator Map Window	30	Work Order	5, 64, 65, 66, 78, 79, 80, 85, 86
Map Window Toolbar	34	Zoom In	34, 35, 43
Restrict Search by Network Location	8	Zoom Out	35
restricted by a Network Selection	8	Zoom to Initial Extent	34, 35
Results Grid	18, 20, 21	Zoom to Previous Extent	34, 35
Search For	9, 10, 12	Zoom to Selected Feature	34, 35
Select Feature Tool	39		