MOTOROLA SOLUTIONS

GUARDIAN WATER MANAGER

SERVICE DEFINITION



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1. FOREWORD

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2. About Motorola Solutions

Motorola Solutions creates innovative, mission-critical communication solutions and services that help Customers build safer cities and thriving communities by connecting people through technology. Customers around the world turn to Motorola Solutions for our innovative solutions when they want highly connected teams that have the information they need throughout their workdays and in the moments that matter most to them.

Our Customers rely on us for the expertise, services and solutions we provide, trusting our years of invention and innovation experience. By partnering with Customers and observing how our products can help in their specific industries, we are able to enhance our Customers' experience every day.

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3. ITIL

The Supplier has developed managed services and service management processes in line with the best practice ITIL Service Management Model. This systematic approach to service delivery and improvement provides us with the ability to deliver high quality, mature and robust services that are consistent with the expectations of our Customers.

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4. WHY GUARDIAN WATER MANAGER?

4.1 Our Guardian Water Management product is the replacement system for our Fire Hydrant Manager product which has been successfully deployed for a number of years. We have over three decades of experience developing, deploying and supporting software, saving our customers costs, increasing efficiency and improving data quality.

4.2 Our success lies not only in a dedication to make a positive difference to peoples' lives, but also in our expertise. With more than 150 years of technical experience amongst our staff, we constantly evolve our software whilst also ensuring we can integrate our systems into our customers' existing software and make things work smoothly. Our other products include dispatching systems, mobile solutions, incident management and incident recording software.

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5. GUARDIAN WATER MANAGEMENT SERVICE DEFINITION

5.1 OVERVIEW

5.1.1 A solution tailored for those who have to record & manage Hydrants, Emergency Water Sources and Risers, for the purposes of providing accurate and timely water information for the purposes of firefighting, including Water Officers, Water Managers, Field Technicians and Fire Crews.

5.1.2 Using our knowledge of hydrant management within the UK emergency services our goal is to develop, and continuously improve, a Water Management solution that provides a simple, intuitive interface that supports office and field-based data entry, data management and data retrieval. A solution that allows the Service to reduce administrative overheads and concentrate on the actual business of providing accurate and timely information to operational crews.

5.1.3 The Water Management Office system is Cloud Hosted and Web based to allow the Water Management process to be more flexible and to facilitate hot-desking and mobile working as well as to simplify data sharing throughout the organisation and between Services. Cloud Hosting increases flexibility, enhances deployment, fault investigation and systems update and decreases local IT infrastructure, backup and security requirements.

5.1.4 The Water Management Field system has been developed to be used on mobile devices. Windows, iOS and Android devices can be used. Sim enabled devices would be ideal and would facilitate real-time messaging between the Office and Field system. Water Management messaging uses Wi-Fi, when available, to reduce costs.

5.1.5 Working closely with existing clients and with input from a wide range of hydrant management users across the UK the Motorola Solutions Guardian Water Management solution has customer requirements at the forefront, to ensure the solution far surpasses current products.

5.2 SYSTEMS PROVIDED

5.2.1 The entry level system provides five user licences that can be allocated as Administrator, Manager or Field users.

5.2.2 Access is available to test and training systems, containing dummy data, for the familiarisation of new users.

5.3 FEATURES

5.3.1 Water Management Office System

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Feature	Create Water Source objects
Description	Ability to create new Hydrants, Emergency Water Supplies and Risers. Differentiate input fields based on the water source Category selected, Hydrant, Emergency Water Supply or Riser.
Purpose	Allow the Water Manager to add new water sources to the existing water estate.
User problem	There is a requirement to add new water sources as new building projects are progressed within the Service area.
User value	Gives the Water Manager control over the water estate
Acceptance criteria	Water sources can be created. The life cycle of the water source can be managed from Proposed through In Service to Abandoned.

Feature	Edit Water Source objects
Description	Allow the Water Manager to add, amend or delete information held within the system.
Purpose	Allows the Water Manager to ensure the data is up to date and relevant.
User problem	Data is often changing; occasionally historic data is incorrect and needs to be updated.
User value	The better currency and accuracy of the data, the greater value the operational crews and Service management will place in the Services' ability to manage its water provision.
Acceptance criteria	Water source objects can be edited, and those edits persist across Water Management users, Field System users and Mobile Data.

Feature	Move Water Source objects

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Description	Allow the Water Manager to add, amend or delete information held within the system. Amend Easting and Northing, amend Grid Reference or select Move icon and position on the map.
Purpose	Allows the Water Manager to move water source to a new location.
User problem	Water Source wrongly positioned.
User value	Ability to repositioned badly sited water sources.
Acceptance criteria	Amended Easting and Northing, relocates the water source. Amended Grid Reference, relocates the water source. Move process repositions water source on the map.

Feature	Water Source icons
Description	Icons are assigned to the water source type, category and status. Icons changes as Type, Status or Category changes.
Purpose	Essential that visually the water source objects are different in order to allow the user to identify the Type and Status of each object.
User problem	Different water source objects have different uses and defective water sources may require the Water Manager to perform additional tasks.
User value	Visual representation of the current Type, Category and Status saves time and effort in prioritising which objects require attention.
Acceptance criteria	Object is given the correct Icon when it is created. Icon changes to the correct icon when the Type, Category or Status is changed.

Feature	Create Schemes

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Description	Facilitate the creation of Schemes within Water Management. Ability to add a Scheme boundary, proposed water pipes, thoroughfares and proposed water sources. Functionality to add a Reference, Description, Address, Station, Order Reference, Plan Reference, Created Date, Invoice Reference and Invoice Due. Process the lifecycle of the Scheme, Accept, Cancel and Archive. To assign existing water sources to the Scheme and to create new water sources. Ability to add Notes.
Purpose	Allow Water Manager to respond effectively to planning applications and to identify what water source deployments are required and where they should be located.
User problem	Requirement to respond to planning applications and to visualise the impact of a new Scheme on the existing provision of water.
User value	Simple, intuitive tools to facilitate the processing of new schemes.
Acceptance criteria	Scheme lifecycle can be processed within Water Management.

Feature	Create Inspections
Description	Facilitate the creation of Ad hoc Inspections within Water Management. Ability to create an Inspection and allocate to a Technician, Crew or combination of Technicians and Crew.
Purpose	Allow Water Manager to proactively manage their Inspections based on changing FRS requirements and evolving urban landscape.
User problem	Rigid Inspection schedule based solely on Station Grounds.
User value	Flexible solution to effectively manage the FRS's water real estate.
Acceptance criteria	Inspections can be created and allocated within the Water Management solution.

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Feature	Create Defects
Description	Facilitate the creation of Defects within Water Management. Ability to add, amend, and repair Defects, within the Water Management application.
Purpose	Allow Water Manager to react to Defect information coming in from outside of the usual route, i.e. members of the public.
User problem	Water Manager needs to have the functionality to manage the entire life cycle of the Water Source.
User value	Simple, intuitive tools to facilitate the processing of Defects.
Acceptance criteria	Defect lifecycle can be processed within the Water Management solution.

Feature	Create Routes
Description	Allow the creation of Routes (Walks) linked to Station areas. The creation of Ad Hoc Routes derived from Station area, Risk, outstanding Defects and Repairs or other matching criteria.
Purpose	Organisation of work list for Technicians and or Fire Crew.
User problem	Historic requirement to provide walk list for Technicians and or crews to complete.
User value	Current solutions are proscriptive and introduce an unacceptable level of latency to the management of water sources.
Acceptance criteria	Routes can be created within Water Management. Routes can be transferred to the Field system. As each Inspection, repair or Test on a Route is completed a message is end back to the Water Management system, removing latency from the process.

Feature	Search

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Description	Facility to perform a quick search by Street, Grid reference, Postcode and Water Source Id.
Purpose	Allow the user to pinpoint a location on the map.
User problem	Inability to pinpoint a location on the map.
User value	Quickly and easily find the correct location for a Water Source, Street, Grid reference and Postcode.
Acceptance criteria	The matching values and only the matching values are returned. The Map centres on the correct location and zoom level to display all of the returned objects.

Feature	Advanced Search
Description	Facility to perform a search using the water sources, Inspections, Defects, Repair's, Scheme's or Routes' fields as criteria.
Purpose	Allow the user to pinpoint specific water sources, Inspections, Defects, Repair's, Scheme's or Routes' or groups of water sources, Inspections, Defects, Repair's, Scheme's or Routes' based on common criteria.
User problem	Inability to identify and group water sources, Inspections, Defects, Repair's, Scheme's or Routes'.
User value	Identify and report on the water estate being managed, i.e. Quickly and easily find the overall number of Hydrants, outstanding Defects and Inspections. Add criteria to identify only those hydrants that are defective and inoperable. Send completed list to a designated Technician or a group of Technicians.
Acceptance criteria	The matching values and only the matching values are returned. The Map can be centred centres on the correct location to display the returned objects. User has the option to assign list to a Technician or a group of Technicians (and\or Crews). User has the option to save the

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	Search and to export the results into a spreadsheet format.

Feature	Reporting
Description	Using the Search facility, enhance Reporting and Filtering within Water Management.
Purpose	Ability to view specific information effectively and efficiently. Ability to share specific information with the Service. Ability to share data outside the Service.
User problem	Requirement to abstract elements of the data set in order to concentrate on a specific section of the available data.
User value	Create own reports without the need for complicated external reporting tools or further development from the solution provider.
Acceptance criteria	User can perform a Search and visualise the results in a list and on the map. User has the option to save the Search and to export the results into a spreadsheet format.

Feature	Notifications
Description	Display details of completed Inspections. Notifications sent into the Office system by Technicians using the Field system. Details shown: Inspection Id, water source id, Inspection Type, Closed by, Date closed, link to defect, link to any files attached, Internal tasks completed and Notes.
Purpose	Ensure the Water Manager is fully aware of the progress of the Inspections allocated. Colour coded to easily identify which Inspections have failed and where new Defects have been created. Defects can be opened directly from the list. Water source can be opened directly from the list.

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User problem	Water Manager needs to know that Inspections are being progressed and where to target defect repairs.
User value	Reduction in latency, notifications are sent automatically once Inspection is completed. No requirement to wait for technician to return and upload files.
Acceptance criteria	Completed Inspection produces a notification. Failed Inspections colour coded to allow straightforward detection.

Feature	StreetView
Description	Facilitate access to Google StreetView.
Purpose	Allow operator to view water source surroundings both on desktop and on mobile out in the field
User problem	Sometimes difficult orienting the water source using conventional mapping.
User value	Adds another layer of detail to the information held
Acceptance criteria	Once map is selected, following triggering of the StreetView function the StreetView dialog window is displayed. System remains in StreetView mode until user selects another operation.

5.3.2 Water Management Field System

Feature	My Work worklist
Description	Visual display of the logged in user's current list of ad hoc jobs
Purpose	Allow user to access and complete all allocated tasks. Jobs displayed here have been allocated by ad hoc groupings based on searches within the system.

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	Visually represent each Technician's current work list. Allow Defects to be raised. Allow Internal Repairs (Tasks) to be completed.
User problem	Exported work lists introduce latency into the process. Importing and re-exporting also takes time and usually requires Station access. Full database access in the field could be problematic and could cause a data breach. Access to all of the Water Management functionality is not always required by the Technicians.
User value	Simple, intuitive and rapid application to allow users to complete their jobs efficiently and effectively.
Acceptance criteria	Technician's allocated jobs appear in the work list on the App. Worklist can be actioned and each stage of the operation is clear and requires the minimum of user actions. ● Defects can be raised and Water Source is updated in Water Management Office System. ● Defects can be closed and Water Source is updated in Water Management Office System. ● Photographs can be added. ● Inspections can be passed. ● Inspections can be failed. ● Internal Repairs (ie Tasks) can be added as completed.

Feature	Routine worklist
Description	Visual display of the logged in user's current list of allocated Routes
Purpose	Allow user to access and complete all allocated tasks. Jobs displayed here have been allocated by Station and Route aka, Walk. Visually represent each Technician's current work list. Allow Defects to be raised. Allow Internal Repairs to be created.
User problem	Exported work lists introduce latency into the process. Importing and re-exporting also takes time and usually requires Station access. Full database access in the field could be problematic

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	and could cause a data breach. Access to all of the Water Management functionality is not always required by the Technicians.
User value	Simple, intuitive and rapid application to allow users to complete their jobs efficiently and effectively.
Acceptance criteria	Technician's allocated jobs appear in the work list on the App. Worklist can be actioned and each stage of the operation is clear and requires the minimum of user actions. ● Defects can be raised and Water Source is updated in Water Management Office System. ● Defects can be closed and Water Source is updated in Water Management Office System. ● Photographs can be added. ● Inspections can be passed. Inspections can be failed.

Feature	Location tab
Description	Display the Hydrant, Open Water Source or Riser location details. Description, Building name\number, Street, Locality, Town, Post code, Location, Eastings & Northings and Grid reference.
Purpose	Provide information previously collected to the Field Technician.
User problem	Historic information may be inaccurate and difficult to confirm without being onsite.
User value	Information is available in the Field, to confirm the correct water source is being tested and that information held is still accurate.
Acceptance criteria	Information displayed is accurate and can be edited and updated information is available in all other systems.

Feature	Water Source tab

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Description	Display the Hydrant, Open Water Source or Riser water source details Tags, Classification, Station, Surface, Flow rate, Pressure, Mains size and Notes.
Purpose	Provide information previously collected to the Field Technician.
User problem	Historic information may be inaccurate and difficult to confirm without being onsite.
User value	Information is available in the Field, to confirm the correct water source is being tested and that information held is still accurate.
Acceptance criteria	Information displayed is accurate and can be edited and updated information is available in all other systems.

Feature	Hazards tab
Description	Display the Hydrant, Open Water Source or Riser Hazard details. Hazard severity, Hazards, Control measures, Second Technician required, Road speed, Hazard information and Hazard flag.
Purpose	Display the Hazard information previously gathered in relation to the selected Hydrant, Open Water Source or Riser and facilitate the addition of new information or the amendment of existing information.
User problem	Current Hazard information is missing or incorrect.
User value	Efficient process to update Hazard information to safeguard future visits.
Acceptance criteria	Hazard information is displayed and is consistent with known Hazards for the selected Hydrant, Open Water Source or Riser. Hazard information can be edited and updated information is available in all other systems.

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Feature	Edit function
Description	Facility to edit the Hydrant, Open Water Source or Riser details in the Location, Water Source and Hazards tabs.
Purpose	Facilitate the amendment of Hydrant, Open Water Source or Riser details.
User problem	Hydrant, Open Water Source or Riser details are outdated or otherwise incorrect.
User value	Details can be updated immediately without the need for a complicated or long-winded process.
Acceptance criteria	Information displayed is accurate. Updated details are reflected in the Field system back in the Office system.

Feature	Inspection
Description	Facility to complete an Inspection on the Hydrant, Open Water Source or Riser.
Purpose	Allow the Technician to complete an Inspection and send the completed Inspection back to the Office System. Functionality to add type of test completed and any Internal Tasks completed.
User problem	Require workflow to complete an Inspection in an uncomplicated manner.
User value	Inspections can be completed simply and easily without the need for a complicated or long-winded process, with the completed Inspection appearing in the Notifications section of the Office system.
Acceptance criteria	Inspection can be completed, Passed or Failed. Type of Test can be selected. None, one or more Internal Tasks can be added. Notes can be added. The username and date of the Inspection is populated automatically. Any and all updated information is timestamped and transferred back to the Office System

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Feature	Tests
Description	Workflow to identify the type of test being carried out.
Purpose	Clearly show the type of test carried out during the Inspection.
User problem	Not all Tests take an equal amount of time to complete, the test completed adds to the time taken and the overall cost of maintaining the individual Hydrant, Open Water Source or Riser.
User value	Simple, easy to operate User Interface, facilitating entry of
Acceptance criteria	Inspection can be completed, Passed or Failed. Type of Test can be selected. None, one or more Internal Tasks can be added. Notes can be added. The username and date of the Inspection is populated automatically. Any and all updated information is timestamped and transferred back to the Office System

Feature	Internal Tasks
Description	Workflow to identify any Internal Tasks that could be carried out.
Purpose	Clearly show any Internal Tasks carried out during the Inspection.
User problem	Not all Inspections take an equal amount of time to complete, the number of Internal Tasks completed adds to the time taken and the overall cost of maintaining the individual Hydrant, Open Water Source or Riser.
User value	Simple, easy to operate User Interface, facilitating entry of none, one or more Internal Tasks.
Acceptance criteria	Inspection can be completed, Passed or Failed. Type of Test can be selected. None, one or more Internal Tasks can be added. Notes can be added.

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	The username and date of the Inspection is populated automatically. All updated information is timestamped and transferred back to the Office System.

Feature	Defects
Description	Facility to view, add and repair Defects to the Hydrant, Open Water Source or Riser details
Purpose	Ensure that Defects are identified and the information is quickly passed From the Field system to the Office system and onward to the Mobile Data system deployed.
User problem	Efficient process required to inform the Water Manager and update Mobile Data when a Water Source is defective or has been repaired.
User value	Efficient and effective workflow to view, add and repair Defects.
Acceptance criteria	Defect can be added. Visual Defect indicator has increased by one. Inspection can only be failed with an outstanding Defect. Defect can be repaired. Visual Defect indicator has decreased by one. Inspection can only be passed without an outstanding Defect. Updated Defect information is transferred back to the Office System and colour coded to reflect either a passed or a failed Inspection.

Feature	Search
Description	Facility to search for on a Hydrant, Open Water Source or Riser Id and open an Inspection linked to that object.
Purpose	Quickly find a Hydrant, Open Water Source or Riser.
User problem	Find a Hydrant, Open Water Source or Riser without knowing the Street and Route the object belongs to.
User value	Efficient access to Inspections.

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Acceptance criteria	Inspection returned for matching Id.

Feature	Near Me
Description	Facility to automatically search the surrounding area for Hydrants, Open Water Sources and Risers not currently assigned to the user.
Purpose	Allow the Technician to access any Hydrant, Open Water Source or Riser in the system, over and above the Hydrants, Open Water Sources and Risers already assigned to that Technician. Functionality to edit the object selected, create Inspections and add or resolve Defects.
User problem	Hydrants, Open Water Sources and Risers not assigned to the Technician cannot be viewed and inspections and defects cannot be created or amended.
User value	Ability to access any Hydrants, Open Water Sources and Risers without the need to hold all of the information permanently on the device.
Acceptance criteria	Following selection of the Near Me button, the map appears and all Hydrants, Open Water Sources and Risers in the surrounding area are displayed, whether they are assigned to the Technician or not. Hydrants, Open Water Sources and Risers can be accessed through the map and their details edited, Inspections and defects created.

Feature	StreetView
Description	Facilitate access to Google StreetView.
Purpose	Allow operator to view water source surroundings.
User problem	Sometimes difficult orienting the water source using conventional mapping.
User value	Adds another layer of detail to the information held

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Acceptance criteria	Once map is selected, following triggering of the StreetView function the StreetView dialog window is displayed. System remains in StreetView mode until user selects another operation.

Feature	Show On Map
Description	Display the Hydrant, Open Water Source or Riser location on the mapping.
Purpose	Facility to confirm the hydrant is shown in the correct location and to allow the position of the object to be amended using through the map and update the central database.
User problem	Technicians need to be able to confirm the location of the object on the mapping and update the position if it is in the wrong location.
User value	Effective and efficient updating of wrongly plotted Hydrants, Open Water Sources and Risers
Acceptance criteria	Select the menu option, Show On Map. Map opens with the correct object displayed and highlighted. Option to edit the location of the object.

Feature	Upload file
Description	Enable the upload of files to the Water Source. Photographs taken on the Field device or transferred to the Field device can be attached to the Water Source
Purpose	Provide additional information on the Water Source.
User problem	Location of the Water Source can be difficult to ascertain.
User value	Knowledge retention for future Inspections and information transfer between Technicians and between Technician and Water Manager.

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Acceptance criteria	Previously uploaded files are available to be viewed. Files can be uploaded and are viewable in the Field system and back in the office system.

Feature	Notes
Description	Display the Hydrant, Open Water Source or Riser location Notes. Facilitate the addition of Notes through the Field System
Purpose	Allow the Field Technician to view previous Notes on the Water Source and to add Notes for future reference by the Water Manager and Field Technicians.
User problem	Technicians need to be able to view and create Notes.
User value	Knowledge transfer between Technicians and between Technician and Water Manager.
Acceptance criteria	Information displayed is accurate. Updated details are reflected in the Field system back in the office system.

5.3.3 New Features Recently Completed

Feature	Configuration Tool
Description	Add, Edit, Remove Look Ups
Purpose	To allow authorised users to add, edit and remove selection options for key items
User problem	Often the customer has to contact or pay the supplier to edit look up values
User value	Authorised users able to manage own options for key data and update selections within the application within contacting the supplier
Acceptance criteria	Authorised users able to add, edit and remove (archive) key look up values

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Feature	Dashboard
Description	View key information
Purpose	To provide a visual overview of some of the key data within the system
User problem	Some numbers are required frequently and often, need a place to look at basic numbers
User value	The dashboard will provide minimal key data for inspections, defects, schemes and repairs
Acceptance criteria	For a given time period, Inspections Completed and Due, Schemes Created and Returned, Defects Reported and Closed, Repairs Created, Completed/Closed.

5.4 Features Coming Soon

Simple Gazetteer	The Water Management system will be expanded to include searching it's internal simple Gazetteer. Users will be able to search for existing addresses, edit these and add new. This will speed up address entry for new schemes/water sources and allow a better quality of data.

5.5 Guardian Mobile

5.5.1 When used in conjunction with the Motorola Solutions Guardian Mobile solution, operational crews can perform Defect and Usage Reporting back into the core system without needing access to the Water Management database.

5.6 Mapping

5.6.1 Water Management includes access to Azure mapping by default. Integration with the purchasing organisation's mapping server is an option.

5.6.2 Integration with a local mapping server:

5.6.2.1 The mapping server must be WMS compatible;

5.6.2.2 Adequate access must be made to allow the server to be accesses via the web.

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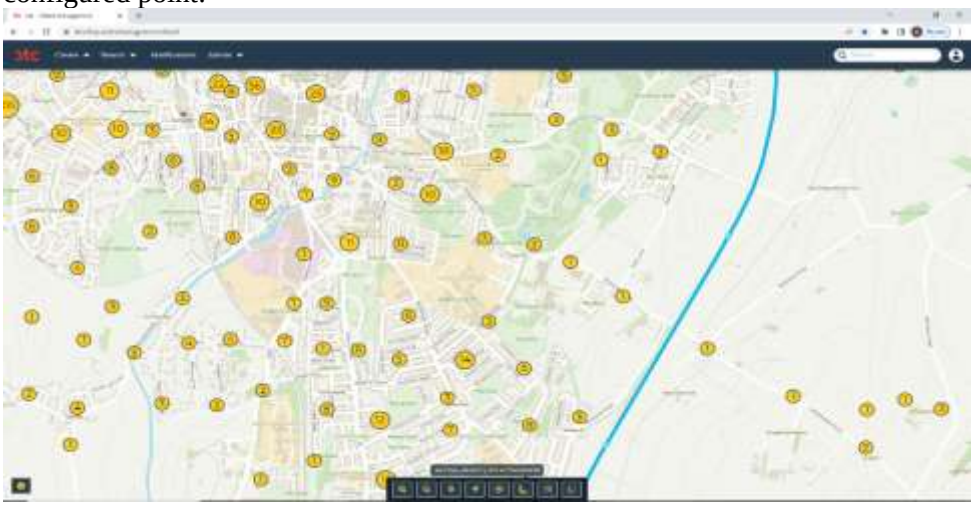
6. WORKFLOW

6.1 OFFICE SYSTEM

6.1.1 The Water Management Office System User Interface is designed around the map view, which shows water sources in geographic context.

6.1.2 The core detail associated with the object will be displayed within the panel, allowing the operator the ability to quickly jump from object to object and view the basic summary

6.1.3 The system utilises map clustering technology to represent clusters of water sources. This feature is automatically triggered if the map zoom level increases beyond a configured point:



6.2 QUICK ACCESS PANEL

6.2.1 Our summary panel allows operators to perform a series of commonly executed actions via the embedded map panel.

6.3 NAVIGATION

6.3.1 The map view can be navigated using one of the following methods:

6.3.1.1 Mouse click / drag events

6.3.1.2 Embedded easy access map control options

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6.3.2 Navigation buttons

6.3.2.1 Each button has its own distinct function (from left to right):

6.3.2.2 Zoom In – Increase the zoom level at the centre point of the map

6.3.2.3 Zoom Out – Decrease the zoom level at the centre point of the map

6.3.2.4 Reset Rotation – Reset the map rotation to its default orientation

6.3.2.5 Selection Tool – Switch back to the default selection tool

6.3.2.6 Create Water Source – Switches the application into 'add mode', allowing the operator to click on the map and quickly add a new POI

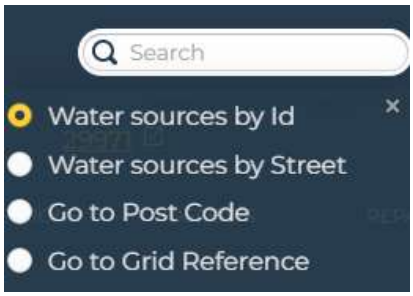
6.3.2.7 Measure Distance – Tool to measure the total distance between a series of points. The total distance is calculated in metres.

6.3.2.8 Google Street View – Allow the operator to choose any point on the map and display the Google street capture of the road segment within an embedded popup

6.4 QUICK SEARCH

6.4.1 The global quick search feature supports searching based on coordinates and post codes from within the map GUI. The Map view is automatically centred on the located area when the Postcode or Coordinates are found. The global quick Search feature also searches for Water Source Id.

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6.5 SEARCH

6.5.1 Enhance Search capability gives you complete control over your data.

6.5.2 Open the details of any returned Hydrant, Open Water Source or Riser returned in the search.

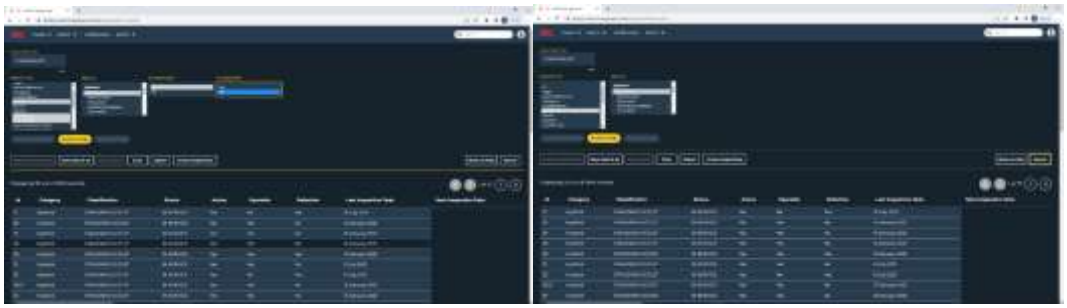
6.5.3 Add Search criteria as required to build more detailed searches.

6.5.4 Allocate results to Technicians or Crew.

6.5.5 Save Search

6.5.6 Export results to a spreadsheet format.

6.5.7 Facility available to search on Inspections, Defects, Repairs, Schemes and Routes, in addition to Water Sources.



6.6 SCHEMES

6.6.1 Manage Schemes and Mains Replacements.

6.6.2 Manage the full lifecycle of a Hydrant from proposed through Operational to Abandoned

6.6.3 Add and edit boundary line, create and assign Water Sources, add and remove pipes and throughfares.

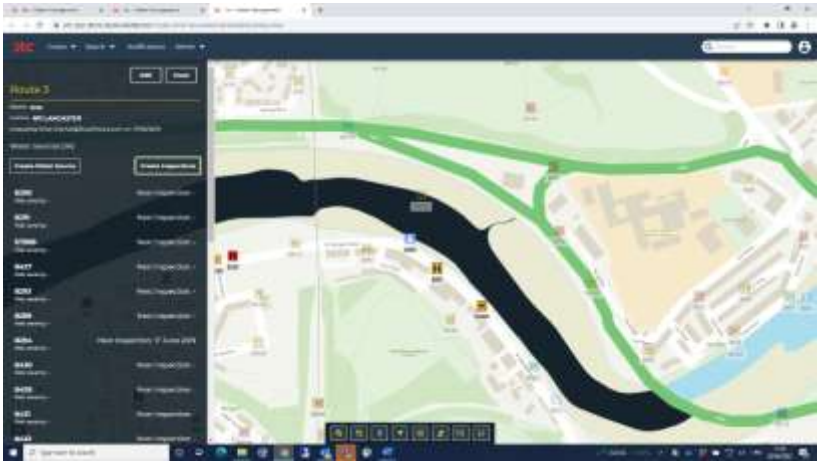
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6.7 ROUTES

6.7.1 Organise your data by Station and Route\Walk.

6.7.2 Allocate Inspections to Field Technicians.



6.8 DETAILS FULL PAGE VIEW

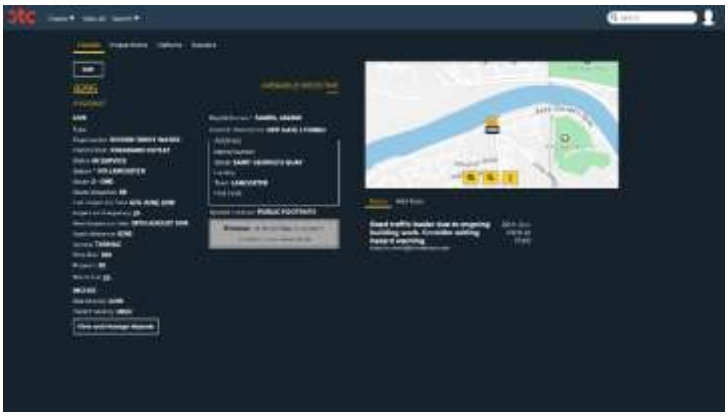
6.8.1 Use the Summary tab or the full page option to view and edit Water Source details.

6.8.2 Add notes.

6.8.3 Manage Risk Severity and Inspections Hazards.

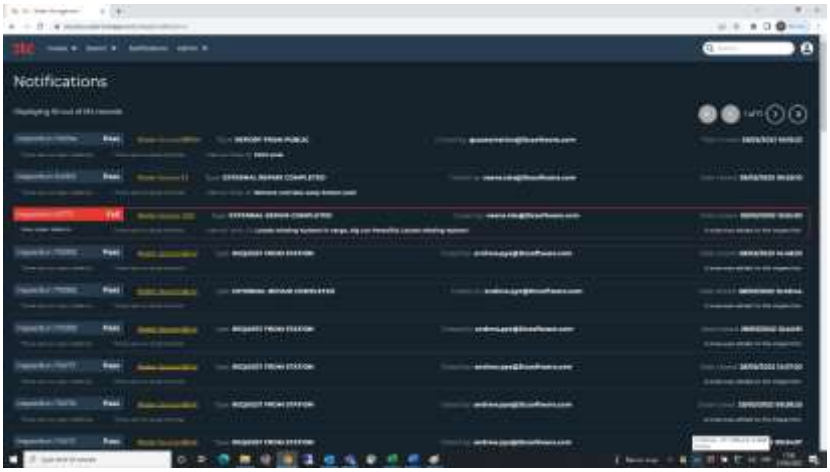
6.8.4 Attached files.

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6.9 NOTIFICATIONS

6.9.1 The Notifications tab show the details of completed Inspections, colour coded to highlight failed Inspections.

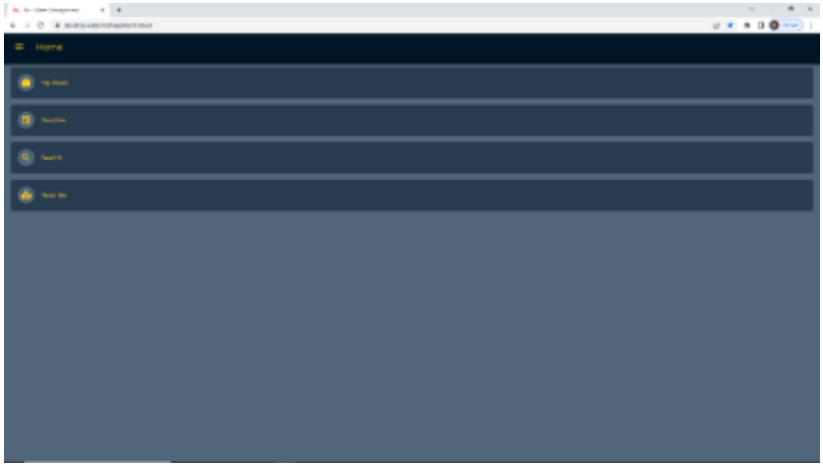


6.10 FIELD SYSTEM

6.10.1 The Water Management Field System displays the logged in Water Technician's current work list and facilitates the user quickly and easily completing Inspections, raising and closing Defects. Messaging allows the Work List to be updated in real-time and completed Inspections are immediately sent back to the Water Management database to eradicate latency.

6.10.2 The technicians' Field System has been designed for use on a mobile device and would normally be used using a touchscreen alone however it is device agnostic and can also be used with a keyboard and mouse.

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6.11 MY WORK

6.11.1 Visual display of the logged in user's current list of allocated ad hoc Inspections.

6.11.2 Facility to display the work list as a map view, only the water sources ion the list are displayed.

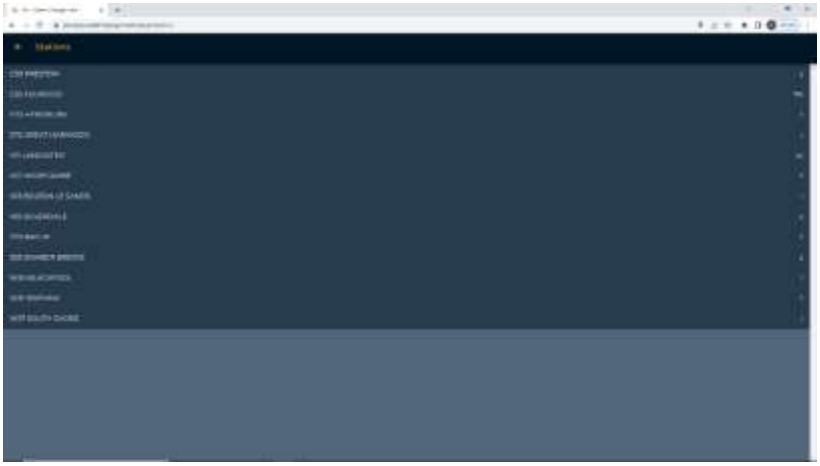
6.11.3 The currently selected water source's label is highlighted Black.



6.12 ROUTINE

6.12.1 Visual display of the logged in user's current list of allocated Inspections by Station and Route.

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6.13 SEARCH

6.13.1 Search facility to find Hydrants, Open Water Sources and Risers through their Id.

6.14 NEAR ME

6.14.1 Facility to automatically search the surrounding area for Hydrants, Open Water Sources and Risers not currently assigned to the user. Map windows is displayed showing nearby Hydrants, Open Water Sources and Risers.

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7. System Design

7.1 Web Browser

7.2 In order to access the system, customers must install a web browser compatible with Water Management (see below). The installation and support of this is the responsibility of each customer. Water Management is currently compatible with the latest versions of the following browsers:

7.2.1 Chrome.

7.2.2 Safari.

7.2.3 (Chromium) Edge.

7.3 System Load Capacity and Scalability

7.3.1 The expected system load is:

7.3.1.1 Maximum of 25 FRSs accessing the system

7.3.1.2 Maximum of 10 Motorola Solutions Software support users

7.3.1.3 Maximum of 100 concurrent users

7.3.2 If the number of customers exceed this, the system can be rapidly scaled to provide additional capacity using Azure Services.

7.4 Security and Resilience

7.4.1 Security of the system is important as it contains potentially sensitive data. The system is secured as described below.

7.4.2 Web Traffic / Data in Transit All web traffic is secured by HTTPS – the system uses a wildcard SSL Certificate for the TLD. This includes client traffic and data sent to web services.

7.4.3 The SSL Certificate is provided and managed by a trusted certificate provider.

7.4.4 It is each customer's responsibility to configure their own firewalls and networks for access.

7.4.5 User Authentication Users are authenticated using Forms authentication against credentials stored within the system. There are different credentials for the Live and Test environments. Passwords must meet minimum complexity levels. User sessions automatically time out after a system-wide configurable time period.

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7.5 Network / Internet Security

7.5.1 The Water Management system undergoes annual penetration testing, which is performed against the server by a reputable third party. We resolve any issues that are identified that potentially allow sensitive data to be compromised.

7.5.2 It is the customer's responsibility to ensure that the connections are secured at their end of the connection. For example, by ensuring browsers and operating systems are correctly patched and anti-virus and anti-malware software is used.

7.5.3 Additional monitoring and auditing is provided by the application layer logging infrastructure and event logs.

7.5.4 Where appropriate, automated notification of issues is provided to our support team to allow proactive resolution of security and resilience issues.

7.6 Data Segregation and Data Access

7.6.1 All customer systems use a separate database and are therefore segregated from each other. Customers are not able to access each other's data via the web application.

7.6.2 Customers are not able to access the databases directly. All data access is via the supplied Water Management applications.

7.6.3 Motorola Solutions is able to access all the client's data for the purposes of delivering and supporting the system only. This is subject to Data Protection and Information Security policies covered under ISO 27001.

7.7 Backup and Disaster Recovery

7.7.1 Data is stored within the database server. No sensitive data is stored on the internet facing Web Server.

7.7.2 Data is backed up from the database server regularly using Azure's automated backup systems. In between backups, transaction logs are recorded. This allows point in time recovery of the system and minimal data loss. Typically, an AWS 'point in time restore provide restorations to within five minutes.

7.7.3 Data backups are only maintained for the purpose of recovery, and therefore only kept for a short period of time.

7.8 Security & PEN Testing

7.8.1 All web traffic is secured by HTTPS – the system uses a wildcard SSL Certificate for the TLD. This includes client traffic and data sent to web services.

7.8.2 The SSL Certificate is provided and managed by a trusted certificate provider.

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7.8.3 The Azure hosting provides software firewall provision, which we configure to only allow the traffic required to access the Water Management system and the incoming and outgoing interfaces.

7.8.4 It is each customer's responsibility to configure their own firewalls and networks for access.

7.8.5 Users are authenticated using Forms authentication against credentials stored within the system. There are different credentials for the Live and Test environments. Passwords have to meet minimum complexity levels. User sessions automatically time out after a system-wide configurable time period.

7.8.6 The system undergoes annual penetration testing, which is performed against the server by a reputable third party. We resolve any issues that are identified that potentially allow sensitive data to be compromised.

7.8.7 It is the customer's responsibility to ensure that the connections are secured at their end of the connection. For example, by ensuring browsers and operating systems are correctly patched and anti-virus and anti-malware software is used.

7.9 Data Extraction / Removal

7.9.1 Should a customer decide to end their usage of the system, or migrate to the self-hosted model, their data will be permanently removed from the system.

7.9.2 Their data is removed as follows:

7.9.2.1 Data is removed by permanently erasing the databases from the system.

7.9.2.2 Backups of the databases are permanently erased (subject to the short retention period).

7.9.2.3 Their hosted virtual machine instance is shut down and erased.

7.9.2.4 Any user accounts or other access information used by the customer is removed.

7.9.3 Note: Once the retention period has passed, there will be no ability to restore the system.

7.9.4 Prior to the permanent removal of their system, we provide an export of all data the customer has, in the system. The volume of data and time period will depend on the customer and whether they chose to remove any data after a set number of years. At present, this will be an export of the SQL server database. This export process may change as time passes. An export of the data stored is included as part of our service in the licencing cost.

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7.10 LINK TO MOTOROLA SOLUTIONS AND THIRD-PARTY MOBILE DATA

7.10.1 Motorola Solutions' Guardian Water Management currently provides an export to Guardian Mobile, the Motorola Solutions Fire Mobile Data solution. Guardian Mobile can also provide an input to Water Management for Crews to raise defects directly into the system.

7.10.2 Motorola Solutions' Guardian Water Management also provides an export to 3rd party Mobile Data systems and will, at least, replicate the client's current export process.

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8. SYSTEM ROLL-OUT

8.1 ON-BOARDING

8.1.1 Key steps:

8.1.1.1 Raise the order, sign the T&Cs and appoint project teams

8.1.1.2 Sign DEA and provide a copy of your database for a full data migration

8.1.1.3 Get your test environment with your data and 1 day of training

8.1.1.4 UAT cycle for you to report any issues or raise queries

8.1.1.5 Build the production environment, preparations for go live

8.1.1.6 Cut-over, heightened support, project closure

8.1.2 We will migrate and onboard historic data into the system.

8.1.3 We will provide:

8.1.3.1 a one day train the trainer session

8.1.3.2 user documentation

8.1.3.3 administrator documentation

8.1.3.4 access to user forum

8.2 IMPORT USERS

8.2.1 Motorola Solutions imports users into the system based on a list provided by the FRS. For each level of user (level 1 to 3), the FRS will provide a list of usernames and passwords.

8.3 MANUAL CONFIGURATION

8.3.1 The current version of the Water Management solution does not provide an interface for adding and configuring Users. Motorola Solutions will add Users and will carry out any and all changes required, under the existing maintenance agreement until the required functionality is available to the clients' System Administrator. At which point the clients' System Administrator will commence configuring their own users, using the web interface built into the Water Management system.

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8.4 Data Migration

8.4.1 Migration to the new System is a critical phase in the project delivery, for which we will take responsibility for smooth phasing in and hand-over of the new system whilst existing Systems are kept in operation. Motorola Solutions will perform a complete Data Migration from the client's current system and transfer the data into the Water Management solution.

8.4.2 Data Migration costs are included within the pricing supplied.

8.5 Mapping

8.5.1 Water Management includes access to Azure mapping by default. Integration with the purchasing organisation's mapping server is an option.

8.5.2 Integration with a local mapping server:

8.5.2.1 The mapping server must be WMS compatible.

8.5.2.2 Adequate access must be made to allow the server to be accesses via the web.

8.5.3 MasterMap

8.5.3.1 The Motorola Solutions Guardian Water Management solution can operate with either the default Azure mapping or with the FRS Service MasterMap data. Motorola Solutions, once setup as a Contractor under the Public Sector Geospatial Agreement with Ordnance Survey, can setup your MasterMap data within the Azure cloud and deploy your updated MasterMap directly into the system, without the need for the FRS download, translate or process and then upload any of the MasterMap data.

8.5.3.2 A minimum of two MasterMap updates are included per annum.

8.6 Training Course

8.6.1 We consider training to be one of the most critical parts of the solution implementation. Ensuring the correct people are trained at the right stage of the project ensures that the system is configured correctly and has a smooth transition into a live environment.

8.6.2 The following course is provided:

8.6.2.1 Water Management module

8.6.2.2 Field System module

8.6.2.3 Water Management Administrators

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8.6.3 Max 6 delegates, this is typically provided in a one-day session.

8.6.4 We will provide access to a fully functional self-contained online training system, accessible by all users from their normal work location, using a demo data set.

8.6.5 'How To' documentation and accessible online videos are provided, guiding you through the features of the system. Spend up to a day with one of our Product Managers or your Account Manager on using the system and setting up the system for your processes. Our courses cater for up to 6 delegates at a time.

8.7 Documentation Provided

8.7.1 We will supply the electronic User Manual.

8.8 General Caveats

8.8.1 All IPR for the software designed and developed by Motorola Solutions will remain with Motorola Solutions. This includes the application software, database design, overall solution design and any other IP pertinent to this solution.

8.8.2 Each Fire & Rescue Service will require a licence which will cover them for their current geographical area of operation, and they will be required to sign an end user licence agreement as detailed in the contract document

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