

Staff Summary Report



Council Meeting Date: 11/08/07

Agenda Item Number: _____

SUBJECT: Request approval of an addendum to a professional services design contract with Advantica, Inc. for Water Department GIS Implementation.

DOCUMENT NAME: 20071108PWDR05 **WATER MANAGEMENT ADMINISTRATION (0811-13) PROJECT NO. 3202022**

SUPPORTING DOCS: Yes

COMMENTS: Addendum to a professional services design contract for an amount not to exceed \$40,200, subject to the execution of the final written addendum.

PREPARED BY: DONNA RYGIEL, ENGINEERING CONTRACT ADMIN. (x8520)

REVIEWED BY: ANDY GOH, DEPUTY PW MANAGER/CITY ENGINEER (x8896)

LEGAL REVIEW AS TO FORM: JENAE NAUMANN, ASSISTANT CITY ATTORNEY (x8402)

FISCAL NOTE: Sufficient funds are available in Capital Improvement Fund No. 3202022.

RECOMMENDATION: Approve addendum.

ADDITIONAL INFO: This addendum covers additional design services including synchronization of meter information between GIS, Hansen IMS and Banner CSS, and additional on-site consulting.

The fee of \$40,200 was negotiated by staff and is considered reasonable for the scope of services. The original contract amount of \$633,750 plus approval of this addendum will increase the amount of the original contract to \$673,950.

This approval is conditioned upon execution of the final written addendum and approved submittals of any required documents.

Approved by Glenn Kephart, Public Works Manager



8089594

CITY OF TEMPE, ARIZONA
PUBLIC WORKS DEPARTMENT
DIVISION OF ENGINEERING

CONSULTANT AGREEMENT

ADDENDUM NO. ONE

PROJECT NO. 3202022

PROJECT NAME: WATER DEPARTMENT GIS IMPLEMENTATION

This AGREEMENT made and entered into on the 8th day of November 2007, by and between the CITY OF TEMPE, ARIZONA, a municipal corporation, hereinafter called the CITY and ADVANTICA, INC., hereinafter called the CONSULTANT amends the original Agreement made and entered into by and between the same parties on November 16, 2006, (C2006-285).

For and in consideration of the mutual covenants and conditions hereinafter contained, it is agreed by and between the CITY and the CONSULTANT as follows:

I. The original Agreement shall be extended to cover:

Additional design services as described in Exhibit "A" attached.

II. The services for the extension shall be the same as those stipulated under the original contract.

III. For services described in this Agreement Addendum, the method of payment shall be payment by installments. Total compensation for services performed shall not exceed \$40,200.00, which shall be payment in full for all labor, equipment, materials and supplies needed to perform these services This fee includes an allowance of \$6,000.00 for reimbursable expenses, which in no event will ever be more than actual cost.

All other provisions of the original contract Schedule of Payment Section shall apply to this Addendum.

Cost Analysis:	<u>Professional Services</u>	<u>Reimbursables</u>	<u>Total</u>
Initial Contract Amount	\$610,000.00	\$23,750.00	\$633,750.00
Previous Addenda	\$0.00	\$0.00	\$0.00
This Addendum	\$34,200.00	\$6,000.00	\$40,200.00
NEW CONTRACT AMOUNT			<u>\$673,950.00</u>

IV. The CONSULTANT shall proceed with the work immediately upon execution of this Addendum. The CONSULTANT shall be granted a time extension as outlined below:

Notice to Proceed Date	12/5/2006
Initial Time Allowed for Completion	570 days
Total Time Extension from Previous Addenda	0 days
Time Extension for this Addendum	0 days

V. All other provisions of the original Agreement where not inconsistent with this Addendum shall remain binding on the parties hereto.

Water Department GIS Implementation
Project No. 3202022

IN WITNESS WHEREOF, the parties hereto have executed this Agreement this _____ day
of _____, 2007.

CITY OF TEMPE, ARIZONA

By _____
Mayor

By _____
Public Works Manager

ATTEST:

Recommended By:

City Clerk


(FOE) Deputy PW Manager/City Engineer

APPROVED AS TO FORM:

City Attorney

The CONSULTANT warrants that the person who is signing this Agreement on behalf of the CONSULTANT is authorized to do so and to execute all other documents necessary to carry out the terms of this Agreement.

CONSULTANT
Advantica, Inc.

Name

Title

Federal I.D. No. /Social Security No.

Certified to be a true and exact copy.

Karen M. Fillmore
Records Specialist

EXHIBIT A


ADVANTICA

Project Change Order (CO-1)

The City of Tempe Water Utilities Department (WUD) and Advantica entered into an Agreement in December, 2006 for the implementation of an enterprise GIS system. The specifics of the services agreement are contained with the "Water Department GIS Implementation Project (Project no: 3202022), dated November 16, 2006.

This document summarizes two separate extensions to the original scope of the project defined above.

Item 1) While the primary focus of the project was to convert WUD TGIS assets (water, sewer, storm, and irrigation) to the new GIS, and to integrate the GIS instance of these assets with the Tempe Hansen database, the complexity of synchronizing meter information from TGIS was determined to be beyond the original project scope of effort. To address the added complexity of synchronizing GIS meter information with Hansen, additional modifications to the GeoResults Sync and GeoResults Toolbox applications are required.

Item 2) With the rollout of the new GIS into a production mode of operation, the Tempe Water Department has requested on-site assistance during the early production period to ensure that the editors are working efficiently with the new technology to address the backlog of work (e.g. As-Built) that need to be input into the new system. As a result of this request, Marshall will provide an on-site consultant on site for an approximated 4 days per month for the next several months. The focus of this on-site consulting effort will be to assist with the many administrative tasks necessary to ensure department staff become familiar with the ArcGIS product and Marshall developed productivity tools.

This change order document describes the scope and cost impact of the above two efforts.

Project: TEMPE0645

Change Order Date: September 24, 2007

Contract date: November 16, 2207

Contract for: City of Tempe WUD

ITEM 1: METER SYNCHRONIZATION

Description of change:

Please see attached specification memo document from Marshall GIS Consulting, dated August 21, 2007.

Cost Impact:

\$15,000 (as described in the attached document)

ITEM 2: ON-SITE CONSULTING

Description of change:

Marshall consulting will provide up to four days of on-site assistance per month for the next four months at a rate of \$150.00 per hour, plus travel and accommodations, based on the following schedule:

STERNERSOFTWARE

Advantica, Inc. 600 Bent Creek Blvd, Suite 100, Mechanicsburg, PA 17050 USA
Tel +1 717 724 1900 Fax +1 717 724 1901 www.advanticagroup.com





Project Change Order (CO-1)

ADVANTICA

		Labor	Expenses (estimated)
September 25th thru 28th	Dana Trethewy	4,800	1,500
October 16th thru 19th	Jay Florey	4,800	1,500
November 13th thru 16th	Jay Florey	4,800	1,500
December 11th thru 14th	Jay Florey	4,800	1,500
Totals		\$19,200	\$6,000

Cost Impact:

\$25,200 (Expenses are estimated)

TEMPE APPROVAL:

BY: Mark Weber/Alan Tanana

TITLE: Project Manager

DATE: _____

Advantica, Inc. APPROVAL:

BY: Chris Kiefer

TITLE: Project Manager

DATE: _____

MAN



marshall

GEORESULTS[®] SYNC[™] AND TOOLBOX[™] CUSTOMIZATION

PREPARED FOR THE CITY OF TEMPE

AUGUST 21, 2007

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Olympia, WA 98502-8325
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info@marshallgis.com
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TABLE OF CONTENTS

I. EXECUTIVE SUMMARY	3
II. PROJECT TASKS	3
TASK 1 DEVELOP GEORESULTS SYNC CUSTOMIZATION: ABANDONED FEATURES.....	3
TASK 2 QA/QC GEORESULTS SYNC CUSTOMIZATION: DESIGN AND ABANDONED FEATURES	3
TASK 3 DEVELOP GEORESULTS SYNC CUSTOMIZATION: WATER METERS.....	4
TASK 4 QA/QC GEORESULTS SYNC CUSTOMIZATION: WATER METERS	4
TASK 5 DEVELOP GEORESULTS TOOLBOX CUSTOMIZATION.....	4
TASK 6 QA/QC GEORESULTS TOOLBOX CUSTOMIZATION.....	4
TASK 7 REVIEW CUSTOMIZATIONS.....	4
TASK 8 MAKE FINAL MODIFICATIONS	4
TASK 9 DELIVER AND PROVIDE DOCUMENTATION	5
III. INVESTMENT ANALYSIS.....	5



GeoResults[®] Sync[™] and Toolbox[™] Customization

Prepared for the City of Tempe

I. EXECUTIVE SUMMARY

Marshall and Associates, Inc. (Marshall) understands that the City of Tempe (City) is looking for a solution for water meter change outs and new installations of water meters using the City's current tools (GeoResults Sync and Toolbox). In addition, Marshall will modify the GeoResults Sync tool to handle Design and Abandoned features in Hansen, prevent certain items from generating error messages on reports and streamline the tool to improve the end-user experience. Please see the following attachments for more details:

- **Attachment A** describes GeoResults Sync customization related to removing Design and Abandoned features from the error report.
- **Attachment B** describes GeoResults Sync customization related to water meter replacements and new meters.
- **Attachment C** describes GeoResults Toolbox customizations to allow desktop users to replace one water meter with another.

Note: Marshall and the City discussed using GeoResults Mobile in the field, rather than adding tools to GeoResults Toolbox. The City decided to consider GeoResults Mobile as a long term solution for handling meter change outs in the field after field staff become familiar and comfortable with the GeoResults Mobile software. The City would prefer to have both solutions (customization to Toolbox for office use and GeoResults Mobile for field use).

II. PROJECT TASKS

Task 1 Develop GeoResults Sync Customization: Design and Abandoned Features

Purpose: Develop a solution to handle Design and Abandoned features and improve/filter results in the error report dialog. This will prevent certain items from generating error messages and streamline GeoResults Sync to improve the end-user experience.

Deliverables: New installer for GeoResults Sync including customizations

Assumptions: Development will be based on Attachment A.

Task 2 QA/QC GeoResults Sync Customization: Design and Abandoned Features

Purpose: Perform internal testing of the tool to ensure quality.

Assumptions: Marshall will perform testing at our offices.

Task 3 Develop GeoResults Sync Customization: Water Meters

Purpose: Develop a solution to distinguish meter replacements from new meters, and perform the appropriate task in Hansen.

Deliverables: New installer for GeoResults Sync including customizations

Assumptions: Development will be based on Attachment B.

Task 4 QA/QC GeoResults Sync Customization: Water Meters

Purpose: Perform internal testing of the tool to ensure quality.

Assumptions: Marshall will perform testing at our offices.

Task 5 Develop GeoResults Toolbox Customization

Purpose: Develop a solution to handle meter replacements and new meters in the office within the ArcMap environment.

Deliverables: New installer with two new tools on the GeoResults Toolbox toolbar

Assumptions: Development will be based on Attachment C.

Task 6 QA/QC GeoResults Toolbox Customization

Purpose: Perform internal testing of the tool to ensure quality.

Assumptions: Marshall will perform testing at our offices.

Task 7 Review Customizations

Purpose: Allow the City to review the tools prior to acceptance.

Deliverables: Live Meeting /web conference

Assumptions: This task will be no more than four (4) hours.

Task 8 Make Final Modifications

Purpose: If the City requires any changes, Marshall will modify the tools.

Assumptions: Modification will be based on Attachment A, B and C. This will include no more than one (1) day of development under this contract.

Task 9 Deliver and Provide Documentation

Purpose:	Deliver the final installers for GeoResults Sync and GeoResults Toolbox and modify the documentation/training materials to include these new enhancements.
Deliverables:	Final Customization GeoResults Sync and GeoResults Toolbox products with documentation of enhancements
Assumptions:	N/A

III. INVESTMENT ANALYSIS

Project Tasks	Cost
Task 1 Develop GeoResults Sync Customization: Abandoned Features	\$2,400
Task 2 QA/QC GeoResults Sync Customization: Abandoned Features	\$600
Task 3 Develop GeoResults Sync Customization: Water Meters	\$2,400
Task 4 QA/QC GeoResults Sync Customization: Water Meters	\$600
Task 5 Develop GeoResults Toolbox Customization	\$4,800
Task 6 QA/QC GeoResults Toolbox Customization	\$1,200
Task 7 Review Customizations	\$600
Task 8 Make Final Modifications	\$1,200
Task 9 Deliver and Provide Documentation	\$1,200

Total Investment not to exceed: \$15,000

*Expenses are additional and will be billed as incurred.



ATTACHMENT A

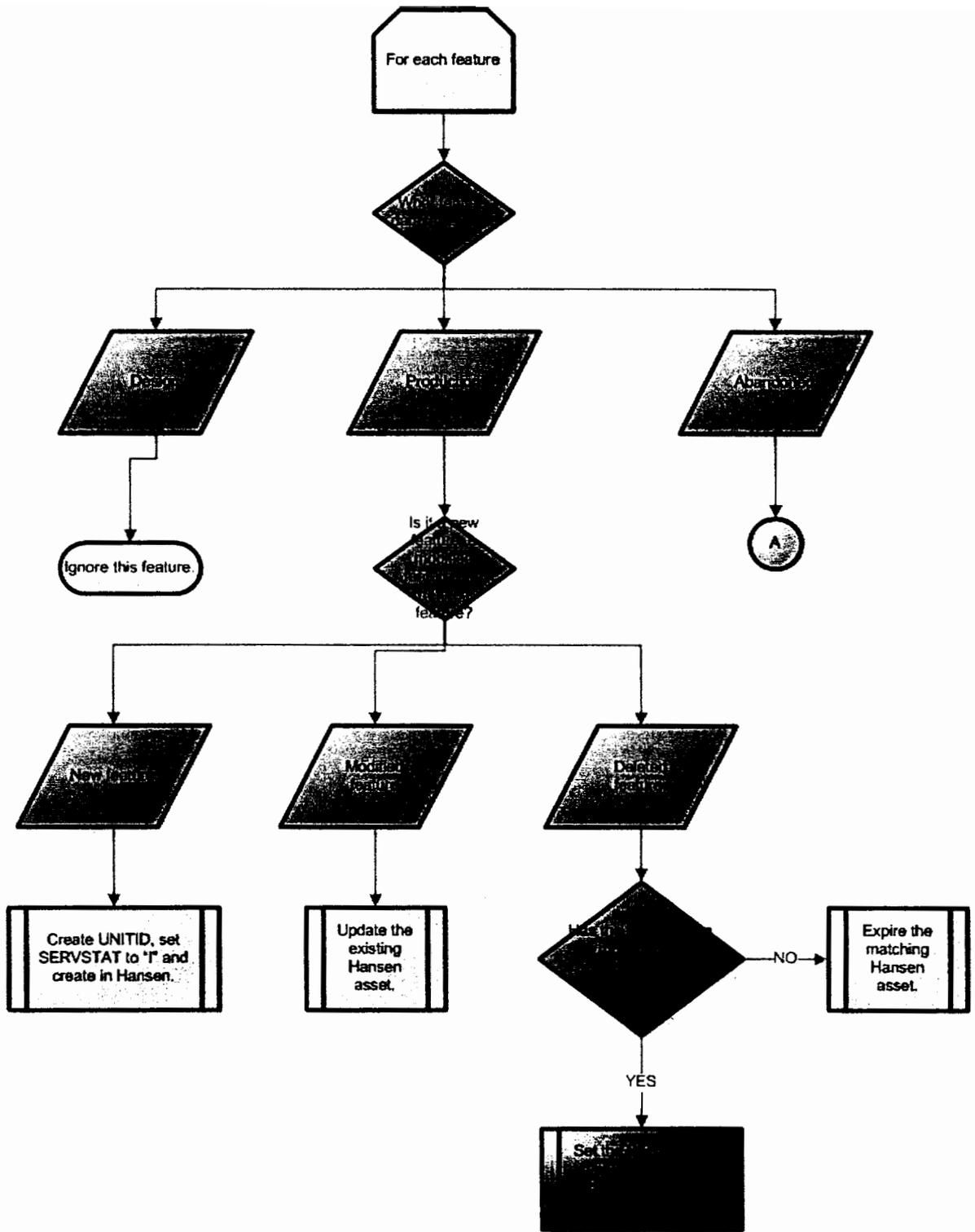
GeoResults Sync Customization

These customizations to GeoResults Sync relate to Design and Abandoned features and improve/filter some of the results in the error/report dialog.

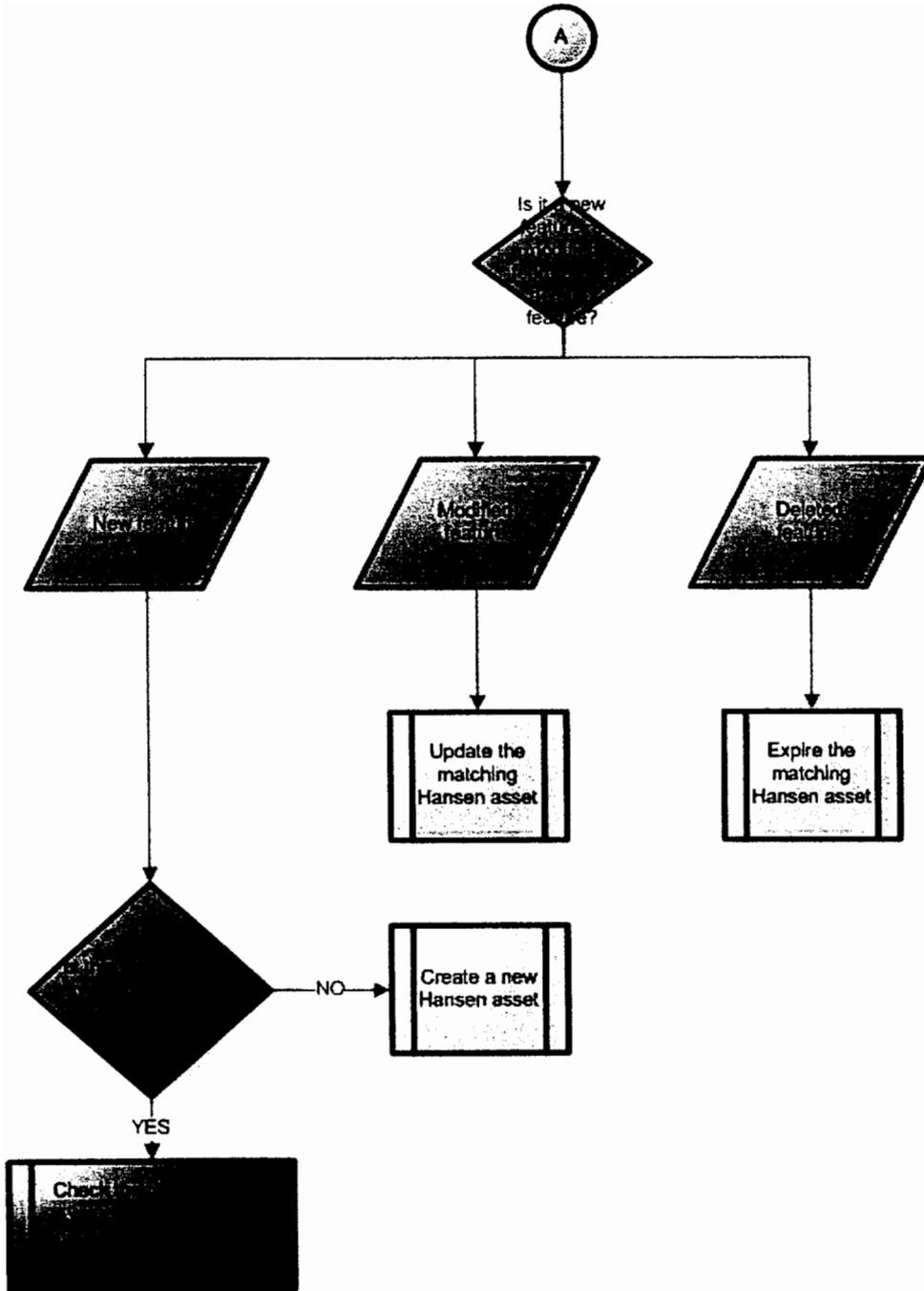
These workflows below describe the GeoResults Sync tool with the additional enhancements. The optional enhancement (shown in mint green) would have GeoResults Sync ignore features in the "Design" feature classes. This enhancement will reduce the noise in the GeoResults Sync dialog boxes by eliminating a large number of "expected" Not Reconcilable features.

The critical enhancement (shown in red) would modify how GeoResults Sync treats features that have been moved from Production to Abandoned. This enhancement is critical because GeoResults Sync's default edit action for a deleted GIS feature is to expire the matching asset in Hansen. The City does not want features moved to an Abandoned feature class to be expired. Instead, the matching feature will have its SERVSTAT value set to "A". If GeoResults Sync is not modified, the City will be required to manually Activate the Hansen assets attached to features moved from Production to Abandoned after the GeoResults Sync tool is used. See diagrams below.

A handwritten signature in black ink, located in the bottom right corner of the page. The signature is stylized and appears to consist of several loops and a long tail.



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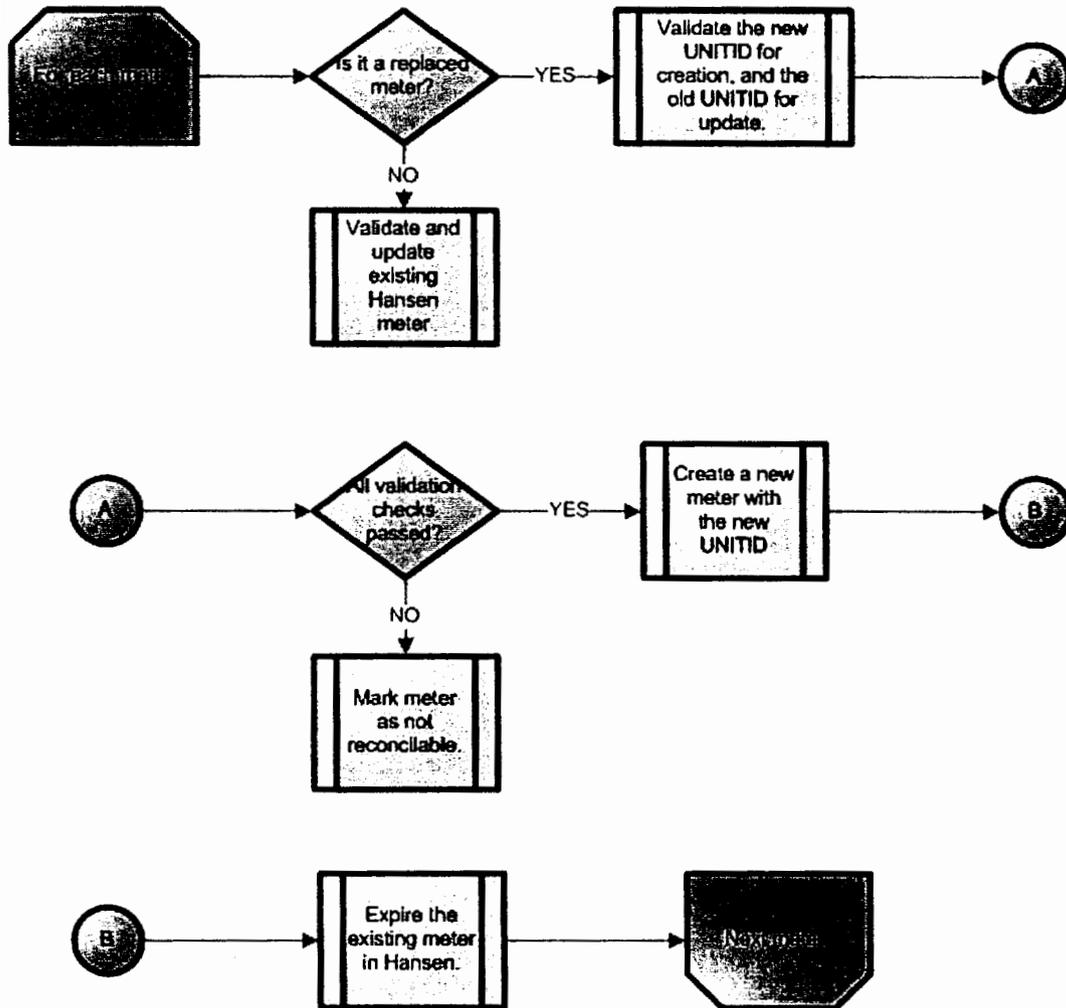


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ATTACHMENT B

GeoResults Sync Customization

This customization to GeoResults Sync relates to the water meter change outs and new water meters. Below is a diagram showing the enhancements/work flow that will be implemented with GeoResults Sync.



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ATTACHMENT C

GeoResults Toolbox Customization

Marshall will create two new tools on the GeoResults Toolbox Toolbar. Below are the procedures provided by the City.

PROCEDURES FOR CHANGING OUT AND INSTALLING NEW WATER METERS SUPPORTED BY THE W-GIS

August 16, 2007

CHANGE OUT EXISTING WATER METER

1. Work Order(s) for changing out existing water meters can originate from a Group Project created in Hansen as part of a meter change-out program OR on a Service Request received from a citizen or City worker (meter reader, Blue Stake locator, etc).
2. If the request is made on a Service Request, a CMMS staff member will locate the meter, identify the Meter Id, and create a Work Order with the appropriate Activity Code.
3. Work Order(s) are printed and distributed to Meter Team Leader.
4. The work is performed by the Meter Team.
5. The Meter Team Leader documents the final read of the meter being changed out, the new meter number, employee number, hours worked, and truck number on the Work Order.
6. Work Order(s) are returned to CMMS when work is complete.
7. CMMS closes the Work Order(s) in Hansen by entering the cost information, the date closed and value "WOC" in the Assigned To field.
8. CMMS opens the appropriate W-GIS water map document.
9. The Meter being changed out is located on the map using the Feature or Address locator.
10. The Meter Changeout button is selected and the following data entry box opens.

Old Meter Number	A123456
Old Meter Account #	003124
Old Meter Address	123 S MILL AVE
Old Meter Type	PD
Old Meter ERT Type	RESID
Old Meter Manufacturer	BADGER
Old Meter Size	.75
Old Meter Service Type	RES
Old Meter Qualifier	Free form entry by User
Replacement Meter Number	A99872772
Replacement Meter District	R (fixed value-no other accepted)
Replacement Meter Type	PD (use domain values)

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Replacement Meter Manufacturer	METRON (use domain values)
Replacement Meter ERT Type	RESID (use domain values)
Replacement Meter Size	.75 (use domain values)
Replacement Meter Service Type	RES (use domain values)
Replacement Meter Installation Date	8/15/2007

The Old Meter information displayed is for reference only and cannot be changed, with the exception of the Qualifier, a free form entry where the user can document any information necessary, relating to the Old Meter. The New Meter information is entered by the user and will be used to update the attributed data in the wpMeter feature class and to build the new meter record in Hansen as "in service" (COMPWMTR.SERVSTAT = 'I'). All data is required. Attribute values not referenced above for the New Meter can be inherited from the Old Meter. Eg Area, District, Map #, Account # as these will not normally change due to a replaced meter. The old meter record in Hansen should be coded as "out of service" (COMPWMTR.SERVSTAT = 'O') and the free form entry in the Old Meter Qualifier concatenated to the original value. COMPWMTR.ADDRQUAL.

11. A Customer Service Representative runs the Closed Work Order (WOC) report on a weekly basis. The report query determines the data to be reported by looking for entries in the HISTORY table of the Hansen database which have a value of "WOC" in the Assigned to" field.
12. When the Customer Service Representative completed the process of entering the new meter information into Banner, the "Assigned to" value in the Work Order is changed to "BOX" to indicate that all processing of the work order is complete. This will result in work orders that have been processed by Customer Service not appearing on future reports.
13. A Customer Service Representative locates the meter number in the Banner Utility Billing system and updates the meter number to the one identified on the report.

INSTALL NEW WATER METER (NEW LOCATION)

1. Each morning, CMMS staff review a report prepared from the Permits+ System which identifies new approved permits for a Water Service.
2. Based on the reported information, CMMS staff create any new water service(s) in Hansen. They determine the quarter section that the new water service is to be installed in and the next available water service number in the corresponding quarter section. Eg. If the highest numbered water service in the NE12N4 quarter section is 15, the new service will be created in Hansen with a Service Line Id of NE12N4WS0016.
3. CMMS staff create a Hansen Work Order on the Water Service asset for the installation. A number of different Activity Codes may be used depending on the type of water service to be installed.
4. CMMS staff create a Pick List in Hansen for the parts to be included in the new Water Service.

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5. The Work Order is printed, along with a W-GIS map of the installation location and distributed to the Service Installation Team Leader.
6. The work is performed by the Service Installation Team.
7. The Work Order is returned to CMMS when work complete.
8. CMMS staff close the Work Order in Hansen by entering the new meter number and billing address in the Comments area, the cost information, the date closed and value "WOC" in the Assigned To field.
9. The W-GIS map created in step 5 and updated by the Service Installation Team goes to WUD Mapping for entry of the service and meter into W-GIS.
10. The Permit is digitized and attached to the Water Service asset in Hansen using the OLE container.
11. CMMS opens the appropriate W-GIS water map document.
12. The address where the new Meter is being added is located on the map using the Address locator.
13. The Meter Add button is selected, a point feature is created on the map representing the location of the new water meter, and the following data entry box opens. (If possible also build the service line from the closest water main to the meter, assuming a 90 degree from the main, to support connectivity).

New Meter Number	A99872772
New Meter Address	1234 S MILL AVE
New Meter Qualifier	Free form entry by user
New Meter Area	NW16N4 (use domain values)
New Meter District	N (fixed value-no other accepted)
New Meter Map #	Free form entry by user
New Meter Type	PD (use domain values)
New Meter Manufacturer	METRON (use domain values)
New Meter ERT Type	RESID (use domain values)
New Meter Pressure Zone	S (use domain values)
New Meter Size	.75 (use domain values)
New Service Type	RES (use domain values)
New Meter Installation Date	8/15/2007
New Meter Comments	Free form entry by user

The NewMeter information entered by the user will be used to create the attribute data in the wpMeter feature class and to build the new meter record in Hansen as "in service" (COMPWMTR.SERVSTAT = 'I'). All data is required.

The Account # (PREMISE in Banner) is not recorded on the Work Order, so cannot be entered into the new meter record at this time. A report is produced monthly identifying the Banner PREMISE number for all new water meters and the PREMISE number is entered into the new meter Hansen record after the report is run. (Banner interface opportunity).

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14. Items 11 and 12 of the Meter Change-out Procedures are performed by a Customer Service Representative.
15. A Customer Service Representative creates a new active customer account in the Banner Utility Billing system and adds the meter number identified on the report.

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