Tampa Bay Water Submission for: Innovation in the Procurement Process

Date Implemented: December 19, 2024
Title of Process Improvement: Inventory Mobile – Management of Warehouse Inventory with Barcodes
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Process Improvement Summary:
Tampa Bay Water, A Regional Water Supply Authority, provides drinking water to 2.5 million people through the governments we serve, Hillsborough County, Pasco County, Pinellas County, the City of New Port Richey, the City of St. Petersburg and the City of Tampa. Our mission is to reliably provide clean, safe water to the region now and for future generations. In doing so it is a priority to innovate and continuously improve our processes to identify time and cost savings in order to better utilize our resources and succeed in our mission.

As a result of the organization's continuous improvement initiative, the Purchasing & Warehouse department did a review of all current processes to determine where efficiencies could be realized. One process that was identified for improvement is the management, issuance, and receiving of warehouse inventory items through barcode scanners. The current ERP system, Tyler Munis, can provide users with the capability to use handheld scanners to achieve this improvement. The following are the steps the Purchasing & Warehouse Department took to implement this process improvement innovation. The process for taking items out of inventory prior to this improvement was through handwritten pick tickets by either Warehouse staff or an agency employee. Pick tickets were accrued for one to three days based on volume and then manually entered into the ERP system by Warehouse staff. Handwritten pick tickets posed several challenges. First, tickets were, in some cases, created after hours with missing information or were not legible, requiring Warehouse staff to verify and correct the information provided on the ticket. Additionally, because the tickets were not put into the system right away, the system did not reflect real-time data. Finally, the use of handwritten pick tickets allowed for more opportunities for human error throughout the pick ticket process.

Several years ago, the Tampa Bay Water warehouse was rebuilt from the ground up to improve the capacity, organization, and stability of the building and inventory needs. This re-build also improved the office space and safety for the staff whose primary work location is at the warehouse. At the time of the rebuild we also investigated other ways to improve organization and management of the items in inventory. Tampa Bay Water holds 2500+ items in the warehouse with only one location for the entire regional system. The handheld barcode scanners became an initiative identified as an improvement to the management of inventory as it pertained to receiving, issuing, and cycle counts of the items. There is a plan to expand the inventory to a satellite location for staff in other areas of the region. This will save staff time and reduce transportation costs necessary to visit the primary warehouse to get items from inventory.

Purchasing and warehouse staff evaluated all inventory processes to identify the requirements and changes necessary to implement the barcode scanners. As inventory and staff moved into the new warehouse space, new shelving, bins, cabinets and racks were installed and barcodes were created for each item in the ERP system. This was done with the help of IT staff to update the inventory items

in the system and prepare for barcode creation with accurate information for each item. Labels were printed and affixed to each inventory location in the warehouse. This step allowed us to clean up the inventory item data in our system and remove all outdated information with no historical impact. Then we discovered some software and hardware issues that forced this project to be put on hold. The user integration, fledgling hardware and business processes were not mature enough in development to run these functions the way we desired. The user roles and integration were developed by the provider. The hardware and core products evolved into more user-friendly equipment with better functionality. The business process changes that were once required diminished through software upgrades. All of these improvements in software and hardware developed over time and made it possible for Tampa Bay Water to revisit the implementation again. In early 2024 the initiative was evaluated for potential updates and advancements in the software and hardware offerings. Purchasing and warehouse staff found that advancements may allow us to try implementing this innovation again.

The updated processes were evaluated to identify if improvements would allow for the use of the barcode scanners. Upon conclusion of the evaluation of the new technology and advancements, it was determined by Staff that 3-5 steps in their daily processes could be eliminated, resulting in time savings while also creating efficiencies.

We contacted our representative for Tyler Munis and started the process again. We received pricing for the hardware and assurances that the updates in software as well as hardware solved the issues we encountered previously. The hardware was ordered, and the implementation dates were set. Staff held two, half day sessions with Tyler staff. One was for configuration and connectivity and the second was for training staff on handheld devise use and setup procedures. After the training session, processes were updated, and staff began testing the fully implemented devices daily in our "training" environment. We held one last session to confirm connectivity and discuss any issues we found while testing the units and processes. In the same session, we went live with the new processes and hardware.

For this implementation, it was critical that we obtained buy-in from Finance and IT Departments as well as the Executive Team, to move this project forward. Finance had no issues for asset tracking or reporting of inventory management processes and IT was an integral part of implementing the new hardware and software components, which provided them the control they required for buy-in of this innovation. Once buy-in was received at the executive level, through the continuous improvement initiative throughout the agency, creating a constructive and cohesive environment whereby the Warehouse staff, Information Technology group, and the supplier all worked together was critical. Another key factor in moving the project forward was being able to objectively review current processes and the willingness to change those processes to make mobile inventory a success. One of the lessons learned from this experience is to understand the improvement, efficiencies, and evolution of warehouse processes realized by implementing this change and being patient enough to wait for technology to catch up to the improvement vision.

The successful, second implementation took six months to complete. This innovative advancement in inventory management has led to reduced paper for pick tickets, saves 2-3 hours of staff time per week to manually enter issuances after the fact, reduces errors in the transfer of data from paper ticket to ERP system, and delivers real time data for cycle counts, month and year end reports and inventory accuracy. We anticipate this new process will allow for seamless integration of the satellite warehouse location for efficient management of inventory and convenience to staff.

Old Procedure:

Processing a Pick Ticket

1. Open Pick Tickets program in MUNIS. The Location will autofill with A, tab to the next box. This is the Department the person is in (ex. 024 North Operations)

2. Tab to Order, this is the Pick Ticket number (auto generated) that will be written down on the top right of the Pick Ticket.

Tab to Ship to and click on the small square box for the dropdown to choose the person's name and double click to fill in the Ship to box.

Tab to Work order Number. This will be a personal WO number that can be found in the notebook on the desk in the warehouse or a WO created specifically for a job someone is working on.

Tab to Task and enter 1

3. Tab to Item and enter the MUNIS number of the Inventory part being checked out.

Tab and the Description will autofill (confirm this is what was checked out) and you'll be on Ordered. Fill in the quantity that was checked out and tab to Shipped, this number will be the same as Ordered.

Tab to Org and fill in number (ex.41001063) This number always starts with 41, 020 (ex.) will be the Job Cost Center (where the part is being used) and all numbers always end with 063.

Tab to the next line if you add more items and repeat steps. (when tabbing from Org to the next line Obj will autofill with 55200, this is correct)

4. After all items have been added to the pick ticket click Accept, then click Issue. Processing of the pick ticket is now complete.

Pick Tickets [*** Tampa Bay Water SQL ***]

Close	Search	Browse	Add	Update	Delete	ReadyForms Delivery Definitions	Email	Schedule	Attach	Ticket	Back Order	Ship All	Mass Ship	Issue	Mass Issue

Pick Tickets [*** Tampa Bay Water SQL ***]

Main Information

Location *	A	WAREHOUSE A BLDG	Status	Posted
Department *	024	NORTH FACILITIES MAINTENANCE	Date *	01/30/2025
Order *	250260		Back order *	0
GL effective date *	01/30/2025		Requisition	2025
Fiscal year *	2025	Fiscal period * 4 JAN	Requested by	
Ship to	PRICE	BRYAN PRICE (024)	Needed by	
Central depository fund			Print number	0

Work order

Number	WO1002019
Task	1

Notes

Item	Description	Ordered	Shipped	BackOrdered	Canceled	Org	Obj	Project
ELC1073	HEAT TAPE W/CONTROLLER	2.00	2.00	0.00	0.00	41020063	55200	

1 of 1 |< < > >|

Enter the GL Object.
Issue completed.

Tampa Bay Water Pick Ticket

Pick Ticket #_____

MUNIS ITEM #	DESCRIPTION	COST CENTER	QTY. ISSUED	WORK ORDER #
PIP0174	3/4" conduit	002	4 40'	1067691
ELC0933	3/4" sweep		1	
ELC0400	3/4" coup		8	
ELC0401	3/4" MA		1	
ELC0591	3/4" clamp		4	
ELC0162	3/4 bushing		1	
ELC0161	3/4" Locknut		1	
HDW0212	Glue		1	
ELC0402	3/4 MA		1	
ELC0329	non Metallic conn		2	
ELC0099	3/4 non Met seal tite		54	
Fit0742	1 1/2 x 3/4 R13		2	

JOB COST CENTER			DEPARTMENTS
001-Gen. & Admin.	018-Eld. Wilde WF	034-Brandon Booster Station	010-Chief Op. Officer
002-Cypress Creek PS	019-Section 21 WF	038-301 Int. Con. Tampa	012-Engineering Support
003-Cypress Creek WF	020-Keller H2S Facility	039-301 Tpa/Hills. Int. Conn	014-Bldgs. Grounds/Fleet
005-Cross Bar	021-Bran. Urb. (BUD) WF	040-TBC/Hills. HW Int. P.S.	015-Safety & Security
007-S. C. H. WF	022-Maytum/TBW Facility	041-Repump Stn. Reservoir	016-Serveying
008-T. B. C. Harney 161	023-Lake Br. Wtr. Trmt. Plant	042-Alafia River Int. P.S.	022-Construction
009 -Cosme WF	024-Bran. Urb. 5 & 7 W.T.P.	044-FGUA Carrollwd Wells	024-N. Facilities Maint.
010 -Cypress Br. WF	025-Morris Br. Booster Station	045-Eagles Wells	025-S. Facilities Maint.
011 -South Pasco WF	027-Regional S.W.T.P.	053-US 41 Booster Station	026-N. & S. Operations
012-N. W. Hills. WF	028-Regional H.S.P.S.	061-Regional Trans. Main	028-Maint. Plan./Support
013-Starkey/N. Pasco WF	029-Desalination Plant	063-Inventory/Warehouse	041-Human Resources
014-Little Rd. H2S Fac.	030-Odessa Booster Station	071-Regional Reservoir	051-Information Tech.
016 Morris Br. WF & TM	031-Lake Park Emergency Conn.	072-Offstream Rsvr. P.S.	055-Planning/Projects
017-H. C. Dispersed Wells	032-S.C.H. Booster P.S.	100-Clearwater Office	062-Purchasing
	033-Lithia H2S Fac.		063-Warehouse
			066-Records
			074-Monitor/Mitigation
			075-Rsvr. Compliance
			077-Laboratory

Customer Name:

Ramsoondar

Issued By: (Office Use Only)

Date:

1-30-25

ELC0099

New Procedure:

Creating a Walk-up Issue (Manual Issue) or Pick Ticket:

The Manual Issue screen allows you to issue inventory items directly without requiring advance creation of a pick ticket. However, you can also create a pick ticket from the screen.

Depending on the logged-in user's permissions, this process either creates a pick ticket for the item being issued, or it immediately posts the transaction. The user must have the Post Inventory Transactions permission enabled in Enterprise ERP to initiate auto-posting. For users who do not have the posting permission, this process creates a pick ticket that can be reviewed before it is issued.

Procedure

1.   From the main menu, tap Manual Issue to display the Manual Issue screen.

2.   Complete the fields to specify the warehouse location code, department code, and ship-to code. Enter the data directly or use the field help buttons to select each code from a list. **Note:** If the user already has a warehouse location code assigned, the system completes that information automatically. **Tip:** Typically, users manually issue items directly from the

warehouse rather than by shipping them, so a ship-to code is not needed. Many organizations opt to hide the Ship To Code field from this screen.

3.   As needed, complete the remaining fields to specify any notes, associated work orders, or work order tasks. Work orders and tasks must be established in Enterprise ERP; these two fields do not support third-party information. **Tip:** Your organization may opt to create custom barcodes, such as for a standard note or an employee name or number, to scan and input that information into the Notes field.

4.   By default, the system completes the Requested By field based on the logged-in user. Enter a different user ID if needed. The user must be a valid user in Enterprise ERP.

5.   Select Manual Issue to indicate that it is a manual issue rather than a pick ticket. Or, to issue a pick ticket, select Pick Ticket.

6.   Tap Continue to move to the next screen.

7.   If known, enter or scan the account number or project string, as established in Enterprise ERP. The Account and Project fields are case-sensitive. If the account number or project

string is not known but is tied to the item number, skip to the Item Number field and scan the item. Once the item is scanned, the system automatically completes the account number. **Note:** The Account field accepts either full account or org-object account numbers, depending on your organization's setup. If entering org and object codes, a dash is required between the codes. For example: org1-object2.
Tip: If you are using a project string, you do not need to enter the account number. After you enter the project string in the Project field, the system populates the account number automatically.

8. By default, the Save? checkbox is selected for the Account field so the account number remains if you have multiple items to scan. To remove the account number after scanning, clear the Save? checkbox. By default, the Save? checkbox is *not* selected for the Project field, but you can select it to retain the project string as needed.

9. Enter or scan the item number. The app provides the issuing unit of measure (UOM) and quantity on-hand (QOH) values for the item.

10.   Enter the quantity being issued of the item.

11.   If your organization uses sublocations with the item, choose the sublocation from the list. If the item does not have any sublocations, the sublocation list is not available.

12.   Tap Add Item. The app adds the item and refreshes the screen so you can issue another item. In this example, the account number remains in the Account field because the Save? checkbox is selected.

13.   Repeat these steps as needed to continue adding items.

14.   Click Issues List to view a list of the added items. The most recently added item appears at the top of the list.

15. To delete an item, tap it from the Item List screen. The app provides a delete confirmation message.
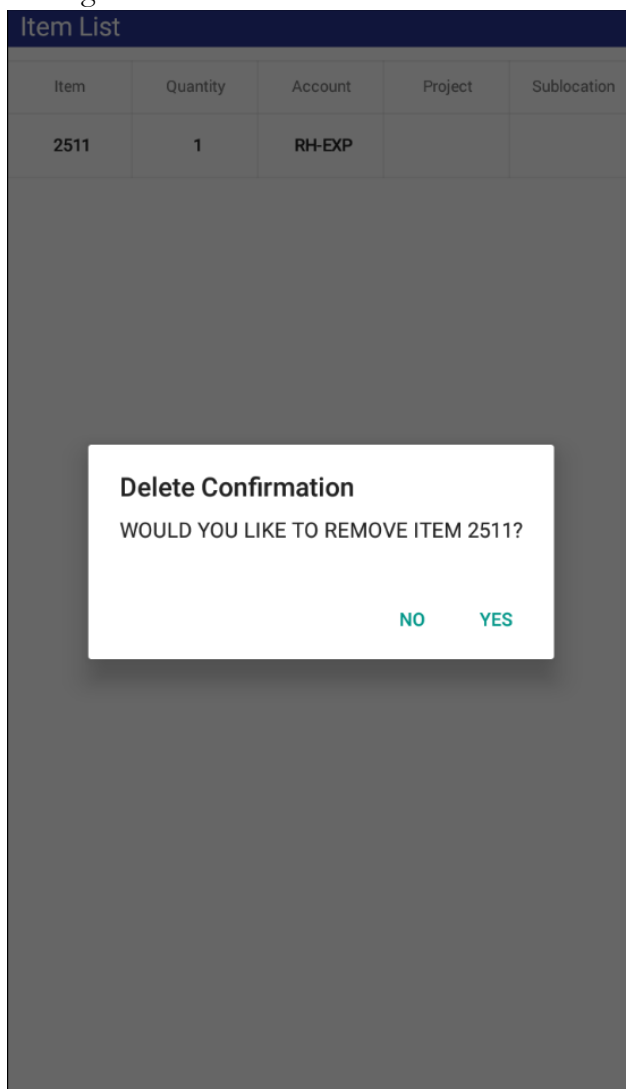
16. Tap Yes to delete the item from the issue; tap No to cancel. **Tip:** To change a quantity, delete the item from the list and then rescan it.

17. When you are done entering items for issue, tap Complete Ticket. The app provides a confirmation message.

18. Tap Yes to proceed; tap No to cancel. If you tapped Yes, the app validates the information and creates the manual issue. If the system encounters any errors with account or item validation, it displays them at this time so you can make changes as needed.

    Note: If the user has auto-posting permissions and selected manual issue, the inventory transaction is automatically posted. If the user does not have auto-posting permissions and selected pick ticket, the device issues a pick ticket that is available for review.