Improving Utility Asset Location Efficiency Using Collector for ArcGIS

Brian Nemec – Consolidated Electric Coop
Glenn Farrow – POWER Engineers Inc.
Consolidated Electric Coop (CEC)
About Brian Nemec, GISP
OUPS – Ohio Utility Protection Services

2017 YEARLY STATISTICS

541,725  237,182  13,864  26,207

Ticket Volume  i-dig Volume  e-dig Volume  Ticket Updater Volume
Business Drivers
Historical Workflow
Historical Workflow
Historical Workflow
New Workflow
Collector for ArcGIS
Navigator for ArcGIS
Ops Dashboard
Ops Dashboard Monthly

54 Open Tickets:

- A716300278 - Received on 9/12/2017 6:37:00 AM Due by 6/14/2017 9:12:00 AM
- A716300244 - Received on 9/12/2017 6:34:00 AM Due by 6/14/2017 9:09:00 AM
- A716301879 - Brad Myers Received on 9/12/2017 6:32:00 AM Due by 6/14/2017 7:07:00 AM
- A716301680 - Brad Myers Received on 9/12/2017 6:31:00 AM Due by 6/14/2017 8:48:00 AM
- A716300161 - Jon Todd Received on 9/12/2017 6:29:00 AM Due by 6/14/2017 7:03:00 AM
- A716301573 - Brad Myers Received on 9/12/2017 6:15:00 AM Due by 6/14/2017 6:32:00 AM
- A716301540 - Brad Myers Received on 9/12/2017 6:11:00 AM Due by 6/14/2017 6:28:00 AM
- A716301475 - Brad Myers Received on 9/12/2017 6:06:00 AM Due by 6/14/2017 6:21:00 AM
- A716301477 - Brad Myers Received on 9/12/2017 6:05:00 AM Due by 6/14/2017 6:20:00 AM
- A716300542 - Brad Myers Received on 9/12/2017 6:04:00 AM Due by 6/14/2017 6:17:00 AM
Technical Overview
Technical Overview

MWEP 00033 OUPSa 10/18/16 12:46:09 A629202771-00A ROUT NEW POLY REQ

Ticket: A629202771 Rev: 00A Taken: 10/18/16 12:44 PM Channel: OPR

State: OH  Cnty: DELAWARE  Place: DELAWARE
State: OH  Cnty: DELAWARE  Place: DELAWARE TWP

Address: 421 Street: LONDON RD
Cross 1: LIBERTY RD  Intersection: N
Rail/Hwy: Milemarker(s):
Where: SOUTH EAST SIDE OF THE ROAD -- INCLUDING THE ROAD WAY
      FARDEST POINT OFF ROAD: NONE
      DISTANCE FROM CROSS STREET: OFF OF
      ** MAN HOLE MARKED WITH A WHITE X **

WorkType: REPLACE STORM SEWER CASTING
Done for: CITY OF DELAWARE
Done by:

Whitelined: Y  Blasting: N
Means of Excavation: BOBCAT SKID LOADER WITH DRILL BIT

Work date: 10/20/16 12:59 PM  Meet: N
Start by: 11/01/16 12:59 PM  Response Due: 10/20/16 12:59 PM

Best Fit: 40.291593/-83.079511 40.289891/-83.078273
          40.286507/-83.086507 40.284805/-83.085270

Comments:

Caller: DALE FILBY  Phone: 740-816-7338
Company: CITY OF DELAWARE  Type: MEMB
Co addr: 241 CHERRY ST
City: DELAWARE  St: OH  Zip: 43015
Alt Tel#: 740-816-7338
Fax: 740-203-1997
Email: DFILBY@DELAWAREOHIO.NET

Grids: 4017000830430  4017000830500
Polygon: 40.290900/-83.079018 40.290736/-83.078906
         40.290547/-83.078873 40.289649/-83.078922
         40.289499/-83.078972 40.289362/-83.079081
         40.289338/-83.079105 40.285486/-83.084333
         40.285401/-83.084483 40.285332/-83.084644
         40.285411/-83.085201 40.285944/-83.086019
         40.285987/-83.086058 40.286022/-83.086132
         40.286181/-83.086270 40.286366/-83.086329
         40.286555/-83.086301 40.286798/-83.086107
         40.290809/-83.080588 40.291013/-83.080278
         40.291202/-83.079819 40.291212/-83.079570
         40.291106/-83.079226 40.290966/-83.079055

Members:
CGE =COLUMBIA GAS OF OH-COLUMBUS(UT  CSP =AEP COLUMBUS SOUTHERN POWER
DWR =DELAWARE - CITY OF (SEWER)  DWRTR =DELAWARE - CITY OF (TRAFFIC)
DWRW =DELAWARE - CITY OF (WATER)  GTO =FRONTIER COM (FORMER VERIZON)
MCID =MCI  MWE =CONSOLIDATED ELECTRIC COOP
WCOP =TIME WARNER CABLE - CENTRAL OH
Technical Overview

"Ticket : (?P<ticket>.{10})\s+Rev: .{3}\s+Taken: (?P<taken>\d\d/\d\d/\d{2,4}\n\d\d:\d\d\s*(AM|PM))\s+\(Channel\|Chan\):\s+(?P<channel>.{1,})"

"Address : (?P<address>.*)\s+Street: (?P<street>.?)(Cross 1 :)(Rail/Hwy:)
"Cross 1 : (?P<cross1>.*)\s+Intersection: .*\(Cross 2 : (?P<cross2>.*))\s+Between:"

"Where\s*: (?P<whereText>.*)\s*WorkType:\n"WorkType: (?P<worktype>.+)Done for:"

"Done for: (?P<doneFor>.*?)\s*Done by: (?P<doneBy>.* )\s*Whitelined:"

"Means of Excavation: (?P<excavation>.* )\s*Work\s+date: (?P<workdate>\d\d/\d\d/\d{2,4}\s\d\d:\d\d\s*(AM|PM))"

"Start by : (?P<startBy>\d\d/\d\d/\d{2,4}\s\d\d:\d\d\s*(AM|PM))\s+Response Due: (?P<responseDue>\d\d/\d\d/\d{2,4}\s\d\d:\d\d\s*(AM|PM))\s+"

"Best Fit: (?P<coords>\d{2}\.\d{6}/-\d{2}\.\d{6}\s+\d{2}\.\d{6}/-\d{2}\.\d{6}\s+\d{2}\.\d{6}/-\d{2}\.\d{6}\s+\d{2}\.\d{6}/-\d{2}\.\d{6})"

"Comments: (?P<comments>.* )Caller\s+:"

"Caller\s+: (?P<callerData>.* )\s+Grids\s+:"

"Members: *BEGP"

"Members: *MWEP"
Technical Overview
Technical Overview

Share

Choose who can view this map.
Your map is currently shared with these people.

- Everyone (public)
- Consolidated Electric Cooperative, Inc.
- Members of these groups:
  - Electric - Editing - Linemen
  - Emergency Management - Editing
  - Fiber Maps - Editing
  - Fiber Maps - Reference
  - Gas - Editing
  - Operations Dashboard
  - OUPS Project
  - Reference Maps

Link to this map
http://[redacted]

- Share current map extent

Embed this map
- EMBED IN WEBSITE
- CREATE A WEB APP

Note: To embed your map, you must share it with Everyone.
Technical Overview
sock.sendall("USER %s\n" % (c.cecMemberCode))
data = sock.recv(1024)
}
if data.startswith("331 User name okay, need password"):
    sock.sendall("PASS %s\n" % (c.cecMemberPassword))
data = sock.recv(1024)
}
if data.startswith("230 User logged in, proceed"):
    fields = ['TicketNumber', 'MemberCodes', 'MWEPSstatus', 'BEGPstatus', 'TicketStatus', 'AssignedLocator']
with arcpy.da.UpdateCursor(fullOupsFc, fields, c.cecResponseWhereClause) as cursor:
    for row in cursor:
        ticketNumber = row[0]
        memberCodes = row[1]
mwepStatus = row[2]
begpStatus = row[3]
responder = row[4]
mwepSuccess = False
begpSuccess = False
    if not mwepStatus is None and memberCodes in ['MWEPS', 'BOTH']:
        mwepSuccess = sendResponse(sock, ticketNumber, 'MWEPS', responder, mwepStatus)
    else:
        mwepSuccess = True
if not begpStatus is None and memberCodes in ['BEGP', 'BOTH']:
    begpSuccess = sendResponse(sock, ticketNumber, 'BEGP', responder, begpStatus)
    else:
        begpSuccess = True
# Only update row if all responses succeeded
if begpSuccess and mwepSuccess:
    edit.startOperation()
cursor.updateRow(row)
    edit.stopOperation()
sock.sendall("QUIT\n")
data = sock.recv(1024)
if not data.startswith("221 Thank you for your responses"):
    logger.error("Unexpected response when terminating Oups session: %s" % (data))
else:
    logger.critical("Failed to login to Oups server as user %s" % c.cecMemberCode)
Future

» Analysis of ‘hot’ ticket areas
» Improvement of maps and asset locations
» Historic record of locates with pictures for reference/confirmation
Future
Questions