Getting Help from National Grid

National Grid Field Force Helpdesk

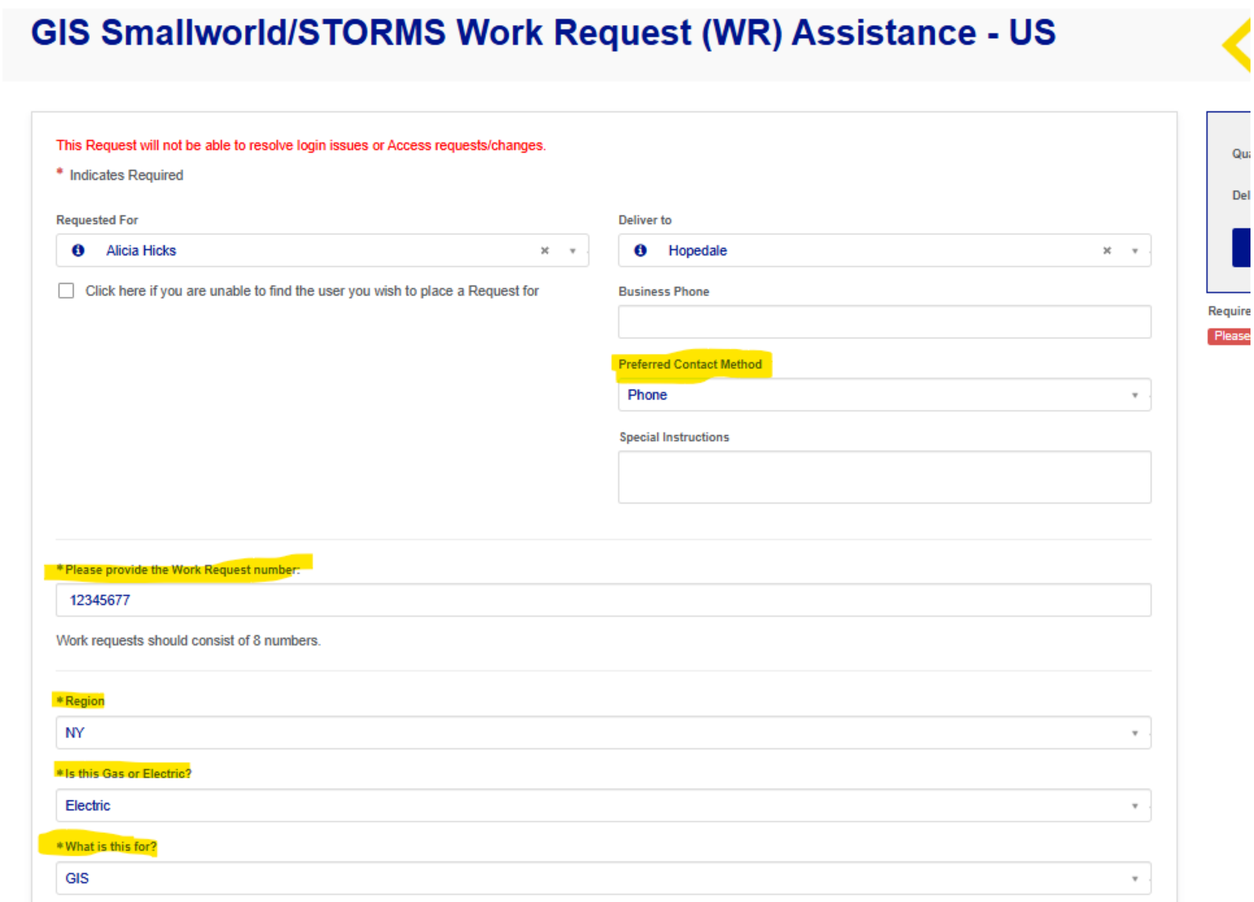
- Call: 1-877-373-1112 (Option 5 for Contractors)
    - Have your NGRID Employee # available
    - When asked, mention you are a contractor out of Waltham

NGRID Service Now Form

- [GIS Smallworld/STORMS Work Request (WR) Assistance - US - MySupport]
    - Cntrl + Click Link to open
        - You will be asked to log into your NGRID account

Update the following

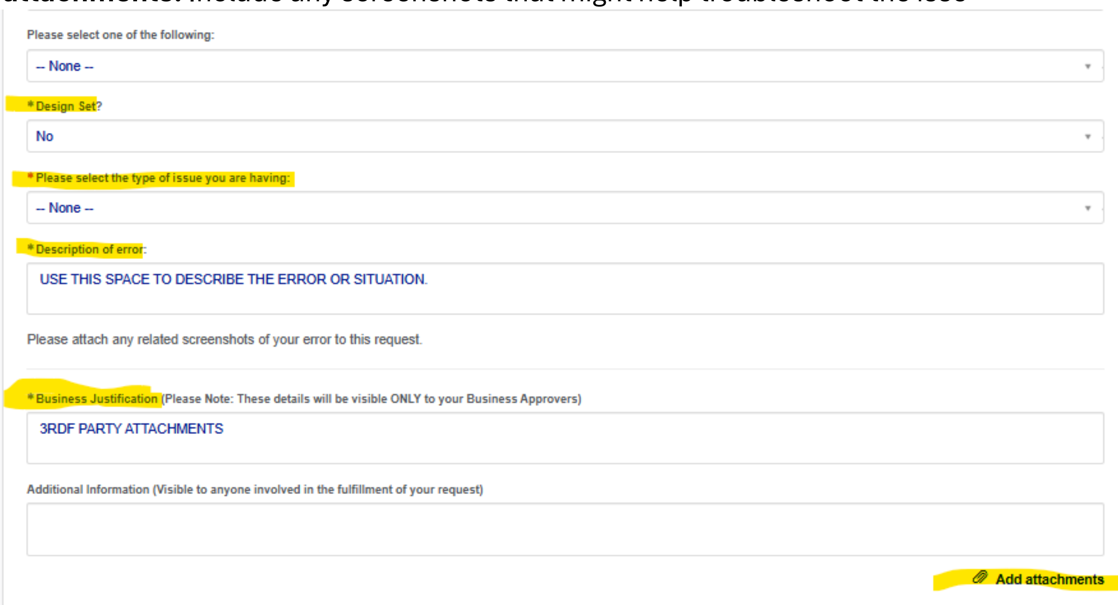
Preferred Contact Method: How do you want to be contacted about issue?
Work Request Number: Enter Work Order #
Region: NY
Gas or Electric: Electric
What is this for? Choose GIS or STORMs



Design Set: No
Please select type of issue you're having: Choose option that best describes or Other

- If you selected Other, a **Please Specify** question appears that you will need to update
- I usually just paste my Description of Error into the Please Specify box

Description of Error: Provide a detailed description of error encountered, including what you were doing when the error occurred and what you've done to try to resolve it. Adding more information is always better.
Business Justification: Enter 3rd Party Attachments
Add attachments: Include any screenshots that might help troubleshoot the isse



Process Overview

1Set up local folders and send GIS Design to GIS
2 GIS Updates, Pole Access and Tree Trimming Review
3 Address Real World Objects (if necessary) and Generate CUs
4 CU Review/Add/Remove
5 Add Description of Work and Annotation
6 Repeat steps 3-5 for each pole with electric make ready
7Construction Sketches
8Permitting (as needed)
9Environmental and Forestry Reviews (as needed)

Capital and Maintenance Work

The type of work dictates the Job Type that can be used to progress the Work Order.

IMPORTANT:

- If any item on the job is capital, create a DISTTPTYA WR. The majority does not rule.

Capital WORK (DISTTPTYA WR):

- Replacing/installing:
    - Poles
    - Primary or secondary
    - Lightning arresters
    - Cutouts | Replacing **ONLY** the fuse links would be maintenance
    - Transformers
- Any work that involves grounding or bonding. This would include:
    - Raising/lowering spacer or aerial cable (bonding required)
    - Raising/lowering/replacing/installing span guys or down guys on a **WYE** feeder (bonding required)
    - Replacing/installing down grounds
    - Raising transformers (grounding required)
    - All streetlight work (bonding required) | **DOES NOT** include Muni owned streetlights
    - Raising/lowering AMI equipment (bonding required)
    - Jumpering Johnny balls
- Riser work that requires splicing in cable

Maintenance Work (DISTTPYAMO WR):

- Raising/lowering primary, replacing/rearranging crossarm or armless pole tops
- Raising/lowering secondary | **VERIFY** secondary adjustments will not affect guying, streetlights or risers
- Adding splices to extend OH service
- Raising/lowering/replacing/installing span guys or down guys on a **DELTA** feeder
- Resagging primary or secondary
- Reducing drip loops
- Replacing/installing U-guard
- Installing fiberglass insulators to guys
- **ONLY** removing poles, secondary or transformers
- Straightening poles

WORK ORDER WRITING NOTE:

- In rare situations, we may have small jobs containing only CUs that come in as capital but are not recognized as capital assets. These CUs will cause errors when used with both DISTTPTYA and DISTTPYAMO WRs. To resolve these errors:
    - For DISTTPTYA WRs, add a recognized capital asset CU.
    - For DISTTPYAMO WRs, manually set the CUs to maintenance.

Internal Construction Vs External Construction

1. Directly impacts the amount of work that Osmose Work Management is responsible for
    - **Internal Construction –** Work performed by National Grid crews
    - **External Construction –** Work performed by National Grid approved Contractors
2. **NE –** All Work is Considered Internal Construction
3. **NY –** Applicant Directed Design (ADD) is almost always **External**

4. **NY** – Business as usual (BAU) can be either **Internal or External**
    - Depends on the NG District and the type of work being performed
    - We use the Third-Party Matrix to make the determination
        - Typically, NY applications are pre-screened by a veteran work order writer who will determine if the application should be treated as **Internal or External**
        - Check Helix to see if a comment has been left stating where would is being treated as **Internal or External**
    - See the 'Construction Resource Matrix' section to determine whether a NY work order should be considered Internal/External

Third-Party Matrix

Note: Used to determine whether a NY BAU application should be treated as Internal or External. Typically, applications are pre-screened by a veteran work order writer who will make the determination and add a comment to Helix.

1. The Third-Party Matrix applies to **NY BAU Only**
    - ADD applications are always External
    - Document is periodically updated and is in the Work Order Resources shared directory
2. You will need the District # of your work order to utilize the Matrix document
    - Found in the upper left-hand window of Work Request window in Storms
3. An "N" listed in Columns K-N will kick the Work Order to External
4. **<u>PHA</u>** – Project Hazard Analysis
    - Limited Highway Crossings
    - Navigable Waterways
    - Railroad Crossings
5. **<u>Same hole Set</u>** – Joint Owned Poles with Same Hole Sets
    - Same Hole Sets – Poles with risers, Poles in sidewalk/pavement or no good place to put pole
6. **<u>Rear Lot</u>** – Pole not accessible by truck and it's 15' arm/bucket
    - Poles in swamps, backyards, heavily wooded with trees/brush, steep grade, blocked by fences/guardrails, unable to drive across grass and fields, may require climbing the pole or using an ATV to access the pole
7. Disregard the "Less than 100 hours" (Column J) when deciding
    - If the work is estimated to be less than $75k, begin writing the work order as if it's Internal and check the Storms estimate when finished adding CUs to see if it went over 100hrs

Special Conditions

1. Electric/Gas Transmission Lines, Railroad Crossings, Limited-Access Highway Crossings or Navigable Waterways are considered Special Conditions
    - They should be clearly identified by the designer on the e5/C-form, but aren't always

    - Some of these objects may not be visible in GIS (most Electric/Gas Transmission Lines aren't), so it's a good habit to have Google Maps open as well while preparing the work order
2. Some special conditions determine whether the work order needs to be written as Internal Construction or External Construction
    - For example, Railroad Crossings, Limited-Access Highway Crossings and Navigable Waterways are considered PHAs and are only handled by a 3 of the 38 NY Barns
3. What to do if you encounter a Special Condition on an application?
    - Check with a veteran work order writer if you encounter any Special Conditions

Billable Vs Non-Billable Work

Note: Work on External Construction work orders must be Billable Work. If you see non-billable work, check with the designer or veteran work order writer. Non-billable work **must** be handled on a a separate work order and written as Internal Construction, by a veteran work order writer.

1. Make Ready Work falls into two categories:
    - **Billable Work** - Work that needs to be completed for the new attacher to attach to pole
    - **Non-billable Work** - work on poles that are already in violation prior to the new attacher attaching to the pole
2. Refer to the Bill to Applicant Pick List on the E5/C-form for billing information
    - This information is usually determined before the Work Order reaches Work Management
        - If '**Yes**': Work on pole is considered Billable (aka Added Service in GIS)
        - If '**No**': Work on pole is considered Nonbillable (aka System Improvement in GIS)

Flagging and Accessing the Pole

Notes: When all 4 wheels of the line truck cannot be completely off the road, and work will interfere with regular traffic flow, flagging time needs to be accounted for. We'll need to add notes related to Flagging needs on our construction sketches. Off Road/Rear Lot Work may still require Flagging if any conductors are crossing the road. If you have any questions, please reach out to a veteran work order writer

1. Work falls into three categories
    - **Roadside Work** - truck can park on road and using the 15' reach of its arm/bucket, access the pole.
        - **Note on INDEX:** "Applicant responsible for all flagging needed to complete the make ready shown"
        - **Note in Description of Work**: 'Flagging Required'

- **Off Road Work** - pole accessible by truck and using the 15’ reach of its arm/bucket, but requires truck to go off-road, possibly across grass, fields etc or private property (with permission)
    - Add ‘Off Road Work’ in **Bold** to the E5/C-form
    - Note ‘Off Road Work’ in applicable descriptions of work on construction sketches
    - Add ‘Lightweight Composite Matting Required’ if job site requires equipment to travel access private property/grass
- **Rear Lot Work** - pole not accessible by truck and it’s 15’ arm/bucket. Area may be heavily wooded with trees/brush, wetlands, steep grade, blocked by fences/guardrails, unable to drive across grass and fields, may require climbing the pole or using an ATV to access the location.
    - If you wouldn’t drive your personal car or a 4-wheel drive vehicle there, its likely Rear Lot
    - When in doubt, get a second opinion from a veteran work order writer
        - Add Rear Lot Work in **Bold** to the E5/C-form and construction sketch
        - Note ‘Rear Lot Work’ in applicable descriptions of work on construction sketches

(1) Work Order Setup and Local Folder

Note: Will be presenting based ln my workflow.

1 Open your dashboard in Helix and click blue application to open in Helix

2 Under the Detail Tab, Select the Design CSV, Final Exhibit 5 (E5) and Map and click Extract Button

3 Save to local directory where you store work order related files

4 If CSV hasn’t been updated to Helix, check: \\syrfile15\Projects\NationalGrid-Engineering\ProjectData\FieldData\NGRID 3rd Party\Design Data Dump CSV

- You can always email the designer for the CSV

5 Save copy of E5 Final with “_working” at end

- This will be your working E5

6 Open working E5 and add column between columns E and F

- This is where we’ll keep track of any notes related to pole
    - Notes I add include survey image numbers, GIS Edit tracking, Tree trimming needs/notes (anything that is helpful to you)
- Once we’re ready to submit the application to NGRID, we’ll remove the extra column we added the notes to and save that as our new Final

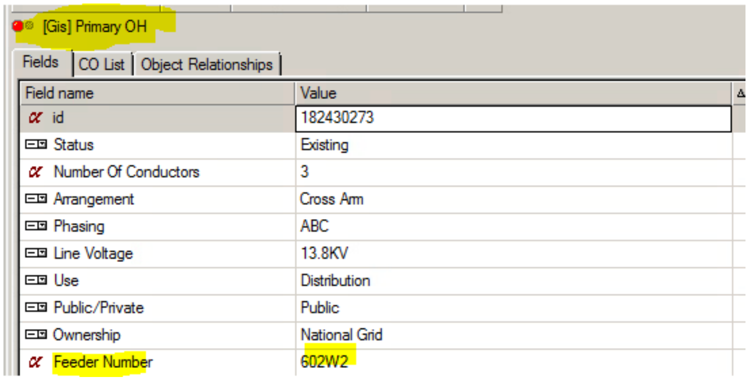
(2) Send GIS Design to GIS

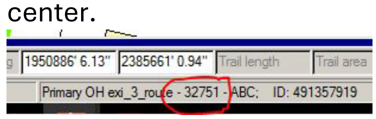
Notes: We’ll need to create a GIS Design in Smallworld to build a work order and create construction sketches. To kick off that process, we’ll need to find the feeder number for an OH Primary GIS in our work area, update the Geographical tab in STORMs and send the GIS Design, from STORMs to GIS.

It’s good practice to send the work request to GIS **before** beginning to review GIS updates. Depending on how busy the system is, it could take anywhere from 20 minutes to several hours for the conversion process to finish and the GIS Design to be ready to work in.

Determine Feeder Number for Overhead Primary

8. Click on a OH Primary from your work area and locate the ‘Feeder Number’ attribute on the Editor tab



- The feeder number will also be displayed at the bottom of the main GIS window towards the center.
  - 

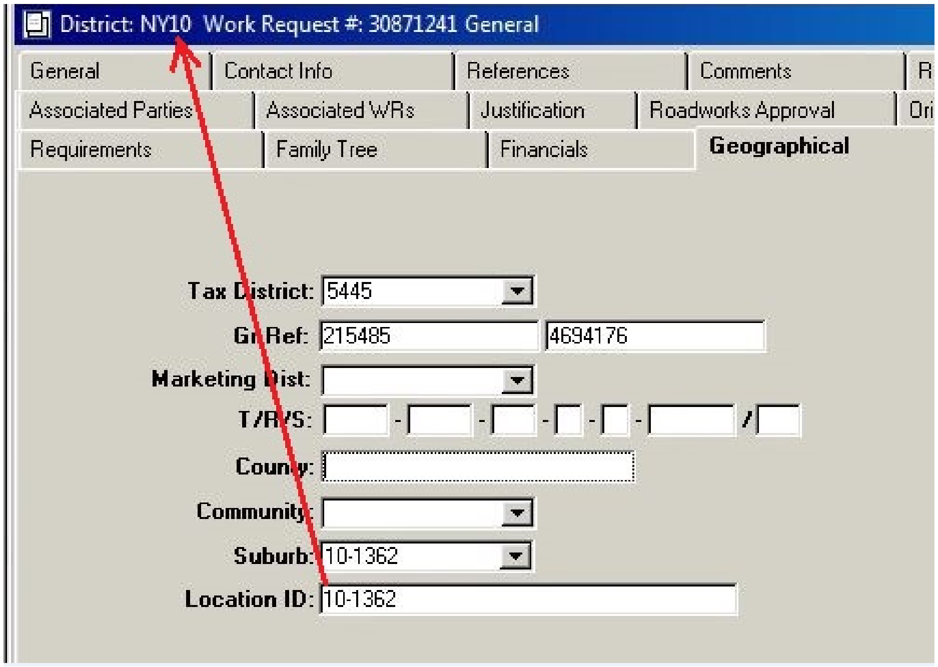
- Feeder numbers may be a combination of number and letters

Update STORMs and Send GIS Design

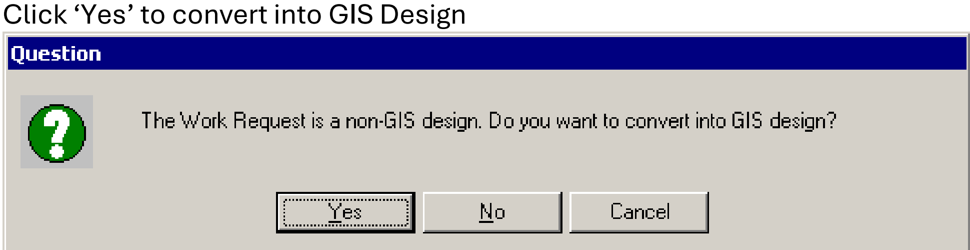
In STORMS, note the District Number at the top left corner of the work request window

- Includes the state abbreviation

9. Click the ‘Geographical’ tab
10. In the ‘Suburb’ field, find the district and feeder number combination, separated by a das
    - Example: 14-32J9
    - You can type to help narrow the results down
11. Copy + paste district number feeder number combination to ‘Location ID’ field
12. Click Save

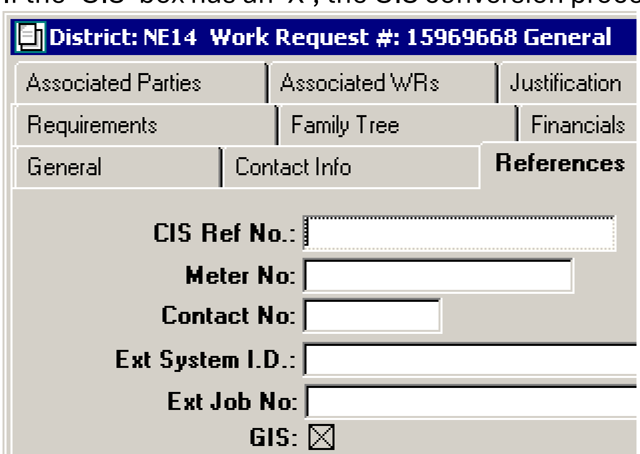


13. From the ‘Design’ menu, select ‘GIS’.
14. Click ‘Yes’ to convert into GIS Design



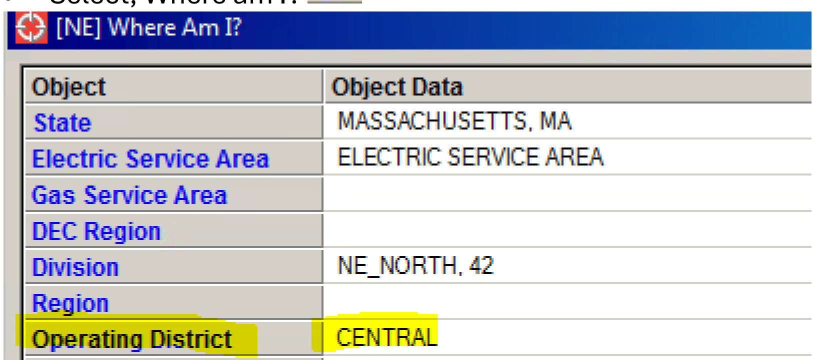
Confirm GIS Design Successfully sent from STORMs to GIS

15. Click References tab
16. If the ‘GIS’ box has an ‘X’, the GIS conversion process has successfully been started.



If an ‘X’ doesn’t appear in the GIS Box

- Click the refresh button
- Verify that the 250R has been completed
    - The 250R is auto-completed during the Work Request creation process, after updating the Financial Tab
- Verify that the correct operating district is selected
    - Run an Electric Source Trace in Smallworld
    - NGRID | Electric |Source Trace
    - Drop a trail point on a primary conductor on your application
    - Hit Trace Out
- Clear trail and drop new trail near substation
    - Select, Where am I?


[NE] Where Am I?

Object	Object Data
State	MASSACHUSETTS, MA
Electric Service Area	ELECTRIC SERVICE AREA
Gas Service Area	
DEC Region	
Division	NE_NORTH, 42
Region	
Operating District	CENTRAL

(3) GIS Updates and Work Order Prep

GIS Updates are an important first step in the Work Order process. The design behind the work order is based on field conditions observed through survey photos. Reviewing for GIS Updates allows us to confirm that GIS mirrors field conditions for the poles on the application and make changes as necessary.

Protip: While I’m reviewing GIS Updates for the Work Order, I’m also reviewing the description of work for accuracy, noting any tree trimming needs tied to the described work and pole access

What are we updating?

- **100%** of poles with Major Equipment
    - Reclosers, Voltage Regulators, Capacitors, Ratio Transformers, Switches
        - Regardless of whether the work is Make Ready or No Make Ready
        - Major Equipment poles should be identified by designer on e5/C-form in **bold**

- **100%** of poles with Electric Make Ready
    - Regardless of who is paying for work

40
(45)

- Any Pole Size updates identified on the E5 by the designer (MR or NMR)

Common things to look for…
Poles: Incorrect Height, Class, Foreign Pole # (may need to check CSV Actual/Estimate Heigh/Class)
Anchors/Guys: Anchors (missing or incorrectly displayed), down guys (missing or wrong position, system type), lead lengths (missing/wrong), sidewalk fixtures
Services: OH/UG designations, missing from field or incorrectly positioned
Risers: Missing (especially for UG services)
Span Guys: Missing/incorrect positions, system types
Secondary Conductors: Neutral or TPX? Beware of net cuts
XFMRs: Cutouts present? CSP/Conventional?
Major Equipment: On Correct pole? UNK Fuse Size

Do Not License Poles or Cancelled Poles don't require GIS Updates.

GIS Updates are made in a File Alternative

- File Alternatives are used to make **immediate** changes to GIS TOP
    - Once completed, they cannot be re-opened for additional updates

Creating a File Alternative to Make GIS Edits

- From the 'File' menu, select 'New Project and Design'.
- Enter '[App Name]_FA' in the 'ID' field (ex. "COMCAST LE-12-701_FA").
- Click 'OK'.
- From the 'File' menu, select 'Change State' --> 'Proposed'

Finalizing GIS Updates in File Alternative

- Click the 'Save' button.
- From the 'File' menu, select 'Change State' --> 'Complete in GIS'.
- It can take a few minutes to a few hours for the file alternative to be merged/posted to 'Top'. You will receive a message in Smallworld when it's been completed.

(4) Preparing the Work Order

(4a) Open GIS Design and Pole Selection

Open GIS Design

1. From the 'File' menu in Smallworld, select 'Browse Design'.
    - Click the 'Clear Query Search Fields' button.
2. In the 'ID' field, enter district number-Year-work request number combination
    - Ex: 13-18-15969668
    - Click the 'Run Query' button.

- If the GIS Design is available
  - Right-click on GIS Design and select ‘Take Ownership’.
- If there are no results, the GIS Design isn’t ready

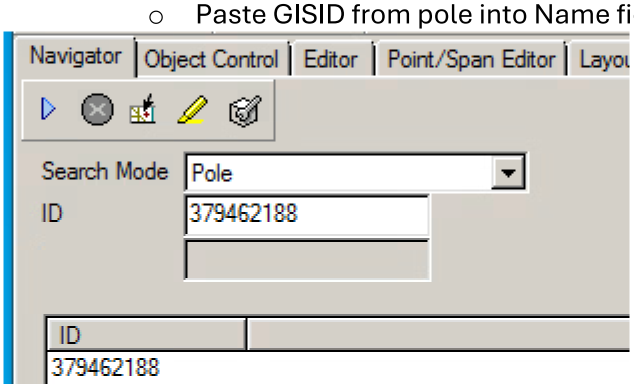
3. Once you’ve taken ownership of the GIS Design, right click on the GIS Design and select ‘Change State’ --> ‘Proposed’
   - Click ‘Yes’.
   - Click ‘OK’.

Troubleshooting

- If you receive a failure message
  - Go to a pole on the application
    - Using the trail line make 3 sides of a polygon and click “C” which will close the polygon
  - Re-try taking ownership of GIS Design

GIS Pole Selection

- Copy the GIS ID of the first pole with electric make ready work from your working C-FORM
  - Under the Navigator tab in GIS, choose “pole from the Search mode dropdown”
  - Paste GISID from pole into Name field and click Run Query

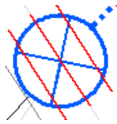


- Select GISID from results, right-click Go to

(4b) Generate Cost Units for Real World Objects (RWO)

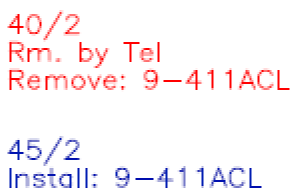
What are Real World Objects (RWOs) in GIS?

- GIS Objects that need to be physically **replaced**, **removed** or **installed** within a GIS Design
    - **Common RWOs**: Poles, Anchors, Anchored Down Guys, OH Services, Span Guys
        - **Replacing** existing objects or **installing** new objects are the most common actions.
        - **Removing** (permanently) is a far less common action
- Allows for the auto-generation of cost units related to the specific action
- RWOs impact how GIS objects appear in our construction sketches
        - Red and Blue Objects – Replace



        - Red Objects – Remove
        - Blue Objects – Install

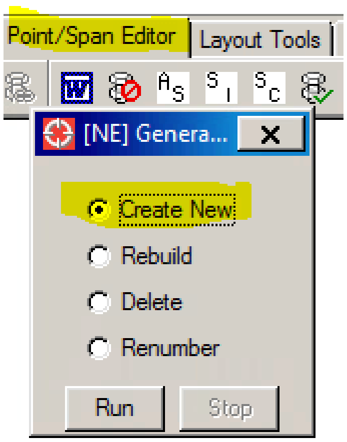
- Some RWOs are tied to important annotations we include on the construction sketches
    - **Pole Replacements**
        - Red = Pole Removal
        - Blue = Pole Install



Important: If the first pole in your design doesn't have a RWO that needs to be replaced, removed or installed, skip ahead to section 4c, ***"Manually Create a Work Point Flags"*** section.

1. Identify any RWOs for first pole in design that need to be replaced, removed or installed
2. For each RWO found, modify the attributes under the Editor Tab as needed
    a. Don't click Update 
    b. If Replacing an existing asset, choose Replace 
        i. This will create two GIS objects in different Statuses

3. Once you've addressed all the RWO action items for first pole, click Point/Span Editor tab in Smallworld
4. Click Generate work records 
5. Confirm that "Create New" is selected
    a. "Rebuild" will rebuild ALL the Work Points in your GIS Design



Smallworld will automatically generate Work Point flags and Cost Units within Object folders under the Point/Span Editor tab in Smallworld.

Skip ahead to the "**Review Cost Units**" section

(4c) Manually Create Work Point Flags

If the first pole in your design doesn't have a RWO that needs to be replaced, removed or installed, we'll need to manually create a work point flag to add Cost Units

1. Select the object (usually a pole) that the design point will go on.
2. Click the 'Point/Span Editor' tab.
3. Click the 'Create from selection' button . This will create the Work Point flag on the object.
4. Make sure the object is still selected.
5. Select the design point in the 'Point/Span Editor' window.
6. Click the 'Associate map selection via editor' button . This will open a separate 'Editor' window.
7. Click the 'CO List' tab.
8. Right-click anywhere in the window and select 'Add CO'. This will open the 'CO Selector' window.
9. Add CUs as necessary

Adding/Replacing/Removing CUs or Macros

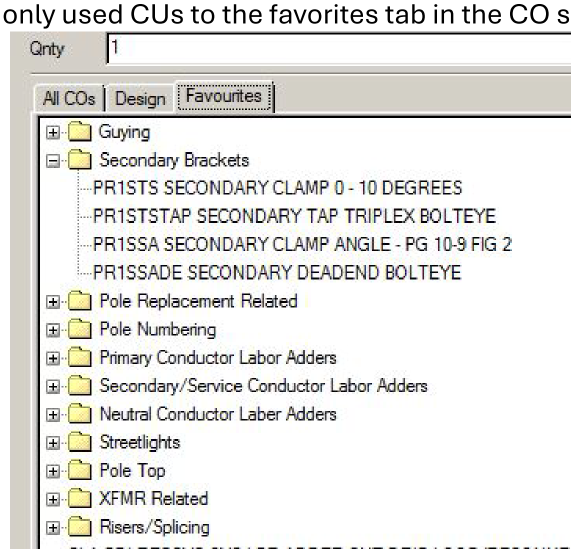
1. In the 'Point/Span Editor' tab, double-click on the CU folder for the desired object. This will open a separate 'Editor' window.
2 Click the 'CO List' tab.
3 Add CU/MU:

1. Right-click anywhere in the ‘CO List’ tab and select ‘Add CO’.
2. From the ‘CO Selector’ window, select the desired CU.
   i. When adding a CU, you can select the CU and click ‘Apply’ which will add the selected CU, but won’t close the ‘CO Selector’ window or click ‘OK’ which will add the CU and close the window.

4 Replace CUs/MU:
1. Right-click the CU to replace and select ‘Replace CO’.
2. From the ‘CO Selector’ window, select the desired CU.
3. Click ‘OK’.

5 To remove CUs/MU:
1. Right-click the CU to remove and select ‘Remove CO’.
   ii. If only one CU is in the object folder, removing it will also delete the folder.

ProTip: Save commonly used CUs to the favorites tab in the CO selector



i.

(4d) Review Cost Units

What are Cost Units?

- Cost Units (CUs, Compatible Units, Cost Objects) are the building blocks of creating a Work Order in Smallworld.
  - Macros (MUs) are collections of multiple types/quantities of CUs combined into a single unit.
    - Macros must be split in order to modify the CUs within
- CUs store information about the materials and labor costs needed to perform the selected action (Install, Remove or Transfer).
- Once we’ve finished building our design in Smallworld, the labor and material cost estimates are sent to STORMs

Important: With External Construction Work Orders, we do not need to add all the Cost Units associated with the Make Ready described in the DOW. That's because the applicant's contractor will determine the costs/materials/labor associated with the work described.

We just need to make sure that we select CUs/MUs that meet these conditions:

- CUs/MUs that validate the Job Type
    - A PTYA Job Type requires at least 1 Capital CU
- CUs tied to RWOs
    - Since we captured these actions (replace, remove or install) in our GIS Design, we must generate the associated costs units
- Cost Units tied to Annotation
    - The replace, remove or install of poles, anchors, cutouts (line/XFMR) and switches have associated Red and Blue annotations

Reviewing Cost Units
Protip: In order to stay organzied, I like to expand the relevent Work Point Flags (right-click Work Point Flag and click 'Expand') and then minimize the Object folders as I review the them.

1. Review of the RWO, auto-generated cost units
    - Sometimes, Smallworld will generate <UNDEFINED COST UNITS> if it's unable find a Cost Unit based on the attributes of the object
    -
    - Smallworld expects to see certain **Install** and **Remove** Cost Units, otherwise it will throw an error

1. Review auto-generated Cost Units for accuracy
2. With

(4e) Add Descriptions of Work to Smallworld

We use the GIS Object "Elec Construction Note" for our Description of Work text on the construction sketches. Set the Status of the "Elec Construction Note" to Install for our descriptions of work to appear blue on the Construction Sketches.

1. Drop a trail point when you would like the Description of Work to appear
    a. Don't get too hung up on sizing and where
    b. We'll review those things when we prepare the Construction Sketches
2. From Object Control, double click "Elec Construction Note"
    a. Set Status to Install
    b. Click three dots bext to Note Text to open a new window
3. Enter Description of Work in following format
    a. **Line 1:** Pole Number and Street Name, with Line Number in Parenthesis)
        i. P1 Main St (LI 1234)
    b. **Line 2+:** Copy and Paste Body of Description of Work from E5/C-FORM
        i. This is the electric make ready text that is being performed

    ii. Don’t get too hung up on sizing or positioning of text
c. **Line 3:** Tree Trimming or Brush Management
    i. Only if deemed necessary during the writing of work order
    ii. These would also be in bold on E5
d. **Line 4:** Pole Access Information
    i. Depending on what was determined during writing of work order
    ii. Commonly Police Protection Required
e. **Line 5:** Coordinates of Job Site
    i. Add to at least one pole per sheet, minimum
    ii. Truncate coordinates to 5 decimal places
    iii. I like to add coordinates for all the poles with Digging Work

Other Description of Work Items

Depending on the field conditions, pole replacements may have special instructions related to how the pole is being set and who is assisting with the work. Most times, these instructions will need to be added to the Description of Work by the work order writer.

Same Hole Set – Poles with risers (power/comm) or poles set in pavement
Same Hole, Joint Set Required – Joint Owned poles with risers (power/comm) or poles set in pavement

Joint Set Coordinate with Construction Manager
VZ Job ANY #*********** (Check Helix for the VZ Job ANY #)
Advanced Notice Needed

Fieldside Set - Pole being set behind pole, away from pavement
Side Set - Pole being set next to pole, no closer to pavement

90 Day Dried Pole – Pole replacements within 200’ of indications of water/wetlands

- Check the Environmental Resource Mapper (ERM) website:
    - https://gisservices.dec.ny.gov/gis/erm/
        - Find job site using Search by Location
        - Under layers and legend, check the following:
            - Waterbody Classifications for Rivers/Streams
            - Waterbody Classifications for Lakes
            - Waterbody Inventory/Priority Waterbodies List
        - Under Wetlands Layers, check All Layers
    - Use Google Maps Aerial View, Streetview and Survey Photos
    - Looks for cattails

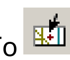
Soft Digs Required – If following are in vicinity of pole with digging work
    - UG Gas Lines
    - UG Water Lines
    - UG Sewer Lines
    - UG Telco Lines

(5) Construction Sketch Creation

(5a) Setting Up Construction Sketches

Notes: Construction sketches consist of an Index page showing an overview of the project area along with individual pages showing the details of the prescribed work. There isn't a limit on the number of Work Points you can include on a page of the construction sketches. However, keep in mind that there are many required elements that also need to be shown on the pages (North Arrow, Legend, Work Descriptions etc). We try to limit the number of pages per index to 10.

Creating Plot Layout

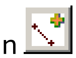
1. Select first Work Flag from Point/Span Editor and click Go-To 
2. Under the 'Plotting' tab, click the 'Add' button .
3. Expand the 'Plot Name' under 'Plot Layouts'
4. Select Page 1
5. Click the 'Edit Construction Plot' button  under 'Results'.
6. Update the following:
    a. 'View Scale': "50".
    b. 'Display Style': "1:50".
7. Click the yellow 'Update' cylinder and close the 'Construction Plot Layout Map' window.
8. Reposition frame over design points as needed
    a. With Page 1 selected under the 'Plot Layouts', hover mouse over the square in map window
        i. The curser will turn into 4 arrows
        ii. Click and hold to slide to frame around as needed
            1. Be care to not move anything besides the frame

Need more than one page to cover work?

1. Under 'Design Parameters', verify 'View Scale' is "50" and 'Display Style' is "1:50".
2. Select the 'Plot Name' under 'Plot Layouts'.
3. Place a trail point on the map where you would like the next page centered on
4. Click the 'Construction Frames from Trail' button  under 'Modify Frames'.
5. Reposition frame as needed
6. Clear Trail and repeat as needed (try to limit the number of pages per index to 10)

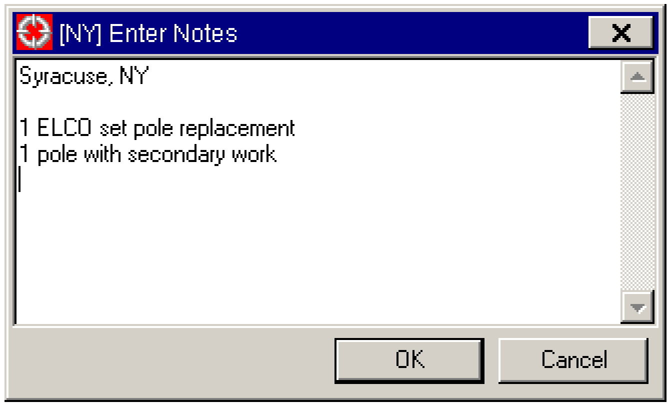
Need more than ten pages?

1. Stop adding frames
2. Select the just created Plot Name (1-10) and click the 'Add' button .
    a. This creates a new Plot Name 11-20
3. Expand the new 'Plot Name' under 'Plot Layouts'
4. Select Page 11

5. Click the 'Edit Construction Plot' button  under 'Results'.
6. Update the following:
    a. 'View Scale': "50".
    b. 'Display Style': "1:50".
7. Click the yellow 'Update' cylinder and close the 'Construction Plot Layout Map' window.
8. Reposition frame over design points as needed
    a. With Page 11 selected under the 'Plot Layouts', hover mouse over the square in map window
    b. The curser will turn into 4 arrows
    c. Click and hold to slide to frame around as needed, being careful not to move anything else on the screen
9. Add additional frames as needed
    a. Place a trail point on the map where you would like the next page centered on
    b. Click the 'Construction Frames from Trail' button  under 'Modify Frames'.
    c. Reposition frame as needed
    d. Clear Trail and repeat as needed
        i. Try to limit the number of pages per index to 10

Update Plot Attributes

1. Select the 'Plot Name' under 'Plot Layouts'.
2. Click the 'Edit Construction Plot' button  under 'Results'.
3. Update the following:
    a. **Name**: This defaults as GIS Design Name with page range (1-10)
        i. Drop the page range if there's only one index
        ii. Keep/update the page range depending on how sheets within Construction Plot
    b. Feeder Number: 'Feeder Number' attribute of primary in GIS within work area.
        ii. If more than one circuit in work area, use "Multiple".
    c. 'Job Title': App name (ex. "SMI 9096-LA202-1").
    d. **'Tax District or Town Code':** 'Tax District/Town Code' attribute of pole in GIS within work area.
    e. 'Notes': Feeds the Description section in the plot's footer (righthand side of page)
        i. Be aware that there is limited space here, including the City/State (4 lines total)
        ii. Enter city/town/municipality and state (from C-form/Exhibit 5).
        iii. Brief description of work (ex. "1 ELCO set pole replacement", "1 pole with primary/secondary/streetlight/guy work").

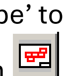


P93 Stony Hill Rd (LI 304)
ELCO set 40/2 pole
Replace 16-101 pole top and transfer spacer cable
Transfer secondary (10-102 Fig 7)
Attach secondary 72" from new pole top (28'/26'8")
Replace service to 547 Stony Hill Rd (11-115)
Replace service to 551 Stony Hill Rd (10-101 Fig 5)
Tree Trimming Required
Police Protection Required
42.129800, -72.458500

(5b) Creating Indexes for Construction Sketches

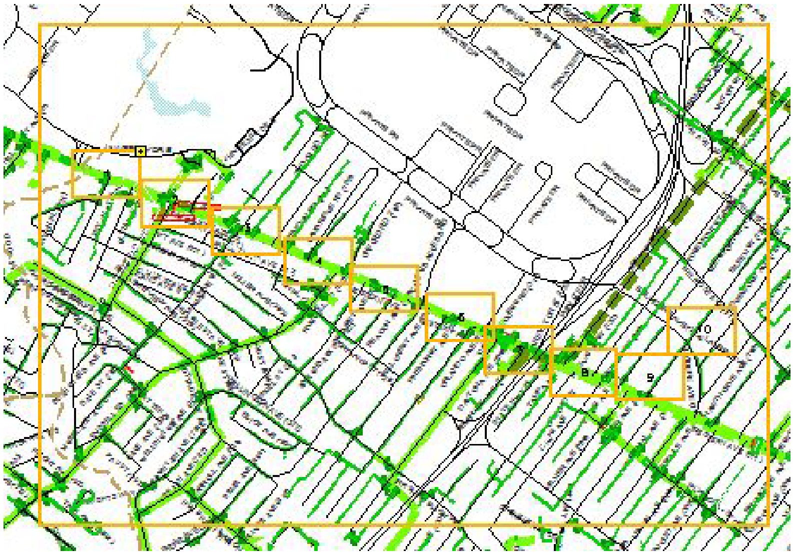
Notes: At least one Index is required for each set of construction sketches, regardless of the number of pages in the document

Create Index

1. Select the 'Plot Name' under 'Plot Layouts'.
2. Under the Results section, click Go-To 
    a. Now we can see all the frames that make up the plot
3. Under 'Design Parameters', change 'Plot Type' to 'Index Map Electric'.
4. Click the 'Construction Create Index' button  under 'Modify Frames' to create the index.
5. Expand the Plot Name
6. Select the Index Map (Page 0) and click Edit Construction Plot button under the Results section

7. Update the following:
    a. View Scale': Values between "400" and "800" often work best, but you can increase these values as needed
    b. 'Display Style': "1:400".
8. The orange Index frame should encompass all your pages from the selected Plot Name

9. Repeat steps 1-7 for each of the Plot Name you have



Generate Construction Sketches

1. Select the ‘Plot Name’ under ‘Plot Layouts’ and click the ‘Generate Maps’ button .
2. Click Ok to the “Layout Document will be updated to reflect…” window that pops up
3. Click Ok to the “Mismatch found between number of frames…” window that pops up
4. Click the ‘Review’ button under ‘Construction Plots’. This will open the Layout Designer window.

(5c) Updating Construction Sketches

Notes: Construction Sketches are modified within the Layout Designer windows in Smallworld.

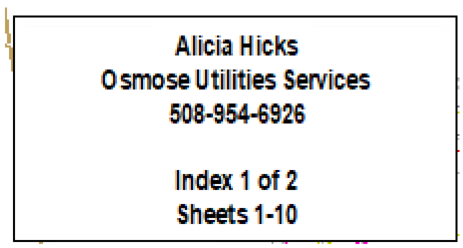
The Layout Designer window pops up when you click the ‘Review’ button , under ‘Construction Plots’

Index Page

1. Add a North Arrow
    a. Click the ‘NGrid North Arrow’ button (bottom toolbar in Layout Window)
    b. Drag a box on map where you want to position the North Arrow
        i. The larger the box, the larger the North arrow
2. Add Contact Information Text Box
    a. Click the ‘Text Box’ button (bottom toolbar in Layout Window)
    b. Left-click and drag to draw box.
    c. Select and right-click newly created ‘Text Box’, select ‘Properties’
    d. Update as follows:
        i. Font Name’: Bold
        i. ‘Text size’: Enter “5”.

ii. ‘Horizontal alignment’: ‘Center’.
iii. ‘Vertical alignment’: ‘Top’.
iv. ‘Fill’ --> ‘Fill Color’: Fill with white
v. ‘Outline’ → ‘Foreground color’: Set to Black
vi. Resize box to fit text and reposition as desired.
vii. ‘Text’
    1. Your Name, Osmose Utilities Services, Your Phone #

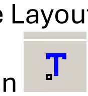
If your construction sketches consist of multiple indexes, add extra lines describing which Index this Index is and which sheets it covers



ProTip: Once you set up a text box with the desired properties, you can copy and paste it to other pages within your Plot (1-10, 11-20 etc), saving you the hassle of constantly updating Text Box properties (Work Description, Streets, Construction Sketch Notes, etc)

Construction Sketch Sheets

Page 1

1. Reposition Electric Construction Notes as needed
    a. Repositioning must be done in the main Design Window, not the Layout View
    b. Turn on insertion points to be able to easily select GIS annotation 
    c. Expand Note Text and indent lines as needed to adjust how the description of work appears
2. Confirm Street Names are visible for streets with electric make ready work
    a. Use Electric Construction Note GIS Objects to add Street Names if missing or hard to see
    b. Include Line Number in the Street Names
3. Confirm Cross and Intersecting Street Names are visible
    a. Cross street and intersection references are used as a way of narrowing down the location of the job sites
    b. If the nearest cross street/intersection is off-sheet, use the >>> to point in the direction of where that cross street/intersection is located
4. Add a North Arrow

   a. Click the ‘NGrid North Arrow’ button  (bottom toolbar in Layout Window)
   b. Drag box on map where you want to position the North Arrow
5. Add a Legend
   a. Click the ‘NGrid Legend’ button  (bottom toolbar in Layout Window)
   b. Drag box on map where you want to position the Legend
   c. Expand Note Text and indent lines as needed to adjust how the description of work appears
      i. Main St (1234)
6. Add Tree Trimming Symbols
7. Leader Lines between description of work and pole with work

Additional Description of Work Items

External Work Construction Sketch Notes

Notes: External Work Construction Notes are the “fine print” on the construction sketches that outlines what the applicant’s contractor is responsible for related to the electric make ready work. These notes are tied to flagging, permitting (environmental/highway), tree trimming, streetlight work coordination etc. (see below for a full list).

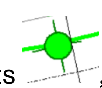
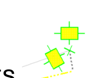
Some notes need to always be included, while other notes only need to be included if the situation is within the construction sketches. See the notes listed in parentheses below to determine when to add the external construction note.

- **All External Work Orders**
  - “Applicant is responsible for all necessary permits to complete work.” (Index Only)
  - “Applicant responsible for all flagging needed to complete the make ready shown.” (Index Only)
- **Work Orders with Tree Trimming (excludes brush clearing)**
  - “Applicant's contractor responsible to assure adequate vegetative clearance through approved methods. Not less than 15ft of overburden relief shall be provided for conductors when raised to final position.” (Index and plots with tree trimming)
- **Work Orders with Digging Work**
  - “Applicant to secure and provide environmental permitting to the National Grid FCC before scheduling any work.” (Index and plots with digging work)
- **Work Orders Work along a State Highway**
  - “Applicant to provide to the FCC a copy of the NYSDOT HWY permit for work along NY-XY prior to scheduling work.” (Index and plots with work along State Highway)
- **Work Orders Work along a County Highway**
  - “Applicant to provide to the FCC a copy of the County HWY Permit for work along CR-XY prior to scheduling work.” (Index and plots with work along County Highway)
- **Work Orders Work along any Saratoga County Highway (NY39 Only)**
  - “Saratoga County Highway Permits Required – valid for 60 days max” (plots with work along a Saratoga County Highway)

- **Work Orders with Special Conditions**
    - “Work within 25’ of an electric/gas transmission line, railway, limited-access highway crossing or navigable waterway.” (Plot with Special Condition)
        - Add a large, separate text box that notes the condition:
            - Example: “SPECIAL CONDITION-Pole set is within 25’ of electric transmission line.”
- **Work Orders with Limited Access Highway Crossings**
    - “PHA required for limited access highway crossings. Aerial Permit required from the NYS Thruway Authority to cross I-XY. See Sheets X and Y. “(Index pages with limited access hwy crossings)
    - “PHA Required for I-XY HWY Crossing. Provide to FCC before scheduling work. Aerial Permit Required from the NYS Thruway Authority to cross I-XY.” (Plots with limited access hwy crossings.)
- **Work Orders with Work in a State Forest**
    - “Applicant is responsible for supplying the NYS DEC TRP required for work within the [insert name] State Forest. See permit & conditions to assure full compliance.” (Index and plots with work in a State Forest)
- **Work Orders with Work in Adirondack Park**
    - “The applicant shall provide any required APA jurisdictional determination or APA permitting to the replace structures shown.” (Index and plots with work in a State Forest)
- **Work Orders with Work in Active Agricultural Field**
    - “Limited access, may need to climb- due to the crops and inability to get equipment to the pole with crops in the field (Enter Pole Number) is located in the middle of an active agriculture field” (plots with work in Active Agricultural Field)
- **Work Orders with Muni-Owned Streetlights**

Notes: Check the NY_Streetlight_Ownership document for Muni Streetlight Contact information and phone number:

\\syrfile15\projects\NationalGrid-Engineering\ProjectData\FieldData\Work Order Resources\Streetlight_Ownership_NY

- “Applicant responsible to coordinate streetlight work with the [Enter Town Name] and assure it’s completed in compliance with applicable NESC requirements. [Enter Town Name] will provide the required electrical separation/disconnect equipment per 19.8.30 and ownership identification labels per 19.8.40 using qualified electrical workers. Contact: [Enter Contact Name and Phone Number] (Index and plots with Municipal Streetlight work)
- This applies only to Streetlights , not floodlights 

External Construction Reports and Permits

Joint Pole Proposal (JPP)

Notes: The JPP is a notification document that we prepare that lets the Joint Owner of an know that there will be a modification of an existing JO asset or the installation or removal of a JO asset. Replacing existing JO assets is the most common work shown on the JPP

5. Applications with multiple telephone companies as Joint Owners will each have their own pages in the JPP for their assets they share ownership with NGRID
6. A JPP is required for joint owned pole installations or replacements and joint owned anchor installations/replacements*.
    - *Joint Owned Anchors don't have unique symbols. If ELCO and TELCO share the anchor, it is considered Joint Owned

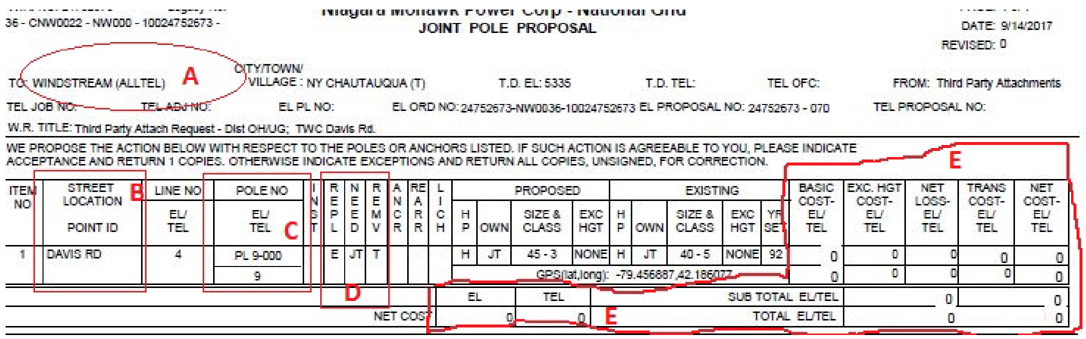
- Only one JPP is needed per work order.

Creating the JPP

7. In STORMS, open work request.
    - Estimates must be sent from GIS to STORMS before proceeding.
    - Confirm that 270R is assigned to yourself
        - This will result in the "Third Party Attachments" references on the JPP to be replaced with your name
8. From the 'File' menu, select 'Properties' -- > 'Reports'.
9. Right-click 'Joint Pole Proposal' and select 'Modify'.
10. Verify the report looks correct.
11. Click the 'Print' button .
12. Click 'Printer'.
    - Select 'ScanSoft PDF Create! On Ne00:'.
    - Click 'OK'.
    - Click 'OK'.
13. Save file to C$: Drive

Editing the JPP

14. Edit JPP, using a PDF Editor (Adobe Acrobat DC)
    - If a Telco Joint Owner is other than Verizon, verify the 'TO' field is correct. (A)
15. Verify the following
    - The Street Locations are accurate. (B)
        - If pole is on Main street in GIS, make sure it shows that way in JPP
    - POLE NO "TEL" (Foreign Pole #) filled out (C)
        - Used NT if we're unsure about the TEL #
    - The 'REPL', 'NEED' and 'REMV' are accurately filled out (D)
        - 'REPL' = E, 'NEED' = JT and 'REMV' = T are the proper entries for most pole replacements
16. For Make Ready Work, zero out all costs (E)



36 - CNW0022 - NW000 - 10024752673 -

Niagara Mohawk Power Corp - National Grid

JOINT POLE PROPOSAL

DATE: 9/14/2017

REVISED: 0

TO: WINDSTREAM (ALLTEL) A CITY/TOWN/ VILLAGE : NY CHAUTAUQUA (T) T.D. EL: 5335 T.D. TEL: TEL OFC: FROM: Third Party Attachments

TEL JOB NO: TEL ADJ NO: EL PL NO: EL ORD NO: 24752673-NW0036-10024752673 EL PROPOSAL NO: 24752673 - 070 TEL PROPOSAL NO:

W.R. TITLE: Third Party Attach Request - Dist OH/UG; TWC Davis Rd.

WE PROPOSE THE ACTION BELOW WITH RESPECT TO THE POLES OR ANCHORS LISTED. IF SUCH ACTION IS AGREEABLE TO YOU, PLEASE INDICATE ACCEPTANCE AND RETURN 1 COPIES. OTHERWISE INDICATE EXCEPTIONS AND RETURN ALL COPIES, UNSIGNED, FOR CORRECTION.

ITEM NO	STREET LOCATION / POINT ID	LINE NO EL/TEL	POLE NO EL/TEL	INST	REPL	NEED	REMV	ANCR	REARR	LICH	PROPOSED HP	PROPOSED OWN	PROPOSED SIZE & CLASS	PROPOSED EXC HGT	EXISTING HP	EXISTING OWN	EXISTING SIZE & CLASS	EXISTING EXC HGT	YR SET	BASIC COST- EL/TEL	EXC. HGT COST- EL/TEL	NET LOSS- EL/TEL	TRANS COST- EL/TEL	NET COST- EL/TEL
1	DAVIS RD	4	PL 9-000		E	JT	T				H	JT	45 - 3	NONE	H	JT	40 - 5	NONE	92	0	0	0	0	0
			9								GPS(lat,long): -79.456887,42.186077									0	0	0	0	0

	EL	TEL			
			SUB TOTAL EL/TEL	0	0
NET COST	0	0	TOTAL EL/TEL	0	0

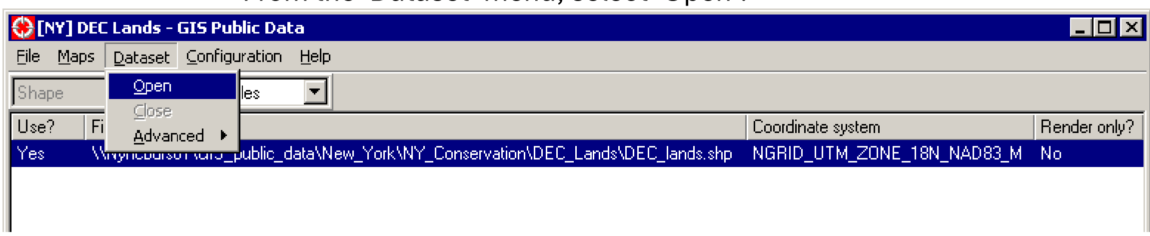
17. Under ‘REMARKS AND / OR REARRANGEMENT REQUESTS ‘,
    - Enter the name of the applicant, “Make Ready” and contact info
        - Example: Time Warner Cable Make Ready - James O’Brien 716-686-4460
    - Also add “Reconciled with:” and add the Name and Phone # for whoever the job was reconciled with
        - Example: Reconciled with: Doreen Raucci 518-527-8293
            - Design should be putting this information in Helix
                - If information isn’t in Helix, reach out to designer
18. ‘FIELD CK. BY EL’: Enter “Osmose – [Your Name and Phone Number”]
19. ‘DATE BY EL’: Enter date work request returned from survey
    - Check Helix for this information
20. LICENSEE COMPANY NAME (S)’: This should only show existing attachments (except Telco)
    - If you added attachments prior to creating the JPP, you will need remove the applicant from this section.
21. ‘SUBMITTED BY’: Confirm that the name associated with your STORMs USERID is here and not “3rd Party Attachments”
22. ‘TELEPHONE #’: Enter your phone number.
23. Combine multiple pages and Name file, ‘JPP_[WR #]’.

Environmental Checklist

24. The Environmental Checklist is used as a way of identifying situations that may require the applicant to obtain Environmental permitting
25. Only required for Applicant Directed Design (ADD) applications
    - Check for Environmental concerns **only** If there is Digging Work
        - **Digging Work:** Installation/Removal or Replacement of Poles, Anchors, Pushbraces and Down Ground/Rods
    - If there isn’t any Digging Work, mark everything as No on the Environmental Checklist
26. Not required for External BAU applications
27. We’ll use a mix of web based resources and GIS Data to answer the questions on the Environmental Checklist
28. **TIP:** For applications with multiple poles worth of work to check on the Environmental checklist, I like to mark the poles with digging work in our CSV (add a new column and mark **X** on the poles with digging work, in the row with the coordinates), import that subset of poles into Google Maps (My Maps if you have a Gmail Account), which I find makes reviewing these simpler.

Note: Some questions in the Environmental Checklist ask you to open/review GIS Public Data

- In Smallworld from the 'NGRID' menu, select 'GIS Public Data'
- From the 'File' menu, select 'Open'.
    - Locate the desired .cfg file and click 'Open'.
    - In the main window, select the file.
        - From the 'Dataset' menu, select 'Open'.



- To close GIS Public Data, reopen GIS Public Data window and highlight the dataset you want to close
    - From Dataset menu, click Close

Filling out the Environmental Checklist

29. '1': Check 'No'.
30. '2': Use the 'Environmental Resource Mapper', http://www.dec.ny.gov/gis/erm/
    - Under Reference Layers, check 'Adirondack Park Boundary'.
        - Mark as **No** if work isn't within Adirondack Park
31. '3': Answer will be based on questions '3a' to '3h'.
    - '3a': Use the 'Environmental Resource Mapper' and layer:
        - Under Layers & Legend', check 'State Regulated Freshwater Wetlands'.
            - Mark **Yes** if work is within wetlands or if work is within 100' of wetlands
    - '3b': Use the 'Environmental Resource Mapper' and layer:
        - Under 'Layers & Legend', check 'Waterbody Classifications for 'Rivers/Streams' and 'Lakes'
            - Mark **Yes** If work is within 200' of Rivers/Streams/Waterbodies
    - '3c': Check **No**, unless we're setting new poles (not replacing existing) in an area with visually significant resources.
        - In unsure, check with veteran work order writer
    - '3d': Use the Environmental Resource Mapper and GIS Public Data to answer this question
        - In the Mapper under Reference Layers, check DEC Lands
        - Open 'GIS Public Data', select 'New_York' --> 'NY_Conservation' --> 'DEC_Lands' --> 'DEC Lands.cfg'.
            - Mark **Yes** if work if within DEC Lands polygons
    - '3e': Use the Cultural Resource Information System (CRIS) https://cris.parks.ny.gov/.
        - Login as Guest and Search
        - Search for Culturally Sensitive Areas or State/National Historical Sites/Districts

        - Check **No** if proposed work isn't in an archaeologically sensitive area or in a listed State/National Historic Site
    - '3f': Use both the US Fish & Wildlife Service's Mapper and GIS Public Data to search for Endangered Species; Check **Yes** if either search identifies endangered species
        - US Fish/Wildlife Service Mapper: https://ecos.fws.gov/ipac/ to search for Endangered Species
            - Click 'Get Started', then 'Find a Location' to zero into your worksites
            - 'Define Area' by drawing a line or polygon and click 'Continue'
        - Open 'GIS Public Data', select 'New_York' --> 'NY_Conservation' --> 'Karner Blue Butterfly' --> 'KarnerBlueButterfly.cfg'.

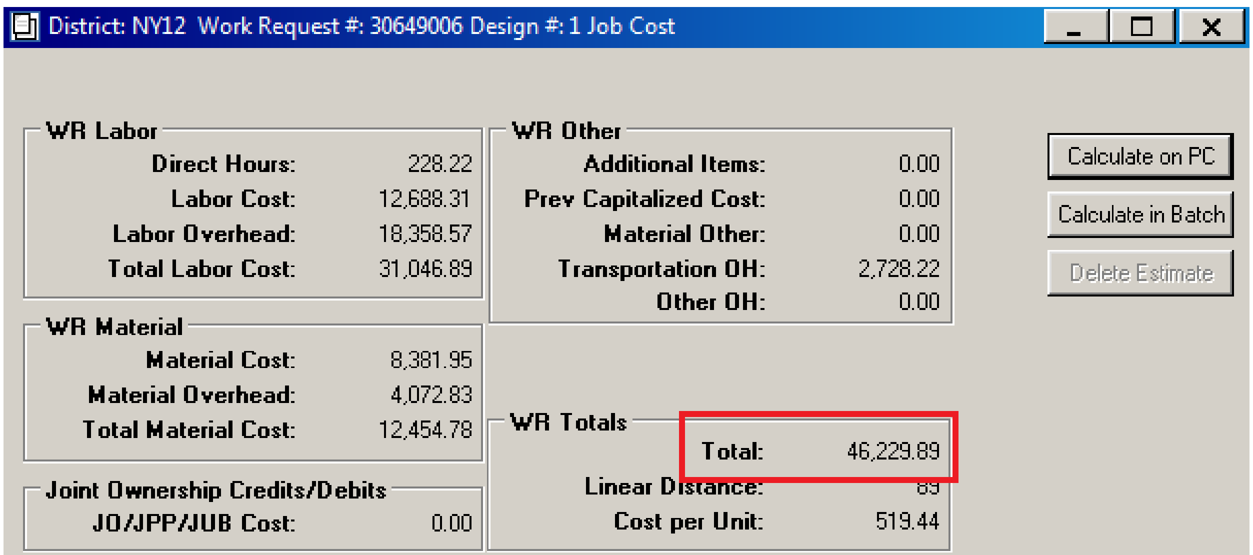
32. '4': Check **No**, unless you're calling for extensive tree trimming or the cutting/clearing of trees **IN** an area identified as endangered or threatened bats
    - US Fish/Wildlife Service results for Q3f will help you answer this question
33. '5': Check 'No'.
34. '6': Almost always 'No'.
35. '7': Open 'GIS Public Data', select 'New_York' --> 'NY_Admin_&_Political_Boundaries' → 'Indian Lands' → indian_lands.cfg
36. '8': Almost always No

37. '9': Use the DECinfo Locator website: https://gisservices.dec.ny.gov/gis/dil/
    - Locate your work area
    - Under DEC Information Layers –> Environmental Quality Tab ---> Permits and Registrations
        - Check the Check-All Button
        - Uncheck the following:
            - Municipal Separate Storm Sewer System
            - Air Facility Registrations
            - Title V Air Facilities
            - Air State Facilities
            - Water Withdrawal Annual Reports
            - Water Wells
            - Dams
            - Projects of Interest
    - Under Environmental Cleanup section
        - Check the Check-All Button
    - Mark **Yes** if work site is located at any of these locations or within 50' of property
38. '10': Mark each line as **No**
39. Name file, 'EnvChecklist_[WR #].pdf'.

Design Approval Checklist

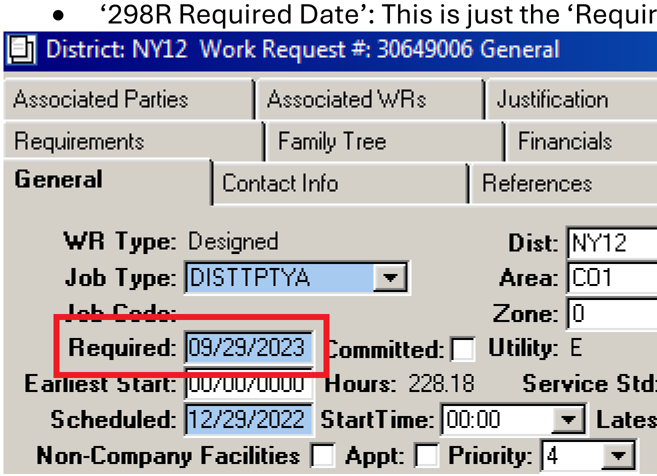
Determine if job is over $20K:

- Once the design has been completed, click the ‘Estimate’ button in STORMS. The ‘Total’ value under ‘WR Totals’ is what needs to be over $20K. If you want to get an idea if you will need the checklist before starting the job, estimate $10K for a pole replacement and $1K for power make ready.



Fill out the heading:

- ‘298R Required Date’: This is just the ‘Required’ field on the ‘General’ tab.



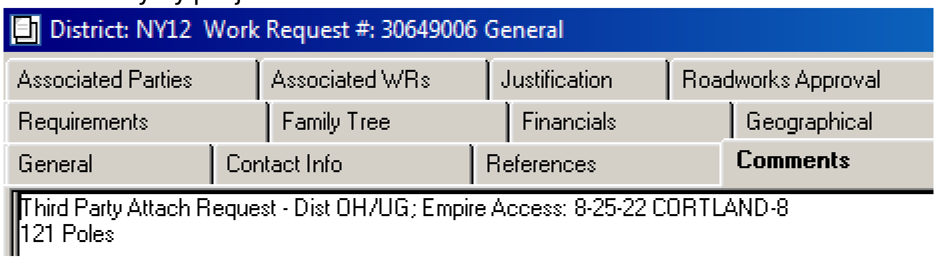
- ‘Description’: Enter the applicant name followed by “Make Ready”.
- ‘Location’: Enter the city/town/village of the job location. If the job is along a single road, that can be entered too.

- ‘Designer’: Enter your Grid User ID. If you do not have one yet, I’d just enter your name for the time being.

Checkbox items:

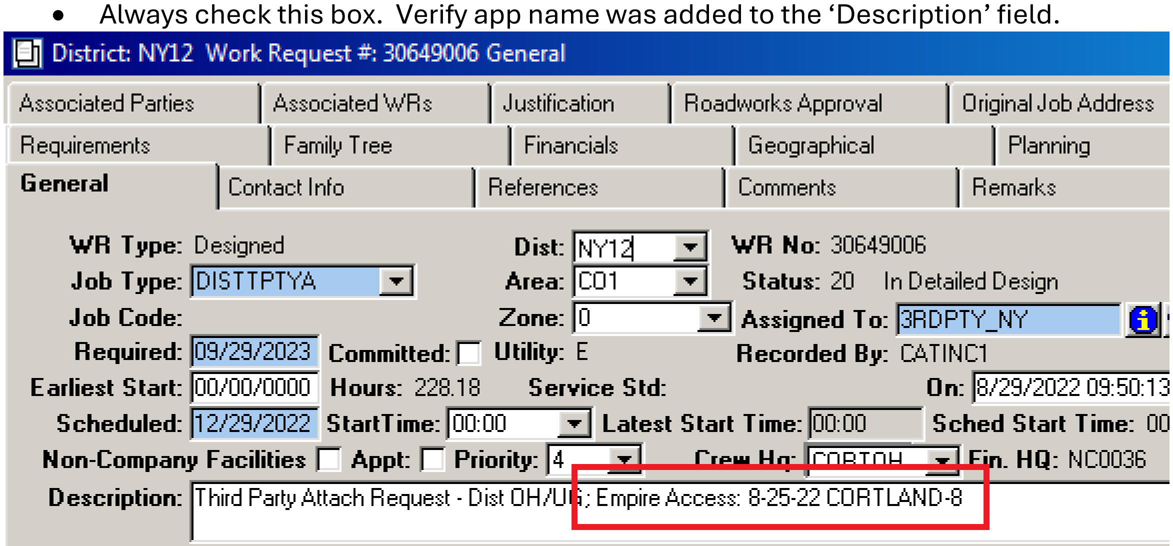
Scope:

- Always check this box. Verify ‘Comments’ tab was filled out. What’s populated here will vary by project.



General Description:

- Always check this box. Verify app name was added to the ‘Description’ field.



Environmental:

- Check box only if an Environmental Checklist was uploaded to STORMS.

278R “Required”:

- Always check this box. Verify the 278R was assigned to Alex Hall (HALLA) or Jason Brueggman (BRUEGJ).

298R:

- Always check this box. Verify the 298R is set to ‘Required’.

Mainline Change:

- Check box only if an update was required to the RCC map and the 856R was added.

ITEM	REQ #	NOTES
☐ Scope		Add scope to Doc's Tab - include brief description in comments
☐ General Description		Replace the default description in the General Tab in STORMS
☐ Service Details Tab		OH/UG/URD -Delivery Voltage-Service Voltage-Amps-Service Drop
☐ Primary Metered Services Job Type		Add Cust. SGR Drawings for Network Service/ @MELINST
☐ Job Type /Accounting		Verify job type and accounting on Financial Tab
☐ Estimate		Does the estimate make sense? If over 100K, is it specific funding
☐ Materials		Verify all material on Bill of Material and GIS Design Points
☐ LA's / Fuse Coordination		Verify proper use of LA's and Fuse Coordination in design
☐ Encumbered		Extension / Lateral has Encumbered as "yes" in GIS when billable
☐ Add Remarks		Construction (CNST) Remarks print on the job card for the crew
☐ Tree Trimming	236R/637R	Additional Item in GIS – Verify 637 in STORMS
☐ Constructability Review	237R	OH > 75K; UG > 50K – Attach Document
☐ Metering	245R	Verify @MELINST in GIS– Verify Service Details tab-Assign to M&T
☐ Environmental	255R/468R	255NR or 255C and 468 to Env Engineer / Checklist on Docs tab
☐ Civil	404R/604R	Sketch in docs tab. 404/604 to Job Owner. **Use new Civil CUs!!**
☐ Trench Inspection	405R/605R	Trench inspection/Bollard required. Sketch attached. 405/605 assigned
☐ Easement Sketch	434R	Add sketch to docs tab – 434 assigned
☐ Petition/Permits	*435R/436R	Add sketch/app to docs tab–Assign 435R/436R to Clerk after approval
☐ JPP Review	*440R	Confirm JPP accuracy – Add 440R for TELCO pole sets
☐ Settings	456R	For Regular/Capacitor/Recloser settings assign 456R to DPAM
☐ Dig Safe	645R	Add DigSafe form to DOCS tab – add 645R
☐ 278R "Required"	278R	*** Assign 278R to supervisor: ALL tabular designs require 278R
☐ 298R	298R	Only complete after 278R is complete
☐ Mainline Change	856R	Verify 856R was generated by "checked" box on GIS plotting editor

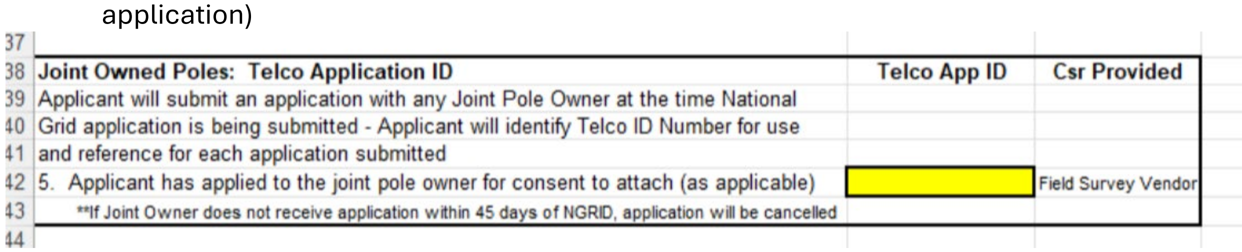
Provide outline of scope:

- Enter "Third party make ready work."

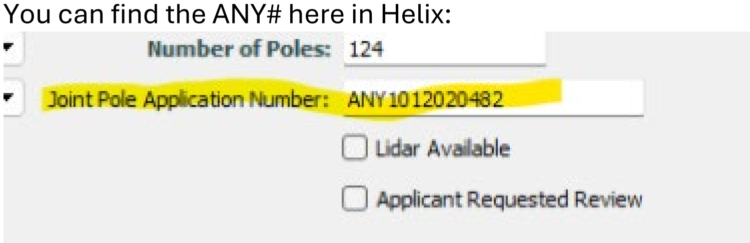
Final Tasks

Double Checks

- Verify that any SubT/Transmission Poles are cancelled from the application
    - SubT/Transmission poles (MR or NMR) are handled on separate work orders
- Verify that SubT/Tranmission OH Crossings are noted on the E5
- Verify that Overlapping Work is identified in bold on the poles that the work impacts
- Verify the number of poles with work on E5 matches the number of poles with work on the construction sketches
- Verify the descriptions of work matches between the E5 and the construction sketches
- Verify the PTYA or YAMO WR # was added to the E5.
- Verify the 'No. Of Poles', 'SO' and 'JO' counts are correct.

    - This tallies the number of poles NGRID is licensing the applicant to attach to
    - 'Do Not License', Canceled and Customer Owned poles should not be included in the pole counts.
    - NMR poles should be counted
- Verify that the Licensee Agreement No. (Attachee Code) is present and accurate
    - Reference the NY Attachee Code Master list to verify the attachee code
    - \\syrfile15\Projects\NationalGrid-Engineering\ProjectData\FieldData\Work Order Resources\Attachments
        - Search by Tax District
        - If you are unsure of the code or can't find it on the master lists, check with a veteran work order writer for guidance
- Confirm that the E5's Application Checklist tab has the ANY# added under Telco App ID
    - Only needed if the application was reconciled with TELCO (ie there's JO poles on application)
- 

You can find the ANY# here in Helix:



Work Management Costs

- Use the Work Management Calculator to determine Work Management Costs (NY External section)
    - \\syrfile15\Projects\NationalGrid-Engineering\ProjectData\FieldData\Work Order Resources
    - Make sure you are using the most recent version; these are updated yearly
    - Copy calculator to your local job folder
- Only required for NY BAU External Construction Applications
    - Not required for ADD Applications
- Only applies to Billable Work
- ReDesign Time is only used if the Work Order is a Rework and we need to account for our hourly time
- **Determining Work Management Costs**
    - Enter the # of Pole Replacements
    - Enter the # of Power Make Ready poles
        - Any NGRID work that isn't a pole replacement

        - Muni Streetlight work only poles shouldn't be counted
    - Enter the # of PLAs performed for application
        - SubT PLAs are accounted for separately
- **Updating the B2 with Work Management Costs**
    - Open the B2 Tab on the E5
        - Copy empty Row D5 and paste into empty Row E5
            - This updates the formatting for Row E5 in the B2
    - From WM Calculator, copy the Description of Work/Remark found in Column F
        - "Construction Support (includes pole loading analysis)"
    - In the B2 Tab of the Exhibit 5, Paste description of work in Row E5
    - From WM Calculator, copy the total cost in blue for rows 18-22, found in Column E
    - Paste total in H5 on B2
    - Save Exhibit 5

Upload Documents to STORMS

Note: Be sure to set the file sizes of all your documents to 1

- In STORMS, click the 'Document' tab.
    - Right-click on or under the top section ('Work Request #...') and select 'Add'.
    - Add documents below as necessary:
- **Exhibit 5:**
    - Desc: "Exhibit 5 for [App Name] Make Ready Required".
    - Type: EXHIBIT 5
- **Construction Sketch:**
    - Desc: Construction Sketch
    - Type: SKETCHES
- **JPP (Joint Pole Proposal):**
    - Desc: JPP
    - Type: OTHER
- **Environmental Checklist:**
    - Desc: Environmental Checklist
    - Type: ENVCHECK

STORMs Requirements (BAU Apps Only)

- In STORMS, click the 'Requirements' tab.
- Verify the following requirements have the proper 'Status'.
    - 145, 155, 215, 250, 251: Complete
    - 226 FIELD SURVEY COMPLETE; Complete (add/complete if missing)
    - 252 (3rd Party – Survey Prepayment Received)
        - 252 should have been completed by TAG
            - If 252R remains outstanding, assign to 3RDPTY_NY
    - 253 (Trigger Order of Long Lead Time Items)
        - Right-click and manually add 253 if missing
        - Set the description to 'Trigger Order of Long Lead Time Items'
            - Set to Complete and Assign to Self
    - 254 TELCO Reconciliation; Complete (add/complete if missing)

- 255 (Environmental Checklist Complete):
    - o If an Environmental Checklist was required, set to ‘Complete’.
    - o If an Environmental Checklist was not required, set to ‘Not Required’.
- 267 (Enter 3rd Party Attachment Locations):
    - o Complete if you added attachments
    - o Bypass only if you are unable to add attachments
        - Bypassed 267R should be assigned to yourself for completion later
        - Valid reasons to Bypass include poles not being in GIS or Attachee Code isn’t in GIS yet
- 270 (Design Complete):
    - o Assign to self if you haven’t done so already
    - o Will ‘Complete’ automatically once you change the state of the GIS Design to ‘Design Complete’.
        - This can take a while to complete.
        - The ‘270’ MUST be completed before submitting app to NGRID.
            - o This cannot be forced to complete.
        - If this takes longer than 10 mins, check for Interface Errors
            - o In STORMS, click Help | Interface Errors
            - o Add your MR WR# and search
                - i. Reach out to a Veteran Work Order writer for assistance
- 278 (Design Approval): ‘Required’.
    - o If you’re being QC’d, DON’T assign the 278 until given the go ahead to do so
        1. NY01-10: Assign to Jason Brueggeman (BRUEGJ)
        2. NY (NY11+): Assign to Alex Hall (HALLA)
- 283 (Review Project Dates and Order Materials)
    - o Right-click and manually add 253 if missing
    - o Set the description to ‘Review Project Dates and Order Materials’
        1. Set to Complete
        2. Assign to Self
- 299 (Design Warnings):
    - o Verify that this requirement isn’t present
    - o If it’s present, it needs to be addressed before submitting application to Grid

a. 350 (Design Facilities Collected): ‘Complete’.
    - o This should autocomplete. Do not manually complete.

b. 536 (Issue to Field): ‘Required’ (ONLY if work is External)
    - o Add Optional Requirement

STORMs Requirements (ADD Apps Only)

- In STORMS, click the ‘Requirements’ tab. Verify the following requirements have the proper ‘Status’.
    - 145, 155: Complete
    - 215 – Leave Required and Assign to NGRID Engineer responsible for reviewing applications
        - o NY01-10: Assign to Jason Brueggeman (BRUEGJ)
        - o NY (NY11+): Assign to Alex Hall (HALLA)
    - 250/251: Complete
    - 252 (3rd Party – Survey Prepayment Received)

- Assign to 3RDPTY_NY
- 253 (Trigger Order of Long Lead Time Items)
  - Right-click and manually add 253 if missing
  - Set the description to 'Trigger Order of Long Lead Time Items'
    - Set to Complete and Assign to Self
- 254 (TELCO Reconciliation)
  - Confirm it's complete
- 255 (Environmental Checklist Complete): Complete
- 267 (Enter 3rd Party Attachment Locations):
  - Complete if you added attachments
  - Bypass only if you are unable to add attachments
    - Bypassed 267R should be assigned to yourself for completion later
    - Valid reasons to Bypass include poles not being in GIS or Attachee Code isn't in GIS yet
- 270 (Design Complete):
  - Assign to self if you haven't done so already
  - Will 'Complete' automatically once you change the state of the GIS Design to 'Design Complete'.
    - This can take a while to complete.
    - The '270' MUST be completed before submitting app to NGRID.
      - This cannot be forced to complete.
    - If this takes longer than 10 mins, check for Interface Errors
      - In STORMS, click Help | Interface Errors
      - Add your MR WR# and search
        i. Reach out to a Veteran Work Order writer for assistance
- 278/298: Leave Required and assign to 3RDPTY_NY
- 283 (Review Project Dates and Order Materials)
  - Right-click and manually add 253 if missing
  - Set the description to 'Review Project Dates and Order Materials'
    1. Set to Complete
    2. Assign to Self
- 299 (Design Warnings):
  - Verify that this requirement isn't present
  - If it's present, it needs to be addressed before submitting application to Grid

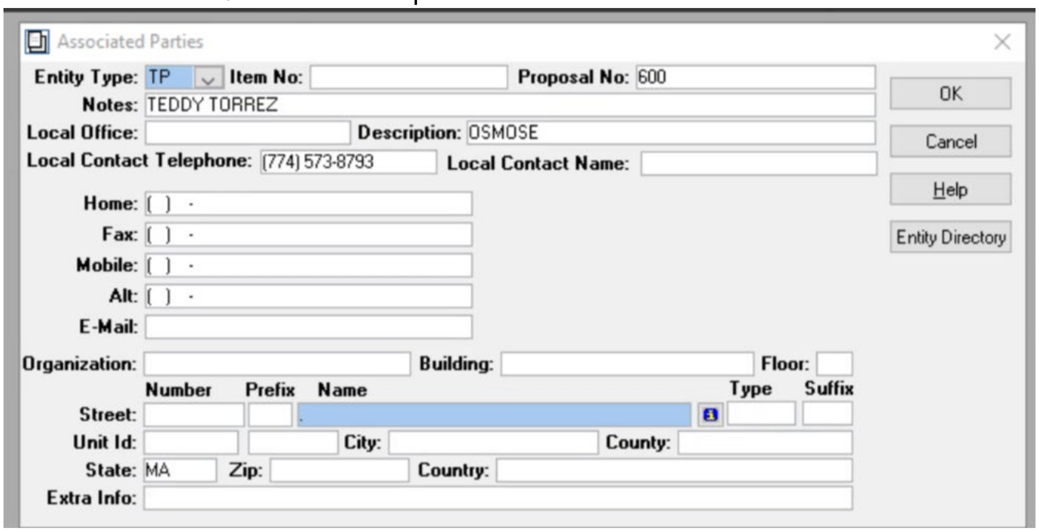
c. 350 (Design Facilities Collected): 'Complete'.
  - This should autocomplete. Do not manually complete.

d. 536 (Issue to Field): 'Required'
  - Add Optional Requirement

Associated Parties

- Confirm that there's an Associated Parties tab for an entry
- If there isn't an entry, add one by right-clicking in white space under the Associated Parties tab and click Add
  - Fill out following as needed
    - Entity Type: TP

○ Proposal No: 600
○ Notes: Teddy Torrez (or your name)
○ Description: Osmose
○ Local Contact Telephone: (774) 573-8793 (or your phone #)
○ Name: Add a period



Update Helix

- Under 'Custom Fields', verify the accuracy of the following items:
  - 'Actual Number of Poles – This is the number of poles being licensed on application
    - ○ Should match Total # of Poles in the # of Poles Calculator on the top of the E5
  - 'Number of 'OCalc Poles'
    - ○ This is the number of poles that a Pole Loading Analysis was completed on
      - Double check MRE if available to confirm the # is accurate
  - 'Construction Assignment':
    - ○ Set to 'External Contractors'
  - Number of Poles:
    - ○ Verify Total 'Poles With Work', 'Pole Replacements', 'Primary Moves', 'Secondary Moves', 'SL Move' and 'Guying' 'are accurate
  - 'Expense Type' field:
    - ○ 'O & M': DISTTPYAMO WRs.
    - ○ 'Capital': DISTTPTYA WRs.