Autodesk Construction Cloud (ACC) Guide-Assets

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Quick Reference Guide: Enter Basic information

Status always leave as *In Progress* until it is *Installed*. *In Progress* shows up in Orange and *Installed* is blue. *In Progress* does not show up in any reports

Description varies based on item. Can record intermediate calculations, address when not assessable, etc.

Name, Location and *Barcode* Always ignore

Quick Reference Guide: Enter A, maybe B or C and NEVER D

You will always enter A and sometimes B or C depending upon the items entry

A for DAYS, EACH, GAL., I.D., L.F., LBS, LUMPSUM, STA, T.F., TON, V.F.

A,B for S.F., S.Y.

A,B,C for C.F., C.Y.

Note that *D-Total(Calc) DoNotEdit* is never updated by the user. That is updated by automation. Note also that S.Y. is always D=A*B/9 and C.Y. is always D=A*B*C/27.

Where appropriate, all data into A,B,C must be in feet and never inches.

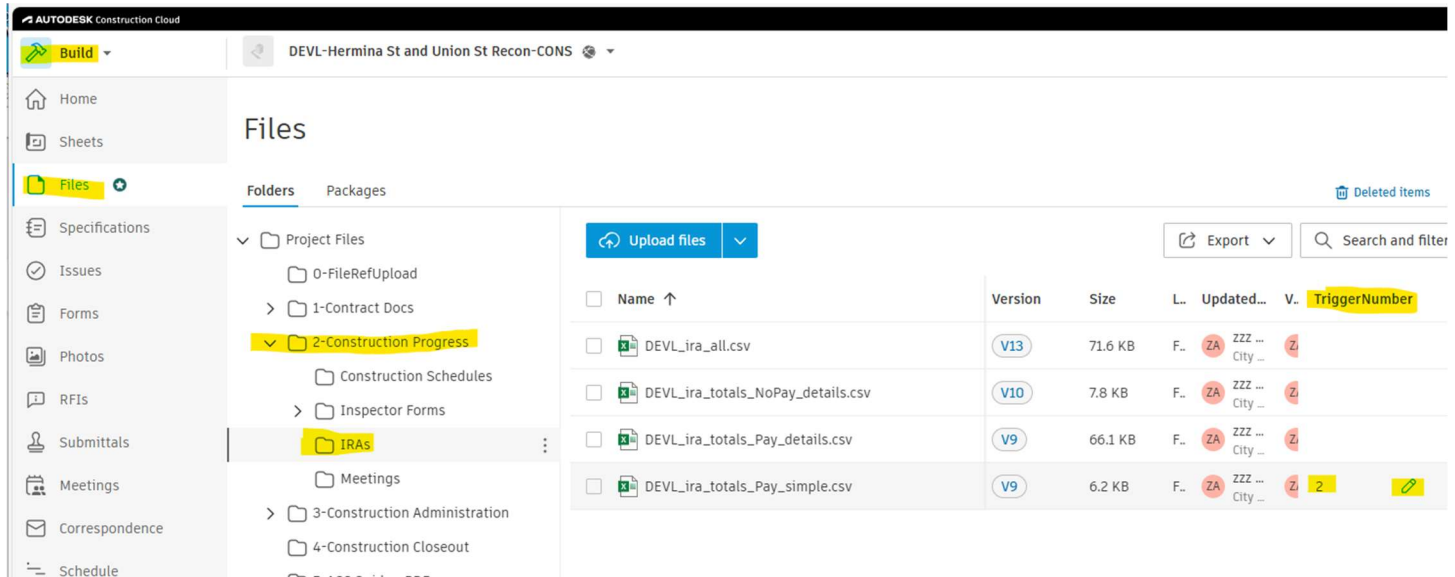## Quick Reference Guide: Enter E, F, G where appropriate.

E-Address if assessable enter the address only if this item is assessable. Assets with data entry here will output to a report sorted by address, so consistency in entering addresses is beneficial. For example, always do 2945 Hermina St and not 2945 Hermina Street.

F-DoNotPayGC will keep asset from showing up in pay app reports or calculated item totals for (*iraReport_Simple.csv* and *iraReport_Detailed.csv)* but it will show up instead in *iraReport-GCdoNotPay.csv*.

G-BillToOther is for billing to other entities, such as a Municipality, Agency (eg MWU) or Utility (eg MGE). In addition to *iraReport_Simple.csv* and *iraReport_Detailed.csv,* these assets will be in *iraReport-BillToOther.csv*

Quick Reference Guide: Reports generation

Generate reports by incrementing TriggerNumber column by 1 for iraReport_Simple.CSV. *D-Total(Calc) DoNotEdit* will be calculated and all reports will update. You may have to scroll all the way to the right to see this value. Hover over entry cell click the pencil ✏. The first 4 digits correspond to the projects contract number.

Quick Reference Guide: Report descriptions

CONT_ira_all.csv **Both Pay and No Pay assets.** Has every bit of data about assets and all assets are included. Download to open in excel and use filtering to generate a list of assessments and bill to other work.

CONT_ira_totals_NoPay_details.csv **Only the No Pay assets** very detailed and has all information. Has hierarchy of Accounts, then bid items, then assets under each bid item. At bid item level, all the basic information (BidNo, BidName, BidQty) and most importantly the calculated total. Each piece of data is provided on assets. The ordering is different since the D-Qty is the most important information. Finally, the Link has a direct link to the asset. Copy and paste this into browser. Click Placement link with sheet number to navigate precisely to asset, if there is an associated graphic.

CONT_ira_totals_Pay_details.csv **Only the Pay assets.** very detailed and has all information. Has hierarchy of Accounts, then bid items, then assets under each bid item. At bid item level, all the basic information (BidNo, BidName, BidQty) and most importantly the calculated total. Each piece of data is provided on assets. The ordering is different since the D-Qty is the most important information. Finally, the Link has a direct link to the asset. Copy and paste this into browser. Click Placement link with sheet number to navigate precisely to asset, if there is an associated graphic.

*CONT_ira_totals_Pay_simple.csv* **Only the Pay assets.** just two columns. acctName_acctNo_bidItemNo_bidItemName_unit: and *quantity:.* *quantity:* represents the total. This report is most useful for pay apps.

**All reports only contain data on *Installed* assets**

Quick Reference Guide: Report viewing

Each time a report is generated, it creates a new version. You can view previous versions by selecting from the drop down menu in the upper left corner of the screen.

Downloading reports and opening in excel is recommended so you can freeze the top row heading and see more rows at one time.
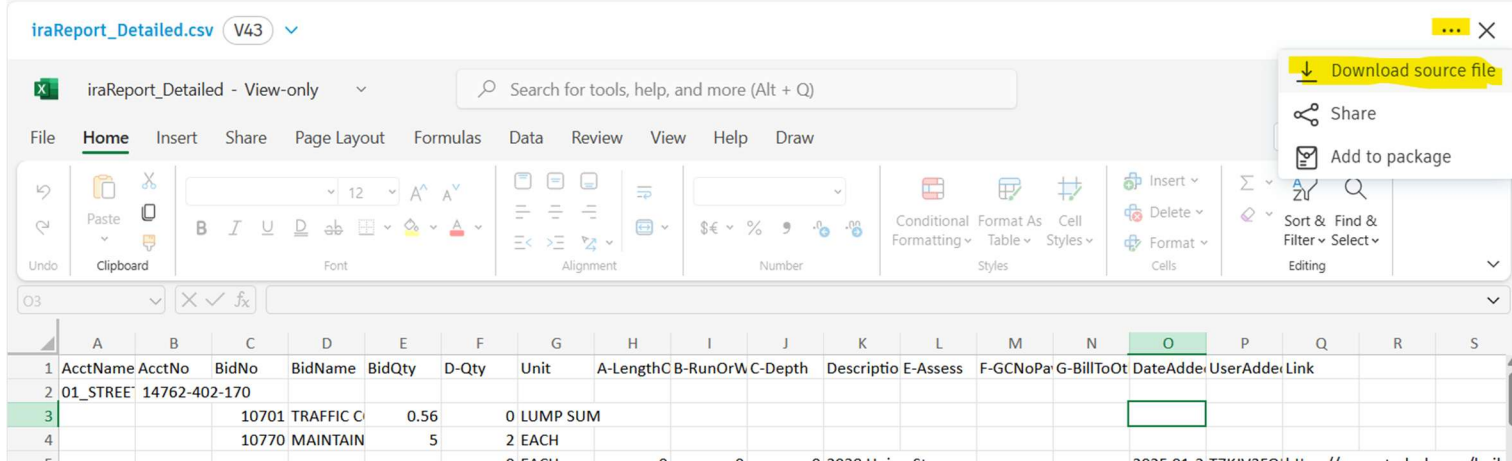
Open in desktop Excel program. Increase the column widths as desired. Free top row:
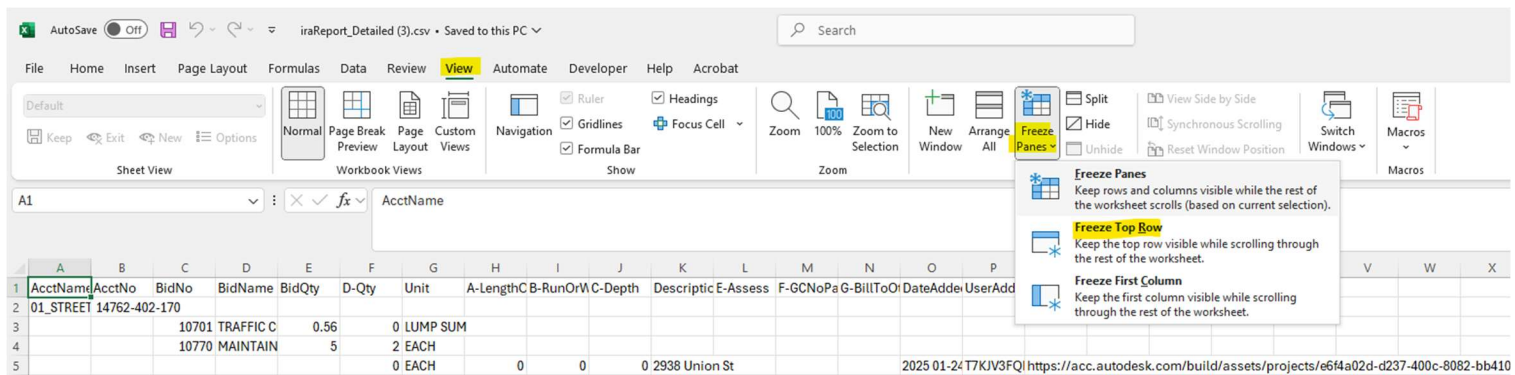
You can find a lot of information from the *CONT_ira_all.csv*. Filter by selecting the top row and then Filter:

For example, unchecking the box next to (Blanks) will remove all assets that don't have an assessable address entered, so you you can look at only the asset entries that are assessable.
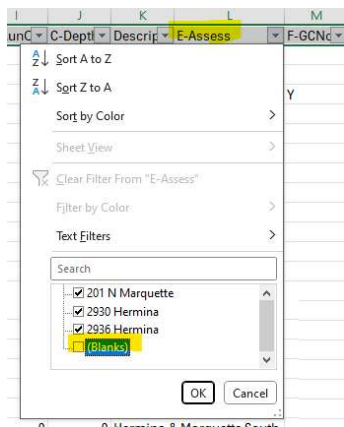
General Procedure: Drawing Graphics Step by step (Line)

From Build home page, go to sheets. Select the sheet, in this case, U-2

By default, assets are turned off and have to be turned on each time you switch sheets. Click the fan ✿ icon at the bottom of the vertical toolbar on the left
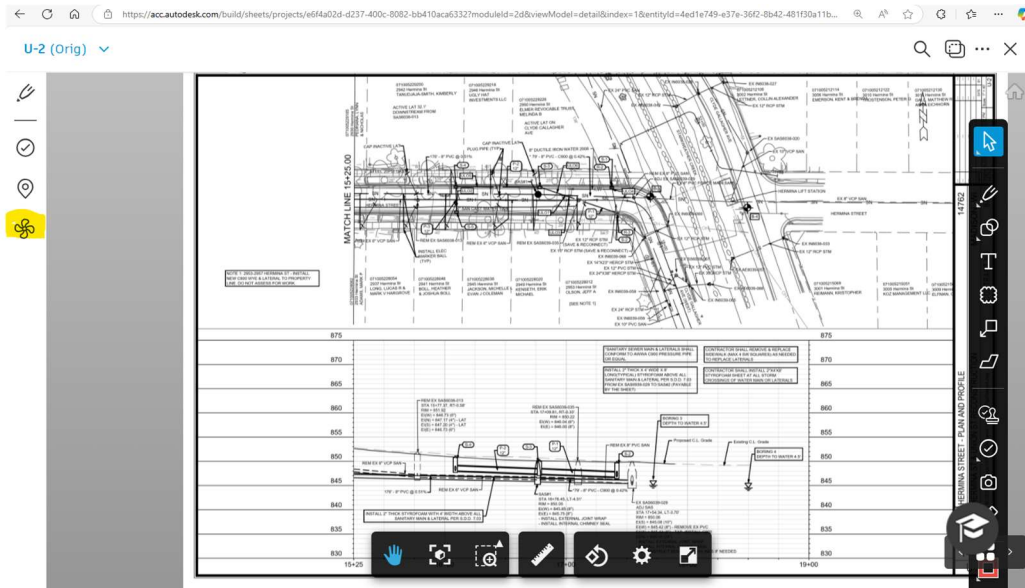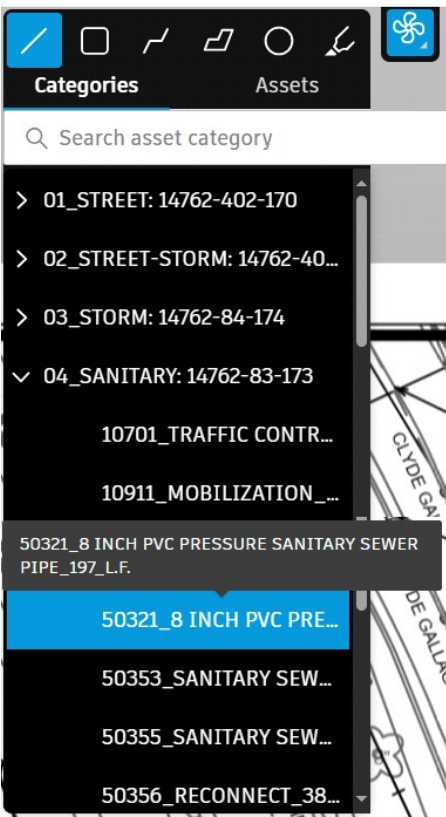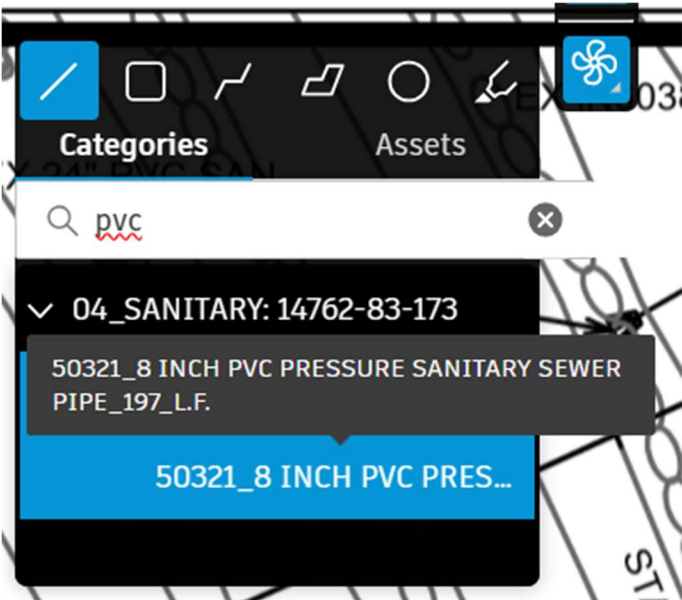
You will see it you have any assets (in this case, none have been created). You will see a mini toolbar in the upper right corner. Click the fan ✿ icon again.
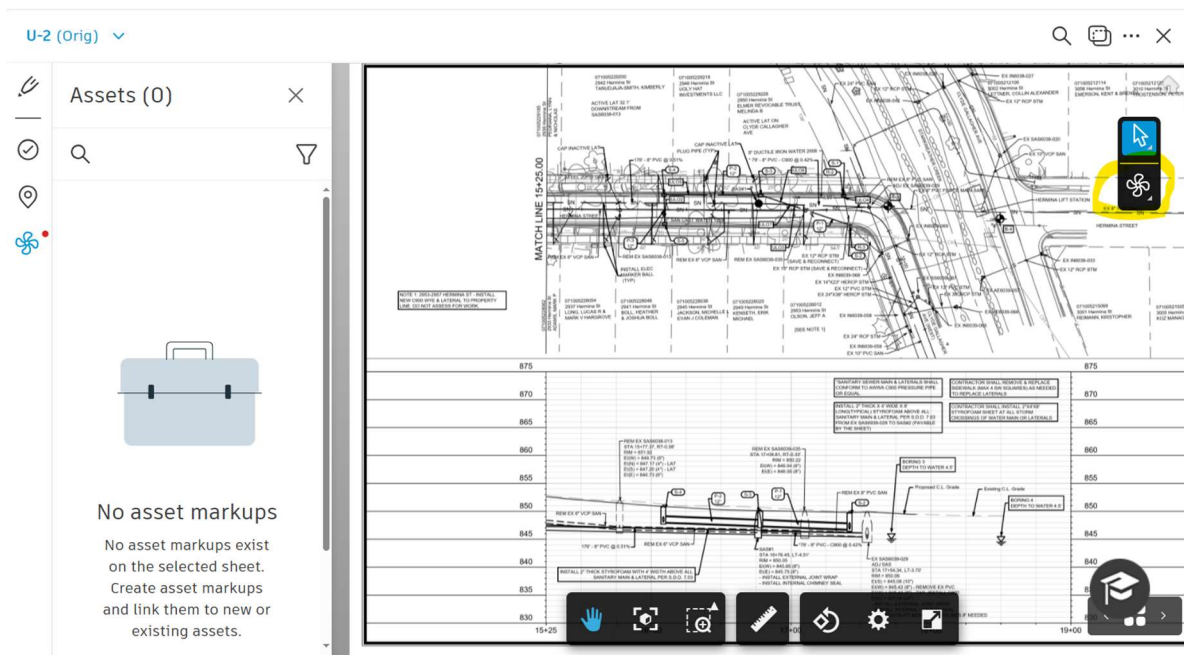
Select the shape you want. Your options are line, rectangle, polyline, polygon, circle, highlighter. For this example, we are doing Sanitary Main. Select the line tool. Each Example section will detail which shape type to select
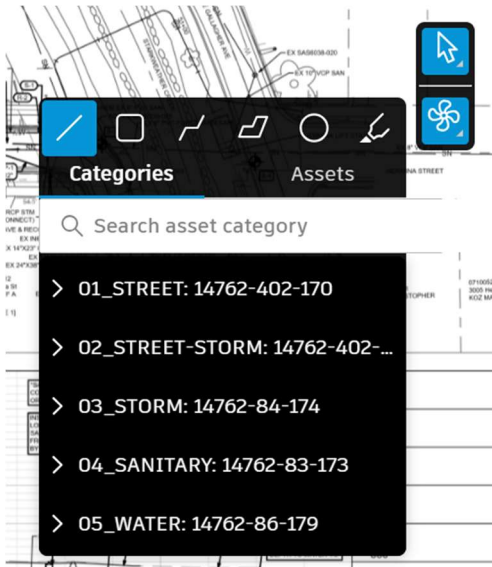
Now you must select the bid item. Every bid item is organized in order under its account. You can either expand the account and scroll or search. I find that the search tool is the most efficient.

Click Account and then scroll	**Type into Search.** You may have multiple results, so select the correct one. Make sure that it is also the correct account.

Note: Hovering will reveal the full name of the bid item which include number, name, bid qty, and unit

Left click and hold on one end of the pipe, release when you are on the other end of the pipe. Proceed to draw all pipes that are the same bid item on the sheet. There is only one 50321_8 INCH PVC PRESSURE SANITARY SEWER PIPE_197_L.F. on this sheet.
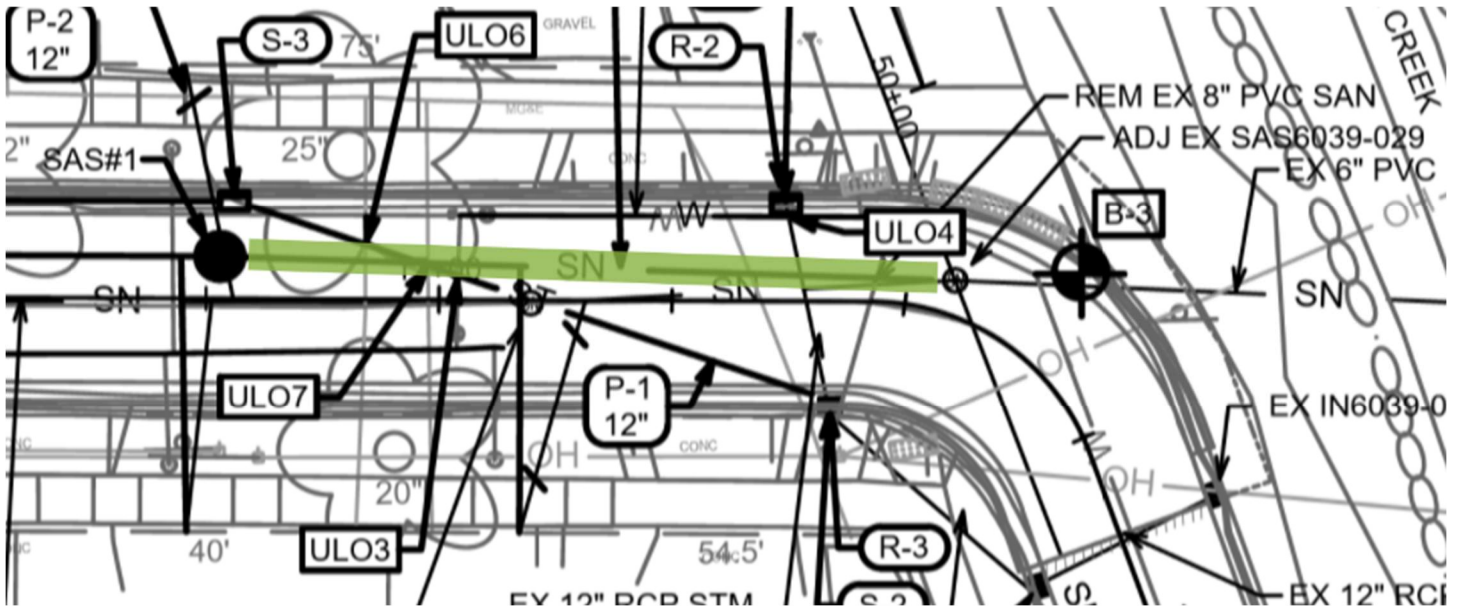
Select the pipe. Input the downstream and upstream SAS in the description. **Leave status as "In Progress" and do not edit any other fields.** See specific example instructions for situations where other fields A-G require data entry.

General Procedure: Navigating on sheet

To navigate on sheet, you can always zoom out and then in with the mouse wheel to shift your view.

When the select tool is active, you can use the hand tool to pan by clicking and dragging.

While in the middle of a drawing command, such as polyline, hold space bar to be able to pan with the hand tool. Release space bar to resume drawing

General Procedure: Drawing Graphics Summary (Rectangle, Polyline, Polygon, Ellipse)

There are other types of graphics you can draw. In the examples section, specific instances of where you would give a certain type of graphic are given.

Line: select the ⬜ icon. Click once and hold to set one end and then release to finish drawing the line.

Rectangle: select the ⬜ icon. Click once and hold to set one corner, release to set the opposite corner. Note that you can actually make a square thinner then a line or polyline.

Polyline: just like a line but with multiple vertices. Select the ⬜ icon. Click multiple times to set each vertex. Hitting Esc will cancel the line drawing completely. Enter will finish drawing. Hold Space to pan around then release to draw again

Polygon: just like a polygon but closed with solid fill. Select the ⬜ icon. Click multiple times to set each vertex. Hitting Esc will cancel the polygon drawing completely. Enter will finish drawing and close the polygon. Hold Space to pan around then release to draw again

Ellipse: Click the circle icon ⬜. Click once and hold. Move mouse and release when you have the correct size.

Highlighter: Do not use

General Procedure: Managing Graphics

After graphics have been created, you may want to modify shape, select multiple, move, duplicate or delete, or update multiple. **If you are having difficulty completing any action, zoom in with mouse wheel.**

Modify: You can move a vertex (corner circle grip) or line segment (midpoint line) by clicking, holding, shifting and release. Moving via the line segment can be unpredictable, so it is recommended to move vertices only.

Select Multiple-Ctrl: Typing ESC will exit graphics drawing mode and switch to single select mode. Hold CTRL to select multiple. If too many are selected, click ESC to deselect everything. You can also deselect by clicking one by one. CTRL+A will select everything on the sheet. **Use with caution.**

Select Multiple-selection box: Click Arrow Icon in upper right will show the selection box icon. Select the box.

Click once and hold **from left to right**, move mouse then release. Everything **entirely in box** will be selected.

Click once and hold **from right to left**, move mouse then release. Everything **the box touches** will be selected.

Move: select graphic(s) and use arrow keys to move.

Duplicate: Select one or more assets. Click Duplicate in the upper right portion of the left side menu.
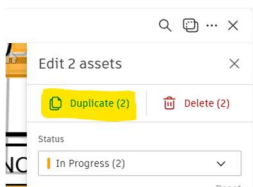
Graphics will copy down and to the right. Shift into position using arrow keys or hold and release with mouse.

Delete 1 graphic: Select 1 graphic. Click Delete.
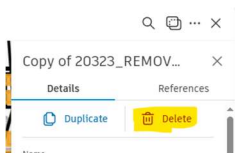
Check the box to "Permanently delete asset from project". Click delete. **Use with Caution.**
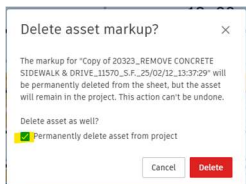
Delete multiple graphics: Select multiple. Click Delete. Note that graphics have been deleted but assets remain. Proceed to the managing assets in assets tool section for more information

Update multiple: Select multiple. Adjust status or input a description. Click Save.

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General Procedure: Assets without Graphics in Assets tool

Go to Build home page. Click ⚙ Assets to go to Assets tool. Stay on all categories. Click + Create asset . Supply any name, for example "manual". Select a category by clicking account number then bid item or by searching.

Besides Name* and Category*, all other data is optional. Fill out as needed. You can fully edit any field after creating. Click Create

General Procedure: Managing assets in Assets tool

In the assets tool, there are many ways to view, sort, filter, and bulk select, edit or delete assets.

View: On the left hand side, you can see All Categories and then a full breakdown of the bid items by account number. Clicking an account or bid item will change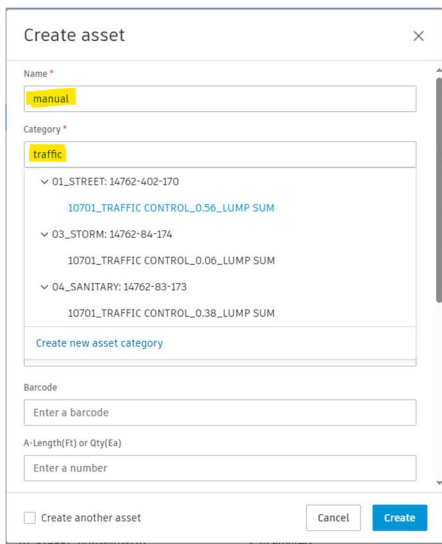 the list to only that account or bid item. **It is recommended that you stay on All Categories because views do not persist if you change accounts/bid items on the left.**
Click the ⚙ icon. Check and uncheck boxes to adjust what is displayed. Drag by dots on left to adjust view. Best view (one time setup per project per user). Resize columns

Sort: You can sort by Category, Status, or Description by clicking the column headings

Search: Simply type any part of a description, bid item, or custom field A-G to return results

Filter: Click the ▽ icon. You can Filter by Status or Custom Fields. You can search for assets with Fields A-D greater then, less than or equal to a value. Field F for yes. For example, assets with a F-DoNotPayGC of yes:

Bulk select: Either select the check box at the top or click to select assets one by one. You cannot shift select multiple assets.

Bulk edit: You can bulk edit description, A-G. You can check any box to "empty the field" so that it goes back to unspecified. Click Save when you are finished.

Bulk delete: As an example, every REMOVE CONCRETE CURB & GUTTER asset that does not have a sheet placement should be selected and deleted. These are assets where the graphics were deleted but not the asset.

Example: Sanitary Main

Shape:
Description:
Location to place:
A: Length in feet
B: None
C: None
E-AddressIfAssessable: Leave blank

Example: Sanitary Laterals, reconnects, marker balls

Lateral
Shape: Polyline. Always add extra vertex for ease of adjustment in field
Description: Subtract non-assessable length. For example, 35-5=30
Location to place: directly on pipe in plan view
A: Length in feet of total the contractor will be paid.
B: None
C: None
E-AddressIfAssessable: Input Address

Reconnect
Shape: Small circle
Description: None
Location to place: next to lateral/main intersection
A: 1
B: None
C: None
E-AddressIfAssessable: Input Address

Marker Balls
Shape: small Circle
Description: None
Location to place: lateral/property line intersection
A: 1+ (represents potentially 1@main, property line, bends)
B: None
C: None
E-AddressIfAssessable: None
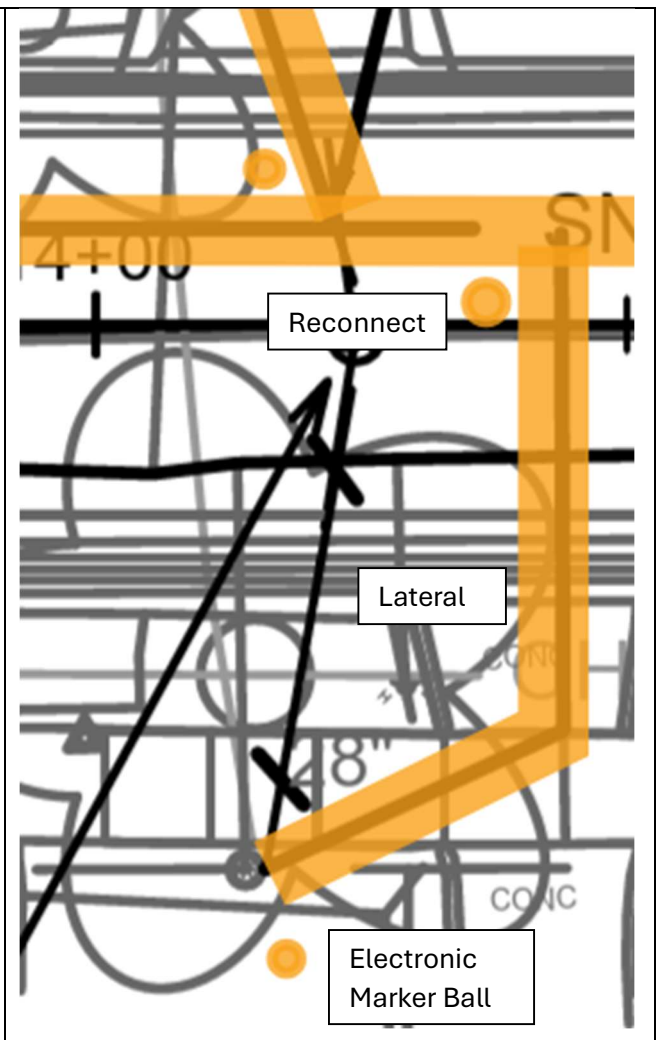
Example: Sanitary-removals and miscellaneous

Generally, these should be shown on profile view.

Removals-Structures:	**Removals-Pipe**
Shape: Rectangle	Check that pipe removal is paid. Skip if not paid
Description: SAS #	**Shape:** Line
Location to place: On structure in profile view	**Description:** Downstream to Upstream SAS number
A: 1	**Location to place:** On pipe in profile view
B: None	**A:** Length in feet
C: None	**B:** None
E-AddressIfAssessable: Leave blank	**C:** None
	E-AddressIfAssessable: Leave blank
Abandonments	**Miscellaneous**
Shape: Line	**Shape:** Rectangle
Description: Downstream to Upstream SAS number	**Description:** SAS #
Location to place: profile view	**Location to place:** On note
A: The CY of slurry if it is in CY	**A:** 1
B: 1	**B:** None
C: 27 (will ensure D is calculated correctly	**C:** None
E-AddressIfAssessable: Leave blank	**E-AddressIfAssessable:** Leave blank
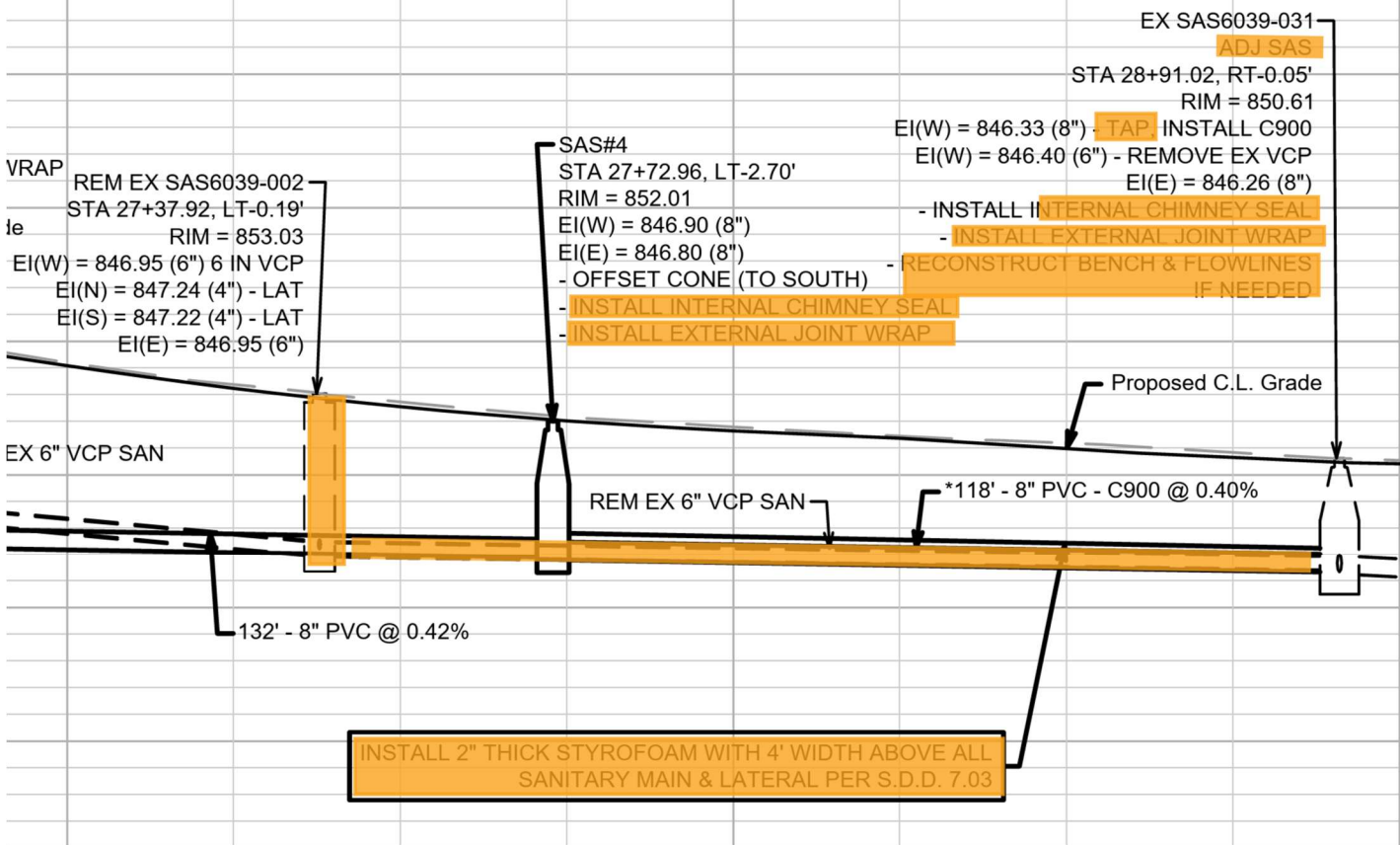
Example: Storm-structures, pipes, removals, and ULOs

Structures, pipes, removals, and ULOs
Shape: Line
Description: Structure, Pipe, Removal or ULO number
Location to place: Adjacent to name in schedule, in a staggered arrangement for ease of selection.
A: 1 or length if pipe
B: None
C: None
E-AddressIfAssessable: Leave blank

STORM SEWER SCHEDULE

			PROJECT NO. 14780		U-8
			STORM SEWER SCHEDULE		
					CITY OF MADISON

PROPOSED STORM STRUCTURES

STRUC. NO.	STATION	LOCATION (OFFSET)	TYPE	TOP OF CASTING	E.I.	DEPTH	NOTES
STARKER AVENUE							
S-1	28+14.18	LT-13.59	5'X5' STORM SAS	928.62	923.45	5.17	FP; W/R-1550-0054; [1]
S-2A	27+87.00	LT-15.49	5'X5' STORM SAS	928.86	923.66	5.20	FP; LP; W/R-3067-7004-VB; [2]
S-2B	27+72.53	LT-15.33	5'X5' STORM SAS	928.96	923.78	5.18	FP; W/R-3067-7004-V; [2], [3]
S-3	27+56.17	RT-6.20	5'X5' STORM SAS	928.56	923.95	4.61	FP; W/R-1550-0054
S-3A	27+56.15	RT-15.56	H-INLET	928.54	925.00	3.54	W/R-3067-7004-V
S-4	26+88.19	RT-6.02	5'X5' STORM SAS	929.94	924.29	5.65	W/R-1550-0054
S-5	25+18.47	RT-6.11	5'X5' STORM SAS	937.26	930.53	6.73	W/R-1550-0054
S-5A	25+16.41	LT-15.53	H-INLET	937.68	933.64	4.04	W/R-3067-7004-V; [2]
S-5B	25+15.73	RT-15.13	H-INLET	937.53	933.58	3.95	W/R-3067-7004-V
S-6	23+79.78	RT-6.29	4'X8' STORM SAS	944.55	938.16	6.39	FP; W/R-1550-0054; [6]
S-10	22+87.31	RT-5.86	3'X3' STORM SAS	947.79	943.19	4.60	W/R-1550-0054
S-10A	22+81.53	LT-15.22	H-INLET	948.40	944.01	4.39	W/R-3067-7004-V
S-10B	22+84.93	RT-15.03	H-INLET	947.93	943.94	3.99	W/R-3067-7004-V
S-11	19+17.02	RT-6.12	3'X3' STORM SAS	960.24	956.76	3.48	W/R-1550-0054

PROPOSED STORM PIPES

PIPE NO.	FROM (DNSTM)	TO (UPSTM)	DISCH. E.I.	INLET E.I.	PLAN (PAY) LGTH (FT)	PIPE LGTH (FT)	SLOPE (%)	PIPE SIZE	TYPE	NOTES
STARKER AVENUE										
P-1B	S-1	S-2A	923.45	923.66	27	22	0.95%	36"	RCP	
P-1C	S-2A	S-2B	923.66	923.78	14	10	1.20%	36"	RCP	
P-2	S-2B	S-3	923.78	923.95	27	21	0.81%	36"	RCP	
P-3	S-3	S-4	923.95	924.29	68	63	0.54%	36"	RCP	NCM
P-3A	S-3	S-3A	924.95	925.00	9	6	0.83%	12"	RCP	NCM
P-4	S-4	S-5	924.29	930.53	170	165	3.78%	36"	RCP	
P-5	S-5	S-6	930.53	938.16	139	132	5.78%	36"	RCP	
P-5A	S-5	S-5A	933.53	933.64	22	18	0.61%	12"	RCP	NCM
P-5B	S-5	S-5B	933.53	933.58	9	6	0.83%	12"	RCP	NCM
P-9	S-6	S-10	940.16	943.19	93	87	3.48%	12"	RCP	
P-10	S-10	S-11	943.19	956.76	370	367	3.70%	12"	RCP	
P-10A	S-10	S-10A	943.89	944.01	22	19	0.63%	12"	RCP	NCM
P-10B	S-10	S-10B	943.89	943.94	9	7	0.71%	12"	RCP	NCM

Example: Street-Curb, Sidewalk, Driveway

For this section, the easiest way to demonstrate is with a picture and general rules.

The removal side is always towards the centerline.

You can use lines or rectangles but sometimes rectangles are nice because you can make them thinner then lines.

Poly lines are often useful for curb radii.

Show special curb types as Type 'X'. At the end of each block each side of the street, create an asset to the "dominant bid item (typically type 'A') that is the total length of that run of curbs length. Later, the type 'X' or any other miscellaneous curb types will be created as a negative non-graphical Ty 'A' asset to account for them.

Of course, any driveway removal or new 7" will require entry into E-AddressIfAssessable
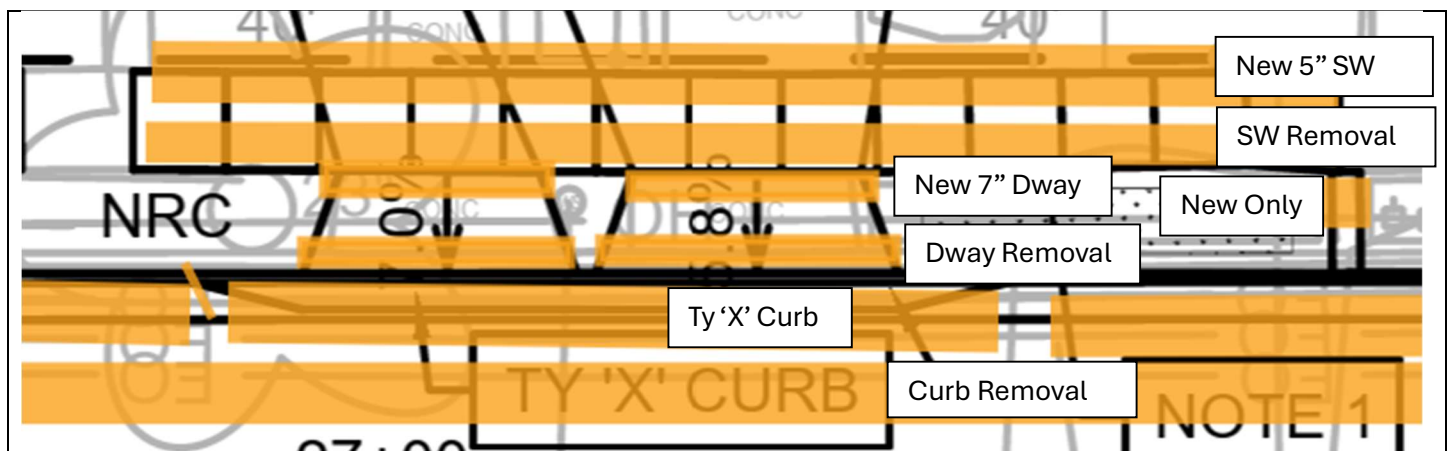
Example: Street-Typical intersection with sidewalk ramps

Even a detailed intersection with sidewalk curb, traffic circle, sidewalk ramps, etc can be represented in rich detail graphically. **The sidewalk removals are switched from the rest of the P sheet, the removals are moved out from the intersection and the new is on the new.** Graphic below shows every type of infrastructure with graphic type.
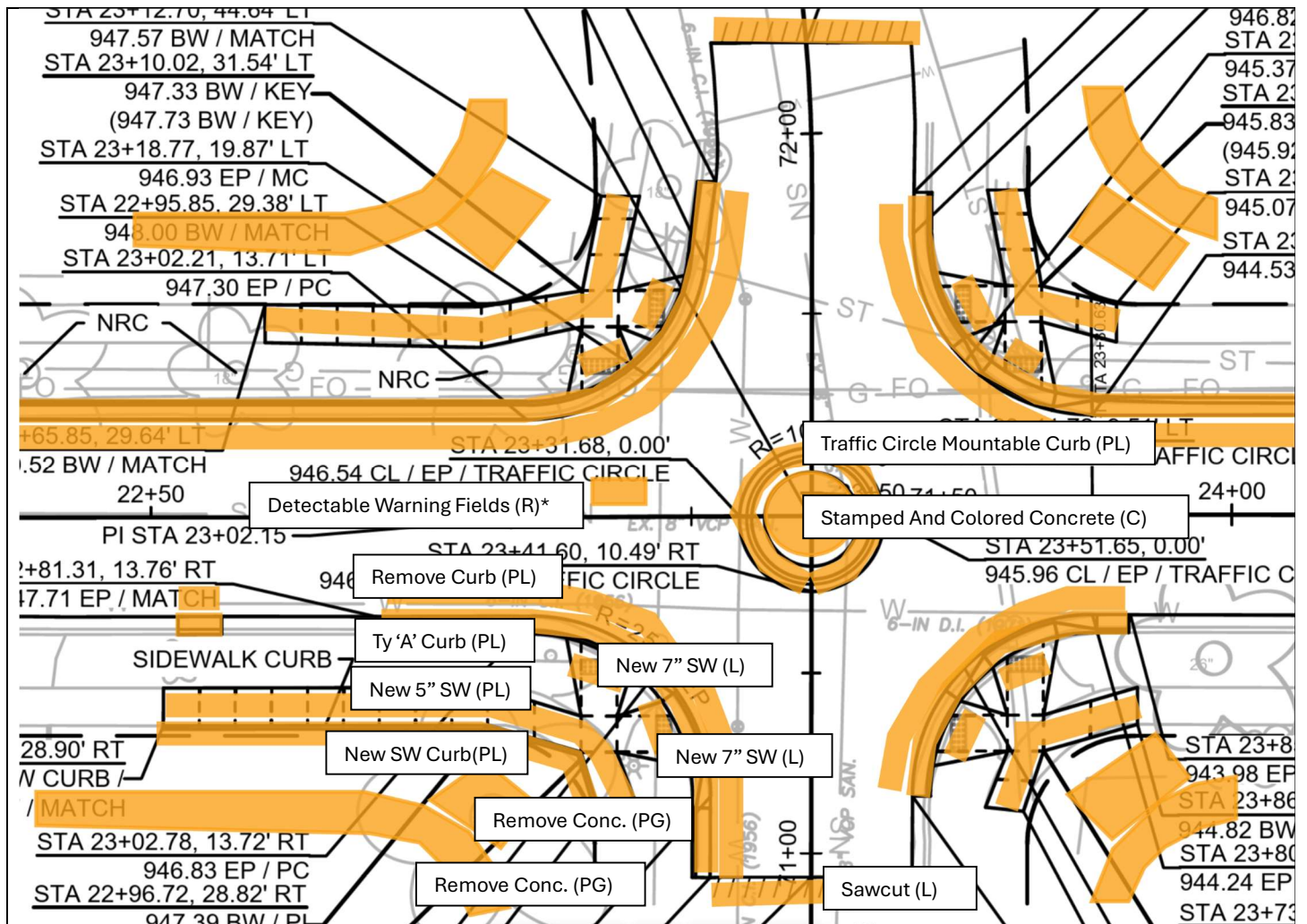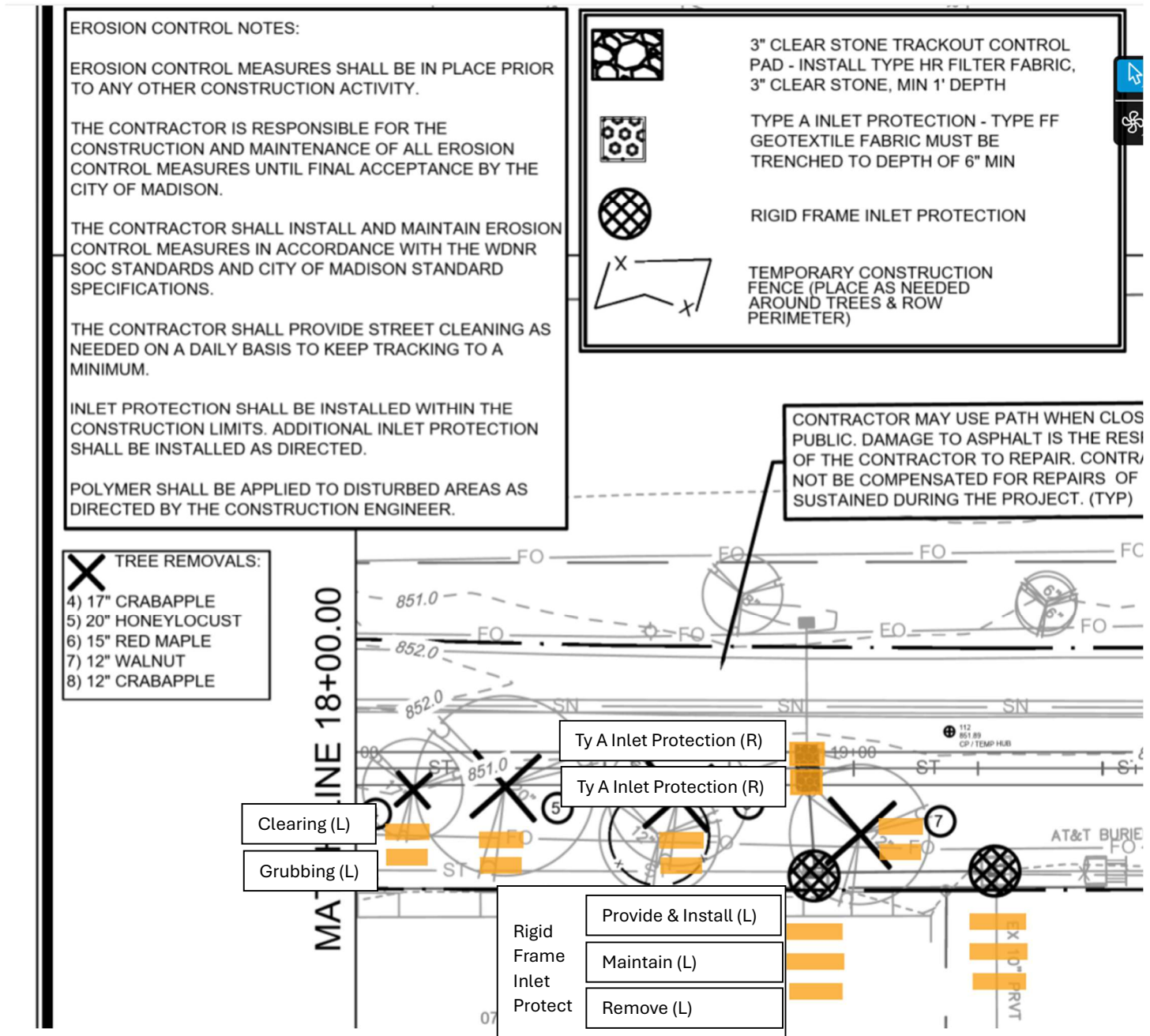

L=Line R=Rectangle PL=Polyline PG=Polygon C=Circle

*DWFs for entire intersection. DWFs are in S.F. Be sure to enter values for A and B. For this intersection, recommendation is A=10, B=8. Input Intersection for description.

Example: Erosion Control-Inlet protection and tree removal

Some inlets are just one bid item, others have 3 bid items associated with them. Either situation can be represented with Assets graphics.

Tree removals are recorded as clearing and grubbing, so each tree in the image below has two lines to record those measurements.

L=Line R=Rectangle PL=Polyline PG=Polygon C=Circle

Furthermore, descriptions for the clearing and grubbing assets have the information given by the tree removal table:
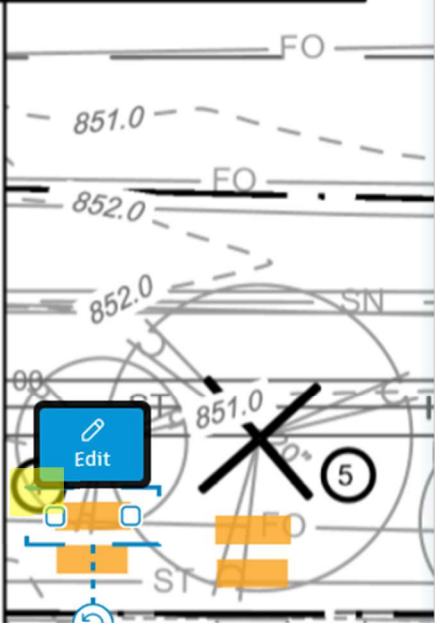
Example: Restoration-topsoil, seed, and mat

Unlike Other Assets, Restoration items are too detailed and often on the already detailed streets sheets to just add more asset graphics. Therefore, the workflow relies on color coded markups with schematic drawings on the shape. This is very similar to the paper process, but is easier to read.
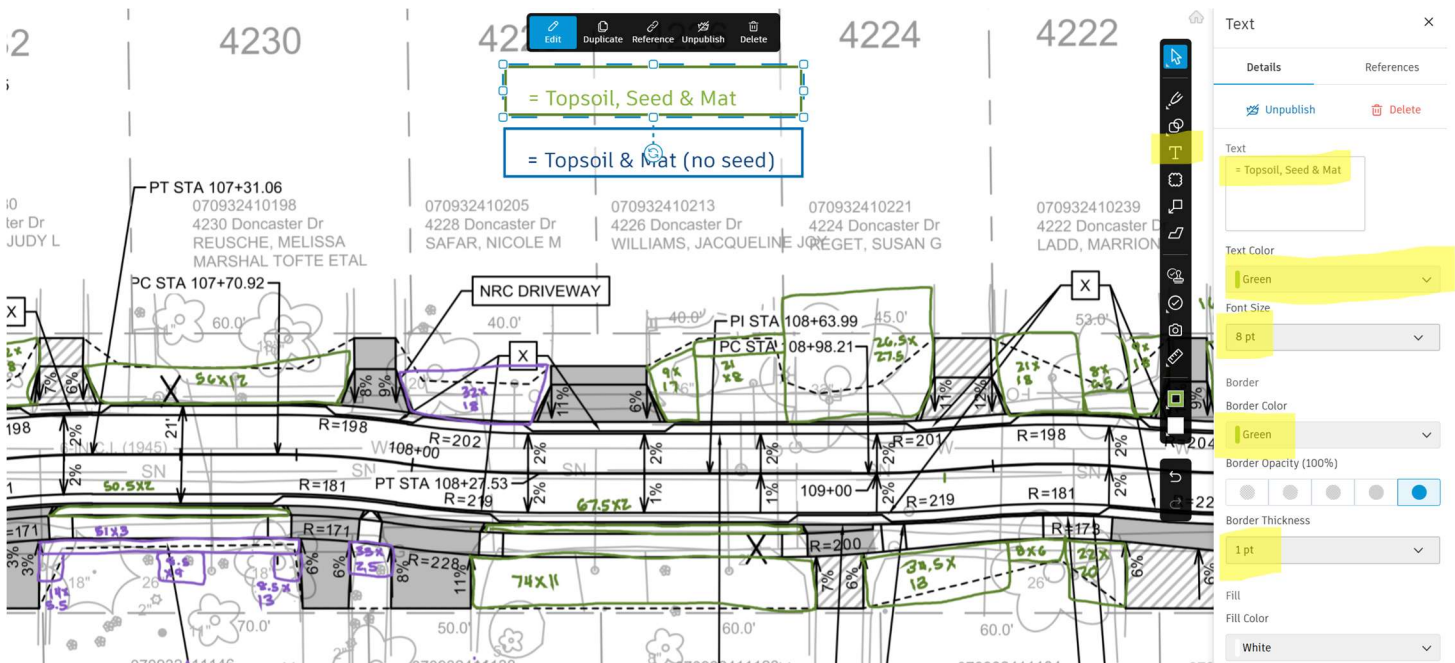
Step 1) Draw markups in sheets using normal markup tools

A tablet stylus is required for your iPad. You are able to zoom way in to draw your measurements in the format "LxW" in feet. Draw shapes, again with the tablet stylus. Use green for all topsoil, seed & mat markups. Include a legend. See other settings in the image below:

Note that additional markups were made in dark blue to indicate areas where seeding was skipped.

Step 2) Export Sheets
Now, need to export the sheets to a PDF to document these markups. Exit out of the sheet and go to the main page of sheets listing all the sheets.


Uncheck "Select all".

Check Published markups or Unpublished markups, depending on which are needed.

Click Export. Save file to downloads.

Step 3) Update Restoration Qtys folder

Navigate to *Project Files > 2-Construction Progress > Inspector Forms > Restoration Qtys*

Upload the exported PDF file. Rename CONT-restorationPlanMarkups.pdf. In the example below, 8735-restorationPlanMarkups.pdf
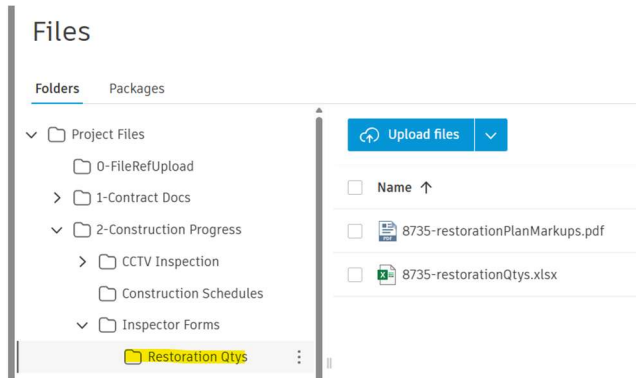
Rename excel file to have contract number as well. Type in entries to excel file in the same folder. Note that you only have to type into yellow highlighted cells. You don't need to repeat the same street name or number if you have multiple entries for either. Re-included portion of earlier plan markup for clarity.

	A	B	C	D	E	F	G	H
1	Address	L (FT)	W (FT)	No Seed?	Topsoil (SY)	Emat (SY)	Seed(SY)	
2				TOTAL:	321.09	321.09	257.09	
3	4230 Doncaster	56	12		74.67	74.67	74.67	
4	4228	32	18	No Seed	64	64	0	
5	4226	9	17		17	17	17	
6		21	8		18.67	18.67	18.67	
7	4224	26.5	27.5		80.97	80.97	80.97	
8	4222	21	18		42	42	42	
9		8	6.5		5.78	5.78	5.78	
10		9	18		18	18	18	
11					0	0	0	

←Create 1 non-graphical for each of these values. Input these values for "A" field and 9 for "B" field so that the totals are calculated correctly.
Any bid item ending in SY uses the formula A*B/9