# DETECTOR CONFIGURATION AND INPUT FILE INSTRUCTIONS FOR CABINET PRINT

## Signal Designer (DAP phase):

1.  Provide draft detection sheet of the cabinet print to the signal timer at DAP.  Show the following ONLY (do not include any other features):
    a.  Basic Plan View (striping, EP, curb, sidewalk, lane use).
    b.  Mainline and side street names
    c.  North arrow
    d.  Device location (and label)
    e.  Detection cone for near-range radar units
    f.  Basic detection zones (see "Detector_Configuration" excel files or Chapter 6 of Signal Design Manual for illustration of standard presence and advance detection zone layout).  Do NOT use bubble notes.  The signal timer will determine if the zones will remain on the cabinet print or not.
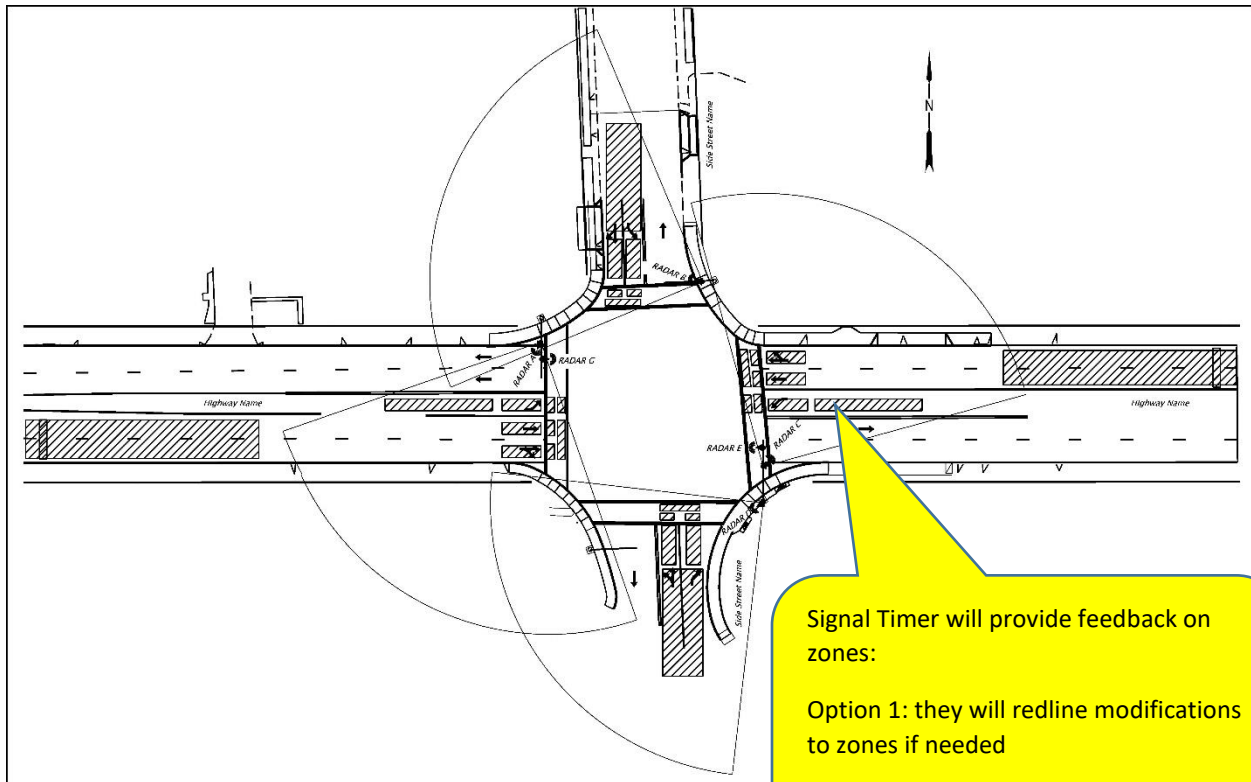


Signal Timer will provide feedback on zones:

Option 1: they will redline modifications to zones if needed

Option 2: they will request the zones are deleted from the cabinet print

## Signal Timer (DAP phase):

1.  Review draft detection sheet of cabinet print and provide red-line comments.  For signal phasing, see the PSOD. If you do not wish to see the basic detection zones shown on the cabinet print (and wish to only use the device software interface to view actual zones), make this a red-line comment.



Verify placement of devices will meet the detection zone needs
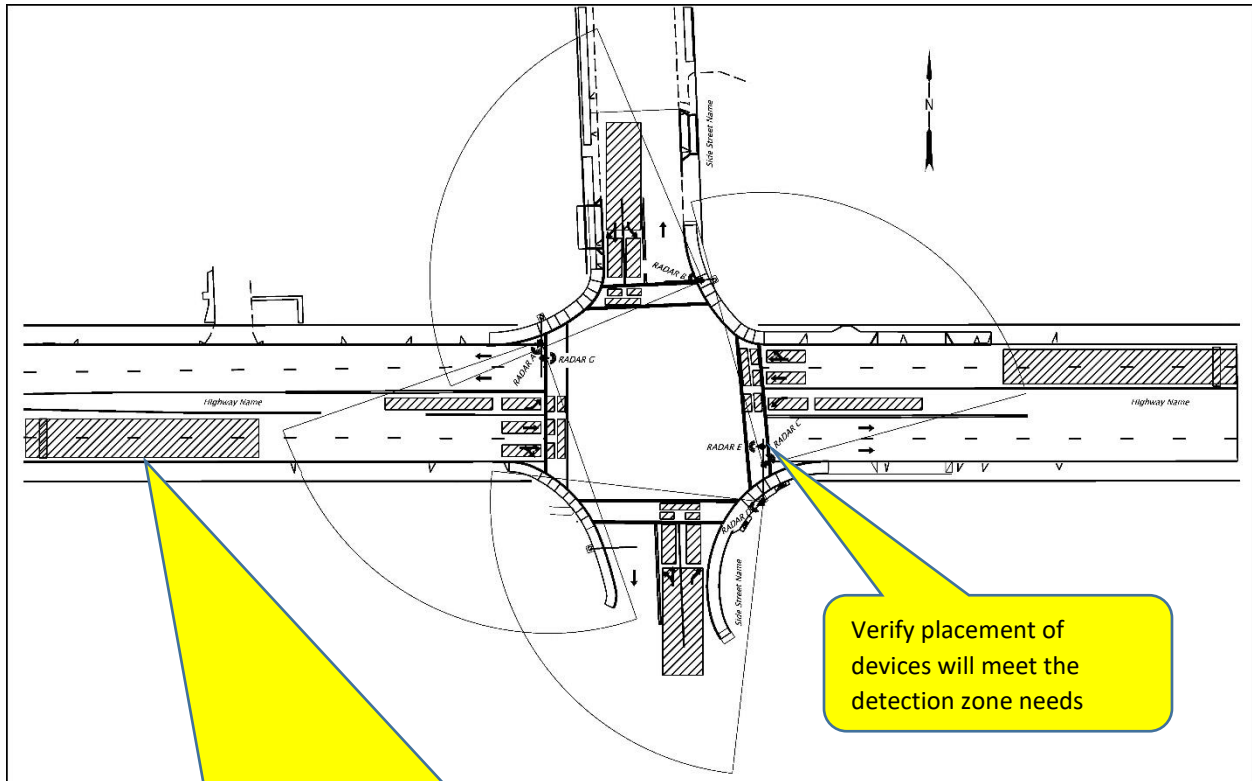
Option 1: Make red-line revisions as necessary to the zones for the signal designer to correct

Option 2: Instruct the signal designer to delete all zones (The device software interface will be used to view actual zones)

2.  Create a copy of the appropriate excel file "detection_configuration" (332 or 332S) for each intersection. Rename file using same naming convention as the cabinet print.  These files are found on the Traffic Standards website under "microstation cabinet prints".  These files contain the standard default configuration for radar. Follow the instructions in the file configuring the detection. Using the draft detection sheet provided by the signal designer, place an "x" in blue shaded columns and modify the device, phase and function as necessary.

Place an "X" in the blue box if the column is used and should be included.

Fill out ID info

Place an "X" in column A if the MT#1 is used.

Place an "X" in BOTH columns if the input slot is used (e.g. NOT using SDLC)

Software zone and channel are optional and typically filled out when the device is configured in the field

Customizable columns that can be used as desired. Place a heading title here.

If a standard default value is changed, it will highlight yellow to stand out.

MT# and BIU are static and cannot be changed. If an input slot is used (instead of SDLC), place an "x" in the blue shaded input slot column and the BIU will automatically switch to a yellow highlighted input slot

Default standard device, phase, and function are listed for each MT#. If necessary, they can be changed.

| Intersection: | | |
| --- | --- | --- |
| TSSU ID: | Highway: | Milepoint: |

Place "x" if Column is used

| Place "x" if MT# is used | place "x" input slot is used | slot reference | Device | Phase | Function | MT # | BIU or INPUT SLOT | software zone | software channel | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | I1U | C | 1 | | 1 | 9 | | | |
| | | I3U | A | 2 | | 2 | 9 | | | |
| | | I3L | B | 2 | | 3 | 9 | | | |
| | | I4U | A | 2 | | 4 | | | | |
| | | I4L | A | 2 | | 5 | | | | |
| | | I5U | A | 2 | | 6 | | | | |
| | | I6U | D | 3 | | 7 | | | | |
| | | I8U | B | 4 | | 8 | | | | |
| | | I8L | B | 4 | | 9 | | | | |
| | | I9U | B | 4 | | 10 | | | | |
| | | I9L | B | 4 | | 11 | | | | |
| | | I10U | B | 4 | | 12 | | | | |
| | | I1L | C | 1 | | 13 | 9 | | | |
| | | I6L | D | 3 | | 14 | | | | |
| | | J1U | A | 5 | | 15 | | | | |
| x | | J3U | C | 6 | | 16 | 9 | | | |
| | | J3L | C | 6 | | 17 | 10 | | | |
| | | J4U | C | 6 | | 18 | 10 | | | |
| | | J4L | C | 6 | | 19 | 10 | | | |
| | | J5U | C | 6 | | 20 | 10 | | | |
| | | J6U | B | 7 | | 21 | 10 | | | |
| | | J8U | D | 8 | | 22 | 10 | | | |
| | | J8L | D | 8 | | 23 | 10 | | | |
| | | J9U | D | 8 | | 24 | 10 | | | |
| | | J9L | D | 8 | | 25 | 10 | | | |
| x | x | J10U | D | 8 | | 26 | J10U | | | |
| | | | A | 5 | | 27 | 10 | | | |
| | | J6L | B | 7 | | 28 | 10 | | | |
| | | I2U | C | | | 29 | 10 | | | |
| | | I2L | C | | | 30 | 10 | | | |
| | | I5L | A | 2 | | 31 | 10 | | | |
| | | I7U | D | 3 | | | | | | |
| | | I7L | D | 3 | | | | | | |
| | | I10L | B | 4 | | 34 | | | | |
| | | J2U | A | 5 | | 35 | | | | |
| | | J2L | A | 5 | | 36 | 11 | | | |
| | | J5L | C | 6 | | 37 | 11 | | | |
| | | J7U | B | 7 | | 38 | 11 | | | |
| | | J7L | B | 7 | | 39 | 11 | | | |
| | | J10L | D | 8 | | 40 | 11 | | | |
| | | | C | 1 | YR* | 41 | 11 | | | |
| | | | A | 2 | YR* | 42 | 11 | | | |
| | | | D | 3 | YR* | 43 | 11 | | | |
| | | | B | 4 | YR* | 44 | 11 | | | |
| | | | A | 5 | YR* | 45 | 11 | | | |
| | | | C | 6 | YR* | 46 | 11 | | | |
| | | | B | 7 | YR* | 47 | 11 | | | |
| | | | D | 8 | YR* | 48 | | | | |
| | | | E | 2 | A* | 49 | | | | |
| | | | E | 2 | CO* | 50 | 12 | | | |
| | | | G | 6 | A* | 51 | 12 | | | |
| | | | G | 6 | CO* | 52 | 12 | | | |
| | | | F | 4 | A* | 53 | 12 | | | |
| | | | F | 4 | CO* | 54 | 12 | | | |
| | | | H | 8 | A* | 55 | 12 | | | |
| | | | H | 8 | CO* | 56 | 12 | | | |
| | | | | | misc | 57 | 12 | | | |
| | | | | | misc | 58 | 12 | | | |
| | | | | | misc | 59 | 12 | | | |
| | | | | | misc | 60 | 12 | | | |
| | | | | | misc | 61 | 12 | | | |
| | | | | | misc | 62 | 12 | | | |
| | | | | | misc | 63 | 12 | | | |
| | | | | | misc | 64 | 12 | | | |

3. Columns can be sorted and filtered to enable easy entry and retrieval of information. Note that when opening the file, it is protected by default (to enable easy data entry and eliminate mistakenly deleting/modifying the slot reference, MT#, and BIU or INPUT SLOT columns) but it will not allow you to use the filer/sort buttons. If you need to filter or sort data and get an error message, click on the "unprotect worksheet" button. If you have unprotected the sheet, remember to click on the "Protect worksheet" before entering any data.

Click here when you need to enter data in the table – it will make data entry easier and prevent typos

Click here if you get an error message when trying to sort or filter the table

| | A | G | | I | J | L | M | | O | P | Q | R | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 332S default cabinet | configuration (radar using SDLC, standard Device | | | and Function are shown) | | | | | | | | |

Protect worksheet
(Click here before entering data)

Unprotect Worksheet
(Click here to Filter & Sort Data)

| | A | G | slot reference | Device | Phase | Function | MT # | BIU or INPUT SLOT | software zone | software channel | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | | | | Intersection: | | | | | | | | |
| 8 | | | | TSSU ID: | | Highway: | Milepoint: | | | | | |
| 10 | | | | | | | Place"x" if Column is used | | | | | |
| 11 | Place "x" if MT# is used | place "x" input slot is used | slot reference | Device | Phase | Function | MT # | BIU or INPUT SLOT | software zone | software channel | | |
| 12 | | | 11U | C | 1 | | 1 | 9 | | | | |
| 13 | | | 13U | A | 2 | | 2 | 9 | | | | |

These 3 columns are protected and should NEVER be altered

4. Fill out the "Input File" yellow highlighted cells using the drop down box for all used slots. If SDLC is used exclusively (i.e. bypassing input file), leave the yellow highlighted cells blank for slots 1 thru 10. Fill out are blue shaded cells using the drop down box (for pedestrian phases, fire preemption, and rail preemption, VRCM, GPS) if used at the intersection.

Select appropriate device if the input file is used:
Blank = not used
RAD = radar
VIP= Video Image Processor
4 I/O = 4 channel input/output module (video)
2 I/O = 2 channel input/output module (video)
222 = loop detector amplifier

In blue shaded cells, select "X" from drop down box if used at the intersection



| I1 | I2 | I3 | I4 | I5 | I6 | I7 | I8 | I9 | I10 | I11 | I12 | I13 | I14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MT1 | MT29 | MT2 | MT4 | MT6 | MT7 | MT32 | MT8 | MT10 | MT12 | SPARE | SP | 2 PED | 6 PED |
| C1-56 | C11-16 | C1-39 | C1-63 | C1-47 | C1-58 | C11-18 | C1-41 | C1-65 | C1-49 | C11-23 | C11 | C1-67 | C1-68 |
| C1-60 | C11-20 | C1-43 | C1-76 | C11-10 | C1-62 | C11-22 | C1-45 | C1-78 | C1-49 | C11-25 | C11- | C1-69 | C1-70 |
| MT13 | MT30 | MT3 | MT5 | MT31 | MT14 | MT33 | MT9 | MT11 | MT34 | SPARE | SPAR | 4 PED | 8 PED |

| J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 | J10 | J11 | J12 | J13 | J14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | X LT count ΦD - 8 | | | X | |
| MT15 | MT35 | MT16 | MT18 | MT20 | MT21 | MT38 | MT22 | MT24 | MT26 | SPARE | PCOI | EVA | EVB |
| C1-55 | C11-15 | C1-40 | C1-64 | C1-48 | C1-57 | C11-17 | C1-42 | C1-66 | C1-50 | C1-54 | C1-51 | C1-71 | C1-72 |
| C1-59 | C11-19 | C1-44 | C1-77 | C11-11 | C1-61 | C11-21 | C1-46 | C1-79 | C11-13 | C1-75 | C1-52 | C1-73 | C1-74 |
| MT27 | MT36 | MT17 | MT19 | MT37 | MT28 | MT39 | MT23 | MT25 | MT40 | GPS | VCOI | EVC | EVD |

C1 pin, C11 pin, and MT number is static and cannot be changed.

This info ("x", phase, function and device) is automatically imported from the ZoneConfigurationTable worksheet

5. Provide the excel file of the intersection to the signal designer. Projectwise may be used to store and work on the file during the design phase, but the excel file and cabinet print files need to be placed in the cabinet print share drive after the project is let \\scdata\Traffic Signals . See "READ ME" documents for instructions on use of the cabinet print share drive.

# Signal Designer (PS&E/Construction):

1. Revise zones and detector placement as necessary based on signal timer's redline comments.
2. Use excel file provided by the signal timer. In the ZoneConfigurationTable worksheet, follow the instructions and click on the HERE button to copy the appropriate info to the clipboard.

Click here to copy onto clipboard

**Instructions:** Signal Timer – for standard detection zone set up (using SDLC ... an ATC controller), place an "x" in column A only (blue shaded area). Changes to the "device", "function", or "ph... s allowed as deemed necessary to accomidate site specific detection needs (note: any changes made to these def... standards will be highlighted yellow to make them standout). If SDLC is NOT used or if there is mixed detect... (e.g. loops and SDLC), place an "x" in column A **AND** column B when a device will be installed in the input slot (bl... shaded area). If loops are used, write "Loop" in the "Device" column. Columns O through R can be customized as needed. Place an "x" in the blue shaded cells of Row 10 if the column is used. Note: this worksheet is formatted to properly print the table for field use if desired. Signal Designer – after signal timer has filled out table, just click HERE then paste selection into Microstation Connect cabinet print detector sheet. To see the entire table again, click on "show entire table".

show entire table

20' long presence zone (per lane)
omit for mainline non-overlap
right turn only lanes

3. In the microstation cabinet print file, use Ctrl + V or the paste command to import the data copied in step 2 above to the detection sheet of the cabinet print. Resize the chart or adjust the intersection plan view if necessary to fit it onto the sheet. The examples below show finished detector sheets of the cabinet print, Options 1 and 2.

   If changes are made in the excel file after they have been inserted in the microstation file, delete the existing pasted image and insert again following the steps 2 and 3 above.
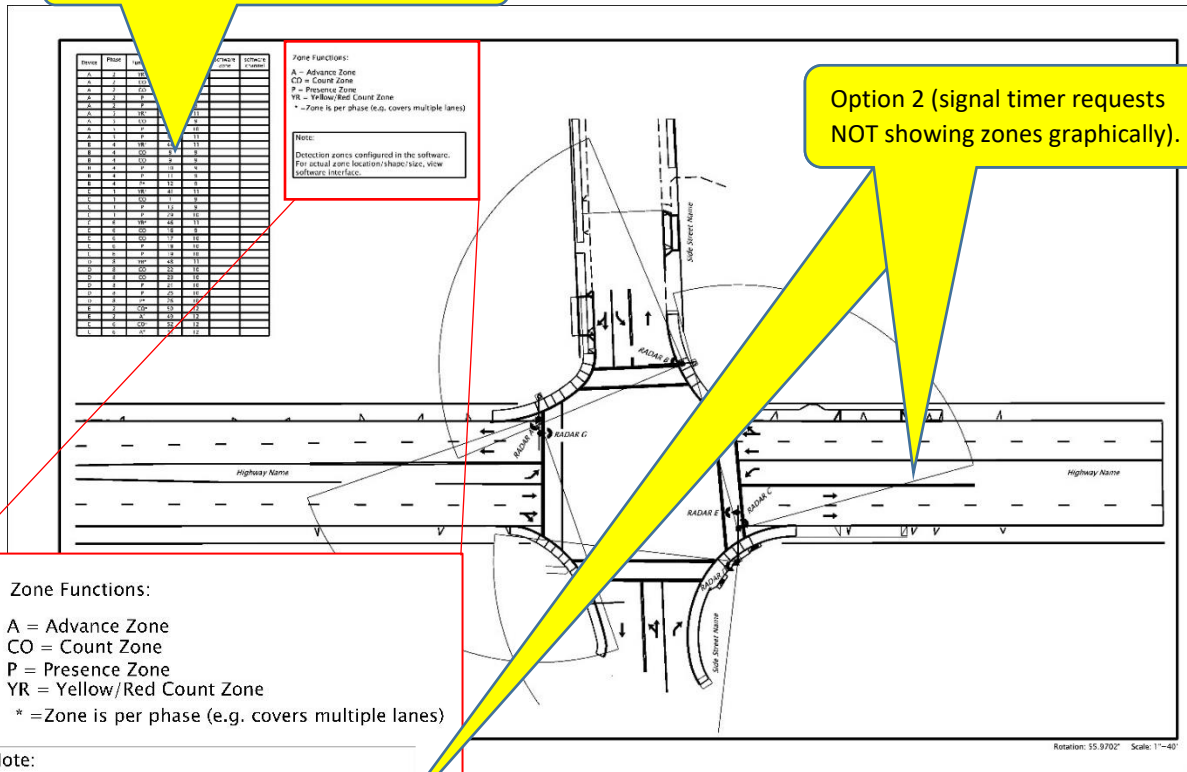
Excel table copy & pasted into sheet

Option 1 (signal timer requests zones graphically show).

Zone Functions:

A – Advance Zone
CO = Count Zone
P = Presence Zone
YR = Yellow/Red Count Zone
 * =Zone is per phase (e.g. covers multiple lanes)

Note:

Detection zones shown only illustrate basic location and configuration. Actual zones are configured in the software and may look different. For actual zone location/shape/size, view software interface.

Excel table copy & pasted into sheet

Option 2 (signal timer requests NOT showing zones graphically).

Zone Functions:

A = Advance Zone
CO = Count Zone
P = Presence Zone
YR = Yellow/Red Count Zone
    * =Zone is per phase (e.g. covers multiple lanes)

Note:

Detection zones configured in the software.
For actual zone location/shape/size, view
software interface.

4. Use excel file provided by signal timer.  In the Input File worksheet, follow the instructions and click on the button to copy the appropriate info to the clipboard.



Click here to copy onto clipboard

5. In the microstation cabinet print file, use Ctrl + V or the paste command to import the data copied in step 4 above into the input file location on the cabinet print. Resize the chart to fit it onto the input file location. Example below shows finished input file in cabinet print.  If changes are made in the excel file after they have been inserted in the microstation file, delete the existing pasted image and insert again following the steps 4 and 5.

Excel data copy & pasted in from
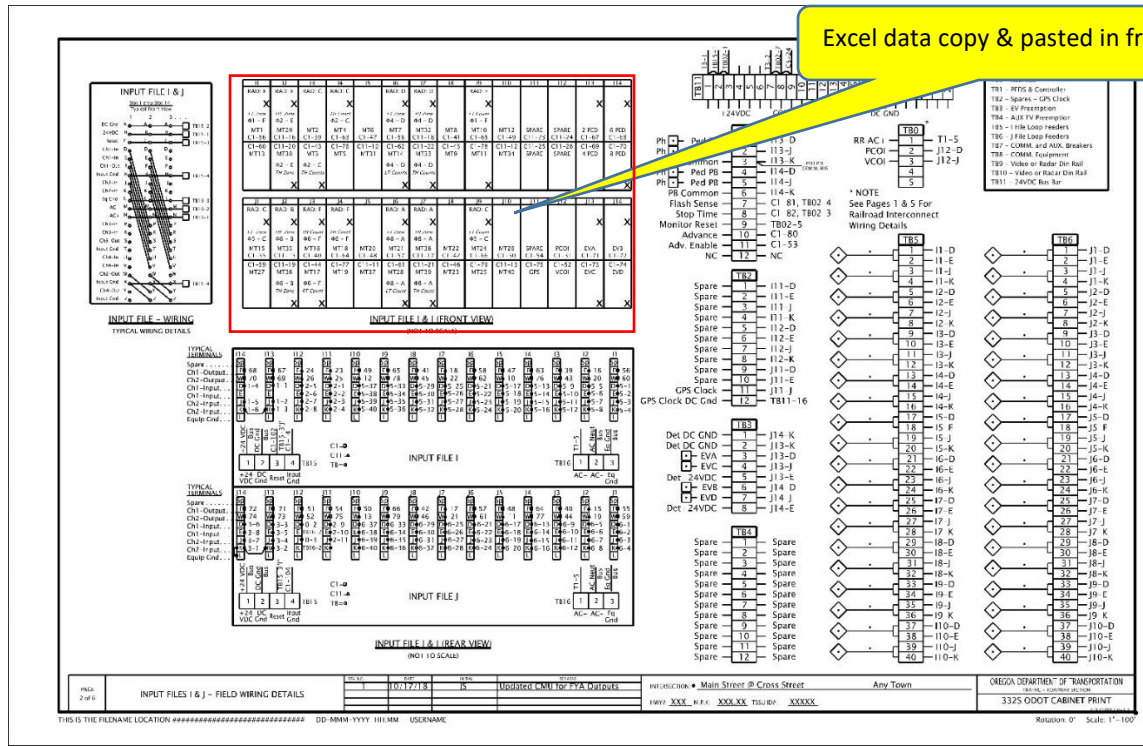
## Signal Timer (Operation and Maintenance after the project):

1. When future changes are made in the field, update the excel file in: \\scdata\Traffic Signals\Final Cabinet Prints . Redline the existing cabinet print if necessary.
2. Notify the TRS Section that the excel file has been updated and send redlines.
3. TRS will update the cabinet print