**Building Permits Documentation**

*Get all new construction permits from Accela and create the permit spatial database*

1. Log into Accela (or use this [link](http://cpdbprod/ReportServer/Pages/ReportViewer.aspx?%2fLand%2fStatistics%2fNew+Construction+Report&rs:Command=Render) and skip to #4)
2. On the lower left find the “Reports Box” and expand “Land Statistics”
3. Click the AllConstruction report
4. Enter the start and end date and click “Submit”
   1. Download permits for one year at a time
   2. There are no permits in Accela for years before October 2012-ish (switch from PermitsPlus)
5. Click the save icon and save as “Excel” (“.xlsx” file extension)
6. Save to “building\_permits/data/accela\_data” and name the file “all\_<year>.xlsx”
7. Double-click the “make\_permit\_db.py” script to create the ‘permits.sqlite’ database.
   1. If double-clicking doesn’t work, open cmd.exe and enter: “python I:/<path/to/make\_permits\_db.py>”

**Permit Features Geodatabase**

1. Open the permit\_template.mxd which should have direct links to the parcels layer on SDE, GPBounds, UFDA\_cleaned (ufda nhoods), and the County Structure addresses (“Structures”).
2. Export UFDA\_cleaned to permit\_features.gdb as ufda\_nhoods
3. Select by location (intersects with GPBounds) both the structures and parcels and export to permit\_features.gdb using the dataframe’s Coordinate System – WARNING: this must be “NAD83 / Montana (ft)” and NOT the “…FIPS\_2500\_Feet” one!!!

I manually joined the AvgHouseholdSize table with Blocks and saved it to the Permits gdb as HSize\_Blks.

NOTE: I added the points and the polygons to a dataset with Mt St Plane

I added the HSize\_Blks and the ResConst (not the geocode result!) points to ArcMap, and pasted the following code into the Python window and hit enter. This creates “permit\_blocks” as an “in\_memory” layer.

>>> def sum\_dwellings(poly, points, points\_fieldname, out\_name="permit\_blocks"):

fms = arcpy.FieldMappings()

# Sum the dwelling units

fm = arcpy.FieldMap()

fm.addInputField(points, points\_fieldname)

fm.mergeRule = "SUM"

fms.addFieldMap(fm)

# Add avg house size

fm = arcpy.FieldMap()

fm.addInputField(poly, "D002")

fm.mergeRule = "MEAN"

fms.addFieldMap(fm)

arcpy.SpatialJoin\_analysis(poly, points,

"in\_memory/{}".format(out\_name),

"JOIN\_ONE\_TO\_ONE", "KEEP\_COMMON", fms)

return

>>> sum\_dwellings("HSize\_Blks", "ResConst", "dwellings")

Add a “new\_pop” field (FLOAT) that is calculated as [dwellings]\*[D002]

“permit\_blocks” only saved to “in\_memory” so if it is satisfactory, export it to the Permits gdb as “permit\_blocks”

Copy the Permit\_<year>.gdb to the building\_permits project folder

Replace any existing “permit\_blocks” feature with the new one in the nhood\_template.mxd