

```
In [1]: import osmnx as ox

map = ox.graph_from_xml(filepath='rfs.osm')
```

```
In [2]: ox.plot_graph(map)
```

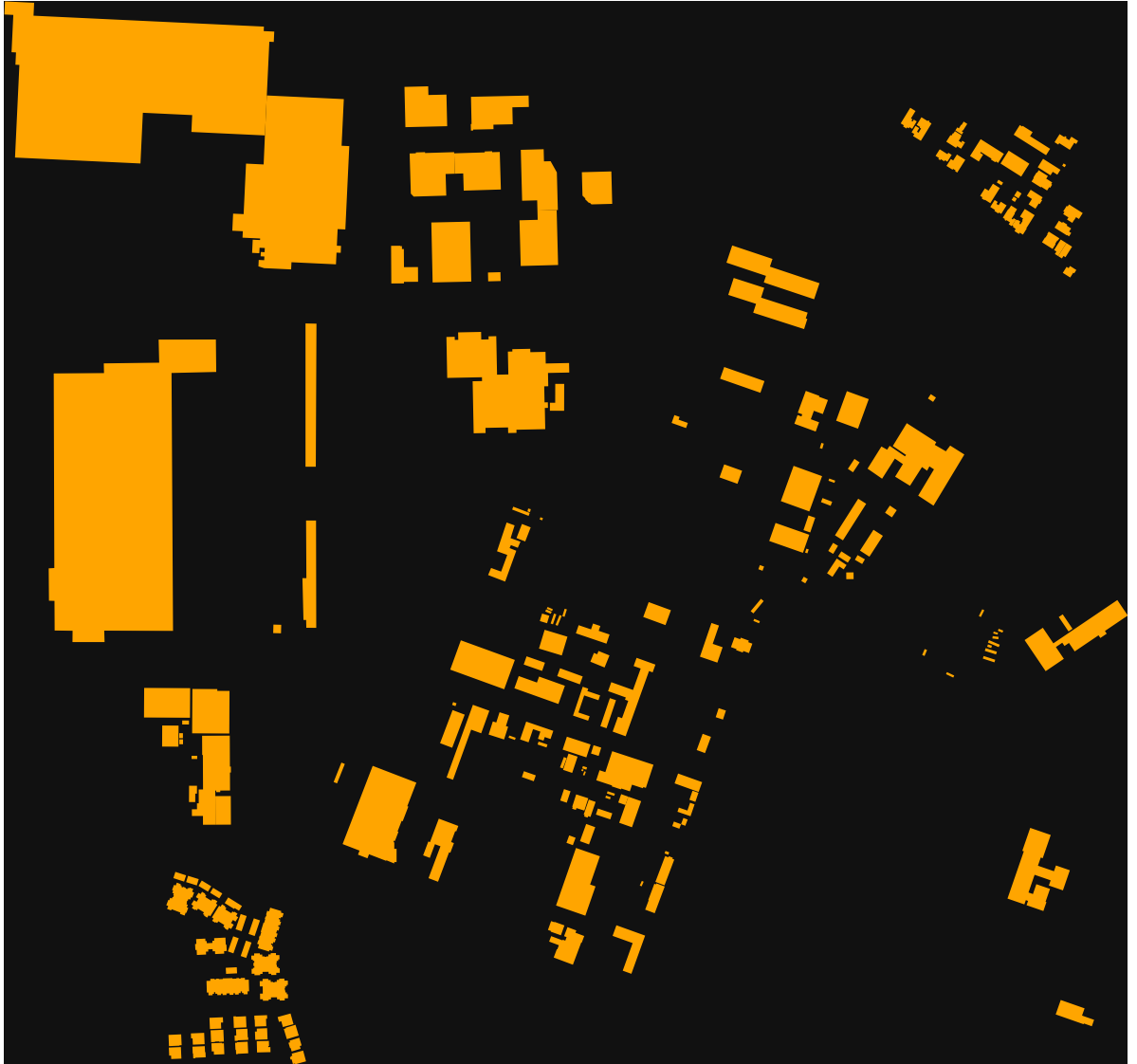


```
Out[2]: (<Figure size 576x576 with 1 Axes>, <AxesSubplot:>)
```

```
In [3]: buildings = ox.geometries.geometries_from_xml('rfs.osm', tags={'building': True})
print('Shape:', buildings.shape)
print('First entry:', buildings.iloc[0])
print('Geometry attribute of the first entry:', buildings.iloc[0]['geometry'])
print('Coordinates:', list(buildings.iloc[0]['geometry'].exterior.coords))
```

```
Shape: (202, 8)
First entry: geometry      POLYGON ((-122.3310885 37.9173507, -122.331214...
amenity                    NaN
name                      NaN
nodes      [1375985930, 1375985829, 1375985909, 137598586...
building                  yes
building:levels            NaN
roof:shape                 NaN
website                    NaN
Name: (way, 123365189), dtype: object
Geometry attribute of the first entry: POLYGON ((-122.3310885 37.9173507, -122.3312148 37.9170771,
-122.3314715 37.9171509, -122.3313452 37.9174245, -122.3310885 37.9173507))
Coordinates: [(-122.3310885, 37.9173507), (-122.3312148, 37.9170771), (-122.3314715, 37.9171509), (-
122.3313452, 37.9174245), (-122.3310885, 37.9173507)]
```

```
In [4]: ox.plot_footprints(buildings)
```



Out[4]: (<Figure size 576x576 with 1 Axes>, <AxesSubplot:>)

```
In [5]: buildings_projected, _new_crs = ox.projection.project_geometry(buildings.iloc[0]['geometry'])  
  
print('Projected coordinates in UTM(m):', list(buildings_projected.exterior.coords))  
print('Area:', buildings_projected.area)
```

```
Projected coordinates in UTM(m): [(558794.8231017421, 4196855.886863177), (558783.9394367167, 4196825.450649416), (558761.3174137463, 4196833.477112206), (558772.2011507663, 4196863.913295432), (558794.8231017421, 4196855.886863177)]  
Area: 775.8847409387463
```