data processing

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# Introduction

This document contains R code that is used to compute and plots.

require(tidyverse)

Loading required package: tidyverse

-- Attaching packages --------------------------------------- tidyverse 1.3.1 --

v ggplot2 3.3.5 v purrr 0.3.4  
v tibble 3.1.8 v dplyr 1.0.9  
v tidyr 1.2.0 v stringr 1.4.0  
v readr 2.1.2 v forcats 0.5.1

-- Conflicts ------------------------------------------ tidyverse\_conflicts() --  
x dplyr::filter() masks stats::filter()  
x dplyr::lag() masks stats::lag()

require(sf)

Loading required package: sf

Linking to GEOS 3.9.1, GDAL 3.2.1, PROJ 7.2.1; sf\_use\_s2() is TRUE

require(terra)

Loading required package: terra

terra 1.6.7

Attaching package: 'terra'

The following object is masked from 'package:tidyr':  
  
 extract

require(tidyterra)

Loading required package: tidyterra

require(tmap)

Loading required package: tmap

require(magrittr)

Loading required package: magrittr

Attaching package: 'magrittr'

The following objects are masked from 'package:terra':  
  
 extract, inset

The following object is masked from 'package:purrr':  
  
 set\_names

The following object is masked from 'package:tidyr':  
  
 extract

require(highcharter)

Loading required package: highcharter

Registered S3 method overwritten by 'quantmod':  
 method from  
 as.zoo.data.frame zoo

Highcharts (www.highcharts.com) is a Highsoft software product which is

not free for commercial and Governmental use

Attaching package: 'highcharter'

The following object is masked from 'package:terra':  
  
 colorize

require(plotly)

Loading required package: plotly

Attaching package: 'plotly'

The following object is masked from 'package:ggplot2':  
  
 last\_plot

The following object is masked from 'package:stats':  
  
 filter

The following object is masked from 'package:graphics':  
  
 layout

options(scipen = 999)  
  
tmap\_mode(mode = "view")

tmap mode set to interactive viewing

land.use = st\_read("proposed\_landuses.shp", quiet = TRUE)  
  
land.use = land.use %>%   
 st\_make\_valid() %>%   
 # st\_is\_valid() %>%   
 mutate(area\_m2 = st\_area(geometry) %>% as.numeric(),  
 area\_ha = area\_m2/10000)

land.use %>%   
 tm\_shape(name = "Land Use") +  
 tm\_fill(col = "Name", id = "Name", popup.vars = c("Area (Ha):" = "area\_ha"))

