

LAND USE PLANNING

From concept to reality

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SESSION OBJECTIVES

- Increase knowledge of the land planning and health connection
- Increase knowledge of the local land use process
- Explore a case study
- Increase your ability to apply wastewater planning principles to the subdivision process



<http://www.knowledgeformen.com/10-reasons-why-no-one-knows-what-theyre-doing-in-their-20s/>

The Broncos can bounce back by next season.

- True
- False



What area of wastewater do you work in?

- Regulator
- Installer
- Engineer
- Manufacturer's representative
- Academia



What area of Colorado do you work?

- Northwest
- North Central
- Northeast
- Metro
- Pikes Peak
- West Central
- Southwest
- Southeast



How involved are you in the local land use process?

- I don't know. What is the local land use process?
- I occasionally field questions or requests for information from local planning agencies.
- I review referrals from local communities and provide comments.

LAND USE PLANNING



"We're waiting for the city to come to us..."

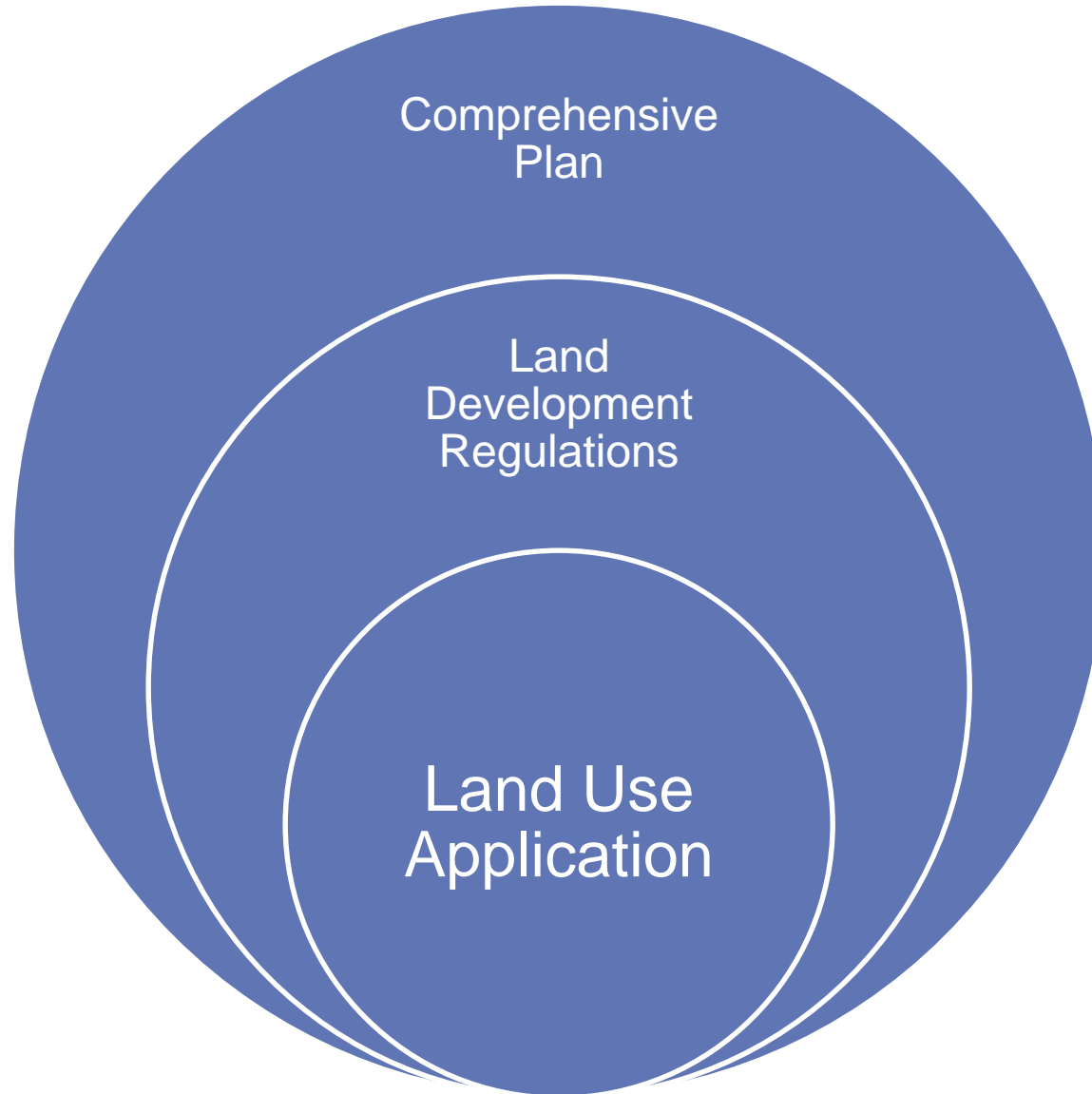
PLANNING AND PUBLIC HEALTH

- 1854 - John Snow used geographic mapping of a cholera outbreak
- Mid-1800s - Fredrick Law Olmstead and others advanced the concept that community design and mental health were linked
- 1872 – 2 of 7 founders of American Public Health Association were urban designers
- 1926 - Birth of Euclidean Zoning
- 1960s – Jane Jacobs furthered ideas about the importance of safe, convenient walking and biking options

PLANNING AND PUBLIC HEALTH

- Protecting the health, safety and welfare of the community
- Mitigating impacts

LAND USE PLANNING



TYPES OF LAND USE CASES

Altering the zoning

- Rezoning
- PUD
- Conditional Use Permit
- Variance

Changing the property boundaries

- Major Subdivision
- Minor Subdivision
- Lot Line Adjustment

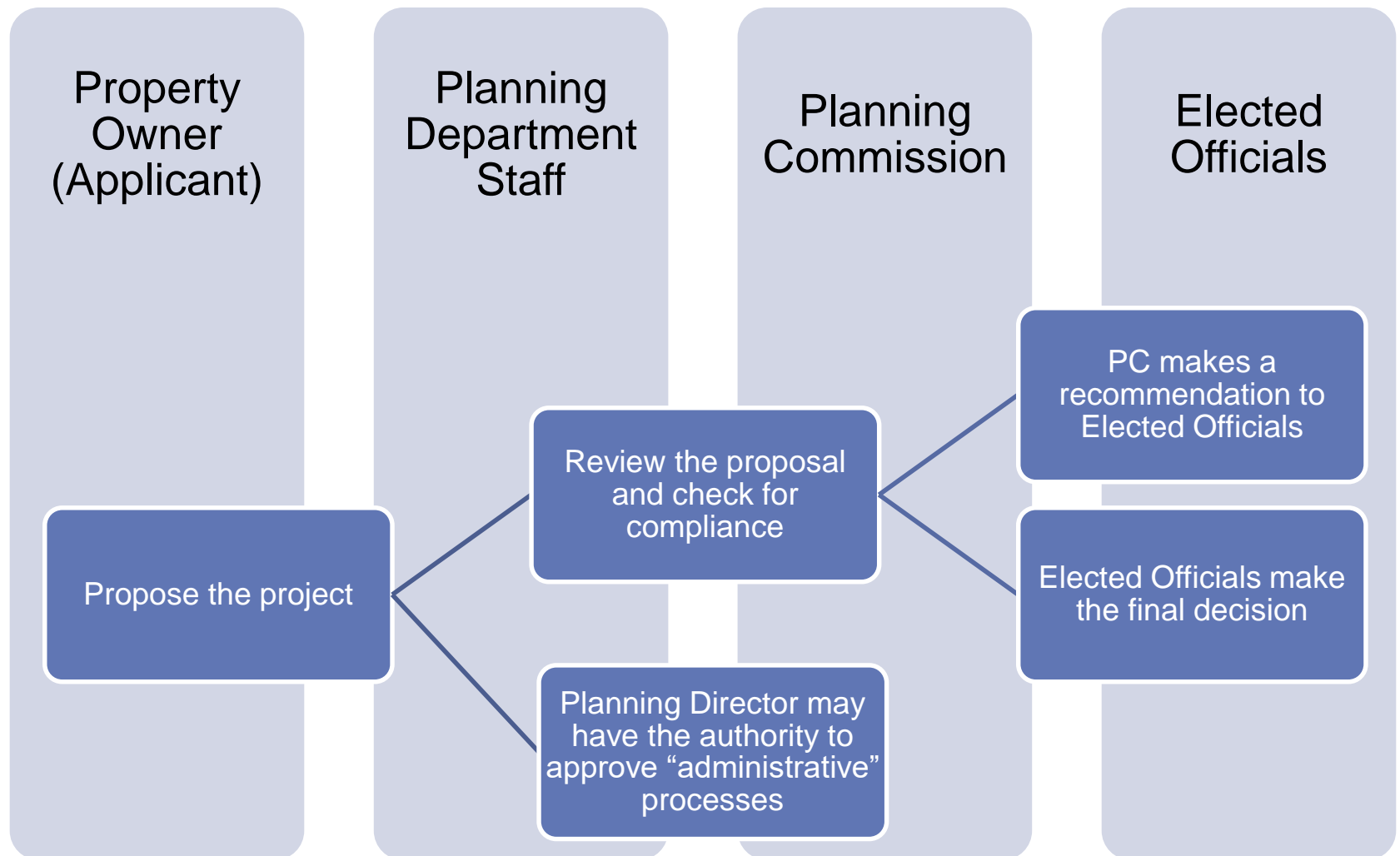
Constructing something

- Development Plan
- Site Plan

Building Permit

- Permitting process linked but separate

WHO ARE THE PLAYERS?



PUBLIC HEALTH CONSIDERATIONS



Air Quality **Natural or Manmade Hazards** Safe Food Environments **Solid and Hazardous Waste** Water Quality and Supply **Wastewater Service**
Access to Affordable Healthy Food **Opportunities for Physical Activity**

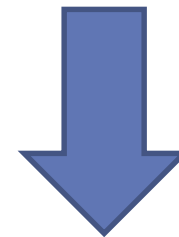
TCHD Land Use Program History

Public Health Objectives

- Protect against environmental hazards
- Prevent epidemics and spread of disease

Program Focus

- Wastewater
- Water
- Environmental hazards



Regulator/Monitor

TCHD Land Use Program History

Public Health Objectives

- Promote healthy behaviors
- Prevent illness and injury

Expanded Program Focus

- Healthy Community Design
- Healthy Eating Active Living (HEAL)
- Transportation Planning
- **Health Impact Assessment**



Partner/Resource

CASE STUDY

ESTANCIA SUBDIVISION

ESTANCIA-VICINITY MAP



GENERAL SITE CHARACTERISTICS

- 79.65 Acres
- 58 Total Lots
- Minimum Lot Size: 1.00 Acres
- Maximum Lot Size: 1.65 Acres
- Average Lot Size: 1.10 Acres
- Utilities:
 - Public water system
 - On-Site Wastewater Treatment Systems (OWTS)

WHAT SITE CONDITIONS IMPACT SUITABILITY FOR ON-SITE WASTEWATER TREATMENT SYSTEMS (OWTS)?

- Lot Size
- Topography
- Drainage
- Lot Layout
- Soils
- Site Development Plan
- Type of Homes

LOT SIZE

- Typical Guidelines Found In Zoning Codes
 - 2.5 Acre Minimum with well and OWTS
 - 1.0 Acre Minimum with central water and OWTS
- Bigger is Better!
- Estancia Lots Sizes 1.0-1.65 Acres, 1.10 Acre Average

DRAINAGE

- Maintain Setbacks
- Keep Out of Floodways
- OWTS in Floodplains Prohibited in the Area
- Drainage Ditches-No Setbacks, However:
 - Need to keep channelized water off OWTS

SOILS

USDA Web Soil Survey



PRIMARY SOIL TYPE: SIF

- Samsil-Little
 - Stony Clay
 - Weathered Bedrock

TYPES OF HOMES



SITE CHALLENGES

- Small Lots
- Large, High End Homes-6000+ square feet
- Steep and Irregular Slopes
- Difficult Soils

TOOLS TO OVERCOME SITE CHALLENGES

- Dedicated Building Envelopes for OWTS
 - Size of OWTS Envelope Determined by:
 - Soil conditions
 - Anticipated number of bedrooms
 - Reality
- Plat Notes
- Establish Responsible Management Entity (RME)

EXAMPLE PLAT NOTES

- Due to topography, grading, soils conditions and shallow bedrock, several lots.....will require specially engineered OWTS
- A limited number of engineering companies have experience with these types of OWTS. It is recommended that the lot owner consult with Tri-County Health Department regarding which engineers may be appropriate.....

RESPONSIBLE MANAGEMENT ENTITY

(INSERT NAME) METROPOLITAN DISTRICT
Insert address and contact information

ISDS INSPECTION REPORT

ACCOUNT NO. _____ INSPECTION DATE _____
CUSTOMER NAME _____
MAILING ADDRESS _____
SERVICE ADDRESS _____
DEVELOPMENT _____ PLING _____ LOT _____ BLOCK _____
HOME TELEPHONE # _____ BUSINESS # _____
TANK INSPECTION _____ DATE OF LAST PUMPING _____
Sludge Depth _____ Scum Depth _____
Rises to grade _____
Engineered system only
Y N Pump and float operational Y N Effluent screen operational
Y N Valve switched on drip system
No Pumping Required _____ Pumping Recommended _____

ABSORPTION AREA INSPECTION

Deficiencies
____ "Overs"
____ Wet spots
____ Standing water in sandpiles
____ Evidence that surface drainage is impeding absorption area
____ Evidence of parking, driving or structures over absorption area
____ Irrigated planting over absorption area
____ Standing over absorption area (SEE ATTACHED RECOMMENDATION)

* Metro District Inspector - If one of the above deficiencies (noted with an *) is checked, please contact Tri County Health at (303) 341-8370 and ask for the Administrative Support Staff in Environmental Health.

Actions to be taken _____

TCHD Policy on Pumping of Septic Tanks: Inspectors shall measure the levels of both sludge and scum in both chambers of the septic tank. For engineered systems with more than one septic tank, this will include the first septic tank.

If the combined depth of both sludge and scum in either chamber of the tank equal or exceed 24 inches, the tank will need to be pumped. All tanks are two chamber tanks. In most cases, the sludge and scum will accumulate more rapidly in the first chamber.

Example: Measured scum depth in first chamber = 7". Measured sludge depth in first chamber = 17". 7" + 17" = 24". A record violation will be made to the property owner to have the tank pumped.

Septic System Inspector _____

LESSONS LEARNED

- Early consideration of wastewater
- Challenges can be mitigated but not avoided
- Consider your role – Regulator to Partner
- Engage in the planning process