Urbana & Champaign Sanitary District 2016 Update for the Champaign County Board

by

Rick Manner
UCSD Executive Director

April 21, 2016

URBANA & CHAMPAIGN
SANITARY DISTRICT

Urbana & Champaign Sanitary District

- Today's topics
  - UCSD Overview
  - 2nd Street Pump Station Project
  - Expected Sale of UCSD Effluent to Cronus Fertilizer
  - Potential Connection of Philo and Sidney to UCSD

Urbana & Champaign Sanitary District

- Incorporated in 1921
- Population served ≈ 150,000
  - Champaign
  - Urbana
  - Savoy
  - Bondville
  - Several unincorporated subdivisions with sewers
- 50 full time employees
- 2 treatment plants
- 27 pump stations

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- 50 full time employees ***(and billions of microbes)***
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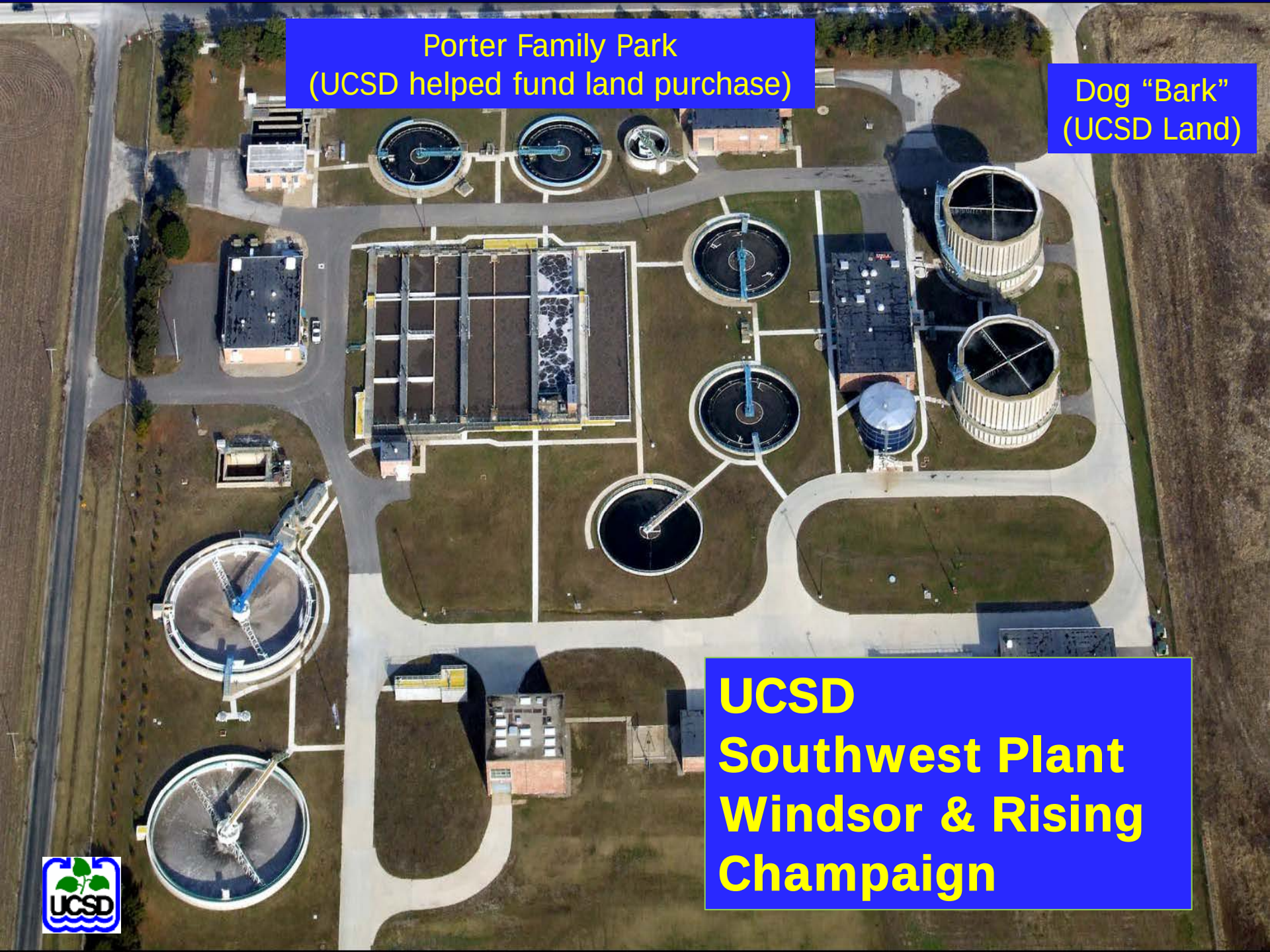
Urbana Dog Park, Perkins Road Wetland Restoration (UCSD Land)
AMBUCS Par
(UCSD Land
UCSD
Northeast Plant
1100 E. University
Urbana
UCSD

- Northeast Plant (1100 E. University, Urbana)
  - Original plant – 92nd year of operation
  - Serves all of Urbana, some of Champaign, and U of I
  - 17.3 million gallons per day (MGD) capacity

UCSD
Northeast Plant
1100 E. University
Urbana


Nominated- IEPA's Best Operated Plant in 2014 !
UCSD
Northeast Plant
1100 E. University
Urbana
UCSD


Porter Family Park
(UCSD helped fund land purchase)
Dog "Bark"
(UCSD Land)
UCSD
Southwest Plant
Windsor & Rising
Champaign
UCSD

- Southwest Plant (Rising and Windsor, Champaign)
  - Serves west Champaign, Savoy, and Bondville
  - 8.0 million gallons per day (MGD) capacity

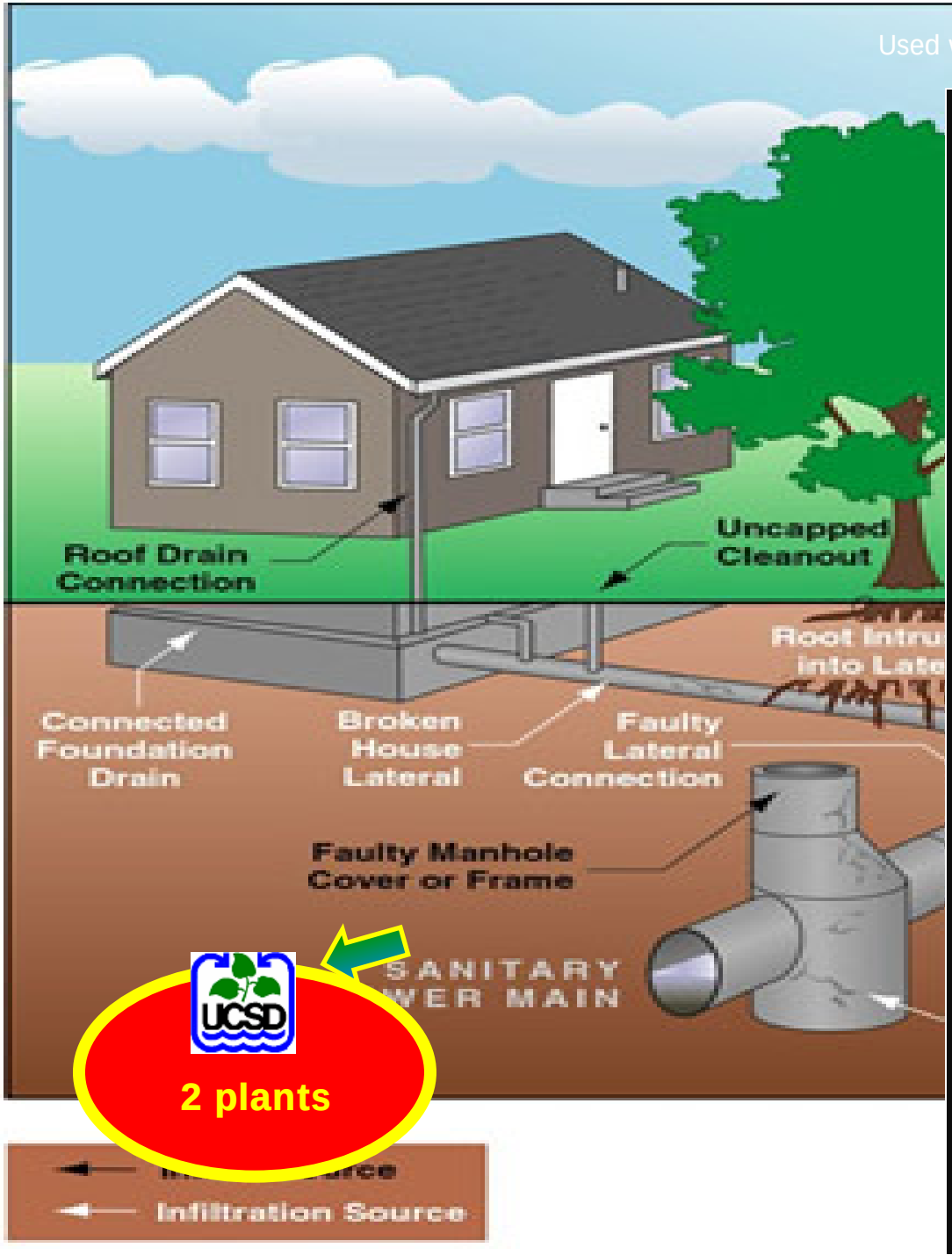
UCSD
Southwest Plant
Windsor & Rising
Champaign

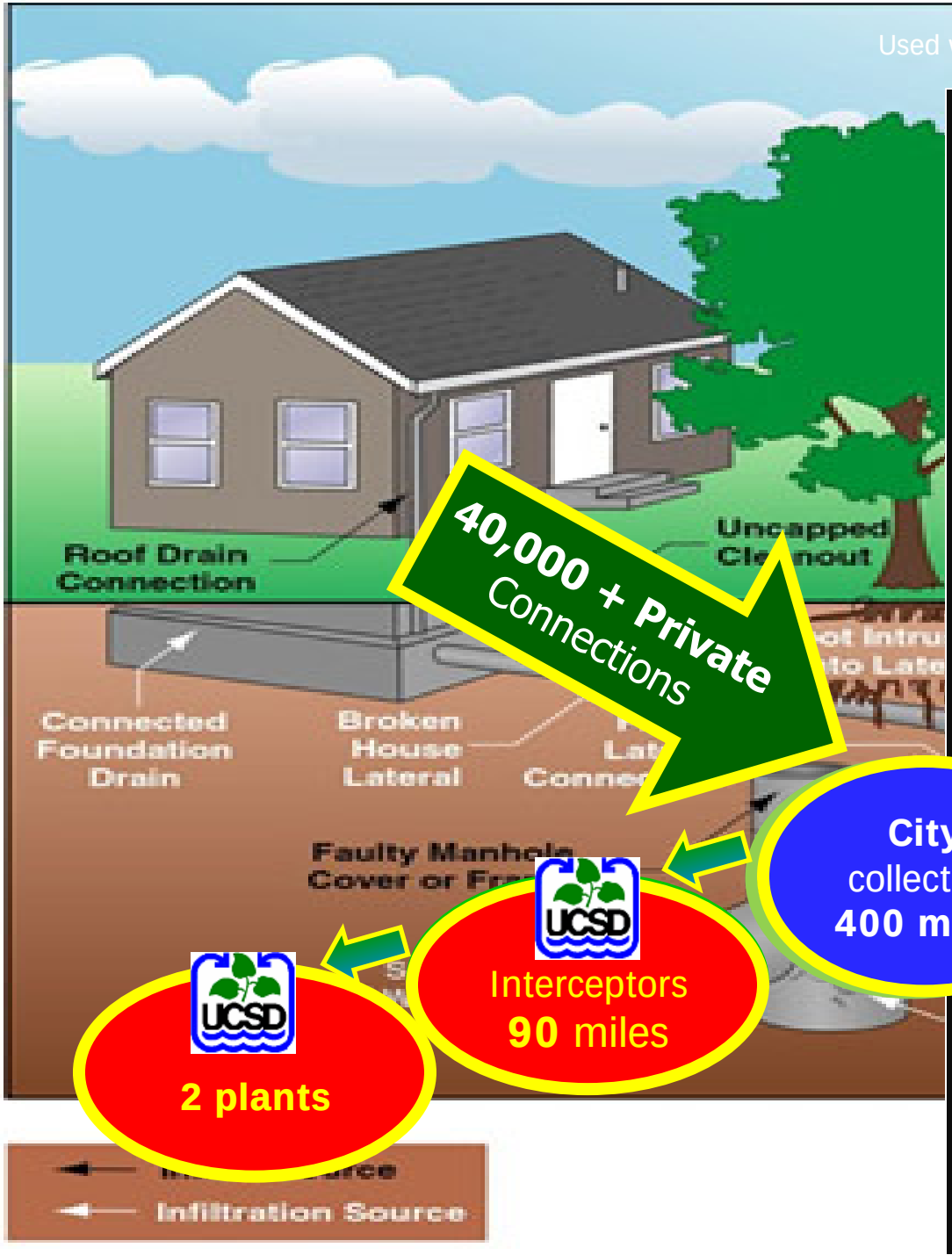
Illinois EPA's Best Operated Plant of 2010 !

Open House May 21, 2016 (9 AM to noon)

UCSD
Southwest Plant
Windsor & Rising
Champaign

Used with permission from: City of Lakeport, California



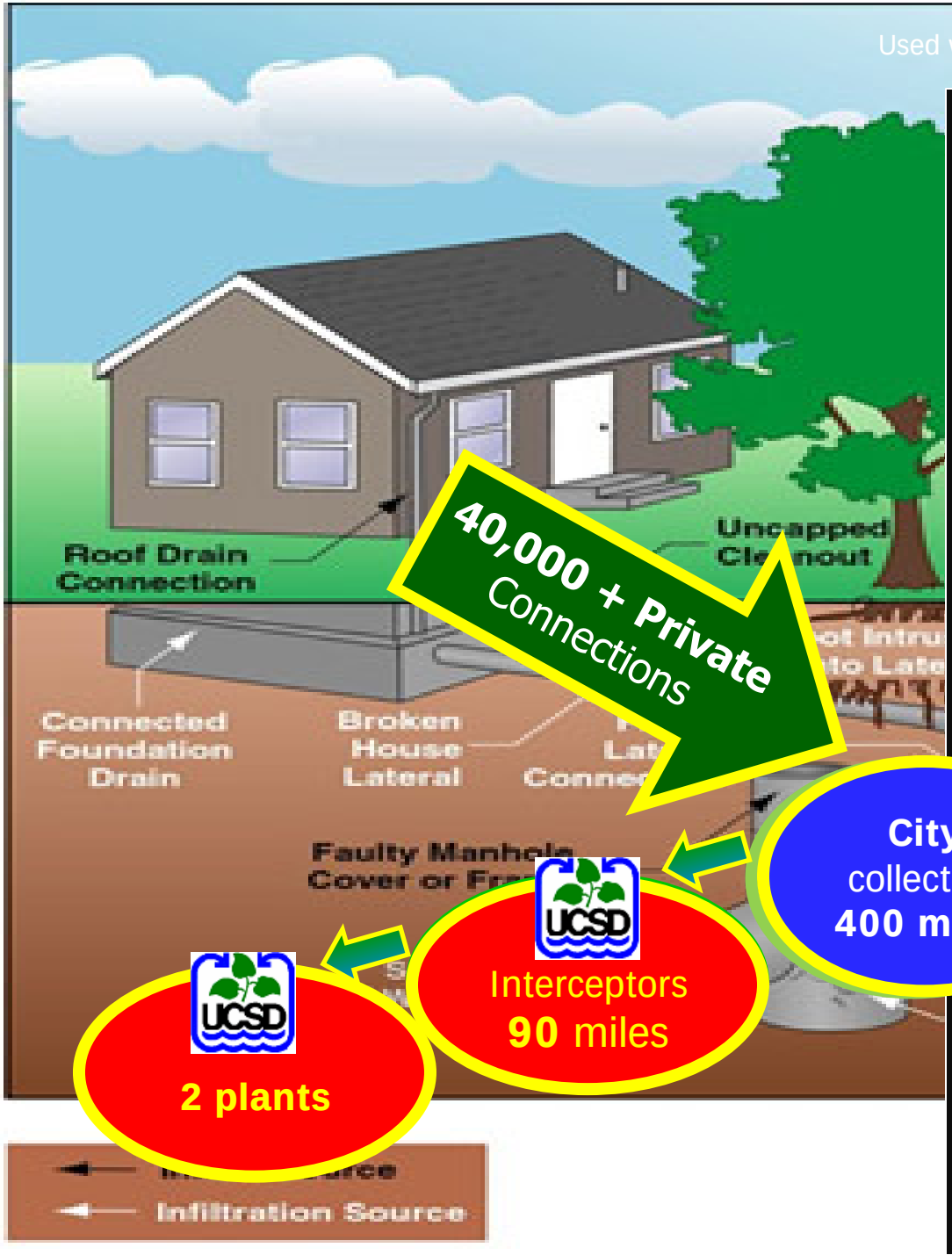


40,000 + Private Connections

City collectors **400 miles**

Interceptors **90** miles

2 plants



OVERHEAD SEWERS

If you are in an older home, before you invest thousands of dollars for things in your basement, please invest in a pumped sewer connection (often called an "overhead sewer") to protect those valuables.

Finances – 3 Primary Sources of Income

0. **No Property Tax levy since 1980's**
1. **User Charge** (~85% of income)
    1. Bills based upon volume used.
    2. Bills include city Sanitary User Fee and any city Stormwater User Fee
2. **Construction Permit Fee** (~10% of income)
    1. Assessed when building new, expanding, remodeling, or rebuilding
    2. Pays for expansion of plant, modernizing technology, or new limits
3. **Interceptor Cost Recovery Fee** (~5% of income)
    1. Assessed when building new, expanding, remodeling, or rebuilding
    2. Pays for interceptors and pump stations that connect property to plant

Finances – Dollars and Cents

1. User Fees (~$12 million/yr)

- Average bill about **$28/month** (billed bimonthly)
  - **UCSD** treatment portion of bill is **about half** of the total
  - UCSD rate increases 3%/year, 2008 through 2020
    - UCSD rate on May 1 will be $1.80/unit = $1.80 per hundred cubic feet

2. Connection Permit Fee (~$1 million/yr)

- $373/PE = **$1,305.50 for single family residence, one-time**

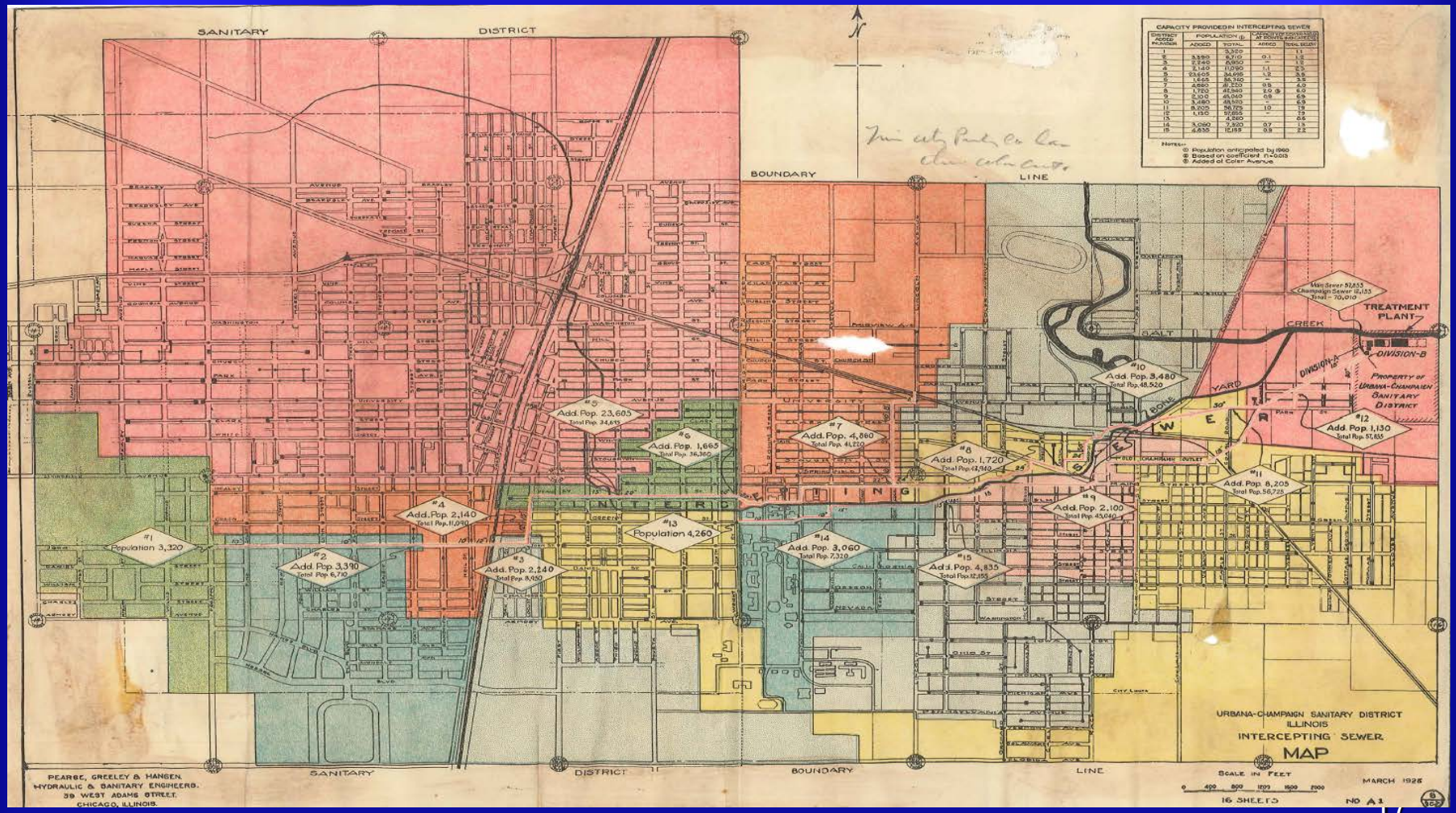
3. Interceptor Cost Recovery Fee (~$0.7 million/yr)

- $280/PE = **$980.00 for single family residence, one-time**

2nd Street Pump Station & Forcemain

URBANA & CHAMPAIGN
SANITARY DISTRICT

1920s Sewer Master Plan



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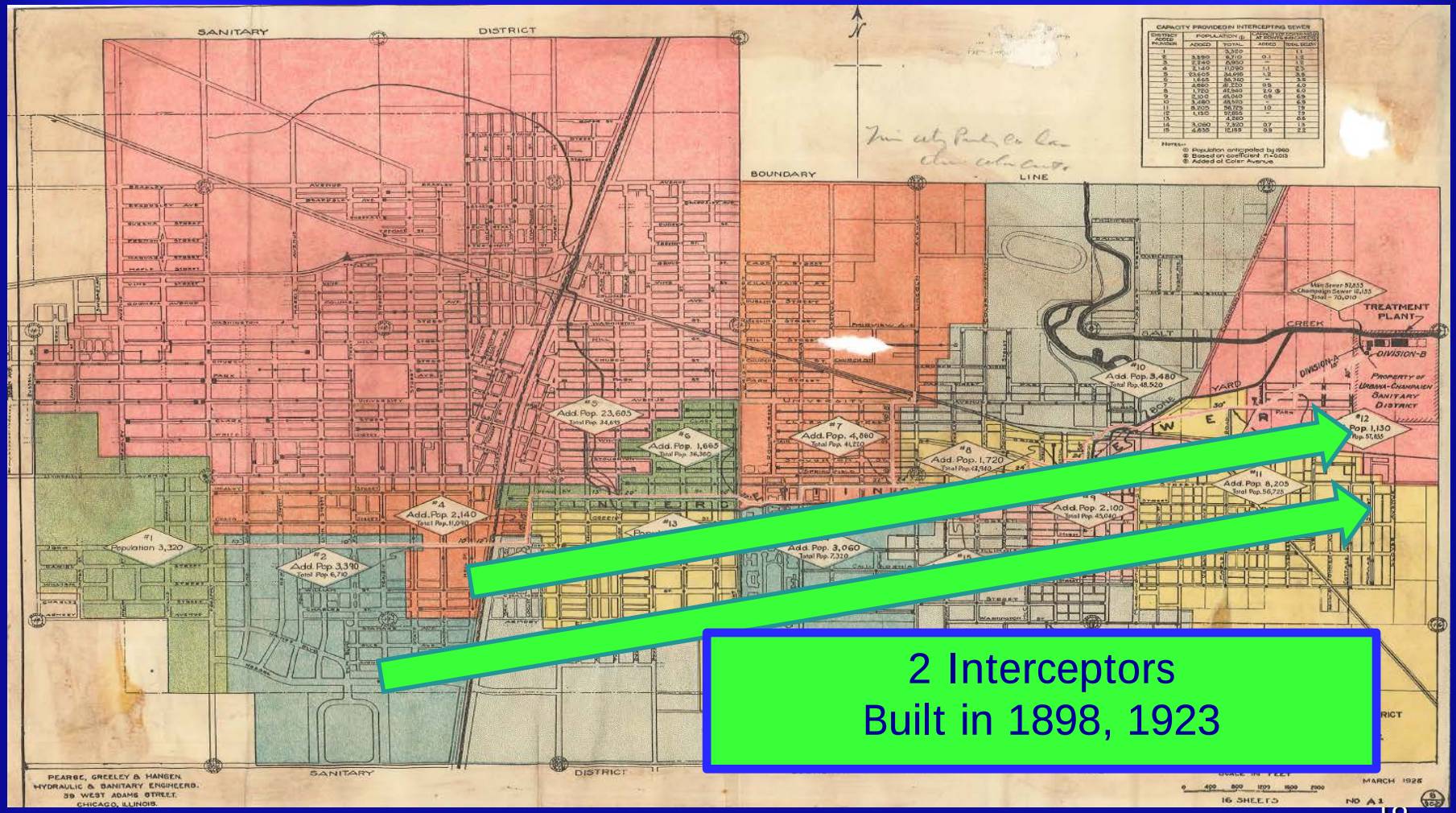
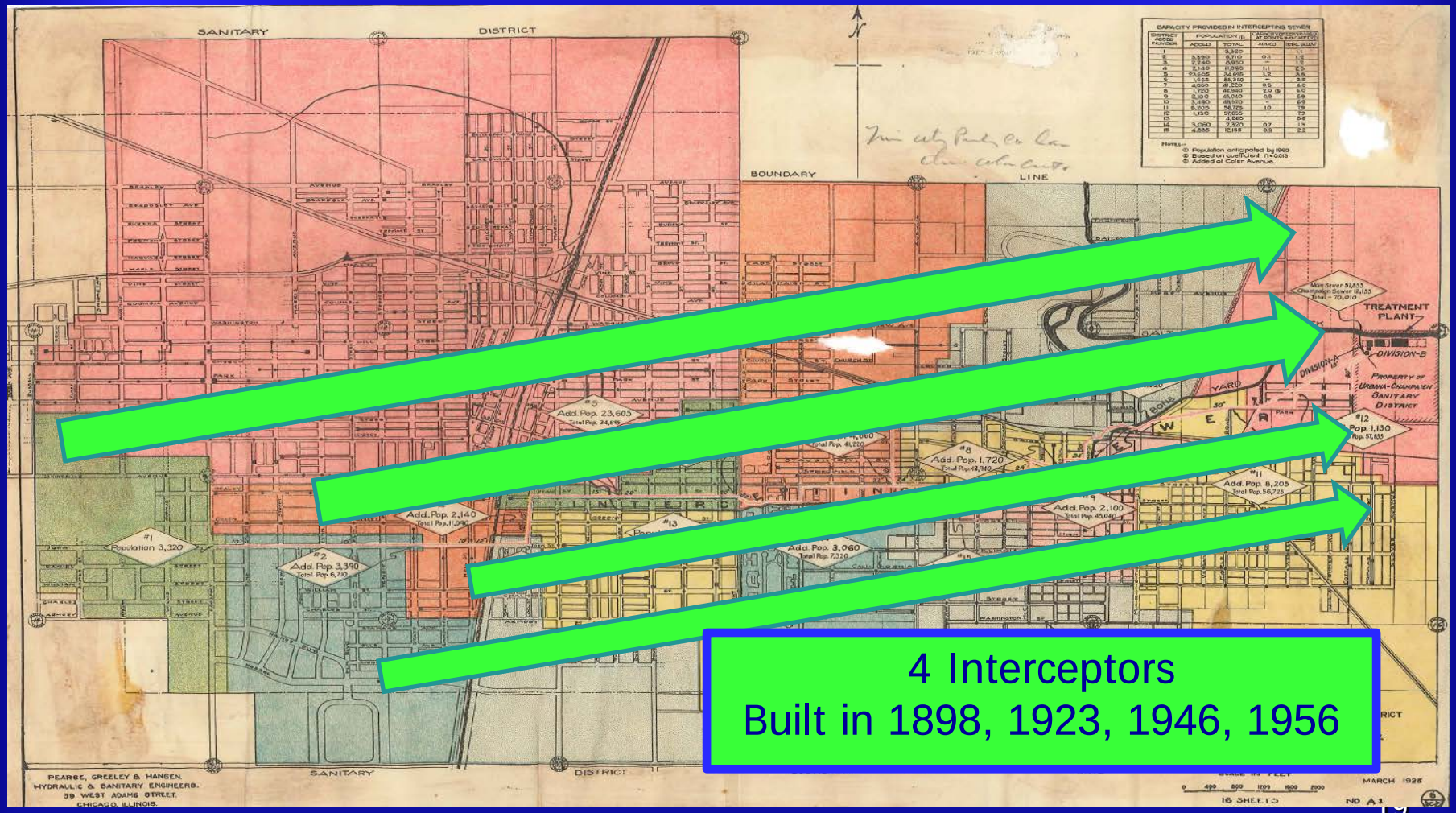
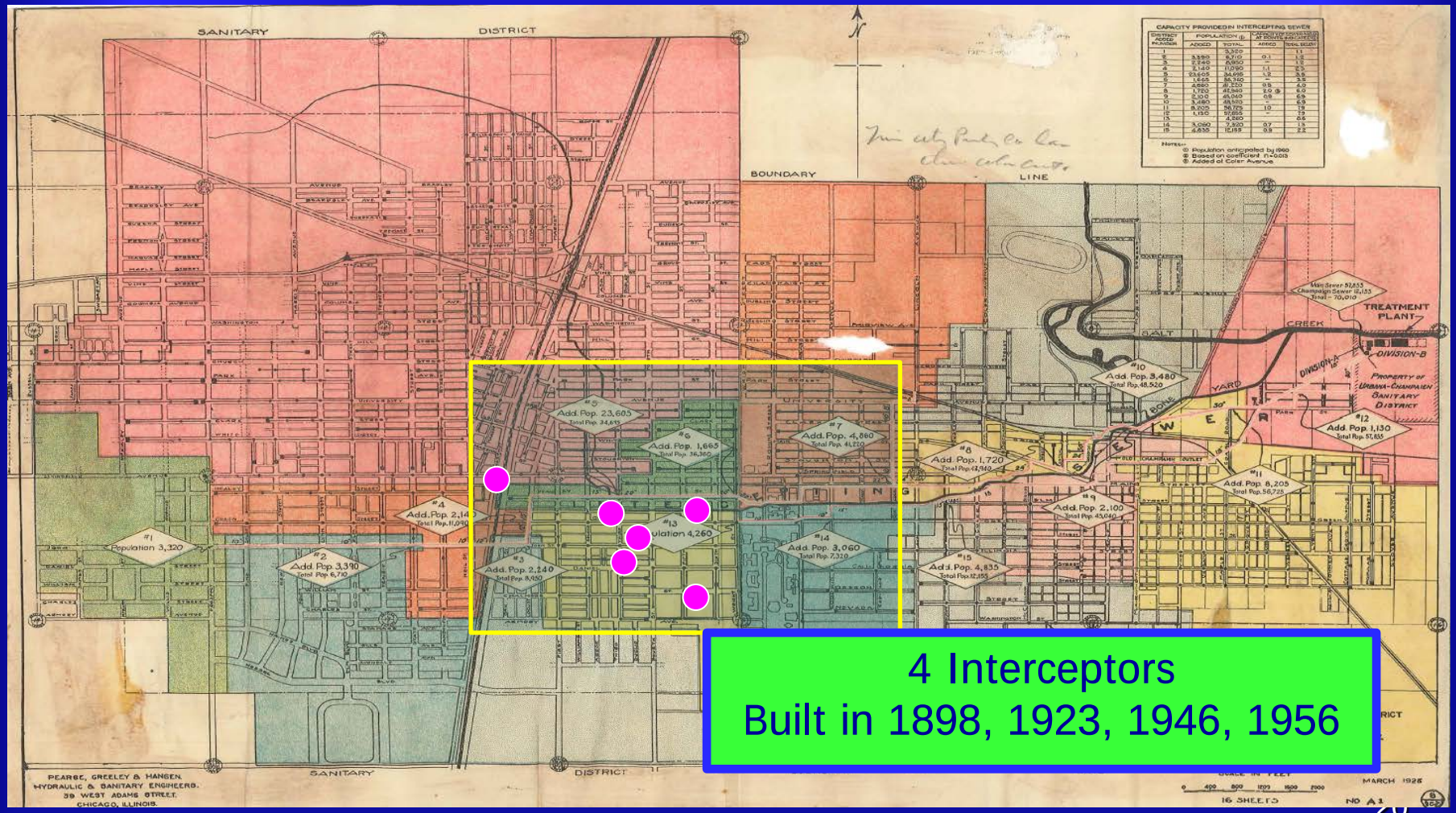


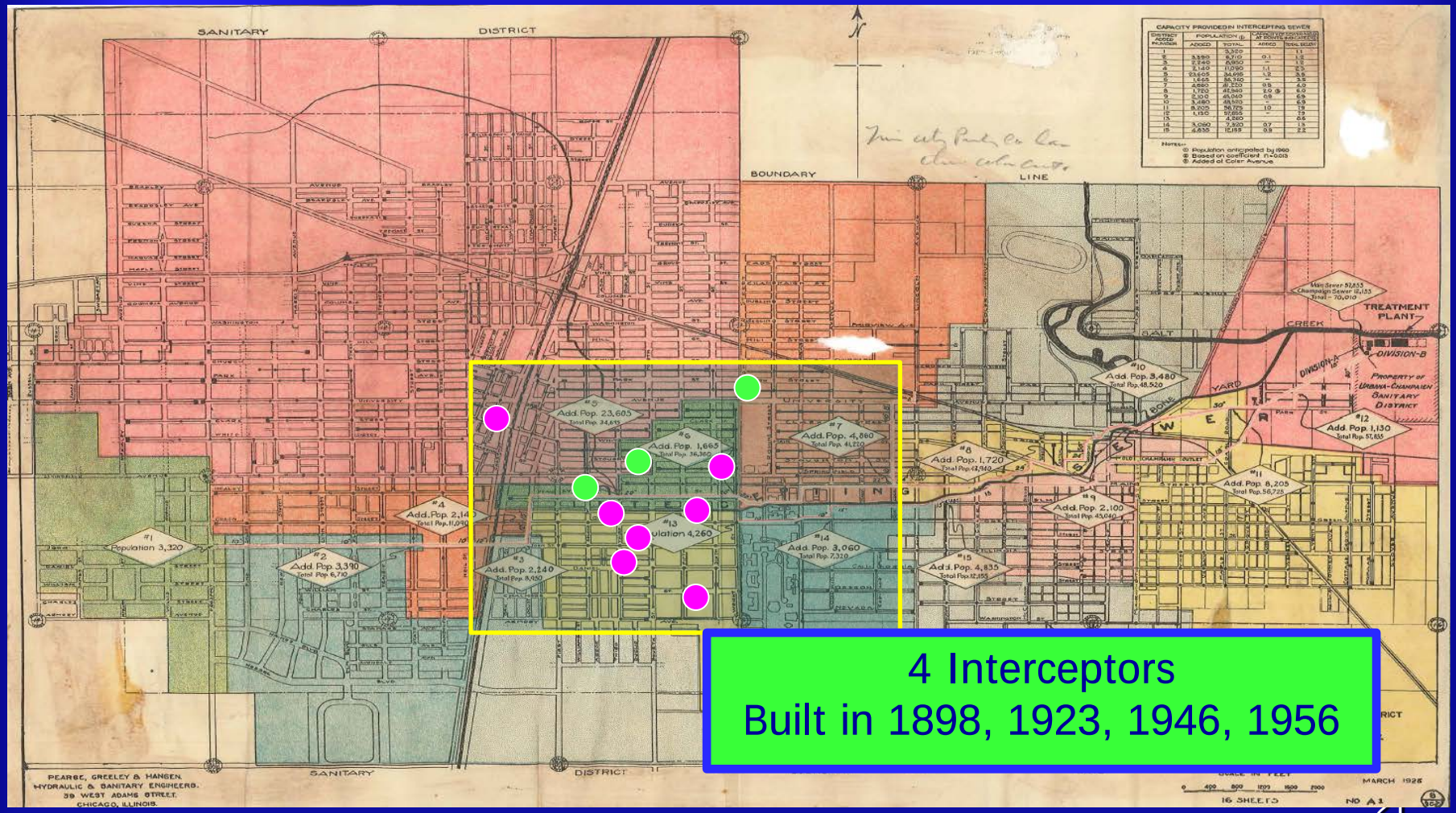
1950s Sewer Master Plan



1980s Sewer Master Plan

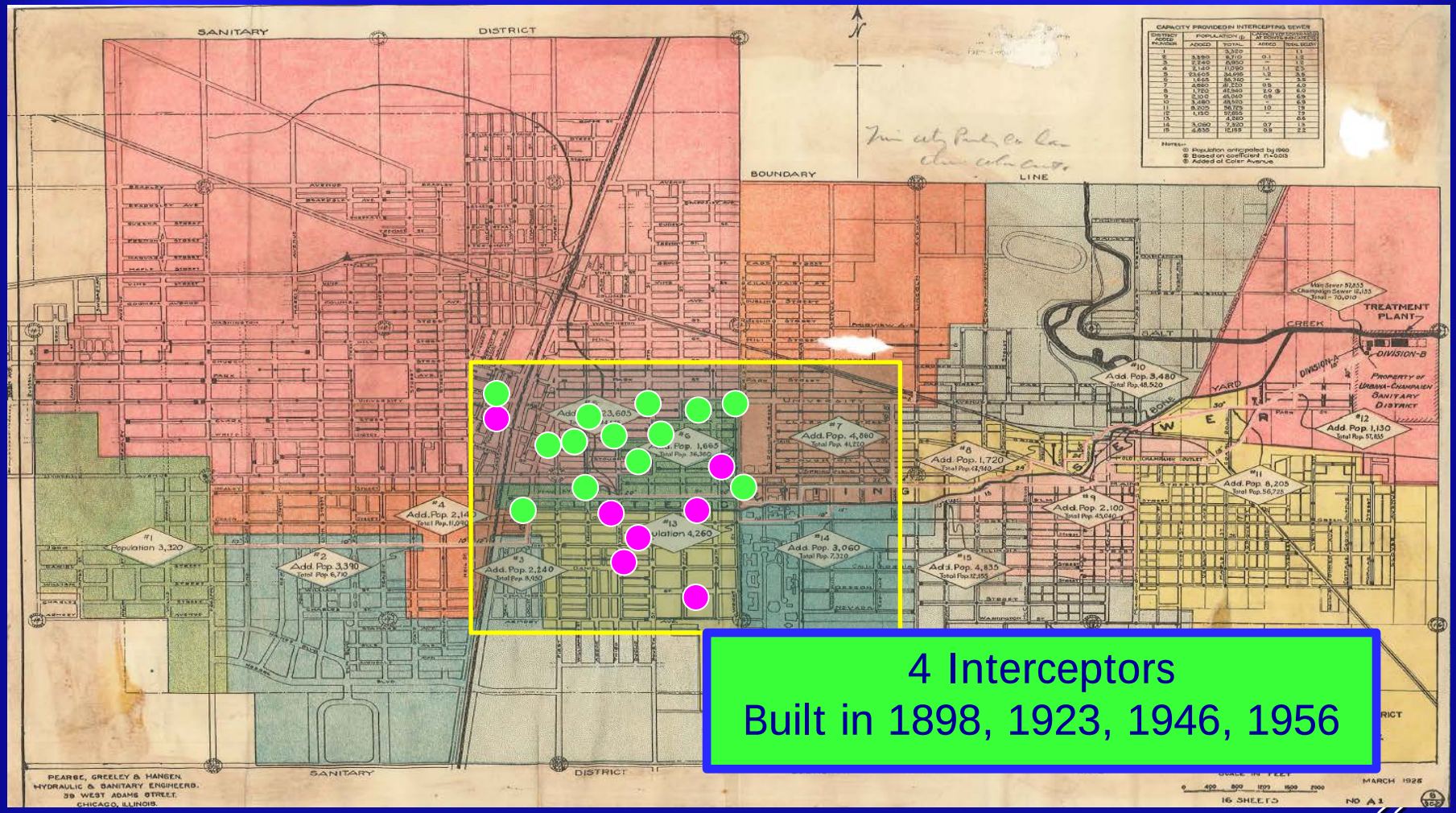


2000s Sewer Master Plan



4 Interceptors
Built in 1898, 1923, 1946, 1956

Campus Growth Dilemma



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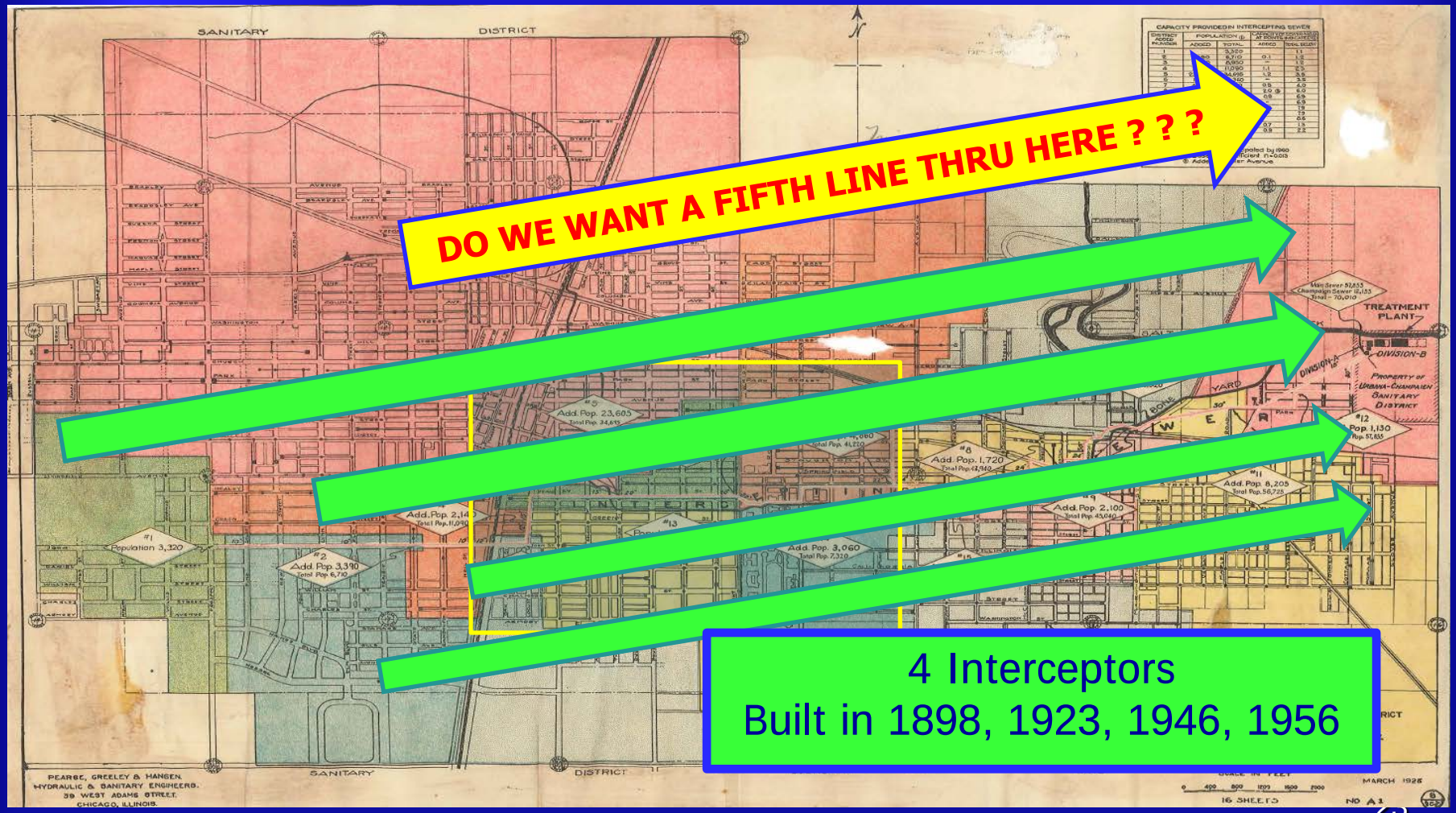
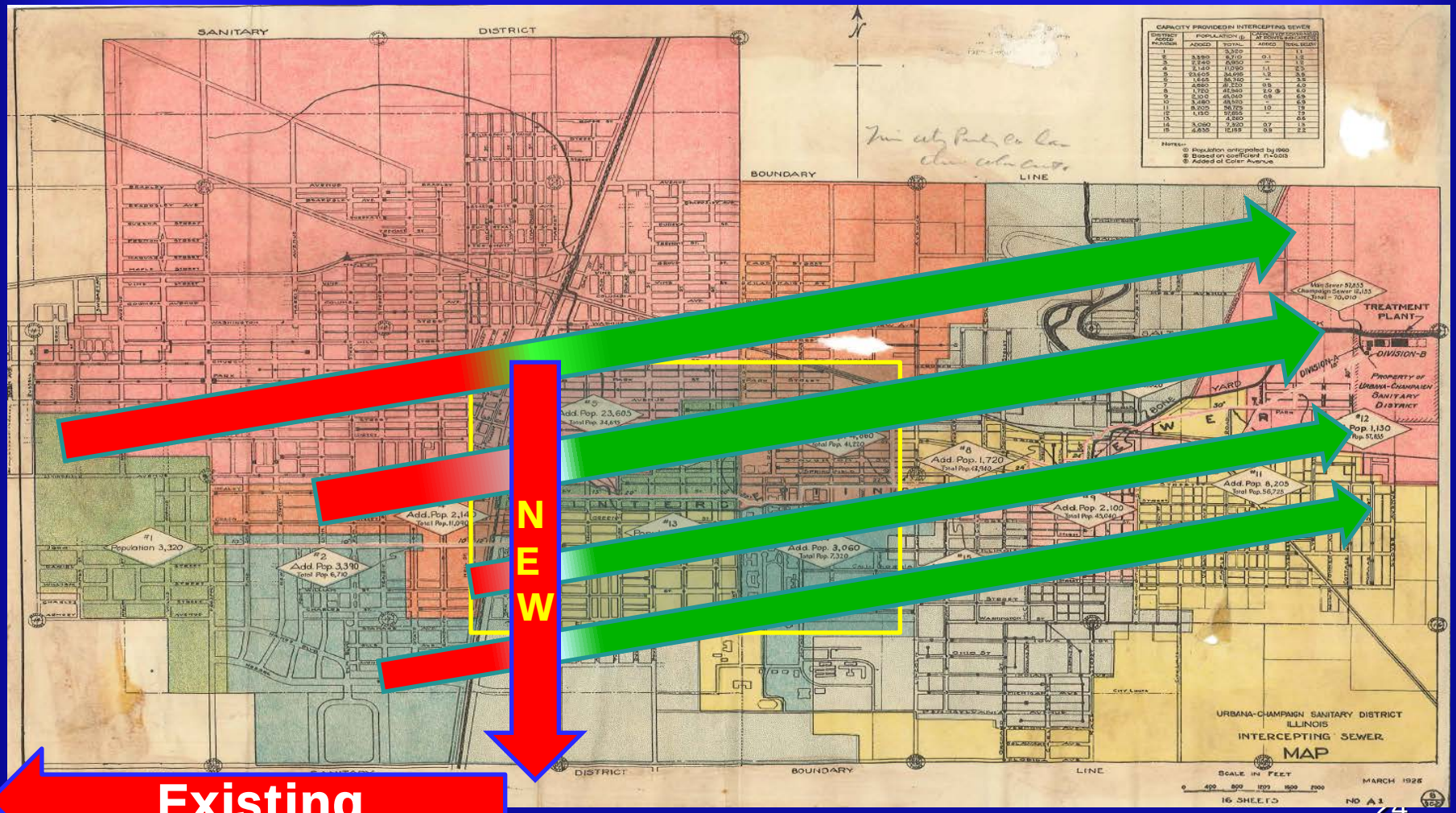


2nd Street Pump Station & Forcemain Solution



2nd Street Pump Station & Forcemain

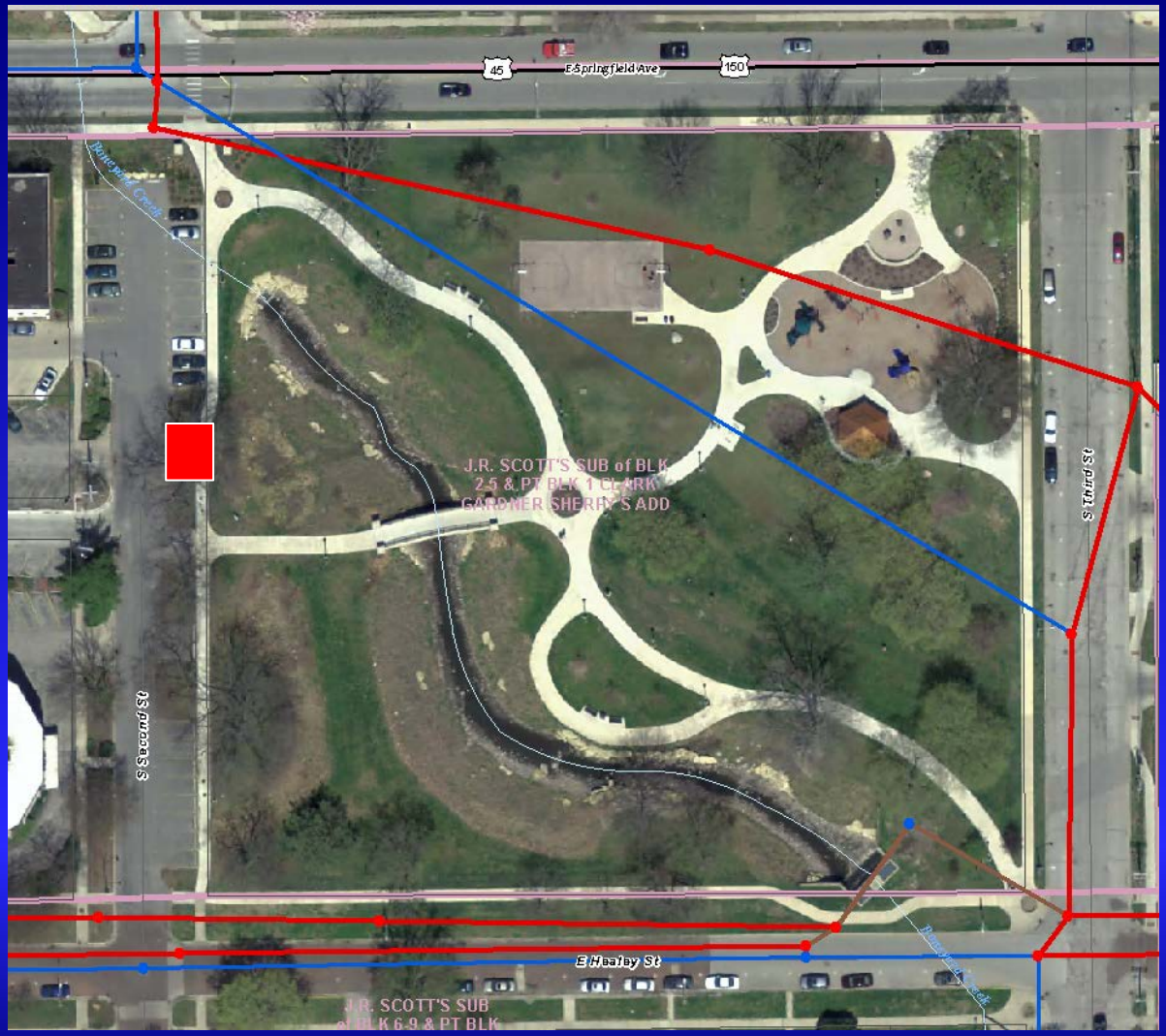
- Redirect flow from Hessel Park, Marketplace, Kraft, downtown Champaign to SW Plant
  - Will make room for new sewage in existing pipes
  - Addresses growth in all three downtown areas
  - Avoids most built-up areas of towns
  - Accommodates higher, pedestrian-friendly densities
  - "Only" ~ $8 million project
  - Paid via developers' Interceptor Cost Recovery Fees

2nd Street Pump Station & Forcemain

- Side Benefits of this solution:
  - Reduces sewer overloading downstream
  - Allows increased density in town centers and campus
  - Allows increased flow from Kraft, Market Place, UI, etc…
  - UI to eliminate Orchard Downs pump station
  - Research Park gets large sewer on east end of park
  - Initially Cronus was discussed, BUT not a deciding factor
  - Started in ***2014*** due to local development pressures

2nd Street Pump Station

(Just west of Scott Park)



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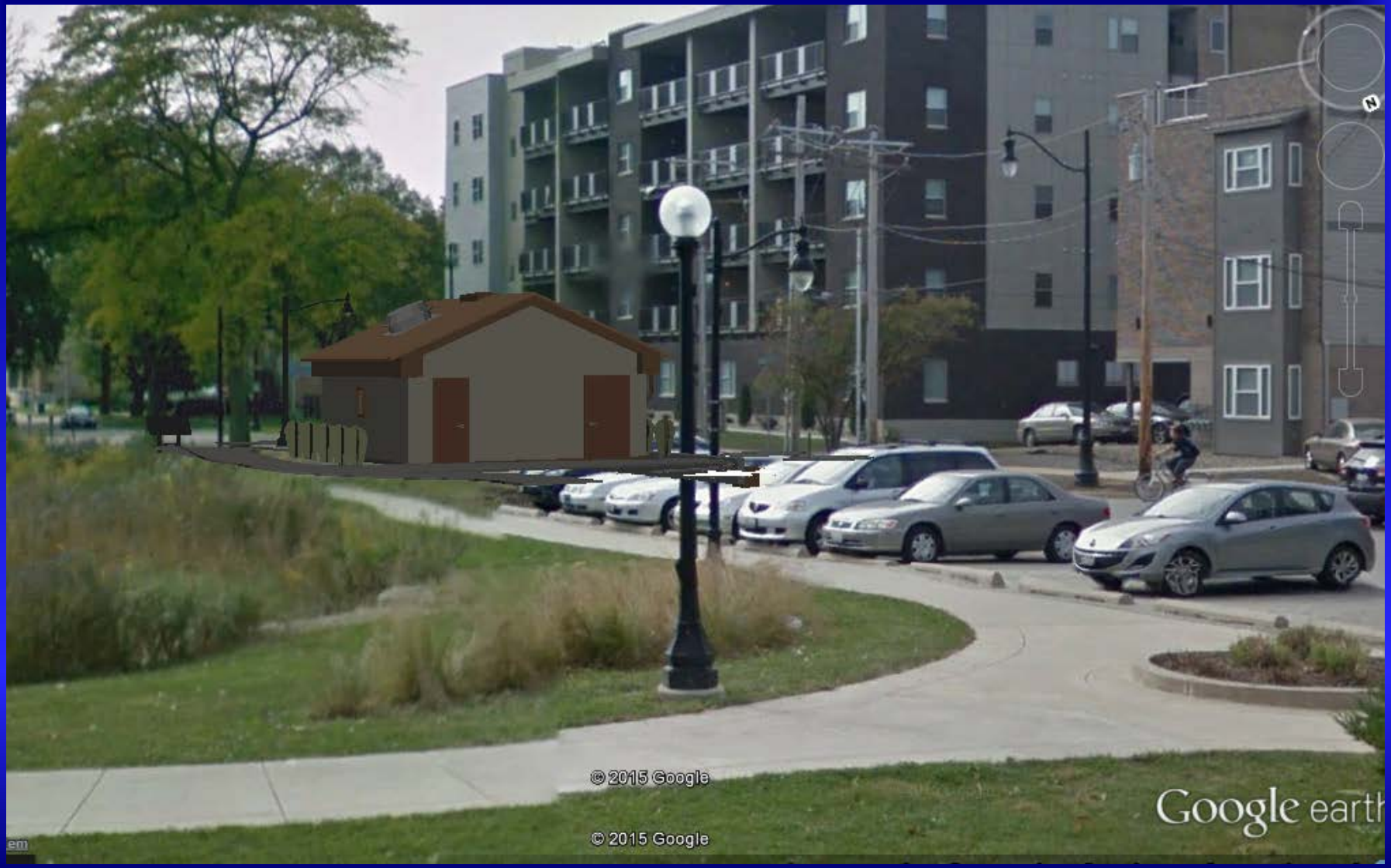

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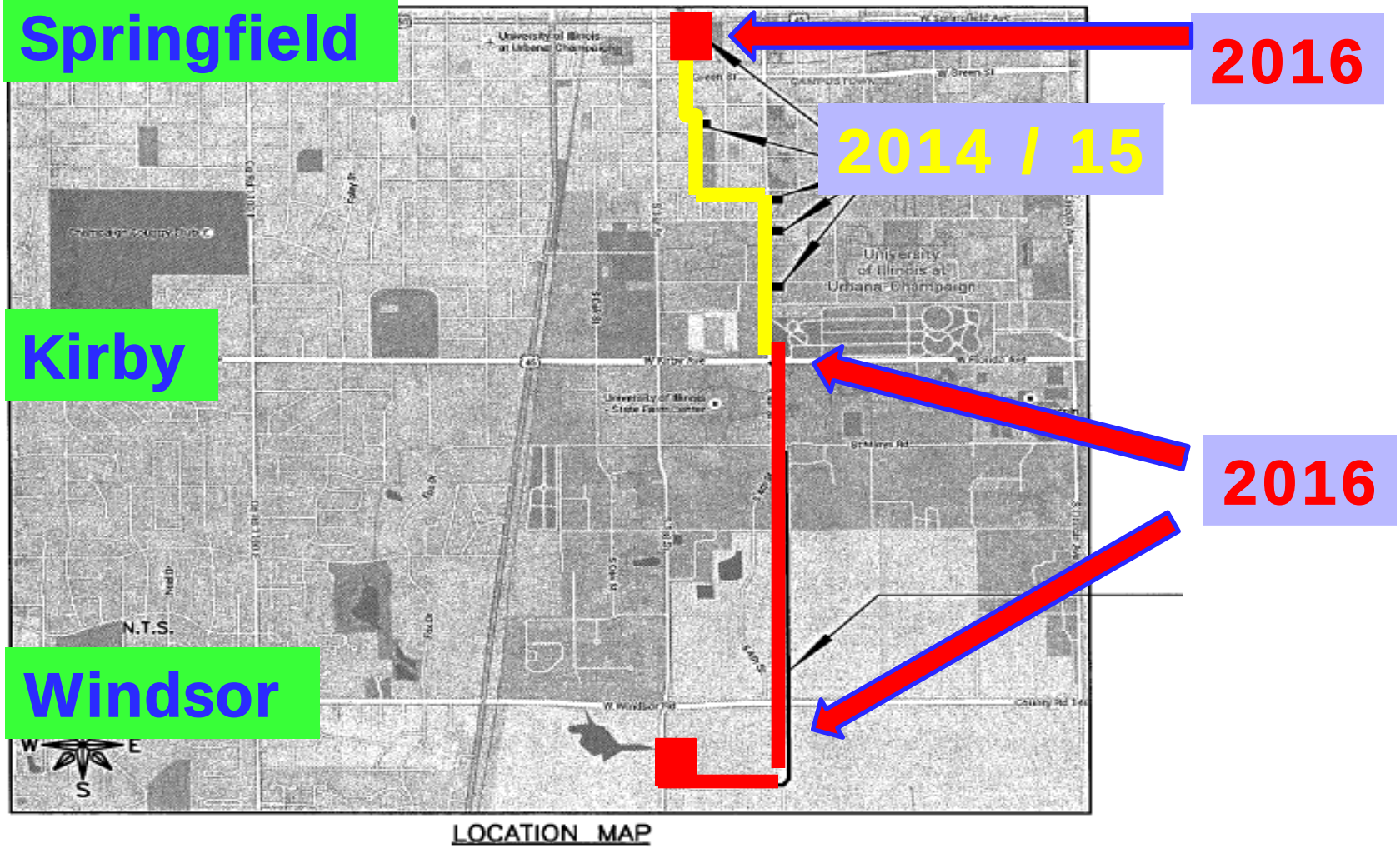

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2nd Street Pump Station

(Just west of Scott Park)

Cronus Fertilizer – Expected Sale of 6.3 MGD of UCSD Effluent

Background

- Buyer would be Cronus Fertilizer, west of Tuscola
  - $1.2+ billion urea fertilizer plant
    - Prefers locating near Tuscola due to proximity of natural gas pipelines, rail, interstate, farm country, BUT needs a reliable water supply
  - 170+ permanent jobs, 1,500+ construction jobs
  - First contact with UCSD in January 2013
  - Agreed to primary contract terms in June 2013
  - Agreed to specific contract in March 2014
    - Contract includes 3 layers of financial protection for UCSD ratepayers

Effluent Reuse by Cronus

- 6.3 million gallons per day (MGD)
  - 25% of UCSD's average flow / 50% of drought flow
- Matches lower-quality water needs with lower-quality source
  - Protects Mahomet Aquifer and Kaskaskia River
- Reduces pollutants discharged by UCSD, and total lbs
- Undoes some of unnatural flow in Copper Slough
- Sensitive to stresses of drought (1.5 MGD minimum)
- Pays for habitat improvements to area creeks

Financial Impact Over 20 Years

- Pays for $10M current changes at SW Plant
  - SW Plant Storage Lagoon (useful later)
  - SW Pump Station
- Pays for another $10M in SW Plant improvements
- Pays for $1M of habitat improvements
- **$20+M net benefit for ratepayers**
  (whereas most effluent reuse projects cost ratepayers money)

Cronus Update

- 80+ easements in place for entire route
- Still no “Go” for construction
- Full start-up after 36 months
- Effluent sales start slowly at ~30 months

Non-Cronus Update

- Recent decisions are independent of Cronus
  - **2nd Street Pump Station** is needed to address growth in central core of UCSD.
    - In early 2014 UCSD started construction - Cronus had not announced choice of Tuscola.
  - **Rate Evaluation** is based upon current facts
    - Since sales won't start until 2019, even a 5 year plan is not strongly impacted.

UCSD Rate Study

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Only Three Primary Income Sources

- User Charge
  - Pays for day to day operation – **NOT** capital improvement
- Connection Permit Fees
  - Primarily expansion of capacity (i.e. new flow)
  - Some increased regulation / technology / modernization
- Interceptor Cost Recovery Fees
  - 2nd Street pump station is largest new demand
  - Next large projects: East Urbana or Curtis Interchange

* zero property tax income, since 1980s

UCSD Rate Study

- Driving forces
  - In 2007 financial plan recommended 3% increases in User Charges through May 2016
  - In 2008 problems started for UCSD's rate model
    - Interest rates crash (-$400,000/yr)
    - ACH closes (-$300,000/yr)
    - Development income disappeared for 4 years (-$2M)
    - Recent water conservation practices are working, so fewer gallons. But many costs are fixed…

UCSD Rate Study

- Would like to do 5 year planning
  - Waited out 2008 recession's impacts
    - Some catching up for depleted reserves is necessary
    - Can do gradual adjustments, even with economic chaos
  - Assumes no Cronus income
    - Soonest purchases of effluent is summer of **2019**
  - Aim for steady, incremental changes
  - "No surprises"

UCSD Rate Study - “No surprises”

- Extend 3% per year User Charges for 5 years
- Continuing with 2 large step increases already passed in Interceptor Cost Recover Fee
  - After that 3% per year
- Adopt 5% per year increases in Connection Fee
  - This rate had not been changed for a few years

Connection of Philo/Sidney to UCSD

- Both communities investigating options
  - Big construction project including:
    - Sewers in towns
    - Pump Station to move flow to north along Highcross
    - Around Highcross and Curtis, flow will be gravity sewer
    - This gravity sewer part of UCSD long term plans
- Similar project just completed with Bondville
  - But these are likely the last potential expansions

Connection of Philo/Sidney to UCSD

- Rates for small towns are inherently higher
  - Economies of scale not as good as for cities
  - IEPA has program to help bring sewers to towns
  - UCSD current ratepayers should not subsidize
- Considered options before
  - This evaluation started in late 2014

Connection of Philo/Sidney to UCSD

- UCSD can, and is, cooperating
  - Larger systems inherently more stable
    - Economies of scale working in favor of bigger
    - Similarly larger systems more robust operationally
  - UCSD could see benefit on eastern edge of District
    - Shared costs of sewers and East Urbana Pump Station
    - Sewers built sooner

Thank You

Questions???

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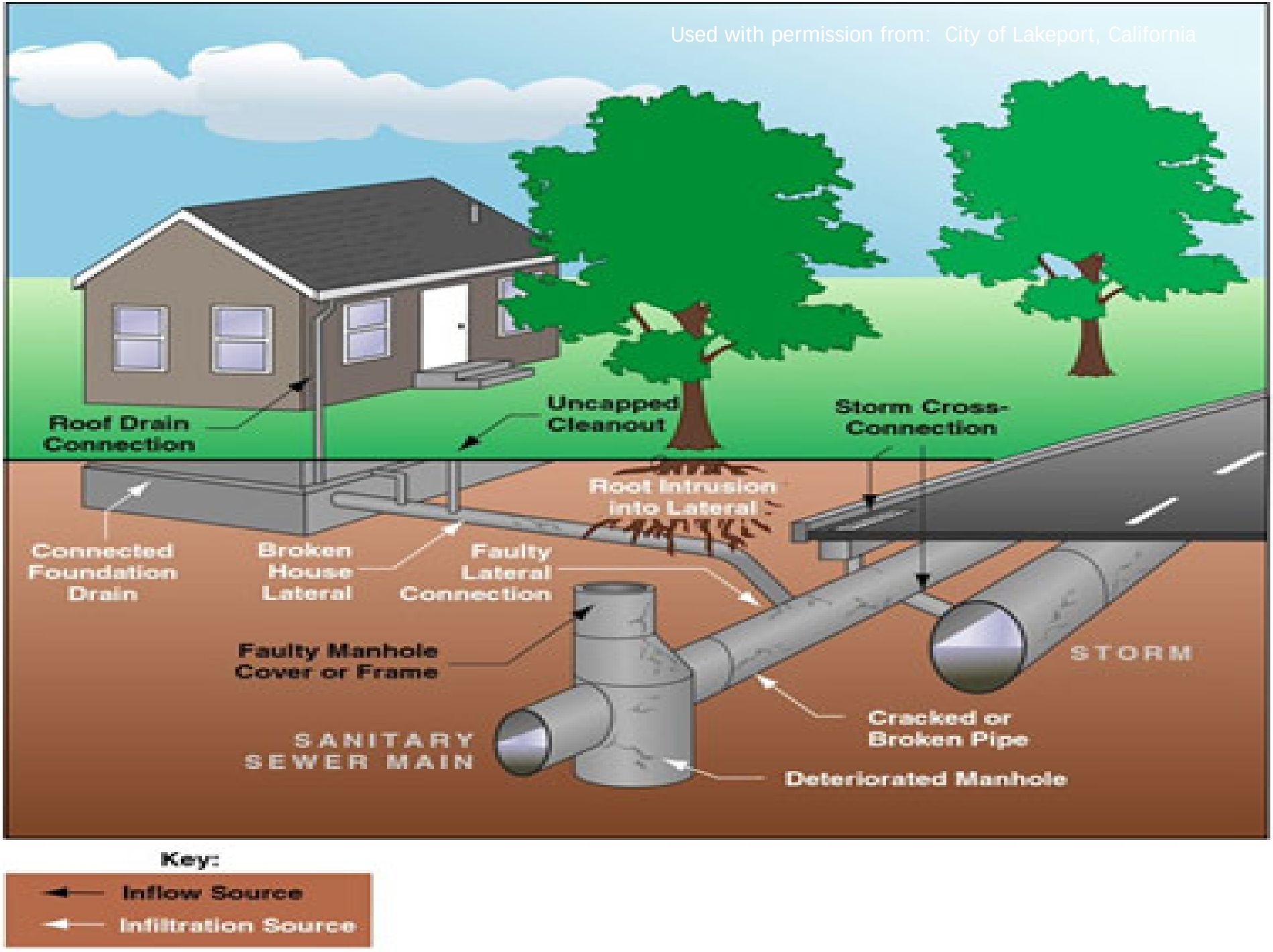
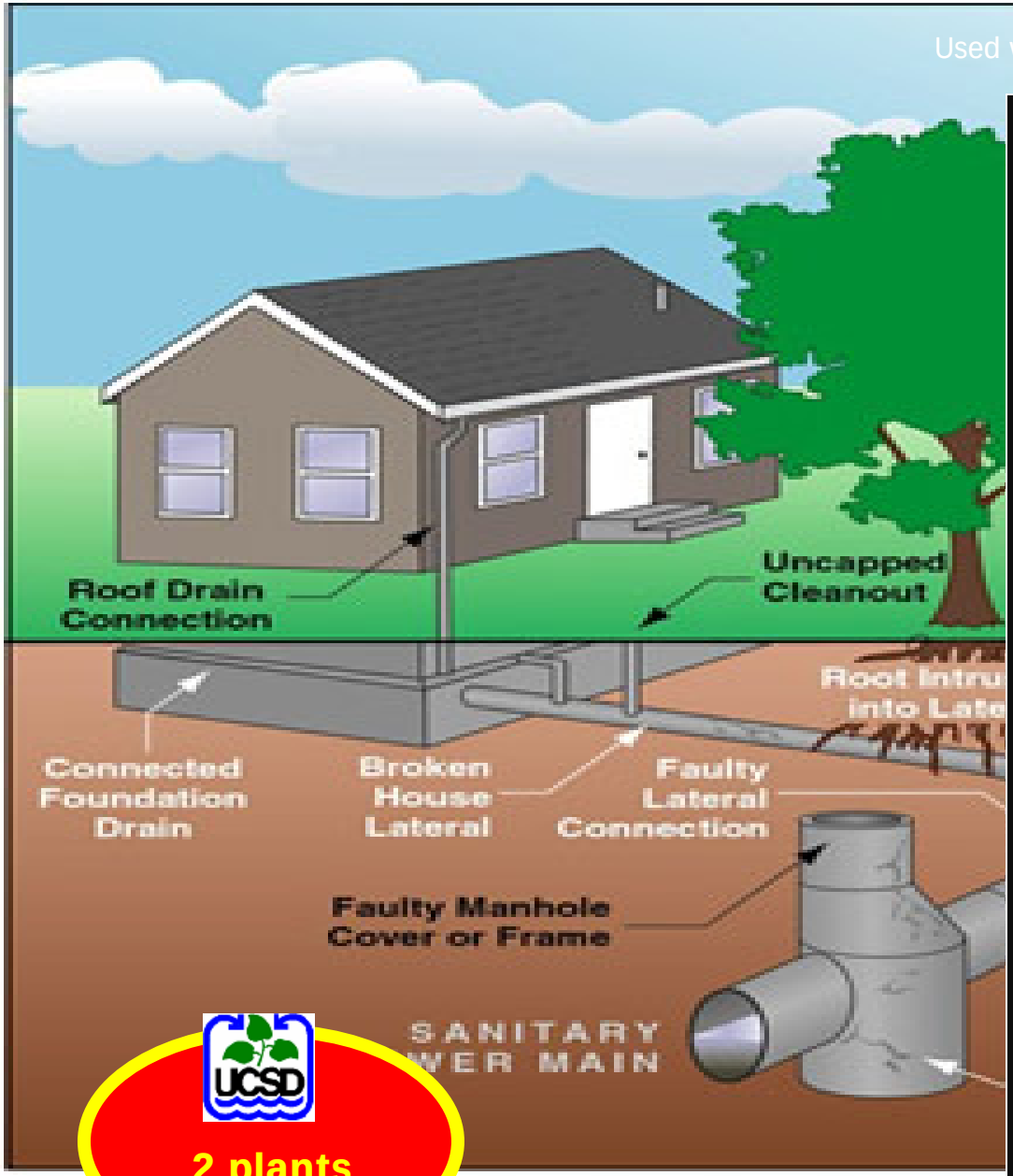
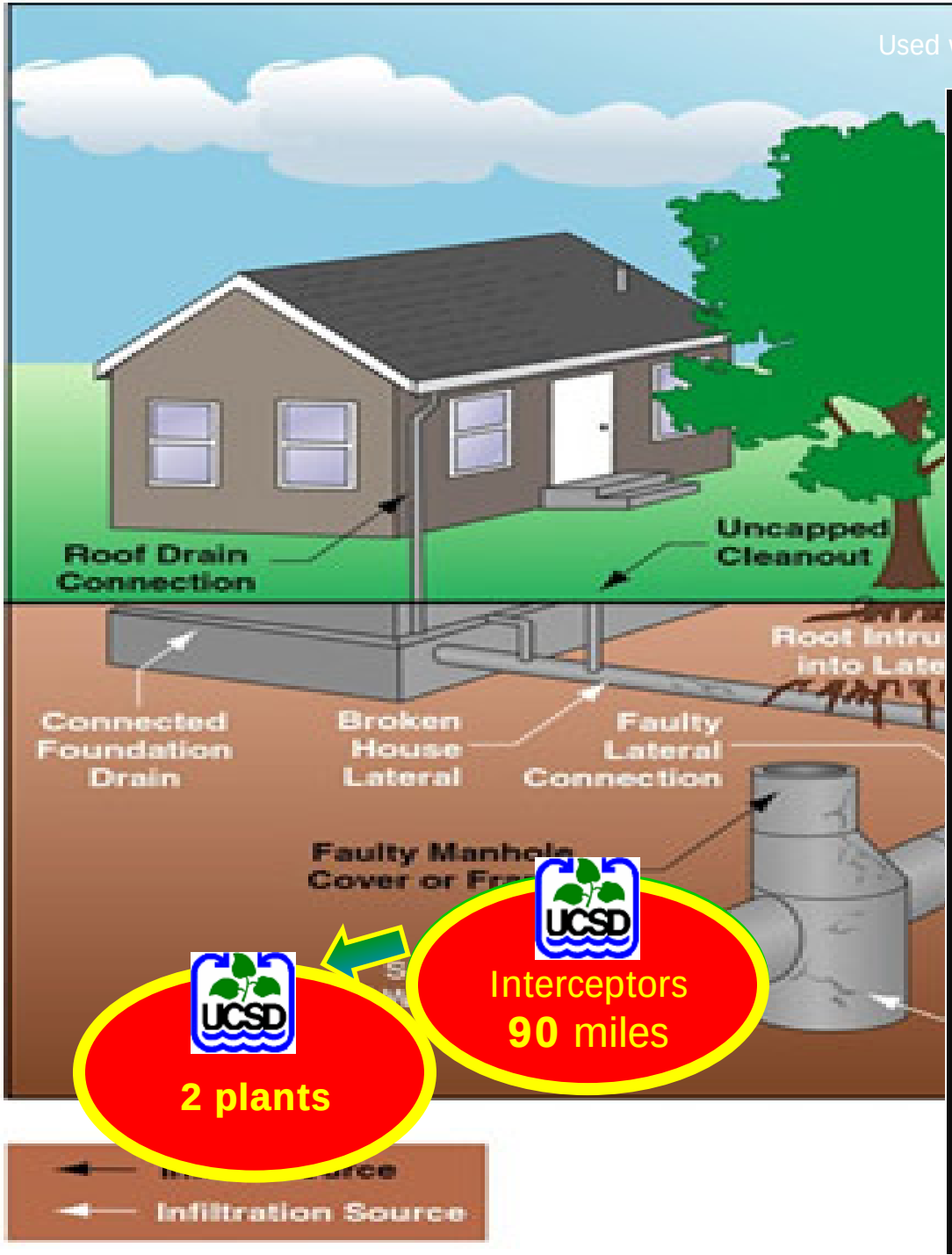

Used with permission from: City of Lakeport, California
Roof Drain Connection
Uncapped Cleanout
Storm Cross-Connection
Root Intrusion into Lateral
Connected Foundation Drain
Broken House Lateral
Faulty Lateral Connection
Faulty Manhole Cover or Frame
STORM
Cracked or Broken Pipe
SANITARY SEWER MAIN
Deteriorated Manhole
Key:
Inflow Source
Infiltration Source

Used with permission from: City of Lakeport, California



2 plants



Interceptors
90 miles

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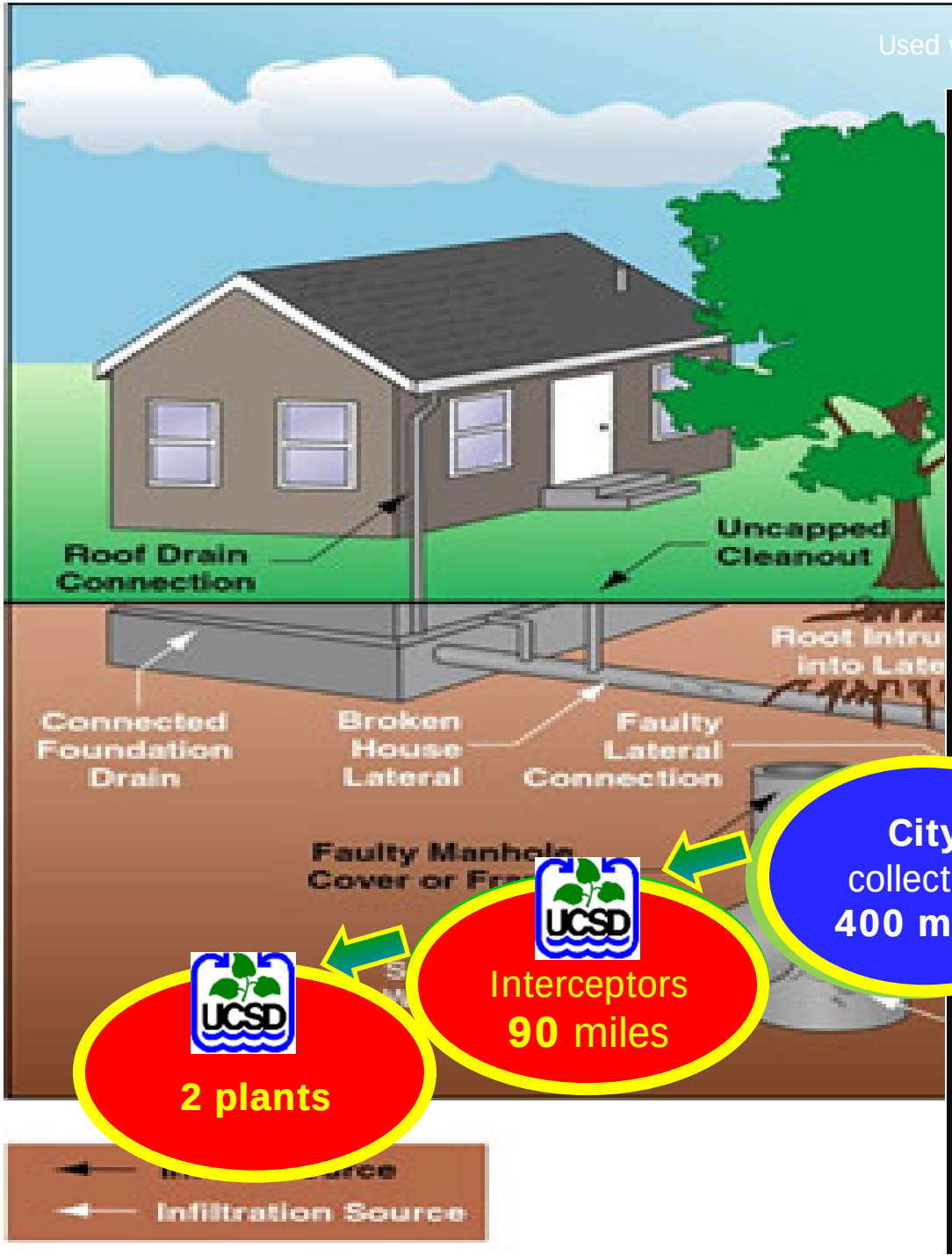

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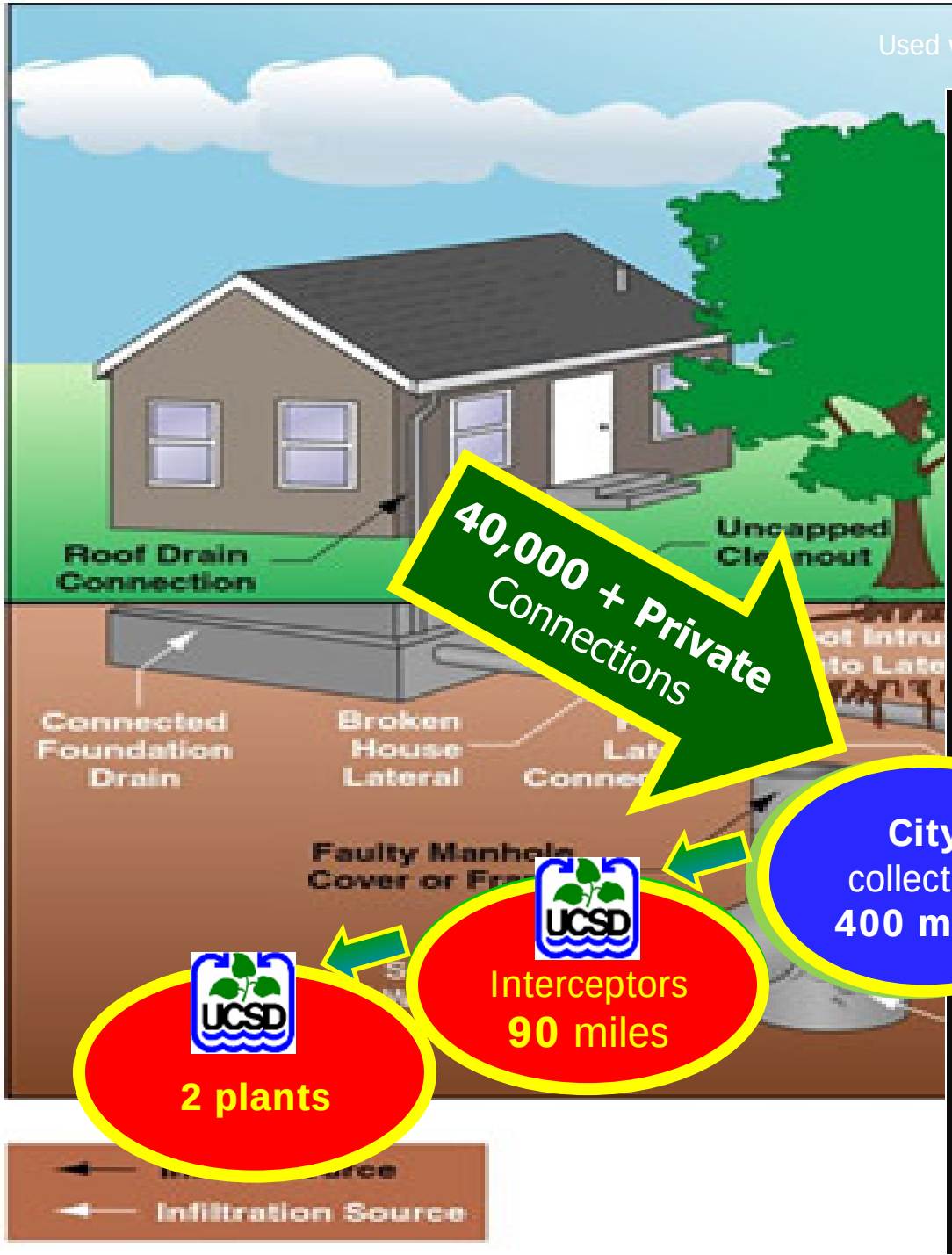

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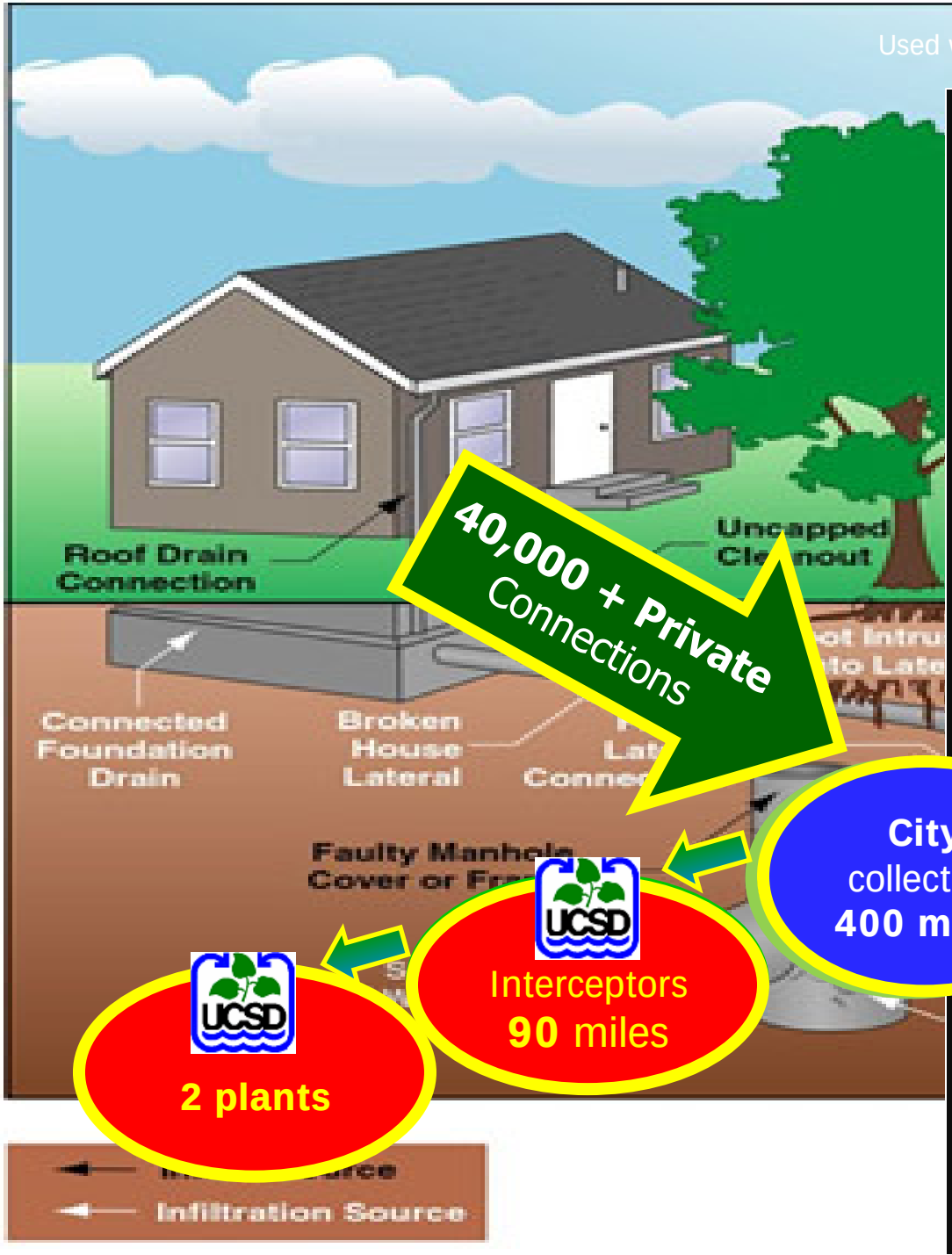

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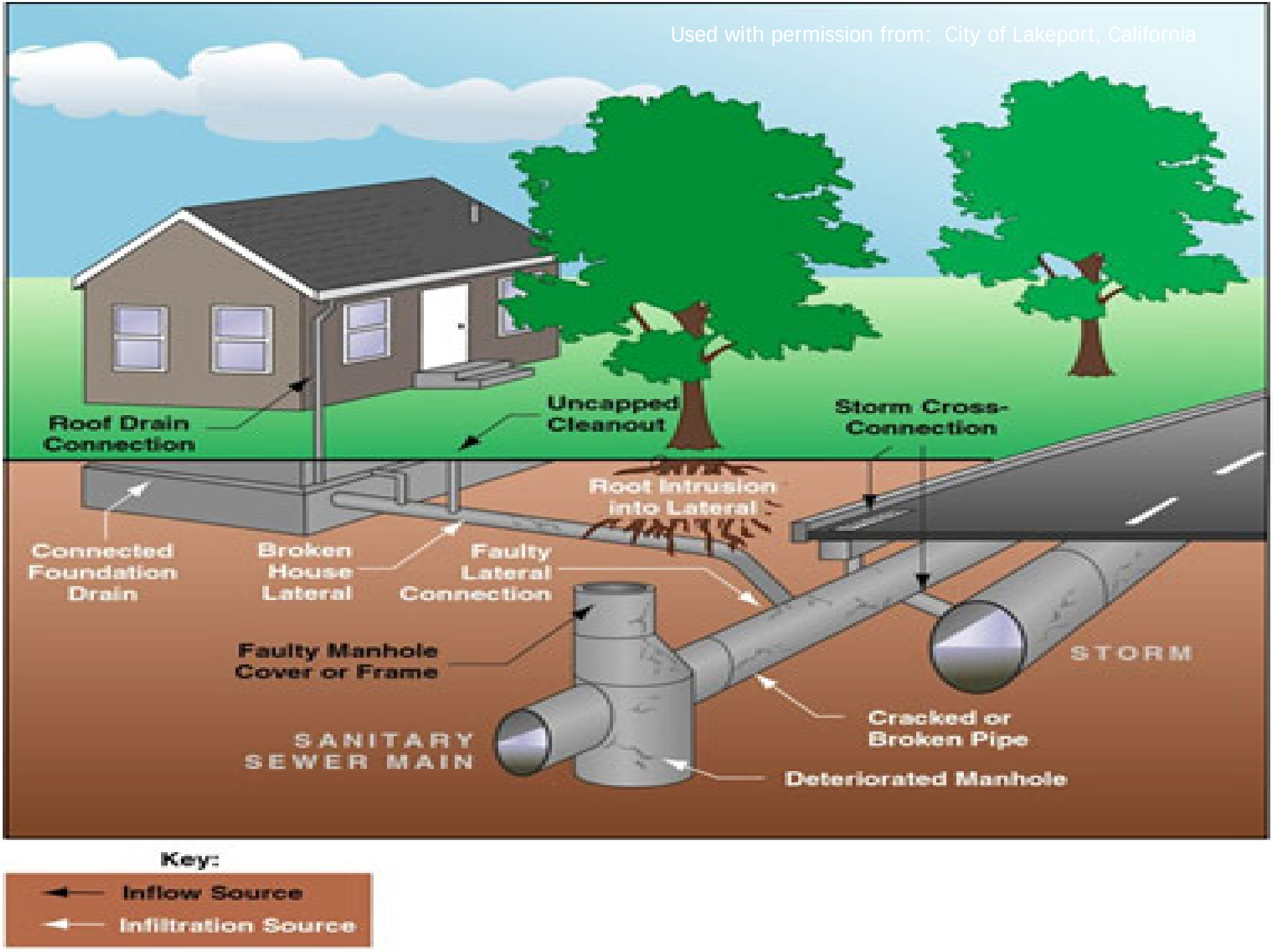
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