

Nampa Wastewater Infiltration

PUBLIC MEETING

Dec. 13, 2011



City of Nampa
Wastewater Division
www.cityofnampa.us/wastewater



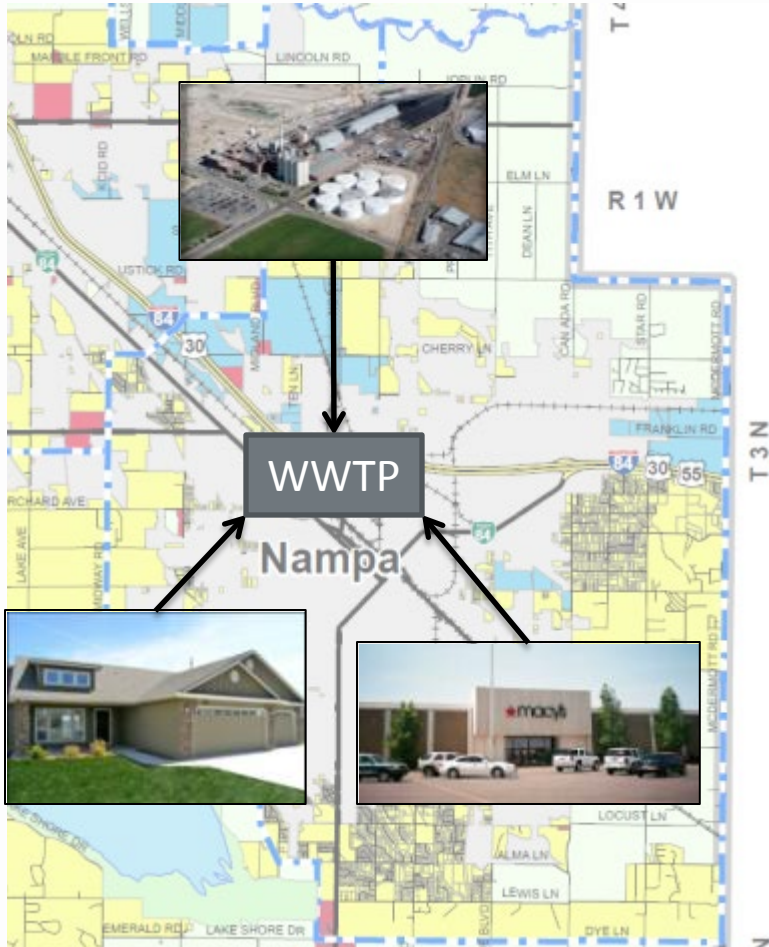
Welcome

- Welcome and thank your for attending
- Purpose of the tonight's meeting is to:
 - Present information about infiltration (Nampa's option)
 - Answer your questions
- Introductions

Why We are Here Tonight

- Present information about infiltration options
- Have an open discussion of options and why the City is looking in Canyon County
- Answer your questions

Nampa's Challenge



- City generates 10 million gallons of wastewater a day (3.65 billion per year)
- Nampa currently discharges its treated wastewater into Indian Creek
- Discharging wastewater into U.S. waterways is regulated by the Clean Water Act

New EPA Regulations

- If the City continues to discharge treated wastewater into Indian Creek . . .
- Extensive upgrades to how it treats and disposes wastewater to meet anticipated stricter federal regulations must be made



Nampa Wastewater Treatment Plant

Nampa's Options

- The time is now to revisit how Nampa treats and disposes of its wastewater
- Nampa is analyzing five options and **no decision has been made**
- Each option has advantages and disadvantages
- Nampa is being very open and inclusive in the decision making process

City Treatment and Discharge Options



(L) – Land

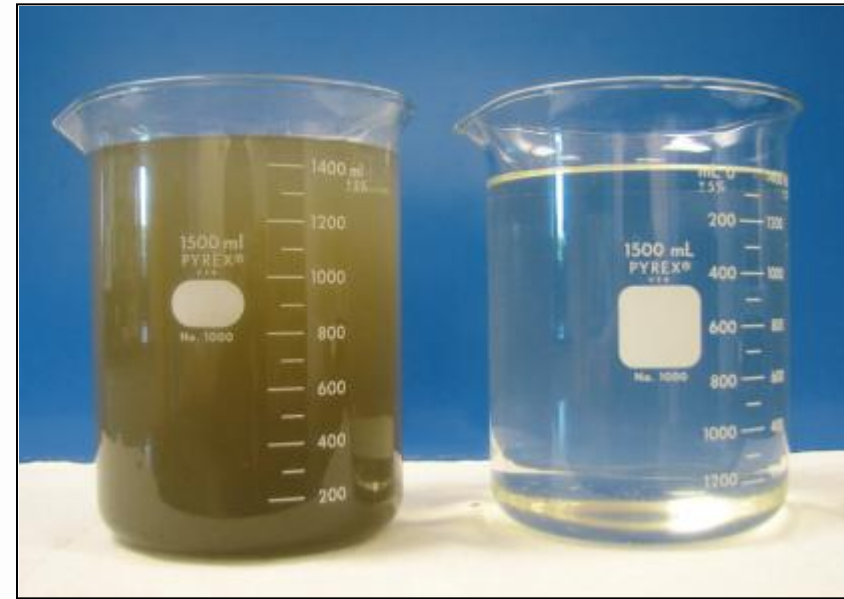
(W) - Water



1. Treat and pursue Direct Infiltration (L)
2. Treat and pursue Rapid Infiltration (L)
3. Treat and discharge to .5 mg/L TP with offsets (W)
4. Treat and discharge to .07 mg/L TP (W)
5. Do Nothing More (W)

What is Wastewater

- Wastewater is used water from:
 - Washing machines
 - Dishwashers
 - Sinks
 - Toilets
 - Showers and bathtubs
 - Industrial manufacturing and operating processes



Before Treatment

After Treatment

What is Infiltration

- Infiltration is a process in which recycled *wastewater* is applied to an area of land
- The recycled water will be treated to a very high level
- After being applied to land the water would slowly “infiltrate” into the groundwater

How Does it Work

- Clean recycled water from Nampa's plant would be sent through pipes to another location
 - Water would be applied to a system of basins and ponds
- Water slowly filters through the soil into the groundwater and back into the aquifer
- Specific conditions are needed for infiltration

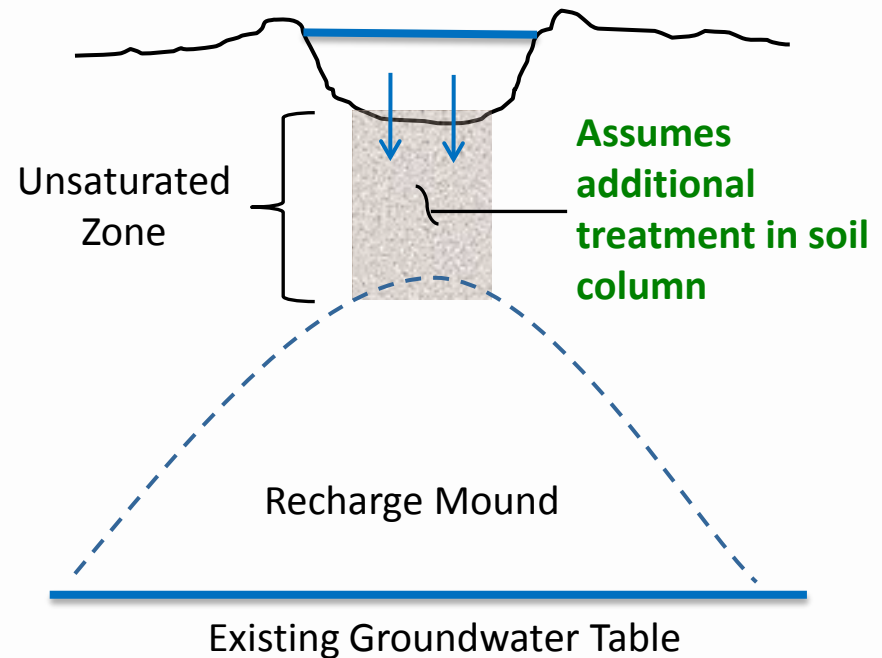


How Does it Work

- Site must be:
 - free of basalt
 - have deep groundwater
 - gradual slopes
 - permeable soils
 - 10 – 300 acres of land (highly dependent on soils)
 - Offset from or below canals and drains
- Conditions not present within Nampa city limits
- Locations in Canyon County may work

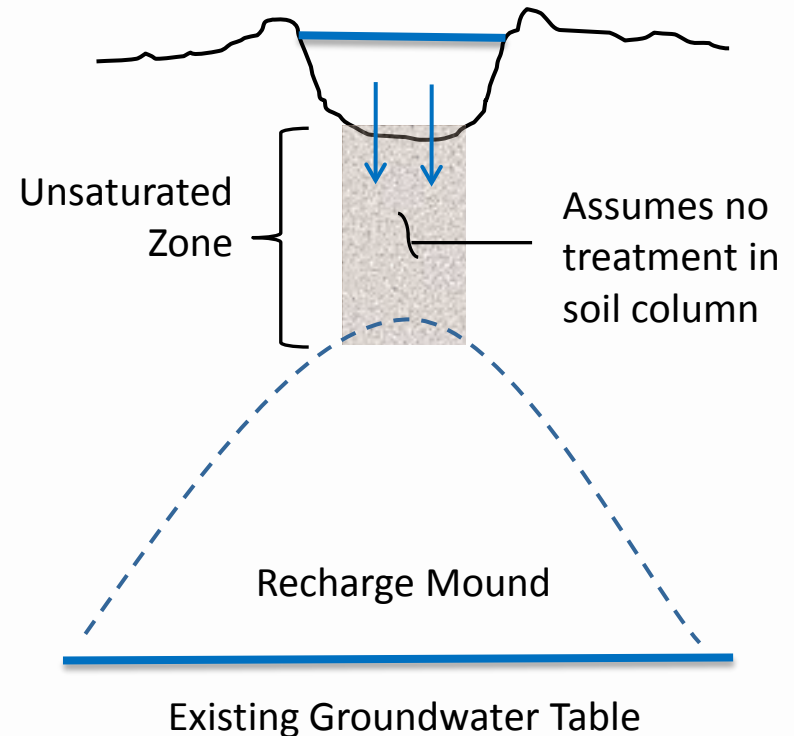
Rapid Infiltration

- Require less treatment at the plant
 - Use the soil to filter and absorb phosphorus, nitrogen and organic compounds from the water
- Basins must be rotated to allow the soil to dry after each treatment
- Requires more land than direct infiltration



Direct Infiltration

- Require more treatment at the plant with no soil treatment
- All of the basins and ponds could be used at the same time
- Requires less land since the ponds and basins do not have to be rotated
- Additional upgrades to the treatment plant would be necessary



Why is Nampa Considering Infiltration

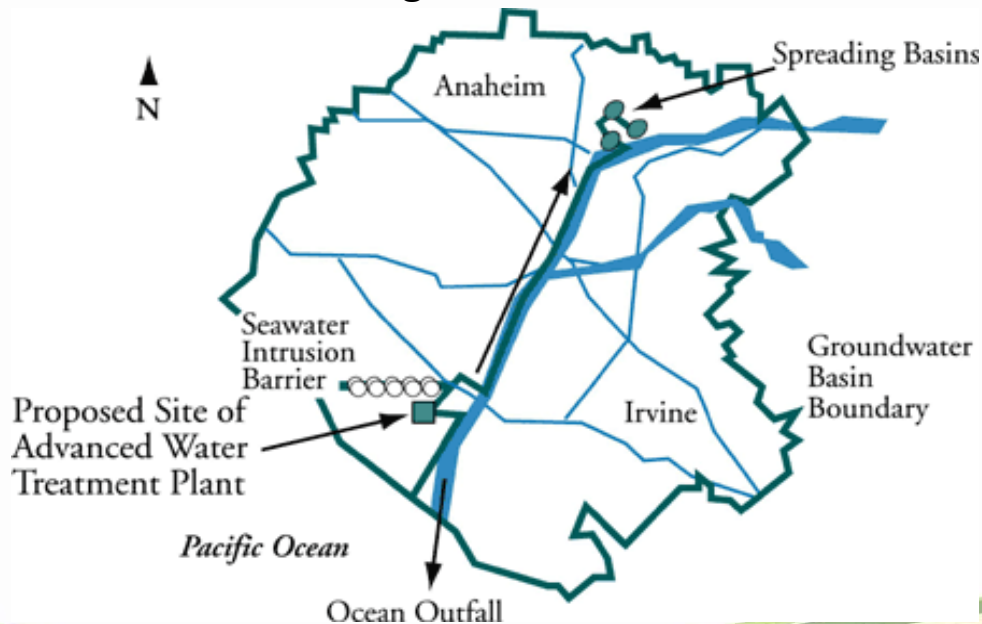
- Infiltration has potential benefits to both Nampa and Canyon County
- Infiltration is being used in many other Western states to reuse water and keep it available for other uses
- This option would turn clean recycled water into a City resource
- Minimize influence from the Environmental Protection Agency

Why is Nampa Considering *(cont.)*

- Recharging the depleted underground aquifer south of Lake Lowell
- In the future the City could use the recycled water for irrigation
- Infiltration would generate a source of water that could be used to promote economic development (i.e. by an industrial user)
- Infiltration basins could be used as a habitat area for wildlife and possibly scenic walking paths

Concepts are Proven Elsewhere

- Cities using Reuse: 294 in FL, 22 in AZ, 69 in CA, and 50 in TX
- Reuse being used in Idaho (EX: Meridian, Bogus Basin, MHAFB)
- EX: Groundwater Replenishment System, Orange County Sanitation District, CA
 - Wastewater effluent treated to high standards
 - Infiltration into groundwater



From OCSD's website:

The Groundwater Replenishment System will:

- *Diversify our water supply*
- *Decrease our dependence on imported water from the Colorado River and Northern California*
- *Lessen the impact of distant state and federal political decisions on our local water supplies*



Areas of Concern

- Recycled water is safe to apply to land
- Recycled water is odorless
- Recycled water will not harm livestock or wildlife
- Infiltration requires a specific type of land, soil and groundwater quality to be effective
- The land must be in a certain proximity of the treatment plant to be cost effective

Areas of Concern

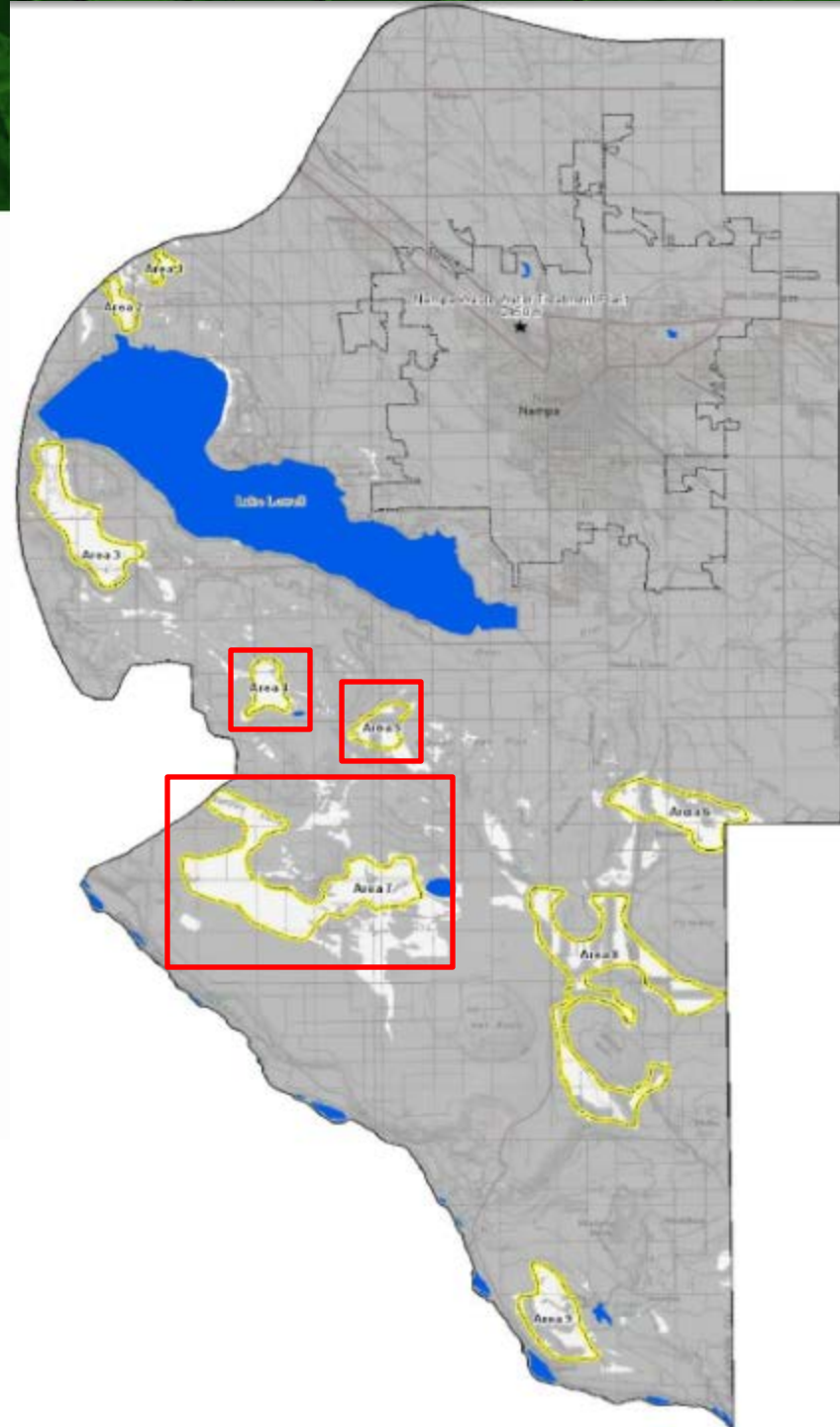
- Idaho's Groundwater Rule and Recycled Water Rule regulate water applied to infiltration basins and ensure groundwater is not polluted
- Idaho Dept. of Environmental Quality would thoroughly review all requirements to obtain the proper permits
- Regulatory process requires site specific information

Areas of Concern

- The State would require groundwater impacts to be modeled
- The State would require groundwater to be constantly monitored
- Monitoring wells would be located in and around the infiltration site

Site Investigation

- The City is currently looking at sites in your area to see if infiltration is a viable option
- City is working with several landowners South of Lake Lowell between Skyline and 12th Avenue



Site Investigation

- Initial Site Investigation would entail:
 - Drilling several test wells and testing soil samples and groundwater samples
 - Location of wells would be closely coordinated with property owner
- Once investigations are underway, could finish up in early 2012

Next Steps

- If a site meets all requirements, then the City will work with:
 - The property owner to conduct more detailed testing and potentially negotiate purchase
 - Canyon County to initiate permitting process
 - State of Idaho to initiate formal regulatory process
- City Council and NWAG to be briefed on all developments

Thank You

- Thank you for attending
- Please fill out a comment sheet
- Information is available on our website
www.cityofnampa.us/wastewater
- Please contact us with any questions