

Central Guam Sewer  
Limitations  
Solutions Update

GWA Engineering  
September 25, 2008

# Sewer Moratorium: Fact vs. Fiction

- The sewer moratorium DOES:
  - Incorporate most of central Guam (Harmon to Piti, Barrigada to Yona and everything in between)
  - Require that capacity on Marine Corps Drive between Upper Tumon and Agana be increased to prevent sewer overflows
  - Mean long term health and environmental protection & responsible development for Guam
- The sewer moratorium does NOT:
  - Include Tumon northeast of PIC; sewer limitations in this area are being addressed by developers
  - Include Dededo, Yigo, northern Barrigada

# Solutions To Be Implemented

- System modeling
- SPS upgrades electrical efficiencies & pump upgrades 3 critical stations
  - Mamajanao
  - New Chaot
  - Agana Main
- Route 4 relief sewer correction
- Route 1 relief: Tamuning to Agana WWTP force main



# Status of Solutions Being Assessed

- System modeling
  - Base model COMPLETED
  - Using model to test various scenarios to ensure long term, viable solutions
  - KEY TO MAKING OTHER SOLUTIONS WORK FOR THE LONG TERM

# Solutions Being Assessed

- Sewage Pump Station upgrades
  - Agana Main, New Chaot, Mamajanao
  - Assessments & on-site pump analysis
  - Propose to:
    - Replace Motor Control Centers/ Add Variable Frequency Drives (VFDs) to increase efficiency
    - Replace some pumps/motors (larger capacity pumps, more efficient motors)
  - Obtaining quotes; Approx \$3M

# Solutions Being Assessed

- Route 4 relief sewer repair
  - Assessment Complete
  - Line worse than expected; severe adverse (flowing uphill) slopes; large section needs replacement
  - Preliminary scope of work complete
  - Using model to test alternative solutions
  - Need funding: Approx \$2M



# Solutions Being Assessed

- Route 1 relief: Tamuning to Agana WWTP force main (pumping sewage)
  - Take all Tamuning/West Tumon load off Marine Corps Drive interceptor & Agana SPS
  - Modeling tests have to be completed first
  - Accurately size for future growth
  - Design/Build/Finance
  - Need funding: Approx \$20-25M

# Timelines

- Test solutions with model: October 15
- Develop 30% scopes of work: Dec 1
- Bid package on street: Dec 31
- Bids due: 60 days
- GWA review/award: 30 days
- Notice to Proceed: 1 April 09



# Timelines

- Lift moratorium: 1 April 09
- Begin to issue building permits: 1 April 09
- Sewer construction proceed at the same time as development
  - Pump station upgrades: 6-8 months
  - Route 4 corrections: 8-12 months
  - Marine Corps Drive Pump Station/Force Main: 24 months

# Timelines

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# GWA Balancing Act

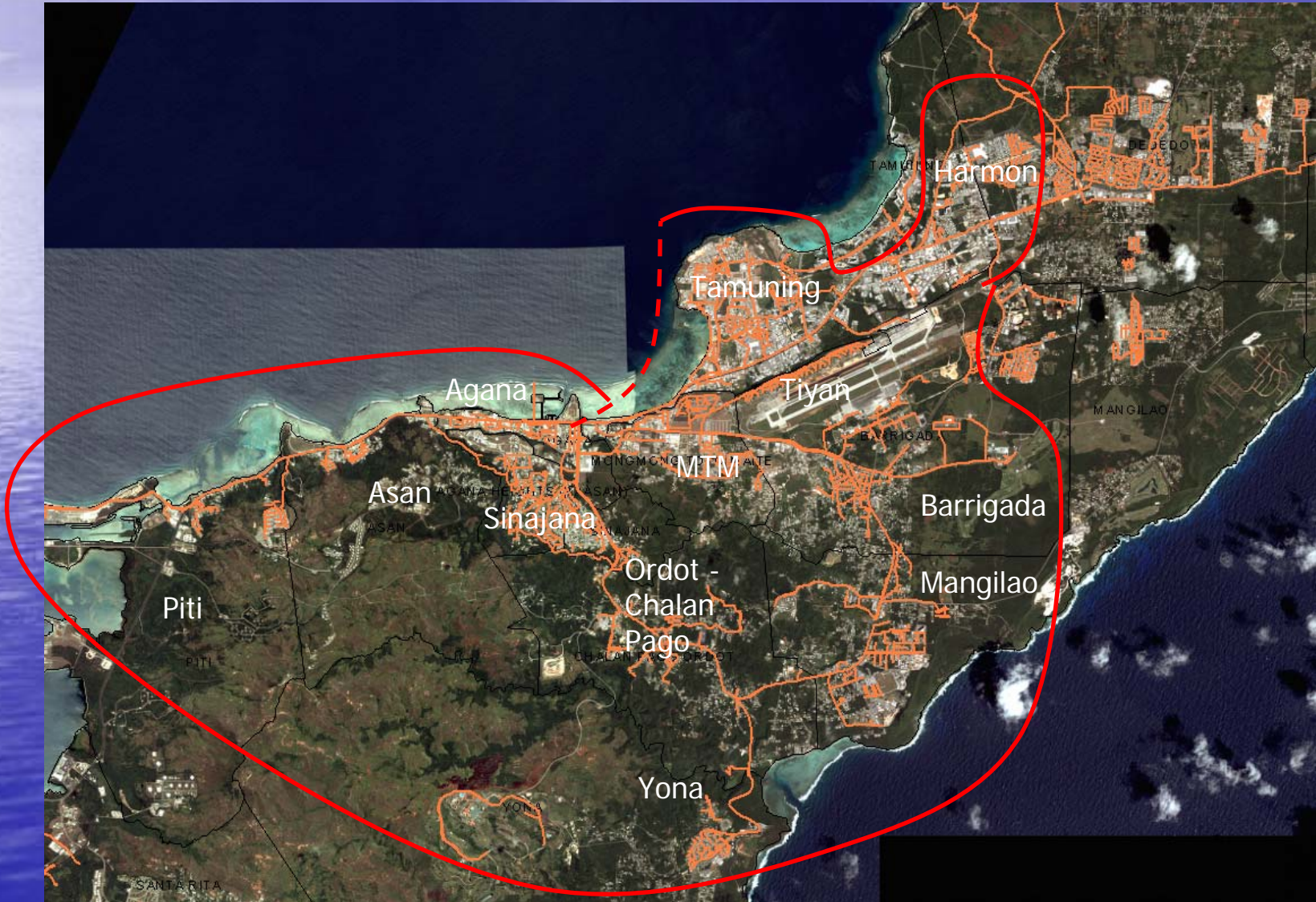
- Developers “GWA should fund these upgrades immediately”
- Ratepayers “Ratepayer money should go to fix existing systems not for new development”
- GWA:
  - Most development pays for itself
  - In areas too large for this approach, must balance growth with existing system requirements



- GWA has a responsibility to our community to:
  - Ensure that the sewage collection and treatment systems protect both public health and the environment
  - Support economic development
- GWA is finding solutions to infrastructure issues
  - Sewer system is overstressed
  - No funds are available to relieve this situation



# Sewer Capacity Limitation Area





# Harmon to Tamuning





# Tamuning Area





# Tamuning to Agana

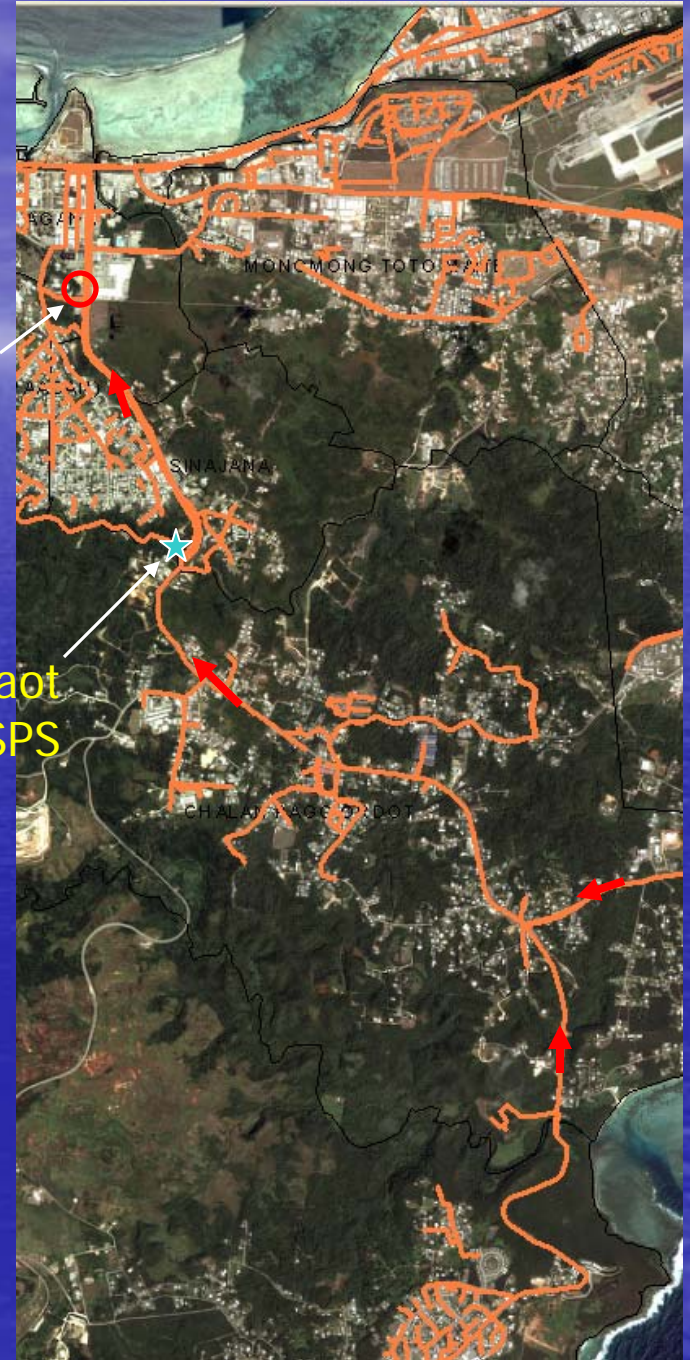




# Yona to Agana

Overflow

New Chaot  
SPS



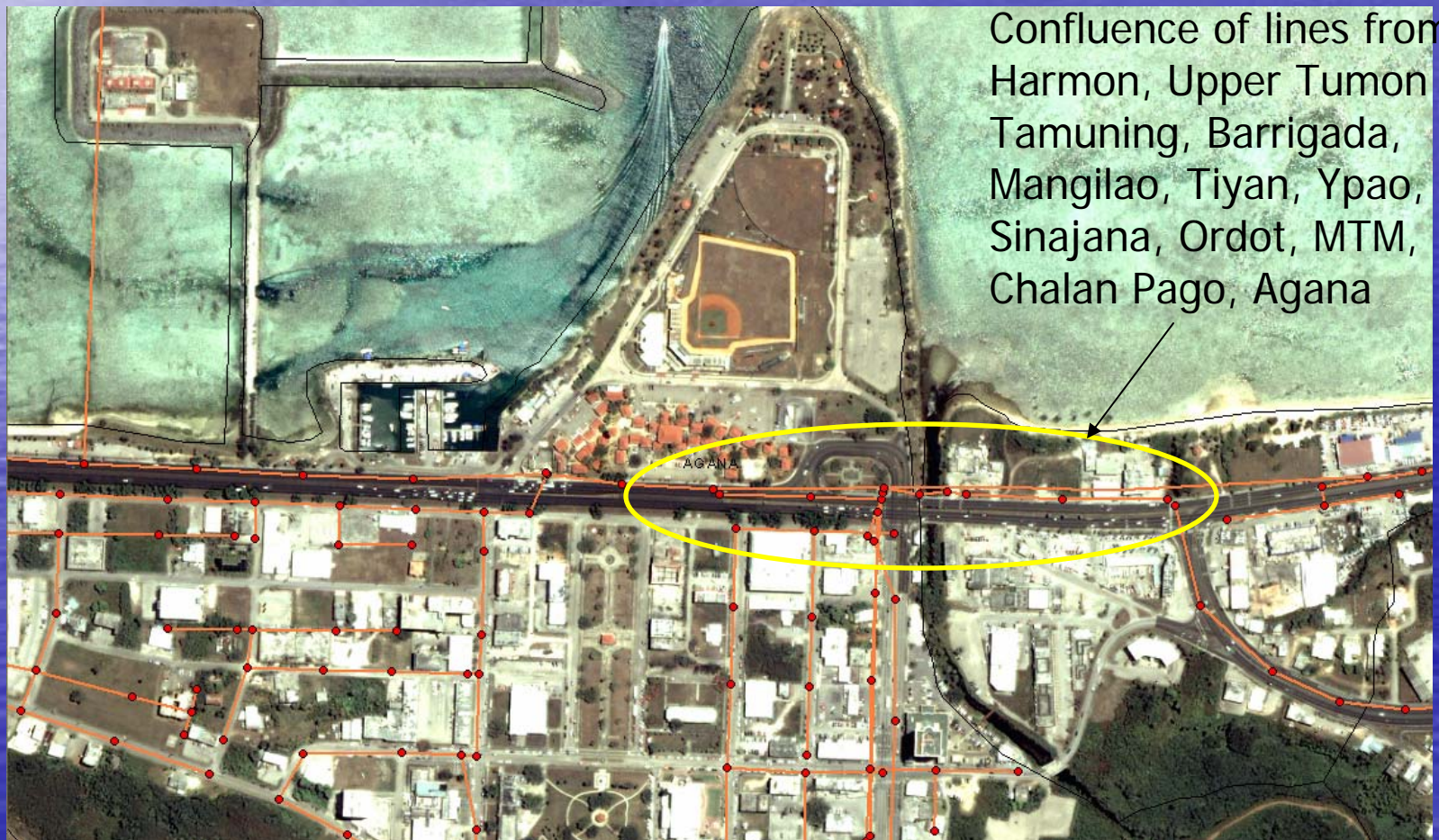


# Asan & Piti





# Barrigada & Tiyan to Agana



Confluence of lines from Harmon, Upper Tumon & Tamuning, Barrigada, Mangilao, Tiyan, Ypao, Sinajana, Ordot, MTM, Chalan Pago, Agana