WASTEWATER CONSENT DECREES UPDATE

CAROL ELLINGER HADDOCK, P.E.
DIRECTOR, HOUSTON PUBLIC WORKS

PHILLIP GOODWIN
REGULATORY COMPLIANCE DIRECTOR, HOUSTON WATER
PURPOSE

together we create a strong foundation for Houston to thrive

5 TO THRIVE VALUES

integrity | teamwork | ownership | communication | respect
HOUSTON’S WASTEWATER INFRASTRUCTURE

- 39 WWTPs (564 MGD permit)
- 3 wet weather facilities
- 381 lift stations
- 5867 miles | gravity sewer
- 302 miles | force main
- 129,603 manholes
- 590 sq. miles
BACKGROUND

- 30-year nationwide EPA Consent Decree initiative to reduce sanitary sewer overflows.
- $2.2 billion invested through Greater Houston Wastewater program completed in 1997.
- $755 million invested through Agreed Order with Texas Commission on Environmental Quality completed in 2016.
- City & EPA began discussing wastewater issues in 2010; Consent Decree negotiations began in 2013.
- EPA & Texas filed suit against City in 2018.
- Houston-unique consent decree collaboratively resolves lawsuit incorporating City-developed program to improve sewer system performance.
- Work included in consent decree is an investment that will improve Houston’s sanitary sewer system for future generations.
ACTIVITY TIMELINE

2010: City issues identified by EPA

2013: City receives 1st draft of the consent decree

2018: EPA/state lawsuit filed

2019: Consent decree approval by city, state & EPA

2021: Consent decree entered by court implementation

Current: end date 2036
ON THE RADAR

- COVID-19.
- Workforce challenges.
- Material shortages.
- Global supply chain disruptions.
- Global unrest.
- Oil/gas/energy.
MAJOR COMPONENTS OF CONSENT DECREE

- early action projects
- capacity assessment & remediation
- condition assessment & remediation
- capacity, management, operations & maintenance (CMOM)
- WWTP & lift station performance evaluations
- wet weather facilities evaluation & remedy
- advanced sewer monitoring
- $4.4 million penalty paid (2021) to resolve prior non-compliance
- stipulated penalties
THE WASTEWATER SYSTEM

GRAVITY MAIN
flow uses gravity to get to pump stations & treatment plants

FORCE MAIN
flow is "forced" through the main because gravity alone is not enough to move it
INFRASTRUCTURE IMPROVEMENT IMPLEMENTATION PLAN

WHAT?
assets/facilities

- gravity sewer mains & manholes
  (5867 mi. mains 129,603 manholes)

- force mains
  (303 mi.)

- lift stations
  (381)

- wastewater treatment plants
  (39)
INFRASTRUCTURE IMPROVEMENT IMPLEMENTATION PLAN

HOW?
methodology for improvements

prioritize for inspections based on condition and O&M

inspect/condition assessment

identify defects

plan remedial measures

execute remedial measures
# PROGRESS

<table>
<thead>
<tr>
<th>CD COMPONENT</th>
<th>KEY SCOPE OF WORK</th>
<th>PROGRESS</th>
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<tbody>
<tr>
<td>Early Action Projects</td>
<td>Lift station renewal and replacement</td>
<td>39% of projects complete (projects scheduled through 2030)</td>
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<td>Force main renewal and replacement</td>
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<td>Consolidation projects</td>
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<td>Wastewater treatment plants improvements</td>
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<tr>
<td>Capacity Assessment &amp; Remediation</td>
<td>9 areas- repeat SSOs during rainfall</td>
<td>Capacity Remedial Measures Plans are being prepared for submittal in 2023</td>
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<td>Plan to fix – due by March 2023</td>
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<td>Complete work in 10 to 15 yrs.</td>
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<td>New areas being added when repeat SSOs occur during rainfall</td>
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<td>Condition Assessment &amp; Remediation</td>
<td>Inspect and assess condition for all gravity sewer mains, manholes, force mains and lift station in 10 yrs.</td>
<td>Inspection progress – 498 mi. of gravity sewer mains; 4,751 manholes ; 60 mi. of force mains</td>
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<td>Capacity, Management, Operations &amp; Maintenance (CMOM)</td>
<td>- Clean high SSO areas in first 2 years (1500 mi)</td>
<td>- 498 mi.</td>
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<td>- Clean all gravity sewers every 10 years (5867 mi)</td>
<td>- 838 mi.</td>
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<td>- Implement preventive sewer cleaning program for repeat SSO areas</td>
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<td>- Continue fats, oil &amp; grease (FOG) education program</td>
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<td>Wet Weather Facilities</td>
<td>- Pilot studies on wastewater treatment technology for Northside and Scott St WWFs</td>
<td>Preparing to submit pilot study requests for Scott &amp; Northside WWFs.</td>
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<td>to use these facilities to treat wastewater during heavy rainfall events</td>
<td>Bretshire WWF-complete.</td>
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<td>- eliminated discharge from Bretshire WWF per CD requirement</td>
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<td>Advanced Sewer System Monitoring</td>
<td>- Install 3,000 new “smart” manhole monitors – alerts response teams before an SSO</td>
<td>- 84 installed today</td>
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<td>occurs</td>
<td>- 600 by end of FY22</td>
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<td>- 3000 by FY26</td>
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**PROGRESS (CONTINUED)**

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| Stip. Penalties (SSOs and WWTP Effluent Exceedances) | - Expected to occur while CD is implemented over 15 yrs. to improve system  
- Negotiated $300 - $5,000 per occurrence  
- Max Clean Water Act penalty $56,461 | Q4 FY21 invoice - $293,600  
FY22 estimated- $1.2 million |
| Other Stipulated Penalties | - Failure to timely complete/submit deliverables - $500 to $2,500 per day  
- Failure to implement compliance requirements - $1,000 to $4,500 per day | $0 |

- Payments are due within 60 days of demand by EPA/TCEQ  
- First demand was received on March 4, 2022, for $293,600  
- Motion will be coming to Council for spending authorization for Q4 FY21 and all FY22 (March 30 agenda).  
- Total amount ~$1.5 million.
HIGHLIGHTS

• 20% reduction in SSOs
• 40% of Early Action Projects are complete
• 14 SSOs prevented using 84 smart manhole covers in the month of February 2022 alone
• Over 65 contracts and over 40 contractors/vendors actively working on CD projects.
thank you!