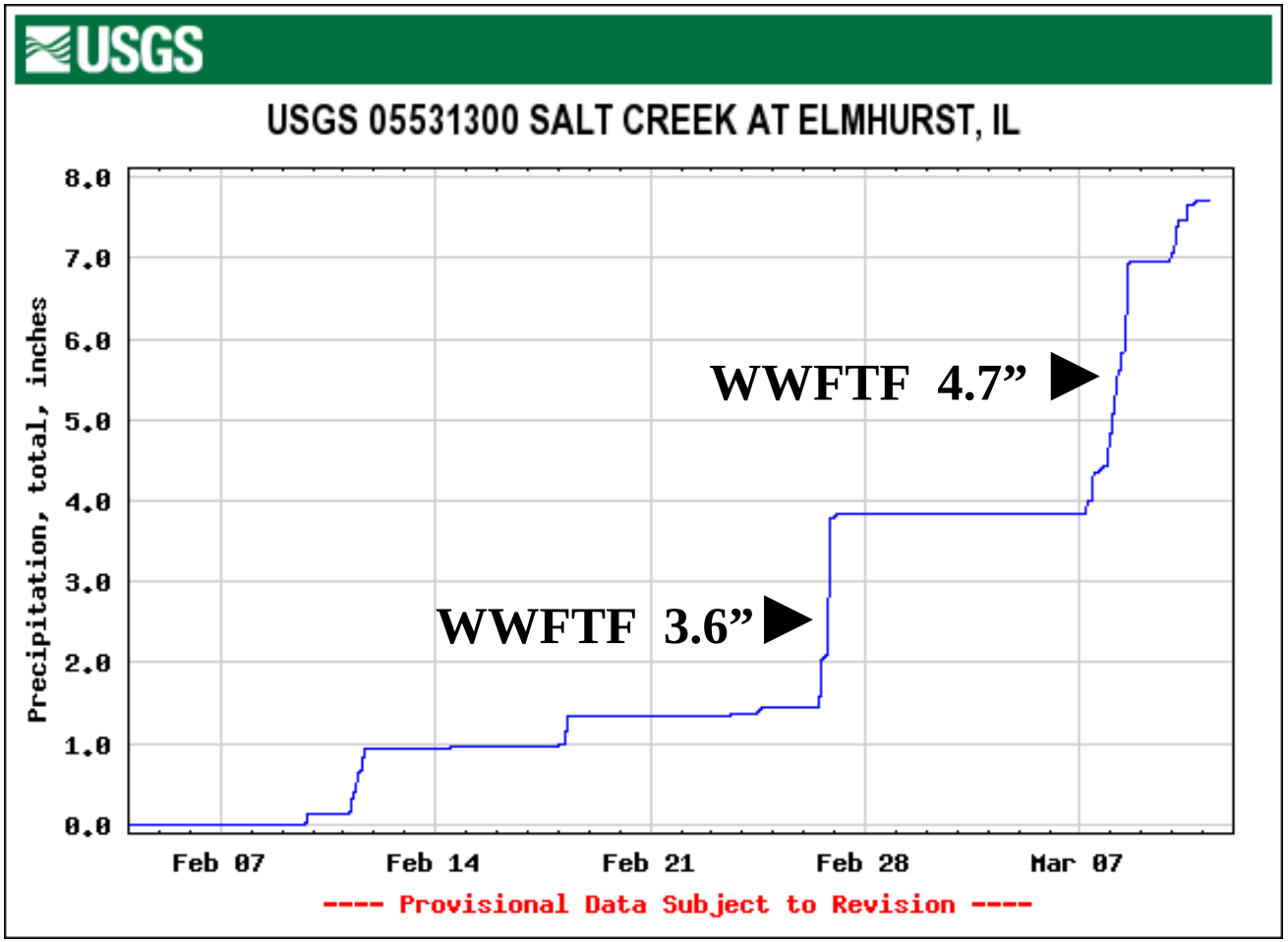
Storm Event Recap

3/16/2009

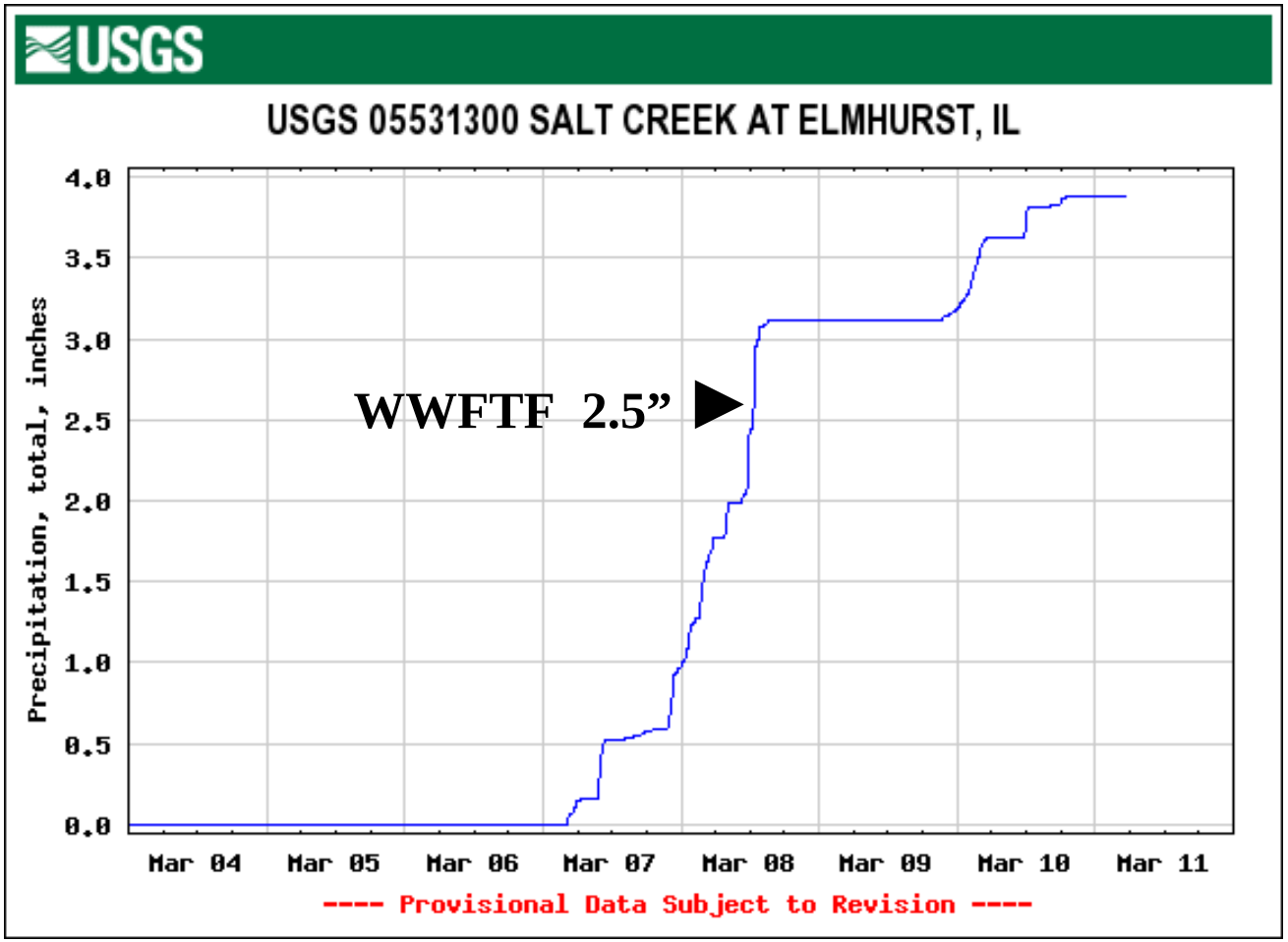
30 Day Rainfall

8.3” At WWFTF

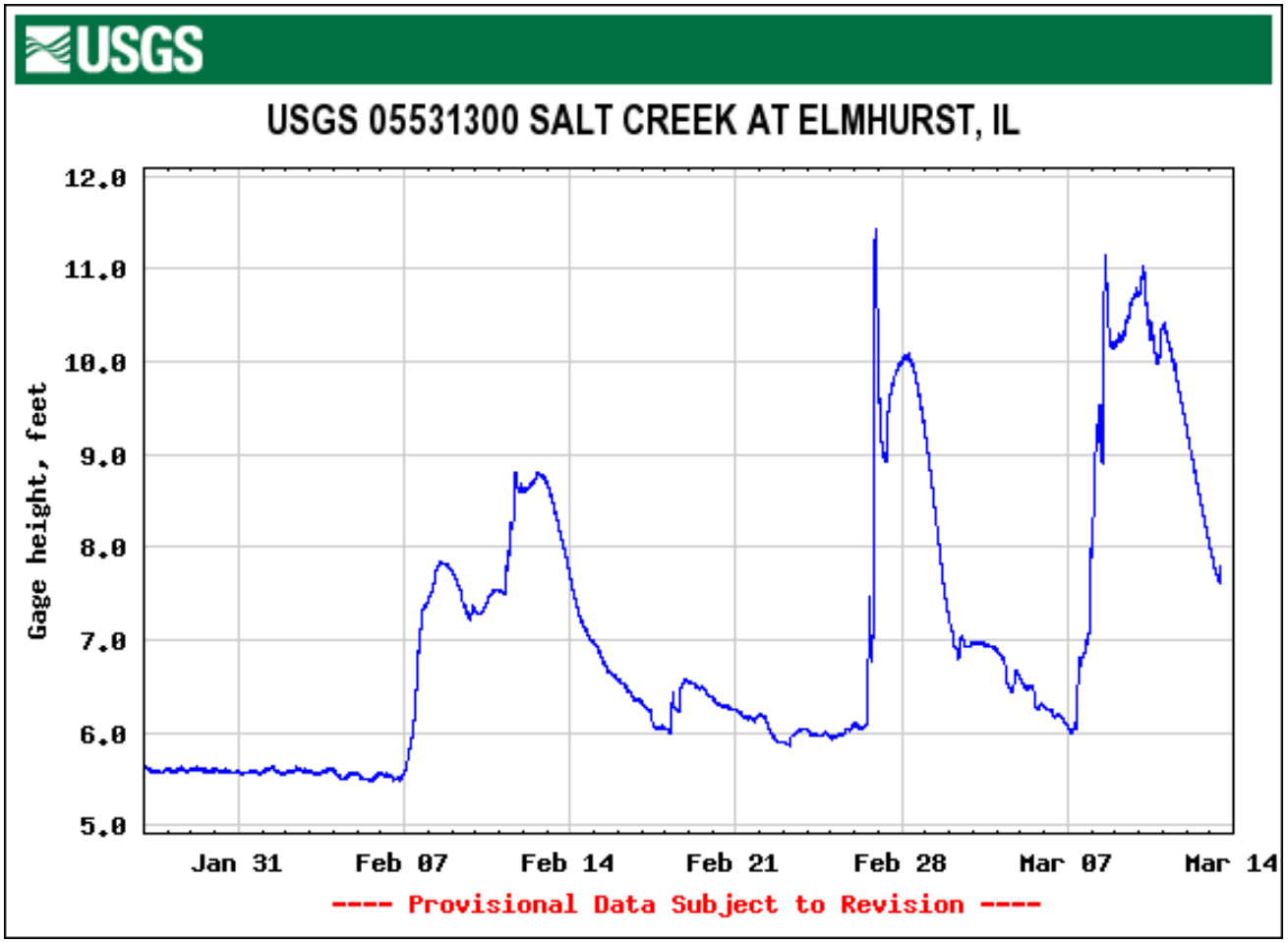


March 2009 Rainfall

4.5” At WWFTF



30 Day Salt Creek levels



Storm Prep

- Cleaning inlets
- Sweeping (summer months)
- Inspect Lufkin spillway
- Sand bags
- Alert staff
- Web posting

Initial Response

- Operate WWFTF
- Level 1 or 2 Response
  - Crews to assigned areas
  - Street flooding
  - Sewer back-up
  - Assess, Respond, and Document
- Police non-emergency calls

Public Works Storm Record

Date:_______________ Page ___ of ___

Address/Phone #	Time Call Received	Circle All That Apply				Dispatched to PW	Comments	Initials
		Basement/Sewer Back-up	Street Flooding	Yard Flooding	Tree/Branches Down	Y N		
		Basement/Sewer Back-up	Street Flooding	Yard Flooding	Tree/Branches Down	Y N		
		Basement/Sewer Back-up	Street Flooding	Yard Flooding	Tree/Branches Down	Y N		
		Basement/Sewer Back-up	Street Flooding	Yard Flooding	Tree/Branches Down	Y N		
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		Basement/Sewer Back-up	Street Flooding	Yard Flooding	Tree/Branches Down	Y N		
		Basement/Sewer Back-up	Street Flooding	Yard Flooding	Tree/Branches Down	Y N		
		Basement/Sewer Back-up	Street Flooding	Yard Flooding	Tree/Branches Down	Y N		

Summary of Storm Event
February 27, 2009

• Locations responded to during and after the event	107
• Street flooding locations	55
• Cleaned inlets during the event	25
• Yard flooding locations	22
• Investigated sanitary main surcharge/back-ups	30
• Sanitary service line problems	6
• No problem found when responding	31

Summary of Storm Event
March 7-9, 2009

- Locations responded to during and after the event 44
- Street flooding locations 27
- Cleaned inlets during the event 19
- Yard flooding locations 18
- Investigated sanitary main surcharge/back-ups 17
- Sanitary service line problems 1
- No problem found when responding 5

Follow-up actions

- Compile, verify, and categorize reports
- Site visits and interviews
- Create storm event maps
- Identify further actions
- Capital planning

- **Every storm is different**

Sanitary Sewers – Private Sector

I/I removal program (ongoing)

- Storm water Infiltration/Inflow (I/I) is the primary cause of wet weather sanitary/combined sewer problems
- Village wide inspection of downspouts, sump pumps, and area drains illegally connected to the sanitary sewer system
- Village subsidized 50% of the cost to remove these connections until 1993.
- Village ordinance requires all buildings to be re-inspected when property is sold
- Currently Village does not require disconnection of foundation drains that are directly connected to sanitary service lines

Sanitary Sewers – Public Sector

South Villa Lift Station I/I study and follow-up (previous)

- Village forces conducted flow monitoring, television inspection, manhole inspections. Consultant presented report in 2002
- Village followed-up with 48 manhole chimney seals, 16 in-house sanitary point repairs, and three others added to a Village road project on Harvard Avenue
- Village hired a contractor to re-line the sanitary sewer main on Summit Avenue south of Monroe Avenue
- Eleven private I/I violations (downspouts) were identified and corrected
- Follow-up smoke testing was conducted along Sugar Creek in 2005

Sanitary Sewers – Public Sector

Recent Studies

- Infiltration/Inflow (I/I) studies of South Villa lift station and North Side sanitary basins
- Televised sections of sanitary sewer main along Sugar Creek and tributaries that could not be televised in previous study.
- Smoke tested entire South Villa Lift Station Sanitary Sewer Basin
- Smoke testing ABC and College Streets
- Followed-up with additional flow monitoring, dye testing, and visual inspections to identify individual I/I sources.
- Developed Master Facility Plan – approved by IEPA
- Over $6.8 million of remedial work

Sanitary Sewers – Public Sector

Current and Planned Improvements

- Obtained IEPA loan for South Myrtle Relief Sewer
  - Will provide relief to area south of Sugar Creek
  - $800,000 low interest loan
- 2008/2009 Sewer Rehabilitation Project
  - Will remove I/I from north and south sanitary basins
  - $3.6 million 0% interest IEPA loan with principal forgiveness
  - Includes sewer replacement, relining, and point repairs

Villa Park Sanitary Sewer System Rehabilitation

• Total Sanitary sewer	247,331 feet
• Smoke Testing	113,000 feet
• Televising	27,606 feet
• Lining	48,500 feet
• Replacement	500 feet
• Point Repairs	30
• New Manholes	6
• Manhole rehabilitation	13

North Side Sewer Rehab

South Side Sewer Rehab

Sanitary Sewers

Private property I/I inspections for major remodeling and sale of homes

- Required as a condition of occupancy
- 381 inspections in 2007, 75 violations identified, 74 corrected
- 295 inspections in 2008, 84 violations identified, 48 corrected
- Inspections a condition of financial assistance
- Courtesy Inspections

Sanitary Sewer

Sanitary Sewer Reimbursement Program

- $207,754 since May 2007
- 50% reimbursement – 72 total
  - Area drains - 6
  - Stairwell drains - 28
  - Sewer service repairs - 4
  - Sewer service replacement - 18
  - Check valves - 9
  - Overhead sewer - 9

Sanitary Sewers

Help keep storm water out of sanitary sewers

- Do not pump or direct water to manholes
- Make sure clean outs are water tight
- Repair defective service lines
- Install check valve or overhead sewers

Combined Sewers - UP to Madison

- Total combined/separated 164,005 feet (31 miles)
- Sewer separation on-going for many years
  - 101, 322 (19.2 miles) feet separated (61.8%)
- Continue programming sewer separation projects in conjunction with future road projects.
  - Cornell - Park to Madison (completed)
  - South Villa - St. Charles to Madison (Phase II design)
  - Michigan - Park to Madison (Phase II design)
- Some areas separation is not feasible – purpose of WWFTF

Combined Sewers - UP to Madison

- I/I removal when storm sewer becomes available
- Sanitary sewer Reimbursement Program eligible
- Install rear yard inlets only when storm sewer is available
- Green Practices

Street Flooding Mitigation

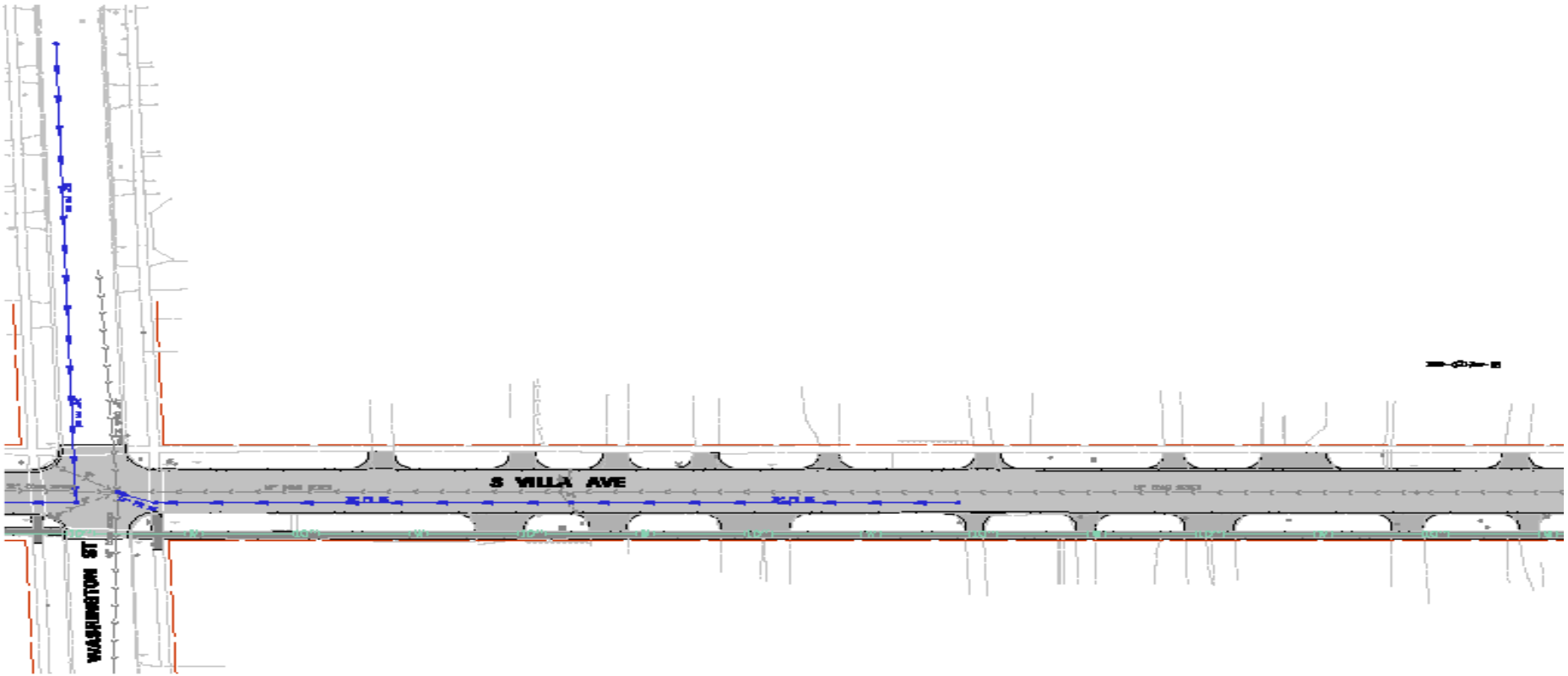
Previously Completed Projects

- 1992 Terry Kaye Subdivision relief storm sewer ($273,835)
  - Relief storm sewers on Euclid, Myrtle, and Terry Lane north of Sugar Creek
- 1992 Willowcrest Area Drainage Improvements – Phase I and II ($1,207,461)
  - Expansion of Jackson Detention Pond
  - Construction of large retention basin at the Lufkin Lagoon site
  - Construction of new storm sewers in the Willowcrest Subdivision
- 1996 Jackson Street Reconstruction ($867,862)
  - Construction of new storm sewers on Jackson Street between Addison Avenue and Ardmore Avenue
  - Construction of an overflow storm sewer (in-house) to the Jackson detention basin

Street Flooding Mitigation

- Recent and current storm sewer improvements
  - Pleasant Avenue Project - completed
  - Sunset Drive Project – completed
  - South Villa –St. Charles to Madison – proposed

Villa Avenue Storm Sewer



Overland Flooding Mitigation Measures

- Completed engineering evaluation of Lufkin Pond
  - Raised curbs at southeast crosswalks on Jackson Street and Rand Road
  - Raised sidewalk at 1027 Rand
  - Evaluated spillway and detention pond capacity
  - Pond bank stabilization needed
  - Inspect outfall of inlet pipe
  - Install addition inlets on Yale to north
  - Alternate discharge between 1015 and 1021 Rand

Overland Flooding Mitigation Measures

- Sugar Creek drainage basin studies
  - Joint effort to correct floodplain maps
  - County watershed plan for Sugar Creek
  - Request to install permanent rain and level gauges

- Continue enforcement of Village and County Storm Water and Fill Ordinances for new construction
  - Swales required on all side yards for all new residential construction
  - Runoff to be directed to a swale or dedicated drainage way
  - Storm water detention required for all new construction greater than 2-lot residential
  - Storm water best management practices required if there is no suitable downstream drainage outlet
  - Overland flood routing for 100-year storm must be identified on site plans

Overland Flooding Mitigation Measures

- Station Area Detention Basin
  - Serve area west of commuter lot
  - Outlet pipe installed with ABC project
  - Estimated cost $300,000
  - $52,000 County funding secured
  - CDBG Grant Application

Overland Flooding Mitigation Measures

- Encourage residents to help keep curb inlets near their home free of leaves and debris.
  - Used web, newsletters, and press releases
- Developed list of “high-priority” locations to be checked at various times before, during, and after storm events.
  - 12 locations identified
- Installed high capacity inlets (leaf friendly) at selected locations
  - 5 locations currently installed

Drainage Problems – Private Property

Drainage Problem Correction Policy

- Defines Village Response: assistance
  - Initial Investigation – technical advice
  - Categorize and Rank – focus on simple protective and corrective measures
  - $250 deposit
  - Design by Village
  - 50% of cost prepaid by owner
  - Construction
  - Maintenance by property owner

Drainage Problems – Private Property

- Drainage Problem Correction Policy
  - 50 installed since inception
  - 7 installed in last two years
  - 2 currently pending construction
  - 10 awaiting design
  - Funding limited
  - Not always a viable solution

Drainage Problems – Private Property

- First priority – protective measures
  - Window wells, stairwells, other points of entry
  - Repair foundation cracks
  - Do not block drainage paths
  - Keep rear yard inlets free of debris