Utilizing the Hazard Mitigation Grant Program to Protect a Sewage Pump Station

Presented by
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Village of Rochester, Illinois

Primary Pump Station Flood Protection Improvements
Agenda

• Project overview
• Grant application process
• Design
• Bidding
• Construction
• Project close out
Vicinity Map

South Fork Sangamon River

Rochester
Rochester - Background

- Founded in 1869 in Sangamon County
- 2010 population = 3,689
- Sewer system started in 1950s with lagoon treatment
- In 1992, Village annexed into Springfield Metro Sanitary District (SMSD)
- Lagoons converted to excess flow storage, “primary” pump station (PPS) constructed to send all sewage to SMSD for treatment
- Both PPS and excess flow lagoons in the floodplain of tributary to South Fork Sangamon River
- PPS includes wet well and valve vault structures and standby generator
- Top of structures set at 1 foot above Base Flood Elevation (BFE): 544
- Sangamon County Hazards Mitigation Plan: FEMA approved in 2008
Site Map

- South Fork Sangamon River
- Excess Flow Lagoons
- Unnamed Tributary
- Primary Pump Station
- Rochester Park
- IL Route 29
Sangamon County FIRM, Effective August 2, 2007

PPS
Primary Pump Station: Pre-Improvements
South Fork Flooding Events

• Pump station nearly inundated in 1994 and 2002 due to backup of floodwaters
• Flood elevation ~ 547.5
• Pump station had to be sandbagged, access only by boat
• Service nearly lost during both events; could have been disastrous
• After two flood events, started planning to protect and improve resiliency
• Alternatives evaluated to protect against future flooding: build a wall or raise the structures
• Funding unavailable; lower priority project
• Project remained on CIP; searching for grant funding
2002 High Water Mark

EL ~ 547.5

EL ~ 547.5
Hazard Mitigation Grant Program (HMGP)

Funding Guidelines:

• Must be participating in and good standing in NFIP
• Have a FEMA-approved all-hazards mitigation plan
• Eligible projects must:
  • be environmentally sound,
  • be cost effective,
  • solve a problem
  • prevent future disaster damages (i.e., be more resilient)
• Protect public or private property
• Approved projects receive up to 75% funding (remainder local match)
• Program administered by FEMA, implementation and oversight by IEMA
Hazard Mitigation Grant (HMG)

- Presidential disaster declared August 19, 2010, due to severe storms and flooding; funding allocated for HMG.
- Inquiry made with IEMA in 2011; ok to submit a project description.
- Flood protection comparison submitted late 2011.
  - Report recommended protecting to elevation 548.
  - FEMA requested protecting to elevation 549.
- Application submitted in 2012 comparing alternatives to protect against flooding:
  - Highway barrier wall outside existing fence.
  - Retaining wall with security fence and flood gate.
  - Raise top of wet well, valve vault and generator pad to elevation 549.
- FEMA requested economic justification for raising structures in early 2013.
- Application approved in mid-2013.
Section View
HMG Application Process

• Typical HMG project is a flood-prone property buyout.
• Develop a detailed project description and conservative project cost estimate.
• Identify pump station features that may need to be replaced/updated as a part of improvements.
• In-depth, online questionnaire; lengthy process.
HMG Application Process – Cont’d

• Be prepared to complete a benefit-cost analysis (BCA).

• Pump station mitigation not typical; be able to defend the preliminary design.

• Project sign-offs: EcoCAT, USF&W, IHPA.

• Track application expenses; may be reimbursable.

• Advertise and schedule public meeting requesting public participation.
HMG Award

- Grant agreement with IEMA required.
- Resolution by local government.
- Federal language for all agreements, such as no kickbacks and federal wages.
- Adhere to “Buy American Act”: only steel, iron and manufactured products produced in USA eligible.
- Quarterly progress reports to IEMA.
- If hiring a consultant, utilize QBS process.
- Consultant must adhere to grant agreement requirements.
- Project may be audited at conclusion.
Design & Bidding

• No design review submittal process to IEMA.
• Obtain local, state and federal permits, if needed.
• In Rochester case, no permits required.
• Sealed bidding process for contracts > $100,000.
• Bidding and contracting requirements: 44CFR 13.36.
• Advertise project 45 days in newspaper.
• Contractors advertise 15 days prior to bid opening for DBE.
• Award to lowest responsive and responsible bidder.
• Send IEMA copies of advertisements, bids, award, agreement, etc.
Construction

• Initiate construction no differently than other projects.
• Prior to starting construction, initiate reimbursement form with IEMA.
• Must have DUNS# and SAMS# to be reimbursed.
  • DUNS# = Dun & Bradstreet number (first)
  • SAMS# = System for Awards Management number (second).
  • Start this process when contract awarded.
• Review shop drawings, material certs, equipment and material test results.
• Standard construction inspection /observation procedures.
• Be prepared to have the funds on hand to pay the contractor and be reimbursed by IEMA.
Construction Progress
Construction Progress

[Images of construction sites]
Construction Completed
Construction Close-Out

• Perform substantial and final completion inspections.
• Obtain lien waivers, updated insurance and bonds from contractor.
• Prepare record drawings.
• Organize construction documentation.
• If the budget is exceeded, keep copies of invoices and document extra time and effort.
• May be possible to obtain reimbursement.
• Rochester PPS:
  • Total project cost = $420,294
  • Grant amount = $228,405
PPS Survived the December 2015 Flooding!

Looking east to park from pump station: WSEL ~546.5

Looking south from pump station
Lessons Learned

• Document high water marks as soon as possible; tie to an elevation.
• Hazard Mitigation Plan must be current (plans effective for 5 years).
• Budget several days to complete on-line application; multiple entries.
• Include reasonable costs in the grant application for features to be replaced, with supporting information.
Lessons Learned - continued

• While pump station is taken offline, are there other improvements to be done that may not be grant eligible?
• How will you access pump station after being raised: steps, ships ladder or something else?
• Be patient with IEMA and FEMA:
  • Process is lengthy.
  • Process will be delayed if there is another natural disaster.
Project Credits

Special thanks to:

• IEMA - Bureau of Preparedness and Grants Administration
• Rochester Village President and Board of Trustees
• Rochester Public Works Department
• Contractor: Schwartz Construction
• CMT Design Team
Questions?