

Willow Road Stormwater Tunnel and Area Drainage Improvements

Review Point #2 Continuation
May 12, 2015

April 28 Review Point #2 Meeting

Presentation of Findings:

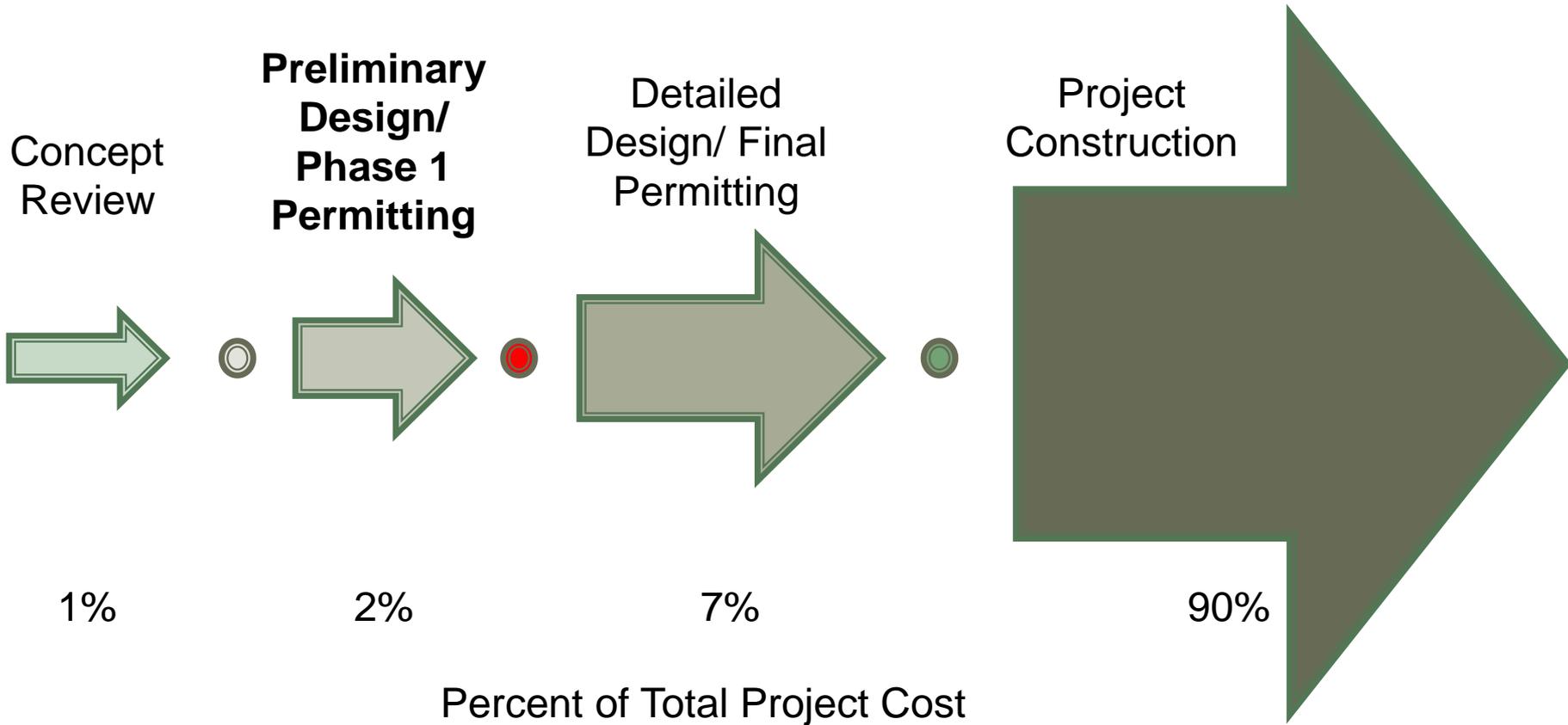
- ▶ Site-Specific Data Collection
 - Surveys and Geotechnical Investigations
 - Stormwater Quality Monitoring
- ▶ Preliminary Design
 - 30% Design Development
 - Water Quality Management Plan
- ▶ Preliminary Opinion of Probable Construction Costs
- ▶ Preliminary Permitting
 - Draft Permit Applications

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Summary of Public Comment and Questions:

- ▶ Project Progress/Process
- ▶ Water Quality/Environmental Permitting
- ▶ Green Infrastructure/Other Alternatives
- ▶ Project Costs

Project Plan / Status



Water Quality/Environmental Permitting

- ▶ Will the STADI project meet water quality permitting requirements and goals?
 - The proposed outfall system is designed to treat 70 – 80% of the volume on an annual basis.
 - During non-extreme weather events, current untreated East Winnetka stormwater discharge would be processed through the outfall water quality structure.
 - MWH believes that this design will meet Illinois Environmental Protection Agency water quality permitting requirements.
 - If the Village cannot satisfy the Illinois EPA's requirements, no permit will be forthcoming and the project will not be built.

Green Infrastructure/Other Alternatives

- ▶ Are there other alternatives that use green infrastructure, and/or that do not involve a new discharge to Lake Michigan?
 - The Village has previously developed and evaluated western options and green infrastructure for 100-year design and concluded that those projects would not feasibly deliver the desired relief.
 - Further evaluation/re-evaluation of other alternatives could be considered if the Council desires.

Project Costs

- ▶ Is the revised project cost accurate? Why has it changed?
 - 2012 Estimate \$34.6 million
 - Current (2015) \$58.5 million
 - Basis for increased costs:
 - More detailed information available for evaluation of cost factors
 - Greater length of deep sewer tunnel due to MWRD interceptor conflict
 - Increase in underground construction costs (materials, labor, trucking)
 - Outfall/water quality management requirements (energy dissipation, flow control, treatment)

Potential Next Steps

- ▶ Direct staff to engage independent engineering firm to perform cost validation and value engineering
- ▶ Authorize completion/submittal of environmental permits

Cost and Value Engineering Review – An Analogy

- ▶ You hire an architect to build a house with the number of bedrooms and rooms you need for your lifestyle goals. You and an architect agree upon a preliminary design and cost estimate, and you then hire an architect to proceed with drawings. The architect returns with drawings for the house you agreed upon, but the estimated cost has increased by 70%.
 - Cost review = hire another architect and a contractor to evaluate the cost estimate to see if it is reasonable and correct.
 - Value engineering = hire another architect and contractor to see if there is a better design for the agreed-upon house that will still contain the specific features, but at a more affordable cost.

Independent Cost Validation

- ▶ Independent professional engineering firm not previously involved with project
- ▶ Review current STADI project design, materials, plans, studies, and cost estimates
- ▶ Develop independent evaluation/review of current opinion of probable construction cost
- ▶ Could be complete and presented in early July
- ▶ \$15,000–\$30,000

Independent Value Engineering

- ▶ Independent professional engineering firm not previously involved with project
- ▶ Review all aspects of current STADI project (design, materials, plans, studies, and cost estimates...)
- ▶ Conduct detailed value engineering process with subject matter experts to determine whether this is the best, most cost-effective STADI project to meet the Village's goals
- ▶ Authorized by Council following cost review
- ▶ Could be complete and presented in early fall
- ▶ \$40,000–\$50,000

Submit Permit Applications

- ▶ The ultimate feasibility test for the project is whether the project can receive discharge permit from Illinois EPA
- ▶ The only way that the EPA will definitively rule on the project is to evaluate a permit submittal
- ▶ Permitting process ~12 months
- ▶ Proceed with submitting permit application in order to definitively answer this question
- ▶ Cost to complete applications, submit, respond to review comments, make revisions, etc., is \$100,000 to \$125,000.
- ▶ Could proceed while undertaking cost evaluation and value engineering review
- ▶ Caution: If value engineering produces significant design revision, application may need to be amended or withdrawn and resubmitted, depending on scope of design changes.

Questions and Discussion