

Drainage Improvements Program



City Council Presentation
September 24, 2019

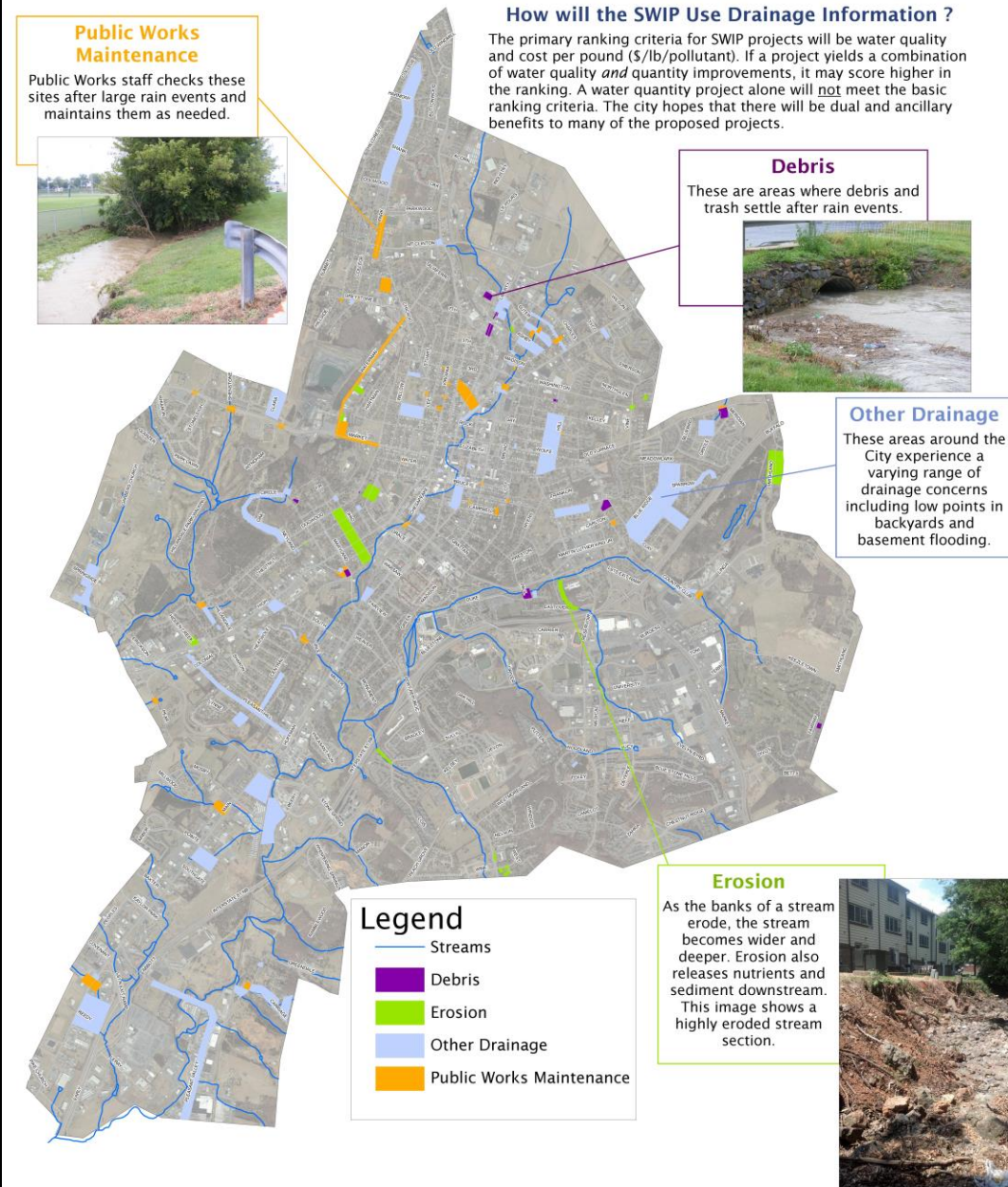
Department of Public Works

Thomas Hartman, PE, LEED AP
Director of Public Works

Background

- More than 200 areas in Harrisonburg with recorded drainage issues
- During the 2018 storms, there were 97 requests for service due to drainage issues
 - 30% on public property
 - 70% on private property

Drainage Concerns in Harrisonburg



Purpose

To establish a way to request, approve, design, and construct stormwater drainage improvement projects on, abutting, or affecting private property with public funds

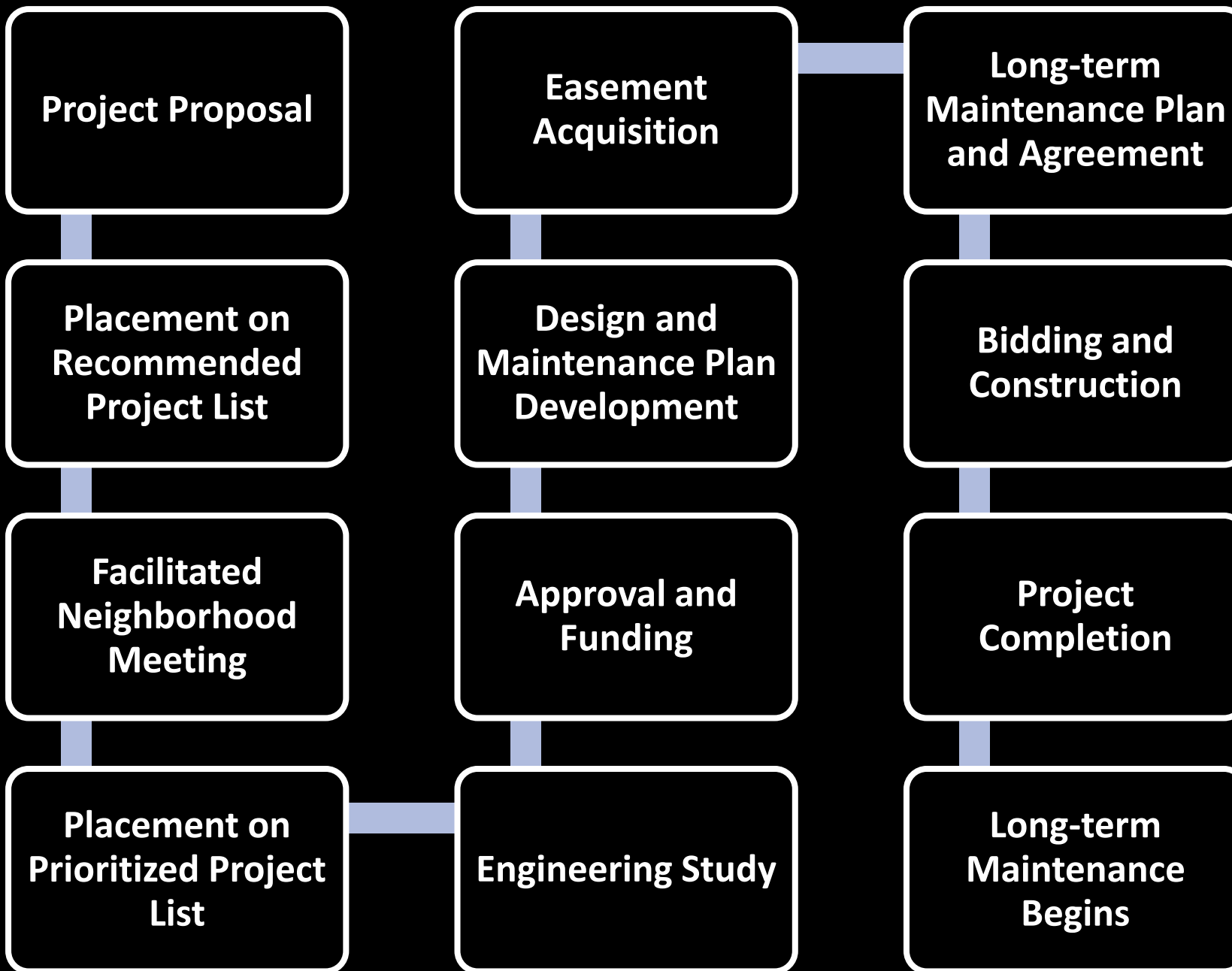


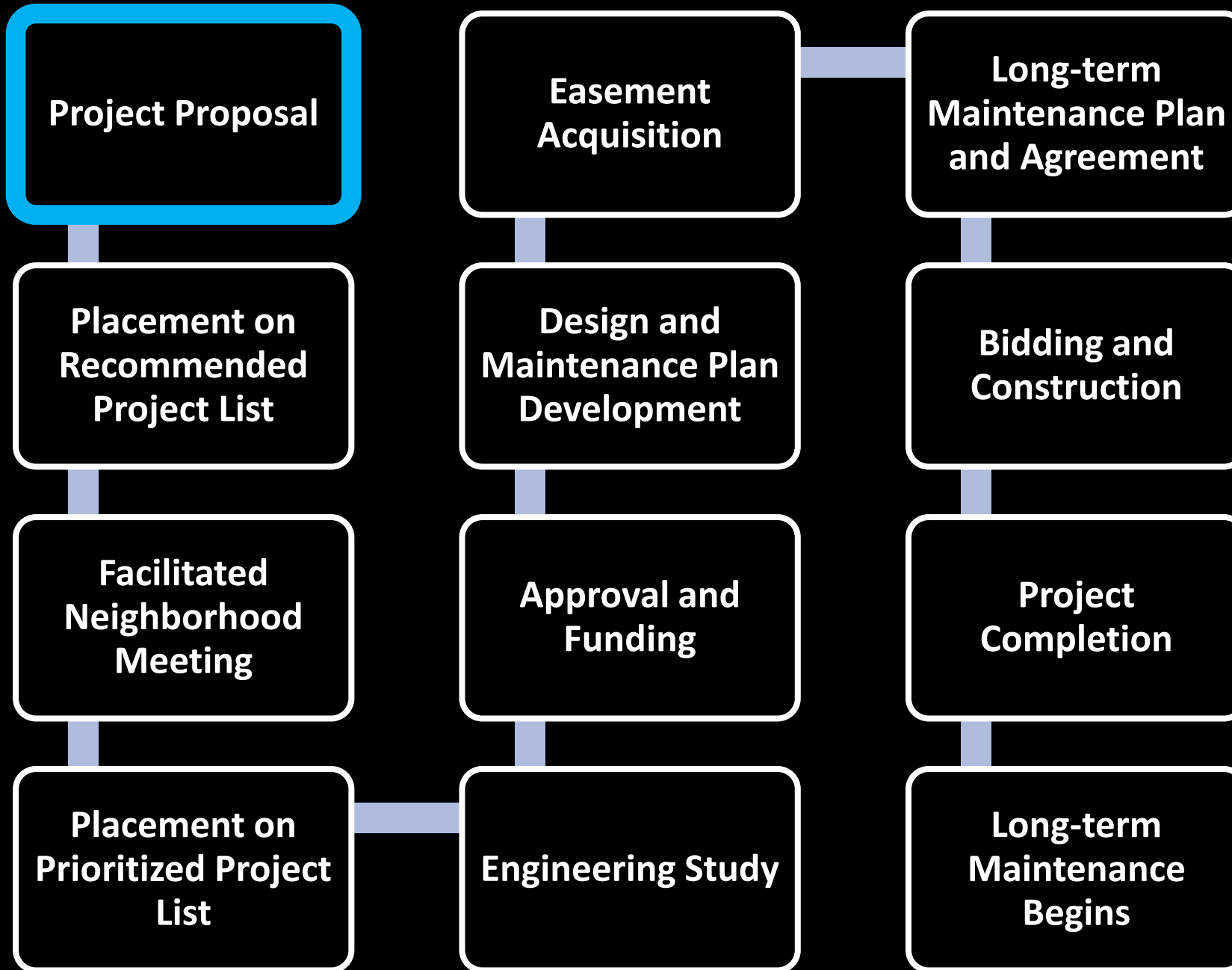
Exposed utilities and eroded streambank along Mountain View Drive



Applicability

- Larger, regional scale drainage issues requiring engineering oversight
- Drainage issues on, abutting, or affecting private property
- Problems such as:
 - Standing or pooling water
 - Erosion issues
 - Accelerated runoff

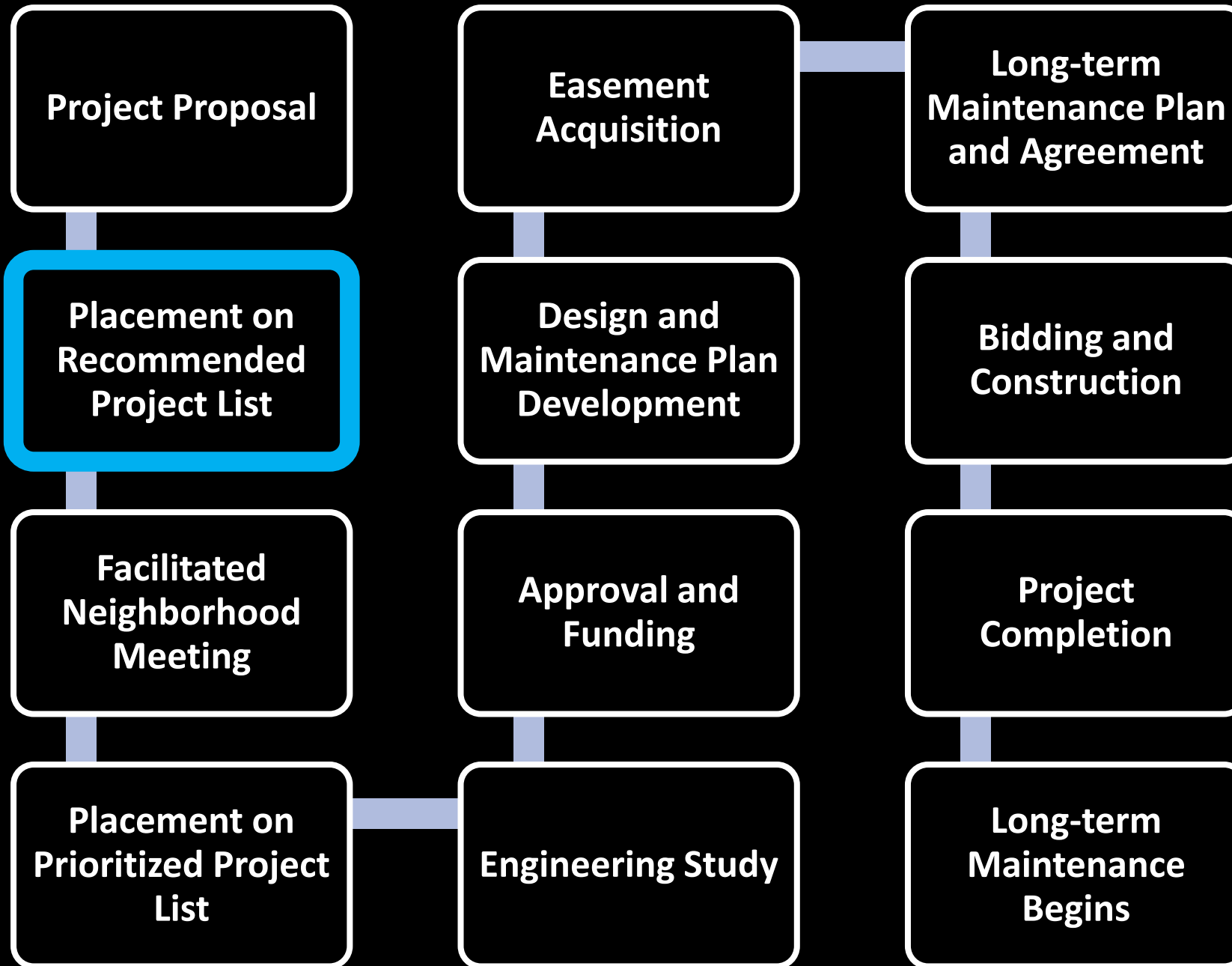




Project Proposal

Different ways for projects to be proposed:

- City Council Request
- Capital Improvement Project Request
- City Staff Recommendation
- Drainage Improvement Program Application
 - Citizens encouraged to meet with neighborhood to discuss prior to application



Project Proposal

Easement Acquisition

Long-term Maintenance Plan and Agreement

Placement on Recommended Project List

Design and Maintenance Plan Development

Bidding and Construction

Facilitated Neighborhood Meeting

Approval and Funding

Project Completion

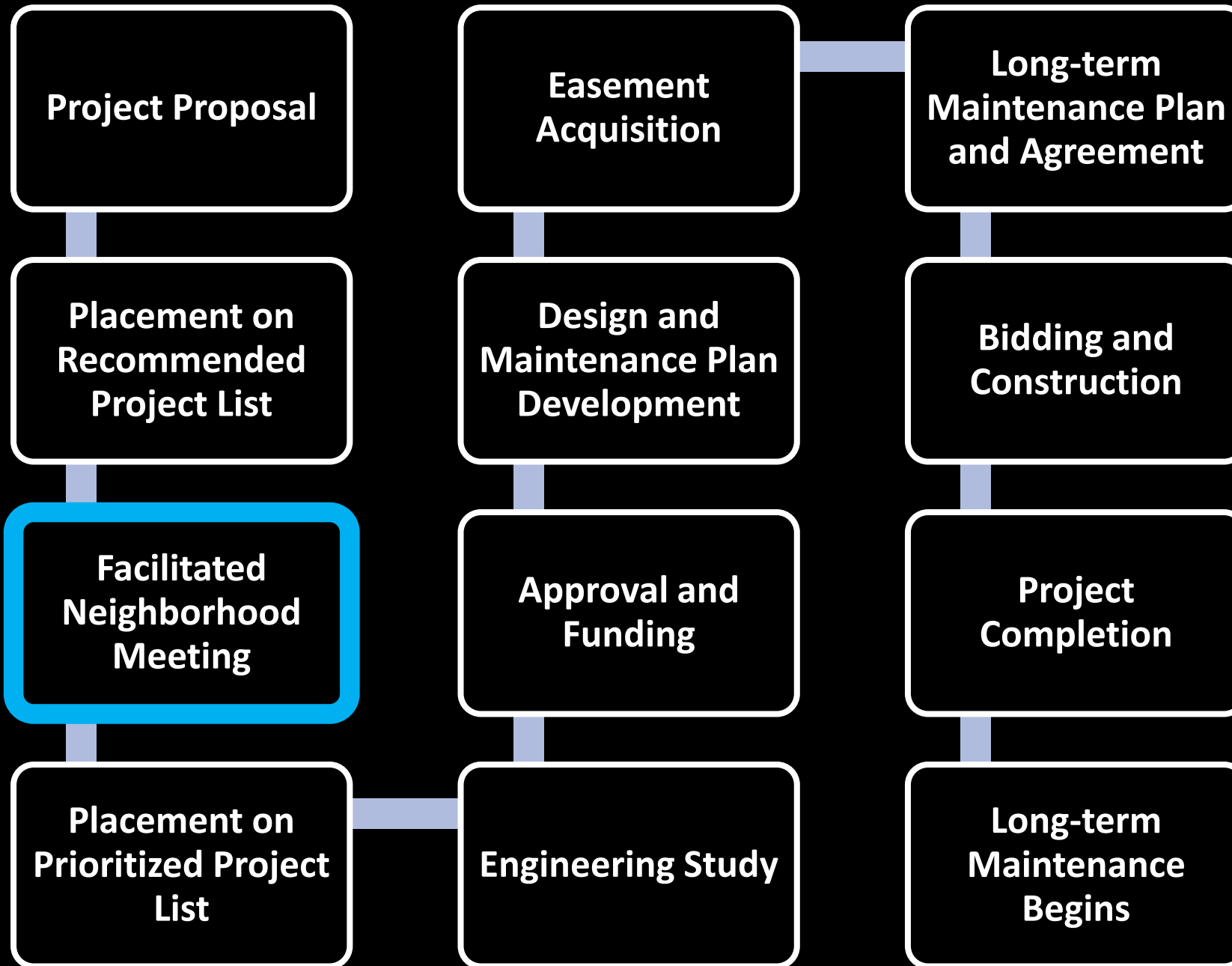
Placement on Prioritized Project List

Engineering Study

Long-term Maintenance Begins

Placement on Recommended Project List

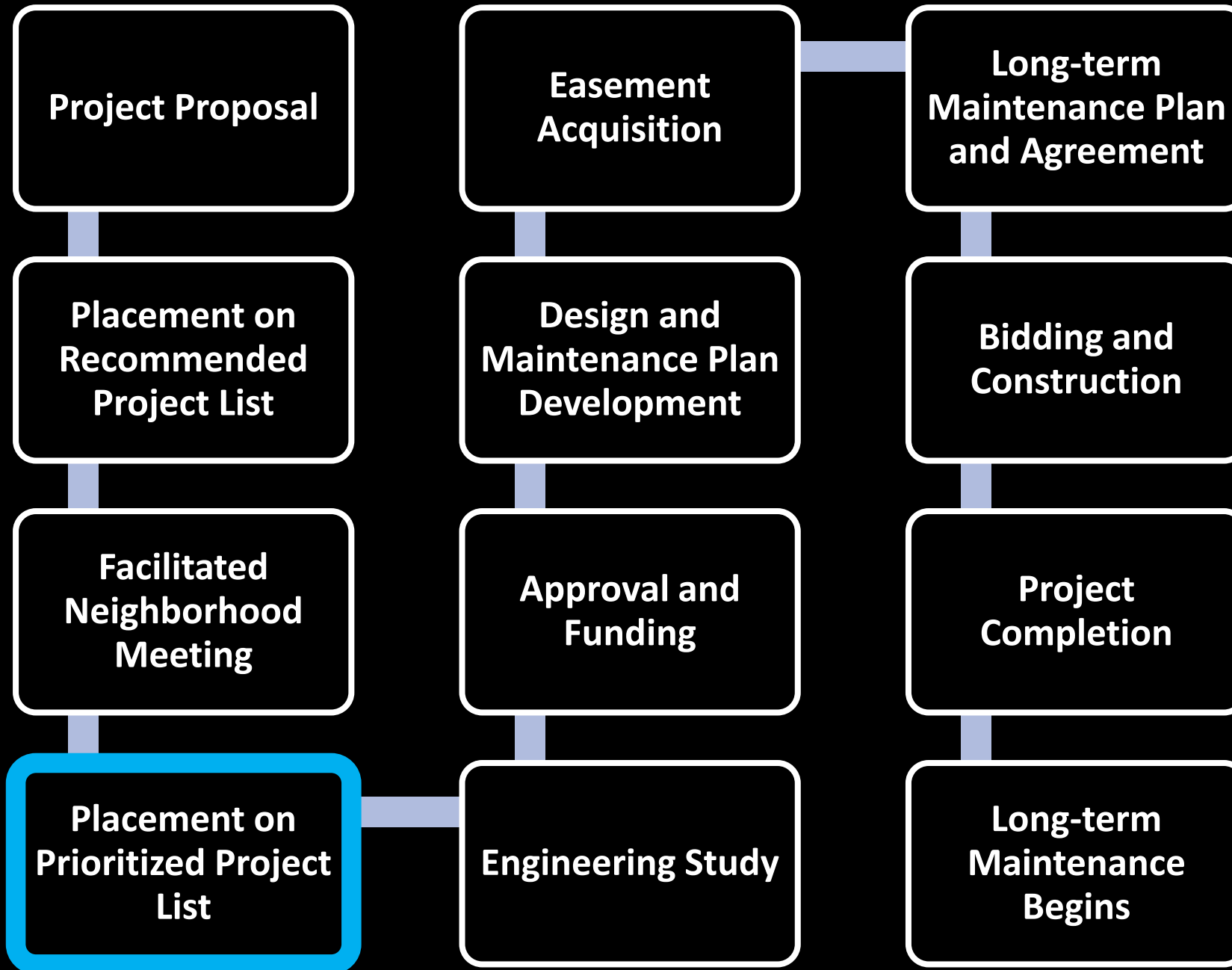
- City Staff and Stormwater Advisory Committee (SWAC) review applications
- The project must meet the following criteria:
 - Necessity for the proposed drainage project must be demonstrated
 - The proposed project is feasible based on scope, complexity, constraints, etc.
 - There must be adequate outfall
 - The public benefit and utility of the proposed project must be significantly greater than any adverse environmental and downstream impacts
 - The proposed project must be of public benefit or utility
- If project removed from program, decision can be appealed at the next regularly held SWAC meeting



Facilitated Neighborhood Meeting

City staff will facilitate meeting with property owners to discuss:

- Scope
- Funding
- Timeline
- Maintenance
- Easement Donations
 - Donation letters will be collected at this time



Placement on Prioritized Project List

- City staff will rank projects based on Project Ranking Factors and Scoring Guidelines
- If project removed from program, decision can be appealed at the next regularly held SWAC meeting

Severity of Drainage Issues

- Threats to habitable structures rank higher than nuisance issues.

Water Quality Benefits

- Projects that will provide water quality benefits rank higher than quantity-only projects.

Maintenance Burden

- Projects with less maintenance rank higher than high-maintenance projects.

Land Acquisition

- Projects on public land will rank higher than projects that require easement donations.

Site Constraints

- Projects in areas with easy access and minimal utilities rank higher than projects in areas with site constraints.

Community Benefits

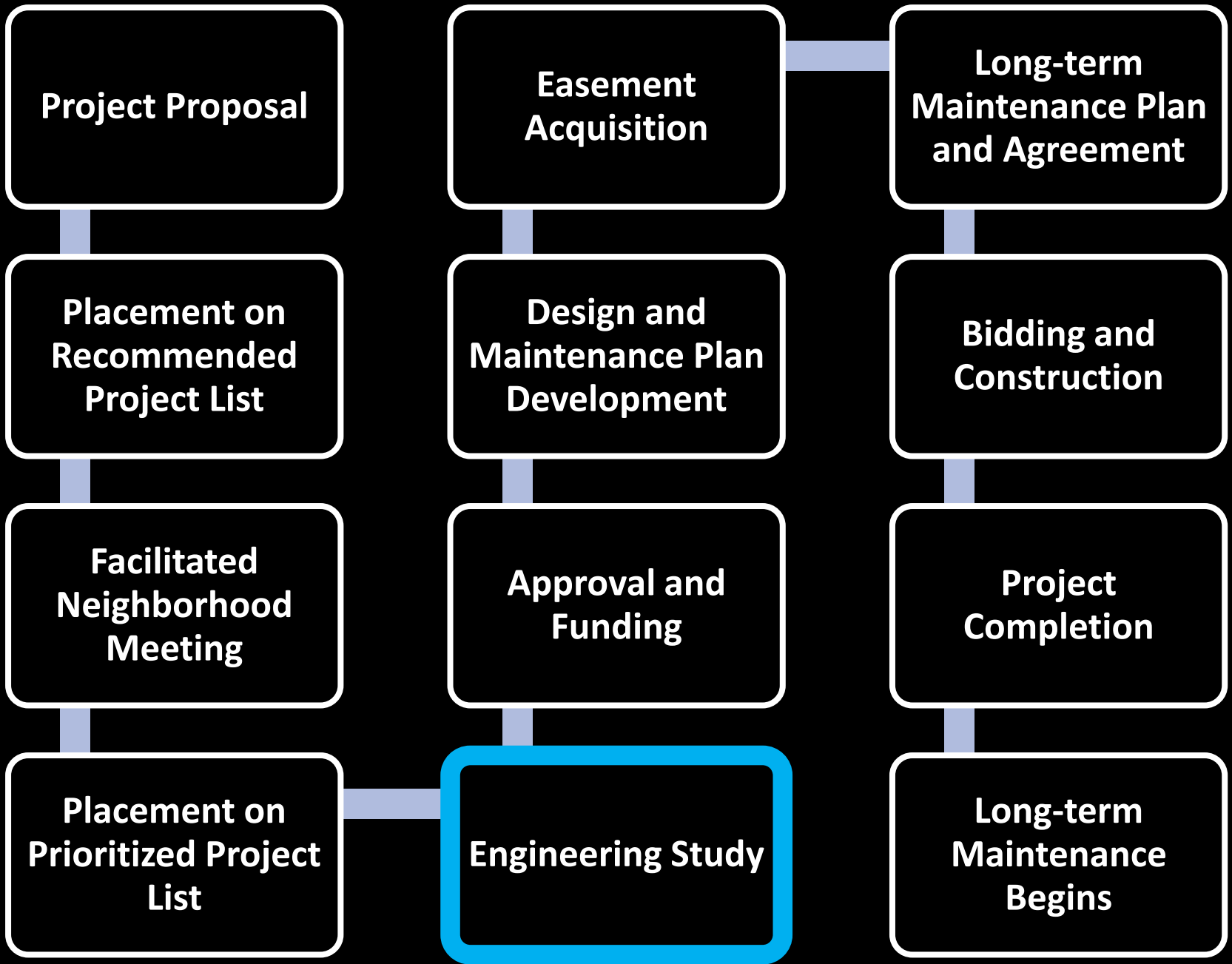
- Projects that benefit multiple properties rank higher than projects that will benefit very few properties.

Implementation Schedule

- Projects that can be implemented quickly rank higher than projects with longer timelines.

Synergy

- Projects that can be incorporated within other city plans or goals rank higher than stand-alone projects.



Engineering Study

- Will determine feasibility and impact to: environment, existing structures, facilities, and affected properties
- Prepare preliminary cost estimate
- If project removed from program, decision can be appealed at the next regularly held SWAC meeting

PRELIMINARY ENGINEERING REPORT:

Mountain View Drive
Stream Restoration Project
City of Harrisonburg, Virginia

October 2017



Prepared for:

City of Harrisonburg
Public Works Department

Prepared by:



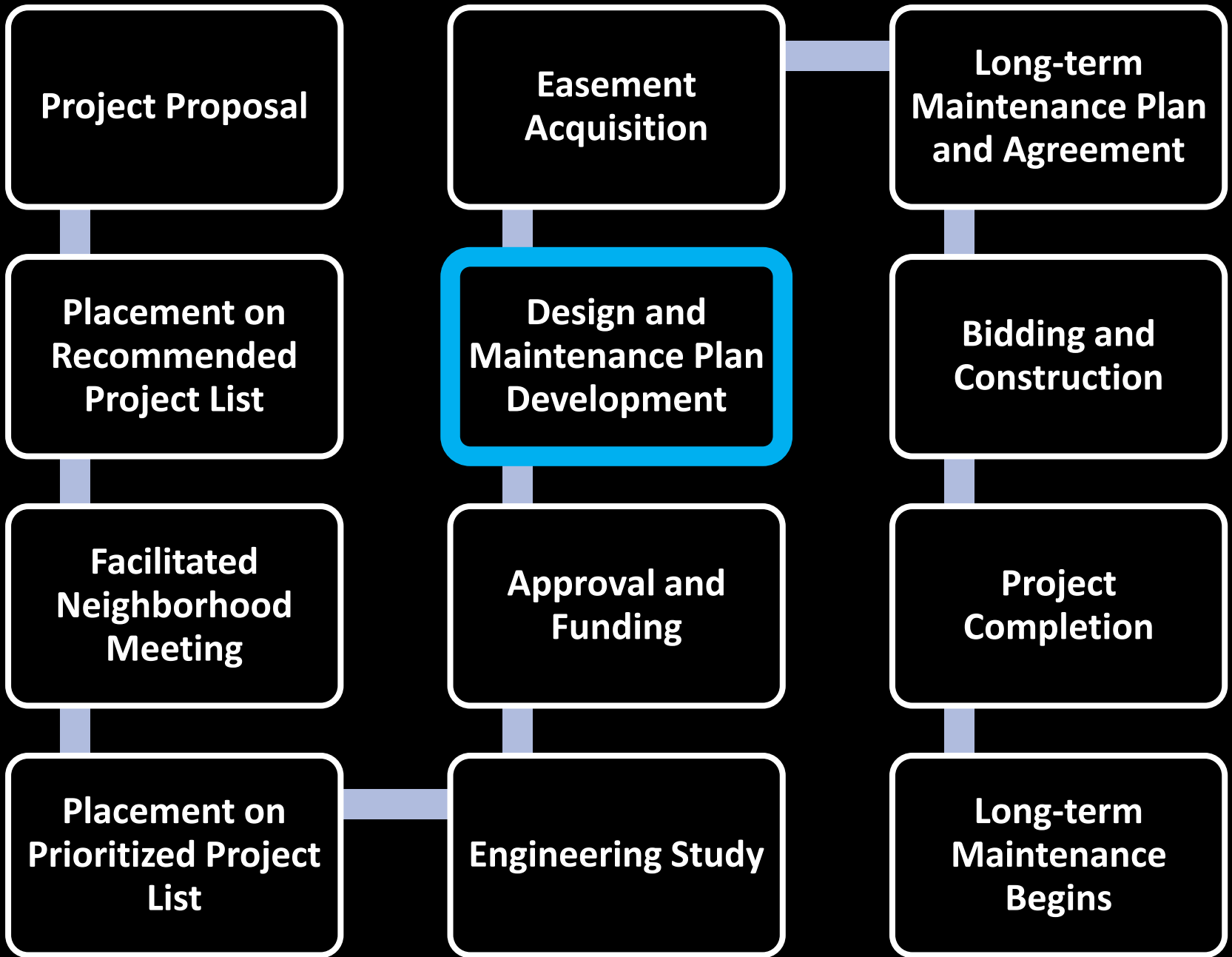
100 Gateway Centre Parkway, Suite 200
Richmond, Virginia 23235

Project Approval and Funding

Projects will require Council approval before implementation through:

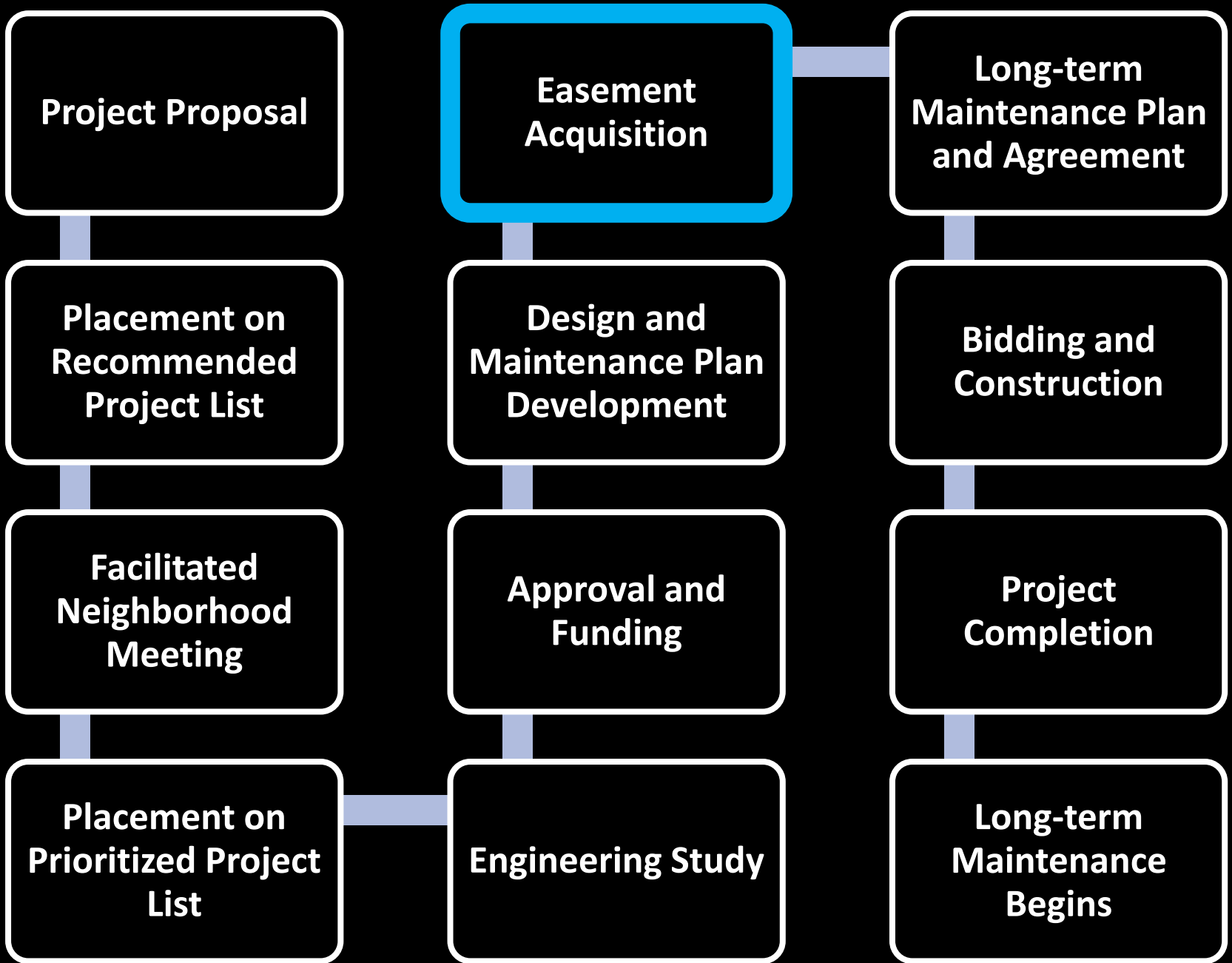
- The budget process
- A public hearing if funds not previously appropriated

The current projects list will be submitted for review annually during the Capital Improvement Program (CIP) process



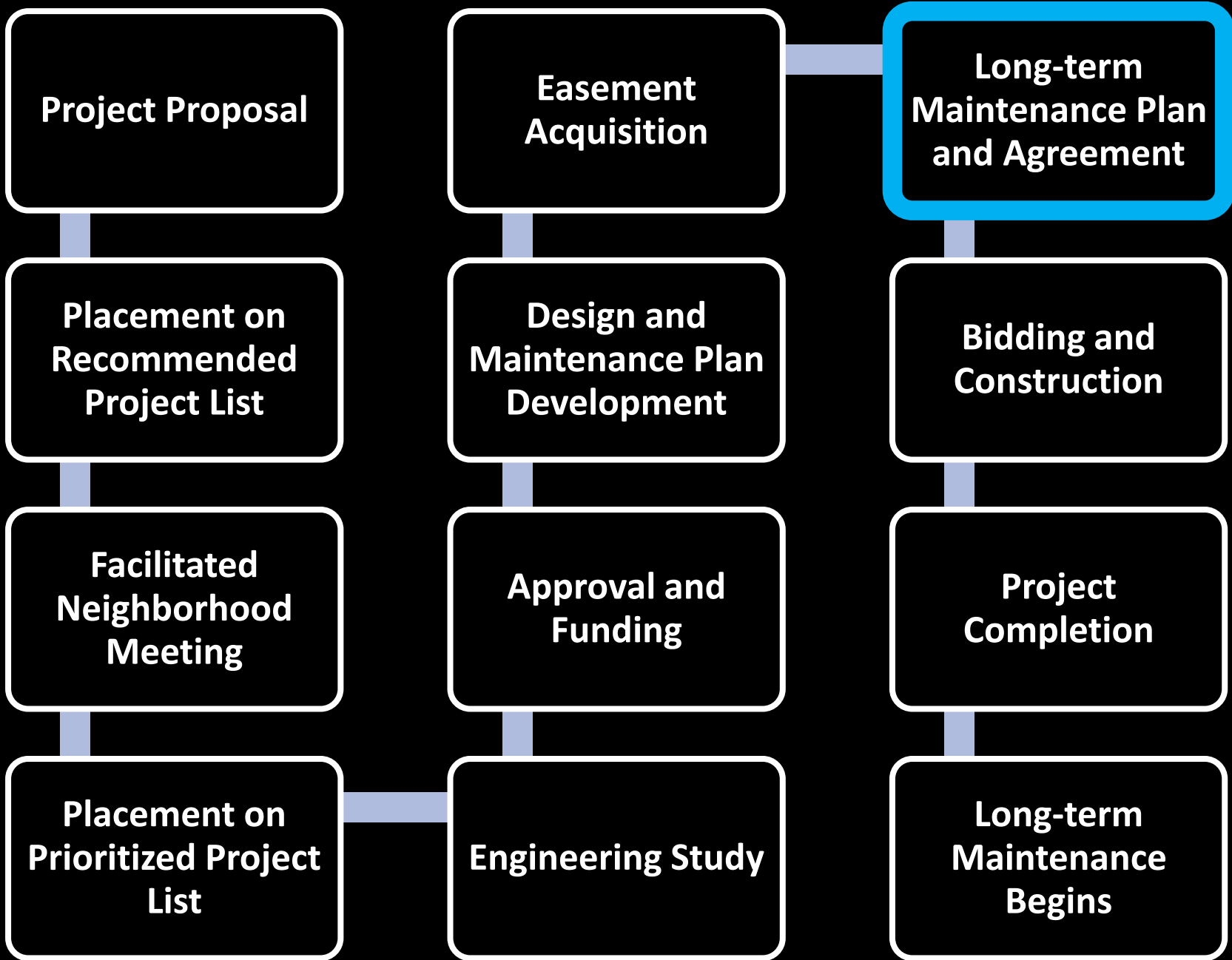
Design and Maintenance Plan Development

- Public Works is responsible for project design and construction plans
- Each project will have a maintenance plan
- Will involve property owners in design and maintenance plan process where possible



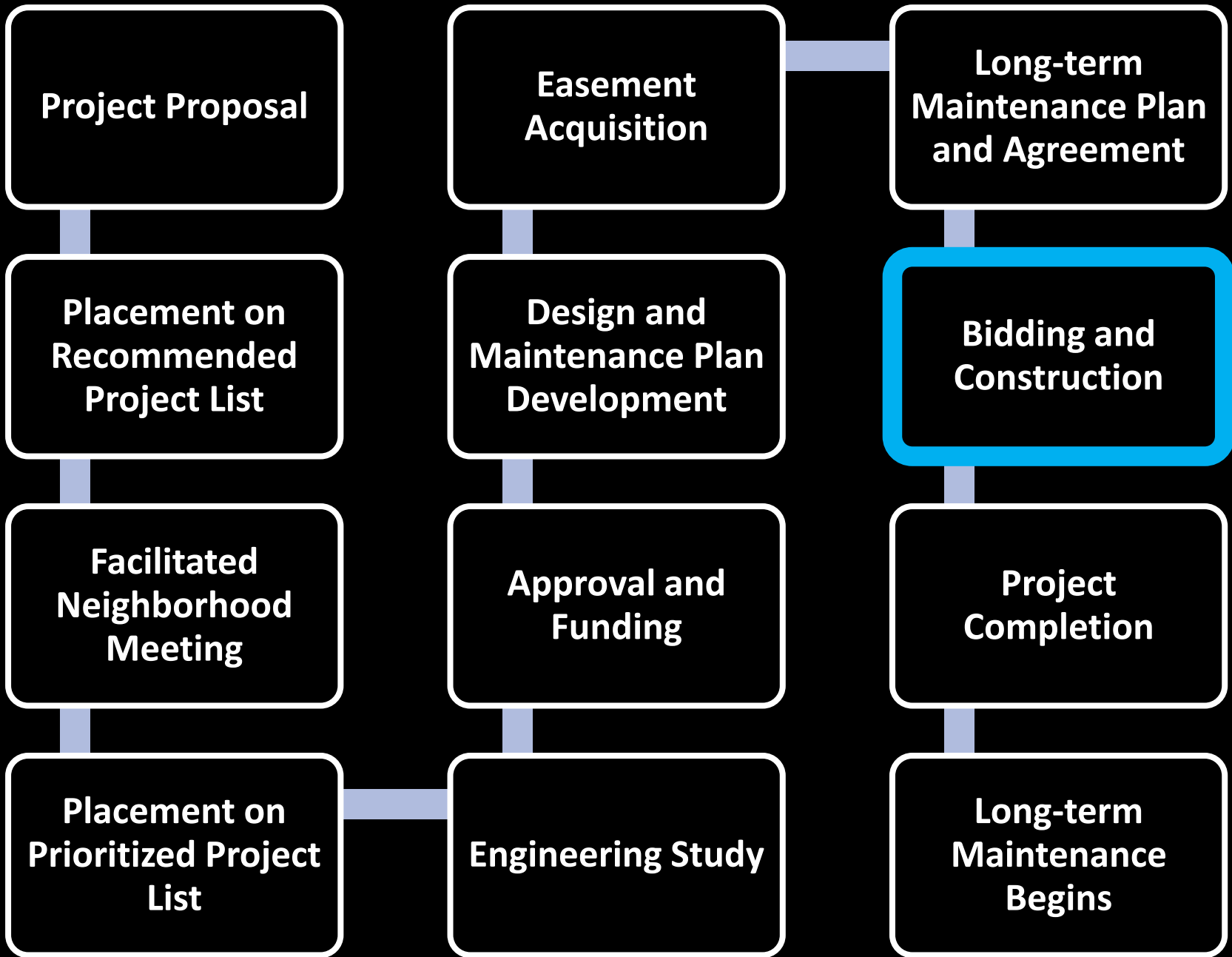
Easement Acquisition

- Property owners must donate necessary easements (temporary and permanent)
- Property owners will have already signed easement donation letters during the facilitated neighborhood meeting
- Public Works will prepare easement plats



Long-term Maintenance Plan and Agreement

- Property owners and Public Works will have maintenance responsibilities for each project
 - Property owners: mowing, vegetation maintenance, etc.
 - Public Works: annual inspection, structural repairs, etc
- Maintenance plan will be developed with property owner input beginning at the facilitated neighborhood meeting
- Property owners must sign maintenance agreement



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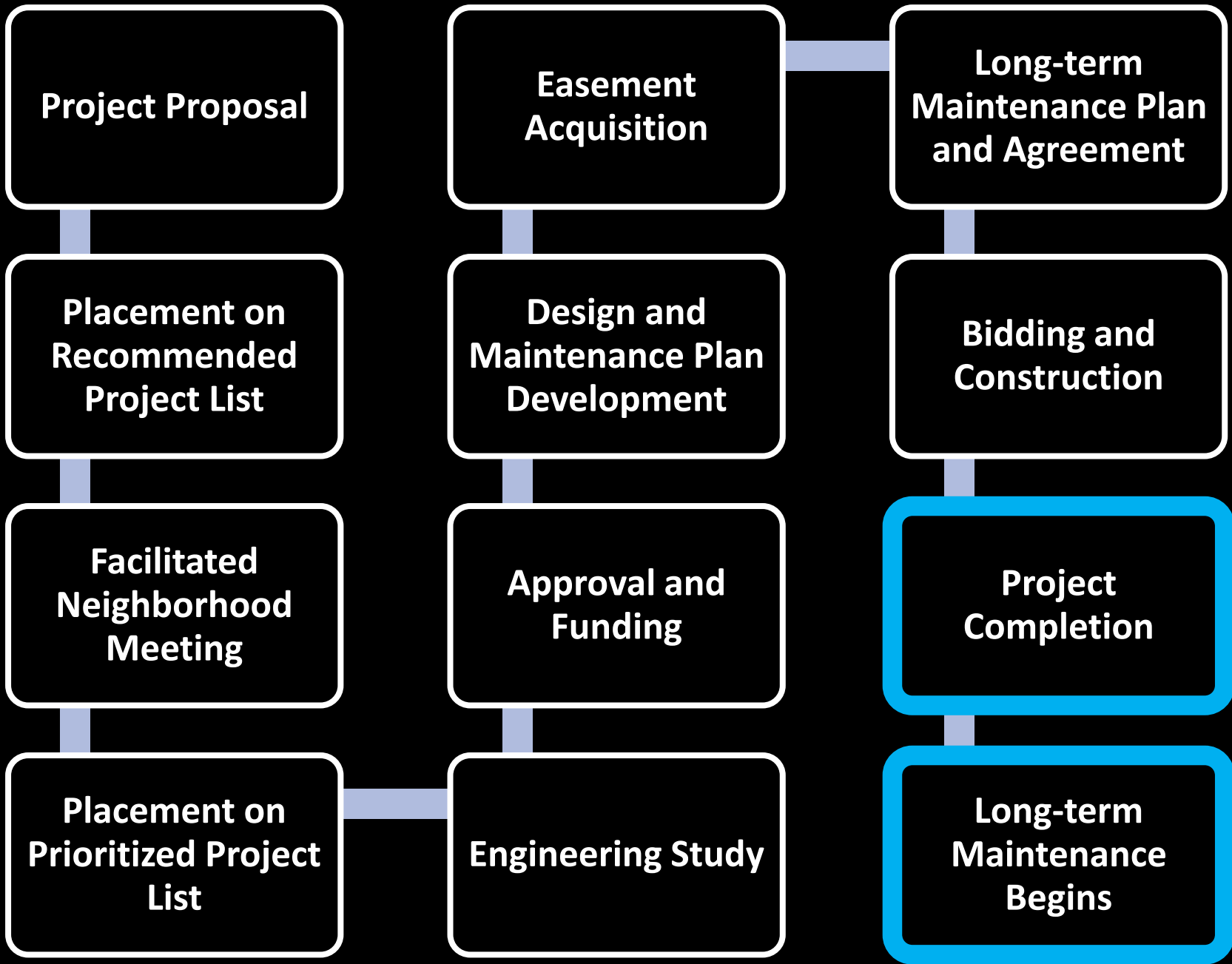
Placement on Prioritized Project List

Engineering Study

Long-term Maintenance Begins

Bidding and Construction

- Public Works responsible for bidding and construction monitoring



Project Completion

- Public Works will accept final, completed project from construction company

Long-term Maintenance Begins

Example Project Types

- **Closed Drainage System**
- **Curb and Gutter**
- **Concrete Ditch Conveyance**
- **Riprap Channel/Check Dam System**
- **Curb Cut**
- **Curb Cut to Bioretention or Rain Garden**
- **Outfall Stabilization**
- **Detention Pond**
- **Swale**