

NORTH MAIN FLOOD MITIGATION STRUCTURAL WALL OPTIONS



AGENDA

- 1) **Review Design**
 - a. **Structural/Berm**

- 2) **Wall Options**
 - a. **Solid Wall**
 - b. **Solid Wall/Road Raise**
 - c. **Invisible Wall**
 - d. **Invisible Wall/Road Raise**

- 3) **Wall Issues**
 - a. **Cost**
 - b. **Drainage**
 - c. **Public Safety**
 - d. **Flood Response Time**
 - e. **Appearance**
 - f. **Reliability/Life Expectancy**

Solid Wall



Solid Wall w/ Road Raise



Invisible Wall



Invisible Wall w/ Road Raise



Cost:

In reviewing the options provided, the least expensive is the solid wall and the most expensive is the invisible wall with the road raise. The estimated cost difference between the solid wall and the invisible wall is approximately \$500,000.

Other design considerations would include raising the road which has the potential of adding an additional cost of \$250,000.

Numerous portions of the road will be impacted regardless of the method of construction.

Drainage:

The proposed project creates certain drainage issues that need to be addressed and include the following:

- All storm sewer outlets have two closures included which prevent water from backing up on the dry side of the berm during flood events
- Storm sewer lift station to pump the storm sewers in the event of a rainfall during a flood event
- Storm sewer drainage system on the dry side of the wall to prevent soil saturation during periods of flooding
- Storm sewer drainage system for road raise to accommodate drainage from private property

Public Safety:

The option of the solid wall creates certain public safety issues. The area between the wall and the Mill Pond is blocked from view from Main Street. This creates potential safety issues in the area adjacent to the Mill Pond. The invisible wall allows for the Mill Pond area to be visually accessible from Main Street.

Flood Response Time:

In reviewing the options available, the invisible wall does require a response by the City to install the planks for potential flooding events versus the solid wall design. For comparison purposes, the invisible wall with the road raise provides for flood protection approximately 12” higher than the flood of record (2004). The invisible wall would provide protection to a greater elevation and based on previous flood events, this installation is feasible.

Appearance:

In all options, the proposed wall is decorative in nature. In order to provide the level of protection required, the height of the wall becomes very imposing and has a significant impact on the North Main area. (Specifically the Mill Pond area) The City of Austin has made significant efforts for improvements to the Main Street corridor and the solid wall option has the potential to detract from the efforts made.

Reliability/Life Expectancy:

In all cases, there is a solid wall option to a protection level equal to the 2004 flood. This provides a safety level and response time that would allow the invisible wall to be feasible. If the invisible wall option would be chosen, an Action Plan would have to be developed that would provide for annual drills that would include installation.

Recommendation:

After much consideration and analysis of the options, it is my recommendation that the invisible wall with the road raise be approved. The basis for this recommendation is as follows:

Cost:

- Funding – The Local Option Sales Tax continues to exceed all projections
- Cost Sharing – All of the options are eligible based on the grant options
- Drainage Issues – All options have unique drainage challenges
- Additional costs represent less than 10% of the project cost for Phases 3-7
- If matching funds are received, City's additional cost would be covered by 4 months of Local Option Sales Tax

Public Safety:

The invisible wall with the road raise eliminates many of the concerns from a public safety standpoint expressed by the Police and Fire Departments. These concerns include: access, visibility, and safety.

Flood Response Time:

All options provide a solid wall due to height exceeding the 2004 flood of record. This would provide the City the necessary time to install additional flood planking if needed.

Appearance:

Graffiti - The solid wall and lack of visibility on the Mill Pond side will be more conducive to graffiti

The City has committed itself to the preservation and improvements of Main Street and Downtown. I think if the solid wall option was chosen that this would be a deterrent to the Downtown and Mill Pond area. Areas of improvements and growth in the Main Street area include:

- Library
- Downtown Revitalization
- Justice Center
- Long term planning that would allow for Health & Human Services to relocate to Downtown
- Expansion plans of APC
- Hormel Corporate Office South

The investment in the Main Street and Downtown areas by both the public and private sectors are in the millions of dollars and through proper planning and infrastructure development this area will continue to be a strong economic base and cultural center for the City of Austin.

As the Council moves forward with this important decision, it will have significant impacts on how this area is currently used and the long range development plans that allow business and industry to interact with one of the community's most significant recreational areas.

If you have any questions, please let me know.