

Project Name: Capitol East Parking Ramp

Meeting Date: November 15th, 2016

Meeting Time: 11AM – 12PM

Meeting Location: ATC Madison Office

Prepared By: Dan Windorski

Client Project No.:

GRAEF Project No.: 2016-5051.00

This document confirms and records the writer's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within three days, we will assume that the following interpretation or description is complete and accurate.

MEETING ATTENDEES

NAME	REPRESENTING	OFFICE PHONE	CELL PHONE	E-MAIL
Mark Lillegard	ATC			
Ronald Knapwurst	ATC			
William Putnam	City of Madison			
Adam Brecklin	ATC			
Fred Groth	GRAEF	608-242-1550		
Dan Windorski	GRAEF	608-242-1550		

ITEMS OF DISCUSSION

1. **Purpose of Meeting** – Follow-up meeting for ATC access

2. **Meeting Minutes**

- Tunnel is to be 15' wide with 3'-6" walkway on each side of the conduit.
- Walkways are to match elevation of conduit to avoid water table where possible. Minimum clear height of 4' to 5' at walkway is approved by ATC.
- Walkway slab in the tunnel can be replaced by gravel floor.
- ATC will need to remove roof of tunnel in 20' increments during planned repairs. GRAEF is to determine what type of equipment can be rented for use within 8'-2" garage for this purpose.
- GRAEF is to provide an initial draft of Emergency Repair Method and Planned Repair Method for ATC conduit in the tunnel. The purpose of the draft is to begin process of City of Madison and ATC to develop Memorandum of Understanding. Two methods are attached.

Prepared by,

Dan Windorski
Structural Engineer, PE

It was agreed that the cost of the construction of the tunnel would be part of the ramp project. The City will continue to own the concrete of the tunnel.

NEXT MEETING

Repair Methods Descriptions

1. **Emergency Repair Method** – appropriate for when leaks in conduit are noticed within the tunnel. Emergency repair method is un-planned. This repair method will need to be completed within 48 hours.
 - a. An embed plate (anchor point) in the second floor slab will be provided above each manhole to help lower 250lb piece of repair equipment (conduit clamp) into the tunnel. A chain fall or similar device will be used to lower repair equipment into the tunnel. Anchor point to be designed for 1000lb force.
 - b. Repair equipment is carted on gravel walkways to the repair location.
 - c. An attachment can be bolted to the ceiling of the tunnel to help move 250lb piece of equipment on top of conduit.

2. **Planned Repair Method** – appropriate for when parts of conduit need to be replaced. 20' sections of the tunnel roof will need to be removed along the tunnel length for access. This repair method will be scheduled weeks in advance. Sequence of scheduled repairs will be coordinated with City of Madison in order to maintain parking ramp operational.
 - a. Slab on grade will need to be saw cut and removed to fully expose hollow-core planks.
 - b. Connections between plank and concrete tunnel walls will need to be cut in order to ensure hollow-core planks are not attached to the supporting structure.
 - c. To remove first plank, keyway on both sides of the plank will need to be saw cut to break this plank free from neighboring planks. Do not cut any additional keyways. Hollow core planks will have embed plates on top to attach lifting devices. First plank is lifted with Manitou MT 625 H forklift (available at Ideal Crane Rental Inc.) or similar, and stored in designated area.
 - d. Next plank removal will follow the following sequence: 1. cut one keyway to free one plank from neighboring planks; 2. lift this one plank with Manitou MT 625 H forklift in such manner that front wheels do not come closer than 2' to the edge of plank next to the plank that is being removed; 3. repeat this sequence for next plank to be removed. Do not cut more than one keyway at a time.
 - e. Once repairs are complete, plank side edges are cleaned from keyway grout, plank is set back in place with keyways grouted, waterproofing membrane is restored and new slab on grade is poured.

