

Sewer Main Repair Presentation Methods & Techniques

Maintenance Memos

- Sewer & Water Maintenance Requirement Memo

SEWER & WATER MAINTENANCE REQUIREMENT MEMO	
<u>Date-</u> _____	
<u>From-</u> _____	
<u>Location-</u> _____	
<u>Type of Interruption-</u> _____	
<u>Drawings For-</u> _____	
<u>Valves Off-</u> _____	

<u>Hydrants Off-</u> _____	

<u>Job Foreman-</u> _____	
<u>Date Off-</u>	<u>Time Off-</u>
<u>Date On-</u>	<u>Time On-</u>
<u>Remarks-</u> _____	

No 11418	

Clearances and Locations

- The Clearances and Locations Work Group will provide drawings, utility locations, location numbers and any required forms.



Daily Work Sheet

- Water & Sewer work to be preformed

DATE: Friday May 9 - 03												
Water and Sewer Maintenance Section												
PIECOWYEW&SMT1												
STATUS	LOCATION	REPAIR TYPE	PRIORITY	JOB #	Loc.	ACTIVITY:	GL	SIGNING:	GIS	UTL->LOC:	STAFFING:	
Current	1006 Tiffin Crescent	Sanitary Connection	MBL	664	3112	5-6500	05-270	S/S			LABOURERS -	Parker/Klassen
2nd	Massey Drive & Marr Avenue	Water Main	MP1	146	3114	5-6100	02-150	On Site			BACKHOE OPERATOR -	Dmytrowich - 2343
Hold	175/303 Delaronde Road	Repair C/B Lead	MP1	775	3079	5-6710	07-310	On Site	27126		T/A OPERATORS -	Pingue
Hold	Arnhem St. & McNaughton Avenue	Hydrant (McAvity)	MP2	243	3059	5-6300	02-160	On Site	23535			
Hold	Field House	Water Connection	MBL	49246	1724067	5-6410	02-170	Crew				
:W&SMT2												
STATUS	LOCATION	REPAIR TYPE	PRIORITY	JOB #	Loc.	ACTIVITY:	GL	SIGNING:	GIS	UTL->LOC:	STAFFING:	
Hold	Clarence Avenue - 8th St. - 9th St.	Water Main	MP1	146	3115	5-6100	02-150	S/S			LABOURERS -	
Hold	15 Moxon Crescent	Sanitary Connection	MBL	664	3108	5-6500	05-270	S/S			BACKHOE OPERATOR -	
			MBL								T/A OPERATORS -	
			MBL									
			MBL									
:W&SMT3												
STATUS	LOCATION	REPAIR TYPE	PRIORITY	JOB #	Loc.	ACTIVITY:	GL	SIGNING:	GIS	UTL->LOC:	STAFFING:	
Hold	Dudley Street	Sanitary Connection	FMP	46806	1724067	5-6100	17-596	N/A			LABOURERS -	
			MBL								BACKHOE OPERATOR -	
			MBL								T/A OPERATORS -	
			MBL									
Hold	8th Street Yard	Cleanup Yard	MBL	49195	1724067	5-6100	02-150	N/A				
:W&SMT4												
STATUS	LOCATION	REPAIR TYPE	PRIORITY	JOB #	Loc.	ACTIVITY:	GL	SIGNING:	GIS	UTL->LOC:	STAFFING:	
Hold	Isabella Street / Eastlake Avenue	Repair C/B Lead	MBL	48959	1724067	5-6710	07-310	S/S			LABOURERS -	
Hold	Isabella Street / Eastlake Avenue	Valve (WPL)	MP2	146	3031	5-6200	02-150	S/S	1168		T/A OPERATORS -	
			MBL									
			MBL									
DAY OFF/EDO		VACATION:		SICK:		OTHER:		ADDITIONAL STAFFING:				
Ross, Young, Maskwa & Crews, Olchove,		Hilton, Swidzinski				Collins - Medical		Loader - Cousins @ Landfill -				
Priority Legend												
(MP1) Maintenance Priority - (MBL) Maintenance Backlog - (MPS) Maintenance Program Support - (FMP) Funded Maintenance Program												
Pending Water & Sewer Work												
STATUS	LOCATION	REPAIR TYPE	PRIORITY	JOB #	Loc.	ACTIVITY:	GL	SIGNING:	GIS			
Hold	Boychuck Dr. South of Taylor St.	San MH F&C	MBL	760	3010	5-6620	07-310	Crew	21925			
Hold	Boychuck Dr. South of Taylor St.	San MH F&C	MBL	760	3010	5-6620	07-310	Crew	21924			
Hold	4200 Block Taylor Street	Sanitary MH F&C	MBL	563		5-6620	05-260	Crew	8575			
Hold	412 Avenue C South	Stop (C&S)	MP2	48237	1724067	5-6400	02-170	S/S				
Hold	213 Avenue I South	San Stop (C&S)	MP2	48150	1724067	5-6400	02-170	S/S				
Hold	4th Avenue & 23th Street	San Top	MBL	573	3012	5-6620	05-260	S/S	3813			
Hold	Ottawa Avenue / 20th Street	San Bev Top	FMP	573	3068	5-6620	05-260	S/S	3231			

Daily Work Sheet Section A

- Section A shows the tasks for each Supervisor IV.

DATE: Friday May 9 - 03							
Water and Sewer Maintenance Section							
PIECOWYEW&SMT1							
STATUS	LOCATION:	REPAIR TYPE:	PRIORITY	JOB #	Loc:	ACTIVITY:	GL
Current	1006 Tiffin Crescent	Sanitary Connection	MBL	664	3112	5-6500	05-270
2nd	Massey Drive & Marr Avenue	Water Main	MP1	146	3114	5-6100	02-150
Hold	175/303 Delaronde Road	Repair C/B Lead	MP1	775	3079	5-6710	07-310
Hold	Arnhem St. & McNaughton Avenue	Hydrant (McAvity)	MP2	243	3059	5-6300	02-160
Hold	Field House	Water Connection	MBL	49246	1724067	5-6410	02-170
:W&SMT2							
STATUS	LOCATION:	REPAIR TYPE:	PRIORITY	JOB #	Loc:	ACTIVITY:	GL
Hold	Clarence Avenue - 8th St. - 9th St.	Water Main	MP1	146	3115	5-6100	02-150
Hold	15 Moxon Crescent	Sanitary Connection	MBL	664	3108	5-6500	05-270
			MBL				
			MBL				
			MBL				
:W&SMT3							
STATUS	LOCATION:	REPAIR TYPE:	PRIORITY	JOB #	Loc:	ACTIVITY:	GL
Hold	Dudley Street	Cathodic Protection	FMP	46806	1724067	5-6100	17-596
			MBL				
			MBL				
			MBL				
Hold	8th Street Yard	Cleanup Yard	MBL	49195	1724067	5-6100	02-150
:W&SMT4							
STATUS	LOCATION:	REPAIR TYPE:	PRIORITY	JOB #	Loc:	ACTIVITY:	GL
			MBL				
Hold	Isabella Street / Eastlake Avenue	Repair C/B Lead	MBL	48959	1724067	5-6710	07-310
Hold	Isabella Street / Eastlake Avenue	Valve (WPL)	MP2	146	3031	5-6200	02-150
			MBL				
			MBL				
DAY OFF/EDO		VACATION:		SICK:			
Ross, Young, Maskwa & Crews, Olchove,		Hilton, Swidzinski				Collins - Medical	
Priority Legend							
(MP1) Maintenance Priority - (MBL) Maintenance Backlog - (MPS) Maintenance Program Support - (FMP) F							

Daily Work Sheet Section B

- Section B of the Daily Work Sheet shows additional information

on				
SIGNING:	GIS	UTL>LOC:	STAFFING:	COMMENTS:
S/S			LABOURERS - Parker/Klassen	
On Site			BACKHOE OPERATOR - Dmytrowich - 2343	
On Site	27126		T/A OPERATORS - Pingue	Gravel required to complete
On Site	23535			
Crew				
SIGNING:	GIS	UTL>LOC:	STAFFING:	COMMENTS:
S/S			LABOURERS -	No homes out!
S/S			BACKHOE OPERATOR -	
			T/A OPERATORS -	
SIGNING:	GIS	UTL>LOC:	STAFFING:	COMMENTS:
N/A			LABOURERS -	
			BACKHOE OPERATOR -	
			T/A OPERATORS -	
N/A				
SIGNING:	GIS	UTL>LOC:	STAFFING:	COMMENTS:
			LABOURERS -	
S/S			BACKHOE OPERATOR -	
S/S	1168		T/A OPERATORS -	
OTHER:	ADDITIONAL STAFFING:			COMMENTS:
	Loader - Cousins @ Landfill -			
funded Maintenance Program				

Daily Work Sheet Section C

- Section C shows work pending.

Pending Water & Sewer Work									
STATUS	LOCATION:	REPAIR TYPE:	PRIORITY	JOB #	Loc:	ACTIVITY:	GL	SIGNING:	GIS
Hold	Boychuck Dr. South of Taylor St.	Storm MH F&C	MBL	760	3010	5-6620	07-310	Crew	21925
Hold	Boychuck Dr. South of Taylor St.	Storm MH F&C	MBL	760	3010	5-6620	07-310	Crew	21924
Hold	4200 Block Taylor Street	Sanitary MH F&C	MBL	563		5-6620	05-260	Crew	8575
Hold	412 Avenue C South	Curb Stop (C&S)	MP2	48237	1724067	5-6400	02-170	S/S	3813
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Hold	4th Avenue & 23th Street	San Bev Top	MBL	573	3012	5-6620	05-260	S/S	
Hold	Ottawa Avenue / 20th Street	San Bev Top	FMP	573	3068	5-6620	05-260	S/S	

Public Works Stores









- Supervisor IV will pick up all materials that can be transported by a $\frac{3}{4}$ ton truck.



APWA Color Codes

- Representatives from utility companies can field locate their lines if required

APWA Colour Codes

	Electric Power Lines
	Gas, Oil, or Steam
	Communications Lines, Cables, or Conduit
	Potable Water
	Reclaimed Water, Irrigation, and Slurry Lines
	Sewers and Drain Lines
	Temporary Survey Markings
	Proposed Excavation

Trailer Location

- Keep trailers clear of the excavation site.



Cutting Asphalt

- Every effort should be made to cut the asphalt or concrete



Asphalt / Concrete Recycling

- Asphalt and concrete are to be recycled.



Correct Shoring

- Correct shoring will be selected.



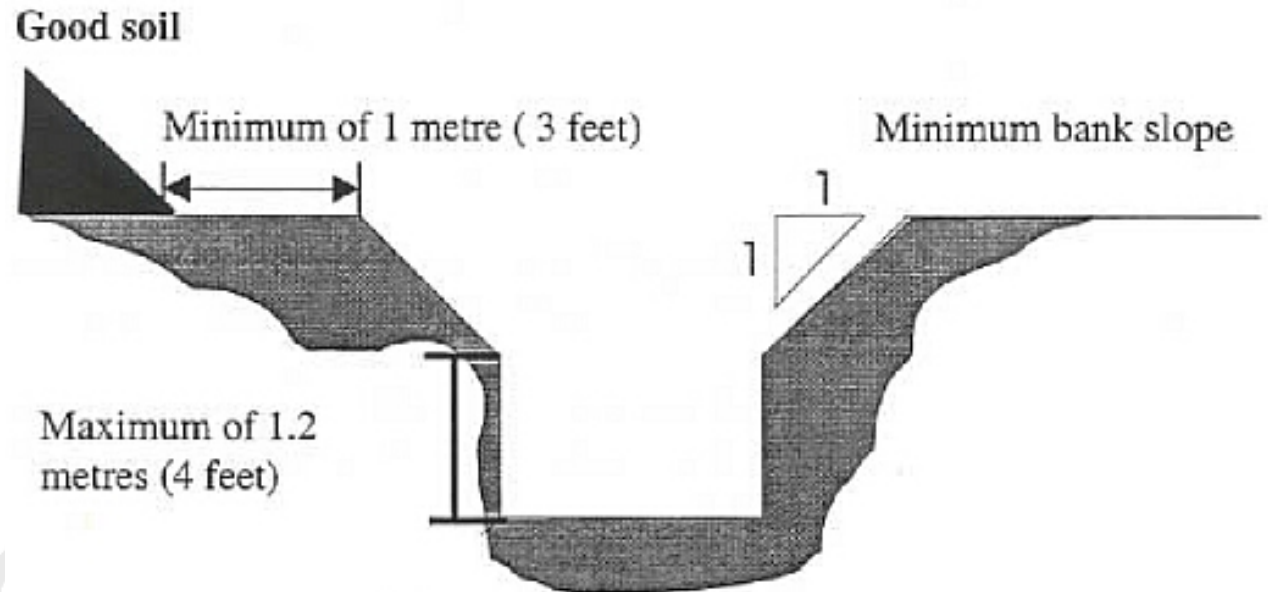
Excavation

- Excavating for a sewer main repair.



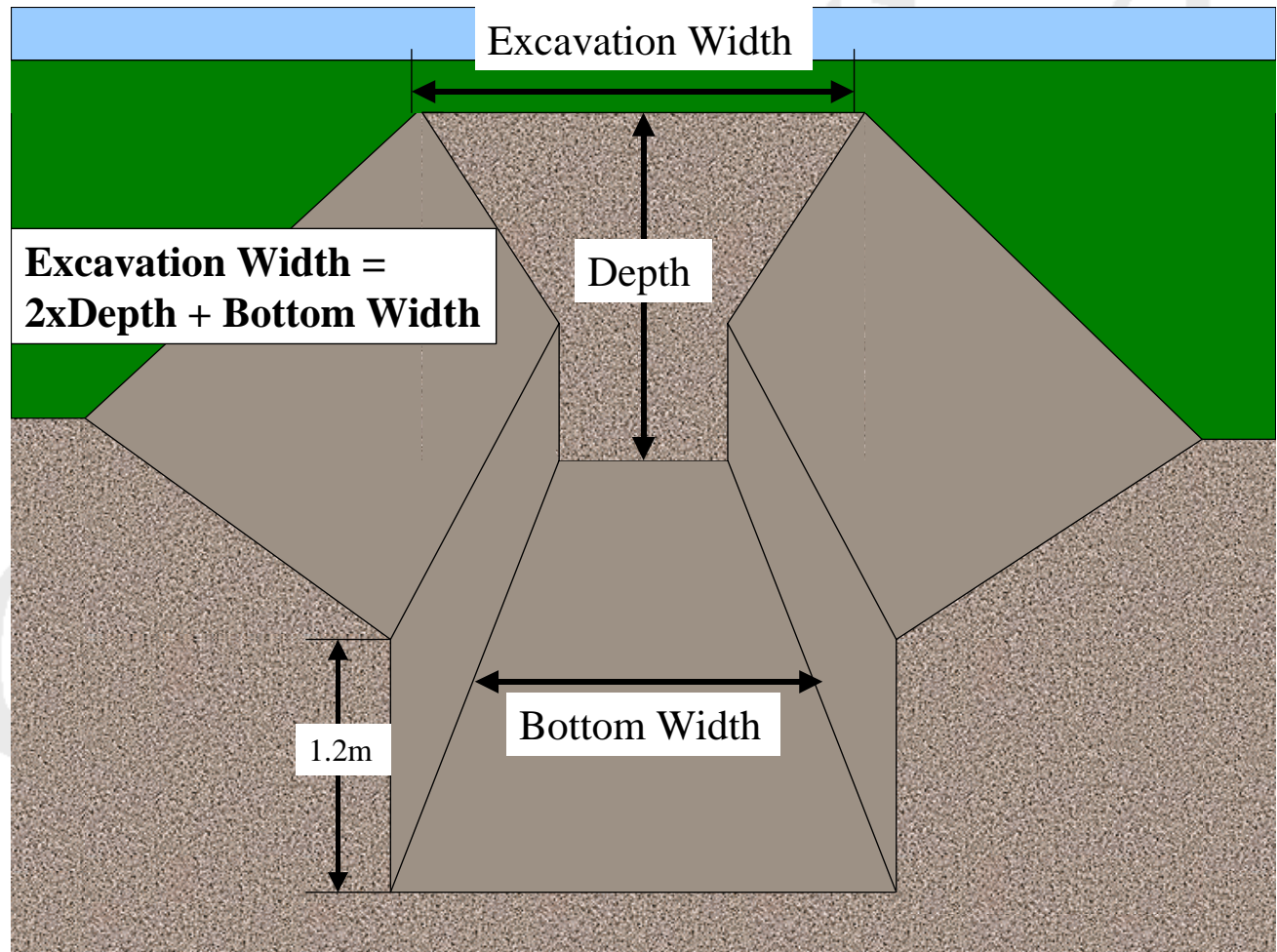
Sloping The Trench Walls

- Protect labourers in an excavation by sloping the walls or installing shoring.



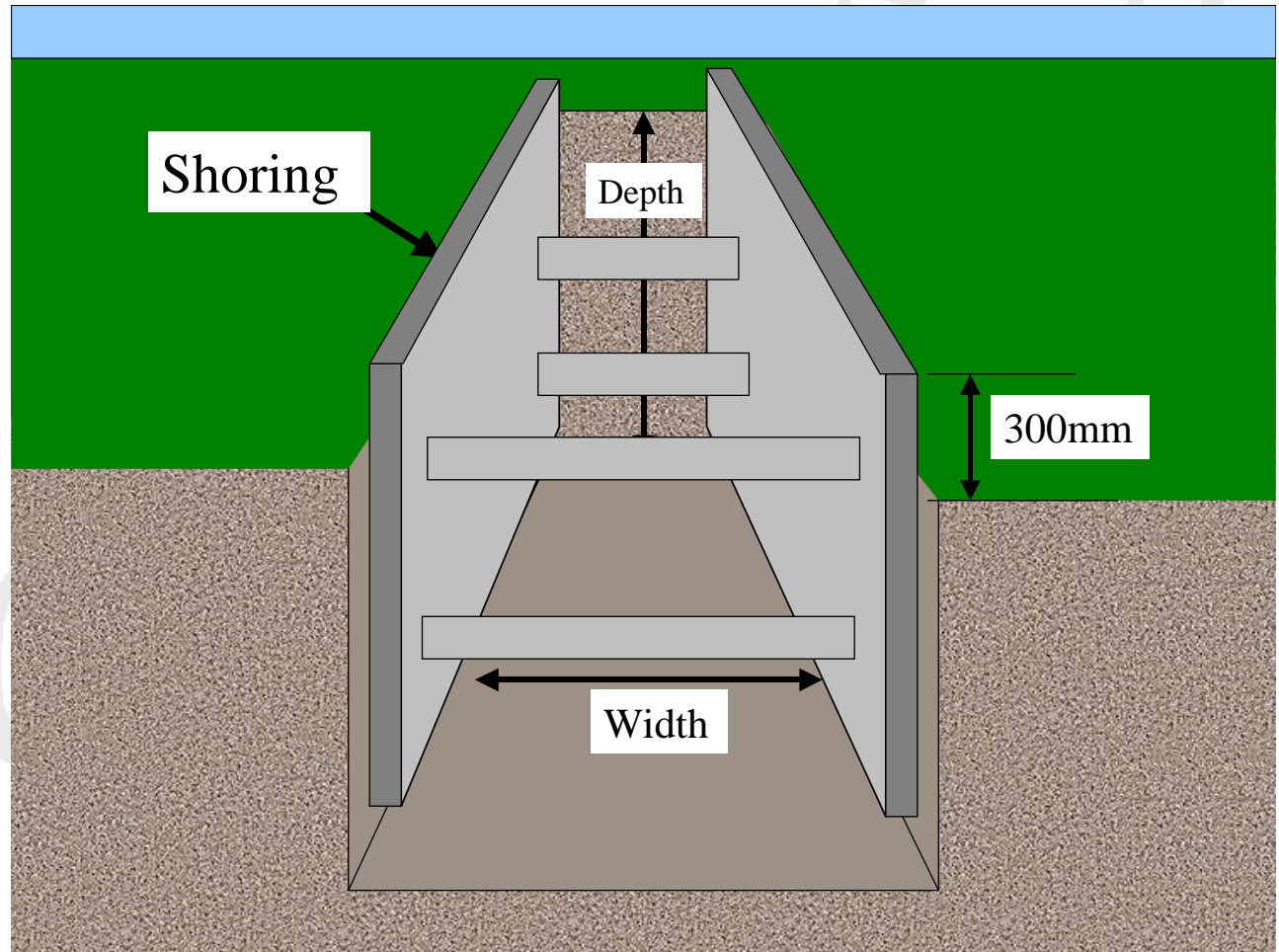
Excavation Size

- Calculate the size of the excavation.



Excavation With Shoring

- Install shoring instead of sloping the excavation walls.



Spoil Piles

- Material from the trench will be sorted



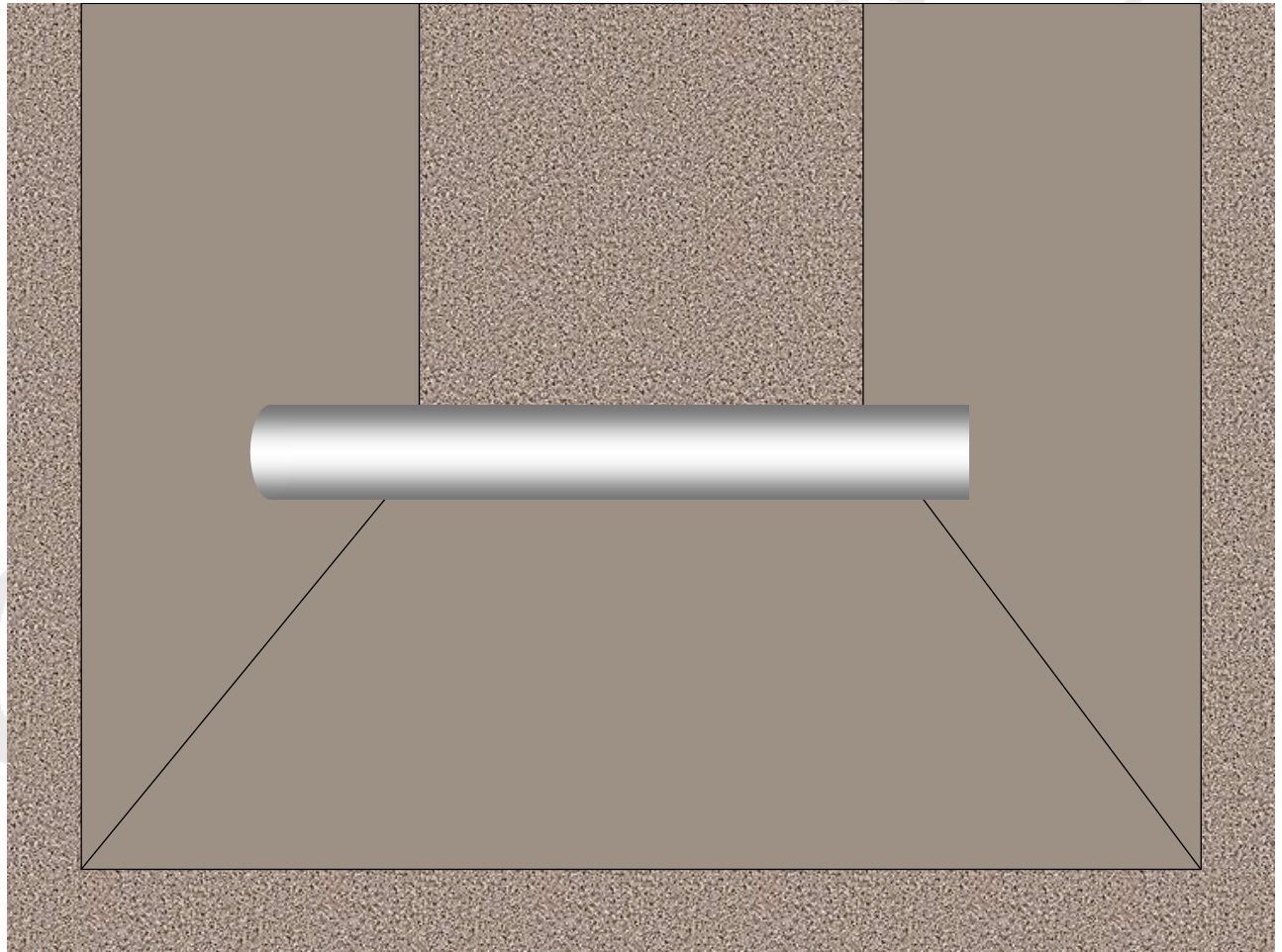
Locating Buried Utilities

- Establish pipe depth using the feeling rod.



Supporting Utilities

- Support buried utilities as required.





General Excavation Safety

Struck Gas Line

- The machine must be immediately turned off



Overhead Power Lines

- Do not exit a vehicle that has contacted overhead power lines.



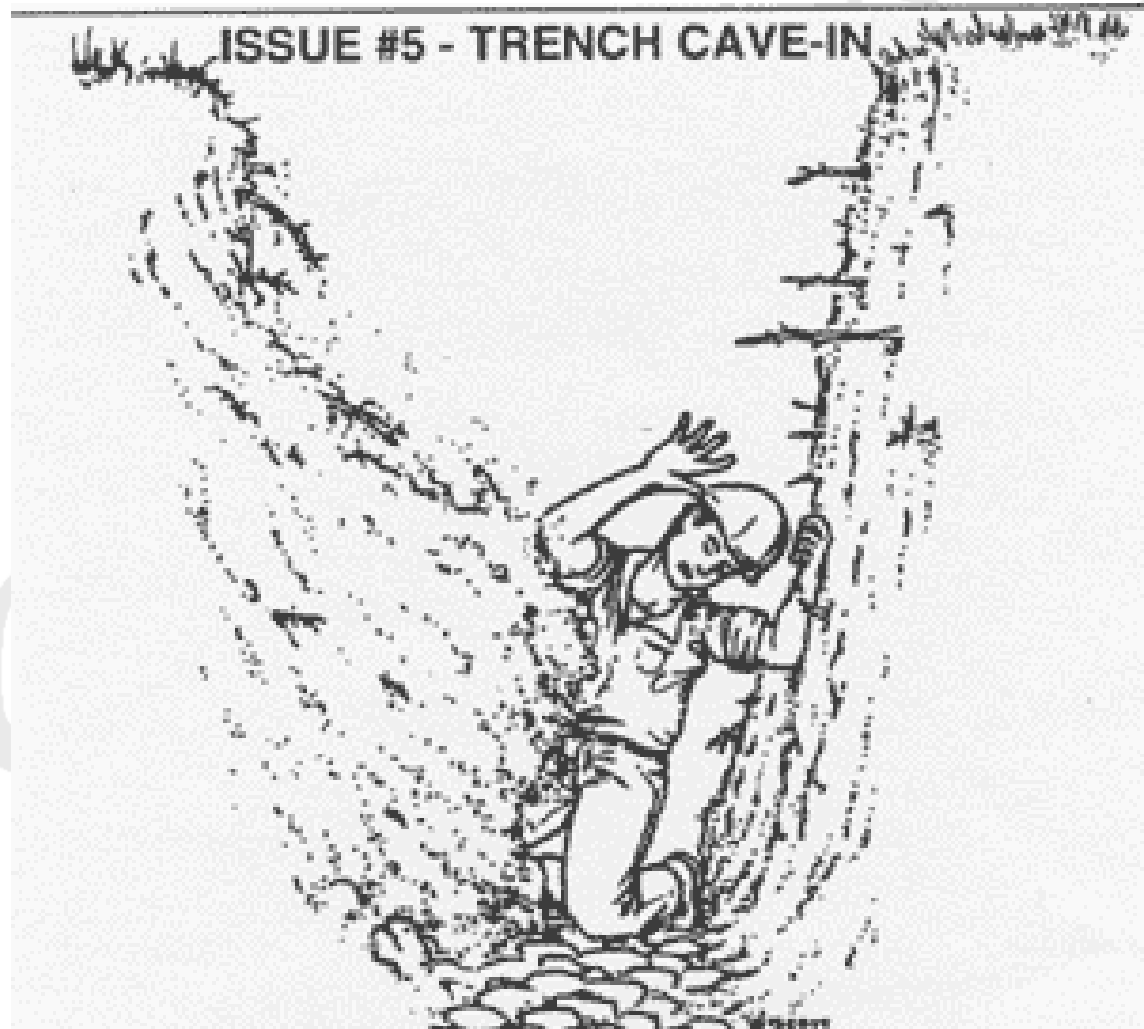
Danger Zone

- Do not go in between the excavator bucket and the truck being loaded.



Trench Cave-in

- No worker will enter a trench greater than 1.2m (4feet) in depth, without a protective structure.



Sewer Diversion



Sewer Diversion

- Sewer diversion set up.



Sewer Plug

- A sewer plug is installed in the sewer main



Sewage Pump

- Lower a pump into the manhole upstream of the sewer repair



Begin Pumping

- Begin pumping as soon as possible in order to minimize damage



De-energizing The Water Main

- De-energize and/or removal of the watermain may be required.



Shoring and Trailer

- Make sure shoring and trailer, are clean and in proper working order for transporting.



Unloading Shoring

- Hook up chains appropriately.



Shoring Installation

- Lift and lower shoring safely.



Shoring Endplates

- Hydraulically expand shoring.
- Install endplates if required.



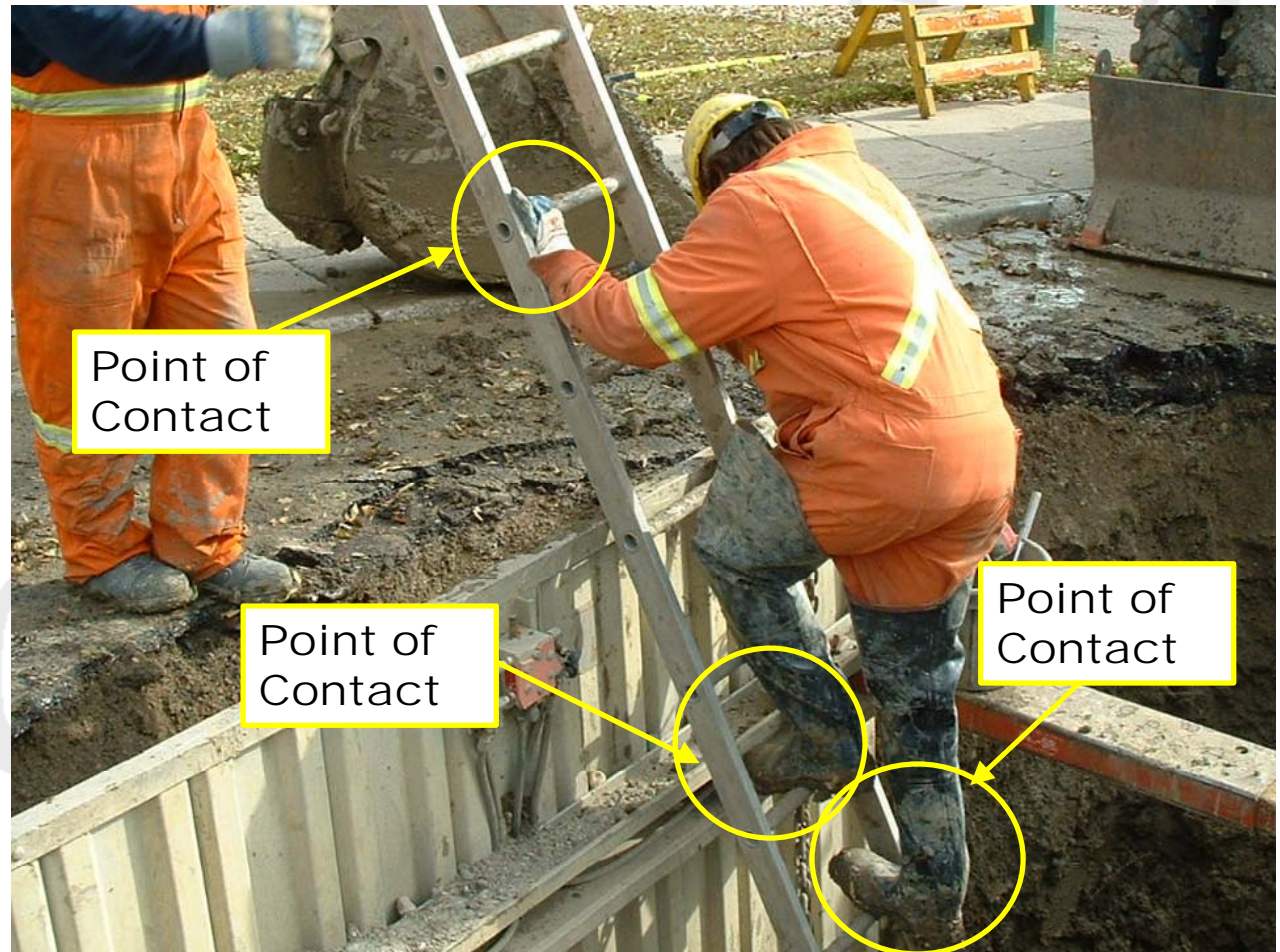
Entering the Excavation

- Secure the ladder
- Wear all Personal Protective Equipment.



Three Points of Contact

- Three points of contact on the ladder.



Sewer Main

- Expose and clean around both ends of failure.



Cut Pipe

- Broken pipe piece in the excavation.



Pipe Measurement

- Measure the pipe and relay measurement to top labourer.



Cut Sewer Pipe

- Cut the replacement sewer pipe with the quickie saw.



Saturated Soil

- remove unsuitable material



Prepare Pipe Bedding

- Install the proper bedding material.



Compacting

- Place bedding over top of the pipe and compact.



Lowering Pipe

- Lowering new pipe into the trench.



Coupler Installation

- Slip coupler over the end of the replacement pipe.



Aligning Pipe

- Align the replacement pipe and the existing pipe



Blocked Coupler

- Block couplers so they will not offset during backfilling.



Removing Sewer Plug

- Arrange to have the sewer bypass removed.



Service Connections

- Cover services connection and mains with 150mm (6inch) of granular material



Non-shrink Backfill

- Non-shrink backfill shall be used beneath (concrete or paving stone), sidewalks or driveways



Backfilling Other Utilities

- Ensure utilities are backfilled according to the specifications.



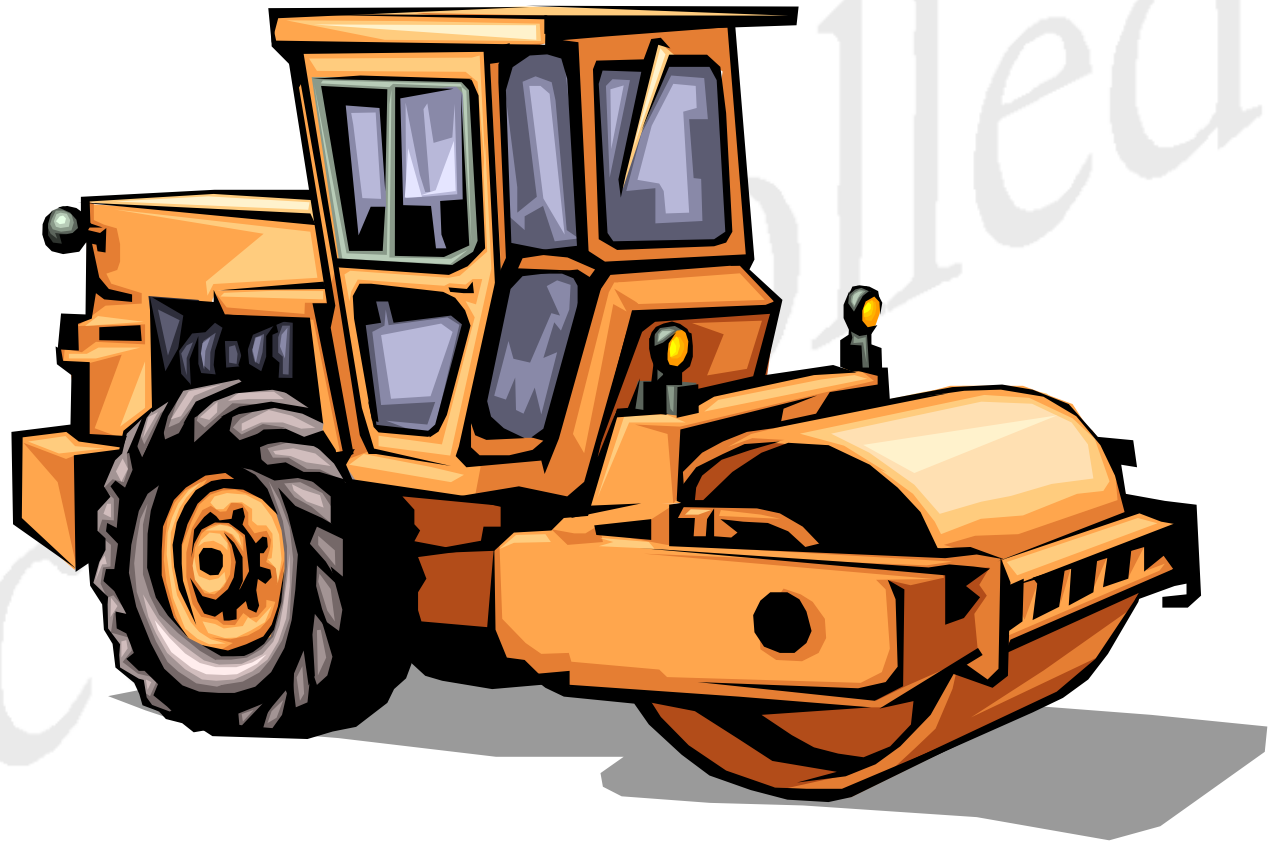
Backfill Material

- Backfill material should conform to City of Saskatoon Standards.



Compactors

- Mechanical Methods of compaction are required.



Hydraulic Tamper

- The hydraulic tamper is a excavator attachment



Walk Behind Tamper

- Backfill in 150mm (6inches) lifts.



Handheld Plate Tamper

- Backfill in 150mm (6inches) lifts.



Vibratory Sheep's Foot Packer

- Vibratory Sheep's foot packer must be used for larger excavations.



Bucket Tamping

- Bucket tamping will be avoided.



Finished Backfill

- Leave adequate room for asphalt or concrete as per the Roadway Section's instruction.



Disinfectant Applicator

- Disinfect all tools after use.



Disinfecting

- Apply disinfectant solution.



Traffic Control Devices

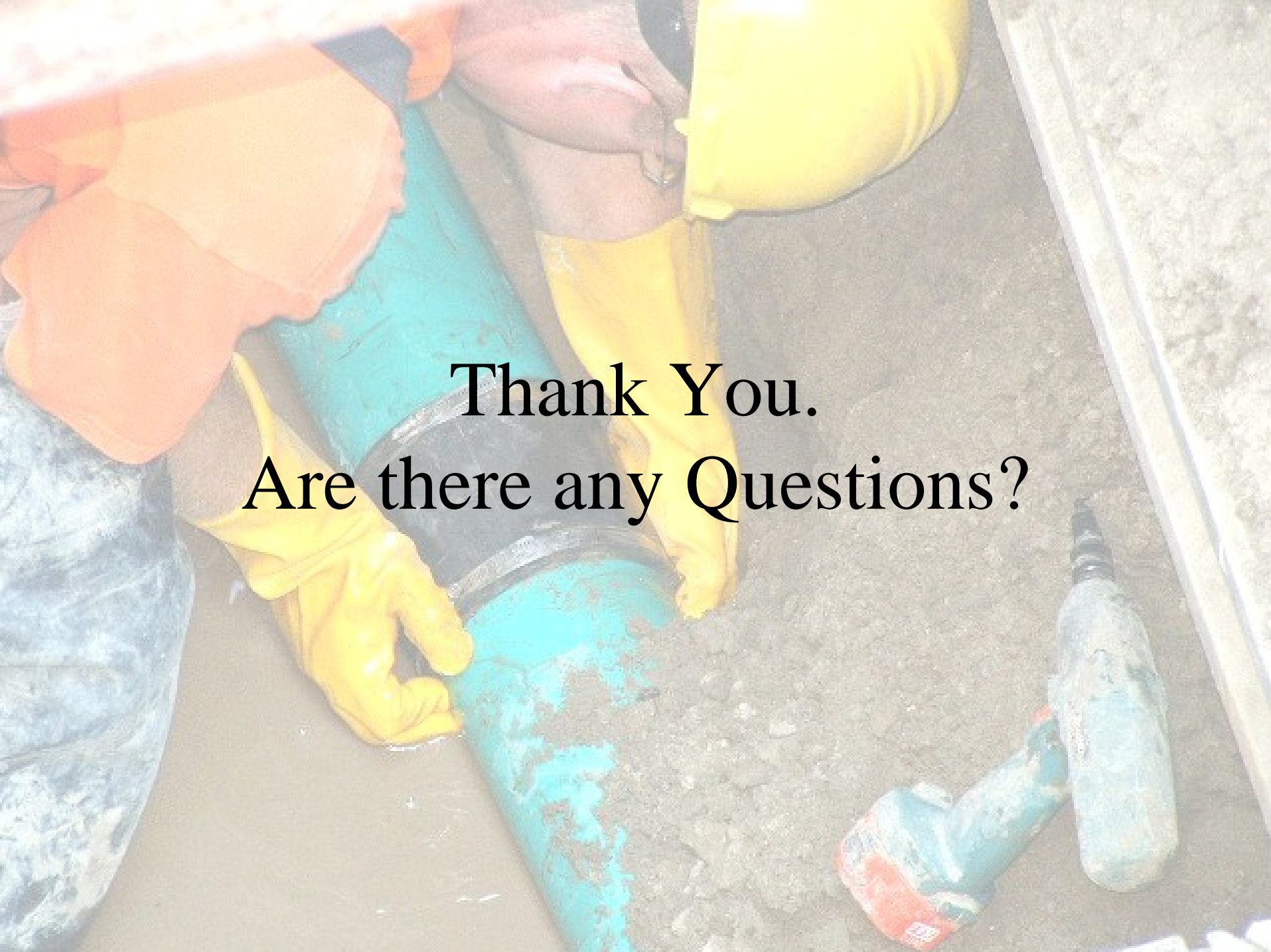
- Before leaving the site any unnecessary traffic control devices will be removed



Site Restoration

- The applicable department will perform restoration of the site.





Thank You.
Are there any Questions?