



CITY OF LAREDO

Drainage System Inspection and Maintenance Standard Operating Procedure (SOP)



Objective

This Standard Operating Procedure (SOP) details maintenance responsibilities and procedures for inspecting and maintaining the open channel drainage systems and storage basins within the City of Laredo (City), Texas. The primary purpose is to ensure inspection and maintenance of the conveyance systems is performed annually.

Responsibilities

The City of Laredo Environmental Services Department is responsible for the administration of the SOP. They are responsible for ensuring that the inspection and maintenance of open channel drainage systems and storage basins is conducted in accordance with the described operating procedures.

Jurisdiction

The operating procedures applies to the public and private open channel drainage systems and storage basins that lie within City of Laredo city limits. Open channel drainage systems and storage basins on private land must be inspected and maintained by the property owner and reported to the Environmental Services Department. The alternative is to have an access easement through dedication for public maintenance entry.

The City of Laredo Environmental Services Department has the authority to inspect and perform the necessary maintenance of all rivers, creeks, ditches, channels, and storage basins on City Rights-of-Way, and where the property owner has dedicated a drainage maintenance easement to the city.

Inspection and Maintenance Duties

All inspections and maintenance operations shall be documented and logged. All documentations and logs shall be submitted and retained by the City of Laredo Environmental Services Department for future review. The inspection duties are expected as follows:

1) Inspection Frequency

Inspections are expected to be conducted:

- Once every calendar year - inspect open channel drainage systems and storage basins that fall within the SOP jurisdiction once per year.
- Upon citizen complaint - inspect complaints submitted by residents, or other departments.
- After a storm event - inspect areas noted as “problem sites” from previous inspections.

2) Areas That Need to Be Inspected

During each inspection, the following site areas must be inspected (if applicable):

- Stormwater controls (e.g., swales, sediment basins, inlets, exit points etc.).
- Stormwater discharge points (upstream and downstream).
- Areas under bridges and crossings.
- Dams, embankments, and weirs.
- Top of bank, bottom of bank, and riprap areas.

3) What to Check for During an Inspection

- Whether stormwater controls require maintenance or corrective action, or whether new or modified controls are required.
- For the presence of conditions that could lead to spills, leaks, or other pollutant accumulations and discharges.

- Whether there are visible signs of erosion and sediment accumulation at points of discharge and to the channels and streambanks that are in the immediate vicinity of the discharge.
- For any distressed/dead wildlife, rapid mosquito growth, and overgrown vegetation blocking flow.
- Ensure there is a proper vegetation buffer around the pond perimeter (un-mowed or at least 6” in height for the entire side slope and top 10 feet).
- Any clogging or erosion at the inlets, outlets, and overflow.
- Repeat dumping, large blockages, or backflow (if this is the case, section will be marked as a “Problem site”).
- If a stormwater discharge is occurring at the time of the inspection, whether there are obvious, visual signs of pollutant discharges.
- If a storm channel is concrete-lined, check to see if excessive or massive debris is present (concrete-lined channels must be freed of all debris that could hinder flow).

4) *Inspection Report*

Within 24 hours of completing each inspection, you are required to complete and submit the inspection checklist that includes:

- Date of and reason for inspection, along with site information.
- Names and titles of persons conducting the inspection.
- Photos taken at site.
- Summary of inspection findings along with scope of work required, and if an area should be marked as a “Problem site”.
- If portions of the site are determined to be unsafe to access for the inspection, documentation of what conditions prevented the inspection and where these conditions occurred on the site.

The equipment expected to be utilized for the maintenance tasks may include a jet vacuum vehicle, backhoe, shovels, lighting equipment and a wheelbarrow or truck for hauling off debris. Maintenance crews will manage the conditions of drainage ways to ensure proper flow by the removal of debris to prevent downstream flooding and prevent the loss of life and property. The maintenance duties are expected as follows:

1) *The Maintenance Personal*

The maintenance personal is selected from the scope of work listed in the inspection. The maintenance personal may consist of:

- A Supervisor.
- An Operations Lead
- Equipment Operators

2) *Maintenance Guidelines*

The sequence of actions performed by the maintenance personal should follow as:

1. Supervisor receives complaint request or inspection form, investigates location to determine urgency and resources needed and issues work to inspect and maintain the subject area.
2. Supervisor assigns work to crew.
3. Maintenance crew arrives at location with required personal protective equipment and will set up advance warning signs for traffic control.
4. Supervisor will direct the Maintenance crew to perform the tasks required.
5. Supervisor will perform quality inspection and take relevant pictures when work is completed.
6. Supervisor will report maintenance completion and close out work.

A list shall be kept that identifies areas that previous inspections have shown to be problematic. A storage basin or waterway may be included on this list if, within the last year, more than two maintenance forms are filed.



CITY OF LAREDO OPEN CHANNEL INSPECTION CHECKLIST



Open Channel Information					
Channel Name:		Owned by:			
Reason for Inspection: (annual, complaint, post storm event)		Type of channel (concrete-lined, natural)			
Date:		Time:			
Channel Description & Location:					
#	Inspection Item	YES	NO	N/A	Comments/Corrective Action Needed
1.	Any safety hazards or corrosive materials?				
2.	Any downed trees or large foreign objects?				
3.	Any distressed/dead fish or wildlife?				
4.	Mosquito proliferation?				
5.	Vegetation appears healthy?				
6.	Undesirable vegetation growth?				
7.	Severe erosion in the facility?				
8.	Evidence of sediment accumulation?				
9.	Water flows without obstruction? (Check crossings and bridges)				
10.	Dams, embankments, and weirs are in good condition?				
11.	Channel needs to be cleared of all debris? (Applies only to concrete-lined)				
<u>Inspector's Summary:</u> (Is maintenance required? Circle one: Yes / No)					
Inspector's Name:		Signature:			
Inspector's Position:					
Agency:					

Inspections shall be completed at least once per calendar year. A copy of the completed checklist and photos must be submitted to the City of Laredo, Attn: Environmental Services Department. Documentation of the corrective action taken (date, by whom, what was done, etc.) must be provided for each item noted above.



CITY OF LAREDO OPEN CHANNEL MAINTENANCE FORM



Open Channel Information			
Channel Name:		Owned by:	
Reason for Maintenance: (annual, complaint, post storm event)		Type of channel (concrete-lined, natural)	
Date:		Time:	
Channel Description & Location:			
TASK <small>(To be filled by maintenance supervisor based on site needs)</small>	Corrective Action	Completed? (Yes/No)	
<u>Supervisor's Comments:</u>			
Supervisor's Name:		Signature:	
Agency:			

The maintenance form shall be completed for all problems that are found through inspections and citizen 311 complaints. A copy of the completed form & photos must be submitted to the City of Laredo, Attn: Environmental Services Department.



CITY OF LAREDO STORAGE BASIN INSPECTION CHECKLIST



Storage Basin Information					
Basin Name:		Owned by:			
Reason for Inspection: (annual, complaint, post storm event)		Type of facility (detention, infiltration, retention, below-ground):			
Date:		Time:			
Basin Description: Location:					
#	Inspection Item	YES	NO	N/A	Comments/Corrective Action Needed
1.	Any safety hazards or corrosive materials?				
2.	Any downed trees or large foreign objects?				
3.	Structural components are in bad condition?				
4.	Riprap areas are eroded or damaged?				
5.	Standing water when no water should be present?				
6.	Undesirable vegetation growth?				
7.	Severe erosion in the facility?				
8.	Evidence of sediment accumulation?				
9.	Water can flow without obstruction?				
10.	Pipes are clogged or blocked?				
<u>Inspector's Summary:</u> <i>(Is maintenance required? Circle one: Yes / No)</i> <div style="height: 100px;"></div>					
Inspector's Name:		Signature:			
Inspector's Position:					
Agency:					

Inspections shall be completed at least once per calendar year. A copy of the completed checklist and photos must be submitted to the City of Laredo, Attn: Environmental Services Department. Documentation of the corrective action taken (date, by whom, what was done, etc.) must be provided for each item noted above.



CITY OF LAREDO STORAGE BASIN MAINTENANCE FORM



Storage Basin Information			
Basin Name:		Owned by:	
Reason for Maintenance: (annual, complaint, post storm event)		Type of facility (detention, infiltration, retention, below-ground)	
Date:		Time:	
Basin Description & Location:			
TASK <small>(To be filled by maintenance supervisor based on site needs)</small>	Corrective Action	Completed? (Yes/No)	
<i>Supervisor's Comments:</i>			
Supervisor's Name:		Signature:	
Agency:			

The maintenance form shall be completed for all problems that are found through inspections and citizen 311 complaints. A copy of the completed form & photos must be submitted to the City of Laredo, Attn: Environmental Services Department.