Private Land Drainage Areas (PLDA)

Trash Inspection Training

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.

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January 30, 2024

Training Outline

1. Overview of MRP C.10 Trash Load Reduction Requirements
2. Purpose of PLDA Trash Inspection Program & Overview of Elements
3. Trash Inspection Process
   - Confirming PLDA Status
   - Effectiveness of BMPs
   - Conducting OVTAs – OVTA Protocol C
   - Ending the Inspection & Next Steps
4. Field Exercise

MRP Provision C.10 Trash Control Requirements Overview

MRP Provision C.10 – Trash Load Reduction

- Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit, also known as the **Municipal Regional Permit (MRP)**
  - Cities/Counties through the San Francisco Bay Area
  - MRP Provision C.10 – Trash Load Reduction

- MRP 3.0 (Effective July 1, 2022)
  - Required Trash Load Reductions in C.10
    - 90%by June 30, 2023
    - 100% by June 30, 2025
  - **C.10.a.(ii).b - Specific requirement for addressing trash on PLDAs**

Impetus for MRP C.10 Requirements

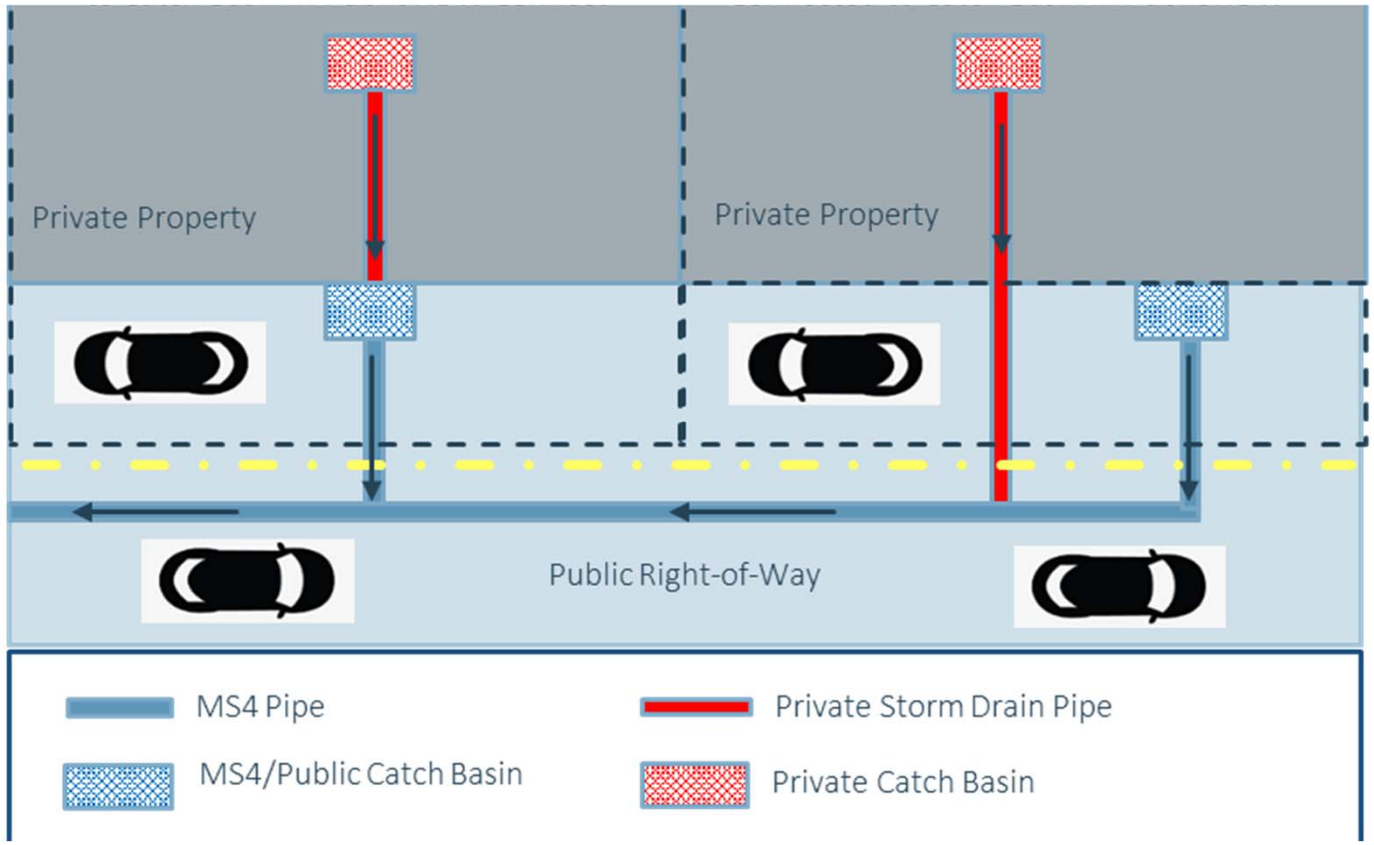
- Trash is a significant pollutant of Bay Area surface waters and is adversely affecting beneficial uses, including those that support aquatic life, wildlife, and public health
- Trash pollution can be solved with the collective effort of the public, agencies and organizations
- Trash discarded on land frequently makes its way into receiving waters via the stormwater systems and other pathways

2008 Coyote Creek (San Jose)

What is a PLDA?

- Private lands that:
  - Are believed to generate moderate, high, or very high levels of trash, AND
  - Drain to storm drain inlets that the city/county does not own or operate (i.e., are on private properties) but are plumbed to the city/county storm drain system
- The PLDA must:
  - Be equipped with full trash capture device, OR
  - Managed to a "low trash generation" level as documented via On-land Visual Trash Assessments (OVTAs)

What is a PLDA?



Trash Generation (Loading)

Trash Level	Map Display	OVTA Score	Range of Trash Volume Entering Inlet (gal / acre / year)
Low	Green	A	< 5*
Medium	Yellow	B	5 - 10
High	Red	C	10 - 50
Very High	Purple	D	> 50

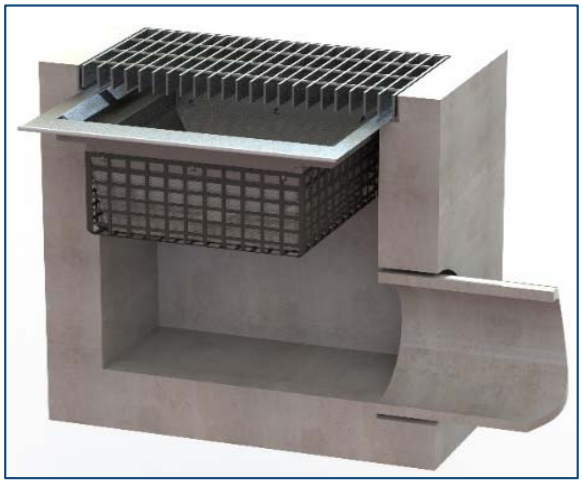
*Equivalent to Full Trash Capture

Trash Controls – Full Capture Devices

- Catch Basin Inserts

Outflow Pipe Screen
(Connector Pipe Screen)

Surface Inlet Basket/Screen



Trash Controls – Full Capture Devices

- High-flow Capacity Systems

Vortex Separators

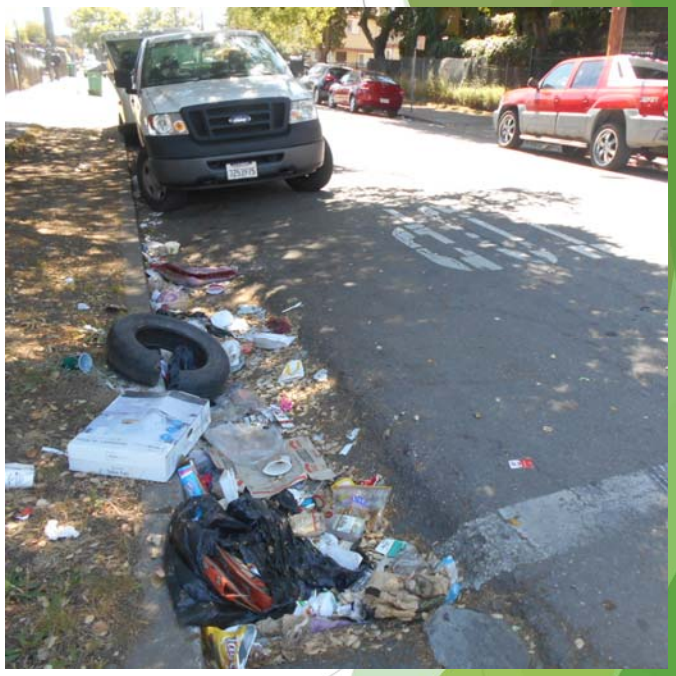
Baffle Boxes

Linear radial and vertical
Gross Solid Removal Devices

Underground and End-of-pipe
Netting Systems

On-land Visual Trash Assessments (OVTAs)

- Walking/driving survey of trash levels on land areas draining to city/county storm drain system
- Qualitative Assessment
  - Training needed
  - Quality Assurance/Control
- Originally developed by EOA, Inc. in 2014 (subsequently updated)
- Integrated into the Bay Area Phase I NPDES Stormwater Permit
  - Prescribed approach
  - Over 15,000 OVTAs conducted to-date in Bay Area
  - Used to develop **baseline** maps/loads and demonstrate trash load reduction **progress** from control measures other than full capture systems
- Used Statewide



City/County Programs to Address Trash in Stormwater

	Publicly Owned Full Trash Capture Devices	Pollution Prevention and Institutional Controls	Trash Inspection Program on PLDAs
Examples Controls	• Catch Basin Inserts • High-flow Capacity Systems	• Street sweeping • On-land cleanups • Product bans • Public waste container management	• Full Trash Capture Devices (privately owned) • Parking lot sweeping • Private waste container management • On-land cleanups
Trash Reduction Evaluation Method	• Documenting drainage areas and O&M	• On-land Visual Assessments (OVTAs) in public ROW	• Trash inspections (including OVTAs) on PLDAs • Documenting full capture device and O&M
Applicability to PLDAs	• Addresses all areas (including PLDAs) draining to device	• Does not address trash on PLDA, rather trash in the public ROW	• Directly addresses trash on PLDAs

PLDA Trash Inspection Program Overview

Overview of PLDA Trash Inspection Program

- Purpose – To effectively address the trash that may be generated at significant levels on PLDAs and potentially impact stormwater quality

- <u>Desired Outcomes</u>
  - Demonstration of “Low Trash Generation” on the PLDA or
  - Full Trash Capture Device Installation/O&M

Overview of PLDA Trash Inspection Program

- MRP Requirement (C.10.a.ii.b) – all PLDAs have low trash generation or full trash capture by July 1, 2025

1. **Verification** – Field visit to PLDAs to refine inventory
2. **Inventory** - Identify PLDAs through desktop analysis
   - Verify Storm Drain Inlet(s) (SDI) located on property
   - Verify connectivity to MS4
   - Perform OVTAs for baseline reassessment
3. **Initial Inspection** - Perform inspections w/site contact and require trash management actions
4. Follow-up Inspection(s) - Perform follow-up inspections w/site contact and verify low trash generation or issue escalated enforcement (as needed)
5. Routine (On-going) Inspection Program

PLDA Trash Inspection Program

- Program Elements
  - Legal authority
  - Record keeping/data management
  - Inspector Materials (inspection forms, outreach materials, etc.)
  - Inspector Training
- Initial Inspection
  - Document trash management BMPs
  - Conduct OVTA
  - Provide outreach and education (as needed)
- Enforcement/Follow-up
- Routine Inspection Program

Potentially Overlapping Programs

- **C.4 - Stormwater Business Inspection Program**
  - C.4 inspections possibly at businesses within the PLDA (parcel)
  - Overlapping programs may provide efficiencies
- **C.12.c - Moderate PCBs Property Abatement Program**
  - Also parcel-based
  - Also requires management actions to effectively manage sediment/PCBs discharges from site
  - Program under development

PLDA Pre-Inspection Tasks

- Identify owners (or RP)/on-site contacts for PLDAs
- Prioritize PLDAs for inspections
  - **High priority**
    - Overlap with C.4 businesses
    - PLDAs with verified OVTA score of High (C) or Very High (D)
  - **Medium priority**
    - Overlap with C.12.c (Moderate PCBs) properties
  - **Low priority**
    - PLDAs planned for redevelopment by June 2025
    - PLDAs within drainage areas for planned FTC devices
  - **Other Permittee priorities**
- Schedule inspections

PLDA Inspection

- **Contact owner** (or RP)/on-site contacts **for inspection**
- **Initial Inspection Content**
  - If needed, verify presence, location and number of SDIs
  - Perform Trash Inspection (BMP observations & OVTA)
  - Inform contact of trash management requirements (outreach and education)
  - Inform contact of inspection results
    - Corrective actions needed
    - Schedule for short term and long term actions

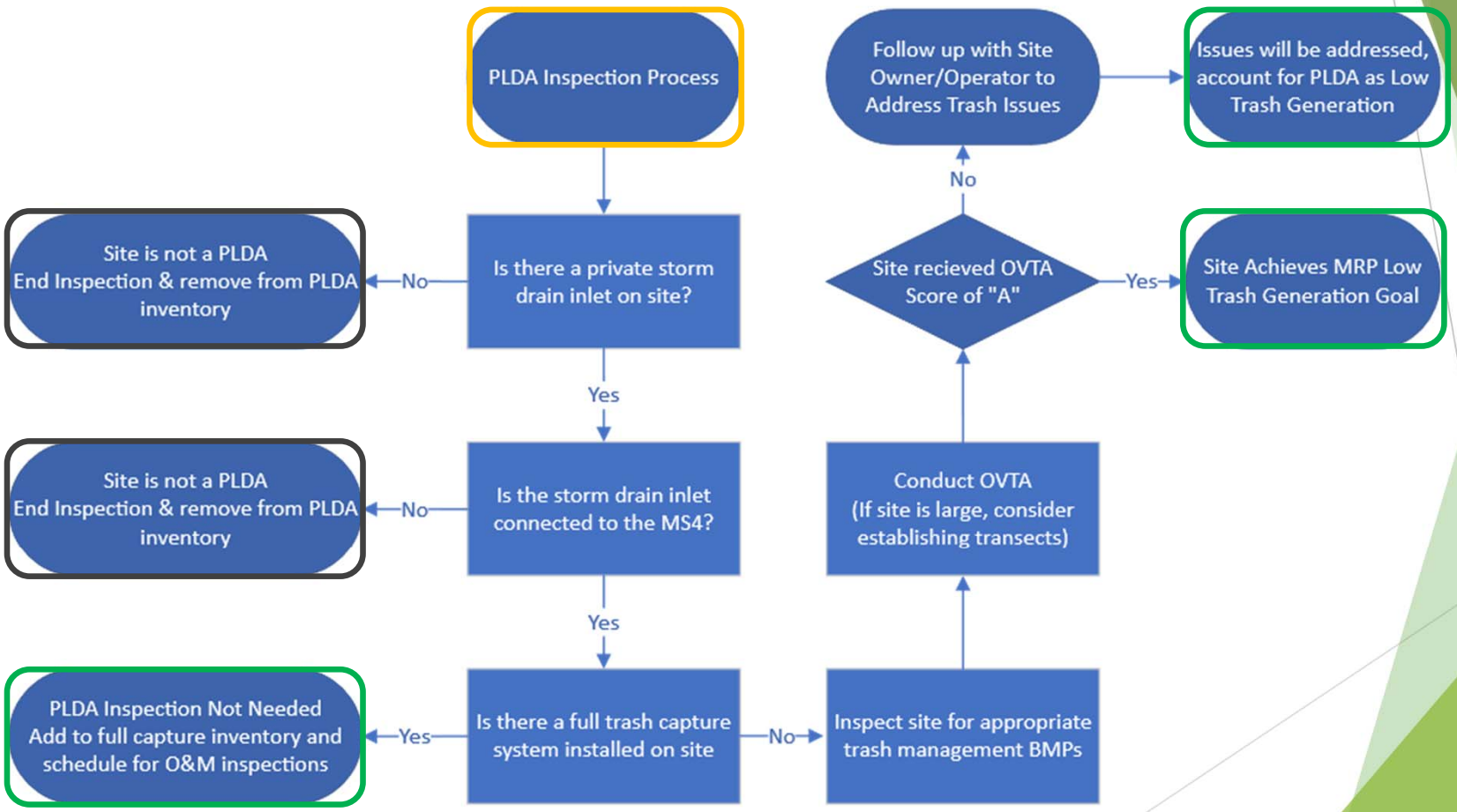
PLDA Inspection

- **First Inspection Results**
  - OVTA Score A
    - Encourage continued good trash management actions
    - Move to Low priority for routine inspection
  - OVTA score B, C, or D
    - Issue enforcement action and require either
      - Trash management actions: e.g., sweeping, more litter containers, etc.
        OR
      - Installation and maintenance of full trash capture device(s)
  - Conduct follow-up inspection

Follow-up Inspections

- **Conduct Inspection/OVTA or Confirm Installation of Full Capture Device**
- **If Full Capture Device installed:**
  - Verify O&M agreement/procedures (*add to private FTC inspection list*)
  - Contact EOA staff to ensure full capture device/area documented
  - Remove from PLDA inspection list
- **If Other Actions Implemented (Other than Full Capture)**
  - OVTA score A
    - Encourage continued good trash management actions
    - Move to *low priority* for routine inspection
  - OVTA score B/C/D
    - Issue escalated enforcement action
    - Consider requiring FTC and/or schedule third inspection

Overview of the PLDA Inspection Process



Trash Reduction Calculation and Reporting for PLDAs

- The PLDA trash inspection/control program will ensure that PLDAs are not contributing significant levels of trash to the city/county storm drain system
- Therefore:
  - If a PLDA is inspected and the OVTA score is not an "A", outreach to the property owner/operator is needed to address the trash management issues
  - Follow-up inspections and/or enforcement actions will ensure that the PLDA has achieved low trash generation or full capture
- <u>For the purposes of calculating trash load reductions, once the PLDA is inspected, the entire PLDA will be moved to a low trash generation category</u>

PLDA Inspection Process

Personnel and Equipment

Personnel

- One inspector trained in OVTA protocols
  - Similar to Commercial/Industrial Facility Business Inspections (C.4)
  - OVTAs and documentation of Trash Best Management Practices (BMPs) provides adequate documentation of trash management status

Equipment

- Data Collection Field Form (paper or digital)
- Digital Camera (phone, camera, flashlight)
- Map of PLDA (paper or digital)
  - Possibly include location of private and public stormwater drainage systems, based on existing knowledge
- Outreach material
- Credentials

Preparing for Trash Inspections on PLDAs

- When scheduling an inspection
  - Contact owner/site contact to schedule inspection
  - To extent possible, conduct inspection on a day that does not follow (within 48hrs) a significant rainfall event of >0.5 inches of rain in a 24hr period.
  - To extent possible, attempt to schedule the inspection so that it falls directly before (baseline) or ½ between (progress) reoccurring control measure implementation.
- On the day of the inspections, prior to going into the field
  - Assemble field forms and maps
  - Review PLDAs for assessment
  - Review OVTA protocol and trash condition category definitions
  - Review recent C.4 business inspection results, if available

Trash Inspection Process

1. When arriving at the site, identify if all outdoor areas are accessible to the general public
2. Meet Owner/Site Contact
   - Introduction/present credentials
   - If denied entrance:
     - Leave
     - Contact city/county supervisor
     - Contact owner/site contact to schedule inspection
     - Obtain warrant, if needed

Trash Inspection Process

- Explain reason for inspection
- Verify general information
  - Contact information
  - PLDA area
  - Storm drain inlet(s) on site

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Private Land Drainage Area (PLDA) Trash Inspection Form

Municipality _____ **Inspector(s)**_____

Inspection Date _____ **Inspection Time** _____

I. REASON FOR INSPECTION

☐ Initial Inspection ☐ Routine Inspection ☐ Follow-up Inspection

II. PLDA INFORMATION

SMCWPPP New ID: _____ **APN#:** _____ **PLDA Address**_____

Property Owner Name _____ **Phone** _____ **Email** _____

On-Site Contact Name/Position_____ **Phone** _____ **Email** _____

Parcel Description/Characteristics: _____

Other Business/Property Types: ☐ C.4 Business on PLDA ☐ PLDA is a C.12 Old Industrial Property

Storm Drain Inlets (SDIs) Present on PLDA: ☐ No ☐ Yes If Yes, # of SDIs_____

Stormwater Treatment Measures on PLDA:

☐ Full Trash Capture (FTC) System

and types of FTC system(s)_____

Is PLDA entirely addressed by identified FTC? ☐ Yes ☐ No ☐ Unknown

☐ Low Impact Development (LID)

and types of LID system(s)_____

☐ Possibly/Unsure (Comment below)

☐ None

Exclude from PLDA Program: ☐ No ☐ Yes If Yes, indicate reason_____

Comments:

Confirming PLDA Status

Confirming Functional Storm Drain on Site

When arriving at the site:

1. Confirm that the site is a PLDA by walking the entire site and verifying that there are one or more functional storm drains located on the site. Document the location of storm drains on a map if possible.
2. Look into each storm drain inlet on site, to the extent possible, and confirm that no full trash capture device is present.

Confirming Functional Storm Drain on Site

1. If no functional storm drain inlet present on site or if storm drains are not connected to the MS4 – Site is not a PLDA. Discontinue inspection and remove site from PLDA inventory

2. If site is addressed by a full capture device - Discontinue inspection and document that site is addressed by full capture device. Remove site from PLDA inspection list.

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Private Land Drainage Area (PLDA) Trash Inspection Form

Municipality _____ **Inspector(s)**_____

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I. REASON FOR INSPECTION

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SMCWPPP New ID: _____ **APN#:** _____ **PLDA Address**_____

Property Owner Name _____ **Phone** _____ **Email** _____

On-Site Contact Name/Position_____ **Phone** _____ **Email** _____

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and types of FTC system(s)_____

Is PLDA entirely addressed by identified FTC? ☐ Yes ☐ No ☐ Unknown

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and types of LID system(s)_____

☐ Possibly/Unsure (Comment below)

☐ None

Exclude from PLDA Program: ☐ No ☐ Yes If Yes, indicate reason_____

Comments:

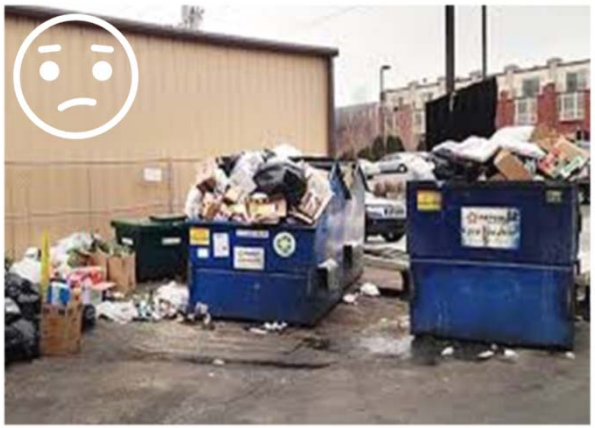
Inspecting for Best Management Practices (BMPs)

BMP Effectiveness

- Inspect site for appropriate trash management BMPs
  - Outdoor Waste Storage/Disposal Area
  - Outdoor Material Storage Area
  - Outdoor Parking Area and Access Roads
  - Outdoor Processing/Manufacturing Area
  - Other Impervious Surfaces
- Observe activities
  - Outdoor areas
  - Storm drain system
- Review with site contact
  - Staff training
  - Cleaning practices
  - Procedures

Identifying Trash Management Areas/BMPs

- Outdoor Waste Storage/Disposal Area:
  - Ensure general cleanliness
  - Covered trash enclosures
  - Dumpster lids closed
  - Surrounding area clean
  - Don't stack materials outside of bins
  - Adequately sized bins and pick up frequency
  - Are dumpster areas swept regularly?



Identifying Trash Management Areas/BMPs

- Outdoor Waste Storage/Disposal Area Example

Identifying Trash Management Areas/BMPs

Outdoor Waste Storage/Disposal Area

Identifying Trash Management Areas/BMPs

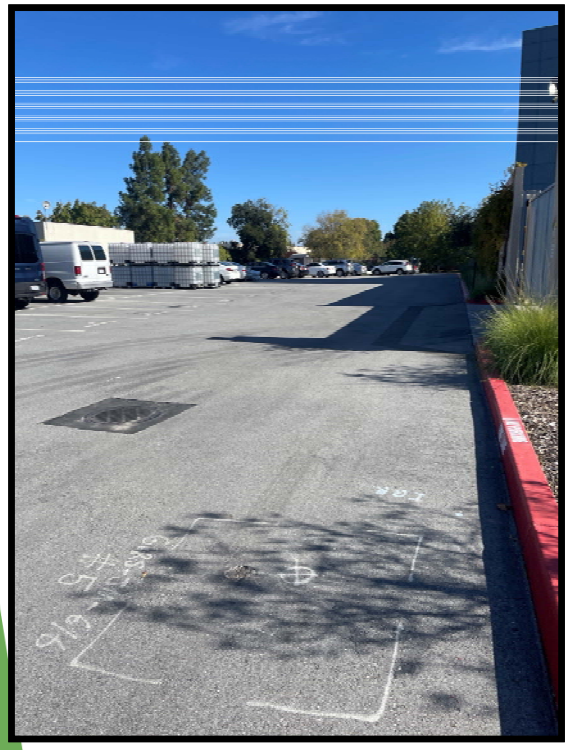
Outdoor Waste Storage/Disposal Area

Identifying Trash Management Areas/BMPs

- Outdoor Material Storage Area:
  - Determine materials that could become trash/litter
  - Can materials be stored inside
  - Cover outdoor materials handling/storage areas
  - Material packaging in good condition
  - Material stored away from storm drain inlets
  - Staff inspect area regularly?

Identifying Trash Management Areas/BMPs

Outdoor Material Storage Area



Identifying Trash Management Areas/BMPs

- Outdoor Parking Area and Access Roads:
  - Ensure general cleanliness
  - "No Dumping, Flows to Bay" labels on storm drain inlets
  - Trash bins and cigarette receptacles in areas for the general public or where employees congregate
  - "No Littering" signs posted
  - Anti-littering laws enforced?
  - Staff trained to regularly inspect parking lots and paved surfaces for litter?
  - Areas swept regularly? Frequency?
    - Mechanical sweeping
    - Manually swept

Identifying Trash Management Areas/BMPs

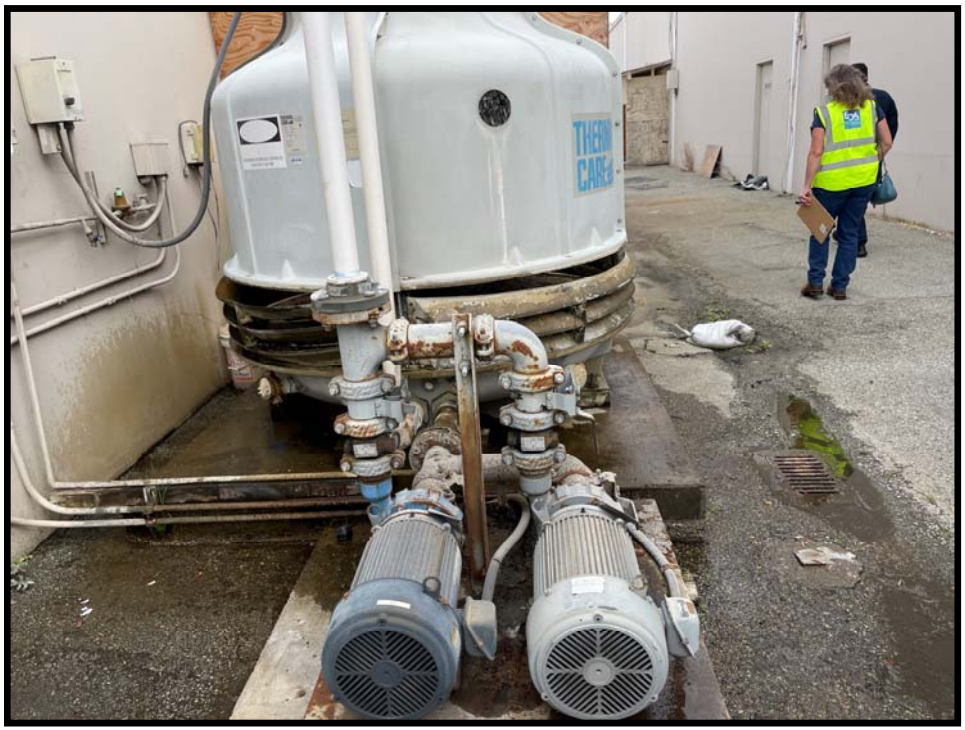
Outdoor Parking Area and Access Roads

Identifying Trash Management Areas/BMPs

- Outdoor Processing/Manufacturing Areas:
  - Ensure good housekeeping
  - "No Dumping, Flows to Bay" labels on storm drain inlets
  - Trash bins available where needed
  - Areas swept regularly? Frequency?
    - Mechanical sweeping
    - Manually swept
  - Staff trained to pick up trash/litter?

Identifying Trash Management Areas/BMPs

Outdoor Processing/Manufacturing Areas



Identifying Trash Management Areas/BMPs

Outdoor Processing/Manufacturing Areas

III. BMP EFFECTIVENESS INSPECTION RESULTS		
Activity Areas Related to Trash Management	**N/A?**	**Describe BMP Observations**
Outdoor Waste Storage/ Disposal Areas	☐	
Outdoor Parking Area and Access Roads	☐	
Other (Describe):	☐	

On-land Visual Trash Assessment (OVTA)

Definition of Trash

All improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state.

Definition of Stormwater Trash

- For the OVTA protocol, trash does **NOT** include:
  - Organic material such as vegetation, yard clippings, food wastes (apple cores, banana peels, etc.) or pet wastes (unbagged)
  - Sediments, sand, oil or grease
  - Items too large to fit in a storm drain inlet, such as mattresses, tires or bags of trash
  - Items less than 5mm in size

Conducting OVTAs on PLDAs

USE PROTOCOL C – AREA-BASED SURVEYS

Two Methods To Establish Assessment Area using Protocol C

1. For PLDA Inspections - Assess the entire PLDA:
    - Assess entire property area draining to storm drain inlets on site
2. For on-going (Non-PLDA) assessments of Large Parcels – Use Transect Method:
    - For larger land areas where the entire property can not be easily assessed or assessed in a timely manner
        - As guidance, if the amount of time needed to assess the entire PLDA is >30 minutes, then utilize the transect method
    - Allows for assessment of a representative portion of the property and consistency during repeat/ongoing assessments
    - Rarely used and not used for PLDAs – additional information available via OVTA protocol C

Conducting OVTAs on PLDAs

Method 1 - Assessing the Entire PLDA

1. Safely walk at a normal pace throughout, but not extending beyond the boundaries of the PLDA.
2. Carefully look for trash deposited within the PLDA. Note sources of trash
3. Take one to three photographs per PLDA (minimum one photo per score, if significant variation in trash generation on the site)
4. Determine the appropriate OVTA score to assign to the area and record on field form:
    1. If significant differences in trash generation within subareas of the PLDA, assign an OVTA score to each subarea
    2. Estimate and record the percentage of the entire PLDA that is within each OVTA category
5. Review the data collected and map for accuracy, legibility, and completeness.

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Private Land Drainage Area (PLDA) Trash Inspection Form

V. ON-LAND VISUAL TRASH ASSESSMENT (OVTA) RESULTS

Overall PLDA OVTA Score: *Conduct OVTA and assign overall PLDA OVTA Score that reflects the trash condition of the entire PLDA.*

☐ Low (A) ☐ Moderate (B) ☐ High (C) ☐ Very High (D)

% of PLDA with OVTA Score (Optional): *Conduct OVTA and estimate the % of the parcel within each OVTA category (note: percentages for all categories should total 100%).*

Low (A): _____% Moderate (B): _____% High (C): _____% Very High (D): _____%

Comments / Additional Information about the Assessment Area
(If there is significant variation, describe the area associated with each OVTA category and identify on map on page 3)

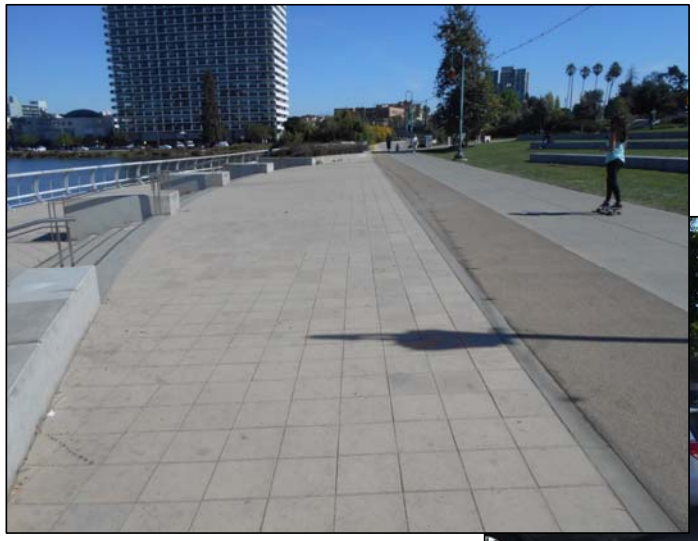
_____
_____
_____
_____

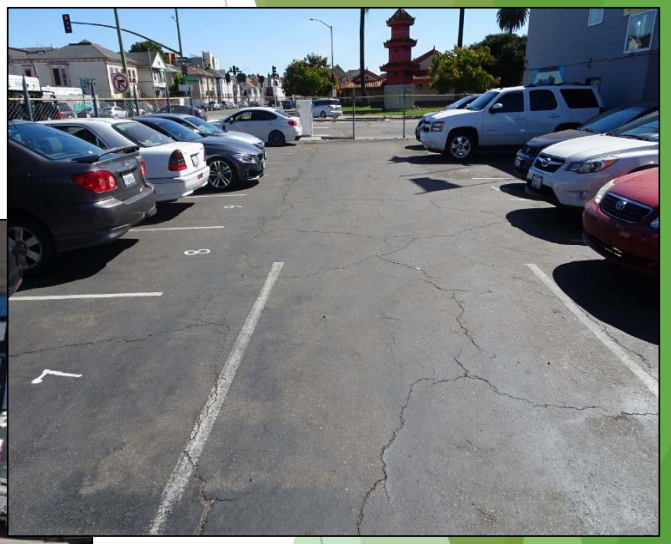
Trash Level	Definition
A **Not Littered**	• Effectively no trash is observed in the assessment area. • There may be some trash in the area, but it is not obvious at first glance. • One individual could easily clean up all the trash observed while walking at normal pace. • No additional trash reduction measures are needed in the assessment area.
B **Slightly Littered**	• Predominantly free of trash, except for a few littered areas. • Some trash is noticeable at first glance. • The trash observed could be collected by one or two individuals, but would require walking at a slower than normal pace. • Additional trash reduction measures are needed in the assessment area.
C **Littered**	• Predominantly littered, except for a few clean areas. • Trash is widely/evenly distributed and/or small accumulations are noticeable on the streets and sidewalks. • It would take multiple people to remove all trash from the area, frequently requiring individuals to stop walking to remove the trash. • Roughly 4 times as much trash as a “B” level.
D **Very Littered**	• Trash is continuously seen throughout the assessment area and there is a strong impression of lack of concern for litter. • Large piles of trash may be observed. • It would take a large number of people during an organized effort to remove all trash from the area, consistently requiring individuals to stop to remove the trash. • Roughly 3 times as much trash as a “C” level.

A – Not Littered

- Effectively no trash is observed in the assessment area.
- There may be some small levels of trash in the area, but it is not obvious at first glance.
- One individual could easily clean up all the trash observed while walking at normal pace.
- No additional trash reduction measures are needed in the assessment area.

A – Not Littered

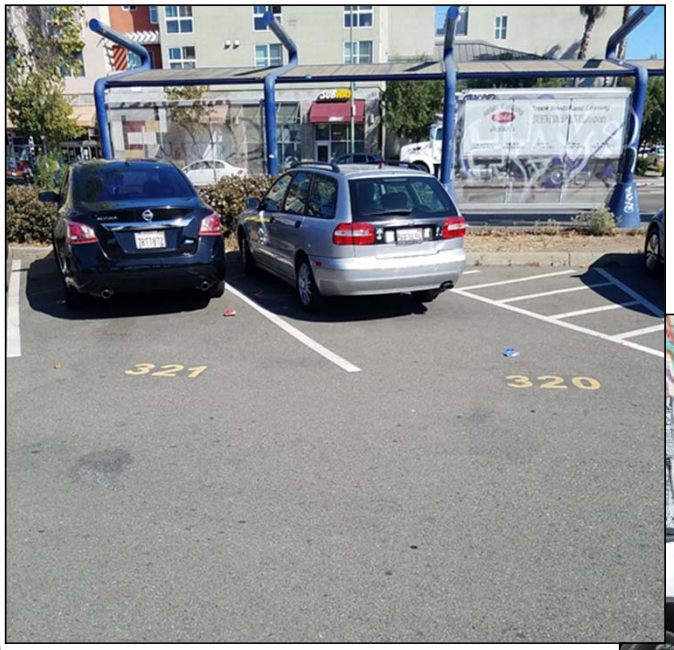


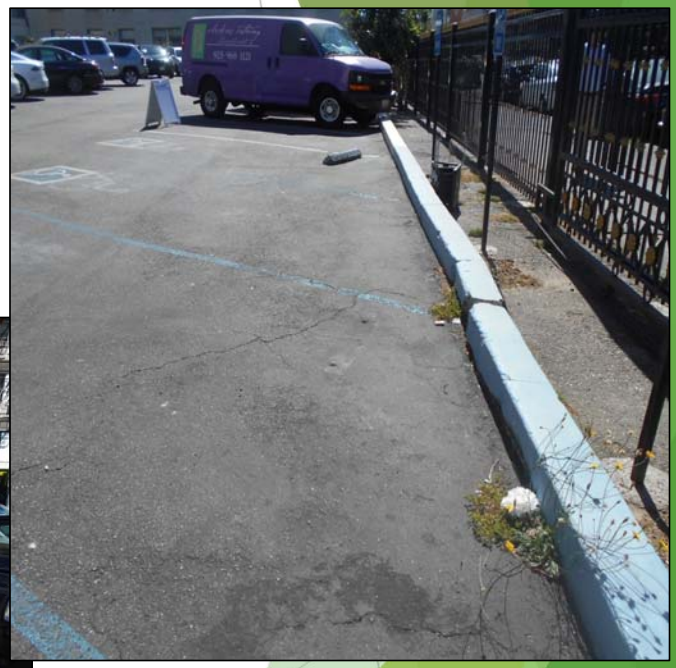


B – Slightly Littered

- Predominantly free of trash, except for a few littered areas.
- Some trash is noticeable at first glance.
- The trash observed could be collected by one or two individuals, but would require walking at a slower than normal pace.
- Additional trash reduction measures are needed in the assessment area.

B – Slightly Littered

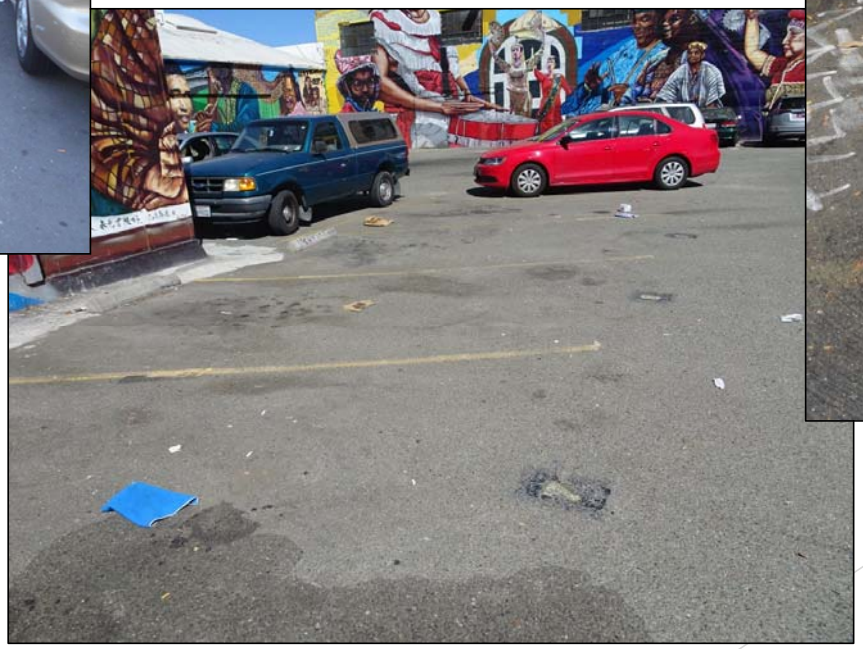




C – Littered

- Predominantly littered, except for a few clean areas.
- Trash is widely/evenly distributed and/or small accumulations are noticeable on the streets and sidewalks.
- It would take multiple people to remove all trash from the area, frequently requiring individuals to stop walking to remove the trash.
- Roughly 4 times as much trash as a “B” level.

C – Littered



D – Very Littered

- Trash is continuously seen throughout the assessment area and there is a strong impression of lack of concern for litter.
- Large piles of trash may be observed.
- It would take a large number of people during an organized effort to remove all trash from the area, consistently requiring individuals to stop to remove the trash.
- Roughly 3 times as much trash as a “C” level.

D – Very Littered

Trash Sources (Optional)

VI. SOURCE IDENTIFICATION (OPTIONAL)

Stormwater trash source identified within the assessment area during assessments (check all sources that apply):

Vehicles:	☐ Moving Vehicles ☐ Parked Cars ☐ Uncovered Loads
	☐ Other _____
Inadequate Waste Container Management:	☐ Overflowing or uncovered receptacles/dumpsters
	☐ Dispersal of household trash and recyclables before, during, and after collection
	☐ Other _____
Pedestrian Litter	☐ Restaurants ☐ Grocery Store ☐ Special Events ☐ Bus Stop
	☐ Liquor Store/ Convenience Store ☐ Other _____
Illegal Dumping	☐ Illegal Dumping on PLDA ☐ Homeless Encampments
	☐ Other _____

Comments / Additional Information about the Assessment Area and Trash Sources

Trash Inspection Wrap Up & Required Follow up

Ending the Trash Inspection

- Complete entire inspection form
- Review Inspection Findings with On-Site Contact
  - Issue enforcement action, as needed
  - Review corrective actions and schedule
    - Short term actions: remove litter/trash
    - Long term actions: new or improvements to trash management BMPs
- Have On-site contact sign inspection form
- Schedule Follow-up Inspection, as needed
- Report Illicit Discharges
  - If observe active discharge – cease the discharge immediately
  - Report to municipal spill report phone number

Field Exercise

Contact Info

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John Fusco

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