This presentation will focus on best management practices associated with the disposal of the following surplus materials:

- Construction and Demolition Debris (C&D)
- Non-Hazardous Contaminated Soil
- Non-Hazardous Petroleum Contaminated Soil
- Hazardous Waste
What is C&D debris?

Uncontaminated solid waste resulting from land clearing and from the construction, remodeling, repair or demolition of utilities, structures and roads.

[6 NYCRR Part 360 - 1.2 (b)(38)]

Examples of C&D debris

- Soil
- Asphalt Pavement
- Concrete
- Concrete Products
- Brick
- Rock
- Incidental Rebar/Metal
- Land Clearing Debris
- Wood
- Electrical Wiring
- Wall Coverings
- Plaster
- Drywall
- Roofing Shingles
- Roof Coverings
- Glass
Where can C&D debris be disposed?

- Permitted Solid Waste Management Facility (Landfill)
- Permitted C&D Landfill
- Registered C&D Processing Facility
- “Exempt” C&D Disposal Site (waste/spoil areas)
- Used in applications that have received a generic or case-specific “Beneficial Use Determination” from DEC

Solid Waste Management Facilities (landfills) may accept any type of C&D debris.

C&D Landfills may accept any type of C&D debris.
[6 NYCRR Part 360 - 7]

C&D Processing Facilities may accept only recognizable and uncontaminated concrete, masonry waste, asphalt pavement, brick, soil, rock and unadulterated wood. [6 NYCRR Part 360 – 16.1(d)]
Construction and Demolition Debris (C&D)

DEC and DOT allow certain types of recognizable and uncontaminated C&D debris to be:

- Reused within the highway right-of-way.
- Taken to “exempt” C&D disposal sites (off-site waste/spoil areas).

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Construction and Demolition Debris (C&D)

- **What is Recognizable?**
  Debris is readily identifiable by visual observation.

- **What is Uncontaminated?**
  Debris has not been subjected to spills of a petroleum product, hazardous waste or co-mingled with other types of solid waste.

[6 NYCRR Part 360 – 7.1(c)]
Construction and Demolition Debris (C&D)

What type of C&D debris can be reused within the right-of-way?

- Concrete/Concrete Products (and embedded rebar)
- Asphalt Pavement
- Brick
- Glass
- Soil
- Rock
- Trees, Stumps, Wood Chips, Yard Waste

[NYS DOT Standard Specifications – §107-11, §107-16 and §203]

Construction and Demolition Debris (C&D)

What type of C&D debris can be taken to an “exempt” disposal site?

- Concrete/Concrete Products (and embedded rebar)
- Asphalt Pavement
- Brick
- Glass
- Soil
- Rock

[6 NYCRR Part 360 – 7.1(b)]
Construction and Demolition Debris (C&D)

“Exempt” C&D disposal sites

- may only operate during daylight hours.
- may not accept fees or any other form of compensation.
- may only accept **recognizable and uncontaminated**
  - Concrete/Concrete Products (and embedded rebar)
  - Asphalt Pavement
  - Brick, Glass, Soil and Rock

[6 NYCRR Part 360 – 7.1(b)]

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Recognizable C&D debris suitable for disposal at an “exempt” disposal site
Recognizable C&D debris placed at an “exempt” disposal site
Construction and Demolition Debris (C&D)

Unrecognizable C&D debris that is unsuitable for disposal at an "exempt" disposal site

Other types of unrecognizable C&D debris
- Pavement diamond grindings
- Slurry mixes

These materials cannot be reused within right-of-way or taken to "exempt" disposal sites

However, DOT is working with DEC to allow reuse within right-of-way. Approval expected Spring 2003.
Construction and Demolition Debris (C&D)

Recommended Practices for the Management of C&D Debris

- Encourage contractor to de-construct rather than demolish – debris is more easily separated for disposal or reuse.
- Have contractor separate C&D debris at the source – not at disposal site. Even minor amounts of unauthorized waste at an “exempt” site can lead to DEC enforcement action/tickets.

Don’t allow mixing of debris types or blending with soil – may render wastes unrecognizable.
- Establish criteria for approving disposal sites – avoid wetlands, floodplains, farmland, etc.
- If using products from C&D Processing Facilities - know product origin to avoid inappropriate use.
**Recommended Practices for the Management of C&D Debris**

- Reclaim asphalt pavement – use in new hot-mix asphalt or in subgrade or embankment.
- Don’t allow debris to be over-processed – excessive pulverizing, crushing, shredding, chipping may render wastes unrecognizable.

- Don’t allow debris containing glass fragments to be placed on residential properties – safety hazard.
- Don’t allow debris containing asphalt to be placed on residential properties – may contain elevated levels of harmful polycyclic aromatic compounds (PAHs) and present a human exposure risk.
Construction and Demolition Debris (C&D)

Recommended Practices for the Management of C&D Debris

- Contractor should establish site controls to discourage others from dumping.
- Contractor should install erosion and sediment controls – and maintain until site is stabilized.
- Use C&D landfills rather than Municipal Solid Waste landfills – tipping fees are usually less.

Contractor responsibilities when using an “exempt” C&D disposal site

- Prepare a restoration plan for DOT approval
  - Names/address of property owner(s).
  - Location map showing “exempt” site(s).
  - Grading plan showing property lines, existing features, streams, wetlands, fill limits, fill depths, erosion and sediment control measures, etc.

[NYSDOT Standard Specifications – §107-10]
Construction and Demolition Debris (C&D)

Contractor responsibilities when using an “exempt” C&D disposal site

- Obtain releases from property owners.
- Obtain approvals/permits from local municipality.
- Obtain permits from DEC and Corps of Engineers if in or near streams, wetlands and floodplains.

- Obtain SPDES permit from DEC if disturbing more than one acre.
- Install and maintain erosion and sediment control measures.
- Grade and stabilize site (seed and mulch).
Construction and Demolition Debris (C&D)

“Exempt” disposal site encroaching on a state wetland

Exceptions in Nassau and Suffolk Counties

- C&D debris may only be disposed at a:
  - Permitted C&D Landfill.
  - Registered C&D Processing Facility.

- On-site burial may be permitted after notifying DEC.

[6 NYCRR Part 360 - 8]
Construction and Demolition Debris (C&D)

Exceptions in Adirondack Park

- C&D debris must be disposed in a landfill under a permit issued by Adirondack Park Agency.

[6 NYCRR Part 360 – 7.1(b)]

Non-Hazardous Contaminated Soil
What is Non-Hazardous Contaminated Soil?

- Contamination is above DEC Soil Cleanup Levels (TAGM 4046).
- Contamination not due to petroleum products.
- Level of contamination does not cause soil to exhibit hazardous characteristics - ignitability, corrosivity, reactivity and/or toxicity.

Disposal of Non-Hazardous Contaminated Soil

- Permitted Solid Waste Management Facility (Municipal Landfill)

- May be used in applications that have received a generic or case-specific “Beneficial Use Determination” from the DEC
Non-Hazardous Contaminated Soil

**NYSDEC has issued a generic “BUD”**

Non-Hazardous Contaminated Soil excavated as part of a construction project may be used as backfill for the same excavation or as backfill for excavations containing similar contaminants at the same site.

[6 NYCRR Part 360 – 1.15(b)(8)]

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Non-Hazardous Contaminated Soil

**Recommended Practices for the Management of Non-Hazardous Contaminated Soil**

- Take advantage of generic “BUD” – use soil to backfill excavations.
- If stockpiling soil, grade area to drain away from piles.
- Stockpile on waterproof sheeting.
- Don’t puncture sheeting during stockpiling.
Non-Hazardous Contaminated Soil

Recommended Practices for the Management of Non-Hazardous Contaminated Soil

- Cover stockpiles with waterproof sheeting.
- Secure covering to prevent tearing and removal by weather.
- Keep stockpiles to a manageable size – don’t create mountains.
- Install and maintain erosion control measures.

- If using roll-offs, keep containers covered throughout storage and transport.
- Carefully load and cover trucks to avoid spillage on-site and during transport.
- Minimize public health and environmental risks - dispose of material as soon as possible.
Non-Hazardous Petroleum Contaminated Soil

What is Non-Hazardous Petroleum Contaminated Soil?

- Soil contaminated by petroleum products – gasoline, diesel fuel, kerosene, heating oil, motor oils, lubricating oils, greases.

- Level of petroleum contamination does not cause soil to exhibit hazardous characteristics - ignitability, corrosivity, reactivity and/or toxicity.
Non-Hazardous Petroleum Contaminated Soil

Disposal of Non-Hazardous Petroleum Contaminated Soil

- Permitted Solid Waste Management Facility (Appropriate Landfill/Treatment Facility)
- Used in applications that have received a generic or case-specific “Beneficial Use Determination” from DEC

NYSDEC has issued generic “BUDs”

- Non-Hazardous Petroleum Contaminated Soil may be incorporated into asphalt pavement products by a producer approved by DEC. [6 NYCRR Part 360 - 1.15(b)(12)]
- Non-Hazardous Petroleum Contaminated Soil which has been decontaminated to the satisfaction of DEC may be reused in a manner approved by DEC. [6 NYCRR Part 360 - 1.15(b)(9)]
Non-Hazardous Petroleum Contaminated Soil

Options for reusing *decontaminated* petroleum contaminated soil *(typically approved by DEC)*

- Reuse as embankment or subbase.
- Reuse as fill for the original excavation.
- Reuse as fill elsewhere on the project.
- Reuse as fill at pre-approved off-site locations *(preferably where public exposure will be limited).*

Non-Hazardous Petroleum Contaminated Soil

Recommended Practices for the Management of Petroleum Contaminated Soil

- Take advantage of generic “BUDs”.
- Decontaminate excavated soil on-site if feasible *(soil venting, bioremediation, soil washing, low temperature thermal treatment viable options).*
- Treat soil in-situ to minimize need to excavate, store and dispose.
Non-Hazardous Petroleum Contaminated Soil

**Recommended Practices for the Management of Petroleum Contaminated Soil**

- If stockpiling soil, use same practices described for Non-Hazardous Contaminated Soil.
- Minimize public health and environmental risks - dispose of material as soon as possible.

Improper Management of Stockpiled Non-Hazardous Petroleum Contaminated Soil
Non-Hazardous Petroleum Contaminated Soil

Improper Management of Stockpiled Non-Hazardous Petroleum Contaminated Soil

Example of a successful case-specific “BUD”

Ridge Road Reconstruction Project
Monroe County
D258888
Non-Hazardous Petroleum Contaminated Soil

Extension of Eastman Avenue required demolition of 3 residences, JRD Automotive building and UST removals

Non-Hazardous Petroleum Contaminated Soil

Significant petroleum contamination encountered – Eastman Avenue construction could have been halted until plume was defined and cleaned up
DOT requested a case-specific "BUD"

- Demolish JRD building and remove USTs.
- Backfill UST excavation with original petroleum contaminated soil (would not worsen plume).
- Excavate/dispose of petroleum contaminated soil incidental to Eastman Avenue construction.
- Develop a plan to define plume and remediate site in future (separate from Ridge Road contract).

"BUD" was approved by DEC – UST excavation was backfilled
Non-Hazardous Petroleum Contaminated Soil

Extension of Eastman Avenue continued with minimal delay

Plume delineation revealed 11,500 cubic meters of petroleum contaminated soil requiring remediation.

Using contract prices, $2.3 million to excavate and dispose soil.

Remediation under “BUD” expected to be less than $1 million.
Hazardous Waste

What is a Hazardous Waste?

- Materials that are found on “hazardous waste list” per 6 NYCRR Part 371

- Materials that display hazardous waste characteristics for ignitability, corrosivity, reactivity and/or toxicity.
Hazardous Waste

Disposal of Hazardous Waste

- Permitted Hazardous Waste Treatment/Disposal Facility
- May be used in applications that have received a case-specific “Beneficial Use Determination” from DEC

Hazardous Waste

Recommended Practices for the Management of Hazardous Waste

- Store hazardous waste in waterproof shipping containers, roll-offs or stockpiles.
- Keep each discrete waste separate – do not mix.
- Stage waste where public health and safety will not be jeopardized.
Hazardous Waste

Recommended Practices for the Management of Hazardous Waste

- If stockpiling soil, use same practices described for Non-Hazardous Contaminated Soil.
- Label waste as “hazardous”.
- Establish site controls to limit access to waste.
- Conduct security inspections during storage.

Recommended Practices for the Management of Hazardous Waste

- Decontaminate equipment before conducting other operations.
- Decontaminate sheeting, liners, erosion control products – or dispose as hazardous waste.
- Minimize public health and environmental risks - dispose of material as soon as possible.
Hazardous Waste

Example of a successful case-specific “BUD”

**O’Rourke Bridge over Genesee River**
Monroe County
MC93601

Project includes relocation of Marina Drive through a former landfill thought to contain non-hazardous contaminated soil
Hazardous Waste

Soil testing during construction revealed lead at hazardous levels – 1725 cubic meters of soil would require disposal as hazardous waste.

DOT requested a case-specific “BUD”

- Reuse lead-contaminated soil within limits of former landfill to flatten side slopes along Marina Drive.
- Reuse lead-contaminated soil within limits of former landfill to construct berm along Marina Drive right-of-way.
- Cover lead-contaminated soil with clean soil to minimize public exposure risks.
“BUD” was approved by DEC – work on Marina Drive continued with minimal delay

- Reuse of soil on-site saved over $450,000 in hazardous waste disposal costs.

- Also saved $90,000 in New York State hazardous waste disposal taxes.

Applicable Regulations and Technical References
Applicable Regulations and Technical References

- 6 NYCRR 360 – Solid Waste Management Facilities.
- 6 NYCRR 364 – Waste Transporter Permits.
- 6 NYCRR 373 – Hazardous Waste Facilities Standards and Permitting Requirements.
- 6 NYCRR 376 – Land Disposal Restrictions.
- TAGM 4046 – NYSDEC Technical and Administrative Guidance Memo “Determination of Soil Cleanup Levels”.
- STARS – NYSDEC Spill Technology and Remediation Series Memo #1 “Petroleum Contaminated Soil Guidance Policy”.
- NYSDOT Standard Specifications - §107 and §203.