



GreenLITES *Operations* ***Certification Program***

**Recognizing Outstanding Leadership In
Transportation and Environmental
Sustainability**

May 27, 2009

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**Certification Program for NYSDOT Operations for Sustainable Transportation Infrastructure
using Environmentally Friendly Practices**

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Background

The New York State Department of Transportation (NYSDOT) is committed to improving the quality of our transportation infrastructure in ways that minimize impacts to the environment, including the depletion of irreplaceable resources. All levels of NYSDOT, including planning and project development, design, construction, maintenance and operations are to implement a *GreenLITES* (Leadership In Transportation and Environmental Sustainability) program tailored to specific program areas.

For *GreenLITES Operations*, the annual Maintenance and Operations Plan (MOP) will be used as a basis for allocating environmental stewardship activities that go above and beyond the environmental practices already incorporated into the daily work. The MOP is a comprehensive management system that is used to plan, fund, track and rate operations activities and will incorporate *GreenLITES Operations* work as well.

What is *GreenLITES Operations*?

“Sustainability” is commonly understood to describe any human use of resources which does not exhaust those resources. As we provide safety and mobility in New York State, transportation sustainability at NYSDOT is an operations philosophy that ensures that we:

- Protect and enhance the environment.
- Conserve energy and natural resources at all aspects of our work including our facilities.
- Participate in new and innovative approaches to sustainable operations and maintenance.
- Support a sustainable fleet and alternative fuel use.
- Improve access to public sites and protect historic resources.
- Support multi-modal transportation and Smart Growth.
- Preserve and enhance scenic and aesthetic roadside characteristics.

These concepts are not new to the Department, which has been following many of these practices in one form or another for a number of years. NYSDOT developed the *GreenLITES* certification program to better integrate these principles by:

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- 1) Recognizing and increasing the awareness of the sustainable methods and practices we already incorporate into our daily operations.
- 2) Expanding the use of these and other innovative alternatives which will contribute to improving transportation sustainability.

It is also important to understand that sustainability is about balancing what is beneficial to people, while considering what is economically sound, and environmentally compatible. This may or may not necessarily increase operations and maintenance costs. Where costs are increased, it may be warranted when all external and future cost are considered including environmental benefits.

GreenLITES Operations is a **self-certification program** that distinguishes transportation Maintenance Residencies, Regional Bridge Maintenance Groups, Main Office and Regional Operations Program Areas based on the extent to which they incorporate or introduce sustainable operations projects and practices. This is primarily an internal management program for NYSDOT to measure its performance, recognize good practices, and identify and improve practices where needed. However, it will also provide the Department with a way to demonstrate to the public how it is advancing sustainable practices. A *GreenLITES* certification level, based on the total credits received via the MOP *GreenLITES* scoring system, will be assigned annually to each Residency and Regional Bridge Maintenance Group. The rating system recognizes varying certification levels, with the highest level going to those that clearly advance the state of sustainable transportation solutions. Main Office and Regional Operations Program Areas are also eligible for the award system. For these areas, recognition will be based mostly but not solely on innovative actions.

NYSDOT will begin piloting *GreenLITES Operations* by April 28, 2009. This certification program builds on other environmental initiatives already begun by the Department and is the next step in a long-term commitment to evaluating and refining practices to encourage sustainable choices throughout the Department. The certification program is designed to be flexible. As new best practices emerge and new innovative approaches are developed, they will be added to the program. As some distinct capital improvements are completed, such as making our buildings energy efficient, they will be removed from the scoring system. The rating system described in this document is for Operations based on the *GreenLITES* portion of the annual Maintenance and Operations Plan (MOP). Points are accumulated through work accomplishments as shown in the green lines. Each Residency and Regional Bridge Maintenance Group will be rated. At the beginning of the fiscal year, a Residency can project work to be completed in the green lines and note an expected *GreenLITES* score. Near the end of each

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fiscal year, by March 15, all Residencies and Regional Bridge Maintenance Groups submit their final scores. Any unit reaching the Gold or Evergreen level will be checked through quality assurance that the levels rated are appropriate. The program is also intended to be a model for other Department sustainability initiatives, providing a benchmark to follow for incorporating greater levels of sustainability into our work.

Certification Categories and Objectives

GreenLITES Operations certifications are available for:

- 1) Residencies
- 2) Regional Bridge Maintenance Groups

Special GreenLITES awards are available for:

- 1) Main Office Operations Program Areas
- 2) Regional Operations Program Areas

Process:

I. At the Beginning of the Fiscal Year:

1. The Regional MOP coordinators send requests to each Residency, Bridge Maintenance Group and Regional Operations Program Areas.
2. Enter the name of the Residency or Regional Bridge Maintenance Group, Regional Program Area at the top of each spreadsheet.
3. The MOP *GreenLITES* and other green lines are filled out along with the regular MOP lines by each Residency, Regional Bridge Maintenance Group and Regional Operations Program Areas such as the Regional Traffic Signal Crews. Total dollar amounts of the green lines will display at the end of the spread sheet along with the other totals.
4. The planned work and actions that fall under *GreenLITES* must be displayed in the "Total # Treated" column of each green line as applicable. The numbers entered in the fields "Total # Treated" will automatically be multiplied with the *GreenLITES* factor (preset by *GreenLITES* team). The *GreenLITES* score will automatically display under the "Projected *GreenLITES* Score" field on the right and is added up at the end of the spreadsheet.
5. For *GreenLITES* purposes, state forces and work order contract columns need to be filled out, not the capital project columns.

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6. Each Residency/Bridge Maintenance Group/Regional Operations Program Area is to complete as many of the green lines as they can. DO NOT CHANGE THE LAYOUT, ADD OR REMOVE LINES OR COLUMNS OR IN ANY WAY MODIFY THE SHEET.
7. The Regional MOP Coordinators collect all of the sheets and return them to P:\Office of Operations\Transportation Maintenance\MOP\GreenLITES\Regional Submissions by **May 15th**. The files names should include the Region and the Residency/Bridge Maintenance Group, etc.
8. Notify Elisabeth Kolb and Brad Allen by e-mail of completed submission.

II. At the End of the Fiscal Year:

1. By **March 15th**, the actual work accomplishments of the green lines must be re-entered under "Total # Treated". The Final *GreenLITES* score will display in the right column and will be added at the bottom of the spreadsheet. Actual money spent on the green lines should also be entered under the state forces and work order contracts columns.
2. The Residencies, Regional Bridge Maintenance Groups and Regional Operations Program Areas check their final *GreenLITES* score and submit the MOP sheets along with any descriptions regarding "*GreenLITES* Innovative and Unlisted Activities" items in supplemental documents (simple descriptions are fine) to the Regional MOP Coordinators by **March 20th**.
3. The Regional MOP coordinators collect all the sheets and return them to the P:\Office of Operations\TransportationMaintenance\MOP\GreenLITES\RegionalEndofYear Submissions\ by **March 22nd**. The files names should include the Region and the Residency/Bridge Maintenance Group or Regional Operations Program Area, etc.
4. Notify Elisabeth Kolb and Brad Allen by e-mail of completed submissions. Supplemental documents regarding Innovative and Unlisted Activities may be included in the notification email.

III. Main Office and Regional Operations Program Areas

1. Follow same process as with regular MOP submissions and follow process for *GreenLITES* as outlined in I. and II. above.
2. Main Office Operations Program Areas may fill in their rows and columns as applicable to each program area.

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3. It is expected that the Main Office and Regional Operations Program Areas will qualify for **Special GreenLITES awards** based on "**GreenLITES Innovative and Unlisted Activities**". Descriptions of these activities will need to be submitted via supplemental documents to the MOP spreadsheet and saved to the P: location described above.

IV. Certifications and Announcements

1. The *GreenLITES Operations* team confirms scores obtained based on submissions and conducts follow-ups as needed. Residencies, Regional Bridge Maintenance Groups, Main Office and Regional Operations Program Areas will be notified of their respective certification levels.
2. Each year on Earth Day (April 22), the Department announces and presents the *GreenLITES* Evergreen and Gold awards. Therefore, to be considered, *GreenLITES* information must be submitted to the *GreenLITES* team in a timely fashion according to the dates listed above.
3. All Residencies and Regional Bridge Maintenance Groups will receive **GreenLITES Certificates for Certified, Silver, Gold and Evergreen levels** after the conclusion of the fiscal year.
4. Main Office and Regional Operations Program Areas will qualify for **Special GreenLITES awards** based on their contributions through innovative and unlisted activities.
5. For additional information, please refer to page 8 of this document.

It is recognized that some sustainable operations and maintenance activities may be costly and that *GreenLITES* options considered must be carefully weighed with other competing maintenance priorities. Through diligence and care, an appropriate balance is achieved with available resources.

Questions and Answers:

1. Which and how many GreenLITES lines should the Residencies fill out?

The following green lines should be filled out by certain groups:

Bridge Maintenance Groups: As applicable: Lines 1, 12A through 12H, 93A-93Y

Residencies: For this pilot year (FY 09/10), Residencies are asked to fill out two dozen lines. They can pick and choose.

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As applicable, lines: 13, 14, 15, 17, 27A-F, 31,32,33,36,40,44A-H, 73A – F, 76, 78, 81, 82, 83, 84, 85, 92, 93A – Y, 105, 106, 108, 109, 110, 111, 112A-Q, 116A, 118, 120, 121, 121A, 126A, 131A, 154A-G,157, 158, 160A-C, 181A-C.

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Regional Operations Program Areas:

Signals and Lighting: 49, 50, 52, 57, 58, 62, 62A, 70A, 70B

Traffic and Safety/Facilities: 88, 93A-93Y

Other Groups: As applicable.

Main Office Operations Program Areas: Any "Innovative and Unlisted Activities" fields as applicable to program area and others.

2. Are any GreenLITES lines mandatory?

Any group that has less than 24 green lines in the MOP, should try to fill all of these as applicable. For example, Bridge Maintenance Groups have 9 green lines, which they should try to fill out plus some facility lines as applicable (93A-Y).¹ Residencies have many more green lines and can choose 24 lines or do more as they choose.

The Department has been asked to undertake ADA surveys for its public buildings, which are comprised of rest areas and headquarters. For this purpose, **ADA line 93R** should be addressed by the Residencies, if possible. Showing what the ADA need is will be sufficient, even if we don't have the money to fix it.

Certification Levels

Depending on the cumulative score acquired by incorporating sustainable choices into operations and maintenance, one of the following *GreenLITES* certification levels may be assigned:



Certified: This certification highlights a Residency, Regional Bridge Maintenance Group and as applicable, a Main Office or Regional Operations Program Area that has incorporated a number of sustainable choices.



Silver: Silver certification highlights a Residency, Regional Bridge Maintenance Group and as applicable, a Main Office or Regional Operations Program Area that has incorporated a number of sustainable choices with several of these choices having a high level of impact, or having advanced the state of practice.

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Gold: Gold certification highlights a Residency, Regional Bridge Maintenance Group and as applicable, a Main Office or Regional Operations Program Area that has incorporated a substantial number of sustainable choices with many of these choices having a high level of impact, or having advanced the state of practice.



Evergreen: Evergreen certification highlights a Residency, Regional Bridge Maintenance Group and as applicable, a Main Office or Regional Operations Program Area that has incorporated the highest number of sustainable choices with many of these choices having an extremely high level of impact. Additionally, these Residencies, Regional Bridge Maintenance Groups and as applicable, a Main Office or Regional Operations Program Areas may advance the state of practice or are innovative in the way environmental sustainability is approached in Operations.

Appendix A contains the MOP template and its scoring fields.

Appendix B contains guidance on each GreenLITES MOP line.

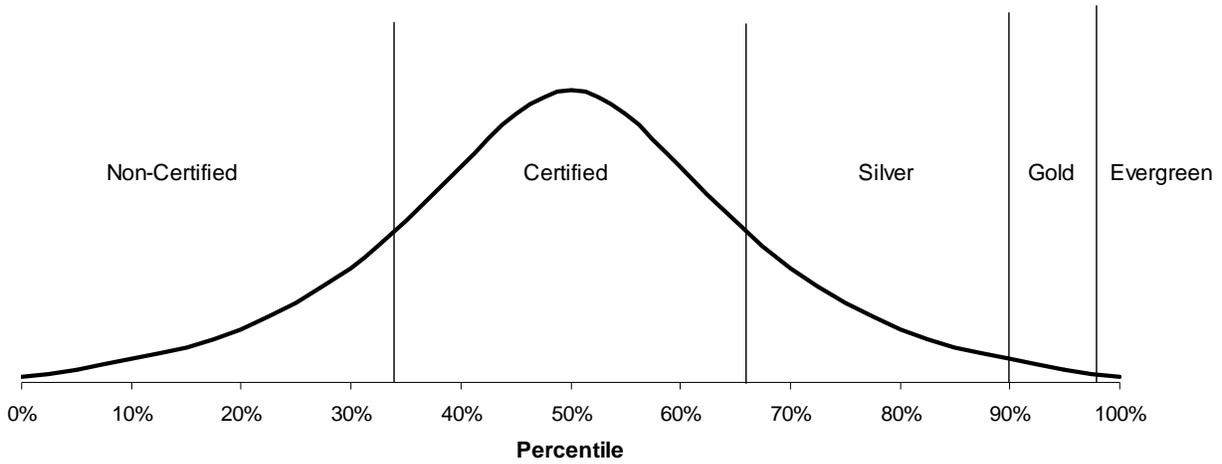
Scoring Methodology

As in *GreenLITES Design*, depending on the level of sustainable choice inclusion, Residencies, Regional Bridge Maintenance Groups and as applicable, a Main Office or Regional Operations Program Areas may fall within one of these four certification levels. These levels are determined by the total number of points they receive compared to the total points available for each certification level. In order to set a baseline, statistical thresholds will be established for each certification level (by standard deviation from the mean). Certification levels will be determined by dividing all GreenLITES MOP scores into thirds representing low, middle, and high levels of environmental sustainability. The lower third of all Residencies/Regional Bridge Crews will likely not receive certification, the middle third are *Certified*, and the upper third will further be subdivided into *Silver*, *Gold*, and *Evergreen*, with progressively increasing requirements for attainment to each successive level. The preliminary GreenLITES scores will be used to obtain realistic point quantities to be assigned to each award level (see table below). The intent is, after the *GreenLITES* program goes into full implementation using these established point thresholds, the bell curve shape representing the project distributions will start to skew to the right. This means more and more Residencies/Regional Bridge Crews will score into higher and higher categories as more sustainable choices are made.

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Proposed Initial Green LITES Award Distribution



Name	Point Range	Percentile Range	Approximate Std Dev Range	% of Residencies /Bridge Crews
Non-certified	TBD*	< 33%	< -0.5σ	33%
Certified	TBD	33 – 67%	-0.5σ – 0.5σ	34%
Silver	TBD	67 – 90%	0.5σ – 1.5σ	23%
Gold	TBD	90 – 98%	1.5σ – 2.5σ	8%
Evergreen	TBD	> 98%	> 2.5σ	2%

*TBD – To be determined

Residencies/Regional Bridge Crews attaining the Gold or Evergreen certification level or having points in the innovation or unlisted category will require a review by a Main Office review team to confirm and establish certification level attainment. This four-person team will be comprised of the *GreenLITES* Project Manager, the *GreenLITES* Operations representative and representatives from the Office of Operations. If the review team does not agree with the Gold or Evergreen certification level, the team will contact the Residencies, Regional Bridge

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Maintenance Groups and as applicable, a Main Office or Regional Operations Program Areas to seek clarification on how the original score was derived and to discuss the discrepancy. If this discussion does not result in the concurrence of the Gold or Evergreen certification level, the review team will officially notify the region of the decision. A Regional Director can appeal this decision to the Director of Operations.

Internal Recognition

The Office of Operations will issue a *GreenLITES* certificates to the regions shortly after the submission for Certified, Silver, Gold, and Evergreen levels after the conclusion of the fiscal year. Additionally, in an annual celebration to commemorate Earth Day, a representative from the Commissioner's Office will present award plaques made of environmentally friendly materials to the appropriate Regional Directors for Residencies and Bridge Crews attaining the Gold or Evergreen certification level in the previous year.

Publishing Results

The Office of Operations will maintain a database of *GreenLITES* results and will prepare an annual report to the Commissioner on or before March 15. On Earth Day (April 22), the Office of Communications will issue a press release highlighting the program results and announcing the complete report availability on the Web at NYSDOT.gov. The Engineering Division (or Office of Operations) will maintain an external *GreenLITES* Web page highlighting the program's purpose and accomplishments. This schedule will allow approximately one month from the year's end report (about March 15) until the report's release on April 22.

Performance Indicators and Program Goals

The Office of Operations will establish *GreenLITES* performance measurements, collect data from *GreenLITES* MOP forms, and provide performance measurement statistics to appropriate NYSDOT managers. *GreenLITES* Operations will be rated for one year to develop a *GreenLITES* performance baseline. After the first year, with a baseline established, annual *GreenLITES* performance goals will be set by the Commissioner and the Director of Operations. The Office of Operations will develop and maintain a *GreenLITES* IntraDOT Web page that provides background and statistical information on the program.

Quality Assurance and Updates

The Office of Operations will maintain the *GreenLITES* Operations Certification Program document, revise rating procedures as necessary, and will conduct random checks on *GreenLITES* certified Residencies and Bridge Crews as a quality assurance measure.

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APPENDIX A - Maintenance Operations Plan (MOP) GreenLITES Template (separate EXCEL document)

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APPENDIX B - GreenLITES Guidance by MOP Topics

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GREENLITES GUIDANCE:

MAINTENANCE AND OPERATIONS PLAN

Program Areas and Numbers Correspond to Areas and Line Numbers of the MOP

Bridges

1. Bridge Cleaning: Each span cleaned can obtain one point under the GreenLITES scoring system. A prerequisite for obtaining one *GreenLITES* point is that the bridge is cleaned consistent with good environmental practices including;

- Cleaning is timed according to NYSDEC's guidelines (fish spawning season) as applicable.
- Bird nesting activities are considered per DOT guideline.
- Bridge deck and underside are swept before cleaning.
- Care is taken to prevent the spread of invasive species.
- Water quality standards are adhered to (no visible change in downstream water).
- Sweepings/debris are properly disposed of.

12A. Use Environmental Protection during Bridge Repair: Each bridge is eligible for one *GreenLITES* credit if proper environmental protection is applied. Bridge crew is assessing environmental protection needs prior to starting work. Everything from waterway to groundwater protection is assessed. Strategies including but not limited to the following are employed as necessary:

- Obtain necessary permits.
- Waterway protection measures: turbidity curtains, silt fence, etc
- Tarps for ground protection
- Other

12B. Environmental Training: Each bridge crew field employee receives environmental sensitivity training at a minimum of once every three years. One *GreenLITES* credit will be given per employee trained.

- By classroom training
- Through environmental modules.
- Other.

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12C. Survey for Public Access to Streams: Look at bridges to streams that receive foot traffic. Investigate feasibility of providing public access. If bridge crew cannot construct public access, inform others. One *GreenLITES* credit will be given per bridge over streams surveyed.

12D. Construct Public Access: Construct public access where feasible. Access can consist any of the following:

- Parking area
- Steps
- Walkway
- Other

12E. Pedestrian Bicycle Grate Replacements: Grates that have their openings parallel to the roadway are dangerous to bicycle riders as bicycle wheels may become lodged in the grates. These should be replaced with reticulate grates. Three *GreenLITES* credits will be given per grate replaced.

12F. Improve and Retain Bridge Aesthetics: Two *GreenLITES* credits will be given per bridge considered for aesthetic treatments.

- Use form liners to match existing aesthetic features
- Use earthen tone stone
- Consider historic/aesthetically pleasing features
- Other

12G. Innovative and/or Unlisted Activities: The objective is to give credit to maintenance bridge practices that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* Review Team.

12H. Fines imposed by regulatory agencies will result in a minus (-50) factor per fine. The Bridge Maintenance Group can still be *GreenLITES* achieve certified/silver category.

Pavement

13. Crack-Sealing: The Residency uses crack sealing material that is made of 50% recycled materials. Only those lane miles of crack sealing where recycled content matches criteria is scored for GL.

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14. Single-Course Overlays: The Residency uses single course overlays. This is desirable as it conserves resources while extending the life cycle of the pavement surface.

15. Liquid Asphalt Treatments: The Residency uses liquid asphalt treatments. This is desirable as it conserves resources while extending the life cycle of the pavement surface.

17. In-Place Recycling: The Residency uses in place recycling. This is desirable as it conserves resources while extending the life cycle of the pavement surface.

27A. Pave with Recycled Asphalt: The Residency paves with recycled asphalt. This is desirable as it conserves resources while extending the life cycle of the pavement surface.

27B. Use Green Cleaning Products: Paving equipment and tools are cleaned with green cleaning products instead of diesel and kerosene.

27C. Spent Asphalt/Concrete Recycling/ Re-Use by Others: Spent asphalt and concrete products such as millings are re-used for other purposes within the DOT ROW, brought to a C&D recycling facility or made available for re-use by others, for example, local Highway Departments. This is a highly valuable practice. Assurances must be made that re-use by others conforms to environmental guidelines. For example, millings can only be placed within highway ROW's where public contact is low, and cannot be used to inadvertently impact sensitive sites such as wetlands and floodplains. *GreenLITES* credit is given per ton of material recycled/re-used.

27D. Shoulder Restoration for Pedestrian/Bicycling Safety: Improve where shoulder has deteriorated. Can use open graded mix for a greater pervious characteristic.

27E. Reduce Impervious Surface Areas: Where applicable, paved surfaces can be removed to increase surface water infiltration. Considerations must be weighed whether a new environmental effect would be generated through the activity before undertaking it. Examples where pavement can be considered for removal, but not limited to:

- a. Asphalt Gutters
- b. Unneeded Parking Spaces
- c. Medians and Curbed Islands
- d. Facility Yards
- e. Other

27F. Innovative and/or Unlisted Activities: The objective is to give credit to pavement related practices that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have

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not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* Review Team.

Drainage

31. Construct Stormwater Management Facility: The Residency may assess its roadways for opportunities to construct stormwater management facilities (SMF). SMF's range from a host of practices including infiltration basins, dry swales and permanent stone checkdams. SMF construction is especially suited in areas where water quality concerns are of special concern: to protect pristine trout fishing streams, public drinking reservoirs or to improve conditions of degraded water systems.

32. Sweeping: Sweeping has been shown to be environmentally beneficial as long as dust is minimized and sweepings are properly disposed of. Each sweeping point credit (1) will be given for each 40-shoulder-mile segment.

33. Clean Closed Drainage Basins (Structures): Cleaning catch basins has been proven to be beneficial to water quality. Each 10 catchbasins and other drainage structures cleaned receive one point.

36. Large Culvert Preventative Maintenance and Cleaning: To be eligible under the GL scoring system, large culvert maintenance must abide by the following:

- a. Abide by environmental regulations.
- b. Schedule maintenance when environmental affects are least likely.
- c. Follow most recent environmental guidance in Operations Environmental Handbook

40. Small Culvert Preventative Maintenance and Cleaning: To be eligible under the GL scoring system, large culvert maintenance must abide by the following:

1. Abide by environmental regulations.
2. Schedule maintenance when environmental affects are least likely.
3. Follow most recent environmental guidance in Operations Environmental Handbook

44A. Washout Threats Addressed: In order to obtain points, preventative maintenance and repair activities need to be undertaken to address washout threats likely located along stream banks, steep slopes, ditches, and alongside bridges and culverts. Washout threats should be addressed in a manner that reflects the use of bio-engineering principles, which includes the use of plants materials, as much as possible. Addressing washout threats

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improves/protects water quality by preventing future sediment deposition and preventing erosion. As applicable it protects ecological habitat and encroachment of flooding into the built environment.

44B. Use of Laser Level in Ditching: Using a laser level during ditching operations has been shown to maximize effective ditching operations and aid in good establishment of proper line and grade. As earth exposure and movement is minimized, the practice qualifies under GreenLITES. Ditching must always be followed with seed application and mulch.

44C. Reticuline Grates: Grates that have their openings parallel to the roadway are dangerous to bicycle riders as bicycle wheels may become lodged in the grates. These should be replaced with reticuline grates. The size of grate openings is an issue for small animals that fall through the openings. In areas where small animals are known to become trapped in basins, the grate opening sizes should be considered.

44D. Identify Illicit Discharges and Report: The Department is required to report illicit discharge connections to its system. As this is a high quality activity, it is available for credit under GreenLITES Operations. Proper reports and follow-ups must be made to in-house staff and outside agencies (NYSDEC).

44E. Culvert/Pipe Replacements including Aquatic Connections: When replacing a culvert or pipe the Residency must assess whether the culvert or pipe provides connectivity to aquatic or other habitat. If habitat connection is found, the pipe/culvert should be installed by size and manner to allow for greater connectivity. Regulatory oversight is likely.

44F. Place Catch Basin Inserts: Catch Basin Inserts are a sub-group of SMF's. They are well suited to be placed in rest area parking lots and facility yards. They can target specific pollutants such as hydrocarbons.

44G. Innovative and/or Unlisted Activities: The objective is to give credit to drainage maintenance practices that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team.

44H. Fines imposed by regulatory agencies due to drainage work will result in a minus (-50) factor per fine. The Residency can still be GL certified/silver category.

Signals & Lighting (Traffic and Safety)

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49. 2070 Conversion: Deploying 2070 Advanced Transportation controllers assists in improving mobility. The Regional Traffic & Safety Group may claim credits for each 2070 conversion.

50. LED Conversions: Converting incandescent traffic signal lightbulbs to LED saves electricity. Regional Traffic & Safety Group may claim credit under *GreenLITES*.

52. Pedestrian Countdown Timers: These timers aid pedestrians for a safer street crossing and are thereby likely to increase the use of sidewalks while cutting down on motorized traffic. Although these are required on newly installed systems, retrofitting existing systems is an additional effort and receives a score under *GreenLITES*.

57. Closed Loop Systems: These systems have an indirect positive environmental impact by improving traffic flow.

58. Timing Optimization/Retiming: Timing signals is one of the most efficient ways to improve traffic flow and save emissions and energy from transportation. Implementation has shown that signal timing provides great environmental and social benefits from relatively small investments. *GreenLITES* recognizes this and gives credits if a Regional Traffic & Safety Group invests resources or lobbies for implementation.

62. Replacement or New (Stand-Alone Project): *GreenLITES* credits can be claimed if a new project has a positive effect on the environmental by reducing petroleum consumption or the reliance on electric energy. Credits will be confirmed by the *GreenLITES* Office of Operations Team.

62A. LED Highway Lighting Upgrades: Converting highway lights to LED saves electricity. Regional Traffic & Safety Groups may claim 1 credit for each upgrade under *GreenLITES*.

70A. Implement Transit Signal Priority: For each system installed, the Regional Traffic & Safety Group may claim three *GreenLITES* points.

70B. Innovative and/or Unlisted Activities: The objective is to give credit to Signals and Lighting practices that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team.

Snow and Ice

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73A. Mechanical Snowfencing: Snowfencing reduces the need for frequent plowing and roadsalt applications in areas where the wind carries snow onto the highway. *GreenLITES* credit is given for every linear foot of snow fence installed.

73B. Maintenance Decision Support System/ Road Weather Information System: Both systems support snow and ice operations by transmitting weather and conditions data thereby allowing for a more comprehensive snow and ice response. MDSS software takes in lots of data including data sent from RWIS, truck locations and pavement temperature. *GreenLITES* points are awarded to a Residency that utilizes either of these systems.

73C. Salt Sensitivity Awareness Training: This training targets each employee involved in snow and ice operations and furthers the understanding of roadsalt application guidelines, potential environmental impacts of roadsalt applications and proper yard storage and handling.

73D. Additional Salt Storage and Groundwater Protection: All salt is to be stored on top of an impervious surface and be covered to protect it from precipitation and wind. Normal storage operations are not credited under *GreenLITES*. However, if a facility engages in additional activities to protect from incidental runoff of the salt pile, or collects yard runoff in an evaporation basin or alike, credits can be claimed.

73E. Salt Brine and Alternative Deicers: Salt brine and alternative deicers such as Iceban Clear have been shown to reduce the need for roadsalt. The Residency can claim *GreenLITES* credits for every truck that is equipped to use these deicers.

74F. Innovative and/or Unlisted Activities: The objective is to give credit to Snow and Ice practices that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team.

Facilities

76. Capital Improvements & New Facilities - Maintenance and Signal Shop Facilities (Regions): Any capital improvement project that meets or exceeds the US Green Building Council Leadership in Energy and Environmental Design (LEED) rating is eligible for credit under *GreenLITES*.

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78. Facilities Construction (OOM): Any capital improvement project that meets or exceeds the US Green Building Council Leadership in Energy and Environmental Design (LEED) rating is eligible for credit under *GreenLITES*.

81. Capital Improvements & New Facilities – Fleet Administration (OOM): Any capital improvement project that meets or exceeds the US Green Building Council Leadership in Energy and Environmental Design (LEED) rating is eligible for credit under *GreenLITES*.

82. Regulatory Cost (Fines)–Fueling Facilities): Fines imposed by regulatory agencies due to petroleum bulk storage issues will result in a minus (-30) factor per fine. And will not result in an exclusion from the *GreenLITES* program. The Residency can still be GL certified/silver category.

83. Tank/Pump Repairs/DEC Compliance: Any work project that pro-actively seeks compliance with the NYSDEC PBS program and is not in response to a NYSDEC Notice of Violation or similar is eligible for *GreenLITES* credit. This is to encourage greater compliance with the regulations and thereby reducing the threat of a petroleum spill.

84. Fuel Pump/Tank Replacements: Any work project that pro-actively seeks compliance with the NYSDEC PBS program and is not in response to a NYSDEC Notice of Violation or similar is eligible for *GreenLITES* credit. This is to encourage greater compliance with the regulations and thereby reducing the threat of a petroleum spill.

85. CNG Fuel Facility Construction: Compressed Natural Gas (CNG) is a gaseous fuel that is a mixture of hydrocarbons, mainly methane, and is produced either from gas wells or in conjunction with crude oil production. Installation of these facilities facilitates the use of this common known “clean fuel”. Residencies can claim credits for new facilities.

88. Capital Improvements and New TMC’s: Any capital improvement project that meets or exceeds the US Green Building Council Leadership in Energy and Environmental Design (LEED) rating is eligible for credit under *GreenLITES*.

92. Capital Improvements and New Rest Areas (under Consultant Management): Any capital improvement project that meets or exceeds the US Green Building Council Leadership in Energy and Environmental Design (LEED) rating is eligible for credit under *GreenLITES*.

93A. Survey Buildings for Energy Efficiency (EE): A basis for energy efficiency improvements rests on an energy audit. An energy audit can be done by a professional, which may likely carry a cost, or can be done by Residency personnel by applying common

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knowledge to weigh where energy losses are occurring. Guidance audit material can also be used, or, simple estimates by local contractors can do as well. It is important to first determine the building envelopes (walls, ceiling, windows, doors, etc) energy conservation properties, upgrade the same before determining what the buildings load requirements (heating, cooling, electric utilities, etc.) are. Once the load is determined based on EE improvements, heating and other systems can be based to fit the needs of the EE building. This particular survey item gives *GreenLITES* credit for looking at the Residency's buildings to determine where EE measures can be employed. Even storage structures should be looked at for their lighting efficiency. Credit is based on the number of Residency buildings surveyed, which include rest areas, equipment management shops, bridge crew buildings and storage sheds with utility connections as well.

93B. EE Windows Upgrades: Windows as part of the building envelope play an important role in energy efficiency. Single pane windows provide little insulation and should be replaced with double pane windows that meet EE standards. Each window upgraded to EE will be given credit for under *GreenLITES*.

93C. EE Door Upgrades: Doors including overhead doors are also part of the building envelope and need to be assessed for energy efficiency. Each door upgrade will receive credits under *GreenLITES*.

93D. EE Wall Insulation Upgrades: Heated and cooled buildings need to be assessed for wall insulation. *GreenLITES* credit is given for each building wall insulation upgraded. This can be a costly item and it is suggested that a contractor's estimate be obtained.

93E. EE Ceiling Insulation Upgrades: Heated and cooled buildings need to be assessed for ceiling insulation. *GreenLITES* credit is given for each ceiling insulation upgraded. This can be a costly item and it is suggested that a contractor's estimate be obtained.

93F. EE HVAC Upgrades: If the building envelope has been found sufficiently energy efficient, the HVAC system should be assessed for its energy efficiency. This may require a professional contractor. *GreenLITES* credit is given for each HVAC system upgraded for EE.

93G. EE Water Heater Upgrades: If the building envelope has been found sufficiently energy efficient, the water heater system should be assessed for its energy efficiency. This may require a professional contractor. *GreenLITES* credit is given for each heater system upgraded for EE.

93H. EE Lighting Fixtures Upgrades: Lighting upgrades can achieve significant energy savings with relatively low investment cost. A lighting group within Grainger (on contract

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with NYSDOT), can assist in replacing older inefficient lighting systems. *GreenLITES* credit is given for each light fixture upgraded for EE. Please keep in mind that fluorescent light bulbs require proper disposal *(see environmental handbook).

93I. Motion Sensors/Timers for Lights: To reduce energy waste, motion sensors and timers have been found to be beneficial. Credit is given for each device installed.

93J. Setback Thermostats: For each setback thermostat installed, three *GreenLITES* credits are given. Setback thermostats should be monitored for proper use.

93K. Energy Conservation Awareness Training: Each employee uses energy during working hours and the choices each employee makes affects the overall energy usage of the Department. Training targeted to reduce energy use is an effective means to raise awareness of energy conservation practices in the work place and home.

93L. Aesthetic Screening: Our buildings and facilities should fit into the environment where they are located. Unsightly scrap metal piles, pipes etc should be screened from the public view. Any project that seeks to improve aesthetics of a yard/building or screen same can claim credit.

93M. Office Waste Recycling and Re-Use: Although required, many facilities are not yet fully implementing office waste recycling. In order to encourage this practice, *GreenLITES* credits are given. Recycling bins should be made available in every area where office paper is produced and pick-ups should be scheduled by the local waste hauler/recycler.

93N. Garage Waste Minimization and Recycling: All aspects of garage operations should be examined for opportunities to “buy green”, thereby preventing the accumulation of certain specialty wastes, and opportunities for recycling.

93O. Fluorescent Lightbulb Recycling: Fluorescent light bulbs require proper disposal. Each facility/building should be equipped with designated boxes for easy fluorescent lightbulb disposal/recycling. Pre-labeled boxes are available through Grainger. *GreenLITES* credits are given for each facility pro-actively engaging in lightbulb recycling.

93P. Implementing Zero Waste Strategy: A “Zero Waste Strategy” seeks to allow only those items to enter the waste stream (trash) that cannot be recycled or re-used – also it strives for zero waste, some items will still end up as trash. Its results have been proven to reduce trash collection to a minimum resulting in less land filling, resource conservation and energy reduction. The facility may also see a reduction in trash hauling cost. *GreenLITES* credits are given for each facility pro-actively engaging in a Zero Waste Strategy.

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93Q. Deer Composting Facilities: Deer composting has been proven to be an environmentally friendly and sustainable method of road kill disposal. Residency facilities should be considered for composting and a facility should be looked over to see if it can meet space needs and setback requirements from neighbors and environmentally sensitive sites such as wetlands and streams. DOT guidance should be referenced before establishing a composting facility. *GreenLITES* credits are given for each Residency roadkill compost facility.

93R. ADA Accessibility: Residency Headquarters and Rest Areas: The Department is required to provide ADA access in its public buildings which includes Residency headquarters and rest areas. In order to encourage meeting these standards, the Residency should survey for the following accessibility: designated ADA parking spaces, sidewalk, exterior door, water fountain, stall, sink, mirrors and grates. We should strive to meet these standards by the end of the fiscal year. *GreenLITES* credits are given for each Residency public building accommodated for ADA accessibility.

Guidance: Compliance with the Americans with Disability Act Accessibility Guidelines for Buildings and facilities (ADAAG) and/or more restrictive NYS requirements outlined in the Dept's Access for People with Disabilities Reference Guide.

Parking Spaces

- Clearly signed and striped 96 inch parking spaces with 96 inch passenger loading aisles, positioned close to the building on no more than a 2% grade, in adequate number (defined by the total number of spaces), and free of snow, water or debris
- Curb ramp aligns with each access aisle, is clearly marked, is free of snow and debris, curb ramps are a minimum 36 inches wide (not including flares), shall have a slope no steeper than 1:12 with no greater than a 30 inch rise with no abrupt changes in elevation, sidewalks are minimum 60 inches wide, Building access ramps comply with (ADAAG's) slope, width, landing, edge protection and handrail requirements

Exterior Door: (Note: revolving doors are unacceptable.) Door width is a minimum 32 inches when open 90 degrees, does not require excessive force to open, thresholds do not exceed 3/4 inch, doors in series are minimum 48 inches apart and do not both swing into the space between the doors, hardware does not require excessive force or twisting

Water Fountain: Spout height does not exceed 36 inches and is located in the front of the unit, controls are front or side mounted, wall mounted units have a minimum 27 inch clear knee space below, free standing units will have a clear parallel approach

Stalls: Stall size and arrangement, door, latch, grab bars, toilet, and toe clearances comply. In the case of accessibility for the disabled any element that would make it impossible for a disabled person from accessing a stall and using the toilet will fail the entire ACCOMMODATIONS FOR THE DISABLED section.

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Sink and Mirrors: Rim or counter height shall not exceed 34 inches with a minimum 27 inch clear knee space and 9 inch clear toe space, hot water and drain pipes are insulated, faucets are lever-operated, push-type, or electronically controlled, bottom of mirror is mounted at a maximum of 40 inches

Grates: Any gratings in a walking surface shall have spaces no greater than ½ inch in one direction, elongated openings shall be placed perpendicular to the direction of travel

93S. Chemical Storage Inventory: Facilities become storage places for many chemicals used in maintaining buildings, grounds, bridges and other appurtenances. A chemical inventory including the item description, quantity and container size, expiration date as well as receiving date will help facilities track these chemicals. *GreenLITES* credits are given for each Residency facility that utilizes a chemical inventory and keeps it up to date.

93T. Clean Sweep Participation: NYSDEC conducts a Clean Sweep Program and has approached the Department to allow the use of its garages as chemical collection sites. The program is run by environmental contractors. The DOT garages are lined with plastic to protect from any potential spills and farmers and schools, etc drive up to dispose of their unwanted chemicals. In return, the Residency can dispose a certain amount of hazardous chemicals at no charge. *GreenLITES* credits are given for each day a Residency participates in a Clean Sweep program during the fiscal year.

93U. Buy Recycled and Local First Strategy: If a Residency buys recycled products first, whenever possible, *GreenLITES* credits (2) are given. Recycled product can include office paper, aggregate, glass, rubber, wood related products, etc. Buying recycled products is important for creating recycled products markets. Credits are also given for buying from local vendors to support the local economy. 1 *GreenLITES* point.

93V. Striping Truck Washwater Disposal: Although the Department uses environmentally friendly striping paint, washwater often still requires specialty disposal. *GreenLITES* credits are given for each Residency facility that utilizes a specialty disposal company for its markings washwater.

93W. Paint Tote Spill Control Measure: Paint totes spill containment is regulated if storage meets certain thresholds (see Operations Environmental Handbook). *GreenLITES* credits are available to any Residency that furnishes paint tote spill containment measures regardless of regulatory thresholds.

93X. Innovative and/or Unlisted Activities: The objective is to give credit to facility practices and investments that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have

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not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team.

93Y. Regulatory Cost (Fines)–Other than PBS): Fines imposed by regulatory agencies due to facility issues other than petroleum bulk storage issues will result in a minus (-30) factor per fine. And will not result in an exclusion from the *GreenLITES* program. The Residency can still be GL certified/silver category.

Intelligent Transportation Systems (ITS) (Traffic and Safety)

100A. Innovative and/or Unlisted Activities: The objective is to give credit to ITS practices and investments that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team.

Roadside Environmental

105. Roadside Disposal including Litter Removal: One point is given for litter removed from each 40-shoulder mile segment. One additional point can be claimed by a Residency that actively seeks to reduce littering through public education and awareness activities.

106. Erosion and Sediment Control: One point will be given to each Residency that consistently factors erosion and sediment control into each project and applies seed/mulch or other by project completion. Two points are given to each Residency that consistently factors erosion and sediment control into each project and applies seed/mulch or other stabilization measures by the end of each day on which earth was exposed. Three points are given each Residency that consistently factors erosion and sediment control into each project and applies seed/mulch or other stabilization measures by the end of each day on which earth was exposed and, in addition, implements additional measures to stabilize exposed areas.

108. Innovative and/or Unlisted Activities: Green and Blue Highways activities not entered under another *GreenLITES* line may be entered here. The objective is to give credit to roadside environmental practices and investments that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team.

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109. Capital Innovative and Unlisted Activities: The objective is to give credit to roadside environmental practices and investments that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team.

110. Environmental Claims (Clean-Up): *GreenLITES* credits are not available for environmental claims and clean-up activities that are resultant of a legal claim. Credits are available if the clean-up is performed based on environmental stewardship and should be entered under the “innovative and unlisted activities” line (108).

111. Debris Removal: One point will be given to each Residency that consistently removes debris from the mowed roadside zone within 72 hours after discovery. Two points are given to each Residency that consistently removes debris from the mowed and natural roadside zones within 72 hours of discovery. Three points are given each Residency that consistently removes debris from the mowed and natural roadside zones within 72 hours of discovery and implements actions to discourage dumping along the ROW.

112A. Neighborhood Equity/Social Justice Enhancements: Some disadvantaged urban or other neighborhoods may benefit from Department activities that would enhance the quality of life for the residents in the area through the installation of neighborhood roadside appurtenances such as benches or landscape or plantings; other qualifying activities could include but are not be limited to increased litter pick-up or visual/aesthetic improvements through pruning of trees and shrubs and alike. *GreenLITES* credits are given accordingly, but should not be duplicated for *GreenLITES* credit elsewhere.

112B. Build Parking for Commuters and Rideshares: Oftentimes commuters park along the shoulder due to lack of park and ride lots. The Residency can relieve parking needs by creating temporary parking spaces within the ROW until a permanent park and ride facility or alike is constructed through the capital program. Parking spaces can be made of millings/gravel. Three *GreenLITES* credits are given per location.

112C. Roadside Aesthetic Screening: The Department prides itself in building and maintaining roadsides that provide a pleasing visual experience to the traveler. The viewsheds often become compromised by views of structures or objects that do not fit into the landscape. At times, neighbors to the ROW ask that we screen the roadside from their view. Activities related to situations described qualify for credits under the *GreenLITES* program. 2 credits can be obtained per shoulder mile treated.

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112D. Scenic Overlook Enhancements: The multitude of scenic overlooks along state highways require routine maintenance activities such as mowing and litter pick-up, which is not credited under this *GreenLITES* line. Activities that enhance the scenic overlook otherwise are credited. These include: trimming trees and shrubs to allow for views, planting and maintaining wildflower beds, placing picnic tables and garbage cans. Two *GreenLITES credits* are given per overlook.

112E. Build Public Parking/Access to Sites/Overlooks: At times cars are parked along the shoulder near special sites, attractions or overlooks due to lack of public parking. The Residency can relieve parking needs by creating temporary parking spaces within the ROW until a permanent parking facility or alike is constructed through the capital program. Parking spaces can be made of millings/gravel. Three *GreenLITES credits* are given per location.

112F. Enhance Historic Resources: A “historic resource” can be a formally designated historic site or asset on or along the right of way. It may also include a site of historic significance that is not formally designated but is recognized by the community or a group concerned with the asset. An enhancement may include: assisting with work on the resource, improving access to the resource or providing/maintaining signs consistent with the Manual of Uniform Traffic Control Devices (MUTCD) guiding travelers to the site.

112G. Enhance Habitat &/or Reduce Wildlife Mortalities: For the purposes of this measure, a Residency should add all shoulder miles of accomplishment. A Residency receives *GreenLITES credit* for implementing wildlife vehicle reduction measures or maintaining activities/projects that enhance habitat/reduce wildlife mortality.

112H. Reduce Mowing/CAMPS: For the purpose of this item, “reduce mowing” is measured by reductions in the number of acres mowed. Reductions may not be claimed if the reductions result in safety or asset preservation concerns. Undertaking CAMPS is measured by maintaining or adding right of way managed under the guidance for Conservation Alternative Mowing Plans, when such guidance will not compromise worker/traveler safety or the condition of transportation assets. Further guidance can be found in the NYSDOT Environmental Handbook for Operations.

112I. Establish/Maintain Wildflowers/Native Species: Residency receives *GreenLITES credit* for establishing/maintaining wildflowers/native species on the right of way per shoulder mile. Maintenance of wildflower beds includes weed management such as handpulling. The dormant season mowing of the wildflower bed is not eligible for *GreenLITES credit*.

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112J. Intensified Litter Control and Pick-Up: Residency receives *GreenLITES* credit per shoulder mile along which intensified litter control and pick-up efforts are undertaken. This can occur as part of a partnership with local agencies, courts with community offender programs or volunteer organization. Model for this is Region 10's "Clean Sweep" spring and fall programs. Intensified litter control also describes activities whereby areas that are prone to more trash are visited by Residency forces more often in order to remove litter. Also included in this endeavor are activities that seek to reduce litter through public education and awareness. The latter can be credited under line 108.

112K. Invasive Species Surveyed along the Roadsides: For the purposes of this and the following item, an "invasive species" shall include any species that is on a Statewide, NYSDOT or Partnership in Regional Invasive Species Management (PRISM) list. This category does not include noxious vegetation such as Poison Ivy, Poison Oak, Cow/Wild Parsnip and Stinging Nettle -- although it does include Giant Hogweed. If a Residency has a species it believes is invasive but is not listed, it may request the *GreenLITES* Review Team to include the species in this category. Credit is given per shoulder mile surveyed for invasive species using forms or preferably, a GPS/GIS system. Two *GreenLITES* credits are given per shoulder mile surveyed. Information should be transferred to a regional/statewide database.

112L. Invasive Species Controlled/Managed: Two *GreenLITES* credits are given to a Residency per acre of invasive species controlled/managed within the DOT right of way. Please see to the invasive species definition above (112K).

112M. Alternatives to Herbicides: For the purposes of this item, examples to "Alternatives to Herbicides" include installing vegetation barriers such as those made by U-Teck or Universal Weed Cover; planting/maintaining weed suppressive vegetation or grasses; using an herbicide that has naturally based ingredients, such as C-Cide, or using Waipuna, a hot foam system. If a Residency wishes to apply an herbicide with naturally based ingredients, EPA and state mandates require a Certified Pesticide Applicator/Technician must make the application. Three *GreenLITES* credits are given per shoulder mile treated.

112N. Increase Adopt-a-Highway (AAH) Partnerships: The Residency may receive three *GreenLITES* credits for each center lane mile of new AAH agreements added to the system each year. This credit also applies when organizations renew their AAH agreements. The Residency needs to assure that AAH agreements honored by the participants.

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1120. Living Snowfences: The Residency may receive ten *GreenLITES* credits for each shoulder mile of living snowfence installed in the Residency. Snow fence s may consist of new plantings or can be obtained through agreements with local farmers by asking them, to leave corn rows or similar tall vegetation standing through the winter months. Living snowfence guidelines should be followed. Residency is requested to have back-up records showing route locations, vegetation type, reference markers and other location information.

112P. Recycled Materials used in Erosion/Sediment Control: The Residency may receive three *GreenLITES* credits for each type of recycled erosion and sediment control item utilized within the fiscal year. Examples include using crushed glass in dewatering operations to allow settlement of particles. It is advised to keep current of what new methods are available in the stormwater and recycling industry. Wood chips qualify for recycling/re-use activities as does deer compost.

112Q. Regulatory Cost (Fines) Roadside Activities: Fines imposed by regulatory agencies due to roadside activities issues will result in a minus (-50) factor per fine. And will not result in an exclusion from the *GreenLITES* program. The Residency can still be GL certified/silver category. These fines can be contracted due to lack of erosion or sediment control or inadvertently filling sensitive areas. The Residency should always refer to the NYSDOT Environmental Handbook for Transportation Operations or contact the Maintenance Environmental Coordinator.

Guiderail & Fencing

116A. Aesthetically Treated Guiderail: In some areas of New York State, certain types of aesthetically treated guiderail is the preferred treatment option from the view of stakeholders interested in branding parks or other places of special interest, such as the Adirondack Park. Aesthetically treated guiderail refers to painted or powder coated guiderail in tones that are consistent with general branding colors of the area. 1 point is credited per 100 lf of aesthetically treated guiderail placed.

118. Replace/Upgrade/Enhance Impact Attenuators: Some impact attenuators are filled with a solution of water and toxic antifreeze. One credit is given for each impact attenuator filled with a non-toxic solution during replacement or as part of an upgrade. Credit can also be claimed for each attenuator aesthetically upgraded to meet parkway or scenic byway branding parameters.

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120. Repair/Replace Fencing: Fencing serves to keep deer and other large animals from the roadside and fence maintenance is considered a green activity. Thought should be given to where animals are likely to cross due to fencing and deer crossing warning devices should be considered in these areas. One point is given for each linear foot of fence repaired.

121. Capital Investment in New Fencing: Fencing serves to keep deer and other large animals from the roadside and fence maintenance is considered a green activity. Thought should be given to where animals are likely to cross due to fencing and deer crossing warning devices should be considered in these areas. One point is given for each linear foot of fence repaired.

121A. Innovative and/or Unlisted Activities: The objective is to give credit to guiderail and fencing environmental practices and investments that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team.

Markings

126A. Innovative and/or Unlisted Activities: The objective is to give credit to striping/markings environmental practices and investments that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team

Signs (Traffic and Safety)

131A. Innovative and/or Unlisted Activities: The objective is to give credit to sign environmental practices and investments that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team

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Fleet Administration

143. Fuel: Fuel use is an activity that impacts the environment in numerous ways. No *GreenLITES* credits are given at line 143, however, Residencies and other groups are encouraged to reduce their fuel usage. Innovative means of accomplishing this task should be listed under line 154G.

154A. LNG Installations: Liquid Natural Gas provides an opportunity to power trucks with this clean fuel. For each installation accomplished, three *GreenLITES* credits are given.

154B. Idling Reduction beyond Current Policy: Trucks can be retrofitted with equipment to eliminate the need for idling during work zone and other activities. Retrofits to reduce idling include LED truck lighting and battery upgrades. Two *GreenLITES* credits are given for each piece of equipment retrofitted with idling reduction measures.

154C. Install Truck and Air Emissions Retrofits: Two *GreenLITES* credits are given for each piece of equipment retrofitted with air emission reduction measures.

154D. Use LNG Trucks: Liquid Natural Gas provides an opportunity to power trucks with this clean fuel. For each piece of equipment equipped for LNG usage, three *GreenLITES* credits are given.

154E. Use Vacuum-Assisted Sweepers: Vacuum- assisted sweepers remove more pollutants from the roadway than traditional brush sweepers as long as certain environmental conditions such as sweeping while the pavement is dry are adhered to. For each piece of equipment used, three *GreenLITES* credits are given.

154F. Use Hybrid/Alternative Fuel Vehicles: Hybrid and alternative fuel vehicles save fossil fuel use. For each hybrid and alternative fuel vehicle used, three *GreenLITES* credits are given.

154G. Innovative and/or Unlisted Activities: The objective is to give credit to fleet environmental practices and investments that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Activities listed include any innovative way of reducing fuel use. Points awarded in this category are subject to review by the *GreenLITES* review team.

Walls and Rock Slopes

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157. Maintain/Repair Noise Barrier: The maintenance and repair of noise barriers is important to communities and neighborhoods. One *GreenLITES* credit is given for each square foot of noise wall repaired.

158. Major Rehabilitation, Reconstruction or New Noise Barrier: The maintenance and repair of noise barriers is important to communities and neighborhoods. One *GreenLITES* credit is given for each square foot of noise wall repaired.

160A. Reduce Noise from Operations: Noise stemming from maintenance and operations projects can be disruptive to certain communities at certain times of the day. For example, a loud operation near a school may be disruptive to the classroom in the morning. The activity could be scheduled on a day when school is closed. Three *GreenLITES* credits are given for each location where noise from operations accommodated community needs.

160B. Recycle Rock Material or Provide to Others: Rock materials are re-used for other purposes within the DOT ROW, brought to a C&D recycling facility or made available for re-use by others, for example, local Highway Departments. This is a highly valuable practice. Assurances must be made that placement within the ROW conforms to environmental guidelines and cannot be used to inadvertently impact sensitive sites such as wetlands and floodplains. *GreenLITES* credit is given per ton of material recycled/re-used.

160C. Innovative and/or Unlisted Activities: The objective is to give credit to walls and rock slope environmental practices and investments that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team.

Communications Technology & Emergency Preparedness

160. Road Weather Information System (RWIS): *GreenLITES* credits for RWIS are given under the Snow and Ice section, line 73B.

163. Innovative and/or Unlisted Activities: The objective is to give credit to technology and emergency preparedness (natural disasters) environmental practices and investments that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team.

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170A. AED and Other Battery Recycling: Employee Safety and Health Groups can obtain three credits for each location that is equipped to accept AED and other batteries for recycling.

Multimodal & ADA

177. Capital Funding for Bus Travel Projects: Each bus travel project will be considered for three *GreenLITES* credits each.

178. Capital Funding for Canal Projects: Each Canal project will be considered for three *GreenLITES* credits each.

179. Capital Funding for Ferry Projects: Each ferry project will be considered for three *GreenLITES* credits each.

180. Capital Funding for Rail/Transit Projects: Each rail/transit travel project will be considered for three *GreenLITES* credits each.

181. Capital Funding for Bike, Pedestrian and ADA Projects: Each bike, pedestrian and ADA project will be considered for three *GreenLITES* credits each.

181A. ADA Spaces at Public Parking: Each project to create ADA at public parking will be considered for two *GreenLITES* credits each.

181B. ADA Access: Install Drop Curbs: Three *GreenLITES* credits will be given for each ADA drop curb installed.

181C. Innovative and/or Unlisted Activities: The objective is to give credit to multimodal and ADA environmental practices and investments that significantly build upon *GreenLITES* categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team.

Other

182. Studies for Feasibility, Noise, Wetlands etc.: For each study featuring environmental components, three *GreenLITES* credits are given.

182A. Innovative and/or Unlisted Activities: The objective is to give credit to studies dedicated to environmental practices and investments that significantly build upon

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GreenLITES categories and objectives or that incorporate significant innovations in transportation environmental sustainability that have not been previously utilized in NYSDOT operations. Points awarded in this category are subject to review by the *GreenLITES* review team

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