Exhibit E

Maintenance Plan

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EXHIBIT E

MAINTENANCE PLAN

1) INTRODUCTION

This Maintenance Plan between [insert concessioner name] (hereinafter referred to as the “Concessioner”) and the National Park Service (hereinafter referred to as the “Service”) sets forth the maintenance responsibilities of the Concessioner and the Service with regard to those lands and facilities within Great Smoky Mountains National Park (hereinafter referred to as the “Area”) that are assigned to the Concessioner for the purposes authorized by the Contract. In the event of any apparent conflict between the terms of the Contract and this Maintenance Plan, the terms of the Contract, including any amendments thereto, will prevail. Full compliance with the requirements of this Maintenance Plan is required in order to satisfy the Concessioner’s Maintenance obligations under the terms of the Contract.

This Maintenance Plan will remain in effect until superseded or amended. It will be reviewed annually by the Service in consultation with the Concessioner and revised as determined necessary by the Superintendent of the Area. Revisions may not be inconsistent with the terms and conditions of the main body of the Contract. Any revisions must be reasonable and in furtherance of the purposes of this Contract.

2) PART A – GENERAL STANDARDS

A) General Concession Facilities Standards

Pursuant to the Contract, the Concessioner is solely responsible for the Maintenance of all Concession Facilities to the satisfaction of the Service. In fulfilling its responsibility, the Concessioner must comply with the terms of this Maintenance Plan. The Concessioner must conduct all maintenance activities in compliance with Applicable Laws, as that term is defined in the Contract. For the purposes of this Maintenance Plan, the term Applicable Laws also includes, but is not limited to Service standards, DOI and NPS Asset Management Plans, NPS Management Policies, Uniform Federal Accessibility Standards, the Uniform Building Code, the Uniform Plumbing Code, the National Electric Code, and the National Fire Protection Association’s (NFPA) Life Safety Codes unless a written exception has been provided by the Service.

B) Definitions

In addition to the defined terms contained or referenced in the Contract, the following definitions apply to this Maintenance Plan.

Asset – Real Property that the National Park Service desires to track and manage as a distinct identifiable entity. An Asset may be a physical structure or grouping of structures, land features, or other tangible property that has a specific service or function such as an office building, lodge, motel, cabin, residence, campground, marina, etc.

Capital Improvement – A structure, fixture, or non-removable equipment.

Component – A portion of an Asset.

Component Renewal (CR) – The planned Replacement of a Component at the end of its Useful Life. Component Renewal examples include the replacement of foundations, building frames, window frames, windows, doors, sheathing, subfloors, drainage and roofs; the replacement of building systems such as electrical distribution systems, built-in heating and cooling systems, and plumbing systems; and the rehabilitation of Components of historic Concession Facilities. Component Renewal includes the deconstruction of the existing Component and the Replacement of that Component with a new Component of equal or superior capability and performance. These actions recur on a periodic cycle of greater than seven (7) years.

Concession Facilities – The term “Concession Facilities” shall have the meaning set forth in the main body of the Contract.
Deferred Maintenance (DM) – Maintenance that was not timely or properly conducted. Continued Deferred Maintenance will result in Deficiencies.

Deficiencies – Defects in an Asset or Component that result when Maintenance is not performed in a timely and/or effective manner. Deficiencies may not have immediately observable physical consequences, but when allowed to accumulate uncorrected, lead to deterioration of Asset performance, loss of Asset value, or both.

Facility Operations – Operational actions performed by the Concessioner on a recurring basis that the meet daily operational needs of Concession Facilities. Typical Facility Operations work includes janitorial and custodial services, snow removal, the operation of utilities, and grounds keeping. Certain Facility Operations requirements may be included in Exhibit B (Operating Plan) to the Contract.

Maintenance – The maintenance of Concession Facilities as described in this Maintenance Plan. Maintenance includes, but is not limited to, actions taken under the following maintenance categories: Component Renewal; Recurring Maintenance; Facility Operations; Preventive Maintenance; and Repair.

Personal Property – For purposes of this Maintenance Plan, the term Personal Property refers to manufactured items of independent form and utility, including equipment and objects, which are solely for use by the Concessioner to conduct business. Personal Property includes, without limitation, removable equipment, furniture, and goods, necessary for Concessioner operations under the Contract. Personal Property may be manufactured items of independent form and utility, including equipment and objects that are owned by the Government but assigned temporarily to the Concessioner so that the Concessioner may use them in its operations under the Contract.

Preventive Maintenance (PM) – Planned, scheduled periodic Maintenance activities that are performed weekly, monthly, quarterly, semi-annually, or annually on selected Assets or Components, typically including, but not limited to, inspection, lubrication, and adjustment.

Recurring Maintenance (RM) – Planned work activities to sustain the Useful Life of an Asset or Component that reoccur on a periodic cycle of greater than one year. Typical Recurring Maintenance projects include, but are not limited to painting, pump and motor replacement, cleaning, repair and replacement of lighting, engine overhaul, replacement of carpeting, and refinishing hardwood floors.

Repair – Work undertaken to restore damaged or worn out Assets or Components to a fully functional operating condition.

Replacement – Exchange or substitution of one Asset or Component for another that has the capacity to perform the same function at a level of utility and service equivalent or superior to the level of utility and service of the original Asset or Component.

Useful Life – The serviceable life of an Asset or Component.

C) Concessioner Responsibilities

(1) In General

(a) All personnel conducting Maintenance must have the appropriate skills, experience, licenses and certifications to conduct such work.

(b) The Concessioner, where applicable, must submit project plans to the Service that are stamped by a Professional Engineer or Registered Architect licensed in the appropriate State.

(c) The Concessioner, where applicable, must obtain the appropriate permits required by federal, State or local law and must provide copies of the permits to the Service.

(d) The Concessioner must follow, at minimum, those LEED (Leadership in Energy and Environmental Design) standards set for achieving a silver rating for applicable maintenance. However, the Concessioner is not required to apply for and receive third-party verification or certification of LEED compliance.

(e) The Concessioner must not construct or install Real Property Improvements (including, without limitation, Capital Improvements and Major Rehabilitations).
(2) Environmental, Historic, and Cultural Compliance
   (a) Certain Maintenance actions that are subject to these compliance procedures under the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), and other Applicable Laws.
   (b) Any proposed Maintenance actions that are subject to these compliance procedures must be submitted to the Service by the Concessioner in the format required.
   (c) The Concessioner may be required to prepare, at its expense, environmental assessments, environmental impact statements, or related documents for certain Maintenance actions. The Service will provide guidance to the Concessioner concerning proper process and procedure.

(3) Maintenance Tracking
   (a) The Concessioner must schedule and track completion of all of its Maintenance actions and associated expenditures in an electronic format. Such electronic format must be acceptable to the Service and must effectively provide the Service the Maintenance information that the Concessioner is required to provide under this Maintenance Plan.
   (b) The Concessioner must, on a frequency determined by the Service and in an electronic format acceptable to the Service, provide the Service with Maintenance information that the Service requests. This information may include but is not limited to: (1) outstanding Component Renewal and Deferred, Recurring, Preventive, scheduled, and unscheduled Maintenance listed by Asset; and (2) budgeted and actual expenditures listed by Asset for Component Renewal and Deferred, Recurring, Preventive, scheduled, and unscheduled Maintenance. The Service, in consultation with the Concessioner, will define the specific requirements for providing requested information, including data export formats, required fields, and data structure.
   (c) The Concessioner must fully develop, implement, and administer a Computerized Maintenance Management System (CMMS) within the first year of the Contract and must use it to track the condition of and work performed on Concession Facilities in accordance with this Maintenance Plan and direction from the Service. The Concessioner must use the CMMS to record all Maintenance and/or construction performed on Concession Facilities and must ensure that the Service has proper access to and use of all data recorded in the CMMS during the Contract term and for a period of five (5) years thereafter.

(4) Concessioner Inspections
   The Concessioner must conduct inspections of Concession Facilities (no less than annually) to track its compliance with this Maintenance Plan and to compile information that will aide in the development of future Maintenance requirements.

D) National Park Service Responsibilities

Nothing in this Maintenance Plan may be construed as requiring the Service to conduct Maintenance of Concession Facilities of any kind except as otherwise expressly stated by the terms of this Maintenance Plan. Part B of this Maintenance Plan may describe certain National Park Service responsibilities for particular elements of Maintenance of Concession Facilities. Any approval or consent given by the Service, whether of any plan, permit, report, inspection, or otherwise, under this Maintenance Plan does not relieve the Concessioner or the Concessioner’s contractors of any responsibility for any errors or omissions or from the responsibility to comply with the requirements of this Maintenance Plan or the Contract.

(1) Inspections
   The Service will from time to time (as determined necessary by the Service but no less than annually) inspect the condition of Concession Facilities and the progress and quality of Maintenance activities. The Concessioner must provide qualified personnel to accompany the Service when a Concession Facilities inspection is performed.
(2) Evaluation of Concessioner Maintenance

The Service will provide the Concessioner with an annual evaluation of Concession Facilities. The evaluation will be provided to the Concessioner as a record of Concession Facilities condition and will document the Concessioner’s compliance with its obligation to perform all necessary Maintenance. The findings and results of the evaluation will documented on the Asset Management Program Evaluation Report (form 10-AMP) and will be incorporated into the Concessioner’s Annual Overall Rating (AOR).
3) PART B – AREA SPECIFIC RESPONSIBILITIES

A) Concessioner Responsibilities

(1) General

*Deficiencies.* The Concessioner must correct any Deficiencies on a timely basis to achieve the basic goals described in the Commercial Services Guide regarding all services required under the Contract.

(2) Buildings

The Concessioner is responsible for the facility Maintenance and Component Renewal as well as the Repair and cleaning of the interior and exterior of all buildings within the Concession Facilities identified in Exhibit C including: flooring, walls, doors, ceilings, locks and other security systems, windows, HVAC systems, plumbing system and fixtures, electrical systems, interior and exterior lighting fixtures, gutters, downspouts and roof drains, and exterior walls, windows, and doors.

(a) Interior

The Concessioner must ensure that all interior spaces are clean, properly illuminated, and well maintained, including, at a minimum, the following:

- Restrooms. Public restrooms must be kept clean and stocked with paper products during Concession Facility operating hours. A minimum of two complete cleanings must be conducted daily. Hourly inspections of restrooms, during operating hours, are to be scheduled, conducted and documented; immediate corrective action must be taken to correct noted Deficiencies. Fixtures and equipment must be repaired promptly upon discovery or notification of a Deficiency. No fixture may remain out of service for more than 24 hours. If this timeframe is to be exceeded, the Concessioner must explain to the Service the reason for the delay. If fixtures and equipment will remain out of service for more than one hour, the Concessioner will post a sign notifying the public of this fact.

- **Flooring.** The Concessioner must keep floors clean and free of litter and stains. Tile and vinyl floor coverings must be clean, waxed, or buffed, free of cracks, chips, and worn places. Wax should not be allowed to build up or become cloudy.

- **Walls and ceilings.** The Concessioner must maintain walls and ceilings with a clean appearance, free of breaks and stains.

- **Windows.** Windows must be clean and unbroken. When a Deficiency is identified it must be repaired immediately. Grouting must be clean and in good repair.

- **Interior Lighting.** The Concessioner must maintain interior lighting as appropriate for its use.

(b) Exterior

The Concessioner must maintain the Concession Facilities’ structural and architectural integrity, including performing the following activities:

- **Roofs.** The Concessioner must inspect roofs annually to ensure that roofing materials are intact and free of deterioration that may affect structural quality, and that roofs are not jeopardized by adjacent vegetation or overhanging tree limbs.

- **Gutters, downspouts and roof drains.** The Concessioner must ensure that gutters, downspouts, and roof drains remain attached to each of the buildings. The Concessioner must inspect and clean gutters, downspouts and roof drains annually at a minimum to maintain the system free of obstructions and fully operational.

- **Doors and windows.** The Concessioner must routinely inspect and maintain doors and windows to prevent moisture from causing deterioration of materials or structural damage to the building.
• **Siding, walls and trim.** The Concessioner must routinely inspect and maintain siding to prevent moisture from entering the building or causing deterioration of the siding material. The Concessioner must maintain the walls and trim of Concession Facilities in satisfactory condition, as well as perform seasonal painting (if determined necessary by the Service).

• **Foundations and exterior walls.** The Concessioner must inspect foundations and exterior walls annually to ensure they are structurally sound, maintain them to prevent settlement or displacement and prevent vegetation from taking hold within 12” of the perimeter.

(c) **Painting**

• **Paint.** The Concessioner must inspect paintable surfaces annually and repaint when Deficiencies are identified. Paint products must be of a “best quality” from a major manufacturer and a type and color that are readily available on the open market and approved by the Service. The Service must approve changes to paint colors. The Concessioner must use reprocessed, low volatile organic content (VOC), latex coatings when technically feasible and at minimum would include a prime coat and a finish coat. No oil-based paints may be used without the Service’s prior written approval.

• **Asbestos, Polychlorinated Biphenyls (PCBs), and Lead-based Paint.** The Concessioner is responsible for maintaining health and safety standards in the presence of asbestos, PCBs, and lead-based paint in Concessioner Facilities. The Concessioner must obtain the Service’s written approval before Repair or Replacement of asbestos containing materials.

(d) **Winter Closures**

• The Concessioner must ensure that buildings are adequately winterized and secured (including measures to prevent pest/wildlife from entering) while unoccupied. The Concessioner must drain all water and sewer lines and take necessary steps to prevent freezing.

• The Concessioner must coordinate its re-opening with the Service. The Concessioner must notify the Service of re-opening plans at least 30 days before re-opening.

(3) **Signs**

(a) **Responsibilities**

After the Contract’s performance and before the visitor season begins, the Concessioner must provide all interior and exterior signs relating to its operations and services on or within Concession Facilities. Examples are signs identifying the location of functions within Concession Facilities, signs identifying operating services and hours, and signs identifying Concession rules or policies.

(b) **Location and Type**

At all times during this Contract, the Concessioner must ensure its signs are appropriately located, accurate, attractive, and well maintained. The Concessioner must prepare its signs in a professional manner, appropriate for the purpose they serve, and consistent with Service guidelines. The Concessioner must obtain written Service approval before any exterior sign installation.

(c) **Exterior Signs**

To ensure that exterior signs follow Service sign standards for the Area, the Concessioner must obtain the Service’s prior approval for all exterior signs.

(d) **Temporary Signs**

The Concessioner must replace any defaced or missing sign within seven days of detection. Temporary signs may not be handwritten. If the sign addresses a life safety issue, the Concessioner must replace it immediately.
(4) Grounds and Landscaping

(a) General

- The Concessioner must maintain the grounds of the Concession Facilities, as depicted in Exhibit C.

- The Concessioner must keep all Concession Facilities free of litter, debris, and abandoned equipment, vehicles (except where designated), furniture, and fixtures. The Concessioner must always keep the Concession Facilities free and clear of safety hazards (broken glass, sharp objects, etc.).

- The Concessioner must submit any plans for landscaping, including any plant species to be used, to the Service for review and approval. The Concessioner’s landscaping activities must be consistent with Service policies including Integrated Pest Management.

- Landscaping activities that use power equipment must be timed to minimize disturbance to visitors.

- The Concessioner must maintain and clean daily any cigarette receptacles in the Concession Facilities.

- The Concessioner must conduct its business and daily activities in such a manner as to minimize impacts on the natural scene, including erosion control (such as culvert and gutter maintenance) and protection of native vegetation.

(b) Parking Lots and Sidewalks

- The Concessioner must perform daily upkeep of parking lots and sidewalks within the assigned area including sweeping or use of a leaf blower.

- The Concessioner is responsible for debris and hazard removal from roads, parking areas, trail, and walkways within the Concession Facilities.

(c) Hazard Tree Removal

- The Concessioner must notify the Service of potentially hazardous trees within the Concession Facilities. If the Service identifies a tree as hazardous, the Service will either remove the tree or direct the Concessioner to have the tree promptly removed.

- The Concessioner must obtain the Service’s specific approval before removing hazard trees or tree limbs from the Concession Facilities.

- The Concessioner must consult with the Service regarding the disposition and use of the wood from downed trees. The Concessioner cannot sell the wood or use it for any purpose without the Service’s prior approval.

(5) Weed and Pest Management

(a) The Concessioner must conduct pesticide management activities including prevention/exclusion, abatement, reporting and monitoring per NPS Integrated Pest Management (IPM) procedures contained in NPS 77, Reference Manual 83 and the Park IPM Plan.

(b) The Concessioner must bring to the attention of the Service the existence of pests or exotic plants within Concession Facilities of which it becomes aware.

(c) The Concessioner, per the Service IPM Program, must conduct IPM, which includes the control of both native and non-native invasive flora and fauna by chemical and other means. The Concessioner must review specific problems with the Service IPM Coordinator.
Actions taken by the Concessioner to control pests utilizing chemicals or by other means are subject to Service approval. The Concessioner must only use chemicals, pesticides, and toxic materials and substances as a last resort, as part of an IPM program, and with the Service’s prior approval.

(d) The Concessioner must submit a Pesticide Request Form requesting approval of anticipated pesticide use for the following year, and a Pesticide Use Log, which tracks pesticide use for the previous year, to the Service by **January 15** of each year.

(e) The Concessioner must tightly seal buildings and supplies, and maintain clean facilities, to minimize pest entry. The Concessioner must eradicate any pest infestation in personal or other property and in all Concession Facilities, including but not limited to, infestation that requires fumigation/tenting for termites, bedbugs, or other pests.

(f) Adequate steps will be taken to prevent the introduction and importation of exotic plants and species into the Area.

Before being moved into the Area, agricultural equipment, vehicles and horse drawn or motorized equipment, which is transferred into the Area will be:

- Thoroughly pressure cleaned with cleaning detergent, removing all soil sediment and vegetation with attention being paid to the undercarriage, wheels, and wheel wells of the equipment.
- If equipment is equipped with passenger area, this area will be thoroughly vacuumed.

(g) Equipment or vehicle log will reflect time, date, location, duration, and method of cleaning.

(h) The Concessioner must obtain Service approval for pesticide storage area siting and design.

(i) The Concessioner must obtain Service approval before contracting with any third party to apply pesticides.

(6) Personal Property

(a) The Concessioner must maintain, service, and repair all Personal Property including furnishings, appliances, machinery, and equipment per manufacturers’ recommendations, and replace as necessary.

(b) The Service reserves the right to require the Concessioner to replace Personal Property provided by the Concessioner including furniture and equipment at the end of its remaining life or when the item presents a quality, safety, or environmental issue.

(7) Utilities

(a) Billing

- The Concessioner is responsible for contracting with independent suppliers to provide year-round telephone service and electrical service. The Concessioner is responsible for direct payment to these suppliers.
- The Service will provide water and sewer services to the Concession Facilities and bill the Concessioner for usage during the period when the stable is fully open for business (excluding seasons when only vending is available). The Concessioner will not be billed for usage during the period when the stable is closed.
- The Service will bill the Concessioner in accordance with Applicable Laws, including without limitation, Service Policy, which requires that utility rates charged to the Concessioner reflect actual costs incurred by the Service, or comparability, whichever is greater.
- The Service will review operating costs for utility systems and services annually and will notify the Concessioner in writing 60 days before new rates for the upcoming year become effective. Rates will be based on a Service comparability study and results of the preceding fiscal year’s actual costs.
(b) Energy and Water Conservation

The Concessioner must encourage conservation of energy, water, and other resources through policies, programs, and goals. The Concessioner must participate in energy audits and incentives if offered by its power provider and feasible.

(c) Electrical

- Sevier County Electric System maintains the primary electrical lines within the Concessions Facilities. The provider directly bills the Concessioner for electricity. The Concessioner must provide prompt payment for this service. The Concessioner must maintain all secondary electrical lines and equipment (conduit, panels, switches, circuits, lines, etc.) within the Concession Facilities. Any changes to the utility system require written approval from the Service.
- The Concessioner must Repair or Replace all electrical system damage within Concession Facilities and damage occurring beyond the Concession Facilities that result from actions of the Concessioner, its employees, agents, or contractors.
- The Concessioner must ensure that all electrical circuits under its control meet, at a minimum, the National Electric Code and Applicable Tennessee Code.
- The Concessioner is required to use a licensed electrician for all electrical projects other than common Maintenance functions.
- All wet areas must have a GFI outlet, in compliance with NFPA 70.
- Before adding high-voltage appliances such as coffee pots, refrigerators, food service equipment, or electric heaters, the Concessioner must ensure circuitry is adequate to accommodate these appliances. The Service must approve in advance upgrades to the electrical system or addition of high voltage appliances.

(d) Water

- The Concessioner is responsible for the performance of all Maintenance and Repair of all water system Components including all fixtures (e.g., sinks, faucets, etc.) and the distribution service laterals within the Concession Facilities. All Maintenance of water lines must be performed by a licensed plumber. The Concessioner must use a licensed contractor for all non-routine (other than common) water and sewer projects.
- The Concessioner must activate, deactivate, and winterize system Components as necessary, as part of normal Maintenance. The Concessioner will provide the Service with facility occupancy dates for activation and deactivation of service systems used by the Concessioner when opening and closing dates are submitted for approval.
- The Concessioner must repair, as directed by the Service, any water system damage within Concession Facilities and damage occurring beyond the Concession Facilities that results from actions of the Concessioner, its employees, agents, or contractors. The Service will charge the Concessioner for Repairs resulting from damage to a water system due to Concessioner activities.
- The Concessioner must follow all applicable local, State and Federal laws, regulations, standards, or requirements, including the Safe Drinking Water Act of 1974 (42 United States Code 300f et. seq. Public Law 93-523) and the Rules and Regulations for Public Water Systems and Drinking Water Quality issued by the Tennessee Department of Environment and Conservation, Division of Water Supply, Backflow and Cross Connection Policy. The Concessioner must maintain (and Replace as necessary) approved backflow prevention devices within the Concession Facilities. The Concessioner is responsible for having approved back flow devices on all outside spigots.
The Concessioner must test for and Repair leaks within Concession Facilities. If water usage data indicates water use in excess of average, the Concessioner must investigate and mitigate leaks or other issues.

Any operation of this system during extreme cold weather will require attention by the Concessioner. Opening and shutting down of the system and Repair or Replacement of any damaged lines, or pumps, etc. are the sole responsibility of the Concessioner.

The Concessioner will implement water conservation measures as needs arise downstream of (but not including) the primary meters. Water conservation in buildings includes using aerators on all sink faucets, low-flow shower heads (not exceeding maximum flow of 1.5 gallons per minute at 20 p.s.i. or 2.8 gallons per minute at 80 p.s.i.) and low-flow toilets (not to exceed 1.6 gallons/flush at 20 p.s.i. or 1.9 gallons/flush at 80 p.s.i.).

The Concessioner will follow applicable state and Service guidelines when reopening and repairing drinking water distribution systems.

Waterlines will be super-chlorinated before initial use. In cases where super-chlorination is not possible, lines will be thoroughly flushed with potable water. After lines are flushed, a steady stream of water must flow from spigots until demand creates a constant flow.

(e) Sewer

The Concessioner must maintain exterior lines and laterals from Concession Facilities to the sewer cleanout of the building. All Maintenance of sewer lines must be performed by a licensed plumber.

The Concessioner must clear stoppages and make Repairs for damage caused by such stoppages.

The Concessioner will Repair or maintain all sewage lines, connections, disposal systems, and appurtenances within the assigned area. The Concessioner will Repair any damage to the sewage disposal system within the Concession Facilities.

The Concessioner will repair any damage to the sewage disposal system within the Concession Facilities and damage occurring beyond the Concession Facilities that results from the negligence of the Concessioner and/or its employees while working or operating Concessioner equipment.

The Concessioner will Maintain, and Repair, items attached to the sewage disposal system (including sinks, toilets, urinals, and dish washing equipment).

All manhole lids should be kept in place so that leaves, mud, and other debris cannot get into the line.

(f) Telephone

The Concessioner must contract with independent suppliers to provide telephone service.

The Concessioner must provide and maintain all telephone services, equipment and lines within and for Concession Facilities, including wiring on the user side of connections and panels.

(8) Solid Waste

(a) Solid Waste Source Reduction and Recycling Guidelines

The Concessioner must develop, promote and implement as part of its solid waste management system, a recycling program for materials generated by the visiting public and employees for all Area-specified materials that fully supports the National Park Service’s recycling efforts. Area-specified materials include, but may not be limited to, paper, newsprint, cardboard, bimetals, plastics, aluminum and glass. The Concessioner’s recycling
program must address large items such as computers and other electronics, white goods and other bulky items.

- The Concessioner must provide recycling containers for these materials that meet the requirements of Section C of this Plan in at least one location within the Concession Facilities. These containers will be emptied, at a minimum, each evening before closing and the contents will be stored in a bear-proof location pending removal from the Concession Facilities. The location or locations for these containers must be approved by the Service.

- The Concessioner will develop, promote and implement a litter abatement program. The program will include but is not limited to implementing litter clean-up days within the Concession Facilities, and providing litter prevention educational messages on appropriate materials and in appropriate locations.

- The Concessioner must implement a source reduction program designed to minimize its use of disposable products in its operations.

- The Concessioner must provide an effective management system for the collection, storage and disposal of solid waste generated by its operations and services as well as the solid waste generated by the visiting public at the Concession Facilities.

- The Concessioner must collect and dispose of solid waste on a frequency (approved by the Service) as necessary to prevent the accumulation of waste.

- The Concessioner must transport and dispose of solid waste that is not recycled at an authorized sanitary landfill or transfer station. The Concessioner must transport recyclables to an authorized recycling center.

- The Concessioner must obtain Service approval before contracting with any third party for solid waste services.

- The Concessioner must use solid waste composting as a waste management method if feasible.

- The Concessioner composting system must be animal-proof and Service-approved.

(b) Responsibilities

- The Concessioner will be responsible for the collection of all litter and garbage within the Concession Facilities and for its disposal at the proper county or other landfill areas. All assigned areas Concession Facilities will be kept free of litter, garbage, and abandoned equipment/vehicles.

- All materials generated as solid waste (such as discarded business and household items, including product packaging, bottles, cans, food scraps, newspapers, appliances, paint and batteries, and chemicals), untreated wood, and tree branches must be removed from the Area at the Concessioner’s expense and disposed of outside the Area.

(c) Receptacles

- Garbage cans and dumpsters must be in good repair and painted with approved colors.

- Receptacles will be waterproof, bear and vermin-proof, and covered with working lids.

- All receptacles will be kept clean, well-maintained, and serviceable.

- Trash generated or collected by the Concessioner will be stored in bear and vermin-proof receptacles or indoors in containers with plastic liners sealed to reduce odors pending removal from the site.

(9) Fire and Life Safety Systems Policy and Procedures

(a) The Concessioner must follow applicable National Fire Protection Association (NFPA) codes.
(b) The Concessioner must contract with appropriate and qualified fire protection system contractors, licensed by the state and approved by the Service, to conduct the periodic inspection, testing and maintenance of fire and life safety systems and devices, as required by and in compliance with applicable National Fire Protection Association Codes and Standards. This work can also be performed by qualified concession personnel, as approved by the Service. The systems and devices include but are not limited to:

- Fire Detection and Notification Systems;
- Fire Suppression Systems;
- Fire Extinguishers;
- Emergency Lighting; and
- Illuminated Exit Signs.

(c) Monthly Inspections

The Concessioner must ensure all listed devices are inspected monthly. The Concessioner must document inspections of fire extinguisher and other fire and life safety system components and devices. The Concessioner must maintain inspection documents on site for a minimum of three years and provide a copy to the Service upon request. A proactive fire prevention program must include prompt Repair or Replacement of fire protection systems and life safety systems and Components that are not functioning properly. Periodic inspections must include the following:

- **Fire Extinguishers (Routine Inspection, Testing and Maintenance):** The Concessioner must perform periodic inspection, testing, and Maintenance in accordance with the minimum requirements of NFPA 10 (standard for Portable Fire Extinguishers). Annually the Concessioner must have a licensed fire extinguisher service contractor perform the required inspection, testing, and Maintenance of each extinguisher. The Concessioner must perform a monthly visual inspection on all fire extinguishers. Monthly visual inspections can be performed by Concessioner personnel that have been properly trained, as approved by the Service. The Concessioner must record monthly visual inspections which must include the following:
  - Extinguisher is mounted in a proper place and at an appropriate height;
  - Access and visibility not obstructed;
  - Operating instructions facing outward;
  - Seals or other tamper indicators intact;
  - Pressure gauge in normal range;
  - No physical damage; and
  - Current date.

- **Fire Suppression Systems and Other (e.g. Kitchen Hood and Computer Rooms) Systems:** The Concessioner must perform periodic inspection, testing, and Maintenance in accordance with the minimum requirements of NFPA 96 (Commercial Kitchen Code). All minimum periodicity requirements for inspection, testing, and Maintenance will be enforced by the Service. A properly licensed contractor must perform all inspection, testing, and Maintenance. The Concessioner must test fire alarms and emergency dialers monthly during peak season, with the results reported to the Service.

- **Emergency Lighting and Illuminated Exit Signs:** The Concessioner must perform periodic inspection, testing, and Maintenance in accordance with the minimum requirements of NFPA 101 (Life Safety Code). The Service will enforce all minimum periodicity requirements.
for inspection, testing, and Maintenance. The Concessioner may perform inspection, testing, and Maintenance, as approved by the Service.

(10) Concessioner Responsibilities (by assigned land or Asset)

(a) Public Restrooms

- Riding Stables Operating Season (all services open). During the operating season, the Concessioner must keep the restrooms located within the Concession Facilities clean, stocked with paper, and in serviceable condition.

- Riding Stables Closed Season
  - The Concessioner must be responsible for the Maintenance and Repair of the restrooms located within the Concession Facilities, other than daily cleaning and stocking.
  - During the season when the Sugarlands Riding Stables are closed and the Concessioner is not readily available, the Service may be responsible for completing minimum Repairs required to protect facilities from water damage in the event of an emergency water leak. The Service will bill the Concessioner for labor costs and materials required to make such emergency Repairs. Repairs and Maintenance that do not require immediate attention will continue to be the Concessioner’s responsibility.

(b) Horse-Related Facilities

- The Concessioner must maintain and repair corrals, stalls, hitch rails, watering troughs and systems, and other equipment and facilities related to the use and care of horses.

- The Concessioner must remove manure from the Concession Facilities identified in Exhibit C. Pickup manure within animal staging areas and along the 45-minute ride trail at least three times per day and at least one time per day on other trail segments.

- The Concessioner must store all gathered manure in a covered area to ensure that rainwater or stormwater runoff do not come in contact with the manure.

- The Concessioner must legally dispose of all gathered manure outside the Area at least once per week.

- The Concessioner must maintain written records of all manure pickup and provide for Service inspection upon request.

- Trucks, trailers, or structures used to store manure before disposal must be covered by a tarp or roof except when manure is being loaded or unloaded.

(c) Horse Trails

- Responsibility. In general, the Concessioner is responsible for Routine, Recurring, and Deferred Maintenance on the trails used for any horseback rides up to two and one-half hours in duration. The Concessioner is only responsible for Deficiencies that result from inadequate or delayed Routine and Recurring Maintenance by the Concessioner.

- Specific Trails. The specific trails that the Concessioner is responsible for maintaining are shown in Attachment 1 of this Maintenance Plan. If the Service changes the assigned trails shown in the relevant Exhibits to the Contract, the trails the Concessioner is responsible for maintaining will change accordingly.

- Trail Maintenance Standards. The Concessioner must maintain trails in accordance with standards to be provided and periodically updated by the Superintendent. The Great Smoky Mountains Trail Maintenance Standards for Concessioner Horseback Riding Trails provides overall guidelines and standards for trail Maintenance and is incorporated, by reference, into
this Maintenance Plan. A copy of these standards is included in Attachment 2 of this
Maintenance Plan.

- **Trail Tread Hardening Measures.** Due to the heavy and continuous horse traffic on trails used
by the Concessioner for guided horseback rides lasting up to one hour ride, the application
of crushed rock is required to harden the trail tread to prevent erosion and deterioration of
the trail tread. The Concessioner is responsible for applying crushed rock to the trails within
the land assignment specified in Exhibit C to the Contract and as specified in Attachment 2
of this Maintenance Plan to harden the trail tread and to accommodate this heavy use. At a
minimum, the Concessioner must apply 10 tons of #10 sized crushed rock from a Service-
approved quarry on the trails maintained by the Concessioner each calendar year and must
provide documentation for the purchase and delivery of crushed rock as part of the CMPR.

(d) **Other Equipment**

The Concessioner must drain equipment containing hazardous substances – such as oil and fuel –
before disposal and manage the equipment and hazardous substances in accordance with Applicable
Laws.

(e) **Vehicle Use**

Vehicle use must be restricted to established roads except at such times and places necessary to
perform authorized agricultural activities.

- Vehicles used for transportation to and from hay operations must be parked at established
  visitor parking areas or out of view from public roads.

- Vehicle use on public roads must be in accordance with all Service rules and regulations,
  except that the Cades Cove Area Ranger may grant specific, short-term exemptions to the
direction of travel when the Loop Road is closed to visitor traffic. Hay must not be hauled
during periods when roads and fields are soft, wet, or otherwise subject to excessive
damage.

(f) **Historical Artifacts**

Historical artifacts (e.g., arrowheads or portions thereof, pottery) that are found within the Area are
U.S. Government property and must be submitted to the Concessions Management Specialist.

(g) **Field Inspection**

A field inspection and review may be conducted periodically at the Service or Concessioner request.
This inspection and review must involve the Concessioner, the Concessions Management Specialist,
and a member of the Division of Resource Management and Science staff. The review must discuss
compliance with Contract terms and conditions over the past year and will identify needs for the
coming season. Vending Areas

(h) **Vending Areas**

- The vending areas within the Concession Facilities must always be kept clean and free of
  litter.

- Vending machines must be kept in good operating condition and the exterior surface must
  be cleaned as necessary. If a vending machine is expected to be out of order for more than
  one hour, the Concessioner must post a sign notifying the public of this fact.

**B) National Park Service Responsibilities**

(1) The Service assumes no responsibility for the execution of operations or physical Maintenance work, or
Replacement of Concession Facilities assigned to the Concessioner except as stated below. The Service
may assist the Concessioner in its Maintenance program by assuming and executing the following
responsibilities subject to the availability of appropriated funds. The Service reserves the right to require
the Concessioner to Replace furniture, removable equipment, and fixtures at the end of their useful life,
or when the item presents a quality, safety, or environmental issue.
(2) Parking Lots, Access Roads and Stone Walls

The Service may conduct Maintenance beyond that specified above for paved access roads and public parking areas (i.e., paving, patching, and repairing of potholes).

Subject to the availability of funding, the Service may Repair and Replace as needed all asphalt parking lots and asphalt access roads within the Concession Facilities.

(3) Grounds Maintenance

The Service will undertake the following grounds Maintenance activities:

(a) Signs. The Service will provide all necessary signs leading to the Concession Facilities and located at the Area entrance indicating that Concession-provided facilities and services are available within the Area Trails.

(b) The Service is not responsible for Preventive or Recurring Maintenance on the trails shown in Attachment 1 to this Maintenance Plan.

(4) Utility Responsibilities

(a) The Service provides water and sewer to Concession Facilities and the Concessioner will be billed for usage during the period when the store is fully open for business (excluding season when only vending is available). The Service will review its operating costs for utility systems and services annually and will notify the Concessioner in writing 60 days before new rates for the upcoming year become effective. Rates will be established in accordance with current Service Policy.

(b) The Service will maintain all main water and sewer lines outside of the Concession Facilities. The Service maintains all primary water mains in the Area, maintains the water lines up until the primary meter and maintains the sewer lines from the sewer cleanout.

(c) The Service will operate and maintain Service-owned water and wastewater treatment facilities.

(d) The Service will assist with the location and identification of water and sewer lines and make repairs if the damaged section is within an area of Service responsibility.

(e) The Service will super chlorinate the waterlines before initial use.

(f) The Service provides bacteriological monitoring and chemical analysis of potable water as required by all Applicable Laws.

(g) If the Service needs to access water and sewer mains within the Concession Facilities, the Service will restore the area unless the Concessioner (including its employees, agents, or contractors) has caused the need to access the main.

(h) The Service will notify the Concessioner for all planned service disruptions.

(i) The Service will furnish water service, connections, meters, and shut-off valves. All piping and appurtenances down flow from the meter will be the Concessioner’s responsibility to operate, repair, and maintain.

(j) Sugarlands Sewer

- The Service will provide wastewater treatment and collection services to the Concession Facilities. The Service will charge a fee to be determined annually through a calculation of actual costs or comparability, whichever is greater.

- The Service will assume responsibility for wastewater collection at the sewer main where major points of collection occur and operate and maintain lift stations and wastewater treatment facilities including the pumping of sealed vaults within lands assigned to the Concessioner.

(5) Public Restrooms
If Concessioner is not readily available, the Service will be responsible for completing minimum Repairs required to keep the facilities operating for the use of the public and to protect facilities from water damage in the event of an emergency water leak. The Service will bill the Concessioner for labor costs and materials required to make such emergency Repairs. Repairs and Maintenance that do not require immediate attention will continue to be the Concessioner’s responsibility.

(6) Fire and Life Safety

(a) The Service is the Authority Having Jurisdiction (AHJ), and the Service’s safety officer for the Area will be the AHJ for all structural fire and life safety issues on federal lands the Service administers. The Service may conduct fire safety inspections at its discretion over the Contract term. The Concessioner will be contacted at the time of the evaluations so that a Concessioner’s representative may accompany the Service evaluator.

(b) The Service reserves the right to conduct periodic prescribed burns, which may produce smoke impacts to visitors.

(7) Solid Waste

(a) Solid Waste Receptacles. The Service may, but is not required to, provide bear and vermin proof dumpsters and trash receptacles for the Concession Facilities.
4) PART C – CONCESSIONER ENVIRONMENTAL RESPONSIBILITIES

The Concessioner must comply with the following Maintenance-related environmental responsibilities. Area-required Concessioner responsibilities described in Part B may provide more specific and/or additional environmental requirements. When in conflict, Concessioner responsibilities described in Part B supersede those identified in this part.

A) General

While performing maintenance under this contract, the Concessioner must minimize environmental impacts and utilize principles of Preventive Maintenance, waste prevention and waste reduction, sustainable design and sustainable practices/principles and incorporate best management practices. The term “Feasible” means technically possible, economically reasonable, appropriate for the location and the use identified, and consistent with industry best management practices.

B) Air Quality

(a) The Concessioner must, in performing Maintenance under this Contract, minimize impacts to air quality by using appropriate control equipment and practices to the extent Feasible.

(b) The Concessioner must use diesel fuel/heating oil containing no more than 15 parts per million (ppm) sulfur (i.e., ultra-low sulfur fuel) in accordance with USEPA regulations.

(c) The Concessioner must obtain Service approval prior to using halon fire suppression systems.

C) Hazardous Substances

(a) In performing Maintenance, the Concessioner must minimize the use of hazardous substances under this Contract where Feasible.

(b) The Concessioner must provide secondary containment for hazardous substances storage in situations in which there is a reasonable potential for discharge to the environment. At a minimum, the Concessioner must provide secondary containment for hazardous substances located in outside storage areas, in interior storage areas in the proximity of exterior doorways or floor drains, on docks and on vessels.

(c) The Concessioner must store all flammable hazardous substances materials in UL approved flammable storage cabinets, rooms, or buildings as defined by the National Fire Prevention Association.

D) Hazardous, Universal and Other Miscellaneous Maintenance Wastes

(a) The Concessioner must minimize the generation of hazardous waste, universal waste and miscellaneous maintenance waste to the extent feasible.

(b) The Concessioner must, to the extent feasible, recycle hazardous waste, universal waste, and miscellaneous maintenance waste including, but not limited to, used oil, used oil contaminated with refrigerant, used solvents, used antifreeze, paints, used batteries, and used fluorescent lamps (including CFLs).

(c) The Concessioner must obtain approval from the Service for hazardous waste, universal waste, and miscellaneous maintenance waste storage area siting and designs.

(d) The Concessioner must follow conditionally exempt small quantity generator (CESQG) requirements, as defined in defined in federal regulations, related to container labeling, storage, accumulation times, use of designated disposal facilities, contingency planning, training, and recordkeeping.

(e) The Concessioner must, irrespective of its hazardous waste generator status, manage universal waste (i.e., it must store, label, train employees, and dispose of universal waste) in accordance with federal universal waste regulations.
E) Pest Management

(a) The Concessioner must conduct pesticide management activities including prevention/exclusion, abatement, reporting and monitoring in accordance with NPS Integrated Pest Management (IPM) procedures contained in NPS 77, Reference Manual 83 and the Park IPM Plan.

(b) The Concessioner must eradicate any pest infestation in personal or other property and in all Concession Facilities, including but not limited to, infestation that requires fumigation/tenting for termites, bedbugs, or other pests.

(c) The Concessioner must obtain Service approval prior to controlling pests utilizing chemicals or by other means.

(d) The Concessioner must obtain Service approval for pesticide storage area siting and design.

(e) The Concessioner must obtain Service approval prior to contracting with any third party to apply pesticides.

F) Solid Waste Reduction, Storage and Collection and Disposal

(a) The Concessioner must implement a source reduction program designed to minimize its use of disposable products in its operations. The Concessioner is encouraged to purchase and reuse materials to the extent Feasible as the first choice in source reduction.

(b) The Concessioner must develop, promote and implement a litter abatement program.

(c) The Concessioner must provide an effective management system for the collection, storage and disposal of solid waste generated by its facilities and services as well as the solid waste generated by the visiting public at its facilities.

(d) The Concessioner must develop, promote and implement as part of its solid waste management system, a recycling program for all Area-specified materials that fully supports the National Park Service’s recycling efforts. Area-specified materials include, but may not be limited to, paper, newsprint, cardboard, bimetals, plastics, aluminum and glass. The Concessioner’s recycling program must address large items such as computers and other electronics, white goods and other bulky items.

(e) The Concessioner must collect and dispose of solid waste on a frequency (approved by the Service) as necessary to prevent the accumulation of waste.

(f) The Concessioner must transport and dispose of solid waste that is not recycled at an authorized sanitary landfill or transfer station. The Concessioner must transport recyclables to an authorized recycling center.

(g) The Concessioner must obtain Service approval prior to contracting with any third party for solid waste services.

G) Water and Energy Efficiency

(a) The Concessioner must consider water and energy efficiency in all facility management practices, and must integrate water-conserving and energy conserving measures into its facility management practices whenever Feasible.

(b) In addition to meeting standards established in accordance with Applicable Laws, Concession Facilities equipment and practices must, to the extent feasible, be consistent with water and energy efficiency standards established for federal facilities and operations. All new equipment must meet Energy Star standards where feasible.

H) Wastewater

(a) The Concessioner must minimize impacts to water quality caused by maintenance performed under this Contract through the use of appropriate control equipment and practices.
(b) The Concessioner must prevent discharges to the sanitary sewer system that could result in pass through of contaminate, or that could interfere with the operation of the sanitary wastewater treatment system.

(c) The Concessioner must maintain assigned wastewater treatment systems, if any, in accordance with Applicable Laws. The Concessioner must maintain a maintenance log for wastewater treatment equipment, and it must make such log available to the Service upon request.

(d) The Concessioner must minimize the storage of equipment and materials in the Concession Facilities in a manner that could cause storm water contamination (i.e., storage outside without weather protection).

I) Fuel Storage Tanks

(a) The Concessioner must maintain leak detection methods and/or systems for all fuel tanks, associated equipment such as underground and aboveground piping, hoses, and dispensing systems that are assigned to the Concessioner in accordance with Applicable Law. All such methods and systems must be approved by the Service before the Concessioner implements them. The Concessioner must maintain fuel storage tank system leak detection and maintenance logs and it must make such logs available to the Service upon request.

(b) The Concessioner must provide Stage II dispensing systems for all landside gasoline fuel dispensing systems.

(c) The Concessioner must provide breakaway devices for all fuel dispensing system hoses.

(d) The Concessioner must provide secondary containment for any new fuel tank systems and replacement equipment to the extent feasible and appropriate, unless otherwise required by Applicable Laws. (Propane and natural gas systems are excluded from this secondary containment requirement).

(e) The Concessioner must submit all plans for any work involving fuel systems, tanks, or soil or ground water remediation to the Service for approval prior to starting any such work.
5) **PART D – CONCESSIONER REPORTING RESPONSIBILITIES**

   **A) General**

   The Concessioner must provide to the Service the following plans and reports for the Service’s review and approval according to the frequency and due dates defined in Section 2, Reporting Schedule.

   (1) **Concessioner Maintenance Plan and Report**

   The Concessioner must provide to the Service (for the Service’s review and approval) a Concessioner Maintenance Plan and Report (CMPR) that is applicable to all Concession Facilities. The CMPR must identify projected maintenance activities in year prior to commencement of the work. Work that requires planning and design must be identified in the CMPR the year before planning and design begins. The purpose of the CMPR is to identify the need and tentative scope of activities a complete year in advance of actual work to allow adequate time to prepare for work commencement and report status. Projects shown in the CMPR must include at a minimum the NPS asset number; work order number, work order subtype, work order open date; project title; concept description; justification; and anticipated NEPA and Section 106 planning and compliance; status; and work order completed date. The CMPR should break down activities to be performed in sufficient detail to identify, plan, locate and track work performed.

   (2) **Concessioner Project Plan and Report**

   The concessioner must provide to the Service (for the Service’s review and approval) a Concessioner Project Plan and Report (CPPR) that is applicable to all Concession Facilities. The CPPR must identify Component Renewal projects one year prior to commencement of the individual project. Projects that require planning and design before construction must be identified in the CPPR the year before planning and design begins. The purpose of the CPPR is to identify the need and tentative scope of projects a complete year in advance of actual work to allow adequate time to prepare for project commencement and report project status. Projects shown in the CPPR must include at a minimum the NPS asset number; work order number, work order open date; project title; concept description; justification; and anticipated NEPA and Section 106 planning and compliance; status; and work order completed date.

   (3) **Personal Property Report**

   The Concessioner must provide to the Service (for the Service’s review and approval) a Personal Property Report that documents the Concessioner’s schedule for Personal Property replacement, rehabilitation, and repair for the next calendar year. The plan must include the specifications, item description, estimated date of replacement, estimated replacement cost, expected life of replacement property, and expected salvage value of replaced Personal Property at time of replacement.

   (4) **Pesticide Use Log**

   The Concessioner must submit to the Service a Pesticide Use Log which documents the Concessioner’s pesticide use for the prior calendar year.

   (5) **Pesticide Use Request Form**

   The Concessioner must submit to the Service (for the Service’s review and approval) a pesticide request form documenting anticipated pesticide use for the next calendar year.
**B) Reporting Schedule**

The following chart summarizes the plan and reporting due dates established by Parts A, B and C of this Maintenance Plan.

<table>
<thead>
<tr>
<th>Report or Plan</th>
<th>Frequency</th>
<th>Due Date</th>
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<td>Concessioner Project Plan and Report (CPPR)</td>
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<td>Personal Property Report</td>
<td>Annually</td>
<td>December 1</td>
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<td>Pesticide Use Log</td>
<td>Annually</td>
<td>January 15</td>
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<tr>
<td>Pesticide Use Request Form</td>
<td>Annually</td>
<td>January 15</td>
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<tr>
<td>Inventory of Hazardous Substances (include in Risk Management Program or Environmental Management Program)</td>
<td>Annual</td>
<td>March 1</td>
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<tr>
<td>Annual Plan for Mechanized Equipment Use</td>
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## I. Work Order Supplement

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12 CC-GRSM006-22 Exhibit E Maintenance Plan BS 4.28.22.doc6
ATTACHMENT 1
TRAILS ASSIGNED & MAINTAINED BY CONCESSIONER
Sugarlands Riding Stables
ATTACHMENT 2
Great Smoky Mountains National Park
Trail Maintenance Standards for Concessioner Horseback Riding Trails

June 2013

"Concession trail use will be concentrated in areas where trails are best able to withstand the exceptionally high level of impacts. The National Park Service will construct basic trails of a uniformly high quality, and subsequent maintenance of trails used predominantly by Concessioners will be the responsibility of the Concessioners, under National Park Service guidance and control."

General Management Plan, 1982, Page 31

Introduction

This attachment to the Maintenance Plan provides standards for the maintenance of trails that are maintained by the Concessioner in accordance with the requirements of the Maintenance Plan to the Concession Contract. The trails assigned for maintenance by the Concessioner are the trails used for trips lasting up to two and a half hours (stables other than Cades Cove) or up to one hour (Cades Cove). At stables other than Cades Cove, over 99 percent of all Concessioner trail use occurs on these most popular trips lasting up to two and a half hours, and approximately 90 percent of Concessioner trail use occurs on the trail(s) used for the one-hour ride. The estimated use by the general public of the Concessioner-maintained trails in the Area is less than one percent. The estimated use by the Concessioner’s patrons of the Concessioner-maintained trails in the Area is 99 percent.

The trails assigned to the Concessioner for trips lasting longer than two and a half hours (stables other than Cades Cove) are maintained by Area trail crews in accordance with the standards that apply to other Area horse trails. Because Concessioner use of these trails represents less than one percent of all Concessioner trail use, these trails do not require any special measures to ensure adequate maintenance. This requirement does not apply to Cades Cove Riding Stables because this stable does not provide a trip lasting longer than one hour.

As stated in the General Management Plan, Concession trails within the Area receive exceptionally high levels of impacts. The busiest stable in the Area provides horseback rides for approximately 20,000 visitors annually and the least busy stable provides rides for approximately 9,000 visitors annually. The General Management Plan recognized that these trails must be constructed to a uniformly high quality and that mechanized equipment would be required to properly maintain trails. This is the reason that the trails maintained by Concessioners are located in the Natural Environment Type II sub zone where mechanized equipment may be used. With the proper and judicious use of mechanized equipment, as well as hand tools, for regular maintenance, these trails can withstand this heavy use very well with no significant impacts to Area resources.

The following standards are based on the trail standards written in 1967 and again in 1979 at Great Smoky Mountains National Park, as well as excerpts from a U.S. Forest Service trail maintenance handbook. They cover the basics of trail maintenance as taught here in the Area. However, keep in mind that this is just a very basic guide to trail maintenance standards. These standards have been modified, as required, to be applicable to trail maintenance by Concessioners.

Consequences of Improper Maintenance Practices

While proper trail maintenance practices have very satisfactory results, improper maintenance practices negatively impact visitor and employee safety, visitor enjoyment, horse safety and welfare, and Area resources. To understand proper trail maintenance practices, it is helpful to also understand the
consequences of improper trail maintenance. For this reason, the following examples of poor trail maintenance practices should be avoided:

- Inadequate hardening of trail bed with crushed rock.
- Use of inappropriate material to fill and harden trail.
- Unauthorized widening or rerouting of trails with mechanized equipment causing resource damage.
- Insufficient number and improperly installed and maintained water bars and drains resulting in ineffective drainage, erosion, standing water, and a muddy trail surface.
- Excessive and ineffective grading of trails with mechanized equipment resulting in loss of soil, unstable trail bed, and the creation of a ridge of soil on the downhill slope side of the trail.

**Trail Inspection**

Service staff will inspect the trails assigned for use by the Concessioner as part of the annual maintenance inspection of Concessioner facilities and at other times as deemed appropriate by the Service. The results of this inspection will be documented and provided to the Concessioner. The Concessioner will include a plan for addressing Deficiencies in the condition of trails maintained by the Concessioner in the Concessioner Maintenance Plan and Report (CMPR). Service staff will assist the Concessioner in developing a plan and timetable for addressing Deficiencies and provide technical advice. The Area Trails Supervisor will be responsible for scheduling work to correct Deficiencies on trails assigned for Concessioner use but maintained by the Service. Completion of Service inspections and the maintenance of trails maintained by the Service are subject to the availability of funding and staff.

**Annual Plan for Mechanized Equipment Use**

The Concessioner is required to provide the Concessions Management Specialist with an Annual Plan for Mechanized Equipment Use that is part of the Concessioner Maintenance Plan and Report (CMPR) required by the Concession Contract. This plan will describe the type of equipment, the equipment operators and qualifications, and the scope of work the Concessioner proposes for use during the following calendar year. This plan must be approved by the Superintendent prior to using mechanized equipment for trail maintenance. A form to be used as the basis for this plan is included in these standards.

**Trail Tread Hardening**

As a result of the heavy and continuous horse traffic on Concession trails used for the one to two- and one-half-hour rides offered by the Concessioner, the application of crushed rock is required to harden the trail tread. The Concessioner will be responsible for applying crushed rock to the trails shown in Attachment 1 of this Maintenance Plan to help prevent erosion and reduce the formation of boggy areas, gullies, and stair steps. Trail hardening with crushed rock is not a substitute for the construction and maintenance of drainage structures and maintenance of the proper trail tread shape but it is an important supplement to these maintenance activities. The Concessioner will specify in the CMPR the types and sources of crushed stone to be used for approval by the Superintendent and will report in the CMPR the actual quantity delivered and applied.

The sections of trail used for rides longer than two and one-half hours that are maintained by the Service do not generally require hardening with crushed rock or require much less hardening.

**Equipment Usage**

Horse trails maintained by the Concessioner will be of enough width (but no wider than six feet) to allow narrow width equipment to be used to help with trail maintenance. Although appropriate equipment can be used to accomplish a large part of the required trail maintenance, the Concessioner will also use hand tools in situations where mechanized equipment is not available or effective or where this equipment would cause unnecessary resource impacts. The Concessioner must obtain approval from the Superintendent for the specific types of mechanized equipment to be used.
The following types of mechanized equipment are recommended for use on the trails maintained by the Concessioner. Overall width, including blade, should not exceed 60 inches.

- Small to mid-size tracked skid-steer
- Small to mid-size tracked excavator
- Small size dozer (like Sutter 500 trail dozer)

Crushed rock can be delivered to the area of the trail where it is needed using a tracked vehicle with dump bed or trailer with dump bed (like Bosski 1600 UT ATV Wagon). Crushed rock should be applied judiciously to avoid a road-like appearance and to avoid unnecessary cost. It is not usually necessary to apply crushed rock over the entire width of the trail tread. The Concessioner will obtain approval from the Service for any locations where crushed rock will be stockpiled for later use.

**Logging/Windfall/Hazard Tree Removal:**
Logging refers to the initial work necessary to open trails for the season. Trees that have fallen across trails need to be removed to make trails passable to hikers and horse riders alike. Failure to do so often results in users bypassing such obstacles, causing further damage to trailside soil and vegetation. When trees fall across a trail, a section will be removed that will ensure that the remainder of the log does not encroach closer than 3 feet to the center of the trail. If possible, the cut log should be rolled off the trail in its entirety. If the log is too large to move in this manner, it should be cut into smaller sections and again rolled off on the path and hidden from view. Every attempt should be made to hide or otherwise camouflage saw cuts along the trails. Hazard trees may need to be removed along trail sides. Hazard trees are those that are in immediate danger of falling across a trail. The Concessioner must obtain approval from the Service prior to removing hazard trees. When cut, the stump will be cut flush with ground level and covered with soil or other small debris. The tree will be fully moved out of the trail and if possible, used for trail construction needs.

**Brushing/Pruning/Mowing:**
Mowing generally refers to the cutting of grasses along the trailside, while brushing/pruning deals with cutting limbs, woody vegetation, and clearance along the trail. The Concessioner must complete brushing and mowing on each trail at least once a year and as needed.

For horse trails, the following clearing standards apply:

- Tread width: 4 ft. minimum, 6 ft. maximum*
- Clearing width: 4 ft., each side of center
- Clearing height: 10 ft.

*In clearing for horse trails, tread width of 6 feet is generally confined to old roadbeds where this width already exists. Minimal clearing width should be necessary when the trail tread is already 6 feet wide. Any portion of existing trail exceeding six feet tread width should remain undisturbed during maintenance activities and be allowed to recover naturally with vegetation. The Concessioner should place large rocks or logs at the edge of the maintained trail tread to deter horses from leaving the maintained tread area.

The sections of concession trails maintained by the Service, rather than the Concessioner, will generally be maintained to a four feet width.

Clearing width refers to a corridor free from overhanging obstacles—either from the side or overhead. It does not mean clearing all vegetation in that corridor such as grasses and other low-lying plants and flowers. Briars, woody vegetation and tree limbs will need to be removed to provide clear and safe access for trail users. All vegetation extending into the clearance zone from live trees or shrubs shall be removed
in a manner that leaves a flat or dull cut and does not unnecessarily damage the tree or shrub. Limbs should be flush cut at the trunk just outside of the branch collar.

Individual briars or other thorny plants that hang into the area to be cleared will be cut at their base. Generally, any low-lying vegetation can be left in place. But as the saying goes, “when in doubt, cut it out”. Material and limbs that have been cut will be scattered out of sight wherever possible, not left along trailside. Debris can also be used to block shortcuts around trail switchback areas.

**Drainage Structure Cleaning and Installation**

**Drainage is the most critical element of trail maintenance and repair.** Improper drainage causes problems creating erosion, bogs, trail cutting, and the general deterioration of trail tread. When drainage can be accomplished by out sloping a trail, this is the preferred method. However, many instances call for the installation of swale drains, grade reversals and/or water bars. Cleaning water bars, swales, and drain dips that are already properly installed, will take place at least two times during the concession operating season and at the end of the operating season. Drainage structures will also be checked and cleaned as needed after unusually heavy rainfall events. A “clean” structure should have a swale or dip with a cross section reflecting a low point that is vertically lower than the trail tread on the downhill side of the drainage structure and appropriately sculpted on the uphill side of the drainage structure to meet finished grade of the trail tread. The drainage structure should be achieving positive drainage and the tail ditch shall be clear of sediment and debris. For drainage structures that do not meet the above definition of clean, the Concessioner will clean the water bar, swales, or drain dips to restore the desired cross section and open the tail ditch.

When hard water bars deteriorate or become dislodged, they should be replaced with swales and drain dips. When an additional drainage structure is needed at a new location, a swale or drain dip should be installed instead of a hard water bar.

**Grade Dips**

The best grade dips are designed and built during the original construction. These are also called terrain dips, Coweeta dips, and swales. Other versions, often called rolling grade dips, or drain dips, can be built on most sidehill trails or constructed to replace waterbars. The basic idea is to use a reversal in grade to force water off the trail without the need for any other structure.
Terrain dips use grade reversal to take advantage of natural dips in the trail. These need to be planned into the trail when it is first laid out. The grade of the trail is reversed for about 3 to 5 m (10 to 15 ft), then "rolled" back over to resume the descent. A trail that lies lightly on the land will take advantage of each local drainage to remove water from the tread as the trail winds around trees and rocks. The terrain dip, which uses existing terrain as the control point for the grade reversal, is a natural part of the landscape.
Grade dips are much more effective than waterbars and require less maintenance. Along with outsloping, they are the drainage structure of choice.

The beauty of terrain dips is that water collected from the hillside is not intercepted and carried by the tread. These grade dips are the most unobtrusive of all drainage structures if constructed with smooth grade transitions, and they require very little maintenance. Be sure to protect the drain outlet by placing guide structures along the lower edge of the tread above or below the outlet.

Another kind of grade dip is the rolling grade dip, which consists of a short reversal of grade in the tread. These can be designed into most sidehill trails. If a trail is descending at 7-percent grade, a short climb of, say, 3 to 5 m (10 to 20 ft) at 3 percent, followed by a return to the descent, constitutes a rolling grade dip. Water running down the trail cannot climb over the short rise and will run off the outsloped tread at the bottom of the dip. The beauty of this structure is that there is nothing to rot or be dislodged. Maintenance is simple.
If the grade is steep, the tread carries a lot of water, traffic is high, or the soils are erosive, a drain dip may need some additional strengthening. Sometimes a shallow water channel can be constructed in the last several meters of tread leading into the dip. Water follows the channel off the tread without slowing down and depositing soil and debris. A spillway may be needed if there is a potential for headcut erosion in the fillslope. The secret is to keep the water moving at a constant velocity until it is all the way off the tread.

Grade dips should be placed frequently enough to prevent water from building enough volume and velocity to carry off your tread surface. Grade dips are pointless at the very top of grades unless they intercept significant amounts of slope drainage. Usually mid-slope is the best location. Grade dips also should not introduce sediment-laden water into live streams.

Yet another grade dip is the reinforced or armored grade dip. In this dip, a curved water channel is constructed and an angled (like a waterbar) reinforcing bar of rock or wood is placed at the top of the grade reversal. The bar is placed in an excavated trench, with its top edge flush with the existing tread surface so it's not an obstacle to traffic. Essentially, this is a buried waterbar.

This short-reinforced grade dip can be built to replace waterbars on existing trails, especially trails used by wheeled vehicles. Well-located waterbars can be converted by constructing a curved water channel and recontouring the outslope from the top of the bar. For longevity it is best if the bar is reseated so that the top edge is flush with the existing tread surface and the channel is constructed with the correctly angled bar as the reference point.

The outlet is critical. It should be at least 500 mm (1.5 ft) wide, and outsloped. In shallow dips the task is to prevent berms, soil buildup, and puddling. Reinforced spillways may also be needed.

To be effective, drainage structures must keep the speed, volume, and distance traveled by water down the trail to a minimum. When possible, divert the water as soon as possible off the trail, minimizing the need for additional bars down the trail. The terrain often limits exact placement of a bar. A trench is dug across the trail at a minimum 45-degree angle. Those at 45 degrees or more tend to be self-cleaning if the water flow is sufficient.

No matter what the grade, where the ground slope below the trail will allow, the tread should be out sloped 5-8% to assist in drainage.

Trail Tread Maintenance
As noted above, tread should be worked to out slope at about a 5-8% grade. On trails traversing hillsides, slough is the name given to soil, rock, and silt that have accumulated on the inside of the tread, narrowing the walkway. Berm is the debris that has built up on the outside of the tread, forming a barrier that prevents water from moving off the trail. Both slough and berm can become overgrown with vegetation. This causes horses and hikers to gradually move down slope of the original path causing additional, and in some cases, severe impact to surrounding resources. The removal of slough and berm is among the most important tasks facing maintenance crews. One must remember when removing slough and berm, you must reshape the tread to restore a slight out slope that will allow water to drain immediately away from the trail rather than running down it.

In flat areas of the trail with poor drainage, bogs and puddles will occur. To resolve these issues the Concessioner has a few options:

1. Drain the area: Ditching toward a slight slope of the landscape may be enough to move the water flow away from the area.
2. Build a turnpike: Turnpikes lift the tread above saturated soil. Turnpikes are both labor and material intensive but tend to work very well depending on location. The Concessioner must obtain Service approval for the location and method of installation prior to constructing a turnpike. In most cases, the Service, rather than the Concessioner, would construct turnpikes.

3. Move the trail: Concessioners will not re-route a trail without explicit, advance approval from the Service. In most cases, the Service, rather than the Concessioner, would complete any re-routing of a trail. There may be times when re-routing a trail makes more sense than fighting through wet ground. However, the Service will determine if a trail re-route is required and will prioritize this work according to the availability of funding and staff to complete this work. In addition, a review of environmental and cultural resource impacts will have to be completed prior to rerouting a trail.
Attachment 3
Great Smoky Mountains National Park
ANNUAL PLAN FOR MECHANIZED EQUIPMENT USE
Concession Horseback Riding Stables Trails

Plan for Calendar Year: ____________________
Date Plan Submitted: ________________
Concessioner: ________________________________
Stable: ______________________________________

### Equipment Proposed for Use:

<table>
<thead>
<tr>
<th>Type of Equipment (e.g., Tractor, Chainsaw)</th>
<th>Make and Model</th>
<th>Size (e.g., Engine size, blade width)</th>
<th>Ownership of Equipment</th>
<th>Name of Operator(s)</th>
<th>Where Equipment Will Be Used (e.g., One-Hour Trail)*</th>
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### Operators:

<table>
<thead>
<tr>
<th>Name of Operator</th>
<th>Driver’s License Number</th>
<th>Driver’s License State</th>
<th>Years of Experience</th>
<th>Description of Experience/Training in Operating This Type of Equipment</th>
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NOTE: Concessioner is responsible for submitting updates to this list if other operators will be used.

Page 1 of 3
**Attachment 3**
Great Smoky Mountains National Park

**ANNUAL PLAN FOR MECHANIZED EQUIPMENT USE**
Concession Horseback Riding Stables Trails

**Proposed Schedule for Use of Equipment and Intended Use:**

<table>
<thead>
<tr>
<th>Type of Equipment (e.g., Tractor, Chainsaw)</th>
<th>Specific Dates – Pre-season</th>
<th>Specific Dates – During Season</th>
<th>Specific Dates – Post-Season</th>
<th>Approximate Frequency – Routine Trail Maintenance</th>
<th>Intended Use</th>
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* For each type of equipment listed, also mark on a copy of a trail map the locations where you propose to use equipment.

**Proposed Crushed Rock Usage:**

<table>
<thead>
<tr>
<th>Type of crushed rock</th>
<th>Purpose</th>
<th>Source (name and location of quarry)</th>
<th>Approximate quantity to be used during the year</th>
<th>Where Crushed Rock Will Be Applied (e.g., One-Hour Trail)*</th>
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* For each type of crushed rock listed, also mark on a copy of a trail map the locations where you propose to apply crushed rock.

Page 2 of 3
Concession Horseback Riding Stables Trails

PLAN REVIEW AND APPROVAL (Subject to any restrictions/changes noted below):

SUBMITTED BY (Concessioner):

___________________________________
Signature

___________________________________
Title

___________________________________
Date

RECOMMENDED BY:

___________________________________
Signature

___________________________________
Title

___________________________________
Date

APPROVED BY:

___________________________________
Signature

___________________________________
Title

___________________________________
Date

Restrictions/Changes Applicable to Approval:

1. All work will be in accordance with the standards described in the *Trail Maintenance Standards for Concessioner Horseback Riding Trails* that are included as Attachment 2 to the Operating Plan.