Event Management: Developing a Resource Protection Program

The Mall: Typical Uses

The National Mall: Events

The National Mall: Events

The National Mall: Events

The National Mall: Not designed for current use levels
The National Mall: Not designed for current use levels

National Mall Plan Development

Not designed for the types/levels of use - 33 million visits and 7,000+ permitted activities annually, mostly concentrated on turf

- Restore damaged natural systems - flooding, soils, air quality, turf, and trees
- Soil Compaction
- Poor Drainage
- Poor quality turf with inconsistent coverage
- High volume of dust from degraded walks and turf areas

Resilient Landscapes: Three Legged Stool of Sustainability

- Infrastructure:
  - Resilient, irrigation, drainage, design
- Agroecology:
  - Healthy Turf Management Staff
  - Implement Turf Management Program
- Venue Management:
  - Potential Measures, Soil Recovery, Rest Periods
The National Park Service: Mission Statement

"The National Park Service preserves, interprets and provides for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world."

2013 Secretarial Order

Issued to support National Mall Plan implementation January 2013

- Increase use of law and policy to protect the National Mall
- Emphasize change from damage repair to damage prevention
- Development of Operations and Maintenance Manual to be used with rehabilitation
- Update permit conditions to be consistent with O&M Manual

Secretary of the Interior \nSalazar

Documentation: O&M Manual

The two volume O&M Manual based on best turf practices, testing, and science

- Will be updated regularly
- Temporary footprints are encouraged to be located on hardscape where they can stay longer
- No driving or parking on any turf and tree panels
- All permitted temporary event facilities must be hard carried onto event turf patches
- No stakes or pins
- Structures on turf for a limited time turf protection materials will be required
- Will vary seasonally from 3-10 days

Permit Process

- Pre-event Preparation
  - Obtain Permit 60 days prior to event
  - Final event plans for site
  - All permits require hand-drawn plans
  - Final event plans for site

- Pre-event Walk through 72 hours prior to start of setup
  - Final event plans for site
  - Final event plans for site

- Event
  - Final event plans for site
  - Final event plans for site

- Natural parks
  - Natural parks
  - Natural parks

Anticipating Turf Damage

- Crowd size is an important predictor of damage, hence turf protection is needed
  - One person per five square feet
  - Cones
  - PU mats
  - Bag checks, registers

Anticipating Turf Damage

- Crowd size is an important predictor of damage, hence turf protection is needed
  - One person per five square feet
  - Cones
  - PU mats
  - Bag checks, registers
Permit Process

• During Event
  - Ensure permit conditions and procedures are met.
  - Early bird and walk through per park department and event personnel.
  - Monitor, review and ensure conditions.
  - Appoint representative(s) at entry points.
  - Post and promote.
• Post Event Walk Through (within 24 hours)
  - Post event walk through with the park department and event personnel.
  - Inspect event conditions with park personnel.
  - Ensure turf conditions are not damaged by event.
  - Seek out potential permanent landscaping, benches, trees, benches, utility access points, etc.
  - Coordinate with the department to mitigate issues.
  - Permit holder responsible for range of damage is paid in the event.

Walkway Set Up

- Configure events to take advantage of additional non-turf hardcape.
- Structures can stay on walks longer than on turf, which will require turf protection.
- Maximum tent or temporary structure width/depth needs to accommodate emergency access and public circulation: 5 feet.

Turf Use Limits for Facilities/Structures

<table>
<thead>
<tr>
<th>Turf Use Limit</th>
<th>Turf Use Limit</th>
<th>Turf Use Limit</th>
<th>Turf Use Limit</th>
<th>Turf Use Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
<tr>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
<td>Turf</td>
</tr>
</tbody>
</table>
**Planning: Turf Maintenance**

- Mowing
- Fertilizing
- Fungicide
- Irrigation
  - Pre event
  - Schedule during event
- Seeding
- Condition documentation

**Planning: Irrigation**

- Placement of flooring/structures
- Identify which heads have to be disabled and when
- Location of staking
  - Staking to be done only in the presence of an NPS Official

**Deposit/ Cost Recovery**

<table>
<thead>
<tr>
<th>Event Size</th>
<th>Low Flood</th>
<th>High Flood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Event</td>
<td>$1,500.00</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>Medium Event</td>
<td>$2,500.00</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>Large Event</td>
<td>$3,500.00</td>
<td>$7,000.00</td>
</tr>
<tr>
<td>Very Large Event</td>
<td>$4,500.00</td>
<td>$9,000.00</td>
</tr>
</tbody>
</table>

- This is not a perfect system.
- These are per acre.
- Based on complete restoration ($1.50 to $2 a square foot)
  - Strip sod
  - Cultivate soil
  - Grade and prep
  - Install sod
  - Care and maintenance until acceptance by park.

**Cost Recovery**

**Weather Plan**

- Mandatory Closure
  - For emergency, public health or safety (36 CFR 1.5)
  - In conjunction with USPP
  - Mass notification procedures in place
- Application contains notification of cancellation policy
  - Review weather projections and seasonal patterns
  - Rain dates pre-determined during rainy seasons
  - Review closure and cancellation policy; there is no guarantee of rescheduling; there is no reimbursement
- 14 days before event
  - Weather and soil moisture warning
- Back-up plan for cancellation; rain dates, relocation to hardscape or parking lot, or rescheduling availability
- Five days and less to the event
  - Soil moisture assessment
Weather Plan

Weather plans must be filed which document pre-event, event, and post-event inclement weather planning. Activation of inclement weather plans for attendees and grounds protection are critical to protecting form losses of the site property. Event planners should prepare the following in order to protect people and resources:

- Activities during wet developing with rainfall, snow melt, or frost melt activities on turf or the legal must be suspended until conditions allow for work to continue. Signs of moon eating, footprinting, soil moisture on surrounding or threaten is isolated, amount of 25% with trigger a reduction of site used and coordination with the NPS to determine the best way forward given current conditions, forecasted conditions, and deadlines.
- Extended heat index
- Delay event opening
- Suspension event
- Events are critical to protecting people and resources.
- Modify event footprint
- Other considerations:
  - Frost
  - Snow

Turf Protection/Weather Plan

- Portauren: Support manual set up
- Perforations for gas exchange
- Matrax, RGT, Supa Tuff, ArmorDeck, Terraplas

- Not as translucent as hollow back but even the 5% light transmission is essential to survival.
- Cavity back raises temperature an average of 35 degrees, so flat backs are better in high temperatures (in theory).
- Equipment is better supported with flat back.
- Interlocking properties to create a floating floor.

Protective Decking

- Translucent properties a must. Cavity backs allow 25% transmission of light.
- Portable to support manual set up
- Perforations for gas exchange
- Matrax, RGT, Supa Tuff, ArmorDeck, Terraplas

- Time limits for Protective Decking:
  - Translucent: November 15 to March 14: 3 days
  - May 23 to May 14: 4 days
  - September 12 to September 14: 4 days

- Translucent: November 15 to March 14: 3 days
  - May 23 to May 14: 4 days
  - September 12 to September 14: 4 days
Tents
- All tented-clad structures cannot take place without a National Park Service official present.
- Permits for these structures may not be issued for areas that are a minimum depth less than 12".
- In storm areas where there are additional elevations or designated response areas, water-filled baffle tanks or concrete blocks, either used or not used, with proper protective decking.
- Vehicles are not allowed to use the park's trails.
- Water bars to be used to direct and control water.
  All structures should be located near the turf areas.
- Protective mining, or natural drought or other protective measure as determined by the Park's management.
- Two points will be placed directly on the protected fencing.
- Tent poles will be placed at the last possible moment, before the structure is in place.
- Each panel, best placed on the turf, with additional protective skirting used to protect the turf during installation. They shall be made of non-removable government grade materials and inspected at the proper time.
- Stakes, used, on and other contractual materials, etc., should be made of 3/4" diameter steel with a 1/2" lower terminal end.
- Stakes with turf should not be removed or damaged during the protection period.

Tents
- Protective decking will be installed under the stage.
  Ground which fails, interfering with the weight capacity of the protective decking.
- All structures must exercise all points that come in contact with the turf, grass, structures or the turf should be treated, with the use of appropriate treatment that will not affect the protection of the stage.
- All poles should be removed and placed inside the protective covering, which should be removed immediately after the event.
- All structures should be placed on the ground. If none is available, protective tarps with four layers of tarpaulin and two layers of plywood (1/4”), and mapped areas should outline making those areas with that tarps.

Stages
- Protective decking will be installed under the stage.

Monitoring…
Stages

- All cables where accessible to pedestrians shall be enclosed in Yellow Jacket wire trough (or approved equal).
- The wires alone or in Yellow Jacket, where it crosses must be placed on approved decking or 2 layers of Enkamat.
- In a stage situation, cables should be flown over the steel, tied to stage or structure under the stage, and not allowed to touch the grass area.
- Tearing down of the stage and structures should begin immediately.
- Unless conditions due to weather would cause tearing down operations to damage the turf.
- An industrial magnet will be used over the entire area to recover screws, fasteners, etc.

Cranes

- Outriggers
- 4 layers of Enkamat 5’x9’
- 4 Layers of ¾” plywood 4’/8’
- A layer of 4’x6’ timbers
- Vehicle greater than 25,000 lbs
- MegaDeck, Matrax 4x4 Composite, DuraBase, Aluminum Roll Out
- Restrictions of time of day (early morning, late in the day) and amount of time down (4 hours)

Tree Protection

- Tree protection
- As needed
- Restrictions of time of day (early morning, late in the day) and amount of time down (4 hours)
**Tree Protection**

**Turf Level**

- Approved vehicles driving on approved turf is allowed.
- Vehicles allowed driving and backing on turf that weighs no more than 9,000 lbs.
- Vehicles allow driving and backing on turf that weighs no more than 9,000 lbs.
- Vehicles allow driving on turf, but are limited to 2,000 lbs maximum.
- Vehicles allow driving on turf, but are limited to 2,000 lbs maximum.

**Tree Protection**

- Approved vehicles driving on approved turf is allowed.
- Vehicles allowed driving and backing on turf that weighs no more than 9,000 lbs.
- Vehicles allow driving and backing on turf that weighs no more than 9,000 lbs.
- Vehicles allow driving on turf, but are limited to 2,000 lbs maximum.
- Vehicles allow driving on turf, but are limited to 2,000 lbs maximum.

**Turf Level 2**

Summary: Level 2 areas. All rules that apply to previous slides still apply except:

- Approved vehicles driving on approved turf is allowed.
- Vehicles allowed driving and backing on turf that weighs no more than 9,000 lbs.
- Vehicles allow driving and backing on turf that weighs no more than 9,000 lbs.
- Vehicles allow driving on turf, but are limited to 2,000 lbs maximum.
- Vehicles allow driving on turf, but are limited to 2,000 lbs maximum.

**Turf Level Map**

At the National Mall there are four classifications of turf based on ability for areas to sustain traffic without damage.

- Access
- Size
- Drainage
- Grass type
- Infrastructure

**Community Outreach**

NPS is developing a program to acknowledge events that:

- Protect the historic landscape and keep it in good shape free from damage.
- Reduce time for turf recovery by focusing temporary facilities on hardscape.
- Implement green and sustainable practices such as waste reduction, recycling composting, and use of transit.
- Reduce event set up and take down.
**Community Outreach**

Community and stakeholder support:
- Meet with casual users.
- Presentations to event organizers.
- Develop mailing list.

**Venue Management: Resource Protection**

Michael Stachowicz
National Mall and Memorial Parks
Michael_Stachowicz@nps.gov