

**Vermont Department of Environmental Conservation
Administration and Innovation Division
Business Transformation Initiative**

3-Year DEC Lean Operating Plan

State Fiscal Years 2020-2022 (REVISED)

AND

State Fiscal Years 2023-2025

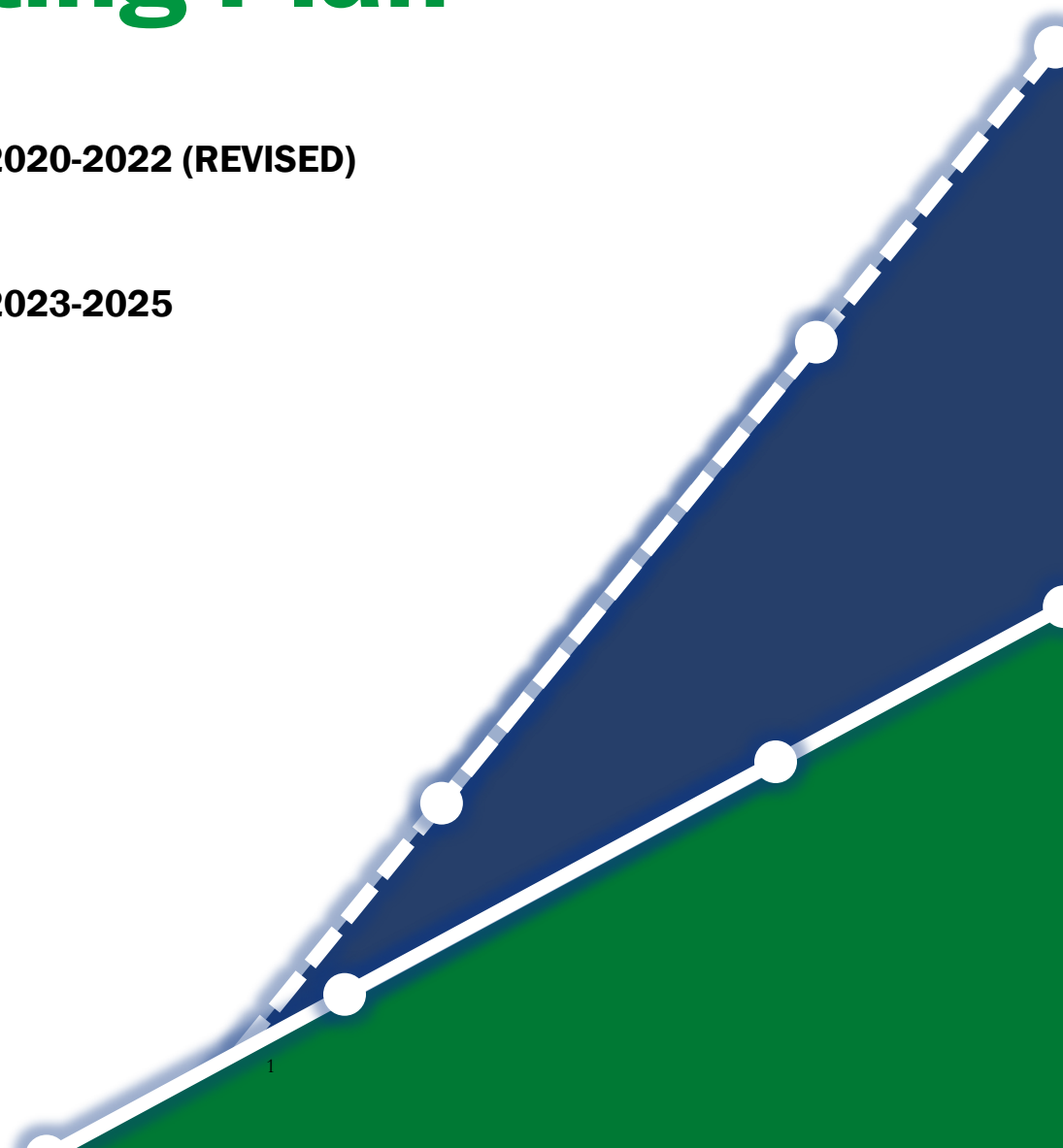


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EXECUTIVE SUMMARY

This Business Transformation Initiative (BTI) Lean Implementation Plan (Plan) outlines the essential elements for a successful process improvement initiative (Lean Program) within the Vermont Department of Environmental Conservation (DEC). Key elements include organizational structure, deployment methodology, communications plan, education/training, reporting metrics, and oversight requirements. The Plan builds on existing efforts and represents a major step forward in moving the entire Department towards securing a culture of continuous process improvement using a standardized, disciplined approach that will achieve effective and efficient results.

This 3-Year Plan is intended to serve as document from DEC Commissioner's Office to help guide the organization by taking defined actions and steps aimed at accomplishing our continuous improvement goals. The Plan is utilized by the DEC's Administration and Innovation Division's BTI Program in administering these efforts along with the DEC's Department Management Team (DMT), and is shared with all DEC staff and other state entities to inform on the future goals and practices of the DEC Lean Program. The current 3-Year Plan (SFY 2020-2022) received minor revisions in February 2021 to reflect some changes in practices and implementation efforts to better align with DEC priorities. We have also reflected active dates to include the next 3-Year Plan cycle (SFY2023-2025) allowing for continuity in administering the BTI Program and greater flexibility for any future alterations.

I. INTRODUCTION

The focus of this Plan is to utilize Lean principles and practices to engage and empower employees, improve organizational efficiency and effectiveness, and promote innovation to better achieve our vision: preserve, enhance, restore, and conserve Vermont's natural resources, and protect human health for the benefit of this and future generations.

Function of Lean in DEC

Lean is a term that describes a growth strategy, management philosophy, and set of practices used to develop the highest quality products or services, at the lowest cost, with the shortest lead time. The concept was refined and popularized by Toyota in the post-World War II era and has since been used successfully by hospitals, service providers, and federal, state, and local governments.

DEC practices Lean for four main reasons:

- To ensure that we meet existing and emerging needs.
- To maximize the use of resources in the delivery of governmental services
- To create a drive and appetite for continuous improvement among employees.
- To free up staff time that can be directed to higher value and more satisfying work.

At its core, Lean is about two things: continuous improvement and respect for people. Continuous improvement refers to the ongoing improvement of processes through the identification and elimination of waste. Respect for people refers to the belief that staff are an organization's greatest resource when it comes to identifying potential improvements. In a Lean organization, these two principles are a strong component of the culture. At all levels, staff are encouraged, empowered, and given the tools and knowledge necessary to identify and solve problems.

Lean continues to play out in many ways within the DEC and includes:

- Structured, in-depth looks at workplace processes with large teams ("kaizen" events).
- Focused problem-solving time with small teams ("mini-kaizen" events).
- Incremental improvements to individual tasks.
- Goal setting with associated performance targets.
- Coaching of employees.

II. BACKGROUND

The Vermont Department of Environmental Conservation (DEC) began its Lean journey in earnest in 2013 with support from the Vermont legislature. Since the close of state fiscal year 2019, DEC has applied Lean to over 71 distinct processes including state revolving loan fund audits, grant and contract processing, petroleum cleanup fund reimbursements, public noticing, identifying, developing and prioritizing Clean Water projects, financial monitoring and compliance, and drinking water construction permitting.

Utilizing the initial services of a consultant as well as dedicated staff, DEC built a Lean program that was initially focused on facilitator training and regularly scheduled, intensive process improvement events. Now in its sixth year, DEC's Lean Program is putting its efforts towards a wider diversity of process improvement activities ranging from short 30-minute problem solving sessions initiated by staff to the more intensive 2-5-day events identified through strategic efforts.

Since its inception, the DEC Lean program has served other statewide agencies by providing support in the areas of coordination, planning, training, and data analysis.

In addition to this "right sizing" of Lean activities, the program continues to explore new avenues for continuous improvement and developing Green Belts. Furthermore, DEC has worked to increase the general awareness level of Lean, holding quarterly updates with all open projects, creating a Process Improvement MS Teams Channel, maintaining an active SharePoint site and projects focused on creating the most benefit. The Process Improvement MS Team site engages staff to explore: our Lean Learning training series and continuous improvement reporting provides an opportunity to celebrate everyday Lean process improvements and share experiences with fellow colleagues.

III. ORGANIZATIONAL STRUCTURE

The Lean Program is located within the Business Transformation Initiative in the DEC Administration and Innovation Division in DEC. Summarized below are the key areas for implementing Lean and the individuals responsible for fulfilling them within DEC:

Department Lean Management Team – Commissioner’s Office, AID Director, BTI Section Manager and Lean Program Coordinator: Sets general vision and direction for BTI and the Lean Program; acts as decision-maker for major program activities; holds appropriate individuals accountable for implementation of this plan and associated projects; and provides resources for the DEC Lean program;

The Lean Program Coordinator: Runs day-to-day operations of the BTI’s Lean Program including but not limited to: documenting and chartering proposed Lean projects, facilitating Lean events, providing training and related tools, providing agency-wide Lean awareness, providing post-Lean event guidance and tracking progress.

IV. PROVIDING LEAN TRAINING

The primary goal of providing training is to create and maintain a culture of process improvement within DEC, by building a network of skilled staff, practitioners, and leaders, and to contribute to establishing a long-standing continuous improvement culture within the Department. DEC Lean training compliments the state-wide Lean Training Program implemented by the Continuous Improvement Central Office within the Agency of Administration.

Trainees can receive certification in four levels of increasing skills:

- White Belt – A basic Lean training in Continuous Improvement problem solving and data analysis
- Orange Belt – Continuous Improvement for Supervisors
- Yellow Belt – A deeper dive into Lean tools and methodology
- Green Belt – Training which prepares trainees for facilitation and planning for Lean events
 - Data Skill ladder- gain specialty in data analysis
 - Tools Skill ladder- gain specialty in Lean tools
 - Facilitation Skill ladder- gain specialty in facilitating meetings

Additional DEC activities are ongoing to promote growth of DEC Green Belts including, but not limited to, the following items:

- Collaboration Meetings – A gathering of ANR Green Belts to share experiences, training and distribute information held quarterly.

- Lean Learning Series – Hour long trainings on Lean-adjacent topics hosted on Microsoft Stream including but not limited to: Coaching Kata, Survey Methodology, Human Centered Design and the like, presented to all ANR staff held as needed.
- Additional supplemental training for Green Belts and managers – A chance to learn more continuous improvement tools and facilitation skills held as needed.
- Resources available on the DEC’s MS Team Continuous Improvement Channel, and DEC Lean [SharePoint Site](#)

V. PROJECT IDENTIFICATION, INITIATION, AND IMPLEMENTATION

A major component of the Lean program is the identification, initiation, and implementation of process improvements throughout the Department.

The identification of Lean projects occurs in a variety of ways. For small or general process improvements projects, staff can submit an idea through the Continuous Improvement Teams Site or talk with the Lean Program Coordinator directly. For medium size projects, staff are advised to discuss with their Supervisor or Program Manager who will then follow-up directly with BTI staff, or staff can discuss an idea with the Lean Program Coordinator anytime.

If a project is determined viable, it will fall into one of the following categories below based on scope, impact, and available resources. The Lean Program Coordinator is available to assist staff in selecting the right activity or tool.

Lean Activity Type	3 Year Goal
<p>KAIZEN EVENT (2+ Days)</p> <p>Generally, a three to five-day event focused on a large or complicated process, often Department-wide or intra/inter Agency. The event follows the standard Lean problem-solving approach and includes between eight and 12 participants with one or two facilitators. The major deliverable from such an event is often an implementation plan that spans anywhere from six months to two years.</p>	4– 6 events
<p>SPARK (SIMPLE PROBLEM ACTION REQUIRED KAIZEN) EVENT</p> <p>A SPARK is a very short duration activity led by an individual or a small team that results in a quick improvement or fix, The use of specific tools such as a skills matrix, SIPOC, Yamazumi or A3.</p>	30-40 events

All Lean events result in an action plan of some form or other, whether action is taken directly in the event itself or planned out over the course of two years (typically the case with Kaizen events). Follow-up action items are most commonly identified in an implementation plan that details task descriptions, timeframes for completion, statuses, task owners, and milestones. As necessary, tasks are denoted as “good” state

(reasonable to accomplish without a significant investment of resources) or “great” state (harder to accomplish without a significant investment).

IT specific actions or projects that result from Lean events are reviewed and ranked quarterly for prioritization by the DEC Commissioner’s Office (along with all other IT project requests). For Kaizen events with Implementation Plans, BTI coordinates a 30, 60 and 90-day check-in meeting to gauge progress. After the first three months, check-in meetings occur quarterly in preparation for the Lean quarterly report. All check-in meetings include the relevant division director, project Sponsor (if different), Champion, and Department Lean Management Team.

Project Teams

A Lean project consists of the following roles:

- Champion – Problem owner and project manager for implementation
- Sponsor – Leadership support and providing resources vital to success of project
- Facilitator – Guides event teams through meetings to achieve project objectives
- Stakeholders – Part-time participants affected by potential changes
- Team – Any-level staff identified as integral to project, responsible for changing processes

Effective management of all five aspects are vital for a successful project.

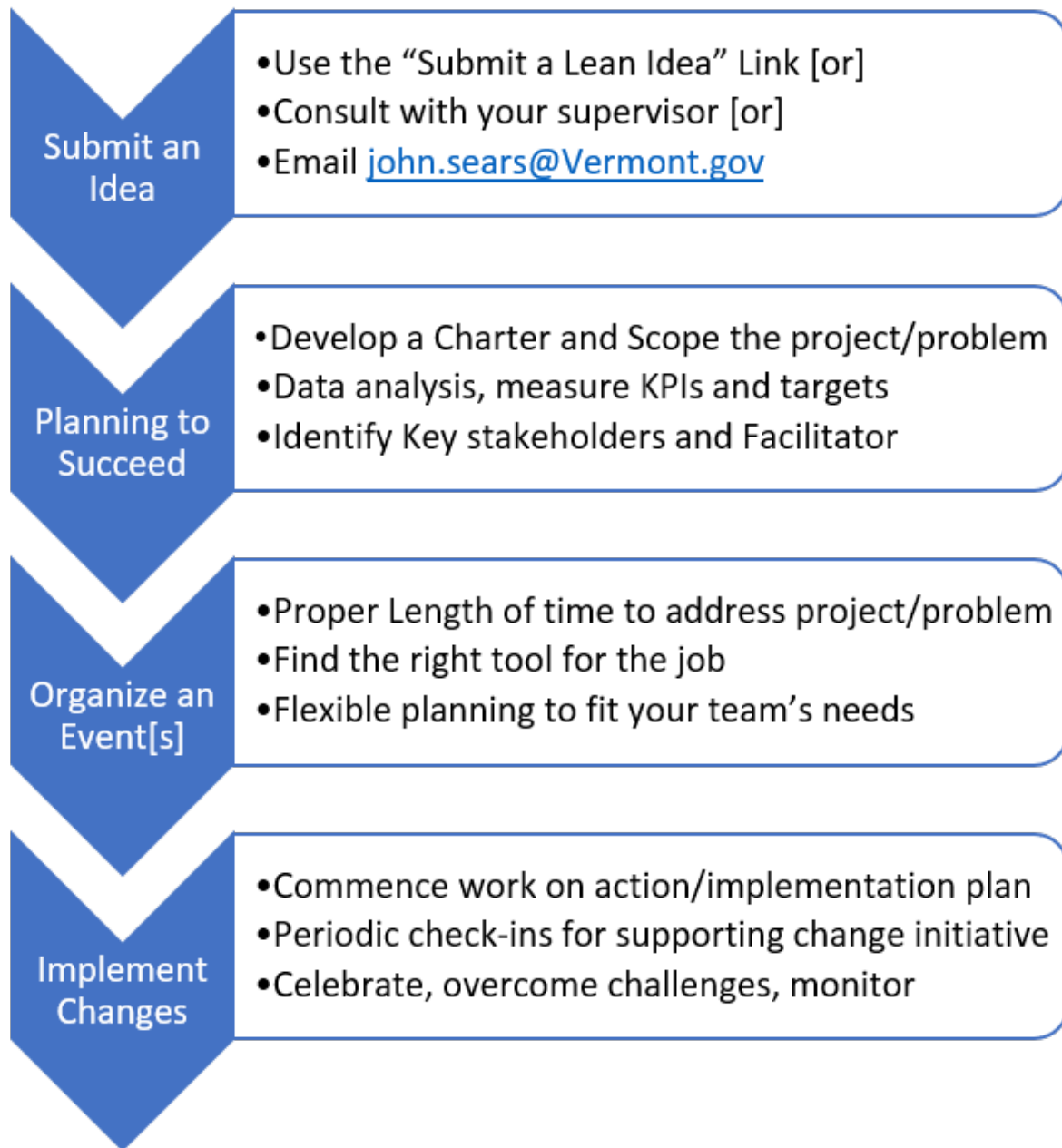
VI. PROJECT WORKFLOW

The protocol to engage BTI on a Lean project is intentionally broad in scope. Interested parties can use the [SharePoint site](#), Microsoft Teams, word of mouth, or reach out to the Lean Coordinator directly. Next, through a meeting or series of meetings with the project Champion, a charter is established which scopes the project, establishes baseline data and recruits team members/key stakeholders to ensure a successful project.

Next, with the support of the Coordinator, Champion and Sponsor, a project kick-off event is planned. Ideally, the Coordinator will find one or more interested facilitators to assist the Lean event meeting. Once the event is concluded, the Coordinator provides ongoing support for project implementation through check-ins and planning support. Through quarterly reporting and closeout reports, BTI Team will track progress of these projects.

A flowchart of the relevant steps is presented below:

Requests for Assistance with a Standalone Project



VII. COMMUNICATION

To achieve the best value for the organization from Lean continuous improvement efforts, it is important that communications at all levels of the organization remain open so that workforce and management are fully aware of the status of Lean activities.

There are numerous opportunities and means for communicating information related to Lean activities. It is the goal of the Lean program to be strategic and take advantage of every opportunity to utilize whatever means are available to “get the word out” regarding its successes and benefits, such as DEC Day or the DEC Teams site. The following summarizes the communications strategy and the target audiences for each element:

Quarterly Representation at the Department Management Team (DMT) Meetings

As the Lean program works across the entire department, areas of process improvement focus, and related updates are provided to DMT on a regular basis or as requested. As part of this agenda, the Lean Program Coordinator may discuss current Lean efforts which have a broader department-wide focus or application. This could include items for discussion regarding an existing project, possible future projects, training opportunities for staff as well as needed input or decisions by the group for any Lean program requests. The ultimate goal of these meetings is to engage leadership in Lean activities and highlight the value it can bring to their divisions. Division directors will also share CI efforts regularly in DMT meetings.

Quarterly and Annual Reports

Quarterly and annual reports detailing the status of projects are disseminated to staff and outside stakeholders as necessary. Quarterly reports are due in July, October, January, and April and update DEC management and all DEC staff on active implementation projects and provide for an array of the types of projects which can be Leaned to drive awareness and engagement. Annual reports shall be due in August after the close of the state fiscal year (June 30th) and provide metric updates to highlight the value these projects bring. These are distributed regularly via email to all DEC staff from the Commissioner’s Office.

Internet Pages

An [internet site](#) accessible by the public hosts background information, current and past Lean project information, Lean resources, and all pertinent documents such as quarterly and annual reports.

SharePoint Site/Teams

A BTI Section SharePoint site is a direct source of information for DEC internal staff to track Lean project statuses as well as share documents for events. SharePoint sites shall be developed for all major projects.

Visible Communications

Lean results are publicly deployed and highly-visible communications on Teams. These updates serve as a continuing reminder to staff as to the availability of the BTI Program as a resource, and value of a continuous improvement culture. Quarterly/Annual reports and the Lean Learning Series trainings also increase visibility for Lean principles. We can also leverage weekly “Coffee talks” to update staff on CI efforts.

VIII. PERFORMANCE METRICS

Seven out of the eight Lean “wastes” from the table below can be converted to metrics (KPIs) for the purposes of tracking Lean projects. Individual projects may have one or more relevant KPIs but should ideally have at least one “waste” KPI allowing projects to be tracked consistently.

Waste	Description	KPI
Overproduction	Manufacture of products in advance (or in excess of) demand wastes money, time and space.	Staff Hours/Yr Changed [For higher value]
Waiting	Processes are ineffective, and time is wasted when one process waits to begin while another finishes. Instead, the flow of operations should be smooth and continuous.	Process Hours/Yr Changed [For higher value]
Transportation	Moving a product between manufacturing processes adds no value, is expensive and can cause damage or product deterioration.	Loopbacks Eliminated
Inappropriate Processing	Overly elaborate and expensive equipment is wasteful if simpler machinery would work as well.	Standardized Work, Process Made Electronic
Excessive Inventory	Wastes resources through costs of storage and maintenance.	Unnecessary Forms/Documents
Unnecessary Motion	Resources are wasted when workers have to bend, reach or walk distances to do their jobs. Workplace ergonomics assessment should be conducted to design a more efficient environment.	# of Steps Eliminated
Defects	Inspecting and quarantining inventory takes time and costs money.	# Errors Sources Corrected

Measuring the success of the DEC Lean program is achieved through a Results Based Accountability Model. Tracking effort and effect, quantity and quality, we seek to answer the following questions:

Question	Metrics
How much service did we deliver? ¹	# of Projects # of Staff Involved
How well did we do it? ²	% Project KPI's met
What quantity of change for the better did we produce? ³	Staff Hours/Yr Changed [For higher value] Process Hours/Yr Changed [For higher value]

	Loopbacks Eliminated Standardized/Electronic Work Unnecessary Forms/Documents # of Steps Eliminated Error Types Corrected
What quality of change for the better did we produce? ⁴	Annual Survey Results %

¹To measure effort using quantity, we evaluate the number of projects to gauge the relative volume of continuous improvement initiatives. Tracking the number of staff engaged is useful for tracking the cultural reach of continuous improvement within DEC.

²Every project has its own metrics, known as Key Performance Indicators (KPI's) which are used to measure the success of the changes that have been implemented. This metric tracks the percent of projects which have met the criteria they have established to indicate a successful effort.

³Measuring the success of the projects themselves, we have created metrics tied to seven of the eight Lean wastes transposed into State-relevant indicators. All Lean projects should tie into one or more of these metrics, allowing us to measure across numerous disparate project types.

⁴Annual Employee Engagement Survey results contains several questions related to the growth of Lean culture. This program uses "Q9. I am encouraged to share ideas on improving either service delivery or business process efficiency." to track year-over-year change in DEC culture. **GOAL: 80%**

IX. ONGOING IMPLEMENTATION EFFORTS

DEC-Wide Regulatory Modernization Efforts

In 2020, the Department launched efforts to support retooling our approach to regulatory review and environmental permitting to allow for and support increased telework (in part to respond to the challenges faced by the COVID-19 pandemic). This also includes ongoing efforts to transfer paper-based processes to ANR Online- electronic forms and other online platforms.

Goal: To do this in a manner that enhances technical assistance available to permit applicants, improves the timeliness of regulatory review and ensures public participation processes are maintained or enhanced. Historically, permitting programs have required significant, direct interaction between the public and those within government responsible for regulatory review. The COVID-19 pandemic has laid bare the challenges presented by many current systems in completing regulatory work remotely and we will continue to assist in overcoming those challenges.

Bring Lean to Programs and Encourage Lean Culture [Projects]

Identifying areas of underutilized continuous improvement efforts and specifically target projects for those areas. Starting with SPARK style efforts, the goal is to encourage process improvement and show the value of Lean methodology to unexposed sections of the department.

Goal: Target one project every 3-6 months in an area of need. Set a mission of engaging new employees in the process. Make things as easy as possible to begin change with ample preparation. Additionally, highlight at least one success story to DMT annually via our quarterly meetings.

Engage Staff Green Belts [Support]

Keeping ANR Green belts engaged is vital to continue the learning and growth process of the department's facilitators. Sharing experiences and exploring new ways of thinking about change management is beneficial to the overall level of success of Lean events.

Goal: Continue to provide training to DEC Green Belts and support the statewide Green Belt network through the Lean Learning Series and coaching of up to 5 Staff at a time.

Focus on Visible Communications [Communication]

Maintaining the visibility to ongoing successes will result in greater engagement of staff and programs. Over the coming months, BTI will develop a team-based platform for increasing transparency of projects being worked on by the Lean program and continuous improvement efforts by staff.

Goal: Develop DEC Team subchannel displaying lean projects overseen by the Lean program and staff.

X. SUMMARY

Ultimately, the key objective of a Lean thinking organization is to empower staff to think about new ways to run the "business" which drives innovative thinking and better ways to serve customers. Lean is a growth strategy; **it is about focusing effort and resources to gain capacity while improving outcomes for our customers.**

While the Lean journey takes hard work and perseverance, the results can be transformative. Freeing employees to focus more time on value-added mission-critical work dramatically improves performance outcomes, customer and stakeholder satisfaction, and employee morale. The Lean journey can lead to satisfied constituents, empowered and engaged employees, passionate leaders, improved overall Department services, and an engrained culture of continuous improvement at DEC.

XI. SIGNATORIES

Deputy Commissioner of Environmental Conservation:

Kim Greenwood

Date

Director of Administration and Innovation:

Joanna Pallito

Date