

Project Charter

Project Title: De-Light Initiative	
Start Date: 01/19/2022	Finish Date: 04/27/2022
Budget: \$5,690.00	
Project Manager:	
Name: Harshal Utekar	
Responsibilities:	
<ul style="list-style-type: none">1. Monitor weekly progress2. Time Management3. Schedule Meetings4. Coordinate project activities5. Team motivation6. Conflict resolution	
Authority:	
<ul style="list-style-type: none">1. Change request approvals2. Define budget for tasks3. Allocate tasks to resources	
Project Objectives:	
<ul style="list-style-type: none">1. To receive 100% funds from Angel Investors for non-profit.2. To present non-profit idea in front of investors.3. Fixing the design fixtures of city lights by at least 10% after receiving funding by the 1st year.4. Targeting 20% skyscrapers, commercial, and corporate buildings to minimize the high intensity lights and encourage energy efficient LEDs/eco-friendly lights and light-resistant windows.5. Making the NYC people aware on the devastating effects of light pollution by holding campaigns and support advertisements.6. File and support for new light pollution control policies and currently withstanding laws/policies by collaborating with government entities.7. Evaluating light intensity of building fixtures based on Color Rendering Index(CRI) scale.8. Reduce health effects on humans such as sleep disorders, breast cancer, eyesight.9. To have an illuminating night sky rather than an artificial light night.	

Deliverables:

- Deliver all 12 project management documents asked by Professor Leon Herszon.
- Presentation highlighting the goal and purpose of non-profit in-front of panel and professor.
- Promote the established and pursued policies by marketing and advertising to spread awareness and gain public support.
- Install model outdoor lighting in at least 5 NYC parks and encourage darksky programs to visitors.
- Increase the energy efficiency grade of at least 20% buildings from D-grade to at least B-grade and boost the current B-grade efficiencies towards A-grade in NYC.
- Educate and promote lighting designers, manufacturers to manufacture lights with CRI of 85 or above.
- Establish guidelines with assistance of the government for Turtle friendly light fixtures which point downward.

Success Criteria:

- Receiving 70-100% of the funding for the non-profit.
- Completing the project plan and documents
- Successfully presenting the project plan and presentation in front of investors and professor.

Risks:

- Unable to secure funds
- Improper documentation
- Insufficient research and factual data
- Scope creep

Sponsor's name and signature, date:

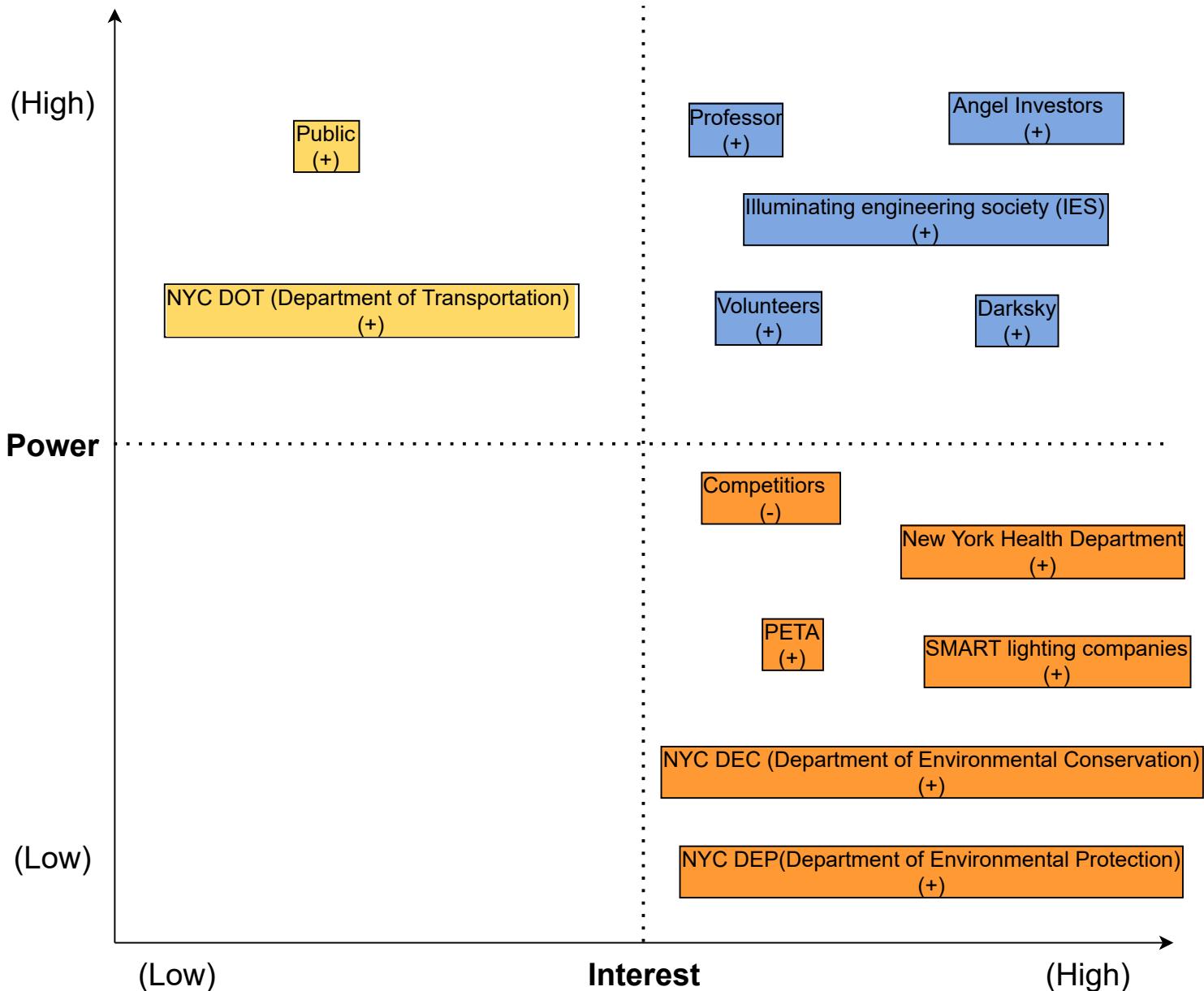
Mr. Joseph Vocaturo, 04/27/2022

Mr. Americo Pinto, 04/27/2022

List of Stakeholders

<u>Name / Title</u>	<u>Organization Name</u>	<u>(+/-/Neutral)</u>
Health Department	<ul style="list-style-type: none"> ● NewYork Health Department 	+
Competitors	<ul style="list-style-type: none"> ● GlobeAtNight ● Stars4all 	-
Campaign Team Members	<ul style="list-style-type: none"> ● Volunteers 	+
International Associations	<ul style="list-style-type: none"> ● DarkSky ● Illumination Engineering Society (IES) 	+
Professor Leon Herszon	<ul style="list-style-type: none"> ● Professor 	+
Government Organizations	<ul style="list-style-type: none"> ● NYC DOT (Department of Transportation) ● NYC DEP (Department of Environmental Protection) ● NYC DEC (Department of Environmental Conservation) 	+
Investors/Fundraising	<ul style="list-style-type: none"> ● Angel Investors 	+
Suppliers	<ul style="list-style-type: none"> ● SMART lighting companies 	+
Animal Rights Association	<ul style="list-style-type: none"> ● PETA 	+
Public	<ul style="list-style-type: none"> ● Public 	+

Stakeholder Matrix



List of Requirements

A. DarkSky/IES

- A.1. Sky quality index of the highly affected cities.
- A.2. Details for existing programs in those major cities.
- A.3. Information and guidelines on light establishing practices.
- A.4. Existing models for the outdoor/street lighting.
- A.5. Identify policies and standards of light illumination.

B. Volunteer

- B.1. Select the name of the non-profit organization
- B.2. Defining the Non-profit Organization
- B.3. Identify Objectives
- B.4. Identifying Risks
- B.5. Creating and Rehearsing Project Presentation
- B.6. Schedule follow-up & brainstorming meetings
- B.7. Create 12 Project Management documents
- B.8. Conducting surveys
- B.9. Identifying Pre-existing & in-process laws
- B.10. Finding a place
- B.11. Identifying Competitors
- B.12. Get Funding from Angel Investors.
- B.13. Spread awareness among the public about light pollution
- B.14. Promote eco-friendly lights to the public
- B.15. Organizing campaigns, seminars, community engagement events
- B.16. Creating general Brochures about light pollution (describing light pollution, disadvantages, preventions, and after-effects)
- B.17. Finding suppliers and retailers that manufacture eco-friendly lights.

B.18. Recommend NYCDOT to create environment friendly outdoor lighting plans

B.19. Recommend NYC DOT for considering the installation of LED lighting systems.

B. 20. Hire a volunteer team for analyzing survey feedback.

C. Angel Investors

C.1. Sponsorship from Angel Investors to run the campaign.

C.2. Present a 100% detailed project plan.

C.3. Angel investors aim to get 100% ROI in the form of community service

C.4. Provide information on safety protocols and permissions obtained for the campaign to be eligible for grants.

D. Public

D.1. Ask them to inspect their property for inefficient, poorly installed, and unnecessary outdoor lighting

D.2. Inform about the consequences of normal lights on human beings, animals & plants with scientifically researched data and facts

D.3. Provide samples of eco-friendly lights.

D.4. Convince them to switch to eco-friendly lights.

D.5. Provide suppliers/distributors details who supply eco-friendly lights.

E. Eco-friendly Light supplier

E.1. Sell eco-friendly lights to the public

E.2. Provide volunteers with samples of eco-friendly lights

E.3. Securing Partnership with the organization

F. NYC Dot/NYC Dec/ NYC Dep

F.1. Create environment friendly outdoor lighting plans.

F.2. Create useful model lighting guidelines and policies.

F.3. Provide the organization with the necessary legal information and insights.

F.4. Contribute to awareness campaigns and promote the organization's mission

F.5. Offer several innovations to outdoor lighting regulation that comply with the green grade lighting standards.

G. PETA

G.1. Provide proof and evidence to support the organization's claim of animals getting affected by light pollution.

G.2. Detailed information about the adverse effect of light pollution on animals

G.3. Identify places that replicate the natural habitat of animals and are not affected by adverse light conditions.

G.4. Gather information on how to aid the problems of animals & fishes affected by the light pollution

G.5. Provide the organization with the necessary legal information and insights

G.6. Contribute to awareness campaigns and promote the organization's mission

H. New York Health Department

H.1. Provide proof and evidence to support the organization's claim about adverse effects on humans from light pollution.

H.2. Outline steps to prevent health issues caused by artificial lighting

H.3. Contribute to awareness campaigns and promote the organization's mission

I. Professors

I.1. List of Requirements for the project.

I.2. Assign team to develop a project plan for a non-profit organization by April 27, 2022

I.3. Assign team to select non-profit organizations which will provide a real impact on society within the major non-profit categories

I.4. Select a non-profit organization that will have a specific form like 1) Charity, 2) Foundation, 3) Social Welfare or Advocacy Organization, 4) Professional/Trade Association or 4) Religious Organization

I.5. Develop a project plan to support the team's effort to look for funding to support the creation of that organization.

I.6. Create 13 Project Management documents.

I.7. Discuss documents with professors and ask for feedbacks

I.8. Verify the documents

I.9. Create a presentation and present it on 27th April 2022

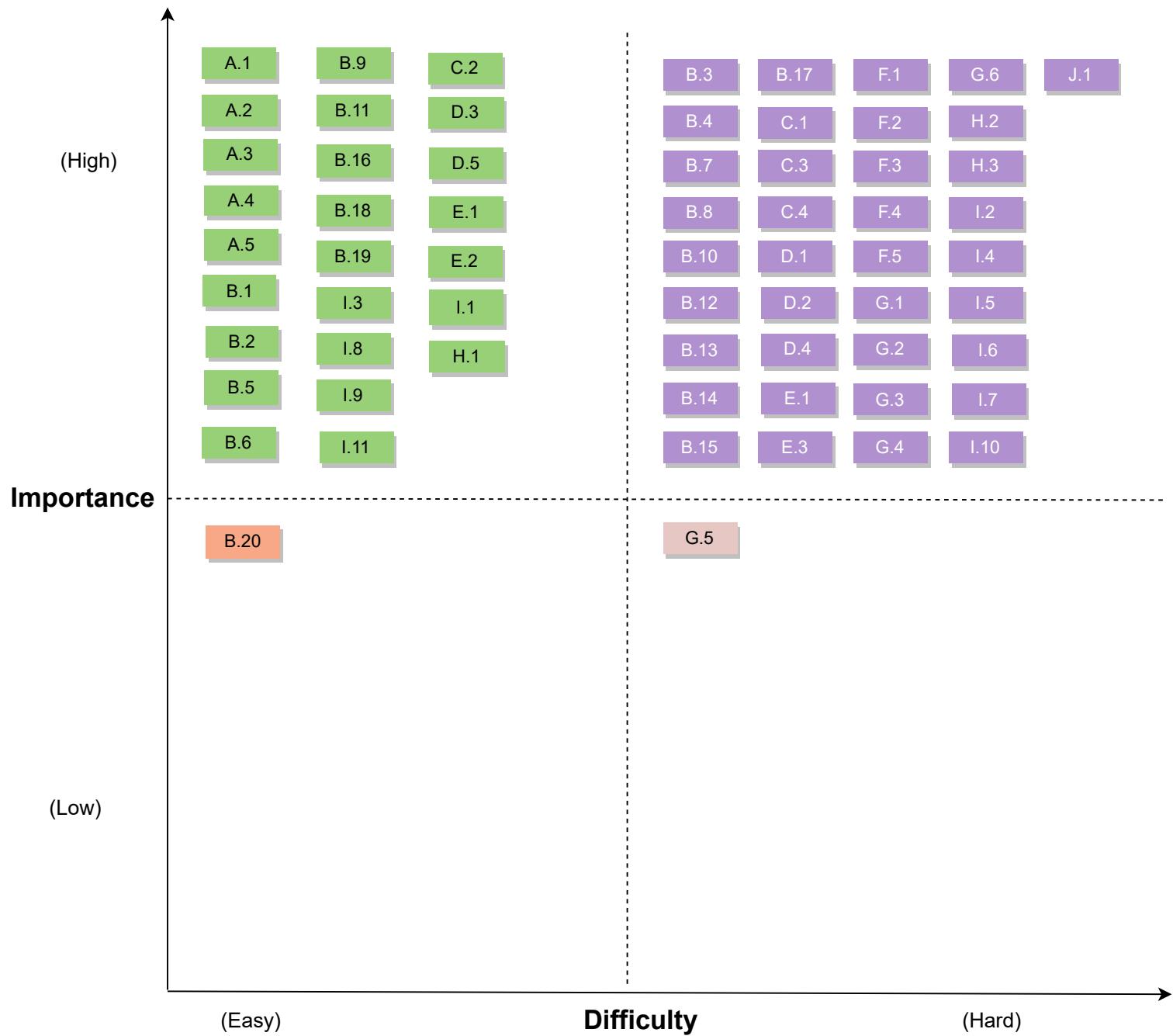
I.10. Rehearse the presentation before the finals

I.11. Change-request: create milestones in the project schedule.

J. Competitors

J.1. Future collaboration should be considered in order to get bigger audience and to reach goals

Requirements Matrix



SCOPE STATEMENT

Project Title: De-Light Initiative

Start Date: 1/19/2022

Finish Date: 4/27/2022

Budget: \$5,690.00

Project Objectives:

1. The main objective of the project is to pitch the non-profit idea in front of the angel investors and secure funding for the non-profit to achieve further goals.
2. The project also aims to reduce the light intensity of building fixtures in New York City in order to minimize its effects on Human Health, Wildlife and Environment by promoting the use of energy efficient LEDs/eco-friendly lights and light-resistant windows.

Project Justification: As of today, Light Pollution in New York City has shown many adverse effects on ecosystems such as sleep deprivation, breast cancer, and reduced eye-sight in humans; extinction and migration crisis in animals; and reduced quality of illuminating night sky. Our organization will spread awareness among the people and will provide solutions to reduce light pollution in the city.

Scope of the Product:

A. DarkSky/IES

A.1. Sky quality index of the highly affected cities.

A thorough sky quality survey is essential to successfully applying to the International Dark-Sky Places Program. A synthetic index derived from the distribution of sky luminance values in the artificial sky glow mosaic. Dark Sky provides this value using the SKY Quality Meter, which ranges from 0 to 100, where 100 is a sky free of artificial sky glow.

A.2. Details for existing programs in those major cities.

Maintain a 100% detailed list regarding all the programs, campaigns, and other non-profit organizations in the major cities on which projects will be implemented; it should provide timelines for those programs.

A.3. Information and guidelines on light establishing practices.

Define all the necessary details about material, manufacturing, positioning with buildings, market, manufacturing cost, market price, and most importantly, should have a Green grade or Color Rendering Index greater than 80.

A.4. Existing models for the outdoor/street lighting.

Prepare a detailed list of the existing models and mapping of the lights in the streets, traffic signals, buildings, societies, parks, and public places. Should cover the areas that measure a Sky Quality Index of less than 80 responsible for light pollution.

A.5. Identify policies and standards of light illumination.

Maintain detailed information about the laws passed by the government authorities of New York City after the 1986 first light pollution law. All the policies, rules & regulations should be known and drafted with the law document.

B. Volunteer

B.1. Select the name of the non-profit organization

Give a name to the non-profit organization by discussing and selecting the one with the majority votes among 6 core team members and by which it will be recognized.

B.2. Defining the Non-profit Organization

Define what a non-profit organization does with the majority of the 6 core team members, by which it will be recognized, and how the work will benefit the public and society.

B.3. Identify Objectives

Define the specific and measurable results the organization hopes to maintain as it grows and the purpose and goal to be achieved with the majority rule of the 6 core members.

B.4. Identifying Risks

Collaborate with the 6 core team members to identify all risks that can negatively or positively affect the project objectives.

B.5. Creating and Rehearsing Project Presentation

Develop a presentation to present the project plan of the non-profit organization to the angel investors and rehearse it before the presentation, to be 100% confident of avoiding mistakes on the presentation day.

B.6. Schedule follow-up & brainstorming meetings

Organize meetings with all 6 members to follow up on the progress of each step—schedule meetings to brainstorm on the next steps and to identify problem statements and make progress on the documents.

B.7. Create 12 Project Management documents

Develop all 12 project management documents as required by the professor to explain the project objectives, requirements, stakeholder matrix, risks, etc.

B.8. Conducting surveys

Launch surveys with the public, competitors, government organizations, light manufacturers, and suppliers to get insights about what they know about light pollution, what are the existing street models, which people in their homes use lights, and what types of 100% eco-friendly lights are available in the market.

B.9. Identifying Pre-existing & in-process laws

Research what are the existing laws implemented to prevent light pollution after 1986, which are the several innovations done to outdoor lighting regulations, and what are the in-process laws that will be implemented in the near future.

B.10. Finding a place

Find a place for a non-profit organization where volunteers can meet up for meetings, work on the project plan, and create all 12 project management documents. Also, scouting a location as an office space for the non-profit to work and implement project goals and objectives.

B.11. Identifying Competitors

Identify other non-profit organizations that are working with the same purpose to learn their work, and do research on ongoing work and programs for at least 3 major cities.

B.12. Get Funding from Angel Investors

The team will pitch the plan in front of the panel members referred to as the angel investors explaining the motive of the organization, resolving the questions that arise during the presentation and potentially secure the funding.

B.13. Spread awareness among the public about light pollution

Educate communities about the importance of protecting the night sky, solving the light pollution problem, and raising awareness about Sky Quality Index > 90 so that people are empowered to make better decisions as consumers, voters, and community members and buy lighting equipment based on the color rendering scale greater than 80.

B.14. Promote eco-friendly lights to the public

The goal of protecting and restoring our natural night environment is to promote quality outdoor lighting. Promote lighting products certified to minimize glare, light trespass, and skyglow (Color Rendering Index > 80). These products are recommended when replacing outdated or inappropriate lighting fixtures that cause more luminescence and illuminations.

B.15. Organizing campaigns, seminars, community engagement events

Volunteers need to organize dark sky festivals, campaigns, events to educate the public about light pollution and draw attention to the problems associated with light pollution and promote simple solutions available to mitigate it. This will also help promote natural night sky restoration in New York City which is a powerful outreach tool for communicating to the public the importance of

reducing light pollution, and achieving green grades of C and up for work and park areas, wide usage of lighting supplies with a CRI scale of 80 and above.

B.16. Creating general Brochures about light pollution (describing light pollution, disadvantages, preventions, and after-effects)

Create brochures and pamphlets that describe the causes and impacts of light pollution and few ways to prevent and conserve the light emissions.

B.17. Finding suppliers and retailers that manufacture eco-friendly lights

Researching the market for suppliers and manufacturers who produce eco-friendly light appliances with CRI ≥ 80 . This will minimize glare while reducing trespassing of light and effective skyglow resulting in elimination of unnecessary light emissions.

B.18. Recommend NYCDOT to create environment friendly outdoor lighting plans

Help NYCDOT to create environmentally responsible outdoor lighting which supports the research, development, and adoption of new technologies and encourages the lighting industry to continue producing lower CCT lighting products with less short-wavelength emission (2.38 and 42.5 μm).

B.19. Recommend NYC DOT for considering the installation of LED lighting systems

Recommend NYC DOT for considering the installation of lower CCT lighting products with less short-wavelength emission (2.38 and 42.5 μm). Minimize lumen densities, thereby also reducing the energy consumption and recommending usage of more LED products as it has a good CRI score and prevents excess light illuminations.

B.20. Hire a team for analyzing survey feedback

Appoint volunteers who are passionate to work for the cause of light pollution by conducting interviews and also involving specialists in various technical fields to ensure smooth working of the organization. These volunteers would also assist in analyzing the key insights from the conducted surveys and research areas.

C. Angel Investors

C.1. Sponsorship from Angel Investors to run the campaign

Prepare a convincing presentation and plan to the angel investors to secure at least 70% of funds to the non-profit initiative along with proven facts and examples of the previously existing organizations and their campaigns.

C.2. Present a 100% detailed project plan

Prepare all 12 detailed documentation and define project planning to a professional level to present it in front of angel investors. Rehearse and prepare all the questions related to the project.

C.3. Angel investors aim to get 100% ROI in the form of community service

Provide examples of previous campaigns spreading awareness about light pollution along with the impact on the community. Facts about the 100% ROI should be explained either in terms of a social cause or community service.

C.4. Provide information on safety protocols and permissions obtained for the campaign to be eligible for grants.

Prepare detailed information about the safety precautions for the campaigns, rallies, and meetings. Everyone should be 100% considerate about the safety of others as it is a community service in the form of a non-profit organization. All the permissions should be collected before everything starts to minimize any bad impact.

D. Public

D.1. Ask them to inspect their property for inefficient, poorly installed, and unnecessary outdoor lighting

Poor lighting not only creates glare and light pollution but also wastes enormous amounts of energy

and money. Enquiring the public about their property, if there is any unnecessary outdoor lighting. Asking them to follow the following 5 principles:

1. Identify the Color Rendering Index
2. The light should only be directed where needed.
3. The light should be no brighter than needed.
4. The light should be used only when it is useful.
5. Use warmer color lights wherever possible.

D.2. Inform about the consequences of normal lights on human beings, animals & plants with scientifically researched data and facts

Volunteers should provide scientifically researched data and 100% proven facts to prove to the public the consequences of normally used lights on human beings, how animals are distracted from their migrating path and make the people aware of the issues relating to it.

D.3. Provide samples of eco-friendly lights

Volunteers need to have samples of eco-friendly lights to explain and prove to the public their advantages and how they can be used to minimize glare (CRI>80) while reducing light trespass and skyglow and helping curtail unnecessary light emissions.

D.4. Convince them to switch to eco-friendly lights

Volunteers need to create awareness among the public and tell them what eco-friendly lights are, what CRI scale stands for and advantages of using these lights in their properties, thus helping to decrease light pollution and their consequences.

D.5. Provide suppliers/distributors details who supply eco-friendly lights

Volunteers need to tell people where they can get or buy eco-friendly lights with a good CRI score which minimize the amount of blue light and excess light illumination in the nighttime environment.

E. Eco-friendly Light supplier

E.1. Sell eco-friendly lights to the public

International Dark-Sky Association(IDA) Retailers strive to provide the public with easy access to Dark Sky Approved products. These businesses work closely with IDA to ensure that their products are properly listed and 100% certified as Dark Sky Approved and have a good CRI score to help with conservation of light illumination.

E.2. Provide volunteers with samples of eco-friendly lights

The majority of the volunteers should be given eco-friendly light samples to provide additional support to the campaign with 100% proven factual data.

E.3. Securing Partnership with the organization

Prepare project definition and proper communication plan with the affiliated partners along with the affidavit and all the required documents to secure and authorize 100% partnership with the partners.

F. NYC DOT/NYC DEC/ NYC DEP

F.1. Create environment friendly outdoor lighting plans

Streetlights that are poorly designed or installed incorrectly end up shining lights onto the property or homes. This is known as light trespass – light that falls where it's not intended, wanted or needed. The government needs to design an outdoor lighting template to develop outdoor lighting standards that reduce glare, light trespass, and skyglow.

F.2. Create useful model lighting guidelines and policies

Governments need to create laws and guidelines which take into account several important considerations and guidance for selecting outdoor and indoor lighting that increases energy and cost savings, enhances safety and security, protects wildlife, and preserves the nighttime environment. encourages cities.

F.3. Provide the organization with the necessary legal information and insights

Collect information from all the 100% legal sources regarding the government laws and steps in favor of prevention of light pollution, current standards and guidelines.

F.4. Contribute to awareness campaigns and promote the organization's mission

Government should help volunteers with the organization's mission to create awareness among the public by organizing campaigns, and events that tell people what light pollution is, what are its consequences, and how it can be prevented.

F.5. Offer several innovations to outdoor lighting regulation that comply with the green grade lighting standards.

Innovations like replacing older, conventional, lighting systems with new, energy-efficient, light-emitting diodes (LEDs), adopting and enforcing race ordinances that call for shielded, downward-pointing lighting, curfews, and other sensible controls. Doing so conserves energy and helps to minimize glare, light trespass, and skyglow.

G. PETA

G.1. Provide proof and evidence to support the organization's claim of animals getting affected by light pollution

Provide proven evidence on how animals are getting affected by light pollution to the PETA (People for the Ethical Treatment of Animals) to support the non-profit organization's claim of protecting animals.

G.2. Detailed information about the adverse effect of light pollution on animals and fishes

Collect details and 100% proven evidence on how animals can be treated from the adverse effect of light pollution from PETA to spread awareness to commoners and protect animals and fishes.

G.3. Identify places that replicate the natural habitat of animals and are not affected by adverse light conditions

Scoured the internet, and collected data from PETA and other 2 or 3 similar organizations to identify natural and better suitable habitats for such animals, birds, or even fishes who got affected by light pollution.

G.4. Gather information on how to aid the problems of animals & fishes affected by the light pollution

Prepare a 100% proven detailed list of collected information from all the sources about the adverse effect of light pollution on the reproduction cycle, living habitats, and other effects.

G.5. Provide the organization with the necessary legal information and insights

Deliver a 100% proper document of legal information, light pollution data, rights, upcoming laws, and other insights to PETA to gain their trust and support.

G.6. Contribute to awareness campaigns and promote the organization's mission

By providing all the required details, establish a relationship with PETA so that they can 100% contribute to the light pollution awareness campaign and promote the good cause.

H. New York Health Department

H.1. Provide proof and evidence to support the organization's claim about adverse effects on humans from light pollution

Research suggests that artificial light at night can negatively affect human health, increasing risks for obesity by 20%, depression, sleep disorders, diabetes, breast cancer, and more. The health department can help prove this point to the public while campaigning.

H.2. Outline steps to prevent health issues caused by artificial lighting

Consult doctors on the hazards of artificial lighting and the negative impact on human beings so that they can provide steps to 100% prevent all the health issues related.

H.3. Contribute to awareness campaigns and promote the organization's mission

Discuss the future aspects of the collaboration with other organizations and prepare 100% accurate documents to request New York Health Department to contribute to campaigns and indulge in the promotion of the mission.

I. Professors

I.1. List of Requirements for the project

Prepare drafts for all the required documents to 100% support the claim and planning of the non-profit organization along the planning.

I.2. Assign team to develop a project plan for a non-profit organization by April 27, 2022

Implement a project plan for a non-profit organization selected from the major categories, plans should be ready to be presented to the angel investors by 27th April 2022.

I.3. Assign team to select non-profit organizations which will provide a real impact on society within the major non-profit categories

The team needs to select a major for the non-profit organization from the following categories:

1. Arts, culture, humanities
2. Education
3. Environment and Animals
4. Health
5. Human services
6. International, Foreign affairs
7. Public societal benefit
8. Religion-related
9. Mutual/membership benefit

I.4. Select a non-profit organization that will have a specific form like 1) Charity, 2) Foundation, 3) Social Welfare or Advocacy Organization, 4) Professional/Trade Association or 4) Religious Organization

Finalize the topic using majority voting among 6 members of the team to create a Non-profit organization that should be classified as either member-serving or public.

I.5. Develop a project plan to support the team's effort to look for funding to support the creation of that organization

Select a project title using majority voting among 6 members of the team and prepare a project plan to get funding to start and run the organization.

I.6. Create 13 Project Management documents

Create the 13 documents of project management including Project charter, List of stakeholders and Stakeholder matrix, List of requirements and Requirement matrix, Scope statement, Work breakdown structure, Schedule, Cost estimate, Communication plan, Risk matrix, Issue log, Change request, Lessons learned and Milestone report. These will be formed as a result of combined efforts of the team members and the project manager.

I.7. Discuss documents with professors and ask for feedbacks

It is very important to obtain feedback from the Professor on the documents created as some minor details and errors in the documents will be highlighted and suggestions on those parts will be considered and implemented.

I.8. Verify the documents

All the 13 documents should be verified by proofreading every document. Also, verify it with the professor and implement the changes suggested by the professor.

I.9. Create a presentation and rehearse it before the finals.

Create a final presentation with a complete project plan in mind and have rehearsals of the presentation within the team to ensure complete effectiveness and improvise on any pointers.

I.10. Present the presentation in front of the panel on 27th April 2022

Present the presentation in front of angel investors with the project plan with confidence and sufficient research to answer subsequent queries and in order to secure funding.

I.11. Change-request: create milestones in the project schedule

Identify milestones achieved while implementing the project plan and integrate it into the scheduler to maintain the 100% completion of each progress made during project execution. Also, create a milestone report to project the milestones during the project phase.

J. Competitors**J.1. Future collaboration should be considered in order to get bigger audience and to reach goals**

Shortlist and communicate with the current competitors to discuss future collaboration for campaign events, fundraisers and charity events.

Scope of the Project:**1. Project Definition:****1.1. Specification Meeting**

We began with group action and a team meeting will be called. The meetings will be scheduled over a period of time depending on the availability of the team. The team can discuss the research findings in the meeting and can provide their suggestions. The team members can also add new requirements or roadblocks that they think should be considered while working on the project. This may facilitate us in reducing the time needed to finish the project together with any issue or obstacles.

1.2. Research:**1.2.1. Identify Goal**

We started with brainstorming or researching the requirements for the project. This includes the requirements for all the possible stakeholders. All the requirements were noted down before they

were filtered. The project manager consulted the professor if needed. Finally, the most relevant requirements will be short-listed.

1.2.2. Identify competitors

There are certain organizations which work for the same objective of reducing the effects of light pollution in New York city. We researched and listed these organizations identifying them as the competitors. Also, we looked upon the working patterns of these organizations including the advantages and drawbacks in order to provide better outcomes.

1.2.3. Survey:

1.2.3.1. Public

We conducted a public survey among the residents of New York City to understand the effects of light pollution on their health. The survey also included the types of light emitting, duration of lightings and absorbing appliances that they use in their homes. The feedback would provide information about the preference of people in the light apparatus used at home and their awareness about light pollution.

1.2.3.2. Manufacturers and Suppliers

A survey was conducted to gain knowledge about the usage of light emitting, duration of lightings and absorbing appliances that are used in commercial spaces. The budget set for the light apparatus and types of lights used in their spaces.

1.2.3.3. Organization

The organizations like NYC DOT, NYC DEP, NYC DEC and Health Department which works on the health of humans and wildlife along with astronomical sciences organizations are asked for feedback about the effects of light pollution on their respective subjects of study. The statistics of the feedback would help to analyze and rank these fields according to the severity of effect.

1.2.4. Identify stakeholder

The stakeholders are the people who are affected by the project and possess power and influence over the project or their interest in their successful or unsuccessful conclusion. We identify all the stakeholders for our project and list them according to their influence on the project. Finally, after discussing among the group we prepare a concluded list of stakeholders for the project.

1.2.5. Laws

Write down the existing laws in the government that address light pollution reduction and how it affects New York's ecosystem. These may include the laws which are needed to be updated in order to gain greater impact on the reduction of light pollution and its effects.

Researching the laws which are filed for the updation of the pre-existing laws relating to light pollution and the ones with new approaches in order to tackle the problem of light pollution in New York city. Researching these will include contacting the state lawyers working for the objective, checking these on the portal for up to date information and also check private lawyers hired by competitor organizations for the same objective.

2. Structure:

2.1. Market Analysis:

2.1.1. Analyze survey feedback

Aggregate the feedback collected by the surveys and sort the similarities of problems faced the most. The market survey will provide information about the street light installation, types of lights and other products used in commercial spaces or throughout NYC so that the effect of those on the environment can be calculated. We will know about the various diseases in humans and wildlife so as to reduce the root cause of those diseases relating to light pollution.

2.1.2. Sky quality index

The sky quality index provides information about the quality of natural sky in the area and the amount of artificial lights that needed to be reduced in order to get a natural light sky in the area. The sky quality index of a natural sky is 100 for a sky free of artificial glow. Get classification based on Bortle-Scale. We will find the sky quality index in various locations across New York City to calculate the percentage contribution to light pollution by certain regions.

2.1.3. Discussion

After collecting and analyzing all the data according to the survey feedback keeping in mind the sky quality index, a discussion provides different opinions and ideas to be collated to form a conclusion on the large results provided by the survey analysis. The team can discuss the research findings and potential resolutions in the meeting to provide their suggestions. The team members can also suggest new topics which are related to light pollution and that they think should be considered while delivering courses in the project. We will be able to get a knowledge of the team we needed for the project and can set up different positions for people in the project.

2.1.4. Hire a team

According to the discussion above, the team will have an idea of the professionals that would be needed to deliver this task. Thus the team will post job/volunteer openings on various job search engines for the selected profiles. After receiving various resumes, the team will go through each and every resume. Then we will shortlist the candidates based on our requirements. This process will take a good amount of time as the resumes need to be shortlisted carefully. Once the resumes are shortlisted, the team can proceed to call the candidates that have their resume shortlisted. The team will then take interviews on the scheduled time for each candidate. The highlights of the interview will be noted.

2.2. Design Plan:

2.2.1. Services:

2.2.1.1. E-light distribution

The E-light distribution aims at contacting the suppliers for the eco-friendly light supplies and models to provide efficient luminance as per the workspace requirement and less emission into the surroundings in order to reduce and maintain the sky quality index in the area. Conduct meetings for potential partnership according to the common interests.

The Suppliers are reached for the range of products listed and its efficiency in accordance with the illuminating night sky standards.

2.2.1.2. Spread awareness

Our main aim here is to spread awareness among the residents about the impact of light pollution on the ecosystem and all measures we can undertake in order to control it. We will enlighten them with all the products that they can use and install in their surroundings resulting in the reduction of illumination of light in the sky and its harmful impacts using social media and campaigns.

2.2.2. Law support campaign:

2.2.2.1. Identification

This involves identification of the law support campaigns which are being researched and are in accordance with the objectives of the Organization.

2.2.2.2. Execution

This involves creating the content for social media and ways to promote awareness, creating plans to target online webinars, in-person support campaigns and advertisements to promote public support towards the law campaigns.

2.2.3. Workspace Location

Finding a workspace for the organization to work is searched and a list of possible locations is prepared. The locations are discussed among the team and suggestions from the team members are noted. The project manager then decides the final location according to the result of discussion, and will contact the landlords as required.

2.2.4. Future Collaboration

As we start working with the motive of Light pollution, in the near future we can find organizations of the same interests and we can collaborate with them moving hand in hand to successfully eliminate the problem from society. We will come together to perform fundraisers and campaigns. Aggregate ideas of other organizations to make a better approach to work for the initiative.

2.2.5. Budget Estimation:

2.2.5.1. Initial capital expense

Estimate the upfront capital expense to be used in the initial building of the Organization. It will include estimation of costs of different activities to be performed in the organization initially. We will also mention the expenses for the team to work in the organization.

2.2.5.2. Budget allocation

Budget of the various requirements of the organization is assigned so as to calculate the total rough cost required for the organization to be formed. Every minute aspect is kept in mind while allocating the budget so that all the activities are provided a fair amount and taken into consideration. The budget is discussed and the final estimation and allocation is provided by the project manager.

2.2.5.3. Fundraisers

The events are planned which will help to provide information of the motive of the organization over various modes and then gathering the voluntarily provided contributions through various platforms. Fundraisers are performed on various levels at government organizations, private firms, and engaging individuals. The modes of the fundraisers to be performed are decided in a team meeting to be online , through campaigns, advertisements. and a final decision is made for the execution of the fundraisers.

2.3. Risk assessment

There are various risks that are to be looked into in order to successfully establish the project. All the risks are discussed and suggestions of all the members are viewed, a research on each of the risks

involved is performed. Following which an analysis is made and the risks are either accepted or eliminated with discussion among the team and a final document of risks is drafted.

3. Documentation:

3.1. Project charter

We are going to create the Project Charter which will provide all the information about the organization. It formally recognizes the existence of the organization and provides a proper summary of the organization's objectives and management. Here we mention Organization's title and date of authorization, Project Manager's name, Schedule, Budget, Roles and Responsibilities, Success criteria and Approach of the Organization.

3.2. Stakeholder matrix

We will create a list of all the Stakeholders related to our organization. Using this we will plot a Stakeholder Matrix to determine the favorability of the stakeholders with respect to the organization. A (+) plus sign is used for defining whether the stakeholder is in favor and similarly a (-) minus sign for against the organization. For the stakeholders with a neutral point of view, we write as "Neutral". We plot the stakeholders in a (Power x Interest) matrix measuring them from a scale of Low to High.

3.3. List of requirements

We will list the requirements with respect to each and every stakeholder. After identifying all the requirements the next step is to create a Requirement Matrix by plotting all the requirements on a scale of (Difficulty x Importance).

3.4. Scope statement

In the Scope Statement, we will describe all the characteristics of the organization and the user acceptance criteria. Here we state the Objective of the Organization, Justification of the Organization, Scope of the Project and the Scope of the Product. Finally, we jot down all the assumptions, constraints and activities that are out of scope of the organization.

3.5. Work breakdown structure

In a Work Breakdown Structure, our goal is to create a deliverable-oriented grouping of the work that will be involved in the organization that will further define the scope of the organization. We will then break all the work required for the project into discrete deliverables and group them into a logical hierarchy.

3.6. Schedule

A schedule has to be created depending on the WBS to determine the start and end dates of all the work that needs to be done. This will help in maintaining the timeline for completing the tasks and other activities that will be involved in the organization.

After creating a proper schedule we get a critical path that will show the duration of the entire project which will help us to maintain the project flexibility in terms of completing the tasks. Milestones will be mentioned in order to follow up on the progress of the project.

3.7. Cost estimate

Cost Estimation plays a very important role for any project as it helps us to set the budget. In our project, we are considering the time required for any particular activity or task and the number of hours given by each team member. Using this we are calculating the Total Labor cost required and then including the Total Non-Labor Cost we calculate the Total Cost of the Project.

3.8. Communication plan

For every project there should be a communication plan that will help in maintaining the communication among the project members. It helps to vary the needs of the project but should be updated accordingly. The communication plan describes who will provide and receive the information, What Data, When, How and Where.

The plan basically consists of the stakeholders's communication requirements, people included in a communication to complete particular tasks and a glossary of common terminology used on the project.

3.9. Risk matrix

Identifying the risks in a project is very important as good risk management can result in significant improvements in the chance of the project succeeding. We will identify the risks, map the risks by Probability and Impact, Prioritize the risks, define an Action and a Contingency plan for each risk.

We will measure the Probability and Impact for each risk from the scale of 1 to 5 and then calculate the Severity by multiplying the Probability and Impact.

3.10. Issue log

It is very important to keep an issue log as it helps to document, monitor and track issues that need to be resolved for effective work to take place. We may face some issues where the members might disagree, situations that need more clarification or investigation, or any other general concerns that need to be addressed.

Issues should be addressed as it can hurt the team performance. There can be critical issues too which will prevent the progress on scheduled activities. Therefore, we will list all the issues that we will face during the project execution.

3.11. Change request

We will maintain a change request log which will have the changes that we thought were needed to be made in the project as it helps to manage the project. There will be many formal and informal change requests for requesting appropriate changes. Change requests can be made by Project Manager, team members and other stakeholders and hence this document will help to keep a track of all the change requests.

3.12. Lessons learned

In this document we create a table listing all the process groups and identify the activities that we did under three columns which are Start Doing, Stop Doing and Continue Doing. This will help us to understand the mistakes that were made and how we can improve them and all things we learnt from the project activities so far.

3.13. Milestone Report

In this document, we would report the milestones that are set by the team within the project to adhere to the complete timeline of the project. The report would include the Milestone, date, status of the milestone, the person responsible for it and a documentation of any issues that were faced while achieving that milestone.

3.14. Presentation document

Create a final presentation with 100% accuracy and project plan to present the project plan in front of the panel and seek funds. The Presentation document will include all the 13 documents that were listed in the requirements.

3.15. Proofread documents

We will Proofread all the documents that have been created so far and then after discussing and making any changes if needed, we will finalize and make them ready for the presentation.

4. Presentation:

4.1. Create presentation

Create a presentation in order to present the idea of the Non-Profit Organization to the Angel Investors providing precise details. It involves the overview of the project along with the planned future activities. The sequence of the presentation will be decided and according to the assigned sequence the material to be presented will be prepared. Finally, all the material will be collated and a final presentation document is created.

4.2. Rehearsal

According to the sequence decided for the presentation, a rehearsal will be done in order to practice the flow the project is being presented. Every team member presents the ideas and gets feedback from others on the places to improve. The project manager finally approves the material and the flow of the presentation. Also, everyone prepares for the questions which may be asked in order to gain full trust and satisfaction of the angel investors.

4.3. Final presentation

Presenting the project in front of the panel of Angel Investors taking feedback for the project and convincing them to invest the money in the project. Includes explaining the idea to the panel and answering questions aroused by them in order to make them understand the idea, clearing the doubts about the idea.

Project Assumptions:

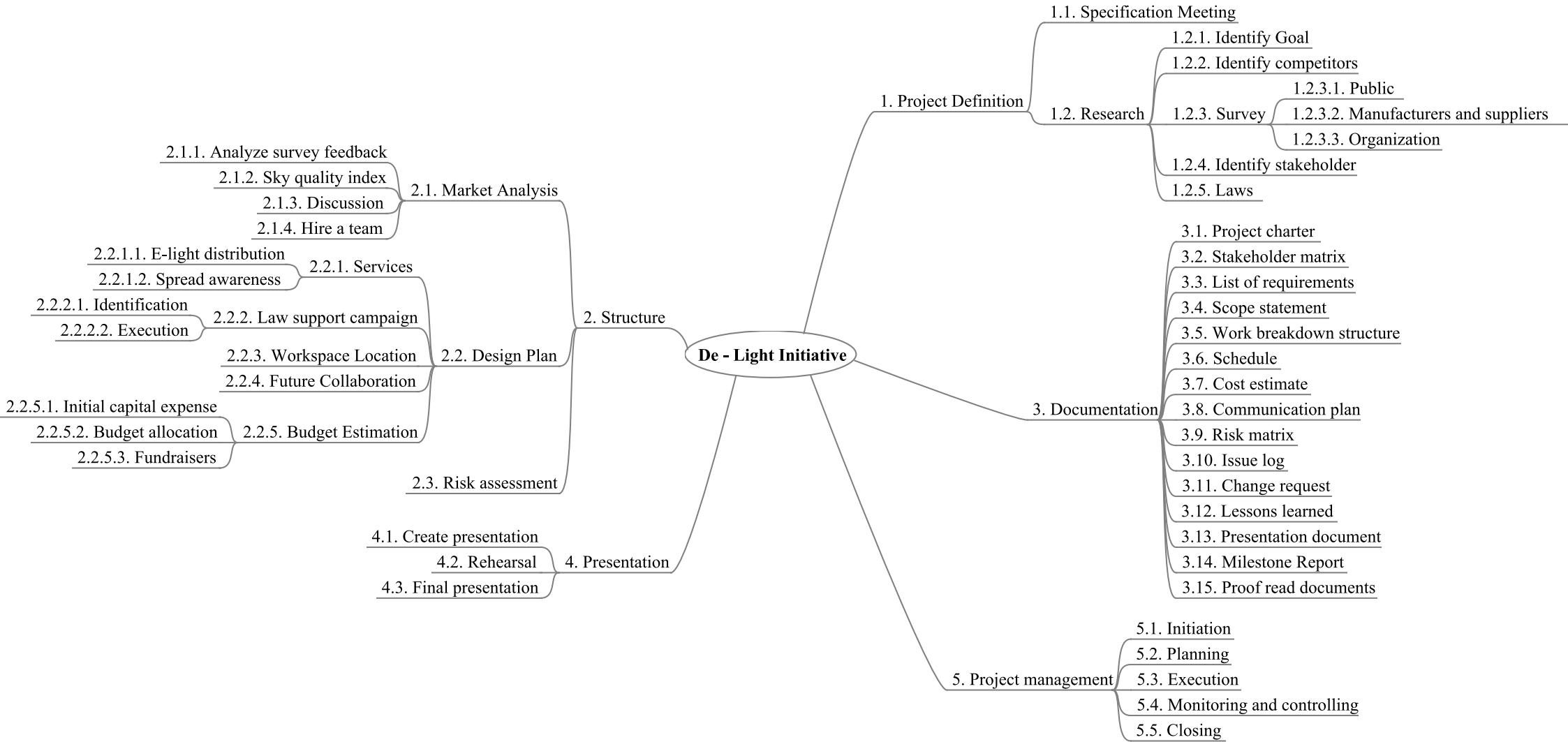
- There is a need for education in underserved communities for light pollution
- High turnout for target audience
- Our program will result in reduced light pollution index
- We will be on budget
- We will secure atleast 80% funding from angel investors
- We will receive atleast 75% of grants we apply for
- Professor will like our Project proposal
- We will finish the Project on time
- We will be fully staffed all the time.

Project Constraints:

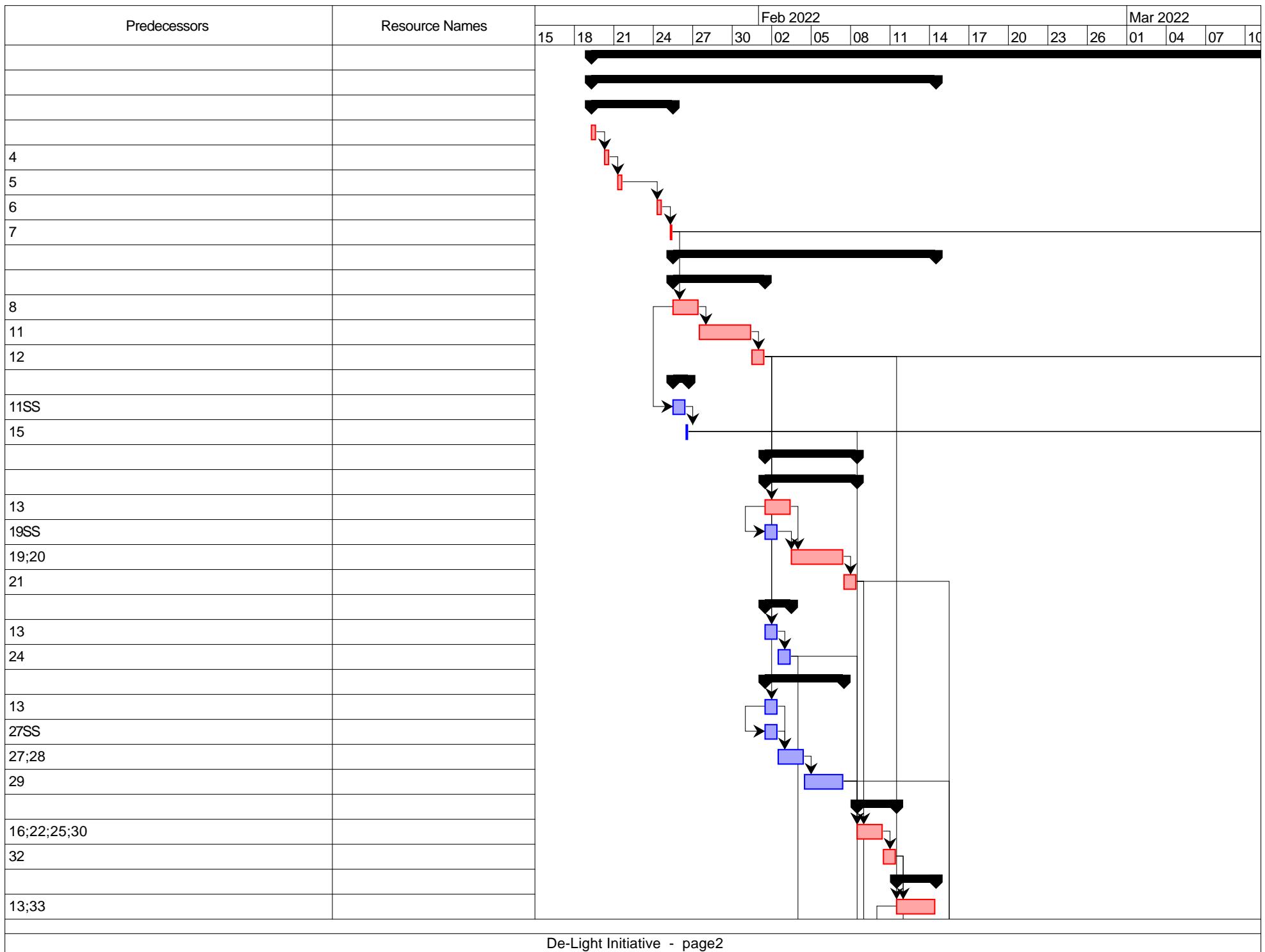
- Time
- Budget
- Lack of funding
- Lack of participation
- Legal actions

Out of Scope:

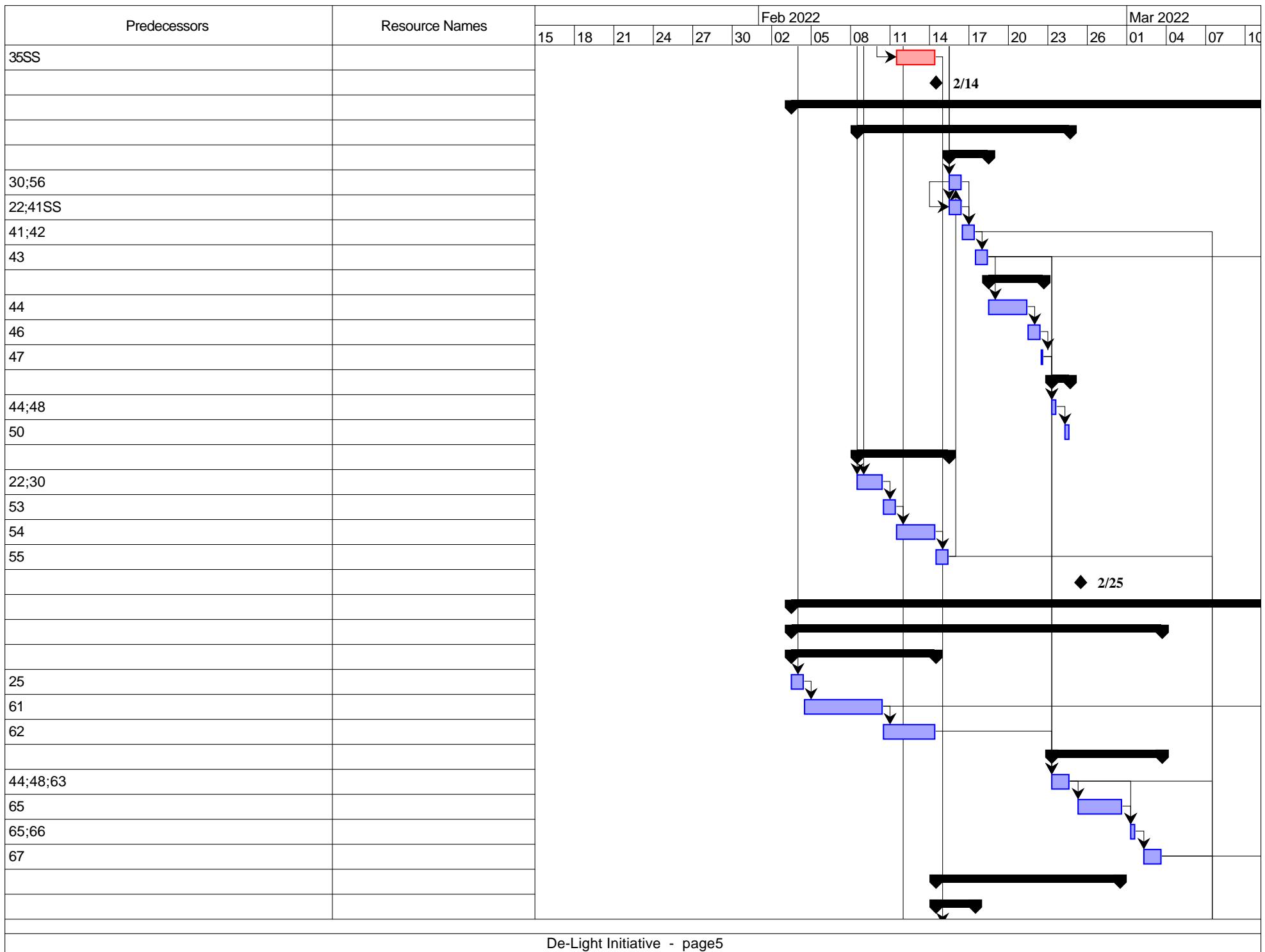
- Creating light supplies that have CRI scale of 90 and above
- Providing healthcare assistance for light pollution related health effects.
- Expanding the target location beyond NYC.
- Compensation for volunteers on E-light supplies



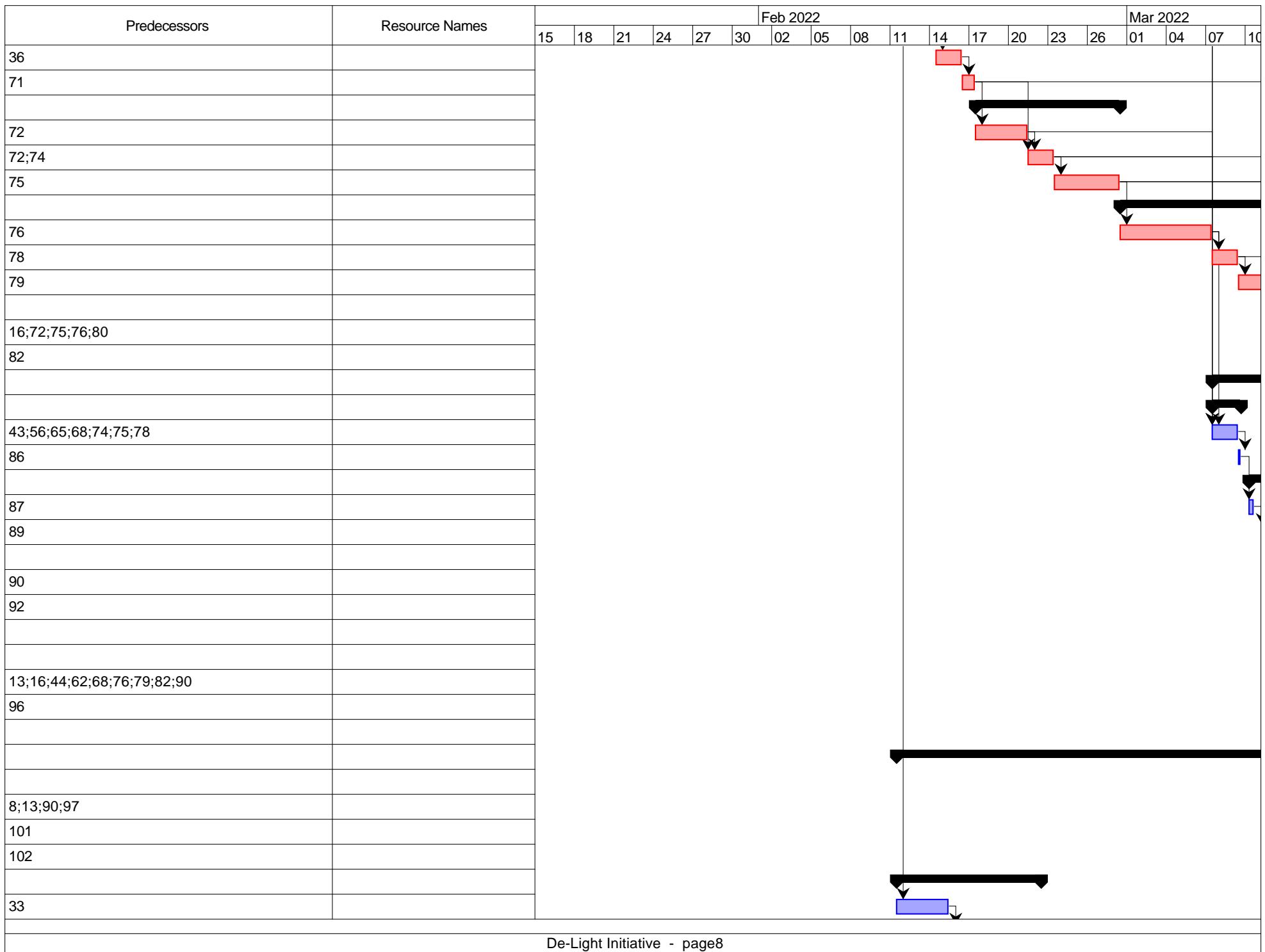
		Name	Duration	Start	Finish
1		De-Light Initiative	71 days	1/19/22 8:00 AM	4/27/22 5:00 PM
2		1. Project Definition	18.5 days	1/19/22 8:00 AM	2/14/22 1:00 PM
3		1.1 Specification Meeting	4.5 days	1/19/22 8:00 AM	1/25/22 1:00 PM
4		Setting up meeting agenda	1 day	1/19/22 8:00 AM	1/19/22 5:00 PM
5		Research various domains	1 day	1/20/22 8:00 AM	1/20/22 5:00 PM
6		Shortlisting various project ideas	1 day	1/21/22 8:00 AM	1/21/22 5:00 PM
7		Shortlisting various project ideas	1 day	1/24/22 8:00 AM	1/24/22 5:00 PM
8		Finalizing Project Topic	0.5 days	1/25/22 8:00 AM	1/25/22 1:00 PM
9		1.2 Research	14 days	1/25/22 1:00 PM	2/14/22 1:00 PM
10		1.2.1 Identify Goal	5 days	1/25/22 1:00 PM	2/1/22 1:00 PM
11		Researching potential impacts	2 days	1/25/22 1:00 PM	1/27/22 1:00 PM
12		Identifying project objectives	2 days	1/27/22 1:00 PM	1/31/22 1:00 PM
13		Discuss and finalize project objectives	1 day	1/31/22 1:00 PM	2/1/22 1:00 PM
14		1.2.2 Identify Competitors	1.5 days	1/25/22 1:00 PM	1/26/22 5:00 PM
15		Survey existing non-profit organizations working on same goals	1 day	1/25/22 1:00 PM	1/26/22 1:00 PM
16		Shortlisting potential competitors	0.5 days	1/26/22 1:00 PM	1/26/22 5:00 PM
17		1.2.3 Survey	5 days	2/1/22 1:00 PM	2/8/22 1:00 PM
18		1.2.3.1 Public	5 days	2/1/22 1:00 PM	2/8/22 1:00 PM
19		Preparing form to conduct online public survey	2 days	2/1/22 1:00 PM	2/3/22 1:00 PM
20		Preparing questions for in-person survey	1 day	2/1/22 1:00 PM	2/2/22 1:00 PM
21		Conducting online and in-person survey	2 days	2/3/22 1:00 PM	2/7/22 1:00 PM
22		Collecting survey feedbacks	1 day	2/7/22 1:00 PM	2/8/22 1:00 PM
23		1.2.3.2 Manufacturers and Suppliers	2 days	2/1/22 1:00 PM	2/3/22 1:00 PM
24		Surveying potential eco-friendly light supplies manufacturers	1 day	2/1/22 1:00 PM	2/2/22 1:00 PM
25		Identifying manufacturers supplying eco-friendly light supplies	1 day	2/2/22 1:00 PM	2/3/22 1:00 PM
26		1.2.3.3 Organization	4 days	2/1/22 1:00 PM	2/7/22 1:00 PM
27		Creating survey content for Government entities	1 day	2/1/22 1:00 PM	2/2/22 1:00 PM
28		Creating survey content for Non-profit organizations	1 day	2/1/22 1:00 PM	2/2/22 1:00 PM
29		Conducting surveys	2 days	2/2/22 1:00 PM	2/4/22 1:00 PM
30		Collecting survey data	1 day	2/4/22 1:00 PM	2/7/22 1:00 PM
31		1.2.4 Identify Stakeholder	3 days	2/8/22 1:00 PM	2/11/22 1:00 PM
32		Analyzing potential stakeholder	2 days	2/8/22 1:00 PM	2/10/22 1:00 PM
33		Shortlisting directly impacting stakeholders	1 day	2/10/22 1:00 PM	2/11/22 1:00 PM
34		1.2.5 Laws	1 day	2/11/22 1:00 PM	2/14/22 1:00 PM
35		Identifying Pre-existing laws	1 day	2/11/22 1:00 PM	2/14/22 1:00 PM

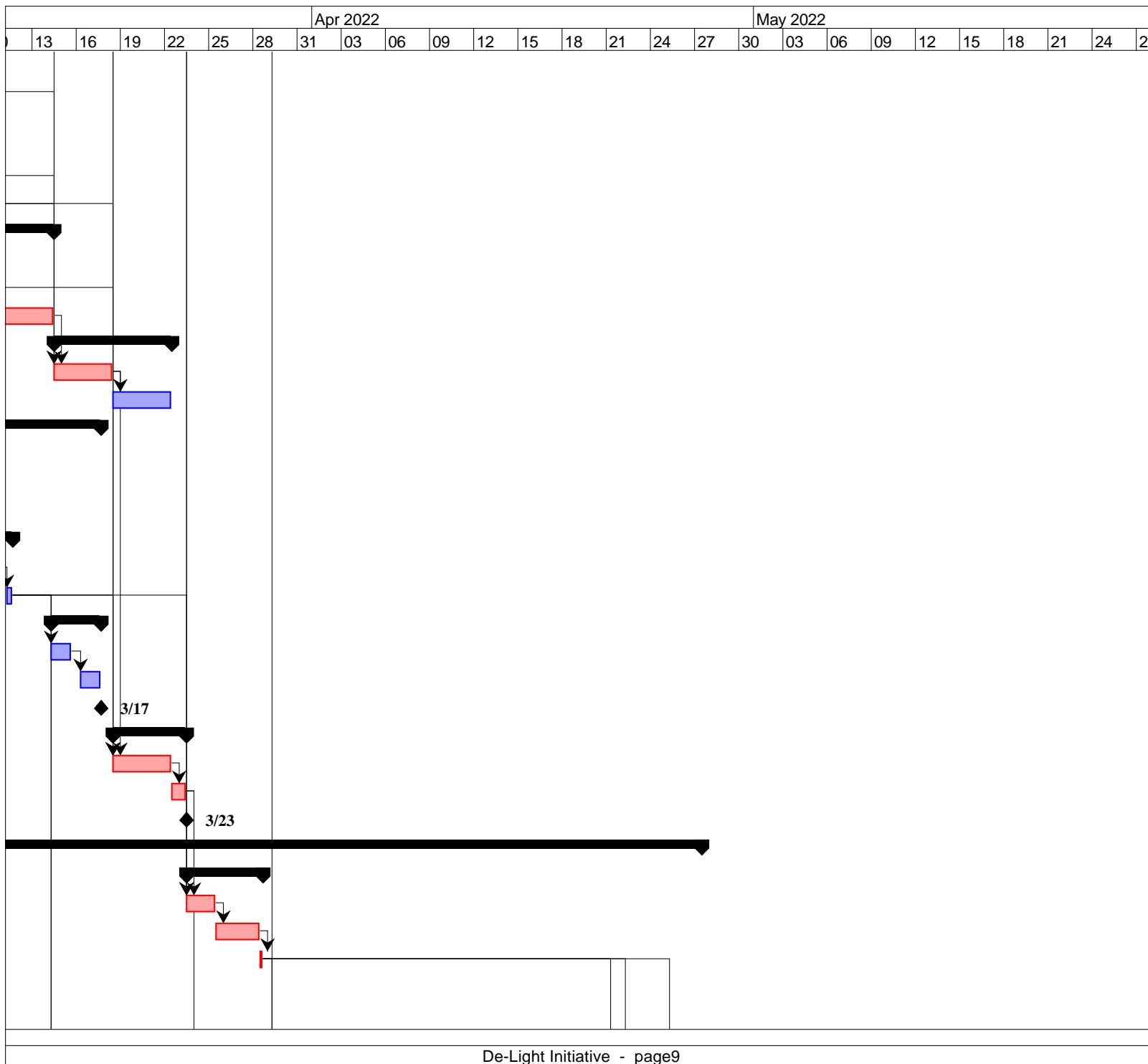


		Name	Duration	Start	Finish
36		Identifying In-process laws	1 day	2/11/22 1:00 PM	2/14/22 1:00 PM
37		Research Completed	0 days	2/14/22 1:00 PM	2/14/22 1:00 PM
38		2. Structure	34 days	2/3/22 1:00 PM	3/23/22 1:00 PM
39		2.1 Market Analysis	12.5 days	2/8/22 1:00 PM	2/24/22 5:00 PM
40		2.1.1 Analyze survey feedback	3 days	2/15/22 1:00 PM	2/18/22 1:00 PM
41		Compiling survey data received from organization survey	1 day	2/15/22 1:00 PM	2/16/22 1:00 PM
42		Compiling survey data received from public survey	1 day	2/15/22 1:00 PM	2/16/22 1:00 PM
43		Analyzing survey insights	1 day	2/16/22 1:00 PM	2/17/22 1:00 PM
44		Documenting key survey insights	1 day	2/17/22 1:00 PM	2/18/22 1:00 PM
45		2.1.2 Sky Quality Index	2.5 days	2/18/22 1:00 PM	2/22/22 5:00 PM
46		Obtaining sky quality index from Darksky organization	1 day	2/18/22 1:00 PM	2/21/22 1:00 PM
47		Classify Bortle-scale	1 day	2/21/22 1:00 PM	2/22/22 1:00 PM
48		Identifying highly affected regions of New York City	0.5 days	2/22/22 1:00 PM	2/22/22 5:00 PM
49		2.1.3 Discussion	2 days	2/23/22 8:00 AM	2/24/22 5:00 PM
50		Schedule team meeting	1 day	2/23/22 8:00 AM	2/23/22 5:00 PM
51		Brainstorm solutions based on survey insights and highly affected sky quality..	1 day	2/24/22 8:00 AM	2/24/22 5:00 PM
52		2.1.4 Hire a team	5 days	2/8/22 1:00 PM	2/15/22 1:00 PM
53		Post volunteer openings on various job search engines	2 days	2/8/22 1:00 PM	2/10/22 1:00 PM
54		Shortlist candidates	1 day	2/10/22 1:00 PM	2/11/22 1:00 PM
55		Conduct interviews	1 day	2/11/22 1:00 PM	2/14/22 1:00 PM
56		Hire most suitable candidates	1 day	2/14/22 1:00 PM	2/15/22 1:00 PM
57		Market Analysis Completed	0 days	2/25/22 1:00 PM	2/25/22 1:00 PM
58		2.2 Design Plan	33 days	2/3/22 1:00 PM	3/22/22 1:00 PM
59		2.2.1 Services	20.5 days	2/3/22 1:00 PM	3/3/22 5:00 PM
60		2.2.1.1 E-light Distribution	7 days	2/3/22 1:00 PM	2/14/22 1:00 PM
61		Finalizing list of manufacturers and suppliers that align with project objective	1 day	2/3/22 1:00 PM	2/4/22 1:00 PM
62		Conduct meetings for discussing potential partnerships	4 days	2/4/22 1:00 PM	2/10/22 1:00 PM
63		Create contracts with potential partners for future deals	2 days	2/10/22 1:00 PM	2/14/22 1:00 PM
64		2.2.1.2 Spread Awareness	7 days	2/23/22 8:00 AM	3/3/22 5:00 PM
65		Creating content for social media to spread awareness about light pollution	2 days	2/23/22 8:00 AM	2/24/22 5:00 PM
66		Create presentations for virtual information webinars	2 days	2/25/22 8:00 AM	2/28/22 5:00 PM
67		Organize team meeting to strategize offline awareness	1 day	3/1/22 8:00 AM	3/1/22 5:00 PM
68		Create pamphlets and posters	2 days	3/2/22 8:00 AM	3/3/22 5:00 PM
69		2.2.2 Law Support Campaign	10 days	2/14/22 1:00 PM	2/28/22 1:00 PM
70		2.2.2.1 Identification	3 days	2/14/22 1:00 PM	2/17/22 1:00 PM



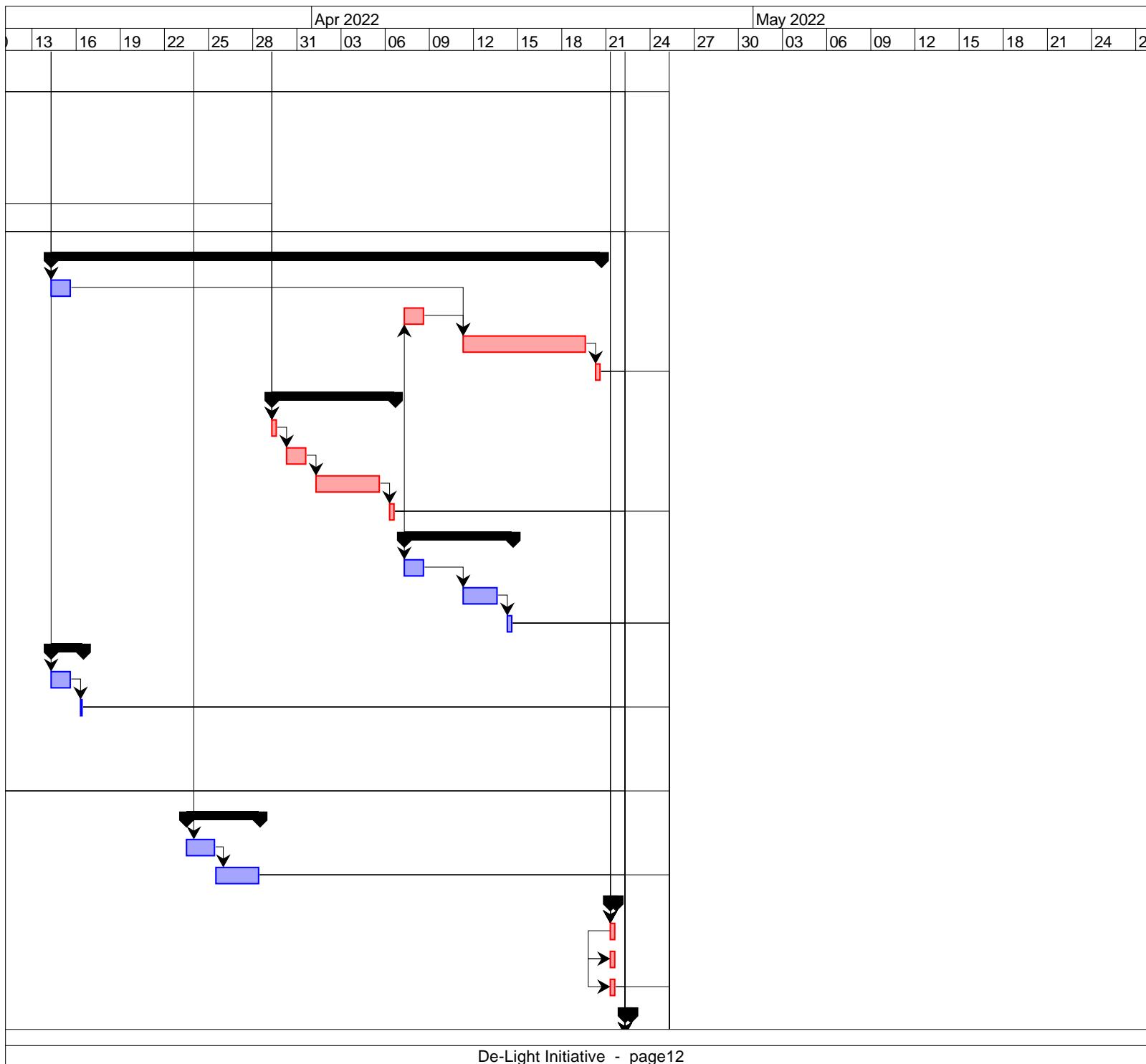
		Name	Duration	Start	Finish
71		Hold meetings to identify ways of supporting in-process bills	2 days	2/14/22 1:00 PM	2/16/22 1:00 PM
72		Shortlisting modes of campaign support	1 day	2/16/22 1:00 PM	2/17/22 1:00 PM
73		2.2.2.2 Execution	7 days	2/17/22 1:00 PM	2/28/22 1:00 PM
74		Create online petitions	2 days	2/17/22 1:00 PM	2/21/22 1:00 PM
75		Advertise campaign support on social media	2 days	2/21/22 1:00 PM	2/23/22 1:00 PM
76		Discuss and plan organization of rallies to support the bills	3 days	2/23/22 1:00 PM	2/28/22 1:00 PM
77		2.2.3 Workspace Location	10 days	2/28/22 1:00 PM	3/14/22 1:00 PM
78		Scout potential office locations	5 days	2/28/22 1:00 PM	3/7/22 1:00 PM
79		Shortlist office locations based on key requirements	2 days	3/7/22 1:00 PM	3/9/22 1:00 PM
80		Discuss with landlords and finalize a location for future lease agreement	3 days	3/9/22 1:00 PM	3/14/22 1:00 PM
81		2.2.4 Future Collaboration	6 days	3/14/22 1:00 PM	3/22/22 1:00 PM
82		Schedule meetings with the competitors	4 days	3/14/22 1:00 PM	3/18/22 1:00 PM
83		Discuss future project collaborations	2 days	3/18/22 1:00 PM	3/22/22 1:00 PM
84		2.2.5 Budget Estimation	8.5 days	3/7/22 1:00 PM	3/17/22 5:00 PM
85		2.2.5.1 Initial Capital Expense	2.5 days	3/7/22 1:00 PM	3/9/22 5:00 PM
86		Identify upfront capital expenses	2 days	3/7/22 1:00 PM	3/9/22 1:00 PM
87		Document capital expenses	0.5 days	3/9/22 1:00 PM	3/9/22 5:00 PM
88		2.2.5.2 Budget Allocation	2 days	3/10/22 8:00 AM	3/11/22 5:00 PM
89		Schedule meetings for budget discussion	1 day	3/10/22 8:00 AM	3/10/22 5:00 PM
90		Create rough estimate's draft	1 day	3/11/22 8:00 AM	3/11/22 5:00 PM
91		2.2.5.3 Fundraisers	4 days	3/14/22 8:00 AM	3/17/22 5:00 PM
92		Schedule meetings to discuss future fundraiser events	2 days	3/14/22 8:00 AM	3/15/22 5:00 PM
93		Plan future fundraiser event's layout	2 days	3/16/22 8:00 AM	3/17/22 5:00 PM
94		Design Plan Completed	0 days	3/17/22 5:00 PM	3/17/22 5:00 PM
95		2.3 Risk Assessment	3 days	3/18/22 1:00 PM	3/23/22 1:00 PM
96		Hold meetings to discuss risks	2 days	3/18/22 1:00 PM	3/22/22 1:00 PM
97		Identify potential project risks	1 day	3/22/22 1:00 PM	3/23/22 1:00 PM
98		Risk Assessment Completed	0 days	3/23/22 1:00 PM	3/23/22 1:00 PM
99		3. Documentation	53 days	2/11/22 1:00 PM	4/27/22 1:00 PM
100		3.1 Project Charter	3.5 days	3/23/22 1:00 PM	3/28/22 5:00 PM
101		Create Project Charter content	2 days	3/23/22 1:00 PM	3/25/22 1:00 PM
102		Review Project Charter document	1 day	3/25/22 1:00 PM	3/28/22 1:00 PM
103		Finalize Project Charter	0.5 days	3/28/22 1:00 PM	3/28/22 5:00 PM
104		3.2 Stakeholder Matrix	7 days	2/11/22 1:00 PM	2/22/22 1:00 PM
105		Analyze and evaluate shortlisted stakeholders	2 days	2/11/22 1:00 PM	2/15/22 1:00 PM



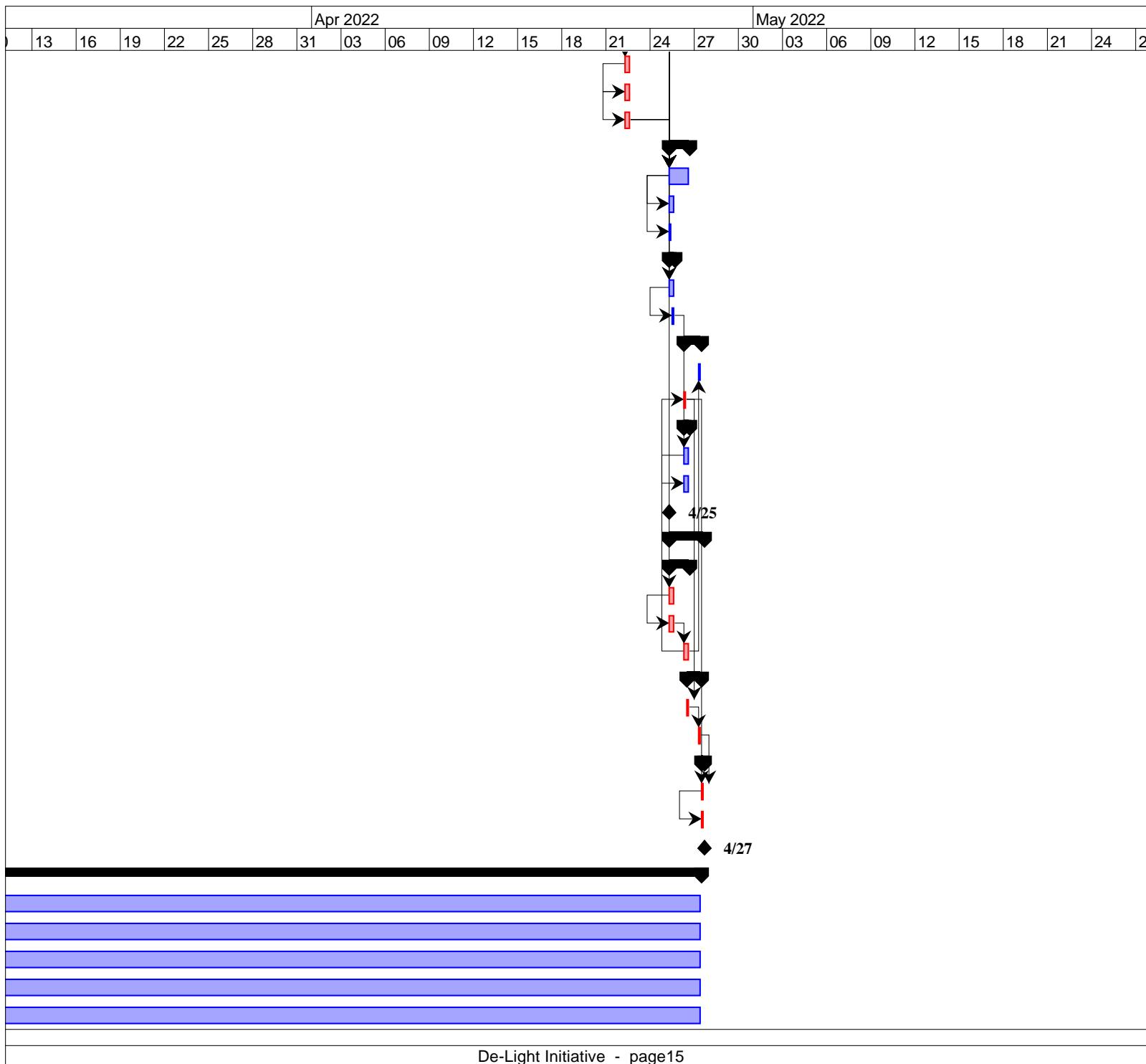


		Name	Duration	Start	Finish
106		Create List of Stakeholder and Stakeholder Matrix documents	3 days	2/15/22 1:00 PM	2/18/22 1:00 PM
107		Review and finalize documents	2 days	2/18/22 1:00 PM	2/22/22 1:00 PM
108		3.3 List of Requirement	7 days	2/22/22 1:00 PM	3/3/22 1:00 PM
109		Hold meetings to identify requirements for each stakeholder	2 days	2/22/22 1:00 PM	2/24/22 1:00 PM
110		Assign appropriate difficulty and importance to each requirements	1 day	2/24/22 1:00 PM	2/25/22 1:00 PM
111		Create List of Requirement and Requirement Matrix	3 days	2/25/22 1:00 PM	3/2/22 1:00 PM
112		Review and finalize documents	1 day	3/2/22 1:00 PM	3/3/22 1:00 PM
113		3.4 Scope Statement	28 days	3/14/22 8:00 AM	4/20/22 5:00 PM
114		Identify scope of Products based on List of Requirements	2 days	3/14/22 8:00 AM	3/15/22 5:00 PM
115		Identify scope of Project based on Work Breakdown Structure	2 days	4/7/22 8:00 AM	4/8/22 5:00 PM
116		Create Scope Statement document	7 days	4/11/22 8:00 AM	4/19/22 5:00 PM
117		Review and Finalize document	1 day	4/20/22 8:00 AM	4/20/22 5:00 PM
118		3.5 Work Breakdown Structure	7 days	3/29/22 8:00 AM	4/6/22 5:00 PM
119		Schedule meeting to discuss Work Breakdown Structure content	1 day	3/29/22 8:00 AM	3/29/22 5:00 PM
120		Identify levels, sub-levels and workpackages for WBS	2 days	3/30/22 8:00 AM	3/31/22 5:00 PM
121		Construct Work Breakdown Structure document	3 days	4/1/22 8:00 AM	4/5/22 5:00 PM
122		Review and Finalize document	1 day	4/6/22 8:00 AM	4/6/22 5:00 PM
123		3.6 Schedule	6 days	4/7/22 8:00 AM	4/14/22 5:00 PM
124		Hold meetings to discuss timelines for activities throughout the project duration	2 days	4/7/22 8:00 AM	4/8/22 5:00 PM
125		Create Schedule based on Work Breakdown Structure	3 days	4/11/22 8:00 AM	4/13/22 5:00 PM
126		Review and Finalize document	1 day	4/14/22 8:00 AM	4/14/22 5:00 PM
127		3.7 Cost Estimate	2.5 days	3/14/22 8:00 AM	3/16/22 1:00 PM
128		Create Cost Estimate based on budget estimations	2 days	3/14/22 8:00 AM	3/15/22 5:00 PM
129		Review and Finalize document	0.5 days	3/16/22 8:00 AM	3/16/22 1:00 PM
130		3.8 Communication Plan	3 days	3/2/22 1:00 PM	3/7/22 1:00 PM
131		Create Communication Plan document for Stakeholders	2 days	3/2/22 1:00 PM	3/4/22 1:00 PM
132		Review and Finalize document	1 day	3/4/22 1:00 PM	3/7/22 1:00 PM
133		3.9 Risk Matrix	3 days	3/23/22 1:00 PM	3/28/22 1:00 PM
134		Evaluate top risks from the risks identified in the Risk assessment	2 days	3/23/22 1:00 PM	3/25/22 1:00 PM
135		Create Risk/ Impact Probability Matrix document	1 day	3/25/22 1:00 PM	3/28/22 1:00 PM
136		3.10 Issue Log	1 day	4/21/22 8:00 AM	4/21/22 5:00 PM
137		Hold meetings to discuss internal and external issues	1 day	4/21/22 8:00 AM	4/21/22 5:00 PM
138		Create Issue Log document	1 day	4/21/22 8:00 AM	4/21/22 5:00 PM
139		Review and Finalize document	1 day	4/21/22 8:00 AM	4/21/22 5:00 PM
140		3.11 Change Request	1 day	4/22/22 8:00 AM	4/22/22 5:00 PM

Predecessors	Resource Names	Feb 2022													Mar 2022				
		15	18	21	24	27	30	02	05	08	11	14	17	20	23	26	01	04	07
105																			
106																			
107																			
109																			
110																			
111																			
90;112																			
122																			
114;115																			
116																			
8;103;111																			
119																			
120																			
121																			
122																			
124																			
125																			
90																			
128																			
107;111																			
131																			
97																			
134																			
103;107;112;117;122;126;129;132;135																			
137SS																			
138SS																			



		Name	Duration	Start	Finish
141		Hold meetings to discuss changes occurred throughout the Project duration	1 day	4/22/22 8:00 AM	4/22/22 5:00 PM
142		Create Change Request document	1 day	4/22/22 8:00 AM	4/22/22 5:00 PM
143		Review and Finalize document	1 day	4/22/22 8:00 AM	4/22/22 5:00 PM
144		3.12 Lessons Learned	2 days	4/25/22 8:00 AM	4/26/22 5:00 PM
145		Hold meetings to discuss Lessons learned throughout the Project duration	2 days	4/25/22 8:00 AM	4/26/22 5:00 PM
146		Create Lessons Learned document	1 day	4/25/22 8:00 AM	4/25/22 5:00 PM
147		Review and Finalize Document	0.5 days	4/25/22 8:00 AM	4/25/22 1:00 PM
148		3.13 Milestone Report	1 day	4/25/22 8:00 AM	4/25/22 5:00 PM
149		Create Milestone report based on Schedule	1 day	4/25/22 8:00 AM	4/25/22 5:00 PM
150		Review and finalize document	0.5 days	4/25/22 1:00 PM	4/25/22 5:00 PM
151		3.14 Presentation Document	1.5 days	4/26/22 8:00 AM	4/27/22 1:00 PM
152		Review Presentation Document	0.5 days	4/27/22 8:00 AM	4/27/22 1:00 PM
153		Finalize document	0.5 days	4/26/22 8:00 AM	4/26/22 1:00 PM
154		3.15 Proof-Read Document	1 day	4/26/22 8:00 AM	4/26/22 5:00 PM
155		Schedule meetings to Proof-Read all documents	1 day	4/26/22 8:00 AM	4/26/22 5:00 PM
156		Make updates if required	1 day	4/26/22 8:00 AM	4/26/22 5:00 PM
157		Documentation Completed	0 days	4/25/22 7:00 AM	4/25/22 8:00 AM
158		4. Presentation	3 days	4/25/22 8:00 AM	4/27/22 5:00 PM
159		4.1 Create Presentation	2 days	4/25/22 8:00 AM	4/26/22 5:00 PM
160		Hold meetings to create presentation content	1 day	4/25/22 8:00 AM	4/25/22 5:00 PM
161		Discuss and finalize pointers for presentation	1 day	4/25/22 8:00 AM	4/25/22 5:00 PM
162		Create presentation document	1 day	4/26/22 8:00 AM	4/26/22 5:00 PM
163		4.2 Rehearsal	1 day	4/26/22 1:00 PM	4/27/22 1:00 PM
164		Hold meetings to rehearse presentation	0.5 days	4/26/22 1:00 PM	4/26/22 5:00 PM
165		Improve on the pointers based on feedbacks from the colleagues	0.5 days	4/27/22 8:00 AM	4/27/22 1:00 PM
166		4.3 Final Presentation	0.5 days	4/27/22 1:00 PM	4/27/22 5:00 PM
167		Submit Final Presentation to the Professor	0.5 days	4/27/22 1:00 PM	4/27/22 5:00 PM
168		Present in-front of Angel Investors, Professor and the Class	0.5 days	4/27/22 1:00 PM	4/27/22 5:00 PM
169		Final Presentation in Front of the Panel	0 days	4/27/22 5:00 PM	4/27/22 5:00 PM
170		5. Project Management	70.5 days	1/19/22 8:00 AM	4/27/22 1:00 PM
171		5.1 Initiating	70.5 days	1/19/22 8:00 AM	4/27/22 1:00 PM
172		5.2 Planning	70.5 days	1/19/22 8:00 AM	4/27/22 1:00 PM
173		5.3 Execution	70.5 days	1/19/22 8:00 AM	4/27/22 1:00 PM
174		5.4 Monitoring and Controlling	70.5 days	1/19/22 8:00 AM	4/27/22 1:00 PM
175		5.5 Closing	70.5 days	1/19/22 8:00 AM	4/27/22 1:00 PM



7. Cost Estimate

Sr No.	WBS Item	# hours	# people	\$/h	Total Labor	Non-Labor	Total Cost
1	Project Definition						
1.1	Specification Meetings	3	6	10	180	30	210
1.2	Research						
1.2.1	Identify Goal	1	6	10	60	0	60
1.2.2	Identify Competitors	1	2	10	20	0	20
1.2.3	Survey						
1.2.3.1	Public	2	2	10	40	30	70
1.2.3.2	Manufacturers and Suppliers	4	2	10	80	20	100
1.2.3.3	Organization	2	2	10	40	0	40
1.2.4	Identify Stakeholders	4	6	10	240	40	280
1.2.5	Laws	2	4	10	40	0	40
2	Structure						
2.1	Market Analysis						
2.1.1	Survey Feedback	5	6	10	300	50	350
2.1.2	Sky Quality Index	3	2	10	60	0	60
2.1.3	Discussion	2	6	10	120	10	130
2.1.4	Hire A team	2	3	10	60	0	60
2.2	Design Plan						
2.2.1	Services						
2.2.1.1	E-light Distribution	4	3	10	120	20	140
2.2.1.2	Spread Awareness	4	3	10	120	60	180
2.2.2	Law Support Campaign						
2.2.2.1	Identification	2	2	10	40	0	40
2.2.2.2	Execution	3	3	10	90	20	110
2.2.3	Workspace Location	4	6	10	240	120	360
2.2.4	Future Collaboration	2	2	10	40	0	40
2.2.5	Budget Estimation						
2.2.5.1	Initial Capital Expenses	1	2	10	20	0	20
2.2.5.2	Budget Allocation	4	3	10	120	10	130
2.2.5.3	Fund Raiser	3	4	10	120	30	150
2.3	Risk Assessment	3	6	10	180	30	210
3	Documentation						
3.1	Project Charter	3	4	10	120	10	130
3.2	Stakeholder Matrix	4	6	10	240	40	280
3.3	List of Requirements	3	6	10	180	30	210
3.4	Scope Statement	8	2	10	160	20	180
3.5	Work Break Down Structure(WBS)	10	6	10	600	80	680
3.6	Schedule	8	2	10	160	20	180
3.7	Cost Estimate	3	5	10	150	0	150
3.8	Communication Plan	2	3	10	60	0	60
3.9	Risk Matrix	3	6	10	180	0	180
3.10	Issue Log	3	2	10	60	0	60
3.11	Change Request	3	2	10	60	10	70

3.12	Lessons Learned	3	6	10	180	30	210
3.13	Milestone Report	1	2	10	20	0	20
3.14	Presentation Document	1	6	10	60	10	70
3.15	Proof Read Documents	2	6	10	120	20	140
4	Presentation						
4.1	Create Presentation	3	2	10	60	0	60
4.2	Rehersal	2	6	10	120	30	150
4.3	Final Presentation	1	6	10	60	0	60
Total Cost					4920	770	5690

8. Communication Plan

Sr No.	Stakeholder	What	When	How	Who	Where
1	Darksky	Obtaining sky quality index from Darksky organization Details regarding eco-friendly lights, outdoor/indoor lights Guidelines & Policies regarding Light Pollution	Monthly During Market Research phase Once During Survey phase Once During Survey phase	Online/Email Team Aces	Team Aces	Email, Zoom, Webex
2	Eco-friendly light suppliers	Discussing Potential Partnership Contract Signing after getting funds	Monthly Post-Market Research phase Once after Post-funding phase	Online/Phone-call In-person	Team Aces	Zoom, Webex, Office
3	Professor	Status of the Project Issues during project	Monthly from kick-off to closing Weekly till 22nd April 2022	Online/In-person Online/In-person	Team Aces Team Aces	Zoom, Email, Classroom Zoom, Email, Classroom
4	Public/Citizen	Feedback regarding project documentation Interaction during survey	Bi-weekly till 27th April 2022 Daily During Public Survey phase	Online/In-person Online	Team Aces	Zoom, Email, Classroom
5	Angel Investors	Awareness about Light Pollution and Eco-friendly light usage Presenting the Project Idea	Post-funding phase On 27th April,2022	Online/In-person In-person/Online	Team Aces	Zoom, Webex, Email, Campaign
6	Competitors	Discussing Capital Investment Survey feedback regarding Light Pollution and impacts	On 27th April,2022 Once During Survey phase	In-person Online	Team Aces	Zoom, Classroom
7	PETA (Animal Right Association)	Discussing future collaboration	Once during Design Plan	Online/In-person	Team Aces	Zoom, Webex, Office, Email
8	NYC DOT (Department of Transportation)	Information on impacts of Light Pollution on Animals and Fishes Survey feedback regarding street light installation Information about future outdoor e-lighting plans	Once During Survey phase Once During Survey phase Once During Market Research phase	Online Online Online	Team Aces Team Aces Team Aces	Zoom, Webex, Email Zoom, Webex, Email Zoom, Webex, Email

9	Illuminating engineering society (IES)	Survey feedback regarding Good lighting practises	Once During Survey phase	Online	Team Aces	Zoom, Webex, Email
10	NYC DEP (Department of Environmental Protection)	Survey feedback on Light Pollution and impacts on Environment	Once During Survey phase	Online	Team Aces	Zoom, Webex, Email
11	NYC DEC (Department of Environmental Conservation)	Survey feedback on Light Pollution and impacts on Environment	Once During Survey phase	Online	Team Aces	Zoom,Webex,Email
12	Volunteers	Status of the Project Task Allocation Campaign, seminars and community engagement events planning	Weekly from Kick-off to Closing of Project Bi-weekly from kick-off to closing of project Post-funding phase	Online/In-person Online/In-person Online/In-person	Team Aces Team Aces Team Aces	Zoom, Classroom, Residence Zoom, Classroom, Residence Zoom, Webex, Office, Email
13	New York Health Department	Information regarding impacts of Light Pollution on Human Health	Once During Survey phase	Online	Team Aces	Zoom, Webex, Email

RISK MATRIX

Risk List	Probability (1-5)	Impact (1-5)	Severity (P*I)	Action Plan	Contingency Plan
Insufficient Research and Factual Data	2	4	8	Mitigate: Research thoroughly on the internet or contact the Government departments for legal documents.	Contact pre-existing organizations serving the same purpose.
Poor Time Management	2	4	8	Mitigate: Establish clear goals and expectations with timelines	Re-design plan and schedule follow-up meetings
Peer Competitors	3	4	12	Mitigate: Design & deliver the best project plan	<ul style="list-style-type: none"> ● Collaborate with parent NGOs like Darksky ● Propose plan to other investors
Unanticipated requirement changes	2	3	6	Accept	Understand the requirement change, discuss among the team members to analyze the impact, then create a change request form that to be approved by the stakeholder
Improper Presentation	1	4	4	Mitigate: Prepare and rehearse the presentation well before the final day	Try to answer follow-up questions with facts and proper research
Unable to secure funds	2	5	10	Mitigate: Research thoroughly the ideas which are to be pitched. Create a good project plan to present in front of the angel investors with confidence.	Look for other financial organizations to provide the funds.
Improper Documentation	2	4	8	Mitigate: Spend more time preparing and writing documents, Proof-read multiple times, and verify with the professor	Present documentation and project plan with confidence to angel investors and prepare follow-up questions in advance

Contradictory Thoughts within team members	1	2	2	Mitigate: Maintain good communication and allow every member to express or share thoughts on all relevant subjects.	Voting should be done on all contradictory things and proceed with majority rule. Let the Project manager take a decision in case of a tie.
Scope creep	4	3	12	Mitigate: Be clear about the requirements and scope. Try to stick to it	In case of changes, confirm those with the stakeholders ,inform the team and make updates as per the new scope\.
Not finding a place to meet	1	2	2	Accept	Conduct online meetings for discussions or meet during class

10. Issue Log

Issue	How it could have been prevented?	How to address this issue?
Cancelled planned meeting	Manage other work in regulation with planned meetings.	Hold virtual meeting whenever in-person meetings not feasible. Reschedule meetings as per team's availability.
Scope creep	Work with stakeholders to clearly identify requirements Set goals according to identified requirements	Updating the stakeholders regularly in regards with the progress of the project
Did not meet set Milestone deadlines	Frequent follow-up meetings Regular monitoring of deadlines by project manager	Discuss and review with the team and set realistic deadlines.
MS Project software configuration issue	Not applicable	Install alternate softwares such as Project Libre

Change Request Document

Project Name: De-Light Initiative

Date Request Submitted: 03/02/2022

Title of Change Request: Add Milestones to the Schedule

Change Order Number: 0001

Submitted by: Prof. Herszon

Change Category: Schedule

Description of change requested:

The scheduler needs to have few set milestones within it to measure the progress of the project. A milestone report needs to be created.

Events that made this change necessary or desirable:

Prof. Herszon submitted an additional requirement within the project.

Justification for the change/why it is needed/desired to continue/complete the project:

Milestones are needed to measure the progress of the project. The milestones are part of the project phase hence, schedule needs to be modified to include the milestones and a separate milestone report should be created to describe the set milestones.

Impact of the proposed change on:

Scope: None **Schedule:** 2 additional hours for 2 team members **Cost:** \$40

Staffing: One volunteer would add the milestones within the scheduler to measure progress.

Risk: **Low** This change will require adding few changes in the schedule.

Other: None

Suggested implementation if the change request is approved: Team needs to add milestone within the schedule of the project to measure progress.

Required approvals: Prof. Herszon & Harshal Utekar.

Name / Title	Date	Approve / Reject
Harshal Utekar / Project Manager	04/15/2022	Approve
Prof. Herszon / Client	03/02/2022	Approve

Change Request Document

Project Name: De-Light Initiative

Date Request Submitted: 02/16/2022

Title of Change Request: Remove sub-levels of Laws from the WBS

Change Order Number: 0002

Submitted by: Project Manager

Change Category: WBS

Description of change requested:

The sub-levels: in-process laws and existing laws need to be removed and put up as activities. Modify the WBS to have the work package as Laws.

Events that made this change necessary or desirable:

Discussion with Prof. Herszon led to the decision of having Laws as work package, to cut too many details from the WBS.

Justification for the change/why it is needed/desired to continue/complete the project:

Too many details within the WBS made the WBS more complicated.

Impact of the proposed change on:

Scope: None **Schedule:** 1 reduced hour per person **Cost:** \$20

Staffing: A team volunteer will modify the WBS with the requested change.

Risk: Low This change will require removing additional work packages within the Laws sub-level.

Other: None

Suggested implementation if the change request is approved: Team needs to remove the 'in-process' and 'existing' laws work packages and make 'Laws' as the work package.

Required approvals: Prof. Herszon & Harshal Utekar.

Name / Title	Date	Approve / Reject
Harshal Utekar / Project Manager	02/17/2022	Approve
Prof. Herszon / Client	02/16/2022	Approve

Change Request Document

Project Name: De-Light Initiative

Date Request Submitted: 04/16/2022

Title of Change Request: Modify the Requirement matrix with Code names.

Change Order Number: 0003

Submitted by: Project Manager

Change Category: Requirement Matrix

Description of change requested:

The requirements matrix should only have the code names for each requirement rather than the whole requirement.

Events that made this change necessary or desirable:

Reviewing the requirement document led to realization of the code name inclusion in matrix in place of the full description of requirement.

Justification for the change/why it is needed/desired to continue/complete the project:

Requirement matrix looks too shabby with the whole requirements listed within it. Code names keeps the requirement matrix clean and easy to understand the matrix.

Impact of the proposed change on:

Scope: None **Schedule:** 3 additional hours for the project **Cost:** \$40

Staffing: Two team volunteers will work on the specified modifications to include code names in the requirement matrix.

Risk: Low. This change will modify the requirement matrix and make it easy to read and understand.

Other: None

Suggested implementation if the change request is approved: Team needs to remove the full descriptions of the requirements from the requirement matrix and input code names of the requirements in the matrix.

Required approvals: Harshal Utekar.

Name / Title	Date	Approve / Reject
Harshal Utekar / Project Manager	04/16/2022	Approve

Change Request Document

Project Name: De-Light Initiative

Date Request Submitted: 04/1/2022

Title of Change Request: Modify the Risk matrix probability and impact for identified issues.

Change Order Number: 0004

Submitted by: Project Manager

Change Category: Risk Matrix

Description of change requested:

The risk matrix needs to be modified for the probability and impact factor for the identified risks that occurred as an issue.

Events that made this change necessary or desirable:

When documenting issues faced during the project phase, issues that were previously identified as potential risks came into light. Thus, increasing their probability and impact to have a genuine understanding of impact and probability of that risk.

Justification for the change/why it is needed/desired to continue/complete the project:

When a potential risk has occurred as an issue, it is necessary to modify the probability of the risk happening to a maximum as the issue has occurred.

Impact of the proposed change on:

Scope: Schedule: 1 additional hours for the project **Cost:** \$10

Staffing: One team volunteer will work on the specified modifications to update the probability and impact in the risk matrix

Risk: Low. This change will attribute towards a true risk matrix based on the occurrence of issues.

Other: None

Suggested implementation if the change request is approved: Team needs to update the probability and impact for the risks that occurred as an issue within the Risk matrix.

Required approvals: Harshal Utekar.

Name / Title	Date	Approve / Reject
Harshal Utekar / Project Manager	04/01/2022	Approve

12. Lessons Learned

Progress Group	Start Doing	Stop Doing	Continue Doing
Initiating	Establish roles and responsibilities within the project team. Conduct meetings on time. Brainstorm with team meetings to get better output. Set a target for each meeting.	Procrastination. Identify and filter stakeholders ahead of the scope.	Research with intent helps understand the process better. Respect everyone's opinions on the team. Research and collaborate on tasks.
Planning	Set a realistic deadline for each task	Miss deadlines. Leave work incomplete	Regular team meetings to brainstorm ideas Follow-up about the progress with respective team members Create and set milestones
Executing	Assign team member responsibilities Maintain documentation for brainstormed activities	Expect to complete a document in one stretch Divide work unevenly	Follow WBS Keep stakeholders updated on progress Be mindful of change requests Proofread and verify content with the professor
Monitoring & Controlling	Ask for feedback from stakeholders	Operate outside the project scope	Regularly seek feedback from stakeholders
Closing	Verify that all requirements were met	Don't assume project completion	Officially closeout project with stakeholders

13. Milestone Report

Milestone	Date	Status	Responsible	Issue/Comments
Research completed	2/14/2022	Complete	Team Aces	Identified the areas that would assist with project plan and conducted research and surveys to complete the research
Market Analysis Completed	2/25/2022	Complete	Team Aces	Analysis of key insights from the conducted research and Market analysis for Sky quality index, CRI and green grade in major cities like NYC.
Design Plan completed	3/17/2022	Complete	Team Aces	Planning the key aspects which are the services provided as a non-profit and identifying and planning related work
Risk Assessment completed	3/23/2022	Complete	Team Aces	Assessing the impact and probability of risks occurring during the project phase
Documentation completed	4/26/2022	Complete	Team Aces	Creating the 12 Project Management documents based on the project plan and requirements provided.
Final Presentation in front of Panel	4/27/2022	Not started yet	Team Aces	The final presentation would be done on 4/27/2022 after 5.00pm