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Prepared for: City of Sunnyvale, California

Project Title: Sunnyvale Strategic Infrastructure Plan for the WPCP

Project No: 135083

Technical Memorandum

Subject: Level of Service (LOS) Measures

Date: October 21, 2008

To: Lorrie Gervin, Environmental Division Manager – Sunnyvale WPCP

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Introduction

This technical memorandum defines and documents the project drivers for formulating and screening project alternatives. These drivers are defined as specific Levels of Service (LOS), which provide the needed framework for making balanced decisions related to capital investments towards the City's wastewater treatment plant (WWTP) rehabilitation, replacement, or renewal options.

An important element of this LOS development process was the active engagement by the City's cross functional team in brainstorming, formulating, testing, and crafting the LOS drivers. This participation and input by the city staff was not only beneficial in the LOS development itself, it provided an effective forum for building the teams' understanding towards the process which will guide the SIP alternative formulation, screening and selection.

What Are LOS?

Simply stated, LOS are a collection of measures intended to align the decisions related to capital projects with the values and expectations of the "customers" the project intends to serve. In broader terms, the "customers" can include the rate-payers, the regulators, any project partners, and the community-at-large.

Properly defined and structured LOS measures are:

- *Transparent and concise*, to provide clear and unfiltered guidance in the planning process
- *Repeatable and objective*, to insure a consistent approach in formulating and selecting project alternatives
- *Adaptable*, so that changes in priorities, levels of service or underlying data can easily be reflected in decision making
- *Focused on customers*, so that the objectives, the performance measures, and utility's activities are properly aligned in meeting perceived needs from customers' perspective – not individual priorities

Process Used in Establishing LOS

To allow maximum input into the LOS development process, Brown and Caldwell prepared backgrounded material and facilitated two workshops (dated July 8-9, 2008 and August 19, 2008) involving the City's cross-functional team from O&M, engineering and planning, finance, and management. This team was fully engaged in providing the needed input to LOS definitions from diverse perspectives, and in crafting the final narratives related to various LOS. Team members are described in Attachment A.

Team members were provided with several background Technical Memorandums that served as reference points for discussion of LOS drivers:

- Decision Making Methodology
- Influent Flows and Loads
- Solids Flows and Loads
- Regulatory Framework
- Seismic Performance Goals
- Electrical Power System Level of Service

In bringing appropriate balance to LOS, an increasing number of public utilities are expanding the traditional decision-making framework to take into account the less tangible environmental and social criteria in addition to the tangible financial considerations. This approach – also termed "Triple-Bottom-Line" (TBL) – captures an expanded spectrum of values for measuring organizational (or communal) success. The TBL is thus used

as a vehicle for balancing a diverse slate of stakeholder interests, not simply minimizing costs or maximizing financial benefits.

To the extent possible, the TBL approach was used in defining and establishing the LOS drivers for the Sunnyvale SIP project.

LOS Drivers and Weighting Factors

Attachment B provides a concise listing of the LOS drivers, along with the proposed weighting factors. For clarity and ease of understanding, the regulatory drivers were treated separately from the TBL considerations. This was done to eliminate any confusion between the mandatory and non-mandatory environmental drivers. Given the fact that regulatory drivers, by definition, are mandatory, there are no conceivable considerations under which they can be assigned anything but the highest (critical) weighting, while all other TBL criteria, including non-mandatory environmental, are appropriate for a more subjective examination with respect to their weighting.

Note that while the weighing factors are numerical – from 0 to 4 – the table below provides suggested attributes along with appropriate “descriptors,” for ease of translation and repeatability of the numerical weighting factors.

| Weighting | Attribute | Descriptors |
|-----------|-------------|--|
| 4 | Critical | <p>Critically important to utility mission</p> <p>Essential for personnel safety</p> <p>Necessary for meeting regulatory requirements</p> <p>Absence of specific LOS will undermine City’s long term vision, values, or standing in the community</p> |
| 3 | Important | <p>Must be in place to meet City’s business objectives</p> <p>Absence of specific LOS will impede progress towards compliance with emerging regulations</p> <p>Supports the legitimacy and public transparency image of the utility</p> <p>Necessary component of <i>Sustainability</i>, particularly social impacts</p> |
| 2 | Desirable | <p>Supportive of community’s high-tech image and progressive culture</p> <p>Important element of the <i>21st Century Utility</i></p> <p>Anticipates and accommodates values and needs of community at large (beyond Sunnyvale)</p> |
| 1 | Relevant | <p>If fiscally permissible, will lead to project enhancements through value added features</p> |
| 0 | Unnecessary | <p>Does not add to customer value</p> |

How Do LOS Guide the Alternative Screening and Selection Process?

The next important step in this project is the formulation and screening of the feasible alternatives for city's WWTP rehabilitation, replacement, or renewal. All likely alternatives will first be "tested" based on the degree to which they align (or are compatible) with the established LOS. We propose that we use a numerical scale (alignment scale), from 1 to 5, for establishing the degree of alignment of each of the alternatives to the individual LOS. The weighting assigned to each LOS (weighting factor) will then be used to establish the importance of the specific LOS to the city or its stakeholders. The multiplier of the alignment scale (1 to 5) and the weighting factors (0 to 4) will then allow the unacceptable (or marginally acceptable) alternatives to be screened out based on the LOS.

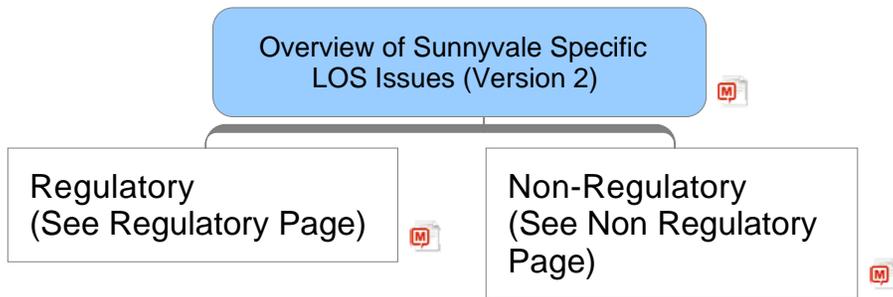
The surviving alternatives will then be subjected to a more rigorous definitions and analyses based on the Business Case Evaluation Process described in Technical Memorandum 2-1.

Summary

With the emergence of Sustainability as a core principle in implementing capital projects, a growing number of public utilities are adapting a more comprehensive set of criteria for project evaluations and selections. For the Sunnyvale SIP, customer levels of service (or LOS) were defined under this expanded criteria (also termed Triple-Bottom-Line, or TBL). This approach allows the planning considerations to expand beyond the traditional project metrics--cost-effectiveness--to include the less tangible, but equally important environmental and social impacts of the potential alternatives.

This memorandum establishes the relevance of LOS drivers to the Sunnyvale SIP, memorializes the process used in defining and crafting specific drivers, and documents various LOS and proposed weighting factors under the TBL criteria. It also introduces the proposed approach to the next steps—Alternative Formulation, Screening and Recommendations.

Sunnyvale WPCP Strategic Infrastructure Plan

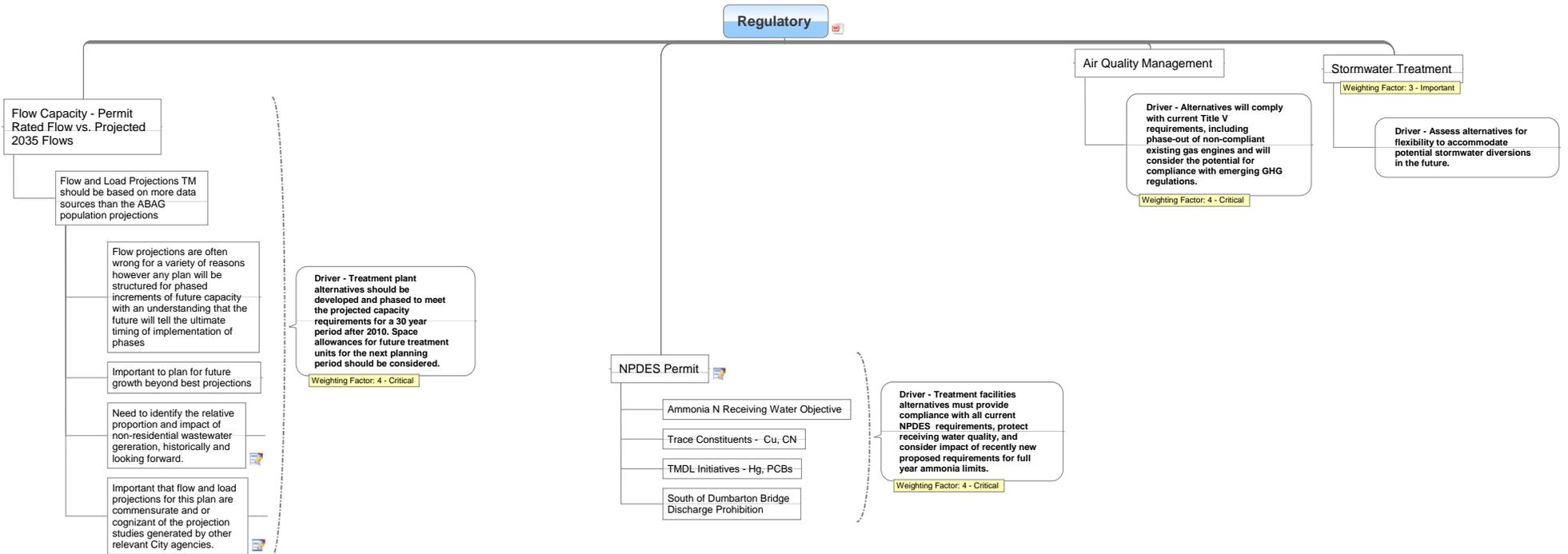


Weighting Factors for Level of Service Drivers

Sunnyvale SIP- Weighting Factors for Levels of Service

| Weighting | Attribute | Descriptors |
|-----------|-------------|--|
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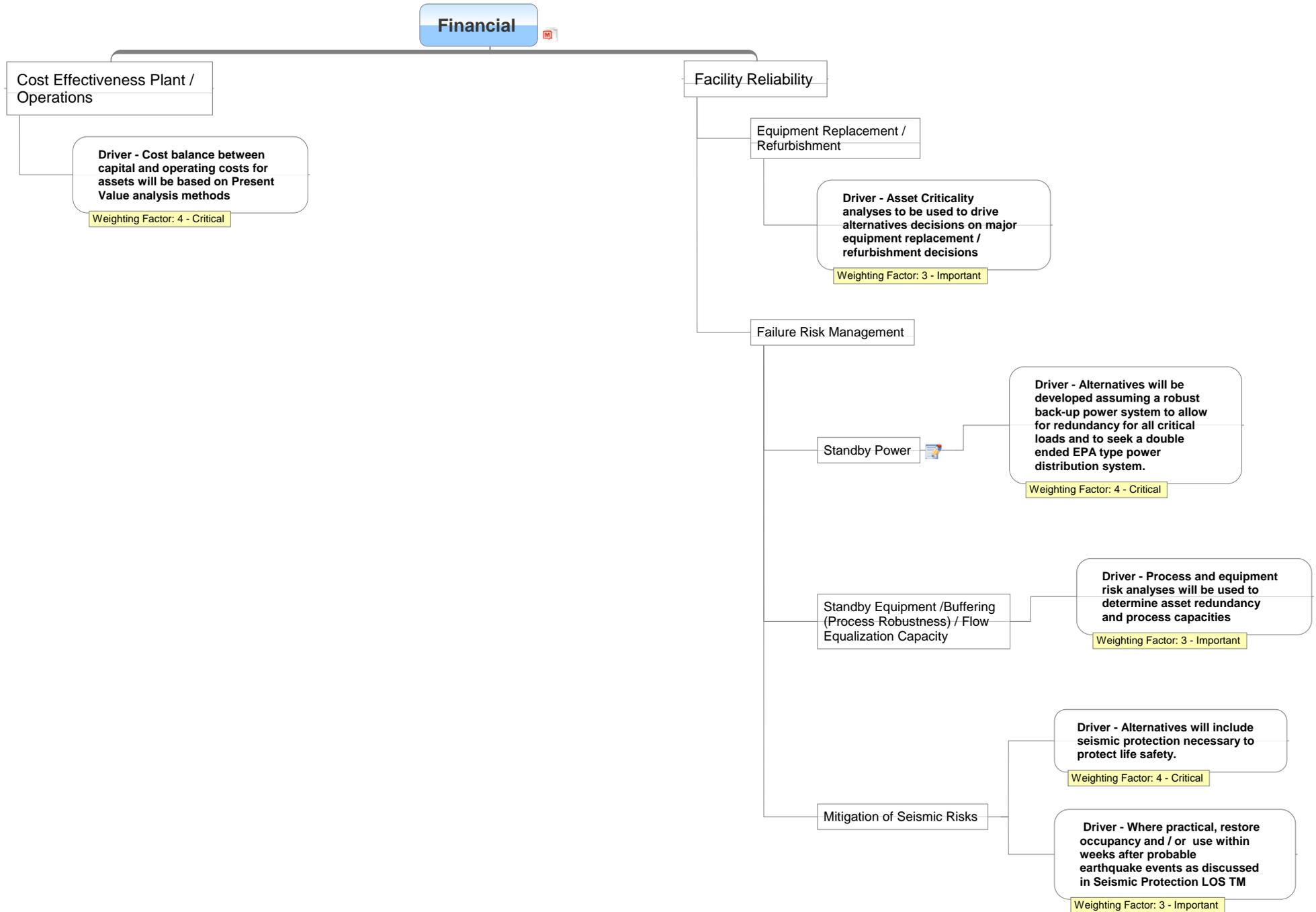
Non-Regulatory

Financial
(See Financial Page)

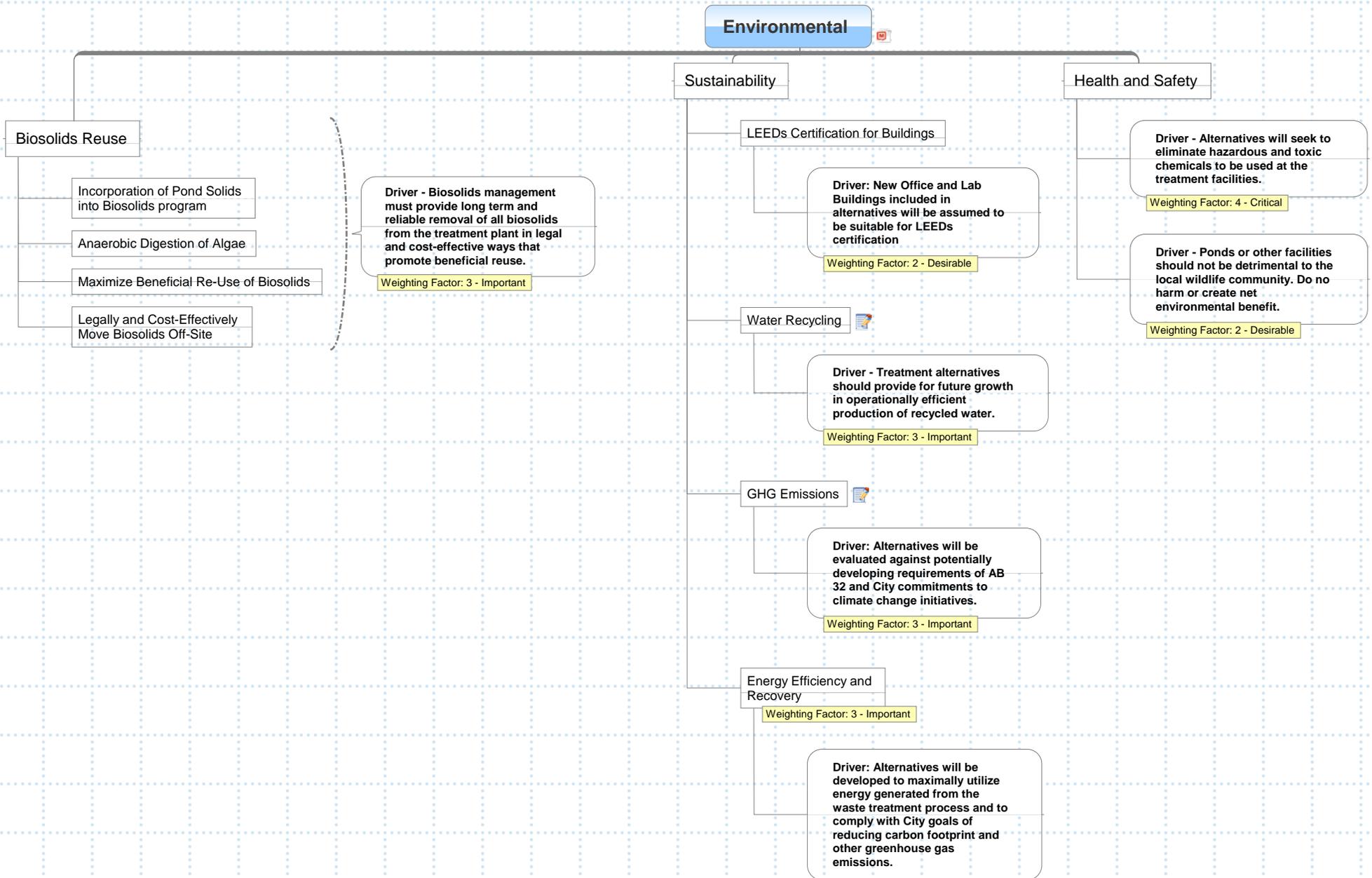
Environmental
(See Environmental
Page)

Social
(See Social Page)

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