Integrating Environmental Sustainability into Airport Contracts

DETAILS

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AIRPORT COOPERATIVE RESEARCH PROGRAM

ACRP SYNTHESIS 42

Integrating Environmental Sustainability into Airport Contracts

A Synthesis of Airport Practice

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AIRPORT COOPERATIVE RESEARCH PROGRAM

Airports are vital national resources. They serve a key role in transportation of people and goods and in regional, national, and international commerce. They are where the nation's aviation system connects with other modes of transportation and where federal responsibility for managing and regulating air traffic operations intersects with the role of state and local governments that own and operate most airports. Research is necessary to solve common operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the airport industry. The Airport Cooperative Research Program (ACRP) serves as one of the principal means by which the airport industry can develop innovative near-term solutions to meet demands placed on it.

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FOREWORD

Airport administrators, engineers, and researchers often face problems for which information already exists, either in documented form or as undocumented experience and practice. This information may be fragmented, scattered, and unevaluated. As a consequence, full knowledge of what has been learned about a problem may not be brought to bear on its solution. Costly research findings may go unused, valuable experience may be overlooked, and due consideration may not be given to recommended practices for solving or alleviating the problem.

There is information on nearly every subject of concern to the airport industry. Much of it derives from research or from the work of practitioners faced with problems in their day-to-day work. To provide a systematic means for assembling and evaluating such useful information and to make it available to the entire airport community, the Airport Cooperative Research Program authorized the Transportation Research Board to undertake a continuing project. This project, ACRP Project 11-03, "Synthesis of Information Related to Airport Practices," searches out and synthesizes useful knowledge from all available sources and prepares concise, documented reports on specific topics. Reports from this endeavor constitute an ACRP report series, *Synthesis of Airport Practice*.

This synthesis series reports on current knowledge and practice, in a compact format, without the detailed directions usually found in handbooks or design manuals. Each report in the series provides a compendium of the best knowledge available on those measures found to be the most successful in resolving specific problems.

PREFACE

By Gail R. Staba
Senior Program Officer
Transportation Research Board

As major users of diverse goods and services, airport operators have the opportunity to drive environmental sustainability performance improvements at airports through the integration of new language in contracts. As such, this synthesis provides airports with effective practices and tools to integrate environmental sustainability into their contracts.

The airport contract types identified that provide the most opportunity to make a difference to an airport's sustainability performance include design and construction contracts, concessions and tenant lease agreements, and janitorial service contracts. All of the airport operators that were surveyed as part of this research had environmental sustainability conditions integrated into major design and construction contracts at their airport. No other contract type had the same widespread integration. Incorporating performance standards into design and construction contracts is a good starting place for airport operators that are embarking on a sustainability program.

Furthermore, the research identified specific contract language that can be inserted in these contract types to achieve the desired performance improvements. Example contract language is located in the appendix of this synthesis.

Data collection consisted of a literature review and telephone interviews with personnel at regionally diverse airports known for environmental sustainability leadership. Thirteen of 14 airports responded to an initial survey (93% response rate); and ten airports provided information on effective practices through interviews.

Zoe Haseman, Leighfisher, Burlingame, California, collected and synthesized the information and wrote the report. The members of the topic panel are acknowledged on the preceding page. This synthesis is an immediately useful document that records the practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As progress in research and practice continues, new knowledge will be added to that now at hand.

CONTENTS

Note: Many of the photographs, figures, and tables in this report have been converted from color to grayscale for printing. The electronic version of the report (posted on the Web at www.trb.org) retains the color versions.

INTEGRATING ENVIRONMENTAL SUSTAINABILITY INTO AIRPORT CONTRACTS

SUMMARY

As major users of diverse goods and services, airport operators have the opportunity to drive environmental sustainability performance improvements at airports through the integration of new language in contracts.

FAA and national, state, and local legislation encourage and require airport operators to operate and manage their airports in an environmentally sound way. Having evolved over the decades, airport environmental management today has moved beyond compliance into proactive initiatives that not only mitigate risks to the environment but also reduce operating costs. Throughout this synthesis this progressive approach to environmental management, driven largely by the public's growing awareness of global environmental and societal constraints, along with demand from airports neighboring communities, is referred to as environmental sustainability.

This synthesis provides airports with effective practices and tools to integrate environmental sustainability into their contracts.

The methods used to gather information for this synthesis included a literature review and telephone interviews with personnel at airports around the world. It is intended for those individuals with responsibilities tied to the environment, sustainability, procurement, and contracts. Example contract language was provided primarily by the airport operators interviewed for this project and is included in Appendix A.

There are many different types of airport contracts and each one provides some opportunity to insert language that drives airport environmental sustainability. All contract types may be leveraged by operators to improve compliance with environmental law, fulfill permit requirements, minimize environmental impacts, manage environmental impacts, and drive innovative sustainable improvements at airports.

The types of airport contracts identified that provide the most opportunity to make a difference to an airport's sustainability performance include design and construction contracts, concessions and tenant lease agreements, and janitorial service contracts. All of the surveyed airport operators had environmental sustainability conditions integrated into major design and construction contracts at their airports. No other contract type had the same widespread integration. Incorporating performance standards into design and construction contracts is a good starting place for airport operators embarking on a sustainability program.

Furthermore, the study identified specific contract language that can be inserted in these contract types to achieve the desired performance improvements. Example contract language is located in Appendix A of this synthesis.

In addition to reviewing opportunities for inserting language in certain types of airport contracts, it was also important to explore the process by which many airport operators create and incorporate environmental sustainability clauses. There was limited evidence of a one-size-fits-all process for integrating environmental sustainability into airport contracts. It is apparent that the formal use of airport contracts as a mechanism for driving environmental

sustainability is in the early stages. Although airport operators acknowledge the opportunity in this area, and are making inroads at using procurement as a means of driving sustainability, the practice is not consistently applied. At times conditions for contracts are generated by a top-down, formal process, as is typically the case when required by national or state law. Other contractual conditions are generated from the ground up, such as opportunities identified by the airport operator's green team. Laws, voluntary standards, and airport policies are actively employed as mechanisms for imposing requirements related to environmental sustainability on contractors and suppliers. Accordingly, changes in the economy, politics, top-level commitment from airport operators, and support among airport operators' employees can actively shape or accelerate the influence of any of these mechanisms in airport contracts.

Key factors affecting the success of the integration of environmental provisions in airport contracts include:

- Political, economic, and regulatory pressure;
- Airport management commitment;
- Teamwork and communication;
- Environmental sustainability policy;
- Roles and responsibilities;
- Upfront and ongoing resources;
- Awareness and employee engagement;
- Contract terms; and
- Perceived contract cost increases, potential revenue losses, and whole life-cycle costing tools.

This synthesis shows that many airport operators are using contract conditions to ensure environmental sustainability improvements following years of informal arrangements with suppliers and contractors. This is the result, in some cases, of airport operators being held more accountable to stakeholders on issues such as sustainability.

Airport operators are much more advanced in their own sustainability policies and plans since environmental sustainability awareness first became a public issue. Airport operators who have formalized sustainable procurement and integrated environmental language into most of their contracts were those with a long-running, comprehensive airport sustainability program.

The findings from this report indicated that the airport operators that have an Environmental Management System (EMS) with ISO 14001 certification (an international certification standard) or an alternative management framework in place had the most robust process for integrating sustainability throughout their operations. To achieve and maintain ISO 14001 certification or fulfill a management commitment to sustainability airport operators work toward a plan to continually improve their environmental performance, which would reach its supply chain and stakeholders. Once a commitment is made, there is momentum by the organization to achieve and maintain this standard and in turn their reputation.

Airports with widespread integration of environmental sustainability throughout their operations and specifically throughout their procurement process typically have the following policies and processes in place:

- Established environmental sustainable policy and goals
- Established environmental sustainable procurement procedure
- Database or matrix of environmental impacts by activity and stakeholder
- Record of contract renewal and negotiation dates
- Multi-stakeholder committee to review contract language and innovative ways of driving sustainability through contracts
- Environmental sustainability educational activities for airport employees.

Throughout a typical airport procurement process each stage presents an opportunity for integrating sustainability considerations. The following five stages of a typical airport procurement process were assessed and the opportunity to consider environmental sustainability is described:

- **Product or service identified**
  In this first stage of procurement, the airport operator needs to ascertain the following:
  - How does procuring this service or product impact the sustainability footprint of the airport?
  - Can the impact be managed within the contract requirements?
  - Does it help the airport operator in achieving its sustainability goals and targets?
  - If not directly, can the needs and goals of the contract be adapted to align with the organization's sustainability goals?

  It is important for airport operators to clearly state the intentions for the contract in the subject of the solicitation.
- **Request for Proposal template standard language**
  If the airport operator has a sustainability policy, environmental management system, ISO 14001 certification, or environmental goals or objectives, these should be referenced as standard contract language and included in full as an attachment. It is usually cost-effective if an airport operator requires contractors and suppliers to follow industry standards such as Leadership in Energy and Environmental Design or ISO 14001, in addition to any federal, state, county, or city laws, and to leverage industry-wide best practices.
- **Technical specifications produced**
  For every Request for Proposal and contract that is let, there is an opportunity to specify the most environmentally sustainable option, whether a product specification, a service process, or a performance-based functional specification.
- **Scoring criteria created**
  The commitment to sustainability of the contractor may be examined and scored for all types of contracts.
- **Contract management**
  Active contract management ensures that contractors are meeting the requirements set forth in their contract. This can be done through scheduled inspections, spot checks, monthly reports, or requests for information. Incentives and punitive measures within a contract can motivate suppliers and contractors to fulfill the requirements.

It was determined that, with the exception of design and construction contracts, formal contract management and performance monitoring is generally not comprehensive across the airport industry. For design and construction contracts, noncompliance can result in financial penalties or delayed payments for the contractor.

Currently, most of the environmental language in contracts is not strictly enforceable because of its wording. When the language is enforceable, it is possible for the airport operator to withhold payment or enact other punitive measures if the contractor is not delivering what was explicitly agreed to in the contract. Financial incentives or penalties are extremely effective mechanisms in contract management. However, this type of active contract management requires resources to set up and maintain monitoring, which makes it cost prohibitive for some airport operators.

CHAPTER ONE

INTRODUCTION

OBJECTIVE

The objective of this synthesis is to provide airports with effective practices and tools to integrate sustainability into their contracts.

BACKGROUND

Airport operators are required by FAA, and national, state, and local legislation to operate and manage their airports in an environmentally sound way. This requires complying with a number of regulations; for example, ensuring waste from the airports and airlines is stored, transported, and disposed of correctly; that surface water run-off is directed through appropriate drainage systems; that toxic materials are not emitted to air, water, or land. Grant requirements and permits can also require that airport operators comply with specific environmental conditions.

Environmental management at airports has evolved over the decades. Today it is more than just compliance and reaches into proactive initiatives that can reduce operating costs as well as mitigate risks to the environment beyond the legal standard. This proactive approach to environmental management, driven partly by the public's growing awareness of global environmental, social, and economic conditions, and the demand from the communities in proximity to airports, as well as a concerted effort by airport staff to improve performance, is referred to throughout this synthesis as environmental sustainability.

Airport operators are major buyers and users of diverse products and services. With this volume of purchasing comes the opportunity to influence and drive positive change in how and what airport operators buy. Every airport contract for the delivery of goods and services influences environmental impacts, ranging from low to significant and can be both positive and negative. Aligning procurement methods with the environmental sustainability goals of an airport operator in many instances can provide immediate benefits. Driving environmental sustainability improvements at an airport through contracts is a powerful way to implement positive change and be seen as a leader in the community.

STUDY METHODS

The methods used to gather information for this synthesis included:

- A literature review of published and publicly available material on how airports and other sectors are currently using procurement methods to drive enhancements in environmental sustainability and to identify example contract language that incorporates environmental sustainability criteria and specifications.
- Outreach to airports known for environmental sustainability leadership was undertaken to determine a willingness to provide information through interviews. Thirteen of 14 airports contacted responded to an initial survey, and 11 of 13 airports (85% response rate) provide experience in integrating sustainability through airport contracts.
- Telephone interviews with airport staff from around the world including:
  - Boston Logan International Airport (BOS)
  - Chicago O'Hare International Airport (ORD) and Midway International Airport (MDW)
  - Hartsfield–Jackson Atlanta International Airport (ATL)
  - Incheon International Airport (ICN)
  - Portland International Airport (PDX)
  - San Francisco International Airport (SFO)
  - Seattle–Tacoma International Airport (SEA)
  - Toronto Pearson International Airport (YYZ)
  - Vancouver International Airport (YVR)
  - Zurich Airport (ZRH).
- Interviews with each airport operator involved discussions with a variety of airport personnel to ensure a broad perspective. The following types of airport personnel were surveyed as part of this study:
  - Construction services manager
  - Contracts administrator
  - Contract manager
  - Environmental manager
  - Property manager
  - Purchasing manager
  - Services manager
  - Sustainability program manager
  - Terminal concessions manager.
- Airport operators received a discussion guide in advance of the interview so they could prepare the appropriate individuals and information. Following each interview, participants were e-mailed a summary of additional information requested during the call [this included airport contract and Request for Proposal (RFP) examples, which are provided in the appendix].
- Collecting and summarizing example airport contracts.

The synthesis's intended audience includes airport management; more specifically, those managers with responsibilities tied to the environment, sustainability, procurement, and contracts.

This synthesis will provide practical information to airport operators and, as a result, increase activity across the industry as airports continue to use contracts as an efficient mechanism for delivering environmental sustainability improvements across an airport's planning, operations, and management.

SYNTHESIS ORGANIZATION

- Chapter one is the introduction.
- Chapter two presents a review of the airport contract types. This includes a summary of the different types of airport contracts and an overview of where sustainability considerations may best be integrated.
- Chapter three is a summary of the current trends in airport contracts. It explores what the incentives are for airport operators to integrate environmental sustainability considerations into airport contracts and highlights the key components for successfully integrating sustainability considerations, as well as some of the primary obstacles.
- Chapter four provides a summary of the opportunities for integrating sustainability considerations into airport contracts. It includes a generic overview of a typical airport procurement process and then evaluates the scope of each procurement phase for integrating environmental considerations into airport contracts.
- Chapter five presents a review of the common airport contracts that drive environmental sustainability improvements. It provides contract language from excerpts of airport contracts that have incorporated environmental sustainability requirements or conditions.
- Chapter six reviews information on contract management and performance monitoring. It provides a summary of monitoring trends and examples airport operators are deploying to manage contracts.
- Chapter seven is the synthesis's conclusions, including a summary of the key findings and suggestions for further research.
- The appendix (A) is a collection of sustainability clauses and conditions from actual airport contracts provided primarily by the airport operators interviewed for this project. The contract language examples are organized by airport contract type to provide the reader with an easy-to-use resource to reference example contract language. A matrix is included that allows airport operators to search the appendix by the environmental goals of the contract language.

CHAPTER TWO

AIRPORT CONTRACT TYPES AND PROJECT PHASES

At any given point, airport operators have a wide range of active contracts and agreements, spread among many outside companies. These contracts cover everything, from supplying light bulbs in the parking garages and pens and paper in the airport administrative offices, to on-call planning contracts and ten-year lease agreements with airlines. This abundance and variety of contracted goods and services makes contracts a powerful focal point for pursuing environmental sustainability throughout the different facets of an airport. Although certain types of contracts present more obvious opportunities than others, there is no shortage of potential areas for incorporating environmental sustainability clauses in airport contracts.

Table 1 lists the major airport contract types and some potential topics within those contract types where associated conditions and specifications could be addressed to enhance environmental sustainability performance at an airport. Examples for all of these contract types and environmental topics are found in the appendix.

This snapshot of airport contract types and potential topics shows that there are multiple opportunities, both large and small, for incorporating environmental sustainability clauses into airport contracts. Each topic touches one or more project phases depending on the nature of the type of contract or service. Arguably, the contract types where there is scope for environmental sustainability to be implemented throughout the entire project provide the biggest opportunity for change. Table 2 presents which contract types can influence change throughout the greatest number of project phases at an airport.

This table shows that there are opportunities to incorporate sustainability goals into all contracts. There are at least three airport contract types that assume environmental sustainability can be considered and integrated into the contract at all phases of the project; concessions agreements, provision of ground transportation and design, and construction of capital projects. Appendix A provides examples of actual sustainability language for these contract types.

TABLE 1
CONTRACT TYPES AND EXAMPLE TOPICS TO ENHANCE ENVIRONMENTAL SUSTAINABILITY

Type of Contract	Example Contract Topics to Enhance Environmental Sustainability
Basic Airline Use and Lease Agreement	Use of preconditioned air, ground service equipment, waste hauling, ticket counter allocation, gate electrification, common use equipment, participation in working groups, general maintenance services
Concessions Agreements	Waste hauling, source reduction, programs to facilitate food quality/sourcing/recycling/composting, energy and water efficiency, packaging, sustainable design for tenant alterations, alternatively fuelled rental cars
Provision of Ground Transportation	Alternative fuels, anti-idling, dynamic efficiency, fleet composition, transportation demand management
Procurement of Goods	Green products, recycled content, office supplies, chemical supplies, fleet vehicles, packaging, energy efficiency standards
Procurement of Services	Planning and design services, landscaping, custodial, maintenance, construction, information technology, travel, waste management and recycling, hazardous materials
Ground Leases	Tenant improvements, operational efficiency, recycling and composting, energy efficiency
Interagency Agreements	Energy efficiency, confiscated goods, waste management and recycling, transportation planning, stormwater management
Design and Construction of Capital Projects	Integrate sustainability measures into new construction, existing buildings, operations and maintenance, commercial interiors, core and shell

TABLE 2
CONTRACT TYPES AND ASSOCIATED PROJECT PHASES

Type of Contract	Planning/ Design	Construction	Operations and Maintenance	Occupancy/ Properties
Basic Airline Use and Lease Agreement	X		X	X
Concessions Agreements	X	X	X	X
Provision of Ground Transportation	X	X	X	X
Procurement of Goods			X	
Procurement of Services	X		X	X
Ground Leases		X	X	X
Interagency Agreements	X	X	X	
Design and Construction of Capital Projects	X	X	X	X

The literature review showed that, in particular, the implementation of sustainable design and construction clauses and specifications has the most widespread adoption across airport operators worldwide. Over the last two decades, design and construction companies, working alongside industries including airports, have built a solid track record for achieving environmental sustainability and financial performance through sustainable design and construction practices. Airport operators are often motivated by the potential for significant cost savings when environmental initiatives are factored into the life-cycle cost of buildings; for example, diverting construction waste from landfill for reuse or recycling. All of the airport operators surveyed had environmental sustainability conditions integrated into major design and construction projects at their airports.

Beyond design and construction contracts, no widespread adoption of any specific process for integrating environmental sustainability was determined. Although airport operators acknowledge the opportunity in this area, and are making inroads at tackling procurement to drive sustainability, the practice is currently informal. There are select areas of good practice rather than widespread trends.

CHAPTER THREE

CURRENT TRENDS IN INCORPORATING ENVIRONMENTAL PROVISIONS INTO AIRPORT CONTRACTS

The integration of sustainability conditions into airport contracts and the use of performance incentives continue to grow across the industry. Although some airport operators take full advantage of contracts to drive improvements, others tackle environmental sustainability improvements in an informal manner, often not considering the opportunities available through contracting. Even when an environmental sustainability improvement can be traced directly to a contract, this report confirmed that the path for adopting environmental sustainability improvements at an airport is driven by several factors. Sometimes conditions for contracts are generated by a top-down, formal process, as is typically the case when conditions are mandated by national, state, or municipal law or when the airport director has set sustainability goals. Other contractual conditions are generated from the ground up, such as those that occur through an opportunity identified by the airport operator's green team. This study shows that both approaches—top down and ground up—can be successful.

POTENTIAL METHODS FOR INCORPORATING ENVIRONMENTAL SUSTAINABILITY PROVISIONS IN AIRPORT CONTRACTS

Figure 1 illustrates the available paths for incorporating environmental sustainability clauses into airport contracts. At a high level, airports leverage laws, permit requirements, and voluntary standards to provide a framework for including comprehensive clauses in contracts. Individual contracts that use government mandated or voluntary umbrella language require a contractor to provide goods and services that meet the standards of that particular government or standards body. The government laws and voluntary standards also serve as informational resources for contractors seeking to comply with the specifications laid out by the airport operators.

The scope of government law and standards bodies is considerable and includes all potential environmental impacts affecting an airport. Organizational policies usually represent a narrower scope; for example, a sustainable procurement policy, yet are often influenced by government laws and de rigueur voluntary standards. This report found that all of these mechanisms, government laws, permit requirements, voluntary standards, and an airport operator's own policy, are actively employed as conduits for passing on environmental sustainability specifications to contractors. Within this framework, a change in the global economy, national politics, top-level commitment from the airport operator, and grassroots support with the airport operator's staff actively shapes or accelerates the influence of any one of these conduits in airport contracts.

KEY FACTORS AFFECTING SUCCESS OF THE INTEGRATION OF ENVIRONMENTAL PROVISIONS IN AIRPORT CONTRACTS

It is important to understand the key incentives that help an airport operator to successfully integrate environmental sustainability into their contracts. The airport operators that were surveyed as part of this study identified the following influences and suggested why they matter in this context.

Political, Economic, and Regulatory Pressures

Economic incentives and political pressures are major influences for airport operators. A sudden change in the economic or political environment affects how the airport operator, often a city- or county-owned division, is mandated to do business. There are many regulations and permits governing environmental impacts; one example is the political pressure to conserve water across the state of Georgia. During 2006 and 2007, the southeastern United States experienced extreme drought conditions. To address this, water conservation measures were enforced throughout the region. This political direction was the catalyst that compelled the Atlanta Airlines Terminal Corporation airport operator at the Hartsfield–Jackson Atlanta International Airport (ATL) to begin a water reduction program. Specifications for the terminal building and concessionaire faucets were established and specified in lease agreements to reduce water consumption per enplaned passenger from 4 gallons in 2007 to just over 2 gallons in 2011.

Airport Management Commitment

An airport director, airport board, or other leadership team, that is committed to making their airport more sustainable and communicates this message with staff regularly, can be one of the most powerful forces for airport sustainability. If the sustainability message is reinforced to staff and stakeholders by senior management, it sets a culture for the whole

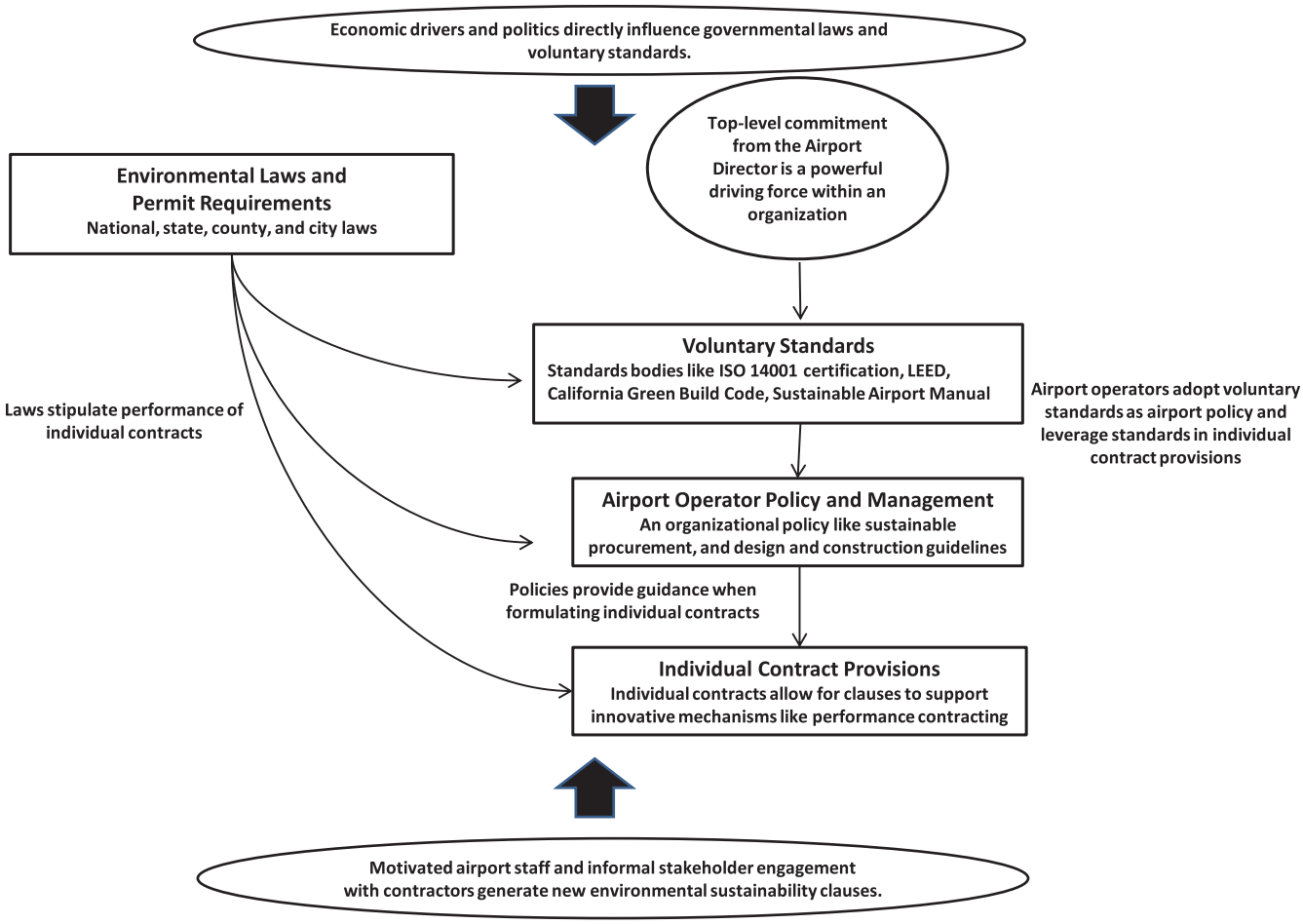

FIGURE 1 Methods and drivers for incorporating environmental sustainability clauses into contracts (*Source:* Leighfisher 2012).

organization and the staff and stakeholders respond accordingly by working toward a high-level goal through discrete projects or initiatives. Staff awareness of environmental sustainability was recognized as a significant positive factor for airport operators using contracts to drive performance. This is especially true when the onus was placed on the individual to be aware of the airport operator's sustainability goals. In airports where purchasing and contracting is decentralized, the opportunities for individuals to contribute to the airport operator's sustainability goals through their own area of work and activities appeared to be maximized. Project panel members reported that management at their airports, including Boston Logan International Airport (BOS), Chicago O'Hare International Airport (ORD), Portland International Airport (PDX) Oregon, San Francisco International Airport (SFO), Seattle–Tacoma International Airport (SEA), and Toronto Pearson International Airport (YYZ) are challenged by their respective airport directors to continuously evaluate opportunities to improve the airport's environmental sustainability performance. At Zurich Airport (ZRH), for example, staff across the whole airport organization is designated specific responsibility in relation to delivering against the airport's environmental goals and objectives set out in its environmental management system (EMS), which is certified to ISO 14001. ISO 14001 is an international standard used to certify that an EMS meets a minimum set of criteria and standards.

Teamwork and Communication

This synthesis shows that integrating environmental sustainability into airport contracts requires a great deal of teamwork, communication, negotiation, and determination. Even when airport operators have a procedure in place to guide how environmental sustainability can be integrated into the procurement process, it depends on the individuals involved. Having an aware and multi-talented staff possessing the right set of individuals and communication skills makes a difference in terms of an airport operator's success in using airport contracts.

The environmental team at Seattle–Tacoma International Airport reported that it was active with its concessionaires in helping them meet their environmental sustainability obligations. The environmental team frequently visits its tenants

and works closely with them to build a relationship that is mutually beneficial and helps the tenants' progress toward the airport's environmental sustainability goals. From these experiences, the environmental team has come to realize that it is not simply a matter of writing policy and specifications into contracts and assuming it will be smoothly and successfully employed. Before engaging with a contractor, experience and teamwork were cited as the major ingredients to the team's success in identifying opportunities where environmental sustainability clauses could be applied.

At San Francisco International Airport, the aviation department has established a process for ensuring communication across the various technical disciplines when preparing an RFP. This process focuses on partnership and is referred to as the Exceptional Project Outcome (EPO) process. It involves leaders of technical disciplines meeting before the RFP is drafted to discuss each department's wish list and issues for the contract. By discussing these in advance, a consensus can be developed as to what the opportunities and limitations are for the contract. It also provides the rationale to move the environmental sustainability agenda forward and reminds the stakeholders of the environmental sustainability goals that could be highlighted in the contract and any associated specification or requirements to include. In sum, the EPO process provides a formal framework to ensure teamwork through multidisciplinary communication, collaboration, and negotiation.

Environmental Sustainability Policy

An airport operator with an environmental sustainability policy or sustainability vision in place has committed to improving its environmental performance. This commitment signifies the effort being made by the airport operators to incorporate opportunities, where possible, throughout its operations to improve environmental performance. A policy and management framework is a good indicator that airport management is committed and progress is being made. Although using contracts to take advantage of driving environmental improvements often comes after this step, it is an indicator that the airport operator is actively pursuing environmental sustainability.

Roles and Responsibilities

The most commonly cited obstacle for airport operators not integrating environmental sustainability into its contracts is the lack of a clear line of responsibility within the airport operator's organization. Incorporating environmental sustainability successfully requires multiple airport departments to work together and designate ownership throughout the process. The different roles typically involved in integrating environmental sustainability through the entire procurement process [not just into the Request for Qualification (RFQ)] are numerous and include at a minimum, staff with the following responsibilities: environmental, purchasing, finance, operations, project management, and legal. Allotting sufficient time for this many stakeholders to work together can be difficult. For many airport operators, finding a method for organizing internal collaboration and communication can be the first stumbling block.

A proposed solution to this is to formalize a multidisciplinary technical team to review certain contracts and to have designated procurement technical leads in the various departments. A good example of this is the EPO process described earlier in chapter two.

Upfront and Ongoing Resources

Background Internet review for this study found that some organizations have recruited sustainable procurement specialists with the sole responsibility for delivering sustainability through purchases and contracts. That in some industries this is a specialized job demonstrates the substantial time that could be invested in this area. It also illustrates that a specific skill set is favorable for effective outcomes. None of the airports surveyed have a dedicated resource to do this job. Typically, this responsibility falls to the environmental department. This reduces its efficiency, because its staff is occupied with on-going responsibilities and duties to ensure the environmentally safe and sound operation of an airport. Integrating environmental sustainability language into contracts is a proactive task over and above regulatory issues and thus is not a priority for many airport operators. To integrate environmental sustainability into contracts requires a number of upfront tasks, including but not limited to, reviewing existing contract language, screening contracts for opportunities to improve the environmental performance of the airport, researching environmental best practices for consideration, calculating the cost and operational implications for environmental requirements, and drafting environmental specifications and contract language. For an environmental specialist to undertake these tasks for every airport contract and agreement is a significant upfront commitment. There is also an ongoing need to continually update contract language as contracts are renegotiated or retendered. As the airport operations change and new technology comes into play, environmental sustainability targets are revised; each of these factors needs to be continually tracked and reconsidered as contracts are renewed.

A proposed solution to the staff resource constraint is to evaluate the business case of recruiting a sustainable procurement specialist on a part-time or full-time basis. Alternatively, professional services consultants can be hired to advise and manage procurement processes and tasks. At Boston's Logan International Airport, the airport operator retains a consultant to manage the procurement process and undertake on-going contract management and monitoring for its airport janitorial contract. The consultant fee for this is considered to be offset by the operational cost savings over the contract life generated

by the proactive contract management and professional construction of the contract and associated negotiations.

Awareness and Employee Engagement

Many airport operators have some or all of their purchases and contracts managed by the airport department with the need for that particular product or service; that is, they do not have a centralized purchasing team. Where this is the case, it is the responsibility of the airport department to manage all aspects of the procurement process. This includes drafting the RFQ, technical specifications, evaluating bids, and awarding and managing the contract. If that department or individual responsible is not aware of the environmental goals of the airport then it is likely that some opportunities to implement environmental improvements through the contract will be missed. Ensuring widespread awareness of the airport's environmental sustainability goals reduces the likelihood that opportunities will be missed.

Contract Terms

Long-term airport contracts and leases are reviewed and retendered on a cyclical basis, from anywhere between 1 and 10 years. For long-term contracts such as a ten-year airline use and lease agreement, there are so many critical business negotiations involved that the opportunity for environmental improvements can be overlooked. If this happens, there is little chance of inserting any environmental clauses or conditions part way through a contract's life owing to the bureaucracy and potential cost incurred by the airport operator. Contract amendments are generally not considered as an option for the majority of airport operators; therefore, the opportunities to insert environmental requirements into major, long-term contracts are infrequent and challenging. Contract amendments must not be overlooked, however, as they can serve as an opportunity to phase in improvements while working with current contractors.

Overcoming this challenge requires planning detailed conversations and negotiations with the stakeholders early in the process so that when the time comes to build additional language into the contract it is already negotiated and accepted.

Perceived Cost Increases, Potential Revenue Losses, and Whole Life Costing Tools

In some instances, airport operators are bypassing the opportunity to insert environmental language into contracts because of the belief that environmental sustainability requirements would increase costs. Understanding whether passing requirements along to concessionaires can result in revenue losses is another potential concern for airport operators. In many cases, these points are misperceptions. Environmental requirements are so widespread for many suppliers and contractors in the current market that according to the airport operators surveyed there is no longer a cost premium involved in most cases. In addition, the market for technological advancements that deliver improved sustainability performance has increased significantly in recent years so that previous misperceptions about high upfront and operating costs for environmentally preferable solutions are no longer true. According to several of the airport operators surveyed, environmental sustainability has actually been proven to reduce operating costs.

That said, the upfront and operational cost implications or whole life costing of environmental conditions in contracts needs to be evaluated on a case-by-case basis; knowing the numbers is extremely powerful for winning over internal challengers and is indispensable when it comes to communicating with the airport operator's many internal stakeholders about the financial performance of environmental sustainability measures. In some instances, airport operators have employed the skills of a financial analyst to perform a full evaluation of costs.

USE OF AIRPORT CONTRACTS TO DRIVE ENVIRONMENTAL SUSTAINABILITY IMPROVEMENTS

This study shows that, after years of informal arrangements with suppliers and contractors, airport operators are increasingly turning to contract conditions to formalize requirements and ensure environmental sustainability improvements. The public's expectations have heightened and, in turn, operators need to become more active when overseeing their contractors and suppliers. In addition, airport operators have become much more advanced in their own sustainability policies and plans since environmental sustainability awareness first became a public issue.

Literature and interviews showed that the airport operators that have formalized sustainable procurement and integrated environmental language into the majority of their contracts have had a comprehensive airport sustainability program in place for many years. Before airport operators green their supply chain, they must first achieve some environmental standards of their own, thereby developing an in-house culture of environmental sustainability.

Among the airports surveyed, the ones that have a formal management framework for sustainability or have an EMS with ISO 14001 certification had a robust process for integrating sustainability throughout their operations. To achieve and maintain ISO 14001 certification, airport operators must continually improve their environmental sustainability performance, which would naturally include its supply chain and stakeholders. Once ISO 14001 certification has been achieved or a management commitment has been publicly made, there is continued momentum by the organization to maintain this standard and its reputation. For example, staff at Toronto Pearson International Airport is working toward the goal of maintaining ISO 14001 certification by making it

a management performance indicator. This promotes awareness of the environmental goals throughout the organization and, where this occurs, it is more common that opportunities to improve the sustainability performance of the airport are actually implemented.

Airports with widespread integration of environmental sustainability throughout their operations and specifically throughout their procurement process, down to language in their contracts, typically have the following policy and processes in place:

- An established environmental sustainable procurement policy and goals.
- An established environmental sustainable procurement procedure.
- A database or matrix of environmental impacts by activity and stakeholder.
- A record of contract renewal and negotiation dates.
- A multi-stakeholder committee to review contract language and innovative ways of driving sustainability through contracts.
- Educational activities for airport employees; for example, at Incheon International Airport (ICN) airport management education programs are offered six times each year to the individual in charge of purchasing for every department. The Incheon International Airport Corporation (IIAC) also posts guidelines and questions and answers online for all employees. IIAC also actively curates green product information on its intra-network. All products on the network are procured through the Korean Public Procurement Service.

CHAPTER FOUR

OPPORTUNITIES FOR INTEGRATING ENVIRONMENTAL SUSTAINABILITY CLAUSES AND CONDITIONS DURING THE AIRPORT PROCUREMENT PROCESS

To identify where opportunities exist for environmental sustainability in airport contracts it is important to first understand what a typical procurement process at an airport is and the environmental impacts and opportunities associated with the various types of airport contracts. This information will help airport operators take full advantage of driving environmental sustainability through airport contracts.

Throughout the industry there are many different processes used by airport operators to draft a contract and eventually procure goods and services. In most cases, it is determined by the airport ownership or the process adopted by the local city or county that is applied to its aviation department. Some airport operators have a centralized procurement process that is responsible for managing all of the airports operator's procurement on behalf of all technical disciplines. Other airport operator organizations have a decentralized procurement function so the airport departments identify a need and manage the procurement themselves. Regardless of organization, Figure 2 depicts a generalized version of a typical airport procurement process and the environmental consideration for each stage.

As soon as a product or service need is identified, the airport department responsible for procurement begins considering the implications that this activity will have on the entire airport, including the environmental performance of the airport. It is at this first stage of procurement that consideration can be given to how best to move environmental improvements forward. Over the next two stages, the specific service or product desired are identified by the airport operator. Because the goal of environmental sustainability for the desired product or service is determined early in the process, the development of the sustainability language must be adjusted at each successive procurement stage—in accordance with previous stages—to accomplish the environmental sustainability goal of the airport operator. The more consideration given to integrating environmental sustainability into the process as early on as possible, the more successful the contract will be in delivering environmental sustainability improvements at the airport.

The procurement phases and their associated opportunities for considering environmental sustainability at each stage are evaluated in the following section.

NEED FOR A PRODUCT OR SERVICE IS IDENTIFIED

In the first stage of procurement, the airport operator provides full business justification for the need for purchasing the goods or services. If the procurement can be avoided or the need can be fulfilled without the purchase of a new good or additional service then in most cases this is the most sustainable option available. Reducing the need for purchasing reduces resource consumption. If there is good business justification for the goods or services, the airport operator asks the following questions:

1. Does procuring this service or product impact the environmental sustainability footprint of the airport?
2. Can the environmental impact be reduced or managed within the contract requirements?
3. Does the contract requirement help the airport operator achieve its environmental sustainability goals and targets?
4. If not directly, can the need and goals of the contract be adapted to align with the organization's environmental sustainability goals?

It is helpful for airport operators to state the intentions for the contract clearly in the subject of the proposal, ensuring transparency of the process. For example, the Massachusetts Port Authority (Massport) has re-invented its waste management contract for Boston Logan International Airport. The previous waste management RFP was titled: "Waste Hauling, Disposal and Recycling Services Agreement." The new RFP is titled: "Performance Based Resource Management Agreement." By renaming and refocusing the contract goal, Massport expects to attract waste management companies that specialize in waste minimization and recycling instead of waste disposal companies that offer neither expansive recycling capabilities or guidance.

REQUEST FOR PROPOSAL TEMPLATE STANDARD LANGUAGE

Contract templates or standard contract language are an ideal place to state the overarching environmental and sustainable goals of the airport operator. If the airport operator has a sustainability policy, environmental management system, ISO 14001 certification, and/or environmental goals or objectives,

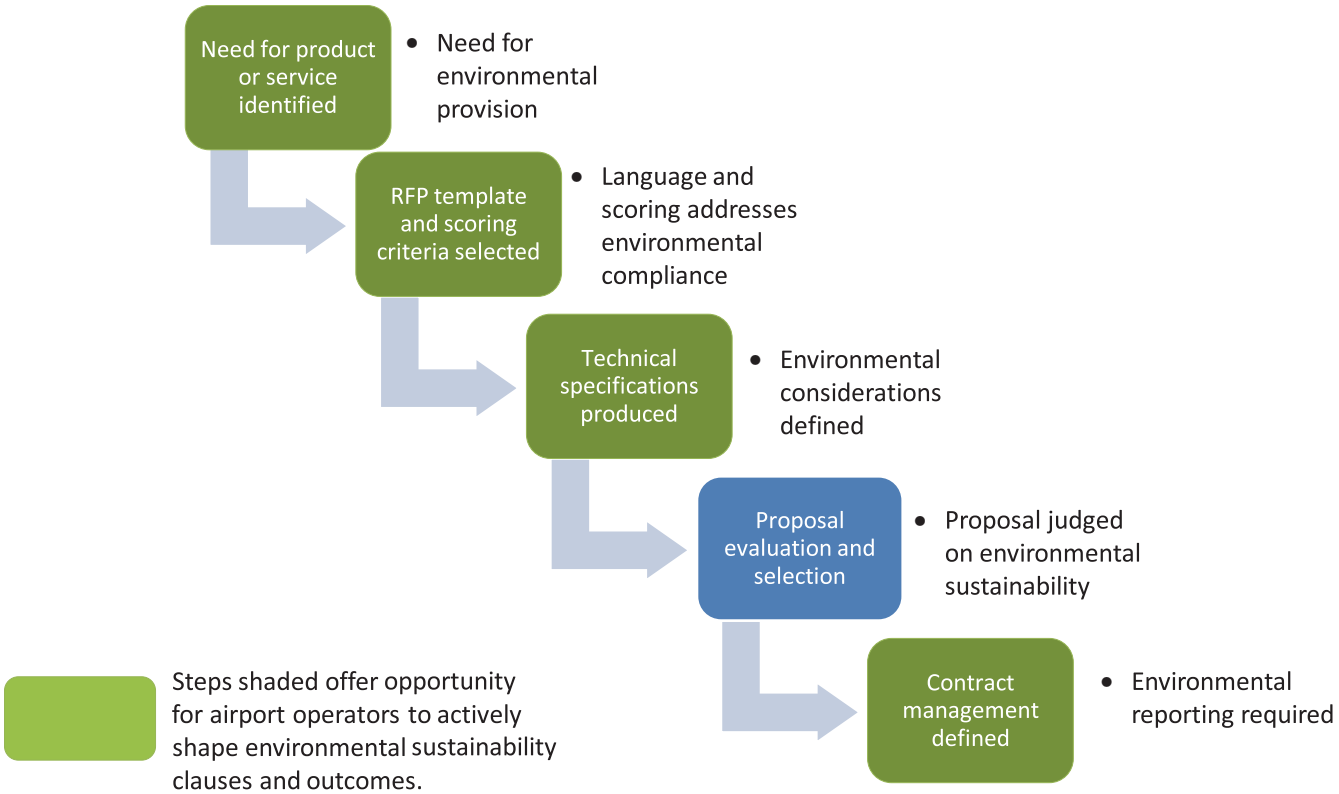

FIGURE 2 Opportunities to incorporate environmental provisions during the procurement process (*Source:* Leighfisher 2012).

these are often referenced as standard contract language and included in full as a contract document. Some airport operators surveyed attach the detailed information to the contract, a quick way for them, even if there is limited opportunity to make specific requirements of suppliers and contractors, to set out the overarching sustainability goals of the organization and set expectations early on in the relationship. Furthermore, it is very cost-effective for airport operators to leverage existing industry standards such as Leadership in Energy and Environmental Design (LEED) or ISO 14001. Mandating that contractors and suppliers follow these standards, in addition to any federal, state, county, or city laws and environmental permits, leverages industry-wide best practices with relatively little additional administrative cost to the airport operator. For example, staff at Toronto Pearson International Airport includes the following standard language in all of their RFPs:

> The GTAA [Greater Toronto Airports Authority] endorses the use of environmentally friendly products or processes and encourages suppliers and contractors to become ISO 14001 registered. Tenderers already ISO 14001 registered should state this clearly in their tenders. Tenderers are encouraged to suggest environmentally friendly products in their tenders, provided these products or processes meet GTAA specifications. ISO 14001 awareness will be taken into consideration in the evaluation of tenders.

The Chicago Department of Aviation includes the following reference to their *Sustainable Airport Manual* (SAM) in all of their RFPs:

> The Chicago Department of Aviation is embracing the best possible environmental, social, and fiscally responsible practices to enhance the quality of life and complement the overall mission and goals of the City of Chicago. The Sustainable Airport Manual (SAM) is an integral part of Chicago's ongoing efforts toward implementing more environmentally sustainable buildings and civil infrastructure, incorporating best practice guidance for planning, operations and maintenance of all City airport facilities and functions, and those of its tenants. The purpose of the SAM is to integrate *airport-specific* sustainable planning and practices early in the design process, through planning, construction, operations, maintenance and all airport functions with minimal impact to schedule or budget. To achieve greater success, Consultant must consider the SAM in every aspect of its projects and daily activities. The SAM is available at www.airportsgoinggreen.org/SAM.

Flughafen Zurich AG, operators of Zurich Airport (ZRH) has specifically developed general environmental terms and conditions for its contractors, which outline specific requirements that all suppliers or contractors operating at the airport must adhere to. The exact language is contained in the appendix.

In some cases, the airports interviewed set out the detail within specifications and conditions in full within the main contract document to ensure it is legally enforceable. For these airports, information attached or in an appendix is not enforceable. It is important for airport operators to work with their legal advisors to understand the case at their specific airport.

TECHNICAL SPECIFICATIONS ARE PRODUCED

With every RFP and contract there is an opportunity to specify sustainable options, whether through product specifications or a service process. Driving sustainability through specifications is an effective and straightforward mechanism for airport operators. This is done by the airport operator by producing a set of technical specifications that detail an exact product or process that meets its sustainability criteria or by detailing the sustainability goals that the contractor is required to meet when delivering a service at the airport. Included are criteria relating to the environmental characteristics of the product or production method of the product, for example:

- Tenants are required to specify lighting and mechanical equipment that is at least 14% better than ASHRAE/IESNA standard 90.1-2004 (contract language found on page A14).
- Tenants are required to specify materials with recycled content for a minimum of 10% of the total value of all materials in their build out (contract language found on page A13).
- Contractor is required to purchase supplies, materials, equipment, and other products meeting or exceeding the minimum requirement of the Green Product Listing (contract language found on page A22).

Alternatively, instead of giving detailed technical descriptions in the RFP, airport operators can also provide performance-based or functional specifications in contracts; for example, "tenant must achieve a 50% recycling rate"; this states a performance level, but would not specify how a tenant can achieve it—that the details would be for them to determine. Performance-based contracting has many advantages in comparison with detailed technical descriptions for each desired performance metric. It gives an airport operator the opportunity to express requirements in terms of the performance or function required, leverages the market to innovate new solutions, and is often employed when the goal of cutting costs is imperative. Performance standards or goals can be phased into contracts gradually as renegotiations occur to improve performance over time. Performance-based contracting mechanisms and examples are discussed further in chapter five.

SCORING CRITERIA CREATED

The ability, capacity, and commitment to environmental sustainability of the contractor may be examined and scored for all types of contracts. For services or work contracts the airport operator asks about the specific environmental management measures that will be applied during the project or life of the contract.

Vancouver International Airport (YVR) uses a standard contract scoring template that includes some weighting toward environmental sustainability criterion. This is shown in RFPs as:

> Compliant tenders shall be evaluated as follows: Please note the weight can be changed, however the criterion must be in all evaluations . . .
> 5%—Use of environmentally friendly products or processes; ISO 14001 registration of Tenderer.

Vancouver Airport Authority uses a standard 5% weighting for the evaluation of all contracts for environmental issues at the airport. This is built on a case-by-case basis depending on the contract type.

The Port of Portland allocated a 30% weighting to "Management & Execution; customer service, sustainability practices and quality control" within their RFP for a restaurant concessionaire at Portland International Airport. Including sustainability practices in this category ensures that bidders consider this as an important element of their proposal.

CONTRACT MANAGEMENT

Active contract management ensures that contractors are meeting the requirements set out in their contract. This can be done through scheduled inspections, spot checks, monthly reports, or requests for information.

Airport interviewees confirmed that proactive contract management helps build good relationships with contractors. Communicating with contractors on the airport's sustainability performance and ensuring they know what they are contributing to can engage and motivate contractors to contribute to the airport's goals. Furthermore, airport operators have encouraged tenants to participate in an airport sustainability committee or green team to help them engage in the overall environmental goals of the airport.

Incentive and punitive measures within a contract motivates suppliers and contractors to fulfill the requirements set out in the contracts. One example is at Portland International Airport, where the Port of Portland has language in the concessionaire lease agreements that grease traps in the kitchens must be maintained to manufacturer's standards. The Port has someone inspect the grease traps on a regular basis and if they are not up to standard the concessionaire is charged for the inspection and the maintenance costs of the Port's contractors to fix it. There is more information on incentive and punitive mechanisms in chapter six.

CHAPTER FIVE

EXAMPLE AIRPORT CONTRACT TYPES THAT PROVIDE OPPORTUNITIES FOR ENVIRONMENTAL SUSTAINABILITY

An effective starting place for an airport operator to integrate environmental sustainability into contracts is where the greatest return on effort exists. In this context, this would be where environmental sustainability performance can be maximized through the scope of the contract. To understand where the best opportunities lie in airport contracts, a few airport operators have reviewed current contracts and identified environmental impacts associated with the activity for each contract.

Flughafen Zurich AG, the operator of Zurich Airport, has a robust process for tracking the environmental impacts of each stakeholder activity where there is an agreement or contract in place. They use a matrix to logically categorize the impacts of each contract type so that all airport staff involved in a new contract or renegotiation will have equal access to this information and understand the environmental impacts associated with its contract. The information within this matrix also serves as a checklist when contracts are constructed that involve any of the stakeholders listed. Such awareness provides the airport department responsible for the contract and the procurement manager, and its contracted stakeholders, with opportunities to collaborate more aggressively on mitigating each of the environmental impacts in a new contract. For instance, if two stakeholders both have an impact on fuel, there might be an opportunity for future contracts to require joint or coordinated activities between the two stakeholders, which could reduce fuel use or provide the right economic incentive to switch to alternative fuels. A representation of the matrix follows (Table 3).

Table 3 illustrates the many types of environmental impacts associated with eight major stakeholders typically under contract at an airport. As part of this project the airport operators surveyed were asked which contracts they thought provided the most scope or opportunity to drive sustainability at their airport. The answers varied; however, there were a few contract types that were unanimously regarded as providing excellent opportunities to make a difference to an airport's sustainability performance. These included design and construction contracts, tenant lease agreements, and janitorial service contracts, and each will be reviewed in more detail over the following sections. Our review did not reveal sufficient information on ground leases or interagency agreements; therefore, the following sections focus on the areas where information was available.

Example contract language sorted by airport contract type can be found in the contract language appendix.

DESIGN AND CONSTRUCTION CONTRACTS FOR MAJOR CAPITAL PROJECTS

For airport operators embarking on a sustainability program, incorporating sustainability conditions or performance specifications into design and construction contracts is invaluable. There is sufficient publically available information on sustainability best practices and standards that can be applied efficiently to airport contracts and several different approaches to leveraging industry standards within this contract type. Also, because many airport operators have taken the step to incorporate sustainability language into these types of airport contracts, it is viewed as a tried and tested opportunity. Contractors in this sector are now expected to meet these sustainability standards; therefore, it is not as burdensome and costly for them to comply. For examples of design and construction contract language, see the appendix, pages A11 to A16.

Many airport operators have developed their own sustainable design guidelines that provide detailed specifications and requirements to contractors on all aspects of design and construction. In these cases, the airport operator can simply state in the contract "Contractor must adhere to the requirements set out in the 'sustainable design guidelines'" (or some version of this) and include the guidelines as one of the contract documents. The Los Angeles World Airports (LAWA) was one of many airport operators to publish sustainable design and construction guidelines and mandate the application of these on capital projects. The guidelines state

> LAWA developed these Sustainable Airport Planning, Design and Construction Guidelines (Guidelines) to facilitate the integration of sustainable concepts and practices into capital, non-capital and tenant projects that are undertaken at each of its four airports: LAX, LA/Ontario International Airport (ONT), Van Nuys Airport (VNY), and LA/Palmdale Regional Airport (PMD).

Several airports have building ordinance requirements, set for them by the city or county, which require all new buildings or refurbishment projects over a specific size to achieve a LEED standard certification. The city of Atlanta Aviation

TABLE 3
STAKEHOLDER AND ENVIRONMENTAL IMPACT MATRIX

Environmental Impact	Noise	Vehicular Emissions	Energy	Water	Waste	Hazardous Materials	Sustainable Procurement	Sewerage	Fuel	LEED
Stakeholder										
Concessionaire			X	X	X	X	X	X		
Rental Cars		X	X	X					X	
Airline	X	X	X		X	X			X	
Planning Consultant			X	X						X
Janitorial Company		X		X	X	X	X			
Construction Company	X	X	X	X	X	X	X	X	X	X
Landscaping Contractor		X		X	X	X			X	
Engineers		X	X	X	X	X	X	X		X

Department, under Building Ordinance, must incorporate the following requirement for airport capital projects at Hartsfield–Jackson Atlanta International Airport: "Facilities and buildings over 5,000 gross square feet of occupied space or two million dollars total project cost shall at a minimum incorporate sustainable design criterion as defined by this article. Design and project management teams are required to meet LEED Silver rating level [33–38 points—Ord. No. 2003-108, § 2(Exh. A), 12-9-03]."

The California Building Standards Commission produces revised Building Codes every three years. The current Building Code, known as CalGreen serves as a resource for best practice building performance specifications that can be leveraged and incorporated into airport contract language. An excerpt from CalGreen can be found on page A11 in the appendix.

In the absence of specific airport sustainable design guidelines or ordinance requirements airport operators can set out specifications to adhere to the contract language itself or even refer contractors to some general resources available to the industry, including the *Sustainable Airport Manual* (SAM), sustainable design and construction chapter. SAM is an airport industry collaborative effort to provide airports around the world with a LEED style, airport-specific guidance and, as such, is a resource available for all airports at no cost. Alternatively, airport operators can state in contracts that contractors need to meet the requirements of a LEED standard in the design and construction of the project. Some airport operators have not required the contractor to get LEED certification for the project even if it was built to LEED specifications.

TENANT LEASE AGREEMENTS (INCLUDING CONCESSIONAIRE AND AIRLINE USE AGREEMENTS)

Airport operators can include detailed specifications and requirements for tenants within lease agreements. These can cover the recycling of waste, compostable packaging, and energy efficiency standards. For examples of tenant lease agreement contract language, see appendix, pages A23 to A31.

Airport operators can choose to keep the language informal and simply require tenants to meet the airport's environmental sustainability goals. A simple mechanism is for the airport operator to require the tenant to achieve and maintain an environmental certification such as a city sustainability business award. This assures the airport operator that the tenant is tackling the issues, but puts the responsibility on the tenant themselves in terms of what they should do. For example, San Francisco International Airport leverages contracts to promote a recycling incentive for all businesses operating at San Francisco International Airport. The language states:

> All businesses operating at San Francisco International Airport must operate in an environmentally responsible way by conserving resources, preventing pollution, and purchasing and/or using 'green' products and supplies. In support of the San Mateo County Green Business Certificate Program, the Airport Director encourages businesses to contact San Mateo County Department of Environmental Health, and complete the needed audit requirements to secure a Green Business Certificate for the San Francisco International Airport operations. Additional information about the San Mateo County Green Business Certificate Program is provided at www.recycle works.org/green/business/index.html. Tenants in this program receive a 50% discount on the cost of recycling from San Francisco International Airport.

Concessionaire lease agreements provide a significant opportunity for airport operators to make contract requirements to improve environmental performance at the airport. At Hartsfield–Jackson Atlanta International Airport there is a great opportunity because of the size of the contract as the airport is managed by a single company under one large contract. With large contracts there is more purchasing power to leverage and the airport operator can use this to influence contractors. To that end, at Hartsfield–Jackson Atlanta International Airport concessionaires must comply with the following language:

> Concessionaire shall use compostable service ware along with consumer facing packaging and source separate all food service wastes for direct transport to off-airport composting facilities . . . Concessionaire agrees to offer 'take out' packaging to enable customers to more easily transport items through the Airport. Costs attributable to Concessionaire for complying with the waste separation initiative will not exceed $10 per square foot over and above trash removal and recycling costs, including labor and dumpster fees, assessed to concessionaires in 2011.

Food concessionaires at the San Francisco International Airport must adhere to the city's 16-point sustainable food policy as part of the lease agreement.

> Tenants must feature:
>
> 1. Displays that promote healthy eating and good environmental stewardship
> 2. Visible food preparation areas
> 3. Portion sizes which support good health
> 4. Portion-appropriate menu items for children
>
> Tenants must use:
>
> 5. Low- or non-phosphate detergents
> 6. Compostable, bio-resin bottles or paper boxes for all bottled water sales
> 7. Un-bleached paper products and compostable To Go containers and utensils
>
> To the very greatest extent possible, Tenants must use:
>
> 8. Organic agricultural products from the Northern California region
> 9. Agricultural products that have not been genetically modified
> 10. Organic or all-natural meat from animals treated humanely and without hormones or antibiotics
> 11. rBST [recombinant bovine somatotropin]-free cheese, milk, yogurt and butter
> 12. Cage-free, antibiotic-free eggs
> 13. Sustainable seafood
> 14. Fairly Traded Organic Coffee
> 15. Products free of hydrogenated oils
> 16. Products free of artificial colors, flavors and additives.

At Seattle–Tacoma International Airport, the taxi concessionaire agrees to the following language:

> Concessionaires shall act to ensure that the Independent Contractors operate a fleet of vehicles that minimize air emissions and institute operational practices that help protect impacts to the natural environment. Concessionaire shall also institute practices that promote the efficient movement of people to and from the Airport . . . ii) By March 1, 2012, Concessionaire shall ensure one hundred percent (100%) of the Independent Contractor vehicle fleet it uses for on-demand taxi service utilizes alternative fuels, as defined by the U.S. Energy Policy Act . . .

Similarly, Boston Logan International Airport has a limited "front-of-line" program to reward operators of low emitting taxicabs.

Airline use and lease agreements can impose environmental sustainability requirements on airlines. Airlines are significant stakeholders at airports and many of their activities have environmental impacts. Airport operators can drive improved environmental performance through these agreements. At San Francisco International Airport the airline use and lease agreement contains the following language:

> Air Carriers operating at the Airport may also pursue various sustainability measures. City encourages such initiatives and from time to time may call upon Airline to cooperate with City where practicable in implementing sustainability measures that impact Airline operations such as tenant improvements to LEED Silver or better standards, energy and water conservation, solid waste reduction and recycling, electrification of ground services equipment, maximizing the use of preconditioned air, or single engine taxiing, provided that such sustainability measures are lawful. Airline shall agree to implement sustainability measures as required to meet City, State and federal regulations.

JANITORIAL CONTRACTS

Airport managers reported increasing concerns about environmental hazards as more information is available about the effect of certain cleaning materials and processes on human health. Because many of the common operating contract agreements, including janitorial contracts, involve some handling of potentially hazardous material, some airport operators have adopted provisions in their contracts guiding the handling and disposal of such materials, outlining contractor liability for improper methods and outcomes, and citing requirements for reporting. There is space within janitorial contracts to integrate a range of considerations into many aspects of the contract, from the specification of environmentally friendly cleaning products, to efficient cleaning operations and the reduction of waste products. Many airports have a list of mandated cleaning products to be used on site that ensure that toxic chemicals are not used. This specification within janitorial contracts is common across airport contracts. For janitorial contract language examples see the appendix, pages A32 to A36.

Portland International Airport has the following language in its janitorial contract: "All supplies and materials used in cleaning must be in compliance with 'Green Cleaning' requirements and continue to achieve the Port's environmental strategic goals."

The custodial cleaning contract for Chicago O'Hare International Airport incorporates the following language:

> Intended to reduce the environmental impact of products and services by developing a Green Purchasing Program . . . , Contractor is required to purchase supplies, materials, equipment, and other products meeting or exceeding the minimum requirements of the Green Product Listing below, if such items are reasonably available that meet applicable OSHA [Occupational Safety and Health Administration], CDC [Centers for Disease Control and Prevention], or similar public health requirements.

DRIVING INNOVATION AND MAXIMIZING ENVIRONMENTAL SUSTAINABILITY IMPROVEMENTS THROUGH CONTRACTS

Contracts provide a mechanism for doing more than just provide environmentally compliant goods or services. When the winning contractor is set to receive a large amount of money

over a long contract period, it is important that the airport operator negotiate for more in terms of contract value. For a contract to deliver maximum value to the airport operators, interviewees offered the following ideas:

- **Flexible contract language—**Contractors and suppliers are typically the subject matter experts for the contract they are in competition to win. In some cases, there is potential value in not making the RFP and resulting contract too prescriptive. By leaving room for the supplier or contractor to be creative and suggest innovations, the airport operator realizes sustainability improvements and cost-efficiencies from the contractor that otherwise might not have been identified if the airport operator had written strict language. In some cases there is more value in listing detailed technical specifications; however, the use of flexible contract language is worth reviewing on a case-by-case basis.

The Chicago Department of Aviation (CDA) has recently driven innovation through two of its RFPs using flexible contract language. The first example is with its janitorial contract, which at this time was under negotiation. The RFQ required contractors to create an innovative solution to the issue of toilet seat cover waste. Chicago Department of Aviation did not know how to recycle this significant waste stream so it turned to its potential contractor base to generate a solution on its behalf. With the prospect of securing this multi-million dollar contract for a minimum of three years, the contract provided excellent incentive to create an innovative and sustainable solution for the airport on behalf of its contractors. The RFP language was as follows:

- **Plastic toilet seat covers—**Thousands of toilet seat cover rolls are used at Chicago O'Hare International Airport every month. Made of polyethylene film, these covers represent a significant recyclable resource opportunity. Within 90 days of contract execution, Contractor must submit a proposed toilet seat cover recycling plan to the Chicago Department of Aviation for review and approval. The cost of the recycling plan must be at no cost or revenue positive to the city. Within 180 days of contract execution, Contractor must implement the recycling program for the used toilet seat covers unless the Commissioner consents in writing to a later implementation date. Annually, as part of required documentation, Contractor must submit recycling report of toilet seat covers recycled, total weight, final recycled disposition and costs/benefits.

The second example demonstrates the high value-added potential when contracts are creatively shaped to maximize sustainability and leverage a contractor's expertise. Chicago Department of Aviation expanded the scope of its parking garage management contract to include activities outside the standard contract requirements for such a service. To do this, Chicago Department of Aviation inserted a section of clauses into a parking garage management contract that required the contractor to develop a plan for outfitting, operating, and paying for highly efficient lighting in the parking garage structure the contractor would manage if it won the contract.

- **Energy efficient lighting—**Consultant will be required to develop a comprehensive relamping program for the Elevated Parking Structure (EPS) at O'Hare International Airport. The EPS currently uses approximately 5,000 150-watt metal halide lamps with halophane fixtures throughout the multi-level structure. These lights are on 24 hours per day, seven-days per week for lighting and safety reasons. The Consultant's proposed relamping program should include modernization of the existing lighting to improve efficiency and a proposed dimming schedule sequence to provide safety, but reduce overall electrical consumption and provide cost savings to the Chicago Department of Aviation. As part of the Consultant's proposal, the amount of electricity saved and anticipated cost savings to Chicago Department of Aviation shall be clearly identified and reported annually on the anniversary of the Contract. Consultant shall submit the proposed relamping program to the Chicago Department of Aviation for review and approval. Consultant will be required to purchase, install, commission and operate the lighting units (ballasts and fixtures) for the duration of this Contract. The Chicago Department of Aviation will purchase the bulbs/lamps and provide to the Consultant for installation. Chicago Department of Aviation will maintain an inventory of replacement bulbs/lamps and provide to Consultant as replacements are needed.

The Chicago Department of Aviation parking garage contract is notable because it combines the shared interests of the airport operator and the contractor by linking the winning of the contract, purchase, and maintenance of a capital asset (by the contractor) to the performance of the asset (to benefit the Chicago Department of Aviation). The contractor is motivated to submit a winning proposal and will dedicate resources (more resources than if they did not originally pay for the asset) to maintain the capital asset once it is purchased, while the energy efficient relamping program and the maintenance of the lighting system will positively affect the airport operator's financial bottom line and improve the traveling public's experience.

- **Performance-based contracting.** Performance-based contracting is a contract that defines obligations and outcomes in terms of performance indicators for the product or service. Performance-based contracts usually cover a sufficient time to enable measurement of the contractors' performance. Performance-based contracts encourage increased efficiencies and allow for innovation. Relationships are key, with common goals being essential to making the performance contract a success

for all. Performance can be measured on a monthly basis through the achievement of Key Performance Measures or Key Performance Indicators. Internationally, the highways industry has utilized performance-based contracts successfully on a wide scale.

The benefits of performance-based contracts include:

- The provision of a contractual environmental requirement that encourages innovation,
- Utilizing a contractor's experience,
- Focusing the client on performance rather than historical empirical relationships, and
- Apportioning the risk between client and contractor appropriately.

(*Source:* U.S. Department of Treasury)

The United Kingdom has been driving the sustainable procurement agenda for many years and the government has a Sustainable Procurement Taskforce and national action plan. Many U.K. central and local governments have developed their own strategies and plans for driving sustainability through their supply chains. One example is the Surrey County Council. The Council has developed partnering contracts that are similar to performance contracts. It defined recycling content targets in the following performance indicator: "The constructor will be expected to demonstrate an improvement in the use of recycled materials/products/processes year-on-year through the contract period."

Initially this was not overly ambitious, all parties entered into a process of setting baselines in year one from which targets will be formulated. Regular meetings were established to develop the use of recycled materials, and the contract requirements records to be maintained regarding the extent of recycling. SCC's partnering contract was awarded on both quality and price (50/50). The contractor requires all parties to work toward the delivery of key objectives—including the reduction or elimination of waste and selection of the most cost-effective solutions. The process is driven by setting targets, which includes recycled content. The partnering approach, and open book accounting, enables construction wastes to be stockpiled and redeployed between the partners in the most effective way to achieve mutual benefit. As part of its partnership contract for highway maintenance, SCC requires its contractors to record a range of information as it allows the Council to verify that the contractor has been fulfilling the requirement presented in the contract.

Performance-based contracting is not common across U.S. airports; however, there are several examples where airport operators have explored the feasibility of this as an airport contracting mechanism and there are a few examples where airport operators are using it successfully, one of which is at Boston Logan International Airport. Massport has had a janitorial services performance-based contract in place since 2007. It engaged with a professional services firm to advise it on the procurement of a performance contract. Prior to the RFP for the janitorial performance contract, Massport performed a survey and benchmarking assessment at the airport. The survey presented a score of 47% for industry cleanliness standard. Building on the survey results and numerous interviews with Massport staff and contractors from the cleaner through to management, the consultants determined a common understanding of what clean was. These results and findings informed the performance contract-based RFP that resulted. Five cleaning companies pre-qualified, and among other concerns, they were evaluated on their green cleaning procedures. The contract was awarded for a period of three years, with an option for an additional two years. The contractor is required to meet a minimum cleanliness standard and how they achieve that standard is their responsibility. The major difference between this performance contract and a standard janitorial contract is that Massport has not specified a number of cleaners required on-site or the frequency of tasks, which is for the contractor to determine for itself. The contract management and payment is based on cleaning inspections performed by a third party. The inspector scores the cleanliness and the contractor has to achieve a minimum performance target of 75%. If this is not achieved, there are financial deductions; if a higher score is achieved there are reward incentive payments.

Massport has reduced its annual cleaning budget through the use of a performance contract. In addition, the contractor has been proactive and receptive in integrating environmental sustainability improvements through the contract because of the flexibility it is offered by Massport in other areas. Massport meets weekly with the cleaning contractor to coordinate on issues and ideas for continual improvement. It is at these meetings that environmental goals are discussed. The flexibility of the performance contract ultimately allowed the janitorial services company to pursue a trial of aqueous ozone at Boston Logan International Airport. Aqueous ozone is a cleaning substitute for harmful chemicals and has been shown to generate financial savings as well as limit the need for cleaning chemicals. The evolution of the system is ongoing and Massport expects it to be implemented throughout all of its facilities. Contract language from the Massport janitorial contract can be found in the appendix.

- **Energy performance-based contracts.** An Energy Performance Contract (EPC) is a turnkey service, sometimes compared with design/build construction contracting that provides customers with a comprehensive set of energy efficiency, renewable energy, and distributed generation measures, and often is accompanied by guarantees that the savings produced by a project will be sufficient to finance the its full cost.

  A typical EPC project is delivered by an energy service company (ESCO) and consists of the following elements:

  - **Turnkey service—**ESCO provides all of the services required to design and implement a comprehensive project at the customer facility, from the ini-

tial energy audit through long-term monitoring and verification of project savings.
- **Comprehensive measures—**ESCO tailors a comprehensive set of measures to fit the needs of a particular facility and can include energy efficiency, renewables, distributed generation, water conservation, and sustainable materials and operations.
- **Project financing—**ESCO arranges for long-term project financing that is provided by a third-party financing company. Financing is typically in the form of an operating lease or municipal lease.
- **Project savings guarantee—**ESCO provides a guarantee that the savings produced by the project will be sufficient to cover the cost of project financing for the life of the project.

Currently, EPC projects are typically financed by third-party financial institutions using a set of financing vehicles that are tailored to the requirements of an individual project, not by ESCOs.

Many airports in the United States are participating in energy performance-based contracts. The structure of these contracts varies from airport to airport and there is scope within these contracts to ensure that the airport operators can include its energy goals and targets in these contracts. Typically, the airport operators do not need to reimburse any upfront capital costs; however, benefits through efficiency improvements to its infrastructure can result in reduced energy consumption. RFQ language for the procurement of an energy services performance contract can be found in the appendix on page A35.

CHAPTER SIX

CONTRACT MECHANISMS, INCENTIVES, AND PERFORMANCE MONITORING

CONTRACT MECHANISMS

Examples of formal contract management and performance monitoring are not widespread across airport contracts; however, there is one exception; the management of design and construction contracts. Airport operators frequently designate construction contract inspectors to verify that work is being undertaken in strict compliance with the contract. For these contract types, contract noncompliance can result in financial penalties or delayed payments for the contractor. For example, at Incheon International Airport (ICN) the Incheon International Airport Corporation (IIAC) mandates that contractors must comply with (1) Korean environmental laws, and (2) IIAC's *Environment and Operations Manual,* which was developed based on ISO 14001 primarily for construction-related issues. The environmental team checks bi-annually to make sure the contractor is in compliance with these two contractor mandates. If non-compliance is discovered, a fix or alteration is requested. If the contractor refuses to comply, IIAC can then invalidate the contract and take the contractor to court. So far, there have been no occurrences of contract noncompliance.

Many airport operators have only recently inserted language into contracts to encourage sustainability. Currently, most of this language is not strictly enforceable owing to its wording; for example, "the contractor shall seek to . . ." or "the contractor will make best efforts to . . . ." This type of wording, despite not being strictly enforceable, is a good starting point and will influence contractors and suppliers to undertake more environmentally sustainable activities and behaviors. It does however still obligate the airport operator to work in partnership with the tenant or contractor to work toward the airport's environmental sustainability goals.

To date, Chicago Department of Aviation at Chicago O'Hare International Airport and Chicago Midway International Airport (MDW) has rated 82 design and construction, operations and maintenance, and concession and tenant projects, many of which pursued the SAM rating on a voluntary basis. Chicago Department of Aviation has found that positive recognition through its rating and awards programs has had a transformative effect on the local contracting and vendor community, without enforcing action through contract mandates.

CONTRACT INCENTIVES

For an airport contract to be definitive, the language must be legally enforceable. When this is the case it is possible for the airport operator to withhold payment or enact another punitive measure if the contractor is not in compliance. Financial incentives or penalties are extremely effective mechanisms in contract management. However, this type of active contract management requires the resources to set up and maintain monitoring. It is also potentially damaging to manage a contract between the airport operator and the contractor through punitive measures. A more positive mechanism is to drive improvements through financial reward. A number of airport operators are considering such means. For example, at San Francisco International Airport customers are provided with incentives to rent low-emission, fuel-efficient vehicles. Established in 2009, the program rewards customers who rent "green" high mileage or alternative-fueled vehicles, such as hybrids, by offering a $15 discount on each rental. This program also provides financial incentives to rental car companies to increase the number of fuel-efficient cars (with an EPA rating of 17 or higher) to 15% of their rental vehicle inventory. In FY2010, 25.6% of car rental transactions were for green vehicles, which saved more than 1 million gallons of gasoline and reduced the amount of greenhouse gas (GHG) emissions by approximately 11,442 metric tons.

At Portland International Airport, all concessionaire spaces are being outfitted with sub-meters for energy and water. This will enable the Port of Portland to track energy and water use by tenants and allow the Port to switch to billing by consumption to help further reduce utility use by motivating tenants to limit their energy and water consumption, thereby helping the Port meet its environmental goals.

Dallas/Fort Worth International Airport (DFW) provides its ground transportation contractor with an Incentive Awards Program that provides an opportunity for monetary rewards, on a quarterly basis, for meeting and exceeding specific performance standards. The contract specifies the following language:

> Bidders are encouraged to provide their employees with an incentive-based program tied to the same performance standards set forth by DFW Airport. The details of such a program should be included with the submittal of this bid.
>
> Performance Incentive Standards (measured quarterly)

> Safety—a ratio of less than or equal to 2.0 accidents per 100,000 total miles operated
> Courtesy—less than 5 complaints per month
> Service—average of 5 minutes or less wait time and provide luggage assistance
> Cleanliness—interior and exterior of vans inspected meet standard (to be set by the Board before the first day of the contract)
> Maintenance—no more than 30,000 miles between road calls. Road calls are defined as a vehicle unable to continue service due to maintenance failure that requires repairs to be performed in order to resume operation.
> Monetary Awards—The five measured standards will be valued at $2,000 each per quarter, for a total of $10,000 quarterly. The Contractor potentially could be awarded $40,000 annually if all goals are met in each category each quarter. Quarters are defined as three-month periods beginning with the Notice to Proceed date of the contract.

PERFORMANCE MONITORING

Contracts can also be a useful place for airport operators to request regular reporting of environmental metrics, such as monthly recycling data. An increasing number of airport operators are producing annual sustainability reports to demonstrate to stakeholders that they are improving their sustainability performance. The airports represented by the project panel members that produce annual sustainability reports include Boston Logan International Airport, Chicago O'Hare International Airport, Portland International Airport, Seattle–Tacoma International Airport, San Francisco International Airport, and Toronto Pearson International Airport. The environmental data underpinning sustainability or environmental reports is derived from all aspects of airport activity and often requires contractors and tenants to provide certain information. A simple line in all contracts can serve this purpose. Zurich Airport uses the following language "The contract partner provides all environmentally relevant data to Flughafen Zurich AG free of charge and informs on all direct environmental impacts caused by its business activity."

Since 2012, at Portland International Airport, the Port of Portland has contracted with a consulting arm of Portland State University (Community Environmental Services) to help them develop and manage the airport-wide waste minimization program. The scope of work included within the agreement between the Port and Community Environmental Services includes a comprehensive monitoring role of the airport's waste management hauler. Scope wording includes:

> Provide regular and random monitoring of the PDX central waste collection area (located beneath the Concourse Connecting Corridor) on an ongoing basis to improve participation in the waste minimization and recycling program, document waste reduction opportunities, enforce 'best practice' actions for handling waste, and determine ways to improve education and enforcement for users in this area.

When it comes to continually improving their performance, airport operators reported that when they are able to track environmental metrics they have an advantage over those airports that do not track such data. When airport operators demonstrate to their stakeholders that progress has been made, such as by furnishing convincing evidence of improvement for any of the different sustainability metrics such as GHG, water and energy usage, and waste and recycling tonnages, it is often easier to secure funding for future and even bolder contracts. For example, the Chicago Department of Aviation has received more than $500,000 in energy efficiency rebates offered by the Illinois Department of Commerce and Economic Opportunity. The rebates are calculated on the basis of the energy use reduction potential of various lighting and equipment upgrades. The Chicago Department of Aviation, by using robust energy metrics to justify the business case for energy efficiency investments, secured funding from the state.

Additionally, if environmental data are known before the start of a new contract, it is easier for the airport operator to discern whether the contract had its intended effect at the end of the contract's term. Measuring the day-to-day economic efficiency of the environmental sustainability good or service and knowing its final outcome helps both the airport operator and contractor fine tune a contract mid-term, as well as create better contracts in the future by incorporating lessons learned from the current contract period. Hard data complimented by institutional memory are essential for an airport operator to possess when strategically planning for future contracts.

At San Francisco International Airport, the new Terminal 2 building was designed and constructed to meet the LEED gold standard. It was the first airport building designed to this standard and is an example of where the environmental metrics of the terminal before and after refurbishment can demonstrate the operational improvements that have been derived through the design and construction contract clause to achieve a minimum LEED gold standard. The benefits include:

- **Preconditioned air and 400 Hz power supply systems:** The airport operator provided preconditioned air and 400 Hz power supply to aircraft at all terminal gates, reducing jet fuel consumption by aircraft auxiliary power units (APUs) by 1,400,000 gallons per year and reducing carbon dioxide ($CO_{2)}$ emissions by approximately 15,000 tons per year.
- **Energy efficiency measures:** The incorporation of energy efficient lighting and efficient machinery is expected to reduce electrical energy consumption by 2.9 gigawatt hours per year and natural gas consumption by 116,000 therms per year, resulting in a reduction of 750 metric tons of GHG emissions per year.
- **Building materials savings:** By reusing a substantial portion of the infrastructure of the existing building in the renovated terminal, the airport operator generates cost savings and reduces the global warming impact of the new terminal by a one-time reduction of approximately 12,300 tons of CO_2.

CHAPTER SEVEN

CONCLUSIONS

The practice of integrating environmental sustainability into airport contracts is occurring across the industry, with a number of different mechanisms and processes being used by different airport operators. Conditions for contracts are generated by a top-down, formal process, as is typically the case when required by national or state law. Other contractual conditions are generated from the ground up, such as opportunities identified by the airport operator's environmental or "green" team. Laws, voluntary standards, and airport policies are actively employed as mechanisms for imposing requirements related to environmental sustainability on contractors and suppliers.

Among the different activities at individual airports a few trends can be identified as to how airport operators are applying environmental considerations into contracting. Similarities are less apparent when it comes to how airports are measuring the impact and reporting the success in environmental improvements.

Airport design and construction contracts have significant scope to drive environmental sustainability, and the practice of integrating language into these contract types is well-developed and therefore a good starting place for airport operators wanting to embark on a sustainability program. Incorporating language to achieve a Leadership in Energy and Environmental Design (LEED) standard in a design and construction contract is an effective way of ensuring that environmental sustainability is integrated into the project. The environmental sustainability benefits of achieving LEED certification for an airport building are summarized in the San Francisco Terminal 2 example in chapter four.

Opportunities also exist within other airport contracts for environmental sustainability to be integrated into the contract language and drive environmental sustainability improvements at airports. All of the contract types reviewed could be leveraged by operators to fulfill the following: compliance with environmental law, completion of permit requirements, minimization of environmental impacts, management of environmental impacts, and/or to drive innovative sustainable improvements at airports. How airport operators implement environmental language into contracts is found to be largely determined by the airport organization.

The study found that contract language within many contract types serves as a recommendation as opposed to being legally enforceable. Airport operators suggested that this may change over time as the process becomes more developed and the contract language is tightened. Airport operators surveyed noted that additional costs may be incurred if enforceable requirements are made of contractors. For some airport operators however this is not an issue, as they are willing to pay for products or services that will help them meet their sustainability commitments.

Several of the airport operators surveyed have a comprehensive sustainable procurement program in place. These airport operators have an environmental management framework or system that drives continual improvements in environmental sustainability across all of their operations, including procurement processes. Maintaining ISO 14001 certification or delivering on a public commitment to environmental sustainability is the continuing factor driving airport operators to use contracts to help achieve continual environmental sustainability improvements. In addition, staff at these airports has an awareness of the airport's environmental goals and as such ensures this is included in staff responsibilities.

Several airport operators with fewer resources that do not have a comprehensive sustainability procurement program in place have focused their efforts on airport contracts, where there is the most opportunity to drive environmental sustainability improvements at the airport. These airport contract types were identified as service agreements and tenant and concessionaire lease use agreements, in addition to design and construction contracts, and there are examples of contract language for each of these contract types and provided in the text and the appendix.

Contract management and contract monitoring and reporting is not widespread across the airport industry. Most progress in this area is with design and construction contracts, where there is a significant activity and contracts have integrated environmental sustainability for many years. For design and construction contracts, many airport operators have designated inspectors who regularly monitor contractor performance. The contractor's performance is reported on a monthly basis and submitted with invoices. If there is contract noncompliance, most airport operators surveyed can apply financial penalties.

Environmental conditions in other airport contracts are not monitored in the same, comprehensive way. Spot checks carried out by environmental staff at airports are the only other example of contract monitoring for environmental requirements and this is done at only a few airports.

There are a number of related subject areas where further research could be beneficial to help encourage more airport operators to utilize contracts as a mechanism to drive environmental sustainability. Further research into the variety of contract management mechanisms available could be explored, including how incentives or punitive measures could be applied to environmental improvements in airport contracts. In addition, airport operators commented that financial information, including whole life costs of environmental sustainability would help persuade airport operators' management that more effort should be focused on incorporating sustainability language into airport contracts. Finally, airport operators also commented that they would find helpful a detailed explanation of how the requirements within the sustainability contract language were established and who at the airport is responsible for implementing them.

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APPENDIX A

Example Contract Language

ENVIRONMENTAL GOALS WITHIN CONTRACT LANGUAGE

Document	Air quality	Energy	Fuel	Hazardous materials	Noise	Vehicular emissions	Water	Waste	Sewerage	Sustainable development/ LEED	Sustainable procurement	Wildlife
Environmental Protection – Toronto Pearson International Airport (YYZ)	■			■	■		■			■		
Environmental Protection – Airside and Infrastructure – Toronto Pearson International Airport (YYZ)			■	■			■	■				■
Environmental Protection Clause – Chattanooga Metropolitan Airport (CHA)	■			■			■	■				
Erosion and Sediment Control – Airside and Infrastructure – Toronto Pearson International Airport (YYZ)				■			■					
General Environmental Terms and Conditions for Zurich Airport – Zurich Airport (ZRH)	■	■		■		■	■	■				
GTAA Evaluation Criteria – Toronto Pearson International Airport (YYZ)											■	
Sustainability Assessment – Chicago O'Hare International Airport (ORD) and Midway International Airport (MDW)										■		
Sustainability Requirements – Chicago O'Hare International Airport (ORD)										■		
CalGreen Code – Building Code Standard and Specification from California		■					■	■		■	■	
Construction Contract Template – Portland International Airport (PDX)	■			■			■					■
SFO Contractual Requirements for New Tenants Improvements Projects – San Francisco International Airport (SFO)		■					■	■		■	■	
Sustainable Design and Construction Guidelines – Los Angeles World Airports (LAWA)										■		
Sustainable Development Design Standards – Hartsfield-Jackson Atlanta International Airport (ATL)										■		
Tenant Work Letter – Terminal 2 – San Francisco International Airport (SFO)		■					■	■	■	■		
Environmental Procurement Policy – Toronto Pearson International Airport (YYZ)											■	
Environmental Procurement Procedure – Toronto Pearson International Airport (YYZ)											■	
Green Procurement Policy – Chicago O'Hare International Airport (ORD)				■							■	
Sustainable Procurement Policy – Portland International Airport (PDX)		■		■			■	■			■	
Use and Lease Agreement – Environmental Sustainability Measures – San Francisco International Airport (SFO)	■	■				■	■	■		■		
Compostable Foodservice Ware Requirement – Hartsfield-Jackson Atlanta International Airport (ATL)								■			■	
Lease Agreement for the Terminal 2 Newsstands, Coffee, and Specialty Shops at San Francisco International Airport – San Francisco International Airport (SFO)								■			■	
Lease Agreement for the Terminal 2 Sit Down Restaurant at San Francisco International Airport – San Francisco International Airport (SFO)										■	■	
Concession Agreement Between Port of Seattle and Puget Sound Dispatch L.L.C. – Seattle-Tacoma International Airport (SEA)	■		■			■						

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ENVIRONMENTAL GOALS WITHIN CONTRACT LANGUAGE (Continued)

Document	Air quality	Energy	Fuel	Hazardous materials	Noise	Vehicular emissions	Water	Waste	Sewerage	Sustainable development/ LEED	Sustainable procurement	Wildlife
Rental Car Concession Lease and Operating Agreement with the Avis Budget Car Rental, LLC – Portland International Airport (PDX)						■	■	■				
Rental Car Concessionaire Incentive Program – San Francisco International Airport (SFO)			■			■						
Rental Car Quick-Turn-Around Facility Water Conservation Strategy / Operational Requirements – Portland International Airport (PDX)							■		■			
Rental Car Waste Minimization Strategy / Operational Requirements – Portland International Airport (PDX)								■				
Shuttle Van Operation Services at Terminal B Remote North and Value AA Parking Facilities – Dallas/Fort Worth International Airport (DFW)						■						
Vehicle Emissions Strategy – Portland International Airport (PDX)			■			■						
Yellow Cab Company Contract Language – Seattle-Tacoma International Airport (SEA)						■						
16 Point Sustainable Food Guidelines – San Francisco International Airport (SFO)										■		
Monitor, and Laptop Services and Associated Services / Request for Proposal – Portland International Airport (PDX)								■		■		
Building Cleaning and Waste Management Services – Greater Toronto Airports Authority (GTAA)				■								
Comprehensive Custodial/Window Cleaning and Related Hygiene and Disposal Services for Chicago O'Hare International Airport – Chicago O'Hare International Airport (ORD)								■		■		
RFQ for Professional Energy Savings Performance Contracting Services – Antonio B. Won Pat International Airport (GUM)		■										
Contractor's Services for Janitorial Cleaning Services – Portland International Airport (PDX)				■								
RFP for Waste Hauling and Recycling Services – Portland International Airport (PDX)								■				
RFP for Management of Public Parking and Ground Transportation Facilities at Chicago O'Hare International Airport – Chicago O'Hare International Airport (ORD)		■	■			■		■				

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The airport policies and contract language provided in this appendix were not taken in full from actual contracts and documents used by airport operators. The language here is excerpted and adapted from actual policies and contracts merely to serve as a base for airports to derive inspiration and refer to examples for how airport operators throughout the industry incorporate environmental sustainability clauses and programs into their various types of contracts.

The matrix following the appendix table of contents highlights the environmental goal for each of the contract examples included in the appendix. This matrix allows airport operators to search by environmental goal for example contract language.

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Ground Leases

- RFP for Management of Public Parking and Ground Transportation Facilities at Chicago O'Hare International Airport—Chicago O'Hare International Airport (ORD)

Airport: Toronto Pearson International Airport (YYZ)	**Airport Operator:** Greater Toronto Airports Authority (GTAA)
Document: Environmental Policy	**Department:** President and Chief Executive Officer
	Date: May 2012

The Greater Toronto Airports Authority (GTAA) is committed to operate airports in an environmentally responsible manner, in compliance with relevant environmental legislation, other relevant requirements, and within an overall framework that is environmentally, economically, and socially sustainable. Our commitment is reflected in the GTAA's day-to-day operations to minimize impacts on the natural environment and local community.

The GTAA is committed to continual improvement and the prevention of pollution. It is our policy to set environmental objectives and targets and implement action plans for significant environmental aspects identified at the airport. It is also our policy to monitor progress, utilize best management practices, and apply cost-effective technology to strive to improve environmental performance.

To successfully implement this policy, the GTAA utilizes an Environmental Management System (EMS) which meets the specifications of the ISO 14000 international standards series and includes:

- Utilizing environmental audits to ensure compliance with applicable laws, regulations, as well as policies, objectives, and targets.
- Conducting regular environmental monitoring of environmental aspects such as water quality, air quality, noise, airside development, hazardous substances, and spill incidents.
- Continually developing and promoting environmental standards applicable to day-to-day airport operations which impact the environment.
- Integrating environmental assessment and management practices into the decision-making process used to plan, design, construct, and operate the airport.
- Communicating environmental policy, roles, responsibilities, objectives, and targets to GTAA staff.
- Producing an annual environmental performance report to ensure regular reporting to the CEO and Board of Directors, GTAA employees, and the interested public.

Airport: Toronto Pearson International Airport (YYZ)	**Airport Operator:** Greater Toronto Airports Authority (GTAA)
Document: Environmental Protection—Airside and Infrastructure	**Department:** Not known
	Date: 2/21/11

Environmental Measures

- The Contractor shall meet or exceed the requirements of all environmental legislation and regulations including all amendments up to the project date, provided that in any case of conflict or discrepancy, the more stringent requirements will apply. Provide ongoing reports on procedures for environmental protection.

Control Plan

- The Contractor shall:
  - Submit control plan as specified in Section 01562—Erosion and Sediment Control.
  - Submit erosion control plan to GTAA for approval prior to commencing any earthwork.
  - Submit soil management plan to GTAA for approval prior to commencing any earthwork.
  - Submit fuel dispensing plan for vehicles and equipment to GTAA for approval prior to commencement of Work.
- Vehicle Fuelling:
  - Fuelling of vehicles with gasoline is not allowed from tanker trucks.
  - Fuelling of vehicles with diesel within 7.5 m of any building is not allowed.
  - Fuelling of vehicles with diesel from a tanker having a capacity greater than 3,000 liters shall be done in an area capable of containing a 1,000 liter spill.

Fires

- The Contractor shall not burn rubbish on site.

Disposal of Wastes

The Contractor shall:

- Not bury rubbish and waste materials on site.
- Not dispose of waste or volatile materials, such as mineral spirits, oil, fuel, paint thinner, etc., into waterways, storm or sanitary sewers, or soils.
- Take necessary precautions and remove from the site any soil contaminated with volatile material.
- Notify GTAA immediately whenever contaminants are encountered.

Drainage, Snow, and Silt Control

- The Contractor shall provide temporary drainage and pumping as necessary during the course of work to keep excavations and site dewatered. Discharge from dewatering operation is to be controlled to minimize erosion and sediment load.
- Locations on site where water may temporarily pond due to staging of construction or the sequence of execution the Work must be maintained in a dry condition by the Contractor at all times for the duration of the Contract.
- The Contractor shall not pump water containing suspended materials into waterways, sewer, or drainage systems.
- The Contractor shall control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.
- Snow fence, the Contractor shall:
  - Provide snow fence as indicated on drawings or as directed.
  - Provide snow fence prior to the start of construct in a given area (phase) to contain drifting snow, minimize snow build-up on site, and\or to delineate the site limits.

  - Remove snow fence at completion of work in a given area.
  - Fence type:
  - Provide light duty type snow fence for construction to be completed during the same year and as directed.
  - Provide heavy duty type snow fence for construction to be completed over multiple seasons or years and as directed.
- Silt fence, the Contractor shall:
  - Provide silt fence flow checks as required or directed adjacent to water courses and\or ditches and\or culverts, in order to prevent silt originating from construction areas being washed or otherwise carried into the water courses. Silt fences are to be constructed as indicated on Standard Drawings.
  - Remove silt fence at completion of work in a given area (Phase) as soon as vegetation is properly established.
  - Fence type.
- The Contractor shall provide straw bale flow checks in open ditches downstream of discharge points or pumps, in order to filter solids out of the water prior to discharge into the existing drainage system. Flow checks are to be constructed as indicated on Standard Drawings. The Contractor shall remove straw bales upon completion of work and once vegetation in the area is established.
- The Contractor shall provide rock flow checks in open ditches downstream of discharge points or pumps, in order to reduce velocity of the flow as well as settlement of silt prior to discharge into the existing drainage system. Rock flow checks are to be installed as indicated on Standard Drawings.
- The Contractor shall provide open stilling ponds or other suitable detention areas to collect and prevent silt from being washed out or transported beyond project limits. The Contractor shall remove and dispose of silt off Airport property on a regular basis and in an approved manner.
- The Contractor shall provide energy dissipation device to prevent downstream irrigation.
- Drainage, snow, and silt measures are to be regularly maintained, cleaned, and replaced as required until Total Performance of the Contract.
- The Contractor shall prevent silt from entering into existing Storm Water Management (SWM) Facilities. In the event of siltation of these facilities, the Contractor is to remove the silt and restore such facilities at his own cost.

Work Adjacent to Waterways

The Contractor shall:

- Not operate construction equipment in waterways without prior approval of the GTAA.
- Not use waterway beds as sources for borrow material.
- Not dump excavated fill, waste material, or debris in waterways or floodplains.
- Design and construct temporary crossings to minimize erosion to waterways and must be approved by GTAA.
- Not skid logs or construction materials across waterways.
- Avoid indicated spawning beds when constructing temporary crossings of waterways.
- Not blast under water or within 100 meters of indicated spawning beds.
- Not conduct any Work near water beds during spawning season.

Pollution Control

The Contractor shall:

- Maintain temporary erosion and pollution control features installed under this Contract.
- Control emissions from equipment and plant to local authorities' emission requirements.
- Prevent sandblasting, sawcutting, milling, and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.
- Cover or wet down dry materials and rubbish to prevent blowing dust and debris, and provide dust control for temporary roads.

Construction Waste

- The Contractor shall provide sufficient and suitable refuse containers and/or dumpsters throughout the site to receive and control construction waste, shall keep container lids closed to prevent contents from being blown around the site, and shall empty containers as soon as they are 60% full, or more frequently, if required or requested by GTAA's Representative.
- The Contractor shall comply with GTAA EMS targets for waste management, recycling, energy conservation, water conservation, spill, etc.

Equipment Maintenance Areas

- The Contractor shall prepare and submit for approval a drawing showing a proposed equipment maintenance area, complete with provision for collecting oil and fuel spills. If watercourse exists nearby, ensure area is located no closer than 30.0 m away from the area.
- When approved by the GTAA, the Contractor shall perform all equipment maintenance in such defined area.
- The Contractor shall locate and grade maintenance area such that surface runoff will not flow out of this area.
- The Contractor shall equip site with adequate enclosed containers for the disposal of all refuse resulting from equipment maintenance.
- The Contractor shall equip area with adequate materials, equipment, and containers to contain and control any spills of hazardous materials. Instructions on dealing with spills, names, and phone numbers of persons and agencies to be contacted in the event of a spill must be posted at the site.
- The Contractor shall clean up all spills or leaks of equipment fluids, cleaning fluids, fuels, etc., or other solid wastes immediately and shall remove and dispose off-site of any soils contaminated as a result of the Contractor's activities. All spills involving hazardous waste must be reported to the Airport Emergency Number at xxx upon discovery.
- The Contractor shall restore areas to original condition at conclusion of the Contract Work.
- The Contractor shall not store fuel in bulk on site to prevent potential fires from affecting Operations and shall comply with GTAA procedure for fuel dispensing into vehicles and portable equipment to comply with the National Fire Code of Canada and CEPA's Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations.

Non-Maintenance Related Spills

The Contractor shall:

- Be responsible for spills occurring due to mishandling of fuels during the fueling process, failure of hoses or other components of equipment, etc.
- Submit a contingency plan for dealing with such occurrences to the GTAA's Representative for approval. The plan must describe in detail the action to be taken and the persons and agencies to be notified in the event of such spill.
- Report all spills to the Airport Emergency Number at xxx.

Protection of Waterways

The Contractor shall be responsible for the following:

- Submit to the GTAA for review a plan detailing the methods of protecting adjacent waterways and floodplains during construction. Include the procedures to be followed to reduce and control the siltation of drainage courses and waterways. Show the types and locations of silt barriers, silt fences, flow checks, energy dissipation, etc. The level of siltation entering waterways must meet Federal, Provincial and Local Guidelines. Should the planned methodology be found to be insufficient to control the siltation problem, the Contractor must immediately submit to the GTAA an updated plan and take whatever action is necessary to correct the deficiency. Maintain all siltation controls in proper condition until completion of the Contract.
- Carry out routine inspection of installed flow checks on site. Remove and dispose of flow checks that are clogged and provide new replacement flow checks to ensure silt control is adequate at all times.
- Unless otherwise directed, remove and dispose of all siltation protection devices and restore ditches and other locations to original condition including grading, topsoil, and sodding, etc., at conclusion of Contract Work for this reason.

Dust Control

The Contractor shall be responsible for the following:

- Dust from construction activities creates a serious safety hazard for Airport operations and must be controlled at all times. Absolutely no dust blowing across Airport operating surfaces will be tolerated.
- Maintain sufficient watering equipment on site, at all times, throughout duration of the Contract to control construction dust.
- Dust control by methods or means utilizing or containing chlorides will not be permitted on Airport property.
- Should the Contractor fail to control dust emissions the GTAA reserves the right to order the Contractor to cease all operations until adequate measures have been taken. The Contractor shall not be entitled for any delay claim or for any compensation as a result of the GTAA's direction to stop the Work for this reason.

Wildlife Control

- GTAA regards wildlife on the Airport property as a potential hazard to Airport operations and safety. The GTAA's policy is to carry out the Work in a manner that will minimize such hazards.
- The Contractor shall keep the Site clean and clear of ponding areas and organic garbage that can be a source of food to attract wildlife.

Contaminants

Soil Management, the Contractor shall:

- Ensure that the GTAA is notified immediately whenever contaminated soils or soils of unusual odour or visual quality are encountered, so that an assessment of the relative degree of contamination through on-site or analytical testing can be made. The GTAA will direct soils testing as requested. Analytical results are to be compared to applicable standards including federal and provincial.
- Ensure that excavated soil exceeding the threshold soil quality criteria for petroleum hydrocarbon/glycol and requires remediation is transported directly to the on-site Soil Remediation Facility (biopile) for appropriate treatment, or should the site be full, to an off-site facility. The appropriate soil receiving form shall be completed by the Contractor and approved by the GTAA prior to transporting soil to the facility.
- The Contractor shall ensure that any asphalt and/or concrete that is significantly impacted with petroleum hydrocarbon/glycol be segregated and disposed of off-site at an approved landfill site.
- The Contractor shall ensure, where possible, petroleum hydrocarbon/glycol impacted soil to be separated from soil which exceeds other parameters (i.e., metals). Impacted soil exceeding criteria for parameters other than petroleum hydrocarbon/glycol cannot be transported to the on-site Soil Remediation Facility (biopile).
- Tested soils found below the threshold soil quality criteria shall be re-used on-site by the Contractor.
- The Contractor shall ensure that any petroleum hydrocarbon/glycol contaminated soil that exceeds the threshold soil quality criteria and cannot be immediately transferred to the on-site Soil Remediation Facility is temporarily stockpiled and covered with a polypropylene tarp (or equivalent) to control odours, dust and erosion.
- The Contractor shall ensure that an emergency action plan for spills of pollutants to the natural environment is included where necessary.
- The GTAA will audit Work to ensure the soil management plan is being followed. GTAA Environment Department may choose to audit and verify program performance.
- All weighbills and manifests for materials removed off-site shall be submitted to the GTAA by the Contractor and shall be retained by the GTAA.
- On-site activities, quantities and disposal locations of waste shall be compiled in summary report(s) by the Contractor with information submitted by the Contractor, as minimum, on a monthly basis to the GTAA. The report shall indicate the type and amount (%) of petroleum hydrocarbon/glycol impacted soil transported to the on-site Soil Remediation Facility.
- Records: Weekly and monthly monitoring reports identifying Work completed and measures taken to achieve the "Target" shall be produced by the Contractor and submitted to the GTAA.

Enforcement

- The Contractor shall be aware that protection of the environment is considered to be of prime importance during any Work on Airport property.
- The Contractor is advised that progress payments for work performed will not be made to the Contractor while any requirement for environmental protection is outstanding.
- Directions given by the GTAA with respect to action required to correct environmental deficiencies shall be acted upon immediately by the Contractor.
- In the event that deficiencies in the Work are not promptly corrected, the GTAA will take the necessary action for correction purposes and deduct the cost thereof from any monies due, or to become due, to the Contractor.

Airport: Chattanooga Metropolitan Airport (CHA)	**Airport Operator:** Chattanooga Metropolitan Airport Authority (CMAA)
Document: Environmental Protection Clause	**Department:** Not known
	Date: Not known

The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with silt, fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

The Owner is interested in protecting the environment and therefore will require the recycling of at least 60% of material packaging and waste. The owner encourages the use of recycled material wherever possible.

Airport: Toronto Pearson International Airport (YYZ)	**Airport Operator:** Greater Toronto Airports Authority (GTAA)
Document: Erosion and Sediment Control—Airside and Infrastructure	**Department:** Not known
	Date: 2/21/11

Environmental Measures

- The Contractor shall meet or exceed the requirements of all environmental legislation and regulations including all amendments, as specified in Section 01 35 43—Environmental Protection.
- All environmental issues encountered by the Contractor should immediately be brought to the attention of the GTAA's Representative (or the Communications Centre (CC) in the event the GTAA's Representative is not available) who will coordinate with the Greater Toronto Airports Authority (GTAA) Environment Department for implementation.

Control Plan

- The Contractor shall submit sediment and erosion control plan as part of the Work Plan, which, without limitation, shall contain the following:
  - A key map showing location of site with boundaries, total area in hectares, and scale.
  - Location and land use of the buildings and facilities adjacent to the site.
  - Dust control which shall comply with Section 01 35 43.
  - Location, dimensions and use of the buildings and other structures existing on the site or proposed to be constructed on the site.
  - Location of ponds, stormwater management facilities (SWM), streams, wetlands, channels, ditches, other water courses, sanitary and stormwater manholes, etc., on and within thirty (30) meters beyond the site boundaries.
  - Regional Storm Flood and Conservation Authority Fill Regulation Lines and any other relevant restrictions on site, where applicable.
  - Stratigraphy of predominant soil types and vegetative cover.
  - Location and dimensions of any existing and proposed stormwater drainage systems and natural drainage patterns on and within thirty (30) meters beyond the site boundary.
  - Location(s) of any soil or dirt storage pile containing more than one hundred (100) cubic meters of materials.
  - Location(s) of silt fences, straw bales, rock dams etc.
  - Existing site topography at a contour interval not to exceed a half (0.5) meter and to extend a minimum of thirty (30) meters beyond the site boundary.
  - Proposed final elevations of the site with the location and dimensions of all land disturbing activities and temporary stockpiles with their respective schedules.
  - Location(s) of slopes to be protected and erosion control methods to be implemented.
  - Location, dimensions, design details and design calculations of all construction site control measures necessary to meet the requirements of this plan.
  - Provisions for the maintenance of the construction site control measures during construction and during the maintenance/warranty period.
  - A schedule of the anticipated starting and completion dates of each land disturbing or land development activity including installation of construction site control measures needed to meet the requirements of this plan.
  - Any other necessary information with respect to the site.
- The Contractor is advised that erosion and sediment control shall comply with the Plans and Specifications and as directed by GTAA's representative.
- The Control Plan to be submitted by the Contractor must be certified by a professional engineer who is licensed to practice in the Province of Ontario or any other qualified person approved in advance by the GTAA's representative.
- The GTAA at its sole discretion may waive the requirements for the Contractor to submit for a Control Plan after consideration of the cost of the proposed Work, the anticipated impact on the adjacent body of water\drainage system and the use of the property.
- Erosion and sediment Control Plans submitted by the Contractor shall meet the site design guidelines and comply with the conditions as specified herein.
- The Contractor is advised that sedimentation basins and other control measures necessary to meet the requirements of the Control Plan shall be put in place by the Contractor prior to any land disturbance on site. These measures shall be maintained by the Contractor during the period of land disturbance in a manner satisfactory to the GTAA, in order to ensure adequate compliance with the requirements of this plan and to prevent damage occurring as a result of erosion, sedimentation and flooding.
- The GTAA will inspect the site(s) for which Control Plans have been issued for compliance with the approved Control Plan.
- Site restoration must be completed by the Contractor and the soil mass must be stabilized prior to the removal of erosion and sediment control measures.

Site Design Criteria

- The Contractor shall be responsible for the following:
  - Site Dewatering:
    - △ Water pumped from the site shall be treated with appropriate controls to ensure compliance with applicable guidelines and regulations.
    - △ If it is demonstrated that water is transparent and has no particles greater than 40 microns, then dewatering operation may be conducted on condition that water is not discharged directly into catchbasins or receiving bodies of water or streams.
    - △ Erosion control and energy dissipation at discharge points.
    - △ Ensure continued compliance by frequent monitoring of operation.
  - Storm or any other inlets, as the GTAA deems necessary, shall be protected by the Contractor with appropriate erosion control measures that meet acceptable design criteria, standards, and specifications acceptable to the GTAA.

- The Contractor is advised that applicable criteria to land disturbing activities that result in runoff leaving the site are as follows:
  - △ Runoff from adjacent areas passing through the site shall be deviated around disturbed areas, if practicable, and as directed. Otherwise, the channel shall be protected with appropriate measures to reduce sediments reaching the channel.
  - △ All activities on site shall be conducted in an approved sequence to minimize the area of bare soil exposed at any one time.
  - △ Any storage pile containing more than one hundred (100) cubic meters of material shall not be located within a downslope drainage length fewer than ten (10) meters away from a roadway or drainage channel. If such pile is intended to remain in place for more than thirty (30) days, it shall be adequately stabilized by the Contractor with a method which shall be subject to GTAA's approval. Erosion from storage piles which are intended to remain in place for fewer than thirty (30) days shall be controlled with appropriate measures to be installed by the Contractor and approved by the GTAA.
  - △ Runoff from the entire disturbed site shall be controlled by the Contractor as specified in Section 01 35 43—Environmental Protection.
- Control Plan submitted by the Contractor must contain provisions for a mud tracking prevention program and continual access road cleaning.
- All spoils from caisson drilling, boring, tunneling, and other Work shall be deposited into settling ponds constructed on site and that these ponds shall be regularly pumped dry and the selected material disposed of offsite according to all relevant legislation. This material shall not be used as load bearing fill. Settling ponds shall be maintained as specified in Section 01 35 43.

GTAA Regulations

- The Contractor is an Erosion and Sediment Control Plan Holder and as such shall:
  - Notify the GTAA within 48 hours of commencing any land disturbing activities.
  - Notify the GTAA of the completion of any control measures.
  - Notify the GTAA before dewatering operation on site.
  - Obtain GTAA's permission, in writing, prior to modifying the approved Control Plan.
  - Install all control measures as identified in the approved Control Plan.
  - Maintain road drainage systems, stormwater drainage system, control measures, and other facilities identified in the Control Plan.
  - Repair any siltation or erosion damage to adjoining surfaces and drainage ways resulting from land developing or disturbing activities.
  - Inspect the construction control measures at least once per week and after each precipitation event of 10 mm or greater and make necessary repairs, if required.
  - Allow the GTAA to enter the site for the purpose of inspecting for compliance with the Control Plan or performing any Work necessary to bring the site into compliance with the Control Plan.
  - Maintain a copy of the Control Plan on site.

Enforcement

- The Contractor is advised that protection of the environment is considered to be of prime importance during any Work on GTAA property.
- Progress payments will not be made to the Contractor while any requirement for environmental protection is outstanding.
- The Contractor is advised that directions (verbal or written) given to them by the GTAA with respect to action required to correct environmental deficiencies must be acted upon immediately.
- In the event that deficiencies in the Work are not promptly corrected by the Contractor, GTAA will take the necessary action for correction purposes and will deduct the cost thereof from any monies due or to become due to the Contractor.

Measurement Procedures

No additional payment will be made for compliance with the erosion and sediment control and the cost thereof will be deemed to have been included in the Contract Price.

Airport: Zurich Airport (ZRH)	**Airport Operator:** Flughafen Zürich AG
Document: General Environmental Terms and Conditions for Zurich Airport	**Department:** Not known
	Date: August 2010

- Content and Applicability
  - The current general environmental terms and conditions apply to all business relations of Flughafen Zürich AG. Agreements differing from the current terms and conditions are to be documented and to be submitted to the Environmental Department of Flughafen Zürich AG for approval. The general terms and conditions are based on art. 132 of the operating manual for Zurich airport.
- Environmental Regulations and Legal Provisions
  - The contract partner is obliged to adhere to the environmental conditions and legal requirements as set forth by Flughafen Zürich AG. This also applies to all not explicitly mentioned legal provisions.
- Documentation and Information Duty
  - The contract partner provides all environmentally relevant data to Flughafen Zürich AG free of charge and informs on all direct environmental impacts caused by its business activity. Flughafen Zürich AG defines type and scope of the required data. Flughafen Zürich AG publishes information on the environmental impacts of the whole system Zurich airport.
- Confidentiality
  - Both parties will not disclose any information from the other's business activity that is not generally obtainable or generally known. Both parties take all measures required to prevent any third party to obtain such information. This also applies to all employees of both parties.
- Cooperation
  - The contract partner commits to cooperate with Flughafen Zürich AG in environmental protection to improve the eco-efficiency of the airport. The contract partner in particular supports Flughafen Zürich AG in implementing environmental measures. The contract partner indicates a point or person of contact for environmental matters to Flughafen Zürich AG.
- Specific Requirements
  - Waste and Recyclables
    - △ The contract partner commits to collect waste and recyclables according to the provisions set forth by

Flughafen Zürich AG and to separate them into the specified fractions as to enable; e.g., paper/cardboard, plastics, PET, and wood to be brought into proper treatment.
  - △ The disposal of all waste and recyclables within rental relations is done by Flughafen Zürich AG. Exceptions may be granted to a tenant after prior approval of a proper disposal concept
  - △ Waste and recyclables of any kind may only be stored in specified locations and in a manner that respects requirements of occupational health and preventative fire code. Tenants who dispose of waste themselves are obliged to provide suitable containers at their own costs for separation and storing of waste and recyclable, label them properly, and place them at locations approved by Flughafen Zürich AG
  - △ Tenants disposing of waste themselves report the amount of disposed waste and recyclables of the previous year to Flughafen Zürich AG, Environmental Department, until January 31st.
- Water, Waste Water
  - Depending on the utilization, additional waste water pre-treatment has to be done on-site. This applies in particular if by the type of business of the tenant significant amounts of oil, grease of beverage residues go into the waste water. Flughafen Zürich AG retains the right to implement additional measures and requirements for water savings or waste water pre-treatment.
- Energy
  - The contract party actively supports Flughafen Zürich AG in the optimization of the energy efficiency according to the large consumer contract with the Canton of Zürich (2008) and the reduction of the energy consumption. In the procurement of devices, machinery and lighting, energy-efficient products are to be preferred (e.g., energy label). The installation of energy-relevant interior devices requires a permission. Required is a declaration of need and energy consumption handed in to Flughafen Zürich AG, HLKKS. Flughafen Zürich AG retains the right to implement additional measures and requirements for energy savings.
- Air Quality
  - The contract party has to take all operationally and economically bearable measures for clean air and climate protection. Of particular reference are the exhaust maintenance conditions for motor vehicles, art. 10, para 4 of the "Bodenverkehrsordnung" for the non public airport area (edition 21.08.2009). Flughafen Zürich AG retains the right to implement additional measures and requirements for improving the air quality.
- Traffic
  - The contract party actively supports Flughafen Zürich AG to maintain the achieved modal split (share of public transportation trips on the total trips). The contract party promotes the use of public transportation by the staff for their commute. If parking passes for employees are subsidized, then the usage of public transportation has to be subsidized in the same amount.
- Hazardous Goods and Substances
  - Separate conditions apply to the handling, transport, treatment and storage of hazardous goods and substances. Goods and substances that present a fire or explosion hazard, combustible liquids or gases, radio-active substances, chemicals or other environmentally hazardous goods and substances have to be stored in dedicated containers, lockers and rooms and protected from unauthorized access.
- Cost Bearing
  - Each contract party has to bear the costs according to the polluter-pays-principle.
- Special Conditions
  - The general environmental terms and conditions regulate the minimum standard at Zurich airport. If the type of business of the contract party requires special conditions for environmental protections, then they have to be documented in writing and submitted to Flughafen Zürich AG, Environmental Protection for approval.

Airport: Toronto Pearson International Airport (YYZ)	**Airport Operator:** Greater Toronto Airports Authority (GTAA)
Document: GTAA Evaluation Criteria (non construction)	**Department:** Not known
	Date: Not known

Evaluation Criteria

- Process
  - The evaluation shall be performed by a GTAA committee comprised of such persons as may be assigned by the GTAA. The evaluation shall occur as soon as practicable after the Closing Time. The tenderer's tender shall be evaluated in accordance with this Request for Tender. Compliant tenders shall be scored and ranked according to the scoring criteria set out below. The scoring of tenders shall not be completed until all outstanding issues have been clarified.
  - The GTAA endorses the use of environmentally friendly products or processes and encourages suppliers and contractors to become ISO 14001 registered. Tenderer's already ISO 14001 registered should state this clearly in their tenders. Tenderers are encouraged to suggest environmentally friendly products in their tenders, provided these products or processes meet GTAA specifications. ISO 14001 awareness will be taken into consideration in the evaluation of tenders.
  - The final ranking of tenders shall be based on their respective total scores, including the results of any presentations.

Scoring Criteria

- Compliant tenders shall be evaluated as follows: PLEASE NOTE THE WEIGHT CAN BE CHANGED HOWEVER THIS CRITERIA MUST BE IN ALL EVALUATIONS
  - 5%—Use of environmentally friendly products or processes; ISO 14001 registration of Tenderer.

Selection Method

- Without limiting the generality of the GTAA's rights described elsewhere herein, the GTAA shall not be required to accept the highest ranked or lowest cost tender.

Evaluation Criteria

In evaluating tenders, the GTAA may in its sole discretion consider any criteria and considerations, including, and not necessarily in the following order of importance:

- The use of environmentally friendly products or processes, including tenderer's ISO 14001 registration (if any).

Airport: Chicago O'Hare International Airport (ORD) and Midway International Airport (MDW)	**Airport Operator:** Chicago Department of Aviation (CDA)
Document: Sustainability Assessment (screening process for projects)	**Department:** Not Known
	Date: Not known

Rules

- Sustainability considerations and goals must to be integrated into the planning, design, and construction processes for all projects at O'Hare International Airport (ORD) and Midway International Airport (MDW), regardless of size and scope.
- CDA–Environment and the Sustainable Review Panel (SRP), led by CDA Deputy Commissioner of Sustainability, must be made aware of all projects, including design and construction projects, at ORD and MDW in order to:
  - Determine what, if any, environmental coordination, approval, and/or permitting with local, regional, state, or federal regulatory agencies will be required, and to obtain such approvals as early in the project as possible so as not to disrupt project schedules.
  - Provide timely review and input regarding potential incorporation of Sustainable Airport Manual (SAM) guidance into the OMP Project Definition Document (PDD) or the CDA CIP Application document, as appropriate.

Process Flow & Procedures

- Receive Coordination Form—CDA–Environment will receive an Environmental Compliance and SAM Guidance Design & Construction Coordination Form for any new design or construction project to be initiated at ORD or MDW.
  - The Project Manager assigned to the project will complete and submit the Environmental Compliance and SAM Guidance Design & Construction Coordination Form to CDA–Environment via e-mail.
    - △ The Environmental Compliance and SAM Guidance Design & Construction Coordination Form, along with any supporting documentation, must be submitted to CDA–Environment within thirty (30) calendar days of the Project Manager being assigned to the project.
    - △ The Environmental Compliance and SAM Guidance Design & Construction Coordination Form and supporting documentation should be submitted directly to the Deputy Commissioner of Sustainability.
      - ◦ The e-mail subject line should read "Design and Construction Coordination Form."
- Review Coordination Form—The Deputy Commissioner of Sustainability and the SRP will review the Environmental Compliance and SAM Guidance Design & Construction Coordination Form.
  - The Deputy Commissioner of Sustainability will review the Environmental Compliance and SAM Guidance Design & Construction Coordination Form for completeness and accuracy.
    - △ If the Environmental Compliance and SAM Guidance Design & Construction Coordination Form is incomplete, the Deputy Commissioner of Sustainability will notify the Project Manager and request additional information, clarification, correction, and resubmission, as appropriate.
  - The Deputy Commissioner of Sustainability will confer with the SRP as appropriate.
    - △ The SRP is comprised of representatives of the CDA Management Staff, CDA Design and Construction Staff and Representatives, OMP Project Management Office (PMO) and Master Civil Engineer (MCE), and Airport Planners actively involved in CDA projects.
  - The Deputy Commissioner of Sustainability, in conjunction with the SRP, will formulate a response to the Environmental Compliance and SAM Guidance Design & Construction Coordination Form.
- Provide Response to Project Manager—Within five (5) business days of receipt, the CDA Deputy Commissioner of Sustainability will provide a response to the Project Manager indicating what actions related to the project, if any, are required from a CDA–Environment perspective.

Forms, Documents, & Resources

The following key documents are required to complete this process:

Title	Purpose	Submission
Environmental Compliance and SAM Guidance Design & Construction Coordination Form	Coordinate the environmental elements of construction projects at ORD and MDW	From CDA Project Managers to CDA Environment

Compliance

Compliance with the rules and procedures of this SOP is mandatory. Failure to comply with this SOP may result in disciplinary action pursuant to and in accordance with DHR Personnel Rules, CDA policies and procedures, and any applicable collective bargaining agreements.

Failure to comply may result in penalties and/or citations from environmental regulatory agencies.

Airport: Chicago O'Hare International Airport (ORD)	**Airport Operator:** Chicago Department of Aviation (CDA)
Document: Sustainability requirements for all contracts	**Department:** Not known
	Date: Not known

Sustainability Requirements

The Chicago Department of Aviation (CDA) is embracing the best possible environmental, social, and fiscally responsible practices to enhance the quality of life and complement the overall mission and goals of the City of Chicago. The Sustainable Air-

port Manual ("SAM") is an integral part of Chicago's ongoing efforts toward implementing more environmentally sustainable buildings and civil infrastructure, incorporating best practice guidance for planning, operations, and maintenance of all City airport facilities and functions, and those of its tenants.

The purpose of the SAM is to integrate airport-specific sustainable planning and practices early in the design process, through planning, construction, operations, maintenance, and all airport functions with minimal impact to schedule or budget. To achieve greater success, the SAM should be considered in every aspect of a project and daily activities. The SAM is available at www.airportsgoinggreen.org\SAM.

To assist in implementation, monitoring, and enforcement of these requirements, a representative from the CDA Environment Division will participate in routine meetings with the Contractor.

Airport: Not applicable	**Airport Operator:** Not applicable
Document: California Buildings Code (CalGreen) (California Code of Regulations, Title 24)	**Department:** California Building Standards Commission
	Date: 2010

The mandatory sustainability provisions of the CALGreen Code are listed below:

Energy Efficiency (Code Division 5.2)

The mandatory energy efficiency standards in the CALGreen Code are based on the mandatory building standards developed by the California Energy Commission. The intent of the Code, however, is to encourage buildings to achieve exemplary performance in the area of energy efficiency. For the purposes of energy efficiency standards, the California Energy Commission stipulates that a green building should achieve at least a 15% reduction in energy usage when compared to the State's mandatory energy efficiency standards.

Water Efficiency and Conservation (Code Division 5.3)

- Indoor Water Use. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 20% shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fittings as required by the California Building Standards Code.
- Wastewater Reduction. Each building shall reduce wastewater generation by 20% by using water conserving fixtures and/or using non-potable water sources.
- Water Budget. A water budget shall be developed for landscape irrigation use that conforms to the local water efficient landscape ordinance or to the California Department of Water Resources Model Water Efficient Landscape Ordinance where no local ordinance is applicable. Sub-metering of outdoor water use may also be required depending on the size of landscaping area.
- Irrigation Design. Installation of irrigation sensors and controllers may be required based on the landscaping area.

Material Conservation and Resource Efficiency (Code Division 5.4)

This Division includes various provisions for selection and protection of construction materials to increase the longevity of buildings and for proper disposal/recycling of construction/demolition waste.

- Weather Protection. Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2 (Weather Protection) and California Energy Code Section 150 (Mandatory Features and Devices), manufacturer's installation instructions, or local ordinance, whichever is more stringent.
- Moisture control. Employ moisture control measures by designing the landscape irrigation systems to prevent spraying on structures. Also design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings.
- Construction waste management, disposal, and recycling. Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction waste and 100% of soil, plants, and other land clearing debris.
- Source separation facilities. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of nonhazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, and metals.
- Performance Approach
  1. Energy Performance. Achieve at least a 15% reduction in energy usage when compared to the State's mandatory energy efficiency standards (Tier 1) or 30% efficiency (Tier 2) (Code Section A5-203). The intent of these "reach" standards is to encourage building performance beyond the requirements in the 2010 California Energy Code, CCR, Title 24, Part 6, which are based on the Energy Commission's 2008 Building Energy Efficiency Standards. The State 2008 Long Term Energy Efficiency Strategic Plan calls for zero net energy use in newly constructed commercial buildings by 2030, and these reach standards are meant to assist with meeting that goal.
- Prescriptive Approach
  1. ENERGY STAR Equipment and Appliances. All equipment and appliances provided by the builder shall be ENERGY STAR labeled if ENERGY STAR is applicable to that equipment or appliance (Code Section A5-204.1). The intent of this provision is to encourage the installation of equipment and appliances that, carrying the ENERGY STAR label, are certified under that national program to be more energy efficient than standard equipment and appliances. ENERGY STAR products meet federal energy efficiency standards (see section immediately following), include features appealing to customers, and are generally available in the marketplace.
  2. Energy monitoring. Provide sub-metering or equivalent combinations of sensor measurements and thermodynamic calculations, if appropriate, to record energy use data for each major energy system in the building, including chillers, heat pumps, packaged AC systems, fans, pumps, cooling towers, boilers and other heating systems, lighting systems, and process loads. This energy use data, once collected, shall be stored within a data management system (Code Section A5-204.2). The intent of energy monitoring is to encourage building performance beyond the requirements established by the Energy Commission's Title-24 Part 6 Energy Efficiency Standards. Building monitoring provides a continuous data feed which can be used to correct system imbalances, rectify incorrect adjustments and resolve other system problems, assuring optimal system

performance when used by maintenance and management staff after building occupancy. The installation of building monitoring requires carefully followed installation protocols to assure that the initial building performance readings are correct. The building performance shall be established by one of the four options provided by the International Performance Measurement and Verification Protocol (IPMVP 2002).

3. Demand Response. HVAC systems with Direct Digital Control Systems and centralized lighting systems shall include pre-programmed demand response strategies that are automated with either a Demand Response Automation Internet Software Client or dry contact relays. The intent of this provision is to encourage the installation of automated controls that can reduce a building's power demand in response to a request signal. The request signal is typically issued by a local utility (Code Section A5-204.3).
4. Green Power. If offered by local utility provider, participate in a renewable energy portfolio program that provides a minimum of 50% electrical power from renewable sources. Maintain documentation through utility billings. The intent of this provision is to encourage the purchase of electricity from a utility that offers a renewable energy portfolio, reducing dependency on carbon-based fuel for energy generation and associated greenhouse gas emissions (Code Section A5-211.3).

Renewable Energy (Code Section A5-211)

- Pre-wiring for future rooftop solar. Size and install conduit from the building roof or eave to a location within the building identified as suitable for future installation of controls and/or storage batteries. The intent of this provision is to facilitate the installation of photovoltaic panels on a building in the future, if it is not accomplished during the initial construction of the project.

Elevators, Escalators and Other Equipment (Code Section A5-212)

In buildings with more than one elevator or two escalators, provide systems and controls to reduce the energy demand of elevators and escalators as follows. Include documentation of systems operation and controls in the project specifications and commissioning plan.

- Elevators. Traction elevators shall have a regenerative drive system that feeds electrical power back into the building grid when the elevator is in motion.
- Car lights and fan. A parked elevator shall turn off its car lights and fan automatically until the elevator is called for use.
- Escalators. An escalator shall have a variable-voltage-variable-frequency (VVVF) motor drive system that is fully regenerative when the escalator is in motion.
- Stairs as an alternative. Locate stairs conveniently to encourage their use in lieu of elevators or escalators.
- Controls. Controls that reduce energy demand shall meet requirements of CCR, Title 8, Chapter 4, Subchapter 6 and shall not interrupt emergency operations for elevators required in CCR, Title 24, Part 2, California Building Code.

Energy Efficient Steel Framing (Code Section A5.213)

Design steel framing for maximum energy efficiency. The intent of this provision is to provide the means to reduce the thermal bridging of materials in contact with steel framing and to conserve the amount of steel used in a steel framing system.

Water Efficiency and Conservation (Code Division A5.3)

- Indoor Water Use. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 30, 35, or 40% shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fitting as required by the California Building Standards Code. The intent of these code provisions is to enhance indoor potable water use reduction beyond the mandatory requirement of 20%. California's water supply is unpredictable and is likely to be stretched by future population growth and drought periods. The provisions also respond to the energy demands of treating potable water and moving it around the state.
- Appliances. The intent of this code provision is to enhance indoor potable water use reduction when a project includes water-using appliances supplied as part of the construction contract, not just plumbing fixtures. It may also be used to assist compliance with the mandatory requirement of 20% reduction in Section 5.303.2, the Tiers, or the 40% reduction.
- Dual plumbing. New buildings and facilities shall be dual plumbed for potable and recycled water systems for toilet flushing when recycled water is available as determined by the enforcement authority. The intent of this code provision is to reduce indoor potable water use when recycled water is available in the community. It can be used to meet the 20%, Tier 1 and Tier 2 or 40% reduction standards.
- Outdoor potable water use. For new water service not subject to the provisions of Water Code Section 535, separate meters or sub-meters shall be installed for indoor and outdoor potable water use for landscaped areas of at least 500 square feet but not more than 1000 square feet (the level at which Section 5.304.2 applies). The intent of this code provision is to reduce indoor potable water use when recycled water is available in the community. It can be used to meet the 20%, Tier 1 and Tier 2 or 40% reduction standards.
- Potable water reduction. Provide water efficient landscape irrigation design that reduces the use of potable water beyond the initial requirements for plant installation and establishment in accordance with Section A5.304.4.1 or A5.304.4.2. Calculations for the reduction shall be based on the water budget developed pursuant to Section 5.304.1. The intent of these code provisions is to reduce the use of potable water for landscape irrigation beyond the mandatory requirements of the water budget in Section 5.304.1. The idea is to recognize that water is a scarce resource in California and take opportunities to reduce use whenever feasible. For this reason, these provisions are made part of the tier structure, which if adopted at the local level, will become minimum mandatory requirements for that community.
- Potable water elimination. Provide a water efficient landscape irrigation design that eliminates the use of potable water beyond the initial requirements for plant installation and establishment. Methods used to accomplish the requirements of this section must be designed to the requirements of the California Building Standards Code and shall include, but not be limited to, the following:
  1. Plant evapotranspiration coefficient.
  2. Irrigation efficiency and distribution uniformity.
  3. Use of captured rainwater.
  4. Use of recycled water.
  5. Water treated for irrigation purposes and conveyed by a water district or public entity.
  6. Use of graywater.

The intent of these code provisions is to eliminate the use of potable water for landscape irrigation altogether. It emphasizes preserving the resource for human and wildlife consumption and for growing food exclusively.

- Restoration of areas disturbed by construction. Restore all landscape areas disturbed during construction by planting with local adaptive and/or non-invasive vegetation. The intent of these code provisions is to reduce the use of potable water for landscape irrigation through restoring disturbed or previously developed sites with locally adaptive, including native vegetation. It is meant to assist with control of erosion and stormwater pollution during and after construction. It also seeks to reduce the possibility of the spread of invasive exotic vegetation that have a tendency to overrun their ecosystems, reducing diversity of flora and fauna.
- Graywater Irrigation System. Install a graywater collection system for onsite subsurface irrigation using graywater collected from bathtubs, showers, bathroom wash basins, and laundry water.

Material Conservation and Resource Efficiency (Code Section A5.4)

- Wood framing. Employ Advanced Wood Framing Techniques, or Optimum Value Engineering (OVE), as recommended by the US Department of Energy's Office of Building Technology, State and Community Programs and as permitted by the enforcing agency. The intent of this measure is to decrease the quantity of wood needed to achieve structural framing standards that meet or exceed Title 24 wood framing requirements. A framing plan can do more than just layout studs, openings, floor and roof joists, etc. There are opportunities to value engineer the floor system and obtain a proper joist count, to ensure all plumbing and HVAC is coordinated with the floor framing, and to ensure that the "stack framing" concept is followed on the job site. Most importantly, all these issues are resolved on paper prior to casting the foundation.
- Regional materials. Compared to other products in a given product category, select building materials or products for permanent installation on the project that have been harvested or manufactured in California or within 500 miles of the project site.
  1. For those materials locally manufactured, select materials manufactured using low embodied energy or those that will result in net energy savings over their useful life.
  2. Regional materials shall make up at least 10%, based on cost, of total materials value.
  3. If regional materials make up only part of a product, their values are calculated as percentages based on weight.
  4. Provide documentation of the origin, net projected energy savings, and value of regional materials.

The intent of this code provision is to conserve the energy associated with the transportation of building materials over long distances to the jobsite.

- Bio-based materials. Select bio-based building materials and products made from solid wood, engineered wood, bamboo, wool, cotton, cork, straw, natural fibers, products made from crops (soy-based, corn-based) and other bio-based materials with at least 50% bio-based content. The intent of this code provision is to promote sustainable building practices by using self-regenerating materials wherever possible; as opposed to finite and limited source materials.
- Reused materials. Use salvaged, refurbished, refinished, or reused materials for a minimum of 5% of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values. The intent of this voluntary code measure is to further conserve materials through the re-use of at least 5% of total building materials based on estimated construction cost.
- Recycled content. Use materials, equivalent in performance to virgin materials with a total (combined) recycled content value (RCV) of 10 to 15% based on the total materials cost for the project. The purpose of this code measure is to reduce the use of virgin materials in favor of a percentage of the materials to meet varying levels of pre- or post-consumer recycled content values (RVC). These voluntary levels of compliance at 10% and 15% are intended to provide "reach" standards to help California meet its energy and greenhouse gas reduction goals.
- Cement and concrete. Use cement and concrete made with recycled products and complying with the requirements of Code Section A5.405.5. The intent of these measures encourage the use of alternate supplementary cementitious materials (SCMs) (which would otherwise be industrial byproducts that would make its way into the waste stream) as a replacement for the energy intensive transformation of limestone and clay to cement in the manufacture of concrete subject to applicable ASTM standards and exceptions specified in the Code. The recycle content requirements for cement and concrete could also be met by using alternative fuels, alternative power, alternative energy, recycled aggregates, alternative mixing water, and/or high strength concrete as defined in Code Section A5.405.5.3.

These measures encourage the use of alternative energy sources, mined aggregate replacement and an alternative to potable water in the manufacture of concrete in addition to the provisions of Sections A5.405.5–A5.405.2.1.1 in an overall approach of conserving energy and materials in order to achieve resource efficiency.

Enhanced Durability and Reduced Maintenance (Code Section A5.406)

- Choice of materials. Compared to other products in a given product category, choose materials proven to be characterized by one or more of the following.
- Service life. Select materials for longevity and minimal deterioration under conditions of use. Use materials, equivalent in performance to virgin materials, with post-consumer or pre-consumer recycled content value (RVC) for a minimum of 10% of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.
- Reduced maintenance. Select materials that require little, if any, finishing. For those with surface protection, choose materials that do not require frequent applications of toxic or malodorous finishes.

Airport: Portland International Airport (PDX)	**Airport Operator:** Port of Portland
Document: Construction Contract Template—environmental requirements	**Department:** Not known
	Date: Not known

Environmental Responsibilities

The following federal, state, and local agencies have enacted ordinances or regulations dealing with the prevention of environmental

pollution and the preservation of natural resources that affect the performance of this Contract:

- City and county where the work is to be performed
- Metro
- Oregon Environmental Quality Commission
- Oregon Fish and Wildlife Commission
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service

Known conditions at the construction site that may require the Contractor to comply with statutes or with ordinances or regulations enacted by the agencies listed above are specifically referred to at various places in this Contract, including but not necessarily limited to Division 1 of the Specifications.

The Contractor is solely responsible for (1) considering applicable statutes and the ordinances and regulations enacted by the agencies listed above, (2) considering the known conditions specifically referred to in this Contract, and (3) ensuring that the activities of the Contractor and the Contractor's employees, Subcontractors (including suppliers), agents, and invitees with respect to those conditions do not violate any of those statutes, ordinances, or regulations. Without limiting the foregoing, the Contractor is solely responsible for the following environmental and natural resource risks associated with the performance of this Contract:

- Air pollution;
- Water pollution;
- Contamination of soil, groundwater, or sediment;
- Filling or destruction of wetlands;
- Taking of a federally listed threatened or endangered species through habitat destruction, habitat degradation, or otherwise; and
- Introduction of an invasive species.

In addition to the foregoing requirements, the Contractor shall manage and conduct all activities related to the performance of this Contract in accordance with all environmental Laws and regulations, and with the requirements of all permits issued under those Laws and regulations of which the Contractor has been given notice or has actual knowledge. "Environmental laws and regulations" means all federal and state statutes, all local ordinances, and all regulations adopted pursuant to those statutes and ordinances, as any of them may be amended from time to time, dealing with the prevention of environmental pollution or the preservation of natural resources, including but not limited to: the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation and Liability Act, the Toxic Substances Control Act, the Clean Air Act, the Clean Water Act, and Oregon Revised Statutes Chapters 465, 466, 467, 468, 468A, 468B, and 496. If the Contractor believes compliance with a requirement under this Contract or a direction given by the Port will result in violation of any environmental laws or regulations, the Contractor shall so notify the Port in writing immediately and shall not proceed pursuant to that requirement or direction until the Port directs the Contractor to proceed.

In the event of a sudden spill or discharge of hazardous material as a result of actions related to this Contract by the Contractor or the Contractor's Subcontractor or agent, the Port may take action, including contracting for control or cleanup of the spill or discharge, unless the Contractor takes immediate appropriate action. If the Port takes action pursuant to this paragraph, the Port may recover from the Contractor all reasonable cost necessarily incurred in effecting the control and cleanup of the spill or discharge. Regardless of who undertakes the cleanup or control of the spill or discharge, the methods used shall be subject to the approval of the Port.

Airport: San Francisco International Airport (SFO)	**Airport Operator:** City and County of San Francisco
Document: SFO environmental contractual requirements for new tenants improvements projects	**Department:** Not known
	Date: Not known

Recycled Content

Tenants are required to specify materials with recycled content for a minimum of 10% of the total value of all materials in their build-out.

Local & Regional Materials

Tenants are encouraged to specify materials and products extracted, processed, and manufactured locally, within a 500 mile radius from the job site.

Energy Efficiency

Tenants are required to specify lighting and mechanical equipment that is at least *14% better than ASHRAE/IESNA standard 90.1-2004.* To further reduce energy costs and improve performance, tenants shall select kitchen equipment, computers, and general miscellaneous equipment that is energy efficient or has the Energy Star label.

Water Efficiency

Tenants shall use kitchen sinks, dishwashers, ice makers, and steam cookers that use at least 20% less water than standard fixtures that meet the Energy Policy Act of 1992 (LEED WEc3 Water Use Reduction).

Design and Construction

Tenants, though not required (for <5,000 sq. ft.) to seek LEED certification, are required to support the Airport in these goals, and build and operate their facilities in the most sustainable manner possible.

Airport: Los Angeles (LAX), Los Angeles/Ontario International Airport (ONT), Van Nuys Airport (VNY), and Los Angeles/ Palmdale Regional Airport (PMD)	**Airport Operator:** Los Angeles World Airports (LAWA)
Document: Sustainable Design and Construction Guidelines	**Department:**
	Date:

Los Angeles World Airports (LAWA) strives to be a leader in the development and implementation of sustainable airport planning, design, and construction practices. Building from its vision "to set the global airport standard for customer satisfaction and security, regional economic leadership and organizational performance," LAWA also endeavors to support various local and regional sustainability commitments, including, but not limited to:

- City of Los Angeles Mayor's Executive Directive No. 10 on Sustainable Practices;

- City Council's motion to have Los Angeles International Airport (LAX) "built and held to the highest green standards"; and
- Board of Airport Commissioners' (BOAC's) goal to make LAX the greenest airport in the world.

LAWA is committed to becoming the "global leader in airport sustainability" by continually improving the sustainability performance of every facet of its organization. To support this commitment, LAWA developed these Sustainable Airport Planning, Design and Construction Guidelines (Guidelines) to facilitate the integration of sustainable concepts and practices into capital, non-capital and tenant projects that are undertaken at each of its four airports: LAX, LA/Ontario International Airport (ONT), Van Nuys Airport (VNY), and LA/Palmdale Regional Airport (PMD). The Guidelines are intended to provide a foundation for sustainable practices, enhance awareness, drive innovation and create flexibility for users to think "outside of the box" with regard to improving the inclusion of sustainable practices into its projects. The Guidelines are also intended to be a resource that can be easily used by other airports nationwide. The content of the Guidelines provides the necessary framework and tools to improve the sustainability performance of planning, design and construction projects, including:

- Performance standards that contain required actions and targets, metrics, documentation, and technical approaches to guide various planning, design, and construction activities;
- Processes for monitoring and measuring the level of success in achieving the requirements of the performance standards; and
- Methodologies for ensuring the continual integration of sustainability into airport projects.

Airport: Hartsfield–Jackson Atlanta International Airport (ATL)	**Airport Operator:** Atlanta Airline Terminal Corporation (AATC)
Document: Sustainable Development Design Standards	**Department:** Not known
	Date: 12/9/03

Sustainable Development Design Standards

- The City of Atlanta shall integrate green and/or sustainable building principles and practices into the design, construction, and operations of all city facilities and city-funded projects to the fullest extent possible and at minimum to the extent described in section 75-19. Furthermore, the city shall provide leadership and guidance to encourage the application of green building practices in private sector development. This policy is expected to yield long-term cost savings to the city's taxpayers due to substantial improvements in life-cycle performance and reduced life-cycle costs.
- In addition, the city shall evaluate all land purchases for future development on the basis of reducing environmental impacts that include but are not limited to transit, pedestrian, and bicycle accessibility, urban and brownfields redevelopment, solar access, on-site stormwater mitigation capacity, and vegetation and habitat restoration.
- Purpose
  - The purpose of the City of Atlanta's policy on sustainable building is to require the city's commitment to environmental, economic, and social stewardship, to yield cost savings to the city taxpayers through reduced operating costs, to provide healthy and productive work environments for staff and visitors, and to contribute to the city's goals of protecting, conserving, and enhancing the region's environmental resources. Additionally, the city shall help to set a community standard of sustainable building.
- Organizations affected
  - All city departments and offices and their contractors responsible for financing, planning, designing, developing, constructing, and managing city-owned facilities and buildings.
- Definitions
  - *Sustainable building:* Sustainable building means the integration of building materials and methods that promote environmental quality, economic vitality, and social benefit through the design, construction, and operation of the built environment. Sustainable building merges sound, environmentally responsible practices into one discipline that looks at the environmental, economic, and social effects of a building or built project as a whole. Sustainable design encompasses the following broad topics: efficient management of energy and water resources, management of material resources and waste, protection of environmental quality, protection of health and indoor environmental quality, reinforcement of natural systems, and integrating the design approach.
  - *Life-cycle cost analysis:* An inclusive approach to costing a program, facility, or group of facilities that encompasses planning, design, construction, operation, and maintenance over the useful life of the facilities and finally any decommissioning or disassembly costs. Life-cycle cost analysis looks at the net present value of design options as investments. The goal is to achieve the highest, most cost-effective environmental performance possible over the life of the project.
  - *Renovation* as defined by Georgia Code § 20-2-260 refers to construction projects which consist of the installation or replacement of major building components such as lighting, heating, air-conditioning, plumbing, roofing, electrical, electronic, or flooring systems; millwork; cabinet work and fixed equipment; energy retrofit packages; or room-size modifications within an existing facility, but excluding routine maintenance and repair items or operations.
- Policy and goals
  - It is the policy of the City of Atlanta to finance, plan, design, construct, manage, renovate, maintain, and decommission its facilities and buildings to be sustainable. This applies to new construction and renovations in which the total project square footage includes 5,000 gross square feet of occupied space or the total project cost exceeds $2 million.
  - The LEED™ rating system and reference guide shall be used as guidance for design and a measuring tool to determine what constitutes sustainable building by national standards.
  - Facilities and buildings over 5,000 gross square feet of occupied space or $2 million total project cost shall at a minimum incorporate sustainable design criterion as defined by this article. Design and project management teams are required to meet LEED™ Silver rating level (33–38 points).
- Procedures and responsibilities
  - The commissioners of all city departments whose responsibilities include planning, designing, constructing or renovating city-owned facilities are responsible for ensuring that facilities and buildings comply with 75-19.
  - The city's environmental manager is responsible for coordinating to city departments any educational and technical

resources available that support and promote sustainable design and construction of city facilities.
  – The minimum number of credits required in each of the LEED™ categories is 33 points so that projects demonstrate performance in all categories.
- Budgeting and financing
  – All capital construction which falls under this policy is required to budget LEED™ design standards in the conceptual development of a city funded facility and/or the CDP/CIP process through the department of planning. Budget planning and life-cycle cost analysis to achieve LEED™ Silver rating is required.
- Training
  – LEED™ training will be coordinated through the environmental manager and/or other sponsoring departments.
- Request for proposal
  – The commissioners of all city departments whose responsibilities include planning, designing, constructing, or renovating city-owned facilities are responsible for submitting a request for proposal (RFP) to the department of procurement specifying the mandatory requirement of complying with the sustainable development design guidelines per section 75-19 of this article.
- Implementation
  – The sustainable development design standards shall be forwarded to the department of planning and community development for review consistent with the above referenced policy objectives, and incorporated in the CDP and CIP process.
  – Each city department shall submit an annual progress report detailing compliance with this article to the department of planning. The department of planning shall then compile all reports for inclusion into the CDP.
  – The department of procurement shall assist and review all RFQ/RFP documents to ensure consistency with this article.
- Exemptions
  – The City of Atlanta Sustainable Development Design Guidelines of achieving LEED™ certified status shall not apply to current city facilities that have been proposed in the current capital budget. However, these projects shall still implement City of Atlanta Sustainable Development Design Guidelines and strategies to the maximum extent practicable.
  – Many projects do not meet the policy criteria, including some buildings smaller than 5,000 gross square feet, roadways, and other infrastructure. City facility construction projects that are unoccupied or serve specialized functions (e.g., pump station, garage, storage building, etc.) are not subject to the city's sustainable development design guidelines.
  – Even though projects may become exempt from the city's required sustainable development design guidelines, project managers and design teams are encouraged to apply the relevant portions of City of Atlanta Sustainable Development Design Guidelines and to develop goals that increase the environmental, social, and economic benefits of the project. In addition, all exempted projects shall complete the LEED™ Checklist to assess any sustainable design techniques. This LEED™ project checklist will be submitted to the appropriate city department project manager and all measures implemented shall be described in the department's annual progress report.
- Facility design prerequisites
  – All city departments and offices and their contractors responsible for financing, planning, designing, developing, constructing, and managing city-owned facilities and buildings shall include the following prerequisites when designing a facility (as consistent with the USGBC LEED™ rating standards):
    △ Compliance with Atlanta Code of Ordinances, Article II, Section 74-35, Erosion and Sedimentation Control.
    △ Fundamental building systems commissioning: Intent is to verify and ensure that fundamental building elements and systems are designed, installed, and calibrated to operate as projected.
    △ Minimum energy performance: Intent is to establish the minimum level of energy efficiency for the base building and systems.
    △ CFC reduction in HVAC&R equipment: Intent is to reduce ozone depletion.
    △ Recycling: Intent is to implement a comprehensive recycling program that reduces waste generated by building occupants.
    △ Minimum indoor air quality: Intent is to establish minimum indoor air quality (IAQ) performance to prevent the development of indoor air quality problems in buildings.
    △ Environmental tobacco smoke (ETS) control: Intent is to prevent exposure of building occupants and systems to ETS.

Airport: San Francisco International Airport (SFO)	**Airport Operator:** City and County of San Francisco
Document: Design and Construction Tenant Work Letter—Terminal 2. Environmental requirements	**Department:** Not known
	Date: Not known

General Information

This Work Letter is attached to and becomes part of the Lease by and between the Tenant and the City and County of San Francisco working by and through its Airport Commission "Airport," definitions herein shall have the meanings given them in the Lease.

Base Building Construction

The Airport is currently under contract for the renovation of Terminal 2. It is anticipated that Tenants will undertake design and construction of their leasehold prior to the Airport's completion of Terminal 2. Tenants and other entities hired by the Tenant including Tenant's contractor and design professionals must cooperate with the base building contractor at all times. Access to Tenant space may be limited or restricted at times.

Governing Codes and Requirements

All Construction work performed at the San Francisco International Airport (SFIA) shall comply with the requirements of 2007 Edition of the California Code Regulations (CCR), Title 24, and Americans with Disability Act (ADA). The work must also comply with the requirements of the SFIA Tenant Improvement Guide (TIG), a supplemental Airport document governing some aspects of Tenant construction, and the California Uniform Retail Food Facilities Law (CURFFL). Tenants must obtain a building permit from SFIA's Bureau of Building Inspection and Code Enforcement (BICE). Food and Beverage Concessions must complete plan review and obtain a Health Permit from the San Mateo County Environmental Health Department. Tenants are encouraged to secure a Green Business Certificate from the County of

San Mateo. Design of Concessions Tenant improvements shall be developed in accordance with the T2 Concessions Design Guidelines, prepared by Gensler Architects, dated 2009. The Airport is committed to obtaining LEED Silver Certification from the U.S. Green Building Council for the Terminal 2 Renovation. Tenants of leaseholds exceeding 5000 square feet shall obtain LEED certification for Commercial Interiors from the U.S. Green Building Council. Tenants of leaseholds fewer than 5000 square feet are encouraged but are not required to pursue certification. All Tenants are obligated to comply with Sustainable Performance Goals as outlined in the T2 Concessions Design Guidelines.

Rights-of-Way

The Airport will provide right-of-way to those Tenants whose leased premises lie above or below occupied or restricted space to accommodate Tenant's mechanical equipment and grease exhaust system.

Building Systems

- Plumbing
  - **General.** The Tenant is responsible for extending the sanitary and/or food service waste lines from the designated point(s) of connection as necessary, including any floor penetrations. All floor penetrations must be imaged by an Airport approved imaging method (i.e., x-ray or sonograph) at Tenant's sole cost prior to core drilling.
- Domestic Cold Water
  - **General.** Potable cold water will be available primarily through overhead piping to Food and Beverage Tenants and select other Tenant locations in Terminal 2. All Tenant water usage is metered by the Airport. Tenant is responsible for ordering and purchasing an adequately sized water meter through the Airport Plumbing Shop. Tenant's domestic water system must be chlorinated and approved prior to connection to the Airport's water system. Hot water shall be provided by the Tenant.
  - **Airport's Work.** The Airport will provide 1-½" domestic cold water service to the demised premises terminated at a gate valve for Tenant's exclusive use.
  - **Tenant's Work.** Tenant shall extend water service into the demised premises as needed.
- Sanitary Sewer
  - **General.** Sanitary Sewer is available to Food and Beverage Tenants and select other Tenant locations in Terminal 2.
  - **Airport's Work.** The Airport will provide a 4-inch sanitary sewer line below the slab within the confines of demised premises designated to receive sanitary sewer service. The Airport will also provide a 3-inch vent pipe within the demised premises for Tenant's use.
  - **Tenant's Work.** Tenant shall tie into sanitary sewer stub and vent stub.
- Grease Waste
  - **General.** Terminal 2 will have a grease waste system that consists of an underground grease waste interceptor. Grease waste will be serviced by Airport contracted provider.
  - **Airport's Work.** The Airport will provide an underground grease waste interceptor and grease waste lines will be stubbed out below those facilities designated as Quick-Serve, Fast Food, or Casual Dining/Bar uses.
  - **Tenant's Work.** For Tenants that produce grease waste, Tenants shall connect waste lines from kitchen sinks to the grease waste system.
- Natural Gas
  - **General.** Natural gas will be provided to Tenant locations designated as Quick-Serve, Fast Food, or Casual Dining/Bar in Terminal 2. Food and Beverage uses designated as Specialty Coffee or Café will not have gas service available. This system is designed to support up to 1,500,000 btu/hr at 0.25 psig. The natural gas system operates at 7" water column or 0.25 psig pressure and is available at Tenant's lease line. Tenant gas usage is metered by the Airport
  - **Airport's Work.** The Airport will provide an adequately sized gas service from the Airport gas distribution manifold and meter to pre-designated leaseholds. The stub for gas service will be within the confines of the leased premises below the slab.
  - **Tenant's Work.** For Tenants receiving gas service, Tenants shall connect to stub within Tenant's leasehold.
- Fire Sprinkler
  - **General.** Terminal 2 will have a "wet type" Fire Sprinkler System complying with the requirements of the Underwriters Laboratory, Factory Mutual, and the Airport Fire Marshall. Fire sprinkler supply is available at Tenant's lease line.
  - **Airport's Work.** The Airport will provide an adequately sized fire sprinkler main, lateral, or riser to the demised premises. The Airport may install normal hazard occupancy fire sprinkler piping in the demised premises prior to Tenant's work. The Tenant may use Airport installed piping if appropriate for Tenant sprinkler needs.
  - **Tenant's Work.** Tenant shall install a hydraulically calculated fire sprinkler system throughout the leased premises, reviewed, and approved by the Airport Fire Marshal. Sprinklers shall be concealed or flush pendant quick response type heads. Tamper switches shall be provided for all valves normally in the open position and shall be PPDT self-storing type devices. All components of the fire sprinkler system shall be UL listed and comply with the requirements of Factory Mutual.
- HVAC Systems & Controls
  - **General.** Terminal 2 and Boarding Area D are serviced by a central heating, ventilation and air conditioning (HVAC) system. The system is a variable volume conditioned air system fed from multiple air handlers, return air shall have transfer air duct from each tenant space to ceiling return air plenum. The system supply air allowance is 1 cfm ± per square feet. Tenant spaces shall be designed for overhead supply air system (mixing ventilation) or for displacement ventilation depending on location within the Terminal (refer to utility point of connection drawings). Hot Water piping is available for re-heat coils at temperatures from 160° to 180°F.
  - **Airport's Work.** The Airport will provide points of connection to the Airport's central heating ventilation and air-conditioning (HVAC) system ductwork for supply air. The Airport will also provide points of connection to the hot and cold water supply at gate valves located within the demised premises.
  - **Tenant's Work.** Tenant will connect Tenant's HVAC system at the designated location(s) of the base building's conditioned supply air duct system and extend system as necessary throughout the leased premises providing necessary controls to maintain proper temperature in the space. Should Tenants need additional tempered air beyond the capacity of the base building system, Tenants must install their own supplemental roof top equipment. The Tenant is responsible for providing make-up air system interlocked with the Tenant's grease exhaust system so that the exhaust system cannot operate without the make-up air system operating. To control odor migration, the make-up air system is to be designed such that the make-up air quantity plus outside air capacity of the Tenant's HVAC system equals 80% of the exhaust air quantity. The

Tenant's premises are to be 0.05" water column negative pressure with respect to the terminal or concourse area. Tenant's mechanical equipment shall be sound and vibration attenuated. The Tenant shall prepare an Air Balance Report for its mechanical systems as part of the required BICE permit closeout submittals. Tenant is required to use the base building air balancing subcontractor.

- Grease Exhaust
  - **General.** Where required, Food and Beverage Tenants shall install a grease exhaust system.
  - **Airport's Work.** The Airport will work with Tenants to determine an appropriate location for Tenant's roof vent. The Airport will provide a right-of-way, when necessary, to pass through occupied space above Tenant's demised premises.
  - **Tenant's Work.** Where required, Tenant will install a grease exhaust system that complies with NFPA 96, CBC, and CHC requirements, including hood design, duct design, equipment mounting requirements, and fire extinguishing system. The hoods must be UL rated, IR approved capable of capturing 90% of the grease from the exhaust air at the hood. As part of the BICE permitting process, the system manufacturer must warrant in writing that the proposed system will extract, at a minimum, 90% of the air laden grease prior to the issuance of a building permit. **NOTE:** In certain circumstances where heavy grease odors become problematic, the Airport may choose to install an automated grease filter cleaning system, such as a "Smog Hog." If this equipment is deemed necessary, the Airport will install the system and the Tenant will be responsible for the maintenance of the system. The Airport retains the right to mitigate a Tenant's grease exhaust up to and including installation and maintenance of such a system. The Airport will then charge the Tenant for necessary maintenance.
- Electrical
  - **General.** Terminal 2 will have 277/480v, 3 phase, 4 wire electrical service.
  - **Airport's Work.** The Airport will provide power from the Airport's main switchboard to a Tenant metering panel located in an Airport electrical room. The Airport will provide an empty feeder conduit (2-inch) with pull string from the Tenant metering panel to the demised premises terminating at the Tenant's lease line.
  - **Tenant's Work.** Tenant shall install a complete electrical distribution system from the Tenant metering panel utilizing the conduit provided by the Airport. Tenant's work includes the installation of an electrical sub-meter in the Tenant metering switchboard, installed by the Airport Electrical Shop at Tenant's expense. Tenant's work shall encompass the procurement and installation of all circuit transformers, connections, and any other work required to properly connect metering equipment, including the installation of a ground fault circuit breaker. The Tenant shall provide all electrical information on proposed Tenant equipment to BICE to verify the actual load with the available service. Tenants will be allowed a connected load of 72 watts per square foot maximum in food preparation areas and 15 watts per square foot maximum in seating areas. The single point of connection electrical service characteristics for each Tenant space shall be rated at 277/480 Volt, 3 phase, 4 wire with a maximum of a 125 amp feeder circuit breaker in the Tenant metering switchboard. The Tenant may choose to transform the 480 volt service to another voltage. Tenant's 277/480 distribution panel, local service disconnect, transformer and all other electrical equipment (120/208 distribution panel, etc.) shall be located within the lease line as indicated on the Tenant's lease outline drawings. Emergency electrical power will not be available for Tenants use. Emergency lighting shall be designed using devices approved under the applicable codes. Based upon the overall electrical requirements of the lease space, the maximum size breaker of 125 amp at 277/480V should be sufficient. However, if Tenant requires electrical service greater than noted above, Airport staff will work with the Tenant's designers on a case-by-case basis to provide the capacity required. All electrical equipment and associated work shall be provided by the Tenant.
- Fire Alarm
  - **General.** Terminal 2 and Boarding Area D will have a fire alarm system that covers the base building and leased spaces in compliance with applicable codes.
  - **Airport's Work.** The Airport will install empty conduits with pull strings from the base building Fire Alarm System located in the Tenant Wiring Closet to the demised premises.
  - **Tenant's Work.** Tenants shall provide a fire alarm terminal box inside their premises and connect all required fire alarm devices to allow for Airport monitoring and control functions of both the Airport's and the Tenant's fire alarm system. Tenant is required to use the base building fire alarm subcontractor for all tie-ins to the base building fire alarm system. Tenants shall meet interim fire alarm requirements and conditions per TIG until Tenant's system is tied in to the base building fire alarm system.
- Telecommunications & Data
  - **General.** The Airport's Information Technology and Telecommunication Department (ITT) provides a multitude of services through its extensive telecommunications and data services infrastructure network. The ITT offerings range from basic voice services and equipment leases to high-speed DS1 to OC12 data infrastructure transport connections, all with 24x7x365 full help desk support.
  - For all Tenant space voice and data services additions or changes contact the Airport ITT Provisioning Group at 650-821-HELP (4357) option 1 or sfohelpdesk@flysfo.com.
  - **Airport's Work.** The Airport will install an empty conduit with pull string from the demised premises to the designated Tenant Wiring Closet (TWC).
  - **Tenant's Work.** Tenant is responsible for the installation of their Telecommunication and Data System from the designated Tenant Wiring Closet utilizing the Airport-provided conduit and throughout the leased premises. Any necessary equipment must be housed within the leased premises. General technical recommendations on Voice and Data Cabling at SFIA:
    - △ Copper Feeder Cable from the Tenant space for Voice and Data Service: the Tenant is recommended to furnish and install a single 25 pair (or greater) copper feeder cable, inside of a 2" (or greater) conduit, from the Airport TWC (Tenant Wiring Closet) to a backboard located inside of the Tenant space.
    - △ The 25 pair cable inside of the Airport TWC will need to be terminated on a 110 style termination block by the Tenant. The location of where the Tenant can terminate their feeder cable inside of the Airport's TWC will be designated by the Airport ITT Provisioning Department. Inside of the Tenant's space, it is recommended that the feeder cable be terminated on a 66 or 110 style termination block. The Tenant shall install the termination block on a ¾" plywood backboard.

- Copper Station Cabling inside of a Tenant Space
  - The Tenant is required to furnish and install one (1) CAT 5e/6/6A cable per voice or data jack inside the Tenant's space. All voice CAT 5e cables should be terminated on the same block as the Tenant's feeder cable. All Data CAT 5e/6/6A cables should be terminated on a patch panel or a multi-port surface mount block close to the Tenant's network equipment. The Airport recommends the installation of (2) Voice CAT 5e and (2) Data CAT 5e/6/6A Cables per communications outlet.
- Coaxial Cable for Cable TV Service
  - If the Tenant requires Cable TV Services inside of their space, they will need to install the following to get service from Comcast (which is the sole provider of CATV at the Airport at this time). Inside of the same 2" (or greater) conduit that is installed for the copper feeder cable back to a designated Airport TWC, the Tenant will need to furnish and install a single RJ-11 Coaxial Cable to a backboard that is located inside of the Tenant space. For any new services or changes, the Tenant needs to provide the following Electrical Drawing information to ITT.
  - Provisioning:
    - △ The location of the Tenant Communications Backboard, Voice, Data, and Cable TV outlets with callouts.
    - △ A single line riser diagram showing the conduit(s) run from the Tenant space to the designated Airport TWC or Special Systems Room (SSR) and what will be installed in the conduit.
- Solid Waste Management
  - **General.** The Airport is required by city ordinance to achieve a solid waste recycling rate of 75% by 2012 and 100% by 2020. Tenants are required to cooperate with the Airport to maximize the rate of solid waste recycling and source separation.
  - **Airport's Work.** The Airport will supply specially designed solid waste containers for depositing paper, bottles and cans, and general trash in the public areas of the terminal including Tenant public areas. The Airport will provide waste containers for public disposal of food waste and compostable serviceware in the vicinity of Food and Beverage leaseholds.
  - **Tenant's Work.** Tenants are required to collect the solid waste generated in back offices in containers designated for paper, bottles, cans, and general trash and deposit the content of each container in the designated bins at collection areas. All Food and Beverage Concessions are required to collect food waste and compostable serviceware in separate containers and deposit the contents in designated compostable materials bins at collection areas.
- Cooking Oil Waste
  - Terminal 2 will have wall-mounted cooking oil storage tanks serviced under contract to the Airport. Food and Beverage tenants are required to purchase model 2500C oil caddy from Darling International to transport cooking oil waste from their kitchens to the storage tanks. Caddies are available from Darling International at xxx, or http://www.darlingii.com/UsedOilStorage.aspx.

Tenant Leasehold Design and Construction

- General
  - Tenant shall design, engineer, and construct, at its sole expense, all improvements and alterations necessary for Tenant to conduct the Permitted Use in the Premises, in accordance with all applicable Laws, Codes and other requirements.
  - Any work not specifically described as the Airport's work shall be performed by Tenant at the sole expense of Tenant without reimbursement or other compensation from the Airport. Workshops and meetings are delineated herein that will provide information about the process, criteria, and schedule that should enable Tenants and their Consultants to accomplish their responsibilities in a timely, cost-effective manner. It is the Tenant's responsibility to manage their project, consultants and contractors. Attendance at all workshops and meetings is mandatory.
- Design
  - **Plan Development and Approvals.** The Tenant shall engage architectural/engineering professionals licensed by the State of California, experienced in food, retail, or other concession service design to prepare Tenant's leasehold improvement plans. Tenant and Tenant's design professional shall meet with the Terminal 2 base building architect to understand design intent. The Tenant is responsible for obtaining all necessary approvals including Airport Design Review Committee (DRC) design approval, building permit issued by Bureau of Inspection and Code Enforcement (BICE), and a health permit issued by the San Mateo County Environmental Health Department when required. BICE will not accept an application for a building permit without prior design approval by the Airport's DRC.
  - **Lease Outlines, Point of Connection, and Base Building Drawings.** The Airport will prepare and distribute Tenant Lease Outline Drawings and Point of Connection Drawings in AutoCAD format to enable Tenant's design consultants to prepare Tenant's leasehold improvement plans.
  - **Tenant Verification of Existing Conditions.** Tenant shall physically survey the demised premises at the earliest opportunity after signing of Tenant Lease to verify existing conditions and acknowledge the results in writing on an Airport-provided form.
  - **Design Review and Permitting Workshop.** For Concessions Tenants, Revenue Development and Management Property Manager will host an informational workshop to provide insight into the DRC Design Review and BICE Permitting process. The presentation includes a period for questions and answers.
  - **Design Review Meetings.** Tenants shall complete the design review process in a timely manner allowing Tenant to start construction in time to be operational upon opening day of Terminal 2. Airport will provide Tenant with estimated opening date upon signing of Tenant's lease and will inform Tenant in writing of any changes to said date. Design review steps include but are not limited to the following:
  - **Base Building Coordination.** Upon signing of tenant lease, Tenant and Tenant's designer shall meet with base building architect to discuss design integration of Tenant's leasehold with base building design. Upon completion of schematic review and upon 50% completion of construction documents, Tenant shall submit two copies (half size is acceptable) of plans for T2 Project Manager review for coordination with base building systems and verification that Tenant has met project sustainability requirements described in the Concessions Design Guidelines.
  - **DRC Approval.** Upon completion of Tenant's schematic leasehold design, Tenant shall submit one set of plans for review by Revenue Development and Management (RDM) property manager. Property manager will review plans to ensure Tenant's design meets space

requirements and Permitted Use as defined in Tenant's Lease. If plans meet Lease requirements, Property Manager will schedule a Preliminary Review with the DRC. Tenant shall submit five copies of plans for Preliminary and subsequent DRC reviews. Full material boards, renderings, plans and elevations are required for DRC meetings. Additional DRC reviews may be required to obtain final design approval. In the event the Tenant needs to change the design once DRC approval has been given, the Tenant must return to DRC for approval of any changes, including substitutions of materials.

- **BICE Review and Permitting.** Tenant shall submit complete construction documents to BICE for review and permitting. BICE will review Tenant's plans for conformance with local, state, and federal code requirements as defined in Part 1 A. Governing Codes. Upon receipt of plan check comments from BICE, Tenant shall respond to comments and submit revised drawings to BICE for a second review. Upon satisfaction of BICE reviews and requirements, Tenant will be issued a Building Permit. Construction inspection requirements will be defined in the Building Permit.
- **San Mateo County Health Permit.** Food and Beverage Concessions shall submit an application to the County of San Mateo for a Health Permit, concurrent with BICE review. San Mateo County Health Permit requirements and processes can be found at www.co.sanmateo.ca.us.

• Construction

- **Notice That Premises Are Ready for Tenant's Work.** The Airport, upon completion of the Airport's work, shall provide written notification to Tenant that the demised premises are ready for Tenant's Work. Tenant and Tenant's contractor will physically survey the premises with a representative of the Airport and acknowledge in writing that the space is acceptable.
- **Tenant Verification of Existing Conditions.** Upon notification that the Premises are ready for Tenants' Work per Section A, Part 2, Tenant shall physically survey the premises with an Airport representative and acknowledge in writing that the space is acceptable.
- **Construction Security Deposit.** Tenant's contractor shall provide a security deposit in the amount of $20,000.00 prior to the issuance of a building permit. Tenant's contractor will be charged for any damages or other work that may be deemed necessary to ensure the safe orderly operation of the Airport and the charges will be deducted from Contractor's security deposit. The security deposit will be returned to Tenant's Contractor upon completion of the work, less any substantiated claims.
- **Cooperation with Base Building Contractor.** The Tenant and other entities hired by the Tenant including Tenant's contractor and design professionals must cooperate with the base building contractor at all times. The Tenant's contractor must coordinate with the base building contractor for all construction activities, including overtime work. The Tenant's contractor must accommodate the base building contractor during the installation of any time intensive work, such as the installation of terrazzo flooring. Access to Tenant space may be limited or restricted at times. The Tenant's contractor is responsible for proper Tenant trash and debris disposal.
- **Preconstruction Meeting.** Tenant and Tenant's contractor shall attend a preconstruction meeting on site prior to beginning construction.
- **Construction Coordination Meetings.** Tenant and/or Tenant's contractor is required to attend weekly construction coordination meetings to ensure coordination of Tenant work with the Base Building contractor's work.
- **Tenant Construction Schedule.** Tenant shall submit a construction schedule at the Preconstruction meeting. Tenant shall submit schedule updates to the T2 Project Manager on a monthly basis until completion of Tenant Work. Failure to submit schedule and schedule update will result in a fine as defined in Tenant's Lease Agreement.
- **Barricades.** Upon receipt of notification from the Airport that the premises are ready for Tenant's Work, Tenant shall install a construction barricade along openings at the lease line. Tenant shall coordinate with base building contractor prior to installation of the barricade. Tenant is responsible for maintenance, demolition, and disposal at completion of Tenant work.
- Demolition, Cutting, Patching, and Fireproofing
  - △ **Airport's Work.** The Tenant's premises will be delivered with bare demised metal stud walls and/or curtain walls, and a contiguous, monolithic concrete floor, broom cleaned. There may be integral base building systems including but not necessarily limited to mechanical ductwork, electrical or telecommunication conduits, hot and cold-water piping, and rain water leaders within the demised premises that will become part of the existing conditions.
  - △ **Tenant's Work.** Tenant will notify the base building contractor at least one week in advance of any demolition, cutting and/or patching that may be necessary outside the confines of the leased premises to facilitate Tenant's construction. The Airport's designated roofing contractor will perform the repair of any Tenant contractor's roof penetrations at the sole cost of Tenant. The Tenant is responsible for maintaining the integrity of any required fire caulking and fireproofing within the confines of the leased premises that may be part of the base building structure. Tenant is responsible for keeping the exterior floor and areas adjacent to the construction barricade clean and free of dust and debris.
- **Power Shutdowns.** Any electrical power outage necessary to install electrical equipment shall be coordinated with the base building contractor. Requests shall be made in writing to the Airport's representative five business days in advance of the required outage date. Tenant shall use an Electrical Shutdown Request Form 23 AED, found in the TIG.
- **Demising Walls**
  - △ **Airport's Work.** The Airport will construct all demising walls that separate the Premises from adjoining tenancies or other Airport space. The wall will be constructed of 6" steel studs and fire stopping at the top and bottom track. All other required fire stopping shall be performed by the Tenant. Tenant at Tenant's expense will repair any damage to the demising wall assembly resulting from Tenant construction.
  - △ **Tenant's Work.** Finished demising walls must meet the requirements of 1-hour construction and extend from the floor to the roof deck. Any wall finishes and furnishings must meet the flame-spread requirements as defined in Table 8B of the California Building Code (CBC).
- **Ceilings and Access Doors.** Tenant shall install finished ceilings throughout the premises. Tenant is responsible for providing access to base building systems that may exist within the demised premises including any necessary access doors.
- **Floor Finishes.** Tenant shall install finish flooring throughout the leased premises. Tenant shall install a waterproof membrane under Tenant's finish flooring in all areas that have water service; e.g., kitchens, bars, etc. Tenants' finished floor shall conform to adjoining Airport floor finishes.

Airport: Toronto Pearson International Airport (YYZ)	**Airport Operator:** Greater Toronto Airports Authority (GTAA)
Document: Environmental Procurement Policy	**Department:** Contracting and Purchasing Services
	Date: 1/24/09

Policy Statement

GTAA is committed to the purchase of goods and services that minimize or positively enhance the impact of the GTAA's activities on the local and global environment. These goods and services are thus considered to be "environmentally friendly."

Wherever the financial cost of an environmentally friendly option is equal to or less than other options, the environmentally friendly option must be chosen subject to the following considerations:

- All procurement of goods and services, including works, is to be based on value for money having due regard to propriety to achieve "the optimum combination of whole life cost and quality (or fitness for purpose) to meet the customer's requirement."
- The reference to "quality to meet the customer's requirement" enables departments to specify what they need to meet their own operational and policy objectives while contributing to the GTAA's corporate objectives, targets and indicators on environmental matters. Departments must, of course, satisfy themselves that specifications are justifiable in terms of need, cost-effectiveness and affordability.

Technology advances and our understanding of the environment are moving forward very quickly and new innovations and products appear daily. This document is therefore merely a starting point.

The GTAA is committed to operate Toronto Pearson International Airport in an environmentally responsible manner, in compliance with relevant environmental legislation regulations. Our commitment is reflected in GTAA's day-to-day operations to minimize the airport's impact on the natural environment and local community.

A copy of the GTAA Environmental Policy is to be included in all REP and Tender requests to suppliers.

Reason for Policy

The purpose of this document is to provide employees with guidance when procuring goods and/or services regarding:

- purchase avoidance
- general environmental issues
- whole life costing and value for money
- product and supplier assessment
- when advice should be sought and from whom

Airport: Toronto Pearson International Airport (YYZ)	**Airport Operator:** Greater Toronto Airports Authority (GTAA)
Document: Environmental Procurement Procedure	**Department:** Contracting and Purchasing Services
	Date: 1/24/09

Procedure

Drawing up specifications and making purchasing decisions based on the following checklist can contribute significantly to the achievement of the GTAA's targets for reducing the environmental impact of its activities. All employees making purchases can have an influence by encouraging the development and use of goods and services which are less harmful to the environment.

The checklist highlights also some of the possible implications of following the criteria.

Examples of the factors which need to be considered in assessing whole life costs include:

- running costs, such as the energy or water consumed by the product over its lifetime
- indirect costs; e.g., less energy efficient information technology type of equipment will produce more heat causing the plant in an air conditioned building to work harder to remove it so adding to the utility bill
- administrative costs; e.g., the use of a more expensive product which is less harmful to the environment may reduce the time spent by employees in complying with controlling hazardous substances
- investing to save costs; e.g., specifying higher levels of insulation where the extra expenditure can be recouped from lower energy costs
- not generally insisting on new items when refurbished parts of products could be used
- recyclability; e.g., purchasers can create markets for their own waste such as paper, toner cartridges, etc., by buying products containing recycled materials; furthermore, a recycled product; e.g., a refurbished toner cartridge, may cost less than a new one. Purchasers should, however, look to waste reduction and reuse as well as recycling
- the cost of disposal arrangements; e.g., it may be worth paying a premium to a supplier giving an undertaking to remove the product or hazardous substance at the end of its useful life, particularly if the products will be reused or recycled

Buying green may often cost less, taking proper account of factors mentioned above. However, cases may arise where the specification of a particular environmental requirement results in higher costs which will not be offset by savings over the longer term. Departments are accountable for their expenditure and, therefore, will need to determine whether the extra cost is justified.

Environmental Management Systems

Formal standards for environmental management systems are now in place which assures purchasers that suppliers are operating to control their environmental impacts. Companies can obtain certification for their environmental management systems under ISO 14001.

It is permissible to ask suppliers to provide evidence that they are able to operate an environmental management system where it is relevant to the contract and particularly where the potential environmental impacts are significant; e.g., waste management activities, major road engineering work.

Packaging

Whatever we are purchasing, we must pay attention to the issue of packaging. Good packaging is essential to protect goods prior to delivery.

However, the following hierarchy should be considered:

- packaging must not contain CFC
- returnable packaging which is taken back by the delivery company
- minimal packaging
- recyclable packaging where there is a recycling system available
- recycled packaging

Airport: Chicago O'Hare International Airport (ORD)	**Airport Operator:** Chicago Department of Aviation (CDA)
Document: Green Product Listing	**Department:** Not known
	Date: Not known

Green Procurement Policy

It is intended to reduce the environmental impact of products and services by developing a Green Purchasing Program. Contractor is required to purchase supplies, materials, equipment, and other products meeting or exceeding the minimum requirements of the Green Product Listing below, if such items are reasonably available that meet applicable OSHA, CDC, or similar public health requirements. Additionally, the quaternary-based cleaner and disinfectant to be used for Preventive Maintenance Program/Deep Cleaning of the Hygienic Toilet Seats is not required to meet the minimum requirements of the Green Product Listing. However, if a quaternary-based cleaner or disinfectant is available, or becomes available, that meets the minimum requirements of the Green Product Listing and also meets the requirements for Preventative Maintenance Program/Deep Cleaning of the Hygienic Toilet Seats, Contractor is strongly encouraged to use that product.

Green Product Listing (SAM 2.0 Reference AP-A)

- Adhesive and Mastic Removers—58% minimum biobased content
- Bathroom and Spa Cleaners—74% minimum biobased content
- Carpet and Upholstery Cleaners—General Purpose—54% minimum biobased content
- Carpet and Upholstery Cleaners—Spot Removers—7% minimum biobased content
- Dust Suppressants—85% minimum biobased content
- Floor Strippers—78% minimum biobased content
- Glass Cleaners—49% minimum biobased content
- Graffiti and Grease Removers—34% minimum biobased content
- Hand Cleaners—64% minimum biobased content
- Hand Sanitizers—73% minimum biobased content
- Household Cleaners, General Purpose—39% minimum biobased content
- Industrial Cleaners—41% minimum biobased content
- Laundry Products—General Purpose—34% minimum biobased content
- Laundry Products—Pretreatment/Spot Removers—46% minimum biobased content
- Multipurpose Cleaners—56% minimum biobased content
- Sorbents—89% minimum biobased content
- Bathroom Tissue—20–100% recovered fiber, including 20–60% postconsumer fiber
- Facial Tissue—10–100% recovered fiber, including 10–15% postconsumer fiber
- General Purpose Industrial Wipers—40–100% recovered fiber, including 40% postconsumer fiber
- Paper Towels—40–100% recovered fiber, including 40–60% postconsumer fiber
- Plastic Trash Bags—10–100% postconsumer plastic
- All—41% minimum biobased content

Airport: Portland International Airport (PDX)	**Airport Operator:** Port of Portland
Document: Sustainable Procurement Policy	**Department:** Airport Executive Office
	Date: 05/15/2012

Purpose

The Port purchases a significant amount of goods and services to support its mission and operations, and recognizes that procurement can have both direct and indirect social and environmental benefits. Direct benefits can be achieved through the Port's improved environmental and social performance, and indirectly through encouragement of social and environmental enterprise and technology development throughout the economy. The goal of sustainable procurement aims to find a reasonable balance between environmental, social, and economic factors in the decision-making process, recognizing there will always be trade-offs when making purchasing decisions.

This Sustainable Procurement Policy is intended to:

- Identify those sustainability principles that shall be incorporated into procurement decision-making process and provide implementation guidance;
- Empower employees to be innovative and demonstrate leadership by incorporating sustainability factors into procurement decisions;
- Complement Port-wide sustainability goals and related policies;
- Promote efficiency in the procurement and utilization of goods and services and facilities operation and management; and
- Communicate the Port's commitment to sustainable procurement.

Persons Affected

This policy applies to all Port employees involved in decisions affecting the purchase of goods and services.

Policy Statement

Port employees will procure materials, products, and services in a manner that integrates fiscal and social responsibility, efficiency, and environmental stewardship considerations. Sustainable procurement means selecting goods and services which promote a healthier environment and community by considering the costs as well as the environmental and social impacts of products and services through all stages of their lifecycle: from product/service development and manufacturing through product/service use and ultimately to the disposal of whatever remains of the product/service at the end of its useful life. This process is achieved by incorporating key environmental and social factors with traditional price and performance and efficiency considerations in purchasing decisions.

Sustainability Factors

Environmental factors to be considered include, but are not limited to:

- Natural resource depletion and impacts on biodiversity (considerations such as source and methods to obtain key materials, recyclability, point of origin and transportation)
- Potential for a product or service to release pollutants into the environment (considerations such as greenhouse gas emissions, particulate emissions, energy consumption)
- Opportunities to minimize waste in the life of the product or service, particularly hazardous wastes (considerations such as waste management requirements, recyclability, packaging waste, recyclability/take-back options)
- Toxicity, especially the use of persistent, bioaccumulative, and toxic (PBT) chemicals (considerations such as the potential impact on human health and the environment)

Social equity factors to be considered include, but are not limited to:

- Potential impacts on human health, including ergonomic considerations
- Use of local businesses and State of Oregon Certified Minority, Women, and Emerging Small Businesses
- Preference for products that have been manufactured under good conditions and fairly traded

Fiscal factors to be considered include, but are not limited to:

- The actual need for a given purchase: leverage our buying power when possible; purchase only what is needed, and, when feasible and practicable, reuse materials and reduce consumption
- Life-cycle cost assessment—aim for the lowest total cost considering product performance, quality, durability, and ease of repair; end of life recyclability, resale value, or disposal costs
- Impact on staff time and labor

Although not all factors will be incorporated into every purchase, it is the intent of this policy that Port employees will make a good faith effort to incorporate and balance environmental, social and financial considerations to the maximum extent possible.

Best Practices

Port employees will utilize best practices in sustainable procurement as they evolve. As it applies to this policy, best practices in sustainable procurement are those that utilize currently recognized and generally accepted sustainability factors, standards, and procedures in an efficient and effective way that is successful in improving the environment in a measurable manner.

Toxics in Products and Services

Port employees will utilize the framework of the Precautionary Principle as a guide when evaluating the comparative toxicity of products and services.

Definitions

Biodiversity: the total diversity of all organisms and ecosystems at various spatial scales (genes, populations, species, ecosystems, and biomes). Biodiversity is often used as a measure of the health of biological systems.

Environmentally preferable: products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service.

Fair Trade—trading partnership, based on dialogue, transparency, and respect that seek greater equity in international trade. It contributes to sustainable development by offering better trading conditions to, and securing the rights of, marginalized producers and workers.

Persistent, Bioaccumulative, and Toxic (PBT) Chemicals: chemicals that are toxic, persist in the environment, and bioaccumulate in the food chains.

Precautionary Principle: when an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause-and-effect relationships are not fully established scientifically.

Sustainable Procurement: purchasing materials, products, and services in a manner that integrates fiscal responsibility, social equity, community, and environmental stewardship.

Toxicity: the quality, relative degree, or specific degree of being toxic or poisonous.

Related policies, procedures, and guidelines

- Commission Environmental Policy 6.1.11
- Sustainable Natural Resources Policy 7.4.19
- Port Purchasing Manual and Request for Proposal Handbook
- Chemical Product Procurement Program (Pilot 2012/13)

Airport: San Francisco International Airport (SFO)	**Airport Operator:** City and County of San Francisco
Document: Use and Lease Agreement—Environmental Sustainability Measures	**Department:** Not known
	Date: Not known

Environmental Sustainability Measures

From time to time, City may adopt certain environmental sustainability measures to minimize the environmental footprint of Airport operations. Air Carriers operating at the Airport may also pursue various sustainability measures. City encourages such initiatives and from time to time may call upon Airline to cooperate with City where practicable in implementing sustainability measures that impact Airline operations such as tenant improvements to Leadership in Energy and Environmental Design (LEED) Silver or better standards, energy and water conservation, solid waste reduction and recycling, electrification of ground services equipment, maximizing the use of preconditioned air, or single engine taxiing, provided that such sustainability measures are lawful. Airline shall agree to implement sustainability measures as required to meet City, State, and federal regulations.

Airport: Hartsfield–Jackson Atlanta International Airport (ATL)	**Airport Operator:** Atlanta Airline Terminal Corporation (AATC)
Document: Compostable Foodservice Ware Requirement	**Department:** Not known
	Date: Not known

Introduction

Many event venues, office buildings, malls, airports, and other facilities with food court operations are embarking on the zero waste journey. One of the first steps in the journey is back-of-the-house organics collection for composting as there are no or minimal purchasing changes necessary.

Front-of-the-house collection of food waste and packaging is the next stage in zero waste practices and may involve significant modification to current foodservice packaging used by operators. With recent product innovations, there are many options available to food service operators.

As a Zero Waste Zone—Atlanta Participant, Hartsfield–Jackson Atlanta International Airport (HJAIA) works closely with the Sustainable Food Court Initiative (SFCI), an Elemental Impact Task Force in partnership with the National Restaurant Association, to bring zero waste practices to the airport operations. The new concessionaire contracts going into effect beginning in 2012 include, among others, the following provision:

> "Concessionaire shall use compostable serviceware along with consumer facing packaging and source separate all food service wastes for direct transport to off-airport composting facilities."

This document's intent is to provide clear, concise information:

1. To allow concessionaires to satisfy the contract provisions stipulated in the Request for Proposal; and
2. To ensure effective ongoing communication with product manufacturers and distributors.

The SFCI Team is available to support concessionaires with education and information on compostable packaging. With a solid understanding of the compostable packaging requirements, operators are in a position to work with existing distributors or discover additional options in the marketplace to satisfy the Compostable Foodservice Ware Program evolution of their foodservice packaging.

All HJAIA Food Vendors Shall Use Compostable Foodservice Ware

Beginning in 2012, food vendors will be required to use compostable service ware to support HJAIA's goal to divert 50% of its waste from landfill by 2015. HJAIA defines "compostable products" as those that are approved as being compostable by the following third parties:

1. The Biodegradable Products Institute (BPI); or
2. Cedar Grove Composting.

In order to be considered suitable for use on a concourse foodservice operation, foodservice ware used must have a valid BPI certification of compostability or be listed on Cedar Grove's accepted product list. Third-party approval means that an independent third party has confirmed that the product(s) being used meet the compostable guidelines set by established industry standards. Third-party approval is important because many products carry deceptive or false claims about biodegradability or compostability. In North America, BPI is the third-party agency that determines if products are commercially compostable according to industry standards developed by the American Society of Testing & Materials (ASTM). BPI-certified products often display the certification logo on the actual product and packaging materials. For a listing of BPI-certified compostable products, visit the Biodegradable Products Institute website at: BPI Approved Food Service Suppliers. Cedar Grove Composting offers a program of technical review and field testing for compostable products to determine their feasibility in its state-of-the-art commercial composting process. For a listing of Cedar Grove-accepted products, visit: http://www.cedar-grove.com/acceptable/Accepted%20List.asp.

Types of Compostable Foodservice Ware Products Covered by Contract Restrictions

The following types of foodservice ware used by food vendors should be BPI-certified or Cedar Grove accepted:

- Cutlery (e.g., forks, spoons, and knives, including both individually wrapped and bulk utensils);
- Plates, bowls, and cups (for both hot and cold applications);
- Take-out packaging (such as clamshells, boxes, deli containers, deli/bakery bags, or containers with separate lids);
- Ancillary items such as lids, straws, trays, and coffee stirrers; and.
- Paper napkins are widely accepted as compostable and do not need to be third-party approved.

Description of Compostable Foodservice Product Types

Compostable products are capable of undergoing biological decomposition at a commercial compost site. Within 85 days (time depends on the product and the composting system), the product is not visually distinguishable. Within 180 days, it will break down to carbon dioxide, water, inorganic compounds, and biomass at a rate consistent with those of known compostable materials (e.g., leaves). Many compostable products are made of plant-based materials derived from renewable agricultural and forestry resources such as corn, soybean, bamboo, sugarcane, grass, and cellulose. But there are also fully compostable resins that are fossil fuel-based (made from non-renewable petroleum or natural gas).

Compostable foodservice ware generally fall into two main types:

- Paper and Other Plant-Fiber-Based Items: These natural fiber or cellulose-based items look and feel biodegradable and thus compostable. They include products made from paper (e.g., bowls, boxes, cups, plates, napkins, paper straws, and bags), sugarcane/bagasse, wheat, and rice (e.g., hinged containers, trays, and cup holders), and wood (e.g., stirrers). Natural fiber products can be coated or uncoated. NOTE: Polyethylene-plastic-coated products are not compostable.
- Plastic Items: Compostable plastic can range in color from green and brown to off-white and clear. It can look and feel like conventional non-compostable plastic, virtually indistinguishable from standard PETE, HDPE, PP, or PS type items when in use. They include products made from corn-based polylactic acid or PLA (e.g., cold cups, hinged and lidded containers, and cutlery) and fossil-fuel-based resins (e.g., plastic bags).

Airport: San Francisco International Airport (SFO)	**Airport Operator:** City and County of San Francisco
Document: Lease Agreement for the Terminal 2 Newsstands, Coffee, and Specialty Shops at San Francisco International Airport	**Department:** Not known
	Date: Not known

Food Service Waste Ordinance

San Francisco's Food Service Waste Reduction Ordinance, Ordinance No. 295-06, SF Environment Code Chapter 16 (Ordinance) requires restaurants, retail food vendors, City departments, City contractors, and City lessees to use biodegradable/compostable or recyclable disposable food service ware when selling or distributing prepared foods, unless there is no "affordable" alternative. The Ordinance also prohibits such businesses and the City from using disposable food service ware made from polystyrene (Styrofoam™). Violation of the Ordinance may result in contractual damages, a criminal fine, administrative penalty, or other civil enforcement action.

Reservations by City

City may (a) at any time, upon reasonable advance written or oral notice, enter the Premises to show the Premises to prospective tenants or other interested parties, to post notices of nonresponsibility, to re-measure the Premises, to repair any part of the Premises or adjoining areas, to install equipment for adjoining areas, and for any other lawful purpose; (b) without advance notice, enter the Premises to conduct an environmental audit, operational audit, or general inspection, or in an emergency. City shall use reasonable efforts to minimize disruption in Tenant's business. Such entry shall not constitute a forcible or unlawful entry into or a detainer of the Premises, or an eviction, actual or constructive of Tenant from the Premises. City reserves the exclusive right to use all areas of the Airport not comprising the Premises, and the exterior walls and roofs of the Premises. City reserves the exclusive right to use such areas together with the right to install, maintain, use, repair, and replace pipes, ducts, conduits, wires, columns, and structural elements serving other parts of the Airport in and through the Premises. This reservation in no way affects maintenance obligations imposed in this Lease.

Environmental Audit

Upon reasonable notice, Director shall have the right but not the obligation to conduct or cause to be conducted by a firm acceptable to Director, an environmental audit or any other appropriate investigation of the Premises for possible environmental contamination. Such investigation may include environmental sampling and equipment and facility testing, including the testing of secondary contamination. No such testing or investigation shall limit Tenant's obligations hereunder or constitute a release of Tenant's obligations therefor. Tenant shall pay all costs associated with said investigation in the event such investigation shall disclose any Hazardous Materials contamination as to which Tenant is liable hereunder.

Airport: San Francisco International Airport (SFO)	**Airport Operator:** City and County of San Francisco
Document: Lease Agreement for the Terminal 2 Sit Down Restaurant at San Francisco International Airport	**Department:** Not known
	Date: Not known

Environmental Audit

Upon reasonable notice, Director shall have the right but not the obligation to conduct or cause to be conducted by a firm acceptable to Director, an environmental audit or any other appropriate investigation of the Premises for possible environmental contamination. Such investigation may include environmental sampling and equipment and facility testing, including the testing of secondary contamination. No such testing or investigation shall limit Tenant's obligations hereunder or constitute a release of Tenant's obligations therefor. Tenant shall pay all costs associated with said investigation in the event such investigation shall disclose any Hazardous Materials contamination as to which Tenant is liable hereunder.

Tropical Hardwood and Virgin Redwood Ban

The City and County of San Francisco urge companies not to import, purchase, obtain, or use for any purpose, any tropical hardwood, tropical hardwood wood product, virgin redwood, or virgin redwood wood product. Except as expressly permitted by the application of Sections 802(b) and 803(b) of the San Francisco Environmental Code, Tenant shall not provide any items to the construction of Alterations, or otherwise in the performance of this Lease which are tropical hardwoods, tropical hardwood wood products, virgin redwood, or virgin redwood wood products. In the event Tenant fails to comply in good faith with any of the provisions of Chapter 8 of the San Francisco Environmental Code, Tenant shall be liable for liquidated damages for each violation in any amount equal to Tenant's net profit.

Airport's Sustainable Food Guideline

In compliance with Executive Directive No. 09-03 issued by the Office of the Mayor on July 9, 2009, the Airport has established a 16-point Sustainable Food Guideline (the "Airport's Sustainable Food Guideline") that promotes public health, environmental sustainability, and social responsibility. The following must be adhered to throughout the term of the Lease.

Tenants must feature:

- Displays that promote healthy eating and good environmental stewardship
- Visible food preparation areas
- Portion sizes which support good health
- Portion-appropriate menu items for children

Tenants must use:

- Low- or non-phosphate detergents
- Compostable, bio-resin bottles or paper boxes for all bottled water sales
- Un-bleached paper products and compostable To Go containers and utensils
- To the very greatest extent possible, Tenants must use:
- Organic agricultural products from the Northern California region
- Agricultural products that have not been genetically modified
- Organic or all-natural meat from animals treated humanely and without hormones or antibiotics
- rBST-free cheese, milk, yogurt and butter
- Cage-free, antibiotic-free eggs
- Sustainable seafood
- Fairly Traded Organic Coffee
- Products free of hydrogenated oils
- Products free of artificial colors, flavors and additives

Design Review Meetings

Tenants shall complete the design review process in a timely manner allowing Tenant to start construction in time to be operational upon opening day of Terminal 2. Airport will provide Tenant with estimated opening date upon signing of Tenant's lease and

will inform Tenant in writing of any changes to said date. Design review steps include but are not limited to the following:

- Base Building Coordination
  - Upon signing of tenant lease, Tenant and Tenant's designer shall meet with base building architect to discuss design integration of Tenant's leasehold with base building design. Upon completion of schematic review and upon 50% completion of construction documents, Tenant shall submit two copies (half size is acceptable) of plans for T2 Project Manager review for coordination with base building systems and verification that Tenant has met project sustainability requirements described in the Concessions Design Guidelines.

Airport: Seattle–Tacoma International Airport (SEA)	**Airport Operator:** Port of Seattle
Document: Concession Agreement Between Port of Seattle and Puget Sound Dispatch L.L.C.—Taxi cab environmental requirements	**Department:** Not known
	Date: Not known

- Concessionaire shall act to ensure that the Independent Contractors operate a fleet of vehicles that minimize air emissions and institute operational practices that help protect impacts to the natural environment. Concessionaire shall also institute practices that promote the efficient movement of people to and from the Airport.
- By March 1, 2011, Concessionaire shall ensure that at least fifty percent (50%) of the Independent Contractors vehicle fleet it uses for On-Demand Taxi service utilizes alternative fuels, as defined by the U.S. Energy Policy Act, or is designated by the United States Environmental Protection Agency as having a highway rating of 45 mpg or greater. Evidence of minimum mpg or alternative fuel status will be submitted electronically to the MGT every November 1st. Concessionaire will provide vehicle registrations or other documentation as approved by the MOT as verification of compliance. The Department of Energy considers the following vehicle fuels as alternatives to petroleum: Biodiesel, Electricity, Ethanol, Hydrogen, Methanol, Natural Gas, and Propane. For more information about alternative vehicle fuels, consult hatp://www.afdc.energy.gov/afdc/fuels/index,html.
- By March 1, 2012, Concessionaire shall ensure that one hundred percent (100%) of the Independent Contractors vehicle fleet it uses for On-Demand Taxi service utilizes alternative fuels, as defined by the U.S. Energy Policy Act, or is designated by the United States Environmental Protection Agency as having an highway rating of 45 mpg or greater. Evidence of minimum mpg or alternative fuel status will be submitted electronically to the MGT every November 1st. Concessionaire will provide vehicle registrations or other documentation as approved by the MGT as verification of compliance.
- Notwithstanding subsections (i) and (ii) above, the Port acknowledges that wheelchair accessible vehicles meeting the requirements of subsections (i) and (ii) are not currently generally available at a commercially reasonable price. In addition, as a result of recent revisions in the City of Seattle taxi regulations, the Independent Contractors providing wheelchair accessible taxi service recently procured new vehicles consistent with City regulations. Therefore, the requirements set forth in subsection (i) and (ii) shall not be applicable to wheelchair accessible taxi vehicles until such time as the parties agree that they are generally available and conversion is appropriate.
- By November 1, 2010, Concessionaire shall develop, implement, and submit to the MGT a fleet-wide anti-idling policy. The Concessionaire anti-idling policy shall include the requirement that vehicle engines shall be turned off when vehicles are not occupied. The Airport encourages the Concessionaire to evaluate opportunities to procure and install anti-idling equipment.
- The Airport encourages Concessionaire's participation in the Evergreen Fleet Initiative (www.evergreenfleets.org). Evergreen Fleets is a collaborative effort between local fleet managers, the Puget Sound Clean Air Agency and the Puget Sound Clean Cities Coalition to help develop innovative fleet standards for the betterment of our environment.
- Concessionaire shall coordinate a semi-annual meeting with Airport environmental staff to discuss achievements and obstacles pertaining to improving the efficient and effective movement of people to and from the Airport via taxi service.
- Concessionaire shall reasonably cooperate with the Port with any efforts to calculate greenhouse gas emissions associated with taxi operations under the Concession.
- In the event that Concessionaire fails to comply with the requirements set forth in this Section, the Port specifically reserves the right to issue a notice of default under, and terminate, this Agreement.

Airport: Portland International Airport (PDX)	**Airport Operator:** Port of Portland
Document: Rental Car Concession Lease and Operating Agreement with the Avis Budget Car Rental, LLC—environmental requirements	**Department:** Not known
	Date: Not known

Sanitation, Hygiene, and Cleanliness

Concessionaire shall keep the Premises free of debris, trash, and hazardous conditions; shall keep the Public Areas around the Premises free of hazardous conditions originating from Concessionaire's operations; and shall promptly notify the Port's Concession Manager orally of other hazardous conditions in the Public Areas outside of the Premises upon actual knowledge of any such hazardous conditions. Concessionaire shall provide a proper arrangement for the adequate sanitary disposal of all trash and other refuse on the Premises and shall provide for its timely removal to the central collection point provided by the Port, as more particularly described in Section 8.

Concessionaire shall take appropriate action in the handling of waste materials to prevent the presence of rodents and other vermin. Concessionaire shall keep all garbage materials in durable fly proof, rodent proof, and fireproof containers that are easily cleaned. The containers shall have tight fitting lids, doors, or covers, and shall be kept tightly covered when material is not being deposited in them. Concessionaire shall clean the containers, as necessary, to prevent odors. Concessionaire shall not allow boxes, cartons, barrels, pallets, or other similar items to remain within view of Public Areas. The Port shall be responsible for handling and removal of trash and other refuse deposited by the public in the Public Areas. Concessionaire shall not deposit any of its trash or other refuse in any containers except those designated for Concessionaire's trash, as provided in Section 8.

Environmental Initiatives

Waste Disposal and Recycling

In compliance with the *Rental Car Waste Minimization Strategy/ Operational Requirements* attached hereto as **Exhibit J,** Concessionaire shall gather, sort, and transport all garbage, refuse, and recyclable materials daily to a consolidated waste and recycling collection area serving the QTA, Office/Counter Area, and Short and Long Term Parking Garage areas leased by the On-Airport Concessionaires ("Collection Area"). Concessionaire shall participate in the Pre-Consumer Waste Recycling program and the Post-Consumer Waste Recycling program implemented by the Port.

Concessionaire shall place all garbage, refuse, and recyclable materials in the appropriate containers at the Collection Area, taking all reasonable measures to reduce the amounts of waste it generates by requiring suppliers to remove nonessential over wrap, containers, and other packaging, and to use recyclable materials for essential packaging whenever possible. The Concessionaires shall provide in the Collection Area containers for recycling the following: (a) corrugated cardboard; (b) magazines; (c) newspapers; (d) tin and steel cans; (e) glass that is clear, brown, or green; (f) batteries; and (g) high grade office paper, including letterhead, typing paper, colored paper, photocopy paper, and computer paper. Recyclable materials, including food waste, should be placed into the appropriate containers. Except for the recycling of batteries, Concessionaire shall ensure that the following materials are not deposited in recycling containers: (i) Hazardous Substances (as defined in Section 12.1.3); (ii) cans or other containers used to store paint, oil, solvent, cleaning fluids, or other Hazardous Substances; and (iii) unclean paper, including paper that is soiled with food, and paper with plastic covers or windows and wax coated paper. On-Airport Concessionaires must maintain the Collection Area in accordance with standards imposed by the Port. The Port, at its expense, shall perform a baseline audit ("Waste Audit") within the first three (3) months of the Term, a copy of which shall be supplied to all On-Airport Concessionaires. Based upon the Waste Audit, the Port shall assist the On-Airport Concessionaires with waste receptacle signage and placement and employee outreach. The Port has the specific right to conduct further no notice inspections of the Collection Area and equipment to ensure that the required level of maintenance is being provided and that progress toward meeting the City of Portland business recycling requirements is being met. The On-Airport Concessionaires must fully meet City of Portland business recycling requirements no later than January 1, 2014. The results of these inspections will be provided to On-Airport Concessionaires in writing. Subject to the notice requirement set forth below, if the Port determines that On-Airport Concessionaires are not adequately maintaining the Collection Area, the Port will have the right to hire a third party to undertake the maintenance and repair of the Collection Area, at On-Airport Concessionaires' sole cost, for the remainder of the term of this Lease. Notwithstanding the foregoing, the Port will provide up to two (2) written notices in any calendar year to On-Airport Concessionaires, with the time for cure as set forth in Section 10.10 before it may exercise its option to contract with a third party to perform maintenance of the Collection Area. The Port also reserves the right to recover the cost of repair or maintenance of other facilities or systems that are damaged or adversely impacted by On-Airport Concessionaires' failure to properly maintain the Collection Area as required. Furthermore, if City of Portland business recycling requirements are not met by January 1, 2014, the On-Airport Concessionaires shall reimburse the Port for the actual costs associated with the waste auditing and minimization support services estimated to be SIX HUNDRED DOLLARS AND NO CENTS ($600.00) per event to cover time and materials.

QTA Facility Water Conservation Strategy

Concessionaire shall update the existing QTA car wash facilities to improve its annual water efficiency in compliance with the Port's Water Management and Conservation Plan based upon improvements and maintenance measures reflected in the Maintenance Matrix attached as **Exhibit I** and the *Rental Car Quick-Turn-Around Facility Water Conservation Strategy/Operational Requirements* attached hereto as **Exhibit K.** The cost to update the car wash systems will he paid by the On-Airport Concessionaires through the Consortium (as defined in Section 10.1), unless approved otherwise by the Port in writing. Within ninety (90) calendar days of the Effective Date, a reputable commercial car wash service company shall be under contract to complete the improvements to the car wash facilities. The contractor shall be subject to Port review and approval. If such contractor is not under contract within the time prescribed, the Port shall direct the Consortium Manager (defined in Section 10.1.2) to contract with a contractor to make and maintain the required improvements at On-Airport Concessionaires cost. Failure of the Consortium Manager to timely contract with the contractor after Port direction shall be deemed a Default under this Lease (as defined in Section 15.1).

Vehicle Fleet Emission Management Program

Concessionaire will participate in the *Vehicle Emissions Strategy,* attached hereto as **Exhibit L,** implemented by the Port during the Lease Term. This strategy will provide fleet information that is accurate and timely to facilitate the Port's initial planning and then monitoring emission management targets during the Term. Concessionaire will be required to provide the Port, at the Port's request and in a form approved by the Port, what types of Vehicles are rented from PDX with enough detail to identify each Vehicles EPA Green Vehicle Score.

Airport: San Francisco International Airport (SFO)	**Airport Operator:** City of San Francisco
Document: Rental Car Quick-Turn-Around Facility Water Conservation Strategy/ Operational Requirements	**Department:** Not known
	Date: Not known

The City of San Francisco is committed to lessening the negative environmental impact of all operations and concessions at SFO. In support of this goal, the city is electing to partner with the on-airport rental car concessionaires in a program intended to provide incentives to the rental car concessionaires to increase their rental of vehicles meeting an EPA Green Vehicle score of 17 or higher (Qualified Green Vehicles), as well as incentives to encourage rental car customers to select environmentally friendly vehicles when they rent at San Francisco International Airport.

Rental Car Concessionaire Incentive Program

Rental car concessionaires (RACs) will be encouraged to meet specific targets for Qualified Green Vehicle rentals (transactions). Vehicles meeting an EPA Green Vehicle Guide score of 17 or higher will be considered Qualified Green Vehicles. The incentive targets will be reviewed and/or revised at the end of Lease Year 2, and possibly changed or abolished for the remainder of the term.

2009 15%

2010 15%

To qualify for the incentive credit, RACs will be required to track and report their rentals of Qualified Green Vehicles at SFO on a monthly basis. At the close of each lease year, if a RAC operator has met the annual qualifying target, the City will calculate the credit owed to concessionaire by calculating the amount of the difference between the 10% concession fee paid by concessionaire for each of the Qualified Green Vehicle transactions, and an imputed 8% concession fee for these same rentals. An equivalent amount to this differential will be credited to concessionaire's rent due and owing to the City for the succeeding year.

Rental Car Customer Incentive Program

The City intends to encourage rental car customers to select vehicles with an EPA Green Vehicle Guide score of 18 or higher when they rent a vehicle at SFO by offering to subsidize a $15 per transaction credit on the gross revenue charges for each such rental. This will require the RACs to reflect the $15 credit on the face of the transaction agreement and to report the qualified transactions to the City on a monthly basis. The individual RAC operator will then, with adequate backup, be allowed to take a monthly credit for the amount offered as a discount to the rental car customer for a qualified rental. As no concession fee will be collected from the customer or paid the City for this discounted amount of the gross revenues due and owing for the qualified rental, no proportionate concession fee will be due and owing as a credit to the RAC operator.

Airport: Portland International Airport (PDX)	**Airport Operator:** Port of Portland
Document: Rental Car Quick-Turn-Around Facility Water Conservation Strategy/ Operational Requirements	**Department:**
	Date:

Background

The rental car quick-turn-around facility (QTA) is one of the Port's largest water users (16,211,807 gal. from Dec. 2009 to Nov. 2010). It contains a five bay wash facility used by the rental car agencies operating out of the terminal. Standard practice for commercial car wash operations is to conduct preventative maintenance and system adjustments to minimize water use, reduce treatment plant loading, and control associated costs. The strategy described below is expected to conservatively reduce the QTA's water use by 20% per vehicle processed (3,200,000 gal./yr). This savings will be accomplished through an investment in specific up-front improvements and an on-going maintenance program. These targeted improvements become cost negative in less than half a year, and have the potential to improve the quality of the wash provided by the facility. In addition, the Port's Water Management and Conservation Plan requires the implementation of potable water conservation measures. This opportunity provides an excellent example of a project where environmental and financial considerations are both met.

A walk through with three commercial car wash maintenance vendors was conducted and proposals were submitted from two of the three attendees on a limited scope of water conservation related improvements. The cost information from this process was used to develop a payback calculation for the project. The results are provided below.

- Up-front cost of $5,000 to $7,000 to upgrade all five bays of the QTA, based on a common list of recommended water conservation measures.
- Maintenance contract costs of $9,000 to $13,000 per year, based on bi-monthly inspections (after the first 2–3 months).
- First year payback in 0.37 to 0.42 yr, with an *estimated first year savings of $25,000 to $27,000.*
- Out year payback in 0.21 to 0.30 yr, with an *estimated annual savings of $30,000 to $34,000.*

The on-going maintenance contract provides a mechanism to ensure the anticipated water savings is sustained through years 2–5 of the contract. Total savings due to the reduction in water and sewer billing realized by the QTA should conservatively reach $145,000 over the 5 yr contract.

Expectations

The Rental Car Consortium will contract with a reputable commercial car wash service company to complete a list of upfront improvements (listed below) and conduct bi-monthly maintenance checks to ensure the efficient operation of the facility. The vendor will be under contract for the above stated scope within 90 days of the effective date of the new Rental Car agreements for PDX. Final vendor selection will be subject to Port review and approval.

Operational Requirements

The Consortium will make the following upfront improvements to the facility;

- Modify wash cycle timing to meet actual wash time used by the operator. Delay rinse cycle to start when vehicles enter the rinse area.
- Replace existing spray nozzles with the type, size, and number of nozzles currently recommended by the car wash manufacturer for each bay's specific system. (*Regular replacement based on nozzle manufacturer's recommendations becomes an on-going maintenance item.)
- Repair any leaks in the wash system (including chemical management infrastructure).
- Install nozzle check valves on the system for non-winter months (April thru October) to reduce drainage between cycles. (*Installation and removal becomes an annual maintenance item to be covered on regular bi-monthly visits.)

The maintenance contract will cover the items provided on the attached check list plus items 1 and 4 as noted above. Any water conservation related issues identified during inspections will be remedied at the time of the visit or (if not possible) within 15 days of the visit where the issue was noted.

Metrics

Water use will be documented through the QTA specific meter already in place at the facility. Monthly meter readings are already routed to Environmental Affairs and a process is already in place to track usage. The number of vehicles processed will be estimated as 10% of enplaned passengers, as it was for the analysis of 2010 water use data. This will provide a level baseline, regardless of fluctuations in facility use.

Enforcement

If the QTA Management Consortium fails to act within the 90 day timeframe described above, the Port will contract with a reputable vendor to make the required improvements and conduct bi-monthly maintenance visits necessary to implement the water use reduction strategy. In this case, all contract and administrative costs will be billed back to the Consortium. The

Consortium will be required to accommodate any disruption in operation necessary to complete the improvements and conduct the inspections/repairs to the systems and will coordinate with the Port in a timely manner to do so.

Supporting Assumptions

- Rental car activity can be reasonably estimated as 10% of enplaned passengers for metric tracking purposes.
- Vendor provided estimates for the work required in this strategy are reasonably indicative of actual costs for upfront improvements and bi-monthly maintenance contracts.
- Vendors and other industry professionals feel a 20% reduction in water use is a conservative estimation based on the proposed improvements.
- City of Portland water and sewer charges are likely to increase over the term of the lease adding an additional layer of conservatism to the payback calculation.

Airport: Portland International Airport (PDX)	**Airport Operator:** Port of Portland
Document: Rental Car Waste Minimization Strategy/ Operational Requirements	**Department:**
	Date:

Background

The purpose of this waste minimization strategy is to facilitate car rental tenants (RAC) compliance with Port and City of Portland waste minimization goals and business recycling requirements. Historically, the five RACs housed at the QTA have operated using independent waste haulers and have not been held accountable to meet mandated recycling requirements.

Expectations

The Rental Car companies will work together to operate a single waste and recycling collection area for the QTA, customer counter, and garage facilities. The RACs will hire a single vendor to provide waste and recycling containers as well as transport services. Using a single waste hauler and having a centralized waste collection area will maximize space and reduce truck traffic. It is likely that efficient utilization and operation of a centralized waste management model will result in overall savings. The Port will conduct a waste and recycling assessment to establish baseline waste generation and recycling rates at the beginning of the lease period.

Increasing recycling rates and decreasing landfill waste may or may not result in waste management cost savings for all RACs. For example, even using a single hauler, if all RACs continue to use individual front load containers, the ability to reduce costs are low due to container rental rates and pickup frequency, whereas, utilization of a single, centralized roll off box with separate commingled recycling could save costs, especially when frequency of garbage pickup can be reduced due to the diversion of recyclables. Additionally, there would be space savings associated with a centralized system because of the absence of the multiple waste boxes.

The existing model of waste collection at the facility has multiple haulers managing multiple accounts, accessing the site at multiple times with multiple trucks, which is inefficient and contributes to airport traffic and CO_2 emissions.

Operational Requirements

The RACs will all:

- Utilize similar, Port approved, waste and recycling collection containers and equipment in public areas.
- Train and incentivize existing and new employees to minimize waste and recycle appropriate materials.
- Recyclables to be collected by the RACs include (but may not be limited to) commingled mix (cardboard, mixed paper, steel and aluminum cans, plastic bottles, and tubs) and glass.
- RAC garage and customer counter areas where drop offs occur will have paired recycling containers (commingled recycling and landfill waste) appropriate in size and design for use in the given area by rental car customers and RAC employees. RACs should have separate containers in take back area for glass recycling.
- RAC QTA operations will have paired containers appropriate for rental car turnaround operations.
- All wastes/recyclables generated by RAC operations in the counter areas, garages, and QTA will be managed (consolidated and picked up by waste hauler) at the QTA.

Metrics

Through this effort the companies will:

- Continuously improve the operations recycling rate compared to baseline assessment until reaching at a minimum, the City of Portland business recycling requirements.
- Port will conduct an annual waste and recycling audit to assess and document RAC recycling rate.
- RACs must fully meet City of Portland Business recycling requirements by January 1, 2014.

Enforcement

- Port will perform a baseline waste and recycling audit for the QTA waste collection area within 3 months of implementing the new lease. A copy of the audit will be provided to the RAC managers. The Port will perform this audit at its own expense.
- Based on the audit results, the Port will assist the RACs with waste receptacle signage and placement and employee outreach.
- The Port may choose to perform follow up waste and recycling audits, as it deems necessary, to assess the RAC's progress toward compliance with City recycling requirements, if needed.
- If the RACs fail to comply with City of Portland business recycling requirements, the RACs will reimburse the Port for waste auditing and waste minimization support services in the amount of $600.00 per event to cover Waste Minimization Team time and materials.
- If RACs do not meet recycling requirement by 1/1/14, Port has the option to increase frequency of waste audits.

Supporting Assumptions

- RAC Public areas adjacent to counters will have paired waste/recycling containers similar to PDX public areas.
- All RACs must meet City of Portland Business Recycling requirements (50% of all waste generated must be diverted.) This increases to 75% by 2015.
- To increase efficiency and reduce traffic/congestion RACs shall agree to use one waste hauler to provide waste and recycling services.
- The Port, at its expense, will conduct a baseline audit to establish a waste generation profile for the RAC on-airport

operations. The Port may conduct periodic audits to assess compliance with applicable waste minimization rules.
- Appropriate incentives/disincentives need to be developed to ensure RACs comply with rules (modify behaviors) within a suitable timeframe. The RACs will be charged $600 for each periodic waste audit, if not in compliance with City recycling requirements.
- The Port should consider the pros and cons (space needs, ability to reduce costs, frequency of pickups, needs of tenants, control of waste stream, ease of assessing individual performance) of multiple drop boxes versus a single large capacity roll-off box.
- RAC Frontage Road operations should be required to meet same recycling requirements as QTA. The Port should have the ability to audit frontage road facilities to assess compliance. Incentives should be in place to encourage compliance.
- The Port Waste Minimization Team will be available to provide RACs waste related technical assistance and support as needed.

Airport: Dallas/Fort Worth International Airport (DFW)	**Airport Operator:** Dallas Fort Worth Airport Board (DFWAB)
Document: Shuttle Van Operation Services at Terminal B Remote North and Value AA Parking Facilities—Incentive mechanism	**Department:** Not known
	Date: Not known

Innovative and Creative Approach to Service and Operation

Bidder is encouraged to propose additional value added services and/or operational, maintenance, and technologies processes and procedures not specified herein that would enhance the services provided to the Airport guests under this Contract. Examples include, but are not limited to, alternative routing, customer services initiatives, and enhanced operations procedures that would generate additional revenue, and cost savings to the Board.

Incentive Awards Program

DFW Airport shall provide the Contractor with an Incentive Awards Program that will provide an opportunity for monetary reward(s), on a quarterly basis, for meeting and/or exceeding specific performance standards. The CTR and Board will be solely responsible for determining if the Contractor meets or exceeds these standards as specified herein.

Bidders are encouraged to provide their employees with an incentive-based program tied to the same performance standards set forth by DFW Airport. The details of such program should be included with the submittal of this bid.

Reports will be submitted as follows to the CTR.

Daily—number of cars parked that day, number of total cars parked overnight, total number of passengers carried, number of miles operated, number of accidents (involving any shuttle van, guest vehicle, employees, or guests), number of vans unavailable, and description of reason.

Monthly—total number of cars parked, average cars per day, total number of passengers carried, preventive maintenance performed, average number of vans available daily, total number of miles operated (include monthly miles operated by individual vans by vehicle number).

Performance Incentive Standards (measured quarterly)

Safety—a ratio of less than, or equal to, 2.0 accidents per 100,000 total miles operated

Courtesy—fewer than 5 complaints per month

Service—average of 5 minutes or less wait time* and provide luggage assistance

Cleanliness—interior and exterior of vans inspected meet standard (to be set by the Board before the first day of the contract)

Maintenance—no more than 30,000 miles between road calls. Road calls are defined as a vehicle unable to continue service due to maintenance failure that requires repairs to be performed in order to resume operation.

*CTR will perform at least 20 on-time performance and service checks per month at randomly selected times

Monetary Awards—The five measured standards will be valued at $2,000 each per quarter, for a total of $10,000 quarterly. The Contractor potentially could be awarded $40,000 annually if all goals are met in each category each quarter. Quarters are defined as three-month periods beginning with the Notice to Proceed date of the contract.

Environmental Requirements

The Contractor shall at all times keep the Airport's facility, parking lots, and all other Board property provided for use under the Contract in a clean and orderly and safe condition and appearance. In addition, Contractor shall provide for the following:

- The pre-approved quantity of required backup vans shall be stored at an Environmental Affairs Department's pre-approved Airport property location.
- There shall be no servicing, washing, or maintenance preformed on the vans on Airport property unless pre-approved by the Environmental Affairs Department.
- Prepare and submit a Best Management Practices Plan (BMPs) to address spills/releases from the in-use and backup vans, while on Airport property. This Best Management Practices Plan shall be included in the sample Operational Manual provided with the bid and shall be submitted the Board's Technical Representative and will require the approval of Environmental Affairs Department.
- Supply a 24-hour manned contact phone number.

Contractor shall conduct its operations at all times using prudent management practices and shall take all reasonable precautions to prevent hazardous substances spills, releases, discharges, contamination, or pollution by the Contractor, its agents, employees, sub-contractors, invitees, or by other third parties under Contractor's reasonable control, to the premises or elsewhere on Airport property or from the premises or elsewhere on the Airport to the environment, including without limitations to soils, the atmosphere, or any waters of the State of Texas or the United States as defined by applicable law, in violation of any environmental requirements.

In the event Contractor's operations or activities on or use of premises or Airport may materially affect, as reasonably determined by the Airport Board's Environmental Affairs Staff

or any agency with jurisdiction over such issues, any Airport Board permit or contract or Airport Board's ability to comply with Environmental Requirements, including without limitation the Airport Board's contracts or permits with the Trinity River Authority or any permit applicable to the Airport Board pursuant to the Clean Water Act of Clean Air Act or State law, then Contractor shall, upon being so notified in writing, comply with all terms and conditions of said permit or contract which may pertain to the Contractor's activities under this Contract.

Environmental Related Reporting

Contractor and Board shall, throughout the term of the Contract, each promptly (upon receipt or transmittal) supply the other with copies of all notices, reports, orders, or submissions made by or on behalf of Contractor or Board, or received by Contractor or Board from the U.S. Environmental Protection Agency, the Texas Natural Resource Conservation Commission, or their successor agencies, or any other local, state, or federal authority that requires submission of any information concerning hazardous substances or any other applicable Environmental Requirements. In addition, Contractor and Board agree to promptly notify the other in advance of any scheduled meeting between it and any of said agencies regarding any Environmental Requirements or Environmental Liabilities concerning the premises or Contractor's activities and operations conducted pursuant to this Contract.

Airport: Portland International Airport (PDX)	**Airport Operator:** Port of Portland
Document: Vehicle Emissions Strategy	**Department:** Not known
	Date: Not known

Background

The Port continues to evaluate environmental and operationally sustainable practices to manage and, where practical, to reduce the impact of development and operation of its transportation facilities. The rental car industry represents a substantial portion of the combustion road vehicles operated at the PDX airport, so it is an obvious and necessary candidate to contribute to the Port's environmental goals. As with some other road vehicles categories operating at PDX, the Port currently does not have a sufficient baseline of the fleet mix rented by the rental car companies. All of the rental car contracts are expiring so this strategy has been prepared to outline what can be included in the new contracts to position the Port's best work with the rental car companies toward viable common emission management goals in the future.

Expectations

The Port intends to include a vehicle reporting requirement in the new agreements awarded with a Bid process in 2011. Each rental car company will need to provide regular reports of the vehicles that are rented from PDX. The reports will need to be in a form reasonably approved by the Port and reasonably detailed enough to allow for each vehicle to be identified by their EPA Green Vehicle Score.

Using the reported information, the Port intends to work with each rental car company to establish a baseline for the first two lease years of the new contracts awarded through the Bid process. This baseline will be used for broader airport and community planning processes as well as working with the industry to manage emissions at PDX.

Many companies are also working on their own vehicle and emission strategies so the Port will look for each of these progressive acting companies to share their national strategies and also how they intend to realize those strategies in the Northwest region so that the Port can work proactively with the rental car companies from the early stages of this emerging social reality.

Implementation

The realities of who can impose regulations on operators and their vehicle emissions are still evolving. Considering the Port intends to work first with its rental car partners to implement voluntary goals for vehicle mix and/or emission reduction, but reserves the right to impose goals or requirements as the legal ground continues to solidify in this area.

Setting a firm goal before the baseline for each company is identified and understood, but would not be practical. Having said that, the Port would like to work with each of the rental car companies operating at PDX following the bid to increase their utilization of vehicles that meet the metric described above by 5 to 10% above the baseline established for each company.

Airport: Seattle–Tacoma International Airport (SEA)	**Airport Operator:** Port of Seattle
Document: Yellow Cab Company Contract Language—environmental requirements	**Department:** Not known
	Date: Not known

Seattle–Tacoma International Airport has contracted with Yellow Cab Company (Yellow) to provide taxi service. Within this agreement, Seattle–Tacoma and Yellow have mapped out actions to reduce emissions associated with taxi vehicles. They include:

- Ensuring within one year, that 100% of its vehicle fleet uses alternative fuels, as defined by the U.S. Energy Policy Act, or is designated by the United States Environmental Protection Agency as having a highway rating of 45 mpg or greater.
- Developing and implementing an anti-idling policy.
- Participating in regional organizations that promote fleet efficiencies.
- Providing a collaborative relationship with the port to seek greater efficiencies in service.
- Providing data for taxi fleets regarding emissions.
- Seeking opportunities to reduce "deadheading" trips, where taxis return to the airport with paying customers.

Airport: San Francisco International Airport (SFO)	**Airport Operator:** City and County of San Francisco
Document: 16 Point Sustainable Food Guidelines	**Department:** Not known
	Date: Not known

SFO is committed to providing a dining experience that is healthy for passengers, employees, and the environment. Tenants are required to provide good, clean, and fair food, which has been responsibly sourced and deliciously prepared. The following must be adhered to throughout the term of the lease. This guideline may be amended by the Airport from time to time.

Tenants must feature:

- Displays that promote healthful eating and good environmental stewardship
- Visible food preparation areas
- Portion sizes which support good health
- Portion-appropriate menu items for children

Tenants must use:

- Low- or non-phosphate detergents
- Compostable, bio-resin bottles or paper boxes for all bottled water sales
- Un-bleached paper products and compostable To Go containers and utensils

To the very greatest extent possible, Tenants must use:

- Organic agricultural products from the Northern California region
- Agricultural products that have not been genetically modified
- Organic or all-natural meat from animals treated humanely and without hormones or antibiotics
- rBST-free cheese, milk, yogurt and butter
- Cage-free, antibiotic-free eggs
- Sustainable seafood
- Fairly Traded Organic Coffee
- Products free of hydrogenated oils
- Products free of artificial colors, flavors and additives

Airport: Portland International Airport (PDX)	**Airport Operator:** Port of Portland
Document: Monitor, and Laptop Services and Associated Services, Request for Proposal	**Department:** Not known
	Date: 11/27/07

Instruction to Vendors

Vendors are always required to submit a complete description of the item being proposed.

- Description of Requirement
  - This Request for Proposals (RFP) is for the purchase of desktop PCs, monitors and laptops meeting the specifications set forth, in Section 4 below. In addition to the purchase of the hardware, pricing is requested for a variety of associated services including: set up, deployment and environmentally responsible disposal of packaging, and removal and environmentally responsible disposal of the Port's end of life machines. This purchase will support an overall refresh of the Port's desktop/laptop computer environment, with implementation planned for April 2008. As such, the bulk of the delivery will be required in March 2008, with the expectation that a smaller delivery will be needed earlier to support ongoing needs. MI pricing must be, at a minimum, equal to or better than the one-off from State of Oregon or WSCA price agreements.
- Environmental Factors
  - Describe your environmentally responsible disposal/recycling of all old hardware and packaging materials, and
  - Describe all other environmental programs/services available.

Evaluation Criteria

- Evaluation Procedures
  - Competitive range
    - △ The Port will determine initially which proposals are within the competitive range in accordance with the evaluation criteria set forth below. Only those proposals within the competitive range will be considered for award.
  - Criteria
    - △ The Port will evaluate the proposals based on the following items listed in descending order of priority with the most important listed first.
  - Criteria points
    - △ Cost—Units/Options as Specified 45
    - △ Environmental Approach 35
    - △ Included Services, Value Added Services 20
    - △ Total Points: 100

Airport: Toronto Pearson International Airport (YYZ)	**Airport Operator:** Greater Toronto Airports Authority (GTAA)
Document: Building Cleaning and Waste Management Contract—environmental requirements	**Department:** Not known
	Date: Not known

Scope of work

The contractor shall ensure that:

1. All of the Contractor's Equipment must conform to the standards of Workplace Hazardous Materials Information System (WHMIS). All such equipment must also conform to all environmental standards and Applicable Laws, and wherever possible must be environmentally friendly to the situation.

Airport: Chicago O'Hare International Airport (ORD)	**Airport Operator:** Chicago Department of Aviation (CDA)
Document: Comprehensive Custodial/Window Cleaning and Related Hygiene and Disposal Services for Chicago O'Hare International Airport—Green cleaning requirements	**Department:** Not known
	Date: Not known

Green Meetings

Green Meeting Practices guide meeting hosts, planners, and attendees toward more eco-friendly meetings and incorporate environmental considerations into planning and conducting meetings in order to minimize the negative impact on the environment. Whenever applicable, Contractor must follow the green meeting practices outlined in SAM, or existing corporate sustainability policy, whichever is more stringent.

Document Reduction and Recycling Initiative (DRRI)

The DRRI is intended to reduce the volume of paper used and facilitate the recycling of documents. Contractors must implement

the DRRI, which has the following main objectives in the context of the work under this specification: (1) Identify and issue only essential paper copies, (2) Provide a simple, yet effective means for recycling documents.

Corporate Sustainability Policy

Keeping with the spirit and intent of the SAM, Contractor working in support of CDA on this project must establish and adopt its own corporate policy on sustainable practices within 60 days of contract execution. Contractor is also required to identify and maintain an "Environmental Liaison" to facilitate the dissemination of environmental information within the workplace and create a link with CDA staff for environmental issues.

Recycled Content Paper

Intended to reduce the need for virgin materials, energy, and waste associated with the production of paper by promoting the use of recycled content paper. Contractor is required to purchase and utilize print/copy paper that is chlorine bleach free.

and

For all office paper purchased for routine daily business administration and operations, a minimum 30% recycled content is required.

Storage and Collection of Recyclables

If administrative space is assigned and designated by CDA for Contractor use, Contractor must utilize dedicated area or areas that serve for the collection and storage of materials for recycling, including paper, corrugated cardboard, glass, plastics, and metals. When CDA implements a composting program, an area must also be dedicated to collection and storage of compostable food waste for the Contractor.

Sustainability: Custodial

For purposes of this contract, the following sustainability requirements apply to all Contractor custodial Work:

Equipment Maintenance

In order to minimize the environmental impact of construction and maintenance equipment and associated maintenance activities, Contractor must follow the requirements of the CDA's Best Management Practices (BMP) Manual.

Green Cleaning: Sustainable Cleaning Equipment

It is intended to reduce the exposure of occupants and maintenance personnel to potentially hazardous chemical, biological, and particulate contaminants, which adversely affect air quality, human health, and the environment. Contractor is required to implement a program for the use of janitorial equipment that reduces building contaminants and minimizes environmental impact. The cleaning equipment program must require the following:

- If any new equipment is purchased by the Contractor for provision of services under this contract, and Energy Star rated equipment is available that will provide the performance required for services, Contractor must purchase the Energy Star rated equipment. This requirement does not apply to any existing equipment. Vacuum cleaners are certified by the Carpet and Rug Institute "Green Label" Testing Program for vacuum cleaners and operate with a sound level of less than 70 dBA.
- Carpet extraction equipment used for restorative deep cleaning is certified by the Carpet and Rug Institute's "Seal of Approval" Testing Program for deep-cleaning extractors.
- Powered floor maintenance equipment, including electric and battery powered floor buffers and burnishers, is equipped with vacuums, guards, and/or other devices for capturing fine particulates and operates with a sound level of less than 70dBA.
- Automated scrubbing machines are equipped with variable-speed feed pumps and on-board chemical metering to optimize the use of cleaning fluids.
- Powered equipment is ergonomically designed to minimize vibration, noise, and user fatigue.
- Equipment is designed with safeguards, such as rollers or rubber bumpers, to reduce potential damage to building surfaces.
- Contractor must maintain a log for all powered cleaning equipment to document the date of equipment purchase and all repair and maintenance activities and include vendor specification sheets for each type of equipment in use, for review by CDA as requested.

Implement Employee Sustainability Training Program

In keeping with the spirit and intent of the SAM, Contractor must establish, adopt, and implement their own employee sustainability training program within 60 days of contract execution.

Staff Training

To support and encourage the operations, maintenance, upgrade, and project team integration for implementation of sustainability requirements, at least one principal participant of the project team must be LEED-credentialed or become LEED-credentialed within 180 days of contract execution.

Plastic Toilet Seat Covers

Thousands of toilet seat cover rolls are used at Chicago O'Hare International Airport every month. Comprised of polyethylene film, these covers represent a significant recyclable resource opportunity. Within 90 days of contract execution, Contractor must submit a proposed toilet seat cover recycling plan to the CDA for review and approval. The cost of the recycling plan must be at no cost or revenue positive to the City. Within 180 days of contract execution, Contractor must implement the recycling program for the used toilet seat covers unless the Commissioner consents in writing to a later implementation date. Annually, as part of required documentation, Contractor must submit recycling report of toilet seat covers recycled, total weight, final recycled disposition and costs/benefits.

Reduction of Plastic Waste: Biodegradable Trash Bags

It is intended to reduce the amount of plastic that is sold and ultimately disposed within the terminals. Contractor is required to use only biodegradable trash bags that, once at a landfill, break down at a faster rate than traditional trash bags.

Green Procurement Policy

Intended to reduce the environmental impact of products and services by developing a Green Purchasing Program. Contractor is required to purchase supplies, materials, equipment, and other products meeting or exceeding the minimum requirements of the Green Product Listing below, if such items are reasonably available that meet applicable OSHA, CDC, or similar public health requirements. Additionally, the quaternary-based

cleaner and disinfectant to be used for Preventive Maintenance Program/Deep Cleaning of the Hygienic Toilet Seats is not required to meet the minimum requirements of the Green Product Listing. However, if a quaternary-based cleaner or disinfectant is available, or becomes available, that meets the minimum requirements of the Green Product Listing and also meets the requirements for Preventative Maintenance Program/Deep Cleaning of the Hygienic Toilet Seats, Contractor is strongly encouraged to use that product.

Green Product Listing (SAM 2.0 Reference AP-A)

- Adhesive and Mastic Removers—58% minimum biobased content
- Bathroom and Spa Cleaners—74% minimum biobased content
- Carpet and Upholstery Cleaners—General Purpose—54% minimum biobased content
- Carpet and Upholstery Cleaners—Spot Removers—7% minimum biobased content
- Dust Suppressants—85% minimum biobased content
- Floor Strippers—78% minimum biobased content
- Glass Cleaners—49% minimum biobased content
- Graffiti and Grease Removers—34% minimum biobased content
- Hand Cleaners—64% minimum biobased content
- Hand Sanitizers—73% minimum biobased content
- Household Cleaners, General Purpose—39% minimum biobased content
- Industrial Cleaners—41% minimum biobased content
- Laundry Products—General Purpose—34% minimum biobased content
- Laundry Products—Pretreatment/Spot Removers—46% minimum biobased content
- Multipurpose cleaners—56% minimum biobased content
- Sorbents—89% minimum biobased content
- Bathroom tissue—20–100% recovered fiber, including 20–60% postconsumer fiber
- Facial tissue—10–100% recovered fiber, including 10–15% postconsumer fiber
- General purpose industrial wipers—40–100% recovered fiber, including 40% postconsumer fiber
- Paper towels—40–100% recovered fiber, including 40–60% postconsumer fiber
- Plastic trash bags—10–100% postconsumer plastic
- All—41% minimum biobased content

Sustainability: CDA & Tenant Assistance

At the discretion of CDA, the Contractor may be required to provide assistance directly to CDA and/or its tenants in the following areas. [See SAM for additional details (www.airportsgoinggreen.org/SAM).]

Solid Waste Management: Waste Stream Audit

During the term of this contract, CDA may wish to conduct a waste stream audit (conducted under separate contract), and Contractor may be asked to participate in completing CDA provided forms addressing, for example, the number of trash/recycling pulls conducted by Contractor in a given week within the terminal(s).

Community Education

From time to time, CDA may request Contractor for information and assistance in promoting awareness of CDA Divisions and tenant environmental and sustainability initiatives.

Sustainability: Encouraged Activities

During the period of this Contract, the following Contractor activities are encouraged. [See SAM for additional details (www.airportsgoinggreen.org/SAM).]

Source Reduction and Repurposing of Goods

Contractor is encouraged to change the purchase or use of material and products to reduce the amount of waste that is disposed of at landfills. This may include buying materials in concentrate, bulk, or products with reduced packaging or selecting supply chains that include "take-back" programs or provisions. Contractor is encouraged to find appropriate opportunities for reuse of materials, equipment, and products to reduce demand for virgin materials and reduce waste, thereby lessening impacts associated with the extraction and processing of virgin resources.

Reduction of Plastic Waste: Plastic Bottles

Contractor is encouraged to use reusable containers or biodegradable bottles in place of single-use plastic bottles to reduce the amount of waste generated.

Plastic Toilet Seat Covers

If available, Contractor is encouraged to purchase toilet seat covers with recycled and/or biodegradable content to the maximum extent possible.

Alternative Commuting Transportation for Employees, SAM 2.0 Reference: OM1.8

Contractor is encouraged to promote the use of commuting by alternative transportation in order to reduce pollution and land development impacts from conventional automobile use for commuting trips.

Innovation in Operations & Maintenance, SAM 2.0 Reference: OM6.0

The CDA believes that in many cases Contractors may know best how to enhance sustainability of their own activities and operations. Therefore, the CDA encourages innovation within the Contractor team to routinely review, identify, and implement new ideas, purchasing policies, and actions to improve overall sustainability.

Documentation (SAM 2.0 Reference, OM8.1)

Documenting Sustainable Measures

To assist in implementation, monitoring, and enforcement of these requirements, a representative from the CDA Environment Division will participate in routine meetings with the Contractor to ensure that the requirements included herein are implemented and to review progress with the Contractor regarding data collection and reporting requirements. Annually on the contract anniversary date, Contractor is required to document and report on their sustainability measures. CDA requires that the Contractor track these efforts over the life of the contract and provide CDA a comprehensive report documenting both successes and failures of pursuing the sustainability measures required and encouraged as part of this Contract. This report shall be submitted to the Commissioner of Aviation and copied to samdocs@cityofchicago.org.

SAM Rating System

In addition to any requirements included within the scope and work services agreement, all activities conducted within this Contract are subject to review and rating through the Operations & Maintenance Chapter of the SAM. Contractors are strongly encouraged to incorporate as many sustainable elements and practices into their efforts as possible. The SAM Operations & Maintenance Chapter is designed to certify the sustainability of ongoing building operations, operational and maintenance procedures, system upgrades, minor space-use changes, and minor facility alterations or additions, and training and educational programs. The SAM is available at www.airportsgoinggreen.org/SAM.

Airport: Antonio B. Won Pat International Airport, Guam	**Airport Operator:** Antonio B. Won Pat International Airport Authority, Guam (GIAA)
Document: RFQ for Professional Energy Performance Contracting Services	**Department:** Not known
	Date: 2010

INTRODUCTION

The Antonio B. Won Pat International Airport Authority, Guam (GIAA) seeks proposals from Professional Energy Services Companies (ESCOs) interested in identifying and evaluating energy saving opportunities and recommending a package of improvements to be paid for through cost savings. The ESCO must guarantee that savings will meet or exceed annual payments to cover all project costs over a maximum contract term of ten (10) years. Specifically, the ESCO will conduct a financial grade energy audit of GIAA's Main Terminal that will form the basis for negotiation of an energy performance contract between GIAA and the selected ESCO.

II. OVERVIEW

GIAA seeks to maximize energy cost savings and related costs in order to pay for facility upgrades and services. Services and capital improvements will be financed through an energy performance contract which:

- incurs no initial capital costs (with the option for GIAA to provide initial capital if desired),
- achieves significant long-term cost savings,
- includes a guarantee for cost savings,
- maintains consistent and reasonable levels of occupant comfort,
- maintains consistent levels of building functionality,
- captures additional benefits that may directly result from energy-related services and capital improvements, such as environmental protection, hazardous materials disposal or recycling, improved occupant comfort, reduced maintenance needs, improved indoor air quality, additional building improvements, etc.

The project contemplated by this RFP has three phases:

- Audit and Project Development Phase: A financial grade energy audit of GIAA's main terminal will be completed to define the project scope and cost. The audit shall be completed at the ESCO's sole cost and expense. The audit shall document existing conditions and an energy baseline. GIAA and the selected offeror will negotiate the performance contract terms and conditions based on the audit findings.
- Construction/Implementation/Financing Phase: Upon satisfactory results of the financial grade energy audit, ESCO shall design, furnish, and install the improvements identified in the audit and accepted by GIAA. ESCO will also assist with and/or provide financing for the recommended projects.
- Commissioning/Guarantee/Monitoring Phase: Upon completion of construction, ESCO will offer a variety of services to ensure savings are met, such as GIAA personnel training, follow-up monitoring, third-party measurement and verification, and maintenance and service of installed equipment.

GIAA is seeking to contract with an ESCO to provide performance contracting services for cost-saving measures. The selected offer shall first perform a detailed financial grade energy audit of the GIAA main terminal at ESCO's sole expense. The audit shall identify all feasible energy conservation, load management, and renewable resource options with benefits exceeding costs over the contract term. The audit shall document existing conditions and an energy baseline. ESCO shall be required to furnish a written report of its findings. Upon completion of the audit, GIAA and the selected offeror shall negotiate the performance contract terms and conditions based upon the audit findings, which may include the following scope of work to be carried out by the selected ESCO. GIAA reserves the right to reduce the scope of work or conduct work in phases. This list is not intended to be exhaustive.

- Design, furnish, and install cost-saving measures identified in the audit and accepted by GIAA. ESCO shall be responsible for quality control during the installing of all cost-saving measures. ESCO shall inspect and test all work performed to ensure compliance with contract requirements.
- Provide repair and maintenance service for all ESCO-installed equipment over the contract term. ESCO at its sole expense shall be responsible for periodic inspections, tests, adjustments, and repairs required to sustain and/or restore energy systems to as-designed performance and performance requirements of the contract. ESCO shall provide operations and maintenance training and manuals for GIAA personnel.
- Finance or assist with the financing of all equipment and services provided on terms such that the level of payments by GIAA is contingent on the measured energy cost savings. This means that the total payments by GIAA for utilities, fuel, and the energy performance contract do not exceed the amount that GIAA would pay for fuel and utilities without a performance contract. Financing approaches must comply with Guam law, including 12 G.C.A. § 50103(k) and may require legislative approval.
- The term of the performance contract shall not exceed 10 years. The contractual obligations of the parties in each fiscal year succeeding the first shall be subject to the appropriation and availability of funds. In the event funds are not available for any succeeding fiscal year, the remaining term of the contract shall be cancelled.

Airport: Portland International Airport (PDX)	**Airport Operator:** Port of Portland
Document: Contractor's Services for Janitorial Cleaning Services	**Department:** Not known
	Date: Not known

Contractor's Services

Contractor must provide industry leading janitorial cleaning services at the Airport and specified airport facilities as described in the Contract. These services must provide for custodians, supervisors, managers, equipment, and supplies. Specific janitorial services are defined in Exhibit C, attached hereto. In addition to Exhibit C, Contractor's services must also provide for the following:

Deicing and Snow Removal

- Contractor shall be responsible for distributing deicer products in the following areas: (a) Upper Roadway Sidewalks, (b) Lower Roadway Sidewalks, (c) North Sky Bridge, (d) South Sky Bridge, and (e) MAX Platform and Sidewalk Entrance. The Port will provide to the Contractor deicing materials and spreaders. When the snow and/or ice event is complete, Contractor must coordinate with the Port an appropriate and approved clean-up procedure. The parties understand that during a snow and ice removal time, Contractor's staff will be asked to perform these duties and the priorities of the routine services may be shifted. The Port also may opt to ask Contractor to supply additional staff to help with services. If additional time/manpower is required, it will be charged back at the exceptional services hourly rate.

Window Washing

- Contractor shall provide window washing services more specifically defined in Exhibit C, attached hereto.

Defects/Condition Notification

- Contractor shall promptly report to the Port's Maintenance Operations Center, at 503-460-4683, any damaged items. These items may include, but are not limited to, broken furniture, doors or windows, damaged light fixtures, leaky faucets, and toilet stoppages.

Environmental and Safety

- Contractor must perform all work specified in the Contract in compliance with all environmental and safety laws, including, but not limited to:
  - Material Safety Data Sheets (MSDS)
  - Contractor shall submit MSDS for all products supplied by or supplied to the Contractor for use. These data sheets along with products shall be kept up-to-date and labels must be properly maintained.
- Biohazard and Gross Decontamination
  - Contractor must be in compliance with biohazard and gross decontamination clean-up, including: (i) Certified training of all employees, (ii) Clean-up procedures that comply with all OSHA and Environmental Rules, and (iii) Approved disposal procedures.

Cleaning Standards

- It is the intent of this Contract to ensure that the facilities, fixtures, floor surfaces, and furnishings of the Port are always maintained in a state of high quality cleanliness.
- Cleaning drinking fountains and sinks
  - The Contractor shall clean all drinking fountains and sinks. The Contractor shall clean and disinfect fountains and sinks with detergent, cleanser, disinfectant, or soap. The Contractor shall clean metal and stainless steel drinking fountain tops with an approved metal cleaner, not with scouring powder, ensuring a polished appearance. The Contractor shall wipe clean any spillage on floors or walls adjacent to fountains and sinks. A clean fountain or sink is a fountain or sink that has been disinfected and is free of dust, dirt deposits, hair, debris, and odor.

Airport: Portland International Airport (PDX)	**Airport Operator:** Port of Portland
Document: RFP for Waste Hauling and Recycling Services	**Department:** Environmental Department
	Date: 08/25/2010

Introduction

The Port of Portland (Port) is soliciting proposals from experienced firms and individuals capable of providing Waste Hauling & Recycling Services for various Port facilities in the Portland metro area.

Background

The Port generates roughly 2,800 tons of municipal solid waste annually. In addition, approximately 900 tons of materials are recycled including cardboard, papers, plastics, glass, and metals. Approximately 440 tons of special wastes are also generated from asphalt sweeping and storm drain cleanout that are permitted by the Port for non-hazardous waste disposal. An organics collection program is also a key component in dealing with Port waste. The program consists of over 20 partners, including concessionaires in the PDX airport terminal as well as other participating businesses near Portland International Airport. The Port generates roughly 170 tons of waste food for composting each year. Other participating businesses generate approximately 150 additional tons of waste food for this program. The selected firm will be expected to support the Port in reaching its environmental goals through effective waste management.

Proposal Content and Evaluation Criteria

Environmental Efforts—Weight 5

- Include a statement of your firm's commitment to green products and practices.
- Provide examples of ongoing efforts to minimize environmental impacts of your operations.
- Describe the fuel types used by your vehicles.

Airport: Chicago O'Hare International Airport (ORD)	**Airport Operator:** Chicago Department of Aviation (CDA)
Document: RFP for Management of Public Parking and Ground Transportation Facilities at Chicago O'Hare International Airport	**Department:** Not known
	Date: Not known

Sustainability Requirements

The Chicago Department of Aviation (CDA) is embracing the best possible environmental, social, and fiscally responsible practices to enhance the quality of life and complement the overall

mission and goals of the City of Chicago. The Sustainable Airport Manual ("SAM") is an integral part of Chicago's ongoing efforts toward implementing more environmentally sustainable buildings and civil infrastructure, incorporating best practice guidance for planning, operations, and maintenance of all City airport facilities and functions, and those of its tenants.

The purpose of the SAM is to integrate airport-specific sustainable planning and practices early in the design process, through planning, construction, operations, maintenance, and all airport functions with minimal impact to schedule or budget. To achieve greater success, the SAM should be considered in every aspect of a project and daily activities. The SAM is available at www.airportsgoinggreen.org\SAM.

To assist in implementation, monitoring, and enforcement of these requirements a representative from the CDA Environment Division will participate in routine meetings with the Contractor.

Use of Alternatively Fueled Vehicles

Consultant must provide and maintain all vehicles necessary to operate and manage all aspects of the Parking Facilities as detailed herein ["Vehicle(s)"]. All Consultant support vehicles must operate on alternative fuels as specified below. These vehicles are anticipated to include passenger vehicles, small and large SUVs and pickup trucks, repair vehicles, and specialty vehicles as applicable.

Qualified Vehicles

The Department recommends that all Vehicles be new (i.e., model year 2011 or newer) and requires all Vehicles to have engines manufactured to comply with US EPA 2011 on-highway emissions regulations. Consultant is required to have at least one electric Vehicle dedicated to the performance of the services specified herein throughout the duration of its contract with the City.

Alternative Fuel

Each vehicle used in the performance of the services described herein must be capable of being fueled with an alternative fuel defined based on the options listed below:

- Electric
- Hybrid—Electric (gasoline or diesel/electric) Note: the diesel component must be 20% biodiesel as noted below)
- Biodiesel—Mixtures containing 20% (or greater) biodiesel meeting ASTM D 6751 (see Specification #3Fuel Types below)
- Natural gas (CNG—compressed or liquefied)
- Liquefied petroleum gas (propane)

Fuel Types

Diesel fuel used in conjunction with low-emission, hybrid, bi-fuel, and dual-fuel engines is limited to ultra low sulfur diesel (ULSD) fuel and the alternative fuels listed above. As defined by the US EPA, ULSD fuel has a maximum sulfur content of 15 parts per million (ppm). The diesel component must be a biodiesel blend of not less than 20% biodiesel meeting ASTM D 67512 (with 80% petroleum ULSD diesel) regardless of season/climate. Common biodiesel feedstocks are typically based on new and used vegetable oils, such as soy, mustard, canola, safflower, rapeseed, and/or palm oils; the biodiesel must not be derived from animal-based feedstocks. The biodiesel fuel price must be taken from an index that bases the price off a soy methyl ester (SME) feedstock.

The Energy Policy Act of 1992, as amended by the Energy Conservation Reauthorization Act of 1998, EPAct 2005, and the Energy Independence and Security Act of 2007, (EPAct) generally defines an "alternative fuel" as a fuel that is substantially nonpetroleum and yields energy security and environmental benefits. For more information about alternative vehicle fuels, consult: http://www.afdc.energy.gov/afdc/fuels/index.html.

ASTM International, originally known as the American Society for Testing and Materials (ASTM), is a globally recognized leader in the development and delivery of international voluntary consensus standards. ASTM D 6751 is a widely accepted standard specification for biodiesel fuel.

Infrastructure

Consultant must provide the infrastructure and fuel necessary to operate all vehicles used to provide the services described in this Scope of Services. For example, use of electric vehicles requires installation of a charging station. Consultants must submit proposed locations of the infrastructure or strategy to obtain fuel; no fuel infrastructure, facility, or location will be provided by the City.

No-idling Policy

Consultant must strictly enforce a no-idling policy on all drivers performing the services described herein to reduce any need for idling. Each vehicle must be outfitted with a functioning idle-shutdown timer to automatically shut down the vehicle's engine after three minutes of idling. Idle-reduction devices must allow for the elimination of unnecessary idling while providing for the comfort and safety of the driver.

Original Equipment Manufacturer

Consultant must provide the City with evidence that all vehicle propulsion systems are warranted by the Original Equipment Manufacturer (OEM) to operate on alternative fuels.

Records/Reporting

Consultant must:

- Provide an inventory of all vehicles in service, the type of fuel or technology used, and any other documentation requested by the Department to verify compliance.
- Annually submit to the Department, vehicle registrations including vehicle type, make, model, year, horsepower rating, and VIN.
- Maintain logs of all fuel used and submit monthly fuel usage reports to the Department on a quarterly basis.
- Maintain on-file certified laboratory results confirming the blend, quality, and quantity of the alternative fuel used; certified laboratory results must be submitted to the City on a semi-annual basis. The Department has the right to inspect vehicles and sample fuel as necessary to verify compliance with the requirements of this section.

Vehicle Labeling

Each vehicle must be clearly marked as an alternatively fueled vehicle. Such signage, markings, decals, etc., are to be approved by the Department.

Fuel Efficient Driver and Vehicle Operating Training

Consultant is encouraged to administer eco-driving and vehicle operating training annually to its drivers to ensure that alter-

natively fueled vehicles are used as intended and that driving techniques are used that reduce fuel consumption, greenhouse gas emissions, and accident rates.

Sustainability Requirements

The Chicago Department of Aviation (CDA) is embracing the best possible environmental, social, and fiscally responsible practices to enhance the quality of life and complement the overall mission and goals of the City of Chicago. The Sustainable Airport Manual ("SAM") is an integral part of Chicago's ongoing efforts toward implementing more environmentally sustainable buildings and civil infrastructure, incorporating best practice guidance for planning, operations and maintenance of all City airport facilities and functions, and those of its tenants. The purpose of the SAM is to integrate airport-specific sustainable planning and practices early in the design process, through planning, construction, operations, maintenance, and all airport functions with minimal impact to schedule or budget. To achieve greater success, the SAM should be considered in every aspect of a project and daily activities. The SAM is available at www.airportsgoinggreen.org/SAM. To assist in implementation, monitoring, and enforcement of these requirements, a representative from the CDA Environment Division will participate in routine meetings with the Consultant.

Sustainability: Administrative

For purposes of this contract, the following SAM sustainability requirements apply to all Contractor Administrative Work associated with this contract, both on- and off-site:

SAM 2.0, Reference

Green Meetings

Green Meeting Practices guide meeting hosts, planners, and attendees toward more eco-friendly meetings and incorporate environmental considerations into planning and conducting meetings in order to minimize the negative impact on the environment. Whenever applicable, Contractor must follow the green meeting practices outlined in SAM, or existing corporate sustainability policy, whichever is more stringent.

Document Reduction and Recycling Initiative (DRRI)

The DRRI is intended to reduce the volume of paper used and facilitate the recycling of documents. Contractors must implement the DRRI, which has the following main objectives in the context of the work under this specification: (1) Identify and issue only essential paper copies, (2) Provide a simple, yet effective means for recycling documents.

Corporate Sustainability Policy

Keeping with the spirit and intent of the SAM, Contractor working in support of CDA on this project must establish and adopt its own corporate policy on sustainable practices within 60 days of contract execution. Contractor is also required to identify and maintain an "Environmental Liaison" to facilitate the dissemination of environmental information within the workplace and create a link with CDA staff for environmental issues.

Recycled Content Paper

Intended to reduce the need for virgin materials, energy, and waste associated with the production of paper by promoting the use of recycled content paper. Contractor is required to purchase and utilize print/copy paper that is chlorine bleach free.

and

For all office paper purchased for routine daily business administration and operations, minimum 30% recycled content is required.

Storage and Collection of Recyclables

If administrative space is assigned and designated by CDA for Contractor use, Contractor must utilize dedicated area or areas that serve for the collection and storage of materials for recycling, including paper, corrugated cardboard, glass, plastics, and metals. When CDA implements a composting program, an area must also be dedicated to collection and storage of compostable food waste for the Contractor.

Energy Efficient Lighting

Consultant will be required to develop a comprehensive relamping program for the Elevated Parking Structure (EPS) at O'Hare International Airport. The EPS currently uses approximately 5,000 150-watt metal halide lamps with halophane fixtures throughout the multi-level structure. These lights are on 24 hours per day, seven-days per week for lighting and safety reasons. The Consultant's proposed relamping program should include modernization of the existing lighting and improve efficiency and a proposed dimming schedule sequence to provide safety, but reducing overall electrical consumption and providing cost savings to the CDA. As part of the Consultant's proposal, the amount of electricity saved and anticipated cost savings to CDA shall be clearly identified and reported annually on the anniversary of the Contract. Consultant shall submit the proposed relamping program to the CDA for review and approval. Consultant will be required to purchase, install, commission, and operate the lighting units (ballasts and fixtures) for the duration of this Contract. The CDA will purchase the bulbs/lamps and provide to the Consultant for installation. CDA will maintain an inventory of replacement bulbs/lamps and provide to Consultant as replacements are needed.

Sustainability: Custodial

For purposes of this contract, the following sustainability requirements apply to all Contractor custodial Work:

Equipment Maintenance

In order to minimize the environmental impact of construction and maintenance equipment and associated maintenance activities, Contractor must follow the requirements of the CDA's Best Management Practices (BMP) Manual.

Green Cleaning: Sustainable Cleaning Equipment

It is intended to reduce the exposure of occupants and maintenance personnel to potentially hazardous chemical, biological, and particulate contaminants, which adversely affect air quality, human health, and the environment. Contractor is required to implement a program for the use of janitorial equipment that reduces building contaminants and minimizes environmental impact. The cleaning equipment program must require the following:

- If any new equipment is purchased by the Contractor for provision of services under this contract, and Energy Star rated equipment is available that will provide the performance required for services, Contractor must purchase the Energy Star rated equipment. This requirement does not apply to any existing equipment. Vacuum cleaners are certified by the Carpet and Rug Institute "Green Label"

Testing Program for vacuum cleaners and operate with a sound level of less than 70dBA.
- Carpet extraction equipment used for restorative deep cleaning is certified by the Carpet and Rug Institute's "Seal of Approval" Testing Program for deep-cleaning extractors.
- Powered floor maintenance equipment, including electric and battery powered floor buffers and burnishers, is equipped with vacuums, guards, and/or other devices for capturing fine particulates and operates with a sound level of less than 70dBA.
- Automated scrubbing machines are equipped with variable-speed feed pumps and on-board chemical metering to optimize the use of cleaning fluids.
- Powered equipment is ergonomically designed to minimize vibration, noise, and user fatigue.
- Equipment is designed with safeguards, such as rollers or rubber bumpers, to reduce potential damage to building surfaces.
- Contractor must maintain a log for all powered cleaning equipment to document the date of equipment purchase and all repair and maintenance activities and include vendor specification sheets for each type of equipment in use, for review by CDA as requested.

Implement Employee Sustainability Training Program

In keeping with the spirit and intent of the SAM, Contractor must establish, adopt and implement its own employee sustainability training program within 60 days of contract execution.

Staff Training

To support and encourage the operations, maintenance, upgrade, and project team integration for implementation of sustainability requirements, at least one principal participant of the project team must be LEED-credentialed or become LEED-credentialed within 180 days of contract execution.

Reduction of Plastic Waste: Biodegradable Trash Bags

Intended to reduce the amount of plastic that is sold and ultimately disposed of within the terminals. Contractor is required to use only biodegradable trash bags that, once at a landfill, break down at a faster rate than traditional trash bags.

Green Procurement Policy

It is intended to reduce the environmental impact of products and services by developing a Green Purchasing Program. Contractor is required to purchase supplies, materials, equipment, and other products meeting or exceeding the minimum requirements of the Green Product Listing below, if such items are reasonably available that meet applicable OSHA, CDC, or similar public health requirements. Additionally, the quaternary-based cleaner and disinfectant to be used for Preventive Maintenance Program/Deep Cleaning of the Hygienic Toilet Seats is not required to meet the minimum requirements of the Green Product Listing. However, if a quaternary-based cleaner or disinfectant is available, or becomes available, that meets the minimum requirements of the Green Product Listing and also meets the requirements for Preventative Maintenance Program/Deep Cleaning of the Hygienic Toilet Seats Contractor is strongly encouraged to use that product.

Green Product Listing (SAM 2.0 Reference AP-A)

- Adhesive and Mastic Removers—58% minimum biobased content
- Bathroom and Spa Cleaners—74% minimum biobased content
- Carpet and Upholstery Cleaners—General Purpose—54% minimum biobased content
- Carpet and Upholstery Cleaners—Spot Removers—7% minimum biobased content
- Dust Suppressants—85% minimum biobased content
- Floor Strippers—78% minimum biobased content
- Glass Cleaners—49% minimum biobased content
- Graffiti and Grease Removers—34% minimum biobased content
- Hand Cleaners—64% minimum biobased content
- Hand Sanitizers—73% minimum biobased content
- Household Cleaners, General Purpose—39% minimum biobased content
- Industrial Cleaners—41% minimum biobased content
- Laundry Products—General Purpose—34% minimum biobased content
- Laundry Products—Pretreatment/Spot Removers—46% minimum biobased content
- Multipurpose cleaners—56% minimum biobased content
- Sorbents—89% minimum biobased content
- Bathroom tissue—20–100% recovered fiber, including 20–60% postconsumer fiber
- Facial tissue—10–100% recovered fiber, including 10–15% postconsumer fiber
- General purpose industrial wipers—40–100% recovered fiber, including 40% postconsumer fiber
- Paper towels—40–100% recovered fiber, including 40–60% postconsumer fiber
- Plastic trash bags—10–100% postconsumer plastic
- All—41% minimum biobased content

Sustainability: CDA & Tenant Assistance

At the discretion of CDA, the Contractor may be required to provide assistance directly to CDA and/or its tenants in the following areas. [See SAM for additional details (www.airportsgoinggreen.org/SAM).]

Solid Waste Management: Waste Stream Audit

During the term of this contract, CDA may wish to conduct a waste stream audit (conducted under separate contract), and Contractor may be asked to participate in completing CDA provided forms addressing, for example, the number of trash/recycling pulls conducted by Contractor in a given week within the terminal(s).

Community Education

From time to time, CDA may request from Contractor information and assistance in promoting awareness of CDA Divisions and tenant environmental and sustainability initiatives.

Sustainability: Encouraged Activities

During the period of this Contract, the following Contractor activities are encouraged. [See SAM for additional details (www.airportsgoinggreen.org/SAM).]

Source Reduction and Repurposing of Goods

Contractor is encouraged to change the purchase or use of material and products to reduce the amount of waste that is disposed of at landfills. This may include buying materials in concentrate,

bulk, or products with reduced packaging or selecting supply chains that include "take-back" programs or provisions. Contractor is encouraged to find appropriate opportunities for reuse of materials, equipment, and products to reduce demand for virgin materials and reduce waste, thereby lessening impacts associated with the extraction and processing of virgin resources.

Reduction of Plastic Waste: Plastic Bottles

Contractor is encouraged to use reusable containers or biodegradable bottles in place of single-use plastic bottles to reduce the amount of waste generated.

Alternative Commuting Transportation for Employees, SAM 2.0 Reference: OM1.8

Contractor is encouraged to promote the use of commuting by alternative transportation in order to reduce pollution and land development impacts from conventional automobile use for commuting trips.

Innovation in Operations & Maintenance, SAM 2.0 Reference: OM6.0

The CDA believes that in many cases, Contractors may know best how to enhance sustainability of their own activities and operations. Therefore, the CDA encourages innovation within the Contractor team to routinely review, identify, and implement new ideas, purchasing policies, and actions to improve overall sustainability.

DOCUMENTATION (SAM 2.0 Reference, OM8.1)

Documenting Sustainable Measures

To assist in implementation, monitoring, and enforcement of these requirements, a representative from the CDA Environment Division will participate in routine meetings with the Contractor to ensure that the requirements included herein are implemented and to review progress with the Contractor regarding data collection and reporting requirements. Annually on the contract anniversary date, Contractor is required to document and report on their sustainability measures. CDA requires that the Contractor track these efforts over the life of the contract and provide CDA a comprehensive report documenting both successes and failures of pursuing the sustainability measures required and encouraged as part of this Contract. This report shall be submitted to the Commissioner of Aviation and copied to samdocs@cityofchicago.org.

SAM Rating System

In addition to any requirements included within the scope and work services agreement, all activities conducted within this Contract are subject to review and rating through the Operations & Maintenance Chapter of the SAM. Contractors are strongly encouraged to incorporate as many sustainable elements and practices into their efforts as possible. The SAM Operations & Maintenance Chapter is designed to certify the sustainability of ongoing building operations, operational and maintenance procedures, system upgrades, minor space-use changes, and minor facility alterations or additions, and training and educational programs. The SAM is available at www.airportsgoinggreen.org/SAM.

Abbreviations used without definitions in TRB publications:

A4A	Airlines for America
AAAE	American Association of Airport Executives
AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACI–NA	Airports Council International–North America
ACRP	Airport Cooperative Research Program
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HMCRP	Hazardous Materials Cooperative Research Program
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
MAP-21	Moving Ahead for Progress in the 21st Century Act (2012)
NASA	National Aeronautics and Space Administration
NASAO	National Association of State Aviation Officials
NCFRP	National Cooperative Freight Research Program
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
PHMSA	Pipeline and Hazardous Materials Safety Administration
RITA	Research and Innovative Technology Administration
SAE	Society of Automotive Engineers
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
TCRP	Transit Cooperative Research Program
TEA-21	Transportation Equity Act for the 21st Century (1998)
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S.DOT	United States Department of Transportation