

**Pragmatic Construction, LLC  
Environmental Management System Development**



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**University of Wisconsin-Madison**

**Submitted for BUS 600**

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## **Introduction**

The purpose of this project is to assist Pragmatic Construction in developing an Environmental Management System (EMS) that will facilitate their acceptance into the Wisconsin Department of Natural Resources' Green Tier Program. The project team chose to develop an EMS based on the methodology outlined by the ISO 14001 Standard. In this paper, we provide background on Pragmatic Construction, the Green Tier Program, and the ISO 14001 Standard; describe the process we used to develop the EMS; and outline the next steps we recommend for Pragmatic Construction to implement their EMS.

## **Pragmatic Construction**

Pragmatic Construction is a Milwaukee-based “green design–build firm specializing in the integration of multiple green principles and technologies” (Pragmatic Construction, 2007). Pragmatic provides services in new construction, remodeling, deconstruction, and consulting. The company was founded in 2006 with the idea that construction could be sustainable as well as affordable. Using innovative materials and techniques, Pragmatic has worked on dozens of projects since its inception.

Pragmatic founders Juli Kaufmann, Steve Servais, and Nikolai Usack believe an integrated approach to green building and remodeling results in overall lower construction and operating costs. All the founders share a deeply rooted commitment to sustainable business. Their philosophy focuses on putting environmental responsibility at the forefront, not just as an added benefit. Each project is uniquely tailored to fit the needs of the site as well as the builder's budget. Pragmatic accomplishes these goals by using alternative energy sources, reclaimed products, and energy efficient materials.

## **Green Tier Program**

Green Tier is a program of the Wisconsin Department of Natural Resources Bureau of Cooperative Environmental Assistance that “encourages voluntary environmental performance that exceeds minimum standards” (Green Tier, 2006). In exchange for making a commitment to going “beyond compliance,” the business or community participating in Green Tier receives public recognition and a reduced regulatory burden.

To become members of Green Tier, companies develop an Environmental Management System that meets the requirements of the ISO 14001:2004 standard or is functionally equivalent. An applicant has one year from the date of application to develop such an EMS (Green Tier, 2008). They commit to a contract that outlines the steps the company must take and on which they will report to the Department of Natural Resources annually. This type of agreement moves the companies from complacency to progressive innovation. The goal of Green Tier is not environmental regulation, but ultimately environmental innovation (The Environmental Case,

2006). By entering into the Green Tier Program, businesses commit to continual improvement, rather than “business as usual.”

Pragmatic Construction can realize many benefits by participating in the Green Tier Program and developing an EMS. Since its inception, Pragmatic’s owners have been committed to business practices that protect the environment, so creating an EMS and joining Green Tier is a natural next step for the company, and could not only help them improve their environmental performance, but also their financial performance. First, by being members of Green Tier, they can speed up relevant DNR permitting processes or eliminate the need for permits in certain cases (e.g., exemptions for testing), and obtain approval of new environmental technologies more easily (The Business Case, 2006). Furthermore, because of the encouragement by Green Tier to continually improve upon the company’s environmental standards, Pragmatic can develop more efficient systems that are not only good for the environment, but can also save the company time, resources and money. Because Green Tier participants review their processes and analyze their business practices on a regular basis, they are more aware and able to see opportunities in their practices to increase efficiency both environmentally and economically.

There are also many benefits to joining Green Tier that may be harder to measure or link to direct economic benefits. By joining Green Tier, Pragmatic will receive public recognition from the DNR, which can function as free marketing for their company and create interest and trust in the company name (The Business Case, 2006). Also, because of the inclusionary format of an EMS, employees and the people involved in reviewing and auditing a company’s environmental performance feel a personal connection and responsibility for keeping their company in good environmental standing. Overall, by joining Green Tier, both Pragmatic and the environment can greatly benefit, achieving Green Tier’s ultimate goal of mutual success for business and the environment.

## ISO 14001

ISO 14001 is an international standard for establishing and maintaining a systematic approach to managing and improving the environmental performance of an organization (Martin, 1998). It outlines the key infrastructure components and documentation requirements for conducting effective environmental management. The intended outcome of the standard is to support environmental protection, pollution prevention, and continuous improvement (ISO, 2004). The standard is based on the Plan-Do-Check-Act (PDCA) improvement model, and provides requirements for environmental management system (EMS) development that includes seventeen key elements (Martin, 1998). These seventeen key elements can be grouped into different categories of the PDCA model, with the Environmental Policy as a foundational component driving all of the other EMS requirements.



**Figure 1:** Examples of key ISO 14001 elements aligned with PDCA improvement model

As stated, Pragmatic Construction seeks membership in the Green Tier Program, which requires an EMS that meets the requirements of ISO 14001:2004 or that is confirmed to be functionally equivalent to an ISO 14001 EMS (Green Tier, 2008). ISO 14001:2004 was used to initiate the development of an environmental management system for Pragmatic Construction to ensure the requirements of the Green Tier Program were satisfied and to prepare Pragmatic Construction for potential future ISO 14001 certification should they choose to pursue this.

## **EMS Development**

To develop Pragmatic's EMS, the project team followed an iterative process of research, discussion, writing, and review as outlined in Appendix A. Pragmatic will continue this process after the end of the semester and our involvement.

After initial meetings with Pragmatic Construction and review of their website, our group members conducted research and obtained and reviewed the ISO 14001:2004 Standard to understand the requirements of an EMS created using that standard. We also reviewed the description of environmental management systems on the Green Tier web site. Based on this review, we decided to recommend that Pragmatic develop their EMS using the 14001 standard unless they already had a substantial and different system of environmental management in place. During our first call with Juli, we learned that Pragmatic does not currently have a systematic way of measuring or monitoring their environmental goals and performance. We therefore recommended using the 14001 standard to develop their EMS to minimize the effort required for Pragmatic (not "reinventing the wheel") and to allow potential future certification of their EMS. Juli agreed with this recommendation, and we proceeded with using the 14001 standard as our methodology.

During the initial calls with Juli, we also conducted a learning session on establishing an EMS and clarified our group's role in creating the EMS for Pragmatic. The team developed a process map (Appendix B) to outline the basic steps involved in creating an EMS and used it as a framework for the learning session with Juli. This session was very useful for ensuring everyone had an understanding of the tasks required to develop the EMS. In our discussions we learned that, because Pragmatic is a very small organization (3 owners and 0–2 other employees), Juli wanted us to do as much as possible for the EMS. She was clear that she would be our Pragmatic contact and that it would be very difficult to get the other Pragmatic owners in meetings since they are extremely busy. She also expressed her preference for conducting our meetings over the phone to save travel time and environmental impacts. Therefore, we scheduled weekly meetings for our group to check in and review progress, and presented updates to Juli approximately every other week via e-mail and phone conversations.

We continued to review documents to better understand the process of creating a 14001-compliant EMS such as the ISO 14001 EMS Workbook from the DNR and example EMS Manuals from other organizations. Based on this review, we divided the sections of the EMS among our group and assigned responsibility for further researching and developing each section for the EMS. The group member responsible for writing the EMS manual section was also responsible for creating any associated documents or tools when possible. For example, the author of the Environmental Aspects section was assigned to create the Significant Aspects

Scoring Matrix that Pragmatic will use to identify and prioritize its environmental aspects. The supplemental tools developed were compiled into one workbook to promote usability and ease of storage for Pragmatic Construction. We created one EMS manual section for each related ISO 14001 section with the exceptions noted below. The team also developed a timeline to ensure all responsibilities and deadlines were achieved, as shown in Appendix C.

On December 16<sup>th</sup>, we will go to Pragmatic to help them identify their environmental aspects and impacts, a key part of their EMS, and potentially begin to identify their targets and objectives. We hope to meet with all three Pragmatic owners, though this may not be possible based on their schedules. We also plan to get a tour of Pragmatic's office and an on-site "green" house they designed.

### **Exceptions to Standard ISO 14001 Format**

ISO 14001 prompts companies to establish robust documentation systems, which may lead to unnecessary documentation based on the size and nature of the company and the scope of the EMS. Typical ISO 14001 environmental management systems include an EMS Manual, which explains the structure and relationships between different EMS requirements. Furthermore, ISO 14001 defines a set of documented procedures that must be established to achieve a certified EMS, which detail the operational processes for achieving the requirements outlined in the EMS Manual. Additional EMS supporting documentation may include records, forms and schedules.

The EMS for Pragmatic Construction was initiated with the goal of minimizing documentation while ensuring the establishment of an effective, systematic approach for improving environmental performance that meets the necessary certification requirements. In particular, the EMS developed for Pragmatic Construction encompasses the twelve key elements required by the Green Tier Program for a functionally equivalent EMS as noted in Appendix D, while also satisfying the additional requirements outlined in ISO 14001.

The EMS Manual was created to include both the general information included in typical EMS manuals and the procedures for each applicable section of the manual to reduce the number of separate EMS documents. In addition, particular key elements of the Standard were combined where deemed appropriate based on the size and structure of the organization. For example, the *Documentation*, *Control of Documents*, and *Control of Records* were all combined into one section entitled *Environmental Management System Documentation* to minimize redundancy. In addition, the *Evaluation of Compliance* section of the Standard was combined with the *Legal and Other Requirements* section to facilitate a logical process flow that fit the organization. With the exceptions of the aforementioned combinations, the EMS Manual developed for Pragmatic Construction follows the same structure and sequence as the ISO 14001 Standard.

### **Next Steps for Pragmatic Construction**

The foundation of an EMS is an Environmental Policy, which outlines the commitment of the organization to continuous improvement in environmental performance. Pragmatic Construction's first step in implementing their EMS is to develop an Environmental Policy that is aligned with the values of the organization. The project team has provided guidance and examples to facilitate this process.

The next step in operationalizing the EMS will be to review the aspects, impacts, objectives and targets defined at the December 16<sup>th</sup> brainstorming session for applicability and comprehensiveness. Pragmatic then must assign responsibility for each of these items according to the procedures outlined in the EMS Manual.

After these components are established, Pragmatic Construction should review the remaining procedures outlined in the EMS Manual to ensure they are appropriately tailored to fit the organization. Then Pragmatic must implement the procedures outlined in the EMS Manual by establishing the necessary infrastructure and documentation. Many implementation tools outlined in the EMS Manual have already been developed by the project team; however, some tools were deemed more appropriate for Pragmatic to develop, and therefore should be established by the organization.

Another key step for Pragmatic is to develop Environmental Operating Procedures to satisfy section 11 of the EMS Manual. This involves identifying activities in the organization that require control to minimize negative environmental impacts and establishing procedures that specify how to conduct and control those activities. Potential activities that may fall into this category include deconstruction, waste management, and transportation to and from job sites. Pragmatic Construction must also identify their potential emergency situations and develop their Emergency Preparedness and Response Plan according to the procedure outlined in the EMS Manual.

The final recommendation is to organize all of the EMS documents and link them together to the extent possible. This may involve defining the file location and folder structure for the EMS documents and establishing links within the documents to minimize time required to locate other EMS files. The EMS Manual produced for Pragmatic currently includes green text where possible links may be established. This will not only organize the files for internal reference, but will also position the company to successfully pass any future external audits, either on behalf of Green Tier, or ISO 14001, should the company decide to pursue certification.

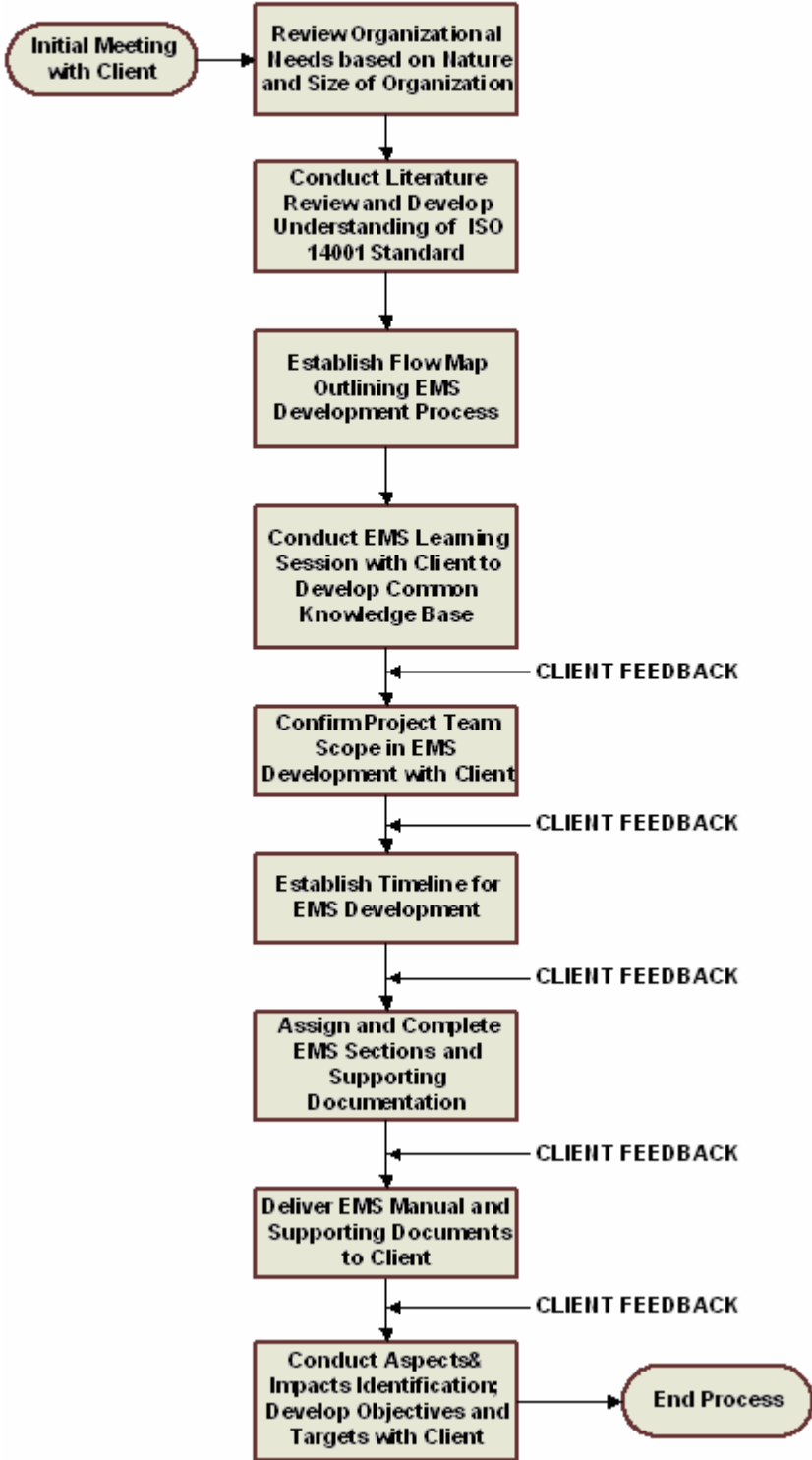
## **Conclusion**

In conclusion, the EMS manual and supporting tools developed for purposes of this project provide an effective starting point for the establishment, implementation and maintenance of an Environmental Management System for Pragmatic Construction which will meet the requirements of the both Green Tier Program and ISO 14001. The EMS materials and methods have been created while accounting for the particular characteristics of Pragmatic Construction to minimize redundancy and unnecessary documentation.

The team would like to emphasize that the work completed to date will only be useful with active, dedicated implementation and maintenance efforts on behalf of the owners and employees of Pragmatic Construction. The EMS infrastructure should be further tailored to the organization as deemed appropriate. In addition, subsequent tools and procedures should be developed to satisfy changing EMS requirements. Finally, as the PDCA model suggests, the EMS infrastructure should be continuously evaluated for effectiveness and improvement opportunities.

# Appendix A: EMS Development Process

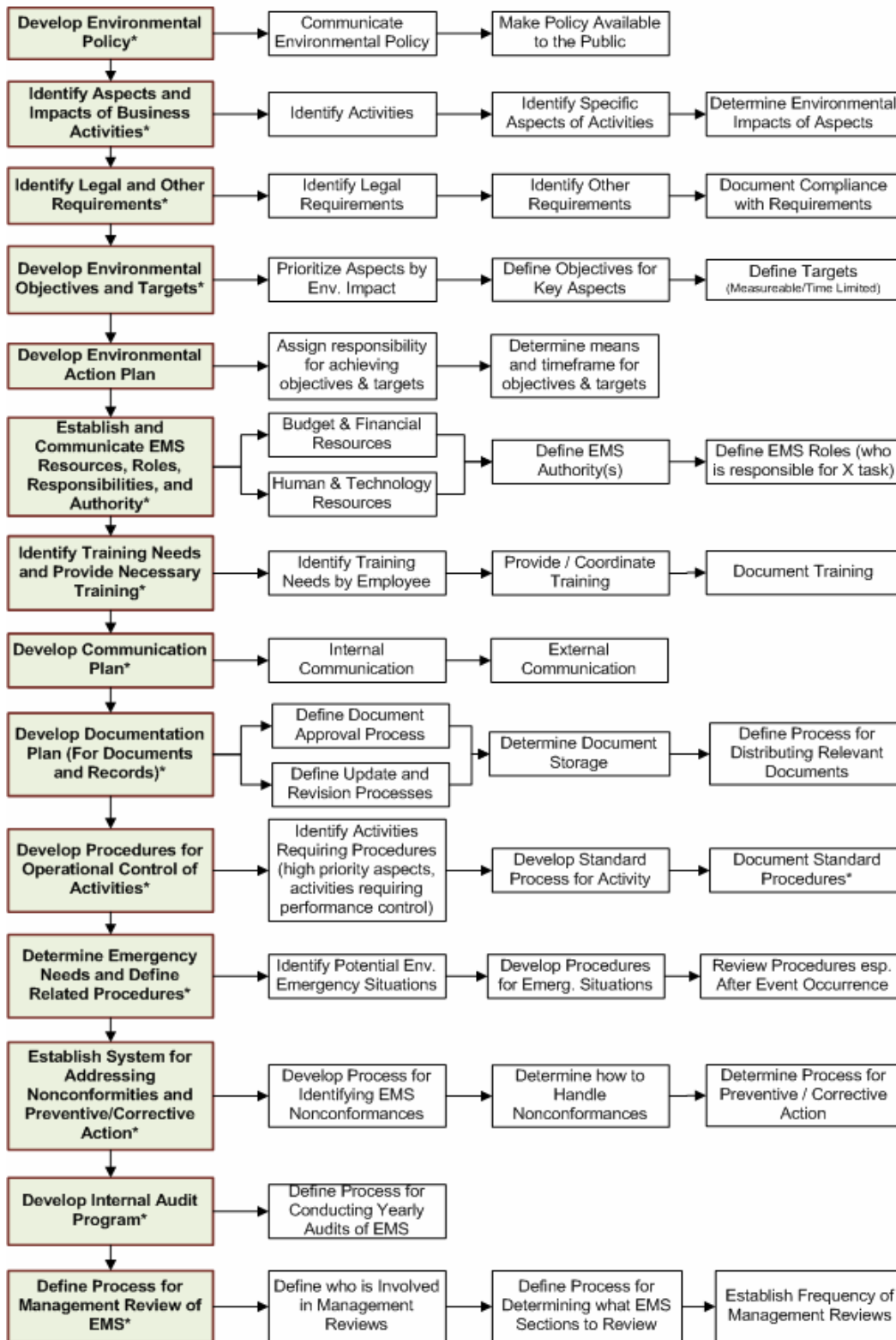
## Pragmatic Construction EMS Development Process : Consultant Role



# Appendix B: EMS Development Process Map

## Pragmatic Construction EMS Development Process Flow

This diagram explains the key actions associated with the EMS Development Process. The EMS Manual details the procedures for completing each of these actions.



\*Written Procedure is Required by ISO 14001.

# Appendix C: Project Timeline

PRAGMATIC CONSTRUCTION EMS DEVELOPMENT TIMELINE

Number	Task	Start Date	End Date	Assigned	November					December				
					Wk 1 (End 11/2)	Wk 2 (End 11/9)	Wk 3 (End 11/16)	Wk 4 (End 11/23)	Wk 5 (End 11/30)	Wk 6 (End 12/7)	Wk 7 (End 12/14)	Wk 8 (End 12/21)		
1	Environmental Policy	10/23/2008	11/2/2008	Anne	█									
2	Environmental Aspects	10/23/2008	11/2/2008	Chris	█									
3	Legal and Other Requirements	10/23/2008	11/2/2008	Lauren	█									
4	Objectives and Targets	10/23/2008	11/5/2008	Chris	█	█								
5	Resources, Roles and Responsibilities	10/23/2008	11/5/2008	Liz	█	█								
6	Develop Environmental Policy w/Pragmatic	10/23/2008	11/9/2008	Anne	█	█	█							
7	Competence, Awareness and Training	10/23/2008	11/2/2008	Lauren	█									
8	Communication	10/23/2008	11/9/2008	Lauren	█	█	█							
9	Documentation / Control of Documents	10/23/2008	11/9/2008	Lauren	█	█	█							
10	Send Completed Sections to Pragmatic for Feedback	11/10/2008	11/12/2008	Lauren			█							
11	Operational Control	11/10/2008	11/16/2008	Anne			█	█						
12	Emergency Preparedness and Response	11/10/2008	11/16/2008	Chris			█	█						
13	Monitoring and Measurement	11/10/2008	11/16/2008	Lauren			█	█						
14	Evaluation of Compliance	11/10/2008	11/16/2008	Lauren			█	█						
15	Nonconformity, Preventive & Corrective Action	11/17/2008	11/23/2008	Anne				█	█					
16	Control of Records	11/17/2008	11/23/2008	Lauren				█	█					
17	Internal Audit	11/17/2008	11/23/2008	Liz				█	█					
18	Management Review	11/17/2008	11/23/2008	Liz				█	█					
19	Compile Manual and Final Report	11/19/2008	11/26/2008	All					█	█				
20	Final Editing	11/27/2008	11/30/2008	All						█				
21	Class Report + Manual Due (Send Manual to Pragmatic)	12/1/2008	12/1/2008	All							█			
22	Edit Manual I based on Feedback from Pragmatic (if needed)	12/1/2008	12/7/2008	All							█	█		
23	Class Presentation + Final EMS Manual to Pragmatic	12/8/2008	12/8/2008	All								█		
24	Identification of Aspect and Impacts w/Pragmatic	12/16/2008	12/16/2008	Lauren, Chris, Anne									█	
25	Define Objectives and Targets w/Pragmatic	12/16/2008	12/16/2008	Lauren, Chris, Anne										█

# Appendix D: Green Tier EMS Requirements

Pragmatic Construction  
 Demonstration of Green Tier EMS Compliance

## GREEN TIER EMS 'FUNCTIONAL EQUIVALENCY REQUIREMENTS'

## PRAGMATIC EMS MANUAL SECTION AND/OR TOOLS SATISFYING GREEN TIER REQUIREMENTS



## **Appendix E: Pragmatic Construction EMS Manual and Tools**

These documents are provided separately for ease of use.

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**PRAGMATIC CONSTRUCTION, LLC**  
**ENVIRONMENTAL MANAGEMENT SYSTEM MANUAL**



**EFFECTIVE: DECEMBER 1, 2008**

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# **PRAGMATIC CONSTRUCTION, LLC**

Environmental Management System Manual

Last Updated: 11/29/2008

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# PRAGMATIC CONSTRUCTION, LLC

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## 1.0 PURPOSE

Pragmatic Construction has developed an Environmental Management System (EMS) to establish a systematic approach to environmental leadership, continuous improvement and environmental responsibility.

This EMS Manual and supporting documentation has been developed in accordance with the ISO 14001 International Standard to ensure the development and maintenance of an effective EMS. This EMS Manual provides descriptions of the documentation used to support the EMS, and provides procedures to carry out the activities that fall within the EMS. References to supporting documentation not included in this Manual are found throughout the document in the relevant sections.

The EMS was developed based on the Plan-Do-Check-Act (PDCA) model of continuous improvement, as recommended by ISO 14001. All elements of the EMS fit within the PDCA model and contribute to effective environmental management. An example of how particular individual elements of this EMS fit within the PDCA model is shown in the figure below.

This EMS Manual includes the following key elements in congruence with ISO 14001:2004:

- Environmental Policy
- Environmental Aspects
- Legal and Other Requirements (including Evaluation of Compliance)
- Environmental Objectives and Targets
- Roles and Responsibilities
- Competence, Awareness and Training
- Communication
- EMS Documentation (including Control of Documents and Control of Records)
- Operational Control
- Emergency Preparedness and Response
- Monitoring and Measurement
- Nonconformance, Corrective and Preventive Action
- Internal Audit
- Management Review



## 2.0 SCOPE

Pragmatic Construction has developed its EMS to cover all activities and operations which it has the ability to control. The EMS applies to all owners and employees of Pragmatic Construction. Where designated throughout this manual, the EMS also may apply to contracted services and employees. The EMS addresses all environmental aspects that may have a significant impact on the environment arising from activities or operations that Pragmatic Construction can control. The EMS covers only those aspects for which Pragmatic Construction can control or directly influence.



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### 3.0 ENVIRONMENTAL POLICY

#### 3.1 Purpose and Scope

Pragmatic Construction creates and maintains an environmental policy to communicate its environmental motivations and goals and to commit to the methods for achieving these goals. The policy includes a commitment to continual improvement and pollution prevention, as well as a commitment to comply with relevant environmental regulations and other requirements.

The policy will be reviewed annually and endorsed by the owners of Pragmatic Construction, communicated to all employees and contractors, and made available to the public in accordance with the Competence, Awareness and Training and Communication procedures found within this EMS Manual.

This section applies to the EMS Management Representative and any Pragmatic owners and employees responsible for developing and communicating the environmental policy.

#### 3.2 Definitions

**Environmental Policy:** statement of overall intentions and direction of an organization related to its environmental performance as formally expressed and endorsed by management of the organization.

#### 3.3 Reference Material

ISO 14001 Standard Section 4.2  
EMS Manual Section 8.0 Competence, Awareness and Training  
EMS Manual Section 9.0 Communication  
EMS – R030 Environmental Policy

#### 3.4 Responsibility and Authority

##### 3.4.1 EMS Management Representative

**3.4.1.1** The EMS Management Representative is responsible for coordinating the initial writing of the environmental policy as well as its annual review and, when necessary, its revision.

**3.4.1.2** The EMS Management Representative is responsible for obtaining approval of the policy by all Pragmatic owners.



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**3.4.1.3** The EMS Management Representative is responsible for communicating the policy to employees, contractors, and the public in accordance with the Communication procedure.

### **3.4.2** Employees and/or Contractors

**3.4.2.1** Employees and/or contractors are responsible for knowing Pragmatic Construction's environmental policy and knowing where to find a written copy of this policy.

## **3.5 Procedure**

**3.5.1** Pragmatic Construction considers its environmental motivation and goals – why and how it wants to help the environment through its operations – and writes a one- to two-sentence description of these.

**3.5.2** Pragmatic incorporates the following commitments in its environmental policy: to comply with applicable environmental regulations and requirements, to prevent pollution, and to continually improve.

**3.5.3** The EMS Management Representative finalizes the environmental policy and obtains formal approval of it from Pragmatic Construction owners.

**3.5.4** The EMS Management Representative communicates the policy to all Pragmatic employees and contractors.

**3.5.4.1** The EMS Management Representative posts a hard copy of the Environmental Policy in a central location for reference by all employees and/or contractors.

**3.5.5** The EMS Management Representative coordinates an annual review of the policy by Pragmatic Construction owners, as well as its revision (if necessary) and reapproval.

## **4.0 ENVIRONMENTAL ASPECTS**

### **4.1 Purpose and Scope**

Pragmatic Construction has influence over many different phases of the construction process associated with activities that may impact the environment. Pragmatic Construction identifies the environmental aspects of its activities, products and services to determine the associated level of impact on the



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environment. This section outlines the identification, prioritization and documentation processes associated with the environmental aspects resulting from Pragmatic Construction's activities, products or services.

Aspects are limited to office procedures, purchasing, employee transportation to construction site, and on-site construction practices which Pragmatic Construction has the ability to influence and/or control. Future expansions to the environmental aspects scope will be focused on specific contractor activities. The environmental aspects will be revisited biannually or when conducting changes to operating practices.

### 4.2 Definitions

**Environmental Aspect:** element of an organization's activities or products or services that can interact with the environment (Note: a significant environmental aspect has or can have a significant environmental impact).

**Environmental Impact:** any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects.

### 4.3 Reference Material

ISO 14001 Standard Section 4.3.1

EMS – R040 Environmental Aspects and Impacts Tracking Log

EMS – R041 Significant Aspects Scoring Matrix

### 4.4 Responsibility and Authority

#### 4.4.1 EMS Management Representative

**4.4.1.1** The EMS Management Representative is responsible coordinating reviews of the environmental aspects and impacts and ensuring necessary documentation is completed.

#### 4.4.2 Employees and/or Contractors

**4.4.2.1** All employees and/or contractors are responsible for communicating any new environmental aspects or impacts to the EMS Management Representative as they arise.

### 4.5 Procedure



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- 4.5.1** The EMS Management Representative will coordinate a team that will identify and prioritize the environmental aspects of the organization that it can control or influence.
- 4.5.2** The team chosen to identify the environmental aspects of the organization will first identify all of the business processes and activities that fall within the scope of this procedure.
- 4.5.3** After defining all of the business activities of Pragmatic Construction, the team will brainstorm all environmental aspects that are associated with each activity defined in Section 4.5.2.
- 4.5.4** The team will categorize the environmental aspects into general categories. The general categories include, but are not limited to:
1. A – Air Emissions
  2. E – Energy
  3. H – Hazardous Waste
  4. I – Indoor Air Quality
  5. N – Noise
  6. SC – Site Considerations
  7. ST – Storm Water
  8. SW – Solid Waste
  9. U – Universal Waste
  10. WW – Wastewater
- 4.5.5** The team will prioritize each environmental aspect according to specific criteria and record the results of the prioritization in the **Significant Aspects Scoring Matrix**. The criteria used to assess the aspects includes, but is not limited to:
1. Frequency of Occurrence
  2. Severity
  3. Public Image
  4. Costs
  5. Regulatory Requirements
  6. Company Requirements
- 4.5.6** Pragmatic Construction will use the prioritization of environmental aspects to inform, select, and plan improvement efforts. When new aspects are identified, they will be prioritized according to Section 4.5.5.



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- 4.5.7** The team will meet biannually to review the **Environmental Aspects and Impacts Tracking Log**. At this time, any new aspects and/or impacts identified will be added to the **Environmental Aspects and Impacts Tracking Log**.
- 4.5.8** If the team identifies that aspects and/or impacts no longer apply to the organization, they will be noted as such in “Status/Notes” column of the **Environmental Aspects and Impacts Tracking Log**, however will not be deleted, to ensure long term tracking of improvement efforts and organizational changes.

## 5.0 LEGAL AND OTHER REQUIREMENTS

### 5.1 Purpose and Scope

Pragmatic Construction identifies, accesses, and demonstrates compliance with applicable legal and other requirements according to the methods described in this section. Pragmatic Construction ensures that the most recent versions of the requirements are obtained and communicated throughout the organization. In addition, Pragmatic Construction defines and documents the relationship between its environmental aspects and applicable legal and other requirements according to the methods outlined below. Furthermore, Pragmatic Construction periodically evaluates its compliance with associated legal and other requirements.

The scope of this section includes all legal and other requirements that apply to Pragmatic Construction’s operations, memberships, and partnerships. Legal requirements may include local, regional, and state regulatory requirements. Other requirements include any obligations required for Pragmatic Construction to maintain its membership or partnership status with affiliated organizations. This section applies to all employees that complete tasks for or are otherwise affiliated with the operations of Pragmatic Construction.

### 5.2 Definitions

**Requirement:** any activity or obligation required for Pragmatic Construction to complete and adhere to for the purpose of being compliant with laws, regulations, partnerships, memberships, or other commitments.

### 5.3 Reference Material

ISO 14001 Standard Section 4.3.2

ISO 14001 Standard Section 4.5.2



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EMS Manual Section 13.0 Monitoring and Measurement  
EMS – R050 Legal and Other Requirements Tracking Log  
EMS – S050 Legal and Other Requirements Schedule

### 5.4 Responsibility and Authority

#### 5.4.1 EMS Management Representative

**5.4.1.1** The EMS Management Representative is responsible for routinely monitoring the applicable legal and other requirements for updates and additions.

**5.4.1.2** The EMS Management Representative is responsible for coordinating compliance evaluations and completing supporting documentation.

#### 5.4.2 Employees and/or Contractors

**5.4.2.1** All employees and/or contractors are responsible for communicating any updates to relevant requirements to the Management Representative upon recognition.

### 5.5 Procedure

**5.5.1** The **Legal and Other Requirements Tracking Log** is used to document the title and description of applicable legal and other requirements, the source of those requirements, and their relationship with environmental aspects.

**5.5.2** The EMS Management Representative will evaluate the defined requirements noted in the **Legal and Other Requirements Tracking Log** at least annually, and review applicable references for updates that affect company operations. Sources of information for determining new or updated requirements include, but are not limited to:

1. Federal Registrar
2. Environmental Protection Agency website
3. Information made available by trade associations and membership organizations
4. Communications with federal, regional and local regulatory agencies and authorities

**5.5.3** The EMS Management Representative is responsible for updating the **Legal and Other Requirements Tracking Log** when revisions are required



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and aligning applicable requirements with the associated environmental aspects.

**5.5.4** The EMS Management Representative is responsible for communicating the requirements to appropriate personnel. The determination of which personnel must be informed or requirements and the method for informing the personnel of requirements is at their discretion based on the nature of the requirement and the personnel's role within the organization.

**5.5.5** The EMS Management Representative will conduct an evaluation of compliance with the defined legal and other requirements found in the [Legal and Other Requirements Tracking Log](#) at least annually. This may be completed in accordance with the annual review of the applicable requirements as outlined in Section 5.5.2.

**5.5.5.1** The evaluation of compliance involves reviewing updated legal and other requirements and confirming that Pragmatic Construction meets all requirements.

**5.5.5.2** Evidence of compliance with legal and other requirements will be documented in the [Legal and Other Requirements Tracking Log](#) and will include any references to supporting documentation as needed.

**5.5.5.3** If evaluation of compliance involves collecting environmental performance data, this data will be recorded in the [EMS Scorecard](#) according to Manual Section 13.0 (Monitoring and Measurement) and the reference to this data will be noted in the [Legal and Other Requirements Tracking Log](#) in the "Evidence of Compliance" column.

## 6.0 ENVIRONMENTAL OBJECTIVES AND TARGETS

### 6.1 Purpose and Scope

Pragmatic Construction establishes, implements and maintains documented environmental objectives and targets, at relevant functions and levels within the organization. Pragmatic Construction defines, monitors, and achieves its objectives and targets according to the procedures outlined in this section.

The objectives and targets shall be measurable, where practicable, and consistent with the environmental policy, including the commitments to prevention of pollution, to



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compliance with applicable legal requirements and with other requirements to which Pragmatic Construction subscribes, and to continual improvement.

When establishing and reviewing its objectives and targets, Pragmatic Construction considers applicable legal and other requirements and its significant environmental aspects. It also considers technological options, financial, operational and business requirements, and the views of interested parties.

The procedure outlined in this section details the process for establishing and maintaining objectives and targets for activities and operations that are conducted on behalf of Pragmatic Construction. This section applies to all owners, employees, or contractors that complete tasks associated with the aspects and/or impacts of the organization that are addressed by the procedures outlined in this section.

### 6.2 Definitions

**Environmental Objective:** Overall environmental goal, consistent with the environmental policy, that an organization sets itself to achieve.

**Environmental Target:** Detailed, quantitative performance requirement that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.

### 6.3 Reference Material

ISO 14001 Standard Section 4.3.1

ISO 14001 Standard Section 4.3.3

EMS – R040 Environmental Aspects and Impacts Tracking Log

### 6.4 Responsibility and Authority

#### 6.4.1 EMS Management Representative

**6.4.1.1** The EMS Management Representative is responsible for coordinating the establishment and maintenance of activities relating to environmental objectives and targets, including definition of objectives and targets, assignment of responsible parties and documentation of relevant information.

#### 6.4.2 Employees and/or Contractors



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**6.4.2.1** Employees and/or Contractors are responsible for conducting activities in a manner that supports the achievement of environmental objectives and targets.

### 6.5 Procedure

**6.5.1** The EMS Management Representative, in conjunction with the owners of Pragmatic Construction and any other designees of the EMS Management Representative, defines environmental objectives and targets for Pragmatic Construction.

**6.5.1.1** Pragmatic Construction considers legal and other requirements, significant environmental aspects, technological options, financial, operational and business requirements, and the views of interested parties when setting environmental objectives and targets. The environmental objectives and targets are consistent with the [Environmental Policy](#).

**6.5.1.2** When setting objectives and targets, Pragmatic Construction will assign a designated owner of each objective and target who is responsible for carrying out their assigned objective, updating the EMS Management Representative on their progress, and meeting the defined target.

**6.5.1.3** Each objective and target is assigned a target completion date and the owner of the objective is responsible for meeting the associated deadline.

**6.5.1.4** In the event a target is not being met, management will either add resources to facilitate completion or extend the deadline depending on the priority of the environmental objective.

**6.5.2** Pragmatic Construction defines environmental objectives (goals) and targets (quantitative metrics to be achieved) on an annual basis and reviews all active objectives and targets biannually.

**6.5.3** Environmental objectives and targets may be updated throughout the year, between review periods, as needed based on new developments or modifications to existing activities, products, or services and/or requirements.

**6.5.4** Environmental objectives and targets, and other relevant information are recorded in the [Environmental Aspects and Impacts Tracking Log](#).



## **7.0 ROLES AND RESPONSIBILITIES**

### **7.1 Purpose and Scope**

Pragmatic Construction defines the roles and responsibilities to organize and distribute the actions necessary to maintain the EMS according to the methods outlined in this section. Pragmatic Construction will provide and monitor resources such as time, labor, infrastructure, funding, and technology to guarantee that each employee is aware and capable of performing their role in supporting the EMS. Clearly defining the tasks and responsible parties for each aspect of the EMS promotes coordination and accountability for improvement efforts.

This section pertains to all Pragmatic Construction owners, employees, and/or contractors responsible for any aspect of the EMS.

### **7.2 Definitions**

None

### **7.3 Reference Material**

ISO 14001 Standard Section 4.4.1

EMS – R070 Environmental Roles and Responsibilities Index

### **7.4 Responsibility and Authority**

#### **7.4.1 EMS Management Representative**

**7.4.1.1** The EMS Management Representative is responsible for ensuring that the EMS requirements are established, implemented, and maintained.

**7.4.1.2** The EMS Management Representative is responsible for reporting on the performance of the EMS.

**7.4.1.3** The EMS Management Representative is responsible documenting the assignment of roles and responsibilities.

### **7.5 Procedure**

**7.5.1** The owners of Pragmatic Construction will appoint the EMS Management Representative who will be accountable for establishing, implementing, and maintaining the EMS.



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**7.5.2** The EMS Management Representative, in conjunction with the other Pragmatic Construction management representatives will define the roles and responsibilities associated with the EMS.

**7.5.3** The EMS Management Representative will document the roles and responsibilities in the [Environmental Roles and Responsibilities Index](#).

**7.5.4** Pragmatic Construction will provide technological, financial and human resources necessary to ensure effective implementation and maintenance of the EMS and support for those with responsibilities associated with the EMS.

**7.5.5** All owners, employees, and/or contractors with a role in supporting the EMS will communicate the roles and responsibilities to other employees that report to them.

**7.5.6** The EMS Management Representative will coordinate EMS responsibilities applicable to their contractors.

**7.5.6.1** Participating contractors and their sub-contractors will ensure that their operations conform to the EMS requirements for environmental operating procedures and emergency response plans and that their workers will receive the appropriate training according to EMS Manual Section 8 (Competence, Awareness, and Training).

**7.5.7** The EMS Management Representative is responsible for reporting on the performance of the EMS and the associated responsibilities at least annually at the management review sessions, and periodically when improvements are recommended.

## **8.0 COMPETENCE, AWARENESS, AND TRAINING**

### **8.1 Purpose and Scope**

Pragmatic Construction ensures that its employees and/or contractors that have the potential to cause significant environmental impact(s) as defined by the organization are competent and adequately trained in the associated activities and potential impacts. All employees and/or contractors must demonstrate awareness of the environmental policy, significant aspects and impacts, EMS roles and responsibilities, and the importance of conformance with the environmental management system



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requirements. The purpose of this section is to define the methods for identifying, providing, and documenting training needs and establishing awareness of the aforementioned EMS components.

This section applies to all employees and/or contractors that complete tasks or are affiliated with the operations of Pragmatic Construction.

### 8.2 Definitions

**EMS Awareness Training:** training provided to establish awareness and understanding of EMS components and responsibilities, and developed and coordinated specifically to meet the needs of the organization. Training is conducted for anyone to whom the EMS applies.

### 8.3 Reference Material

ISO 14001 Standard Section 4.4.2  
EMS Awareness Training Materials  
EMS – R080 Training Matrix  
EMS – S080 Training Schedule

### 8.4 Responsibility and Authority

#### 8.4.1 EMS Management Representative

**8.4.1.1** The EMS Management Representative is responsible for assessing training needs and coordinating appropriate training sessions to ensure employees demonstrate awareness of EMS requirements.

**8.4.1.2** The EMS Management Representative is responsible for communicating with management of any contracting company completing work for Pragmatic Construction to ensure the contracted employees are competent in the tasks required of them and aware of the EMS requirements.

**8.4.1.3** The EMS Management Representative is responsible for maintaining all training records and developing and updating training materials as necessary.

### 8.5 Procedure

**8.5.1** EMS Awareness Training is provided to all employees and/or contractors that have the potential to impact the environment, or who will complete work that falls within the scope of the EMS.



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**8.5.2** EMS Awareness Training is designed and conducted to establish awareness of the following components:

1. The environmental policy and importance of conformity with the EMS requirements and procedures.
2. The environmental aspects and impacts associated with Pragmatic Construction.
3. Roles and responsibilities in achieving conformance with EMS requirements.
4. The potential consequences that may result from nonconformance with EMS requirements.

**8.5.3** All new employees and/or contractors participate in EMS Awareness Training upon new hire orientation.

**8.5.4** EMS Awareness Training is provided annually to ensure employees remain aware of the components listed in Section 8.5.2. This training is provided to all employees unless the employees have received the training as part of their new hire orientation process within the prior six months.

**8.5.5** The EMS Management Representative is responsible evaluating the competence and training needs associated with employees and/or contractors related to their individual operational roles and responsibilities (outside of the EMS Awareness Training outlined in section 8.5.2). The EMS Management Representative will determine the most appropriate method for evaluating and providing training needs.

**8.5.6** Upon completion, EMS Awareness Training and any other training provided is documented by the EMS Management Representative in the [Training Matrix](#).

**8.5.7** The [Training Schedule](#) is used to ensure all employees are current on their EMS Awareness Training requirements. This Schedule is maintained by the EMS Management Representative.

**8.5.8** The EMS Management Representative is responsible for making necessary revisions to the [EMS Awareness Training Materials](#) or process as revisions or updates are made to relevant sections of the EMS.

## 9.0 COMMUNICATION



## **9.1 Purpose and Scope**

Pragmatic Construction communicates information associated with its EMS and environmental aspects according to the methods outlined in this section. Communication is differentiated between internal communication and external communication. The purpose of this section is to describe the methods used to communicate internally; and to receive, document, and respond to communications from external interested parties.

This section applies to all internal and external communication that involves employees and/or contractors that complete tasks for or are affiliated with the operations of Pragmatic Construction.

## **9.2 Definitions**

**Internal Communication:** communication that takes place between employees, owners, or contractors who are completing work for Pragmatic Construction.

**External Communication:** communication involving parties not conducting work for Pragmatic Construction and that are external to Pragmatic Construction.

## **9.3 Reference Material**

ISO 14001 Standard Section 4.4.3

EMS Manual Section 8.0 Competence, Awareness and Training

EMS – R090 External Communication Log

## **9.4 Responsibility and Authority**

### **9.4.1 EMS Management Representative**

**9.4.1.1** The EMS Management Representative is responsible for internally communicating any updates to the EMS to employees and/or contractors.

**9.4.1.2** The EMS Management Representative is responsible for determining the need for external communication regarding the company's aspects and EMS. The EMS Management Representative is responsible for determining the need for, and maintaining appropriate records of external communication.

### **9.4.2 Employees and/or Contractors**



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**9.4.2.1** All employees and/or contractors are responsible for communicating any information applicable to the EMS to the EMS Management Representative. This information may include, but is not limited to: new environmental aspects or impacts, improvement ideas for the EMS, or updates to legal and other requirements.

### 9.5 Internal Communication Procedure

- 9.5.1** The Environmental Policy will be communicated to employees and/or contractors by posting it in a common location and providing it on the company website.
- 9.5.2** Specific EMS components will be communicated to employees and/or contractors during the EMS Awareness Training and according to EMS Manual Section 8.0 (Competence, Awareness and Training).
- 9.5.3** Employees and/or contractors are encouraged to provide feedback or suggest improvements to the EMS at any time via email, phone, or direct communication with the EMS Management Representative.
- 9.5.4** Updates or revisions to the EMS will be communicated to all employees and/or current contractors by the EMS Management Representative. The EMS Management Representative will determine the most appropriate method to communicate the relevant information.

### 9.6 External Communication Procedure

- 9.6.1** All external communication with regards to the environmental aspects, impacts, or the EMS will be directed to the EMS Management Representative.
- 9.6.1.1** The EMS Management Representative will determine and provide the appropriate response, if any, to the external communication.
- 9.6.1.2** External communication deemed appropriate for documentation by the Management Representative will be recorded in the [External Communication Log](#).
- 9.6.1.3** Any external communication recorded in the [External Communication Log](#) will include the following information:
1. Date of communication
  2. Name of person, organization, or entity



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3. Address (if applicable)
4. Contact Information (email, phone number, etc.)
5. Nature/reason for communication
6. How communication was received (email, phone, etc.)
7. Brief description of response provided

## 10.0 ENVIRONMENTAL MANAGEMENT SYSTEM DOCUMENTATION

### 10.1 Purpose and Scope

Pragmatic Construction maintains a documentation system to support the Environmental Management System. EMS documentation includes the EMS Manual and associated procedures, EMS Records, Environmental Operating Procedures (EOPs), EMS Schedules and EMS Forms. The documentation system also includes any relevant permits or certifications that fall within the scope of the EMS.

Pragmatic Construction controls the approval, issuance, and distribution of new and revised EMS documents and forms, and controls the removal of obsolete documents and forms according to the methods outlined in this section. This section also outlines the procedure for maintaining records generated to demonstrate conformity with EMS requirements.

The scope of this section includes all controlled documents and records generated to support the EMS or provide evidence of activities performed. It also applies to other relevant externally generated documents determined by the organization to support the EMS.

### 10.2 Definitions

**Controlled Documents:** documents developed for the EMS including: EMS Manual and supporting procedures or appendices, process maps, records, and associated manuals. Each of these documents is assigned a specific document identifier and is listed in the [EMS Documentation Index](#).

**Controlled Records:** documents generated for the purpose of tracking EMS components and demonstrating compliance with EMS requirements and stated objectives. Records are often dynamic documents that are updated on a regular basis to monitor activities. Each EMS Record type is noted in the EMS Documentation Index.

### 10.3 Reference Material



ISO 14001 Standard Section 4.4.4  
ISO 14001 Standard Section 4.4.5  
ISO 14001 Standard Section 4.5.4  
EMS – R100 EMS Documentation Index

## **10.4 Responsibility and Authority**

### **10.4.1 EMS Management Representative**

**10.4.1.1** The EMS Management Representative is responsible for maintaining all controlled documents and ensuring the most recent versions of the documents are available for all employees and/or contractors.

**10.4.1.2** The EMS Management Representative is responsible for maintaining all controlled records.

**10.4.1.3** The EMS Management Representative is responsible for ensuring the controlled documents and records are legible, readily identifiable and are properly stored.

## **10.5 Procedure**

### **10.5.1 New or Revised Documents**

**10.5.1.1** Controlled EMS Documents are created by the EMS Management Representative with the assistance of other management personnel or employees as requested.

**10.5.1.2** Revision history, including information pertinent to the document creation, is noted in the Revision History Table to be included at the end of every Controlled EMS Document unless deemed unnecessary by the EMS Management Representative. The Revision History Table includes: revision number, date of last revision, author of last revision, and nature of revision(s).

**10.5.1.3** Upon development, revisions or updates, the EMS Management Representative will ensure the most recent versions of the controlled documents are distributed to employees as needed. The EMS Management Representative may also choose to communicate changes to Controlled EMS Documents via email messages.



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**10.5.1.4** The EMS Management Representative will determine which documents need to be available at the point of use and/or distributed as electronic or hard copy versions to employees.

### **10.5.2** Review and Approval

**10.5.2.1** Controlled EMS Documents are reviewed and approved by the owners of Pragmatic Construction and the EMS Management Representative upon creation and at the time of any updates or revisions on a continuous basis as needed.

**10.5.2.2** Review and approval is documented by recording the latest review and approval names and dates in the [EMS Documentation Index](#).

### **10.5.3** Generation of Records

**10.5.3.1** EMS Records are typically generated in accordance with EMS procedures outlined in the EMS Manual.

### **10.5.4** Document and Record Storage

**10.5.4.1** Controlled EMS Documents are stored electronically on a shared computer in a location accessible to all owners and employees.

**10.5.4.2** EMS Records are maintained electronically whenever possible. Hard copy records are stored in an easily accessible location designated by the EMS Management Representative and noted in the [EMS Documentation Index](#).

**10.5.4.3** Hard copy EMS Documents and Records are stored in a manner to prevent damage or loss.

**10.5.4.4** The EMS Manual includes links to relevant documents listed throughout the manual wherever possible.

**10.5.4.5** Hard copies of the most recent EMS Manual and supporting procedures are maintained in the possession of the EMS Management Representative in case of technological malfunction or for quick reference.

### **10.5.5** Document Revision / Numbering System



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**10.5.5.1** Controlled EMS Documents and Records are numbered according to the following syntax: **Document Type** (e.g., EMS – R = Record); **Document Number** (010); **Document Title** (e.g., EMS Documentation Index); **Revision Number** (if applicable).

**10.5.5.2** The Document Title will be listed at the top of each controlled document. The Document Type and Number will be noted either at the top or bottom of each controlled document.

**10.5.5.3 Document Type** may include the following:

1. EMS Manual
2. EMS – R = Environmental Management System Record
3. EMS – D = Environmental Management System Document
4. EMS – S = Environmental Management System Schedule
5. EOP = Environmental Operating Procedure

**10.5.5.4 Document Number** begins with the number of the EMS Manual Section that most closely applies to the purpose of the document. If the section of the EMS Manual is less than 10, the Document Number will begin with a “0.” The Document Numbers are sequential within the Document Type. For example, the first Record associated with section 2.0 of the EMS Manual will be numbered: **EMS – R020**. The second Record associated with Section 2.0 of the EMS Manual will be numbered: **EMS – R021**.

**10.5.5.5 Document Title** is determined by the EMS Management Representative and/or their designees.

**10.5.5.6 Revision Number** applies to any controlled document that was revised or updated and will be listed as “**Revision #**” when saving the document. The revision number will be sequentially updated each time significant changes are made to the document.

### **10.5.6** Obsolete Documents and Records

**10.5.6.1** EMS Documents are considered **Obsolete** once new or revised versions are made available. Obsolete documents are maintained for a minimum of three years. If an EMS Document is declared obsolete, the EMS Management Representative will note this in the [EMS Documentation Index](#).



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**10.5.6.2** The retention period for EMS Records is noted for each Record type in the **EMS Documentation Index**. EMS Records are maintained for a minimum of three years, unless otherwise determined by the EMS Management Representative and noted in the **EMS Documentation Index**.

### 10.5.7 Disposal of Documents and Records

**10.5.7.1** Obsolete documents or records that have been maintained in excess of retention requirements are to be archived at the discretion of the EMS Management Representative.

**10.5.7.2** Potentially sensitive documents and records, such as legal or employee files are destroyed prior to disposal. Non-sensitive documents or records are recycled with other waste papers.

## 11.0 OPERATIONAL CONTROL

### 11.1 Purpose and Scope

In consideration of Pragmatic Construction's significant environmental aspects, the Pragmatic Construction is responsible for identifying associated operations and activities that require operational controls in the form of documented procedures or programs. The absence of procedures for these operations could lead to deviations from the environmental policy, objectives, or targets.

The operational controls to which this section applies define the mechanisms for establishing, implementing, and maintaining the EMS. They ensure that the EMS is aligned with the environmental policy, objectives, and targets, and that it is communicated to suppliers and contractors.

### 11.2 Definitions

**Operational Control:** methods and procedures for managing the operations of the organization in order to meet the requirements, objectives and targets outlined by the EMS.

### 11.3 Reference Material

ISO 14001 Standard Section 4.4.6  
EMS Manual Section 4.0 Environmental Aspects  
EMS Manual Section 9.0 Communication



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EMS Manual Section 10.0 Environmental Management System Documentation

EMS – R100 EMS Documentation Index

### **11.4 Responsibility and Authority**

#### **11.4.1 EMS Management Representative**

**11.4.1.1** The EMS Management Representative is responsible for coordinating the identification and prioritization of Pragmatic Construction's significant environmental aspects and the documentation of the procedures for associated operations and activities in accordance with EMS Manual Section 4.0 (Environmental Aspects).

**11.4.1.2** The EMS Management Representative is responsible for communicating relevant procedures to suppliers and contractors in accordance with EMS Manual Section 9.0 (Communication) to ensure the environmental policy, objectives, and targets are met.

#### **11.4.2 Employees and/or Contractors**

**11.4.2.1** Employees and/or contractors are responsible for notifying the EMS Management Representative when changes in operational procedures are required due to changes in circumstances or any other reason.

### **11.5 Procedure**

**11.5.1** After defining and/or reviewing significant environmental aspects, the EMS Management Representative or their designee will identify activities or operations requiring operational control.

**11.5.2** The EMS Management Representative will coordinate the creation of documented procedures for controlling activities where the absence of a procedure could lead to deviation from the EMS requirements.

**11.5.3** The EMS Management Representative or their designee identifies all operating procedures that need to be created, updated, or marked obsolete at least twice per year. The EMS Management Representative assigns any updates to Pragmatic Construction employees with associated deadlines.



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**11.5.4** The designated employee updates the operating procedure in accordance with EMS Manual Section 10.0 (Environmental Management System Documentation).

## **12.0 EMERGENCY PREPAREDNESS AND RESPONSE**

### **12.1 Purpose and Scope**

Pragmatic Construction identifies the potential and appropriate response for accidents and emergency situations, and for preventing and mitigating the environmental impacts that may be associated with emergency events according to the procedure outline in this section.

This section applies to any event associated with the operations or activities of Pragmatic Construction which Pragmatic Construction has responsibility and/or accountability for managing.

### **12.2 Definitions**

None

### **12.3 Reference Material**

ISO 14001 Standard Section 4.4.7

EMS Manual Section 10.0 Environmental Management System Documentation

EMS – D120 Emergency Preparedness and Response Plan

### **12.4 Responsibility and Authority**

#### **12.4.1 EMS Management Representative**

**12.4.1.1** The EMS Management Representative is responsible for coordinating activities associated with preparedness for or response to emergency situations.

#### **12.4.2 Employees and/or Contractors**

**12.4.2.1** Employees and/or Contractors are responsible for reporting emergency situations, or the potential for emergency situations to the EMS Management Representative in a timely manner.



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**12.4.2.2** Employees and/or Contractors are responsible for following any prescribed emergency procedures developed in accordance with the EMS and outlined in the **Emergency Preparedness and Response Plan**.

### 12.5 Procedure

**12.5.1** The EMS Management Representative will coordinate a team to identify the potential emergency situations, events, or accidents that may occur from the operations of Pragmatic Construction and have the potential to impact the environment.

**12.5.2** A documented procedure for the prevention of and response to each identified emergency situation will be developed and compiled into the **Emergency Preparedness and Response Plan**.

**12.5.3** The **Emergency Preparedness and Response Plan** will be managed by the EMS Management Representative and reviewed on an annual basis or after the occurrence of an accident or emergency situation.

**12.5.4** The Emergency Preparedness and Response Plan will be developed and maintained in accordance with EMS Manual Section 10.0 (Environmental Management System Documentation).

**12.5.5** The procedures outlined in the **Emergency Preparedness and Response Plan** will be tested periodically for effectiveness where practicable.

## 13.0 MONITORING AND MEASUREMENT

### 13.1 Purpose and Scope

Pragmatic Construction monitors and measures the key characteristics of its activities and operations that may result in significant environmental impacts according to the methods outlined in this section. Pragmatic Construction also monitors its compliance with legal and other requirements as outlined in EMS Manual Section 5.0 (Legal and Other Requirements). Pragmatic Construction tracks environmental performance data to monitor progress in meeting objectives and targets and to ensure compliance with EMS requirements.

This section applies to the operations or activities of Pragmatic Construction that have the potential to cause significant environmental impacts.



## **13.2 Definitions**

**Environmental Performance Data:** data collected on the key characteristics of operations or activities used to evaluate the progress toward achieving environmental objectives and targets or to demonstrate compliance with legal or other requirements.

**Key Characteristic:** an element of an operation or activity that includes a measurement or inspection process which supports the evaluation of EMS performance.

**Monitoring:** systematic process of checking, observing, inspecting or otherwise controlling key parameters and characteristics of operations or activities to determine conformance with requirements or measure progress toward environmental objectives and targets.

**Measurement:** systematic method for estimating, defining, or otherwise evaluating key parameters and characteristics of operations or activities to determine conformance with requirements or environmental objectives and targets.

## **13.3 Reference Material**

ISO 14001 Standard Section 4.5.1

EMS Manual Section 5.0 Legal and Other Requirements

EMS Manual Section 6.0 Objectives and Targets

EMS – R040 Environmental Aspects and Impacts Tracking Log

EMS – R130 EMS Scorecard

EMS – R131 Monitoring and Measurement Calibration Record

## **13.4 Responsibility and Authority**

### **13.4.1 EMS Management Representative**

**13.4.1.1** The EMS Management Representative is responsible for compiling environmental performance data and communicating this data to Pragmatic Construction employees and owners.

### **13.4.2 Employees and/or Contractors**

**13.4.2.1** Employees and/or Contractors are responsible for monitoring and measuring environmental performance data associated with their activities or operations as instructed by the EMS Management Representative.



### **13.5 Procedure**

- 13.5.1** Environmental performance data will be reviewed annually during the EMS Management Review process to assess progress in achieving the objectives and targets outlined in **Environmental Aspects and Impacts Tracking Log** and ensure compliance with legal or other requirements outlined in the **Legal and Other Requirements Tracking Log**.
- 13.5.2** The EMS Management Representative will coordinate the collection of environmental performance data and will record this data in the **EMS Scorecard** on a quarterly basis.
- 13.5.3** The EMS Management Representative will communicate environmental performance data to Pragmatic Construction employees and owners by posting the **EMS Scorecard** in common areas, sending an email memo, or other mechanisms deemed appropriate by the EMS Management Representative.
- 13.5.4** Environmental performance data will be used to assess effectiveness of existing improvement efforts and drive new improvement efforts.
- 13.5.5** If measurement or testing equipment is used to monitor or measure operations or activities, the EMS Management Representative will ensure calibration requirements outlined by the equipment manufacturer are upheld.
  - 13.5.5.1** The EMS Management Representative may appoint a designee to conduct calibration of measurement or testing equipment if necessary.
- 13.5.6** If measurement or testing equipment is used for monitoring and measurement, the EMS Management Representative, or their designee, will develop a master list of equipment requiring calibration to ensure all calibration requirements are completed according to the prescribed timelines. The **Monitoring and Measurement Calibration Record** will include the name, manufacturer, and model number of each piece of equipment; the calibration method and frequency; the latest completed calibration date, and the next date when calibration is due.

## **14.0 NONCONFORMANCE, CORRECTIVE ACTION AND PREVENTIVE ACTION**

### **14.1 Purpose and Scope**



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To address actual or potential nonconformance with environmental objectives, targets, or procedures, Pragmatic Construction investigates nonconformities, takes action to mitigate the associated impacts, and conducts corrective and preventive action according to the methods outlined in this section. Procedural changes that result from corrective or preventive action are implemented and recorded.

This section applies to any activity or operations associated with Pragmatic Construction that fall within the scope of the EMS.

### 14.2 Definitions

**Nonconformity:** non-fulfillment of a requirement, either legal, EMS related, or other requirement defined by Pragmatic Construction and/or its EMS.

**Corrective Action:** action taken to eliminate the cause of a detected nonconformity.

**Preventive Action:** action taken to eliminate the cause of a potential nonconformity.

### 14.3 Reference Material

ISO 14001 Standard Section 4.5.3

EMS Manual Section 6.0 Environmental Objectives and Targets

EMS Manual Section 11.0 Operational Control

EMS – R140 EMS Nonconformance Worksheet

### 14.4 Responsibility and Authority

#### 14.4.1 EMS Management Representative

**14.4.1.1** The EMS Management Representative notifies Pragmatic employees and contractors that they are responsible for reporting instances of nonconformance with Pragmatic Construction's environmental objectives, targets, or procedures.

**14.4.1.2** In accordance with EMS Manual Section 6.0 (Environmental Objectives and Targets), the EMS Management Representative oversees a biannual review of Pragmatic's environmental objectives and targets. Nonconformities may be identified through this process.

**14.4.1.3** When a nonconformity is reported, the EMS Management Representative assigns responsibility for the investigation of the



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nonconformance and ensures the EMS Nonconformance Worksheet is completed.

**14.4.1.4** The EMS Management Representative receives and approves completed Nonconformance Worksheets.

### **14.4.2** Employees and/or Contractors

**14.4.2.1** Pragmatic employees and contractors identify instances of nonconformance with Pragmatic's environmental procedures and report them to the EMS Management Representative.

**14.4.2.2** Pragmatic employees and contractors investigate nonconformances and complete the **EMS Nonconformance Worksheet** when the EMS Management Representative makes them the responsible party.

## **14.5 Procedure**

**14.5.1** Pragmatic employees follow environmental procedures as defined by EMS Manual Section 11.0 (Operational Control) and other Environmental Operating Procedures. When employees observe deviations from these procedures, these are defined as nonconformities.

**14.5.2** In accordance with EMS Manual Section 6.0 (Environmental Objectives and Targets), environmental objectives and targets are reviewed biannually. At these reviews, objectives and targets that are not being met are defined as nonconformities.

**14.5.3** When a nonconformity is identified, the EMS Management Representative assigns responsibility for addressing the nonconformity.

**14.5.4** The person responsible for addressing the nonconformity completes the **EMS Nonconformance Worksheet**. This facilitates the identification of the reason for the nonconformity and the actions that will be taken to address it. The responsible party completes these actions and records the result of the corrective action.

**14.5.5** The person responsible for addressing the nonconformity updates the EMS documentation as necessary and ensures the EMS Manual is consistent with any new procedures. Changes to the EMS Manual are recorded on the **EMS Nonconformance Worksheet** and are conducted according to



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EMS Manual Section 10.0 (Environmental Management System Documentation).

### 15.0 INTERNAL AUDIT

#### 15.1 Purpose and Scope

Pragmatic Construction has established and maintains an audit program to evaluate the effectiveness of the EMS and to determine areas for improvement. Pragmatic Construction conducts objective audits of the EMS at planned intervals which include reporting of the audit results to all Pragmatic Construction owners.

This section applies to any Pragmatic Construction employee responsible for reporting on the performance EMS. All activities or operations affiliated with Pragmatic Construction that fall within the scope of the EMS may be included in the internal audit process.

#### 15.2 Definitions

**Internal Audit:** systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the EMS audit criteria set by the organization are fulfilled.

#### 15.3 Reference Material

ISO 14001 Standard Section 4.5.5  
EMS Manual Section 10.0 Environmental Management System Documentation  
EMS – D150 Internal Audit Criteria

#### 15.4 Responsibility and Authority

##### 15.4.1 EMS Management Representative

**15.4.1.1** The EMS Management Representative coordinates and allocates resources for the internal audit program.

**15.4.1.2** The EMS Management Representative is responsible for maintaining records of Internal Audits and coordinating any follow up activities.

**15.4.1.3** The EMS Management Representative is responsible for coordinating any necessary training for conducting internal audits.



## **15.5 Procedure**

**15.5.1** The EMS Management Representative coordinates a team to conduct annual internal audits of the EMS, and appoints a lead auditor.

**15.5.1.1** Employees may act as auditors provided they audit EMS components outside of their area of responsibility wherever possible, and are trained in internal auditing techniques.

**15.5.2** The EMS Management Representative prepares the yearly audit plan detailing the scope and agenda and communicates the plan to the audit team.

**15.5.3** Prior to the internal audit, the audit team reviews previous audit reports, action plans, and/or management reviews to become familiar with prior nonconformities.

**15.5.4** The audit team conducts the internal audit according to instruction provided or coordinated by the EMS Management Representative.

**15.5.5** Upon completion of the audit and within a reasonable time frame, the lead auditor prepares an Internal Audit Report summarizing the findings of the audit and necessary action items.

**15.5.5.1** The lead auditor delivers the findings to the EMS Management Representative for review. If needed, the EMS Management Representative will coordinate a follow up meeting to review the findings of the audit.

**15.5.6** The EMS Management Representative maintains Internal Audit Reports in accordance with EMS Manual Section 10.0 (Environmental Management System Documentation).

**15.5.7** Based on the Internal Audit Report, Pragmatic Construction will implement the action items identified and monitor progress towards completion of the action items.

**15.5.7.1** Responsible parties will update the EMS Management Representative on progress of the action items until the action items are in effect or completed.



## **16.0 MANAGEMENT REVIEW**

### **16.1 Purpose and Scope**

Pragmatic Construction conducts a management review of the EMS annually to ensure the EMS continues to be suitable, effective, and sufficient. This review confirms that the necessary resources are being directed towards maintaining the EMS and that continuous improvement in environmental performance is being achieved.

The scope of the management review includes the environmental policy, aspects, objectives and targets, and internal audit program. It also includes a review of the progress in regards to responses from previous audits and reviews, and evaluates the status of corrective and preventive actions. The management review includes an analysis of changing requirements and identification of changes needed to the EMS.

### **16.2 Definitions**

None

### **16.3 Reference Material**

ISO 14001 Standard Section 4.6

EMS Manual Section 10.0 Environmental Management System Documentation

### **16.4 Responsibility and Authority**

**16.4.1** The EMS Management Representative is responsible for coordinating annual Management Reviews of the EMS and maintaining relevant records.

### **16.5 Procedure**

**16.5.1** All Pragmatic Construction owners meet annually to review the suitability, adequacy, and effectiveness of the EMS.

**16.5.2** The EMS Management Representative develops the agenda for the annual Management Review meeting and communicates the agenda to the relevant participants.

**16.5.3** Inputs to the Management Review include, but are not limited to:

1. Internal Audit Reports
2. External Communication relating to the EMS



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3. EMS Scorecard and other EMS performance data
4. Status on Environmental Objectives and Targets
5. Status of Corrective and Preventive Actions
6. Prior Management Review summaries and/or minutes
7. Changing legal and/or other requirements
8. Recommendations for improvement

**16.5.4** At the Management Review, Pragmatic Construction owners provide comments and recommendations for improvement of the EMS, and address any outstanding action items related to EMS maintenance.

**16.5.5** The EMS Management Representative, or their designee, is responsible for recording meeting minutes from the Management Review process and providing these minutes upon request and for subsequent reviews.

**16.5.6** The EMS Management Representative will communicate results of the Management Review process to others deemed appropriate by the EMS Management Representative or owners.

**16.5.7** Records generated during the Management Review process are controlled according to EMS Manual Section 10.0 (Environmental Management System Documentation).

REVISION HISTORY			
Revision Number	Date of Revision	Author of Revision	Nature of Revision
1	12/1/2008	EMS Manual Authors	Document Creation



## PRAGMATIC CONSTRUCTION, LLC

### EMS NONCONFORMANCE WORKSHEET

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When Pragmatic Construction's environmental results do not conform to its targets or objectives, or when actions do not conform to procedures, this worksheet helps identify the reason for the nonconformity, the appropriate corrective action, and the necessary preventive action, including updating the relevant parts of the EMS Manual.

*Program name/target and actual result measured **OR** relevant environmental procedure:*

*Was the target met? **OR** Was the procedure followed?*

*If no, person responsible for investigating the nonconformity:*

#### **Reasons for nonconformity**

*Describe the actions you've taken since the last assessment to achieve the target.*

*What issues arose in implementation and/or monitoring?*

*What procedural problems were there?*

*Describe any problems in attaining the resources necessary to achieve the target. Consider human, financial, technological, and training resources. If other resources were necessary, describe those too.*

*Was the target measurable? If yes, how? If no, what prevented measurement of the target?*



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*Was the target realistic and achievable within the given timeframe and with the given resources? Describe.*

#### **Corrective action**

*What actions did you take to correct the nonconformity? This may include making changes to the original target.*

*What were the results of your corrective action?*

*What actions must be taken to prevent future nonconformities of this type? Include a description of any changes made to Pragmatic's EMS Manual.*

Worksheet completed by:

Name \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Received by EMS Manager:

Name \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

