

**AGENDA of the  
Portfolio Committee: Infrastructure & Planning  
20 September 2016  
(Also the agenda for the Mayoral Committee Meeting: 27 September 2016)**

---

**13.  
INTEGRATED ENVIRONMENTAL MANAGEMENT SYSTEM: OVERSTRAND  
MUNICIPALITY**

**17/17/B  
P Aplon  
15 August 2016**

**(028) 3163724**

**Corporate Head Office**

---

**1. Executive Summary**

The purpose of this report is to table the Integrated Environmental Management System (IEMS), which consists of an Environmental Management Plan and a series of “Environmental Procedure” documents for approval by Council.

**2. Service Delivery and Budget Implementation Plan - IGNITE**

Infrastructure and Planning  
Environmental Management Section

**3. Compliance with Strategic Priorities**

Provision of democratic and accountable governance  
Provision and maintenance of municipal services  
Creation and maintenance of a safe and healthy environment

**4. Delegated Authority**

None

**5. Legal Requirements**

- National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA)
- National Environmental Management: Air Quality Act, 2004
- National Water Act, 1998 (Act 36 of 1998)
- National Environmental Management Act: Biodiversity Act, 2004 (Act 10 of 2004)
- National Environmental Management: Protected Areas Act, 2003 (Act 57 of 2003)
- Conservation of Agricultural Resources Act, 1983 (Act 43 of 1998)
- Occupational Health and Safety Act, 1993 (Act 85 of 1993)
- National Heritage Resources Act, 1999 (Act 25 of 1999)
- Environmental Conservation Act, 1989 (Act 73 Of 1989)

**AGENDA of the  
Portfolio Committee: Infrastructure & Planning  
20 September 2016  
(Also the agenda for the Mayoral Committee Meeting: 27 September 2016)**

---

## **6. Background/Discussion**

### **Background**

The Overstrand Local Municipality is developing and implementing an IEMS. The IEMS is not a typical ISO 14001 EMS, but is focused on inclusion of environmental requirements, objectives and targets in its Integrated Development Plan (IDP). The IEMS which is developed for the Overstrand Local Municipality will consist of a series of environmental audits, on various operational functions of the Municipality. By implementing an IEMS the Municipality seeks to instil "Good Practice" procedures in the operational functions.

It addresses:

- Legal requirements
- Responsibility
- Monitoring, control and review
- Implementation of plans to prevent and mitigate environmental impacts
- Document control
- Training and awareness
- Standards and Operating Procedures

### **Discussion**

With the IEMS, the municipality strives to manage specific operational activities in a manner that does not have a detrimental effect on the environment. Section 28 of the NEMA stipulates the duty of care and remediation of environmental damage.

*"(1) Every person who causes, has caused or may cause significant pollution or degradation of the environment must take measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.*

*(2) Without limiting the generality of the duty in subsection (1), the persons on whom subsection (1) imposes an obligation to take reasonable measures, include an owner of land or premises, a person in control of land or premises or a person who has a right to use the land or premises on which or in which-*

- (a) any activity or process is or was performed or undertaken; or*
- (b) any other situation exists,*

*which causes, has caused or is likely to cause significant pollution or degradation of the environment.*

**AGENDA of the  
Portfolio Committee: Infrastructure & Planning  
20 September 2016  
(Also the agenda for the Mayoral Committee Meeting: 27 September 2016)**

---

- (3) *The measures required in terms of subsection (1) may include measures to-*
- (a) *investigate, assess and evaluate the impact on the environment;*
  - (b) *inform and educate employees about the environmental risks of their work and the manner in which their tasks must be performed in order to avoid causing significant pollution or degradation of the environment;*
  - (c) *cease, modify or control any act, activity or process causing the pollution or degradation;*
  - (d) *contain or prevent the movement of pollutants of degradation; or the causant of degradation;*
  - (e) *eliminate any source of pollution or degradation; or*
  - (f) *remedy the effects of the pollution or degradation.”*

The initial set of “Environmental Procedure” documents is specifically aimed at the Hermanus Waste Water Treatment Works (WWTW). If approved, these procedures must be duplicated by other WWTW.

If approved the EMP must be included in the IDP as a Sectoral Plan

## **7. Financial Implications**

All Municipal operational related activities are funded by the Overstrand Municipality in accordance with the IDP and approved budget or its delegated authority.

## **8. Staff Implications**

During the contract period when this specific tender for the drafting and implementation of an Environmental Management Plan was active, Overstrand Municipality also signed a contract with Veolia Water Solutions and Technologies. All Overstrand Municipality’s water and wastewater treatment plants and pump stations are being operated and maintained by this private contractor, since 1 November 2015.

All personnel associated with the operation of these installations have been transferred to Veolia as from the same date but the Municipality still needs to ensure that the environmental impacts of these services are kept to a minimum, if any. As the owner of the infrastructure and associated services the responsibility of proper management is still that of the Municipality’s.

The contract is being managed by the Directorate Infrastructure & Planning (Hanré Blignaut and Goosen le Roux). All references to Overstrand operational personnel, Operational Manager, Assistant Operations Manager,

**AGENDA of the  
Portfolio Committee: Infrastructure & Planning  
20 September 2016  
(Also the agenda for the Mayoral Committee Meeting: 27 September 2016)**

---

Function/Departmental Manager, etc., should therefore be revised in terms of the relevant Infrastructure & Planning and Veolia personnel.

All operational related activities will be done by the Operational Department or its delegated authority, ie Veolia.

The Environmental Management Section will handle the auditing component of the IEMS.

**9. Comments from other Departments, Divisions and Administrations**

The documents were only circulated to the relevant Directors on which this process would have a direct implication in terms of budget allocation and staff.

**Deputy Director: Engineering Services: Mr. H. Blignaut- (028) 312 5047**

- All Overstrand Municipality's water and wastewater treatment plants and pump stations are being operated and maintained by a private contractor, i.e Veolia Water Solutions & Technologies, since 1 November 2015. All personnel associated with the operation of these installations have been transferred to Veolia as from the same date.
- The contract is being managed by the Directorate Infrastructure & Planning (Hanre Blignaut and Goosen le Roux).
- All references to Overstrand operational personnel, Operational Manager, Assistant Operations Manager, Function/Departmental Manager, etc, should therefore be revised in terms of the relevant Infra & Planning and Veolia personnel, including membership of the various committees and top management, and the Organisational Chart in the EMS Procedure Manual, and the Emergencies, Monitoring and Non-Conformance Files.
- The Aspects and Impacts files appear to be overlapping with the Municipality's existing Waste Water Risk Abatement Plans (WWRAP).
- Veolia as a large international company has their own management systems, and care should be taken not to duplicate efforts. A workshop with Veolia on what is required from them in terms of the EMS may add value.
- The current focus is on the Hermanus WWTW. It is not clear what the planning is w.r.t other functions and installations within the municipality.

**Deputy Director: Community Services: Mr. M. Bartman- (028) 312 8982**

- It should be pointed out that all our water and wastewater treatment plants as well as all our water and sewerage pump stations are being

**AGENDA of the  
Portfolio Committee: Infrastructure & Planning  
20 September 2016  
(Also the agenda for the Mayoral Committee Meeting: 27 September 2016)**

---

operated and managed by a private contractor, Veolia Water Solutions and Technologies

- All personnel associated with the operation of these installations are in the service of Veolia.
- The contract is being managed by the Directorate Infrastructure and Planning (Hanre Blignaut and Goosen le Roux)
- All references to Overstrand operational personnel should therefore be revised.
- Membership of the Environmental Management System Committee as well as Top Management will therefore also be affected.
- The same applies to responsibilities and procedures in case on an emergency (see para. 5, 6 of Environmental Emergency Preparedness and Response (EP-05))
- The EMS procedure manual (para 1.4, 1.5, 2.4, 2.5, 2.6) will likewise be affected.
- Environmental Monitoring and Evaluation of Compliance (EP-06) & Enquiry Complaint/ Nonconformity Handling (EP-07) – reference to the Function/departmental Manager should be revised.

**Environmental Management Section's response on the comments received:**

- It is noted that Veolia Water Solutions and Technologies has taken over the operation and maintenance of all the municipal water and wastewater treatment plants as well as all municipal water and sewerage pump stations. This was not the case when the tender was procured and only came to light after the first draft of the EMS document was received from the consultant.
- The Environmental Management section has been in meetings with Mr Vincent Strangefeld, Operations Manager in the Overstrand region, for Veolia Water Solutions and Technologies. The proposed IEMS will be integrated with the existing systems of Veolia to prevent duplication of processes.
- Overstrand Municipality still has an environmental responsibility, as owners of the infrastructure.
- The IEMS will be rolled out to all other WWTW and Water Treatment Works of the Overstrand. Other operational aspects which will have a potential environmental impact will also be addressed.

**10. Annexures**

Annexure A:	Overstrand Municipality: Environmental Management Plan
Annexure B:	Environmental Policy
Annexure C:	Environmental Procedure Environmental Monitoring and Evaluation of Compliance

**AGENDA of the  
Portfolio Committee: Infrastructure & Planning  
20 September 2016  
(Also the agenda for the Mayoral Committee Meeting: 27 September 2016)**

---

Annexure D:	Enquiry / Complaint / Nonconformity Handling
Annexure E:	Environmental Management System Manual
Annexure F:	Environmental Emergency Preparedness and Response
Annexure G:	Identification of Environmental Aspects and Significance Evaluation
Annexure H:	Comments from other Departments
Annexure I:	Response to other Departments

**RECOMMENDATION TO THE COUNCIL:**

1. that the Integrated Environmental Management System consisting of the Integrated Environmental Management Plan for Overstrand Municipality, **be approved**; and
2. that the Integrated Environmental Management System, consisting of the Integrated Environmental Management Plan for Overstrand Municipality be included in the IDP as Sectoral Plan.

**RESPONSIBLE OFFICIAL:**

**P APLON**

**TARGET DATE FOR IMPLEMENTATION:**

**12 OCTOBER 2016**

**AGENDA of the  
Portfolio Committee : Infrastructure & Planning  
26 September 2016  
(Also the agenda for the Mayoral Committee Meeting : 26 September 2016)**

---

**13.  
INTEGRATED ENVIRONMENTAL MANAGEMENT SYSTEM: OVERSTRAND  
MUNICIPALITY**

**17/17/B  
P Aplon  
15 August 2016**

**(028) 3163724**

**Corporate Head Office**

---

**THIS MATTER SERVED BEFORE THE JOINT PORTFOLIO COMMITTEE ON  
26 SEPTEMBER 2016, WHICH COMMITTEE RECOMMENDED AS FOLLOWS:**

**RECOMMENDATION TO THE COUNCIL:**

1. that the Integrated Environmental Management System consisting of the Integrated Environmental Management Plan for Overstrand Municipality, **be approved**; and
2. that the Integrated Environmental Management System, consisting of the Integrated Environmental Management Plan for Overstrand Municipality be included in the IDP as Sectoral Plan.

**RESPONSIBLE OFFICIAL:**

**P APLON**

**TARGET DATE FOR IMPLEMENTATION:**

**12 OCTOBER 2016**



# EON Consulting

Environmental Management Plan  
for the Overstrand Local  
Municipality

Overstrand Local Municipality

March 2016

ENABLING  
BUSINESS  
TO SUCCEED



## Table of Contents

1.	Acronyms and explanation of terms .....	7
2.	Introduction .....	8
2.1.	The cake analogy .....	8
2.2.	Initial review .....	9
2.3.	Environmental policy .....	9
2.4.	Identification of environmental aspects .....	9
2.5.	Legal and other requirements.....	10
2.6.	Objectives and targets .....	10
2.7.	Environmental management programme(s).....	10
2.8.	Structure and responsibility .....	10
2.9.	Training, awareness and competence .....	10
2.10.	Communication.....	10
2.11.	EMS documentation .....	10
2.12.	Operational control .....	10
2.13.	Emergency preparedness and response .....	11
2.14.	Monitoring and measurement.....	11
2.15.	Non-conformance and corrective and preventative action .....	11
2.16.	Records .....	11
2.17.	EMS audit .....	11
2.18.	Management review .....	11
3.	Gap analysis based on indicators and OLM current status.....	12
4.	IEMP principles.....	17
5.	Roadmap of the IEMP .....	18
6.	Key objectives to support the IEMP .....	19
7.	Key linkages .....	19
8.	Mandates and duties in terms of applicable environmental laws .....	19
9.	Proposed organizational structure, roles and responsibilities .....	20
9.1.	Senior Environmental Manager .....	25
9.2.	Regional Manager .....	25
9.3.	Biodiversity Conservation Manager.....	26
10.	IEMP operational manual: governance structures, procedures and organizational alignment .....	26
10.1.	Governance instruments .....	26
10.2.	Environmental performance management .....	27



10.3.	Keeping of records .....	27
10.4.	Management review and improvement of the IEMP .....	28
11.	Monitoring and measurement.....	28
11.1.	Environmental indicators .....	28
11.2.	Methodology to rate and assess significance.....	29
11.3.	Environmental monitoring and measurement programme .....	33
12.	Policy, objectives and targets .....	35
13.	Toolkits .....	36
14.	Training needs .....	36
14.1.	Community Education .....	38
15.	Strategic requirements for key infrastructure, having implications for the capital budget .....	39
16.	Generic construction EMP .....	41
17.	Sectoral plans .....	41
17.1.	Energy conservation and demand management.....	41
17.2.	Water conservation and demand management .....	42
17.3.	Water resource management .....	43
17.4.	Climate change.....	43
17.5.	Coastal and estuary management .....	44
17.6.	Green procurement .....	44
17.7.	Conservation plan.....	45
18.	Standard operating procedures .....	68
18.1.	Integrated environmental management.....	68
18.2.	Requirements for the storage of pesticides, herbicides, fungicides, rodenticides and adjuvants 69	
19.	References .....	72



## List of tables

Table 1: Scoring of the current status of the proposed indicators .....	12
Table 2: Priority areas related to the EMS .....	16
Table 3: Principles of the IEMP .....	17
Table 4: Responsibilities and tasks associated with the extended responsibilities of the EM Section .....	21
Table 5: Intensity assessment table .....	29
Table 6: Duration assessment table .....	30
Table 7: Extent factor rating and description .....	31
Table 8: Probability factor rating and description .....	31
Table 9: Significance rating .....	32
Table 10: Mitigation rating .....	33
Table 11: Indicators to measure the IEMP .....	33
Table 12: Reporting format for indicators .....	34
Table 13: Environmental policy related actions .....	35
Table 14: Environmental training needs analysis .....	37
Table 15: Budget requirements for the IEMP .....	39
Table 16: Water resource management and municipal services .....	43
Table 17: Land-based formally protected areas in the Overstrand Local Municipality .....	50
Table 18: Important ecological and evolutionary process areas in the OLM .....	54
Table 19: The threatened terrestrial ecosystems in the Overstrand Local Municipality .....	56
Table 20: Objectives and targets for the conservation plan .....	61
Table 21: The types and condition of the estuaries in the OLM .....	62
Table 22: Recommendations for estuaries .....	63
Table 23: Recommendations for open spaces .....	65
Table 24: Recommendations about threats to the environment .....	67



## List of figures

Figure 1: The cake analogy .....	9
Figure 2: Roadmap of the IEMP .....	18
Figure 3: Proposed organizational structure of the OSM Environmental Services Section .....	25
Figure 4: Illustrating the relationships between ecosystem services and the socio-ecological system and the ways in which decisions made in the SES may influence the provision of these services .....	47
Figure 5: Illustrating the contributions of the various ecosystem services to human wellbeing .....	48
Figure 6: Five important Ecological and Evolutionary Process Areas within or partially within the jurisdiction of the Overstrand Local Municipality .....	54
Figure 7: The vegetation of the Overstrand Local Municipality and adjacent areas .....	58
Figure 8: The Freshwater Ecosystem Priority Areas (FEPA), conservation areas and National Protected Area Expansion Strategy (NPAES) of the Overstrand LM .....	59



Building 25, Thornhill Office Park  
Bekker Road, Vorna Valley, South  
Africa

PO Box 12389, Vorna Valley  
Midrand, 1686, South Africa

Ms Penelope Aplon  
Environmental Officer  
Overstrand Local Municipality

T +27 (0)11 564 2300  
F +27 (0)86 674 3516

info@eon.co.za

4 January 2016

Dear Ms Penelope Aplon,

Herewith please find the final integrated environmental management system report for the Overstrand Local Municipality (OLM). Should there be further queries, please feel free to contact us for clarification.

Yours sincerely,

*Aventer*

Adri Venter  
Principal Consultant

### Acceptance

Signed on behalf of Overstrand Local Municipality

Signed on behalf of EON

---

Name:  
Title:

Date:

*Aventer*

---

Name: Adri Venter  
Title: Principal Consultant

Date: 30 March 2016

## 1. Acronyms and explanation of terms

Acronym/term	Explanation
<b>Continual improvement</b>	Process of enhancing the environmental management system to achieve improvements in overall environmental performance in line with the municipality's environmental policy
<b>DPSIR</b>	Driving forces, pressures, state, impact and responses (DPSIR) framework. The DPSIR framework is useful for selecting environmental indicators and compiling a state of the environment report (SoER)
<b>EIS</b>	Environmental information system
<b>EMP</b>	Environmental Management Plan
<b>EMR</b>	Environmental management representative: A person appointed by a department to support the development and maintenance of the IEMP and the promotion of legal compliance
<b>EMS</b>	Environmental management system: That part of the overall management system which includes the organisational structure, planning activities, responsibilities, practices, procedures, and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy
<b>Environmental aspect</b>	An element of an organization's activities, products or services that can interact with the environment
<b>Environmental audit</b>	A systematic, documented verification process of objectively obtaining and evaluating audit evidence to determine whether specified environmental activities, events, conditions, management systems, or information about these matters conform with audit criteria, and communicating the results of this process to the client
<b>Environmental impact</b>	Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services
<b>Environmental objective</b>	Overall environmental goal, arising from the environmental policy, that the municipality sets itself to achieve and which is quantified where practicable
<b>Environmental performance</b>	Measurable results of the environmental management system, related to the municipality's control of its environmental aspects, based on its environmental policy, objectives and targets
<b>Environmental policy</b>	Statement by the municipality of its intention and principles in relation to its overall environment performance which provides a framework for action and for the setting of its environmental objectives and targets
<b>IDP</b>	Integrated Development Plan
<b>IEMP</b>	Integrated Environmental Management System
<b>Mitigate</b>	The implementation of practical measures to reduce adverse impacts or enhance beneficial impacts of an action
<b>Monitoring</b>	An activity which ensures that the requirements of the EMP are met
<b>NEMA</b>	National Environmental Management Act,
<b>NEMBA</b>	National Environmental management: Biodiversity Act
<b>NFEPA</b>	National Freshwater Ecosystem Priority Areas



Acronym/term	Explanation
OLM	Overstrand Local Municipality
PES	Present Ecological State
SDBIP	Service Delivery and Budget Implementation Plan as defined by the Municipal Finance Management Act (MFMA)

## 2. Introduction

The Overstrand Local Municipality is developing and implementing an integrated environmental management system (IEMS). The IEMS is not a typical ISO 14001 EMS, but is focused on inclusion of environmental requirements, objectives and targets in its Integrated Development Plan (IDP). The IEMS which is developed for the Overstrand Local Municipality will consist of a series of environmental audits, on various operational functions of the municipality. By implementing an EMS the municipality seeks to instill "Good Practice" procedures in the operational functions. The IDP makes provision for mandatory sector plans with a direct or incidental focus. The IDP also makes provision for the voluntary adoption and use of sector plans, which is why the Overstrand Local Municipality decided to formulate an Integrated Environmental Management Plan (IEMP).

This report represents the final deliverable associated with the development of the IEMP.

The compilation of the IEMP was preceded by a status quo analysis. The main findings of the status quo analysis are that:

1. The level of operational legal compliance is a concern
2. Document management and control should be improved
3. Some important elements of the environment have not been adequately addressed, such as wetlands and water courses as these relate to river health
4. Current environmental management measures are focused on conservation, whilst other pressures and drivers of environmental degradation have not been adequately described and managed
5. Whilst some programmes, such as waste management, are of a very high standard and probably leaders in SA, there is a need for other sectoral plans to address broader environmental issues of concern, such as water and energy conservation
6. The general level of environmental awareness amongst personnel is commendable; however, job-specific training and an understanding of legal requirements are areas for improvement
7. An environmental management information system will significantly elevate the environmental agenda.

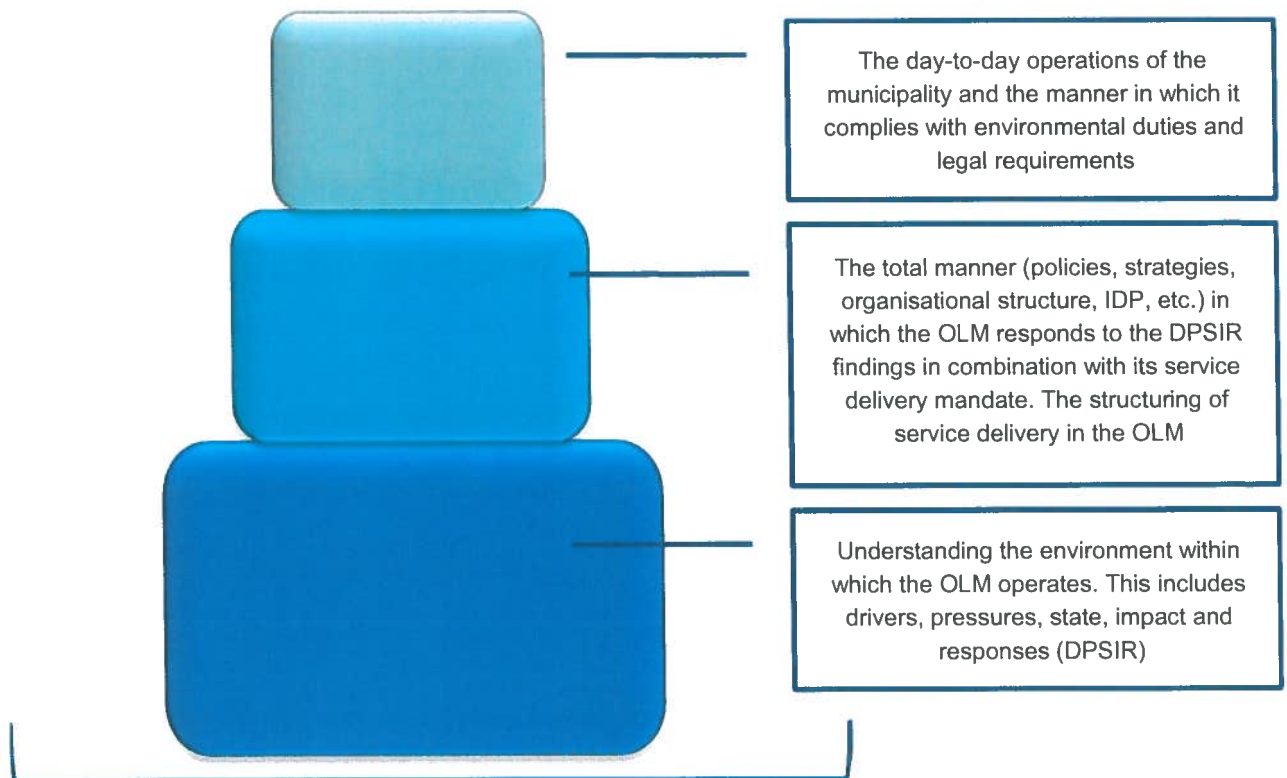
### 2.1. The cake analogy

Using the example of a three-tiered cake, the ideal situation is described in Figure 1 below. It is important to note that the nature and state of the environment form the baseline which, in conjunction with the service delivery mandate of the OLM, shapes the other tiers of the cake. Each layer has a definite influence on the layer it supports.

The primary components of the approach are:

1. The DPSIR framework leads to understanding the state of the environment as well as the nature of the driving forces and pressures. Based on this understanding, a strategy can be compiled coupled with targets and indicators. The strategy should have a two-pronged approach, namely sustainable development and legal compliance.
2. An EIS will form a vital part of the successful understanding of the state of the environment and progress towards the implementation of programmes and targets.

3. The use of a customized EMS for the control and improvement of the level of legal compliance of municipal operations.
4. The setting of objectives and targets, based on the nature of the environmental baseline should be enacted by means of the second and third tier of the "cake".



**Figure 1: The cake analogy Background elements of a typical EMS**

The following section (based on PIESA: EMS Information: Troy Govender, Eskom, Sept. 2012) provides an overview of the typical process involved for the development of a typical environmental management system. However, the OLM's IEMP is not a typical EMS but the process below is of value to address areas of critical importance in terms of legal compliance.

## 2.2. Initial review

Undertake an initial assessment to establish the current position:

- Legal and policy requirements
- Main activities that have an impact on the environment
- Evaluate performance
- Identify existing management practices and procedures.

## 2.3. Environmental policy

The establishment of an environmental policy must:

- Be appropriate to the operations and activities
- Include a commitment to continual improvement and prevention of pollution
- Demonstrate commitment to comply with legislation and own standards
- Provide a framework for setting objectives and targets
- Be documented, implemented and communicated.

## 2.4. Identification of environmental aspects

- Initiate a formal process to identify environmental aspects of activities, products and services
- Use the above to determine those that have a significant impact on the environment and set objectives and targets related to these.



## 2.5. Legal and other requirements

- Develop a procedure to ensure access to legislation as well as future legislative changes.

## 2.6. Objectives and targets

- Set objectives and targets related to significant impacts and areas of strategic importance.

## 2.7. Environmental management programme(s)

- Establish and maintain programmes to achieve objectives and targets
- Set responsibility to achieve targets
- Set time frames
- Allocate resources
- The Environmental Management Programme must be amended to reflect new development projects.

## 2.8. Structure and responsibility

- Roles, responsibilities and authority must be defined, documented and communicated
- Resources must be provided for the EMS
- A management representative must be appointed to ensure that the EMS is established, implemented and maintained
- A representative must report on performance.

## 2.9. Training, awareness and competence

- Identify training needs
- All personnel whose work impacts on the environment must receive appropriate training
- All personnel should be made aware of:
  - The importance of conformance to the policy, procedures and plans
  - The impact their work can create
  - Their roles and responsibilities
  - Consequences if they don't follow operating procedures.

## 2.10. Communication

- Set procedures for internal communication
- Have a procedure to deal with receiving, documenting and responding to external interested and affected parties
- Have a process for external communication on all significant aspects and impacts.

## 2.11. EMS documentation

- Have a document that describes the core elements of the EMS
- Provide direction or linkages to other relevant documents
- Ensure that current versions are readily available that old documents are removed, and legal documents are retained.

## 2.12. Operational control

- Identify all operations and activities that affect or could affect the environment
- These activities must be carried out under specific conditions by:
  - Having procedures or work instructions for them
  - Setting criteria in the procedures



- Having procedures relating to aspects with significant impacts
- Communicating these to suppliers and contractors.

### 2.13. Emergency preparedness and response

- Have procedures to identify risk areas
- Develop procedures to respond to incidents
- Prevent further impacts (contain)
- Review emergency procedures and test for effectiveness.

### 2.14. Monitoring and measurement

- Have procedures for monitoring key characteristics of operations
- Have measures to monitor key activities
- Calibrate and maintain and record all information
- Evaluate compliance against legislation and regulations.

### 2.15. Non-conformance and corrective and preventative action

- Have processes for undertaking formal investigations into incidents
- Define responsibilities for: handling, investigating, taking mitigatory action, and for initiating and completing corrective and preventative action
- Corrective and preventative action taken must be documented and relevant procedures/work instructions changes.

### 2.16. Records

- Have a procedure for identifying, maintaining and disposing of environmental records
- The records required are:
  - Training material
  - Audit reports
  - Incident investigations
  - Procedures and work instructions
  - Contracts
  - Complaints register.

### 2.17. EMS audit

- Establish and maintain procedures and programmes for environmental audits
- Determine conformance of EMS
- Determine if EMS has been properly implemented and maintained
- Use the results to make changes.

### 2.18. Management review

- Top management to do a formal review of EMS and change it, based on:
  - Past incidents
  - Changes in legislation
  - Performance results
  - Change in structure, management, responsibilities
  - New projects.



### 3. Gap analysis based on indicators and OLM current status

Based on the review of best practices (status quo assessment) and a description of the ideal situation, a set of criteria has been compiled encompassing the organisational requirements for the implementation of the IEMP. These criteria are provided in Table 1 below. These findings form the basis of the compilation of the IEMP. Weighting has been assigned to the indicator elements in order to prioritize the implementation of the IEMP.

A three-tiered weighting system has been used in the table below. Legend for interpretation (A):

Short term		Critically important	
Medium term		Important	
Long term		Part of continual improvement	

A combination of, for example short term and critical importance will push an indicator upwards in the hierarchy. For the purpose of the compilation of the IEMP, short-term indicators of critical importance are addressed in the IEMP.

Legends for interpretation (B): Each block represents 25%. Thus if all the blocks are coloured, it implies that there is 100% compliance.



**Table 1: Scoring of the current status of the proposed indicators**

Issue	Indicators	Status quo score	Weighting
<b>General</b>			
Adequacy of bylaws	% of bylaws addressing environmental concerns		
Status of environmental awareness	% of employees understanding the environmental implications of their role, duty and responsibilities		
Monitoring & support	% of environmental aspects and impacts monitored and reported on		
Tools and SOPs	% of tools and SOPs adequately		








Issue	Indicators	Status quo score	Weighting
	addressing environmental concerns		
Environmental education & awareness programmes for personnel	Number of programmes and % of personnel who completed the programme		
Organisational structure	Adequacy of environmental institutional arrangements: roles and responsibilities		
Baseline	Established baselines for the purpose of monitoring progress		
<b>Internal regulation</b>			
Monitoring of EMP adherence	Evidence of monitoring EMP adherence		
Information and data management	Document control, environmental management information system		
Performance reporting	Reporting on environmental performance		
Performance monitoring of internal operations	Extent, adequacy and frequency of monitoring adherence to environmental legislation of internal operations		
Management of non-compliances	Protocol for escalation of non-compliances		
Monitoring of integrated environmental management requirements	Screening done to ensure that no activity commences without the required environmental authorisations		
Level of operational	% of non-compliances		



Issue	Indicators	Status quo score	Weighting
legal compliance			
<b>Integrated sector plans</b>			
Compilation of sector plans	% of required sector plans		
Integration with other spheres of government	Number of integration forums		
<b>Responses to local environmental sensitivities</b>			
Management plans	% of required management plans developed and implemented  % of estuary management plans  % of management plans for protected areas  % of wetlands and water courses identified, mapped, buffer zones implemented and management plans compiled  Adequacy of conservation plans for proportional protection of biomes  Red data species protection plan  Air quality management plan  Biodiversity corridor and connectivity	              	              



Issue	Indicators	Status quo score	Weighting
	management plan		
<b>Environmental measurement</b>			
State of the environment report	Integrated reporting on environmental problems and significance ratings for the purpose of prioritisation and compilation of related action plans	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Environmental MIS	Established EIS, compilation of several data layers to enrich information and understanding of environmental matters as well as monitoring and reporting	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Document management and control	Presence of a document management system, inclusive of the availability of relevant documents to site personnel and the environmental division	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<b>Sectoral plans</b>			
Best practice sustainable development plans/actions related to external services	Waste management, recycling and waste minimisation	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Waste minimisation to be addressed
	Climate change	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
	Energy conservation and demand management	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
	Water conservation and demand management	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
	River health	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

Issue	Indicators	Status quo score	Weighting
	Alien species and fire management		
	Sustainable housing (renewable energy, rainwater harvesting, etc.)		
	Storm water best management practices		
	Management line (set-back zone) as required by the NEM:IMCA – this is being discussed, but has not been implemented		

The following list based on the table above represents the elements of critical importance and the solutions proposed in this document:

**Table 2: Priority areas related to the EMS**






Elements of critical importance	Proposed solutions
1. Adequacy of environmental institutional arrangements: Roles and responsibilities	Refer to new organisational structure for the Environmental Management Section
2. Established baselines for the purpose of monitoring future progress	Refer to new organisational structure for the Environmental Management Section: new section responsible for environmental information and data management. The status quo report should be referred to as the baseline status.
3. Implementation of integrated environmental authorisations and adequacy of procedures to ensure adherence to EIA regulations (including EMPs associated with environmental authorisations and water use licences)	Refer to EMS EIA procedure
4. Information and data management and establishment of an EIS, compilation of several data layers to enrich information and understanding of environmental matters as well as monitoring and reporting	Refer to new organisational structure for the Environmental Management Section: new section responsible for environmental information and data management
5. Document control, environmental management information system	Refer to EMS document control and record keeping procedure

Elements of critical importance	Proposed solutions
6. Protocol for escalation of non-compliances	Refer to EMS document regarding escalation of non-compliances
7. Level of operational legal compliance	Refer to EMS procedure manual
8. Management plans for protected areas and estuary management as well as wellands and watercourses (identified, mapped, buffer zones implemented and management plans compiled). Management line (set-back zone) as required by the NEM:IMCA	Refer to new organisational structure for the Environmental Management Section: additional responsibilities to be assigned to Manager: Biodiversity

## 4. IEMP principles

The following set of principles forms the basis of all objectives and targets of the OLM EIMP.

**Table 3: Principles of the IEMP**

Principle	Document key
1 Recognize of the intrinsic value of biodiversity and natural ecosystems by protecting and restoring them	
2 Develop and enable cooperative networks towards a sustainable municipality and town	
3 Enable communities to minimize their ecological footprint	
4 Modelling urban processes on ecological characteristics and processes to create a sustainable municipality and town	
5 Empower local communities to support the drive towards a sustainable town	

Principle	Document key
-----------	--------------

6 Promote sustainable production and consumption through the appropriate use of environmentally sound technologies and effective demand management



7 Enable continual improvement and good governance through leading by example



The document keys will be used to demonstrate the integration of the principles into the IEMP.

## 5. Roadmap of the IEMP

Figure 2 below provides an overview of the IEMP by indicating the main components of the system and its inter-relationships with municipal corporate and governance systems to ensure the successful implementation of the IEMP.

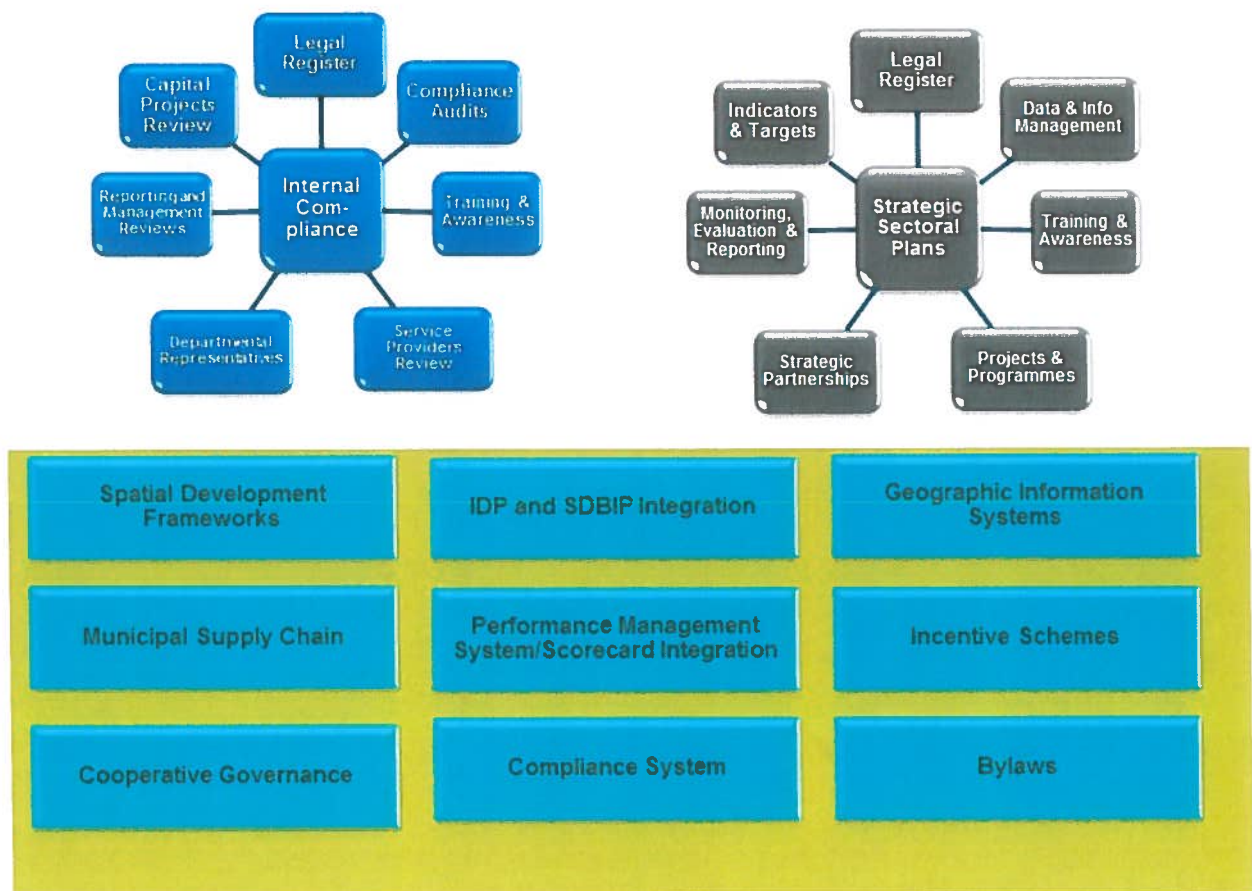


Figure 2: Roadmap of the IEMP



## 6. Key objectives to support the IEMP

The IEMP encapsulates the following objectives in order to ensure effective and successful implementation:

1. To build institutional capacity at all levels of the OLM in order to ensure that the IEMP is effectively implemented
2. To enable on-going and incremental improvement in the management, protection and quality of the OLM environment
3. To develop and maintain mechanisms to gather, compile and provide access to appropriate environmental information in order to enable informed decision-making on issues affecting the environment
4. To monitor and evaluate the IEMP related programmes and objectives
5. To promote corporate environmental responsibility.

## 7. Key linkages

In order to ensure successful implementation of the IEMP, linkages have to be established with the responsible departments/stakeholders to integrate the key objectives of the IEMP into their strategies and programmes:

1. Spatial Development and Planning
2. Economic Development
3. Basic service delivery, including roads, storm water, waste management, sanitation and drinking water
4. Tourism.

The Environmental Management Department of the OLM will facilitate sessions with key representatives of the relevant departments to identify suitable points of intervention and related objectives and targets.

## 8. Mandates and duties in terms of applicable environmental laws

A detailed discussion of the mandate and obligations of the OLM is attached as an Annexure. The IEMP is based on the findings of the legal review.

A legal register has been compiled and is attached as an Annexure.

The legal register has to be updated and maintained and the EM Department in conjunction with Departmental Environmental Representative will be responsible to ensure that the legal registers remain correct.