TOYOTA MOTOR ENGINEERING & MANUFACTURING

CONSTRUCTION SITE/ CONSTRUCTION PROJECT ENVIRONMENTAL MANAGEMENT HANDBOOK

The purpose of this document is to provide Toyota's contractors and Suppliers' on-site contractors a resource to assist them in complying with the environmental procedures for Toyota's construction projects. The goal is to maintain compliance with existing regulations and prevent the potential release of pollutants to the environment.

All Suppliers and Contractors should be aware that there might be neighbors in close proximity to the Toyota plant construction site. Actions on the construction site (e.g. spills and releases, traffic noise, etc.) have a potential to adversely impact these neighbors. All Contractors and Suppliers are requested to conduct themselves in a professional manor and assist in minimizing the impact to neighboring landowners.

All Contractors, Suppliers and their employees are required to follow Local, State, Federal and the guidelines set forth in this handbook. Upon reading this handbook, the Construction Site Environmental Management Handbook Acknowledgement Form (Appendix A) must be completed per the instructions on the form and prior to contractor mobilization and/or no later than 2 **weeks** after the contract is awarded. If there is any question about site compliance the Contractor or Supplier shall immediately contact the Toyota Owner's Representative Office (ORO). Unacceptable performance and activities will lead to corrective action that may include:

- Written citation/disciplinary conference
- Temporary suspension from the site
- Contract termination and/or long-term suspension

Questions regarding the content of this document should be addressed to the Toyota Owner's Representative Office (ORO). As the overall coordinator of site activities, the ORO representative will work with ORO Environmental Engineering (ORO E/E) to resolve Environmental issues. Communication back to the contractor will be coordinated through ORO in order to prevent construction delays and/or miscommunication.

SITE SPECIFIC REQUIREMENTS

Certain requirements may be unique to individual sites or projects depending on local regulations and the project scope. A separate "Site Specific" section (Appendix B) is provided for these requirements. The site-specific requirements will take precedence over the general requirements identified in this document if there are any inconsistencies between the two documents.

I. RESPONSIBILITIES

Prior to the start up of new project, the Construction Site Management Plan – Roles & Responsibility Matrix (Appendix C) is to be completed by the applicable management and engineering group.

Toyota Owner's Representative Office (ORO) and Supplier On-Site Representative:

The Toyota Owner's Representative Office (ORO) construction coordinator (i.e. Toyota PE or contractor) is responsible for implementation and day-to-day operation of the Toyota construction site. Suppliers On-Site Representative's will be responsible for their own site operations. Environmental issues will be brought to the attention of Toyota ORO Environmental Engineering and/or Suppliers Environmental Representative. Toyota ORO Environmental Engineering and/or Supplier Environmental Representative will have the responsibility to resolve environmental issues in a timely manner that is both compliant with applicable regulations and conducive to overall construction objectives.

Toyota General Contractors and Suppliers Contractors

All (Toyota's and Supplier's) General Contractors are responsible for maintaining a good understanding of the program specifics. General Contractors are responsible for maintaining program compliance for their employees and subcontractor employees. General Contractors will assume the full responsibility and liability for all employees associated with their operations.

General Contractors are required to designate a responsible individual to act in the capacity as the environmental management coordinator for their company. These coordinators are responsible for ensuring each person is trained as they arrive on the construction site. Each person will be required to sign the training record on Construction Site Env. Training Form (Appendix D) or equivalent with the criteria identified in Appendix D. The training records certify that environmental training has been received prior to commencing work on the project.

Toyota ORO Environmental Engineering (ORO E/E) and Suppliers Environmental Representative:

Comprised of TEMA Environmental Engineering Suppliers Environmental Representative and/or Plant Environmental Engineering personnel, they are responsible for the following:

1. Establishing policies and procedures related to environmental management at the construction site.
2. Periodic evaluations of construction site environmental management.
3. Preparing Contractor Training materials.
4. Follow-up and closure of environmental issues at the construction site.

II. SAFETY REQUIREMENTS

Safety measures, equipment and training must be provided to all required operators. In accordance with 29 CFR and applicable state regulations, all Contractors and Suppliers shall follow all appropriate signage, color coding, and identification measures that promote a safe working environment.

III. RAW MATERIAL/CHEMICAL INTRODUCTION

MSDS Requirement

For any chemical material that is brought on site, all Contractors and Suppliers should obtain approval from Toyota Safety and maintain a copy of the Material Safety Data Sheets (MSDS) as per Toyota Safety requirements. Periodically, ORO E/E and/or Suppliers Environmental Representative will review the MSDS and may request a meeting to discuss environmental management of the raw material (e.g. containment, etc.). For construction at existing plants, the contractor should provide MSDS per the current guidelines at that facility.

All raw materials must be labeled by the contractor and include their company's name as it arrives on site. Raw materials must also be clearly labeled as to their contents and comply with hazard communication marking and labeling.

In order to minimize the potential environmental liability, contractors should strictly limit the volume of raw materials to the amount needed to complete the job. There may be some special circumstances requiring specific approvals for raw materials prior to being brought on-site. Please refer to the site-specific requirements document (Appendix B) for details.

SPCC (Spill Prevention Control and Countermeasures) Plan Requirement

If greater than 1,320 gallons of petroleum products are stored on site (only containers holding 55 gallons or more count towards total), the Toyota GENERAL CONTRACTOR and/or Supplier must develop and maintain a certified SPCC (Spill Prevention Control and Countermeasures) plan according to applicable Federal, State, and local legislation and requirements. Prior to storing petroleum products in excess of the mentioned thresholds above, the certified SPCC must be approved in writing by ORO E/E or the Supplier's Environmental Representative. In each case, the procedure must be prepared by the Toyota GENERAL CONTRACTOR or Supplier and maintained in the working areas along with emergency response equipment.

Toyota Ban list & Approved Refrigerant List-Add Ban List

Toyota has a ban list and many refrigerants (e.g. Freon) are banned from use. Toyota Ban List (Appendix E) and Acceptable Refrigerants List (Appendix F) are included in Appendix**.** The Acceptable Refrigerant list is to be referenced prior to installation of any new or replacing old equipment (e.g. HVAC, process equipment).

IV. CONTAINMENT AREAS

Raw Materials/Wastes

All Contractors (Toyota's and Supplier's) are required to provide secondary containment for the following items when storing or not actively using.

- Paints / Solvents
- Chemicals / Raw materials
- Fuels
- Oils
- Hazardous wastes
- Waste waters
- Special Waste

ORO, ORO E/E must approve the secondary containment design and construction plan in writing, prior to installation. Minimum containment area design considerations include:

1. Volumetric capacity of the containment area should be 110% of the volume of material stored.
2. The base and foundation must be capable of supporting the materials being stored.
3. Approved containment examples for smaller containers such as drums, totes or small tanks include but are not limited to sealed, leak proof concrete, metal containers, or pre-formed chemical resistant plastic containers. For larger items such an as large fuel tank, a 10-millimeter (minimum thickness), seamless polyethylene liner may be used to create a containment area. The polyethylene liner should be protected to assure that it does not become damaged. For example, covering the liner with a sufficient layer of sand or clay may prevent accidental puncture.
4. All containment located outside must be covered with a tent or temporary structure to prevent rain/snow from accumulating.

It is the Contractor's (Toyota's and Suppliers') responsibility to maintain the integrity of the containment area by removing standing water and/or leaked material promptly. Precipitation that falls within a containment area must be inspected for potential contamination (e.g. oil sheen). If the precipitation is free of contamination, it can be released to the environment without treatment. Precipitation with contamination needs to be removed and properly treated and disposed properly. Any ancillary equipment used in conjunction with raw materials such as pumps or hoses should also be stored within the containment area. Any hose used for product conveyance should be properly drained to avoid spillage in the containment area.

All temporary tanks brought on site must be compatible with the materials it contains. Tanks must also be legibly marked on sides and ends with contents and bear appropriate NFPA marks as per Toyota Motor Engineering & Manufacturing North America Contractor / Subcontractor Safety / Environmental and Security Guideline. Total tank storage volumes should not exceed 500 gallons without prior ORO E/E or Suppliers Environmental Representative approval.

Equipment

A. Leaks

Equipment must be checked for fluid leaks and any leaks repaired prior to arrival on the construction site. **Each piece of equipment must be checked for fluid leaks before operation on each shift per safety equipment inspection.** Any leaks that are found must be contained and immediately repaired or the equipment taken immediately out of service. All man lifts and forklifts used **on concrete slab**

must be outfitted with a method (e.g. diapers or catch pan) to catch any equipment leaks and inspected daily to assure effectiveness. Request for exemptions from this requirement must be submitted in writing to ORO.

B. Noise

Machinery and equipment must be operated in compliance to applicable legislation and working schedules and according to any specified noise levels if applicable. Noise levels will be referenced in the site-specific requirements (Appendix B) if applicable.

In case of doubt or ORO E/E request, measurements of noise levels must be performed at requested areas to confine the need for reduction(s) or control measures.

C. Air and Dust Emissions

To reduce air emissions from equipment, machinery or vehicles (including automobile, trucks), adequate maintenance must be periodically performed and records must be maintained and provided to ORO upon request. Contractors and suppliers should also take steps to limit unnecessary and excessive idling from equipment at the site.

Preventive measures and conditions to reduce dust emissions including covers for transportation (trucks, boxes) will be performed to avoid dispersion of dust. Areas prone to generating dust must be treated periodically to avoid excessive dust dispersion (e.g. water truck with sprayers).

Once buildings are enclosed, only electric or propane powered equipment will be allowed within the enclosed structure.

D. Decommissioning

Equipment that is being removed from operation must be handled in such a way to prevent losses of chemicals into the environment. Each piece of equipment containing chemicals, mercury switches, CFC's (Freon) must be inspected to assure there is no potential for a release into the environment. In addition to the inspection, it may be necessary to remove the chemicals prior to moving the equipment. At a minimum, the decommissioning equipment checksheet **(**Appendix G) must be completed for each piece of equipment being removed from operation and provided to ENV ORO or group/individual identified on the decommissioning form. If the facility you are working at has a decommissioning form, it is to be used superseding the form in this handbook.

Fueling/Oil Changes

Measures must be taken to ensure that spillage is prevented during fueling operations. Oil changes must be done so that the oil is drained into a pan located on a leak-tight tarp.

Spills that have potential to impact the environment or spills of regulated substances must be cleaned up and reported to ORO or Supplier On-Site Representative immediately. Refer to the waste management section for procedures regarding disposal of wastes generated from these activities.

V. SPILLS/EMERGENCY RESPONSE

Toyota Environmental Engineering defines a spill as an abnormal release of a substance that could adversely impact on the environment or adjacent landowners.

Notify security, ORO or Supplier Environmental Representative immediately in the event of a spill that exceeds **one gallon.** Spills that exceed a regulatory "Reportable Quantity" threshold must also be reported immediately.

In the event of a spill, immediate measures must be taken to contain and/or clean up the spill. ORO or Supplier On-Site Representative must immediately notify ORO E/E and/or Supplier Environmental

Representative so that appropriate notifications to outside Federal, State and Local environmental agencies can be made. Notification reports must include mitigation measures to be completed.

All Contractors (Toyota's and Suppliers) are responsible for maintaining spill kits, with the appropriate equipment in the approved raw material storage areas. The spill kit should be kept in a well marked container and should include, but not be limited to, the following materials:

- All purpose absorbents including sheets and socks
- Loose absorbent such as peat-sorb or sawdust (outside use only)
- Non sparking shovel (if needed)
- Broom (if appropriate)
- Over-pack container (95 Gallon)

At a minimum, there should be a spill kit located adjacent to each containment area and within 100 yards of the area where contractor is currently working (work area).

All contractors should contain the spill as adequately as possible. In the event a spill is unable to be contained by the contractor or ORO, ORO E/E and/or Supplier Environmental Representative will contact a contractor specialized in emergency response, at the sole cost and expense of the responsible contractor.

If applicable, contractors will be responsible for the creation, maintenance and implementation of an SPCC plan per Federal, State and local requirements. ORO E/E and/or Supplier Environmental Representative are responsible for confirming the adequacy of the information provided on all written Spill Report Forms (Appendix H). ORO E/E and/or Supplier will maintain a file containing the written spill reports. If it becomes obvious that spills are reoccurring in a particular area, ORO E/E and/or Supplier will arrange a meeting with the responsible contractor so that appropriate countermeasures can be discussed.

VI. STORM WATER

Storm water that drains from the project site is collected and drains to a storm water detention pond where a controlled flow is released to the natural environment. Storm water from undeveloped areas drains to natural watercourses. In either case, the water leaves the site without any type of wastewater treatment. In order to prevent an adverse impact to the environment, contractors must not discard or add materials, of any kind, into the storm drains or allow materials to enter the detention pond. Accidental spills must be immediately cleaned up in order to prevent contamination of storm water. ORO and/or Suppliers Environmental Representative must be promptly notified of spills so that appropriate measures can be taken to contain the spill on site.

Handling of Contaminated Storm Water

Contaminated storm water accumulated at contractor containment area is considered wastewater and must be collected into containers, for proper disposal off site. Storm water is considered contaminated if any of the following applies:

1. Leakage of raw materials or waste in the area
2. Detection of a chemical or petroleum smell
3. Sheen or discoloration of the water

Storm Water/Erosion Control

Any land disturbance greater than one (1) acre will require the General Contractor to submit a Best Management Practices (BMP) Plan to Toyota Environmental Engineering and/or Supplier Environmental Representative for review. The Plan must describe how the General Contractor will control erosion during construction activities including but not limited to:

1. Indicate on a site drawing which areas will be disturbed (cleared or graded)
2. Show on the site drawing all channels, dikes, ponds and storm drains.

3. Show on the drawing where and what type of erosion control will be used. Typical controls include but not limited to:
    a. Silt Fencing
    b. Straw bales
    c. Rip-rap
    d. Seeding
    e. Settling ponds
4. Describe how and when the disturbed area(s) will be re-vegetated.
5. Included in Appendix B is an example copy of the daily checksheet for proper storm water management at construction site.

A copy of the permit / plan must be posted on the job near the ORO trailer for easy reference during inspections.

VII. WASTEWATER

Temporary sanitary facilities (latrines) must be provided to the workers and properly maintained.

Various types of wastewaters will be generated during certain phases of construction (e.g. pipe flushing, tank integrity, etc.) Contractors (Toyota General Contractors and Suppliers Contractors) **SHALL NOT** discharge this water to the ground, storm sewers, sanitary sewers, or on-site wastewater pretreatment system without approval. The procedure for gaining owner approval is as follows:

1. Complete a Wastewater Discharge Request Form (Appendix I) and submit to Toyota ORO at least **2 weeks** in advance of the required discharge.
2. ORO will notify ORO E/E that a discharge is necessary.
3. ORO E/E will review the request and notify the ORO Construction Coordinator as to the acceptance of the discharge. If a discharge request is denied, ORO E/E or Suppliers Environmental Representative will arrange for transportation off-site and disposal of the material.
4. ORO will confirm the schedule of the discharge 24 hours in advance and at the time of discharge.

VIII. WASTE

Waste can be one of the more complex environmental issues to deal with during construction. For this reason, All General Contractors are required to appoint one coordinator to oversee waste issues and interface with the Owner's Representative and/or Suppliers Environmental Representative as necessary. All Contractors shall employ procedures that will minimize waste generation to the extent possible (including zero landfill where appropriate). All Contractors should segregate waste types so that safe, appropriate, cost effective recycling, treatment and/or disposal can occur. It is also necessary that wastes being removed from the site by a contractor go to a Toyota approved disposal facility via a Toyota approved transporter. Please refer to the project site-specific waste handling procedures and/or requirements.

Non-hazardous Solid Waste

All Contractors (Toyota and Supplier) are responsible for assisting in the proper collection and segregation of non-hazardous solid waste to be managed by the appropriate on site General Contractor. Contractors are also responsible for obtaining the proper waste containers per TEMA E/E direction and paying for the transportation and disposal of such waste unless informed otherwise by TEMA E/E. Commercial Solid Waste (e.g. wood, paper, cardboard, steel, etc.) and Construction/Demolition Wastes (e.g. plaster, bricks, blocks, concrete, drywall, asphalt materials) must be managed in accordance with all Federal, State and Local Laws and Regulations. The General Contractor is responsible for maintaining a clean and orderly work area. A clean site is essential to minimizing the impact of blowing trash and controlling the migration of unwanted vectors (e.g. rodents, birds, insects, etc.). Toyota Environmental and/or Supplier Environmental Representative will periodically audit the site for compliance with these requirements. Please refer to the Project site-specific waste handling procedures (Appendix B) for further details.

Hazardous Waste and Liquid Wastes

It is possible that the construction project will result in the generation of hazardous wastes. Toyota cannot always predict waste types and therefore ORO E/E will provide assistance in the identification, minimization and disposal of hazardous waste streams for the Toyota General Contractor. The supplier and/or contractor will be responsible for proper storage (including time limitations) handling and disposal of hazardous waste generated on site according to applicable Federal, State and Local laws and regulations. The Supplier Environmental Representative will be responsible for assisting in the identification, minimization handling and disposal of hazardous waste streams for their contractors. It is the responsibility of General Contractor's to provide the owner with advance notice of the amount, type and timing of hazardous waste generation. If there is any question about the type of waste to be generated, the contractor should promptly contact ORO E/E or Supplier Environmental Representative so that guidance can be obtained. Please refer to the project site-specific waste handling procedures (Appendix B).

IX. CONCRETE BATCH PLANT/CONCRETE TRUCKS

Batch Plant:

If applicable, an air pollution control permit must be obtained before constructing a batch plant on the construction site. The air permit must be approved by Toyota Environmental and/or Suppliers Environmental Representative prior to submitting the application to the environmental regulator(s) and obtained by the Toyota General Contractor or Suppliers General Contractor.

Concrete Trucks:

Excess wash water from concrete trucks must be collected in a designated washout area approved by Toyota Environmental and/or Suppliers Environmental Representative. Wash out areas must not be located near storm water drains or structures. Wash out areas must also be maintained, including cleaned out periodically to prevent run off from reaching a storm water drain or storm pond.

X. TRAINING

New Construction

ORO E/E and/or Suppliers Environmental Representative will provide the initial Environmental Management training to general contractors. After initial training, it will be the responsibility of the General Contractor to assure all on-site personnel receive training. Contractors are responsible for ensuring understanding and compliance within their areas. All training must be recorded on the "Construction Site Env. Training Form" (Appendix D) or equivalent form with similar criteria and be accessible for review by ORO, Toyota Environmental or Suppliers Environmental Representative.

Existing Facility with ISO 14001 Certification

If performing work at a facility that is certified to ISO 14001, the contractor must make sure that all employees are aware of and abide by the facilities' environmental training requirements.

XI. AUDITING/INSPECTION

Daily Inspection Requirement

The General Contractor (Toyota and Suppliers) is required to audit their areas **on a daily basis** for compliance with items listed on the "General Contractors Daily Inspection Form" (Appendix J) or equivalent form with similar criteria**.** Additional inspections may be required per regulation or permit (Consult with ORO E/E for additional requirements).

Monthly Auditing Requirement

ORO E/E and Suppliers Environmental Representative will conduct monthly audits and may require the General Contractors Environmental Representative to accompany them. Results will be documented on the "Construction Site Monthly Inspection Form" (Appendix K) and communicated to the contractor with possible suggestions for improvement.

Audit reports will be issued to the General Contractor in the event of a non-conformance. The General Contractor is responsible to follow up with the responsible sub-contractor. A countermeasure to the noncompliance should be reported to ORO E/E and/or Suppliers Environmental Representative within 3 calendar days of the date of inspection and implemented based on the proposed implementation date. Urgent non-conformances must be corrected immediately. ORO E/E and/or Suppliers Environmental Representative will do a follow-up inspection. If non-conformances continue, disciplinary actions will be necessary. See General Section for potential disciplinary actions.

Periodic Inspection Mandate by Regulatory Agency

As applicable, periodic inspections may need to be performed and documented on regulatory agency issued form(s) per specified frequency in the form.

***Note- The daily or monthly inspection requirement can be waived if the regulatory inspection results meet the daily or monthly audit criteria**.

External Inspection (2nd Party & 3rd Party)

Contractors will accept and participate during any external 2nd Party (e.g. Toyota Corporate) or 3rd Party (e.g. federal, state and/or local official) inspection at the request of Toyota Environmental and/or Suppliers Environmental Representative. The contractor shall immediately contact ORO E/E and/or Suppliers Environmental Representative in the event of a visit or request for information from an external entity (e.g. regulatory inspector, neighbor). ORO E/E and/or Suppliers Environmental Representative shall support the contractor in providing any information requested by the entity during the inspection procedure and must approve any information before it is submitted.

XII. RECORDS

All records need to be retained at the identified location and available for auditing.

Appendix	Record Name	Storage Location	Retention Time
A	Construction Site Environmental Management Handbook Acknowledgment	NAMC site and/or TEMA	3 yrs
B	Site Specific Record	NAMC site	3 yrs
C	Construction Site Management Plan –Roles & Responsibility Matrix (EMS FORM-11)	NAMC site &TEMA	3 yrs
D	Construction Site Environmental Training Form or Equivalent	NAMC site	3 yrs
E	N/A		
F	Decommissioned Equipment Checksheet (EMS FORM-16) or Site Specific	NAMC site	3 yrs
G	Spill Report Form	NAMC site	3 yrs
H	Wastewater Discharge Request Form	NAMC site	3 yrs
I	General Contractor Daily Inspection Form	NAMC site	3 yrs
J	Construction Site Monthly Audit Form	NAMC site and/or TEMA	3 yrs

APPENDIX A Construction Site Environmental Management Handbook Acknowledgement

Each Toyota General Contractor and Supplier Environmental Representative must sign below indicating that he/she has read this manual. **Please fax this signed document to the attention of ORO Environmental Engineering at Toyota Motor Engineering & Manufacturing North America Inc. at (859) 746-4002.**

PROJECT _____

CONTRACT PACKAGE _____

COMPANY NAME _____

COMPANY PHONE # _____

DATE _____

COMPANY ENVIRONMENTAL MANAGEMENT COORDINATOR

Name: _____

Title _____

Signature: _____

Telephone: _____

Email address: _____

APPENDIX B Insert Site Specific Documents
Example: Storm Water Management Daily Check sheet

TMMWV STORMWATER MANAGEMENT
587 F CONSTRUCTION PROJECT

October 2006

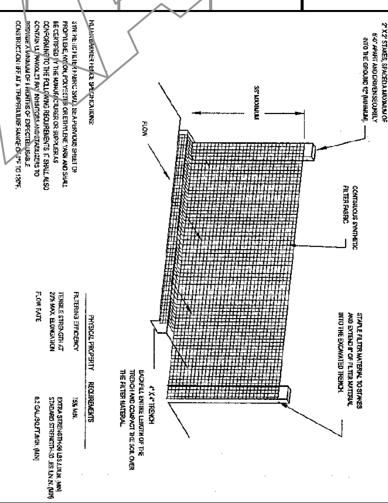
INSPECTION POINT #1

O - Management of stormwater controls meets standard conditions
X - Management of stormwater controls do not meet standard conditions*
* ALL X condition requires an entry into the logbook describing the problem and Countermeasures implemented.

1. Silt fence overlapped properly.
2. Silt fence in tact (not fallen, ripped or torn).
3. No signs of erosion around the ends of the silt fence.
4. No signs of erosion at the overlapping sections of the silt fence.

STANDARD CONDITION

SILT FENCE DETAIL



Day																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O	X/O

APPENDIX C Construction Site Management Plan – Roles and Responsibility Matrix

Please click (EMS FORM-011) to access the most current form

Project Consensus

Mgr. NA PE or ORO (GC)	Mgr. ENV-NAMC	Mgr. ENV-TEMA

Facility Name:_____ **Project Name**:_____

Activity Type	Activity	Frequency	ENV-NAMC*	ENV-TEMA*	PE-TEMA/ ORO*	ENV-OSS
Administration	Completing Hazardous Waste Manifests					
Administration	Completing Land Disposal Restriction Notification					
Administration	Completing Non-Haz Waste Manifests					
Administration	Establishing the contracts with bulk Non-haz solid waste.					
Administration	Establishing the contracts with special waste and haz waste TSDF's.					
Administration	Establishing Waste Streams List					
Administration	Maintain monthly or Bi-monthly environmental audit records					
Administration	Maintaining Daily Container/Containment inspection records					
Administration	Maintaining erosion control inspection records					
Administration	Maintaining spill inspection records					
Administration	Maintaining spill response equipment inspection records					
Administration	Maintaining Waste manifest records					
Administration	Profiling the waste streams with TSDF's					
Administration	Signing Waste Manifests					
Administration	Supply list of appropriate disposal facilities					
Administration	Completing Construction Debris Disposal Notification					
Administration	Assign a person responsible for coordinating inspections from Local, State and Federal Officials					
Administration	Provide the necessary information during inspections to Local, State and Federal Officials					
Administration	Notify any inspection to Toyota Environmental (Local, State and Federal Officials)					
Administration	Following up to wastewaters discharge permits & procedures					
Administration	Provide temporary sanitary facilities for all workers					
Administration	Provide site specific construction requirements to contractor					
Administration	Provide general construction Mgmt. Handbook to contractor					
Auditing**	Inspection for spills					
Auditing	Inspection of erosion control					
Auditing	Inspection of spill response equipment					
Auditing	Inspection of Waste Containers and Containment Areas					
Auditing	Site Environmental Audit					
Emergency Response	Clean up of all spills					
Emergency Response	Confirmation of adequate clean up after a spill					
Emergency Response	Contact ORO in the event of a spill					
Emergency Response	Make arrangements with emergency responders Police, Fire Dept., Hospital, SERC, contractor per RCRA					
Emergency Response	Report and record spills on Spill Report Form					
Emergency Response	Supplying spill response supplies for their area					
Emergency Response	Supplying MSDS for hazardous substances in the working areas (in Spanish & English) and establish an area for easy reference					
Emergency Response	Approving MSDS prior to materials arriving on site					

Activity Type	Activity	Frequency	ENV-NAMC*	ENV-TEMA*	PE-TEMA/ ORO*	ENV-OSS
Emergency Response	Reviewing MSDS quarterly.					
Operations	Controlling on site wastewater discharges					
Operations	Coordination of Disposal for Line Flushing Waste					
Operations	Correcting problems found during ENV-NA audits					
Operations	Draining, inspecting and plugging decommissioned equipment.					
Operations	Establishing and maintaining containment areas for raw materials and liquid wastes					
Operations	Labeling Waste Containers prior to using					
Operations	Loading waste containers onto transport vehicle					
Operations	Placing wastes into proper containers					
Operations	Prevent dust emissions (include covers for transportation and work area wet down)					
Operations	Provide an emergency plan reviewed and approved by Toyota ENV if storage materials exceeds regulatory requirements (SPCC).					
Operations	Printing and applying DOT labels for Haz and Non- Haz industrial waste.					
Operations	Scheduling Haz./ Special Waste Shipments					
Operations	Scheduling Non- Haz Bulk Container Shipments					
Operations	Scheduling Household Waste, Construction Debris, and Recycling Shipments					
Operations	Segregating per Waste Handbook requirements					
Operations	Supply spill equipment for ORO Waste area					
Operations	Supplying "Haz Waste" / "Non Haz Waste" labels					
Operations	Supplying Bulk (Roll-off box) Non-Haz Containers					
Operations	Supplying DOT Placards for Waste Shipments					
Operations	Supplying Hazardous Waste Containers					
Operations	Supplying Non-Hazardous Waste Containers					
Operations	Supplying Waste Identification Labels					
Operations	Transporting full waste containers to ORO waste storage area.					
Operations	Supplying Household Waste, Construction Debris, and Recyclables Containers					
Operations	Assess need for contractor/coop for daily ENV mgmt.					
Operations	Hire and manage ENV contractor/coop					
Operations	Sign off on PLE Kanbans					
Operations	Sign off on Equipment Kanbans					
Training	Training contractors on Construction Management procedures					
Training	Training GC on Construction Management procedures					

* Input “P” for Primary, and “S” for Secondary
* *All audit frequency needs to be identified

APPENDIX D Construction Site Environmental Training

CONSTRUCTION SITE: _____

CONTRACT PACKAGE: _____

Sign below indicating that you received environmental training for the above construction site

COMPANY	NAME	SIGNATURE	DATE

APPENDIX E Toyota Ban List

Revision

Toyota Manufacturing Engineering Standard – Manufacturing Engineering Area Specific Instruction and Specification

_th revision
Month /Date /2003
TMR SAS0126n

Description of Purposes

Title

Banned Substances in Raw Materials and Indirect Raw Materials

<Reasons for Revision>

1) Addition of banned substances as a consequence of an amendment to the Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances
   N,N'-ditolyl-p-phenylenediamin [CasNo. 27417-40-9]
   N-tolyl-N'-xylyl-p-phenylenediamine [CasNo. 70290-05-0]
   N,N'-dixylyl-p-phenylenediamine [CasNo. 28726-30-9]
   2,4,6-Tri-tert-butylphenol [CasNo. 732-26-3]

2) Addition of CasNo. to the existing banned substances
   An individual CasNo. is assigned to polychloronaphthalene to improve checking.
   Trichloronaphthalene [CasNo. 1321-65-9]
   Tetrachloronaphthalene [CasNo. 1335-88-2]
   Pentachloronaphthalene [CasNo. 1321-64-8]
   Number of banned substances: 457 → 464

3) Clarification of scope of application (Addition of exempt use item)
   The exempt use provision is added for those monomers inadvertently included in raw materials and indirect raw materials or included in these materials as impurities.

4) Consistency of TSZ0001G (Control rules for substances of environmental concern) for products with the EU Directive on ELV is clearly stated.

If you have any question concerning this standard, please contact:
(a) the drafting department specified below for the contents of this standard; and
(b) the committee secretariat for the distribution of this standard.

Drafting:
Manufacturing Environment Department, Plant Engineering Division

Discussion:
Special Committee for Environment

Application:
This standard is effective immediately after its establishment or revision.

1. PURPOSE

This standard covers those substances banned for use in the company for the purposes of preventing environmental pollution by raw materials or indirect raw materials or any of the hazardous chemical substances included in these materials.

2. SCOPE

This standard applies to all raw materials and indirect raw materials(1) used in the company.
However, as for the reagents for testing and research (measurement and analysis) and other substances to which the application of the ban is difficult for certain applications, this ban will not apply to those substances (substance groups) and applications listed in Table 3 (List of Exempted Substances by Applications).
If the banned substance is inadvertently included in the raw material or indirect raw material or included in the material as impurities and has the content of less than 0.1 %, the ban will not apply.
If a substance, such as ethyl acrylate in paint, that is inadvertently included in the raw material or indirect raw material and its inclusion cannot be avoided after reasonable processes has the content below the threshold value specified in Table 4 (List of Exempted Substances and Maximum Content Requirements), the ban will not apply.
TSZ0001G (Control rules for substances of environmental concern) and this standard will apply to four substances specified in the EU ELV Directive, paint, sealer, solder, and the material (including material and indirect raw material) included in a vehicle and part.
Note:(1) This standard will apply not only to part number registered items but also non-registered items (including cleaning agents for maintenance use, and **pesticides for gardening use**) brought into the company premises by subcontractors.

3. APPLICABLE SUBSTANCES

3.1 Selection of Applicable Substances

Applicable substances are selected from the controlled chemicals specified in environmental and other legislation listed in Table 1. The reason for selection may be that the substances are banned from manufacturing, their emission control at post-treatment facilities is difficult (cost-effectiveness is poor), or the like.

Table 1 Source of Applicable Substances

Name of environmental and other legislation	Summary of applicable substances(2)
Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances	Class 1 and Class 2 specified chemical substances
Water Pollution Control Law	Organochlorine compound, pesticides, mercury, etc. specified in the environmental standards, and the effluent standards, or specified as items to be monitored
Air Pollution Control Law	Specified substances (benzene, trichloroethylene, tetrachloroethylene, etc.)
Ozone Layer Protection Law	Ozone-depleting substances(3) [chlorofluorocarbon (CFC), halon, 1,1,1-trichloroethane, bromine compound (HBFC, bromomethane), hydrochlorofluorocarbons (HCFC), etc.]
Industrial Safety and Health Law	Ordinance on Prevention of Hazards due to Specified Chemical Substances, Group 1 Ordinance on the Prevention of Organic Solvent Poisoning, Class 1 Article 55, Substances banned from manufacturing
Poisonous and Deleterious	Specified Poisonous Substances

Name of environmental and other legislation	Summary of applicable substances(2)
Substances Control Law	
OECD Risk Reduction Program(4)	Bromine flame retardant (polybrominated biphenyl, polybrominated diphenyl ether(5)), etc.
Controlled substances specified in European and US regulations	US Clean Air Act (CAA Title IV)
	US Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
	Canadian Environmental Protection Act (CEPA) Schedule I, Part I
	European Restrictions on marketing and use 76/769EEC
	Swedish regulations
Toxic class 1 substances out of 354 substances subject to PRTR	Benzene, mercury, and others

Notes:

(2) Some substances are specified in several environmental laws and regulations.

(3) Among those isomers of the substances specified in the Ozone Layer Protection Law, substances listed in TMR SAS0121n (Report on Component of Supplied Material), and some representative substances are included in this list. However, all unlisted isomers are banned from use.

(4) This is a program concerning the activities for reducing the risks of hazardous chemicals conducted by the OECD member states.

(5) In a group of polybrominated diphenyl ethers, the ban will not apply to octabromodiphenyl ether and decabromodiphenyl ether for the time being.

3.2 List of Applicable Substances

The list of banned substances is shown in Table 2.
"CAS No. or Toyota No." is in accordance with TMR SAS0121n (Report on Component of Supplied Material).

Table 2 List of Banned Substances

Group	**CAS No. or TOYOTA No.**	**Substance name**
Acrylate monomers	140-88-5	Ethyl acrylate
	96-33-3	Methyl acrylate
Asbestos	132207-32-0	Asbesto
	132207-33-1	Asbesto
	13768-00-8	Asbesto(Actinolite)
	77536-66-4	Asbesto(Actinolite)
	12172-73-5	Asbesto(Amosite)
	77536-67-5	Asbesto(Anthophylite)
	17068-78-9	Asbesto(Anthophyllite)
	1332-21-4	Asbesto(Ascarite (II) (R))
	12001-29-5	Asbesto(Chrysotile)
	12001-28-4	Asbesto(Crocidolite)
	14567-73-8	Asbesto(Tremolite)
	77536-68-6	Asbesto(Tremolite)
	T0006	Asbestos not specified this list
Azo compounds	592-62-1	Methyl azoxy methyl acetate
	334-88-3	Diazomethane
	16071-86-6	Disodium {5-[(4'-((2,6-hydroxy-3-((2-hydroxy-5-sulphophenyl) azo) phenyl)azo) (1,1'-biphenyl)-4-yl)azo]salicylato(4-)} cuprate (2-)
	2602-46-2	Direct blue 6
	1937-37-7	Direct black 38

Group	CAS No. or TOYOTA No.	Substance name
Amines	57-14-7	N,N-Dimethylhydrazine
	122-66-7	1,2-Diphenylhydrazine
	540-73-8	1,2-Dimethylhydrazine
	95-80-7	2,4-Diaminotoluene
	135-88-6	N-Phenyl-beta-naphthylamine
	91-59-8	2-Naphthylamine
	T0153	2-Naphthalenamine salts
	97-56-3	4-o-Tolylazo-o-toluidine
	119-90-4	3,3'-Dimethoxybenzidine ; o-dianisidine
	95-64-7	3,4-Xylidine
	101-77-9	4,4'-Methylenedianiline
	838-88-0	4,4'-Methylenedi-o-toluidine
	60-09-3	4-Aminoazobenzene
	92-67-1	4-Aminobiphenyl
	591-27-5	3-Aminophenol
	108-45-2	m-Phenylenediamine
	28726-30-9	N,N'-dixylyl-p-phenylenediamine
	27417-40-9	N,N'-ditolyl-p-phenylenediamin
	70290-05-0	N-tolyl-N'-xylyl-p-phenylenediamine
	1116-54-7	2,2'-(Nitrosoimino)bisethanol
	100-61-8	n-Methylaniline
	90-04-0	2-Methoxyaniline ; o-anisidine,
	119-93-7	4,4'-Bi-o-toluidine
	95-53-4	o-Toluidine
	95-54-5	o-Phenylenediamine
	106-49-0	p-Toluidine
	106-50-3	p-Phenylenediamine
	1912-24-9	Atrazine
	62-53-3	Aniline
	151-56-4	Ethyleneimine ; aziridine
	63-25-2	Carbaryl
	1563-66-2	Carbofuran
	621-64-7	Nitrosodipropylamine
	3766-81-2	Fenobucarb
	75-55-8	Propyleneimine
	92-87-5	Benzidine
	T0201	[1,1'-Biphenyl]-4,4'-diamine, salts
Amides Alcohols Aldehydes	79-06-1	Acrylamide
	680-31-9	Hexamethylphosphoric triamide
	107-18-6	Allyl alcohol
	94-96-2	Ethyl hexyleneglycol(6-12)
	107-02-8	Acrolein
	75-07-0	Acetaldehyde
	107-22-2	Glyoxal
	100-52-7	Benzaldehyde
Alminum compounds	20859-73-8	Aluminum phosphide (AlP)
Sulfuric compounds	50512-35-1	Isoprothiolane
	115-29-7	Benzoepin
	1014-70-6	Simetryn

Group	CAS No. or TOYOTA No.	Substance name
	137-26-8	Thiram
	62-56-6	Thiourea
	28249-77-6	Thiobencarb
	1803-12-9	Triphenyltin=N,N-dimethyldithiocarbamate
	6517-25-5	Tributyltin=sulfamate
	2212-67-1	Molinate
	75-15-0	Carbon disulfide
	2425-06-1	1,2,3,6-Tetrahydro-N-(1,1,2,2-tetrachloroethylthio)phthalimide
	77-78-1	Dimethyl sulphate
	62-55-5	Thioacetamide
	64-67-5	Diethyl sulphate
	95-06-7	Sulfallate
Isocyanate compounds Esters Ethers	4098-71-9	Isophorone diisocyanate
	584-84-9	Benzene, 2,4-diisocyanato-1-methyl-
	120-61-6	Dimethyl terephthalate
	3648-21-3	Diheptyl phthalate
	75-21-8	Ethylene oxide
	94-59-7	Safrole
	96-09-3	Styrene oxide
Olefinic hydrocarbons Cadmium and its compounds	7440-43-9	Cadmium
	55700-14-6	Cadmium cyclohexanebutyrate
	4464-23-7	Cadmium formate
	592-02-9	Diethylcadmium
	506-82-1	Dimethylcadmium
	12139-23-0	Cadmium zirconium oxide
	7790-85-4	Cadmium tungsten oxide
	1306-25-8	Cadmium telluride
	12187-14-3	Cadmium niobium oxide
	357-57-3	Brucine
	14486-19-2	Cadmium fluoroborate
	13972-68-4	Cadmium molybdenum oxide
	12014-28-7	Cadmium phosphide
	10108-64-2	Cadmium chloride
	7790-78-5	Cadmium chloride (CdCl2), hydrate (2:5) , CdCl2.5/2H2O
	1306-19-0	Cadmium oxide
	13464-92-1	Cadmium bromide tetrahydrate
	10325-94-7	Nitric acid, cadmium salt
	5743-04-4	Cadmium acetate dihydrate
	513-78-0	Cadmium carbonate
	10545-99-0	Sulfur dichloride
	1306-23-6	Cadmium sulfide
	10124-36-4	Cadmium sulphate
	15244-35-6	Cadmium sulfate octahydrate
	T0037	Cadmium compounds not specified this list
Chromium compounds	7789-00-6	Potassium chromate
Cyanide and its compounds	5124-30-1	1,1'-Methylenebis[4-isocyanatocyclohexane]
	1897-45-6	Chlorothalonil (2,4,5,6-Tetrachloro-1,3-benzenedicarbonitrile)
	57-12-5	Cyanide
	51630-58-1	Phenvalerate (Cyano-(3-phenoxyphenyl)methyl 4-chloro-alpha-(1-

Group	CAS No. or TOYOTA No.	Substance name
		methylethyl)benzene acetate)
Mercury and its compounds	2440-45-1	Phosphoric acid hydrogen bis[ethylmercury(II)] s
	502-39-6	Methylmercuric dicyandiamide
	104-60-9	Phenyl mercury oleate
	27236-65-3	Bis(phenylmercury)dodecenylsuccinate
	627-44-1	Diethylmercury
	593-74-8	Dimethylmercury
	22967-92-6	Methyl mercury
	107-27-7	Ethylmercury chloride
	33631-63-9	Mercuric chloride (C7H14ClHg)
	10112-91-1	Mercury chloride (I) Cl2Hg2
	7546-30-7	Mercurous chloride
	7487-94-7	Mercuric chloride
	T0063	Mercuric oxide
	21908-53-2	Mercury (II) oxide
	62-38-4	Phenylmercury acetate
	7439-97-6	Mercury
	T0014	Aryl-mercury compounds not specified this list
	T0018	Alkyl-mercury compounds not specified this list
Mercury and its compounds (Continued) Tin compounds	T0104	Mercury compounds (inorganic)not specified this list
	T0105	Mercury compounds (organic) not specified this list
	T0229	Methyl-mercury compounds not specified this list
	67772-01-4	Copolymers of alkyl(c-8)=acrylate, methyl=methacrylate, tributyltin=methacrylate
	75113-37-0	Di-mu-oxo-di-n-butyl stannic hydroxyborane (DBB)
	13121-70-5	Cyhexatin (tricyclohexyltin hydroxide)
	1983-10-4	Tributyltin fluoride
	T0136	Trialkyl tin compounds
	T0137	Triaryl tin compounds
	7094-94-2	Triphenyl tin=chloroacetate
	379-52-2	Triphenyl tin=fluoride
	T0144	Triphenyl tin=fatty acids (limited to those with 9, 10, or 11 carbon atoms)
	26239-64-5	Tributyltin=1,2,3,4,4a,4b,5,6,10,10a-decahydro-7-isopropyl-1,4a-dimethyl-1-phenanthrenecarboxylate & related compounds
	1461-22-9	Tributyltin chloride
	85409-17-2	Tributyltin=naphthenate
	2155-70-6	Tributyltin methacrylate
	56-36-0	Tributyltin acetate
	3090-36-6	Tributyltin laurate
	56-35-9	Bis (tributyltin) oxide
	31732-71-5	Bis (tributyltin)meso-2,3-dibromo succinate
	4782-29-0	Bis (tributyl tin)phthalate
	6454-35-9	Bis (tributyltin) fumarate
	14275-57-1	Bis (tributyltin)=maleate
	900-95-8	Triphenyltin acetate
	639-58-7	Triphenyltin chloride
	76-87-9	Fentin hydroxide (hydroxytriphenyltin)
	13356-08-6	Hexakis(beta,beta-dimethylphenethyl)distannoxane

Group	CAS No. or TOYOTA No.	Substance name
Copper compounds	10380-28-6	Oxine-copper
Sodium compounds	26628-22-8	Sodium azide
Lead compounds	T0235	Tetraalkyl lead
Nickel compounds	12035-72-2	Nickel subsulphide
	13463-39-3	Nickel tetracarbonyl
Nitro compounds	89-61-2	2,5-Dichloronitrobenzene
	97-00-7	1-Chloro-2,4-dinitrobenzene
	100-01-6	p-Nitroaniline
	92-93-3	4-Nitrobiphenyl
	T0163	4-Nitrobiphenyl salts
	86-30-6	Nitrosodiphenylamine
	1836-77-7	Chlornitrofen
	25321-14-6	Methyldinitrobenzene
	88-85-7	Dinoseb(4,6-Dinitro-2-sec-butylphenol)
	1582-09-8	Trifluralin (alpha,alpha,alpha-Trifluoro-2,6-Dinitro-N,N-Dipropyl-p-Toluidine)
	1836-75-5	Nitrofen (2,4-dichloro-4'-nitrodiphenyl ether, TOK)
	53558-25-1	Pyriminil (N-(4-nitrophenyl)-N'-(3-pyridinylmethyl)urea, Vacor)
	485-31-4	Binapacryl
	91-23-6	2-Nitroanisole
	70-25-7	1-Methyl-3-nitro-1-nitrosoguanidine
	79-46-9	2-Nitropropane
Nitro compounds	62-75-9	Dimethylnitrosoamine
	602-87-9	5-Nitroacenaphthene
Halogen compounds	354-11-0	1,1,1,2-Tetrachloro-2-fluoroethane
	630-20-6	1,1,1,2-Tetrachloroethane
	76-11-9	1,1,1,2-tetrachloro-2,2-difluoroethane(CFC-112a, Freon R-112a)
	2268-46-4	CFC-214 (Tetrachlorotetrafluoropropane)
	75-68-3	1,1,1-Chlorodifluoroethane(Fron R-142b,CFC-142b)
	71-55-6	1,1,1-Trichloroethane
	354-58-5	1,1,1-Trichlorotrifluoroethane
	76-12-0	Tetrachloro-1,2-difluoroethane
	354-14-3	1,1,2,2-Tetrachloro-1-fluoroethane
	79-34-5	1,1,2,2-Tetrachloroethane
	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane(Fron R-113)
	79-00-5	1,1,2-Trichloroethane
	1652-81-9	CFC-215 (Trichloropentafluoropropane)
	374-07-2	1,1-Dichloro-1,2,2,2-tetrafluoroethane
	13474-88-9	1,1-Dichloro-1,2,2,3,3-pentafluoropropane
	111512-56-2	1,1-Dichloro-1,2,3,3,3-pentafluoropropane
	1717-00-6	HCFC-141b (1,1-Dichloro-1-Fluoroethane)
	75-35-4	1,1-Dichloroethene
	76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane(Fron R-114)
	661-97-2	CFC-216 (Dichlorohexafluoropropane)
	422-44-6	1,2-Dichloro-1,1,2,3,3-pentafluoropropane
	431-86-7	1,2-Dichloro-1,1,3,3,3-pentafluoropropane
	1649-08-7	1,2-Dichloro-1,1-difluoroethane
	430-57-9	HCFC-141 (1,2-Dichloro-1-Fluoroethane)
	107-06-2	1,2-Dichloroethane

Group	CAS No. or TOYOTA No.	Substance name
	540-59-0	1,2-Dichloroethene
	78-87-5	1,2-Dichloropropane
	124-73-2	1,2-Dibromotetrafluoroethane(Halon 2402)
	96-12-8	1,2-Dibromo-3-chloropropane
	106-93-4	1,2-Dibromoethane
	507-55-1	1,3-Dichloro-1,1,2,2,3-pentafluoropropane
	136013-79-1	1,3-Dichloro-1,1,2,3,3-pentafluoropropane
	96-23-1	1,3-Dichloropropan-2-ol
	542-75-6	1,3-Dichloropropene
	764-41-0	1,4-Dichloro-2-butene
	431-07-2	HCFC-133 (Chlorotrifluoroethane)
	128903-21-9	2,2-Dichloro-1,1,1,3,3-pentafluoropropane
	306-83-2	HCFC-123 (Dichlorotrifluoroethane)
Halogen compounds	422-48-0	2,3-Dichloro-1,1,1,2,3-pentafluoropropane
	93-76-5	2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)
	88-06-2	2,4,6-Trichlorophenol
	94-75-7	2,4-Dichlorophenoxyethanoic acid
	93-72-1	2-(2,4,5-Trichlorophenoxy)propionic acid
	2837-89-0	HCFC-124 (Chlorotetrafluoroethane)
	75-88-7	2-Chloro-1,1,1-trifluoroethane
	640-19-7	2-Fluoroacetamide
	421-06-7	Bromotrifluoroetahn
	101-14-4	3,3'-Dichloro-4,4'-diaminodiphenylmethane
	91-94-1	3,3'-Dichlorobenzidine
	612-83-9	3,3'-dichlorobenzidine dihydrochloride
	422-56-0	3,3-Dichloro-1,1,1,2,2-pentafluoropropane
	460-35-5	3-Chloro-1,1,1-trifluoropropane
	156-59-2	cis-1,2-Dichloroethylene
	108-42-9	m-Chloroaniline
	6164-98-3	Chlordimeform(N'-(2-Methyl-4-chlorophenyl)-N,N-dimethylformamidine)
	95-51-2	o-Chloroaniline
	95-50-1	o-Dichlorobenzene
	612-82-8	o-Tolidine dihydrochloride
	72-54-8	TDE(p,p'-Dichlorodiphenyl dichloroethane, p,p'-DDD)
	50-29-3	p,p'-Dichlorodiphenyltrichloroethane(DDT)
	106-47-8	p-Chloroaniline
	100-00-5	p-Chloronitrobenzene
	106-46-7	p-Dichlorobenzene
	156-60-5	trans-1,2-Dichloroethylene
	38289-27-9	Polychloronaphthalene (trans-4-n-propylcyclohexane-1-carboxylic acid)
	58-89-9	gamma-Hexachlorocyclohexane (BHC)
	15972-60-8	Alachlor (2-chloro-2', 6'-diethyl-N-methoxymethyl acetanilide)
	309-00-2	Aldrin
	106-89-8	Epichlorohydrin
	72-20-8	Endrin
	27858-07-7	Octabromobiphenyl
	8001-35-2	Toxaphene (Camphechlor)

Group	CAS No. or TOYOTA No.	Substance name
	143-50-0	Chlordecone
	57-74-9	Chlordane
	T0051	Chlordanes not specified this list
	510-15-6	Chlorobenzilate
	75-00-3	Ethyl Chloride
	25497-29-4	Chlorodifluoroethane
	420-99-5	HCFC-262 (Chlorodifluoropropane)
	75-45-6	Chlorodifluoromethane(HCFC-22, Freon R-22)
	421-75-0	HCFC-244 (Chlorotetrafluoropropane)
	421-47-6	HCFC-253 (Chlorotrifluoropropane)
	75-72-9	Chlorotrifluoromethane (CFC-13, Freon R-13)
	1615-75-4	HCFC-151 (Chlorofluoroethane)
	420-44-0	HCFC-271 (Chlorofluoropropane)
	593-70-4	HCFC-31 (Chlorofluoromethane)
	422-57-1	HCFC-226 (Chlorohexafluoropropane)
	422-86-6	CFC-217 (Chloroheptafluoropropane)
	108-90-7	Chlorobenzene
	76-15-3	Monochloropentafluoroethane(CFC-115,Freon R-115)
	422-02-6	HCFC-235 (Chloropentafluoropropane)
	67-66-3	Chloroform
	74-87-3	Methyl Chloride
	107-30-2	Chloromethyl methyl ether
	79-11-8	Monochloroacetic acid
	431-06-1	HCFC-132 (Dichlorodifluoroethane)
	7126-15-0	HCFC-252 (Dichlorodifluoropropane)
	75-71-8	Dichlorodifluoromethane(CFC-12, Freon R-12)
	422-00-4	HCFC-234 (Dichlorotetrafluoropropane)
	7125-99-7	HCFC-243 (Dichlorotrifluoropropane)
	420-97-3	HCFC-261 (Dichlorofluoropropane)
	75-43-4	Dichloromonofluoromethane(HCFC-21,Freon R-21,Refrigerant R21)
	127564-92-5	Dichloropentafluoropropane
	75-09-2	Dichloromethane
	115-32-2	Kelthane
	353-59-3	Bromochlorodifluoromethane (Halon 1211)
	75-82-1	Dibromodifluoroethane
	460-25-3	Dibromodifluoropropane
	T0422	Dibromotetrafluoropropane
	354-04-1	Dibromotrifluoroethane
	70192-83-5	Dibromotrifluoropropane
	358-97-4	Dibromofluoroethane
	51584-26-0	Dibromofluoropropane
	1868-53-7	Dibromofluoromethane
	431-78-7	Dibromopentafluoropropane
	122-34-9	Simazine
	T0118	Dioxins(and Frans)
	60-57-1	Dieldrin
	127-18-4	Tetrachloroethylene
	460-89-9	HCFC-232 (Tetrachlorodifluoropropane)

Group	CAS No. or TOYOTA No.	Substance name
	431-81-2	HCFC-223 (Tetrachlorotrifluoropropane)
	1335-88-2	Tetrachloronaphthalene
	666-27-3	HCFC-241 (Tetrachlorofluoropropane)
	T0449	Tetrabromodifluoropropane
	T0450	Tetrabromotrifluoropropane
	306-80-9	Tetrabromofluoroethane
	T0451	Tetrabromofluoropropane
	79-01-6	Trichloroethylene
	354-21-2	HCFC-122 (Trichlorodifluoroethane)
	1112-13-6	HCFC-242 (Trichlorodifluoropropane)
	422-54-8	HCFC-224 (Trichlorotetrafluoropropane)
	421-99-8	HCFC-233 (Trichlorotrifluoropropane)
	1321-65-9	Trichloronaphthalene
	359-28-4	HCFC-131 (Trichlorofluoroethane)
	818-99-5	HCFC-251 (Trichlorofluoropropane)
	75-69-4	Trichlorofluoromethane(CFC-11,Freon R-11)
	75-63-8	Bromotrifluoromethane(Halon 1301)
	T0476	Tribromodifluoroethane
	70192-80-2	Tribromodifluoropropane
	T0477	Tribromotetrafluoropropane
	T0478	Tribromotrifluoropropane
	T0807	Tribromofluoroethane
	75372-14-4	Tribromofluoropropane
	144-49-0	Acetic acid, fluoro-
	T0189	Fluoroacetates salts
	23950-58-5	Propyzamide
	T0192	Bromodifluoroethane
	T0193	Bromodifluoropropane
	1511-62-2	Bromodifluoromethane
	124-72-1	Bromotetrafluoroethane
	679-84-5	Bromotetrafluoropropane
	421-46-5	Bromotrifluoropropane
	762-49-2	Bromofluoroethane
	352-91-0	Bromofluoropropane
	373-52-4	Bromofluoromethane
	2252-79-1	Bromohexafluoropropane
	460-88-8	Bromopentafluoropropane
	87-68-3	Hexachloro-1,3-butadiene
	67-72-1	Hexachloroethane
	608-73-1	Hexachlorocyclohexane(unspecified isomers)
	661-96-1	CFC-212 (Hexachlorodifluoropropane)
	422-40-2	HCFC-221 (Hexachlorofluoropropane)
	118-74-1	Hexachlorobenzene
	61792-22-1	Hexabromobiphenyl
	36355-01-8	Hexabromobiphenyl (unspecified isomers)
	T0197	Hexabromofluoropropane
	T0199	CFC-211 (Pentachlorofluoropropane)
	52645-53-1	Permethrin
	98-07-7	Benzotrichloride

Group	CAS No. or TOYOTA No.	Substance name
	76-01-7	Pentachloroethane
	422-49-1	HCFC-222 (Pentachlorodifluoropropane)
	1652-89-7	CFC-213 (Pentachlorotrifluoropropane)
	1321-64-8	Pentachloronaphthalene (a type of polychloronaphthalene)
	87-86-5	Pentachlorophenol
	354-56-3	CFC-111 (Pentachlorofluoroethane)
	421-94-3	HCFC-231 (Pentachlorofluoropropane)
	T0204	Pentabromodifluoropropane
	T0205	Pentabromofluoropropane
	1336-36-3	Polychlorinated biphenyls (PCBs)
	59536-65-1	Polybromobiphenyl (Firemaster BP-6)
	T0220	Polybromobiphenyl (PBB)
	T0217	Polybromodiphenyl ether (PBDPE, PBDE) (Except Octabromodiphenylether and Decabromodiphenylether)
	2385-85-5	Mirex (Dodecachloropentacyclodecane)
	72-43-5	Methoxychlor
	21609-90-5	Leptophos (O-(4-bromo-2,5-dichlorophenyl)O-methyl-phenylphosphonothioate)
	79-44-7	Dimethylcarbamyl chloride
	75-01-4	Vinyl chloride(monomer)
	100-44-7	Benzyl chloride
	56-23-5	Tetrachloromethane
	75-26-3	Isopropyl bromide
	593-60-2	Bromoethene
	74-83-9	Methyl bromide
	7758-01-2	Potassium bromate
Arsenic and its compounds	333-25-5	2-Chlorovinyldichloroarsine oxide
	75-60-5	Arsan
	1303-00-0	Gallium arsenide
	7778-39-4	Arsenic acid
	7784-41-0	Potassium arsenate
	15194-98-6	Calcium arsenate (1:1)
	7778-44-1	Calcium arsenate (3:2)
	10103-62-5	Calcium arsenate (ASH3O4.xCa)
	10048-95-0	Disodium arsenate
	7631-89-2	Arsenic acid, sodium salt (ASH3O4.xNa)
	7784-40-9	Lead arsenate (1:1) (AsH3O4.Pb)
	7645-25-2	Lead arsenate (AsH3O4.xPb)
	16102-92-4	Copper arsenate
	10103-61-4	Copper arsenate (As2Cu3O8, arsenic acid, copper salt)
	7440-38-2	Arsenic
	98-05-5	Benzenearsonic acid
	5902-95-4	Methanearsonic acid, calcium salt (2:1)
	6585-53-1	Methanearsonic acid, iron(3+) salt
	13464-35-2	Potassium arsenite (1:1)
	52740-16-6	Calcium arsenite (1:1)
	27152-57-4	Calcium arsenite (2:3)
	7784-46-5	Sodium arsenite
	10031-13-7	Lead(II)-arsenite

Group	CAS No. or TOYOTA No.	Substance name
	7784-36-3	Arsenous trifluoride
	7784-35-2	Arsenic pentoxide ; arsenic oxide
	7784-34-1	Arsenic chloride
	1327-53-3	Arsenic trioxide
	3687-31-8	Lead arsenate (As2O8Pb3)
	T0020	Alkyl-arsenic compounds not specified this list
	T0172	Arsenic compounds(organic) not specified this list
	T0792	Arsenic compounds not specified this list
Phenols Aromatic hydrocarbons Beryllium and its compounds	732-26-3	2,4,6-tri-tert-butylphenol
	104-40-5	4-Nonylphenol
	1319-77-3	Cresol (unspecified isomers)
	100-69-6	2-Vinylpyridine
	53-70-3	Dibenz[a,h]anthracene
	71-43-2	Benzene
	56-55-3	Benzoanthracene
	50-32-8	Benzo[a]pyrene
	205-99-2	Benzo[b]fluoranthene
	205-82-3	Benzo[j]fluoranthene
	207-08-9	Benzo(k)fluoranthene
	298-81-7	Methoxsalen (8-Methoxy-4',5':6,7-furocoumarin, 8-MOP)
	81-81-2	Warfarin
	39413-47-3	Zinc beryllium silicate
	66104-24-3	Beryllium carbonate (CBeO3)
	7787-49-7	Beryllium fluoride
	7440-41-7	Beryllium
	12770-50-2	Beryllium Aluminium alloy
	1302-52-9	Beryllium Aluminium Silicate
	13598-15-7	Beryllium phosphate
	7787-47-5	Beryllium chloride
	1304-56-9	Beryllium oxide
	13327-32-7	Beryllium hydroxide
	13510-49-1	Beryllium sulfate (1:1)
	7787-56-6	Beryllium sulfate tetrahydrate (1:1:4)
	T0200	Beryllium compounds (including alloy) not specified this list
Organic acids and inorganic acids Phosphorus compounds	552-30-7	Anhydrotrimellitic acid
	85-44-9	Phthalic anhydride
	108-31-6	Maleic anhydride
	1120-71-4	1,3-Propanesultone
	57-57-8	1,3-Propiolactone
	2104-64-5	O-Ethyl-O-p-nitrophenyl-phenylthionophosphonate
	18854-01-8	Diethyl(5-phenyl-3-isoxazolyl)thiophosphate
	26087-47-8	Iprobenfos (O,O-bis(1-methylethyl) S-(phenylmethyl) phosphorothioate)
	298-04-4	Disulfoton
	152-16-9	OMPA (octamethylpyrophosphoramide)
	2921-88-2	Phosphorothioic acid, O,O-diethyl O-(3,5,6-trichloro-2-pyridyl) ester
	62-73-7	Dimethyl-2,2-dichlorovinylphosphate
	919-86-8	Phosphorothioic acid, S-[2-(ethylthio)ethyl] O,O-dimethyl ester

Group	CAS No. or TOYOTA No.	Substance name
	333-41-5	Diazinon
	512-56-1	Trimethylphosphate
	56-38-2	Parathion
	122-14-5	Fenitrothion
	13171-21-6	Phosphamidon (2-chloro-2-diethylcarbamoyl-1-methylvinyl dimethyl phosphate)
	121-75-5	Malathion
	7786-34-7	Mevinphos (2-carbomethoxy-1-methylvinyl dimethyl phosphate)
	298-00-0	Methylparathion
	78-43-3	Tris(2,3-dichloropropyl)phosphate
	126-72-7	Tris(2,3 dibromopropyl)phosphate
Others	T0141	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-,salts
	T0152	1-Naphthalenamine salts
	T0079	Salt of dichlorobenzidine

Table 3 List of Exempted Substances by Applications

Cas No.	Substance name (Substance group)	Applications	Remark
-	All substances	Reagents for testing and research	
-	Chlorofluorocarbons	Replenishment refrigerant for refrigerator	Exempt until equipment replacement
-	Halons	Gas for fire extinguishing facility	Same as above
71-43-2	Benzene	Gasoline	
-	Arsenic compound	For semiconductors	
584-84-9	2,4-Toluene diisocyanate	Urethane raw material	
137-26-8	Thiram	Rubber vulcanizing agent	
85-44-9	Phthalic anhydride	Rubber vulcanizing agent	
62-56-6	Thiourea	Rubber vulcanizing agent	

Table 4 List of Exempted Substances and Maximum Content Requirements

Cas No.	Substance name	Applicable materials	Threshold value
140-88-5	Ethyl acrylate	Paint	1%
4098-71-9	Isophorone diisocyanate	Paint, adhesive	1%

APPENDIX F Toyota Acceptable Refrigerants List

Please click (EMS REF-11) to access the most current list

No.	Name of Refrigerant
1	C-318
2	HFC-125
3	HFC-134a
4	HFC-227ea
5	HFC-23
6	HFC-236fa
7	HFC-365mfc
8	Perfluorobutane
9	Perfluorocyclobutane
10	Perfluoroethane
11	Perfluorohexane
12	Perfluoromethane
13	Perfluoropentane
14	Perfluoropropane
15	R-404A
16	R-407B
17	R-407C
18	R-410A
19	R-410B
20	R-422B
21	R-422C
22	R-507
23	R-507A
24	R-600a
25	THR-02
26	R-218
27	R-407D
28	R-413A
29	R-407E

APPENDIX G Toyota Decommissioned Equipment Checksheet

Please click (EMS FORM-16) to access the most current form

TOYOTA DECOMMISSIONED EQUIPMENT CHECKSHEET

DECOMMISSIONED EQUIPMENT DETAIL

DATE: _____ T/M NAME: _____ EQUIPMENT ID NO: _____ (JM2Y-0118, ETC.)

DEPT./ SHOP IN WHICH EQUIPMENT IS BEING REMOVED: _____ (AT VALVE BODY, 2Z CAMSHAFT, M2 FINAL, ETC.)

REASON EQUIPMENT IS BEING DECOMMISSIONED: _____

HAS THE EQUIPMENT CONTAINED CHEMICALS?:
☐ YES ☐ NO HMC# _____
IF YES, CHEMICALS MUST BE COMPLETELY DRAINED OUT.
Drain all tanks, resevoirs, hoses, piping and sealed resevoirs
*(CONTACT ENV FOR PROPER CONTAINER TO PLACE CHEMICALS IN)

DOES THE EQUIPMENT CONTAIN MERCURY SWITCHES?:
☐ YES ☐ NO
IF YES, ALL SWITCHES CONTAINING MERCURY MUST BE REMOVED.
*(CONTACT ENV FOR PROPER CONTAINER TO PLACE SWITCHES IN)

DOES THE EQUIPMENT CONTAIN CFC'S?:
☐ YES ☐ NO
IF YES, CFC'S MUST BE REMOVED ONLY BY CERTIFIED CFC HANDLER
*(CONTACT FACILITIES GROUP FOR PROPER CFC REMOVAL)

DOES THE EQUIPMENT CONTAIN OPENINGS?:
VALVES, HOSES, ETC.
☐ YES ☑ NO
IF YES, ALL OPENINGS/HOSES MUST BE REMOVED OR CAPPED.

INSERT DIGITAL PHOTO OF DECOMMISSIONED EQUIPMENT HERE

EQUIPMENT DISPOSITION

PLEASE CHECK THE CATEGORY THAT BEST DESCRIBES THE DISPOSITION OF THE EQUIPMENT:

☐ EXTERNAL STORAGE (ON-SITE)	☐ EXTERNAL STORAGE (OFF-SITE)
☑ SCRAP OUT	☐ TRANSFER (RELOCATE TO OTHER NAMC)
☐ INTERNAL STORAGE (ON-SITE)	☐ INTERNAL STORAGE (OFF-SITE)

DEPT. CERTIFICATION

SIGNATURE OF THIS FORM SIGNIFIES THAT ALL ITEMS ABOVE HAVE BEEN PROPERLY COMPLETED:

_____ T/M DECOMMISSIONING EQUIPMENT

_____ DEPARTMENT MANAGER/ DEPT Rep

*ALL ITEMS ABOVE MUST BE COMPLETED BEFORE ENVIRONMENTAL REVIEW WILL TAKE PLACE.

ENVIRONMENTAL REVIEW

EQUIPMENT VISIBLY CLEAN: ☐ YES ☐ NO

EQUIPMENT NOT LEAKING: ☐ YES ☐ NO

MERCURY SWITCHES REMOVED: ☐ YES ☐ NO ☐ N/A

CFC'S REMOVED: ☐ YES ☐ NO ☐ N/A
IF YES, IS PROPER TAG AFFIXED TO EQUIPMENT: ☐ YES ☐ NO

ADDITIONAL COMMENTS: _____

CERTIFICATION

EQUIPMENT HAS BEEN PROPERLY DECOMMISSIONED ACCORDING TO COMPANY PROCEDURES.

_____ ENVIRONMENTAL DEPARTMENT

_____ DATE

APPENDIX H Spill Report Form

Material Spilled: _____ Spill date/time:____/____

Attach any information relating to composition (i.e. MSDS) or analytical analysis.

Form Completed By: _____ Company Name: _____

Location of Release: _____ Surfaces spilled on: _____

Contract Package: _____

Type of Release (check all that apply): ☐solid ☐liquid ☐gas

Est. Amount released _____ (pounds or gallons) Est. Area of Spill (ft^2) _____

Est. Amount recovered: _____ (pounds or gallons) Duration of Release _____
(spill to end of material cleanup)

Describe control action taken: _____
_____

Description of work being performed when spill occurred: _____
_____
_____

Description of what happened: _____
_____
_____

Volume and drum numbers of clean up materials: _____

ENVIRONMENTAL ENGINEERING

Time/ Date Form Received: _____/_____Environmental Engineering Evaluator: _____

Agency Notified: _____ Notification Date/time: _____/_____

Report # _____

Follow-up action needed: _____

Release Reporter -----> Environmental Engineering

APPENDIX I Waste Water Discharge Request Form

REQUEST DATE: _____

CONSTRUCTION SITE : _____

CONTRACT PACKAGE: _____

COMPANY NAME: _____

CONTACT PERSON _____

TELEPHONE NO: _____

DESCRIPTION OF DISCHARGE

FLUSHING OR CHEMICAL TO BE USED: _____

CHEMICAL CHARACTERISTICS (INCLUDE MSDS): _____

QUANTITY IN GALLONS (CHEMICAL): _____

(WATER): _____

RATE (GPM): _____

TIME OF DISCHARGE - START DATE: _____ TIME: _____

STOP DATE: _____ TIME: _____

LOCATION OF AFFECTED AREA: _____

TYPE OF EQUIPMENT: _____

*REQUIRE NOTICE OF 10 WORKING DAYS IN ADVANCE.

To eliminate problems in production and at the waste treatment plant, these items are very important:

1. Submit discharge request.
2. Identify person who will supervise the discharge.
3. Call ORO Environmental Engineering and/or Supplier ENV Rep. and confirm 24 hours in advance
4. Call at start of the discharge—inform dump is in progress. Give approximate time of completion.
5. Do not discharge without notification!

Discharge Approved by: _____ Date: _____

(ORO or Toyota ENV)

APPENDIX J General Contractor Daily Inspection Form

Start Date of Inspection		**Supervisor's Name**		**Supervisor's Signature※**	
Company Name		**Contract Package**		**Location of Inspection**	

Inspection Criteria	**Inspection Results***						
	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**
Container/ Tanks Storage & Handling							
1. Waste/Material Identified with proper label?							
2. Tank or container closed?							
3. All containers located in proper containment?							
4. Proper waste Segregation?							
5. Evidence of corrosion or leaks?							
Containment Area							
6. Evidence of leaks?							
7. Precipitation in area							
8. Holes or Cracks?							
Storm Water Management							
9. Proper erosion control installed according to plan?							
10. Erosion control maintained according to plan?							
Spills							
11. Evidence of spill?							
12. Spill kit available? (See Section V)							
Equipment							
13. Leaks? Diapers installed if on concrete?							
General							
14. Housekeeping							
15. MSDS available for all chemicals?							
Inspector's Name (Print & initial)							

Inspector's Comments**:

Check No.	**Date of Inspection**	**Issue**	**Countermeasure**	**Implementation Date**

※Supervisor sign off at the end of the week to confirm checks are completed and issues corrected
***Inspection Result:** ○- Acceptable, Good ×-Unacceptable, Out of Standard N/C-Not Checked
****Any "×"** need to identify detail issue and countermeasure in the Comment Section.

APPENDIX K Construction Site Monthly Inspection Form

Please click (EMS FORM-14) to access the most current form

Facility/ Construction Site:		**Date of Inspection:**		**Auditor**	

Inspection Criteria	**Location Inspected Name of Contractor**	**Inspection Result***	**Issue**	**Recommendation/ Countermeasure**	**Implementaion**		**E/E Closed Date**
					Plan Date	**Actual Date**	
Container/ Tanks Storage & Handling							
Adequate containment							
Identification/labeling							
Container closed							
Waste segregation							
Corrosion or leaks							
Complete spill kit							
Containment Area							
Leaks							
Precipitation in area							
Holes or cracks							
Spills							
Evidence of spill							
Storm Water Management							
Install per Mgt. Plan							
Maintain per Mgt. Plan							
General							
Housekeeping							
MSDS							
Training Records							
Additional Comments							

***Inspection Result:** ○- Acceptable ×-Unacceptable N/C-Not Checked