

**DRAFT**

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**SLUDGE COMPOST MARKETING  
AND DISTRIBUTION  
REGULATORY REQUIREMENTS IN  
THE UNITED STATES**

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**Prepared for  
United States  
Environmental  
Protection Agency  
Region I**

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**Volume II: Appendices**



**M&E**  
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# Appendix A

**APPENDIX A**

**REGULATIONS AND GUIDELINES FOR LAND  
APPLICATIONS AND REUSE OF SLUDGE IN  
THE UNITED STATES**

## GLOSSARY

As -	Arsenic
B -	Boron
Cd -	Cadmium
CEC -	Cation exchange capacity
Cr -	Chromium
Cu -	Copper
Fe -	Iron
Hg -	Mercury
K -	Potassium
Kg/ha -	Kilograms/hectare
LA -	Land application
Land Rec. -	Land Reclamation
lb/ac -	Pounds per acre
mg/kg -	Miligrams per kilogram
Mo -	Molybdenum
NA -	Not addressed
NH <sub>3</sub> -N -	Ammonia
Ni -	Nickel
NO <sub>3</sub> -N -	Nitrogen Nitrate
NO <sub>2</sub> -N -	Nitrogen Nitrite
P -	Phosphorus
Pb -	Lead
PCB -	Polychlorinated biphenyl
PFRP -	Process to further reduce pathogens
POTW -	Publicly operated treatment works

**GLOSSARY (Continued)**

**Ppm -       Parts per million**

**PSRP -     Process to significantly reduce pathogens**

**Zn -        Zinc**

FEDERAL  
LAND APPLICATION

SLUDGE CLASSIFICATION

STATE CONTROL  
LAWS, TITLE & DATE

FEDERAL LAW SEC 1008(A)3  
AND 4004(A); PUBLIC LAW  
94-580, 90 STAT 2803  
AND 2815, SEC405(D)  
PUBLIC LAW 95-217, STAT 1606

REGULATIONS, TITLE, DATE

40 CFR 257.3 CRITERIA FOR  
CLASSIFICATION OF SOLID WASTE  
DISPOSAL FACILITIES AND PRACTICES  
AMENDED 10/23/81

GUIDELINES, TITLE&DATE

CONTROLLING AGENCY

ENVIRONMENTAL PROTECTION AGENCY

FEDERAL  
LAND APPLICATION

ACCEPTABILITY OF SLUDGE

PERMIT OR APPROVAL

APPLICATION SUBMITTALS

FEDERAL  
LAND APPLICATION

SAMPLING SLUDGE PARAMETERS

FEDERAL  
LAND APPLICATION

MAXIMUM SLUDGE CONSTITUENT	
CONDUCTIVITY (SALT)	
NUTRIENTS (% BY DRY WEIG	
N	
P	
K	
METALS (MG/KG SLUDGE DRY	
AS	
CD	<2 PPM UNLESS ADJUSTED SOIL PH <6.5
PB	
NI	
ZN	
CU	
CR	
HG	
MO	
B	
FE	
ORGANICS	
PCB	<10 PPM UNLESS INCORPORATED OR NOT INCORPORATED IF: PCB IN FEED < .2 PPM

FEDERAL  
LAND APPLICATION

PCB IN MILK < 1.5 PPM FAT BASIS

WATER

OTHER CONTAMINANTS

RECORDS

FEDERAL  
LAND APPLICATION

REPORTS

NOTIFICATIONS

STORAGE (IF APPLIC)

LAND APPLICATION

Federal

FEDERAL  
LAND APPLICATION

APPROVAL OR PERMIT

APPLICATION SUBMITTALS

FEDERAL  
LAND APPLICATION

CRITERIA FOR USE

DEGREE OF STABILIZATION

PROCESS TO SIGNIFICANTLY  
REDUCE PATHOGENS:  
PROCESS TO FURTHER REDUCE  
PATHOGENS FOR  
CROPS FOR DIRECT HUMAN  
CONSUMPTION WHERE EDIBLE PART  
CONTACTS SLUDGE WITHIN 18 MO

SOIL

CROPS

FEDERAL  
LAND APPLICATION

SURFACE WATER

GROUNDWATER

SEE APPENDIX CRITERIA FOR GW  
PROTECTION.

MAXIMUM SLUDGE LOADING LIM  
(CEC IN MEQ/100G SOIL)  
SLUDGE APPLICATION WILL BE  
SLUDGE

N (ANNUAL)

FEDERAL  
LAND APPLICATION

METALS

CD

ANNUAL

| < .5 KG/HA--TOBACCO, LEAFY VEGS,  
| OR ROOTS FOR HUMAN CONSUMPTION

| < 1.25 KG/HA--BEFORE 1/1/87

| < .5 KG/HA--AFTER 1/1/87

MAX. CUMULATIVE

| < 5 KG/HA--SOIL PH < 6.5

| < 5 KG/HA--SOIL PH > 6.5 AND CEC < 5

| < 10 KG/HA--SOIL PH > 6.5 AND 5<CEC<10

| < 20 KG/HA--SOIL PH > 6.5 AND CEC>10

| UNLIMITED IF:

| FOOD CHAIN CROPS ARE ANIMAL FEED

| PH>6.5 FOR FOOD CHAIN CROPS

| PLAN TO PREVENT HUMAN CONSUMPTION

| FUTURE OWNERS NOTIFIED BY DEED

PB

ZN

CU

FEDERAL  
LAND APPLICATION

CR

NI

HG

ORGANICS  
PCBS

LAND USE RESTRICTIONS

CROPS

GRAZING OR GREENCHOP

NO GRAZING BY ANIMALS WHOSE  
PRODUCTS ARE CONSUMED BY  
HUMANS--1 MO.

FEDERAL  
LAND APPLICATION

PUBLIC ACCESS	NO PUBLIC ACCESS--12 MO.
PH OF SOIL & SLUDGE OR PH OF SOIL	6.5
SITING RESTRICTIONS SOIL CONDITIONS	
BUFFER REQUIREMENTS DIST. TO PRIVATE WELL	
DIST. TO PUBLIC WELL	
DIST TO RESIDENCE	
DIST TO OTHER BUILDINGS	
DIST TO PROPERTY LINE	
GROUND WATER PROTECTION	NOT TO CONTAMINATE GROUNDWATER BEYOND SITE BOUNDARY
DEPTH TO HIGH GROUNDWATER LEVEL	

FEDERAL  
LAND APPLICATION

DEPTH TO BEDROCK	
PERMEABILITY	
INFILTRATION	
SURFACE WATER PROTECTION	
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT TO RESTRICT 100 YEAR FLOOD, REDUCE TEMPORARY STORAGE, OR RESULT IN WASHOUT OF WASTE
DIST TO SURFACE WATER	
DIST. TO DRY RUN	
RUNOFF AND EROSION CONTROL	NOT TO CAUSE NON-POINT POLLUTION OR VIOLATE REQUIREMENTS OR SECTION 208 AND 404 AND 402 OF THE CLEAN WATER ACT
MAXIMUM SLOPE LIMIT	

FEDERAL  
LAND APPLICATION

RECORDS

REPORTS

NOTIFICATIONS

STORAGE

Federal

FEDERAL  
LAND APPLICATION

TRANSPORTATION

UNCONTROLLED USE

DEDICATED SITES

FILE 3.5

FEDERAL  
LAND APPLICATION

COMMENTS

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FILE 2.6

	ALABAMA	
	LAND APPLICATION	
SLUDGE CLASSIFICATION		
STATE CONTROL		
LAWS, TITLE & DATE	ALABAMA SOLID WASTE DISPOSAL ACT	
	NO. 771, 1969. AMENDED 1975	
REGS, TITLE & DATE	ALABAMA SOLID WASTE MANAGEMENT REGS	
	CHAPTER 4, PART 1	
	12/18/81; AMENDED 7/13/83	
GUIDELINES, TITLE & DATE	GUIDELINES ARE IN PROCESS OF	
	BEING DRAFTED	
CONTROLLING AGENCY	ALABAMA DEPT OF ENVIRONMENTAL	
	MANAGEMENT	
	MUNICIPAL WASTE CONTROL SECTION	
	WATER QUALITY CONTROL PROGRAM	
	MONTGOMERY, ALABAMA 36130	
	205/271/7700	

Alabama



ALABAMA  
LAND APPLICATION

MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS

NOT ADDRESSED

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (MG/KG SLUDGE DRY WEIGHT)

AS

CD

PB

ALABAMA  
LAND APPLICATION

NI

ZN

CU

CR

HG

MO

B

FE

ORGANICS

PCB

WATER

OTHER CONTAMINANTS

RECORDS

ALABAMA  
LAND APPLICATION

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION

	ALABAMA	
	LAND APPLICATION	
APPROVAL OR PERMIT	G	
APPLIC. SUBMITTAL	PERMIT IS REQUIRED	
	SUBMITTAL INCLUDES:	
	FACILITY DESIGN PLANS INCLUDING	
	LAND USE AND ZONING WITHIN 1400 FT,	
	AIRPORTS WITHIN 10000 FT, GEOLOGIC	
	SITE FEATURES, LEGAL PROP MAP,	
	TOPO MAP, BUFFER ZONES, DRAINAGE	
	PATTERNS, OPERATION METHOD, DETAIL	
	OF ALL WEATHER ACCESS ROADS	
CRITERIA FOR USE		
DEGREE OF STABILIZATION	PFRP IF CROPS FOR DIRECT	
	HUMAN CONSUMPTION WITHIN 18 MOS	
	PSRP IF NO CONTACT BETWEEN SLUDGE	
	AND EDIBLE PORTION OF CROP,	
	PUBLIC ACCESS CONTROLLED FOR 12 MOS,	
	NO GRAZING BY ANIMALS WHOSE	
	PRODUCTS FOR HUMAN CONSUMPTION FOR	
	1 MO	
SOIL SAMPLING		
PRE-APPLICATION		

ALABAMA  
LAND APPLICATION

POST-APPLICATION

WATER QUALITY MONITORING  
GROUND WATER

SURFACE WATER

CROP MONITORING

MAXIMUM SLUDGE LOADING LIMIT  
KG/HA UNLESS OTHERWISE NOTED  
(CEC IN MEQ/100G SOIL)  
ANNUAL OR CUMULATIVE

NUTRIENTS  
N (ANNUAL)

ALABAMA  
LAND APPLICATION

PH

METALS

CD  
ANNUAL

MAX CUMULATIVE

PB

ALABAMA  
LAND APPLICATION

ZN

CU

CR

NI

HG

	ALABAMA LAND APPLICATION
ORGANICS	
PCB	
LAND USE RESTRICTIONS	
CROPS	NO CONTACT BETWEEN SLUDGE AND EDIBLE PORTION OF CROP
GRAZING OR GREENCHOP	NO GRAZING BY ANIMALS WHOSE PRODUCTS ARE CONSUMED BY HUMANS FOR 1 MO

ALABAMA  
LAND APPLICATION

PUBLIC ACCESS

CONTROLLED FOR 12 MOS

PH OF SOIL

SITING RESTRICTIONS

SOIL CONDITIONS

BUFFER REQUIREMENTS

DIST TO PRIVATE WELL

DIST TO PUBLIC WELL

DIST TO RESIDENCE

	ALABAMA	
	LAND APPLICATION	
DIST TO OTHER BLDGS.		
DIST TO PROPERTY LINE		
GROUNDWATER PROTECTION	MUST PROTECT WATER QUALITY	
DEPTH TO HIGH GW	5 FT	
DEPTH TO BEDROCK	5 FT	
PERMEABILITY		
INFILTRATION		
SURFACE WATER PROTECTION		

	ALABAMA
	LAND APPLICATION
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT TO RESTRICT FLOW OF BASE FLOOD OR REDUCE TEMP WATER STORAGE CAPACITY OF FLOODPLAIN
DIST TO SURFACE WATER	
DIST TO DRY RUN	
RUNOFF AND EROSION CONTROL	
MAXIMUM SLOPE LIMIT	
RECORDS	

	ALABAMA LAND APPLICATION
REPORTS	
NOTIFICATIONS	NOTIFY BOARD WHEN CHANGE IN PROCEDURE OR OWNERSHIP
STORAGE	
TRANSPORTATION	



FILE 2.6

|ALABAMA  
|LAND APPLICATION

COMMENTS

|STATE IS IN PROCESS OF PREPARING  
|LAND APPLICATION GUIDELINES.  
|GUIDELINES ESTAB REVIEW PROCEDURE  
|FOR DETERMINING APPLIC RATE

	ALASKA
	LAND APPLICATION
SLUDGE CLASSIFICATION	
STATE CONTROL	
LAWS, TITLE & DATE	ALASKA STATUTE 46.03.020,100,296, 820,080, 1971 AS AMENDED
REGS, TITLE & DATE	ALASKA SOLID WASTE MANAGEMENT REGS AAC TITLE 18, CHAPTER 60 7/19/73, AMENDED 8/21/78;10/9/83
GUIDELINES, TITLE & DATE	
CONTROLLING AGENCY	ALASKA DEPT OF ENVIRONMENTAL CONSERVATION AIR AND SOLID WASTE SECTION JUNEAU,ALASKA 99811 907/465/2666

	ALASKA	
	LAND APPLICATION	
ACCEPTABILITY OF SLUDGE		
PERMIT OR APPROVAL APPLIC. SUBMITTAL	PERMIT IS REQUIRED FOR DISPOSAL SEE SUBMITTAL REQUIREMENTS UNDER LAND APPLICATION	
SLUDGE SAMPLING PARAMETERS		

ALASKA  
LAND APPLICATION

MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS

MIN 10% SOLIDS BY WEIGHT

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (MG/KG SLUDGE DRY WEIGHT)

AS

CD

PB

	ALASKA LAND APPLICATION
NI	
ZN	
CU	
CR	
HG	
MO	
B	
FE	
ORGANICS	
PCB	<10 MG/KG
WATER	
OTHER CONTAMINANTS	
RECORDS	

ALASKA  
LAND APPLICATION

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION

Alaska

APPROVAL OR PERMIT APPLIC. SUBMITTAL	ALASKA LAND APPLICATION  DISPOSAL PERMIT IS REQUIRED SUBMITTAL INCLUDED: DETAILED SPECS OF SITE, SITE LOCATION MAP, OPERATING METHOD, WATER POLLUTION POTENTIAL, CERTIF OF COMPLIANCE WITH LOCAL ZONING, LANDOWNER'S PERMISSION, SURFACE WATER QUALITY MAY BE REQUIRED
CRITERIA FOR USE DEGREE OF STABILIZATION	PFRP IF CROPS FOR DIRECT HUMAN CONSUMPTION WITHIN 18 MOS
SOIL SAMPLING PRE-APPLICATION	MAY BE REQUIRED

	ALASKA LAND APPLICATION
POST-APPLICATION	
WATER QUALITY MONITORING GROUND WATER	MAY BE REQUIRED, DEPENDS ON SIZE OF DISPOSAL SITE
SURFACE WATER	MAY BE REQUIRED, SPECIFIED IN PERMIT
CROP MONITORING	MAY BE REQUIRED
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED (CEC IN MEQ/100G SOIL) ANNUAL OR CUMULATIVE	
NUTRIENTS N (ANNUAL)	

ALASKA  
LAND APPLICATION

PH

METALS

CD  
ANNUAL

0.6 KG/HA

MAX CUMULATIVE

5 KG/HA

PB

ALASKA  
LAND APPLICATION

ZN

CU

CR

NI

HG

	ALASKA LAND APPLICATION
ORGANICS	
PCB	
LAND USE RESTRICTIONS	
CROPS	
GRAZING OR GREENCHOP	NO GRAZING BY ANIMALS WHOSE PRODUCTS CONSUMED BY HUMANS FOR 1 MO

	ALASKA
	LAND APPLICATION
PUBLIC ACCESS	CONTROLLED ACCESS FOR 12 MOS
PH OF SOIL	
SITING RESTRICTIONS	
SOIL CONDITIONS	SOILS MUST BE THAWED AND WORKABLE
BUFFER REQUIREMENTS	
DIST TO PRIVATE WELL	
DIST TO PUBLIC WELL	
DIST TO RESIDENCE	

ALASKA  
LAND APPLICATION

DIST TO OTHER BLDGS.

DIST TO PROPERTY LINE

GROUNDWATER PROTECTION

DEPTH TO HIGH GW

6 FT

DEPTH TO BEDROCK

PERMEABILITY

INFILTRATION

SURFACE WATER PROTECTION

	ALASKA	
	LAND APPLICATION	
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT IN 100 YR FLOODPLAIN	
DIST TO SURFACE WATER	100 FT	
DIST TO DRY RUN		
RUNOFF AND EROSION CONTROL	CONTROL SURFACE RUNOFF	
MAXIMUM SLOPE LIMIT		
RECORDS	ANNUALLY: LOCATION AND VOLUME OF WASTE DEPOSITED	

	ALASKA
	LAND APPLICATION
REPORTS	RECORDS MUST BE FILED WITH DEPT WHEN SITE IS CLOSED
NOTIFICATIONS	
STORAGE	
TRANSPORTATION	

ALASKA  
LAND APPLICATION

UNCONTROLLED USE

DEDICATED SITES



	ARIZONA	
	LAND APPLICATION	
SLUDGE CLASSIFICATION		
STATE CONTROL		
LAWS, TITLE & DATE	ARIZONA STAT 36-2841 ET SEQ	
	1982, as amended	
REGS, TITLE & DATE		
GUIDELINES, TITLE & DATE	GUIDELINES FOR THE AGRICULTURAL	
	APPLICATION OF WASTEWATER SLUDGE	
	1984	
CONTROLLING AGENCY	ARIZONA DEPARTMENT OF HEALTH SERVICES	
	SOLID WASTE UNIT	
	PHOENIX, ARIZONA 85007	
	602/257/2238	



	ARIZONA
	LAND APPLICATION
	2,4,5-TP (SILVEX)
	FREQUENCY: IF PSRP, WEEKLY FOR pH;
	MONTHLY FOR PLANT NUTRIENTS, HEAVY
	METALS, AND OTHERS; 6/YR FOR MINERAL-
	IZATION RATE
	SPECIAL MONITORING FOR SLUDGE
	APPLIED TO LAND FROM LAGOONS
	OR STOCKPILES
MAXIMUM SLUDGE CONSTITUENT	
CONCENTRATIONS	
CONDUCTIVITY (SALT)	
NUTRIENTS (% BY DRY WEIGHT)	
N	
P	
K	
METALS (MG/KG SLUDGE DRY WEIGHT)	
AS	
CD	
PB	

ARIZONA  
LAND APPLICATION

NI

ZN

CU

CR

HG

MO

B

FE

ORGANICS

PCB

WATER

OTHER CONTAMINANTS

RECORDS

ARIZONA  
LAND APPLICATION

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

SLUDGE STORAGE FACILITIES AT  
PRODUCERS FACILITY ARE INCLUDED  
IN GENERATORS GROUND WATER PERMIT

LAND APPLICATION

	<p>ARIZONA LAND APPLICATION</p>
<p>APPROVAL OR PERMIT APPLIC. SUBMITTAL</p>	<p>APPROVAL NECESSARY. MUST SUBMIT BOTH APPLICATION SITE PLAN AND OPERATION PLAN APPLIC SITE PLAN: SITE LOCATION AND DESCRIPTION, SOIL CHARAC, GEOHYDRAULIC CHARAC, OWNER RELEASE, SLUDGE CHARAC, SLUDGE MINERAL RATE, pH, AND SOLIDS CONCENTRATION OPERATION PLAN: SLUDGE HAULING, STORAGE, APPLIC METHOD APPROVALS MUST BE RENEWED MAX 10 YRS</p>
<p>CRITERIA FOR USE DEGREE OF STABILIZATION</p>	<p>PSRP UNLESS SLUDGE FROM LAGOON WITH GREATER THAN 3 YR CLEANING PFRP IF LAND RECLAMATION OR HORTIC OR SILVIC. THESE GUIDE- LINES DO NOT ADDRESS THESE</p>
<p>SOIL SAMPLING PRE-APPLICATION</p>	<p>CHARACTERIZATION OF SOIL TO DEPTH OF 12 IN: PLANT NUTRIENTS, HEAVY</p>

	ARIZONA
	LAND APPLICATION
	METALS, TOXIC ORGANICS, pH,CEC
POST-APPLICATION	MUST BE ANALYZED ANNUALLY PRIOR TO SUBSEQUENT APPLIC FOR PLANT NUTRIENTS,HEAVY METALS,TOXIC ORGANICS
WATER QUALITY MONITORING GROUND WATER	MONITORING MUST BE DONE
SURFACE WATER	MONITORING MUST BE DONE
CROP MONITORING	
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED (CEC IN MEQ/100G SOIL) ANNUAL OR CUMULATIVE	MAX ANNUAL RATE: 8 DRY T/AC MAX HYDRAULIC RATE:27,000 G/AC
NUTRIENTS N (ANNUAL)	NOT TO EXCEED N REQUIREMENT OF CROP GROWN WITH THAT APPLIC MUST CONSIDER RESIDUAL N IN SOIL



	ARIZONA	
	LAND APPLICATION	
ZN	IF CEC<5: 280 KG/HA	
	IF 5<CEC<15: 561 KG/HA	
	IF CEC>15: 1121 KG/HA	
CU	IF CEC<5: 140 KG/HA	
	IF 5<CEC<15: 280 KG/HA	
	IF CEC>15: 561 KG/HA	
CR		
NI	IF CEC<5: 56 KG/HA	
	IF 5<CEC<15: 11 KG/HA	
	IF CEC>15: 224 KG/HA	
HG		

	ARIZONA LAND APPLICATION
ORGANICS	
PCB	
LAND USE RESTRICTIONS	
CROPS	NO CROPS FOR DIRECT HUMAN CONSUMPTION CROP MUST BE GROWN WITH EACH APPLIC
GRAZING OR GREENCHOP	NO GRAZING FOR 30 DAYS

	ARIZONA	
	LAND APPLICATION	
PUBLIC ACCESS	CONTROLLED FOR 12 MOS	
PH OF SOIL	pH = OR > 6.5	
SITING RESTRICTIONS		
SOIL CONDITIONS		
BUFFER REQUIREMENTS		
DIST TO PRIVATE WELL	250 FT	
DIST TO PUBLIC WELL	1000 FT	
DIST TO RESIDENCE	500 FT IF OCCUPIED	

	ARIZONA LAND APPLICATION	
DIST TO OTHER BLDGS.	500 FT IF OCCUPIED	
DIST TO PROPERTY LINE	25 FT TO PROPERTY LINE AND ROAD	
GROUNDWATER PROTECTION		
DEPTH TO HIGH GW	40 FT TO MEAN ANNUAL	
DEPTH TO BEDROCK		
PERMEABILITY		
INFILTRATION		
SURFACE WATER PROTECTION		

	ARIZONA
	LAND APPLICATION
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	IF IN 100 YR FLOODPLAIN, MUST NOT RESTRICT FLOODWATER, REDUCE TEMP STORAGE CAPACITY OF FLOODPLAIN OR RESULT IN WASHOUT
DIST TO SURFACE WATER	
DIST TO DRY RUN	
RUNOFF AND EROSION CONTROL	MUST BE INCORP WITHIN 24 HRS CONTROLS FOR 24 HR, 25 YR STORM NO APPLIC ON FROZEN OR SNOW-COVERED OR SATURATED SOILS
MAXIMUM SLOPE LIMIT	<6%
RECORDS	RECORDS: DATES OF APPLIC, WEATHER CONDITIONS, AMOUNTS APPLIC, QUALITY OF SLUDGE, SOURCE OF SLUDGE, LOCATIONS ON

	ARIZONA	
	LAND APPLICATION	
	SITE, CUM AMTS OF NUTRIENTS AND	
	HEAVY METALS	
REPORTS	SUBMIT ABOVE RECORDS MONTHLY TO	
	OWNER OR WTP	
NOTIFICATIONS	PRESENT AND FUTURE OWNERS MUST	
	BE NOTIFIED THAT SLUDGE WAS APPLIED	
	IF APPLIC COULD RESULT IN HAZARD	
STORAGE	SUBJECT TO GROUNDWATER PERMIT REQUIRE-	
	MENT.	
	MAX 72 HR STORAGE AT SITE	
	NOT RESULT IN ODOR ,DUST, OR VECTOR	
	NUISANCE, OR PUBLIC HEALTH HAZARD,	
	OR ALLOW CONTAMINATION OF SOIL	
	OR GW OR SW	
TRANSPORTATION	TRUCKS MUST BE SEALED OR COVERED WITH	



**FILE 2.6**

**ARIZONA  
LAND APPLICATION**

**COMMENTS**

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	CALIFORNIA	CALIFORNIA
	LAND APPLICATION	DISTRIBUTION AND MARKETING FOR UNRESTRICTED USE
SLUDGE CLASSIFICATION		
STATE CONTROL		
LAWS, TITLE & DATE	CWC DIVISION 7, CHP 482 1969, AS AMENDED	CWC DIVISION 7, CHP 482 1969, AS AMENDED
REGS, TITLE & DATE	NO SPECIFIC REGS DEALING WITH LAND APPLICATION; OTHER: WASTE DISPOSAL TO LAND, TITLE 23 SUBCHAPTER 15, ART 1,2510	NO SPEC REGS FOR D&M; OTHER: WASTE DISPOSAL TO LAND, TITLE 23 SUBCH 15,ARTICLE 1
GUIDELINES, TITLE & DATE	MANUAL OF GOOD PRACTICE FOR LANDSPREADING OF SEWAGE SLUDGE APRIL 1983	MANUAL OF GOOD PRACTICE FOR LANDSPREADING OF SEWAGE SLUDGE APRIL 1983
CONTROLLING AGENCY	CALIFORNIA DEPT OF HEALTH SERVICES SANITARY ENGINEERING BRANCH BERKLEY, CALIF 415/571/2154	CALIFORNIA DEPT OF HEALTH SERVICES SANITARY ENGINEERING BRANCH BERKLEY, CALIF 415/571/2154
ACCEPTABILITY OF SLUDGE	ALL CRIT FROM GUIDELINES UNLESS SPEC	ALL CRIT ARE FROM GUIDELINES UNLESS NOTED
PERMIT OR APPROVAL APPLIC. SUBMITTAL	INITIAL ENGIN REPORT IS REQUIRED. SEE SUBMITTAL	NO SPECIF PERMIT OR APPROVAL IS MENTIONED; CONTRACTUAL

| CALIFORNIA  
| LAND APPLICATION

| UNDER LAND APPLICATION

SLUDGE SAMPLING PARAMETERS

| PRODUCER SHOULD ANALYZE FOR:  
| CD,PB,ZN,CU,NI,PCB, TOTAL N,  
| TOTAL SOLIDS, AND pH  
| FREQUENCY:  
| <1.0 MGD: SEMIANNUALLY  
| 1.0-10.0 MGD: QUARTERLY  
| >10.0 MGD: MONTHLY  
| IF NECESSARY FREQ AND PARAM MAY  
| BE CHANGED

| CALIFORNIA  
| DISTRIBUTION AND MARKETING  
| FOR UNRESTRICTED USE

| AGREEMENT BETWEEN USER AND  
| PRODUCER IS RECOMMENDED TO  
| PROTECT HEALTH AND SAFETY

| PRODUCER MUST SAMPLE FOR:  
| CD,PB,ZN,CU,NI,PCB,  
| TOTAL N, TOTAL SOLIDS, pH  
| FREQUENCY:  
| <1.0 MGD: SEMIANNUALLY  
| 1.0-10.0 MGD: QUARTERLY  
| > 10.0 MGD: MONTHLY

	CALIFORNIA LAND APPLICATION	CALIFORNIA DISTRIBUTION AND MARKETING FOR UNRESTRICTED USE
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS		IF IT CAN BE DEMONSTRATED THAT USE NOT SUBJ TO INTENSE PUBLIC USE, LA LEVELS MAY APPLY
CONDUCTIVITY (SALT)		
NUTRIENTS (% BY DRY WEIGHT)		
N		
P		
K		
METALS (MG/KG SLUDGE DRY WEIGHT)		
AS		
CD	25 MG/KG	50 MG/KG
PB	500 MG/KG	500 MG/KG
NI		
ZN		

	CALIFORNIA LAND APPLICATION	CALIFORNIA DISTRIBUTION AND MARKETING FOR UNRESTRICTED USE
CU		
CR		
HG		
MO		
B		
FE		
ORGANICS		
PCB	5 MG/KG	2 MG/KG
WATER		
OTHER CONTAMINANTS		
RECORDS	SLUDGE DISTRIBUTOR MUST RECORD: AMTS SOLD OR DISTRIB, DESTIN OF SLUDGE, TYPE OF TREATMENT AND LABELING, ALL REQUIRED ANALYSES	SLUDGE DISTRIBUTOR MUST RECORD AMT SOLD OR DISTRIBUTED, DESTIN OF SLUDGE, TYPE OF TREATMENT AND LABELING USED, AND ALL REQUIRED ANALYSES

	CALIFORNIA LAND APPLICATION	CALIFORNIA DISTRIBUTION AND MARKETING FOR UNRESTRICTED USE
REPORTS	ABOVE RECORDS MUST BE AVAIL FOR INSPECTION BY REGULATORY AGENCIES	RECORDS MUST BE AVAILABLE FOR REVIEW BY REGULATORY AGENCIES
NOTIFICATIONS	IF PRODUCER DOES NOT HAVE DIRECT CONTROL OVER APPLIC AND USE, CONTACTURAL AGREEMENT SHD BE DEVELOPED TO INSURE PUBLIC HEALTH AND SAFE ENVT	MUST BE ADEQUATELY LABELED TO INFORM USER OF CONTENTS AND TO ADVISE OF REASONABLE PRECAUTIONS IN ALLOWING ACCESS BY YOUNG CHILDREN LABEL MUST BE CLEARLY DISPLAYED ON BAG OR ON POSTER
STORAGE (IF APPLICABLE)		
LAND APPLICATION		
APPROVAL OR PERMIT APPLIC. SUBMITTAL	SHOULD CONSULT REGIONAL WATER QUALITY BOARD, AND SOLID WASTE MGNT BOARD AND LOCAL HEALTH DEPT FOR	



	CALIFORNIA LAND APPLICATION	CALIFORNIA DISTRIBUTION AND MARKETING FOR UNRESTRICTED USE
SOIL SAMPLING PRE-APPLICATION		
POST-APPLICATION		
WATER QUALITY MONITORING GROUND WATER		
SURFACE WATER		
CROP MONITORING		
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED		

	CALIFORNIA LAND APPLICATION	CALIFORNIA DISTRIBUTION AND MARKETING FOR UNRESTRICTED USE
(CEC IN MEQ/100G SOIL) ANNUAL OR CUMULATIVE		
NUTRIENTS		
N (ANNUAL)	SHOULD NOT EXCEED AGRONOMIC RATES	
P		
METALS		
CD ANNUAL	< 0.5 KG/HA IF FOOD CROPS FOR HUMAN CONSUMPTION	
MAX CUMULATIVE	IF CEC<5: 5 KG/HA IF 5<CEC<15: 10 KG/HA IF CEC>15: 20 KG/HA	
PB	IF CEC<5: 400 KG/HA	

	CALIFORNIA LAND APPLICATION	CALIFORNIA DISTRIBUTION AND MARKETING FOR UNRESTRICTED USE
	IF 5<CEC<15: 800 KG/HA   IF CEC>15: 800 KG/HA	
ZN	IF CEC<5: 250 KG/HA   IF 5<CEC<15: 500 KG/HA   IF CEC>15: 1000 KG/HA	
CU	IF CEC<5: 125 KG/HA   IF 5<CEC<15: 250 KG/HA   IF CEC>15: 500 KG/HA	
CR		
NI	IF CEC<5: 50 KG/HA   IF 5<CEC<15: 100 KG/HA   IF CEC>15: 200 KG/HA	
HG		

	CALIFORNIA LAND APPLICATION	CALIFORNIA DISTRIBUTION AND MARKETING FOR UNRESTRICTED USE
ORGANICS		
PCB		
LAND USE RESTRICTIONS		
CROPS	WARNING OF CD ACCUM IN LEAFY VEG AND ROOT CROPS IF APPLIED TO ORCHARDS AND VINEYDS, SHOULD BE AIR DRIED OR COMPOSTED AND INCRP INTO SOIL NOT IMMED BEFORE OR AFTER FRUIT HARVEST IF LIQUID SLUDGE, INCRP WITHIN 48 HRS ONLY CROP FOR DIRECT APPLIC IS HAY	COMPOSTED SLUDGE MAY NOT BE SUITABLE FOR HOME VEG GARDENS
GRAZING OR GREENCHOP		

	CALIFORNIA LAND APPLICATION	CALIFORNIA DISTRIBUTION AND MARKETING FOR UNRESTRICTED USE
PUBLIC ACCESS		
PH OF SOIL	6.5 (SLUDGE AND SOIL MIXTURE) AT TIME OF EACH APPLIC UNLESS CD<2MG/KG IF pH<6.5, CUM CD <5 KG/HA	
SITING RESTRICTIONS		
SOIL CONDITIONS		
BUFFER REQUIREMENTS		
DIST TO PRIVATE WELL	500 FT	
DIST TO PUBLIC WELL	500 FT	
DIST TO RESIDENCE	500 FT	

CALIFORNIA  
LAND APPLICATION

CALIFORNIA  
DISTRIBUTION AND MARKETING  
FOR UNRESTRICTED USE

DIST TO OTHER BLDGS.

DIST TO PROPERTY LINE

GROUNDWATER PROTECTION

DEPTH TO HIGH GW

DEPTH TO BEDROCK

PERMEABILITY

INFILTRATION

	CALIFORNIA LAND APPLICATION	CALIFORNIA DISTRIBUTION AND MARKETING FOR UNRESTRICTED USE
SURFACE WATER PROTECTION		
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING		
DIST TO SURFACE WATER		
DIST TO DRY RUN		
RUNOFF AND EROSION CONTROL	MEASURES MUST BE TAKEN TO PREVENT SURFACE WATER RUNOFF	
MAXIMUM SLOPE LIMIT		

	CALIFORNIA LAND APPLICATION	CALIFORNIA DISTRIBUTION AND MARKETING FOR UNRESTRICTED USE
RECORDS	LA RECORDS: ALL REQUIRED ANALYSES, AMTS OF SLUDGE USED, APPLIC RATES, RECORDS SHOWING COMPLIANCE WITH TREATMENT REQUIREMENTS, PLANT AND EQUIP BREAKDOWNS, AND ALL CORRECTIVE ACTION TAKEN	
REPORTS	ALL OF ABOVE MUST BE AVAIL FOR REGULATORY AGENCY REVIEW	
NOTIFICATIONS		
STORAGE	STORAGE PONDS MUST HAVE IMPERMEABLE BOTTOMS AND SIDES, AND BE PROTECTED FROM FLOODING AND HAVE 3 FT OF FREEBOARD. STORAGE PILES MUST MINIMIZE LEACHATE	

	CALIFORNIA LAND APPLICATION	CALIFORNIA DISTRIBUTION AND MARKETING FOR UNRESTRICTED USE
TRANSPORTATION		
UNCONTROLLED USE	SEE SEPARATE PROGRAM FOR D&M PROGRAM WITH UNRESTRICTED USE	
DEDICATED SITES	FEWER PRECAUTIONS FOR USE ON NON- FOOD CROP LAND IF NO PUBLIC ACCESS, STABILIZ ONLY IS ALLOWED, BUT INCORP WITHIN 48 HR IF POTENTIAL FOR FUTURE FOOD CROP, NO EXCEEDING OF CUM METAL RATES, AND NO CROPS FOR 3 YRS AIR DRIED, OR COMPOSTED SLUDGE CAN BE APPLIED TO LAND SUBJ TO OCCAS PUBLIC ACCESS	



FILE 1

	COLORADO
	LAND APPLICATION
SLUDGE CLASSIFICATION	I,II,III,IV
STATE CONTROL	
	COLORADO SW DISPOSAL SITES LAW
LAWS, TITLE & DATE	C.R.S. 1973, 30-20-109 AND
	25-1-107 ( AS AMENDED)
REGS, TITLE & DATE	DOMESTIC SEWAGE SLUDGE REGS
	ADOPTED 1/16/85
	EFFECTIVE: 8/1/86
GUIDELINES, TITLE & DATE	
CONTROLLING AGENCY	COLORADO DEPT OF HEALTH
	WATER QUALITY CONTROL DIVISION
	DENVER, COLORADO 80220
	303/320/8333
ACCEPTABILITY OF SLUDGE	
PERMIT OR APPROVAL APPLIC. SUBMITTAL	LETTER OF INTENT IS REQUIRED TO APPLY   SLUDGE FOR BENEFICIAL USE

Colorado



COLORADO	
LAND APPLICATION	
	> 10MGD: 1/MO
	GR III: 0-10 MGD: 1/MO;>10 MGD: 1/2WK
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS	
CONDUCTIVITY (SALT)	
NUTRIENTS (% BY DRY WEIGHT)	
N	
P	
K	
METALS (MG/KG SLUDGE DRY WEIGHT)	GRADE IV SLUDGE DOESN'T MEET THESE LEVELS:
AS	
CD	GRADE I: 25 MG/KG GRADE II: 70 MG/KG GRADE III: 125 MG/KG
PB	GRADE I: 1000 MG/KG GRADE II: 2500 MG/KG GRADE III: 5000 MG/KG
NI	GRADE I: 250 MG/KG GRADE II: 650 MG/KG GRADE III: 1250 MG/KG
ZN	GRADE I: 1250 MG/KG GRADE II: 3325 MG/KG GRADE III: 6250 MG/KG

COLORADO

LAND APPLICATION

CU

GRADE I: 625 MG/KG

GRADE II: 1650 MG/KG

GRADE III: 3125 MG/KG

CR

HG

MO

B

FE

ORGANICS

PCB

GRADE I: 5 PPM

GRADE II: 10 PPM

GRADE III: 10 PPM

WATER

OTHER CONTAMINANTS

RECORDS

COLORADO	
	LAND APPLICATION
REPORTS	
NOTIFICATIONS	IF PRODUCER SELLS, DISTRIBUTES, OR SUPPLIES SLUDGE TO USER, PRODUCER MUST OBTAIN PERMISSION TO DO MONITORING AS REQUIRED, AND MUST MAKE AVAILABLE TO USER COPY OF REGS
STORAGE (IF APPLICABLE)	REQ APPLY TO ALL STORAGE SITES: MUST BE STABILIZED, NO CONTAMINATION OF STATE WATERS, ANN HGW MIN 5 FT, 1 YR MAX STORAGE TIME FOR LIQUID OR DEWATERED SLUDGE, AND 2 YRS FOR DEWATERED OR DRIED SLUDGE
LAND APPLICATION	
APPROVAL OR PERMIT APPLIC. SUBMITTAL	LETTER OF INTENT MUST BE FILED WITH DEPT AND LOCAL HEALTH DEPT: LEGAL SITE DESCRIPTION,; 3/AC TO BE



	COLORADO
	LAND APPLICATION
SOIL SAMPLING	
PRE-APPLICATION	PARAMETERS:pH, AMMONIA N, NITRATE N, P, CONDUCTIVITY, CD,CU,PB,MB,ZN, TEXTURE, CEC,ORG MATTER,P
POST-APPLICATION	SAME PARAMETERS GR I: 1/YR GR II:1/YR GR III:10 MGD: 1/6MO; >10MGD:1/3MO NO MONIT REQ FOR GR I IF PFRP, OR IF DEWATERED AND STORED FOR 1 YR
WATER QUALITY MONITORING	
GROUND WATER	MONITORING REQUIRED UNLESS HIST HIGH GW IS > 10 FT ( SPECIFIC DETAILS IN REGS) GW QUALITY MONITORING ALSO REQUIRED
SURFACE WATER	
CROP MONITORING	MONITORING REQUIRED: TOTAL N, NITRATE N, P,CD,CU,PB,NI,ZN GR I: 0-10 MGD: 1/3YR; > 10 MGD: 1/2YR NOT REQUIRED IF PFRP, OR IF DEWATERED AND STORED FOR 1 YR GR II:< 1MGD: 1/3YR; 1-10 MGD: 1/2YR; > 10 MGD: 1/YR GR III: 1/YR; ( 3 CONSEC YR AFTER FINAL)
MAXIMUM SLUDGE LOADING LIMIT	
KG/HA UNLESS OTHERWISE NOTED	

	COLORADO
	LAND APPLICATION
(CEC IN MEQ/100G SOIL) ANNUAL OR CUMULATIVE	
NUTRIENTS	
N (ANNUAL)	NOT TO EXCEED AGRONOMIC RATE FOR AVAIL N OF CROPS
P	< 448 KG/HA
METALS	
CD	
ANNUAL	IF pH > 6.5: 0.56 KG/HA IF pH 4-6.5: 0.28 KG/HA
MAX CUMULATIVE	IF pH >6.5 AND CEC<5: 5 KG/HA 5<CEC<15: 11 KG/HA CEC>15: 22 KG/HA IF PH 4-6.5: 5.6 KG/HA MAX
PB	IF pH > 6.5 AND



COLORADO

|LAND APPLICATION

ORGANICS

PCB

LAND USE RESTRICTIONS

CROPS

|GRADE I: ALL LANDS  
|GRADE II: ONLY AGRICULTURAL OR  
|DISTURBED LANDS  
|GRADE III: NO FOOD CHAIN CROPS  
|FOR 3 YRS AFTER APPLIC  
|GRADE IV: NOT FOR BENEFICIAL USE  
|NO ROOT CROPS OR LOW-GROWING  
|FRUITS AND VEG FOR DIRECT HUMAN  
|CONSUMPTION UNLESS PFRP, OR 18 MO  
|WAIT BEFORE PLANTING

GRAZING OR GREENCHOP

|LACTATING LIVESTOCK OK IF  
|PFRP

	COLORADO
	LAND APPLICATION
	PSRP AND 30 DAY WAIT
	SUBSURF INCORP OR IMMED INCORP
PUBLIC ACCESS	
PH OF SOIL	SEE SPECIFICS IN LOADING RATES
SITING RESTRICTIONS	
SOIL CONDITIONS	NOT TO LOAMY SAND OR COARSER MATERIAL AS DEFINED BY USDA
BUFFER REQUIREMENTS	
DIST TO PRIVATE WELL	
DIST TO PUBLIC WELL	1 MI UNLESS SITE DOES NOT DRAIN TO SW AND MEASURES TAKEN TO PREVENT RUNOFF
DIST TO RESIDENCE	

COLORADO  
LAND APPLICATION

DIST TO OTHER BLDGS.

DIST TO PROPERTY LINE

GROUNDWATER PROTECTION

DEPTH TO HIGH GW

> 5 FT IF APPLIC WITHIN 100 FT  
OF DOMESTIC WATER SUPPLY WELL  
PROHIBITED < 5 FT

DEPTH TO BEDROCK

IF 5-10 FT, MONITORING REQ

PERMEABILITY

INFILTRATION

	COLORADO
	LAND APPLICATION
SURFACE WATER PROTECTION	
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT ALLOWED
DIST TO SURFACE WATER	300 FT OF CLASS I REC USE 200 FT UNLESS IMMED INCORP OR SUBSURF INJECTION 50 FT FROM WATER BODY WITH STANDING WATER
DIST TO DRY RUN	20 FT UNLESS STREAMBED IS UNDER CULTIVATION
RUNOFF AND EROSION CONTROL	NOT ON FROZEN, ICE-COVERED, OR SNOW COVERED LAND
MAXIMUM SLOPE LIMIT	IF < 6% NO LT ON % SOLIDS, OR TYPE OF APPLICATION IF 6-8%, IMMED INCORP OR VEG COVER REQ IF 8-15% MUST BE SUBSURFACE INJECTION IF SOLIDS <16% NO SLUDGE ON AG LAND >15% IF DISTURBED LAND WITH 15-30% SLOPE, SLUDGE MUST BE IMMED INCORP

COLORADO

|LAND APPLICATION

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|NO SLUDGE ON DISTURBED LAND >30%

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|EVERY 180 DAYS PRODUCER REPORTS:

|RESULTS OF ALL ANALYSES,

|TOTAL AMT SLUDGE APPLIED,

|LOCATION OF APPLIC,

|

|

|

|SEE NOTIFICATION ABOVE

|

|

|

|

|SEE ABOVE

|

|

|

RECORDS

REPORTS

NOTIFICATIONS

STORAGE

	COLORADO
	LAND APPLICATION
TRANSPORTATION	
UNCONTROLLED USE	GRADE I SLUDGE WHICH HAS BEEN DEWATERED, AND WHICH HAS BEEN EITHER STORED FOR ONE YR, OR PFRP, MAY BE APPLIED TO ANY LAND FOR BENEFICIAL USE
DEDICATED SITES	

FILE 1

COLORADO  
{LAND APPLICATION

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COMMENTS

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	CONNECTICUT UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	CONNECTICUT AGRICULTURAL LAND APPLICATION
SLUDGE CLASSIFICATION		
STATE CONTROL LAWS, TITLE & DATE	PUBLIC ACT NO. 57, 1967 CONNECTICUT WATER POLLUTION CONTROL ACT CGS TITLE 22a, CHP. 446K AMENDED	PUBLIC ACT NO 57, 1967 CONNECTICUT WATER POLLUTION CONTROL ACT CGS TITLE 22A, CHP. 446K AMENDED
REGULATIONS, TITLE, DATE	CGS 22A-428 POLLUTION ABATEMENT ORDER CGS 22a-430 DISCHARGE PERMIT REGULATIONS (12/18/84)	CGS 22A-428 POLLUTION ABATEMENT ORDER CGS 22a-430 DISCHARGE PERMIT REGULATIONS (12/18/84)
GUIDELINES, TITLE&DATE	GUIDELINES FOR LAND APPLICATION OF MUNICIPAL SLUDGE(6/8/83) NOTE: ALL LISTED CRITERIA ARE CONTAINED IN THE GUIDELINES UNLESS NOTED	GUIDELINES FOR LAND APPLICATION OF MUNICIPAL SLUDGE(6/8/83) NOTE: ALL LISTED CRITERIA ARE CONTAINED IN THE GUIDELINES UNLESS NOTED
CONTROLLING AGENCY	DEPT. OF ENVIRONMENTAL PROTECTION	DEPT. OF ENVIRONMENTAL PROTECTION



CONNECTICUT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

CONNECTICUT  
AGRICULTURAL LAND APPLICATION

SAMPLING SLUDGE PARAMETERS

| SLUDGE ANALYSIS:  
| N, NH<sub>4</sub>-N, P, K,  
| CA, MG, MN, FE,  
| ZN, CU, NI, PB, CD, CR, HG,  
| % TOTAL SOLIDS, FIXED & VOL. SOLIDS,  
| PH, PCBS, VOLATILE ORGANICS  
| SAMPLES: 3 COMPOSITE SAMPLES AT  
| 30 DAY INTERVALS  
| LAB: HEAVY METALS IN STATE APPROVED  
| LABORATORY  
| IF TOTAL SOLIDS VARY >30% FROM MEAN, |

CONNECTICUT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

CONNECTICUT  
AGRICULTURAL LAND APPLICATION

| IT MUST BE TESTED FOR EACH BATCH  
| FREQUENCY: QUARTERLY  
| IF ANY PARAMETER IS EXCESSIVE, WEEKLY  
| ANALYSIS IS REQUIRED. IF 3  
| CONSECUTIVE WEEKLY SAMPLES EXCEED  
| LIMITS, SLUDGE USE MUST BE  
| DISCONTINUED

MAXIMUM SLUDGE CONSTITUENT  
CONDUCTIVITY (SALT)  
NUTRIENTS (% BY DRY WEIG  
N  
P  
K  
METALS (MG/KG SLUDGE DRY

AS

CD

| 25

PB

| 1000

NI

| 200

ZN

| 2500

CU

| 1000

CR

| 1000

HG

| 10

MO

B

FE

ORGANICS

PCB

| 10 MG/KG DRY

CONNECTICUT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

CONNECTICUT  
AGRICULTURAL LAND APPLICATION

WATER

OTHER CONTAMINANTS

| OTHER ELEMENTS OR COMPOUNDS CONSIDERED |  
| ON A CASE BY CASE BASIS |

RECORDS

| APPLICATION LOG: |  
| APPLICATION RATES |  
| DATES APPLIED |  
| PREVAILING WINDS DURING APPLICATION |

CONNECTICUT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

CONNECTICUT  
AGRICULTURAL LAND APPLICATION

COMMENTS

REPORTS

NOTIFICATIONS

STORAGE (IF APPLIC)

LAND APPLICATION TO RENTED LAND  
MUST HAVE CONCURRENCE OF LANDOWNER

LAND APPLICATION







**CONNECTICUT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)**

**CONNECTICUT  
AGRICULTURAL LAND APPLICATION**

|AVAILABLE N=AMMONIA N + ORGANIC N  
|PERCENTAGE DETERMINED BY SLUDGE TYPE  
|  
|.5 KG/HA  
|  
|(MAX. CUM. EXCLUDING SOIL BACKGR.)  
|3.37 KG/HA (3 LB/AC)  
|  
|  
|(ANNUAL)  
|67.4 KG/HA (60 LB/AC)  
|(MAX. CUM. EXCL. SOIL BACKGR.)  
|337 KG/HA (300 LB/AC)  
|  
|(ANNUAL)  
|33.7 KG/HA (30 LB/AC)  
|(MAX. CUM. EXCL. SOIL BACKGR.)  
|168 KG/HA (150 LB/AC)  
|  
|(ANNUAL)  
|16.8 KG/HA (15 LB/AC)  
|(MAX. CUM. EXCL. SOIL BACKGR.)  
|84.2 KG/HA (75 LB/AC)  
|

**METALS**

**CD**

**ANNUAL**

**MAX. CUMULATIVE**

**PB**

**ZN**

**CU**

CONNECTICUT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

CONNECTICUT  
AGRICULTURAL LAND APPLICATION

CR	(ANNUAL) 67.4 KG/HA (60 LB/AC) (MAX. CUM. EXCL. SOIL BACKGR.) 337 KG/HA (300 LB/AC)
NI	(ANNUAL) 6.7 KG/HA (6 LB/AC) (MAX. CUM. EXCL. SOIL BACKGR.) 33.7 KG/HA (30 LB/AC)
HG	
ORGANICS PCBS	
LAND USE RESTRICTIONS	
CROPS	NOT USED FOR TOBACCO PRODUCTION NO CROPS FOR DIRECT HUMAN CONSUMPTION WITHIN 18 MO OF APPLICATION NOT APPLIED TO FOOD CHAIN CROPS WHICH ARE NORMALLY GROWN AT PH < 5.5
GRAZING OR GREENCHOP	NO GRAZING BY LACTATING ANIMALS WITHIN 12 MO AFTER APPLICATION NO GRAZING BY OTHER ANIMALS--1 MO

CONNECTICUT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

CONNECTICUT  
AGRICULTURAL LAND APPLICATION

PUBLIC ACCESS	PASTURE MUST BE MOWED OR CLOSE GRAZED BEFORE APPLICATION
PH OF SOIL & SLUDGE OR PH OF SOIL	SOIL PH > 6.5 AT TIME OF APPLICATION UNLESS APPROVED SOIL PH > 5.5 WITH APPROVAL NOT ALLOWED TO DROP TO BELOW 6.2 AS LONG AS LAND IS USED FOR CROPS
SITING RESTRICTIONS SOIL CONDITIONS	MUST BE SOMEWHAT EXCESSIVELY WELL, OR MODERATELY WELL DRAINED NO SANDS OR LOAMY SANDS
BUFFER REQUIREMENTS DIST. TO PRIVATE WELL	300 FT
DIST. TO PUBLIC WELL	
DIST TO RESIDENCE	300 FT
DIST TO OTHER BUILDINGS	300 FT TO BUSINESS
DIST TO PROPERTY LINE	50 FT
GROUND WATER PROTECTION	NOT APPLIED TO CLOSED DEPRESSION WHERE BEDROCK IS LIMESTONE NO APPLICATION IN AREAS MAPPED GAA (CGS 22A-426)
DEPTH TO HIGH GROUNDWATER LEVEL	18 IN TO HIGH

CONNECTICUT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

CONNECTICUT  
AGRICULTURAL LAND APPLICATION

DEPTH TO BEDROCK	20 IN; NOT IN CLOSED DEPRESSIONS	
PERMEABILITY		
INFILTRATION		
SURFACE WATER PROTECTION		
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NO APPLICATION IN AREAS PRONE   TO ACTIVE FLOODING   INCORPORATION WI 48 HRS UNLESS   STABILIZED OR SURFACE WATER   RUNOFF IS CONTROLLED	
DIST TO SURFACE WATER	100 FT	
DIST. TO DRY RUN	25 FT TO DRAINAGE SWALE	
RUNOFF AND EROSION CONTROL	NO APPLICATION TO FROZEN, SNOW   COVERED, OR SATURATED SOIL   SOIL & WATER CONSERVATION PRACTICES   MUST BE EMPLOYED   APPLIED SO AS TO MINIMIZE NUISANCE	
MAXIMUM SLOPE LIMIT	8%	
	UP TO 15% IF SOIL CONSERVATION   PRACTICES ARE USED	

**FILE 3.5**

**CONNECTICUT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)**

**CONNECTICUT  
AGRICULTURAL LAND APPLICATION**

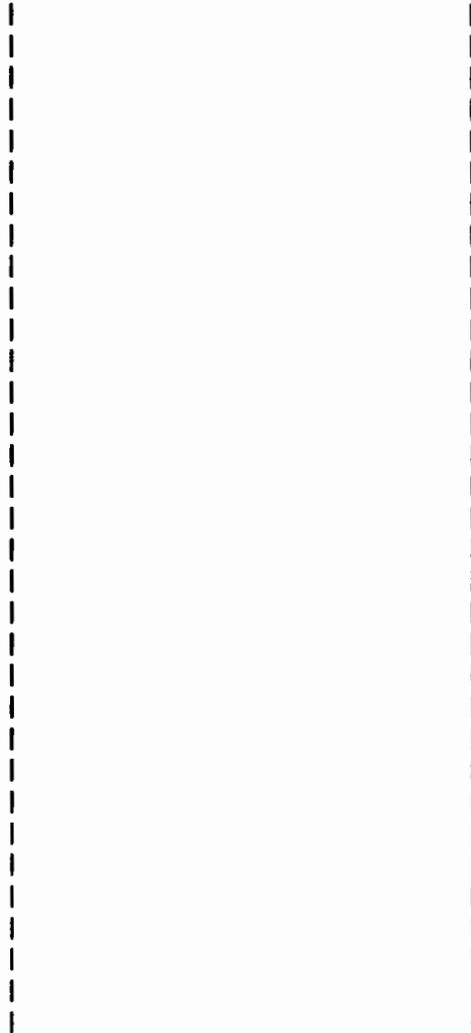
**RECORDS**

**REPORTS**

**NOTIFICATIONS**

**STORAGE**

**Connecticut**



**CONNECTICUT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)**

**CONNECTICUT  
AGRICULTURAL LAND APPLICATION**

**TRANSPORTATION**

**UNCONTROLLED USE**

**DEDICATED SITES**

FILE 3.5

CONNECTICUT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

CONNECTICUT  
AGRICULTURAL LAND APPLICATION

COMMENTS

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	DELAWARE
	LAND APPLICATION
	NOT ADDRESSED
SLUDGE CLASSIFICATION	
STATE CONTROL	
LAWS, TITLE & DATE	TITLE 7 DEL CODE, CHPT 60
REGS, TITLE & DATE	DELAWARE SOLID WASTE DISPOSAL REGS  CHPT 1, DISPOSAL REGS, 8/29/74  SOLID WASTE LICENSING AND DISP  REGS, ADOPTED 6/21/84
GUIDELINES, TITLE & DATE	
CONTROLLING AGENCY	DEPT OF NATURAL RESOURCES AND  ENVIRONMENTAL CONTROL  WATER RESOURCES SECTION  SOLID WASTE BRANCH  DOVER, DE   302/736/4781 



DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (NG/KG SLUDGE DRY WEIGHT)

AS

CD

PB

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

NI

ZN

CU

CR

HG

MO

B

FE

ORGANICS

PCB

WATER

OTHER CONTAMINANTS

RECORDS

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION

Delaware

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

APPROVAL OR PERMIT  
APPLIC. SUBMITTAL

CRITERIA FOR USE  
DEGREE OF STABILIZATION

SOIL SAMPLING  
PRE-APPLICATION

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

POST-APPLICATION

WATER QUALITY MONITORING  
GROUND WATER

SURFACE WATER

CROP MONITORING

MAXIMUM SLUDGE LOADING LIMIT  
KG/HA UNLESS OTHERWISE NOTED  
(CEC IN MEQ/100G SOIL)  
ANNUAL OR CUMULATIVE

NUTRIENTS  
N (ANNUAL)

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

PH

METALS

CD  
ANNUAL

MAX CUMULATIVE

P8

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

ZN

CU

CR

NI

HG

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

ORGANICS

PCB

LAND USE RESTRICTIONS

CROPS

GRAZING OR GREENCHOP

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

PUBLIC ACCESS

PH OF SOIL

SITING RESTRICTIONS

SOIL CONDITIONS

BUFFER REQUIREMENTS

DIST TO PRIVATE WELL

DIST TO PUBLIC WELL

DIST TO RESIDENCE

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

DIST TO OTHER BLDGS.

DIST TO PROPERTY LINE

GROUNDWATER PROTECTION

DEPTH TO HIGH GW

DEPTH TO BEDROCK

PERMEABILITY

INFILTRATION

SURFACE WATER PROTECTION

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

WETLANDS OR AREAS SUBJECT  
TO PONDING OR FLOODING

DIST TO SURFACE WATER

DIST TO DRY RUN

RUNOFF AND EROSION CONTROL

MAXIMUM SLOPE LIMIT

RECORDS

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

REPORTS

NOTIFICATIONS

STORAGE

TRANSPORTATION

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

UNCONTROLLED USE

DEDICATED SITES

FILE 2.6

DELAWARE  
LAND APPLICATION  
NOT ADDRESSED

|  
|

COMMENTS

PER REP OF DEPT OF NATURAL RES AND  
ENVT CONTROL, STATE IS IN  
PROCESS OF PUTTING SOME  
REGS TOGETHER WHICH SPECIFICALLY  
ADDRESS LAND APPLIC

	DISTRICT OF COLUMBIA  USE AND DISTRIBUTION OF  COMPOSTED SLUDGE 	
SLUDGE CLASSIFICATION		
STATE CONTROL		
LAWS, TITLE & DATE	WATER POLLUTION CONTROL ACT OF 1984   D.C.LAW 5,188, SECTION 15  ALSO, MAYOR'S ORDER NO. 85-152   12/8/85 	
REGS, TITLE & DATE	TITLE 21, CHAPTER 13  DRAFT, 1985 	
GUIDELINES, TITLE & DATE		
CONTROLLING AGENCY	DEPARTMENT OF CONSUMER AND   REGULATORY AFFAIRS  WASHINGTON D.C. 20023  202/767/7370 	



DISTRICT OF COLUMBIA  
USE AND DISTRIBUTION OF  
COMPOSTED SLUDGE  
FREQUENCY OF SAMPLING DEPENDS  
UPON USE AND WHETHER USER  
IS DOMESTIC OF COMMERCIAL/  
PUBLIC

MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS

CAN NOT BE HAZ AS DEFINED IN  
40 CFR 261

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (MG/KG SLUDGE DRY WEIGHT)

AS

CD

PB

DISTRICT OF COLUMBIA  
USE AND DISTRIBUTION OF  
COMPOSTED SLUDGE

NI

ZN

CU

CR

HG

MO

B

FE

ORGANICS

PCB

WATER

OTHER CONTAMINANTS

RECORDS

SLUDGE SAMPLING ANALYSES

	DISTRICT OF COLUMBIA USE AND DISTRIBUTION OF COMPOSTED SLUDGE
REPORTS	
NOTIFICATIONS	TO USER OF PHYSICAL, CHEMICAL, AND MICR-BIOLOGICAL ANALYSES LABEL REQUIRED FOR NON-BULK USERS LABEL READS: "THIS ORGANIC SLUDGE IS DERIVED FROM MUNICIPAL SEWAGE SLUDGE. PLEASE READ THE INSTRU- CTIONS BEFORE USE."
STORAGE (IF APPLICABLE)	NOT IN ACCESSIBLE UNPROTECTED PILE, RUNOFF MUST BE CONTROLLED, NOT NEAR WELLS
LAND APPLICATION	

APPROVAL OR PERMIT APPLIC. SUBMITTAL	DISTRICT OF COLUMBIA  USE AND DISTRIBUTION OF  COMPOSTED SLUDGE   IF APPLIC > 10 AC, SITE INSPECTION  MAY BE REQUIRED
CRITERIA FOR USE DEGREE OF STABILIZATION	MUST BE = OR < TO THAT OF LAND  IF TO BE USED IN VEG GARDENS
SOIL SAMPLING PRE-APPLICATION	

	DISTRICT OF COLUMBIA USE AND DISTRIBUTION OF COMPOSTED SLUDGE
POST-APPLICATION	
WATER QUALITY MONITORING GROUND WATER	
SURFACE WATER	
CROP MONITORING	
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED (CEC IN MEQ/100G SOIL) ANNUAL OR CUMULATIVE	GUIDED BY CRITERIA OF HEAVY METAL UPTAKE BY VARIOUS VEG
NUTRIENTS N (ANNUAL)	

DISTRICT OF COLUMBIA  
USE AND DISTRIBUTION OF  
COMPOSTED SLUDGE

PH

METALS

CD  
ANNUAL

MAX CUMULATIVE

PB

|DISTRICT OF COLUMBIA  
|USE AND DISTRIBUTION OF  
|COMPOSTED SLUDGE

ZN

CU

CR

NI

HG

	DISTRICT OF COLUMBIA USE AND DISTRIBUTION OF COMPOSTED SLUDGE
ORGANICS	
PCB	
LAND USE RESTRICTIONS	
CROPS	USE IN VEG GARDENS DEPENDS UPON STABILIZ CRITERIA PREFER DOMESTIC USE ON LAWNS, FLOWER GARDENS, SHRUBS, AND POTTING MIXTURES PREFER COMM. AND PUBLIC USE IN LAND RECLAM, PARKLAND, GOLF COURSES, NON-DAIRY LIVESTOCK FEED, GREENHOUSES, AND NURSERIES NOT IN PICNIC AREAS, SCHOOLYARDS, ORCHARDS, OR NEAR FOOD CROPS UNLESS APPROVED
GRAZING OR GREENCHOP	

DISTRICT OF COLUMBIA  
USE AND DISTRIBUTION OF  
COMPOSTED SLUDGE

PUBLIC ACCESS

PH OF SOIL

SITING RESTRICTIONS

SOIL CONDITIONS

BUFFER REQUIREMENTS

DIST TO PRIVATE WELL

DIST TO PUBLIC WELL

DIST TO RESIDENCE

	DISTRICT OF COLUMBIA USE AND DISTRIBUTION OF COMPOSTED SLUDGE
DIST TO OTHER BLDGS.	PROXIMITY TO HEALTH RELATED INSTITUTIONS EVAL ON CASE BY CASE BASIS
DIST TO PROPERTY LINE	
GROUNDWATER PROTECTION	
DEPTH TO HIGH GW	
DEPTH TO BEDROCK	
PERMEABILITY	
INFILTRATION	
SURFACE WATER PROTECTION	

	DISTRICT OF COLUMBIA USE AND DISTRIBUTION OF COMPOSTED SLUDGE
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	
DIST TO SURFACE WATER	
DIST TO DRY RUN	
RUNOFF AND EROSION CONTROL	IF EROSION A PROBLEM: BULKING MATERIAL SHOULD REMAIN AND RESEEDING SHOULD OCCUR
MAXIMUM SLOPE LIMIT	
RECORDS	

**REPORTS**

**NOTIFICATIONS**

**STORAGE**

**TRANSPORTATION**

**District of Columbia**

**FILE 2.6**

**|DISTRICT OF COLUMBIA  
|USE AND DISTRIBUTION OF  
|COMPOSTED SLUDGE  
|**

**UNCONTROLLED USE**

**DEDICATED SITES**

**District of Columbia**

**FILE 2.6**

**|DISTRICT OF COLUMBIA  
|USE AND DISTRIBUTION OF  
|COMPOSTED SLUDGE**

**COMMENTS**

|  
|  
| THE DISTRICT DOES NOT HAVE ANY  
| SPECIFIC LAND APPLICATION  
| REGULATIONS  
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	FLORIDA GRADE I PROCESSED LAND APPLICATION	FLORIDA GRADE I LAND APPLICATION	FLORIDA GRADE II LAND APPLICATION
SLUDGE CLASSIFICATION	GRADING SYSTEM BASED ON METALS: GRADE I--LOWEST LEVEL GRADE II--INTERMEDIATE GRADE III--HIGHEST, NOT TO BE LAND APPLIED	GRADING SYSTEM BASED ON METALS:  GRADE I--LOWEST LEVEL  GRADE II--INTERMEDIATE  GRADE III--HIGHEST, NOT TO BE   LAND APPLIED	GRADING SYSTEM BASED ON METALS:  GRADE I--LOWEST LEVEL  GRADE II--INTERMEDIATE  GRADE III--HIGHEST, NOT TO BE   LAND APPLIED
STATE CONTROL LAWS, TITLE & DATE	STATUTES, SECTS. 403.061, 403.701, 403.713 AMENDED 5/24/79	STATUTES, SECTS. 403.061,   403.701, 403.713  AMENDED 5/24/79	STATUTES, SECTS. 403.061,   403.701, 403.713  AMENDED 5/24/79
REGULATIONS, TITLE, DATE	FLORIDA RESOURCE RECOVERY MGNT RULES, PART IV. (7/1/85) 17-7.54 CRITERIA FOR LAND APPLICATION OR DISPOSAL OF DOMESTIC ..... 17-7.57 CRIT. FOR L.A. OR DISP. OF PROCESSED DOMESTIC SLUDGE 17-7.58 CRIT FOR L.A. OR DISP. OF COMPOSTED DOMESTIC SLUDGE NOTE: ALL LISTED CRITERIA ARE CONTAINED IN THE REGULATIONS UNLESS NOTED	FLORIDA RESOURCE RECOVERY MGNT   RULES, PART IV. (7/1/85)  17-7.54 CRITERIA FOR LAND APPLICATION   OR DISPOSAL OF DOMESTIC .....  17-7.57 CRIT. FOR L.A. OR DISP. OF   PROCESSED DOMESTIC SLUDGE  17-7.58 CRIT FOR L.A. OR DISP. OF   COMPOSTED DOMESTIC SLUDGE  NOTE: ALL LISTED CRITERIA ARE   CONTAINED IN THE REGULATIONS   UNLESS NOTED	FLORIDA RESOURCE RECOVERY MGNT   RULES, PART IV. (7/1/85)  17-7.54 CRITERIA FOR LAND APPLICATION   OR DISPOSAL OF DOMESTIC .....  17-7.57 CRIT. FOR L.A. OR DISP. OF   PROCESSED DOMESTIC SLUDGE  17-7.58 CRIT FOR L.A. OR DISP. OF   COMPOSTED DOMESTIC SLUDGE  17-4.64 GENERAL PERMIT FOR L.A. OF   GRADE II DOM. WW. TRTMENT SLUDGE  NOTE: ALL LISTED CRITERIA ARE   CONTAINED IN THE REGULATIONS   UNLESS NOTED
GUIDELINES, TITLE&DATE			
CONTROLLING AGENCY	DEPT. OF ENVIRONMENTAL REGULATIONS	DEPT. OF ENVIRONMENTAL REGULATIONS	DEPT. OF ENVIRONMENTAL REGULATIONS

FLORIDA  
GRADE I PROCESSED  
LAND APPLICATION

JACKSONVILLE, FL  
(904) 488-8163

FLORIDA  
GRADE I  
LAND APPLICATION

JACKSONVILLE, FL  
(904) 488-8163

FLORIDA  
GRADE II  
LAND APPLICATION

JACKSONVILLE, FL  
(904) 488-8163

ACCEPTABILITY OF SLUDGE

PERMIT OR APPROVAL

OPERATE UNDER WASTEWATER  
TREATMENT PERMIT  
APPROVAL REQUIRED

OPERATE UNDER WASTEWATER  
TREATMENT PERMIT  
APPROVAL REQUIRED

OPERATE UNDER WASTEWATER  
TREATMENT PERMIT  
APPROVAL REQUIRED

APPLICATION SUBMITTALS

SEE SUBMITTALS UNDER L.A.

FLORIDA  
GRADE I PROCESSED  
LAND APPLICATION

FLORIDA  
GRADE I  
LAND APPLICATION

FLORIDA  
GRADE II  
LAND APPLICATION

SAMPLING SLUDGE PARAMETERS

SLUDGE ANALYSIS  
 TOT. N, TOT. P, TOT. K, CD, CU, NI, ZN,  
 PB, PH, TOT. SOLIDS  
 OTHERS AS REQUIRED  
 FREQUENCY:  
 4/YR FOR > .5 MGD PLANT  
 2/YR FOR .1-.5 MGD PLANT  
 1/YR FOR .002-.1 MGD PLANT  
 MAY BE LESS FREQUENT AS APPROVED  
 LOCATION, SAMPLING PROC.  
 SPECIFIED IN WASTEWATER

SLUDGE ANALYSIS

TOT. N, TOT. P, TOT. K, CD, CU, NI, ZN,  
 PB, PH, TOT. SOLIDS  
 OTHERS AS REQUIRED  
 FREQUENCY:  
 4/YR FOR > .5 MGD PLANT  
 2/YR FOR .1-.5 MGD PLANT  
 1/YR FOR .002-.1 MGD PLANT  
 MAY BE LESS FREQUENT AS APPROVED  
 LOCATION, SAMPLING PROC.  
 SPECIFIED IN WASTEWATER

SLUDGE ANALYSIS

TOT. N, TOT. P, TOT. K, CD, CU, NI, ZN,  
 PB, PH, TOT. SOLIDS  
 OTHERS AS REQUIRED  
 FREQUENCY:  
 4/YR FOR > .5 MGD PLANT  
 2/YR FOR .1-.5 MGD PLANT  
 1/YR FOR .002-.1 MGD PLANT  
 MAY BE LESS FREQUENT AS APPROVED  
 LOCATION, SAMPLING PROC.  
 SPECIFIED IN WASTEWATER

FLORIDA  
GRADE I PROCESSED  
LAND APPLICATION

TREATMENT PERMIT

FLORIDA  
GRADE I  
LAND APPLICATION

TREATMENT PERMIT

FLORIDA  
GRADE II  
LAND APPLICATION

TREATMENT PERMIT

MAXIMUM SLUDGE CONSTITUENT

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIG

N

P

K

METALS (MG/KG SLUDGE DRY

AS

CD 30

PB 1000

NI 100

ZN 1800

CU 900

CR

HG

MO

B

FE

ORGANICS

PCB

FLORIDA  
GRADE I PROCESSED  
LAND APPLICATION

FLORIDA  
GRADE I  
LAND APPLICATION

FLORIDA  
GRADE II  
LAND APPLICATION

WATER

OTHER CONTAMINANTS

RECORDS

GENERATOR MAY KEEP  
RECORDS WITH MONTHLY SUMMARIES:  
AMOUNTS DELIVERED, APPLIED,  
GRADE, DESCRIPTION OF LAND

DAILY LOG MUST BE KEPT 5 YEARS BY  
LAND OPERATOR:  
DATE, WEATHER, LOCATION, AMOUNT  
APPLIED, GRADE OF SLUDGE,

DAILY LOG MUST BE KEPT 5 YEARS BY  
LAND OPERATOR:  
DATE, WEATHER, LOCATION, AMOUNT  
APPLIED, SLUDGE ANALYSIS (OBTAINED

	FLORIDA GRADE I PROCESSED LAND APPLICATION	FLORIDA GRADE I LAND APPLICATION	FLORIDA GRADE II LAND APPLICATION
REPORTS	PROCESSED SLUDGE GENERATORS MUST FILE QUARTERLY SLUDGE ANALYSIS REPORT AND QUARTERLY SHIPPING AND SALES REPORT	SLUDGE USE AGREEMENT, SITE AREA AND LOCATION, DESIGNATED FUTURE USE, PH, WATER TABLE, SLOPE, VEGETATION, INCORPORATION, DEPTH OF SOIL EXEMPT: USERS OF LESS THAN 3 CY/MO IN THE CASE OF PROCESSED SLUDGE, GENERATOR MAY KEEP RECORDS WITH MONTHLY SUMMARIES: AMOUNTS DELIVERED, APPLIED, GRADE, DESCRIPTION OF LAND PROCESSED SLUDGE GENERATORS MUST FILE QUARTERLY SLUDGE ANALYSIS REPORT AND QUARTERLY SHIPPING AND SALES REPORT	FROM GENERATOR), SLUDGE QUALITY, SLUDGE USE AGREEMENT, SITE AREA AND LOCATION, DESIGNATED FUTURE USE, PH, WATER TABLE, SLOPE, VEGETATION, INCORPORATION, DEPTH OF SOIL IN THE CASE OF PROCESSED SLUDGE, GENERATOR MAY KEEP RECORDS WITH MONTHLY SUMMARIES: AMOUNTS DELIVERED, APPLIED, GRADE, DESCRIPTION OF LAND PROCESSED SLUDGE GENERATORS MUST FILE QUARTERLY SLUDGE ANALYSIS REPORT AND QUARTERLY SHIPPING AND SALES REPORT
NOTIFICATIONS	COMMERCIAL FERTILIZER CONTAINING SLUDGE MUST LIST MAXIMUM APPLICATION RATES	COMMERCIAL FERTILIZER CONTAINING SLUDGE MUST LIST MAXIMUM APPLICATION RATES	PUBLIC NOTICE OF INTENDED LAND APPL. COMMERCIAL FERTILIZER CONTAINING SLUDGE MUST LIST MAXIMUM APPLICATION RATES
STORAGE (IF APPLIC)			
LAND APPLICATION			

	FLORIDA GRADE I PROCESSED LAND APPLICATION	FLORIDA GRADE I LAND APPLICATION	FLORIDA GRADE II LAND APPLICATION
APPROVAL OR PERMIT	PERMIT FOR LA NOT REQUIRED IF PERFORMED ACCORDING TO ABOVE CRITERIA	PERMIT FOR LA NOT REQUIRED IF PERFORMED ACCORDING TO ABOVE CRITERIA OPERATE UNDER WASTEWATER TREATMENT PERMIT	PERMIT REQUIRED FOR L.A. OF SLUDGE (EXCEPT PROCESSED SLUDGE)
APPLICATION SUBMITTALS			GENERAL PERMIT APPLICATION FOR GRADE II SLUDGES MUST HAVE SOIL CONSERVATION PLAN FOR RUNOFF CONTROL

**FLORIDA  
GRADE I PROCESSED  
LAND APPLICATION**

**FLORIDA  
GRADE I  
LAND APPLICATION**

**FLORIDA  
GRADE II  
LAND APPLICATION**

**CRITERIA FOR USE**

**DEGREE OF STABILIZATION MUST BE STABILIZED**

**COMPOSTED SLUDGE MUST UNDERGO  
COMPOSTING CONDITIONS EQUAL TO  
PROCESS TO FURTHER REDUCE PATHOGENS  
PROCESSED SLUDGE IS DISINFECTED,  
STABILIZED, AND DISTRIBUTED AS  
SOIL CONDITIONER OR FERTILIZER**

**MUST BE STABILIZED**

**COMPOSTED SLUDGE MUST UNDERGO  
COMPOSTING CONDITIONS EQUAL TO  
PROCESS TO FURTHER REDUCE PATHOGENS  
PROCESSED SLUDGE IS DISINFECTED,  
STABILIZED, AND DISTRIBUTED AS  
SOIL CONDITIONER OR FERTILIZER**

**MUST BE STABILIZED**

**COMPOSTED SLUDGE MUST UNDERGO  
COMPOSTING CONDITIONS EQUAL TO  
PROCESS TO FURTHER REDUCE PATHOGENS  
PROCESSED SLUDGE IS DISINFECTED,  
STABILIZED, AND DISTRIBUTED AS  
SOIL CONDITIONER OR FERTILIZER**

**SOIL**

**PH TESTED SEMIANNUALLY WHEN GROWING  
FOOD CHAIN CROPS, ANNUALLY OTHERWISE**

**PH TESTED SEMIANNUALLY WHEN GROWING  
FOOD CHAIN CROPS, ANNUALLY OTHERWISE**

**PH TESTED SEMIANNUALLY WHEN GROWING  
FOOD CHAIN CROPS, ANNUALLY OTHERWISE**

**CROPS**

FILE 3.5

	FLORIDA GRADE 1 PROCESSED LAND APPLICATION	FLORIDA GRADE 1 LAND APPLICATION	FLORIDA GRADE 11 LAND APPLICATION
SURFACE WATER	TESTING MAY BE REQUIRED	TESTING MAY BE REQUIRED	TESTING MAY BE REQUIRED
GROUNDWATER	TESTING MAY BE REQUIRED	TESTING MAY BE REQUIRED	TESTING MAY BE REQUIRED
MAXIMUM SLUDGE LOADING LIM (CEC IN MEQ/100G SOIL) SLUDGE APPLICATION WILL BE SLUDGE	6 T/AC (DRY) 30 T/AC FOR LAND RECLAMATION (MUST BE APPLIED WITHIN 12 MO)	6 T/AC (DRY) 30 T/AC FOR LAND RECLAMATION (MUST BE APPLIED WITHIN 12 MO)	6 T/AC (DRY) 30 T/AC FOR LAND RECLAMATION (MUST BE APPLIED WITHIN 12 MO)
N (ANNUAL)	562 KG/HA (500 LB/AC)	562 KG/HA (500 LB/AC)	562 KG/HA (500 LB/AC)

FLORIDA  
GRADE I PROCESSED  
LAND APPLICATION

FLORIDA  
GRADE I  
LAND APPLICATION

FLORIDA  
GRADE II  
LAND APPLICATION

METALS

CD

ANNUAL

.562 KG/HA (.5 LB/AC)

MAX. CUMULATIVE

5 KG/HA (4.45 LB/AC)

PB

(ANNUAL)

50 KG/HA (44.5 LB/AC)

(MAX. CUMULATIVE)

500 KG/HA (445 LB/AC)

ZN

(ANNUAL)

25 KG/HA (22.2 LB/AC)

(MAX. CUMULATIVE)

250 KG/HA (222 LB/AC)

CU

(ANNUAL)

12.5 KG/HA (11.1 LB/AC)

(MAX. CUMULATIVE)

125 KG/HA (111 LB/AC)

	FLORIDA GRADE I PROCESSED LAND APPLICATION	FLORIDA GRADE I LAND APPLICATION	FLORIDA GRADE II LAND APPLICATION
CR			
NI			(ANNUAL) 12.5 KG/HA (11.1 LB/AC) (MAX. CUMULATIVE) 125 KG/HA (111 LB/AC)
HG			
ORGANICS PCBS			
LAND USE RESTRICTIONS			
CROPS	NOT APPLIED FOR CULTIVATION OF FOOD CHAIN CROPS OF ROOTS, LEAFY VEGIES, OR THOSE EATEN RAW, TOBACCO NO HARVEST OF FOOD CHAIN CROPS WITHIN 2 MO EXCEPT ORCHARD, SILAGE, OR HAY NO APPLICATION TO EDIBLE PART OF FOOD CHAIN CROP EXCEPT HAY	NOT APPLIED FOR CULTIVATION OF FOOD CHAIN CROPS OF ROOTS, LEAFY VEGIES, OR THOSE EATEN RAW, TOBACCO NO HARVEST OF FOOD CHAIN CROPS WITHIN 2 MO EXCEPT ORCHARD, SILAGE, OR HAY NO APPLICATION TO EDIBLE PART OF FOOD CHAIN CROP EXCEPT HAY	NOT APPLIED FOR CULTIVATION OF FOOD CHAIN CROPS OF ROOTS, LEAFY VEGIES, OR THOSE EATEN RAW, TOBACCO NO HARVEST OF FOOD CHAIN CROPS WITHIN 2 MO EXCEPT ORCHARD, SILAGE, OR HAY NO APPLICATION TO EDIBLE PART OF FOOD CHAIN CROP EXCEPT HAY
GRAZING OR GREENCHOP	NOT TO BE USED FOR GRAZING OR FEED FOR 1 MO.	NOT TO BE USED FOR GRAZING OR FEED FOR 1 MO.	NOT TO BE USED FOR GRAZING OR FEED FOR 1 MO.

	FLORIDA GRADE I PROCESSED LAND APPLICATION	FLORIDA GRADE I LAND APPLICATION	FLORIDA GRADE II LAND APPLICATION
PUBLIC ACCESS		NO PUBLIC ACCESS FOR 12 MO., AND APPLICATION PROHIBITED WHERE PUBLIC ACCESS IS UNRESTRICTED, UNLESS PROCESSED OR COMPOSTED	NO PUBLIC ACCESS FOR 12 MO., AND APPLICATION PROHIBITED WHERE PUBLIC ACCESS IS UNRESTRICTED, UNLESS PROCESSED OR COMPOSTED
PH OF SOIL & SLUDGE OR PH OF SOIL	6.5 AT TIME OF APPLICATION	6.5 AT TIME OF APPLICATION	6.5 AT TIME OF APPLICATION
SITING RESTRICTIONS SOIL CONDITIONS			
BUFFER REQUIREMENTS			
DIST. TO PRIVATE WELL		300 FT FROM SHALLOW WELL (COMPOSTED OR PROCESSED IS EXEMPT)	300 FT FROM SHALLOW WELL (COMPOSTED OR PROCESSED IS EXEMPT)
DIST. TO PUBLIC WELL		500 FT FROM SHALLOW WELL (COMPOSTED OR PROCESSED IS EXEMPT)	500 FT FROM SHALLOW WELL (COMPOSTED OR PROCESSED IS EXEMPT)
DIST TO RESIDENCE		300 FT (COMPOSTED OR PROCESSED IS EXEMPT)	300 FT (COMPOSTED OR PROCESSED IS EXEMPT)
DIST TO OTHER BUILDINGS		300 FT TO OCCUPIED BUILDING (COMPOSTED OR PROCESSED IS EXEMPT)	300 FT TO OCCUPIED BUILDING (COMPOSTED OR PROCESSED IS EXEMPT)
DIST TO PROPERTY LINE			
GROUND WATER PROTECTION	NOT APPLIED LESS THAN 200 FT FROM SUBSURFACE FRACTURES, CAVITIES, SINKHOLES	NOT APPLIED LESS THAN 200 FT FROM SUBSURFACE FRACTURES, CAVITIES, SINKHOLES	NOT APPLIED LESS THAN 200 FT FROM SUBSURFACE FRACTURES, CAVITIES, SINKHOLES
DEPTH TO HIGH GROUNDWATER LEVEL	2 FT (AT TIME OF APPLICATION)	2 FT (AT TIME OF APPLICATION)	2 FT (AT TIME OF APPLICATION)

	FLORIDA GRADE I PROCESSED LAND APPLICATION	FLORIDA GRADE I LAND APPLICATION	FLORIDA GRADE II LAND APPLICATION
DEPTH TO BEDROCK PERMEABILITY INFILTRATION SURFACE WATER PROTECTION	2 FT LAYER OF PERMEABLE SOIL WHERE BEDROCK IS PREDOMINANTLY LIMESTONE	2 FT LAYER OF PERMEABLE SOIL	2 FT LAYER OF PERMEABLE SOIL
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING			
DIST TO SURFACE WATER		3000 FT FROM CLASS I WATER   200 FT FROM OTHER WATER   EXCEPT FOR IRRIGATION CANALS	3000 FT FROM CLASS I WATER   200 FT FROM OTHER WATER   EXCEPT FOR IRRIGATION CANALS
DIST. TO DRY RUN			
RUNOFF AND EROSION CONTROL	NO APPLICATION DURING RAIN, OR TO SATURATED SOILS	MUST BE INJECTED OR INCORPORATED   WITHIN 48 HOURS IF AREA IS   UNVEGETATED (PROCESSED EXEMPT)   NO APPLICATION DURING RAIN, OR   TO SATURATED SOILS	MUST BE INJECTED OR INCORPORATED   WITHIN 48 HOURS IF AREA IS   UNVEGETATED (PROC. AND COMP. EXEMPT)   STORM WATER MUST BE   PREVENTED FROM ENTERING OR   LEAVING AREA   NO APPLICATION DURING RAIN, OR   TO SATURATED SOILS
MAXIMUM SLOPE LIMIT	8 %	8 %	8 %

FLORIDA  
GRADE I PROCESSED  
LAND APPLICATION

FLORIDA  
GRADE I  
LAND APPLICATION

FLORIDA  
GRADE II  
LAND APPLICATION

RECORDS

REPORTS

NOTIFICATIONS

STORAGE

Florida

**FLORIDA  
GRADE I PROCESSED  
LAND APPLICATION**

**FLORIDA  
GRADE I  
LAND APPLICATION**

**FLORIDA  
GRADE II  
LAND APPLICATION**

**TRANSPORTATION**

**UNCONTROLLED USE**

**DEDICATED SITES**

**FILE 3.5**

**FLORIDA  
GRADE I PROCESSED  
LAND APPLICATION**

**FLORIDA  
GRADE I  
LAND APPLICATION**

**FLORIDA  
GRADE II  
LAND APPLICATION**

**COMMENTS**

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FILE 1

GEORGIA

|LAND APPLICATION

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SLUDGE CLASSIFICATION

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STATE CONTROL

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LAWS, TITLE & DATE

|TITLE 12, CHP 8, ART 2,1972  
|AS AMENDED

|

REGS, TITLE & DATE

|

GUIDELINES, TITLE & DATE

|GUIDELINES FOR LAND APPLICATION  
|OF MUNICIPAL SLUDGE  
|9/83

|

CONTROLLING AGENCY

|GEORGIA DEPT OF NATURAL RESOURCES  
|ENVIRONMENTAL PROTECTION DIVISION  
|30334  
|404/656/4887

|

ACCEPTABILITY OF SLUDGE

|ACCEPTABILITY OF SLUDGE IS PART OF  
|OF APPROVAL NECESSARY FOR LAND  
|APPLICATION OF SLUDGE . SEE INFOR-  
|MATION REQUIREMENTS UNDER LAND

|

Georgia

GEORGIA

|LAND APPLICATION |

|APPLICATION APPROVAL |

SLUDGE SAMPLING PARAMETERS

|SLUDGE ANALYSIS: |

| % SOLIDS, % VOL. SOLIDS, pH, CD, PB |

| % SOLIDS MUST BE DETERMINED ON > OR = |

| 10% OF SLUDGE |

GEORGIA  
LAND APPLICATION

MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (MG/KG SLUDGE DRY WEIGHT)

AS

CD

PB

NI

ZN

GEORGIA

LAND APPLICATION

CU

CR

HG

MO

B

FE

ORGANICS

PCB

WATER

OTHER CONTAMINANTS

RECORDS

RECORDS OF SLUDGE ANALYSIS MUST  
BE MAINTAINED

GEORGIA

LAND APPLICATION

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION

APPROVAL OR PERMIT  
APPLIC. SUBMITTAL

APPROVAL BY DIVISION IS REQUIRED  
SUBMITTAL INCLUDES:  
SOIL CHAR, TOPO CHAR, AVAIL ACRES,

GEORGIA

|LAND APPLICATION

| LOCATION MAP, STMT OF LAND USE OR  
| CROPS TO BE GROWN, SLUDGE ANAL,  
| METHOD OF APPLIC, SLUDGE SOURCE,  
| DESIGN AVG DAILY FLOW OF SLUDGE  
| SOURCE

CRITERIA FOR USE  
DEGREE OF STABILIZATION

|PSRP IF CROPS FOR DIRECT HUMAN  
| CONSUMPTION DO NOT DIRECTLY  
| CONTACT SLUDGE  
|PFRP IF CROPS FOR DIRECT HUMAN  
| CONSUMPTION PLANTED WITHIN 18 MOS,  
| AND IF EDIBLE PORTION OF CROPS FOR  
| DIRECT HUMAN CONSUMPTION TOUCH  
| SLUDGE

GEORGIA	
	LAND APPLICATION
SOIL SAMPLING	
PRE-APPLICATION	TEXTURAL CLASSIF AND pH
POST-APPLICATION	pH ANNUALLY IF DOMESTIC WASTE ONLY AND IF WWTP DESIGN <1.0 MGD; ADDITIONAL MONITORING IF WWTP DESIGN = OR > 1.0 AND IF SOME PORTION INDUSTRIAL
WATER QUALITY MONITORING	
GROUND WATER	MAY BE REQUIRED IF WWTP = OR >1.0 MGD OR IF SOME PORTION INDUSTRIAL
SURFACE WATER	MAY BE REQUIRED IF WWTP = OR > 1.0 MGD OR IF SOME PORTION INDUSTRIAL
CROP MONITORING	
MAXIMUM SLUDGE LOADING LIMIT	
KG/HA UNLESS OTHERWISE NOTED	

GEORGIA

LAND APPLICATION

(CEC IN MEQ/100G SOIL)  
ANNUAL OR CUMULATIVE

NUTRIENTS  
N (ANNUAL)

BASED ON N REQUIREMENT OF CROP  
DETERMINE FROM TOTAL AND INORGANIC N,  
N REQUIREMENT OF CROP, AND SOIL  
TEST

P

METALS

CD  
ANNUAL

UNTIL 12/86: 1.25 KG/HA  
AFTER 1/87: 0.5 KG/HA  
IF TOBACCO, LEAFY VEG, OR ROOT  
CROPS: 0.5 KG/HA

MAX CUMULATIVE

IF CEC < 5: 5 KG/HA  
IF 5 < CEC < 15: 10 KG/HA  
IF CEC > 15: 20 KG/HA  
SOIL pH MUST BE = OR > 6.5

PB

IF CEC < 5: 561 KG/HA

	GEORGIA	
	LAND APPLICATION	
	IF 5<CEC<15: 1121 KG/HA	
	IF CEC>15: 2242 KG/HA	
	? MAX CUM < 800 KG/HA IF CEC>5	
	(STATE AWARE OF CONFLICT)	
ZN	IF CEC<5: 280 KG/HA	
	IF 5<CEC<15: 561 KG/HA	
	IF CEC>15: 1121 KG/HA	
CU	IF CEC<5: 140 KG/HA	
	IF 5<CEC<15: 280 KG/HA	
	IF CEC>15: 561 KG/HA	
CR		
NI	IF CEC<5: 57 KG/HA	
	IF 5<CEC<15: 112 KG/HA	
	IF CEC>15: 224 KG/HA	
HG		

GEORGIA

LAND APPLICATION

ORGANICS

PCB

LAND USE RESTRICTIONS

CROPS

GRAZING OR GREENCHOP

NO GRAZING BY ANIMALS WHOSE PRODUCTS  
ARE CONSUMED BY HUMANS FOR 1 MO

	GEORGIA
	LAND APPLICATION
PUBLIC ACCESS	NO PUBLIC ACCESS FOR 12 MOS
PH OF SOIL	FOR FOOD CHAIN CROPS MUST BE = OR > 6.5 UNLESS CD = OR < 2.0 MG/KG
SITING RESTRICTIONS	
SOIL CONDITIONS	NOT SANDY SOIL
BUFFER REQUIREMENTS	
DIST TO PRIVATE WELL	300 FT IF INJECTED 500 FT IF SURFACE APPLIC
DIST TO PUBLIC WELL	1000 FT
DIST TO RESIDENCE	300 FT IF INCORP OF INJECTED

	GEORGIA	
	LAND APPLICATION	
	1000 FT IF RIDGED OR LOW PRES SPRAY	
	500 IF SPLASH PLATE TO SURFACE	
	2000 FT IF HIGH PRES SPRAY	
DIST TO OTHER BLDGS.		
DIST TO PROPERTY LINE	20 FT TO ROAD IF INCORP, INJECTED, RIDGED, OR SPLASH PLATE TO SURF. 200 FT TO ROAD IF LOW PRES SPRAYED 1000 FT TO ROAD IF HIGH PRES SPRAYED	
GROUNDWATER PROTECTION		
DEPTH TO HIGH GW	4 FT	
DEPTH TO BEDROCK		
PERMEABILITY	NOT TOO PERMEABLE	
INFILTRATION		

	GEORGIA	
	LAND APPLICATION	
SURFACE WATER PROTECTION		
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT ON SATURATED SOIL	
DIST TO SURFACE WATER	200 FT IF INCORP, INJECTED, RIDGED, SPLASHED, OR LOW-PRES SPRAYED 1000 FT IF HIGH-PRES SPRAYED	
DIST TO DRY RUN		
RUNOFF AND EROSION CONTROL	NOT ON HILLTOPS, NOT DURING RAIN, DENSE VEG COVER IN BUFFER ZONE IF SURFACE APPLIC	
MAXIMUM SLOPE LIMIT	5% IF SURFACE APPLIC >5% IF INCORPORATED	



GEORGIA  
LAND APPLICATION

TRANSPORTATION

UNCONTROLLED USE

DEDICATED SITES

FILE 1

GEORGIA  
|LAND APPLICATION  
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COMMENTS

SLUDGE CLASSIFICATION	HAWAII   LAND APPLICATION/UNCONTROLLED   DISTRIBUTION   NOT ADDRESSED	
STATE CONTROL		
LAWS, TITLE & DATE	HRS STAT 342, PART V, CHP 100   1972, AS AMENDED	
REGS, TITLE & DATE	TITLE 11, CHAPTER 58 OF THE   DEPT OF HEALTH, SOLID WASTE   MANAGEMENT CONTROL	
GUIDELINES, TITLE & DATE		
CONTROLLING AGENCY	HAWAII DEPT OF HEALTH   ENVIRONMENTAL PERMITS BRANCH   HONOLULU, HAWAII 96801   808/548/6410	

	HAWAII
	LAND APPLICATION/UNCONTROLLED
	DISTRIBUTION
ACCEPTABILITY OF SLUDGE	NOT ADDRESSED
PERMIT OR APPROVAL APPLIC. SUBMITTAL	THE ONLY PERMIT ADDRESSED BY THE REGS IS THE PERMIT REQUIRED FOR OPERATION OF A SOLID WASTE
	DISPOSAL FACILITY
	SEE COMMENT BELOW
SLUDGE SAMPLING PARAMETERS	

| HAWAII  
| LAND APPLICATION/UNCONTROLLED  
| DISTRIBUTION  
| NOT ADDRESSED  
|

MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (MG/KG SLUDGE DRY WEIGHT)

AS

CD

PB

HAWAII  
LAND APPLICATION/UNCONTROLLED  
DISTRIBUTION  
NOT ADDRESSED

NI

ZN

CU

CR

HG

MO

B

FE

ORGANICS

PCB

WATER

OTHER CONTAMINANTS

RECORDS

HAWAII  
LAND APPLICATION/UNCONTROLLED  
DISTRIBUTION  
NOT ADDRESSED

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION

Hawaii

	HAWAII	
APPROVAL OR PERMIT APPLIC. SUBMITTAL	LAND APPLICATION/UNCONTROLLED DISTRIBUTION NOT ADDRESSED	
CRITERIA FOR USE DEGREE OF STABILIZATION		
SOIL SAMPLING PRE-APPLICATION		

	HAWAII	
	LAND APPLICATION/UNCONTROLLED	
	DISTRIBUTION	
	NOT ADDRESSED	
POST-APPLICATION		
WATER QUALITY MONITORING		
GROUND WATER		
SURFACE WATER		
CROP MONITORING		
MAXIMUM SLUDGE LOADING LIMIT		
KG/HA UNLESS OTHERWISE NOTED		
(CEC IN MEQ/100G SOIL)		
ANNUAL OR CUMULATIVE		
NUTRIENTS		
N (ANNUAL)		

HAWAII  
LAND APPLICATION/UNCONTROLLED  
DISTRIBUTION  
NOT ADDRESSED

PH

METALS

CD  
ANNUAL

MAX CUMULATIVE

PB

	HAWAII	
	LAND APPLICATION/UNCONTROLLED	
	DISTRIBUTION	
	NOT ADDRESSED	
ZN		
CU		
CR		
NI		
HG		

HAWAII  
LAND APPLICATION/UNCONTROLLED  
DISTRIBUTION  
NOT ADDRESSED

ORGANICS

PCB

LAND USE RESTRICTIONS

CROPS

GRAZING OR GREENCHOP

HAWAII  
LAND APPLICATION/UNCONTROLLED  
DISTRIBUTION  
NOT ADDRESSED

PUBLIC ACCESS

PH OF SOIL

SITING RESTRICTIONS

SOIL CONDITIONS

BUFFER REQUIREMENTS

DIST TO PRIVATE WELL

DIST TO PUBLIC WELL

DIST TO RESIDENCE

	HAWAII LAND APPLICATION/UNCONTROLLED DISTRIBUTION NOT ADDRESSED
DIST TO OTHER BLDGS.	
DIST TO PROPERTY LINE	
GROUNDWATER PROTECTION	
DEPTH TO HIGH GW	
DEPTH TO BEDROCK	
PERMEABILITY	
INFILTRATION	
SURFACE WATER PROTECTION	

	HAWAII	
	LAND APPLICATION/UNCONTROLLED	
	DISTRIBUTION	
	NOT ADDRESSED	
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING		
DIST TO SURFACE WATER		
DIST TO DRY RUN		
RUNOFF AND EROSION CONTROL		
MAXIMUM SLOPE LIMIT		
RECORDS		

HAWAII  
LAND APPLICATION/UNCONTROLLED  
DISTRIBUTION  
NOT ADDRESSED

REPORTS

NOTIFICATIONS

STORAGE

TRANSPORTATION

HAWAII  
LAND APPLICATION/UNCONTROLLED  
DISTRIBUTION  
NOT ADDRESSED

UNCONTROLLED USE

DEDICATED SITES



	ILLINOIS	ILLINOIS	ILLINOIS
	LAND APPLICATION	PUBLIC DISTRIBUTION PROGRAM	LAND RECLAMATION
SLUDGE CLASSIFICATION	NON-HAZARDOUS	NON-HAZARDOUS	
STATE CONTROL			
LAWS, TITLE & DATE	SECTION 4(G) OF THE ENVIRONMENTAL PROTECTION ACT (ILL REV. STAT.1981 CH.111 1/2 PAR.1004(G)) AND BY 35 ILL ADM CODE 309.155, 309.208(E), AND 309.262. 1983	SECTION 4(G) OF THE ENVIRONMENTAL PROTECTION ACT (ILL REV. STAT.1981 CH.111 1/2 PAR.1004(G)) AND BY 35 ILL ADM CODE 309.155, 309.208(E), AND 309.262. 1983	SECTION 4(G) OF THE ENVIRONMENTAL PROTECTION ACT (ILL REV. STAT.1981 CH.111 1/2 PAR.1004(G)) AND BY 35 ILL ADM CODE 309.155, 309.208(E), AND 309.262. 1983
REGS, TITLE & DATE	TITLE 35, SUBTITLE C, CHAPTER II, PART 391, 12/14/83. INCLUDES AMENDMENTS THROUGH 1/84	TITLE 35, SUBTITLE C, CHAPTER II, PART 391, 12/14/83. INCLUDES AMENDMENTS THROUGH 1/84	TITLE 35, SUBTITLE C, CHAPTER II, PART 391, 12/14/83. INCLUDES AMENDMENTS THROUGH 1/84
GUIDELINES, TITLE & DATE			
CONTROLLING AGENCY	ILLINOIS ENVIRONMENTAL PROTECTION AGENCY SPRINGFIELD, ILLINOIS 217/782/0610	ILLINOIS ENVIRONMENTAL PROTECTION AGENCY SPRINGFIELD, ILLINOIS 62706 217/782/0610	ILLINOIS ENVIRONMENTAL PROTECTION AGENCY SPRINGFIELD, ILLINOIS 62706 217/782/0610
ACCEPTABILITY OF SLUDGE			
PERMIT OR APPROVAL APPLIC. SUBMITTAL	APPROVAL OF SLUDGE MGNT PLAN IS PART OF PERMIT FOR LAND APPLIC. THOSE WH	GENERATOR MUST HAVE AN APPROVED SLUDGE MANAGEMENT PLAN,WHICH	AGENCY PERMIT REQUIRED SEE SUBMITTAL REQUIREMENTS UNDER

	ILLINOIS	ILLINOIS	ILLINOIS
	LAND APPLICATION	PUBLIC DISTRIBUTION PROGRAM	LAND RECLAMATION
	MUST OBTAIN PERMITS INCLUDE:	IS PART OF THE AGENCY PERMIT	PERMIT FOR LAND APPLICATIONS
	GENERATORS INTENDING TO APPLY		
	SLUDGE ON AGRIC. LAND, TREATMENT		
	PLANT GROUJND, DISTURBED SOILS,SOD		
	FARMS, OR HAVE A PUBLIC		
	DISTRIBUTION PROGRAM;		
	DISTRIBUTORS WHO SELL OR GIVE AWAY		
	>1500 DRY TONS/YEAR		
	USERS WHO APPLY TO SITES >300 ACRES		
	OR APPLY > 1500 DRY TONS/YEAR;		
	USERS, IF NECESSARY TO PROTECT PUBL		
	HEALTH		
	SUBMITTAL REQUIREMENTS ARE LISTED		
	UNDER PERMIT FOR LAND APPLICATION		
SLUDGE SAMPLING PARAMETERS	SLUDGE ANALYSIS:%TOTAL SOLIDS,		
	% VOLATILE SOLIDS, pH, VOL.ACIDS,		
	TOTAL KJELDAHL N, AMMONIA NITROGEN		
	PH,K,CD,DU,PB,MANGANESE,NI,ZN		
	FREQUENCY: SYSTEMS DESIGNED FOR		
	POP.>100,000:MONTHLY		
	POP10,000-100,000:QUARTERLY		
	POP 1,000-9,999:SEMI-ANNUALLY		
	POP <1,000:ANNUAL		

	ILLINOIS LAND APPLICATION	ILLINOIS PUBLIC DISTRIBUTION PROGRAM	ILLINOIS LAND RECLAMATION
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS	NO CONCENTRATION LEVELS ARE SET	NO CONCENTRATION LEVELS ARE SET	NO CONCENTRATION LEVELS ARE SET
CONDUCTIVITY (SALT)			
NUTRIENTS (% BY DRY WEIGHT)			
N			
P			
K			
METALS (MG/KG SLUDGE DRY WEIGHT)			
AS			
CD		25MG/KG	
PB			
NI			
ZN			

	ILLINOIS LAND APPLICATION	ILLINOIS PUBLIC DISTRIBUTION PROGRAM	ILLINOIS LAND RECLAMATION
CU			
CR			
HG			
MO			
B			
FE			
ORGANICS PCB			
WATER		ONLY DRIED SLUDGE (15% SOLIDS) CAN BE GIVEN AWAY.	
OTHER CONTAMINANTS			
RECORDS	GENERATOR MUST KEEP FOR TWO YRS AFT THE EXPIRATION OF PERMIT THE SIGNED USER INFORMATION SHEET. SLUDGE RECORDS SHALL INCLUDE: DATE OF SLUDGE SHIPMENT OR APPLICA TION, WEATHER CONDITIONS WHEN DELIVERED, LOCATION OF SLUDGE DESTINATION, AMOUNT OF SLUDGE	GENERATOR MUST KEEP USER INFOR- MATION SHEETS FOR UP TO TWO YEARS AFTER THE EXPIRATION DATE OF THE PERMIT FOR USERS WHO RECEIV > 25CY/YEAR. NO USER RECORD REQUIRED FOR USER RECEIVING <25CY PER YEAR.	

	ILLINOIS	ILLINOIS	ILLINOIS
	LAND APPLICATION	PUBLIC DISTRIBUTION PROGRAM	LAND RECLAMATION
REPORTS	APPLIED OR DELIVERED, AND ANALYSIS OF SLUDGE NO RECORDS REQUIRED IF <25CY DIS- TRIBUTED TO USER PER YEAR GENERATOR MUST REPORT TO AGENCY AS REQUIRED IN PERMIT GENERATORS MUST NOTIFY USERS OF SLUDGE QUALITY AND SHALL RECOMMEND APPLIC. RATES FOR SPECIFIC NEED		
NOTIFICATIONS		GENERATOR MUST NOTIFY USER AS TO TYPE OF SLUDGE AND HOW TO APPLY	
STORAGE (IF APPLICABLE)	SEE REQUIREMENTS UNDER LAND APPLI- CATION		
LAND APPLICATION			
APPROVAL OR PERMIT APPLIC. SUBMITTAL	PERMIT APPLICATIONS MUST INCLUDE: SCHEDULE WPC-PS-1 SCHEDULE G	GENERATOR MUST HAVE APPROVED MGNT PLAN	AGENCY PERMIT REQUIRED FOR SITE APPLICATION; OWNER OF SITE,

ILLINOIS	ILLINOIS	ILLINOIS
LAND APPLICATION	PUBLIC DISTRIBUTION PROGRAM	LAND RECLAMATION
LABORATORY ANALYSIS SHEET		SITE CONDITIONS,
AGRONOMIC CALCULATIONS		METHOD OF SITE PREPARATION,
SLUDGE MANAGEMENT PLAN NARRATIVE		TRANSPORTATION AND STORAGE METHOD,
METHOD OF APPLIC.		DIST TO HABITATION AND POTABLE
SITE CHARACTERISTICS		WATER SUPPLIES,
CONTINGENCIES		SLUDGE APPLICATION CRITERIA,
SLUDGE USER INFORMATION		SITE OPERATION AND MAINTENANCE,
HEAVY METALS LOADINGS AT PROPOSED		RECORDKEEPING PROCEDURES,
APPLICATION RATE		COMPLIANCE WITH FEDERAL AND
IF SPECIFIC SITE HAS BEEN CHOSEN:		STATE MINING LAWS,
LOCATION OF SITE, SOIL MAP,CROP		
YIELDS, SLOPE,DEPTH TO MEAN		
TABLE,SOIL pH AND CEC,AND		
SPECIAL CONSIDERATIONS		
MUST BE STABILIZED OR DIGESTED.	MUST BE STABILIZED OR DIGESTED	SHOULD BE STABILIZED, NOT NECES-
METHODS INCLUDE AEROBIC DIGESTION,		SARILY DIGESTED
ANAEROBIC DIGESTION, COMPOSTING,		
AND LIME STABILIZATION		
COMPOSTING AND LIME STABILIZ.MUST		
MEET 40 CFR 257, APP 11,		
SECTION A (1983)		

CRITERIA FOR USE  
DEGREE OF STABILIZATION

	ILLINOIS LAND APPLICATION	ILLINOIS PUBLIC DISTRIBUTION PROGRAM	ILLINOIS LAND RECLAMATION
SOIL SAMPLING PRE-APPLICATION			
POST-APPLICATION	FOR PROJECTS >5 YRS,AND IF >100 DRY TONS PER ACRE APPLIED OVER LIFE	FOR PROJECTS >5 YRS,AND IF >100 DRY TONS PER ACRE APPLIED OVER LIFE	
	OF SITE,COMPLETE SOILS ANALYSIS: CEC,HEAVY METALS(TOTAL OR PLANT AVAILABLE),pH,PH,ORGANIC CARBON CONTENT,SOLUBLE SALTS BY ELECTRICAL CONDUCTIVITY	OF SITE,COMPLETE SOILS ANALYSIS: CEC,HEAVY METALS(TOTAL OR PLANT AVAILABLE),pH,PH,ORGANIC CARBON CONTENT,SOLUBLE SALTS BY ELECTRICAL CONDUCTIVITY	
WATER QUALITY MONITORING GROUND WATER	IF REQUIREMENTS OF APPLICATION CAN NOT BE MET,GROUNDWATER MONITORING MAY BE REQUIRED.	IF REQUIREMENTS OF APPLICATION CAN NOT BE MET,GROUNDWATER MONITORING MAY BE REQUIRED.	
SURFACE WATER			
CROP MONITORING	IF REQUIREMENTS OF APPLICATION CAN NOT BE MET, CROP MONITORING MAY BE REQUIRED.	IF REQUIREMENTS OF APPLICATION CAN NOT BE MET, CROP MONITORING MAY BE REQUIRED.	
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED		SLUDGE APPLIC RATES NOT TO EXCEED	IN MOST CASES, RATE IS GREATER THAN

	ILLINOIS LAND APPLICATION	ILLINOIS PUBLIC DISTRIBUTION PROGRAM	ILLINOIS LAND RECLAMATION
(CEC IN MEQ/100G SOIL) ANNUAL OR CUMULATIVE		10 DRY T/A/YR	ALLOWED UNDER AGRONOMIC APPLIC.
NUTRIENTS N/(ANNUAL)	AGRONOMIC CALCS NECESS. MAX RATES BASED ON CROP NEEDS; MUST INCLUDE AMMONIA N AND ORGANIC N IN CALCS.	AGRONOMIC CALCS NECESS. MAX RATES BASED ON CROP NEEDS; MUST INCLUDE AMMONIA N AND ORGANIC N IN CALCS.	
P	AFTER 5 YRS, PH <400 LB/AC IF SANDY SOIL, OR <800 LB/AC IF NON-SANDY	AFTER 5 YRS, PH <400 LB/AC IF SANDY SOIL, OR <800 LB/AC IF NON-SANDY	
METALS			
CD ANNUAL	IF CEC<5: 1.12 KG/HA IF 5<CEC<15: 2.24 KG/HA IF CEC>15: 4.48 KG/HA	IF CEC<5: 1.12 KG/HA IF 5<CEC<15: 2.24 KG/HA IF CEC>15: 4.48 KG/HA	
MAX CUMULATIVE	IF CEC<5: 5.5 KG/HA IF 5<CEC<15: 11 KG/HA IF CEC>15: 22 KG/HA	IF CEC<5: 5.5 KG/HA IF 5<CEC<15: 11 KG/HA IF CEC>15: 22 KG/HA	
PB	IF CEC<5: 561 KG/HA	IF CEC<5: 561 KG/HA	

	ILLINOIS  LAND APPLICATION    IF 5<CEC<15: 1121 KG/HA  IF CEC>15: 2242 KG/HA 	ILLINOIS  PUBLIC DISTRIBUTION PROGRAM    IF 5<CEC<15: 1121 KG/HA  IF CEC>15: 2242 KG/HA 	ILLINOIS  LAND RECLAMATION     
ZN	IF CEC<5: 281 KG/HA  IF 5<CEC<15: 561 KG/HA  IF CEC>15: 1122 KG/HA 	IF CEC<5: 281 KG/HA  IF 5<CEC<15: 561 KG/HA  IF CEC>15: 1122 KG/HA 	   
CU	IF CEC<5: 140 KG/HA  IF 5<CEC<15: 280 KG/HA  IF CEC>15: 560 KG/HA 	IF CEC<5: 140 KG/HA  IF 5<CEC<15: 280 KG/HA  IF CEC>15: 560 KG/HA 	   
CR	TRIVALENT   ANNUAL:IF 5<CEC<15:100 KG/HA   MAX CUM:IF 5<CEC<15: 3924 KG/HA  HEXAVALENT   ANNUAL:IF 5<CEC<15: 49 KG/HA   MAX CUM:IF 5<CEC<15:493 KG/HA     	TRIVALENT   ANNUAL:IF 5<CEC<15:100 KG/HA   MAX CUM:IF 5<CEC<15: 3924 KG/HA  HEXAVALENT   ANNUAL:IF 5<CEC<15: 49 KG/HA   MAX CUM:IF 5<CEC<15:493 KG/HA     	         
NI	IF CEC<5: 56 KG/HA  IF 5<CEC<15: 112 KG/HA  IF CEC>15: 224 KG/HA 	IF CEC<5: 56 KG/HA  IF 5<CEC<15: 112 KG/HA  IF CEC>15: 224 KG/HA 	   
HG	ANNUAL: IF 5<CEC<15: 8 KG/HA  NO MAX CUM GIVEN 	ANNUAL: IF 5<CEC<15: 8 KG/HA  NO MAX CUM GIVEN 	   

	ILLINOIS	ILLINOIS	ILLINOIS
	LAND APPLICATION	PUBLIC DISTRIBUTION PROGRAM	LAND RECLAMATION
	MANGANESE	MANGANESE	
	IF CEC<5: 500 KG/HA	IF CEC<5: 500 KG/HA	
	IF 5<CEC<15: 1000 KG/HA	IF 5<CEC<15: 1000 KG/HA	
	IF CEC>15: 2000 KG/HA	IF CEC>15: 2000 KG/HA	
ORGANICS			
PCB	MUST BE <50MG/KG TO BE LAND APPLIED	MUST BE <50MG/KG TO BE LAND APPLIED	
	INCORPORATED IF >10 MG/KG	INCORPORATED IF >10 MG/KG	
	NO INCORPORATION IF <0.2 MG/KG	NO INCORPORATION IF <0.2 MG/KG	
	IN ANIMAL FEED OR < 1.5 MG/KG	IN ANIMAL FEED OR < 1.5 MG/KG	
	(FAT BASIS) IN MILK	(FAT BASIS) IN MILK	
LAND USE RESTRICTIONS			
CROPS	NO APPLICATION TO COMMERCIAL TRUCK	NOT RECOMMENDED ON LEAFY OR ROOT	
	GARDENING FRUITS AND VEGET. THAT	VEGETABLES UNLESS:	
	ARE GROWN FOR DIRECT HUMAN CONSUMP	RATE < 10 DRY T/AC/YR,	
		CD <10 MG/KG,	
		3 YEAR AGING PERIOD AFTER	
		DIGESTION OR STABILIZATION,	
		VEGET ARE WASHED OR COOKED	
		BEFORE EATING,	
		SLUDGE INCORPORATED WITHIN 48 HRS	
		OR PRIOR TO RAINFALL,	
		SOIL pH MUST BE AT LEAST 6.5	
		ALL OTHER CRITERIA MUST BE MET	
GRAZING OR GREENCHOP	NO LIVESTOCK GRAZING FOR 1 MO.	NO LIVESTOCK GRAZING FOR 1 MO.	

	ILLINOIS LAND APPLICATION	ILLINOIS PUBLIC DISTRIBUTION PROGRAM	ILLINOIS LAND RECLAMATION
PUBLIC ACCESS			
PH OF SOIL	BACKGROUND OF 6.5 OR GREATER REQUIR	BACKGROUND OF 6.5 OR GREATER REQUIR	
SITING RESTRICTIONS			
SOIL CONDITIONS	INCORPORATED IF MATRIC SOILS	INCORPORATED IF MATRIC SOILS	
BUFFER REQUIREMENTS			
DIST TO PRIVATE WELL	150 FT. FROM POTABLE WATER SUPPLY, 1/4 MI FROM WELL IN SINKHOLE, UNLES 50 FT. DEPTH OF UNCONSOL. MATERIAL	150 FT. FROM POTABLE WATER SUPPLY, 1/4 MI FROM WELL IN SINKHOLE, UNLES 50 FT. DEPTH OF UNCONSOL. MATERIAL	
DIST TO PUBLIC WELL	150 FT. FROM POTABLE WATER SUPPLY, 1/4 MI FROM WELL IN SINKHOLE, UNLES 50 FT. DEPTH OF UNCOLSOLID. MATERIA	150 FT. FROM POTABLE WATER SUPPLY, 1/4 MI FROM WELL IN SINKHOLE, UNLES 50 FT. DEPTH OF UNCOLSOLID. MATERIA	
DIST TO RESIDENCE	IF IMMEDIATE INCORP.,20 FT.	IF IMMEDIATE INCORP.,20 FT.	

	ILLINOIS	ILLINOIS	ILLINOIS
	LAND APPLICATION	PUBLIC DISTRIBUTION PROGRAM	LAND RECLAMATION
	IF RIDGE, OR NOT IMMEDIATELY INCORP 200 FT.	IF RIDGE, OR NOT IMMEDIATELY INCORP 200 FT.	
	IF LOW PRESSURE SPRAYED, 200 FT.	IF LOW PRESSURE SPRAYED, 200 FT.	
	IF HIGH PRESSURE SPRAYED, 1000 FT.	IF HIGH PRESSURE SPRAYED, 1000 FT.	
DIST TO OTHER BLDGS.			
DIST TO PROPERTY LINE	IF IMMEDIATE INCORP., 10 FT. FROM PUBLIC ROAD OR FENCE LINE.	IF IMMEDIATE INCORP., 10 FT. FROM PUBLIC ROAD OR FENCE LINE.	
	IF NOT IMMEDIATELY INCORP, 20 FT. FR TRAVELED PRIMARY OR SECONDARY ROAD OR 10 FT. FROM CLOSEST EDGE OF LES UTILIZED ROAD.	IF NOT IMMEDIATELY INCORP, 20 FT. FR TRAVELED PRIMARY OR SECONDARY ROAD OR 10 FT. FROM CLOSEST EDGE OF LES UTILIZED ROAD.	
	IF RIDGED, 200 FT. FROM TRAVELED ROAD	IF RIDGED, 200 FT. FROM TRAVELED ROAD	
	IF LOW-PRESS SPRAYED, 200 FT. FROM R	IF LOW-PRESS SPRAYED, 200 FT. FROM R	
	IF HIGH-PRESS SPRAYED, 1000 FT. FRO ROAD	IF HIGH-PRESS SPRAYED, 1000 FT. FRO ROAD	
GROUNDWATER PROTECTION			
DEPTH TO HIGH GW	10 FT. IF PERC TEST > 2 IN/HR 5 FT. IF PERC TEST = OR < 2 IN/HR	10 FT. IF PERC TEST > 2 IN/HR 5 FT. IF PERC TEST = OR < 2 IN/HR	
DEPTH TO BEDROCK			
PERMEABILITY			
INFILTRATION			

	ILLINOIS LAND APPLICATION	ILLINOIS PUBLIC DISTRIBUTION PROGRAM	ILLINOIS LAND RECLAMATION
SURFACE WATER PROTECTION			
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT IN 10 YEAR FLOODPLAIN NOT IN SATURATED LAND OR WITH PONDE WATER	NOT IN 10 YEAR FLOODPLAIN NOT IN SATURATED LAND OR WITH PONDE WATER	
DIST TO SURFACE WATER	200 FT. IF LOW PRESSURE SPRAYED, 200 FT. IF HIGH PRESSURE SPRAYED, 1000 FT.	200 FT. IF LOW PRESSURE SPRAYED, 200 FT. IF HIGH PRESSURE SPRAYED, 1000 FT.	
DIST TO DRY RUN	200 FT.	200 FT.	
RUNOFF AND EROSION CONTROL	NOT ON FROZEN GROUND, OR SNOW-COVER GROUND INCORPORATE WITHIN 48 HRS. OR PRIOR TO RAINFALL	NOT ON FROZEN GROUND, OR SNOW-COVER GROUND INCORPORATE WITHIN 48 HRS. OR PRIOR TO RAINFALL	
MAXIMUM SLOPE LIMIT	IF NOT INCORPORATED, < 5% IF >5%, SOIL LOSS MUST NOT EXCEED 5 TONS/ACRE IF INCORPORATED, UP TO 8% IF INCORPORATED, AND >8%, SOIL LOSS MUST NOT EXCEED 5 T/A	IF NOT INCORPORATED, < 5% IF >5%, SOIL LOSS MUST NOT EXCEED 5 TONS/ACRE IF INCORPORATED, UP TO 8% IF INCORPORATED, AND >8%, SOIL LOSS MUST NOT EXCEED 5 T/A	

	ILLINOIS	ILLINOIS	ILLINOIS
	LAND APPLICATION	PUBLIC DISTRIBUTION PROGRAM	LAND RECLAMATION
RECORDS		GENERATOR MUST KEEP COPY OF USER INFORMATION SHEET FOR TWO YEARS AFTER EXPIRATION OF THE PERMIT IF USER RECEIVES > 25CY/YEAR	
REPORTS	SLUDGE USERS MUST SUBMIT MONTHLY: PERMIT NO. AND NAME OF GENERATOR, DATE OF SLUDGE TRANSFER, VOL. OF SLUDGE TRANSFERRED, LOCATION OF APPLICATION SITES, MOST RECENT CHEMICAL ANALYSIS OF SLUDGE, METHOD OF APPLICATION		ANNUAL REPORT: DATES OF APPLICATION, AMOUNT OF SLUDGE APPLIED, CROPS GROWN AND FOR WHOM OR WHAT, SLUDGE SOURCE AND ANALYSIS, GW MONITORING RESULTS, SOIL MONITORING RESULTS, PLANT TISSUE MONITORING RESULTS, PRECIPITATION , OPERATING CONSTRAINTS
NOTIFICATIONS		GENERATOR MUST NOTIFY THE USER OF THE NATURE OF THE SLUDGE	
STORAGE	DISCOURAGE OFF-SITE STORAGE SPECIFIC CRITERIA FOR OFF-SITE INTERIM STORAGE OF LIQUID OR DRIED SLUDGE, LIQUID ANAEROBIC SLUDGE, LIQUID AEROBIC SLUDGE, AND DRIED SLUDGE	GENERATOR MUST COMPLY WITH REGS AS LISTED IN LAND APPLICATION	MUST BE IN COMPLIANCE WITH REGS AS LISTED IN LAND APPLICATION

ILLINOIS	ILLINOIS	ILLINOIS
LAND APPLICATION	PUBLIC DISTRIBUTION PROGRAM	LAND RECLAMATION

**TRANSPORTATION**

LIQUID SLUDGE: CLOSED VESSEL OR IF PIPELINE, NO LEAKAGE; OPEN TRUCKS CARRYING >15% TOTAL SOLIDS SLUDGE MUST PREVENT SPILLAGE

GENERATOR MUST COMPLY WITH REGS AS LISTED IN LAND APPLICATION

MUST BE IN COMPLIANCE WITH REGS AS LISTED IN LAND APPLICATION

**UNCONTROLLED USE**

PERMIT FOR SITE RECEIVING SLUDGE FOR LAND APPLICATION NOT NECESS. IF SLUDGE COMES FROM PLANT WITH NPDES PERMIT, IF USER APPLIES <300 ACRES/YEAR, AND IF IT IS TRANSPORTED, STORED, AND APPLIED IN COMPLIANCE WITH APPROVED SLUDGE MGNT PLAN OF GENERATOR

**DEDICATED SITES**

DEDICATED SITES(HORTICULTURAL, SILVICULTURAL, NURSERY, SOD FARM, HIGHWAY MEDIAN) REQUIRE CASE BY CASE REVIEW

FILE 1

ILLINOIS  
| LAND APPLICATION  
|  
|

ILLINOIS  
| PUBLIC DISTRIBUTION PROGRAM  
| |  
| |

ILLINOIS  
| LAND RECLAMATION  
| |  
| |

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COMMENTS

	INDIANA	INDIANA
	LAND APPLICATION	GIVE-AWAY PROGRAM
		MUNICIPAL SLUDGE
SLUDGE CLASSIFICATION		
STATE CONTROL		
LAWS, TITLE & DATE		INDIANA HAZARDOUS WASTE ACT
	INDIANA HAZARDOUS WASTE ACT	IC 13-7-5-1
	IC 13-7, PL 103	1980 AS AMENDED
	1980, AS AMENDED	
REGS, TITLE & DATE	LAND APPLICATION OF SLUDGE AND	LAND APPLICATION OF SLUDGE
	WASTEWATER	AND WASTEWATER
	330 IAC 3.3	330 IAC 3.3
	5/7/82	RULE 6
		5/7/82
GUIDELINES, TITLE & DATE		
CONTROLLING AGENCY	INDIANA STREAM POLLUTION	INDIANA STREAM POLLUTION
	CONTROL BOARD	CONTROL BOARD
	INDIANA STATE BOARD OF HEALTH	INDIANA STATE BOARD OF HEALTH
	INDIANAPOLIS, IN 46206	INDIANAPOLIS, IN 46206
	317/633/0765	317/633/0765



	INDIANA LAND APPLICATION	INDIANA GIVE-AWAY PROGRAM MUNICIPAL SLUDGE	
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS			
CONDUCTIVITY (SALT)			
NUTRIENTS (% BY DRY WEIGHT)			
N			
P			
K			
METALS (MG/KG SLUDGE DRY WEIGHT)			
AS			
CD			
PB			

	INDIANA LAND APPLICATION	INDIANA GIVE-AWAY PROGRAM MUNICIPAL SLUDGE
NI		
ZN		
CU		
CR		
HG		
MO		
B		
FE		
ORGANICS		
PCB		
WATER		
OTHER CONTAMINANTS		
RECORDS	RECORDS OF SLUDGE ANALYSIS MUST BE MAINTAINED	COPY OF USER INFORM SHEETS MUST BE KEPT FOR 3 YRS FOLLOWING EXPIRATION OF GENERATORS PERMIT

	INDIANA LAND APPLICATION	INDIANA GIVE-AWAY PROGRAM MUNICIPAL SLUDGE
REPORTS	ABOVE RECORDS MUST BE REPORTED TO THE DIRECTOR AS REQUIRED IN THE PERMIT	
NOTIFICATIONS		GENERATOR MUST INFORM USERS OF SLUDGE QUALITY AND PROPER AMTS FOR SPECIFIC NEEDS IF USERS OBTAIN > 25 CY/YR, GENER- ATOR MUST GIVE USER INFO SHEET DETAILING QUALITY, RECOMM APPLIC RATES
STORAGE (IF APPLICABLE)		
LAND APPLICATION		

	INDIANA	INDIANA
	LAND APPLICATION	GIVE-AWAY PROGRAM
		MUNICIPAL SLUDGE
APPROVAL OR PERMIT APPLIC. SUBMITTAL	LAND APPLICATION PERMIT IS REQUIRED PERMIT VALID FOR 5 YR FOR PERMIT, MUST COMPLY WITH ALL TECH CRITERIA AS OUTLINED BELOW OR SUBMIT A MANAGEMENT REPORT MANAGEMENT REPORT MUST INCLUDE: WASTE TYPE, WASTE AMOUNT, METHOD OF STORAGE, EQUIPMENT, APPLIC RATES, SOIL CHAR, SITE CHAR, MONITORING INFO, OTHER INFO AS REQUIRED	USER DOES NOT HAVE TO OBTAIN PERMIT OR APPROVAL
CRITERIA FOR USE DEGREE OF STABILIZATION	PSRP AND/OR PFRP	MUST BE DEWATERED AND MUST BE PSRP OR PFRP
SOIL SAMPLING PRE-APPLICATION		

	INDIANA LAND APPLICATION	INDIANA GIVE-AWAY PROGRAM MUNICIPAL SLUDGE
POST-APPLICATION		
WATER QUALITY MONITORING GROUND WATER		
SURFACE WATER		
CROP MONITORING		
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED (CEC IN MEQ/100G SOIL) ANNUAL OR CUMULATIVE	CERTAIN HYDRAULIC LOADS ARE SET	
NUTRIENTS N (ANNUAL)	NOT TO EXCEED CROP N UPTAKE	

	INDIANA LAND APPLICATION	INDIANA GIVE-AWAY PROGRAM MUNICIPAL SLUDGE
PH		
METALS		
CD ANNUAL	< 0.5 KG/HA IF TOBACCO, LEAFY VEG, OR ROOT CROPS GROWN FOR HUMAN CONSUMPTION; OTHERWISE UNTIL 12/86: 1.25 KG/HA AFTER 1/87: 0.5 KG/HA	
MAX CUMULATIVE	IF pH = OR > 6.5: IF CEC < 5: 5 KG/HA IF 5<CEC<15: 10 KG/HA IF CEC>15: 20 KG/HA IF SOILpH IS< 6.5: MAX IS 2 MG/HA  NO MAX CUM IF ONLY FOOD-CHAIN CROP IS ANIMAL FEED, IF PLAN SHOWS HOW DISTRIB WILL PRECLUDE INGES- TION BY HUMANS, AND WARNING RECORDED IN DEED RE: HIGH CD APPL	
PB	IF CEC<5: 500 KG/HA IF 5<CEC: 1000 KG/HA IF CEC>15: 2000 KG/HA	

	INDIANA LAND APPLICATION	INDIANA GIVE-AWAY PROGRAM MUNICIPAL SLUDGE
ZN	IF CEC<5: 250 KG/HA IF 5<CEC<15: 500 KG/HA IF CEC>15: 1000 KG/HA	
CU	IF CEC<5: 125 KG/HA IF 5<CEC<15: 250 KG/HA IF CEC>15: 500 KG/HA	
CR		
NI	IF CEC<5: 125 KG/HA IF 5<CEC<15: 250 KG/HA IF CEC>15: 500 KG/HA	
HG		

	INDIANA LAND APPLICATION	INDIANA GIVE-AWAY PROGRAM MUNICIPAL SLUDGE
ORGANICS		
PCB	> 10 MG/KG IF INCORP WHEN APPLIC FOR ANIMAL FEED, PASTURE CROP FOR DAIRY ANIMALS NO INCORP IF <0.2 MG/KG IN ANIMAL FEED OR <1.5 KG/HA FAT BASIS IN MILK	
LAND USE RESTRICTIONS		
CROPS		
GRAZING OR GREENCHOP	NO DAIRY ANIMALS FOR HUMAN CONSUMPTION FOR 1 MO	

	INDIANA LAND APPLICATION	INDIANA GIVE-AWAY PROGRAM MUNICIPAL SLUDGE
PUBLIC ACCESS		
PH OF SOIL	IF FOOD CHAIN CROPS: = OR > 6.5 IF < 6.5, AND NO FOOD CHAIN CROPS, APPROVAL ON CASE BY CASE BASIS	
SITING RESTRICTIONS		
SOIL CONDITIONS	PERMEABLE	
BUFFER REQUIREMENTS		
DIST TO PRIVATE WELL	300 FT UNLESS SUBSURF INJECTION OR IMMED INCORP	
DIST TO PUBLIC WELL	SAME AS ABOVE	
DIST TO RESIDENCE	300 FT	

	INDIANA LAND APPLICATION	INDIANA GIVE-AWAY PROGRAM MUNICIPAL SLUDGE	
DIST TO OTHER BLDGS.			
DIST TO PROPERTY LINE			
GROUNDWATER PROTECTION			
DEPTH TO HIGH GW	3 FT UNLESS ADEQUATE SUBSOIL DRAINAGE		
DEPTH TO BEDROCK	20 IN		
PERMEABILITY			
INFILTRATION			
SURFACE WATER PROTECTION			

	INDIANA LAND APPLICATION	INDIANA GIVE-AWAY PROGRAM MUNICIPAL SLUDGE
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT ON SOIL WHICH EXCEEDS MOISTURE HOLDING CAPACITY	
DIST TO SURFACE WATER	300 FT UNLESS SUBSURF INJECTION OR IMMED INCORP	
DIST TO DRY RUN		
RUNOFF AND EROSION CONTROL	NO APPLIC ON SOIL <32 DEG F NO UNCONTROLLED RUNOFF	
MAXIMUM SLOPE LIMIT	< 6% UNLESS APPROVED	
RECORDS	ANNUAL RECORDS OF APPLIC RATES AND SITE CONDITIONS, SLUDGE CHARAC, MONITORING RESULTS	

	INDIANA LAND APPLICATION MUST KEEP RECORDS FOR MIN 3 YR	INDIANA GIVE-AWAY PROGRAM MUNICIPAL SLUDGE
REPORTS	AS ABOVE	
NOTIFICATIONS	NOTIF OF CUM APPLIC OF MOST LIMITING HEAVY METAL	
STORAGE	MIN 90 DAYS STORAGE UNLESS WAIVED CONSTRUCTION PERMIT FOR CONST OF STORAGE FACILITY NECESS	
TRANSPORTATION		

| INDIANA  
| LAND APPLICATION

| INDIANA  
| GIVE-AWAY PROGRAM  
| MUNICIPAL SLUDGE

UNCONTROLLED USE

DEDICATED SITES



	IOWA UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	IOWA LAND APPLICATION EXEMPT FROM PERMIT	IOWA LAND APPLICATION NOT EXEMPT FROM PERMITTING
SLUDGE CLASSIFICATION		EXEMPT OR NONEXEMPT FROM PERMITTING	EXEMPT OR NONEXEMPT FROM PERMITTING
STATE CONTROL LAWS, TITLE & DATE	IAC DIVISION 900, TITLE VIII, TITLE IX	IAC DIVISION 900, TITLE VIII, TITLE IX	IAC DIVISION 900, TITLE VIII, TITLE IX
REGULATIONS, TITLE, DATE	IOWA SOLID WASTE DISPOSAL RULES CH.121(455B) LAND APPLICATION OF SOLID WASTE (10/18/84) 121.3 NOTE: ALL LISTED CRITERIA ARE CONTAINED IN THE REGULATIONS UNLESS NOTED	IOWA SOLID WASTE DISPOSAL RULES CH.121(455B) LAND APPLICATION OF SOLID WASTE (10/18/84) 121.3 NOTE: ALL LISTED CRITERIA ARE CONTAINED IN THE REGULATIONS UNLESS NOTED	IOWA SOLID WASTE DISPOSAL RULES CH.121(455B) LAND APPLICATION OF SOLID WASTE (10/18/84) 121.4 NOTE: ALL LISTED CRITERIA ARE CONTAINED IN THE REGULATIONS UNLESS NOTED
GUIDELINES, TITLE&DATE			
CONTROLLING AGENCY	DEPT. WATER, AIR, AND WASTE	DEPT. WATER, AIR, AND WASTE	DEPT. WATER, AIR, AND WASTE





IOWA  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

IOWA  
LAND APPLICATION  
EXEMPT FROM PERMIT

IOWA  
LAND APPLICATION  
NOT EXEMPT FROM PERMITTING

MAXIMUM SLUDGE CONSTITUENT

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIG

N

| 10 %

P

| 6.9 %

K

| .9 %

METALS (MG/KG SLUDGE DRY

AS

| 50

CD

| 15

PB

| 1000

NI

| 200

ZN

| 2000

CU

| 1000

CR

| 1000

HG

| 10

MO

B

FE

ORGANICS

PCB

IOWA  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

IOWA  
LAND APPLICATION  
EXEMPT FROM PERMIT

IOWA  
LAND APPLICATION  
NOT EXEMPT FROM PERMITTING

WATER

OTHER CONTAMINANTS

RECORDS

|RECORDS OF ANALYSIS  
|WRITTEN PLAN FOR LONG RANGE L.A.  
|PROGRAM, UPDATED YEARLY:  
|SAMPLING SCHEDULE, LAND AREA

|RECORDS OF SITE USAGE:  
|DATE OF USE  
|APPLICATION AREA  
|APPLICATION RATE

IOWA  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

IOWA  
LAND APPLICATION  
EXEMPT FROM PERMIT

IOWA  
LAND APPLICATION  
NOT EXEMPT FROM PERMITTING

| REQUIRED, APPL. METHODS,  
| LAND OWNER AND OPERATOR,  
| LEGAL REQUIREMENTS, L.A.  
| SCHEDULE, EQUIPMENT, STORAGE

| QUANTITY APPLIED  
| METHOD & TIMELINESS OF INCORPORATION  
| SLUDGE ANALYSIS RESULTS  
| LOADING RATES OF SLUDGE COMPONENTS

REPORTS

| RECORDS OF SITE USAGE SUBMITTED  
| ON SCHEDULE  
| RESULTS OF SURFACE WATER MONITORING  
| RESULTS OF GROUND WATER MONITORING

NOTIFICATIONS

| MUST INFORM LAND OWNER OR OPERATOR  
| OF REQUIREMENTS AND HAZARDS  
| IF LANDOWNER DOES NOT COMPLY  
| WITH CRITERIA, MUST STOP  
| DELIVERY OF SLUDGE

| NOTIFY STATE OF COMPLETION OR  
| SUSPENSION OF OPERATIONS AT  
| SITE  
| COPY OF PLANS AND REPORTS TO BE  
| FILED WITH COUNTY FOR COMPLETED SITE

STORAGE (IF APPLIC)

LAND APPLICATION

IOWA  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

IOWA  
LAND APPLICATION  
EXEMPT FROM PERMIT

IOWA  
LAND APPLICATION  
NOT EXEMPT FROM PERMITTING

APPROVAL OR PERMIT

	PERMIT NOT REQUIRED FOR LAND  APPLICATION OF MUNICIPAL SLUDGE  FROM POTW IF SLUDGE QUALITY LIMITS  ARE MET, SLUDGE IS STABILIZED,  AND LAND APPLICATION CONDUCTED  IN ACCORDANCE WITH ABOVE CRITERIA	PERMIT REQUIRED FOR MUNICIPAL SLUDGE  NOT MEETING REQUIREMENTS  FOR EXEMPTION
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APPLICATION SUBMITTALS

		PLAN: MAP WITH FEATURES,  TYPE, SOURCE, VOLUME OF WASTE  OPERATION: ORGANIZATIONAL CHART,  DISPOSAL EQUIP., CONTINGENCY PLAN,  PROOF OF LAND OWNERSHIP,  SOILS MAP, REVIEW OF LOCAL SOILS  CONSERVATION DISTRICT APPROVAL,  SITE AREA, INFORMATION ON WELLS  WITHIN 1 MI, SOIL LOSS LIMITS,  DESIGN SOIL LOSS LEVELS,  CURRENT SOIL LOSS,  SOIL ANALYSIS RESULTS, GW LEVELS  SLUDGE TREATMENT DESCRIPTION,  SLUDGE ANALYSIS RESULTS,  DISPOSAL PROCESS DESCRIPTION  EQUIPMENT  INFORMATION SHOWING THAT LAND  APPLICATION WILL NOT RESULT IN  PLANT UPTAKE TO MAKE SITE UNUSABLE  OR RESULT IN SURFACE WATER POLLUTION
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IOWA  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

IOWA  
LAND APPLICATION  
EXEMPT FROM PERMIT

IOWA  
LAND APPLICATION  
NOT EXEMPT FROM PERMITTING

CRITERIA FOR USE  
DEGREE OF STABILIZATION

STABILIZATION AND SUBSTANTIAL  
REDUCTION OF PATHOGENS

OTHER INFORMATION AS REQUIRED

SOIL

SOIL ANALYSIS: CEC, EXCH. CAT.,  
P,K,N,BULK DENS., PH(NORMAL  
AND MODIFIED)

CROPS

IOWA  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

IOWA  
LAND APPLICATION  
EXEMPT FROM PERMIT

IOWA  
LAND APPLICATION  
NOT EXEMPT FROM PERMITTING

SURFACE WATER

MONITORING AS REQUIRED

GROUNDWATER

MONITORING AS REQUIRED

MAXIMUM SLUDGE LOADING LIM  
(CEC IN MEQ/100G SOIL)  
SLUDGE APPLICATION WILL BE  
SLUDGE

(ANNUAL)  
2 TON/AC (DRY)

N (ANNUAL)

CROP NEEDS

IOWA  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

IOWA  
LAND APPLICATION  
EXEMPT FROM PERMIT

IOWA  
LAND APPLICATION  
NOT EXEMPT FROM PERMITTING

METALS

CD

ANNUAL

MAX. CUMULATIVE

PB

ZN

CU



IOWA UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	IOWA LAND APPLICATION EXEMPT FROM PERMIT	IOWA LAND APPLICATION NOT EXEMPT FROM PERMITTING
PUBLIC ACCESS	NO PUBLIC ACCESS--2 MO NOT USED WHERE BODILY CONTACT IS LIKELY (PLAYGROUNDS, PICNIC AREAS)	NO PUBLIC ACCESS--2 MO
PH OF SOIL & SLUDGE OR PH OF SOIL	6.5	ADJUSTED AND MAINTAINED AT 6.5
SITING RESTRICTIONS SOIL CONDITIONS	SPREADING ON SAND, LOAMY SAND, OR SILT NOT ALLOWED (USDA CLASS.)	
BUFFER REQUIREMENTS DIST. TO PRIVATE WELL	500 FT	
DIST. TO PUBLIC WELL	500 FT	
DIST TO RESIDENCE	200 FT	
DIST TO OTHER BUILDINGS		
DIST TO PROPERTY LINE		
GROUND WATER PROTECTION		
DEPTH TO HIGH GROUNDWATER LEVEL		

IOWA UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	IOWA LAND APPLICATION EXEMPT FROM PERMIT	IOWA LAND APPLICATION NOT EXEMPT FROM PERMITTING
DEPTH TO BEDROCK PERMEABILITY INFILTRATION SURFACE WATER PROTECTION	SOIL MUST BE 5 FT DEEP	
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	INJECTED ON CONTOUR OR   INCORPORATED IF IN 10 YR   FLOODPLAIN	
DIST TO SURFACE WATER	NOT APPLIED TO AREA WITHIN 200 FT   UPGRADIENT OF STREAM, LAKE, POND   SINKHOLE, TILE LINE SURFACE INTAKE.	
DIST. TO DRY RUN		
RUNOFF AND EROSION CONTROL	RECOMMENDED INJECTION ON CONTOUR   OR INCORPORATED WITHIN 48 HR	NOT APPLIED DURING RAIN, HIGH   GW CONDITIONS, OR FLOODING   NOT APPLIED WHEN RUNOFF OCCURS,   FROZEN, SNOW COVERED UNLESS   INJECTED
MAXIMUM SLOPE LIMIT	5 % FOR FROZEN OR SNOW	
	COVERED GROUND   INJECTED ON CONTOUR OR   INCORPORATED WITHIN 48 HOURS IF:   SOIL EROSION EXCEEDS SOIL	

IOWA  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

IOWA  
LAND APPLICATION  
EXEMPT FROM PERMIT

IOWA  
LAND APPLICATION  
NOT EXEMPT FROM PERMITTING

RECORDS

REPORTS

NOTIFICATIONS

STORAGE

LOSS LIMITS

COMPOSTED MATERIAL SHALL BE ID BY  
MARKERS IN STORAGE AREA, NOT TO BE

IOWA  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

IOWA  
LAND APPLICATION  
EXEMPT FROM PERMIT

IOWA  
LAND APPLICATION  
NOT EXEMPT FROM PERMITTING

|STORED >60 DAYS, FACILITY SHOULD HAVE |  
|A SMOOTH, IMPERVIOUS, EASILY CLEANABLE |  
|BASE, LEACHATE COLLECTION, PREVENTION |  
|OF RUNOFF |

TRANSPORTATION

UNCONTROLLED USE

DEDICATED SITES

**FILE 3.5**

**IOWA  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)**

**IOWA  
LAND APPLICATION  
EXEMPT FROM PERMIT**

**IOWA  
LAND APPLICATION  
NOT EXEMPT FROM PERMITTING**

**COMMENTS**

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FILE 1

KANSAS

|LAND APPLICATION |

SLUDGE CLASSIFICATION

STATE CONTROL

LAWS, TITLE & DATE

|KANSAS WW DISCHARGE CONTROL LAW  
| 65-171H, 1907 AS AMENDED |

REGS, TITLE & DATE

GUIDELINES, TITLE & DATE

|MINIMUM STANDARDS OF DESIGN  
| FOR WATER POLLUTION CONTROL  
| FACILITIES  
|9/13/78 |

CONTROLLING AGENCY

|KANSAS DEPT OF HEALTH AND ENVIRONMENT  
|WATER POLLUTION CONTROL SECTION  
|TOPEKA, KANSAS  
|913/862/9360 |

ACCEPTABILITY OF SLUDGE

PERMIT OR APPROVAL  
APPLIC. SUBMITTAL

|PRELIMINARY REPORT IS FOLLOWED BY  
| DETAILED ENGINEERING REPORT |

Kansas



KANSAS

LAND APPLICATION

MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (MG/KG SLUDGE DRY WEIGHT)

AS

CD

PB

NI

ZN

**KANSAS**  
**LAND APPLICATION**

**CU**

**CR**

**HG**

**MO**

**B**

**FE**

**ORGANICS**

**PCB**

**WATER**

**OTHER CONTAMINANTS**

**RECORDS**

KANSAS

LAND APPLICATION

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

STORAGE MUST BE PROVIDED FOR MIN  
OF 60 DAYS

LAND APPLICATION

APPROVAL OR PERMIT  
APPLIC. SUBMITTAL

ENGINEERING REPORT MUST CONSIDER  
SITE CONSIDERATIONS INCLUDING:  
LOCATION, LAND USE, SW AND WELLS,

KANSAS

|LAND APPLICATION |

| CLIMATE, FLOODING POTENTIAL, |  
| SOIL CHAR, PERMEABILITY CHAR, |  
| GW DEPTH |

CRITERIA FOR USE  
DEGREE OF STABILIZATION

KANSAS

LAND APPLICATION

SOIL SAMPLING

PRE-APPLICATION

PROFILE MUST BE DONE TO MIN 10 FT

POST-APPLICATION

WATER QUALITY MONITORING

GROUND WATER

BEFORE LAND APPLIC:

CHLORIDE, SPECIFIC CONDUCTANCE, pH,  
TOTAL HARDNESS, ALKALINITY, AMMONIA  
N, NITRATE AND NITRITE N, TOTAL P,  
ANY HEAVY METALS OR TOXICS

SURFACE WATER

CROP MONITORING

MAXIMUM SLUDGE LOADING LIMIT  
KG/HA UNLESS OTHERWISE NOTED

MOD SOIL LTS: <10 DRY T/AC/YR  
FEW SOIL LTS: <20 DRY T/AC/YR

	KANSAS
(CEC IN MEQ/100G SOIL)	LAND APPLICATION
ANNUAL OR CUMULATIVE	
NUTRIENTS	
N (ANNUAL)	DEPENDS UPON CROP REQUIREMENT AND METHOD OF APPLIC
P	
METALS	NO SPECIFIC LTS GIVEN
CD	
ANNUAL	
MAX CUMULATIVE	
PB	

KANSAS  
LAND APPLICATION

ZN

CU

CR

NI

HG

**KANSAS**

**LAND APPLICATION**

**ORGANICS**

**PCB**

**LAND USE RESTRICTIONS**

**CROPS**

**PREFER GRAIN CROPS TO FORAGES,  
PASTURES, AND LEAFY VEG  
NO RAW CROPS FOR HUMAN CONSUMPTION**

**GRAZING OR GREENCHOP**

	KANSAS
	LAND APPLICATION
PUBLIC ACCESS	
PH OF SOIL	>6.5
SITING RESTRICTIONS	
SOIL CONDITIONS	GOOD PERC CAPACITY, HIGH WATER AND NUTRIENT HOLDING CAP, GOOD DRAINABILITY, AERATED, AND NEUTRAL pH
BUFFER REQUIREMENTS	
DIST TO PRIVATE WELL	200 FT
DIST TO PUBLIC WELL	200 FT
DIST TO RESIDENCE	500 FT

**KANSAS**

**LAND APPLICATION**

**DIST TO OTHER BLDGS.**

**DIST TO PROPERTY LINE**

**100 FT. GREATER DIST IF SPRAYED,  
LESSER DIST IF SUBSURF APPLIC**

**GROUNDWATER PROTECTION**

**DEPTH TO HIGH GW**

**10 FT**

**DEPTH TO BEDROCK**

**PERMEABILITY**

**INFILTRATION**

	KANSAS
	LAND APPLICATION
SURFACE WATER PROTECTION	
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT IN 10 YEAR FLOODPLAIN
DIST TO SURFACE WATER	
DIST TO DRY RUN	
RUNOFF AND EROSION CONTROL	MUST CONSIDER RUNOFF
MAXIMUM SLOPE LIMIT	< 5% IF ADEQUATE CONSERVATION MEASURES NOT PROVIDED

KANSAS

LAND APPLICATION

RECORDS

REPORTS

NOTIFICATIONS

STORAGE

SLUDGE HANDLING AND APPLIC EQUIP  
MUST BE CAPABLE OF TRANSPORTING  
AND APPLYING 30 DAY AVG SLUDGE  
PROD ACCUM WITHIN 5 DAYS

FILE 1

KANSAS

LAND APPLICATION

TRANSPORTATION

SEE ABOVE

UNCONTROLLED USE

DEDICATED SITES

Kansas

FILE 1

KANSAS  
|LAND APPLICATION  
|  
|

|  
|  
|

COMMENTS

	MAINE LAND APPLICATION	MAINE COMPOSTING FOR DISTRIBUTION TO THE GENERAL PUBLIC
SLUDGE CLASSIFICATION	NOTE: SEPTAGE IS NOT COVERED	
STATE CONTROL LAWS, TITLE & DATE	38 MRSA SECTION 1304	38 MRSA SECTION 1304
REGULATIONS, TITLE, DATE	RULES FOR LAND APPLICATION OF SLUDGE AND RESIDUALS(4/85) CHAPTER 567 NOTE: ALL LISTED CRITERIA ARE CONTAINED IN THE REGULATIONS UNLESS NOTED	RULES FOR LAND APPLICATION OF SLUDGE AND RESIDUALS(4/85) CHAPTER 567 NOTE: ALL LISTED CRITERIA ARE CONTAINED IN THE REGULATIONS UNLESS NOTED
GUIDELINES, TITLE&DATE		
CONTROLLING AGENCY	DEPT OF ENVIRONMENTAL PROT	DEPT OF ENVIRONMENTAL PROT

FILE 3.5

MAINE  
LAND APPLICATION

BUREAU OF WATER QUALITY CONTROL  
DIVISION OF MUNICIPAL WASTE  
AUGUSTA, ME (207)289-2651

ACCEPTABILITY OF SLUDGE

PERMIT OR APPROVAL

APPROVAL REQUIRED

MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC

BUREAU OF WATER QUALITY CONTROL  
DIVISION OF MUNICIPAL WASTE  
AUGUSTA, ME (207)289-2651

APPROVAL REQUIRED

APPLICATION SUBMITTALS SEE SUBMITTALS UNDER L.A.

SEE SUBMITTALS UNDER L.A.





MAINE  
LAND APPLICATION

MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC

WATER

OTHER CONTAMINANTS

RECORDS

KEEP 5 YRS:  
SLUDGE ANALY. RESULTS  
AMOUNT LIME FOR PH ADJUSTMENT  
DATE, VOLUME OF DISTRIBUTION,

|RECORDKEEPING:  
|COMPOST PRODUCTION KEEP 5 YR: LOG AND  
| TRACK OF ALL SLUDGE, COMPOST  
|OPERATION, AND COMPOST ANALYSIS

**MAINE  
LAND APPLICATION**

**MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC**

**LOCATION&SIZE OF SITE AND  
OWNERS NAME  
OTHER RECORDS AS REQUIRED**

**|DISTRIBUTION RECORD: NAME & ADD. OF  
|USER, AMOUNT, DATE OF RECEIPT,  
|FINAL USE**

**REPORTS**

**REPORTS MONTHLY, QUARTERLY, OR  
YEARLY AS REQUIRED BASED ON  
SIZE OF OPERATION:  
SUMMARY OF SLUDGE UTILIZATION  
MGMT RECORDS SUBMITTED**

**|REPORTING:  
|MONTHLY, QUARTERLY, OR YEARLY  
|AS REQUIRED:  
|SUMMARY OF OPERATING RECORD  
|AMOUNT COMPOSTED  
|TOTAL AMOUNT DISTRIBUTED TO LARGE  
|VOLUME USERS  
|SLUDGE AND COMPOST ANALYSIS RESULTS  
|GW OR SURFACE WATER MONITORING**

**NOTIFICATIONS**

**NOTIFICATION OF CHANGE IN SLUDGE**

**STORAGE (IF APPLIC)**

**LAND APPLICATION**

**MAINE  
LAND APPLICATION**

**MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC**

**APPROVAL OR PERMIT**

**APPROVAL REQUIRED**

**APPROVAL REQUIRED**

**APPLICATION SUBMITTALS**

**LOCATION OF SITE  
SLUDGE ANALYSIS  
SITE ANALYSIS  
SOILS ANALYSIS  
TOPO MAP  
SOILS MAP  
SITE SKETCH MAP  
UTILIZATION MGMNT PLAN:  
APPL. RATES, CROP, METHOD &  
EQUIP., METHOD OF INCORP.,  
STORAGE & TRANS., MONITORING  
& RECORDS  
AGREEMENT WITH LANDOWNER  
DESCR OF IND & CHEM CONTRIBUTORS  
DESCR OF KNOWN OR SUSP. TOXICS**

**SUBMITTALS:  
LOCATION OF SITE  
SLUDGE ANALYSIS  
SOILS ANALYSIS  
TOPO MAP  
SOILS MAP  
SITE SKETCH MAP  
DESIGN PLANS & SPECS  
AGREEMENT WITH LANDOWNER**

MAINE  
LAND APPLICATION

MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC

CRITERIA FOR USE

DEGREE OF STABILIZATION PROCESS TO SIGNIFICANTLY REDUCE  
PATHOGENS IF ACCESS IS RESTRICTED  
PROCESS TO FURTHER REDUCE  
PATHOGENS IF USE OR ACCESS IS  
UNRESTRICTED

PROCESS TO FURTHER REDUCE  
PATHOGENS

SOIL

PRIOR TO LAND APPLICATION  
SOIL ANAL.:PH,CEC,K,P,MG,CA,  
SOIL BACKGROUND LEVELS OF METALS:  
CD,CR,CU,PB,HG,NI,ZN FOR ONE SITE  
OR WHERE METALS WERE PREVIOUSLY  
USED ON SITE

CROPS

MAY BE REQUIRED  
WILL INCLUDE: HEAVY METALS, PRIORITY

MAINE  
LAND APPLICATION

MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC

SURFACE WATER  
POLLUTANTS SCAN  
MAY BE REQUIRED  
WILL INCLUDE: HEAVY METALS, PRIORITY  
POLLUTANTS SCAN

GROUNDWATER  
MAY BE REQUIRED  
WILL INCLUDE: HEAVY METALS, PRIORITY  
POLLUTANTS SCAN

MAXIMUM SLUDGE LOADING LIM  
(CEC IN MEQ/100G SOIL)  
SLUDGE APPLICATION WILL BE  
SLUDGE

N (ANNUAL)  
AGRONOMIC RATES BASED ON INORGANIC  
+PERCENTAGES OF ORGANIC

MAINE  
LAND APPLICATION

MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC

SURFACE APPLIED: UP TO 1.5 CROP  
NEEDS (G)

METALS

CD

ANNUAL

.5 KG/HA IF USED FOR FOOD CHAIN  
CROPS

MAX. CUMULATIVE

2.5 KG/HA IF CEC < 5  
5 KG/HA IF CEC > 5

PB

(MAX. CUMULATIVE)  
500 KG/HA IF CEC < 5  
1000 KG/HA IF 5<CEC<15  
2000 KG/HA IF CEC>15

ZN

(MAX. CUMULATIVE)  
250 KG/HA IF CEC < 5  
500 KG/HA IF 5<CEC<15  
1000 KG/HA IF CEC>15

CU

(MAX. CUMULATIVE)  
125 KG/HA IF CEC < 5  
250 KG/HA IF 5<CEC<15  
500 KG/HA IF CEC>15

MAINE  
LAND APPLICATION

MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC

CR	(MAX. CUMULATIVE) 250 KG/HA IF CEC < 5 500 KG/HA IF 5<CEC<15 1000 KG/HA IF CEC>15		
NI	(MAX. CUMULATIVE) 50 KG/HA IF CEC < 5 100 KG/HA IF 5<CEC<15 200 KG/HA IF CEC>15		
HG			
ORGANICS PCBS			
LAND USE RESTRICTIONS			
CROPS	IF PSRP, 18 MONTH WAIT TO PLANT CROPS FOR HUMAN CONSUMPTION		
GRAZING OR GREENCHOP	IF PSRP, 1 MONTH BEFORE PASTURE GRAZING BY ANIMALS FOR HUMAN CONSUMPTION DAIRY ANIMALS 1 MONTH		

**MAINE  
LAND APPLICATION**

**MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC**

**PUBLIC ACCESS**

**PH OF SOIL & SLUDGE  
OR PH OF SOIL**

**6.5 FOR 2 YEARS AFTER APPLICATION**

**SITING RESTRICTIONS**

**SOIL CONDITIONS**

**CASE BY CASE APPROVAL  
NOT POORLY OR EXCESSIVELY  
DRAINED SOILS**

**BUFFER REQUIREMENTS**

**DIST. TO PRIVATE WELL 300 FT**

**DIST. TO PUBLIC WELL 300 FT**

**DIST TO RESIDENCE 300 FT; 100 FT IF NOT PSRP  
25 FT TO ROADWAYS**

**DIST TO OTHER BUILDINGS**

**DIST TO PROPERTY LINE**

**GROUND WATER PROTECTION**

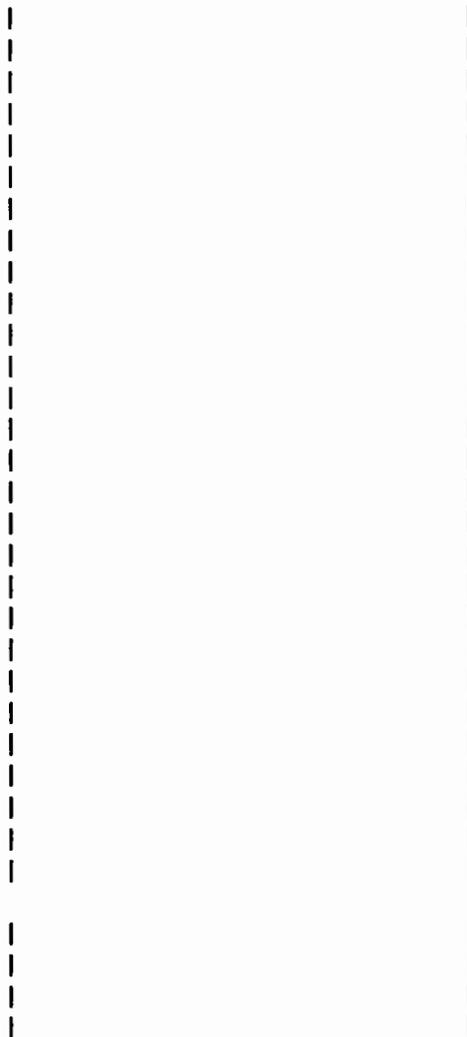
**NOT TO BE SITED OVER SAND AND  
GRAVEL RECHARGE AREAS UNLESS APPROVED**

**DEPTH TO HIGH  
GROUNDWATER LEVEL**

MAINE  
LAND APPLICATION

MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC

DEPTH TO BEDROCK PERMEABILITY INFILTRATION SURFACE WATER PROTECTION	20 IN OF PERMEABLE SOIL
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT TO RESTRICT BASE FLOOD, REDUCE WATER STORAGE CAPACITY, RESULT IN WASHOUT OF MATERIAL
DIST TO SURFACE WATER	300 FT TO CLASSIFIED WATERS
DIST. TO DRY RUN RUNOFF AND EROSION CONTROL	50 FT TO INTERMITTENT STREAM 25 FT TO HIGHWAY DRAINAGE AREA
MAXIMUM SLOPE LIMIT	15% FOR CLEARED LAND  >15% ON FORESTED WITH APPROVAL



MAINE  
LAND APPLICATION

MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC

RECORDS

REPORTS

NOTIFICATIONS

STORAGE

SITES MUST RECEIVE APPROVAL FROM DEPT.  
APPLIC. FORM REQUIRED, PRELIM. PLANS

Maine

MAINE  
LAND APPLICATION

MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC

AND SPECIF. FOR FACIL. MUST BE REVIEWED |  
TEMP: WINTER FIELD STACKING-PROTECT |  
WATER COURSE AND GW, >300' FROM WELL, |  
>25' FROM DRAINAGEWAYS, 500' FROM |  
DWELLINGS, SOIL REQUIR. PERM: MADE FROM |  
IMPERVIOUS MATER., COLLECT AND TREAT |  
LEACHATE, EASE OF ACCESS, ODORS, SITING |  
SAME AS TEMP. |

TRANSPORTATION

UNCONTROLLED USE

DEDICATED SITES

FILE 3.5

MAINE  
LAND APPLICATION

MAINE  
COMPOSTING FOR DISTRIBUTION  
TO THE GENERAL PUBLIC

COMMENTS

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	MARYLAND AGRICULTURAL LAND APPLICATION	MARYLAND MARGINAL LAND APPLICATION	MARYLAND DISTRIBUTION
SLUDGE CLASSIFICATION	CLASS I SEWAGE SLUDGE	CLASS I SEWAGE SLUDGE	
STATE CONTROL LAWS, TITLE & DATE	HEALTH-ENVIRONMENTAL ARTICLE 9, CH.201,210,210.1,212	HEALTH-ENVIRONMENTAL ARTICLE 9, CH.201,210,210.1,212	HEALTH-ENVIRONMENTAL ARTICLE 9, CH.201,210,210.1,212
REGULATIONS, TITLE, DATE	ANNOTATED CODE OF MD, TITLE 10 SUBTITLE 17 SANITATION 10.17.10 SEWAGE SLUDGE MANAGEMENT (PROPOSED) .01-.14 REPLACING .01-.07 NOTE: PROPOSED REGULATIONS PRESENTLY USED AS GUIDELINES. ALL LISTED CRITERIA ARE CONTAINED IN THE PROPOSED REGULATIONS	ANNOTATED CODE OF MD, TITLE 10 SUBTITLE 17 SANITATION 10.17.10 SEWAGE SLUDGE MANAGEMENT (PROPOSED) .01-.14 REPLACING .01-.07 NOTE: PROPOSED REGULATIONS PRESENTLY USED AS GUIDELINES. ALL LISTED CRITERIA ARE CONTAINED IN THE PROPOSED REGULATIONS	ANNOTATED CODE OF MD, TITLE 10 SUBTITLE 17 SANITATION 10.17.10 SEWAGE SLUDGE MANAGEMENT (PROPOSED) .01-.14 REPLACING .01-.07 NOTE: PROPOSED REGULATIONS PRESENTLY USED AS GUIDELINES. ALL LISTED CRITERIA ARE CONTAINED IN THE PROPOSED REGULATIONS
GUIDELINES, TITLE&DATE			
CONTROLLING AGENCY	DEPT OF HEALTH AND MENTAL	DEPT OF HEALTH AND MENTAL	DEPT OF HEALTH AND MENTAL

	MARYLAND AGRICULTURAL LAND APPLICATION	MARYLAND MARGINAL LAND APPLICATION	MARYLAND DISTRIBUTION
ACCEPTABILITY OF SLUDGE	HYGIENE SOLID WASTE MANAGEMENT ANNAPOLIS, MD (301)225-5649	HYGIENE SOLID WASTE MANAGEMENT ANNAPOLIS, MD (301)225-5649	HYGIENE SOLID WASTE MANAGEMENT ANNAPOLIS, MD (301)225-5649
PERMIT OR APPROVAL	SEWAGE SLUDGE UTILIZATION PERMIT	SEWAGE SLUDGE UTILIZATION PERMIT	SEWAGE SLUDGE UTILIZATION PERMIT FOR COMPOSTING
APPLICATION SUBMITTALS	SEE SUBMITTALS UNDER L.A.	SEE SUBMITTALS UNDER L.A.	QC PROGRAM RECORDING AND REPORTING SYSTEM PROOF OF PFRP SLUDGE ANALYSIS BY APPROVED LAB TREATMENT PROCESS DESCRIP. TREATED SLUDGE ANALYSIS PROPOSED LABEL RECORDKEEPING & REPORTING SYSTEM QC MONITORING PLAN DISTRIBUTION SYSTEM DESCR. IDENTIFY USERS AND FINAL USE PROOF OF NO PUBL. HLTH HAZARDS OR WATER DEGRADATION COMPLIANCE WITH REGISTRATION

MARYLAND  
AGRICULTURAL LAND APPLICATION

MARYLAND  
MARGINAL LAND APPLICATION

MARYLAND  
DISTRIBUTION

OF FERT. AND SOIL CONDITIONER

SAMPLING SLUDGE PARAMETERS  
SLUDGE ANALYSIS: %SOLIDS, PH,  
TOTAL N, NH4-N, NO3-N, TOTAL P,  
TOTAL K, CD, CU, HG, NI, PB,  
ZN, FE (IF APPLIED TO PASTURE),  
PCB (UNLESS PREVIOUS ANALYSIS  
SHOWED LESS THAN 1 PPM)

SLUDGE ANALYSIS: %SOLIDS, PH,  
TOTAL N, NH4-N, NO3-N, TOTAL P,  
TOTAL K, CD, CU, HG, NI, PB,  
ZN, FE (IF APPLIED TO PASTURE),  
PCB (UNLESS PREVIOUS ANALYSIS  
SHOWED LESS THAN 1 PPM)

ANALYSIS FOR ALL PARAMETERS AS  
REQUESTED

ANALYSIS REQUIRED FOR  
COMPOSTING FACILITY PERMIT  
SLUDGE ANAL: %SOL., PH, N, NO3,  
NH4, P, K, CD, CU, HG, NI, PB, ZN

MARYLAND  
AGRICULTURAL LAND APPLICATION

MARYLAND  
MARGINAL LAND APPLICATION

MARYLAND  
DISTRIBUTION

MAXIMUM SLUDGE CONSTITUENT

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIG

N

P

K

METALS (MG/KG SLUDGE DRY

AS

CD 25

PB 1000

NI 200

ZN 2500

CU 1000

CR

HG 10

MO

B

FE

ORGANICS

PCB 10

LIME EQUI. TO CaCO3: MIN 10%

3%

12.5 PPM

500

100

1250

500

5

40000

5

**MARYLAND  
AGRICULTURAL LAND APPLICATION**

**MARYLAND  
MARGINAL LAND APPLICATION**

**MARYLAND  
DISTRIBUTION**

**WATER**

**OTHER CONTAMINANTS**

**RECORDS**

**ON SITE RECORDS:  
QUANTITY APPLIED, AREA APPLIED,  
AMOUNT LIME USED**

**ON SITE RECORDS:  
AMOUNT RECEIVED,  
AREA RECEIVING SLUDGE**

**AS PRESCRIBED  
DISTRIBUTION RECORDS  
TEST RESULTS**

**MARYLAND  
AGRICULTURAL LAND APPLICATION**

**MARYLAND  
MARGINAL LAND APPLICATION**

**MARYLAND  
DISTRIBUTION**

REPORTS

AS REQUIRED

REGULAR REPORTING TO DEPT

NOTIFICATIONS

NOTIFICATION OF LOCAL AUTHORITIES  
IF APPLIED IN TOBACCO GROWING  
PARTS OF STATE, DEPT TO NOTIFY  
PROSPECTIVE FARMER OR LANDOWNERS  
OF POTENTIAL PROBLEMS WITH  
FUTURE TOBACCO GROWTH

LABEL MUST ACCOMPANY SLUDGE:  
IDENTIFY AS SEWAGE SLUDGE  
INSTRUCTIONS FOR USE, WARNINGS,  
RESTRICTIONS

STORAGE (IF APPLIC)

LAND APPLICATION

APPROVAL OR PERMIT

SEWAGE SLUDGE UTILIZATION PERMIT

SEWAGE SLUDGE UTILIZATION PERMIT

**MARYLAND  
AGRICULTURAL LAND APPLICATION**

**MARYLAND  
MARGINAL LAND APPLICATION**

**MARYLAND  
DISTRIBUTION**

APPLICATION SUBMITTALS SEPARATE APPLICATION FOR EA SITE

COUNTY OR MUN. MAY HAVE  
PUBLIC MEETING

SUBMITTALS:  
WRITTEN PERMISSION OF LANDOWNER  
FIELD INFO FORM COMPLETED BY  
LANDOWNER  
CALCULATION OF LIME REQUIRED  
TO RAISE PH TO 6.5 AND MAINTAIN  
AT 6.2 OVER LIFE OF PERMIT  
SITE MAP  
TAX MAP  
OPERATIONS PLAN: EQUIPMENT, APPL.  
PROCEDURES, RECORDING PROCEDURE  
HAUL ROUTE  
SOIL ANALYSIS  
SLUDGE ANALYSIS

PUBLISH NOTICE OF L.A. TO MARGINAL  
LAND; COUNTY OR MUN. MAY HAVE  
PUBLIC MEETING

SUBMITTALS:  
WRITTEN PERMISSION OF LANDOWNER  
FIELD INFO FORM COMPLETED BY  
LANDOWNER  
CALCULATION OF LIME REQUIRED  
TO RAISE PH TO 6.5 AND MAINTAIN  
AT 6.2 OVER LIFE OF PERMIT  
SITE MAP WITH LOCATION OF SLOPES  
> 15%, LOCATION OF TEST PITS &  
BORINGS  
LOADING CALCULATIONS  
SEDIMENT-EROSION CONTROL PLAN  
CROP, FUTURE SITE USE,  
TAX MAP  
OPERATIONS PLAN: EQUIPMENT,  
PROCEDURES, RECORDING PROCEDURE  
HAUL ROUTE  
SLUDGE ANALYSIS  
IN ADDITION, IF LA > 50 T/AC:

MARYLAND  
AGRICULTURAL LAND APPLICATION

MARYLAND  
MARGINAL LAND APPLICATION

MARYLAND  
DISTRIBUTION

CRITERIA FOR USE

DEGREE OF STABILIZATION PSRP OR PFRP UNLESS DISPOSED  
SO AS TO PRECLUDE HEALTH HAZARDS  
PFRP IF:BUFFER REQS NOT MET,  
DIRECT HUMAN CONSUMPTION CROPS  
WITHIN 3 YR, GRAZING BY FOOD  
CHAIN ANIMALS WITHIN 1 MO,  
SLUDGE NOT INCORPORATED, ETC.

SOIL SOIL ANALYSIS: PH,CEC,TEXTURE,  
ALSO AS REQUIRED

CROPS

SURFACE WATER SW MONITORING AS REQUIRED

SHOW RATE IS REASONABLE,  
EIS  
EIS

PSRP OR PFRP UNLESS DISPOSED  
SO AS TO PRECLUDE HEALTH HAZARDS  
PFRP IF:BUFFER REQS NOT MET,  
DIRECT HUMAN CONSUMPTION CROPS  
WITHIN 3 YR, GRAZING BY FOOD  
CHAIN ANIMALS WITHIN 1 MO,  
SLUDGE NOT INCORPORATED, ETC.

SOIL ANALYSIS: PH,CEC,TEXTURE,  
ALSO AS REQUIRED

PROCESS TO FURTHER REDUCE PATHOGENS

	MARYLAND AGRICULTURAL LAND APPLICATION	MARYLAND MARGINAL LAND APPLICATION	MARYLAND DISTRIBUTION
GROUNDWATER	MONITORING AS REQUIRED	AS REQUIRED	
MAXIMUM SLUDGE LOADING LIM (CEC IN MEQ/100G SOIL) SLUDGE APPLICATION WILL BE SLUDGE		50 T/AC IF: METALS LOADING NOT EXCEEDED, SURFACE WATER PROTECTED, AND BUFFER ZONES OBSERVED >50 T/AC IF APPROVED	
N (ANNUAL)	CROP REQUIREMENTS AS RECOMMENDED BY FARMER OR AS APPROVED BY DEPT. (TABLE INCL.) BOTH ORG. AND MINRLZD. N		

	MARYLAND AGRICULTURAL LAND APPLICATION	MARYLAND MARGINAL LAND APPLICATION	MARYLAND DISTRIBUTION
METALS			
CD			
ANNUAL	1.25 KG/HA (1.1 LB/AC) BEFORE 1/1/87 .45 KG/HA (.4 LB/AC) AFTER 1/1/87	1.25 KG/HA (1.1 LB/AC) BEFORE 1/1/87 .45 KG/HA (.4 LB/AC) AFTER 1/1/87	
MAX. CUMULATIVE	5 KG/HA(4.4 LB/AC) IF CEC<5 10 KG/HA (8.9 LB/AC) IF CEC>5	5 KG/HA(4.4 LB/AC) IF CEC<5 10 KG/HA (8.9 LB/AC) IF CEC>5	
PB	562 KG/HA (500 LB/AC) IF CEC<5 1123 KG/HA (1000 LB/AC) IF CEC>5	562 KG/HA (500 LB/AC) IF CEC<5 1123 KG/HA (1000 LB/AC) IF CEC>5	
ZN	281 KG/HA (250 LB/AC) IF CEC<5 562 KG/HA (500 LB/AC) IF CEC>5	281 KG/HA (250 LB/AC) IF CEC<5 562 KG/HA (500 LB/AC) IF CEC>5	
CU	140 KG/HA (125 LB/AC) IF CEC<5 281 KG/HA (250 LB/AC) IF CEC>5	140 KG/HA (125 LB/AC) IF CEC<5 281 KG/HA (250 LB/AC) IF CEC>5	
CR			

	MARYLAND AGRICULTURAL LAND APPLICATION	MARYLAND MARGINAL LAND APPLICATION	MARYLAND DISTRIBUTION
NI	140 KG/HA (125 LB/AC) IF CEC<5 281 KG/HA (250 LB/AC) IF CEC>5	140 KG/HA (125 LB/AC) IF CEC<5 281 KG/HA (250 LB/AC) IF CEC>5	
HG			
ORGANICS PCBS			
LAND USE RESTRICTIONS			
CROPS	NOT TO BE USED TO GROW TOBACCO NO FOOD FOR DIRECT HUMAN CONSUM. FOR 3 YRS UNLESS PFRP( MAY WAIVE IF NO CONTACT WITH EDIBLE PART)	NOT TO BE USED TO GROW TOBACCO NO CROPS FOR DIRECT HUMAN CONSUM. FOR 3 YRS UNLESS PFRP( MAY WAIVE IF NO CONTACT WITH EDIBLE PART)	
GRAZING OR GREENCHOP	GRASS TO BE CROPPED OR GRAZED BEFORE APPLICATION NO ACCESS BY ANIMALS WHOSE PRODUCTS CONSUMED BY HUMANS FOR 1 MO UNLESS PFRP	GRASS TO BE CROPPED OR GRAZED BEFORE APPLICATION NO ACCESS BY ANIMALS WHOSE PRODUCTS CONSUMED BY HUMANS FOR 1 MO UNLESS PFRP	

	MARYLAND AGRICULTURAL LAND APPLICATION	MARYLAND MARGINAL LAND APPLICATION	MARYLAND DISTRIBUTION
PUBLIC ACCESS	12 MO UNLESS PFRP	12 MO UNLESS PFRP	
PH OF SOIL & SLUDGE OR PH OF SOIL	MAY DENY APPL. OF HIGH LIME CONTENT SLUDGE IF ABOVE CROP OPTIMUM SOIL+SLUDGE ADJUSTED TO 6.5 MNTNED AT 6.2 OVER PERMIT LIFE	SOIL+SLUDGE ADJUSTED TO 6.5 MNTNED AT 6.2 OVER PERMIT LIFE	
SITING RESTRICTIONS SOIL CONDITIONS			
BUFFER REQUIREMENTS			
DIST. TO PRIVATE WELL	100 FT UNLESS PFRP	100 FT UNLESS PFRP	
DIST. TO PUBLIC WELL	100 FT UNLESS PFRP	100 FT UNLESS PFRP	
DIST TO RESIDENCE	200' OFF-SITE OCCUPIED RES. UNLESS PFRP 100' ON-SITE OCCUPIED RES. UNLESS PFRP	200' OFF SITE OCCUPIED RES.UNLESS PFRP 100' ON-SITE OCCUPIED RES. UNLESS PFRP	
DIST TO OTHER BUILDINGS	25' FROM PUBLIC ROADS UNLESS PFRP	25' FROM PUBLIC ROADS UNLESS PFRP	
DIST TO PROPERTY LINE	50' UNLESS PFRP AND ADJACENT LAND USES COMPATIBLE	50' UNLESS PFRP AND ADJACENT LAND USES COMPATIBLE	
GROUND WATER PROTECTION			
DEPTH TO HIGH GROUNDWATER LEVEL	2 FT .50' BEDROCK OUTCRP UNLSS PFRP	2 FT 50' BEDROCK OUTCRP UNLSS PFRP	
DEPTH TO BEDROCK PERMEABILITY			

	MARYLAND AGRICULTURAL LAND APPLICATION	MARYLAND MARGINAL LAND APPLICATION	MARYLAND DISTRIBUTION
INFILTRATION			
SURFACE WATER PROTECTION			
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING			
DIST TO SURFACE WATER	50 FT UNLESS PFRP	50 FT UNLESS PFRP	
DIST. TO DRY RUN	15 FT DRAINAGE DITCH UNLESS PFRP	15 FT DRAINAGE DITCH UNLESS PFRP	
RUNOFF AND EROSION CONTROL	SPREAD EVENLY OVER SITE, INCORP. AT DAY END UNLESS PFRP, TRUCKS CLEANED ON SITE MAY BE SURFACES SPRAYED WITH APPROVAL IF ODOR CONTROLLED OR FOR NO TILL SYSTEM, SLUDGE AREA CLEARLY MARKED, CONTOURING MAY BE REQUIRED NOT APPLIED TO FROZEN GROUND UNLESS SLOPE (5% AND BUFFER=250 FT FROM WATER AND 1000 FT FROM OFF-SITE RES., WELL DRAINED SOIL, SURFACE RESIDUE, AND W/APPROVAL	SPREAD EVENLY OVER SITE INCORP. AT DAY END UNLESS PFRP TRUCKS CLEANED ON SITE MAY BE SURFACE SPRAYED WITH APPROVAL IF ODOR CONTROLLED OR FOR NO TILL SYSTEM SLUDGE AREA CLEARLY MARKED COVER CROP PLANTED WITHIN SHORT TIME, MUST BE CUT TWICE DURING SEASON AND CUTTINGS REMOVED	
MAXIMUM SLOPE LIMIT	15% 6% IF SURFACE APPLIED LIQUID SLUDGE UNLESS APPROVED SLUDGE UNLESS APPROVED NOT APPLIED TO FROZEN GROUND UNLESS SLOPE < 5% AND BUFFER= 250 FT FROM WATER AND 1000 FROM RES., WELL DRAINED SOIL,		

**MARYLAND  
AGRICULTURAL LAND APPLICATION**

**MARYLAND  
MARGINAL LAND APPLICATION**

**MARYLAND  
DISTRIBUTION**

SURFACE RESIDUE, AND W/APPROVAL

**RECORDS**

TO BE MAINTAINED AS PRESCRIBED BY DEPT.

**REPORTS**

**NOTIFICATIONS**

LABEL SHALL IDENTIFY PRODUCT AND GIVE  
INSTRUCTIONS FOR PROPER USE, WARNING  
RESTRICTIONS

**STORAGE**

TEMP. STORAGE < 6 MOS.  
PERM. STORAGE > 6 MOS.  
PERMIT REQUIRED:  
PERMISSION FROM LANDOWNER, LAB ANALYSIS

MARYLAND  
AGRICULTURAL LAND APPLICATION

MARYLAND  
MARGINAL LAND APPLICATION

MARYLAND  
DISTRIBUTION

SITE MAPS, TAX MAPS, FLOODLINE FREQ., |  
SOIL TEST, G.W. ELEV., LINER SPECIF., |  
OPERATIONS PLAN, PUBLIC ACCESS, TRUCK |  
WASH DOWN, GEOLOG. DESCRIPTION, DESIGN |  
SPECIF., EMISSION PLAN, INSPECTION PLAN|

TRANSPORTATION

DEPENDS UPON FORM % SOLID |  
PERMIT REQUIRED DESCRIBING DESC. OF |  
SLUDGE, QUANTITY TRANSPORTED, TREATMENT |  
OF SLUDGE, SLUDGE ANALYSIS, DESC. OF |  
EQUIPMENT, OPERATIONS PLAN |  
DESTINATION |

UNCONTROLLED USE

DEDICATED SITES

COMMENTS

Maryland





MASSACHUSETTS  
TYPE I LAND APPLICATION  
OR DISTRIBUTION

MASSACHUSETTS  
TYPE II & III  
LAND APPLICATION

ENGINEERING

| AND ENGINEERING |

ACCEPTABILITY OF SLUDGE

PERMIT OR APPROVAL

SUBJECT TO APPROVAL OF  
SUITABILITY BASED ON TYPE  
I, II, OR III SLUDGE

| SUBJECT TO APPROVAL OF  
| SUITABILITY BASED ON TYPE  
| I, II, OR III SLUDGE

APPLICATION SUBMITTALS

SUBMITTALS:  
LISTING OF INDUSTRIAL DISCHARGES  
QUANTITY OF SEPTAGE IN SLUDGE  
DAILY FLOW  
DAILY SLUDGE TONNAGE  
DESCRIPTION OF STABILIZATION  
SAMPLING AND ANALYSIS PLAN  
DESCRIPTION OF WHETHER PRODUCT  
WILL BE DISTRIBUTED TO GENERAL  
PUBLIC, OR TO SPECIFIC PERSONS  
AND WHETHER IT WILL BE SOLD OR  
GIVEN AWAY  
IDENTIFICATION OF USERS USING  
LOTS > 5CY

| SUBMITTALS:  
| LISTING OF INDUSTRIAL DISCHARGES  
| QUANTITY OF SEPTAGE IN SLUDGE  
| DAILY FLOW  
| DAILY SLUDGE DRY TONNAGE  
| DESCRIPTION OF STABILIZATION  
| SAMPLING AND ANALYSIS PLAN

MASSACHUSETTS  
TYPE I LAND APPLICATION  
OR DISTRIBUTION

MASSACHUSETTS  
TYPE II & III  
LAND APPLICATION

AMOUNT OF SLUDGE TO BE DISTRIBUTED  
IN LOTS > 5CY

SAMPLING SLUDGE PARAMETERS

SLUDGE ANALYSIS:  
PH, %SOLIDS, %N, NH4-N, NO3-N,  
P, K, CD, CR, CU, PB, HG, NI, ZN,  
MO, B, PCBs  
ORGANICS INCLUDED IN FEDERAL OR  
STATE DRINKING WATER STANDARDS  
UNLESS APPLICATION AREA IS NOT OVER  
GW PUBLIC WATER SUPPLY OR WITHIN  
2500 FT OF WELL WATER SUPPLY  
FREQUENCY: 2/YR IF < 1 MGD AND NO

| SLUDGE ANALYSIS: |  
| PH, %SOLIDS, %N, NH4-N, NO3-N, |  
| P, K, CD, CR, CU, PB, HG, NI, ZN, |  
| MO, B, PCBs |  
| ORGANICS INCLUDED IN FEDERAL OR |  
| STATE DRINKING WATER STANDARDS |  
| UNLESS APPLICATION AREA IS NOT OVER |  
| GW PUBLIC WATER SUPPLY OR WITHIN |  
| 2500 FT OF WELL WATER SUPPLY |  
| FREQUENCY: 2/YR IF < 1 MGD AND NO |

MASSACHUSETTS  
 TYPE I LAND APPLICATION  
 OR DISTRIBUTION

MASSACHUSETTS  
 TYPE II & III  
 LAND APPLICATION

INDUSTRIAL DISCHARGE TO POTW  
 4/YR IF < 1 MGD AND INDUSTRIAL SOURCE  
 4/YR IF 1-5 MGD  
 1/MO IF > 5 MGD

INDUSTRIAL DISCHARGE TO POTW  
 4/YR IF < 1 MGD AND INDUSTRIAL SOURCE  
 4/YR IF 1-5 MGD  
 1/MO IF > 5 MGD

MAXIMUM SLUDGE CONSTITUENT

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIG

N

P

K

METALS (MG/KG SLUDGE DRY

AS

CD 2

PB 300

NI 200

ZN 2500

CU 1000

CR 1000

HG 10

MO 10

B 300

FE

ORGANICS

PCB 2 PPM FOR FERTILIZER  
 1 PPM FOR SOIL CONDITIONER  
 2 PPM FOR USE ON PASTURE LAND

TYPE III IF ANY LEVELS EXCEEDED

25

1000

200

2500

1000

1000

10

10

300

10 PPM

MASSACHUSETTS  
TYPE I LAND APPLICATION  
OR DISTRIBUTION

MASSACHUSETTS  
TYPE II & III  
LAND APPLICATION

WATER

OTHER CONTAMINANTS

RECORDS

KEEP 3 YR:  
INFORMATION ON USE, SALE,  
DISTRIBUTION FOR GENERAL PUBLIC  
IDENTIFICATION OF USERS

KEEP PERMANENTLY:  
APPROVAL OF SUITABILITY  
DESCRIPTION OF STABILIZATION  
ANALYSIS RESULTS

	MASSACHUSETTS TYPE I LAND APPLICATION OR DISTRIBUTION	MASSACHUSETTS TYPE II & III LAND APPLICATION
	AMOUNT SOLD IN VOLUMES > 5 CY AMOUNT SOLD IN VOLUMES < 5 CY KEEP PERMANENTLY: APPROVAL OF SUITABILITY DESCRIPTION OF STABILIZATION ANALYSIS RESULTS REPORTS STUDIES & TECHNICAL DATA STORAGE ADDRESS	REPORTS   STUDIES & TECHNICAL DATA   STORAGE ADDRESS   USER:   LAND APPLICATION CERTIFICATE, SOIL   ANALYSIS RESULTS, LOCATION OF SITE,   AMOUNT SPREAD, ANNUAL & CUMULATIVE,       
REPORTS	ANNUAL REPORT	SELLER: ANNUAL REPORT   USER, LOCATION OF APPLICATION,   DATE APPLIED, METHOD OF APPLI.,   CROP OR ANIMAL INFO, TRANSPORTATION,   RECEIVER, AMOUNT AUTHORIZED TO   APPLY, SLUDGE ANALYSIS     USER: ANNUAL REPORT   NOTIFY TOWN BOARD OF HEALTH   IF DISTRIBUTED, MUST BE LABELED   WITH B AND MO LOADING LIMITS,   IF APPLICABLE, AND WITH USE   RESTRICTIONS   TYPE III: RECORD OF USE MUST BE   WRITTEN INTO LAND DEED   MUST USE SHIPPING PAPER FOR TYPE III     
NOTIFICATIONS	NOTIFICATION OF TOWN BOARD OF HEALTH BY DEPT LABELLING INSTRUCTIONS AND INFORMATION INCLUDED CAN BE DISTRIBUTED OR SOLD, SUBJECT TO SAME REQUIREMENTS EXCEPT WHERE SHOWN	
STORAGE (IF APPLIC)		
LAND APPLICATION		

MASSACHUSETTS  
TYPE I LAND APPLICATION  
OR DISTRIBUTION

MASSACHUSETTS  
TYPE II & III  
LAND APPLICATION

APPROVAL OR PERMIT

LAND APPLICATION CERTIFICATE  
FOR EACH SITE, RENEWABLE YEARLY

APPLICATION SUBMITTALS

APPLICATION FOR LAND APPLICABILITY:  
MAP, PLOT PLAN, AREA AVAILABLE,  
SOIL INFORMATION, DEPTH TO GW,  
EROSION CONTROL & RUNOFF PREVENTION  
PRACTICE, DRAINAGE, SOIL ANALYSIS,  
SITE INFO AS REQ'D, CROP INFO,  
ANIMAL INFO, SOURCE OF SLUDGE,  
TRANSPORTATION, SLUDGE ANALYSIS

MASSACHUSETTS  
TYPE I LAND APPLICATION  
OR DISTRIBUTION

MASSACHUSETTS  
TYPE II & III  
LAND APPLICATION

CRITERIA FOR USE

DEGREE OF STABILIZATION PROCESS TO SIGNIFICANTLY  
REDUCE PATHOGENS  
PROCESS TO FURTHER REDUCE  
PATHOGENS

PROCESS TO SIGNIFICANTLY  
REDUCE PATHOGENS  
PROCESS TO FURTHER REDUCE  
PATHOGENS: FOR PRODUCTION OF  
CROP FOR DIRECT HUMAN  
CONSUMPTION WITHIN 24 MO. OR  
IF SLUDGE IS NOT INCORPORATED

SOIL

SOIL ANALYSIS:  
PH,CEC, TOTAL N, NH4-N, NO3-N,  
P,K,CD,CR,CU,PB,HG,NI,ZN,  
PCB ( IF SLUDGE PCB > 2PPM),  
OTHERS AS REQUIRED

CROPS

FREQUENCY: BEFORE APPLIC. 4 YR INTER.

MASSACHUSETTS  
TYPE I LAND APPLICATION  
OR DISTRIBUTION

MASSACHUSETTS  
TYPE II & III  
LAND APPLICATION

SURFACE WATERS, PUBLIC HEALTH, AGAINST  
NUISANCES, ENVIRONMENT  
CANNOT STORE SLUDGE FOR MORE THAN 42  
DAYS WITHIN ANY 6 MONTH PERIOD EXCEPT  
WITH HEALTH DEPT. APPR. OR DEQE'S APPR.

TRANSPORTATION

TANK, WATERTIGHT, OR DEQE APPROVED  
CONTAINER

UNCONTROLLED USE

DEDICATED SITES

FILE 3.5

MASSACHUSETTS  
TYPE I LAND APPLICATION  
OR DISTRIBUTION

MASSACHUSETTS  
TYPE II & III  
LAND APPLICATION

COMMENTS

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MASSACHUSETTS  
 TYPE I LAND APPLICATION  
 OR DISTRIBUTION

MASSACHUSETTS  
 TYPE II & III  
 LAND APPLICATION

DEPTH TO BEDROCK	3 FT
PERMEABILITY	
INFILTRATION	
SURFACE WATER PROTECTION	MUST BE INCORPORATED WITHIN 48   HOURS IF NOT STABILIZED
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	
DIST TO SURFACE WATER	2500 FT TO CLASS A WATER   OTHERWISE APPR. ON CASE BY CASE   BASIS, IF NO SIGNIF. CONC.   OF ORGANICS
DIST. TO DRY RUN	NOT APPLIED IN DRY RUN, CHANNEL,   OR DEPRESSION
RUNOFF AND EROSION CONTROL	RUNOFF AND EROSION MUST BE   MINIMIZED
MAXIMUM SLOPE LIMIT	8% UNLESS APPROVED
	NO APPLICATION DURING RAIN, ON   FROZEN, SNOW OR ICE COVERED,   OR SATURATED SOIL

**MASSACHUSETTS  
TYPE I LAND APPLICATION  
OR DISTRIBUTION**

**MASSACHUSETTS  
TYPE II & III  
LAND APPLICATION**

**RECORDS**

**REPORTS**

**NOTIFICATIONS**

**STORAGE**

**REQUIREMENT FOR PROTECTING: GW, PUBLIC  
WATER SUPPLY, PRIVATE WATER SUPPLY,**

**Massachusetts**

MASSACHUSETTS  
TYPE I LAND APPLICATION  
OR DISTRIBUTION

MASSACHUSETTS  
TYPE II & III  
LAND APPLICATION

CR		
NI		(MAX. CUMULATIVE, EXCLUDING SOIL BACKGROUND LEVELS) 56 KG/HA (50 LB/AC) IF CEC < 5 112 KG/HA (100 LB/AC) IF CEC > 5
HG		
ORGANICS PCBS		(MAX ANNUAL, INCLUDING SOIL BACKGROUND LEVELS) 2.5 KG/HA (2 LB/AC), MAX. 2 PMM ON PASTURE LAND
LAND USE RESTRICTIONS		
CROPS	LAND APPLIED IF CROPS TO BE PLANTED WITHIN 24 MOS. OF L.A. AND NO DIRECT CONTACT BETWEEN EDIBLE PLANT AND SLUDGE/SEPTAGE	NO DIRECT CONTACT WITH EDIBLE PART OF PLANT AND SLUDGE
GRAZING OR GREENCHOP		NO GRAZING FOR 1 MO

MASSACHUSETTS  
TYPE I LAND APPLICATION  
OR DISTRIBUTION

MASSACHUSETTS  
TYPE II & III  
LAND APPLICATION

PUBLIC ACCESS	NO PUBLIC ACCESS--12 MO.
PH OF SOIL & SLUDGE OR PH OF SOIL	6.5 FOR SURFACE SOIL AND FOR SOIL-SLUDGE MIXTURE
SITING RESTRICTIONS SOIL CONDITIONS	NO SPREADING ON CLAY NO SPREADING ON COARSE SAND WITHOUT APPROVAL
BUFFER REQUIREMENTS DIST. TO PRIVATE WELL	300 FT UNLESS APPR.
DIST. TO PUBLIC WELL	2500 FT UNLESS APPR.
DIST TO RESIDENCE	
DIST TO OTHER BUILDINGS	
DIST TO PROPERTY LINE	
GROUND WATER PROTECTION	MAY REQUIRE GROUNDWATER MONITORING
DEPTH TO HIGH GROUNDWATER LEVEL	3 FT TO POORLY DRAINED SOIL OR GROUNDWATER

MASSACHUSETTS  
TYPE I LAND APPLICATION  
OR DISTRIBUTION

MASSACHUSETTS  
TYPE II & III  
LAND APPLICATION

SURFACE WATER

GROUNDWATER

MAY REQUIRE GROUNDWATER MONITORING  
MIN. 3 FT

MAXIMUM SLUDGE LOADING LIM  
(CEC IN MEQ/100G SOIL)  
SLUDGE APPLICATION WILL BE  
SLUDGE

N (ANNUAL)

SHOULD NOT EXCEED NITROGEN UPTAKE

CROP NEEDS

MASSACHUSETTS  
 TYPE I LAND APPLICATION  
 OR DISTRIBUTION

MASSACHUSETTS  
 TYPE II & III  
 LAND APPLICATION

METALS

CD

ANNUAL

.5 KG/HA (.45 LB/AC)

MAX. CUMULATIVE

5 KG/HA (EXCLUDING SOIL  
 BACKGROUND LEVELS)

PB

(MAX ANNUAL, INCLUDING SOIL  
 BACKGROUND LEVELS)

499 KG/HA (445 LB/AC) IF CEC <5

673KG/HA (600 LB/AC) IF CEC>5

UP TO 802 KG/HA (715 LB/AC) IF APPR.

ZN

(MAX CUMULATIVE, EXCLUDING SOIL  
 BACKGROUND LEVELS)

280 KG/HA (250 LB/AC) IF CEC <5

561 KG/HA (500 LB/AC) IF CEC>5

CU

(MAX. CUMULATIVE, EXCLUDING SOIL  
 BACKGROUND LEVELS)

140 KG/HA (125 LB/AC) IF CEC<5

280 KG/HA (250 LB/AC) IF CEC>5

FILE 2.6

SLUDGE CLASSIFICATION	MICHIGAN LAND APPLICATION/UNCONTROLLED DISTRIBUTION NOT ADDRESSED
STATE CONTROL	
LAWS, TITLE & DATE	CHP 299 OF PUBLIC ACT 641 1978, AS AMENDED
REGS, TITLE & DATE	
GUIDELINES, TITLE & DATE	
CONTROLLING AGENCY	MICHIGAN DEPT OF NATURAL RESOURCES RESIDENT MANAGEMENT GROUP LANSING, MICHIGAN 48909 517/373/8410

MICHIGAN  
LAND APPLICATION/UNCONTROLLED  
DISTRIBUTION  
NOT ADDRESSED

ACCEPTABILITY OF SLUDGE

PERMIT OR APPROVAL  
APPLIC. SUBMITTAL

SLUDGE SAMPLING PARAMETERS

MICHIGAN  
LAND APPLICATION/UNCONTROLLED  
DISTRIBUTION  
NOT ADDRESSED

MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (MG/KG SLUDGE DRY WEIGHT)

AS

CD

PB

	MICHIGAN LAND APPLICATION/UNCONTROLLED DISTRIBUTION NOT ADDRESSED
NI	
ZN	
CU	
CR	
HG	
MO	
B	
FE	
ORGANICS	
PCB	
WATER	
OTHER CONTAMINANTS	
RECORDS	

MICHIGAN  
LAND APPLICATION/UNCONTROLLED  
DISTRIBUTION  
NOT ADDRESSED

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION

Michigan

	MICHIGAN
APPROVAL OR PERMIT APPLIC. SUBMITTAL	LAND APPLICATION/UNCONTROLLED DISTRIBUTION NOT ADDRESSED
CRITERIA FOR USE DEGREE OF STABILIZATION	
SOIL SAMPLING PRE-APPLICATION	

	MICHIGAN
	LAND APPLICATION/UNCONTROLLED
	DISTRIBUTION
	NOT ADDRESSED
POST-APPLICATION	
WATER QUALITY MONITORING	
GROUND WATER	
SURFACE WATER	
CROP MONITORING	
MAXIMUM SLUDGE LOADING LIMIT	
KG/HA UNLESS OTHERWISE NOTED	
(CEC IN MEQ/100G SOIL)	
ANNUAL OR CUMULATIVE	
NUTRIENTS	
N (ANNUAL)	

	MICHIGAN	
	LAND APPLICATION/UNCONTROLLED	
	DISTRIBUTION	
	NOT ADDRESSED	
PH		
METALS		
CD		
ANNUAL		
MAX CUMULATIVE		
PB		

	MICHIGAN	
	LAND APPLICATION/UNCONTROLLED	
	DISTRIBUTION	
	NOT ADDRESSED	
ZN		
CU		
CR		
NI		
HG		

	MICHIGAN
	LAND APPLICATION/UNCONTROLLED
	DISTRIBUTION
	NOT ADDRESSED
ORGANICS	
PCB	
LAND USE RESTRICTIONS	
CROPS	
GRAZING OR GREENCHOP	

	MICHIGAN LAND APPLICATION/UNCONTROLLED DISTRIBUTION NOT ADDRESSED
PUBLIC ACCESS	
PH OF SOIL	
SITING RESTRICTIONS	
SOIL CONDITIONS	
BUFFER REQUIREMENTS	
DIST TO PRIVATE WELL	
DIST TO PUBLIC WELL	
DIST TO RESIDENCE	

	MICHIGAN	
	LAND APPLICATION/UNCONTROLLED	
	DISTRIBUTION	
	NOT ADDRESSED	
DIST TO OTHER BLDGS.		
DIST TO PROPERTY LINE		
GROUNDWATER PROTECTION		
DEPTH TO HIGH GW		
DEPTH TO BEDROCK		
PERMEABILITY		
INFILTRATION		
SURFACE WATER PROTECTION		

	MICHIGAN	
	LAND APPLICATION/UNCONTROLLED	
	DISTRIBUTION	
	NOT ADDRESSED	
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING		
DIST TO SURFACE WATER		
DIST TO DRY RUN		
RUNOFF AND EROSION CONTROL		
MAXIMUM SLOPE LIMIT		
RECORDS		

	MICHIGAN
	LAND APPLICATION/UNCONTROLLED
	DISTRIBUTION
	NOT ADDRESSED
REPORTS	
NOTIFICATIONS	
STORAGE	
TRANSPORTATION	

	MICHIGAN LAND APPLICATION/UNCONTROLLED DISTRIBUTION NOT ADDRESSED
UNCONTROLLED USE	
DEDICATED SITES	

**FILE 2.6**

**MICHIGAN**  
**LAND APPLICATION/UNCONTROLLED**  
**DISTRIBUTION**  
**NOT ADDRESSED**  
**THE STATE IS IN THE PROCESS OF**  
**COMPOSING GUIDELINES FOR THE**  
**LAND APPLICATION AND USE OF**  
**COMPOSTED SLUDGE. UNTIL SUCH**  
**TIME AS THEY ARE READY, THEY**  
**RELY ON THE FEDERAL GUIDELINES**

**COMMENTS**

	MINNESOTA LAND APPLICATION GOVT FACILITIES	MINNESOTA LAND APPLICATION PRIVATE SITES
SLUDGE CLASSIFICATION		
STATE CONTROL		
LAWS, TITLE & DATE	MINNESOTA STATUTE 116.07 SUBD. 4	MINNESOTA STATUE 116.07 SUBD. 4
REGS, TITLE & DATE	MINNESOTA RULES ON SEWAGE SLUDGE TITLE 6, PART 4 4,20,82, 1982	SEWAGE SLUDGE MANAGEMENT RULES 7040.0100--4700 EFFECTIVE IN 1985
GUIDELINES, TITLE & DATE		
CONTROLLING AGENCY	MINNESOTA POLLUTION CONTROL AGENCY ROSEVILLE, MN 55113 612/296/7169	MINNESOTA POLLUTION CONTROL AGENCY ROSEVILLE, MN55113 612/296/7169

	MINNESOTA	MINNESOTA
	LAND APPLICATION	LAND APPLICATION
	GOVT FACILITIES	PRIVATE SITES
ACCEPTABILITY OF SLUDGE		
PERMIT OR APPROVAL APPLIC. SUBMITTAL	STATE DISPOSAL PERMIT REQUIRED SEE SUBMITTAL REQUIREMENTS UNDER LAND APPLICATION	LETTER OF APPROVAL REQUIRED SEE SUBMITTAL REQUIREMENTS UNDER LAND APPLICATION
SLUDGE SAMPLING PARAMETERS	% TOTAL SOLIDS, % VOL SOLIDS, pH, N, KJELDAHL, AMMONIA N,  NITRATE, ZN, CU,PB,NI,CD,CR, HG,PCB, FREQUENCY: 1/YR	SLUDGE ANALYSIS: TOTAL SOLIDS, % VOL SOLIDS,  pH, N, % KJELDAHL, AMMONIA N, NITRATE (IF APPLICABLE), ZN,CU,PB, NI,CD,CR,HG,PCB FREQUENCY: <1.0 MGD: ANNUALLY 1.0-20.0 MGD: SEMI-ANNUALLY

	MINNESOTA LAND APPLICATION GOVT FACILITIES	MINNESOTA LAND APPLICATION PRIVATE SITES > 20 MGD: QUARTERLY
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS		
CONDUCTIVITY (SALT)		
NUTRIENTS (% BY DRY WEIGHT)		
N		
P		
K		
METALS (MG/KG SLUDGE DRY WEIGHT)		
AS		
CD		
PB		

	MINNESOTA LAND APPLICATION GOVT FACILITIES	MINNESOTA LAND APPLICATION PRIVATE SITES
NI		
ZN		
CU		
CR		
HG		
MO		
B		
FE		
ORGANICS		
PCB	<50 MG/KG	< 50 MG/KG
WATER		
OTHER CONTAMINANTS		
RECORDS		POLITICAL SUBDIVISION GENERATING SLUDGE MUST KEEP RECORDS INCLUDING SLUDGE COMPOSITION, SOIL TEST DATE FOR LANDSPREADING

MINNESOTA  
LAND APPLICATION  
GOVT FACILITIES

MINNESOTA  
LAND APPLICATION  
PRIVATE SITES

SITES USED DURING YR,  
LOCATION OF SITES, AMOUNT APPLIED,  
AMT OF N APPLIED, AMT OF CD, ZN,  
PB, NI, CU APPLIED, VEG GROWN,

REPORTS

ABOVE INFO SUBMITTED ANNUALLY

NOTIFICATIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION

	MINNESOTA	MINNESOTA
	LAND APPLICATION	LAND APPLICATION
	GOVT FACILITIES	PRIVATE SITES
APPROVAL OR PERMIT	STATE DISPOSAL PERMIT REQUIRED	LETTER OF APPROVAL REQUIRED
APPLIC. SUBMITTAL	SUBMITTAL MUST INCLUDE:	SUBMITTAL INCLUDES:
	SLUDGE STABILIZ; SLUDGE CHEM CHAR;	SLUDGE CHAR; SITE CHAR
	SITE CHARAC, INCLUDING SOIL MAPS,	INCLUDING SOIL MAP, TOPO MAP,
	USGS TOPO MAP, LEGAL DESCRIP	LEGAL DESCRIPT OF SITE, APPROX
	OF LANDSPREADING SITE, APPROX	QUANTITY PREV APPLIED, SAMPLING
	QUAN PREVIOUSLY APPLIED, SOIL CHAR,	PROCEDURE, LANDOWNER INFOR,
	ACREAGE, NAME OF OWNER; SITE	LEASEE INFO; SITE MANAGEMENT
	MANAGEMENT INCLUDING APPLIC	INCLUDING APPLIC METHOD, MAX
	METHOD, NAME OF APPLIER, MAX	ANNUAL TO BE APPLIED, MAX LOADING
	ANNUAL APPLIC RATE, MAX	RATE OVER LIFE OF SITE, CROP DESCRIP,
	CUM APPLIC RATE, DESCRIP OF	PUBLIC ACCESS CONTROL; STORAGE
	CROPS, PUBLIC ACCESS CONTROL,	PLAN, PUBLIC NOTIFICATION
	DATES OF APPLIC	
	AND, GW QUALITY, GW MONITORING,	
	SLUDGE STORAGE OPERATION	
	ADDITIONAL INFOR REQUIRED IF	
	CD>2 KG/HA/YR OR IF METALS	
	EXCEED MAX CUM STDS	
CRITERIA FOR USE		
DEGREE OF STABILIZATION	MIN: PSRP	MIN: PSRP
	IF CROPS FOR DIRECT HUMAN CONSUMP-	PFRP IF CROPS FOR DIRECT HUMAN
	TION WITHIN 18 MOS: PFRP	CONSUMPTION WITHIN 18 MOS UNLESS
		NO CONTACT BETWEEN SLUDGE AND
		EDIBLE PORTION OF CROP
SOIL SAMPLING		
PRE-APPLICATION		PRIOR TO APPLIC FOR TEXTURAL
		CLASSIF, % ORGANIC CONTENT,

	MINNESOTA LAND APPLICATION GOVT FACILITIES	MINNESOTA LAND APPLICATION PRIVATE SITES
POST-APPLICATION		EXTRACTABLE P/ACRE, EXCHANGEABLE K/AC, pH, SOLUBLE SALTS SAME AS ABOVE PRIOR TO EACH CROP- ING SEASON
WATER QUALITY MONITORING GROUND WATER	6 WELLS 2/YR	
SURFACE WATER	MONITORING MAY BE REQUIRED	
CROP MONITORING	IF FOOD CHAIN CROP, MUST BE MONITORED FOR CD, IF pH <6.5 AND ANNUAL CD > 0.5 KG/HA FOR LEAFY VEG OR ROOT CROPS, AND > 2 KG/HA OTHER FOOD CHAIN CROPS	
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED (CEC IN MEQ/100G SOIL) ANNUAL OR CUMULATIVE		
NUTRIENTS N (ANNUAL)	BASED ON CROP N REQUIREMENT	BASED ON CROP N REQUIREMENT

	MINNESOTA LAND APPLICATION GOVT FACILITIES	MINNESOTA LAND APPLICATION PRIVATE SITES
PH		< 448 KG/HA
METALS		
CD ANNUAL	IF FOOD CHAIN CROP AND pH > 6.5 0.5 KG/HA FOR LEAFY VEG; IF OTHER FOOD CHAIN: 2.2 KG/HA	0.6 KG/HA IF TOBACCO, LEAFY VEG OR ROOT CROPS; 2 KG/HA IF OTHER FOOD CHAIN CROPS
MAX CUMULATIVE	IF CEC< 5: 6 KG/HA IF 5<CEC<15: 11 KG/HA IF CEC>15: 22 KG/HA UNLESS pH > 6.5 MAINTAINED, VEG TISSUE SAMPLED FOR CD, FACILITY BY HUMANS, AND FUTURE LAND OWNERS ARE NOTIFIED	IF CEC<5: 6 KG/HA IF 5<CEC<15: 11 KG/HA IF CEC>15: 22 KG/HA
PB	IF CEC< 5: 560 KG/HA IF 5<CEC<15: 1121 KG/HA IF CEC>15: 2242 KG/HA UNLESS FUTURE PROP OWNERS NOTIFIED IN DEED	IF CEC< 5: 560 KG/HA IF 5<CEC<15: 1121 KG/HA IF CEC>15: 2242 KG/HA

	MINNESOTA LAND APPLICATION GOVT FACILITIES	MINNESOTA LAND APPLICATION PRIVATE SITES
ZN	IF CEC<5: 280 KG/HA IF 5<CEC<15: 560 KG/HA IF CEC>15: 1121 KG/HA UNLESS FUTURE PROP OWNERS NOTIFIED IN DEED	IF CEC<5: 280 KG/HA IF 5<CEC<15: 560 KG/HA IF CEC>15: 1121 KG/HA
CU	IF CEC<5: 140 KG/HA IF 5<CEC<15: 280 KG/HA IF CEC>15: 224 KG/HA UNLESS FUTURE PROP OWNERS NOTIFIED IN DEED	IF CEC<15: 140 KG/HA IF 5<CEC<15: 280 KG/HA IF CEC>15: 560 KG/HA
CR		
NI	IF CEC<15: 56 KG/HA IF 5<CEC<15: 112 KG/HA IF CEC>15: 224 KG/HA UNLESS FUTURE PROP OWNERS NOTIFIED BY DEED	IF CEC<15: 56 KG/HA IF 5<CEC<15: 112 KG/HA IF CEC>15: 224 KG/HA
HG		

	MINNESOTA LAND APPLICATION GOVT FACILITIES	MINNESOTA LAND APPLICATION PRIVATE SITES
ORGANICS		
PCB	IF FOOD CHAIN AND INCORPORATED: 10-50 MG/KG MUST BE <50 MG/KG IF TO BE LANDSPREAD AT ALL	< 10 MG/KG UNLESS INCORP FOR FOOD CHAIN CROPS MUST BE < 50 MG/KG
LAND USE RESTRICTIONS		
CROPS	MUST COMPLY WITH FDA, USDA, AND MDA REGS FOR FOOD CHAIN PROTECTION	SURFACE APPLIC MUST OCCUR 7 DAYS AFTER A CUTTING NOT TO BE APPLIED TO FALLOW LAND UNLESS SOIL TEXTURE IS MEDIUM OR FINE, AVG ANNUAL PRECIP<24 IN AVAIL N < 56 KG/HA ON MED SOIL AND 84 KG/HA ON FINE SOIL, AND A CROP IS GROWN YR FOLLOWING
GRAZING OR GREENCHOP	NO GRAZING FOR 1 MO	FOLIAGE MINIMAL UNLESS INJECTED; IF PSRP, NO PASTURING OR HARVESTING OF FORAGE CROPS FOR 1MO

	MINNESOTA LAND APPLICATION GOVT FACILITIES	MINNESOTA LAND APPLICATION PRIVATE SITES
PUBLIC ACCESS	POST FENCES OR APPROP SIGNS	CONTROLLED 12 MOS UNLESS PFRP
PH OF SOIL		IF FOOD CHAIN CROPS: 6.5
SITING RESTRICTIONS		
SOIL CONDITIONS		FINE SAND, LOAMY SAND, SANDY LOAM, LOAM, SILT LOAM, SILT, SANDY CLAY LOAM, SILTY CLAY LOAM, SILTY CLAY, OR CLAY. NOT ON PEAT
BUFFER REQUIREMENTS		
DIST TO PRIVATE WELL	1000 FT FROM WELLS THAT ARE FINISHED TO < 50 FT AND ARE DOWNGRADIENT TO GW FLOW	200 FT
DIST TO PUBLIC WELL	SAME AS ABOVE	1000 FT
DIST TO RESIDENCE		200 FT ( 100 FT IF INJECTED)

	MINNESOTA LAND APPLICATION GOVT FACILITIES	MINNESOTA LAND APPLICATION PRIVATE SITES
DIST TO OTHER BLDGS.		600 FT FROM RESID DEVELOP OR RECREATION AREA UNLESS PERMISSION GRANTED (300 FT IF INJECTED)
DIST TO PROPERTY LINE		NOT TO ADJOINING PROPERTY OR TO ROAD ROW
GROUNDWATER PROTECTION		
DEPTH TO HIGH GW	6 IN	6 IN HOLDING CAPACITY AT MIN 3 FT
DEPTH TO BEDROCK	6 IN	6 IN HOLDING CAPACITY AT MIN 3 FT NOT TO BEDROCK WITH FRACTURES AT 6 FT
PERMEABILITY	> 6 IN/HR	< 6 IN/HR THROUGH TOP 5 FT < 0.2 IN/HR IF LIQUID SLUDGE AND NOT INCORPORATED
INFILTRATION		
SURFACE WATER PROTECTION		

FILE 2.6

	MINNESOTA LAND APPLICATION GOVT FACILITIES	MINNESOTA LAND APPLICATION PRIVATE SITES
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT WITHIN WETLAND OR 100 YR FLOODPLAIN	
DIST TO SURFACE WATER	1000 FT OF HIGH WATER LEVEL OF LAKE OR POND 300 FT TO RIVER OR STREAM	25 FT IF SLOPE < 2% 50 FT IF SLOPE 2-6%, AND 100 FT IF SLOPE 6-12%
DIST TO DRY RUN	100 FT TO INTERMITTENT STREAM 25 FT IF IMMEDIATE INCORP	100 FT FROM INTERMITTENT STREAMS 25 FT IF IMMEDIATE INCORP, AND NOT POLLUTE DOWNGRADIENT SURFACE WATER
RUNOFF AND EROSION CONTROL		IF APPLIED MAY-OCT, 200 FT (COURSE-GRAINED SOIL) AND 300 FT (MEDIUM-FINE GRAINED SOIL) FROM DOWNGRADIENT SW. 400 FT AND 600 FT RESPECTIVELY IF APPLIED NOV-APRIL
MAXIMUM SLOPE LIMIT		<6% IF SURFACE APPLIED < 12% IF SUBSURFACE APPLICATION OR IMMEDIATE INCORP
RECORDS	MUST CONTAIN: QUANTITY AND RATE OF APPLICATION, AMOUNT AVAILABLE APPLIED; AMOUNT OF ANNUAL AND CUMULATIVE CD, CU, ZN, PB, NI; TYPE AND USE OF	AS STATED ABOVE, POLITICAL SUBDIVISION GENERATING SLUDGE MUST KEEP RECORDS. SEE ABOVE FOR SPECIFIC SUBMITTAL

	MINNESOTA LAND APPLICATION GOVT FACILITIES	MINNESOTA LAND APPLICATION PRIVATE SITES
REPORTS	VEGET GROWN; MONITORING OF GW,SOILS, AND CROPS; FACILITY PERMIT REQUIREMENT, AND ADVERSE HEALTH OR SOCIAL PROBS RECORDS DESCRIBED ABOVE MUST BE SUBMITTED ANNUALLY	GENERATOR MUST SUBMIT REPORT ANNUALLY
NOTIFICATIONS		
STORAGE		SHORT-TERM STORAGE: MUST BE SPREAD < 30 DAYS, BUFFER REQUIREMNTS SAME AS FOR SPREADING EXCEPT '100 FT FROM ADJOINING PROP OR ROW, AND NOT ON SLOPE > 2% LONG-TERM STORAGE: 1000 FT FROM RESID AND SW UNLESS RUNOFF CONTROLLED, < 2% SLOPE UNLESS RUNOFF CONTROLLED, PERM <6 IN/HR, SITE MOVED AFTER 2 CONSEC YR
TRANSPORTATION		

	MINNESOTA LAND APPLICATION GOVT FACILITIES	MINNESOTA LAND APPLICATION PRIVATE SITES
UNCONTROLLED USE		NOT ADDRESSED
DEDICATED SITES	PER REP OF STATE POLLUTION CONTROL AGENCY, USE ON DEDICATED SITES IS ALLOWED WITH APPROVAL. THERE IS NO CHANGE IN THE LOADING RATES.	NOT ADDRESSED

FILE 2.6

COMMENTS

|MINNESOTA  
|LAND APPLICATION  
|GOVT FACILITIES

|THE ONLY CONSTITUENT RATE ESTAB IS  
|FOR PCB. OTHERS ARE MONITORED  
|THROUGH LOADING RATES.

|MINNESOTA  
|LAND APPLICATION  
|PRIVATE SITES

|THE ONLY CONSTITUENT LEVEL ESTAB  
|IS PCB. OTHER LEVELS ARE MONITORED  
|THROUGH LOADING RATES

	MISSISSIPPI	
	LAND APPLICATION	
SLUDGE CLASSIFICATION		
STATE CONTROL		
LAWS, TITLE & DATE	MISSISSIPPI SOLID WASTE DISPOSAL	
	ACT, 1974	
REGS, TITLE & DATE	NONHAZARDOUS WASTE MANAGEMENT	
	REGULATIONS	
	NO. PC/S 1	
	9/85	
GUIDELINES, TITLE & DATE		
CONTROLLING AGENCY	DEPT OF NATURAL RESOURCES	
	BUREAU OF POLLUTION CONTROL	
	JACKSON, MISSISSIPPI 30209	
	601/961/5060	



MISSISSIPPI  
LAND APPLICATION

MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS

NOT ADDRESSED

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (MG/KG SLUDGE DRY WEIGHT)

AS

CD

PB

MISSISSIPPI  
LAND APPLICATION

NI

ZN

CU

CR

HG

MO

B

FE

ORGANICS

PCB

WATER

OTHER CONTAMINANTS

RECORDS

MISSISSIPPI  
LAND APPLICATION

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

MUST NOT CONSTITUTE FIRE, SAFETY,  
OR HEALTH HAZARD

LAND APPLICATION

APPROVAL OR PERMIT APPLIC. SUBMITTAL	MISSISSIPPI LAND APPLICATION  PERMIT IS REQUIRED. ISSUED FOR LIFE OF SITE SUBMITTAL INCLUDES: SITE ID, LAND OWNERSHIP, SITE BKGD, LAND USE, PROVISIONS FOR INSPECTION AND MAINT, POST-CLOSURE USE, SITE MAPS, GEOLOGIC CHAR, OPERATION PLAN
CRITERIA FOR USE DEGREE OF STABILIZATION	NOT SPECIFIED FOR SLUDGE PSRP FOR SEPTIC TANK PUMPINGS
SOIL SAMPLING PRE-APPLICATION	TESTING REQUIRED SOIL-WASTE TESTING REQUIRED

	MISSISSIPPI LAND APPLICATION
POST-APPLICATION	UPON CLOSURE, TEST FOR PARAMETERS LISTED IN PERMIT, AND MAILED TO DEPT IN 90 DAYS
WATER QUALITY MONITORING GROUND WATER	SITE SPECIFIC AS REQUIRED IN PERMIT ZONE OF AERATION MUST BE MONITORED
SURFACE WATER	
CROP MONITORING	
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED (CEC IN MEQ/100G SOIL) ANNUAL OR CUMULATIVE	
NUTRIENTS N (ANNUAL)	NOT TO EXCEED PLANT AVAIL N LEVELS SPECIF ARE GIVEN FOR CROPS

	MISSISSIPPI	
	LAND APPLICATION	
PH		
METALS		
CD		
ANNUAL	0.5 KG/HA	
MAX CUMULATIVE	IF CEC< 5: 6 KG/HA	
	IF 5<CEC<15: 11 KG/HA	
	IF CEC>15: 22 KG/HA	
PB	IF CEC<5: 561 KG/HA	
	IF 5<CEC<15: 112 KG/HA	
	IF CEC>15: 2242 KG/HA	

	MISSISSIPPI	
	LAND APPLICATION	
ZN	IF CEC<5: 280 KG/HA	
	IF 5<CEC<15: 561 KG/HA	
	IF CEC> 15: 1121 KG/HA	
CU	IF CEC<5: 140 KG/HA	
	IF 5<CEC<15: 280 KG/HA	
	IF CEC>15: 561 KG/HA	
CR		
NI	IF CEC<5: 56 KG/HA	
	IF 5<CEC<15: 112 KG/HA	
	IF CEC>15: 224 KG/HA	
HG		

	MISSISSIPPI LAND APPLICATION
ORGANICS	
PCB	
LAND USE RESTRICTIONS	
CROPS	18 MOS IF CROP CONSUMED RAW, UNLESS PROVED NOT TO BE A HAZARD 30 DAYS FOR CROPS FOR INDIRECT HUMAN CONSUMPTION, UNLESS NOT A HAZARD TO HUMANS THROUGH FOOD CHAIN
GRAZING OR GREENCHOP	60 DAYS

	MISSISSIPPI	
	LAND APPLICATION	
PUBLIC ACCESS	12 MOS	
PH OF SOIL	= OR > 6.5	
SITING RESTRICTIONS		
SOIL CONDITIONS	MUST BE SUITABLE	
BUFFER REQUIREMENTS		
DIST TO PRIVATE WELL	300 FT	
DIST TO PUBLIC WELL	300 FT	
DIST TO RESIDENCE	300 FT	

	MISSISSIPPI	
	LAND APPLICATION	
DIST TO OTHER BLDGS.	300 FT IF INHABITED	
DIST TO PROPERTY LINE		
GROUNDWATER PROTECTION		
DEPTH TO HIGH GW	3 FT	
DEPTH TO BEDROCK		
PERMEABILITY		
INFILTRATION		
SURFACE WATER PROTECTION		

	MISSISSIPPI
	LAND APPLICATION
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT ON SATURATED GROUND NOT IN 100 YR FLOODPLAIN UNLESS AREA CAN BE PROTECTED AGST WASHOUT
DIST TO SURFACE WATER	50 FT UNLESS SHOW NO RUNOFF
DIST TO DRY RUN	
RUNOFF AND EROSION CONTROL	MUST BE INCORP IF < 12% SOLID, MUST BE INJECTED UNLESS APPROVED
MAXIMUM SLOPE LIMIT	< 8% UNLESS APPROVED
RECORDS	

	MISSISSIPPI LAND APPLICATION
REPORTS	UPON CLOSURE, SOIL TEST WITHIN 90 DAYS
NOTIFICATIONS	TO FUTURE LANDOWNERS IF SUBST APPLIED IN EXCESS OF THOSE ESTAB AS ACCEPTABLE FOR FOOD CHAIN CROPS NO NOTIF NECESS IF SOIL ANAL SHOWS CONTAMINANTS NO LONGER PRESENT
STORAGE	
TRANSPORTATION	

	MISSISSIPPI LAND APPLICATION
UNCONTROLLED USE	NOT SPECIFICALLY ADDRESSED; HOWEVER REGS STATE THAT NO PERMIT REQUIRED FOR SOLID WASTE THAT IS BENEFICIALLY USED, OR RECYCLED
DEDICATED SITES	NOT ADDRESSED

FILE 2.6

MISSISSIPPI  
LAND APPLICATION

COMMENTS

	MISSISSIPPI LAND APPLICATION
COMMENTS	

FILE 2.6

	MONTANA	
	LAND APPLICATION	
SLUDGE CLASSIFICATION	GROUP 11 WASTES INCLUDE DIGESTED	
	SEWAGE TREATMENT SLUDGE	
STATE CONTROL		
LAWS, TITLE & DATE	MONTANA SOLID WASTE MANAGEMENT ACT	
	SECTION 75-10-201 TO 233	
REGS, TITLE & DATE	ADMINISTRATIVE RULES OF MONTANA	
	TITLE 16,CHAPTER 14, SUB-CHAPTER 5	
GUIDELINES, TITLE & DATE		
CONTROLLING AGENCY	DEPT OF HEALTH AND ENVIRONMENTAL	
	SCIENCES	
	ENVIRONMENTAL SCIENCES DIVISION	
	SOLID WASTE MANAGEMENT BUREAU	
	HELENA, MONTANA 59620	
	406/444/2821	

	MONTANA
	LAND APPLICATION
ACCEPTABILITY OF SLUDGE	
PERMIT OR APPROVAL APPLIC. SUBMITTAL	LICENSE IS REQUIRED FOR DISPOSAL OF SOLID WASTE UNLESS USE IS BENEFICIAL, AND DOES NOT CREATE NUISANCE OR HAZARD. IF REQUIRED, LICENSE APPLIC INCLUDES: APPLICANT INFO, DESCRIPTION OF PROPOSED SITE, TOTAL ACREAGE, POPULATION TO BE SERVED, WATER QUAL, SOIL INFOR, LAND USES, ZONING INFO, MAPS, OPERATOR NAME, PROPOSED OPERATION AND MAINTENANCE PLAN
SLUDGE SAMPLING PARAMETERS	NOT ADDRESSED

	MONTANA LAND APPLICATION
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS	NOT HAZARDOUS AS DEFINED IN 40 CFR 250.1
CONDUCTIVITY (SALT)	
NUTRIENTS (% BY DRY WEIGHT)	
N	
P	
K	
METALS (MG/KG SLUDGE DRY WEIGHT)	
AS	
CD	
PB	

MONTANA  
LAND APPLICATION

NI

ZN

CU

CR

HG

MO

B

FE

ORGANICS

PCB

WATER

OTHER CONTAMINANTS

RECORDS

MONTANA  
LAND APPLICATION

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION

	MONTANA
	LAND APPLICATION
APPROVAL OR PERMIT APPLIC. SUBMITTAL	GROUP II WASTES CAN BE DISPOSED IN A CLASS I OR II SITE UPON APPROVAL AND LICENSE LICENSE REQUIREMENTS ARE LISTED ABOVE UNDER SLUDGE ACCEPTABILITY SPECIFIC RESTRICTIONS MAY BE PLACED UPON THE OPERATION
CRITERIA FOR USE DEGREE OF STABILIZATION	MUST BE DIGESTED
SOIL SAMPLING PRE-APPLICATION	SAMPLING REQUIRED TO DETERMINE TYPE OF SOIL AND PERMEABILITY

	MONTANA	
	LAND APPLICATION	
POST-APPLICATION		
WATER QUALITY MONITORING		
GROUND WATER	MAY BE REQUIRED	
SURFACE WATER		
CROP MONITORING		
MAXIMUM SLUDGE LOADING LIMIT		
KG/HA UNLESS OTHERWISE NOTED	NOT SPECIFIED	
(CEC IN MEQ/100G SOIL)		
ANNUAL OR CUMULATIVE		
NUTRIENTS		
N (ANNUAL)		

MONTANA  
LAND APPLICATION

PH

METALS

CD  
ANNUAL

MAX CUMULATIVE

PB

MONTANA  
LAND APPLICATION

ZN

CU

CR

NI

HG

**MONTANA**  
**LAND APPLICATION**

**ORGANICS**

**PCB**

**LAND USE RESTRICTIONS**

**CROPS**

**GRAZING OR GREENCHOP**

	MONTANA
	LAND APPLICATION
PUBLIC ACCESS	IF PUBLIC ACCESS POSSIBLE, ROADS AND BRIDGES MUST BE ABLE TO CARRY LOADED VEHICLES DURING ALL WEATHER
PH OF SOIL	
SITING RESTRICTIONS	
SOIL CONDITIONS	MUST BE ORGAN CLAY OR SILT, INORG CLAY, CLAYEY SANDS OR GRAVEL, INORG SILT, ORGANIC SILT, OR SILTY SAND OR SILTY GRAVEL
BUFFER REQUIREMENTS	
DIST TO PRIVATE WELL	NO POLLUTION ALLOWED
DIST TO PUBLIC WELL	NO POLLUTION ALLOWED
DIST TO RESIDENCE	

	<b>MONTANA</b>	
	<b>LAND APPLICATION</b>	
<b>DIST TO OTHER BLDGS.</b>		
<b>DIST TO PROPERTY LINE</b>		
<b>GROUNDWATER PROTECTION</b>		
<b>DEPTH TO HIGH GW</b>	<b>10-20 FT</b>	
<b>DEPTH TO BEDROCK</b>		
<b>PERMEABILITY</b>	<b>10<sup>-6</sup> TO 10<sup>-3</sup> CM/SEC</b> <b>1-1035 FT/YR</b>	
<b>INFILTRATION</b>		
<b>SURFACE WATER PROTECTION</b>	<b>NO POLLUTION ALLOWED</b>	

	MONTANA
	LAND APPLICATION
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT IN 100 YR FLOODPLAIN
DIST TO SURFACE WATER	
DIST TO DRY RUN	
RUNOFF AND EROSION CONTROL	DRAINAGE STRUCTURES MAY BE NECESSARY
MAXIMUM SLOPE LIMIT	
RECORDS	

	MONTANA LAND APPLICATION
REPORTS	
NOTIFICATIONS	
STORAGE	
TRANSPORTATION	MUST PREVENT DISCHARGE, OR LEAKING

	MONTANA LAND APPLICATION
UNCONTROLLED USE	NOT SPECIFICALLY ADDRESSED ALTHOUGH REP FROM DEPT SAID THAT IN GENERAL, IF USE IS BENEFICIAL, NO LICENSE IS REQUIRED
DEDICATED SITES	NOT ADDRESSED

FILE 2.6

MONTANA  
LAND APPLICATION

COMMENTS

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SLUDGE CLASSIFICATION	NEBRASKA LAND APPLICATION/UNCONTROLLED DISTRIBUTION NOT ADDRESSED
STATE CONTROL	
LAWS, TITLE & DATE	NEBRASKA LITTER REDUCTION AND RECYCLING ACT STAT 81-1505, 1943 AS AMENDED
REGS, TITLE & DATE	
GUIDELINES, TITLE & DATE	
CONTROLLING AGENCY	NEBRASKA DEPT OF ENVIRONMENTAL CONTROL LINCOLN, NEBRASKA 68509 402/471/4210



	NEBRASKA	
	LAND APPLICATION/UNCONTROLLED	
	DISTRIBUTION	
	NOT ADDRESSED	

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MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS


CONDUCTIVITY (SALT)


NUTRIENTS (% BY DRY WEIGHT)

--	--	--

N

--	--	--

P

--	--	--

K

--	--	--

METALS (MG/KG SLUDGE DRY WEIGHT)

--	--	--

AS

--	--	--

CD

--	--	--

PB


	NEBRASKA	LAND APPLICATION/UNCONTROLLED	DISTRIBUTION	NOT ADDRESSED
NI				
ZN				
CU				
CR				
HG				
MO				
B				
FE				
ORGANICS				
PCB				
WATER				
OTHER CONTAMINANTS				
RECORDS				

	NEBRASKA
	LAND APPLICATION/UNCONTROLLED
	DISTRIBUTION
	NOT ADDRESSED
REPORTS	
NOTIFICATIONS	
STORAGE (IF APPLICABLE)	
LAND APPLICATION	

FILE 2.6

	NEBRASKA
APPROVAL OR PERMIT APPLIC. SUBMITTAL	LAND APPLICATION/UNCONTROLLED DISTRIBUTION NOT ADDRESSED
CRITERIA FOR USE DEGREE OF STABILIZATION	
SOIL SAMPLING PRE-APPLICATION	

	NEBRASKA
	LAND APPLICATION/UNCONTROLLED
	DISTRIBUTION
	NOT ADDRESSED
POST-APPLICATION	
WATER QUALITY MONITORING	
GROUND WATER	
SURFACE WATER	
CROP MONITORING	
MAXIMUM SLUDGE LOADING LIMIT	
KG/HA UNLESS OTHERWISE NOTED	
(CEC IN MEQ/100G SOIL)	
ANNUAL OR CUMULATIVE	
NUTRIENTS	
N (ANNUAL)	



	NEBRASKA	
	LAND APPLICATION/UNCONTROLLED	
	DISTRIBUTION	
	NOT ADDRESSED	
ZN		
CU		
CR		
N1		
HG		

	NEBRASKA
	LAND APPLICATION/UNCONTROLLED DISTRIBUTION
	NOT ADDRESSED
ORGANICS	
PCB	
LAND USE RESTRICTIONS	
CROPS	
GRAZING OR GREENCHOP	

	NEBRASKA	
	LAND APPLICATION/UNCONTROLLED	
	DISTRIBUTION	
	NOT ADDRESSED	
PUBLIC ACCESS		
PH OF SOIL		
SITING RESTRICTIONS		
SOIL CONDITIONS		
BUFFER REQUIREMENTS		
DIST TO PRIVATE WELL		
DIST TO PUBLIC WELL		
DIST TO RESIDENCE		

	NEBRASKA
	LAND APPLICATION/UNCONTROLLED
	DISTRIBUTION
	NOT ADDRESSED
DIST TO OTHER BLOGS.	
DIST TO PROPERTY LINE	
GROUNDWATER PROTECTION	
DEPTH TO HIGH GW	
DEPTH TO BEDROCK	
PERMEABILITY	
INFILTRATION	
SURFACE WATER PROTECTION	

	NEBRASKA
	LAND APPLICATION/UNCONTROLLED DISTRIBUTION
	NOT ADDRESSED
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	
DIST TO SURFACE WATER	
DIST TO DRY RUN	
RUNOFF AND EROSION CONTROL	
MAXIMUM SLOPE LIMIT	
RECORDS	



FILE 2.6

| NEBRASKA  
| LAND APPLICATION/UNCONTROLLED  
| DISTRIBUTION  
| NOT ADDRESSED

UNCONTROLLED USE

DEDICATED SITES

Nebraska



	NEVADA  LAND APPLICATION OR GIVE-AWAY  NOT ADDRESSED	
SLUDGE CLASSIFICATION		
STATE CONTROL		
LAWS, TITLE & DATE	NEVADA WATER POLLUTION CONTROL  LAW  TITLE 40 CHAPTER 445  1973--AMENDED THROUGH 1981  NEVADA SOLID WASTE DISPOSAL LAW  SECTS 444.440-444.630  1971--AMENDED 1983	
REGS, TITLE & DATE	NEVADA WATER POLLUTION CONTROL REGS  CHAPTER 445,5/2/78;AMENDED 7/2/80	
GUIDELINES, TITLE & DATE		
CONTROLLING AGENCY	NEVADA DEPT OF ENVTL PROTECTION  WATER QUALITY OFFICE  NEVADA DEPT OF CONSERVATION  AND NATURAL RESOURCES  SOLID WASTE MNGT PROGRAM  CARSON CITY, NEVADA 89710  702/885/4670	



|NEVADA  
|LAND APPLICATION OR GIVE-AWAY  
|NOT ADDRESSED  
|

MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (MG/KG SLUDGE DRY WEIGHT)

AS

CD

PB

	NEVADA	
	LAND APPLICATION OR GIVE-AWAY	
	NOT ADDRESSED	
NI		
ZN		
CU		
CR		
HG		
MO		
B		
FE		
ORGANICS		
PCB		
WATER		
OTHER CONTAMINANTS		
RECORDS		

NEVADA  
LAND APPLICATION OR GIVE-AWAY  
NOT ADDRESSED

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION

Nevada

	NEVADA LAND APPLICATION OR GIVE-AWAY NOT ADDRESSED
APPROVAL OR PERMIT APPLIC. SUBMITTAL	LAND APPLIC IS REGULATED THROUGH NPDES DISCHARG PERMITS
CRITERIA FOR USE DEGREE OF STABILIZATION	
SOIL SAMPLING PRE-APPLICATION	

	NEVADA
	LAND APPLICATION OR GIVE-AWAY
	NOT ADDRESSED
POST-APPLICATION	
WATER QUALITY MONITORING	
GROUND WATER	
SURFACE WATER	
CROP MONITORING	
MAXIMUM SLUDGE LOADING LIMIT	
KG/HA UNLESS OTHERWISE NOTED	LOADING RATES ARE SITE SPECIFIC
(CEC IN MEQ/100G SOIL)	
ANNUAL OR CUMULATIVE	
NUTRIENTS	
N (ANNUAL)	

NEVADA  
LAND APPLICATION OR GIVE-AWAY  
NOT ADDRESSED

PH

METALS

CD  
ANNUAL

MAX CUMULATIVE

PB

NEVADA  
LAND APPLICATION OR GIVE-AWAY  
NOT ADDRESSED

ZN

CU

CR

NI

HG

	NEVADA	
	LAND APPLICATION OR GIVE-AWAY	
	NOT ADDRESSED	
ORGANICS		
PCB		
LAND USE RESTRICTIONS		
CROPS		
GRAZING OR GREENCHOP		

NEVADA  
LAND APPLICATION OR GIVE-AWAY  
NOT ADDRESSED

PUBLIC ACCESS

PH OF SOIL

SITING RESTRICTIONS

SOIL CONDITIONS

BUFFER REQUIREMENTS

DIST TO PRIVATE WELL

DIST TO PUBLIC WELL

DIST TO RESIDENCE

	NEVADA	
	LAND APPLICATION OR GIVE-AWAY	
	NOT ADDRESSED	
DIST TO OTHER BLDGS.		
DIST TO PROPERTY LINE		
GROUNDWATER PROTECTION		
DEPTH TO HIGH GW		
DEPTH TO BEDROCK		
PERMEABILITY		
INFILTRATION		
SURFACE WATER PROTECTION		

NEVADA  
LAND APPLICATION OR GIVE-AWAY  
NOT ADDRESSED

WETLANDS OR AREAS SUBJECT  
TO PONDING OR FLOODING

DIST TO SURFACE WATER

DIST TO DRY RUN

RUNOFF AND EROSION CONTROL

MAXIMUM SLOPE LIMIT

RECORDS

NEVADA  
LAND APPLICATION OR GIVE-AWAY  
NOT ADDRESSED

REPORTS

NOTIFICATIONS

STORAGE

TRANSPORTATION

NEVADA  
LAND APPLICATION OR GIVE-AWAY  
NOT ADDRESSED

UNCONTROLLED USE

THE STATE HAS NO GUIDELINES  
OR REGS ADDRESSING THE  
USE OF COMPOSTED SLUDGE

DEDICATED SITES



	NEW HAMPSHIRE DISTRIBUTION OR COMPOSTED SLUDGE GIVEAWAY	NEW HAMPSHIRE LAND APPLICATION	NEW HAMPSHIRE LAND RECLAMATION
SLUDGE CLASSIFICATION		GOVERNMENTAL NON-GOVERNMENTAL	
STATE CONTROL LAWS, TITLE & DATE	RSA 149-M, CH. 227 ALSO, RSA 149:8,III(a)	RSA 149-M, CH. 227 ALSO, RSA 149:8,III(a) RSA 149-M:8, IV	RSA 149-M, CH. 227 ALSO, RSA 149:8,III(a)
REGULATIONS, TITLE, DATE	SOLID WASTE RULES CHAPTER PART HE-P 1901.01-1901.11 1901.05 LAND APPLICATION	SOLID WASTE RULES CHAPTER PART HE-P 1901.01-1901.11 1901.05(d)STDS. FOR SEPTAGE AND SLUDGE OCTOBER 30, 1984	SOLID WASTE RULES CHAPTER PART HE-P 1901.01-1901.11 1901.05(d)STDS. FOR SEPTAGE AND SLUDGE
GUIDELINES, TITLE&DATE	GUIDELINES FOR LAND APPLICATION OF MUNICIPAL SLUDGE (12/83) NOTE: LISTED CRITERIA ARE CONTAINED IN GUIDELINES OR REGULATIONS AS INDICATED BY G OR R	GUIDELINES FOR LAND APPLICATION OF MUNICIPAL SLUDGE (12/83) NOTE: LISTED CRITERIA ARE CONTAINED IN GUIDELINES OR REGULATIONS AS INDICATED BY G OR R	GUIDELINES FOR LAND APPLICATION OF MUNICIPAL SLUDGE (12/83) NOTE: LISTED CRITERIA ARE CONTAINED IN GUIDELINES OR REGULATIONS AS INDICATED BY G OR R
CONTROLLING AGENCY	NH WATER SUPPLY AND POLLUTION	NH WATER SUPPLY AND POLLUTION	NH WATER SUPPLY AND POLLUTION



NEW HAMPSHIRE  
DISTRIBUTION OR  
COMPOSTED SLUDGE GIVEAWAY

NEW HAMPSHIRE  
LAND APPLICATION

NEW HAMPSHIRE  
LAND RECLAMATION

SAMPLING SLUDGE PARAMETERS

|G|SLUDGE ANALYSIS: TO BE DONE BY  
| | TREATMENT WORKS:%SOL.,TVS,PH,  
| | P,K,TKN,NH3,NO3+NO2,  
| | CD,CR,CU,PB,HG,NI,ZN  
| |SLUDGE SAMPLING FREQUENCY:  
| |3/YR IF POTW>1 MGD  
| |1/YR IF POTW<1 MGD

|G|SLUDGE ANALYSIS: TO BE DONE BY  
| | TREATMENT WORKS:%SOL.,TVS,PH,  
| | P,K,TKN,NH3,NO3+NO2,  
| | CD,CR,CU,PB,HG,NI,ZN  
| |SLUDGE SAMPLING FREQUENCY:  
| |3/YR IF POTW>1 MGD  
| |1/YR IF POTW<1 MGD

	NEW HAMPSHIRE DISTRIBUTION OR COMPOSTED SLUDGE GIVEAWAY	NEW HAMPSHIRE LAND APPLICATION	NEW HAMPSHIRE LAND RECLAMATION
MAXIMUM SLUDGE CONSTITUENT			
CONDUCTIVITY (SALT)			
NUTRIENTS (% BY DRY WEIG			
N			
P			
K			
METALS (MG/KG SLUDGE DRY			
	METALS LIMITS AS APPROVED		
AS			
CD		R 2 UNLESS ADJUSTED SOIL PH<6.5 (FED)	
		G 10	
PB		G 700	
NI		G 200	
ZN		G 2000	
CU		G 1000	
CR		G 1000	
HG		G 10	
MO			
B			
FE			
ORGANICS			
PCB		R 10 (FEDERAL)	

NEW HAMPSHIRE  
DISTRIBUTION OR  
COMPOSTED SLUDGE GIVEAWAY

NEW HAMPSHIRE  
LAND APPLICATION

NEW HAMPSHIRE  
LAND RECLAMATION

WATER

OTHER CONTAMINANTS

RECORDS

R | RECORDS OF ALL USERS AND  
| QUANTITIES TAKEN

R | AS REQUIRED

R | AS REQUIRED

**NEW HAMPSHIRE  
DISTRIBUTION OR  
COMPOSTED SLUDGE GIVEAWAY**

**NEW HAMPSHIRE  
LAND APPLICATION**

**NEW HAMPSHIRE  
LAND RECLAMATION**

REPORTS

R|AS REQUIRED

R|AS REQUIRED

NOTIFICATIONS

G|USERS MUST SIGN FORM ACKNOWLEDGING  
| USE RESTRICTIONS  
G|GENERATORS MUST INFORM USERS AND  
|BSWM OF SLUDGE QUALITY CHANGES

STORAGE (IF APPLIC)

LAND APPLICATION

NEW HAMPSHIRE  
DISTRIBUTION OR  
COMPOSTED SLUDGE GIVEAWAY

NEW HAMPSHIRE  
LAND APPLICATION

NEW HAMPSHIRE  
LAND RECLAMATION

APPROVAL OR PERMIT	 R GENERAL DISTRIBUTION MUST BE APPROVED	1901.05(d)(3) R  APPROVAL REQUIRED FOR	1901.05(d)(3) R  APPROVAL REQUIRED FOR
		MECHANICAL SPREADING	MECHANICAL SPREADING
		R  BUT NOT FOR SMALL SCALE	R  BUT NOT FOR SMALL SCALE
		MANUAL SPREADING OF COMPOSTED	MANUAL SPREADING OF COMPOSTED
		SLUDGE	SLUDGE
			G APPROVAL REQUIRED FOR POTW
APPLICATION SUBMITTALS		G APPROVAL FOR LANDSPREADING:	G APPROVAL FOR LANDSPREADING:
		G  PROPERTY DESCRIPTION	G  PROPERTY DESCRIPTION
		G  PLANS	G  PLANS
		G  VARIANCE SIGNED BY ADJOINING	G  VARIANCE SIGNED BY ADJOINING
		LANDOWNER	LANDOWNER
		G RECORDKEEPING PLAN	G RECORDKEEPING PLAN
		G  EVIDENCE OF LOCAL APPROVAL	G  EVIDENCE OF LOCAL APPROVAL
		R SITE REVIEW REQUIRED FOR MECHANICAL	R SITE REVIEW REQUIRED FOR MECHANICAL
		APPLICATION	APPLICATION
		R DETAILED SITE ANALYSIS,	R DETAILED SITE ANALYSIS,
		R OPERATING PLANS:	R OPERATING PLANS:
		R  MAP SHOWING SITE,	R  MAP SHOWING SITE,
		R  HYDROGEOLOGICAL DESCRIPTION	R  HYDROGEOLOGICAL DESCRIPTION
		R  FACILITY OPERATIONS	R  FACILITY OPERATIONS
		R  CROPS, AGRONOMIC UPTAKE,	R  CROPS, AGRONOMIC UPTAKE,
		APPLICATION METHOD, STORAGE,	APPLICATION METHOD, STORAGE,
		SOIL ANALYSIS, SLUDGE ANALYSIS,	SOIL ANALYSIS, SLUDGE ANALYSIS,
		MONITORING PROGRAM, SLUDGE SOURCE,	MONITORING PROGRAM, SLUDGE SOURCE,
		LIFETIME QUANTITY USED, TREATMENT,	LIFETIME QUANTITY USED, TREATMENT,
		RECORDKEEPING PROGRAM, HARVEST	RECORDKEEPING PROGRAM, HARVEST

NEW HAMPSHIRE DISTRIBUTION OR COMPOSTED SLUDGE GIVEAWAY	NEW HAMPSHIRE LAND APPLICATION	NEW HAMPSHIRE LAND RECLAMATION
	DATE AND DISPOSITION OF CROP,     ANNUAL AND LIFETIME LOADING CALCS.  R  REGULAR MONITORING OF SOIL PH     AND SLUDGE  R  MUST COMPLY WITH 40 CFR 257.3-5     AND .3-6(B)	DATE AND DISPOSITION OF CROP,     ANNUAL AND LIFETIME LOADING CALCS.  R  REGULAR MONITORING OF SOIL PH     AND SLUDGE  R  MUST COMPLY WITH 40 CFR 257.3-5     AND .3-6(B)
CRITERIA FOR USE		
DEGREE OF STABILIZATION R  PROCESS TO FURTHER REDUCE   PATHOGENS FOR DISTRIBUTION   TO GENERAL PUBLIC G  PUBLIC USE OF RAW OR UNSTABILIZED   IS NOT ALLOWED	R  PROCESS TO SIGNIFICANTLY REDUCE     PATHOGENS  G  PFRP IF CROPS FOR DIRECT HUMAN     CONSUMP. GROWN WITHIN 18 MOS.	
SOIL	G  SOIL ANALYSIS:CEC,PH,P,LIME REQ'S,     O.M. (CEC ESTIMATED FROM TEXTURE)     SOIL SAMPLING MAY BE REQUIRED	G  SOIL ANALYSIS:CEC,PH,P,LIME REQ'S,     O.M. (CEC ESTIMATED FROM TEXTURE)     SOIL SAMPLING MAY BE REQUIRED
CROPS	G  PLANT TISSUE ANALYSIS	



	NEW HAMPSHIRE DISTRIBUTION OR COMPOSTED SLUDGE GIVEAWAY	NEW HAMPSHIRE LAND APPLICATION	NEW HAMPSHIRE LAND RECLAMATION
METALS		VOLATILIZATION WHEN SURFACE	
CD		APPLIED, N RELEASED DURING SLUDGE	
ANNUAL		DECOMPOSITION, AND N PRESENT IN SOIL	
MAX. CUMULATIVE		R .5 KG/HA (.45 LB/AC)	R .5 KG/HA (.45 LB/AC)
		R 2.5 KG/HA (2.2 LB/AC) IF CEC < 5	G 5 KG/HA (4.5 LB/AC)
		R 5 KG/HA (4.5 LB/AC) IF 5<CEC<15	
		R 10 KG/HA (9 LB/AC) IF CEC>15	
		G LAND REC:	
		4.5 LB/AC	
PB		G (MAX. CUMULATIVE)	G (MAX. CUMULATIVE)
		562 KG/HA (500 LB/AC) IF CEC < 5	1123 KG/HA (1000 LB/AC)
		1123 KG/HA (1000 LB/AC) IF 5<CEC<15	
		2246 KG/HA (2000 LB/AC) IF CEC>15	
		LAND REC.: 1000 LB/AC	
ZN		G (MAX. CUMULATIVE)	G (MAX. CUMULATIVE)
		281 KG/HA (250 LB/AC) IF CEC<5	562 KG/HA (500 LB/AC)
		562 KG/HA (500 LB/AC) IF 5<CEC<15	
		1123 KG/HA (1000 LB/AC) IF CEC>15	
		LAND REC.: 500 LB/AC	
CU		G (MAX. CUMULATIVE)	G (MAX. CUMULATIVE)
		140 KG/HA (125 LB/AC) IF CEC<5	281 KG/HA(250 LB/AC)
		281 KG/HA(250 LB/AC) IF 5<CEC<15	
		562 KG/HA (500 LB/AC) IF CEC>15	

	NEW HAMPSHIRE DISTRIBUTION OR COMPOSTED SLUDGE GIVEAWAY	NEW HAMPSHIRE LAND APPLICATION	NEW HAMPSHIRE LAND RECLAMATION
CR		LAND REC.: 250 LB/AC  G (MAX. CUMULATIVE)    140 KG/HA (125 LB/AC) IF CEC<5    281 KG/HA(250 LB/AC) IF 5<CEC<15    562 KG/HA (500 LB/AC) IF CEC>15    LAND REC.: 250 LB/AC	  G (MAX. CUMULATIVE)    281 KG/HA(250 LB/AC)
NI		G (MAX. CUMULATIVE)    56.2 KG/HA (50 LB/AC) IF CEC < 5    112 KG/HA (100 LB/AC) IF 5<CEC<15    225 KG/HA (200 LB/AC) IF CEC>15    LAND REC.: 100 LB/AC	G (MAX. CUMULATIVE)    112 KG/HA (100 LB/AC)
HG		G (MAX. CUMULATIVE)    .6 KG/HA (.5 LB/AC) IF CEC < 5    1.1 KG/HA (1 LB/AC) IF 5<CEC<15    2.2 KG/HA (2 LB/AC) IF CEC>15    LAND REC.: 1.0 LB/AC	G (MAX. CUMULATIVE)    1.1 KG/HA (1 LB/AC)
ORGANICS PCBS		         	         
LAND USE RESTRICTIONS		 	 
CROPS	G NO SLUDGE OR BYPRODUCTS FOR   GENERAL DISTRIBUTION TO BE   PROMOTED FOR HOME VEG. GARDENS	G NO USE ON HOME VEG. GARDENS    LAND REC.: NO HUMAN OR ANIMAL FOOD    OR GRAIN CROPS FOR 24 MOS.	G NO FOOD OR GRAIN CROPS FOR    24 MO FOLLOWING APPLI.    CROP AND SOIL ANAL. REQRD.
GRAZING OR GREENCHOP		R GRAZING RESTRICTED 12 MO  G GRAZING RESTRICTED ON HIGH    APPLICATION AREAS.	     

	NEW HAMPSHIRE DISTRIBUTION OR COMPOSTED SLUDGE GIVEAWAY	NEW HAMPSHIRE LAND APPLICATION	NEW HAMPSHIRE LAND RECLAMATION
PUBLIC ACCESS	   G PUBLIC ACCESS MUST BE LIMITED   DURING SPREADING 	G DAIRYLAND APPLICATION NOT     RECOMMENDED  R USE FEDERAL GUIDELINES         	             
PH OF SOIL & SLUDGE OR PH OF SOIL	 G SOIL PH MAINTAINED AT 6.5 	G 6.5 PRIOR TO APPLICATION AND     MAINTAINED AT 6.5         	G 6.0 WITHIN FIRST YEAR  G 6.5 SECOND YEAR         
SITING RESTRICTIONS SOIL CONDITIONS	 G NOT ON POORLY OR VERY POORLY  DRAINED SOIL 	G NOT ON EXCESSIVELY WELL DRAINED  R NOT ON POORLY OR VERY POORLY    DRAINED SOIL     	      R NOT ON POORLY OR VERY POORLY    DRAINED SOIL 
BUFFER REQUIREMENTS DIST. TO PRIVATE WELL	 G 100 	G 300     	     
DIST. TO PUBLIC WELL	 G 200 FT TO COMMUNITY WELL G 400 FT MUNICIPAL WATER SUPPLY 	G 500 FT TO COMMUNITY WELL  G 1000 FT MUNICIPAL WATER SUPPLY 	     
DIST TO RESIDENCE		G 300 FT NEAREST OCCUPIED DWELLING 	 
DIST TO OTHER BUILDINGS		G 50 FT PROPERTY LINES  G 100 FT PUBLIC ROADS 	 
DIST TO PROPERTY LINE		     	     
GROUND WATER PROTECTION		R NOT TO CONTAMINATE GROUNDWATER         	G MONITORING MAY BE REQUIRED  R NOT TO CONTAMINATE GROUNDWATER     
DEPTH TO HIGH GROUNDWATER LEVEL		G 2 FT UNSATURATED SOIL AT TIME     OF APPL. BELOW DEPTH OF APPL. 	     

	NEW HAMPSHIRE DISTRIBUTION OR COMPOSTED SLUDGE GIVEAWAY	NEW HAMPSHIRE LAND APPLICATION	NEW HAMPSHIRE LAND RECLAMATION
DEPTH TO BEDROCK		G 4 FT TO BEDROCK OR IMPERM. LAYER	
PERMEABILITY			
INFILTRATION			
SURFACE WATER PROTECTION		R NOTE: SURFACE WATER INCLUDES	G MONITORING MAY BE REQUIRED
		TIDAL AREAS	R NOTE: SURFACE WATER INCLUDES
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	G  NOT IN AREA OF SEASONAL PONDING	G NOT APPLIED IN 10 YR FLOODPLAIN	TIDAL AREAS
		R  NOT IN AREA OF SEASONAL PONDING	R  NOT IN AREA OF SEASONAL PONDING
		R NOT TO RESTRICT BASE FLOOD,	R NOT TO RESTRICT BASE FLOOD,
		REDUCE TEMPORARY STORAGE, OR	REDUCE TEMPORARY STORAGE, OR
		HAVE POTENTIAL FOR WASHOUT	HAVE POTENTIAL FOR WASHOUT
DIST TO SURFACE WATER	G 100 FT	G 100 FT IF SURFACE APPLIED	
		G 50 FT IF INCORPORATED	
DIST. TO DRY RUN			
RUNOFF AND EROSION CONTROL	G INCORPORATED WITHIN 48 HOURS   IF UNVEGETATED	G INCORPORATED WITHIN 48 HOURS     IF UNVEGETATED	G NOT APPLIED AT RATES TO RESULT     IN SURFACE PONDING, ODOR, SW     OR GW DEGRADATION
	G NOT APPLIED TO FROZEN OR SNOW   COVERED SOIL	R NOT APPLIED TO FROZEN OR SNOW     COVERED OR UNDER EXCESSIVELY     WET CONDITIONS	G INCORPORATED WITHIN 48 HOURS     IF UNVEGETATED
			G APPLIED EVENLY
			R NOT APPLIED TO FROZEN OR SNOW
			COVERED OR UNDER EXCESSIVELY
			WET CONDITIONS
MAXIMUM SLOPE LIMIT	G 8%	R 8%	R 8%

**NEW HAMPSHIRE  
DISTRIBUTION OR  
COMPOSTED SLUDGE GIVEAWAY**

**NEW HAMPSHIRE  
LAND APPLICATION**

**NEW HAMPSHIRE  
LAND RECLAMATION**

**RECORDS**

**REPORTS**

**NOTIFICATIONS**

**STORAGE**

| PSRP IF INTERIM STORAGE, ODOR  
| MEASURES NECESSARY, STOCK PILING

| G | MUST BE 20% SOLID, MUST BE ACCESSED  
| BY ALL SEASON ROAD., 6 MOS STORAGE



**NEW HAMPSHIRE  
DISTRIBUTION OR  
COMPOSTED SLUDGE GIVEAWAY**

**NEW HAMPSHIRE  
LAND APPLICATION**

**NEW HAMPSHIRE  
LAND RECLAMATION**

**COMMENTS**

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NEW HAMPSHIRE  
HIGHWAYS/DEDICATED

SLUDGE CLASSIFICATION	
STATE CONTROL LAWS, TITLE & DATE	RSA 149-M, CH. 227 ALSO, RSA 149:B,111(a)
REGULATIONS, TITLE, DATE	SOLID WASTE RULES CHAPTER PART HE-P 1901.01-1901.11 1901.05(d)STDS. FOR SEPTAGE AND SLUDGE
GUIDELINES, TITLE&DATE	GUIDELINES FOR LAND APPLICATION OF MUNICIPAL SLUDGE (12/83) NOTE: LISTED CRITERIA ARE CONTAINED IN GUIDELINES OR REGULATIONS AS INDICATED BY G OR R
CONTROLLING AGENCY	NH WATER SUPPLY AND POLLUTION

NEW HAMPSHIRE  
HIGHWAYS/DEDICATED

| CONTROL COMMISSION |  
| BUREAU OF SOLID WASTE MANAGEMENT |  
| CONCORD, NH |  
| (603) 271-4672 |

ACCEPTABILITY OF SLUDGE

PERMIT OR APPROVAL

| APPROVAL REQUIRED |  
G | MUST BE SMALL SCALE USER |

APPLICATION SUBMITTALS

| SEE SUBMITTALS UNDER L.A. |

NEW HAMPSHIRE  
HIGHWAYS/DEDICATED

SAMPLING SLUDGE PARAMETERS | SLUDGE ANALYSIS: TO BE DONE BY  
| TREATMENT WORKS: %SOL., TVS, PH,  
| P, K, TKN, NH3, NO3+NO2,  
| CD, CR, CU, PB, HG, NI, ZN  
| SLUDGE SAMPLING FREQUENCY:  
| 3/YR IF POTW > 1 MGD  
| 1/YR IF POTW < 1 MGD

NEW HAMPSHIRE  
HIGHWAYS/DEDICATED

MAXIMUM SLUDGE CONSTITUENT  
CONDUCTIVITY (SALT)  
NUTRIENTS (% BY DRY WEIG  
N  
P  
K  
METALS (MG/KG SLUDGE DRY  
  
AS  
CD  
  
PB  
NI  
ZN  
CU  
CR  
HG  
MO  
B  
FE  
ORGANICS  
PCB

**NEW HAMPSHIRE  
HIGHWAYS/DEDICATED**

**WATER**

**OTHER CONTAMINANTS**

**RECORDS**

**RECORDS REQUIRED**

**NEW HAMPSHIRE  
HIGHWAYS/DEDICATED**

**REPORTS**

**AS REQUIRED**

**NOTIFICATIONS**

**STORAGE (IF APPLIC)**

**LAND APPLICATION**

**New Hampshire**

NEW HAMPSHIRE  
HIGHWAYS/DEDICATED

APPROVAL OR PERMIT

|  
G| APPROVAL REQUIRED  
| MUST BE SMALL SCALE USER

APPLICATION SUBMITTALS

|  
G| PURPOSE, USE, ACCESS TO,  
| APPLICATION,  
| DESCRIPTION OF SLUDGE

NEW HAMPSHIRE  
HIGHWAYS/DEDICATED

CRITERIA FOR USE  
DEGREE OF STABILIZATION

SOIL

G|SOIL ANALYSIS:CEC,PH,P,LIME REQS,  
| O.M. (CEC ESTIMATED FROM TEXTURE)  
|SOIL SAMPLING MAY BE REQUIRED

CROPS

NEW HAMPSHIRE  
HIGHWAYS/DEDICATED

SURFACE WATER

GROUNDWATER

MAXIMUM SLUDGE LOADING LIM  
(CEC IN MEQ/100G SOIL)  
SLUDGE APPLICATION WILL BE  
SLUDGE G 5 T/AC

N (ANNUAL)

NEW HAMPSHIRE  
HIGHWAYS/DEDICATED

METALS

CD

ANNUAL

R | .5 KG/HA (.45 LB/AC)

MAX. CUMULATIVE

G | 10 KG/HA (9 LB/AC)

PB

G | (MAX. CUMULATIVE)  
| 2246 KG/HA (2000 LB/AC)

ZN

G | (MAX. CUMULATIVE)  
| 1123 KG/HA (1000 LB/AC)

CU

G | (MAX. CUMULATIVE)  
| 562 KG/HA (500 LB/AC)

NEW HAMPSHIRE  
HIGHWAYS/DEDICATED

CR	G   (MAX. CUMULATIVE)   562 KG/HA (500 LB/AC) 	
NI	G   (MAX. CUMULATIVE)   225 KG/HA (200 LB/AC) 	
HG	G   (MAX. CUMULATIVE)   2.2 KG/HA (2 LB/AC) 	
ORGANICS PCBS	   	
LAND USE RESTRICTIONS		
CROPS		
GRAZING OR GREENCHOP		

NEW HAMPSHIRE  
HIGHWAYS/DEDICATED

PUBLIC ACCESS	
PH OF SOIL & SLUDGE OR PH OF SOIL	
SITING RESTRICTIONS SOIL CONDITIONS	
BUFFER REQUIREMENTS	R NOT ON POORLY OR VERY POORLY  DRAINED SOIL
DIST. TO PRIVATE WELL	
DIST. TO PUBLIC WELL	
DIST TO RESIDENCE	
DIST TO OTHER BUILDINGS	
DIST TO PROPERTY LINE	
GROUND WATER PROTECTION	R NOT TO CONTAMINATE GROUNDWATER
DEPTH TO HIGH GROUNDWATER LEVEL	

NEW HAMPSHIRE  
HIGHWAYS/DEDICATED

DEPTH TO BEDROCK		
PERMEABILITY		
INFILTRATION		
SURFACE WATER PROTECTION	R	NOTE: SURFACE WATER INCLUDES
		TIDAL AREAS
WETLANDS OR AREAS		
SUBJECT TO PONDING OR FLOODING	R	NOT IN AREA OF SEASONAL PONDING
		NOT TO RESTRICT BASE FLOOD,
		REDUCE TEMPORARY STORAGE, OR
		HAVE POTENTIAL FOR WASHOUT
DIST TO SURFACE WATER		
DIST. TO DRY RUN		
RUNOFF AND EROSION CONTROL		
	R	NOT APPLIED TO FROZEN OR SNOW
		COVERED OR UNDER EXCESSIVELY
		WET CONDITIONS
MAXIMUM SLOPE LIMIT	R	8%

**NEW HAMPSHIRE  
HIGHWAYS/DEDICATED**

**RECORDS**

**REPORTS**

**NOTIFICATIONS**

**STORAGE**

**.New Hampshire**

**NEW HAMPSHIRE  
HIGHWAYS/DEDICATED**

**TRANSPORTATION**

**UNCONTROLLED USE**

**DEDICATED SITES**

FILE 3.5

NEW HAMPSHIRE  
HIGHWAYS/DEDICATED

COMMENTS

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	NEW JERSEY UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	NEW JERSEY LAND APPLICATION PRIVATELY OWNED LAND/AGRICULTURAL	NEW JERSEY LAND APPLICATION PUBLICLY OWNED OR DEDICATED
SLUDGE CLASSIFICATION			
STATE CONTROL LAWS, TITLE & DATE		NJ WATER POLLUTION CONTROL ACT, NJSА 58:10A AND 13:1D-9(c) (5/85) PRETREATMENT STANDARDS FOR SEWAGE, P.L. 1972 C.42	NJ WATER POLLUTION CONTROL ACT, NJSА 58:10A AND 13:1D-9(c) (5/85) PRETREATMENT STANDARDS FOR SEWAGE, P.L. 1972 C.42
REGULATIONS, TITLE&DATE	7:14-4.1 REGULATIONS FOR SLUDGE QUAL. ASSURANCE REQUIRED OF DOMESTIC AND... NOTE: LISTED CRITERIA ARE CONTAINED IN GUIDELINES OR REGULATIONS AS INDICATED BY G OR R	7:14A-1 , SUBCH. 2.1 APPLICATION FOR NJPDES PERMIT SUBCH. 10.8 LAND APPLICATION OF SLUDGE AND SEPTAGE 7:14-4.1 REGULATIONS FOR SLUDGE QUAL. ASSURANCE REQUIRED OF DOMESTIC AND ... NOTE: LISTED CRITERIA ARE CONTAINED IN GUIDELINES OR REGULATIONS AS INDICATED BY G OR R	7:14A-1 , SUBCH. 2.1 APPLICATION FOR NJPDES PERMIT SUBCH. 10.8 LAND APPLICATION OF SLUDGE AND SEPTAGE 7:14-4.1 REGULATIONS FOR SLUDGE QUAL. ASSURANCE REQUIRED OF DOMESTIC AND... NOTE: LISTED CRITERIA ARE CONTAINED IN GUIDELINES OR REGULATIONS AS INDICATED BY G OR R
GUIDELINES, TITLE&DATE	INTERIM GUIDELINES ON GENERAL CONDITIONS FOR THE PROCESSING & DIST. OF SEWAGE SLUDGE COMPOST MINIMUM REQUIREMENTS FOR A SLUDGE QUALITY REVIEW WITH RESPECT TO LAND APPLICATION	GUIDELINES FOR LAND APPLICATION OF RESIDUALS(11/84) GUIDELINES FOR UTILIZATION OF MUNICIPAL SLUDGES & SEPTAGE MINIMUM REQUIREMENTS FOR A SLUDGE QUALITY REVIEW WITH RESPECT TO LAND APPLICATION	GUIDELINES FOR LAND APPLICATION OF RESIDUALS(11/84) GUIDELINES FOR UTILIZATION OF MUNICIPAL SLUDGES & SEPTAGE MINIMUM REQUIREMENTS FOR A SLUDGE QUALITY REVIEW WITH RESPECT TO LAND APPLICATION
CONTROLLING AGENCY	DEPT OF ENVIRONMENTAL PROTECTION DIV. OF WATER RESOURCES RESIDUALS MANAGEMENT SECTION TRENTON, NJ 08625	DEPT OF ENVIRONMENTAL PROTECTION DIV. OF WATER RESOURCES RESIDUALS MANAGEMENT SECTION TRENTON, NJ 08625	DEPT OF ENVIRONMENTAL PROTECTION DIV. OF WATER RESOURCES RESIDUALS MANAGEMENT SECTION TRENTON, NJ 08625

	NEW JERSEY UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	NEW JERSEY LAND APPLICATION PRIVATELY OWNED LAND/AGRICULTURAL	NEW JERSEY LAND APPLICATION PUBLICLY OWNED OR DEDICATED
ACCEPTABILITY OF SLUDGE	(609) 292-0424	(609) 292-0424	(609) 292-0424
PERMIT OR APPROVAL	RECEIVER OF COMPOST MUST SIGN FORM ACKNOWLEDGING CONDITIONS FOR USE OF COMPOST USE IS LIMITED TO PUBLIC AGENCIES OR GENERAL CONTRACTORS FOR CONTROLLED USE	R NJDES PERMIT G NJPDES PERMIT NOT REQUIRED FOR APPLICATION OF GOOD QUALITY COMPOST AT LESS THAN 3/T/YR G RESIDUAL QUALITY MUST BE APPROVED FOR LAND APPLICATION	R NJPDES PERMIT G NJPDES PERMIT NOT REQUIRED FOR APPLICATION OF GOOD QUALITY COMPOST AT LESS THAN 3/T/YR G RESIDUAL QUALITY MUST BE APPROVED FOR LAND APPLICATION
APPLICATION SUBMITTALS		G PUBLIC PARTICIPATION MAY BE REQUIRED R APPLICATION: WASTE CHARACTERISTICS: ORIGIN & VOLUME, METHOD OF STABILIZATION, SLUDGE ANALYSIS RESULTS	R SEE APPLIC SUBMITTAL UNDER LA

NEW JERSEY  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

NEW JERSEY  
LAND APPLICATION  
PRIVATELY OWNED LAND/AGRICULTURAL

NEW JERSEY  
LAND APPLICATION  
PUBLICLY OWNED OR DEDICATED

SLUDGE SAMPLING PARAMETERS

|R|% SOLIDS, %VOL. SOLIDS, PH,TKN,  
|NH4-N, NO3-N, K,P,CA,MG,FE,NA,  
|AS,CD,CR,CU,PB,HG,NI,AN,  
|ALDRIN, DIELDRIN, ENDRIN,  
|HEPTACHLOR, HEPTACHOR-EPOXIDE, DDT,  
|PP'-DDE, PP'-TDE, METHOXYCHLOR,  
|CHLORDANE, LINDANE, MIREX,  
|TOXAPHENE, CYANIDE, OILS & GREASE  
|PHENOLS, OTHERS AS REQUIRED

|R|% SOLIDS, %VOL. SOLIDS, PH,TKN,  
|NH4-N, NO3-N, K,P,CA,MG,FE,NA,  
|AS,CD,CR,CU,PB,HG,NI,AN,  
|ALDRIN, DIELDRIN, ENDRIN,  
|HEPTACHLOR, HEPTACHOR-EPOXIDE, DDT,  
|PP'-DDE, PP'-TDE, METHOXYCHLOR,  
|CHLORDANE, LINDANE, MIREX,  
|TOXAPHENE, CYANIDE, OILS & GREASE  
|PHENOLS, OTHERS AS REQUIRED

NEW JERSEY  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

NEW JERSEY  
LAND APPLICATION  
PRIVATELY OWNED LAND/AGRICULTURAL

NEW JERSEY  
LAND APPLICATION  
PUBLICLY OWNED OR DEDICATED

MAXIMUM SLUDGE CONSTITUENT C  
CONDUCTIVITY (SALT)  
NUTRIENTS (% BY DRY WEIGHT)  
N  
P  
K  
METALS (MG/KG SLUDGE DRY  
WEIGHT)  
AS  
CD  
PB  
NI  
ZN  
CU  
CR  
HG  
MO  
B  
FE  
ORGANICS  
PCB

|G|8 MMHOS/CM IN EXTRACT

|G|25 FOR DAIRY AND SOME FOOD CROPS

|G|1000 FOR DAIRY OR SOME FOOD CROPS

FILE 4.6

	NEW JERSEY UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	NEW JERSEY LAND APPLICATION PRIVATELY OWNED LAND/AGRICULTURAL	NEW JERSEY LAND APPLICATION PUBLICLY OWNED OR DEDICATED
WATER			
OTHER CONTAMINANTS		G  PESTICIDES OR PERSISTENT ORGANICS   NOT TO EXCEED RESIDUE LIMITS   IN CROPS SET BY FEDERAL REGS	
RECORDS			G  RECORD KEEPING SYSTEM FOR METALS   ACCUMULATION
REPORTS		R  SLUDGE REPORT: MONTHLY   HEAVY METALS AND SELECTED CHEM.   PARAMETERS REPORT:   1/YR FOR <.1MGD,   2/YR FOR .1-1 MGD   4/YR FOR 1-5 MGD   MONTHLY FOR > 5MGD OR WHERE INDUSTRY   CONTRIBUTES >10%	
NOTIFICATIONS		R  MAY REDUCE FREQUENCY WHERE APPROVED   TOXIC ORGANIC COMPOUNDS REPORT	

NEW JERSEY  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

NEW JERSEY  
LAND APPLICATION  
PRIVATELY OWNED LAND/AGRICULTURAL

NEW JERSEY  
LAND APPLICATION  
PUBLICLY OWNED OR DEDICATED

STORAGE (IF APPLICABLE)			
LAND APPLICATION APPROVAL OR PERMIT	<p>RECEIVER OF COMPOST MUST SIGN FORM ACKNOWLEDGING CONDITIONS FOR USE OF COMPOST USE IS LIMITED TO PUBLIC AGENCIES OR GENERAL CONTRACTORS FOR CONTROLLED USE</p>	<p>G SITE MUST BE APPROVED</p>	<p>G SITE MUST BE APPROVED G NJPDES PERMIT NOT REQUIRED FOR APPLICATION OF GOOD QUALITY COMPOST AT LESS THAN 3/T/YR G RESIDUAL QUALITY MUST BE APPROVED FOR LAND APPLICATION</p>
APPLICATION SUBMITTALS		<p>R SITE INFORMATION: LOCATION, MAP SHOWING SITE, PLOT PLAN SHOWING: LOT &amp; BLOCK NO., SITE AREA, WATER SUPPLIES, ROADS &amp; DWELLINGS, GROUNDWATER FLOW DIRECTION, MONITOR WELLS, SOIL BORINGS SOILS MAP SHOWING SITE, SOIL SAMPLE RESULTS , SITE EVALUATION, SOIL BORINGS</p>	<p>R APPLICATION: WASTE CHARACTERISTICS: ORIGIN &amp; VOLUME, METHOD OF STABILIZATION, SLUDGE ANALYSIS RESULTS SITE INFORMATION: LOCATION, MAP SHOWING SITE, PLOT PLAN SHOWING: LOT &amp; BLOCK NO., SITE AREA, WATER SUPPLIES, ROADS &amp; DWELLINGS, GROUNDWATER FLOW DIRECTION,</p>

NEW JERSEY  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

NEW JERSEY  
LAND APPLICATION  
PRIVATELY OWNED LAND/AGRICULTURAL

NEW JERSEY  
LAND APPLICATION  
PUBLICLY OWNED OR DEDICATED

CRITERIA FOR USE  
DEGREE OF STABILIZATION

	<p>APPLICATION RATES:                      SLUDGE: VOL/APPL.                      COMPOST: ANNUAL &amp; CUMULATIVE                      OPERATIONS: METHOD &amp; EQUIP.,                      CROP MGMT PLAN: CROP, ROTATION,                      APPLICATION RATE, SCHEDULE,                      STORAGE, SOIL TESTING                      CROP USE,                      ODOR &amp; NUISANCE CONTROL                      PROCEDURES MANUAL: RECORD KEEPING,                      GROUNDWATER, SOIL, &amp; SLUDGE MON.,                      ABILITY TO TRANSFER TO OTHER SITE,                      MAINTENANCE, TRANSPORTATION                      G POLLUTION PROTECTION DEVICES,                      DIKES, BERMS, ETC.</p>	<p>MONITOR WELLS, SOIL BORINGS                      SOILS MAP SHOWING SITE,                      SOIL SAMPLE RESULTS ,                      SITE EVALUATION,                      SOIL BORINGS                      APPLICATION RATES:                      SLUDGE: VOL/APPL.                      COMPOST: ANNUAL &amp; CUMULATIVE                      OPERATIONS: METHOD &amp; EQUIP.,                      CROP MGMT PLAN: CROP, ROTATION,                      APPLICATION RATE, SCHEDULE,                      STORAGE, SOIL TESTING                      CROP USE,                      ODOR &amp; NUISANCE CONTROL                      PROCEDURES MANUAL: RECORD KEEPING,                      GROUNDWATER, SOIL, &amp; SLUDGE MON.,                      ABILITY TO TRANSFER TO OTHER SITE,                      MAINTENANCE, TRANSPORTATION                      G MUST SHOW SITE IS FAVORABLE AND                      SURFACE AND GROUND WATER                      CONTAMINATION WILL BE PREVENTED                      G CONTINGENCY PLAN, RECORDKEEPING,                      CONTROL OF PUBLIC ACCESS, GUARANTEE                      OF PH MAINTENANCE, SYSTEM DESIGN,                      PROCEDURE MANUAL, SLUDGE QUALITY                      MONITORING PROGRAM</p>
	<p>G MUST BE STABILIZED BY                      PROCESS TO SIGNIFICANTLY REDUCE                      OR FURTHER REDUCE PATHOGENS</p>	<p>G MUST BE STABILIZED BY                      PROCESS TO SIGNIFICANTLY REDUCE                      OR FURTHER REDUCE PATHOGENS</p>





NEW JERSEY  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

NEW JERSEY  
LAND APPLICATION  
PRIVATELY OWNED LAND/AGRICULTURAL

NEW JERSEY  
LAND APPLICATION  
PUBLICLY OWNED OR DEDICATED

PB		G (ANNUAL) 112 LB/AC   (MAX. CUMULATIVE)   560 KG/HA IF CEC < 5   1120 KG/HA IF 5<CEC<15   2240 IF CEC>15	
ZN		G (MAX. CUMULATIVE)   280 IF CEC < 5   560 IF 5<CEC<15   1120 IF CEC>15	
CU		G (MAX. CUMULATIVE)   140 IF CEC < 5   280 IF 5<CEC<15   560 IF CEC>15	
CR			
NI		G (MAX. CUMULATIVE)   140 IF CEC < 5   280 IF 5<CEC<15   560 IF CEC>15	
HG			
ORGANICS PCBS		G OTHER COMPONENTS AS REQUIRED	

	NEW JERSEY UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	NEW JERSEY LAND APPLICATION PRIVATELY OWNED LAND/AGRICULTURAL	NEW JERSEY LAND APPLICATION PUBLICLY OWNED OR DEDICATED
LAND USE RESTRICTIONS		G PRECAUTIONS MUST BE DEVELOPED FOR	
CROPS		SEVERE LAND USE CONDITIONS	
		G SLUDGE CONTAINING > 25 PPM CD OR	
		>1000 PPM PB NOT TO BE APPLIED	
		TO TOBACCO, LEAFY VEGES, ROOT	
		CROPS, PEANUTS	
		G NOT USED ON CROP WHERE EDIBLE	
		PART IS EATEN RAW WITHIN 18 MO	
		UNLESS TESTED FOR ASCARIS	
GRAZING OR GREENCHOP		G 30 DAYS AFTER APPLICATION	
PUBLIC ACCESS			
PH OF SOIL & SLUDGE		G SOIL PH MAINTAINED AT OR ABOVE 6.5	G SOIL PH MAINTAINED AT OR ABOVE 6.5
OR PH OF SOIL		WHERE FOOD CHAIN CROPS ARE RAISED	WHERE FOOD CHAIN CROPS ARE RAISED
SITING RESTRICTIONS			
SOIL CONDITIONS		G MUST BE WELL, MODERATELY WELL, OR	G MUST BE WELL, MODERATELY WELL, OR
		SOMEWHAT EXCESSIVELY WELL DRAINED	SOMEWHAT EXCESSIVELY WELL DRAINED
		(FOR SLIGHT OR MODERATE LIMITATION)	(FOR SLIGHT OR MODERATE LIMITATION)
BUFFER REQUIREMENTS			
DIST. TO PRIVATE WELL		G 300 FT	G 300 FT
DIST. TO PUBLIC WELL		G 1500 FT	G 1500 FT

NEW JERSEY UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	NEW JERSEY LAND APPLICATION PRIVATELY OWNED LAND/AGRICULTURAL	NEW JERSEY LAND APPLICATION PUBLICLY OWNED OR DEDICATED
DIST TO RESIDENCE		
DIST TO OTHER BUILDINGS		
DIST TO PROPERTY LINE		
GROUND WATER PROTECTION		
DEPTH TO HIGH GW	G  > 2 FT (FOR SLIGHT OR MODERATE     LIMITATION)	G  > 2 FT (FOR SLIGHT OR MODERATE     LIMITATION)
DEPTH TO BEDROCK PERMEABILITY INFILTRATION	G  > 2 FT (FOR SLIGHT OR MODERATE  G .2 TO 20 IN/HR (SLT. TO MOD. LIMIT.)  G  >.2 IN/HR (SLIGHT TO MOD. LIMIT.)	G  > 2 FT (FOR SLIGHT OR MODERATE  G .2 TO 20 IN/HR (SLT. TO MOD. LIMIT.)  G  >.2 IN/HR (SLIGHT TO MOD. LIMIT.)
SURFACE WATER PROTECTION		
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING		
DIST TO SURFACE WATER	G  200 FT	G  200 FT
DIST. TO DRY RUN		
RUNOFF AND EROSION CONTROL	G  APPLICATION NOT ALLOWED ON FROZEN     OR SNOW COVERED GROUND	G  APPLICATION NOT ALLOWED ON FROZEN     OR SNOW COVERED GROUND

NEW JERSEY  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

NEW JERSEY  
LAND APPLICATION  
PRIVATELY OWNED LAND/AGRICULTURAL

NEW JERSEY  
LAND APPLICATION  
PUBLICLY OWNED OR DEDICATED

	NEW JERSEY UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	NEW JERSEY LAND APPLICATION PRIVATELY OWNED LAND/AGRICULTURAL	NEW JERSEY LAND APPLICATION PUBLICLY OWNED OR DEDICATED
MAXIMUM SLOPE LIMIT		G  < 12% (SLIGHT TO MODERATE LIMIT.)	G  < 12% (SLIGHT TO MODERATE LIMITATION)
RECORDS			G  RECORDS KEEPING SYSTEM FOR METALS ACCUMULATION
REPORTS			
NOTIFICATIONS			

NEW JERSEY  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

NEW JERSEY  
LAND APPLICATION  
PRIVATELY OWNED LAND/AGRICULTURAL

NEW JERSEY  
LAND APPLICATION  
PUBLICLY OWNED OR DEDICATED

STORAGE

TRANSPORTATION

UNCONTROLLED USE

NEW JERSEY  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

NEW JERSEY  
LAND APPLICATION  
PRIVATELY OWNED LAND/AGRICULTURAL

NEW JERSEY  
LAND APPLICATION  
PUBLICLY OWNED OR DEDICATED

DEDICATED SITES

|G|APPLIC. RATES MAY BE CHANGED  
|UPON APPROVAL- MONITORING, ACCESS  
|CONTROL REF'D

COMMENTS

NEW JERSEY  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

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NEW JERSEY  
LAND APPLICATION  
PRIVATELY OWNED LAND/AGRICULTURAL

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NEW JERSEY  
LAND APPLICATION  
PUBLICLY OWNED OR DEDICATED

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NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION

ACCEPTABILITY OF SLUDGE	(609) 292-0424
PERMIT OR APPROVAL	NJD PES PERMIT NOT REQUIRED FOR USERS OF < 50 T/AC CUMULATIVE RESP. OF PRODUCER TO INSURE COMPOST IS USED IN ACCORD. WITH DEPTS. PROVISIONS APPROVAL OF SLUDGE REQUIRED
APPLICATION SUBMITTALS	SLUDGE QUALITY ASSURANCE REGS. SOURCE SLUDGE QUALITY HISTORY SLUDGE IDENTIFICATION AND DESCR. PROJECTED MONTHLY VOLUME

NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION

SLUDGE SAMPLING PARAMETERS

G|SOURCE SLUDGE ANALYSIS OF EACH SLUDGE|  
|NH4-N, NO3-N, K,P,CA,MG,FE,NA,|  
|AS,CD,CR,CU,PB,HG,NI,AN,|  
|ALDRIN, DIELDRIN, ENDRIN,|  
|HEPTACHLOR, HEPTACHOR-EPOXIDE, DDT,|  
|PP'-DDE, PP'-TDE, METHOXYCHLOR,|  
|CHLORDANE, LINDANE, MIREX,|  
|TOXAPHENE, CYANIDE, OILS & GREASE|  
|PHENOLS, OTHERS AS REQUIRED|  
|EP TOXICITY TEST MAY BE REQUIRED|  
|COMPOSTING PROCESS IS MONITORED|  
G|FOR COMPOSTING TEMPERATURE|  
G|COMPOST MUST BE TESTED FOR:|  
|% WATER, % VOL. SOLIDS, PH, TOT N,|

NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION

| P2O5, K2O, C/N RATIO, CD, NI, CU, ZN, |  
| ZN, PB, AS, HG, CR |  
| MONTHLY: >100 DRY T/WK, QUARTERLY: |  
| 25-100 T/WK, BIENNIAL: <25 T/WK |  
G| THE ABOVE REQUIREMENTS MAY BE MET |  
| BY SLUDGE QUALITY ASSURANCE REG.S |  
G| COMPOST PARTICLE SIZE DISTRIBUTION |  
G| CHEMICAL ANALYSIS OF BULKING AGENT |

MAXIMUM SLUDGE CONSTITUENT C |  
CONDUCTIVITY (SALT) |  
NUTRIENTS (% BY DRY WEIGHT) |  
N |  
P |  
K |  
METALS (MG/KG SLUDGE DRY |  
WEIGHT) |  
AS |  
CD |  
PB |  
NI |  
ZN |  
CU |  
CR |  
HG |  
MO |  
B |  
FE |  
ORGANICS |  
PCB |

NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION

WATER

OTHER CONTAMINANTS

RECORDS

G|KEEP 1 YR:  
| TEST RESULTS FOR SLUDGE & COMPOST  
| TEMPERATURE MONITORING  
| COMPOST APPLICATION AND SITE INFO.  
| SHEET FOR EACH RECEIVING SITE  
| MONTHLY VOLUME OF PRODUCTION,  
| STORAGE, & DISTRIBUTION

REPORTS

G|COPIES OF RECORDS SUBMITTED ON  
| MONTHLY OR QUARTERLY BASIS

NOTIFICATIONS

G|RECEIVER OF COMPOST MUST SIGN FORM

NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION

ACKNOWLEDGING CONDITIONS FOR USE OF  
COMPOST

STORAGE (IF APPLICABLE)

LAND APPLICATION  
APPROVAL OR PERMIT

APPLICATION SUBMITTALS

G| COMPOST APPLICATION SITE FORM  
| AMOUNT COMPOST NEEDED,  
| LOCATION, OWNER, TYPE OF  
| AREA (RESID., COMMERCIAL, OR IND.),  
| SIZE, DISTANCE TO SURFACE WATER  
| OR WELL, SOIL TYPE, DEPTH TO  
| WATER, USE, APPLICATION METHOD,  
| STORAGE,  
| SITE LOCATION MAPS:  
| SOILS MAP SHOWING SITE, PROPERTY

NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION

| OWNER CERTIFICATION |  
| SLUDGE COMP. FACILITIES APPLICATION: |  
| LOCATION MAP, PLOT PLAN, |  
| DESCRIPTION OF RAINFALL, WIND, |  
| PUBLIC ACCESS, |  
| OPERATION & MAINTENANCE MANUAL, |  
| ENG. PLAN & MONITORING REQS., |  
| SLUDGE CHAR., BULKING AGENT, |  
| HANDLING EQUIPMENT, TRANSPORTATION |

CRITERIA FOR USE

DEGREE OF STABILIZATION | PROCESS TO FURTHER REDUCE PATHOGENS |  
| (40 CFR 257) |  
G | PROCESS MUST BE MONITORED FOR TEMP. |

**NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION**

**MONITORING  
SOIL**

**CROPS**

**SURFACE WATER**

**GROUNDWATER**

NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION

MAXIMUM SLUDGE LOADING LIMIT (CEC IN MEQ/100G SOIL) SLUDGE APPLICATION WILL BE L SLUDGE	G 30 T/AC/YR DRY MAY BE GREATER WITH   APPROVAL
NUTRIENTS N (ANNUAL)	G CROP REQUIREMENTS
METALS CD ANNUAL	
MAX. CUMULATIVE	G < 5 KG/HA--CEC < 5  < 10 KG/HA--5<CEC<10  < 20 KG/HA--CEC>10

NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION

PB	 G (ANNUAL) 100 LB/AC  (MAX. CUMULATIVE)  560 KG/HA IF CEC < 5  1120 KG/HA IF 5<CEC<15  2240 IF CEC>15	
ZN	G (MAX. CUMULATIVE)  280 IF CEC < 5  560 IF 5<CEC<15  1120 IF CEC>15	
CU	G (MAX. CUMULATIVE)  140 IF CEC < 5  280 IF 5<CEC<15  560 IF CEC>15	
CR		
NI	G (MAX. CUMULATIVE)  56 IF CEC<5  112 IF 5<CEC<15  224 IF CEC>15	
HG		
ORGANICS		
PCBS		

NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION

LAND USE RESTRICTIONS	
CROPS	G NOT RECOMMENDED FOR USE ON HOME VEG.  GARDENS G NOT ALLOWED ON SOILS USED FOR CROPS  FOR DIRECT HUMAN CONSUMPTION
GRAZING OR GREENCHOP	
PUBLIC ACCESS	
PH OF SOIL & SLUDGE OR PH OF SOIL	
SITING RESTRICTIONS SOIL CONDITIONS	
BUFFER REQUIREMENTS	
DIST. TO PRIVATE WELL	G 300 FT
DIST. TO PUBLIC WELL	G 1500 FT

NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION

DIST TO RESIDENCE		
DIST TO OTHER BUILDINGS		
DIST TO PROPERTY LINE	G 50 FT	
GROUND WATER PROTECTION		
DEPTH TO HIGH GW		
DEPTH TO BEDROCK PERMEABILITY INFILTRATION		
SURFACE WATER PROTECTION		
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	G NOT ALLOWED ON LAND SUBJECT TO SEASONAL FLOODING	
DIST TO SURFACE WATER	G 200 FT	
DIST. TO DRY RUN		
RUNOFF AND EROSION CONTROL	G APPLICATION NOT ALLOWED ON FROZEN OR SNOW COVERED GROUND	

NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION

MAXIMUM SLOPE LIMIT

RECORDS

REPORTS

NOTIFICATIONS

NEW JERSEY  
COMPOSTED  
CONTROLLED DISTRIBUTION

STORAGE

TRANSPORTATION

UNCONTROLLED USE

UNCONTROLLED DIST. OF COMPOST TO  
PUBLIC NOT ADDRESSED



	NEW YORK CASE 1 COMPOSTING&DISTRIBUTION UNCONTROLLED	NEW YORK CASE 2 COMPOSTING&DISTRIBUTION CONTROLLED FOR DEDICATED SITES	NEW YORK CATEGORY I &II LAND APPLICATION
SLUDGE CLASSIFICATION	NOTE: NOT TO BE APPLIED TO CLASS   1,2,3 SOILS(PRIME AGRICULTURAL   LANDS)	G NOTE: NOT TO BE APPLIED TO CLASS     1,2,3 SOILS(PRIME AGRICULTURAL     LANDS)	I: LIGHT APPLICATION   II: INTERMEDIATE APPLICATION   NOTE:SEPTAGE AND SLUDGE TO BE   SEPARATED
STATE CONTROL LAWS, TITLE & DATE	AGRICUTURE AND MARKETS LAW,   ARTICLE 22 aa, SECTION 304-a   (LAND CLASSIFICATION SYSTEM)	AGRICUTURE AND MARKETS LAW,   ARTICLE 22 aa, SECTION 304-a   (LAND CLASSIFICATION SYSTEM)	AGRICUTURE AND MARKETS LAW,   ARTICLE 22 aa, SECTION 304-a   (LAND CLASSIFICATION SYSTEM)
REGULATIONS, TITLE&DATE	PERMIT CONDITIONS FOR MARKETING   OF COMPOST PART 360.8(4)iv	PERMIT CONDITIONS FOR MARKETING   OF COMPOST PART 360.8(4)iv	WASTE FACILITIES RULES
GUIDELINES, TITLE&DATE	SOLID WASTE MGMT FAC. GDLNS   5/81, UPDATE MEMOS 1/1/85  NOTE: LISTED CRITERIA CONTAINED   IN GUIDELINES OR REGULATIONS   AS MARKED WITH G OR R	SOLID WASTE MGMT FAC. GDLNS   5/81, UPDATE MEMOS 1/1/85  NOTE: LISTED CRITERIA CONTAINED   IN GUIDELINES OR REGULATIONS   AS MARKED WITH G OR R	SOLID WASTE MGMT FAC. GDLNS   5/81, UPDATE MEMOS 1/1/85  NOTE: LISTED CRITERIA CONTAINED   IN GUIDELINES OR REGULATIONS   AS MARKED WITH G OR R
CONTROLLING AGENCY	DEPT OF ENV. CONSERVATION  DIV. OF MUNICIPAL WASTE  ALBANY, NY  (518) 457-2344	DEPT OF ENV. CONSERVATION  DIV. OF MUNICIPAL WASTE  ALBANY, NY  (518) 457-2344	DEPT OF ENV. CONSERVATION  DIV. OF MUNICIPAL WASTE  ALBANY, NY  (518) 457-2344



NEW YORK  
CASE 1 COMPOSTING&DISTRIBUTION  
UNCONTROLLED

NEW YORK  
CASE 2 COMPOSTING&DISTRIBUTION  
CONTROLLED FOR DEDICATED SITES

NEW YORK  
CATEGORY 1 & II LAND APPLICATION

SLUDGE SAMPLING PARAMETERS

G  FINAL COMPOST ANALYSIS: CD, CR,   CU, HG, NI, CR, PCB, TOX, :   2/YR FOR <1 T/DAY   1/MO FOR 1-10 T/DAY   1/WK FOR >10 T/DAY   PCBS: 1/YR FOR <1T/DAY   2/YR FOR 1-10 T/DAY   2/YR FOR >10 T/DAY   (R) ANALYSIS OF COMPLETED COMPOST   ON A REGULAR BASIS	G  SLUDGE ANALYSIS: CD, HG, PB, CU, ZN,   NI, CR, PCB, TOX,   TKN, NH3, NO3, NO2, %SOL, P, K, PH   SLUDGE ANALYSIS:   METALS, PCB, TOX,   N(TMN, NH4, NO3-, NO2-)   TOTAL SOLIDS, P, K, PH   FREQUENCY:   1/MO FOR >5MGD   4/YR FOR 1-5 MGD   2/YR FOR < 1 MGD	G  SLUDGE ANALYSIS: CD, HG, PB, CU, ZN,   NI, CR, PCB, TOX,   TKN, NH3, NO3, NO2, %SOL, P, K, PH   METALS, PCB, TOX,   N(TMN, NH4, NO3-, NO2-)   TOTAL SOLIDS, P, K, PH   FREQUENCY:   1/MO FOR >5MGD   4/YR FOR 1-5 MGD   2/YR FOR < 1 MGD

NEW YORK  
CASE I COMPOSTING&DISTRIBUTION  
UNCONTROLLED

NEW YORK  
CASE 2 COMPOSTING&DISTRIBUTION  
CONTROLLED FOR DEDICATED SITES

NEW YORK  
CATEGORY I &II LAND APPLICATION

	NEW YORK CASE I COMPOSTING&DISTRIBUTION UNCONTROLLED	NEW YORK CASE 2 COMPOSTING&DISTRIBUTION CONTROLLED FOR DEDICATED SITES	NEW YORK CATEGORY I &II LAND APPLICATION
MAXIMUM SLUDGE CONSTITUENT C			
CONDUCTIVITY (SALT)			
NUTRIENTS (% BY DRY WEIGHT)			
N			
P			
K			
METALS (MG/KG SLUDGE DRY WEIGHT)			PPM
AS			
CD	G 10	G 25	G 25
PB	G 250	G 1000	G 1000
NI	G 200	G 200	G 200
ZN	G 2500	G 2500	G 2500
CU	G 1000	G 1000	G 1000
CR	G 1000	G 1000	G 1000
HG	G 10	G 10	G 10
MO			
B			
FE			
ORGANICS			
PCB	G 1	R 10	R 10
			G OTHER TOXICS: CASE BY CASE

NEW YORK  
CASE 1 COMPOSTING&DISTRIBUTION  
UNCONTROLLED

NEW YORK  
CASE 2 COMPOSTING&DISTRIBUTION  
CONTROLLED FOR DEDICATED SITES

NEW YORK  
CATEGORY I & II LAND APPLICATION

WATER

OTHER CONTAMINANTS

RECORDS

G|SLUDGE ANALYSIS  
|TREATMENT OPERATIONAL DATA  
|FOR OPERATIONS>300 T/YR:  
|RECORDS OF DELIVERIES TO FINAL  
|USERS OF >100 T/YR  
|RECORDS OF USERS OF >30CY AT ANY  
|ONE TIME

REPORTS

NOTIFICATIONS

G|NOTIFICATION: MUST HAVE LABELLING,





NEW YORK  
CASE 1 COMPOSTING&DISTRIBUTION  
UNCONTROLLED

NEW YORK  
CASE 2 COMPOSTING&DISTRIBUTION  
CONTROLLED FOR DEDICATED SITES

NEW YORK  
CATEGORY 1 & II LAND APPLICATION

	NEW YORK CASE 1 COMPOSTING&DISTRIBUTION UNCONTROLLED	NEW YORK CASE 2 COMPOSTING&DISTRIBUTION CONTROLLED FOR DEDICATED SITES	NEW YORK CATEGORY 1 & II LAND APPLICATION
MONITORING			
SOIL			CHLORINE OXIDATION  R  STABILIZED     
		     SOIL ANALYSIS:CD,HG,PB,CU,ZN,NI,     CR,CEC,PH,P,PERSISTENT ORGANICS     OF CONCERN     	G  SOIL MONITORING:     1/YR FOR CD,HG,PB,CU,ZN,NI,     TOTAL CR, CEC, PH, AVAIL P,     PERSIST. ORGANICS     
CROPS			G  CROP MONITORING MAY BE REQUIRED
SURFACE WATER			G  SW MONITORING MAY BE REQUIRED
GROUNDWATER			

NEW YORK  
CASE 1 COMPOSTING&DISTRIBUTION  
UNCONTROLLED

NEW YORK  
CASE 2 COMPOSTING&DISTRIBUTION  
CONTROLLED FOR DEDICATED SITES

NEW YORK  
CATEGORY I & II LAND APPLICATION

MAXIMUM SLUDGE LOADING LIMIT (CEC IN MEQ/100G SOIL) SLUDGE APPLICATION WILL BE L SLUDGE			
NUTRIENTS N (ANNUAL)		G CROP REQUIREMENTS	CATEGORY I: 1-3 T/YR  BASED ON P NEEDS  CATEGORY II: 5-12 T/YR  BASED ON N NEEDS  CROP REQUIREMENTS
METALS CD ANNUAL		R 1.25 KG/HA--BEFORE 1/1/87  R .5 KG/HA--AFTER 1/1/87	R 1.25 KG/HA--BEFORE 1/1/87  R .5 KG/HA--AFTER 1/1/87
MAX. CUMULATIVE		R 5 KG/HA	G 11 KG/HA-DEDICATED SITES  G 3.4 KG/HA: SOIL GROUPS 1,2,3  R 5 KG/HA

NEW YORK  
CASE 1 COMPOSTING&DISTRIBUTION  
UNCONTROLLED

NEW YORK  
CASE 2 COMPOSTING&DISTRIBUTION  
CONTROLLED FOR DEDICATED SITES

NEW YORK  
CATEGORY 1 &11 LAND APPLICATION

PB		G 500 KG/HA	G 1123 KG/HA-DEDICATED SITES  G 337 KG/HA: SOIL GROUPS 1,2,3
ZN		G 250 KG/HA	G 561 KG/HA-DEDICATED SITES  G 168 KG/HA: SOIL GROUPS 1,2,3
CU		G 125 KG/HA	G 281 KG/HA-DEDICATED SITES  G 84 KG/HA: SOIL GROUPS 1,2,3
CR		G TO BE EVALUATED	G TO BE EVALUATED  G 337 KG/HA: SOIL GROUPS 1,2,3
NI		G 50 KG/HA	G 168 KG/HA-DEDICATED SITES  G 34 KG/HA: SOIL GROUPS 1,2,3
HG		G TO BE EVALUATED	G TO BE EVALUATED
ORGANICS			
PCBS			

	NEW YORK CASE I COMPOSTING&DISTRIBUTION UNCONTROLLED	NEW YORK CASE 2 COMPOSTING&DISTRIBUTION CONTROLLED FOR DEDICATED SITES	NEW YORK CATEGORY I &II LAND APPLICATION
LAND USE RESTRICTIONS			G APPLICATION ON AG. LAND IS
			DISCOURAGED
CROPS	G NOT RECOMMENDED FOR HOME	G NOT AVAILABLE TO GENERAL PUBLIC	R NOT TO BE APPLIED TO LAND
	BUT ALL RIGHT FOR LAWNS, ETC.	G FOR DEDICATED LANDS	CURRENTLY USED FOR CROPS FOR
		G NON-AGRICULTURAL PURPOSES	DIRECT HUMAN CONSUMPTION
			WHERE EDIBLE PART
			CONTACTS SLUDGE WITHIN 18 MO
GRAZING OR GREENCHOP			R NOT TO BE USED FOR:
			DAIRY ANIMALS--12 MO.
			NON-DAIRY ANIMALS--1 MO.
PUBLIC ACCESS		R NO PUBLIC ACCESS--12 MO.	R NO PUBLIC ACCESS--12 MO.
PH OF SOIL & SLUDGE OR PH OF SOIL		R MUST BE AMENDED TO 6.5 OR     GREATER	R MUST BE AMENDED TO 6.5 OR     GREATER
SITING RESTRICTIONS			
SOIL CONDITIONS	G NOT FOR PRIME AG. SOILS	G NOT ON SAND, LOAMY SANDS,     OR CLAY(GOOD AND FAIR SITES)	G NOT ON SAND, LOAMY SANDS,  G  OR CLAY (GOOD & FAIR SITES)
BUFFER REQUIREMENTS			
DIST. TO PRIVATE WELL		G 200 FT	G 200 FT
DIST. TO PUBLIC WELL		G 200 FT	G 200 FT

NEW YORK CASE 1 COMPOSTING&DISTRIBUTION UNCONTROLLED	NEW YORK CASE 2 COMPOSTING&DISTRIBUTION CONTROLLED FOR DEDICATED SITES	NEW YORK CATEGORY 1 & II LAND APPLICATION
DIST TO RESIDENCE	G 500 FT TO RESIDENCE OR BUS.,     EXCL. OPERATOR'S RES.	G 500 FT TO RESIDENCE OR BUS.,     EXCL. OPERATOR'S RES.
DIST TO OTHER BUILDINGS		
DIST TO PROPERTY LINE		
GROUND WATER PROTECTION		
DEPTH TO HIGH GW	G 12 IN(GOOD & FAIR SITES)	G 12 IN(GOOD & FAIR SITES)
DEPTH TO BEDROCK	G 2 FT (GOOD & FAIR SITES)	G 2 FT (GOOD & FAIR SITES)
PERMEABILITY INFILTRATION	G .06 TO 6 IN/HR (GOOD & FAIR SITES)	G .06 TO 6 IN/HR (GOOD & FAIR SITES)
SURFACE WATER PROTECTION		
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	G NOT TO RESTRICT BASE FLOOD,     REDUCE WATER STORAGE, OR RESULT     IN WASHOUT OF WASTE  R NOT IN 10 YR FLOOD PLAIN	G NOT TO RESTRICT BASE FLOOD,     REDUCE WATER STORAGE, OR RESULT     IN WASHOUT OF WASTE  G NOT IN 10 YR FLOOD PLAIN
DIST TO SURFACE WATER	G 200 FT	R NOT IN AREAS DESIG. BY 6NYCRR 500  G 200 FT
DIST. TO DRY RUN	G 25 FT	G 25 FT
RUNOFF AND EROSION CONTROL	G MINIMIZE EROSION AND RUNOFF  G NO APPL. TO SNOW, FROZEN OR     SATURATED GROUND, OR DURING     RAINFALL	R MINIMIZE EROSION AND RUNOFF  R NO APPL. TO SNOW, FROZEN OR     SATURATED GROUND, OR DURING     RAINFALL  R MUST BE INCORPORATED SAME DAY AS

NEW YORK  
CASE 1 COMPOSTING&DISTRIBUTION  
UNCONTROLLED

NEW YORK  
CASE 2 COMPOSTING&DISTRIBUTION  
CONTROLLED FOR DEDICATED SITES

NEW YORK  
CATEGORY 1 & II LAND APPLICATION

	NEW YORK CASE 1 COMPOSTING&DISTRIBUTION UNCONTROLLED	NEW YORK CASE 2 COMPOSTING&DISTRIBUTION CONTROLLED FOR DEDICATED SITES	NEW YORK CATEGORY 1 & II LAND APPLICATION
MAXIMUM SLOPE LIMIT		15%	APPLIED 15% 8% FOR SLUDGE THAT IS <20% SOLID, UNLESS INJECTED ON CONTOUR
RECORDS			
REPORTS			
NOTIFICATIONS			

NEW YORK  
CASE 1 COMPOSTING&DISTRIBUTION  
UNCONTROLLED

NEW YORK  
CASE 2 COMPOSTING&DISTRIBUTION  
CONTROLLED FOR DEDICATED SITES

NEW YORK  
CATEGORY I & II LAND APPLICATION

STORAGE

ADEQUATE SPACE FOR STORAGE  
MUST BE AVAILABLE AT FACILITY

TRANSPORTATION

UNCONTROLLED USE

G LAGOONS- 500' FROM NEAREST DWELLING,  
2 SEPARATE LAGOONS WITH STORAGE CAP.  
OF 6 MOS., 2' TO 6' IN DEPTH, >2'  
FREE BOARD, ABOVE 100 YR FLOOD  
ELEV., >5' ABOVE THE HIGHEST SEASONAL  
GW ELEV., LINER REQUIREMENTS, FENCED,  
POSTED, INSECT CONTROL, EMPTIED AND  
CLEANED EVERY 6 MOS.

NEW YORK  
CASE 1 COMPOSTING&DISTRIBUTION  
UNCONTROLLED

NEW YORK  
CASE 2 COMPOSTING&DISTRIBUTION  
CONTROLLED FOR DEDICATED SITES

NEW YORK  
CATEGORY I &II LAND APPLICATION

DEDICATED SITES

COMMENTS

NEW YORK CASE 1 COMPOSTING&DISTRIBUTION UNCONTROLLED	NEW YORK CASE 2 COMPOSTING&DISTRIBUTION CONTROLLED FOR DEDICATED SITES	NEW YORK CATEGORY I &II LAND APPLICATION

NEW YORK  
CATEGORY III LAND APPLICATION

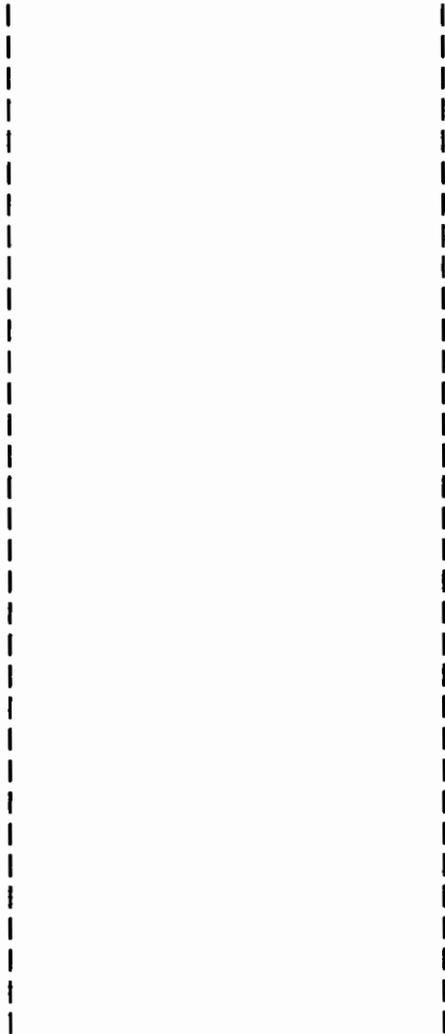
SLUDGE CLASSIFICATION	HEAVY APPLICATION FOR LAND RECLAMATION
STATE CONTROL LAWS, TITLE & DATE	AGRICUTURE AND MARKETS LAW, ARTICLE 22 aa, SECTION 304-a (LAND CLASSIFICATION SYSTEM)
REGULATIONS, TITLE&DATE	WASTE FACILITIES RULES
GUIDELINES, TITLE&DATE	SOLID WASTE MGMT FAC. GDLNS 5/81, UPDATE MEMOS 1/1/85 NOTE: LISTED CRITERIA CONTAINED IN GUIDELINES OR REGULATIONS AS MARKED WITH G OR R
CONTROLLING AGENCY	DEPT OF ENV. CONSERVATION DIV. OF MUNICIPAL WASTE ALBANY, NY (518) 457-2344

NEW YORK  
CATEGORY III LAND APPLICATION

ACCEPTABILITY OF SLUDGE	R	PERMIT REQUIRED (SPDES)
PERMIT OR APPROVAL	G	APPROVAL OF SLUDGE FROM NYSDEC
APPLICATION SUBMITTALS	R	GENERAL PERMIT APPLICATION FOR SOLID WASTE DISPOSAL SEE SUBMITTALS UNDER L.A.

NEW YORK  
CATEGORY III LAND APPLICATION

SLUDGE SAMPLING PARAMETERS



NEW YORK  
CATEGORY III LAND APPLICATION

MAXIMUM SLUDGE CONSTITUENT C		
CONDUCTIVITY (SALT)		
NUTRIENTS (% BY DRY WEIGHT)		
N		
P		
K		
METALS (MG/KG SLUDGE DRY WEIGHT)		
AS		
CD	G 25	
PB	G 1000	
NI	G 200	
ZN	G 2500	
CU	G 1000	
CR	G 1000	
HG	G 10	
MO		
B		
FE		
ORGANICS		
PCB	R 10	
	G OTHER TOXICS: CASE BY CASE	

NEW YORK  
CATEGORY III LAND APPLICATION

WATER

OTHER CONTAMINANTS

RECORDS

REPORTS

NOTIFICATIONS

NEW YORK  
CATEGORY III LAND APPLICATION

STORAGE (IF APPLICABLE)	
LAND APPLICATION APPROVAL OR PERMIT	G  APPROVAL OF SITE
APPLICATION SUBMITTALS	G  DETAILED SITE INVESTIGATION
	R  SITE SELECTION:   LOCATION MAP, TOPO MAP, SW,   GW, SOILS INFO, LOCATION OF   SW & GW, SOIL SURVEY MAP, SURFACE   DRAINAGE PATTERN, WELLS, ETC.
	R  SLUDGE ANALYSIS
	G  SOIL ANALYSIS

NEW YORK  
CATEGORY III LAND APPLICATION

G|LOCATION OF MONITORING WELLS  
G|SW SAMPLING STATIONS  
G|SOIL SAMPLING SITES  
R|MANAGEMENT PLAN:  
| CROPS OR VEGETATION  
| SCHEDULES AND METHODS OF APP.  
| AND HARVESTING  
| MAPS SHOWING SITE BOUNDARIES

CRITERIA FOR USE

DEGREE OF STABILIZATION|PROCESS TO SIGNIFICANTLY

| REDUCE PATHOGENS

G|NOT TO BE STABILIZED BY

NEW YORK  
CATEGORY III LAND APPLICATION

	R	CHLORINE OXIDATION STABILIZED
MONITORING SOIL		1/YR FOR CD, HG, PB, CU, ZN, NI, TOTAL CR, CEC, PH, AVAIL P, PERSIST. ORGANICS
CROPS	G	CROP MONITORING MAY BE REQUIRED
SURFACE WATER	G	SW MONITORING MAY BE REQUIRED
GROUNDWATER	G	GW MONITORING REQUIRED FOR CATEGORY III (HEAVY LOADING, LAND RECLAMATION) 3/YR CL, NO3, SO4, CONDUCTIVITY, ETC (P.7-1(14))

NEW YORK  
CATEGORY III LAND APPLICATION

MAXIMUM SLUDGE LOADING LIMIT (CEC IN MEQ/100G SOIL)	
SLUDGE APPLICATION WILL BE L SLUDGE	UP TO 50 T/AC BASED ON MAXIMUM LOADING LIMITS FOR METALS
NUTRIENTS N (ANNUAL)	
METALS CD ANNUAL	
MAX. CUMULATIVE	5 KG/HA

NEW YORK  
CATEGORY III LAND APPLICATION

P8	G 500 KG/HA	
ZN	G 250 KG/HA	
CU	G 125 KG/HA	
CR	G TO BE EVALUATED	
NI	G 50 KG/HA	
HG	G TO BE EVALUATED	
ORGANICS		
PCBS		



NEW YORK  
 CATEGORY III LAND APPLICATION

DIST TO RESIDENCE	G 500 FT TO RESIDENCE OR BUS., EXCL. OPERATOR'S RES.
DIST TO OTHER BUILDINGS	
DIST TO PROPERTY LINE	
GROUND WATER PROTECTION	
DEPTH TO HIGH GW	G 12 IN(GOOD & FAIR SITES)
DEPTH TO BEDROCK	G 2 FT (GOOD & FAIR SITES)
PERMEABILITY	G .06 TO 6 IN/HR (GOOD & FAIR SITES)
INFILTRATION	
SURFACE WATER PROTECTION	
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	G NOT TO RESTRICT BASE FLOOD, REDUCE WATER STORAGE, OR RESULT IN WASHOUT OF WASTE G NOT IN 10 YR FLOOD PLAIN R NOT IN AREAS DESIG. BY 6NYCRR 500
DIST TO SURFACE WATER	G 200 FT
DIST. TO DRY RUN	G 25 FT
RUNOFF AND EROSION CONTROL	R MINIMIZE EROSION AND RUNOFF R NO APPLI. TO SNOW, FROZEN OR SATURATED GROUND, OR DURING RAINFALL R MUST BE INCORPORATED SAME DAY AS

NEW YORK  
CATEGORY III LAND APPLICATION

	APPLIED
MAXIMUM SLOPE LIMIT	G 15% G 8% FOR SLUDGE THAT IS <20% SOLID, UNLESS INJECTED ON CONTOUR
RECORDS	
REPORTS	
NOTIFICATIONS	

NEW YORK  
CATEGORY III LAND APPLICATION

STORAGE

G| LAGOONS-500 FT FROM NEAREST DWLG,  
| 2 SEPARATE LAGOONS WITH STORAGE  
| CAPACITY OF 6 MOS, 2' TO 6' IN  
| DEPTH, > 2' FREE BOARD, ABOVE  
| 100 YR FLOODPLAIN, > 5' ABOVE HIGH-  
| EST SEASONAL SW ELEV, LINER REQUIRE-  
| MENTS, FENCED, POSTED, INSECT  
| CONTROL, EMPTIED AND CLEANED  
| EVERY 6 MOS

TRANSPORTATION

UNCONTROLLED USE

NEW YORK  
CATEGORY III LAND APPLICATION

DEDICATED SITES

COMMENTS

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	NORTH CAROLINA	
	LAND APPLICATION	
SLUDGE CLASSIFICATION		
STATE CONTROL		
LAWS, TITLE & DATE	GENERAL STATUTE 143-215.3(A)(1) NORTH CAROLINA SOLID AND HAZARDOUS WASTE MANAGEMENT ACT CHP 130 A, ART 9,1970 AS AMENDED	
REGS, TITLE & DATE	NORTH CAROLINA ADMINISTRATIVE CODE SECTION .0200-WASTE NOT DISCHARGED TO SURFACE WATERS 5/28/85	
GUIDELINES, TITLE & DATE		
CONTROLLING AGENCY	NORTH CAROLINA DEPT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT DIVISION OF ENVIRONMENTAL MANAGEMENT RALEIGH, NORTH CAROLINA 27611 919/723/6900	
ACCEPTABILITY OF SLUDGE		
PERMIT OR APPROVAL APPLIC. SUBMITTAL	DISPOSAL FOR LAND APPLICATION REQUIRES A PERMIT. SEE SUBMITTAL	

NORTH CAROLINA  
LAND APPLICATION

REQUIREMENTS UNDER LAND APPLIC.

SLUDGE SAMPLING PARAMETERS

NORTH CAROLINA  
LAND APPLICATION

MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS

SAME AS FEDERAL LIMITS

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (MG/KG SLUDGE DRY WEIGHT)

AS

CD

PB

NI

ZN

NORTH CAROLINA  
LAND APPLICATION

CU

CR

HG

MO

B

FE

ORGANICS

PCB

WATER

OTHER CONTAMINANTS

RECORDS

MUST COMPLY WITH STANDARDS SET IN  
PERMIT

NORTH CAROLINA  
LAND APPLICATION

REPORTS

MUST COMPLY WITH STANDARDS SET IN  
PERMIT

NOTIFICATIONS

MUST COMPLY WITH STANDARDS SET IN  
PERMIT

STORAGE (IF APPLICABLE)

LAND APPLICATION

APPROVAL OR PERMIT  
APPLIC. SUBMITTAL

PERMIT FOR DISPOSAL IS REQUIRED.  
SUBMITTALS INCLUDE:  
TOPO MAP, TEST BORINGS AND SUB-

NORTH CAROLINA  
|LAND APPLICATION |  
|  
|SURFACE DATA FOR SITE EVAL.,  
|SOIL EVAL, RECOMMENDATIONS FOR  
|APPLIC RATES, EVAL BY AGRONOMIST  
|AND RECOMMENDATIONS FOR CROPS,  
|PLANS AND SPECS OF ENTIRE SYSTEM  
|

CRITERIA FOR USE  
DEGREE OF STABILIZATION

|SAME AS FEDERAL CRITERIA  
|  
|

	NORTH CAROLINA	
	LAND APPLICATION	
SOIL SAMPLING		
PRE-APPLICATION		
POST-APPLICATION		
WATER QUALITY MONITORING		
GROUND WATER	MONITORING REQUIRED IN CONJ WITH GROUND WATER DIVISION	
SURFACE WATER		
CROP MONITORING		
MAXIMUM SLUDGE LOADING LIMIT		
KG/HA UNLESS OTHERWISE NOTED	BASED UPON FEDERAL GUIDELINES	

NORTH CAROLINA  
LAND APPLICATION

(CEC IN MEQ/100G SOIL)  
ANNUAL OR CUMULATIVE

NUTRIENTS  
N (ANNUAL)

P

METALS

CD  
ANNUAL

MAX CUMULATIVE

PB

NORTH CAROLINA  
LAND APPLICATION

ZN

CU

CR

NI

HG

NORTH CAROLINA  
LAND APPLICATION

ORGANICS

PCB

LAND USE RESTRICTIONS

CROPS

GRAZING OR GREENCHOP

NORTH CAROLINA  
LAND APPLICATION

PUBLIC ACCESS

PH OF SOIL

SITING RESTRICTIONS

SOIL CONDITIONS

BUFFER REQUIREMENTS

DIST TO PRIVATE WELL

DIST TO PUBLIC WELL

DIST TO RESIDENCE

NORTH CAROLINA  
LAND APPLICATION

DIST TO OTHER BLDGS.

DIST TO PROPERTY LINE

GROUNDWATER PROTECTION

DEPTH TO HIGH GW

DEPTH TO BEDROCK

PERMEABILITY

INFILTRATION

NORTH CAROLINA  
LAND APPLICATION

- SURFACE WATER PROTECTION
- WETLANDS OR AREAS SUBJECT  
TO PONDING OR FLOODING
- DIST TO SURFACE WATER
- DIST TO DRY RUN
- RUNOFF AND EROSION CONTROL
- MAXIMUM SLOPE LIMIT

NORTH CAROLINA  
LAND APPLICATION

RECORDS

AS REQUIRED BY PERMIT

REPORTS

AS REQUIRED BY PERMIT

NOTIFICATIONS

AS REQUIRED BY PERMIT

STORAGE

NORTH CAROLINA  
LAND APPLICATION

TRANSPORTATION

UNCONTROLLED USE

STATE IS IN PROCESS OF DEVISING  
GUIDELINES FOR UNCONTROLLED DIST  
OF COMPOSTED SLUDGE. PERMIT WILL  
BE REQUIRED FOR GENERATOR OF COMPOST.  
PERMIT WILL NOT BE REQUIRED FOR  
DISPOSAL OR USE OF COMPOST AT  
INDIVIDUAL SITES

DEDICATED SITES

FILE 1

NORTH CAROLINA  
|LAND APPLICATION  
|  
|

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COMMENTS

	OHIO	OHIO	OHIO
	LAND APPLICATION	SLUDGE GIVE-AWAY PROGRAM	COMPOSTED SEWAGE SLUDGE MGNT AND DISTRIBUTION
SLUDGE CLASSIFICATION			CLASS I CLASS II CLASS III
STATE CONTROL			
LAWS, TITLE & DATE	SOLID AND HAZARDOUS WASTE DISPOSAL LAW, TITLE 37, CHP 34, 1972 AS AMENDED	SOLID AND HAZARDOUS WASTE DISPOSAL LAW, TITLE 37, CHP 34, 1972, AS AMENDED	SOLID AND HAZARDOUS WASTE DISPOSAL LAW, TITLE 37, CHP 34, 1972, AS AMENDED
REGS, TITLE & DATE	OHIO REVISED CODE, SECS 6111.45-46 OHIO ADMINISTRATIVE CODE, 1976 RULE 3745-31-02(C)		
GUIDELINES, TITLE & DATE	LAND APPLICATION OF SLUDGE MANUAL 8/85...UNLESS NOTED CRITERIA LISTED ARE FROM GUIDELINES	SLUDGE GIVE AWAY PROGRAM GUIDELINES 12/20/84	ADMINISTRATIVE POLICY ON COMPOSTED SEWAGE SLUDGE MANAGEMENT 4/1/84
CONTROLLING AGENCY	OHIO ENVIRONMENTAL PROTECTION AGENCY COLUMBUS, OHIO 614/466/8565	OHIO ENVIRONMENTAL PROTECTION AGENCY COLUMBUS, OHIO 614/466/8565	OHIO ENVIRONMENTAL PROTECTION AGENCY COLUMBUS, OHIO 614/466/8565
ACCEPTABILITY OF SLUDGE			
PERMIT OR APPROVAL APPLIC. SUBMITTAL	A DETAIL PLAN MUST BE APPROVED BY AGENCY. PLAN INCLUDES BOTH	GENERATORS GIVING AWAY >.5 DRY T/AC/YR TO SINGLE ENTITY MUST	GENERATOR MUST SUBMIT A DETAILED MANAGEMENT PLAN: REQUIRED

	OHIO	OHIO	OHIO
	LAND APPLICATION	SLUDGE GIVE-AWAY PROGRAM	COMPOSTED SEWAGE SLUDGE MGNT AND DISTRIBUTION
	ACCEPTABILITY AND APPLICATION CRITERIA.	SUBMIT SLUDGE MGNT PLAN IN CONJUNCTION WITH SLUDGE USER.	INFO AS STATED IN LAND APPLIC MANUAL AND
	PLAN MUST INCLUDE: ANALYSIS OF SLUDGE, EVAL OF EQUIPMENT, OPERATIONAL METHODS, MONITORING REQUIREMENTS, COUNTY TO RECEIVE SLUDGE, SITE INFORMATION. (SITE AUTHORIZATION IS NOT REQUIRED FOR APPROVED COMPOSTED SLUDGE)	PLAN SHOULD INCLUDE: SLUDGE TYPE, ANALYSIS, SITE INFORMATION, METHOD OF OPERATION, MONITORING INFORMATION	SOURCE OF COMPOST, COMPOST PROCESS, STABILIZATION PROCESS, SAMPLING METHODS, MARKETING STRATEGY, LABELING, INGREDIENTS IN BLENDED PRODUCTS, PLAN FOR DISPOSAL IF CRITERIA NOT MET
		GENERATORS GIVING AWAY <.5 DRY T/AC/ YRM MUST MEET FOLLOWING: DRIED SLUDGE ONLY, CONSTIT. LEVELS AS SET BELOW, HEAVY METALS ANAL., STORAGE REQUIREMENTS	
		APPLIC FOR PLAN APPROVAL MUST CONTAIN STATEMENT OF AWARENESS OF LIABILITY IN GIVING AWAY SLUDGE	
SLUDGE SAMPLING PARAMETERS	SLUDGE ANALYSIS: %TOTAL SOLIDS, pH, NH4-N, TKN, P, K, CD, CU, ZN, NI, PB	SLUDGE ANALYSIS: CD, CU, NI, PB, ZN, PCB FREQUENCY: QUARTERLY	CD, PB, PCB, AND OTHERS AS REQUIRED. FREQUENCY: EVERY 5,000 CY OR 1/MO

	OHIO LAND APPLICATION	OHIO SLUDGE GIVE-AWAY PROGRAM	OHIO COMPOSTED SEWAGE SLUDGE MGNT AND DISTRIBUTION
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS			IF BAGGED, MUST CONTAIN 10% LIME
CONDUCTIVITY (SALT)			
NUTRIENTS (% BY DRY WEIGHT)			
N			
P			
K			
METALS (MG/KG SLUDGE DRY WEIGHT)			
AS			
CD		12.5 MG/KG	CLASS I: 12.5 MG/KG CLASS II: 25.0 MG/KG CLASS III: >25 MG/KG
PB		500 MG/KG	CLASS I: 500 MG/KG CLASS II: 1000 MG/KG CLASS III: >100 MG/KG
NI		100 MG/KG	
ZN		1000 MG/KG	

	OHIO LAND APPLICATION	OHIO SLUDGE GIVE-AWAY PROGRAM	OHIO COMPOSTED SEWAGE SLUDGE MGNT AND DISTRIBUTION
CU		500 MG/KG	
CR			
HG			
MO			
B			
FE			
ORGANICS			
PCB		5 MG/KG	CLASS I: 5 MG/KG CLASS II: 10 MG/KG CLASS III: >10 MG/KG
WATER			
OTHER CONTAMINANTS			CLASS I AND II MUST HAVE CD:ZN OF 0.015 MAY NOT CONTAIN SHARP PARTICLES
RECORDS			GENERATORS MUST MAINTAIN: QUANTITY AND CHEM ANALYSIS, NAMES AND ADDRESS OF USERS, AND QUANTITY AND QUALITY OF COMPOST RECORDS MAINTAINED FOR 3 YRS

	OHIO	OHIO	OHIO
	LAND APPLICATION	SLUDGE GIVE-AWAY PROGRAM	COMPOSTED SEWAGE SLUDGE MGNT AND DISTRIBUTION
REPORTS	MUST SUBMIT SLUDGE ANALYSIS REPORTS MONTHLY IF >1.0 MGD QUARTERLY IF >.1 BUT <1.0 MGD SEMI-ANNUAL IF <.1 MGD	SLUDGE ANALYSIS: QUARTERLY	ABOVE RECORDS SUBMITTED MONTHLY
NOTIFICATIONS		GENERATOR MUST PROVIDE INFO NOTICE TO BE SIGNED BY USER: SLUDGE IS BY-PRODUCT OF WTP, SLUDGE MAY CONTAIN PATH AND METALS, NOT TO BE USED ON LEAFY VEG OR ROOT CROPS, NOT TO EXCEED MAX LOADING RATES, ANAL. OF SLUDGE AVAIL.,	CLASS I AND II: GENERATOR MUST AFFIX LABEL IDENTIFYING PRODUCT AS COMPOST, GIVING USE INSTRUCTIONS, COMPLIANCE WITH CLASS I OR II REQ
STORAGE (IF APPLICABLE)	ADEQUATE SLUDGE STORAGE OR BACKUP DISPOSAL MUST BE PROVIDED	GENERATOR MUST PROVIDE ACCEPTABLE STORAGE AREA WITHIN CONFINES OF STAFFED PLANT.MUST PREVENT GW AND SW CONTAMINATION	
LAND APPLICATION			
APPROVAL OR PERMIT APPLIC. SUBMITTAL	DETAIL PLAN MUST BE PROVIDED. SEE PERMIT SUBMITTAL REQUIREMENTS ABOVE. APPROVED COMPOSTED SLUDGE EXEMPT	USER MUST OBTAIN PERMIT IN CONJ WITH GENERATOR IF USING >.5 DRY T/ AC/YR	



	OHIO  LAND APPLICATION 	OHIO  SLUDGE GIVE-AWAY PROGRAM 	OHIO  COMPOSTED SEWAGE SLUDGE MGNT  AND DISTRIBUTION 
SOIL SAMPLING PRE-APPLICATION	pH, CEC, LIME TEST INDEX, HEAVY   METALS WHEN NECESSARY, AVAIL P,K		
POST-APPLICATION	ANNUALLY IF APPLIC >5 DRY T/AC/YR  EVERY 2-3 YR IF APPLIC <5 DRY T/AC/YR		
WATER QUALITY MONITORING GROUND WATER	MAY BE REQUIRED		
SURFACE WATER	MAY BE REQUIRED		
CROP MONITORING	MAY BE REQUIRED		
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED			

	OHIO LAND APPLICATION	OHIO SLUDGE GIVE-AWAY PROGRAM	OHIO COMPOSTED SEWAGE SLUDGE MGMT AND DISTRIBUTION
(CEC IN MEQ/100G SOIL) ANNUAL OR CUMULATIVE			
NUTRIENTS			
N (ANNUAL)	SUFFICIENT TO MEET CROP REQUIREMENTS ONLY	SUFFICIENT TO MEET CROP REQUIREMENTS ONLY	
P	SUFFICIENT TO MEET CROP REQUIREMENTS ONLY	SUFFICIENT TO MEET CROP REQUIREMENTS ONLY	
METALS			
CD ANNUAL	UNTIL 12/86: 2.0 KG/HA AFTER 1/87: 0.5 KG/HA	UNTIL 12/86: 2.0 KG/HA AFTER 1/87: 0.5 KG/HA	
MAX CUMULATIVE	IF pH < 6.5, 5 KG/HA IF pH 6.5 OR >, IF CEC<5: 5 KG/HA IF 5<CEC<15: 10 KG/HA IF CEC>15: 20 KG/HA UNLIMITED IF ONLY ANIMAL FEED GROWN, pH IS 6.5 OR >, PLAN TO PREVENT FEED FR HUMAN CONSUMPTION, MEASURES TO PRE- VENT CADMIUM FROM FOOD CHAIN, RECORDED IN DEED THAT PROPERTY HAS HIGH DOSE OF CADMIUM AND NO FOOD CROPS ALLOWED	IF pH < 6.5, 5 KG/HA IF pH 6.5 OR >, IF CEC<5: 5 KG/HA IF 5<CEC<15: 10 KG/HA IF CEC>15: 20 KG/HA UNLIMITED IF ONLY ANIMAL FEED GROWN, pH IS 6.5 OR >, PLAN TO PREVENT FEED FR HUMAN CONSUMPTION, MEASURES TO PRE- VENT CADMIUM FROM FOOD CHAIN, RECORDED IN DEED THAT PROPERTY HAS HIGH DOSE OF CADMIUM AND NO FOOD CROPS ALLOWED	
P8	IF CEC<5: 560 KG/HA	IF CEC<5: 560 KG/HA	



	OHIO LAND APPLICATION	OHIO SLUDGE GIVE-AWAY PROGRAM	OHIO COMPOSTED SEWAGE SLUDGE MGNT AND DISTRIBUTION
ORGANICS			
PCB			
LAND USE RESTRICTIONS			
CROPS	GRAIN CROPS PREFERRED;NO RAW VEGET FOR ONE YR	NOT BE TO USED ON LEAFY VEG OR ROOT CROPS	CLASS I: APPROVED FOR GENERAL USE INCLUDING FOOD CHAIN CROPS CLASS II: APPROVED FOR USES OTHER THAN FOR FOOD CHAIN UNLESS APPROVED CLASS III: USED ONLY ON APPROVAL
GRAZING OR GREENCHOP	NO LACTATING DAIRY ANIMALS FOR ONE YR		

	OHIO LAND APPLICATION	OHIO SLUDGE GIVE-AWAY PROGRAM	OHIO COMPOSTED SEWAGE SLUDGE MGNT AND DISTRIBUTION
PUBLIC ACCESS			
PH OF SOIL	6.5 UNLESS OTHERWISE SPECIFIED		
SITING RESTRICTIONS			
SOIL CONDITIONS	SHOULD HAVE MOD TO HIGH CEC (>10MEQ/ 100G) SHOULD HAVE MODERATE PERMEABILITY		
BUFFER REQUIREMENTS			
DIST TO PRIVATE WELL	300 FT IF SURFACE APPLIED LIQUID OR DRIED SLUDGE, <5 DRY T/AC/YR; 200 FT. IF LIQUID, INCORP, < 5 DRY T/AC/YR		
DIST TO PUBLIC WELL	SAME AS ABOVE		
DIST TO RESIDENCE	300 FT IF SURFACE APPLIED LIQUID,		

	OHIO LAND APPLICATION	OHIO SLUDGE GIVE-AWAY PROGRAM	OHIO COMPOSTED SEWAGE SLUDGE MGNT AND DISTRIBUTION
DIST TO OTHER BLDGS.	<5 DRY T/AC/YR 200 FT IF LIQUID, INCORP, AND < 5 DRY T/AC/YR 100 FT IF DRIED AND < 5 DRY T/AC/YR		
DIST TO PROPERTY LINE	NO LIMITS TO ROADWAYS OR PROPERTY LINES OR ROADWAYS		
GROUNDWATER PROTECTION			
DEPTH TO HIGH GW	2-3 FT MAY VARY SLIGHTLY DEPENDING UPON PERCHED WATER TABLE		
DEPTH TO BEDROCK	3 FT		
PERMEABILITY	MODERATE		
INFILTRATION			

	OHIO LAND APPLICATION	OHIO SLUDGE GIVE-AWAY PROGRAM	OHIO COMPOSTED SEWAGE SLUDGE MGNT AND DISTRIBUTION
SURFACE WATER PROTECTION			
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT IN 10 YEAR FLOODPLAIN WITHIN 2 MOS OF SEASONAL ANNUAL FLOODS		
DIST TO SURFACE WATER	25-100 FT UNLESS < 6% GRADE AND PROTECTED BY BERM OR VEGITATED FURROW		
DIST TO DRY RUN	25 FT		
RUNOFF AND EROSION CONTROL	PREFER APPLIC TO LAND < 6% SLOPE, WITH HEAVY VEGET, AND INCORP OR INJECT; APPLIC <5 DRY T/AC ON SNOW-COVERED, FROZEN SOILS WITH SLOPE<2%		PRODUCT SHOULD NOT BE PRONE TO BLOWING, DRIFTING, OR EXTENSIVE MIGRATION
MAXIMUM SLOPE LIMIT	<6% OR 6%-12% IF AT LEAST 80% OF SOIL COVERED WITH VEGETATION AND IMMED INCORP OR INJECTION		

	OHIO	OHIO	OHIO
	LAND APPLICATION	SLUDGE GIVE-AWAY PROGRAM	COMPOSTED SEWAGE SLUDGE MGNT AND DISTRIBUTION
RECORDS		USER MUST SIGN INFORMATION SHEET	
REPORTS	SELF-MONITORING REPORTS AS REQUIRED SITE STATUS REPORT WITHIN 90 DAYS AFTER ANNUAL SLUDGE APPLIC		
NOTIFICATIONS			
STORAGE	PREFER STORAGE AT PLANT, NOT LAND SITE; UP TO 4 MOS IN WINTER, AND 1 MO IN SUMMER PREFERRED		

OHIO  
|LAND APPLICATION  
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OHIO  
| |SLUDGE GIVE-AWAY PROGRAM  
| |  
| |

OHIO  
| |COMPOSTED SEWAGE SLUDGE MGNT  
| | AND DISTRIBUTION  
| |

TRANSPORTATION

UNCONTROLLED USE

DEDICATED SITES

GROUND AND SURFACE WATER QUALITY  
MONITORING REQUIRED AT DEDICATED  
SITES; PLANT TISSUE MONITORING MAY  
BE REQUIRED;APPLIC RATES MAY BE  
5-10 TIMES LAND APP RATES  
APPROVAL OF DEDICATED SITES  
IS ON A CASE BY CASE BASIS

THE OHIO EPA DISCOURAGES THE  
GIVE-AWAY PROGRAMS. REQUIRES THAT  
GENERATORS EVALUATE OTHER DISPOSAL  
OPTIONS FIRST

FILE 1

OHIO  
|LAND APPLICATION  
|  
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OHIO  
| |SLUDGE GIVE-AWAY PROGRAM  
| |  
| |

OHIO  
| |COMPOSTED SEWAGE SLUDGE MGNT  
| |AND DISTRIBUTION  
| |

COMMENTS

FILE 4.6

	OREGON UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	OREGON LAND APPLICATION
SLUDGE CLASSIFICATION		
STATE CONTROL LAWS, TITLE & DATE		
REGULATIONS, TITLE&DATE	CH. 340, DIV. 50 LAND APPLICATION AND DISPOSAL OF SEWAGE TREATMENT PLANT SLUDGE ...(8/10/84)  NOTE: ALL LISTED CRITERIA ARE CONTAINED IN REGULATIONS	CH. 340, DIV. 50 LAND APPLICATION AND DISPOSAL OF SEWAGE TREATMENT PLANT SLUDGE ...(8/10/84)  NOTE: ALL LISTED CRITERIA ARE CONTAINED IN REGULATIONS
GUIDELINES, TITLE&DATE		
CONTROLLING AGENCY	DEPT OF ENV. QUAL. SOLID WASTE DIVISION PORTLAND, OR (503) 796-7010	DEPT OF ENV. QUAL. SOLID WASTE DIVISION PORTLAND, OR (503) 796-7010





OREGON  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

OREGON  
LAND APPLICATION

MAXIMUM SLUDGE CONSTITUENT C  
CONDUCTIVITY (SALT)  
NUTRIENTS (% BY DRY WEIGHT  
N  
P  
K  
METALS (MG/KG SLUDGE DRY  
WEIGHT)  
AS  
CD  
PB  
NI  
ZN  
CU  
CR  
HG  
MO  
B  
FE  
ORGANICS  
PCB

(RECOMMENDED)

25

1000

100

2000

800

**FILE 4.6**

**OREGON  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)**

**OREGON  
LAND APPLICATION**

**WATER**

**OTHER CONTAMINANTS**

**RECORDS**

**APPLICATION LOG**

**REPORTS**

**NOTIFICATIONS**

**GENERAL DISTRIBUTION:**

OREGON  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

OREGON  
LAND APPLICATION

STORAGE (IF APPLICABLE)

| PUBLIC MUST BE INFORMED OF  
| CONTENT AND SLUDGE ANALYSIS  
| MUST BE AVAILABLE AT PLANT

LAND APPLICATION  
APPROVAL OR PERMIT

| APPROVAL FOR LAND APPLICATION  
| IS REQUIRED

APPLICATION SUBMITTALS

| SUBMITTALS:  
| SLUDGE MANAGEMENT PLAN:  
| METHOD OF REMOVAL  
| SITE DESCRIPTION  
| METHOD FOR DETERMINING DEGREE  
| OF STABILITY  
| PROJECTED USE OF STORAGE BASINS  
| SLUDGE ANALYSIS, APPLICATION  
| RATES, AND HEAVY METALS  
| LIMITATIONS



**OREGON  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)**

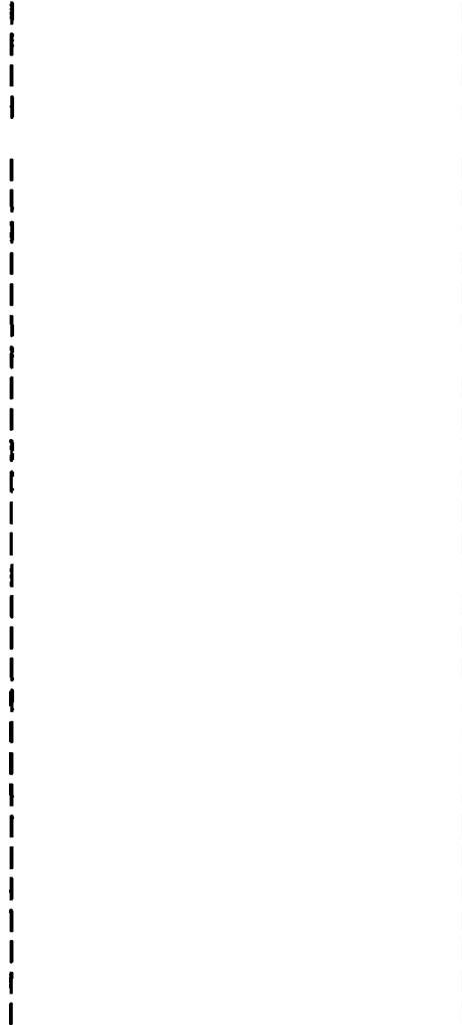
**OREGON  
LAND APPLICATION**

**MONITORING  
SOIL**

**CROPS**

**SURFACE WATER**

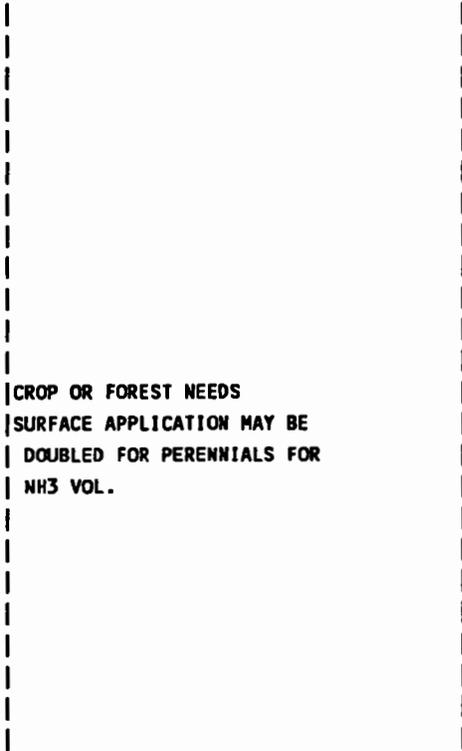
**GROUNDWATER**



OREGON  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

OREGON  
LAND APPLICATION

MAXIMUM SLUDGE LOADING LIMIT  
(CEC IN MEQ/100G SOIL)  
SLUDGE APPLICATION WILL BE L  
SLUDGE



CROP OR FOREST NEEDS  
SURFACE APPLICATION MAY BE  
DOUBLED FOR PERENNIALS FOR  
NH3 VOL.

NUTRIENTS  
N (ANNUAL)

METALS  
CD  
ANNUAL

MAX. CUMULATIVE

| 5 KG/HA FOR SOIL PH < 6.5 |  
| 5 KG/HA FOR SOIL PH > 6.5 AND CEC < 5 |  
| 10 KG/HA FOR SOIL PH > 6.5 AND 5<CEC<15 |  
| 20 KG/HA FOR SOIL PH > 6.5 AND CEC>15 |

OREGON  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

OREGON  
LAND APPLICATION

PB

| (MAX. CUMULATIVE) |  
| 500 KG/HA IF CEC < 5 |  
| 1000 KG/HA IF 5<CEC<15 |  
| 2000 KG/HA IF CEC>15 |

ZN

| (MAX. CUMULATIVE) |  
| 250 KG/HA IF CEC < 5 |  
| 500 KG/HA IF 5<CEC<15 |  
| 1000 KG/HA IF CEC>15 |

CU

| (MAX. CUMULATIVE) |  
| 125 KG/HA IF CEC < 5 |  
| 250 KG/HA IF 5<CEC<15 |  
| 500 KG/HA IF CEC>15 |

CR

NI

| (MAX. CUMULATIVE) |  
| 50 KG/HA IF CEC < 5 |  
| 100 KG/HA IF 5<CEC<15 |  
| 200 KG/HA IF CEC>15 |

HG

ORGANICS  
PCBS

FILE 4.6

OREGON  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

OREGON  
LAND APPLICATION

LAND USE RESTRICTIONS

CROPS

| NO CROPS FOR DIRECT HUMAN  
| CONSUMPTION WHERE EDIBLE  
| PART CONTACTS SLUDGE--18 MO  
|

GRAZING OR GREENCHOP

| GRAZING RESTRICTED FOR 1 MO  
| RESTRICTED 6 MO FOR NON  
| DIGESTED, 7DAYS FOR AIR DRIED  
| SLUDGE  
|

PUBLIC ACCESS

| 12 MO UNLESS HEAT DRIED,  
| COMPOSTED, OR EQUIVALENT  
| PATHOGEN REDUCTION  
|

PH OF SOIL & SLUDGE  
OR PH OF SOIL

| 6.5 TO 8.2 IF ACCUMULATOR CROPS  
| (LEAFY GREEN VEGES AND CARROTS)  
| ARE GROWN  
| 6.5 IF HIGH METALS LEVELS  
|

SITING RESTRICTIONS  
SOIL CONDITIONS

| STABLE GEOLOGICAL FORMATION  
|

BUFFER REQUIREMENTS  
DIST. TO PRIVATE WELL

| 200 FT  
|

DIST. TO PUBLIC WELL

| 200 FT  
|

OREGON  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

OREGON  
LAND APPLICATION

DIST TO RESIDENCE	PROPERTY BOUNDARY: 0 IF INJECTED
DIST TO OTHER BUILDINGS	50 FT FOR SPREADING
DIST TO PROPERTY LINE	
GROUND WATER PROTECTION	NO SHORT CIRCUITING TO GW OR   RAPIDLY DRAINED SUBSTRATUM
DEPTH TO HIGH GW	4 FT TO PERMANENT GW
DEPTH TO BEDROCK	1 FT TO TEMPORARY GW
PERMEABILITY	24 IN ROOTING DEPTH
INFILTRATION	
SURFACE WATER PROTECTION	
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT APPLIED IN AREAS SUBJECT TO   FLOODING; IF UNAVOIDABLE, MUST   BE INCORPORATED
DIST TO SURFACE WATER	50
DIST. TO DRY RUN	
RUNOFF AND EROSION CONTROL	RUNOFF AND EROSION CONTROL   TO BE USED

OREGON  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

OREGON  
LAND APPLICATION

MAXIMUM SLOPE LIMIT

| 12% FOR LIQUID SLUDGE |  
| 20% FOR DEWATERED OR DRIED |  
| SLUDGE, DIRECT INJECTION OF |  
| LIQUID SLUDGE, OR WITH MGMT |  
| TO ELIMINATE RUNOFF |  
| WHERE INJECTION IS NOT FEASIBLE, |  
| RESTRICT APPLI. TO DRY SEASON |

RECORDS

REPORTS

NOTIFICATIONS

**OREGON  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)**

**OREGON  
LAND APPLICATION**

**STORAGE**

| COLLECT, TREAT, DISPOSE LEACHATE |  
| ENCLOSED BY GATE OR FENCE, ODOR |  
| CONTROL, SURFACE DRAINAGE REQUIREMENTS, |  
| COMPOST MUST NOT BE STORED >1 YR |

**TRANSPORTATION**

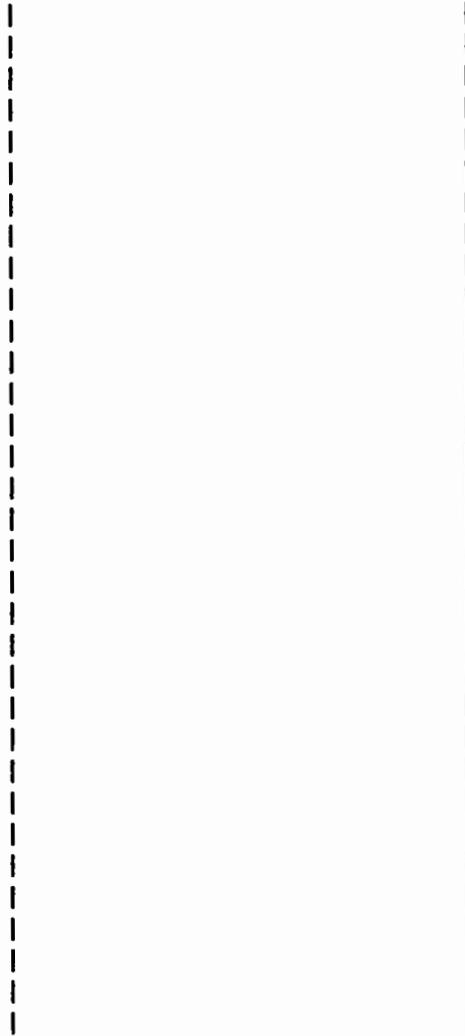
| TRUCK WASHING AREA AT SITE: HARD |  
| SURFACE, WASH WATER IN CATCH BASIN |  
| APPROVED BY STATE OR LOCAL HEALTH DEPT. |

**UNCONTROLLED USE**

OREGON  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

OREGON  
LAND APPLICATION

DEDICATED SITES



COMMENTS

	PENNSYLVANIA	PENNSYLVANIA	PENNSYLVANIA
	LAND APPLICATION	GIVE-AWAY PROGRAM	LAND RECLAMATION
SLUDGE CLASSIFICATION			
STATE CONTROL			
LAWS, TITLE & DATE	THE PENNSYLVANIA SOLID WASTE MANAGEMENT ACT (35 P.S. SECS.6001- 6018) 1980 AS AMENDED	THE PENNSYLVANIA SOLID WASTE MANAGEMENT ACT (35 P.S. SECS.6001- 6018) 1980 AS AMENDED	THE PENNSYLVANIA SOLID WASTE MANAGEMENT ACT (35 P.S. SECS.6001- 6018) 1980, AS AMENDED
REGS, TITLE & DATE	PENNSYLVANIA SOLID WASTE REGS. PA CODE, TITLE 25, ENVIRONMENTAL RESOURCES, CHAPTER 75--SOLID WASTE MANAGEMENT; ADOPTED 8/2/71; AMENDED THROUGH 5/85	PENNSYLVANIA SOLID WASTE REGS. PA CODE, TITLE 25, ENVIRONMENTAL RESOURCES, CHAPTER 75--SOLID WASTE MANAGEMENT; ADOPTED 8/2/71; AMENDED THROUGH 5/85	PENNSYLVANIA SOLID WASTE REGS. PA CODE, TITLE 25, ENVIRONMENTAL RESOURCES, CHAPTER 75--SOLID WASTE MANAGEMENT; ADOPTED 8/2/71; AMENDED THROUGH 5/85
GUIDELINES, TITLE & DATE	INTERIM GUIDELINES FOR SEWAGE, SEPTIC TANK, AND HOLDING TANK WASTE USE ON AGRICULTURAL LANDS		INTERIM GUIDELINES FOR SEWAGE SLUDGE USE FOR LAND RECLAMATION
CONTROLLING AGENCY	PENNSYLVANIA DEPT OF ENVIRONMENTAL RESOURCES BUREAU OF WASTE MANAGEMENT HARRISBURG, PA 17120 717/787/7381	PENNSYLVANIA DEPT OF ENVIRONMENTAL RESOURCES BUREAU OF WASTE MANAGEMENT HARRISBURG, PA 17120 717/787/7381	PENNSYLVANIA DEPT OF ENVIRONMENTAL RESOURCES BUREAU OF WASTE MANAGEMENT HARRISBURG, PA 717/787/7381
ACCEPTABILITY OF SLUDGE			
PERMIT OR APPROVAL APPLIC. SUBMITTAL	R PROJECTS WHICH DO NOT MEET GUIDELINES REQUIRE PERMIT	G GENERATOR MUST OBTAIN STORAGE PERMIT. G GENERATOR MUST OBTAIN DEPT.	G PERMIT IS REQUIRED FOR LAND R DISPOSAL. SEE SUBMITTAL REQUIRE-

	PENNSYLVANIA	PENNSYLVANIA	PENNSYLVANIA
	LAND APPLICATION	GIVE-AWAY PROGRAM	LAND RECLAMATION
	SEE SUBMITTAL REQ UNDER L.A.	APPROVAL OF INSTRUCTION SHEET TO GIVE TO USERS. SHEET MUST INCLUDE DESCRIPTION OF MATERIAL, APPLIC. RATES, AND RECOMMENDED USES AND PROHIBITIONS	MENTS UNDER LAND APPLICATION
SLUDGE SAMPLING PARAMETERS	PROJECTS WHICH DO NOT MEET CONDITIONS OF GUIDELINES MUST SUBMIT SLUDGE ANALYSIS INCLUDING: MOISTURE CONTENT, %TOTAL N, %NH4-N, %ORGANIC N, BOD, pH, CYANIDE, SODIUM, CD, ZN, CU, NI, PB, CR, HG, MO, PATHOGENS 3 SAMPLES BEFORE APPLIC. 1 SAMPLE/YR AFTER APPLIC.	SLUDGE ANALYSIS MUST INCLUDE: MOISTURE CONTENT, %TOTAL N, %NH4-N, % ORGANIC N, BOD, pH, CYANIDE, SODIUM, CD, ZN, CU, NI, PB, CR, HG, MO, PATHOGENS	SLUDGE ANALYSIS: MOISTURE CONTENT %TOTAL N, %NH4-N, % ORGANIC N %P, %K, CYANIDE, SODIUM, CD, ZN, CU, NI, PB, CR, HG, MO, PATHOGENS 3 SAMPLES BEFORE APPLIC 1 SAMPLE/YR POST-APPLIC

	PENNSYLVANIA LAND APPLICATION	PENNSYLVANIA GIVE-AWAY PROGRAM	PENNSYLVANIA LAND RECLAMATION
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS	BASED ON 10/T/AC G		
CONDUCTIVITY (SALT)			
NUTRIENTS (% BY DRY WEIGHT)			
N			
P			
K			
METALS (MG/KG SLUDGE DRY WEIGHT)			
AS			
CD	50		
PB	1000		
NI	200		
ZN	2000		

	PENNSYLVANIA LAND APPLICATION	PENNSYLVANIA GIVE-AWAY PROGRAM	PENNSYLVANIA LAND RECLAMATION
CU	1000		
CR	1000		
HG	10		
MO			
B			
FE			
ORGANICS			
PCB			
WATER			
OTHER CONTAMINANTS			
RECORDS			

	PENNSYLVANIA LAND APPLICATION	PENNSYLVANIA GIVE-AWAY PROGRAM	PENNSYLVANIA LAND RECLAMATION
REPORTS			
NOTIFICATIONS		GENERATOR MUST GIVE USER THE INFORMATION SHEET	
STORAGE (IF APPLICABLE)			
LAND APPLICATION			
APPROVAL OR PERMIT APPLIC. SUBMITTAL	PERMIT NOT REQUIRED FOR PROJECTS MEETING GUIDELINES PROJECTS MUST MEET DEPARTMENT CONDI-		LAND DISPOSAL PERMIT IS REQUIRED SUBMITTAL MUST INCLUDE: SITE MAPS, SOURCE OF SLUDGE,

PENNSYLVANIA  
|LAND APPLICATION

| TIONS  
|APPLIC SUBMITTAL:  
| SOIL MAPS, TOPO MAPS, SOURCE  
| OR SLUDGE, APPLIC RATES,  
| SLUDGE ANALYSIS

PENNSYLVANIA  
|GIVE-AWAY PROGRAM

PENNSYLVANIA  
|LAND RECLAMATION

| APPLIC RATE PER ACRE, TOTAL  
| AMOUNT TO BE APPLIED, DURATION  
| OF PROJECT, REVEG PLANS, APPLIC  
| METHOD, SLUDGE ANALYSIS

CRITERIA FOR USE  
DEGREE OF STABILIZATION

|MUST BE DIGESTED OR CHEMICALLY  
| STABILIZED (SEPTIC OR HOLDING  
| TANK SEWAGE WASTES EXEMPT)

	PENNSYLVANIA LAND APPLICATION	PENNSYLVANIA GIVE-AWAY PROGRAM	PENNSYLVANIA LAND RECLAMATION
SOIL SAMPLING PRE-APPLICATION			
POST-APPLICATION	SAMPLING RECOMMENDED AFTER 30 DRY TONS APPLIED		COMPLETE SOIL ANALYSIS REQUIRED AFTER FINAL APPLIC FOR LAND RECLAIMED FOR FARMING PURPOSES
WATER QUALITY MONITORING GROUND WATER			GW MONITORING PROGRAM MUST BE APPROVED BY DEPT
SURFACE WATER			
CROP MONITORING			
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED	G) DOES NOT INCLUDE SEPTIC OR HOLDING	MAX OF 1000 GAL/AC/YR UNLESS DEPT APPROVES	NOT TO EXCEED ONE INCH/WK UNLESS DEPT APPROVED;

	PENNSYLVANIA	PENNSYLVANIA	PENNSYLVANIA
	LAND APPLICATION	GIVE-AWAY PROGRAM	LAND RECLAMATION
(CEC IN MEQ/100G SOIL)			
ANNUAL OR CUMULATIVE			
	TANK WASTES		
NUTRIENTS	BASED ON CROP REQUIREMENTS		
N (ANNUAL)	IF DEEP, WELL-DRAINED SOILS, 100% OF N CROP UPTAKE; IF MODERATELY DEEP, MOD WELL-DRAINED, 75%		N IN EXCESS OF CROP REQUIREMENT ALLOWED; MAX APPLIC RATE OF 60 DRY T/AC ALLOWED
P			
METALS			
CD			
ANNUAL	1.12 KG/HA		
MAX CUMULATIVE	3.36 KG/HA		3.36 KG/HA
PB	ANNUAL: 22.42 KG/HA		112 KG/HA

	PENNSYLVANIA LAND APPLICATION	PENNSYLVANIA GIVE-AWAY PROGRAM	PENNSYLVANIA LAND RECLAMATION
			67 KG/HA IF RECLAIMED FOR FARMLAND
ZN	ANNUAL: 44.84 KG/HA		224 KG/HA
			135 KG/HA IF RECLAIMED FOR FARMLAND
CU	ANNUAL: 22.42 KG/HA		112 KG/HA
			67 KG/HA IF RECLAIMED FOR FARMLAND
CR	ANNUAL: 22.42 KG/HA		112 KG/HA
			67 KG/HA IF RECLAIMED FOR FARMLAND
NI	ANNUAL 4.48 KG/HA		22 KG/HA
			13 KG/HA IF RECLAIMED FOR FARMLAND
HG	ANNUAL: 0.22 KG/HA		0.56 KG/HA
			0.22 IF RECLAIMED FOR FARMLAND

**PENNSYLVANIA**

**LAND APPLICATION**

**ORGANICS**

**PCB**

**LAND USE RESTRICTIONS**

**CROPS**

**NOT TO BE APPLIED TO ROOT VEG.  
OR VEG THAT ARE NOT COOKED**

**GRAZING OR GREENCHOP**

**NO DAIRY CATTLE FOR 2 MOS.**

**PENNSYLVANIA**

**GIVE-AWAY PROGRAM**

**PENNSYLVANIA**

**LAND RECLAMATION**

**NO FOOD OR GRAINS FOR HUMANS OR  
ANIMALS. DISPOSAL OF ALL CROPS  
MUST BE APPROVED BY DEPT**

	PENNSYLVANIA LAND APPLICATION	PENNSYLVANIA GIVE-AWAY PROGRAM	PENNSYLVANIA LAND RECLAMATION
PUBLIC ACCESS			
PH OF SOIL	6.5 OR GREATER DURING OPERATION AND FOR 2 YRS AFTER APPLIC.		FIRST YEAR:6.0 SECOND YEAR:6.5 TWO YEARS AFTER APPLIC:6.5
SITING RESTRICTIONS			
SOIL CONDITIONS	MUST BE WITHIN USDA: SANDY LOAM, LOAM, SANDY CLAY LOAM, SILTY CLAY LOAM, AND SILT LOAM		
BUFFER REQUIREMENTS			
DIST TO PRIVATE WELL	300 FT		300 FT.
DIST TO PUBLIC WELL	300 FT		300 FT.
DIST TO RESIDENCE	300 FT		300 FT.

	PENNSYLVANIA LAND APPLICATION	PENNSYLVANIA GIVE-AWAY PROGRAM	PENNSYLVANIA LAND RECLAMATION
DIST TO OTHER BLOGS.			
DIST TO PROPERTY LINE	50 FT 25 FT TO BEDROCK OUTCROPS		50 FT. TO PROPERTY LINE 25 FT TO BEDROCK OUTCROP
GROUNDWATER PROTECTION			NOT TO POLLUTE GW
DEPTH TO HIGH GW	4 FT		
DEPTH TO BEDROCK	20 IN		
PERMEABILITY			
INFILTRATION			

	PENNSYLVANIA LAND APPLICATION	PENNSYLVANIA GIVE-AWAY PROGRAM	PENNSYLVANIA LAND RECLAMATION
SURFACE WATER PROTECTION			NOT TO POLLUTE SW
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NO IN AREAS SUBJ TO FLOODING		
DIST TO SURFACE WATER	100 FT TO STREAMS		100 FT TO STREAMS
DIST TO DRY RUN			
RUNOFF AND EROSION CONTROL	NOT ON SNOW, FROZEN OR SATURATED LAND; MUST BE INCORPORATED WITHIN 24 HRS UNLESS SPREAD ON CROPS NOT USED FOR PASTURE AND SLOPES < 20%, OR SPREAD ON NO-TILL CROP ON SLOPE OF < 15% AND RESIDUE OF PREVIOUS CROP REMAINS		NO TO BE APPLIED TO SATURATED, SNOW-COVERED, FROZEN GROUND; MUST BE INCORPORATED WITHIN 24 HRS UNLESS MINE SPOIL MATERIAL SUPPORTS SUBST GROWTH; FINAL COVER REQUIRED FOR APPLIC TO ACTIVE MINES OR COAL REFUSE PILES
MAXIMUM SLOPE LIMIT	20% IF SPREAD ON COVER CROPS NOT USED FOR PASTURE 15% IF SPREAD ON NO-TILL CROP AND RESIDUE OF PREVIOUS CROP REMAINS		< 15% IF INACTIVE MINE OR COAL REFUSE PILE; > 15% IF APPROVED BY DEPT

	PENNSYLVANIA LAND APPLICATION	PENNSYLVANIA GIVE-AWAY PROGRAM	PENNSYLVANIA LAND RECLAMATION
RECORDS	R FOR PROJECT APPLICANTS REQUIRING PERMITS, MUST MAINTAIN RECORDS OF QUANTITIES, DATES, AND LOCATIONS OF SLUDGE APPLIC.		
REPORTS	R DEPT MAY REQUEST COPIES OF RECORDS		
NOTIFICATIONS			
STORAGE	G WINTER GROUND STORAGE AT FARM IF NO MEANS AT TREATMENT PLANT, IF RUN-OFF PREVENTED, AND IF NO ODOR OR VECTOR, AND SLUDGE APPLIED IMMEDIATELY WHEN WEATHER PERMITS		TEMP STORAGE ALLOWED IF INCLEMENT WEATHER AND RUNOFF PREVENTED

FILE 1

PENNSYLVANIA  
| LAND APPLICATION  
|  
|

PENNSYLVANIA  
| GIVE-AWAY PROGRAM  
| |  
| |

PENNSYLVANIA  
| LAND RECLAMATION  
| |  
| |

|  
|  
|

TRANSPORTATION

UNCONTROLLED USE

DEDICATED SITES

Pennsylvania

FILE 1

PENNSYLVANIA  
|LAND APPLICATION  
|  
|

PENNSYLVANIA  
} GIVE-AWAY PROGRAM  
| |  
| |

PENNSYLVANIA  
| LAND RECLAMATION  
| |  
| |

|

COMMENTS

FILE 4.6

	RHODE ISLAND UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	RHODE ISLAND COMPOSTING	RHODE ISLAND LAND APPLICATION
SLUDGE CLASSIFICATION			
STATE CONTROL LAWS, TITLE & DATE	AUTHORITY: CH. 46-12, 42-17.1, 42-35, 23-18.9, 23-19.1 OF GENERAL LAWS OF R.I., 1956, AS AMENDED	AUTHORITY: CH. 46-12, 42-17.1, 42-35, 23-18.9, 23-19.1 OF GENERAL LAWS OF R.I.	AUTHORITY: CH. 46-12, 42-17.1, 42-35, 23-18.9, 23-19.1 OF GENERAL LAWS OF R.I., 1956, AS AMENDED
REGULATIONS, TITLE&DATE	REGULATIONS(9/85) SECTION 12. COMPOSTING SECTION 13. SUBMISSIONS FOR APPROVAL NOTE: ALL LISTED CRITERIA ARE CONTAINED IN REGULATIONS, EXCEPT WHERE NOTED	REGULATIONS(9/85) SECTION 12. COMPOSTING SECTION 13. SUBMISSIONS FOR APPROVAL NOTE: ALL LISTED CRITERIA ARE CONTAINED IN REGULATIONS, EXCEPT WHERE NOTED	REGULATIONS(9/85) SECTION 9. LAND APPLICATION SECTION 10. SUBMISSIONS FOR APPROVAL SECTION 11. LAND APPLICATION RATES NOTE: ALL LISTED CRITERIA ARE CONTAINED IN REGULATIONS, EXCEPT WHERE NOTED
GUIDELINES, TITLE&DATE			
CONTROLLING AGENCY	DEPT OF ENV. MGMNT. DIVISION OF WATER RESOURCES PROVIDENCE, RI (401) 277-2234	DEPT OF ENV. MGMNT. DIVISION OF WATER RESOURCES PROVIDENCE, RI (401) 277-2234	DEPT OF ENV. MGMNT. DIVISION OF WATER RESOURCES PROVIDENCE, RI (401) 277-2234

RHODE ISLAND  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

RHODE ISLAND  
COMPOSTING

RHODE ISLAND  
LAND APPLICATION

ACCEPTABILITY OF SLUDGE

PERMIT OR APPROVAL

APPLICATION SUBMITTALS

|  
|REGULATION ADDRESS OPERATION  
| OF COMPOSTING FACILITY AND  
| APPROVALS REQUIRED. THEY DO  
| NOT ADDRESS THE DISTRIBUTION OR  
| USE OF COMPOST  
|  
|  
|  
|  
|  
|  
|  
|  
|  
|  
|  
|

|SEE SITE-RELATED SUBMITTAL  
| REQ UNDER LA  
|  
|  
|  
|  
|  
|  
|  
|  
|  
|  
|

|POTW MUST OBTAIN AND OPERATE

| UNDER ORDER FOR APPROVAL  
|  
|  
|  
|  
|  
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|  
|  
|  
|  
|

|THE OWNER MUST SUBMIT A SLUDGE  
| DISTRIBUTION INFORMATION  
| SHEET  
| SEE SITE-SPECIFIC APPLIC REQ  
| UNDER LA  
|  
|  
|  
|  
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|

RHODE ISLAND  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

RHODE ISLAND  
COMPOSTING

RHODE ISLAND  
LAND APPLICATION

SLUDGE SAMPLING PARAMETERS

SLUDGE ANALYSIS: 1/YR FOR EP TOX.  
AS, BA, CD, CR, PB, HG, SE, AG,  
ENDRIN, LINDANE, METHOXYCHLOR,  
TOXAPHENE, 24D, 245TP

RHODE ISLAND  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

RHODE ISLAND  
COMPOSTING

RHODE ISLAND  
LAND APPLICATION

MAXIMUM SLUDGE CONSTITUENT C  
CONDUCTIVITY (SALT)  
NUTRIENTS (% BY DRY WEIGHT  
N  
P  
K  
METALS (MG/KG SLUDGE DRY  
WEIGHT)  
AS  
CD  
PB  
NI  
ZN  
CU  
CR  
HG  
MO  
B  
FE  
ORGANICS  
PCB

NO LIMIT

NO SLUDGE TO BE APPLIED THAT  
EXCEEDS R.I. TOXICITY LIMITS  
FOR METALS

15 OR 1% OF ZN LEVEL  
(RECOMMENDED)

500 (RECOMMENDED)

200 (RECOMMENDED)

2000 (RECOMMENDED)

1000 (RECOMMENDED)

5 (MANDATORY)

10 MG/KG (MANDATORY)

FILE 4.6

RHODE ISLAND  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

RHODE ISLAND  
COMPOSTING

RHODE ISLAND  
LAND APPLICATION

WATER

OTHER CONTAMINANTS

RECORDS

RESULTS OF THE SLUDGE ANALYSIS MUST BE  
ON FILE AT TIME OF APPLICATION

REPORTS

YEARLY SUBMITTAL OF SLUDGE  
ANALYSIS

NOTIFICATIONS



RHODE ISLAND  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

RHODE ISLAND  
COMPOSTING

RHODE ISLAND  
LAND APPLICATION

MUST CONFORM TO AIR POLLUTION  
LAWS

PROVISIONS FOR LIMITING ACCESS,  
SURFACE DRAINAGE CONTROL  
SLUDGE ANALYSIS

NOTIFICATION OF DIVISION OF  
CHANGES OR NON-COMPLIANCE

CRITERIA FOR USE  
DEGREE OF STABILIZATION

PROCESS TO REDUCE PATHOGENS

RHODE ISLAND  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

RHODE ISLAND  
COMPOSTING

RHODE ISLAND  
LAND APPLICATION

MONITORING  
SOIL

| SOIL ANALYSIS: CEC OR TOC, pH,  
| HEAVY METALS IF SITE PREVIOUSLY  
| RECEIVED SLUDGE

CROPS

SURFACE WATER

| MONITORING OF SURFACE WATER COURSES  
| REQUIRED

GROUNDWATER

| MONITORING MAY BE REQUIRED

**RHODE ISLAND  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)**

**RHODE ISLAND  
COMPOSTING**

**RHODE ISLAND  
LAND APPLICATION**

MAXIMUM SLUDGE LOADING LIMIT  
(CEC IN MEQ/100G SOIL)  
SLUDGE APPLICATION WILL BE L  
SLUDGE

10 T/AC DRY

NUTRIENTS  
N (ANNUAL)

FOUR TIMES CROP NEEDS

METALS  
CD  
ANNUAL

MAX. CUMULATIVE

(MAX. CUMULATIVE)  
1.1 KG/HA (1 LB/AC)  
IF CEC<5 OR SOC<1.6  
3.37 KG/HA (3 LB/AC)  
IF 5<CEC<15 OR 1.6<SOC<4.8  
5.62 KG/HA (5 LB/AC)  
IF CEC>15 OR SOC>4.8

RHODE ISLAND  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

RHODE ISLAND  
COMPOSTING

RHODE ISLAND  
LAND APPLICATION

PB

(MAX. CUMULATIVE)  
561 KG/HA IF CEC < 5 OR SOC < 1.6  
1123 KG/HA IF 5<CEC<15 OR 1.6<SOC<4.8  
2242 KG/HA IF CEC>15 OR SOC>4.8  
(500, 1000, 2000 LB/AC, RESP.)

ZN

(MAX. CUMULATIVE)  
281 KG/HA IF CEC<5 OR SOC<1.6  
561 KG/HA IF 5<CEC<15 OR 1.6<SOC<4.8  
1123 KG/HA IF CEC>15 OR SOC>4.8  
(250, 500, 1000 LB/AC, RESP.)

CU

(MAX. CUMULATIVE)  
140 KG/HA IF CEC<5 OR SOC<1.6  
281 KG/HA IF 5<CEC<15 OR 1.6<SOC<4.8  
562 KG/HA IF CEC>15 OR SOC>4.8  
(125, 250, 500 LB/AC, RESP.)

CR

NI

(MAX. CUMULATIVE)  
56.1 KG/HA IF CEC < 5 OR SOC < 1.6  
112 KG/HA IF 5<CEC<15 OR 1.6<SOC<4.8  
225 KG/HA IF CEC>15 OR SOC>4.8  
(50, 100, 200 LB/AC, RESP.)

HG

ORGANICS  
PCBS

RHODE ISLAND  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

RHODE ISLAND  
COMPOSTING

RHODE ISLAND  
LAND APPLICATION

LAND USE RESTRICTIONS

CROPS

NO POTW SLUDGE TO BE USED FOR  
GROWING CROPS FOR HUMAN  
CONSUMPTION

GRAZING OR GREENCHOP

NO GRAZING BY ANIMALS WHOSE PRODUCTS  
ARE CONSUMED BY HUMANS--1 MO

PUBLIC ACCESS

RESTRICTED FOR 12 MO

PH OF SOIL & SLUDGE  
OR PH OF SOIL

6.5 IF FOOD CHAIN CROPS ARE  
TO BE GROWN  
MAY BE LESS THAN 6.5 FOR NON-FOOD  
CHAIN CROPS IF TOTAL CUMULATIVE  
APPLIC. OF SLUDGE IS REDUCED BY 50%

SITING RESTRICTIONS  
SOIL CONDITIONS

BUFFER REQUIREMENTS  
DIST. TO PRIVATE WELL

1000 FT

DIST. TO PUBLIC WELL

NOT WITHIN RECHARGE AREA

RHODE ISLAND UNCONTROLLED DISTRIBUTION (NOT ADDRESSED)	RHODE ISLAND COMPOSTING	RHODE ISLAND LAND APPLICATION
DIST TO RESIDENCE		400 FT TO ANY BUILDING NOT ASSOCIATED WITH OPERATION
DIST TO OTHER BUILDINGS		
DIST TO PROPERTY LINE		
GROUND WATER PROTECTION		MONITORING MAY BE REQUIRED
DEPTH TO HIGH GW		1.5 FT
DEPTH TO BEDROCK PERMEABILITY INFILTRATION		
SURFACE WATER PROTECTION		SURFACE WATER COURSES MUST BE MONITORED
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING		
DIST TO SURFACE WATER		200 FT TO WATER OR WETLAND NO APPLICATION TO WATERSHED OF PUBLIC WATER SUPPLY
DIST. TO DRY RUN		
RUNOFF AND EROSION CONTROL		NO APPLICATION TO SNOWY OR FROZEN GROUND UNLESS EROSION AND RUNOFF CONTROL MEASURES ARE PROVIDED

RHODE ISLAND  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

RHODE ISLAND  
COMPOSTING

RHODE ISLAND  
LAND APPLICATION

MAXIMUM SLOPE LIMIT

IF SLOPE > 3%, OR IF POSSIBILITY  
OF EROS OR RUNOFF, SHALL BE  
DESIGNED SO THAT ANNUAL SOIL LOSS  
IS LESS THAN 3 T/AC

RECORDS

REPORTS

NOTIFICATIONS

RHODE ISLAND  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

RHODE ISLAND  
COMPOSTING

RHODE ISLAND  
LAND APPLICATION

STORAGE

PROTECTED BY DIRECT RAINFALL BY A ROOF

TRANSPORTATION

PROPERLY SEALED, WATERTIGHT AND  
COVERED

UNCONTROLLED USE

RHODE ISLAND  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

RHODE ISLAND  
COMPOSTING

RHODE ISLAND  
LAND APPLICATION

DEDICATED SITES

COMMENTS



	SOUTH CAROLINA	
	LAND APPLICATION OF SLUDGE	
SLUDGE CLASSIFICATION	GROUP 1	
	(GROUP 1 IS FOR DEDICATED LAND	
	APPLICATION)	
STATE CONTROL		
LAWS, TITLE & DATE	SOUTH CAROLINA WATER POLLUTION	
	CONTROL ACT, TITLE I, 1971	
	AS AMENDED	
REGS, TITLE & DATE		
GUIDELINES, TITLE & DATE	GUIDANCE MANUAL FOR LAND APPLICATION	
	OF SLUDGE, DRAFT.	
	1/16/86	
CONTROLLING AGENCY	SOUTH CAROLINA DEPT OF HEALTH	
	AND ENVIRONMENTAL CONTROL	
	DOMESTIC WASTEWATER DIVISION	
	COLUMBIA, SC 29201	
	803/758/5067	
ACCEPTABILITY OF SLUDGE		
PERMIT OR APPROVAL		
APPLIC. SUBMITTAL		

SOUTH CAROLINA

LAND APPLICATION OF SLUDGE

SLUDGE SAMPLING PARAMETERS

SLUDGE ANALYSIS: %TOTAL AND VOL  
SOLIDS, N,P,K,pH,PB,CD,CU,  
NI,ZN,ORGANIC COMPOUNDS IF REQUIRED,  
NH4-N,NO3-N,  
FREQUENCY OF SAMPLING DEPENDS  
UPON VARIABILITY OF SLUDGE  
ONCE PER YR EP TOXICITY TEST

	SOUTH CAROLINA	
	LAND APPLICATION OF SLUDGE	
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS		
CONDUCTIVITY (SALT)		
NUTRIENTS (% BY DRY WEIGHT)		
N		
P		
K		
METALS (MG/KG SLUDGE DRY WEIGHT)		
AS		
CD		
PB		
NI		
ZN		

FILE 1

SOUTH CAROLINA  
LAND APPLICATION OF SLUDGE

CU

CR

HG

MO

B

FE

ORGANICS

PCB

WATER

OTHER CONTAMINANTS

RECORDS

South Carolina

SOUTH CAROLINA  
LAND APPLICATION OF SLUDGE

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION

APPROVAL OR PERMIT  
APPLIC. SUBMITTAL

SOUTH CAROLINA  
LAND APPLICATION OF SLUDGE

CRITERIA FOR USE  
DEGREE OF STABILIZATION

PSRP IF CROPS NOT FOR DIRECT  
HUMAN CONSUMPTION  
PFRP IF CROPS FOR DIRECT HUMAN  
CONSUMPTION WITHIN 18 MOS (UNLESS  
NO CONTACT BETWEEN SLUDGE AND  
EDIBLE PORTION OF CROP)

SOUTH CAROLINA  
LAND APPLICATION OF SLUDGE

SOIL SAMPLING  
PRE-APPLICATION

POST-APPLICATION

pH AND LIME: 1/YR  
CEC AND METALS: 1/5 YRS  
NUTRIENTS: 1/YR

WATER QUALITY MONITORING  
GROUND WATER

MAY BE REQUIRED

SURFACE WATER

CROP MONITORING

MAXIMUM SLUDGE LOADING LIMIT  
KG/HA UNLESS OTHERWISE NOTED

SOUTH CAROLINA	
LAND APPLICATION OF SLUDGE	
(CEC IN MEQ/100G SOIL)	
ANNUAL OR CUMULATIVE	
NUTRIENTS	
N (ANNUAL)	MAX OF CROP UPTAKE
P	448 KG/HA
METALS	
CD	
ANNUAL	UNTIL 12/86: 1.25 KG/HA AFTER 1/87: 0.5 KG/HA FOR FRUITS AND VEG, MAX .5 KG/HA
MAX CUMULATIVE	IF CEC<5: 5 KG/HA IF 5<CEC<15: 10 KG/HA IF CEC>15: 20 KG/HA
	ANNUAL APPLIC OF FOLLOWING SHOULD BE LIMITED TO 10% OF CUM LIMITS:
PB	IF CEC<5: 560 KG/HA



SOUTH CAROLINA

LAND APPLICATION OF SLUDGE

ORGANICS

PCB

LAND USE RESTRICTIONS

CROPS

NO CROPS FOR DAIRY CATTLE OR HUMANS  
FOR 1 YR

GRAZING OR GREENCHOP

NO LACTATING DAIRY ANIMALS FOR  
1 YR

SOUTH CAROLINA

	LAND APPLICATION OF SLUDGE	
	IF PSRP, NO GRAZING BY ANIMALS	
	WHOSE PRODUCTS ARE FOR HUMAN CON-	
	SUMPTION FOR ONE MO	
PUBLIC ACCESS	IF PSRP, NO HUMAN ACCESS FOR 12 MOS	
PH OF SOIL	MUST BE 6.0 OR > IN PLOW LAYER	
	(MEASURED ON SALT SOLUTION TEST)	
	MUST BE 6.5 OR > WHEN MEASURED IN	
	DISTILLED WATER	
SITING RESTRICTIONS		
SOIL CONDITIONS	SHOULD BE HIGH IN CLAY AND ORGANIC	
	MATTER AND HAVE HIGH CEC	
BUFFER REQUIREMENTS		
DIST TO PRIVATE WELL	100 FT	
DIST TO PUBLIC WELL	100 FT	
DIST TO RESIDENCE	500 FT	

SOUTH CAROLINA  
LAND APPLICATION OF SLUDGE

DIST TO OTHER BLDGS.

DIST TO PROPERTY LINE

100 FT  
100 FT TO ROAD

GROUNDWATER PROTECTION

DEPTH TO HIGH GW

SHOULD BE DETERMINED

DEPTH TO BEDROCK

SHOULD BE DETERMINED

PERMEABILITY

INFILTRATION

SOUTH CAROLINA	
LAND APPLICATION OF SLUDGE	
SURFACE WATER PROTECTION	
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT IN AREAS SUBJ TO FREQUENT FLOODING OR IN 10 YR FLOODPLAIN
DIST TO SURFACE WATER	150-300 FT IF POND, LAKE, WELL, OPEN SINKHOLE, LOSING OR SWIMMING STREAM; 50-150 FT IF PERM FLOWING STREAM
DIST TO DRY RUN	25-50 FT IF WET WEATHER STREAM
RUNOFF AND EROSION CONTROL	NOT WHEN RAIN IS EXPECTED;USE VEG BUFFER STRIP;NOT ON SATURATED OR FROZEN GROUND
MAXIMUM SLOPE LIMIT	< 8% IF NOT INCORP 9%-12% IF INCORP



SOUTH CAROLINA

LAND APPLICATION OF SLUDGE

TRANSPORTATION

UNCONTROLLED USE

DEDICATED SITES

GROUP I SLUDGE IS FOR DEDICATED SITES.  
ONLY TO BE USED AS LAST RESORT.  
SLUDGE MONITOR SAME AS FOR GROUP II  
SW AND GW MUST BE MONITORED  
TWO TIMES CROP NITROGEN UPTAKE  
ALLOWED  
CUM AMT OF HEAVY METALS SAME AS FOR  
GROUP II

FILE 1

SOUTH CAROLINA  
|LAND APPLICATION OF SLUDGE

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COMMENTS

	TENNESSEE	TENNESSEE	TENNESSEE
	LAND APPLICATION	APPLICATION TO DEDICATED SITES	GIVE-AWAY PROGRAM
SLUDGE CLASSIFICATION			
STATE CONTROL			
LAWS, TITLE & DATE	SOLID WASTE DISPOSAL ACT   TITLE 68, CHP 31, 1969   AS AMENDED	SOLID WASTE DISPOSAL ACT   TITLE 68, CHP 31, 1969,   AS AMENDED	SOLID WASTE DISPOSAL ACT   TITLE 68, CHP 31, 1969,   AS AMENDED
REGS, TITLE & DATE			
GUIDELINES, TITLE & DATE	GUIDELINES FOR LAND APPLICATION   OF SLUDGE (3/23/83)	GUIDELINES FOR LAND APPLICATION   OF SLUDGE (3/23/83)	GUIDELINES FOR LAND APPLICATION   OF SLUDGE, 3/23/83
CONTROLLING AGENCY	TENNESSEE DEPT OF PUBLIC HEALTH   DIVISION OF SOLID WASTE MANAGEMENT   NASHVILLE, TENNESSEE   (615/742/6649)	TENNESSEE DEPT OF PUBLIC HEALTH   DIVISION OF SOLID WASTE MANAGEMENT   NASHVILLE, TENNESSEE   (615/742/6649)	TENNESSEE DEPARTMENT OF HEALTH AND   ENVIRONMENT, DIVISION OF SOLID WASTE   MANAGEMENT   NASHVILLE, TENNESSEE   615/742/6649

	TENNESSEE	TENNESSEE	TENNESSEE
	LAND APPLICATION	APPLICATION TO DEDICATED SITES	GIVE-AWAY PROGRAM
ACCEPTABILITY OF SLUDGE			
PERMIT OR APPROVAL APPLIC. SUBMITTAL	APPROVAL ON A CASE BY CASE BASIS NO OFFICIAL PERMIT GRANTED; TO GET APPROVAL GENERATOR MUST SUBMIT: SLUDGE GENERATION RATE, SLUDGE ANALYSIS, EXTENT OF INDUSTRIAL PRE-TREATMENT PROGRAM, SLUDGE STABILIZ. METHOD SLUDGE STORAGE CAPABILITIES		APPROVAL ON CASE BY CASE BASIS NO OFFICIAL PERMIT REQUIRED GENERATOR MUST PROVIDE: SLUDGE EXTENT OF INDUSTRIAL PRE-TREAT PROGRAM, SLUDGE STABILIZ. METHOD, SLUDGE STORAGE CAPABILITIES, SLUDGE MONITOR- ING PROGRAM
SLUDGE SAMPLING PARAMETERS	SLUDGE ANALYSIS: pH, % TOTAL SOLIDS, % VOL. SOLIDS, TOTAL N, NO3-N, NO2-N, NH3-N, ORGANIC N, PH, K, CU, ZN, PB, NI, CR, CD		MIN. INITIAL SLUDGE ANALYSIS: pH, % TOTAL SOLIDS, % VOLATILE SOLIDS, TOTAL N, NO3-N & NO2-N, NH3-N, ORGANIC N, PH, K CU, ZN, PB, NI, CR, CD

	TENNESSEE	TENNESSEE	TENNESSEE
	LAND APPLICATION	APPLICATION TO DEDICATED SITES	GIVE-AWAY PROGRAM
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS	CONSTIT. LEVELS ARE BASED ON CONTAMINANT LEVELS FOR HAZ WASTE SET BY EPA		
CONDUCTIVITY (SALT)	SPEC STDS NOT ADDRESSED		
NUTRIENTS (% BY DRY WEIGHT)			
N			
P			
K			
METALS (MG/KG SLUDGE DRY WEIGHT)			
AS			
CD			

FILE 1

	TENNESSEE   LAND APPLICATION	TENNESSEE   APPLICATION TO DEDICATED SITES	TENNESSEE   GIVE-AWAY PROGRAM	
PB				
NI				
ZN				
CU				
CR				
HG				
MO				
B				
FE				
ORGANICS				
PCB				

Tennessee

	TENNESSEE LAND APPLICATION	TENNESSEE APPLICATION TO DEDICATED SITES	TENNESSEE GIVE-AWAY PROGRAM	
WATER				
OTHER CONTAMINANTS				
RECORDS	ANNUAL REPORT MUST INCLUDE ANNUAL SLUDGE ANALYSIS <1 MGD:1/YR >1 MGD:2/YR			
REPORTS	ANNUAL REPORT TO DIVISION		SLUDGE MONITORING DATA	
NOTIFICATIONS				

	TENNESSEE	TENNESSEE	TENNESSEE
	LAND APPLICATION	APPLICATION TO DEDICATED SITES	GIVE-AWAY PROGRAM
STORAGE (IF APPLICABLE)	GENERATOR SHOULD INDICATE MAX STORAGE TIME IN DAYS. IF OFF-SITE STORAGE NECESSARY, GENERATOR MUST PROVIDE PLANS		GENERATOR SHOULD INDICATE IF STORAGE AVAILABLE, AND MAX STORAGE IN DAYS
LAND APPLICATION			
APPROVAL OR PERMIT APPLIC. SUBMITTAL	APPROVAL ON A CASE BY CASE BASIS NO OFFICIAL PERMIT GRANTED; TO GET APPROVAL, GENERATOR MUST SUBMIT: SLUDGE ACCEPTABILITY CRITERIA, LAND APPLICATION METHOD, PRELIM. SITE INFO SITE APPROVAL(INCLUDING SITE INSPECTION,AND PRELIM SOIL INFO. UNLESS ONLY DRIED SLUDGE T BE SPREAD, SITES <5 TONS/AC/YR, AND TOTAL AREA <10 ACRES), ON-SITE MONITORING(INCLUDING	APPROVAL FOR APPLICATION OF SLUDGE TO A DEDICATED SITE WOULD INVOLVE STRICT SITE APPROVAL BY DIVISION	SITE APPROVAL REQUIREMENTS ARE NOT NECESSARY WHEN GENERATOR MEETS ALL OF FOLLOWING: DRIED OR DEWATERED SLUDGE IS LANDSPREAD, SITES RECEIVE 5 TONS/AC/YR OR LESS, AND SITES ARE EQUAL TO OR LESS THAN 10 AC



	TENNESSEE	TENNESSEE	TENNESSEE
	LAND APPLICATION	APPLICATION TO DEDICATED SITES	GIVE-AWAY PROGRAM
POST-APPLICATION	ANNUALLY: pH MUST BE $\geq 6.5$ EVERY 3 YEARS: pH, P, K, CU, PB, CD, ZI, NI, OTHER PARAMETERS AS DEEMED NECESSARY		EXEMPT
WATER QUALITY MONITORING GROUND WATER	MAY BE REQUIRED	WOULD BE REQUIRED	EXEMPT
SURFACE WATER	MAY BE REQUIRED	WOULD BE REQUIRED	
CROP MONITORING			
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED (CEC IN MEQ/100G SOIL)	APPROX 5-10 TONS DRY/AC/YR		

	TENNESSEE	TENNESSEE	TENNESSEE
	LAND APPLICATION	APPLICATION TO DEDICATED SITES	GIVE-AWAY PROGRAM
ANNUAL OR CUMULATIVE		RATES WOULD BE HIGHER THAN	
NUTRIENTS		ALLOWED UNDER LAND APPLIC.	
N (ANNUAL)	AGRONOMIC CALCS. DONE TO DETERMINE CROP NEEDS		AGRONOMIC CALCS MUST BE DONE TO FIND CROP N REQUIREMENT
P	MUST BE <448 KG/HA		MUST BE <448 KG/HA
METALS			
CD	UNTIL 12/86:1.26 KG/HA (1.12 LB/AC)		UNTIL 12/86:1.26 KG/HA (1.12 LB/AC)
ANNUAL	AFTER 1/87:.50 KG/HA (.45 LB/AC)		AFTER 1/87:.50 KG/HA (.45 LB/AC)
MAX CUMULATIVE	IF CEC<5:5 KG/HA IF 5<CEC<15:10 KG/HA IF CEC>15:20 KG/HA		IF CEC<5:5 KG/HA IF 5<CEC<15:10 KG/HA IF CEC>15:20 KG/HA

	TENNESSEE   LAND APPLICATION	TENNESSEE   APPLICATION TO DEDICATED SITES	TENNESSEE   GIVE-AWAY PROGRAM
PB	IF CEC<5:499 KG/HA   IF 5<CEC<15:,999 KG/HA   IF CEC>15:1998 KG/HA 	     	IF CEC<5:499 KG/HA   IF 5<CEC<15:999 KG/HA   IF CEC>15:1998 KG/HA 
ZN	IF CEC<5:250 KG/HA   IF 5<CEC<15:500 KG/HA   IF CEC>15:999 KG/HA 	     	IF CEC<5:250 KG/HA   IF 5<CEC<15:500 KG/HA   IF CEC>15:999 KG/HA 
CU	IF CEC<5:124 KG/HA   IF 5<CEC<15:250 KG/HA   IF CEC>15:500 KG/HA 	     	IF CEC<5:124 KG/HA   IF 5<CEC<15:250 KG/HA   IF CEC>15:500 KG/HA 
CR	 	 	 
NI	IF CEC<5:50 KG/HA		IF CEC<5:50 KG/HA

	TENNESSEE	TENNESSEE	TENNESSEE
	LAND APPLICATION	APPLICATION TO DEDICATED SITES	GIVE-AWAY PROGRAM
	IF 5<CEC<15:100 KG/HA		IF 5<CEC<15:100 KG/HA
	IF CEC >15:200 KG/HA		IF CEC >15:200 KG/HA
HG			
ORGANICS			
PCB			
LAND USE RESTRICTIONS			
CROPS	NO TOBACCO, LEAFY VEGETABLES, OR ROOT CROPS. NO RAW CROPS (EXCEPT ORCHARD) FOR 1 YR. NO SLUDGE FOR 2 WKS BEFORE OR AFTER PLANTING		NO TOBACCO, LEAFY VEGETABLES, OR ROOT CROPS. NO RAW CROPS (EXCEPT ORCHARD) FOR 1 YR. NO SLUDGE FOR 2 WKS BEFORE OR AFTER PLANTING

	TENNESSEE LAND APPLICATION	TENNESSEE APPLICATION TO DEDICATED SITES	TENNESSEE GIVE-AWAY PROGRAM
GRAZING OR GREENCHOP	NO SLUDGE ON GRASS BLADES WHEN GRAZING.NO LACTATING ANIMALS FOR HUMAN CONSUMPTION FOR 6-12 MOS. SPECIAL RECOMMENDATIONS FOR TALL FESCUE, ORCHARDGRASS, AND BERMUDAGRASS		NO SLUDGE ON GRASS BLADES WHEN GRAZING.NO LACTATING ANIMALS FOR HUMAN CONSUMPTION FOR 6-12 MOS. SPECIAL RECOMMENDATIONS FOR TALL FESCUE, ORCHARDGRASS, AND BERMUDAGRASS
PUBLIC ACCESS			
PH OF SOIL	EQUAL OR > 6.5		EQUAL OR > 6.5
SITING RESTRICTIONS			
SOIL CONDITIONS	SHOULD BE DEEP,AND CONTAIN MUCH CLAY AND ORGANIC MATTER. HIGH CEC		SHOULD BE DEEP,AND CONTAIN MUCH CLAY AND ORGANIC MATTER. HIGH CEC

FILE 1

	TENNESSEE LAND APPLICATION	TENNESSEE APPLICATION TO DEDICATED SITES	TENNESSEE GIVE-AWAY PROGRAM
BUFFER REQUIREMENTS			
DIST TO PRIVATE WELL	500 FT.		500 FT.
DIST TO PUBLIC WELL	1000 FT		1000 FT
DIST TO RESIDENCE	IF INCORP , INJECTED, OR LANDSPREAD 250 FT. IF SPRAYED,TANK TRUCKED, OR RIDGED, 500 FT		IF INCORP , INJECTED, OR LANDSPREAD, 250 FT. IF SPRAYED,TANK TRUCKED, OR RIDGED, 500 FT
DIST TO OTHER BLDGS.	AS ABOVE		AS ABOVE
DIST TO PROPERTY LINE	IF INCORPORATED, INJECTED,RIDGED, ROADWAY IF SPRAYED, 200 FT TO ROADWAY		IF INCORPORATED, INJECTED,RIDGED, ROADWAY IF SPRAYED, 200 FT TO ROADWAY

FILE 1

	TENNESSEE LAND APPLICATION	TENNESSEE APPLICATION TO DEDICATED SITES	TENNESSEE GIVE-AWAY PROGRAM
GROUNDWATER PROTECTION			
DEPTH TO HIGH GW	4 FT		4 FT
DEPTH TO BEDROCK			
PERMEABILITY			
INFILTRATION			
SURFACE WATER PROTECTION			
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT IN 10 YR. FLOODPLAIN		NOT IN 10 YR. FLOODPLAIN
DIST TO SURFACE WATER	IF INCORPORATED OR INJECTED 100 FT		IF INCORPORATED OR INJECTED 100 FT

Tennessee

	TENNESSEE	TENNESSEE	TENNESSEE
	LAND APPLICATION	APPLICATION TO DEDICATED SITES	GIVE-AWAY PROGRAM
	IF RIDGED, LANDSPREAD, OR TANK		IF RIDGED, LANDSPREAD, OR TANK
	TRUCKED, 200 FT.		TRUCKED, 200 FT.
	IF SPRAYED, 500 FT.		IF SPRAYED, 500 FT.
DIST TO DRY RUN			
RUNOFF AND EROSION CONTROL	SHOULD INCORPORATE INTO SOIL; AVOID		
	APPLICATION DURING RAINFALL, WHEN		
	GROUND IS SATURATED OR WHEN		
	GROUND IS FROZEN		
MAXIMUM SLOPE LIMIT	<8% UNLESS INCORPORATED;		
	UP TO 12% IF INCORPORATED		
RECORDS	SLUDGE MONITORING DATA,		
	ON-SITE MONITORING DATA,		
	SLUDGE APPLICATION DATA,		
	ANNUALLY		

	TENNESSEE	TENNESSEE	TENNESSEE
	LAND APPLICATION	APPLICATION TO DEDICATED SITES	GIVE-AWAY PROGRAM
REPORTS	AS ABOVE FOR RECORDS		ANNUAL REPORT FROM GENERATOR INCLUDING SLUDGE MONITORING DATA, AND VOLUMES OF SLUDGE ISSUED
NOTIFICATIONS			
STORAGE	NEED, TYPE AND SIZE DECIDED ON A CASE BY CASE BASIS. IF REQUIRED, MUST CONSIDER SITE CONDITIONS AND FACILITY OPERATION, MUST NOT BE IN 100 YEAR FLOODPLAIN, MUST BE AT LEAST 1/4 MILE FROM OCCUP. RESIDENCES, AND MUST HAVE MAX. SEEPAGE LOSS OF <500 GAL/AC/DAY		NEED AND DESIGN DECIDED ON A CASE BY CASE BASIS

FILE 1

TENNESSEE	TENNESSEE	TENNESSEE	
LAND APPLICATION	APPLICATION TO DEDICATED SITES	GIVE-AWAY PROGRAM	

TRANSPORTATION

UNCONTROLLED USE

SITE APPROVAL REQUIREMENTS NEED  
NOT BE MET IF DRIED SLUDGE  
IS LANDSPREAD, IF SITES RECEIVE  
<5 TONS/AC/YR, AND IF SITES <10 AC  
(DOES NOT APPLY TO INDUSTRIAL  
SLUDGE GENERATORS)

DEDICATED SITES

Tennessee

FILE 1

TENNESSEE  
| LAND APPLICATION  
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TENNESSEE  
| APPLICATION TO DEDICATED SITES  
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TENNESSEE  
| GIVE-AWAY PROGRAM  
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COMMENTS

	TEXAS LAND APPLICATION WHERE SLUDGE PRODUCER OPERATES SITE	TEXAS UNCONTROLLED DISTRIBUTION	TEXAS CONTROLLED DISTRIBUTION
SLUDGE CLASSIFICATION		  CONTROLLED DISTRIBUTION OR  UNCONTROLLED DISTRIBUTION 	  CONTROLLED DISTRIBUTION OR  UNCONTROLLED DISTRIBUTION 
STATE CONTROL LAWS, TITLE & DATE	SOLID WASTE DISPOSAL ACT ARTICLE 4477-7	  SOLID WASTE DISPOSAL ACT  ARTICLE 4477-7 	  SOLID WASTE DISPOSAL ACT  ARTICLE 4477-7 
REGULATIONS, TITLE&DATE	MUNICIPAL SOLID WST MGMNT REGS & AMENDMENTS (8/25/85) TEXAS ADMINISTRATIVE CODE CH 325 325.461-465 LAND APP FOR BENEFICIAL USE NOTE: ALL LISTED CRITERIA ARE CONTAINED IN REGULATIONS	  MUNICIPAL SOLID WST MGMNT REGS   & AMENDMENTS (8/25/85)  TEXAS ADMINISTRATIVE CODE CH 325  325.511-504 MARKETING & DIST ...  325.511-514 PROCESSING OF SLUDGE...  NOTE: ALL LISTED CRITERIA ARE  CONTAINED IN REGULATIONS 	  MUNICIPAL SOLID WST MGMNT REGS   & AMENDMENTS (8/25/85)  TEXAS ADMINISTRATIVE CODE CH 325  325.511-504 MARKETING & DIST ...  325.511-514 PROCESSING OF SLUDGE...  NOTE: ALL LISTED CRITERIA ARE  CONTAINED IN REGULATIONS 
GUIDELINES, TITLE&DATE		   	   
CONTROLLING AGENCY	DEPT OF HLTH,B OF SOL.WST.MGMNT AUSTIN, TEXAS (512) 458-7271	  DEPT OF HLTH,B OF SOL.WST.MGMNT  AUSTIN, TEXAS  (512) 458-7271 	  DEPT OF HLTH,B OF SOL.WST.MGMNT  AUSTIN, TEXAS  (512) 458-7271 

TEXAS  
LAND APPLICATION  
WHERE SLUDGE PRODUCER OPERATES SITE

TEXAS UNCONTROLLED  
DISTRIBUTION

TEXAS  
CONTROLLED DISTRIBUTION

ACCEPTABILITY OF SLUDGE

PERMIT OR APPROVAL

APPROVAL OF SLUDGE

APPROVAL OF SLUDGE

APPROVAL OF SLUDGE

APPLICATION SUBMITTALS SEE SUBMITTALS UNDER L.A.

TEXAS  
LAND APPLICATION  
WHERE SLUDGE PRODUCER OPERATES SITE

TEXAS UNCONTROLLED  
DISTRIBUTION

TEXAS  
CONTROLLED DISTRIBUTION

SLUDGE SAMPLING PARAMETERS SLUDGE ANALYSIS 2/YR UNLESS  
WAIVED: N, NH3, NO3, P, K, CD, PB,  
ZN, CU, NI, PCB

SLUDGE ANALYSIS

TEXAS  
 LAND APPLICATION  
 WHERE SLUDGE PRODUCER OPERATES SITE

TEXAS UNCONTROLLED  
 DISTRIBUTION

TEXAS  
 CONTROLLED DISTRIBUTION

MAXIMUM SLUDGE CONSTITUENT C  
 CONDUCTIVITY (SALT)  
 NUTRIENTS (% BY DRY WEIGHT)  
 N  
 P  
 K  
 METALS (MG/KG SLUDGE DRY  
 WEIGHT)  
 AS  
 CD  
 PB 1000  
 NI  
 ZN  
 CU  
 CR  
 HG  
 MO  
 B  
 FE  
 ORGANICS  
 PCB

Constituent	TEXAS UNCONTROLLED DISTRIBUTION	TEXAS CONTROLLED DISTRIBUTION
AS		
CD	25	50
PB	500	1000
NI	200	
ZN	2000	
CU	1000	
CR		
HG		
MO		
B		
FE		
ORGANICS		
PCB	2 PPM	10 PPM

	TEXAS LAND APPLICATION WHERE SLUDGE PRODUCER OPERATES SITE	TEXAS UNCONTROLLED DISTRIBUTION	TEXAS CONTROLLED DISTRIBUTION
WATER		65% FOR COMMERCIAL USERS	
OTHER CONTAMINANTS		10% FOR HOME & GARDEN USERS	
RECORDS	MAINTAIN 3 YRS SOIL TESTS, PH LAND IDENTIFICATION AGREEMENTS, WAIVERS, ETC. SLUDGE ANALYSIS	OPERATIONAL DATA ON REDUCING   PATHOGENS.   SLUDGE ANALYSIS   EXCEPTIONS OR WAIVERS   PERSONS RECEIVING MORE THAN 1 T   AT ONE TIME   MAINTAIN RECORDS 1 YEAR	
REPORTS		REQUIRED PERIODICLY   STATE MAY REQUIRE PERIODIC   REPORTS	REQUIRED PERIODICLY
NOTIFICATIONS	POTW MUST NOTIFY OWNER OF	INSTRUCTIONS TO USER:	

TEXAS  
LAND APPLICATION  
WHERE SLUDGE PRODUCER OPERATES SITE

TEXAS UNCONTROLLED  
DISTRIBUTION

TEXAS  
CONTROLLED DISTRIBUTION

REASONS TO RESTRICT APPLICATION  
SUBMIT SLUDGE ANALYSIS  
LAND OWNER MAY REQUEST STATE TO  
REQUIRE PERMIT  
OWNER MUST REQUIRE OPERATOR TO  
PROVIDE DOCUMENTATION OF REQUIRMENTS,

| IDENTIFY AS SEWAGE SLUDGE  
| RECOMMENDED USE  
| USERS MUST BE NOTIFIED OF:  
| IDENTIFICATION AS SLUDGE PRODUCT  
| PRODUCT COMPLIES WITH TEXAS DOH  
| RECOMMENDED USES AND RESTRICTIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION  
APPROVAL OR PERMIT

REGISTRATION OF SITE AS TYPE VII  
WITH DEPT.  
EXEMPT FROM PERMITTING UNLESS  
REQUESTED BY LAND OWNER

APPLICATION SUBMITTALS    OBTAIN SITE ANALYSIS

TEXAS  
LAND APPLICATION  
WHERE SLUDGE PRODUCER OPERATES SITE

TEXAS UNCONTROLLED  
DISTRIBUTION

TEXAS  
CONTROLLED DISTRIBUTION

CRITERIA FOR USE                      LIMITATIONS, AND RESTRICTIONS  
DEGREE OF STABILIZATION            PROCESS TO SIGNIFICANTLY  
   REDUCE OR FURTHER REDUCE  
   PATHOGENS ACCORDING TO

PROCESS TO FURTHER REDUCE  
PATHOGENS OR STORE 6 MO IN  
SEMI-DRY CONDITIONS AFTER

PROCESS TO SIGNIFICANTLY  
REDUCE OR FURTHER REDUCE  
PATHOGENS

	TEXAS LAND APPLICATION WHERE SLUDGE PRODUCER OPERATES SITE	TEXAS UNCONTROLLED DISTRIBUTION	TEXAS CONTROLLED DISTRIBUTION
	40 CFR 257	STABILIZATION	MAY BE STORED 6 MO IN SEMI-DRY CONDITIONS
MONITORING SOIL	SOIL TESTS, pH		
CROPS			
SURFACE WATER	GW & SW MON. MAY BE REQUIRED		
GROUNDWATER	GW & SW MON. MAY BE REQUIRED		

TEXAS  
LAND APPLICATION  
WHERE SLUDGE PRODUCER OPERATES SITE

TEXAS UNCONTROLLED  
DISTRIBUTION

TEXAS  
CONTROLLED DISTRIBUTION

MAXIMUM SLUDGE LOADING LIMIT  
(CEC IN MEQ/100G SOIL)  
SLUDGE APPLICATION WILL BE L

SLUDGE 12,500 GAL/AC/APPL. LIQUID  
8 T/AC/YR DRY UNLESS APPROVED

NUTRIENTS  
N (ANNUAL)

CROP NEEDS

METALS  
CD  
ANNUAL

MUST BE LABELLED  
WITH SLUDGE APP. RATE SO THAT:  
CD: .28 KG/HA (.25 LB/AC) PER APP.

.56 KG/HA (.5 LB/AC) PER APPLICATION

MAX. CUMULATIVE

TEXAS  
LAND APPLICATION  
WHERE SLUDGE PRODUCER OPERATES SITE

TEXAS UNCONTROLLED  
DISTRIBUTION

TEXAS  
CONTROLLED DISTRIBUTION

PB  
(MAX. CUMULATIVE)  
786 KG/HA (700 LB/AC)

MUST BE LABELLED  
WITH SLUDGE APP. RATE SO THAT:  
PB: 9 KG/HA (8 LB/AC) PER APP.

16 LB/AC/APPL.

ZN

CU

CR

NI

HG

ORGANICS  
PCBS

	TEXAS LAND APPLICATION WHERE SLUDGE PRODUCER OPERATES SITE	TEXAS UNCONTROLLED DISTRIBUTION	TEXAS CONTROLLED DISTRIBUTION
LAND USE RESTRICTIONS		INSTRUCTIONS FOR USE:	INSTRUCTIONS FOR USE:
CROPS	NO CROPS FOR DIRECT HUMAN CONSUMPTION WHERE EDIBLE PART CONTACTS SLUDGE WITHIN 18 MO	MUST BE LABELLED AS NOT FOR FOOD CHAIN CROPS IF ANY CONCENTRATION LIMITS ARE EXCEEDED	NOT FOR FOOD FOR HUMAN CONSUMPTION
GRAZING OR GREENCHOP	NO GRAZING BY ANIMALS WHOSE PRODUCTS ARE CONSUMED BY HUMANS--1 MO.		NO GRAZING FOR: DAIRY--12 MO OTHER FOOD CHAIN ANIMALS--1 MO
PUBLIC ACCESS	NO PUBLIC ACCESS--12 MO		NO PUBLIC ACCESS FOR 12 MO UNLESS TREATED WITH PROCESS TO FURTHER REDUCE PATHOGENS
PH OF SOIL & SLUDGE OR PH OF SOIL	SOIL PH GREATER THAN OR EQUAL TO 6.5 AT TIME OF APPLICATION		
SITING RESTRICTIONS SOIL CONDITIONS			
BUFFER REQUIREMENTS			
DIST. TO PRIVATE WELL	300 FT		
DIST. TO PUBLIC WELL	500 FT		

FILE 4.6

	TEXAS LAND APPLICATION WHERE SLUDGE PRODUCER OPERATES SITE	TEXAS UNCONTROLLED DISTRIBUTION	TEXAS CONTROLLED DISTRIBUTION
DIST TO RESIDENCE	300 TO RESIDENCE OR RIGHT OF WAY		
DIST TO OTHER BUILDINGS	1000 FT TO SCHOOLS, INSTITUTIONS,		
DIST TO PROPERTY LINE			
GROUND WATER PROTECTION	APPLY SO AS TO AVOID CONTAMINATION 200 FT MIN DIST TO SOLUTION CHANNELS, SINKHOLES, OR CONDUITS TO GW MONITORING MAY BE REQUIRED		
DEPTH TO HIGH GW	3 FT FOR PERMEABILITY < 2 IN/HR 4 FT FOR PERMEABILITY 2-6 IN/HR		
DEPTH TO BEDROCK PERMEABILITY INFILTRATION	2 FT OF PERMEABLE SOILS LESS THAN 6 IN/HR UNLESS APPROVED		
SURFACE WATER PROTECTION			
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NO APPLICATION IN 100 YR FLOODPLAIN		
DIST TO SURFACE WATER	200 FT		
DIST. TO DRY RUN			
RUNOFF AND EROSION CONTROL	RUNOFF BEYOND AREA TO BE PREVENTED SLUDGE TO BE APPLIED UNIFORMLY MUST BE INCORPORATED WITHIN 48 HOURS IF UNVEGETATED NO TRACKING ONTO ROADWAYS		

TEXAS  
LAND APPLICATION  
WHERE SLUDGE PRODUCER OPERATES SITE

TEXAS UNCONTROLLED  
DISTRIBUTION

TEXAS  
CONTROLLED DISTRIBUTION

NO APPLICATION DURING RAIN OR ON  
SATURATED SOILS  
NO APPLICATION ON FROZEN SOIL UNLESS  
INCORPORATED

MAXIMUM SLOPE LIMIT

9% UNLESS INCORPORATED  
RUNOFF FROM 10 YR 1 HR RAINFALL  
CONTROLLED UNLESS INCORPORATED

RECORDS

REPORTS

NOTIFICATIONS

TEXAS LAND APPLICATION WHERE SLUDGE PRODUCER OPERATES SITE	TEXAS UNCONTROLLED DISTRIBUTION	TEXAS CONTROLLED DISTRIBUTION
STORAGE	>180 DAYS PERMIT NEEDED UNLESS APPROVED BUFFER REQUIREMENTS FROM DWELLINGS, FENCED, PROTECTION OF GW, MIN. VECTORS, PERMIT TO DISCHARGE INTO SURFACE WATER, ODORS	
TRANSPORTATION	REGISTRATION OF TRANSPORTERS (EXCEPT FOR SLUDGES USED FOR MARKETING AND DISTRIBUTION) VEHICLE MUST BE MARKED AND PROPERLY ID, CONSTRUCTED TO PREVENT LEAKS, HEALTH NUISANCES AND SAFTY HAZARDS ODORS, RECORDS	
UNCONTROLLED USE		

TEXAS  
LAND APPLICATION  
WHERE SLUDGE PRODUCER OPERATES SITE

TEXAS UNCONTROLLED  
DISTRIBUTION

TEXAS  
CONTROLLED DISTRIBUTION

DEDICATED SITES

COMMENTS

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FILE 2.6

	UTAH  LAND APPLICATION  UNCONTROLLED	
SLUDGE CLASSIFICATION		
STATE CONTROL		
LAWS, TITLE & DATE	UTAH WATER POLLUTION CONTROL ACT  TITLE 26, CHAPTER 11  UTAH CODE ANNOTATED, 1953  AMENDED 1981.26-11-6.	
REGS, TITLE & DATE	UTAH WASTEWATER DISPOSAL REGULATIONS  UTAH STATE DIVISION OF HEALTH  PART I. 5/18/65  REVISED 11/1/78;12/1/82;8/9/84	
GUIDELINES, TITLE & DATE		
CONTROLLING AGENCY	UTAH BUREAU OF WATER POLLUTION  CONTROL  DEPARTMENT OF HEALTH  SALT LAKE CITY, UTAH 84110  801/533/6146	

Utah



UTAH  
LAND APPLICATION  
UNCONTROLLED

MAXIMUM SLUDGE CONSTITUENT  
CONCENTRATIONS

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (MG/KG SLUDGE DRY WEIGHT)

AS

CD

PB

UTAH  
LAND APPLICATION  
UNCONTROLLED

NI

ZN

CU

CR

HG

MO

B

FE

ORGANICS

PCB

WATER

OTHER CONTAMINANTS

RECORDS

UTAH  
LAND APPLICATION  
UNCONTROLLED

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION

Utah



UTAH  
LAND APPLICATION  
UNCONTROLLED

POST-APPLICATION

WATER QUALITY MONITORING  
GROUND WATER

SURFACE WATER

CROP MONITORING

MAXIMUM SLUDGE LOADING LIMIT  
KG/HA UNLESS OTHERWISE NOTED  
(CEC IN MEQ/100G SOIL)  
ANNUAL OR CUMULATIVE

NUTRIENTS  
N (ANNUAL)

UTAH  
LAND APPLICATION  
UNCONTROLLED

PH

METALS

CD  
ANNUAL

MAX CUMULATIVE

PB

UTAH  
LAND APPLICATION  
UNCONTROLLED

ZN

CU

CR

NI

HG

	UTAH LAND APPLICATION UNCONTROLLED
ORGANICS	
PCB	
LAND USE RESTRICTIONS	
CROPS	AIR-DRIED OR VACUUM FILTER DRIED SLUDGE CAN NOT BE USED ON ROOT CROPS OR OTHER LOW CROPS PRODUCED HEAT TREATED SLUDGE IS SAFE FOR USE UNDER ALL CONDITIONS
GRAZING OR GREENCHOP	

UTAH  
LAND APPLICATION  
UNCONTROLLED

PUBLIC ACCESS

PH OF SOIL

SITING RESTRICTIONS

SOIL CONDITIONS

BUFFER REQUIREMENTS

DIST TO PRIVATE WELL

DIST TO PUBLIC WELL

DIST TO RESIDENCE

UTAH  
LAND APPLICATION  
UNCONTROLLED

DIST TO OTHER BLDGS.

DIST TO PROPERTY LINE

GROUNDWATER PROTECTION

DEPTH TO HIGH GW

DEPTH TO BEDROCK

PERMEABILITY

INFILTRATION

SURFACE WATER PROTECTION

	UTAH	
	LAND APPLICATION	
	UNCONTROLLED	
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING		
DIST TO SURFACE WATER		
DIST TO DRY RUN		
RUNOFF AND EROSION CONTROL		
MAXIMUM SLOPE LIMIT		
RECORDS		

{UTAH  
{LAND APPLICATION  
{UNCONTROLLED

REPORTS

NOTIFICATIONS

STORAGE

TRANSPORTATION

UTAH  
LAND APPLICATION  
UNCONTROLLED

UNCONTROLLED USE

STATE IS IN PROCESS OF DEVELOPING  
MORE SPECIFIC GUIDELINES FOR THE  
USE AND DISTRIBUTION OF COMPOST

DEDICATED SITES

NOT ADDRESSED

FILE 2.6

COMMENTS

	UTAH	
	LAND APPLICATION	
	UNCONTROLLED	
	STATE IS IN THE PROCESS OF DEVELOPING	
	GUIDELINES FOR THE LAND APPLICATION	
	OF SLUDGE. CURRENTLY, THEY REVIEW	
	ON A CASE BY CASE BASIS, AND USE	
	EPA GUIDELINES	

VERMONT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

VERMONT  
LAND APPLICATION

SLUDGE CLASSIFICATION

STATE CONTROL  
LAWS, TITLE & DATE

REGULATIONS, TITLE&DATE

ENVIRONMENTAL PROTECTION REGULATIONS  
CH. 7 SPECIAL WASTE MANAGEMENT  
VT SOLID WASTE RULES: SUBCH. 5  
TREATMENT & DISPOSAL FACILITIES...

|ENVIRONMENTAL PROTECTION REGULATIONS  
|CH. 7 SPECIAL WASTE MANAGEMENT  
|VT SOLID WASTE RULES: SUBCH. 5  
|TREATMENT & DISPOSAL FACILITIES...  
|

GUIDELINES, TITLE&DATE

GUIDELINES FOR TRTMNT & UTIL...  
10/84, DRAFT VERSION  
NOTE: ALL LISTED CRITERIA ARE  
CONTAINED IN GUIDELINES

|GUIDELINES FOR TRTMNT & UTIL. OR  
|OF SEWAGE SLUDGE (10/84) DRAFT  
|NOTE: ALL LISTED CRITERIA ARE  
|CONTAINED IN GUIDELINES  
|

CONTROLLING AGENCY

VT AGENCY OF ENV. CONTROL  
EXPECTS DEV. COMP&MKT REGS 2 YR  
SOLID WASTE PROGRAM  
MONTPELIER, VT

|VT AGENCY OF ENV. CONSERVATION, SOLID  
|WASTE PROGRAM, DEPT. OF WATER RESOURCES|  
|AND ENVIR. ENGINEERING. EXPECTS DEV. |  
|COMP&MKT REGS 2 YR SOLID WASTE PROGRAM |







VERMONT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

VERMONT  
LAND APPLICATION

WATER

OTHER CONTAMINANTS

RECORDS

REPORTS

NOTIFICATIONS

| THROUGH AGREEMENT, POTW AGREES |





VERMONT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

VERMONT  
LAND APPLICATION

MONITORING

SOIL

| AFTER L.A., SOIL ANAL 1/YR: pH (MAY REQ |  
| AVAIL. N AND ORGANIC MATTER) |  
| SOIL AND PLANT ANAL. FOR METALS |  
| ON LONG TERM SITES: 2-3/YR |  
| BEFORE LAND APPLIC, pH, K, MG, P |

CROPS

| SOIL AND PLANT ANAL. FOR METALS |  
| ON LONG TERM SITES: 2-3/YR |

SURFACE WATER

GROUNDWATER

| GW MON. MAY BE REQ. FOR LA >3YR |  
| 2/YR; TEST FOR PH, CONDUCT., CL, |  
| NO3, METALS |  
| MONITOR BEFORE AND AFTER L.A. |

VERMONT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

VERMONT  
LAND APPLICATION

MAXIMUM SLUDGE LOADING LIMIT  
(CEC IN MEQ/100G SOIL)  
SLUDGE APPLICATION WILL BE L  
SLUDGE

NUTRIENTS  
N (ANNUAL)

METALS  
CD  
ANNUAL

MAX. CUMULATIVE

CROP REQUIREMENT BASE ON AVAIL  
INORGANIC AND ORG N

0.5 KG/HA (0.45 LB/AC) ON LAND USED FOR  
LEAFY VEG., TOBACCO OR ROOT CROPS FOR  
HUMAN CONS. FOR ALL OTHER FOOD GRAIN  
CROPS: TIL 12/86-1.25 KG/HA (1.1  
LB/AC) AFTER 1/87 0.5 KG/HA (.45 LB/AC)  
5.62 KG/HA (5 LB/AC) FOR LOAMY SAND,  
SANDY LOAM  
11.2 KG/HA (10 LB/AC) FOR  
FINE SANDY LOAM, LOAM, SILT LOAM  
22.5 KG/HA (20 LB/AC) FOR CLAY LOAM,  
SILTY CLAY, CLAY

FILE 4.6

VERMONT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

VERMONT  
LAND APPLICATION

PB

|  
|(MAX. CUMU.)  
|200 KG/HA (178 LB/AC) FOR LS, SL  
|400 KG/HA (356 LB/AC) FOR FSL, L, SiL  
|800 KG/HA (712 LB/AC) FOR CL,SiC,C  
|

ZN

|  
|(MAX. CUMU.)  
|281 KG/HA (250 LB/AC) FOR LS, SL  
|562 KG/HA (500 LB/AC) FOR FSL, L, SiL  
|1123 KG/HA (1000 LB/AC) FOR CL,SiC,C  
|

CU

|  
|(MAX. CUMU.)  
|140 KG/HA (125 LB/AC) FOR LS, SL  
|281 KG/HA (250 LB/AC) FOR FSL, L, SiL  
|562 KG/HA (500 LB/AC) FOR CL,SiC,C  
|

CR

|  
|(MAX. CUMU.)  
|140 KG/HA (125 LB/AC) FOR LS, SL  
|281 KG/HA (250 LB/AC) FOR FSL, L, SiL  
|562 KG/HA (500 LB/AC) FOR CL,SiC,C  
|

NI

|  
|(MAX. CUMU.)  
|56.2 KG/HA (50 LB/AC) FOR LS, SL  
|112 KG/HA (100 LB/AC) FOR FSL, L, SiL  
|224 KG/HA (200 LB/AC) FOR CL,SiC,C  
|

HG

|  
|(MAX. CUMU.)  
|5.6 KG/HA (5 LB/AC) FOR LS, SL  
|11.2 KG/HA (10 LB/AC) FOR FSL, L, SiL  
|22.5 KG/HA (20 LB/AC) FOR CL,SiC,C  
|

ORGANICS  
PCBS

|C-CLAY, LS-LOAMY SAND, SL-SANDY LOAM,  
|FSL-FINE SANDY LOAM, L-LOAM, SiL-SILT  
|LOAM, CL-CLAY LOAM, SC-SILTY CLAY  
|

VERMONT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

VERMONT  
LAND APPLICATION

LAND USE RESTRICTIONS

CROPS

| RECOMMEND 5 WEEKS BET. APPL.  
| AND HARVEST  
| NO CROPS FOR DIRECT HUMAN  
| CONSUMPTION FOR 3 YRS  
|

GRAZING OR GREENCHOP

| NO GRAZING--6 MO AFTER APP.  
| NO HAY FED--4 MO  
| 5 WEEKS BETWEEN SLUDGE SPREADING &  
| HARVEST  
|

PUBLIC ACCESS

| NO PUBLIC ACCESS--12 MO  
|

PH OF SOIL & SLUDGE  
OR PH OF SOIL

| MAINTAIN AT 6.5-8.0 WHEN  
| RECEIVING SLUDGE  
|

SITING RESTRICTIONS  
SOIL CONDITIONS

BUFFER REQUIREMENTS  
DIST. TO PRIVATE WELL

| 300 FT  
|

DIST. TO PUBLIC WELL

| 300 FT  
|

VERMONT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

VERMONT  
LAND APPLICATION

DIST TO RESIDENCE	300 FT TO DWELLING OR PUBLIC BUILDING
DIST TO OTHER BUILDINGS	
DIST TO PROPERTY LINE	
GROUND WATER PROTECTION	
DEPTH TO HIGH GW	3 FT IF PERM < 6 IN/HR  > 3 FT IF PERM > 6 IN/HR
DEPTH TO BEDROCK	3 FT TO BEDR. OR IMPERM. LAYER
PERMEABILITY	< 6 IN/HR
INFILTRATION	
SURFACE WATER PROTECTION	SEPTAGE MUST BE INCORPORATED
WETLANDS OR AREAS	
SUBJECT TO PONDING OR FLOODING	SLUDGE MUST BE INCORP WITHIN  48 HRS IN FLOODPLAIN
DIST TO SURFACE WATER	100 FT  LA NOT PERMITTED IN CLASS A  WATERSHED
DIST. TO DRY RUN	
RUNOFF AND EROSION CONTROL	NO LA ON FROZEN OR SNOW COVERED  GROUND UNLESS APPROVED IN  EMERGENCY  INCORPORATE WITHIN 48 HR AFTER  APP. INTO TOP 7-8 IN

VERMONT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

VERMONT  
LAND APPLICATION

MAXIMUM SLOPE LIMIT

5% FOR SURFACE APP  
15% IF INCORPORATED

RECORDS

RECORDS OF SLUDGE QUANTITY AND  
LOCATION APPLIED TO MUST  
BE KEPT

REPORTS

NOTIFICATIONS

VERMONT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

VERMONT  
LAND APPLICATION

STORAGE

|>15% SOLIDS OUTSIDE 100 YEAR FLOODPLAIN|  
|AREA 2X AMOUNT NECESSARY,|  
|12" HIGH, WATER TIGHT BERM NECESSARY|  
|200'-SURFACE WATER, 600'-WELL OR SPRING|  
|4'-SEAS OR HIGH WATER TABLE,|  
|300'-PROPERTY LINE|

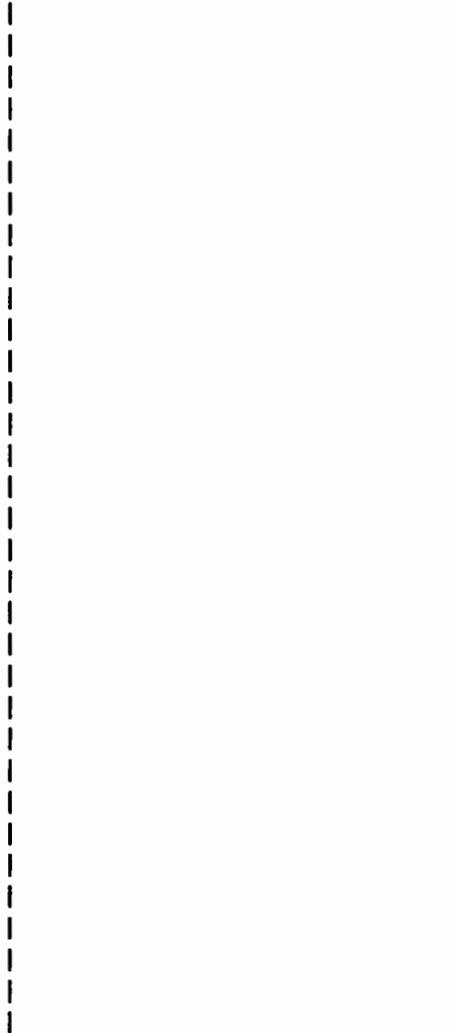
TRANSPORTATION

UNCONTROLLED USE

VERMONT  
UNCONTROLLED DISTRIBUTION  
(NOT ADDRESSED)

VERMONT  
LAND APPLICATION

DEDICATED SITES



COMMENTS

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
SLUDGE CLASSIFICATION			
STATE CONTROL			
LAWS, TITLE & DATE	VIRGINIA WATER POLLUTION CONTROL LAW, TITLE 62.1, CHP 3.1, 1950 AS AMENDED	STATE WATER POLLUTION CONTROL LAW, TITLE 62.1, CHP 3.1, 1950 AS AMENDED	VIRGINIA WATER POLLUTION CONTROL LAW, TITLE 62.1, CHP 3.1 1950 AS AMENDED
REGS, TITLE & DATE	SLUDGE USE AND DISPOSAL 25.07.06D AND APPENDICES DRAFT REVISIONS, 10/85	SLUDGE USE AND DISPOSAL 25.07 AND APPENDICES DRAFT VERSION, 10/85	SLUDGE USE AND DISPOSAL 25.07.06C RECLAMATION OF DISTURBED LAND DRAFT 10/85
GUIDELINES, TITLE & DATE			
CONTROLLING AGENCY	VIRGINIA STATE BOARD OF HEALTH VIRGINIA WATER CONTROL BOARD RICHMOND, VIRGINIA 23230 804/786/1757	STATE WATER CONTROL BOARD VIRGINIA BOARD OF HEALTH RICHMOND, VA 23230 804/786/1757	VIRGINIA WATER CONTROL BOARD VIRGINIA BOARD OF HEALTH RICHMOND, VIRGINIA 23230 804/786/1757

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
ACCEPTABILITY OF SLUDGE	SLUDGE MUST COME FROM PERMITTED PROCESSING FACILITY	ANYONE WHO TREATS, STORES, OR HANDLES SLUDGE MUST SUBMIT MGNT PLAN	
PERMIT OR APPROVAL APPLIC. SUBMITTAL	APPLIC FOR PERMIT MUST INCLUDE PRELIM ENGINEERING REPORT	MIN INFO REQUIRED FOR LAND APPLICATION PROJECTS IS LISTED BELOW UNDER LAND APPLIC	SLUDGE MANAGEMENT PLAN IS REQUIRED AND SHOULD BE PREPARED WITH SOIL CONSERVATION SERVICE
		(GENERATOR MUST HAVE SLUDGE PROCESSING FACILITY PERMIT UNLESS FACILITY IS PART OF APPROVED NPDES PERMIT) MGNT PLAN MUST ADDRESS USE AND OR DISPOSAL, MUST BE IN ACCORDANCE WITH APPROPRIATE STATE PERMIT/CERTIF AND CONFORM WITH LOCAL LAW	AND DIVISION OF MINED LAND RECLAMATION
SLUDGE SAMPLING PARAMETERS		SAMPLING MUST PRECEDE APPLICATION: SOURCE, TYPE, % SOLIDS, ORG. MATTER, pH, TOTAL KJELDAHL N, AMMONIA N, NITRATES, P, K, CACO3, CD CU, PB, NI, ZN, CD/ZN RATIO, PCBS, OTHER AS REQ FREQUENCY: < 0.040 MGD: BI-ANNUALLY > 0.040 AND <0.1 MGD: 1/YR > 0.1 AND <1.0 MGD: 2/YR	

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
		> 1.0 AND < 10.0 MGD: 4/YR > 10 MGD: 12/YR	
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS	NOT SPECIFIED	NOT SPECIFIED	
CONDUCTIVITY (SALT)			
NUTRIENTS (% BY DRY WEIGHT)			
N			
P			
K			
METALS (MG/KG SLUDGE DRY WEIGHT)			
AS			
CD			
PB			

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
NI			
ZN			
CU			
CR			
HG			
MO			
B			
FE			
ORGANICS			
PCB			
WATER			
OTHER CONTAMINANTS			
RECORDS	GENERATOR OR DISTRIBUTOR MUST KEEP RECORDS OF DISTRIB TO SINGLE USER IN BULK AMTS >100 CY MONTHLY	ADEQUATE RECORDS ON SLUDGE COMPOSITION MAINTAINED BY OWNER	

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
REPORTS	RECORDS MUST INCLUDE NAME AND ADDRESS OF USER AND INTENDED USE AND QUANTITY RECORDS MUST IDENTIFY REPEAT USERS RECORDS ON PROCESSING: SLUDGE SAMPLING DATES AND RESULTS MUST BE KEPT FOR 3 YRS		
NOTIFICATIONS	MUST PROVIDE LABEL OR BROCHURE SHOWING SLUDGE ANAL, NOT FOR VEGET GARDENS, ACCEPTABLE APPLIC RATES, AND LAND USE AND BUFFER CONDITIONS		
STORAGE (IF APPLICABLE)			
LAND APPLICATION			SITE REQUIREMENTS ARE PART OF MGNT

APPROVAL OR PERMIT APPLIC. SUBMITTAL	<p>VIRGINIA DISTRIBUTION AND MARKETING</p> <p>IF USE &gt;100 CY/MO ( INCLUDES COMPOST), MUST OBTAIN BULK USE PERMIT UNLESS SITE SPECIFIC PERMIT OBTAINED AS PART OF SLUDGE MGNT PLAN BULK USE PERMIT: MUST PROVIDE DISTRIBUTION INFORMATION SHEET SHOWING SLUDGE TEST RESULTS, APPLIC RATES, LAND USE CONDITIONS, BUFFER REQUIREMENTS</p> <p>IF SPREAD ON AREA &gt;10 AC, OWNER MUST GET SITE SPECIFIC PERMIT</p> <p>REPEAT USERS MUST GET APPROVAL FOR THOSE USES</p>	<p>VIRGINIA LAND APPLICATION</p> <p>ANYONE WHO TREATS, HANDLES, OR STORES SLUDGE MUST SUBMIT MANAGEMENT PLAN MIN REQUIRED INFO FOR LAND APPLIC PROJECTS: GENERAL INFOR, WASTE CHARAC, SITE EVAL, MONITORING SPECS, SITE DESIGN, FIELD OPERATION (INCLUDING STORAGE, APPLIC METHOD, BUFFERS, TRANSP) WRITTEN SITE MGNT AGREEMENT BETWN LANDOWNER AND HANDLER IS REQ</p>	<p>VIRGINIA LAND RECLAMATION</p> <p>PLAN. SITE SUITABILITY REGS ARE GENERALLY SAME AS FOR LAND APPLIC</p>
CRITERIA FOR USE DEGREE OF STABILIZATION	<p>PFRP</p>	<p>PSRP</p>	
SOIL SAMPLING PRE-APPLICATION		<p>REQUIRED, SEE PARAMETERS BELOW</p>	

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
POST-APPLICATION		FREQUENCY VARIES. PARAMETERS: % ORG MATTER, pH, CEC, TOTAL N, ORG N, AMMONIA N, P, K(AVAIL AND EXCH), EXCH NA, EXCH CA, EXCH MG, SAR, CU,ZN, NI, CD, PB, CR, MANGANESE, CONDUCTIVITY, ALKALINITY	
WATER QUALITY MONITORING GROUND WATER		MAY BE REQUIRED:KJELDAHL N, AMMONIA N, NITRATE N, P, NA, B, CU,PB,CD,NI,CR,AN,PH,COLIF,BOD	
SURFACE WATER		MAY BE REQUIRED:FECAL COLIF, P,KJELDAHL N,DO,BOD,TEMP,PH,SS	
CROP MONITORING		MAY BE REQUIRED AT HEAVY LOADING SITES: NITRATE, N, P, K,CA, MANGANESE,MAGNESIUM,FE,CU,ZN	
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED (CEC IN MEQ/100G SOIL) ANNUAL OR CUMULATIVE	VOL AND WEIGHT PER SQ AREA ARE RECOMMENDED BY OWNER. SURF APPLIC RESTRICTED TO AVG 1 IN THICKNESS	APPLIC RATES DECIDED ON CASE BY CASE BASIS. MAX 15 DRY T/AC/YR CCE MUST BE CONTROLLED	RATES DECIDED ON CASE BY CASE BASIS LIMITED BY MOST RESTRICTIVE CUM METALS OR ANNUAL CD
NUTRIENTS N (ANNUAL)		DEPENDS UPON CROP INTAKE SEE APPENDIX K	

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
PH			
METALS		ANNUAL: 10% OF MAX CUM LOADING RATE OR MAX CCE LOADING RATE	
CD ANNUAL		0.5 KG/HA	
MAX CUMULATIVE		5.0 FOR ALL CEC BECAUSE VA SOILS ARE ACIDIC	
PB		IF CEC < 5: 560 KG/HA IF 5<CEC<15: 1120 KG/HA IF CEC>15: 2240 KG/HA	

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
ZN		IF CEC<5: 280 KG/HA IF 5<CEC<15: 560 KG/HA IF CEC>15: 1120 KG/HA	
CU		IF CEC<5: 140 KG/HA IF 5<CEC<15: 280 KG/HA IF CEC>15: 560 KG/HA	
CR			
NI		IF CEC<5: 140 KG/HA IF 5<CEC<15: 280 KG/HA IF CEC>15: 560 KG/HA	
HG			

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
ORGANICS			
PCB			
LAND USE RESTRICTIONS			
CROPS	NOT TO HOME VEG GARDENS	NO CROPS FOR DIRECT HUMAN CONSUMPTION FOR 18 MOS NO ROOT CROPS OR CROPS INTENDED FOR HUMAN CONSUMPTION IN RAW FORM	SEED WITH GRASS AND LEGUMES
GRAZING OR GREENCHOP		30 DAYS FOR BEEF CATTLE 60 DAYS FOR DAIRY CATTLE	

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
PUBLIC ACCESS	ACCESS CONTROLLED DURING SPREADING AVOID DIRECT CONTACT WITH SLUDGE	12 MOS	
PH OF SOIL		pH = OR > 6.5 AT APPLIC IF CD = OR > 2 MG/HA OTHERWISE ADJUST TO 6.2 AT APPLIC	FIRST YR: 6.0 SUBSEQUENT YRS: 6.5
SITING RESTRICTIONS			
SOIL CONDITIONS		GOOD TILTH AND DRAINAGE, MOD TO HIGH INFILTRATION, MOD TO SLOW PERMEAB	
BUFFER REQUIREMENTS			
DIST TO PRIVATE WELL	100 FT UNLESS OWNER CONSENTS	200 FT	
DIST TO PUBLIC WELL	200 FT	200 FT	
DIST TO RESIDENCE			

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
DIST TO OTHER BLDGS.			
DIST TO PROPERTY LINE		200 FT (100 FT IF SUBSURF APPLIC) 25 FT TO IMPROVED ROAD 25 FT TO ROCK OUTCROP	
GROUNDWATER PROTECTION			
DEPTH TO HIGH GW		18 IN TO OBSERVED WATER TABLE	
DEPTH TO BEDROCK		18 IN	
PERMEABILITY	NOT IN POORLY DRAINED SOILS	MOD TO SLOW	
INFILTRATION		MOD TO HIGH	
SURFACE WATER PROTECTION			

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	NOT IN 25 YR FLOODPLAIN UNLESS IMMEDIATELY INCORP.	IMMEDIATELY INCORP IF IN 25 YR FLOODPLAIN	
DIST TO SURFACE WATER	NOT IN AREAS OF SEASONAL PONDING	50 FT 25 FT IF SUBSURFACE APPLIC	
DIST TO DRY RUN		25 FT 12.5 FT IF SUBSURF APPLIC	
RUNOFF AND EROSION CONTROL	INCORP WITHIN 48 HRS IF NO VEGETATION COVER	CLIP PASTURE AND HAY FILED TO < 4 IN PLANT CROP < 30 DAYS	
MAXIMUM SLOPE LIMIT	<8%	<12% UNLESS INCORP WITHIN 48 HRS, OR ADEQUATE CROP RESIDUE	
RECORDS		RECORDS INCLUDE: SLUDGE COMPOSITION, SLUDGE APPLIC RATE, AND METHOD OF APPLIC	

	VIRGINIA DISTRIBUTION AND MARKETING	VIRGINIA LAND APPLICATION	VIRGINIA LAND RECLAMATION
REPORTS		ABOVE RECORDS TO HEALTH DEPT MONTHLY	
NOTIFICATIONS			
STORAGE		TEMP STORAGE IF < 30 DAYS ROUTINE STORAGE MUST BE PROVIDED IF NO ALTERNATIVE FOR DISPOSAL DURING NONAPPLIC PERIODS LOCATION: MIN VISIBILITY, PROTECTED BY BUFFER, NOT IN FLOOD AREA, YEAR RND ACCESS, IN CONFORMANCE WITH ZONING	
TRANSPORTATION		NO TRANSPORT THROUGH HEAVILY	

VIRGINIA  
DISTRIBUTION AND MARKETING

VIRGINIA  
LAND APPLICATION

VIRGINIA  
LAND RECLAMATION

UNCONTROLLED USE

POPULATED AREAS, VEHICLES MUST BE  
WATERTIGHT

SEE SEPARATE VIRGINIA  
DISTRIBUTION PROGRAM

DEDICATED SITES

COMMENTS

VIRGINIA  
DISTRIBUTION AND MARKETING

VIRGINIA  
LAND APPLICATION

VIRGINIA  
LAND RECLAMATION

STATE EMPHASIZES THAT THESE  
REGS ARE DRAFT ONLY

FILE 2.6

	WASHINGTON
	LAND APPLICATION
SLUDGE CLASSIFICATION	
STATE CONTROL	
LAWS, TITLE & DATE	SOLID WASTE MANAGEMENT RECOVERY AND RECYCLING CHAPTER 70.95, 1969. AMENDED 1975, 1976, 1984
REGS, TITLE & DATE	REGS RELATING TO MINIMUM FUNCTIONAL STDS FOR SOLID WASTE HANDLING CHAPTER 173-301 WAC10/26/72
GUIDELINES, TITLE & DATE	MUNICIPAL AND DOMESTIC SLUDGE UTILIZ GUIDELINES WDOE 82-11 10/82
CONTROLLING AGENCY	DEPT OF ECOLOGY SOLID WASTE SECTION OLYMPIA, WA 98504 206/459/6291

Washington



	WASHINGTON LAND APPLICATION
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS	NOT SPECIFIED OTHER THAN CD
CONDUCTIVITY (SALT)	
NUTRIENTS (% BY DRY WEIGHT)	
N	
P	
K	
METALS (MG/KG SLUDGE DRY WEIGHT)	
AS	
CD	2MG/KG IF NO pH CONTROL
PB	

WASHINGTON  
LAND APPLICATION

NI

ZN

CU

CR

HG

MO

B

FE

ORGANICS

PCB

10 MG/KG

WATER

OTHER CONTAMINANTS

RECORDS

	WASHINGTON
	LAND APPLICATION
REPORTS	
NOTIFICATIONS	
STORAGE (IF APPLICABLE)	RESPONSIBILITY OF OWNER OF PROP WHERE SLUDGE IS LOCATED MUST PROTECT GW, MONITORING NECESS MUST CONTROL SITE ACCESS
LAND APPLICATION	

	WASHINGTON	
	LAND APPLICATION	
APPROVAL OR PERMIT	G   JURISDICTIONAL HEALTH DEPT ISSUES	
APPLIC. SUBMITTAL	R   PERMIT. SUBMITTAL INCLUDES:	
	SLUDGE CHARAC, SOIL CHARAC,	
	HYDROLOGY-GEOLOGY, SITE MAP,	
	CROPS, PUBLIC ACCESS, APPLIC	
	RATES AND METHODS, MONITORING	
	PROGRAM, AND MANAGEMENT AND	
	ADMINISTRATION	
	THIS IS ALL PART OF SITE DESIGN	
	AND OPERATION PLAN	
CRITERIA FOR USE	G   DIGESTED	
DEGREE OF STABILIZATION	IF NOT DIGESTED, MUST BE APPROVED BY	
	JURIS HEALTH DEPT PRIOR TO USE	
	IF HUMAN FOOD CROPS: PSRP	
	PFRP IF ROOT CROPS OR LEAFY	
	VEG WITHIN 18 MOS	
SOIL SAMPLING	G   TEXTURE, STRUCTURE, PERMEABILITY,	
PRE-APPLICATION	CEC, PH, AND BKGD HEAVY METALS	

	WASHINGTON	
	LAND APPLICATION	
POST-APPLICATION		
WATER QUALITY MONITORING		
GROUND WATER		
SURFACE WATER		
CROP MONITORING	G	MAY BE REQUIRED
MAXIMUM SLUDGE LOADING LIMIT	G	
KG/HA UNLESS OTHERWISE NOTED		
(CEC IN MEQ/100G SOIL)		
ANNUAL OR CUMULATIVE		
NUTRIENTS		
N (ANNUAL)		NOT TO EXCEED N REQUIREMENT OF CROPS

	WASHINGTON LAND APPLICATION
PH	
METALS	
CD ANNUAL	IF SOIL pH > 6.5: 0.5 KG/HA FOR FOOD CHAIN CROPS IF ANIMAL FEED, pH AT 6.5 , AND PROTECTION AGST CROP BEING DIRECT HUMAN FOOD SOURCE, AND WRITTEN INTO DEED, NO CD LIMIT
MAX CUMULATIVE	IF SOIL pH > 6.5: 20 KG/HA FOR FOOD CHAIN CROPS
PB	

WASHINGTON  
LAND APPLICATION

ZN

CU

CR

NI

HG

	WASHINGTON LAND APPLICATION
ORGANICS	
PCB	< 10 MG/KG UNLESS INCORPORATED
LAND USE RESTRICTIONS	
CROPS	G WEEDS OR NATURAL VEG ADVANTAGEOUS FOR NUTURENT UPTAKE
GRAZING OR GREENCHOP	G FORAGE AND PASTURE CROPS NOT TO BE CONSUMED UNTIL ONE CROPING CYCLE FOLLOWING APPLIC NO GRAZING FOR 1 MO AFTER APPLIC

	WASHINGTON
	LAND APPLICATION
PUBLIC ACCESS	G ACCESS CONTROLLED FOR 12 MOS IN   PARKS, PLAYGROUNDS, SCHOOL   GROUNDS, AND ATHLETIC FIELDS
PH OF SOIL	G 6.5 IF FOOD CHAIN CROPS GROWN
SITING RESTRICTIONS	
SOIL CONDITIONS	
BUFFER REQUIREMENTS	
DIST TO PRIVATE WELL	
DIST TO PUBLIC WELL	
DIST TO RESIDENCE	

WASHINGTON  
LAND APPLICATION

DIST TO OTHER BLDGS.

DIST TO PROPERTY LINE

GROUNDWATER PROTECTION

DEPTH TO HIGH GW

DEPTH TO BEDROCK

PERMEABILITY

INFILTRATION

SURFACE WATER PROTECTION

	WASHINGTON LAND APPLICATION	
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING		
DIST TO SURFACE WATER		
DIST TO DRY RUN		
RUNOFF AND EROSION CONTROL	G  AVOID AREAS WITH KNOWN RUNOFF   PROBLEMS, OTHERWISE DIVERT   RUNOFF	
MAXIMUM SLOPE LIMIT		
RECORDS	G  WRITTEN CONTRACT IS ADVISABLE   BETWEEN LAND OWNERS, GENERATORS,   HAULERS, AND APPLICATORS	

WASHINGTON  
LAND APPLICATION

REPORTS

NOTIFICATIONS

STORAGE

SEE ABOVE

TRANSPORTATION

PERMITS ARE REQUIRED FROM JURIS-



FILE 2.6

| WASHINGTON |  
| LAND APPLICATION |  
| |  
| |  
R | RECLAMATION IS ALLOWED IF APPROVED |  
| BY JURISDICTIONAL HEALTH DEPT |

COMMENTS

	WISCONSIN LAND APPLICATION	WISCONSIN UNRESTRICTED USE
SLUDGE CLASSIFICATION		
STATE CONTROL LAWS, TITLE & DATE	SECTION 147.02, STATUTES, DISCHARGE PERMIT SECTOPM 147.015(13) STATUTES, DEFINES WATERS OF STATES	SECTION 147.02, STATUTES, DISCHARGE PERMIT SECTOPM 147.015(13) STATUTES, DEFINES WATERS OF STATES
REGULATIONS, TITLE&DATE	MUNICIPAL SLUDGE MANAGEMENT(4/1/85) CH. NR 204.07 LANDSPREADING NOTE: HIGH RATES OF LAND DISPOSAL CONTROLLED UNDER NR 180.14 NOTE: ALL LISTED CRITERIA ARE CONTAINED IN THE REGULATIONS	MUNICIPAL SLUDGE MANAGEMENT(4/1/85) CH. 204.08 PUBLIC DISTRIBUTION NOTE: ALL LISTED CRITERIA ARE CONTAINED IN THE REGULATIONS
GUIDELINES, TITLE&DATE		
CONTROLLING AGENCY	DEPT NATURAL RESOURCES WASTEWATER MADISON, WI (608) 266-3910	DEPT NATURAL RESOURCES WASTEWATER MADISON, WI (608) 266-3910



WISCONSIN  
LAND APPLICATION

WISCONSIN  
UNRESTRICTED USE

SLUDGE SAMPLING PARAMETERS

SLUDGE ANALYSIS: ANY OR ALL AS  
REQUIRED: % SOLIDS, PH, N, P, K,  
AS, BA, B, CD, CR, CU, PB, HG, NI, SE,  
AG, ZN, CL, FL, SO<sub>4</sub>, TOTAL COLIFORM,  
FECAL COLIFORM

WISCONSIN  
LAND APPLICATION

WISCONSIN  
UNRESTRICTED USE

MAXIMUM SLUDGE CONSTITUENT C

CONDUCTIVITY (SALT)

NUTRIENTS (% BY DRY WEIGHT)

N

P

K

METALS (MG/KG SLUDGE DRY  
WEIGHT)

AS

CD

2 PPM UNLESS ADJUSTED SOIL  
PH <6.5

10 PPM

PB

250 PPM

NI

ZN

CU

CR

HG

MO

B

FE

ORGANICS

PCB

50 PPM UNLESS EPA APPR.  
10 PPM ON PASTURE OR ANIMAL  
FEED CROPS UNLESS INCORPORATED  
OR NOT INCORPORATED IF:

2 PPM

WISCONSIN  
LAND APPLICATION

WISCONSIN  
UNRESTRICTED USE

WATER  
OTHER CONTAMINANTS  
RECORDS

PCB IN FEED <.2 PPM  
PCB IN MILK <1.5 PPM (FAT BASIS)

REPORTS

GENERAL SLUDGE MANAGEMENT  
INFORMATION REPORT  
SLUDGE CHARACTERISTICS  
REPORT  
LANDFILLING AND PUBLIC  
DISTRIBUTION REPORT  
AGRICULTURAL SITE

LANDFILLING AND PUBLIC  
DISTRIBUTION REPORT

NOTIFICATIONS

CHARACTERISTICS AND OPS

WISCONSIN  
LAND APPLICATION

WISCONSIN  
UNRESTRICTED USE

REPORT  
SLUDGE DISPOSAL AND LAND  
APPLICATION RECORDS  
REPORT

STORAGE (IF APPLICABLE)

LAND APPLICATION  
APPROVAL OR PERMIT

WRITTEN APPROVAL FOR EACH SITE

APPLICATION SUBMITTALS SLUDGE DISPOSAL AND LA RECORDS

REPORT:

SLUDGE APPLICATION RECORDS:  
NO.OF ACRES,VOL/ACRE APPLIED,  
AMOUNT AVAIL. N APPL,AMOUNT  
CD,CU,PB,NI,ZN APPL.,

RESULTS OF MONITORING PROGRAMS

AGRICULTURAL SITE CHAR. AND

OPERATIONS REPORT:

SITE LOCATION-SOIL MAPS,TOPO MAPS



WISCONSIN  
LAND APPLICATION

WISCONSIN  
UNRESTRICTED USE

MONITORING  
SOIL

SOIL ANALYSIS: SOIL TYPE, CEC  
O.M., P,K, EVERY 3 YEARS

CROPS

SURFACE WATER

GROUNDWATER

WISCONSIN  
LAND APPLICATION

WISCONSIN  
UNRESTRICTED USE

MAXIMUM SLUDGE LOADING LIMIT  
(CEC IN MEQ/100G SOIL)  
SLUDGE APPLICATION WILL BE L  
SLUDGE

NUTRIENTS  
N (ANNUAL)

CROP NEEDS  
200 LB/AC FOR LEGUMES

METALS  
CD  
ANNUAL

.5 KG/HA--TOBACCO, LEAFY VEGS,  
OR ROOTS FOR HUMAN CONSUMPTION  
1.25 KG/HA--BEFORE 1/1/87  
.5 KG/HA--AFTER 1/1/87

MAX. CUMULATIVE

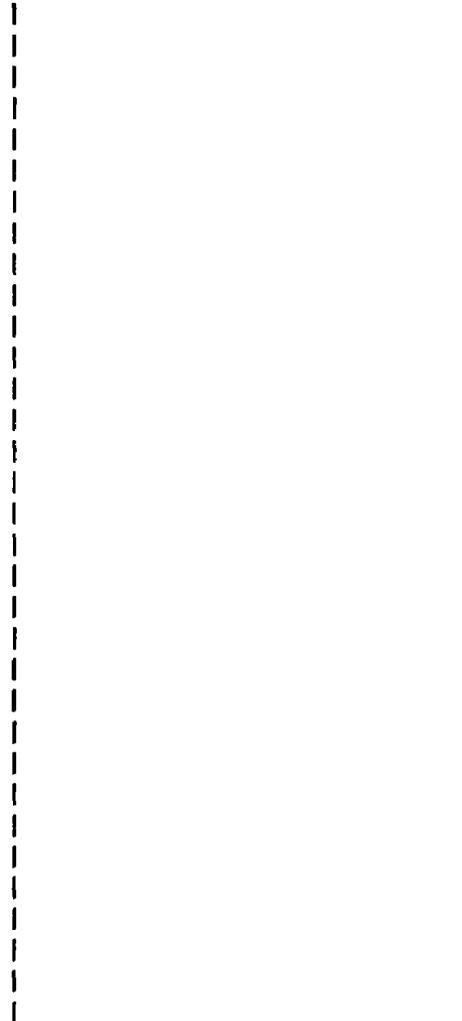
5 KG/HA--SOIL PH < 6.5  
5 KG/HA--SOIL PH > 6.5 AND CEC < 5  
10 KG/HA--SOIL PH > 6.5 AND 5<CEC<10  
20 KG/HA--SOIL PH > 6.5 AND CEC>10

WISCONSIN  
LAND APPLICATION

WISCONSIN  
UNRESTRICTED USE

PB	(MAX. CUMULATIVE) 500 KG/HA IF CEC < 5 1000 KG/HA IF 5 < CEC < 10 1500 KG/HA IF 10 < CEC < 15 2000 KG/HA IF CEC > 15
ZN	(MAX. CUMULATIVE) 250 KG/HA IF CEC < 5 500 KG/HA IF 5 < CEC < 10 500 KG/HA IF 10 < CEC < 15 1000 KG/HA IF CEC > 15
CU	(MAX. CUMULATIVE) 125 KG/HA IF CEC < 5 250 KG/HA IF 5 < CEC < 10 375 KG/HA IF 10 < CEC < 15 500 KG/HA IF CEC > 15
CR	
NI	(MAX. CUMULATIVE) 50 KG/HA IF CEC < 5 100 KG/HA IF 5 < CEC < 10 150 KG/HA IF 10 < CEC < 15 200 KG/HA IF CEC > 15
HG	

ORGANICS  
PCBS



	WISCONSIN LAND APPLICATION	WISCONSIN UNRESTRICTED USE
LAND USE RESTRICTIONS		
CROPS	NO CEREAL GRAIN HARVEST--2 MO NO CROPS FOR DIRECT HUMAN CONSUMPTION WHERE EDIBLE PART CONTACTS SLUDGE--18 MO	PROVIDE WRITTEN INSTRUCTIONS ON USE OF SLUDGE INCL. LIST OF CROPS NOT TO BE GROWN
GRAZING OR GREENCHOP	NO GRAZING OR FEED FOR DAIRY ANIMALS--1 MO NON-DAIRY ANIMALS--2 WKS	
PUBLIC ACCESS	NO PUBLIC ACCESS--6 MO	
PH OF SOIL & SLUDGE OR PH OF SOIL	6.5	
SITING RESTRICTIONS SOIL CONDITIONS		
BUFFER REQUIREMENTS		
DIST. TO PRIVATE WELL	200 FT	
DIST. TO PUBLIC WELL	1000 FT	

FILE 4.6

WISCONSIN  
LAND APPLICATION

DIST TO RESIDENCE 200 FT IF INCORPORATED  
500 FT IF LAND SPREAD

DIST TO OTHER BUILDINGS

DIST TO PROPERTY LINE

GROUND WATER PROTECTION

DEPTH TO HIGH GW 3 FT UNLESS AWC > 5"

DEPTH TO BEDROCK 3 FT UNLESS AWC > 5"  
PERMEABILITY < 6 IN/HR  
INFILTRATION

SURFACE WATER PROTECTION

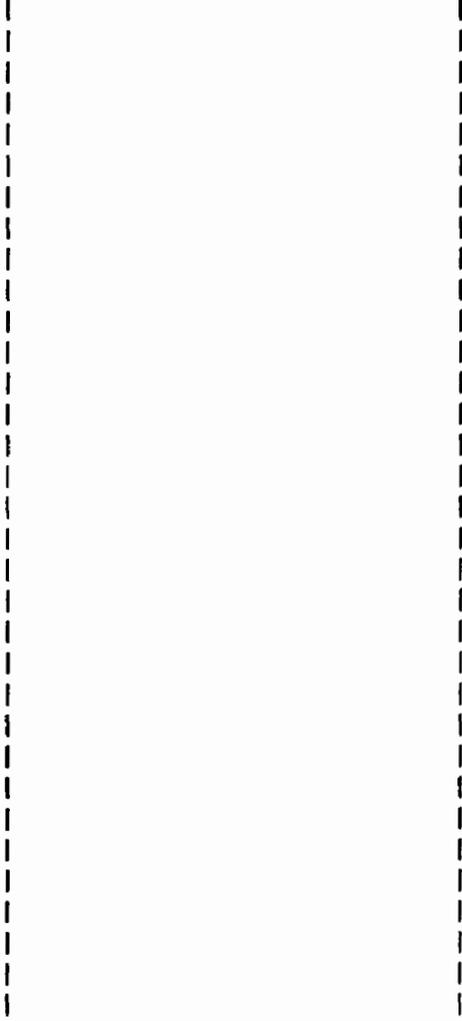
WETLANDS OR AREAS NO  
SUBJECT TO PONDING OR  
FLOODING

DIST TO SURFACE WATER 50 FT IF INCORPORATED  
100 FT IF LAND SPREAD

DIST. TO DRY RUN 25 FT

RUNOFF AND EROSION  
CONTROL

WISCONSIN  
UNRESTRICTED USE



WISCONSIN  
LAND APPLICATION

WISCONSIN  
UNRESTRICTED USE

MAXIMUM SLOPE LIMIT

12%  
IF SLOPE > 6%:  
LIQUID SLUDGE INJECTED  
CAKE SLUDGE SPREAD (WITH APPR.)  
NO SPREADING BETWEEN 12/1 AND 3/31  
NO SPREADING BETWEEN 12/1 AND 3/31  
WITHOUT APPROVAL

RECORDS

REPORTS

NOTIFICATIONS

WISCONSIN  
LAND APPLICATION

WISCONSIN  
UNRESTRICTED USE

STORAGE

DEPARTMENT APPROVAL, FACILITIES  
DESIGNED IN ACCORDANCE WITH CH. NR 110

TRANSPORTATION

UNCONTROLLED USE



	WYOMING	
	LAND APPLICATION	
SLUDGE CLASSIFICATION		
STATE CONTROL		
LAWS, TITLE & DATE	WYOMING STATE 16-3-101 TO 115	
	AND 35-11-101--1207	
	1973	
REGS, TITLE & DATE	DESIGN AND CONSTRUCTION STDS	
	FOR SEWERAGE SYSTEMS, TREATMENT	
	WORKS, DISPOSAL SYSTEMS CAPABLE	
	OF CAUSING POLLUTION	
	CHAPTER XI PART E	
	5/9/84	
GUIDELINES, TITLE & DATE	GUIDELINES FOR DEVELOPMENT OF A	
	LAND APPLICATION SYSTEM	
	2/82	
CONTROLLING AGENCY	WYOMING DEPT OF ENVIRONMENTAL	
	QUALITY	
	WATER QUALITY DIVISION	
	CHEYANNE, WYOMING 82002	
	307/777/7074	

	WYOMING
	LAND APPLICATION
ACCEPTABILITY OF SLUDGE	
PERMIT OR APPROVAL APPLIC. SUBMITTAL	FACILITIES PLAN MUST BE SUBMITTED. SEE SUBMITTAL REQUIREMENTS UNDER L.A.
SLUDGE SAMPLING PARAMETERS	SLUDGE ANALYSIS: % TOTAL SOLIDS, % VOL SOLIDS, pH
	TOTAL N, ORGANIC N, AMMONIA N, NITRATE N, TOTAL P, TOTAL K, CONDUCTIVITY, CD,ZN,NI,CU,PB, PCB, ANNUAL ANAL OF FECAL COLIFORM AND PARASITES

	WYOMING
	LAND APPLICATION
	FREQUENCY: 1 SAMPLE 6/YR
MAXIMUM SLUDGE CONSTITUENT CONCENTRATIONS	G DIFFERENT CONCENTRATIONS IF PRIMARY OR SUPPLEMENTAL FERTILIZER
CONDUCTIVITY (SALT)	
NUTRIENTS (% BY DRY WEIGHT)	
N	
P	
K	
METALS (MG/KG SLUDGE DRY WEIGHT)	
AS	
CD	> 2 MG/KG IF SOIL pH > 6.5 AND SLUDGE pH >6.2
PB	> 50 PPM: SUPPLEMENTAL FERTILIZER

	WYOMING LAND APPLICATION
NI	> 500 PPM: SUPPLEMENTAL FERTILIZER
ZN	> 5,000 PPM: SUPPLEMENTAL FERTILIZER
CU	> 1,000 PPM: SUPPLEMENTAL FERTILIZER
CR	
HG	
MO	
B	
FE	
ORGANICS	
PCB	
WATER	
OTHER CONTAMINANTS	
RECORDS	

WYOMING  
LAND APPLICATION

REPORTS

NOTIFICATIONS

STORAGE (IF APPLICABLE)

LAND APPLICATION

Wyoming



	WYOMING LAND APPLICATION
POST-APPLICATION	
WATER QUALITY MONITORING GROUND WATER	
SURFACE WATER	
CROP MONITORING	
MAXIMUM SLUDGE LOADING LIMIT KG/HA UNLESS OTHERWISE NOTED (CEC IN MEQ/100G SOIL) ANNUAL OR CUMULATIVE	IF METALS LTS MEET PRIMARY FERTIL STDS, APPLIC RATE IS BASED ON N OR CD
NUTRIENTS N (ANNUAL)	N REQUIREMENT FOR SPECIFIC CROP

	WYOMING
	LAND APPLICATION
PH	
METALS	
CD	G   < 0.5 KG/HA IF CROP FOR DIRECT
ANNUAL	R   HUMAN CONSUMPTION AND pH >6.5   IF SOIL PH <6.5: <0.5 KG/HA R   > 2 MG/KG IF BACKGROUND SOIL pH>6.5   AND SLUDGE pH >6.2
MAX CUMULATIVE	R   IF BACKGROUND pH >6.5 AND G   IF CEC<5: 5 KG/HA   IF 5<CEC<15: 10 KG/HA   IF CEC>15: 20 KG/HA   IF BACKGROUND pH <6.5: 5 KG/HA MAX
PB	R   IF pH < 6.5: 561 KG/HA G   IF pH > 6.5 and   CEC<5: 561 KG/HA   5<CEC<15: 1121 KG/HA   CEC>15: 2242 KG/HA

	WYOMING LAND APPLICATION	
ZN	R  IF pH < 6.5: 280 KG/HA G  IF pH > 6.5 AND   CEC<5: 280 KG/HA   5<CEC<15: 561 KG/HA   CEC>15: 1121 KG/HA	
CU	R  IF pH < 6.5: 140 KG/HA G  IF pH > 6.5 AND   CEC<5: 140 KG/HA   5<CEC<15: 280 KG/HA   CEC>15: 561 KG/HA	
CR		
NI	R  IF pH < 6.5: 56 KG/HA G  IF pH > 6.5 AND   CEC<5: 56 KG/HA   5<CEC<15: 112 KG/HA   CEC>15: 224 KG/HA	
HG		

	WYOMING
	LAND APPLICATION
ORGANICS	
PCB	R   < 10 MG/KG UNLESS INCORP   OR IF ANNUAL APPLIC IS < 0.4 KG/HA
LAND USE RESTRICTIONS	
CROPS	R   IF CROPS FOR DIRECT HUMAN   CONSUMPTION, 18 MOS. UNLESS NOT   IN DIRECT CONTACT WITH EDIBLE   PORTION OF CROP   IF IN DIRECT CONTACT WITH EDIBLE   PORTION OF CROP, PFRP   IF BKGND pH < 6.5 AND NO ADJUSTMENT:   ONLY INDIRECT FOOD CHAIN CROPS
GRAZING OR GREENCHOP	

	WYOMING LAND APPLICATION	
PUBLIC ACCESS	R 12 MOS	
PH OF SOIL		
SITING RESTRICTIONS		
SOIL CONDITIONS		
BUFFER REQUIREMENTS		
DIST TO PRIVATE WELL		
DIST TO PUBLIC WELL	300 FT	
DIST TO RESIDENCE	R 1500 FT, OR 300 FT IF SUBSURFACE INJECTED	

	WYOMING
	LAND APPLICATION
DIST TO OTHER BLDGS.	R 300 FT , OR 50 FT IF SUBSURFACE INJECTED
DIST TO PROPERTY LINE	R 300 FT, OR 50 FT TO ROAD IF SUBSURFACE INJECTED
GROUNDWATER PROTECTION	
DEPTH TO HIGH GW	
DEPTH TO BEDROCK	
PERMEABILITY	
INFILTRATION	
SURFACE WATER PROTECTION	

	WYOMING LAND APPLICATION
WETLANDS OR AREAS SUBJECT TO PONDING OR FLOODING	
DIST TO SURFACE WATER	R 300 FT OR 50 FT IF SUBSURFACE INJECTED
DIST TO DRY RUN	
RUNOFF AND EROSION CONTROL	G PLAN REQUIRED IF SLOPE > 5% DIVERSION OF UPSLOPE RUNOFF NECESS SLOW RATE SYSTEMS: < 15% SLOPE UNLESS TERRACED OVERLAND FLOW SLOPES < 8% DITCH REQUIRED FOR APPLIC TO FROZEN OR SATURATED LAND > 3% SLOPE
MAXIMUM SLOPE LIMIT	R 8% IF PROTECTED BY RUNOFF COLLECTION DITCH < 5% IF NO RUNOFF COLLECTION DITCH
RECORDS	

WYOMING  
LAND APPLICATION

REPORTS

NOTIFICATIONS

STORAGE

TRANSPORTATION

	WYOMING LAND APPLICATION	
UNCONTROLLED USE	UNCONTROLLED USE NOT SPECIFICALLY ADDRESSED	
DEDICATED SITES	DEDICATED SITES NOT SPECIFICALLY ADDRESSED	




# Appendix B

**APPENDIX B**

**PROCESSES TO SIGNIFICANTLY REDUCE PATHOGENS**

**PROCESSES TO FUTHER REDUCE PATHOGENS**

## APPENDIX B

(From 40 CFR Part 257)

### A. Processes to Significantly Reduce Pathogens

Aerobic digestion: The process is conducted by agitating sludge with air or oxygen to maintain aerobic conditions at residence times ranging from 60 days at 15° C to 40 days at 20° C, with a volatile solids reduction of at least 38 percent.

Air drying: Liquid sludge is allowed to drain and/or dry on under-drained sand beds, or paved or unpaved basins in which the sludge is at a depth of nine inches. A minimum of three months is needed, two months of which temperatures average on a daily basis above 0° C.

Anaerobic digestion: The process is conducted in the absence of air at residence times ranging from 60 days at 20° C to 15 days at 35° to 55° C, with a volatile solids reduction of at least 38 percent.

Composting: Using the within-vessel, static aerated pile or windrow composting methods, the solid waste is maintained at minimum operating conditions of 40° C for five days. For four hours during this period the temperature exceeds 55° C.

Lime stabilization: Sufficient lime is added to produce a pH of 12 after two hours of contact.

Other methods: Other methods or operating conditions may be acceptable if pathogens and vector attraction of the waste

(volatile solids) are reduced to an extent equivalent to the reduction achieved by any of the above methods.

#### B. Processes to Further Reduce Pathogens

Composting: Using the within-vessel composting method, the solid waste is maintained at operating conditions of 55° C or greater for three days. Using the static aerated pile composting method, the solid waste is maintained at operating conditions of 55° C or greater for three days. Using the windrow composting method, the solid waste attains a temperature of 55° C or greater for at least 15 days during the composting period. Also, during the high temperature period, there will be a minimum of five turnings of the windrow.

Heat drying: Dewatered sludge cake is dried by direct or indirect contact with hot gases, and moisture content is reduced to 10 percent or lower. Sludge particles reach temperatures well in excess of 80° C, or the wet bulb temperature of the gas stream in contact with the sludge at the point where it leaves the dryer is in excess of 80° C.

Heat treatment: Liquid sludge is heated to temperatures of 180° C for 30 minutes.

Thermophilic aerobic digestion: Liquid sludge is agitated with air or oxygen to maintain aerobic conditions at residence times of 10 days at 55-60° C, with a volatile solids reduction of at least 38 percent.

Other methods: Other methods or operating conditions may be acceptable if pathogens and vector attraction of the waste

(volatile solids) are reduced to an extent equivalent to the reduction achieved by any of the above methods.

Any of the processes listed below, if added to the process described in Section A above, further reduce pathogens. Because the processes listed below, on their own, do not reduce the attraction of disease vectors, they are only add-on in nature.

Beta ray irradiation: Sludge is irradiated with beta rays from an accelerator at dosages of at least 1.0 megarad at room temperature (ca. 20° C).

Gamma ray irradiation: Sludge is irradiated with gamma rays from certain isotopes, such as <sup>60</sup>Cobalt and <sup>137</sup>Cesium, at dosages of at least 1.0 megarad at room temperature (ca. 20° C).

Pasteurization: Sludge is maintained for at least 30 minutes at a minimum temperature of 70° C.

Other methods: Other methods or operating conditions may be acceptable if pathogens are reduced to an extent equivalent to the reduction achieved by any of the above add-on methods.


# Appendix C

**APPENDIX C**

**SUMMARY OF STATE CONTACTS  
AND BASIS FOR STATE REGULATIONS  
AND GUIDELINES IN THE NORTHEAST**

APPENDIX C

State	Contact	Basis for Regulations Cited	Background Documents Developed
Connecticut	Brian Curtis 203-566-3654	Penn State (1985)	No
Maine	Karen Townsend Department of Environmental Protection 207-289-3901	Uncertain; Other U.S. State Regs., European Guidelines, U.S EPA (1979) Penn. State, (1985)	No
Maryland	Ernest Spencer Department of Health and Mental Hygiene 310-225-5664	U.S. EPA, (1983) Other state regs.	No
Massachusetts	Fifi Nessen DEQE 617-292-5590	U.S. EPA, (1979) Sludge Task Force recommendations	Yes
New Hampshire	Carl Woodbury NH Office of Waste Management 603-271-4672	Uncertain; U.S. EPA, U.S. FDA, U.S. DA, (1981) U.S. EPA, (1979)	No
New Jersey			
New York	Thomas Easterly Residuals Mgmt. Director Division of Solid waste, NY State DEC 518-457-2051	U.S. EPA, 1979	No
Ohio	S.M. Blyndenburgh Engin. Unit Spvsr. Public WW Section Ohio EPA 614-466-2328	Brown, Robert E. (1985)	No
Pennsylvania	Jay Ort PA Department of Environmental Residuals Bureau of Waste Management 717-787-7381	Penn State (1985) (Dr. Dale Baker)	No

State	Contact	Basis for Regulations Cited	Background Documents Developed
Rhode Island	Chris Campbell 401-277-2234	Uncertain; U.S. EPA, (1979) U.S. EPA, (1983)	No
Vermont	Katie Gehr Hydrologist, State of Vermont 802-828-3395	U.S. EPA, (1979); U.S. EPA, U.S. FDA, U.S. DA, (1981)	No

#### REFERENCES

- Brown, Robert E., 1985. Demonstration of Acceptable Systems for Land disposal of Sewage Sludge. EPA/600/285/062. April
- Pennsylvania State University, 1985. Criteria and Recommendations for Land Application of sludges in the Northeast. Bulletin 851. March.
- U.S. EPA, 1979. Criteria for Classification of Solid Waste Disposal Facilities and Practices; Final, Interim Final, and Proposed Regulations. FR 44(179): 53438-53464.
- U.S. EPA, U.S. FDA, U.S. DA, 1981. Land Application of Municipal Sewage Sludge for the Production of Fruits and Vegetables; A Statement of Federal Policy and Guidance.
- U.S. EPA, 1983. Process Design Manual; Land Application of Municipal Sludge. EPA-625/1-83-016. October.