MoDOT

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ADDENDUM 005
MoDOT Wright City Waste Water Sewer Lagoon Closure Project
Request for Bid # 9-140108BR

Bidders should acknowledge receipt of Addendum 005 (FIVE) by **signing** and **including it** with the original bid. The due date for receipt of bids **has** changed by this Addendum to **Friday, January 24, 2014, at 2:00 P.M. central time.** The below changes shall be included as mandatory requirements for this solicitation. Additional information and clarification below is believed to be of general interest to all potential Bidders. All other terms and conditions remain unchanged and in full force.

Name and Title of Signer (Print or type)	Name and Title of Department Authority Beth Rodeman General Services Specialist
Bidder Signature (Signature of person authorized to sign)	Department of Transportation (Authorizing Signature)
Date Signed:	Date Signed: 01-16-14

The project completion date has been extended to June 1, 2014.

The rate of release as shown in Exhibit E - MDNR Approved Lagoon Closure Plans, and Exhibit F - MDNR Wright City Approval Letter has been reduced to 30,000 gallons per day.

ADDENDUM 005
MoDOT Wright City Waste Water Sewer Lagoon Closure Project
Request for Bid # 9-140108BR

Section 00100, BIDDER REQUIREMENTS, paragraph 19., **DEWATERING** is hereby changed as follows:

The successful Bidder shall dewater the Wright City lagoons in either of the following manors:

- Haul off water to a permitted treatment plant
- Release water through the lagoon system at a rate not to exceed 30,000 gallons per day, the release shall be visually monitored to ensure that water quality is not compromised.

The current volume of water in the Wright City lagoon system has been calculated at 1,100,000 gallons. The Bidder shall be responsible for any fees associated with hauling water to a treatment plant.

Per DNR's response to the Lagoon Closure Plan, no more than 300 pounds of PAN per acre may be left on the lagoon site. The calculated 1,135.85 pounds of PAN may be distributed over the 4.1 acre site per DNR rules and regulations.

The estimated volume of fill material located in the lagoon berms is in excess of 100,000 square feet. Per the lagoon closure plan and DNR approval letter the sludge can be left on site and mixed with the fill material at a ratio not to exceed 1:1.

It is not anticipated any material will need to be hauled from the site, however if the actual volume of PAN or sludge exceeds the site capabilities, the Bidder shall haul excess material from the site. See revised Section 00301, BID FORM, Item 2. The determination of lowest bid shall be based upon the base bid provided at item 1. on the bid form. Any material hauled from the site shall be taken to a DNR approved site or land applied per the attached *Best Management Practices for Biosolids Land Application* brochure, Exhibit H.

The bid form included with this addendum 005 shall replace and rescind the bid form provided at section 00301 in the original request for bid document.

00301

BID FORM, Revised, 9-140108BR, Addendum 005

To: The Missouri Highway and Transportation Commission
PO Box 270
Jefferson City, MO 65102

1. The undersigned, having examined the proposed Contract Documents titled: **9-140108BR – MoDOT Wright City Waste Water Sewer Lagoon Closure** and having visited the site and examined the conditions affecting the work, hereby proposes and agrees to furnish all labor, materials, equipment and everything which may be necessary or incidental thereto, as proposed by said Contract Documents, all to the satisfaction of the General Services-Facility Operations Supervisor or designated representative of the Missouri Department of Transportation and the Missouri Highway and Transportation Commission, for the stipulated sum of:

   _____DOLLARS ($_____)

2. Cost per cubic yard to haul excess material from the site:

   _____DOLLARS ($_____)

NOTE OF AWARD:
Bids for item 2. above may or may not be needed, therefore the determination of lowest bid will be based upon the base bid provided for item 1 above.

3. The undersigned, acknowledges having examined and being familiar with the contract documents including the drawings, the Instructions to Bidders, General Conditions, Supplementary Conditions and the body of technical specifications.

4. The undersigned acknowledges receipt of Addenda number _____ through _____ inclusive.

5. Enclosed with this bid is bid security in the amount of not less than 5% of the bidder's proposed Contract Sum, the amount being _____ DOLLARS ($_____).

IF AN INDIVIDUAL

_____

_____ _____
Name of individual Residence address

_____ _____
Social Security Number Telephone Number

_____
Firm Name, If Any

_____

_____ _____
Address for communications Signature

IF A PARTNERSHIP

_____
Name of Partnership

_____
Partner

_____
Partner

_____

_____
Address for Communications

_____
Telephone Number

(State Name and Residence Address of All Partners)

_____

_____
Residence Address

_____

_____
Residence Address

_____
Federal Tax I.D. Number

_____
Signature of Either Partner

IF A CORPORATION

_____
Name of Corporation

_____
Name and Title of Officer

_____
Signature of officer

_____

_____
Address for Communications

_____
Telephone Number

Incorporated under the laws of the
State of_____

Corporate License No. _____
(If a corporation organized in a state other than Missouri, attach Certificate of Authority to do business in the State of Missouri.)

_____
Federal Tax I.D. Number

(ATTEST)

_____
(SEAL) Secretary

(Each bidder must complete the Bid Form by signing in the proper signature line above and by supplying the required information called for in connection with the signature. The information called for is necessary in the proper preparation of the contract and performance bond.)

Exhibit H
9-140108BR, Addendum 005

Best Management Practices for Biosolids Land Application

Ken Arnold
Chief of Land Application, Missouri Department of Natural Resources

John Dunn
Environmental Engineer, Environmental Protection Agency Region VII

Jerry D. Carpenter
Department of Agricultural Engineering

Biosolids is domestic wastewater sludge that meets standards for use as a fertilizer or soil conditioner. These standards include monitoring requirements, metal limitations, pathogen reduction, vector requirements and best management practices.

Applying biosolids to land uses the available nitrogen, phosphorus and potash as fertilizer for growing crops. It is an environmentally sound practice sanctioned by the U.S. Environmental Protection Agency (EPA) and the Missouri Department of Natural Resources (DNR). Reusing biosolids on crops, pastures and timberland reduces water pollution. It eliminates the environmental risks and costs associated with sludge disposal options, benefiting all Missourians.

Background

EPA regulations, under Title 40 Code of Federal Regulations Part 503 (40 CFR 503), establish the minimum national standards for the use and disposal of domestic sludge. These standards include limitations for the land application of biosolids.

DNR incorporated the EPA standards into the state requirements under the Missouri Clean Water Law and regulations. The state rules include additional requirements that are not covered in the EPA standards. Complying with state regulations automatically meets the EPA sludge standards.

Pollutant standards for land application

Testing for metal, pathogens and other pollutants is required to determine the representative quality of the biosolids. Treat biosolids to reduce pathogens and vectors before application. The concentration of metal and other pollutants in the biosolids determines the acceptability for land application and the appropriate loading rates to protect crops, soils and the environment.

Best management practices

Biosolids that meet the standards for metal, pathogens, vectors and other pollutants are safe to apply when following the best management practices.

Best management practices, or "good farming practices," include agronomic load rates, buffer zones, depth to groundwater, wetlands protection, harvest and grazing deferments, threatened and endangered species protection, field slope limitations, restrictions for frozen or saturated soils, requirements for public-use sites, soil conservation practices and other site restrictions.

The following list of practices is based on the regulations and standard permit conditions:

1. No discharge

Biosolids must not discharge from the application site, except during catastrophic or chronic precipitation exceeding the 1-in-10 year rainfall level.

2. Public contact sites and public-use or distribution of biosolids

- Class A biosolids applied to public-use sites, distributed for general public use or used on vegetable crops, root crops or home gardens must comply with 40 CFR 503 Subpart B.
- A biosolids management plan or engineering report for Class A biosolids used on public sites must be approved by the DNR before use or distribution.
- Do not apply Class B biosolids to public contact areas, residential lawns or turf farms unless the biosolids are incorporated. Restrict public access for 12 months. You must gain approval from the permitting authority.

3. Crop restrictions

Do not apply Class B biosolids to root crops, home gardens or vegetable crops whose edible parts will come in contact with applied biosolids, unless the crops are not used for direct human consumption.

4. Harvest and grazing restrictions

Do not apply biosolids to land within 30 days of harvest or grazing by cattle. Applicators are also subject to requirements of the Missouri Department of Agriculture State Milk Board concerning grazing restrictions of lactating dairy cattle.

5. Threatened or endangered species

Applying biosolids must not adversely affect a threatened or endangered species or its designated critical habitat. This is in accordance with section 4 of the Endangered Species Act.

6. Nitrogen limitations

Do not apply more than the agronomic rate of nitrogen needed.

- The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil and crop removals, unless the following conditions are met:
    - Nitrogen content of the biosolids does not exceed 50,000 mg/kg of total nitrogen on a dry weight basis; and
    - Biosolids application rate is less than two dry tons per acre per year.
- Report nitrogen compounds as nitrogen in the PAN calculations. Calculate PAN as follows:

(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor)

The volatilization factors are 0.7 for surface application and 1 for subsurface injection.

- You may use alternate PAN calculations if documented by site-specific data and prior approval is obtained from the DNR.
- If you use the University soil test laboratory, the soil test report will provide the net nitrogen to apply for a specific crop and yield goal. If you use a private soil test laboratory, the available nitrogen in the soil must be determined and subtracted from the nitrogen application requirements.

7. Buffer zones

Do not apply biosolids within:

- 300 feet of a water supply well, sinkhole, lake, pond, water supply reservoir or water supply intake in a stream;
- 300 feet of a losing stream, no-discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstanding state resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;
- 150 feet of dwellings;
- 100 feet of wetlands or permanent flowing streams;
- 50 feet of a property line or other waters of the state, including intermittent flowing streams.

8. Slope limitations for application sites

- On slopes of 0 to 6 percent, there is no rate limitation
- On 7 to 12 percent slopes, you may apply biosolids when soil conservation practices are used to meet minimum erosion (T) levels in accordance with U.S. Soil Conservation service recommendations.
- For slopes of 12 percent or more, apply biosolids only when the site is maintained in grass vegetation with at least 80 percent ground cover. Do not apply more than two dry tons per acre per year.

9. Storm water runoff

- Do not place biosolids in a location where it is reasonably certain that pollutants will be transported into waters of the state during stormwater runoff.
- Subsurface inject the biosolids, incorporate after application, use soil conservation practices, adhere to slope restrictions, create buffer areas and follow other approved methods, as necessary.
- Soil conservation practices for application must be approved by the U.S. Soil Conservation Service or the University of Missouri Extension.

10. Frozen, snow-covered or saturated soil conditions

Do not apply biosolids when the ground is frozen, snow covered or when the soil is saturated, unless site restrictions or other controls are provided to prevent pollutants from being discharged during snowmelt or storm water runoff. If land application is necessary during inclement weather, use sites which meet the following:

- A maximum field slope of 6 percent and a minimum 300 feet grass buffer between the application site and waters of the state.
- A maximum field slope of 2 percent and 100 feet grass buffer between the application site and waters of the state.
- Other best management practices approved by the DNR.

11. Biosolids storage

- Provide adequate sludge and biosolids storage as needed to match the application windows for crop planting, harvesting and inclement weather conditions. Operate storage basins so there is no discharge to waters of the state.
- Recommended biosolids storage for grassland sites ranges from 60 to 120 days as follows: 60 days south of Highway 60; 75 days between Highway 60 and Highway 50; 90 days between Highway 50 and Highway 36; and 120 days north of Highway 36.
- Storage should be increased for tilled cropland application sites depending on the crop rotations and ratio of tilled land to grassland. Recommended storage is 180 to 365 days if all sites are tilled crop land.
- Any storage area located off-site of the sludge or biosolids generating facility must have a separate individual permit for the storage site, except for temporary stockpiles.
- Use temporary stockpiles for solid or semi-solid materials (no free liquids) only. Limit the stockpile to two weeks per year at any one application field. Locate stockpiles at least 300 feet from drainage ways or they must have runoff collection berms at least 6 inches high around the pile.

12. Application rates

Evenly spread the biosolids over the entire application site. Do not dump the material in batches or spread a pile using a blade, disc or similar equipment.

13. Application equipment

Properly operate and maintain application equipment. Visually check the equipment each day during operation. Apply biosolids during daylight hours only, unless approval is obtained from the permitting authority.

14. Soil pH limitations

Do not apply biosolids to sites with a soil pH less than 6.0 or greater than 7.5 (based on the salt solution test, which is preferred) or less than 6.5 or greater than 8.0 (based on the water solution test).

Application of biosolids to higher pH soils may be considered on a case-by-case basis. Submit a site-specific permit application and supporting document, addressing crop and groundwater protection, to DNR. Tracking of aluminum loading rates will be required. See Table 4 in MU publication WQ425, *Biosolids Standards for Metals and Other Trace Substances*.

15. Soil phosphorus limitations

Do not apply biosolids to soils that contain more than 800 pounds of available phosphorus, based on the Bray P-1 test, unless approval is obtained from the permitting authority DNR.

16. Soil depth

Do not apply biosolids to sites that have less than 5 feet of soil above bedrock or a groundwater aquifer, unless authorized in a site-specific permit for the application site.

17. Record keeping

Sludge applicators must keep detailed records for at least five years on each location and amounts of biosolids applied.

Landowners are not required to keep records. However, it is highly recommended that biosolids application records be incorporated into your total nutrient management plan.