Murphy-Brown Somerset
MO-0118168
CPCF00153, Mercer County

STATE OF MISSOURI

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

AUG 27 2014

Mr. Brian Paulsen
Murphy-Brown Locust Ridge
17999 US Highway 65
Princeton, MO 64673

Re: Construction Permit Extension

Dear Mr. Paulsen:

The Department of Natural Resources, Water Protection Program has received your August 18, 2014 letter requesting an extension of Construction Permit Number CPCF00153. This construction permit has been extended for a period of one year in accordance with 10 CSR 20-6.010(4)(G). Please keep this letter with your construction permit as it serves as authorization of the one year extension. The new expiration date of Construction Permit Number CPCF00153 is October 21, 2015.

Please feel free to contact me at (573) 751-6721 or P.O. Box 176, Jefferson City, Missouri 65102.

Sincerely,

WATER PROTECTION PROGRAM

John Madras

John Madras
Director

JM:drn

c: Northeast Regional Office
Mr. Gerald C. Johnson, HDR Engineering, Inc.

Murphy-Brown, Somerset Farm
Mercer County

CPCF00153

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

CONSTRUCTION PERMIT

The Missouri Department of Natural Resources hereby issues a permit to:
Murphy Brown of Missouri LLC
Route 2, Box300D
Princeton, MO 64673

for the construction of (described facilities):

An Advanced Nitrification-Denitrification system with necessary appurtenances based on the plans received by the Water Protection Program

Permit Conditions:

See attached sheet

Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources.

As the Department of Natural Resources does not examine structural features of design or the efficiency of mechanical equipment, the issuance of this permit does not include approval of these features.

A representative of the department may inspect the work covered by this permit during construction. Issuance of a permit to Operate by the department will be contingent on the work substantially adhering to the approved plans and specifications.

This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

October 22, 2013
Effective Date

Sara Parker Pauley
Sara Parker Pauley, Director, Department of Natural Resources

October 21, 2014
Expiration Date

John Madras
John Madras, Director, Water Protection Program

DETAILED OPERATION DESCRIPTION
For Concentrated Animal Feeding Operations
Construction Permit

FACILITY INFORMATION

Operation: Murphy-Brown, Somerset Farm Class: IA
Operation Address: Buck Ave. at Avalon St., Mercer, MO

Owner: Murphy-Brown of Missouri LLC
Owner Address: Route 2, Box300D, Princeton, MO 64673

Continuing Authority: Murphy-Brown of Missouri LLC
Continuing Authority Address: Route 2, Box300D, Princeton, MO 64673

Primary SIC Code (Discharge): 0213 Primary SIC Code (Industry): 0213

DESIGN APPROVED FOR THIS OPERATION

Number and Type of Animals. 150,144 finishing hogs
Animal Units: 60,058
Total Design Flow (mgd) 0.25
Land Application Acres
Owned: 2427 Under Spreading Agreement: 0 Total: 2427
Mortality Management: Off-site rendering

Outfall #074 – "AND" Nitrogen Reduction Wastewater System (proposed)
Legal Description: NW ¼, SE ¼, Sec. 5, T66N, R22W, Mercer County
UTM Coordinate: X = 465898 Y = 4488914
Receiving Water: Tributary to West Fork Medicine Creek (U)
First Classified Stream and ID: West Fork Medicine Creek (C) (0621)
USGS Basin & Sub-watershed No: 10280103-0201

Equalization basin	Design volume: 10.8 million gallons at 16.5 foot depth Design Berm Runoff & Surface R-E: 1,012,805 gallons per year. Floor Dimensions: 247 foot square
Anoxic basin	Design volume: 835,315 gallons at 16 foot depth (constant) Design Berm Runoff & Surface R-E: 241,144 gallons per year. Floor Dimensions: 76 foot square
Aerated basin	Design volume: 5.4 million gallons at 15 foot depth (constant) Design Berm Runoff & Surface R-E: 567,210 gallons per year. Floor Dimensions: 115 foot by 266 foot
Biosolids storage basin	Design volume: 4.9 million gallons at 12 foot depth (constant) Design Berm Runoff & Surface R-E: 701,165 gallons per year. Floor Dimensions: 142 foot by 272 foot
Irrigation storage basin	Design volume: 26.6 million gallons at 14 foot depth Design Berm Runoff & Surface R-E: 2,417,760gallons per year. Floor Dimensions: 190 foot by 988 foot

Total Design Berm Runoff & Surface Rainfall-Evaporation for Nitrogen Reduction Facility: 4.94 million gallons per year.

Additional Operational Description:
This Permit allows for the construction of a centralized Advanced Nitrification-Denitrification (AND) System. The AND System will consist of: an equalization basin with floating cover, an anoxic basin with HDPE liner, an aerated basin with HDPE liner, a biosolids storage basin, and an irrigation storage basin. Each basin is designed with two foot of freeboard with a spillway depth of one foot. The AND System includes four pump stations and several aerators and mixers in accordance with the plans and specifications. 4700 linear feet of eight-inch, 138 linear feet of ten-inch, and 2038 linear feet of twelve-inch forcemain will be installed.

SECTION A. GENERAL CONSTRUCTION CONDITIONS

(1) Additional construction specifications contained in the application and engineering plans shall be followed.

(2) This permit does not authorize final operation of these manure management systems. Upon completion of construction of all components covered by this permit, follow the steps outlined in the cover letter to this permit to apply for final operating approval. Operating approval is not required to complete the final installation and testing of this manure management system using wastewater from the primary lagoons.

(3) Issuance of a permit for operation of these systems will be contingent on the work substantially adhering to the approved plans and specifications. Contact the design engineer and the department before making substantial deviations from the approved plans and specifications. Department staff will determine whether the changes will be allowed and whether the changes require a change order to the construction permit.

(4) All cleanouts installed at the approved operation shall be clearly marked with a post that is visible during all stages of vegetative growth.

(5) As the Missouri Department of Natural Resources does not examine structural features of design or mechanical equipment, the issuance of this permit does not include approval of these features.

(6) If greater than one acre of land will be disturbed during construction activities, a land disturbance permit must be obtained before any land grading begins. Land disturbance permits can be obtained by contacting the department's regional office for your area.

SECTION B. CONSTRUCTION CONDITIONS FOR EARTHEN BASINS

(1) Lagoons and earthen impoundments shall be constructed with a flat bottom.

(2) Compaction of the berm fill material and bottom seal material with only a bulldozer will usually not meet compaction requirements.

(3) The minimum seal thickness shall be twelve (12) inches, unless otherwise specified in the approved plans and specifications. The bottom seal and berm fill shall be brought up in horizontal layers not to exceed six (6) inches in thickness. Installation of the liner shall be according to the approved plans.

(4) The seal on the inner slopes of the basin shall extend up to where the liner intersects the top of the berm.

(5) Each layer of fill and seal material shall be compacted under optimum moisture conditions to achieve the required compacted permeability of 1×10^{-7} cm/sec, or less.

(6) Upon completion of the seal installation. a protective device shall be installed to prevent erosion of the seal at all pipe inlet locations. The method of protection shall ensure the integrity of the seal from turbulence at all stages of operation from the prefill stage to the maximum operating level.

(7) All basins shall be prefilled with fresh water to a minimum depth of two feet. At least two feet of liquid level shall be maintained at all times to protect the constructed seal.

(8) The berm shall be seeded and mulched as soon as site conditions allow.

(9) The recommendations contained in the geologic report from the Missouri Department of Natural Resources, Division of Geology and Land Survey shall be followed, unless otherwise specified in this permit

(10) A pumpdown marker shall be installed and maintained, clearly showing the level of the emergency spillway and one foot increments, down to the lower pumpdown marker.

SECTION C. PROJECT SPECIFIC REQUIREMENTS

There are no site-specific requirements for this project.