

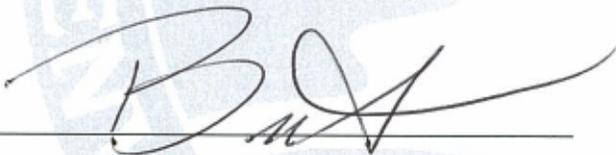
A Permit Certificate

INDUSTRIAL WASTEWATER REUSE PERMIT

Basic American Foods, Inc. Shelley Facility

LA-000032-04

Basic American Foods, Inc. Shelley Facility LOCATED AT **434 South Emerson, Shelley, ID 83274** IN **Bingham County** IS HEREBY AUTHORIZED TO CONSTRUCT, INSTALL AND OPERATE A WASTEWATER REUSE SYSTEM IN ACCORDANCE WITH THE RECYCLED WATER RULES (IDAPA 58.01.17), THE WATER QUALITY STANDARDS (IDAPA 58.01.02), THE WASTEWATER RULES (58.01.16), THE GROUND WATER QUALITY RULE (IDAPA 58.01.11), AND ACCOMPANYING PERMIT APPENDICES AND ATTACHMENTS. THIS PERMIT IS EFFECTIVE FROM THE DATE OF SIGNATURE AND EXPIRES ON AUGUST 15, 2016.



BRUCE OLENICK,
REGIONAL ADMINISTRATOR
IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY
POCATELLO REGIONAL OFFICE

SIGNED THIS 16TH DAY OF AUGUST, 2011

DEPARTMENT OF ENVIRONMENTAL QUALITY

Pocatello Regional Office
444 Hospital Way, Building #300
208-236-6160
Pocatello, ID. 83201

POSTING ON SITE RECOMMENDED

B Permit Contents, Appendices, and Attachments

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List of Reference Documents

1. Plan of Operation / Operation and Maintenance Manual
2. Quality Assurance Project Plan
3. Nuisance Odor Management Plan
4. Waste Solids Management Plan
5. Buffer Zone Plan
6. Run-Off Management Plan

Reference Documents listed on this page require approval by the Department. This permit does not relieve Basic American Foods Inc. Shelley Facility, hereafter referred to as the Permittee, from responsibility for compliance with other applicable federal, state or local laws, rules, standards or ordinances.

C Abbreviations and Definitions

Table C-1- Abbreviations and Definitions

TERM OR ACRONYM	DEFINITION/EXPLANATION
Ac-in	Acre-inches = volume of water covering 1 acre of land to a depth of 1 inch = 27,154 gallons
AWC	Soil Available Water Holding Capacity - the plant-available water storage capacity of a soil to a depth at which plant roots will utilize (typically 60 inches or root limiting layer)
BMP	Best Management Practices
DEQ or the Department	Idaho Department of Environmental Quality
Director	Director of the Idaho Department of Environmental Quality; or the Director's Designee, i.e. Regional Administrator
ET	Evapotranspiration – loss of water from the soil and vegetation by evaporation and by plant uptake (transpiration)
GS	Growing Season – April 1 through October 31
GWQR	IDAPA 58.01.11 "Ground Water Quality Rule"
Handbook or Guidelines	Wastewater-Beneficial Reuse Permit Program Guidance – available on-line at: IDEQ Wastewater Beneficial Reuse Program: On-line Guidance
HLR _{GS}	Growing Season Hydraulic Loading Rate. Includes any combination of wastewater and supplemental irrigation water applied to land application hydraulic management units during the growing season. The HLR _{GS} limit is specified in Section F. Permit Limits and Conditions. HLR _{GS} = Irrigation Water Requirement (IWR _{GS}). The IWR _{GS} is calculated as: $IWR_{GS} = IWR_{GS} = P_{def} / E_i$ Where : P_{def} = precipitation deficit E_i = irrigation system efficiency
HLR _{NGS}	Non-Growing Season Hydraulic Loading Rate. Includes any combination of wastewater and supplemental irrigation water applied to each hydraulic management unit during the non-growing season. The HLR _{NGS} limit is specified in Section F. Permit Limits and Conditions.
HMU	Hydraulic Management Unit (Serial number prefix is MU-)
IDAPA	Idaho Administrative Procedures Act
IWR	Irrigation Water Requirement – Any combination of wastewater, supplemental irrigation water and precipitation applied at rates commensurate to the moisture requirements of the crop, and calculated monthly during the growing season (GS). IWR calculation methodology can be found in the Guidance, Section 4.1.1.2.2.
lb/ac-d	Pounds (of constituent) per acre per day
LG	Lagoon (Serial number prefix is LG-)
MG	Million Gallons (1MG = 36.827 acre-inches)

TERM OR ACRONYM	DEFINITION/EXPLANATION
NGS	Non-growing season – November 1 through March 31
NVDS	Non-Volatile Dissolved Solids (= total dissolved solids less volatile dissolved solids)
Operating year	The operating year begins with the non-growing season and extends through the growing season of the following year – November 1 – October 31. For example, the 1999 operating year was November 1, 1999 through October 31, 2000.
PCS	Primary Constituent Standard (IDAPA 58.01.11, Rules of the Department of Environmental Quality, IDAPA 58.01.11, "Ground Water Quality Rule", Section 200.01.a, Table II.)
PO	Plan of Operation – required for all permitted wastewater land application facilities pursuant to IDAPA 58.01.17.300.06
SCS	Secondary Constituent Standard (IDAPA 58.01.11, Rules of the Department of Environmental Quality, IDAPA 58.01.11, "Ground Water Quality Rule", Section 200.01.b, Table III)
SIW	Supplemental irrigation water (Serial number prefix is GW- for ground water sources; SW- for surface water sources)
SMU	Soil monitoring unit (Serial number prefix is SU-)
Typical crop uptake	Typical Crop Uptake is defined as the <u>median</u> constituent crop uptake from the three (3) most recent years the crop has been grown. Typical Crop Uptake is determined for each hydraulic management unit. For new crops having less than three years of on-site crop uptake data, regional crop yield data and typical nutrient content values, or other values approved by DEQ may be used.
WW	Wastewater (Serial number prefix is WW-)

Table C-2 Constituent Abbreviations

Abbreviation	Constituent Description	Abbreviation	Constituent Description
% OM	% Organic Matter	NH ₄ -N	Ammonium-Nitrogen
Cl ⁻	Chloride ion	NO ₃ -N	Nitrate-Nitrogen
CO ₃ ²⁻	Carbonate ion	NVDS	Non-volatile Dissolved Solids
COD	Chemical Oxygen Demand	P	Phosphorus
EC	Electrical Conductivity	pH	Indicator of acidity / alkalinity % Hydrogen ion concentration
Fe	Iron	SAR	Sodium Adsorption Ratio
HCO ₃ ⁻	Bicarbonate ion	SO ₄ ⁻	Sulfate ion
K	Potassium	TDS	Total Dissolved Solids
Mg	Magnesium	TKN	Total Kjeldahl Nitrogen
Mn	Manganese	TSS	Total Suspended Solids
Na	Sodium	TDIS	Total Dissolved Inorganic Solids
NH ₃ -N	Ammonia-Nitrogen	VDS	Volatile Dissolved Solids

D Facility Information

Table D-1-Facility Information

Facility Information					
Legal Name of Permittee	Basic American Foods, Inc. Shelley Facility				
Facility Location	434 South Emerson, Shelley ID 83274				
Legal Location	T1S, R37E, Sections 2, 3, and 11				
County	Bingham County				
Type of Facility	Potato Dehydration Plant				
Facility Contact Person Mailing Address Phone Numbers	Nelson Rovig Director, Idaho Operations Basic American Foods, Campus Office 415 W. Collins Rd Blackfoot, ID 83221-5668 (208) 785-3200 or (208) 785-8572		John Kirkpatrick Idaho Operations Environmental Manager Basic American Foods, Campus Office 415 W. Collins Rd Blackfoot, ID 83221-5668		
USGS Quad	1950 7.5 Min Quadrangle – Goshen, ID				
Type of Waste	Potato processing wastewater				
Method of Treatment	Slow Rate Land Application				
Irrigated Acres	359.1 Acres under pivot irrigation				
Sanitary Waste System	City of Shelley Municipal Treatment System				
Potable Water Supply System	On-site potable water supply wells.				
Soils on Site ¹	Soil Type	Mapping Unit Symbol	Slope	Acres	Percentage of total (359.1 acres)
	Bannock Loam	BaA	0-2%	280.4	78.1 %
	Bock Loam	BoA	0-2%	7.2	2.0 %
	Stan Fine Sandy Loam	StA	0-2%	59.3	16.5 %
	Wolverine Sand	WOF	Rolling	12.2	3.4 %
Depth to Ground Water	Approximately 60 feet (high ground water during fall to early winter)				

¹ From United States Department of Agriculture, National Resources Conservation Services, Soil Survey Geographic Database (Ssurgo), Template Database Version: 32, Idaho version 9, Ssurgo Version: 2.2, Soil Survey Area: ID-770, Bingham Area, Idaho. Acreages are approximate.

Facility Information	
Beneficial Uses of Ground Water	Municipal, Domestic, Agriculture, Industrial
Nearest Surface Water	Little Sand Creek, East Branch Canal (growing season only)
Beneficial Uses of Surface Water	Agriculture, Aquatic Biota

E Compliance Schedule for Required Activities

Section E Notes

- E.1 Once approved by the Department, the Quality Assurance Project Plan, the Nuisance Odor Management Plan, the Run-off Management Plan, and the Waste Solids Management Plan shall be incorporated by reference into and enforceable as part of the Permit. Once approved, all other plans that are required to be submitted to and approved by the Department pursuant to Section E, Table E-1 shall be implemented by the Permittee, but shall not be enforceable as part of the Permit.
- E.2 The Permittee may submit revised management plans required in CA-032-01 (Table E-1) as individual documents *or* as sub-parts incorporated into a comprehensive, system-wide Plan of Operation.

Table E-1-Compliance Schedule for Required Activities

Compliance Activity Completion Date	Compliance Activity Description
CA-032-01 Twelve (12) Months following permit issuance	<p>The Permittee shall submit or update the following management plans for review and approval:</p> <ol style="list-style-type: none"> 1) An updated Plan of Operation (Operation and Maintenance Manual or O&M Manual) for the wastewater land application facility. The Plan of Operation shall be designed for use as an operator guide for actual day-to-day operations to meet permit requirements and shall include daily sampling and monitoring requirements to assess the adequacy of wastewater treatment facility operation. The Plan of Operation shall contain at a minimum the information in the latest revision of the Plan of Operation Checklist in the Reuse Program Guidance. A common Plan of Operation which applies to all three Basic American Foods Idaho Facilities may be submitted as long as it contains specific details on those individual plant operations which may differ between facilities. 2) A Quality Assurance Project Plan (QAPP) that should include at a minimum. <ol style="list-style-type: none"> a) Laboratory analytical methods and activities; data verification and validation; data storage, retrieval and assessment; and monitoring program evaluation and improvement. b) A comprehensive description of environmental sampling and analysis procedures (including those necessary for conducting all sampling and monitoring required in Table G-1). The plan shall include monitoring well statistical analyses adequate to detect and quantify impacts to ground water as a result of the land application of wastewater. c) Detailed quality assurance / quality control provisions. 3) A Waste Solids Management Plan which should describe how waste solids generated at the facility will be handled and disposed of to meet the requirements of the Permit Section I, No. 5; 4) A Buffer Zone Plan which describes how the buffer zone setback distances specified in Section F of this permit will be achieved. 5) A Nuisance Odor Management Plan which should include specific design considerations, operation and maintenance procedures, and management practices to be employed to minimize the potential for or limit odors. The plan should also include procedures to respond to an odor incident if one should occur, including notification procedures.
CA-032-02 1) Twelve (12) months following permit issuance 2) Twelve (12) months following Department approval of the work plan required in 1)	<p>Relative to those monitoring wells incapable of providing the required minimum annual number of ground water samples due to declining water levels, the Permittee shall:</p> <ol style="list-style-type: none"> 1) Submit a work plan which includes methods to ensure that all wells yield samples throughout the year and be sampled as close to the water table as possible.² 2) Implement mitigation measures as approved by the Department.

² For example, mitigation measures might include the replacement or recompletion of one or more monitoring wells or the implementation of an alternative schedule such that sampling is conducted to coincide more closely with time periods when ground water is highest.

Compliance Activity Completion Date	Compliance Activity Description
<p>CA-032-03</p> <p>1) Twenty-four (24) months following permit issuance</p> <p>2) Six (6) months following Department approval of the GWIR (if required)</p>	<p>1) The Permittee shall submit a Ground Water Investigation Report (GWIR) that addresses the following objectives:</p> <ul style="list-style-type: none"> a) Establish site background water quality levels and map areas of ground water degradation (above site background) and exceedances of the standards set forth in Ground Water Quality Rule (GWQR), IDAPA 58.01.11.200.01, b) Determine whether statistically significant trends are present in ground water constituent concentrations, and if so whether tendencies are toward improving ground water quality (declining toward background levels) or degrading ground water quality (increasing away from background levels), c) Further characterize soil water and constituent flux through the soil horizon into water bearing zones, d) Estimate down-gradient ground water constituent concentrations under a range of hydraulic and constituent loading (with a particular focus on non-growing season hydraulic loading), and e) Differentiate ground water quality impacts attributable to historic site loading practices from those predicted under current and planned operational configurations. <p>2) If the GWIR establishes that the statistical significance of trends in ground water quality cannot be determined, the GWIR must also include a Work Plan with the following elements:</p> <ul style="list-style-type: none"> a) Limitations of current site hydrogeological and/or constituent transport models (data gap analysis), b) Specific data acquisition and/or site modeling activities designed to remedy site characterization limitations described in 2a), and c) Timelines for the design and implementation of additional hydrogeological and vadose zone characterization to support predictions for "site-specific ground water quality levels" with an acceptable level of confidence.
<p>CA-032-04</p> <p>1) To be determined by the Department, based on results from the GWIR (or Work Plan) required in CA-032-03</p>	<p>1) The Permittee must submit a Water Quality Improvement Plan (WQIP) to accomplish the following objectives:</p> <ul style="list-style-type: none"> a) Predict a "Time Period for Ground Water Compliance" when ground water quality will be at site-specific levels approved by the Department, b) Propose statistically derived site-specific ground water quality levels for downgradient compliance points for regulated constituents of concern, to be applicable beginning with the "Time Period for Ground Water Compliance", and c) Describe a public process to inform and involve affected parties regarding proposed site-specific ground water quality levels and/or timelines by which ground water quality objectives will be reached.
<p>CA-032-05</p> <p>1) Twelve (18) months following permit issuance</p>	<p>The Permittee shall submit to DEQ for review and approval a Runoff Management Plan with control structures and other BMP's designed to prevent runoff from any site or fields used for wastewater reuse to property not owned by BAF Shelly except in the event of a 25 year, 24-hour storm event or greater, using Western Regional Climate Center (WRCC) Precipitation Frequency Map, found at http://www.wrcc.dri.edu/pcpnfreq/id25y24.gif, Figure 28, 'Isopluvials of 25-YR, 24-HR Precipitation in tenths of an inch.' For the BAF Shelley site, the 25-year, 24-hour event map reads approximately 1.9 inches. Upon approval of the plan by DEQ, BAF Shelley shall implement the runoff management plan, and shall construct, operate, and maintain the control structures and other BMP's in accordance with the approved plan.</p>

F Permit Limits and Conditions

Section F Notes

F.1 The Permittee is allowed to apply wastewater and treat it on the land application site as prescribed in the tables below and in accordance with all other applicable permit conditions and schedules.

Table F-1-Site Specific Permit Conditions

PERMIT CONDITION	PERMIT REQUIREMENT/DESCRIPTION
Application Site Area	359.1 irrigated acres
Application Season	365 days/year
Growing Season (GS)	April 1 through October 31 (214 days)
Non-Growing Season (NGS)	November 1 through March 31 (151 days)
Reporting Period (Operating Year)	November 1 through October 31
Supervision	Daily on-site operations management and record keeping provided through farm operator contract with close supervision provided by Basic American Foods, Inc. professional staff.
Method of Treatment and Process Description	In-plant pre-treatment including gross filtration, primary clarification, and when required the use of advanced treatment consisting of either separate or combined use of evaporation and reverse osmosis. Final treatment via land application.
Growing Season Wastewater Hydraulic Loading (Sum of WW + SIW)	<p>Growing Season (GS) Hydraulic Loading Rate shall be substantially equal to the Irrigation Water Requirement (IWR) based upon the most current crop-specific precipitation deficit (P_{def}) data available from "ETIdaho - Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho" at http://www.kimberly.uidaho.edu/ETIdaho/.</p> <p>The IWR shall be calculated by dividing the crop-specific P_{def} value, determined above, by the specific irrigation efficiency (E_i) of each HMU as follows:</p> $IWR = P_{def} / E_i$ <p>(Assume no carryover soil moisture and a leaching rate of zero in calculating the IWR.)</p>
Non-Growing Season Wastewater Hydraulic Loading	Table F-2 Total Annual Non-Growing Season Hydraulic Loading Limits
COD Loading (Seasonal Basis – reported for each HMU) in lb/ac-day	50 pounds/acre-day maximum seasonal average for growing season and non-growing season

PERMIT CONDITION	PERMIT REQUIREMENT/DESCRIPTION
Annual Nitrogen Loading (each HMU) from all sources (wastewater, fertilizer, etc.) in lb/ac-year	150% of typical crop uptake (see Section C definitions)
Non-Volatile Dissolved Solids Loading (each HMU)	4,500 pounds/acre-year
Buffer Zones	See Table F-3 Buffer Zone Requirements
Grazing	Grazing is allowed only under the provisions of a Grazing Management Plan approved by the Department
Flow Measurement and Device Calibration	The Permittee shall measure wastewater and supplemental irrigation water flows to the land application treatment fields using approved electronic or mechanical devices. The accuracy of flow measurement devices shall be documented annually.
Construction Plans & Specifications	Pursuant to IC§39-118, detailed plans and specifications shall be submitted to DEQ for review and approval prior to construction, modification, or expansion of any wastewater treatment, storage or conveyance facilities or structures. Within 30 days of completion of construction, the Permittee shall submit as-built plans for review and approval or a letter from an Idaho registered Professional Engineer certifying that the wastewater facilities or structures were constructed in substantial accordance with the approved plans and specifications.
Wellhead Protection	Buffer zones of 500 feet or more shall be maintained between land application areas and domestic water supplies (or 1000 feet for public water supplies) unless a Department approved Well Location Acceptability Analysis indicates an alternative buffer zone is acceptable. Berms and/or other BMPs shall be used to protect on-site well heads. ³
Allowable Crops	Crops grown for direct human consumption (those crops that are not processed prior to consumption) are not allowed.

³ Well Location Acceptability Analyses and Buffer Zone Plans previously approved by the Department should be annually reviewed by the Permittee to ensure ongoing compliance with permit requirements.

Table F-2-Total Annual Non-Growing Season Hydraulic Loading Limits by HMU

HMU #	Description	in/ac	MG
MU-003201	Pivot #1	10.54	9.9
MU-003202	Pivot #2	10.74	26.4
MU-003203	Pivot #3	10.54	16.1
MU-003204	Pivot #4	10.54	16.5
MU-003206	Pivot #5	10.97	19.1
MU-003207	Pivot #6	11.27	12.6
MU-003209	Pivot #8	8.88	2.0
MU-003215	Pivot #2b	10.54	2.4
		Total (MG):	105.0

Table F-3-Buffer Zone Requirements

Feature of Interest	Buffer Zone (feet)
Public Water Supplies	1,000
Private Water Supplies	500
Dwellings	300
Public access areas	50
Natural surface water bodies	100
Man-made surface waters	50

(a) Buffer zones may be reduced by employing mitigation measures included in a Buffer Zone Plan approved by DEQ including:

- Establishment of an effective physical barrier,
- Utilization of non-spray irrigation (drag tubes or equivalent),
- Managing irrigation systems in a manner that would prevent any spray drift towards the feature of interest, or
- Run-off and/or over-spray controls.

(b) The buffer zone to public access areas (e.g. public roads and their associated easements; recreational or walking areas) and man-made surface waters may be reduced to the minimum only if the proposal is supported with engineering designs and calculations showing that wastewater will not over-spray onto indicated feature of interest.

G Monitoring Requirements

Section G Notes

- G.1 The Permittee shall monitor the operation and efficiency of all treatment facilities. The Permittee shall monitor and measure parameters as stated in the Facility Monitoring Table in this section.
- G.2 Samples shall be collected at times and locations that represent typical environmental and process parameters being monitored.
- G.3 Wastewater shall be sampled as follows – 24-hour composite samples having, at a minimum four (4) individual aliquots evenly distributed over time shall be taken.
- G.4 The Permittee shall employ approved analytical methods as approved by the Department of Environmental Quality (DEQ). A description of approved sample collection methods, appropriate analytical methods, and companion QA/QC protocol shall be included in the quality Assurance Project Plan (QAPP).
- G.5 Ground Water Monitoring Procedure: Ground water monitoring wells shall be purged a minimum of three (3) casing volumes and/or until at least two field measurements of pH, specific conductance, and temperature meet the following conditions: successive temperature values measured at least five minutes apart are within one degree Celsius of each other, pH values for two successive measurements measured at least five minutes apart are within 0.2 units of each other, and two successive specific conductance values measured at least five minutes apart are within 10% of each other. This procedure will determine when the wells are suitable for sampling for constituents required by the permit. Other procedures, such as low flow sampling, may be considered by DEQ for approval. The depth to water (static water level) shall be measured prior to purging the well.
- G.6 For fields >15 acres, the Permittee shall collect soil samples within each SMU at a minimum of ten (10) random locations. For fields <15 acres, the Permittee shall collect soil samples at five (5) random locations. At each sample location, individual samples must be taken at 3 depths, 0-12 inches, 12-24 inches, and 24-36 inches (or refusal). Samples from the same depth within a single SMU may be composited by depth to yield a minimum of three (3) samples per SMU for analysis. Sample locations must be spatially representative of the unit; must consider site-specific characteristics such as topography and drainage; and must exclude unusual areas such as erosion channels, dead furrows and fence lines.
- G.7 Unless otherwise agreed to in writing by the Department, data collected and submitted shall include, but not be limited to the parameters and frequencies in the following table.
- G.8 For permit compliance purposes, constituent mass loading shall be calculated using monthly hydraulic flows and monthly constituent concentrations obtained from a certified lab. Those values must be used as the basis of calculations for summary reports required in Table G-1.

Table G-1-Environmental Monitoring Table

FREQUENCY	MONITORING POINT	DESCRIPTION AND TYPE OF MONITORING	PARAMETERS
Wastewater Monitoring			
Daily	Flow meter or other DEQ approved method	Volume applied to each HMU	Million gallons and acre-inches, record daily, compiled monthly
Monthly	Process wastewater - Active WW Sampling Points in Table K-2	WW Quality, 24 hour composite sample (see Section note G.3)	Chemical Oxygen Demand, Total Kjeldahl Nitrogen, Ammonia-Nitrogen, Nitrite+Nitrate-Nitrogen, Total Phosphorus, Chloride, Electrical Conductivity, Potassium, pH, Total Dissolved Solids, Volatile Dissolved Solids (VDS)
Supplemental Irrigation Water Monitoring			
Daily	Flow meter or other DEQ approved method	Volume applied to each HMU	Million gallons and acre-inches, record daily, compile monthly
Twice May and October of first permit year	SIW sampling point in Table K-3 ⁴	Grab sample	Nitrate+Nitrite-Nitrogen, Total Phosphorus, Chloride, Total Kjeldahl Nitrogen
Irrigation Management			
Annual – prior to GS	Each HMU	Calculate the season-specific Irrigation Water Requirement for each month during the GS	Volume (million gallons & inches) - each HMU, each crop type

⁴ The East Branch Canal supplies supplemental irrigation from two different diversions for the Foundry Road North (FRN) + Foundry Road South (FRS) farms and the Sugar Factory Road (SFR) farm. The Permittee may obtain grab samples pursuant to requirements in Table G-1 from either location.

FREQUENCY	MONITORING POINT	DESCRIPTION AND TYPE OF MONITORING	PARAMETERS
Ground Water Monitoring			
April, July, and October of each year ⁵	Ground water monitoring wells indicated as active in Table K-5	Grab samples of ground water. See Section note G.5	Static water level (in hundredths of a foot), pH, Electrical Conductivity, Temperature, Total Phosphorus, Nitrate-Nitrogen, Chloride, total and dissolved Iron ⁶ , total and dissolved Manganese ⁶ , Total Dissolved Solids
Soil Monitoring			
Twice Yearly April and October	Each Soil Monitoring Unit in Table K-4	See Section Note G.6	Electrical Conductivity, Nitrate-Nitrogen, Ammonium Nitrogen, Plant Available Phosphorus, pH, % organic matter, potassium, and SAR. Note: Conduct DTPA, Fe, and Mn analyses first and last years of permit.
Crop Monitoring			
Each Harvest or Cutting	Each crop type, each harvest, on each HMU	Crop Yield (crop tissue mass removal)	Pounds/acre and total pounds per HMU (both wet and dry basis)
Each Harvest or Cutting	Each crop type, each harvest, on each HMU	Crop tissue analysis (composited sample of harvested portion, each crop per harvest)	Nitrate-Nitrogen, Total Kjeldahl Nitrogen, Total Phosphorus, and ash removed (lbs/acre-yr), dry basis

⁵ Unless an alternate sampling schedule is submitted and approved as a result of the work plan included as part of compliance activity CA-032-02.

⁶ Analytical results are required for dissolved iron and/or manganese only if the results for total iron and/or manganese exceed standards in IDAPA 58.01.11.200.b.

FREQUENCY	MONITORING POINT	DESCRIPTION AND TYPE OF MONITORING	PARAMETERS
Site & Equipment Monitoring			
First year of permit, and after replacement or modification of meter & associated piping	All flow measurement locations	Assess function and accuracy	Document accuracy of flow meters and pumps used to directly or indirectly measure all wastewater, tail water, flushing water, and supplemental irrigation water applied to each HMU as recommended by manufacturer
Annually	Mechanical cross-connection control devices at all points of interconnection between WW and potable or surface water sources	Testing of backflow prevention devices	Document the testing of all backflow prevention devices for all supplemental irrigation pumps directly connected to the wastewater distribution system(s). Report the testing date(s) and results of the test (pass or fail). If any test failed, report the date of repair or replacement of backflow prevention device, and if the repaired/replaced device is operating correctly.
Calculations			
Annually	Each HMU	Calculate crop nitrogen, phosphorus, and ash removal for each crop, each harvest, on each HMU	Pounds/acre & total pounds per HMU (dry basis). Compile each harvest and annual totals.
		Report nutrient removal (nitrogen and phosphorus) for three prior reporting years	Pounds/acre-year
		Calculate median nutrient removal (nitrogen and phosphorus)	Pounds/acre-year
		Calculate wastewater nitrogen, phosphorus, and NVDS loading rates	Pounds/acre-year

FREQUENCY	MONITORING POINT	DESCRIPTION AND TYPE OF MONITORING	PARAMETERS
		Calculate both GS & NGS wastewater loading rate	Million gallons/HMU & inches/acre for each HMU
		Calculate seasonal average COD loading rates for both GS & NGS	Pounds/acre-day
		Calculate nitrate-nitrogen, phosphorus loading rates from supplemental irrigation application when sampled	Pounds/acre-year
		Report nitrogen and phosphorus fertilizer application rates	Type and pounds/acre-year
		Calculate sum of wastewater nitrogen + fertilizer nitrogen	WW-N + fertilizer N in Pounds/acre-year
		Calculate sum of wastewater phosphorus + fertilizer phosphorus	WW-P + fertilizer P in Pounds/acre-year

H Standard Reporting Requirements

- H.1 The Permittee shall submit an Annual Wastewater-Land Application Site Performance Report ("Annual Report") no later than January 31st of each year, which shall cover the previous reporting year (November 1 through October 31). The Annual Report shall include an interpretive discussion of monitoring data (ground water, soils, hydraulic loading, wastewater etc.) with particular respect to environmental impacts by the facility and shall be prepared by a competent environmental professional.
- H.2 The Annual Report shall include all laboratory analytical results for environmental sampling required or recommended by Table G-1 (including analytical results from sampling conducted at frequencies greater than those prescribed).
- H.3 The Annual Report shall include all results from system monitoring and calculations required by Table G-1, Monitoring Table.
- H.4 Notice of completion of any work required in Section E. Compliance Schedule for Required Activities shall be submitted to the Department within 30 days of completion. The status of all other work described in Section E shall be submitted with the Annual Report.
- H.5 The Annual Report shall be submitted to the Engineering Manager in the regional DEQ Office listed below.

Pocatello Regional Office
444 Hospital Way, #300
Pocatello, ID 83201
208-236-6160

I Standard Permit Conditions: Procedures and Reporting

- I.1 The Permittee shall at all times properly maintain and operate all structures, systems, and equipment for treatment, operational controls and monitoring, which are installed or used by the Permittee to comply with all conditions of the permit or the Recycled Water Rules, in conformance with a DEQ approved, current Plan of Operations (Operations and Maintenance Manual) which describes in detail the operation, maintenance, and management of the wastewater treatment system. This Plan of Operations shall be updated as necessary to reflect current operations.
- I.2 Wastewater(s) or recharge waters applied to the land surface must be restricted to the premises of the application site. Wastewater discharges to surface water that require a permit under the Clean Water Act must be authorized by the U.S. Environmental Protection Agency.
- I.3 Wastewater must not create a public health hazard or nuisance condition as stated in IDAPA 58.01.16.600.03. In order to prevent public health hazards and nuisance conditions the Permittee shall:
- Apply wastewater as evenly as practicable to the treatment area;
 - Prevent organic solids (contained in the wastewater) from accumulating on the ground surface to the point where the solids putrefy or support vectors or insects; and
 - Prevent wastewater from ponding in the fields to the point where the ponded wastewater putrefies or supports vectors or insects.
- I.4 The Permittee shall:
- Manage the wastewater land application treatment site as an agronomic operation where vegetative cover is grown and harvested or grazed to utilize the nutrients and minerals in the wastewater, and,
 - Not hydraulically overload any particular areas of the wastewater land application treatment site.
- I.5 All waste solids, including dredge and sludge wastes, shall be utilized or disposed in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state such that health hazards and nuisance conditions are not created; and to prevent impacts on designated beneficial uses of the ground water and surface water. The Permittee's management of waste solids shall be governed by the terms of the DEQ approved Waste Solids Management Plan, which upon approval shall be an enforceable portion of this permit.
- I.6 If the Permittee intends to continue operation of the permitted facility after the expiration of an existing permit, the Permittee shall apply for a new permit at least six months prior to the expiration date of the existing permit in accordance with the Waste Water Land Application Permit Regulations and include seepage tests on all lagoons per latest DEQ procedures.
- I.7 The Permittee shall allow the Director of the Idaho Department of Environmental Quality or the Director's designee (hereinafter referred to as Director), consistent with Title 39, Chapter 1, Idaho Code, to:
- Enter the permitted facility,
 - Inspect any records that must be kept under the conditions of the permit.
 - Inspect any facility, equipment, practice, or operation permitted or required by the permit.
 - Sample or monitor for the purpose of assuring permit compliance, any substance or any parameter at the facility.
- I.8 The Permittee shall report to the Director under the circumstances and in the manner specified in this section:
- In writing thirty (30) days before any planned physical alteration or addition to the permitted facility or activity if that alteration or addition would result in any significant change in information that was submitted during the permit application process.
 - In writing thirty (30) days before any anticipated change which would result in non-compliance with any permit condition or these regulations.
 - Orally within twenty-four (24) hours from the time the Permittee became aware of any non-compliance which may endanger the public health or the environment at telephone numbers provided in the permit by the Director (see below).
 - Pocatello Regional Office: 208-236-6160 Emergency 24 Hour Number: 1-800-632-8000.
 - In writing as soon as possible but within five (5) days of the date the Permittee knows or should know of any non-compliance unless extended by the DEQ. This report shall contain:

- i) A description of the non-compliance and its cause;
 - ii) The period of non-compliance including to the extent possible, times and dates and, if the non-compliance has not been corrected, the anticipated time it is expected to continue; and
 - iii) Steps taken or planned to reduce or eliminate reoccurrence of the non-compliance.
- e. In writing as soon as possible after the Permittee becomes aware of relevant facts not submitted or incorrect information submitted, in a permit application or any report to the Director. Those facts or the correct information shall be included as a part of this report.
- I.9 The Permittee shall take all necessary actions to prevent or eliminate any adverse impact on the public health or the environment resulting from permit noncompliance.
- I.10 The Permittee shall determine (on an on-going basis) if any noxious weed problems relate to the permitted sites. If problems are present, coordinate with the Idaho Department of Agriculture or the local County authority regarding their requirements for noxious weed control. Also address these control operations in an update to the Operations and Maintenance Manual.

J Standard Permit Conditions: Modifications, Violation, and Revocation

- J.1 The Permittee shall furnish to the Director within reasonable time, any information including copies of records, which may be requested by the Director to determine whether cause exists for modifying, revoking, re-issuing, or terminating the permit, or to determine compliance with the permit or these regulations.
- J.2 Both minor and major modifications may be made to this permit as stated in IDAPA 58.01.17.700.01 and 02 with respect to any conditions stated in this permit upon review and approval of the DEQ.
- J.3 Whenever a facility expansion, production increase or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, or if it is determined by the DEQ that the terms or conditions of the permit must be modified in order to adequately protect the public health or environment, a request for either major or minor modifications must be submitted together with the reports as described in Section H. *Standard Reporting Requirements*, and plans and specifications for the proposed changes. No such facility expansion, production increase or process modification shall be made until plans have been reviewed and approved by the DEQ and a new permit or permit modification has been issued.
- J.4 Permits shall be transferable to a new owner or operator provided that the Permittee notifies the Director by requesting a minor modification of the permit before the date of transfer.
- J.5 Any person violating any provision of the Wastewater Reuse Permit Regulations, or any permit or order issued there under shall be liable for a civil penalty not to exceed ten thousand dollars (\$10,000) or one thousand dollars (\$1,000) for each day of a continuing violation, whichever is greater. In addition, pursuant to Title 39, Chapter 1, Idaho Code, any willful or negligent violation may constitute a misdemeanor.
- J.6 The Director may revoke a permit if the Permittee violates any permit condition or the Wastewater Reuse Permit Regulations.
- J.7 Except in cases of emergency, the Director shall issue a written notice of intent to revoke to the Permittee prior to final revocation. Revocation shall become final within thirty-five (35) days of receipt of the notice by the Permittee, unless within that time the Permittee request an administrative hearing in writing to the Board of Environmental Quality pursuant to IDAPA 58.01.23, "Rules of Administrative Procedure Before the Board of Environmental Quality."
- J.8 If, pursuant to Idaho Code §67-5247, the Director finds the public health, safety or welfare requires emergency action, the Director shall incorporate findings in support of such action in a written notice of emergency revocation issued to the Permittee. Emergency revocation shall be effective upon receipt by the Permittee. Thereafter, if requested by the Permittee in writing, a revocation hearing before the Board of Environmental Quality shall be provided. Such hearings shall be conducted in accordance with IDAPA 58.01.23, "Rules of Administrative Procedure Before the Board of Environmental Quality."
- J.9 The provisions of this permit are severable and if a provision or its application is declared invalid or unenforceable for any reason, that declaration will not affect the validity or enforceability of the remaining provisions.
- J.10 The Permittee shall notify the DEQ at least six (6) months prior to permanently removing any permitted land application facility from service, including any treatment, storage, or other facilities or equipment associated with the land application site. Prior to commencing closure activities, the Permittee shall: a) participate in a pre-site closure meeting with the DEQ; b) develop a site closure plan that identifies specific closure, site characterization, or cleanup tasks with scheduled task completion dates in accordance with agreements made at the pre-site closure meeting; and c) submit the completed site closure plan to the DEQ for review and approval within forty-five (45) days of the pre-site closure meeting. The Permittee must complete the DEQ approved site closure plan.

K Appendices

Appendix 1. Environmental Monitoring Serial Numbers

Table K-1-Hydraulic Management Units

Serial Number	Hydraulic Management Unit Description (Common Name)	Acres	Active HMU?
MU-003201	Pivot #1	34.5	<input checked="" type="checkbox"/>
MU-003202	Pivot #2	90.5	<input checked="" type="checkbox"/>
MU-003203	Pivot #3	56.3	<input checked="" type="checkbox"/>
MU-003204	Pivot #4	57.5	<input checked="" type="checkbox"/>
MU-003206	Pivot #5	63.8	<input checked="" type="checkbox"/>
MU-003207	Pivot #6	41.2	<input checked="" type="checkbox"/>
MU-003209	Pivot #8	7.1	<input checked="" type="checkbox"/>
MU-003215	Pivot #2b	8.2	<input checked="" type="checkbox"/>
Total Irrigated Acres		359.1	

Table K-2-Wastewater Sampling Points

Serial Number	Description of Wastewater Sampling Location	Active Monitoring Point?
WW-003201	WW at aeration tank (not in use)	<input type="checkbox"/>
WW-003202	WW to Land Application	<input checked="" type="checkbox"/>

Table K-3-Supplemental Irrigation Water Sampling Points

Serial Number	Surface Water Sampling Points Description of Location	Active Monitoring Point?
SW-003201	East Branch Canal ⁷	<input checked="" type="checkbox"/>

⁷ SIW diversions from the East Branch Canal occur at two locations separately supplying Foundry Road South (FRS) + Foundry Road North (FRN) farms and Sugar Factory Road (SFR) farms.

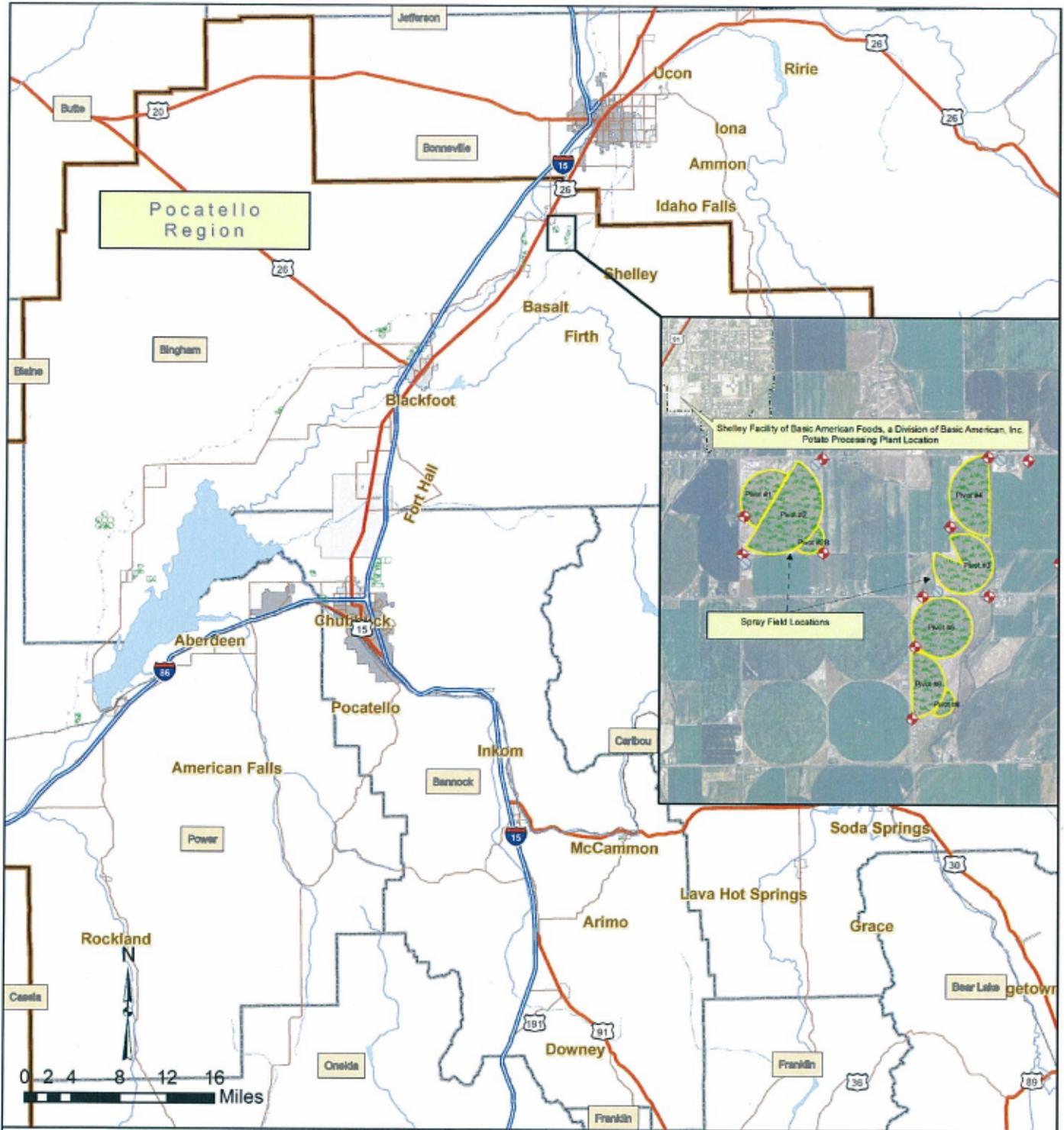
Table K-4-Soil Monitoring Units

Serial Number	Soil Monitoring Units Description of Location	Associated Hydraulic Management Unit	Acres:	Active Monitoring Point?
SU-003206	Pivot #5	MU-003206	63.8	<input checked="" type="checkbox"/>
SU-003207	Pivot #6	MU-003207	41.2	<input checked="" type="checkbox"/>
SU-003209	Pivot #8	MU-003209	7.1	<input checked="" type="checkbox"/>
SU-003213	Pivot #1	MU-003201	34.5	<input checked="" type="checkbox"/>
SU-003216	Pivot #3	MU-003203	56.3	<input checked="" type="checkbox"/>
SU-003217	Pivot #4	MU-003204	57.5	<input checked="" type="checkbox"/>
SU-003219	Pivot #2B	MU-003215	8.2	<input checked="" type="checkbox"/>
SU-003220	Pivot #2	MU-003202	90.5	<input checked="" type="checkbox"/>
Total Acres			359.1	

Table K-5-Ground Water Monitoring Wells

WLAP Serial Number	Common Name	Description/Gradient Position	Active?
GW-003205	MW-5	Upgradient to Pivot #5	<input checked="" type="checkbox"/>
GW-003206	MW-6	Downgradient to Pivot #6	<input checked="" type="checkbox"/>
GW-003207	MW-7	Downgradient to Pivot #3	<input checked="" type="checkbox"/>
GW-003208	MW-8	Sidegradient to Pivot #2 & #2b	<input checked="" type="checkbox"/>
GW-003209	MW-9	Downgradient to Pivot #4	<input checked="" type="checkbox"/>
GW-003210	MW-1(New)	Upgradient to Pivot #1	<input checked="" type="checkbox"/>
GW-003211	MW-2 (New)	Downgradient from Pivot #2 and #2B	<input checked="" type="checkbox"/>
GW-003212	MW-4 (New)	Upgradient to Pivot #4	<input checked="" type="checkbox"/>
GW-003213	MW-10	Upgradient to Pivot #4 & #3	<input checked="" type="checkbox"/>
GW-003214	MW-11	Side-gradient to Pivot #3	<input checked="" type="checkbox"/>
GW-003215	MW-12	Downgradient to Pivot #5	<input checked="" type="checkbox"/>
GW-003216	MW-13	Downgradient to Pivots #1 and #2	<input checked="" type="checkbox"/>

Appendix 2. Site Map



Shelley Facility of Basic American Foods, A Division of Basic American, Inc. Vicinity Map

Prepared by Tom Hepworth, IDEQ using ArcGIS ArcView 8.1
 Projection: Idaho Transverse Mercator (IDTM83) Datum: NAD 1983
 Data Sources: IDEQ SDE and Local Feature Classes and Layers
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State of Idaho
 Department of Environmental Quality
 444 Hospital Way, #300
 Pocatello ID 83201 236-6160

Wastewater Beneficial Reuse Permitting Program
 Pocatello Regional Office

Figure K-1. Vicinity Map for Basic American Foods Inc. Shelley Facility