OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

POND/IMPOUNDMENT PLAN

Applicant's Name American Energy Corporation Pond/Impoundment # 012 As Built

Type of pond/impoundment Excavated Permanent ☐ Temporary ☒

1. DRAINAGE AREA DATA:

   a) Drainage area 7.7 acres
   b) Disturbed area 3.2 acres
   c) Ave. land slope 20 %
   d) Hydrologic soil group C
   e) Hydraulic length 1645 ft.
   f) Cover/condition of the undisturbed area Pasture/Fair

2. DESIGN STORM CRITERIA:

   a) Method:

      1) Design method(s) including computer programs: SEDCAD, FLOWMASTER

      2) NRCS curve number various (see run sheets)

   b)

Rainfall Amount/Peak Flow	Rainfall, in.	Peak flow, cfs.
1) 10 year, 24 hour =	3.7	15.8
2) 25 year, 24 hour =	4.2	18.9
3) 50 year, 6 hour = (if permanent)		
4) 100 year, 6 hour = (if 20/20 size)		

3. SIZE:

   a) Dimensions:

1)	Dam height	2	ft.	4)	Dam downstream slope	42 (AVG)	%
2)	Dam width	12 (min.)	ft.	5)	Dam upstream slope	36 (AVG)	%
3)	Dam length	385	ft.	6)	Core length	N/A ft. N/A ft. N/A ft.	

   b) Sediment storage volume 2.2 ac. ft. is provided below the 997.0 foot elevation.

   c) Stage/Area Data:

		Elevation ft.	Surface Area ac.	Volume ft.
1)	Bottom of pond/impoundment	991.0	0.128	0.0
2)	Streambed at upstream toe:	995	0.262	0.90
3)	Principal spillway inlet:	N/A	N/A	N/A
4)	Emergency spillway crest:	997.0	0.351	2.2
5)	Top of embankment:	1000.0	0.504	2.6

4. PRINCIPAL SPILLWAY:

a) Pipe length N/A ft.
b) Pipe diameter N/A in.
c) Pipe slope N/A %
d) Riser diameter N/A in.
e) Riser height N/A ft.
f) Type of pipe N/A
g) Number of anti-seep collars N/A; spacing along pipe N/A ft.
h) Does the design include a trash rack? ☐ Yes, ☐ No.
i) Does the design include an anti-vortex device? ☐ Yes, ☐ No.

5. EMERGENCY SPILLWAY/EXIT CHANNEL:

a) Base width 12 ft.
b) Design flow depth 0.6 ft.
c) Exit slope 50%
d) Exist velocity 2.53 fps
e) Channel lining 18" Rock Riprap
f) Side slopes 2:1 (max.)
g) Freeboard 1.6 ft.
h) Entrance slope 36 %
i) Length of level control section 20 ft.

6. The minimum static factor of safety for this impoundment is 1.5

7. Provide as an addendum to this attachment a detailed plan view or 2 cross sections of the impoundment.

8. COMMENTS:

9. Is this an MSHA structure? ☐ Yes ☒ No. If "yes," provide the MSHA ID number if one has been assigned

10. If this is to be retained as a permanent impoundment, submit an addendum to this attachment demonstrating compliance with 1501:13-9-04 of the Administrative Code.

11. I hereby certify that this impoundment is designed to comply with the applicable requirements of 1501:13-9-04 of the Administrative Code using current, prudent engineering practices.

Signature _____ Date _____