

C-R-S:	PID:	Reviewer:	Date:
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If you do not have a surface mine correction on the project, you do not have to fill out this checklist.

Investigation	
1	Have the following forms of DMRM information been reviewed regarding the existence of active, reclaimed or abandoned surface mines within, or adjacent to, the project area:
Y N X	a permit files for current or reclaimed coal and industrial minerals mining operations
Y N X	b permit files for current or past bond forfeiture coal and industrial minerals mining operations
Y N X	c project files for current or completed AML and bond forfeiture projects
Y N X	d all AML inventory documents or databases
Y N X 2	Has all surface mine information obtained from individuals listed in Question 4 of the "Reconnaissance and Planning Checklist" been discussed with DGS and DMRM, and incorporated into the investigations information?
Y N X 3	Has a geophysical investigation of the project area been conducted?
	If yes, check the geophysical methods utilized:
	<input type="checkbox"/> refractive seismic studies <input type="checkbox"/> ground penetrating radar
	<input type="checkbox"/> reflective seismic studies <input type="checkbox"/> electromagnetic studies
	<input type="checkbox"/> resistivity <input type="checkbox"/> microgravity
Y N X 4	Has a subsurface investigation of the project area been conducted?
5	Have all the forms of gathered information, including information developed through a geophysical investigation and/or a subsurface investigation program, defined the following:
Y N X	a vertical and lateral extent of surface mining affectment
Y N X	b location and variations in height of final or abandoned highwall
Y N X	c varying physical properties of the mine spoil materials
Y N X	d location of toxic coal and/or mine spoil materials

V.E. Surface Mine Corrections Checklist

Y	N	X	e	method, location and horizontal limits of auger mining underlying final highwalls	
Y	N	X	f	location of sediment ponds	
Y	N	X	g	mining methods	
Y	N	X	h	date(s) of operation and associated Ohio mining regulations	
Y	N	X	i	presence of acid mine drainage as surface and/or groundwater	
Y	N	X	j	location(s) of adjacent underground mine(s)	
Y	N	X	k	groundwater quality and quantity throughout the project area	
Y	N	X	l	current legal status of surface mine, i.e., active, reclaimed, partially reclaimed, forfeited, abandoned	
Y	N	X	m	location and nature of localized high quantity and/or low quality groundwater conditions	
Y	N	X	n	general structural strike and dip of all mined mineral formations	
Y	N	X	o	localized variations of the structural strike and dip of all mined mineral formations within the project area	
Y	N	X	p	location and extent of coal refuse disposal areas	

Notes:

V.E. Surface Mine Corrections Checklist

Analysis	
Y N X 6	Have toxic coal refuse samples been analyzed for calcium carbonate deficiencies (acid/base accounting)?
Y N X 7	Has water quality and quantity information adequately defined the hydrologic regime in the project area?
8	<p>Has the impact of mine spoil consolidation on the proposed project been determined?</p> <p>a If mine spoil consolidation is a concern, which method(s) were considered to alleviate the consolidation impact:</p> <p><input type="checkbox"/> compaction grouting <input type="checkbox"/> preloading</p> <p><input type="checkbox"/> dynamic compaction <input type="checkbox"/> soil mixing</p> <p><input type="checkbox"/> remove and replace</p> <p><input type="checkbox"/> other List other items:</p>
Y N X 9	Has all investigative information been incorporated into the overall comprehensive analysis of existing project area characteristics?

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V.E. Surface Mine Corrections Checklist

Design		
	10	Have the following features been included in the project design:
Y	N	X
	a	general surface and groundwater drainage management which accounts for detected variations in quality and /or quantity
Y	N	X
	b	management of localized high volume and/or low quality surface and groundwater sources
Y	N	X
	c	general roadway and structural construction methods to overcome compressibility (settlements) related to unconsolidated mine spoil, including dynamic compaction, the use of geosynthetics, preloading, soil mixing, compaction grouting
Y	N	X
	d	methods to overcome soil piping related to smaller gradation mine spoil overlying coarser mine spoil
Y	N	X
	e	control of differential settlement at the location of previously backfilled highwalls and highwalls proposed to be backfilled during project construction
Y	N	X
	f	methods for stabilization of auger mining voids underlying the final highwalls
Y	N	X
	g	location, nature, and physical condition of all known mine openings
Y	N	X
	h	use of washed river aggregate and high density polyethylene (HDPE) drainage conduits and fixtures in systems and structures built to manage low quality groundwater
Y	N	X
	i	disposal of toxic spoil and coal refuse materials
Y	N	X
	j	contingency plans for disposal of hazardous waste materials unexpectedly encountered in mine spoil
Y	N	X
	11	If discharges of water, movements of toxic coal or spoil, or drilling and grouting of subsurface auger mining voids underlying the final highwalls are to be performed, have all the necessary notifications been made and all necessary permits been acquired from the EPA?

V.E. Surface Mine Corrections Checklist

Y	N	X	12	If active or abandoned surface mines exist within the project vicinity and the project earthwork will result in an excess amount of excavation or embankment, has the DMRM and OSM been contacted regarding the possible mutual benefits to the project and to the AML which may exist by either wasting suitable excess excavation or obtaining needed suitable embankment from nearby abandoned surface mine areas?	
Y	N	X	13	Has a cost comparison been performed to evaluate a recommended solution compared to others?	

Notes:

V.E. Surface Mine Corrections Checklist

Plans and Contract Documents				
Y	N	X	14	Has the information obtained from the investigation and analysis been incorporated into the project design?
Y	N	X	15	Have all necessary notes, specifications, and plan details been developed?
Y	N	X	16	Have the need, location, plan notes, and monitoring schedule of instrumentation been determined?
Y	N	X	17	Has the vertical and lateral extent of surface mining disturbance been included on the Cross Sections and Plan and Profile sheets?
Y	N	X	18	<p>Have the methods of payment for contract pay items been flexibly structured to allow for work adjustments due to highly variable subsurface conditions related to past surface mining?</p> <p>If yes, check the type of unit pricing provided for in the contract documents:</p> <ul style="list-style-type: none"> <input type="checkbox"/> unit pricing of materials and excavation related to surface and groundwater structures <input type="checkbox"/> unit pricing of work items related to spoil stabilization/consolidation <input type="checkbox"/> unit pricing of drilling items related to stabilization of auger mining voids underlying the final highwalls <input type="checkbox"/> unit pricing of individual grouting components required for stabilization of auger mining voids underlying the final highwalls <input type="checkbox"/> other List other items:
Y	N	X	19	Have the effects of the original failure and proposed correction on any structures (e.g., bridges, buildings, culverts, utilities) been evaluated and solutions to any issues incorporated into final design?

Notes: