

modified over the years by culverting, field tile inputs, and dredging to remove accumulated sediment. The existing stream has a trapezoidal cross-section and does not have a floodplain or riffle/pool complexes. Its cross section, slope, and longitudinal profile is consistent with similar northwest Ohio streams that function to receive and transport runoff from agricultural fields. The stream has a very small slope from one end of the Site to the other (0.24%) and is primarily one extended pool through the Site.

8.3 Minimal Degradation Alternative

The proposed removal of an 865-foot reach of Nelot's Creek will have the effect of lowering water quality by eliminating a reach of stream. Due to the low quality of the aquatic habitat in this reach of the stream on the Site, the proposed lowering of water quality will have minimal individual and cumulative impact on aquatic habitat and aquatic life. The proposed lowering of water quality may have a minimal, temporary impact on sport and recreational fish species; however it is unlikely that species migrate up Nelot's Creek for spawning since desirable habitat was not identified.

As in the PDA, the Applicant will take all necessary steps to comply with Ohio's National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit, and meet the requirements of this permit during the construction phase.

8.3.1 Wetlands

Two isolated wetlands were identified on the Site (MSI, December 2008), so impacts to these wetlands will be covered under an Individual State of Ohio Isolated Wetland Permit (Level Two Review).

8.3.2 Streams

Approximately 2,140 linear feet of Nelot's Creek are located on the Site. In the MDA, approximately 865 linear feet will be impacted and 1,275 linear feet will be avoided for this alternative. The existing stream has a trapezoidal cross-section and does not have a floodplain or riffle/pool complexes. Its cross section, slope, and longitudinal profile is consistent with similar northwest Ohio streams that function to receive and transport runoff from agricultural fields. The stream has a very small slope from one end of the Site to the other (0.24%) and is primarily one extended pool through the Site.

A newly designed section of stream will be constructed to the north. It will be designed utilizing ditch design methods to replace the minimal water quality and aquatic habitat functions that exist in the current alignment of Nelot's Creek. The relocated ditch will be longer than the impacted stream reach and thus have a lower slope. The end goal is that the relocated stream channel will provide replacement of the habitat, flow functions and biological water quality of the impacted portion of Nelot's Creek.

8.4 Non-Degradation Alternative

Under this Alternative (see Figure 6), no impacts to surface waters will occur. Prior to construction, the Applicant will take all the necessary steps to insure compliance with the storm water requirements set forth in the ODNR Mining Permit for the Site. In addition, permanent sediment and erosion control measures will be incorporated as needed into the design of the quarry expansion and stream mitigation reach.

8.5 Effects on Receiving Waters

Nelot's Creek receives surface water runoff from the site, is part of Lake Erie tributaries grouped as HUC 04100010 040. In the Ohio EPA TSD Report (Ohio EPA, 2010) sampling was performed on Cedar Creek just upstream of where Nelot's Creek discharges into Cedar Creek and was found to be in partial attainment for aquatic life uses and designated or recommended recreational uses. Proposed expansion of the Cardinal facility will not degrade water quality in the receiving waters, because adequate stormwater detention will be in place to prevent potentially increased stormwater flows and sediments from the Site discharging into receiving waters. The reach of Nelot's Creek to be relocated will be replaced with a section of stream on-site containing replacement stream functions for the impacted channel, and is thus anticipated to have no degrading effects on downstream portions of Nelot's Creek or Cedar Creek.

8.6 Summary

The PDA with Ditch Relocation Option and the MDA will impact significant reaches of Nelot's Creek, but have minimal individual and cumulative impacts on receiving waters, as adequate replacement stream functions will ensure that Nelot's Creek downstream of the Site and Cedar Creek will not be degraded.

9.0 APPLICATION ITEM 10C

(Include a discussion of the technical feasibility, cost effectiveness, and availability. In addition, the reliability of each alternative shall be addressed (including potential recurring operational and maintenance difficulties that could lead to increased surface water degradation.)

9.1 Technical Feasibility

The Alternatives are each technically feasible in that they could be constructed using documented techniques and current practices of quarrying operations. However, the most technically difficult of the alternatives is the PDA with Natural Channel Relocation Option. Over-blasting of a wide floodplain, backfilling with soil and grading to maintain a meandered channel with a constant slope of 0.18% (Figure 4) is very difficult and expensive and would require expenditures and significant lost revenue (due to inaccessible rock reserves) that would be disproportionate to the surface water impact proposed.

9.2 Cost Effectiveness

The mine size, the amount and value of rock resources generated, and jobs lost on-site and off site are compared in the table below for each Alternative (Note: this table is repeated in Section 14.0):

	Mine size (acres)	Accessible limestone production (tons)*	Sale price per ton	Total estimated value	Revenue lost**	Jobs lost on-site**	Jobs Lost off-site**	Socioeconomic Ranking of Alternative
Preferred Design Alternative								
Natural Channel Option	40.9	18,394,772	\$6.75	\$124,164,714	\$10,895,901	8	60.5	2
Ditch Relocation Option	44.5	20,008,980	\$6.75	\$135,060,615	NA	NA	NA	1
Minimal Degradation Alternative	37.76	16,978,406	\$6.75	\$114,604,243	\$20,456,372	8	60.5	4
Non Degradation Alternative	39.9	17,940,636	\$6.75	\$121,099,293	\$13,961,322	8	60.5	3

* Based on average yield of 449,640 tons per acre (from Surface Mining Permit Application)

** Compared to Preferred Design Alternative with Ditch Relocation Option

The most cost-effective build alternative for Cardinal is the alternative that maximizes the size and depth of the aggregate quarry, thus allowing Cardinal to meet projected increased industry demands for its products over the next 50 years. Cardinal is a key player in the rock aggregate quarry business of northwest Ohio's economy, and the planned expansion of the existing quarry will grow and sustain jobs and increase public revenue.

The PDA with is the most cost effective of the three Alternative designs. The PDA will result in the most efficient quarry expansion capable of meeting projected production goals, and will create and retain the most permanent jobs. Of the two PDAs considered, the PDA with Ditch Relocation Option is the more cost effective.

The NDA is the next most cost-effective alternative in terms of rock production. However, the mining operation under the NDA would be considerably less efficient than either of the PDA options, and have considerably more potential impact on human health and safety and the environment including air pollution. In addition, the NDA if implemented would lead to the loss of at least 8 onsite permanent jobs.

The MDA is the least cost-effective alternative in terms of rock production, and would lead to the loss of at least 8 onsite permanent jobs.

9.3 Availability

For all three alternatives, the technology and materials for expanding the quarry are readily available and proven.

9.4 Reliability/Operation Maintenance Difficulty

The quarry expansion plans presented for each alternative will each have a life of approximately 50-75 years. The regional economy will drive additional expansion beyond that discussed in this application if warranted, but this is not currently foreseen. All aspects of the alternatives designed to address water quality impacts (e.g., maintenance of buffer areas, and implementation of Best Management Practices required by the ONDR mining during construction) are reliable and dependable.

9.5 Summary

The PDA is the most cost-effective of the three Design Alternatives. The MDA is less cost-effective than the PDA, and may not fully support plans for production increases. The NDA is the least cost-effective, as it would require inefficient layout changes with the current PSI facility. Therefore, the increase in floor space gained by the NDA will not outweigh the costs incurred to change the current facility to accommodate this alternative.

10.0 APPLICATION ITEM 10D

(For regional sewage collection and treatment facilities, include a discussion of the technical feasibility, cost effectiveness and availability, and long-range plans outlined in state or local water quality management planning documents and applicable facility planning documents.)

Not applicable. The proposed project is not a regional sewage collection or treatment facility.

11.0 APPLICATION ITEM 10E

(To the extent that information is available, list and describe any government and/or privately sponsored conservation project that exists or may have been formed to specifically target improvement of water quality or enhancement of recreational opportunities on the affected water resource.)

Since the creek is small and has very limited resources, Hull did not contact any of the resource agencies to inquire about such projects or programs. No such conservation projects are known.

12.0 APPLICATION ITEM 10F

(Provide an outline of the costs of water pollution controls associated with the proposed activity. This may include the cost of best management practices to be used during construction and operation of the project.)

The water pollution controls to be implemented as part of this project include sediment and erosion control Best Management Practices (BMPs) required under the ODNR Mining Permit. The applicant estimates that implementation of BMPs such as silt fencing, temporary seeding, temporary sediment basin, truck wash station, etc. at the Site during construction of the PDA or MDA will cost approximately \$50,000 to \$70,000. Implementation of these BMPs for the NDA will be less than half this cost.

13.0 APPLICATION ITEM 10G

(Describe any impacts on human health and the overall quality and value of the water resource.)

The portion of Nelot's Creek on the Site that will be impacted by constructing the PDA or MDA does not contribute significantly to the protection of human health and the overall quality and value of water resources. This determination is based upon the observed low habitat quality and lack of floodplain in this portion of the stream. While this water resource can be said to contribute incrementally to overall water quality on a cumulative, watershed-wide basis, the contribution is not significant.

14.0 APPLICATION ITEM 10H

(Describe and provide an estimate of the important social and economic benefits to be realized through this project. Include the number and types of jobs created and the revenues generated and brief discussion on the condition of the local economy.)

The mine size, the amount and value of rock resources generated, and jobs lost on-site and off site are compared in the table below for each Alternative:

	Mine size (acres)	Accessible limestone production (tons)*	Sale price per ton	Total estimated value	Revenue lost**	Jobs lost on-site**	Jobs Lost off-site**	Socioeconomic Ranking of Alternative
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* Based on average yield of 449,640 tons per acre (from Surface Mining Permit Application)

** Compared to Preferred Design Alternative with Ditch Relocation Option

14.1 Jobs

The estimated population in nearby Perrysburg, Ohio is 16,945 residents based on 2000 census data. The median per capita income households is \$75,651 and median per capita income for Perrysburg male residents is \$56,496 per year and \$31,401 per year for female residents. Cardinal estimates that approximately 14-18 construction jobs will be retained or created during construction of any of the three alternatives, which is good news for a local economy slowly recovering from the worst economic recession in our country's history. The Applicant will complete the quarry expansion work and construction of the stream mitigation reach. Temporary or permanent construction jobs will likely be filled by local residents.

The PDA or MDA will not likely result in the creation of any more permanent jobs at the Site. However, these alternatives will help retain current jobs for longer periods of time due to increased size and life of the aggregate quarry, which will allow Cardinal to remain competitive in this manufacturing process.

Implementation of the NDA also will not result in the creation of any more permanent jobs at the Site. Since the size of the quarry will be somewhat smaller by avoiding Nelot's Creek and a buffer on either side, the overall life of the quarry will be 3 to 5 years less than what is proposed in the PDA and MDA.

14.2 Income Generated

The largest income will be generated with implementation of the PDA with Ditch Relocation Option. The PDA with Natural Channel Relocation Option, the MDA and NDA will generate significantly less income. The Site has a current appraised value of \$708,000 (building and land) and total annual property taxes paid are \$16,957 (information obtained from the Wood County Auditor's website). With construction of the PDA with Ditch Relocation Option, an increase in property valuation to approximately \$1 million is expected. This increase in valuation will generate additional property tax revenue of \$23,950 for Perrysburg Township and its local public school district.

14.3 Description of Local Economy

Perrysburg Township is primarily agricultural lands with residences and businesses near the City of Perrysburg and Rossford. There is also a diverse group of manufacturing businesses with local, national, and international influence. Perrysburg Township is close to the City of Toledo and major state routes and federal highways – providing easy access from regional points. Many city parks and Toledo Area Metro Parks and recreation areas are located within a few minutes from the area. In the City of Perrysburg families (non-single residencies) represent 38% of the population. Median household income for a family in the city is \$62,237. The poverty rate for families in this area (1.5%) is well below the national rate (12.4%).

14.4 Impact on Property Values

As discussed previously, expansion of the Cardinal rock aggregate quarry at the Site will improve the Site's value and also have a positive impact on surrounding land values.

14.5 Positive Aesthetics of the Proposed Project

Currently, the Site is visible from Fremont Pike (U.S. 20). The expansion proposed in any of the alternatives is consistent with the existing structures already in place. In general, there is no clear aesthetic advantage of one Alternative over the others since the end use of the Site will be a large surface quarry.

14.6 Summary

In comparison to the PDA with Ditch Relocation Option, the remaining alternatives will result in loss of jobs both on-site and offsite as well as significant lost income and tax revenue. This is because the other alternatives will have significantly less accessible stone reserves and shortened quarry life. None of the three Alternatives has a clear aesthetic advantage over the others.

15.0 APPLICATION ITEM 10I

(Describe and provide an estimate of the important social and economic benefits that may be lost as a result of this project. Include the effect on commercial and recreational use of the water resource, including effects of lower water quality on recreation, tourism, aesthetics, or other use and enjoyment by humans.)

Investigation of the Site's surface waters (Appendix C) did not reveal any important social or economic benefits, or commercial or recreational uses, associated with the existing surface waters on the Site. Therefore, none of the Alternatives will result in the loss of important social and economic benefits or impact commercial or recreational uses.

16.0 APPLICATION ITEM 10J

(Describe environmental benefits, including water quality, lost and gained as a result of this project. Include the effects on the aquatic life, wildlife, threatened, or endangered species.)

The habitat quality of Nelot's Creek or the reach that will be relocated is low, as discussed previously in Section 8.2 and in Hull's Surface Water Delineation Report (Appendix C). This section of stream has low aquatic habitat value as reflected in an average HHEI score 58.3 and highest HMFEI score of 7. The section of stream that will be relocated has minimal pollutant filtering and flood retention functions along with minimal or marginal habitat for aquatic organisms.

Based on an ecological evaluation of the Site, use of this reach of Nelot's Creek by wildlife is expected to be limited to generalist wildlife species adapted to living in close proximity to human activity and disturbance. It is unlikely that there is a fish community of significant quality in this section of stream, as none were observed during HMFEI sampling and aquatic habitat is minimal. Use of this section of stream by terrestrial species for feeding, drinking and bathing is likely to be limited by lack of adequate woody riparian vegetation cover. Limited wildlife use of the section of stream can easily shift to other available, unimpacted stream and terrestrial areas on the Site.

Wildlife usage along Nelot's Creek is probably similar upstream and downstream from the Site based on similar land uses along the stream. There are very narrow riparian buffers upstream and downstream of the Site. As stated previously, no impacts are proposed for Nelot's Creek or the adjacent upland habitats upstream and downstream of the Site, so aquatic and terrestrial wildlife species in this area will not be impacted. Threatened and endangered species have been determined not to be a concern at the Site (see correspondence from Ohio DNR and US FWS, in Appendix D and Appendix E).

17.0 APPLICATION ITEM 10K

(Describe mitigation techniques proposed (except for the Non-Degradation Alternative.)

17.1 Natural Channel Relocation Option

A detailed mitigation plan was not developed for the PDA with Natural Channel Relocation Option (Figure 3 and Appendix A), as this mitigation option was found to be impracticable due to topographic and substrate limitations, constructability, and cost. Appendix A contains calculations of mitigation streamway width (W_{sw}) and streamway area (A_{sw}) that were performed in accordance with a document entitled: 'Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)'. This guidance was withdrawn by Ohio EPA in January 2012. The guidance provides quantitative methods of estimating the size of mitigated stream floodplain and floodprone area that will adequately replace stream functions that are lost due to permitted impacts. Floodprone area is calculated as the higher of the existing floodprone area (existing floodprone area of Nelot's Creek is < 1 acre) or 30% of the streamway area (A_{sw}). The initial calculation of floodprone area was modified per the guidance to derive an adjusted floodprone area based on weighting factors. Calculations performed per the guidance indicate the need to create a stream mitigation with the following characteristics:

$$W_{sw} = 135'$$

$$A_{sw} = 6.6 \text{ acres}$$

$$\text{Adjusted Floodprone Area} = 2.14 \text{ acres}$$

These design criteria were applied in the creation of a Natural Channel Relocation Option design with both plan view and cross section (Figure 4). This stream mitigation option would be technically difficult to build and maintain, and it would be very expensive. In addition this option would render 1.614 million tons of limestone inaccessible with lost revenue estimated at \$10,895,901.

17.2 Ditch Relocation Option

Adequate compensatory mitigation for the proposed surface water impacts described in this application will consist of replacement of stream functions currently present in 2,060 linear of degraded stream habitat for the Preferred Design Alternative (PDA), and present in 865 linear feet of degraded stream habitat for the Minimal Degradation Alternative (MDA).

Mitigation Goal

The overall goal of this on-site, in-kind stream mitigation project is to restore physical habitat, limited aquatic life function and natural flows within a relocated reach of an unnamed tributary to Cedar Creek (local name: Nelot's Creek). Nelot's Creek has an existing Ohio beneficial use designation of Modified Class II Primary Headwater Habitat (perennial). The length of the relocated stream reach will be 2,766 lf in the PDA with the Ditch Relocation Option and 1,165 lf in the MDA. This overall goal will be achieved by replacing the existing quantity and quality of aquatic habitat through installation of a replacement ditch.

Baseline Information for Area to which the Stream will be Relocated

The area to which the stream will be relocated is the western and northern boundary of the Cardinal Aggregate property, within a 75-foot setback from the property boundary that is required by the Surface Mining Permit. The 75-foot setback area is dominated by upland old field vegetation, except in the northwest corner of the property where the setback is dominated by second-growth upland woods. The woodland also contains isolated forested wetlands both inside and outside the 75-foot setback.

The 75-foot setback area along the western and northern property boundary has a variable depth to bedrock of 0 feet to approximately 3 feet. The northwestern corner of the property, dominated by woodland is a topographic high on the property, and bedrock is at a depth of less than one foot with exposed bedrock in some areas.

Any excavation within the 75-foot setback will encounter bedrock at a maximum of approximately 3 feet depth. Excavation in bedrock will require the use of blasting.

Ditch Design for the Preferred Design Alternative

The relocated ditch (see plan and cross-section view, Figure 3) is a trapezoidal ditch design that will contain approximately the 50-year storm event. In the PDA (Figure 3), the ditch will have a continuous bottom slope of 0.17% to maintain low flow. In the MDA (Figure 5), the ditch will have a continuous bottom slope of 0.18% to maintain low flow.

The relocated ditch will be excavated in soil and bedrock. Where the side slopes and top of bank area of the relocated ditch are dominated by native soil, these areas will be seeded with a native grass and forb seed mix, mulched, and overlaid with a decomposable erosion control

blanket. Where the side slopes and top of bank area of the relocated ditch are dominated by bedrock, no planting will occur.

Hydrology

The hydrology of the relocated ditch will be identical to that of the stream reach to be impacted. Hydrology will be driven by surface runoff from the watershed (approximately 0.8 square miles or 512 acres). The watershed is dominated by agricultural land uses.

Habitat Features

After a period of approximately four to five years, the relocated ditch will have habitat features similar to the stream reach that is being impacted. Expected habitat features include silt, sand and cobble substrates, and riparian vegetation cover which will be limited in the bedrock-dominated portions of the relocated reach. The habitat of the relocated stream is expected to support reproducing populations of aquatic invertebrates similar to that currently supported by the reach of the stream to be impacted (see Appendix C).

Performance Criteria

The relocated channel will maintain a minimum Headwater Habitat Evaluation Index (HHEI) score of 58 and a minimum Headwaters Macroinvertebrate Field Evaluation Index (HMFEI) score of 7 by year 5 post-construction. The cover of invasive species within the 75-foot setback area will be 5% or less.

Site Protection and Management

A conservation easement for the 75-foot setback area containing the ditch relocation will be placed in a conservation easement to be held by:

The Land Conservancy of Ohio, Inc.
470 Old Worthington Road
Westerville, OH 43082
Contact: Mr. Karl Gebhardt, Assistant Director, ODNR
(614) 579-5942

The conservation easement will be drafted and executed so as to meet the requirements of such easements for Clean Water Act Section 404 and 401 permitting. The conservation easement will be monitored in perpetuity by The Land Conservancy of Ohio, Inc.

As described in the Monitoring Plan and Adaptive Management Plan Sections of this application, Cardinal has specific responsibilities for monitoring, success, and establishment of the stream restoration within the first 5 years post-construction.

Monitoring Plan

Cardinal will perform monitoring of the mitigation project for a maximum of five years, the typical monitoring period required of Clean Water Act Section 404 and 401 permittees.

Cardinal will perform the following monitoring activities in May or June of the monitoring year:

1. Photographs will be taken at established observation points along the relocated stream reach;
2. HHEI and HMFEI Level 2 evaluation of the relocated stream reach will be conducted at one location (200-foot reach);
3. HHEI and HMFEI Level 2 evaluation of Nelot's Creek will be conducted at two locations (200-foot reach), upstream and downstream of the relocated stream reach;
4. Identify dominant species and estimate percent cover of streambank vegetation; and
5. Identify invasive, non-native vegetation and estimate cover within the riparian zone.

These annual monitoring data will be presented and discussed in an annual Mitigation Monitoring Report. The first annual Mitigation Monitoring Report will be submitted by December 31 of the year following completion of the mitigation construction. The first Mitigation Monitoring Report will include baseline information and a list of all modifications made from the original mitigation plan.

Adaptive Management Plan

Successful mitigation requires effective contingency planning in the event that mitigation performance criteria are not met. If performance criteria are not being met, as determined during Mitigation Monitoring, a decision will be made in consultation with Ohio EPA and the USACE about implementing additional management or remediation steps to bring the mitigation into compliance. These management or remediation steps may include, without limitation:

- Stream bank stabilization;
- Additional riparian area planting; and
- Invasive plant control.

All Mitigation Monitoring Reports will include a summary statement regarding the success of the stream mitigation. If the stream mitigation is found to be failing with respect to any of the established performance criteria, the Mitigation Monitoring Report will identify steps to be taken to correct the issue.

Invasive species control will be provided as needed by application of appropriate herbicides by a certified commercial pesticide applicator under the direction of a field botanist.

If by year 3 the mitigation project is shown to have accomplished its overall goal and to be meeting its Performance Criteria, the permittee will request a waiver of the requirements for monitoring in years 4 and 5. A site meeting will be held in Monitoring Year 3, to which Ohio EPA and the Corps will be invited. Any additional management or remediation steps suggested by these agencies will be evaluated and implemented as appropriate and practicable.

Financial Assurances

Cardinal will undertake all mitigation, monitoring, and contingency efforts required by the Section 404 and 401 permits. Cardinal has a substantial financial interest in maintaining compliance with these permits.

18.0 ALTERNATE SITES ANALYSIS

An Alternate Sites Analysis is not required for this Site, because the development activity is to expand an existing quarry. The existing Cardinal Perrysburg, Ohio facility was constructed in 2005 and operation began in the summer of 2006.

19.0 SELECTION OF DESIGN ALTERNATIVE FOR PUBLIC REVIEW

Upon completion of the Alternatives Analysis process, the Applicant finds that the Preferred Design Alternative with Ditch Relocation Option has maximal socioeconomic justification among the alternatives, the environmental impacts of the proposed project have been avoided to the maximum extent practicable, and unavoidable impacts have been minimized and mitigated.

The PDA with Ditch Relocation Option is demonstrated to have superior cost-effectiveness among the alternatives and it will result in the retention of all current permanent jobs and maximize property tax revenue. The PDA will also result in greater impact to the current channel of Nelot's Creek. The Preferred Design incorporates adequate on-site mitigation that will maintain the existing aquatic habitat and biological water quality of Nelot's Creek, and optimizes the use of mineable space consistent with the parcel's approved Surface Mining Plan.

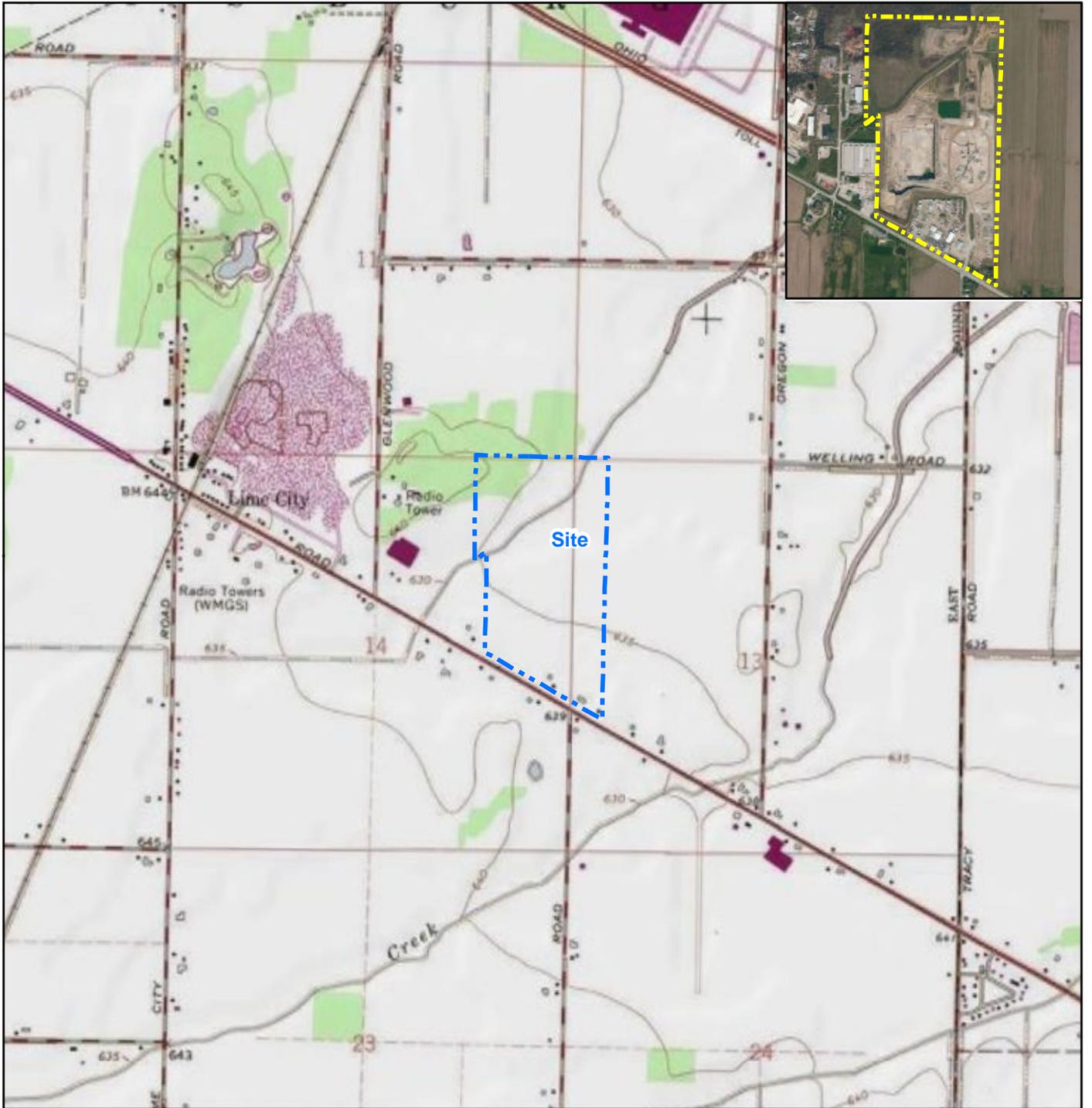
20.0 REFERENCES

Hull & Associates, Inc., November 2008. Surface Water Delineation Report for Cardinal Aggregate, Inc. Facility in the City of Perrysburg, Wood County. OH. Hull & Associates Inc., Dublin, Ohio.

Mine Services Company, Inc., October 2008 (Revised July 2009). Wetland Delineation Report for Cardinal Aggregate, Inc. 28-acre Site – Bo-Dee Properties, Ltd., Perrysburg Township, Wood County, Ohio. Mine Services Company, Inc., Danville, Ohio.

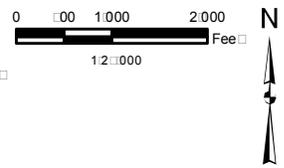
Ohio EPA, March 2010. Biological and Water Quality Study of the Portage River Basin, Select Lake Erie Tributaries, and Select Maumee River Tributaries. Ohio EPA, Division of Surface Water, Columbus, Ohio.

FIGURES




 Proposed Site Boundary

This map was prepared by Hull & Associates, Inc. for the purpose of showing the location of the proposed site. It is not intended to be used for any other purpose. The information shown on this map is based on the best available information and is not guaranteed.



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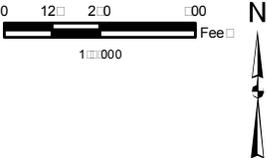
Quarry Area
 Land Acquisition
 The State of Ohio
 2012 February
 Hull & Associates, Inc.

Date: February 2013
 File Name: 002-02-Fig01
 Date: 02/20/2012
 Figure: 1



Legend
[Blue dashed line] Proposed boundary

The area shown on this map is a preliminary site plan. It is not intended to be used for any other purpose. The information is provided for your information only. It is not intended to be used for any other purpose.



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Quarry Area
Hardacre
Inventory Layout
02 February
Cerryburnd

February 2013

File Name
002-01-02-000-Layout.dwg
dated 01/2012 by cerryburnd

Figure
2