



Aurora Road Anti-degradation Analysis

5.8 Acres, 30700 Aurora Road, Solon,
Cuyahoga County, Ohio

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Prepared for:
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1.1 Project Description

This document was prepared in support of an application to the Ohio Environmental Protection Agency (EPA) for a 401 Water Quality Certification Permit by Solon Business Park, LLC (Applicant) for the Aurora Road Warehouse (Project). The proposed Project site is located in Solon, Cuyahoga County, Ohio.

The warehouse located on the Project site has remained vacant since January 2012. The main reason for the inability to lease the warehouse is associated with the design restrictions that did not meet the current market demand for facilities of this type; the core concern for potential tenants was the inadequate number of loading docks. The unoccupied warehouse cost the Applicant a total of \$252,000 per year. These costs included mortgage, building maintenance, real estate taxes, utilities, and grounds maintenance. May 1, 2015 the warehouse was leased; however, per the lease agreement, the tenant has the right to terminate the lease within one year if additional docks are not added adjacent to the existing docks. In order to have a fully utilized and functional facility, the warehouse needs additional docks.

The purpose of the project is to add sufficient loading docks and associated utilities to the existing warehouse to ensure a safe, functional and profitable facility that also meets the lease agreement stipulation set by the new tenant of the warehouse. The proposed project consists of the construction of 12 new loading docks, interior access road, additional employee parking, truck parking and turnaround area, utilities, and storm-water management enhancement.

The Preferred Degradation Alternative (PDA) has been designed to minimize impacts to wetlands and the overall surface water quality within the Project site, while still meeting the Project's purpose in an economically feasible manner. Under the PDA, the Project will impact a total of 0.339 acres of modified category 2 forested wetland, 0.093 acre of category 1 scrub/shrub wetland will be avoided.

The Minimal Degradation Alternative (MDA) reduces impacts to wetlands within the Project site. With the MDA, wetland impacts total 0.312 acres of modified category 2 forested wetland, with 0.120 acre of the overall on-site wetland being avoided.

The minimum project objective consists of the construction of the additional docks and supporting facilities to provide a functional, safe, and profitable warehouse that meets the previously discussed lease agreement. The location and quantity of docks and associated facilities are based on market requirements, site efficiency, and safety considerations.

For efficiency purposes, there must be sufficient docks to allow for adequate movement of loading and unloading of trucks during peak periods when maximum usage of the site occurs. To address safety issues, the location of the loading docks, the employee parking, and onsite traffic patterns must all be considered. The location of these features is critical to ensure effective and safe truck traffic as well as providing safe employee access.

In order to meet this objective, further avoidance of water resources is not possible due to the location of the wetlands, the warehouse, the existing docks, and other structural restrictions of the site. Further, avoiding Wetland A, or portions of the wetland, would result in an inadequate number of docks for a warehouse of this size and would be a breach of the lease agreement. With the loss of the lease and the current tenant, the Applicant will incur a financial loss that would makes a reduction in water resource impacts financially impracticable.

The Applicant is planning to start the construction of the docks and associated features at the Aurora Road Warehouse as soon as a permit is issued, with a completion date within five months of the start date. Off-site mitigation will be purchased prior to the start of development.

1.2 Avoidance

To assess a further scaled-down version of the Project, the Non-Degradation Alternative (NDA) was designed to fully avoid impacts to water resources. Development under the NDA would involve constructing new docks, an interior access road, and truck parking and turnaround area on the north side of the warehouse. Although this design would avoid all water resources on the Project site, the NDA would not meet the core elements of the Project's purpose defined in Section 1.1.

A no-build option would also result in no impacts to water resources; however, the requirements of the lease agreement would not be fulfilled resulting in the new tenant vacating the facility. As stated in Section 1.1, this warehouse has remained empty since January 2012 costing the Applicant a significant amount of money each year it stayed vacant. If no construction were to occur, the Applicant would have to incur the cost to maintain the building, which is not a sustainable option.

The Applicant evaluated an off-site property to determine if the site can be developed in a practicable manner, and can be constructed with decreased impacts to aquatic resources. The term practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

The Applicant assessed a property that is currently available for sale and evaluated this property based on the six criteria listed below. Because the proposed Project is an enhancement of an existing warehouse currently owned by the Applicant, and the new docks are part of a lease agreement, the option of an off-site alternative is not practicable. Therefore, it was deemed appropriate to assess only one off-site alternative.

To determine the practicability of the off-site alternative, the alternative site was evaluated using the following criteria:

- 1) Site location: must be within a 3-mile radius of the Project site.
- 2) Site size: site size must contain a minimum of 4 acres
- 3) Zoning: zoned for General Industrial
- 4) Presence of water resources: includes wetland, streams, or ponds
- 5) Financial costs: allows the Applicant to achieve the goals of the Project in a financially feasible manner

The Project site and alternative site were assessed based on the above stated criteria. The results are provided in the alternative site analysis following and in Appendix A. Table 1 provides a summary of the alternative site analysis.

Analyses of secondary source material, including recent aerial imagery, USFWS National Wetland Inventory, USGS StreamStats, USEPA MyWATERS, and the Cuyahoga County Soil Surveys all indicate the potential presence of regulated waters on the Alternative Site.

Table 1. Summary of Off-Site Alternative Analysis

Site	Location	Size (Acreage)	Zoning	Cost	Water Resources
Project Site	30700 Aurora Road, Solon	5.8 acres	General Industrial	\$449,900	Two wetlands totaling 0.43
Alternative Site	31100 Solon Road, Solon	5 acres	General Industrial	\$4.3 m	Wetlands and a stream present on the property

The alternative site is located on Solon Road in Solon, Cuyahoga County and is approximately 5 acres in size. This site is surrounded by commercial and industrial areas and is zoned General Industrial. The cost to construct a warehouse that meets the specification needed for a fully functional facility would be approximately \$4.3 million. The cost to purchase the alternative site parcel is estimated to be \$500,000. The alternative site is underlain by non-hydric soils (Udorthents, loamy, 0 to 6 percent slope and Mahoning silt loam, 2 to 6 percent slope). A previous water resource assessment of the site exhibited the presence of wetlands and an ephemeral stream.

As a result of the alternative site analysis, the Project site located on Aurora Road is determined to be the only feasible site for the proposed project. The two main reasons leading to this conclusion include:

- 1) The presence of potential water resources located on the alternative site. These water resources would need to be fully impacted if a warehouse and accompanying features were constructed on this parcel.
- 2) The purpose of the Project is to construct additional loading docks and associated features to the existing warehouse to ensure a safe, functional and profitable facility and to adhere to the requirements of the lease agreement set forth by the new tenant. If the Applicant were to construct a new warehouse, it would not meet the Project's purpose and would be cost prohibitive. Furthermore, if the lease agreement is terminated due to the docks not being constructed, the Applicant will have to incur the maintenance, taxes and mortgage costs of the unoccupied warehouse.

The proposed Project site currently meets each of the site criteria. The alternative site fails to meet core requirements to fulfill the Project purpose and thus is not a practicable alternative.

1.3 Minimization

This project has been designed to minimize impacts to water resources to the greatest extent practicable and still achieve the Project's purpose. As designed, the Project will result in a total of 0.339 acres of wetland impacts, avoiding a total of 0.093 acres of on-site wetland. Based on the location of the existing warehouse and the structural requirements of the Project, avoidance of Wetland A is not possible. However, the Applicant has provided a site plan (the MDA) that would minimize some of the impacts to Wetland A. The MDA reduces the number of docks and truck parking/turnaround area avoiding a portion of the wetland. Although this design minimizes impacts to Wetland A, it limits the full use of the warehouse and does not meet the lease agreement stipulations. In addition, the 0.027-acre area of wetland that would be avoided would provide few hydrologic or habitat functions.

As part of the design process existing structural and natural features were identified, as well as topographic considerations. Utilizing the design parameters discussed in Section 1.5, the interior roadway, parking, and proposed docks were located to maintain existing natural drainage and avoid natural features as much as possible. In some cases avoidance of natural features were determined to be either economically infeasible or would result in an impractical design.

To further minimize impacts to water quality as a result of this project, the Applicant will adhere to all applicable City of Solon design standards for stormwater controls.

1.4 Magnitude of the Proposed Lowering of Water Quality

Wetland Discussion:

The function and value of the wetlands found on the Projects site were evaluated using the Ohio Rapid Assessment Methodology (ORAM). Wetland A is a forested, 0.339 acre, category 2 wetland. This wetland is located too close to the warehouse and existing docks, which are proposed for expansion, to be successfully avoided.

Under the PDA plan, Wetland A will be filled and Wetland B will be avoided. Because it is proposed to impact all of Wetland A, there will be a loss of forested habitat. However, this is a seasonally saturated wetland with little diversity and no significant connectivity to other water resources. In addition, though this wetland is forested, it is becoming non-forested due to the death of ash trees within the wetland. Wetland A contains a vernal pool that provides some amphibian breeding habitat. Although some appropriate amphibian breeding habitat is present, the habitat is surrounded by heavily urbanized industrial and commercial areas, and is isolated from other natural areas. Due to the lower quality of the habitat features of this wetland, the fact that it is surrounded by high density commercial and industrial land use, the overall effects on habitat and wetland biota are anticipated to be minimal.

The wetlands on this site are not locally or regionally scarce. The wetland proposed to be impacted on the project site was assessed as a category 2 wetland. Category 2 wetlands are considered "general high quality waters," that "support moderate wildlife habitat, or hydrological, or recreational functions," and are "dominated by native species but generally without the presence of, or habitat for, rare threatened or endangered species."

Due to the size and quality of the wetland to be impacted, the proposed development activities are not expected to result in the elimination and/or significant decline of aquatic species. With the replacement of the aquatic function of this wetland at a 2.5:1 ratio, there will be no overall

decline in aquatic life. In fact, with the increase in wetland area provided by the mitigation, there will be an increase in overall aquatic life.

Based on the size, location, lack of access and quality of the wetlands, there is no value in regards to recreation, tourism, commercial activities; and aesthetic value.

1.5 Technical Feasibility and Cost Effectiveness

All three on-site alternatives are technically feasible and would require similar technology to implement. The resources necessary to implement the alternatives would also be similar and are available. The difference between the alternatives is in the economic and operational feasibility as explained below.

To achieve the purpose of this Project, there are specific design requirements for the proposed construction. Core design specifications for this Project include:

Location of the new loading docks: The location of the additional loading docks was selected as it is the only practicable location based on structural constraints, cost, and the requirements of the lease agreement. Alternative on-site configurations were eliminated for the following reasons:

- The south side of the building has an adjacent water detention area and does not have adequate space for docks, an interior access road, or truck parking and turnaround area.
- The west side of the building has insufficient space for the docks.
- The area on the east side of the building, in the location of the existing employee parking has insufficient space for trucks to dock and safely turnaround because of the entrance drive. In addition, an office currently exists inside the warehouse adjacent to the existing docks. This office would have to be relocated within the warehouse.
- The north side of the warehouse was eliminated for six reasons.
 - The existing docks are located on the east side of the building. If the new docks were constructed on the north side, this would require a complete restructuring of the internal space of the facility adding a significant increase to construction costs for the Applicant and would make the warehouse non-operational for the tenant during the internal construction period.
 - Although the exterior of the Project site is somewhat conducive to the placement of the loading docks on the north side of the building, from an operational standpoint this design would not be practical due to unloading requirements within the warehouse and interior space restrictions.
 - The new tenant of the warehouse leased the facility with the expectation that the docks would be constructed adjacent to the existing docks heading south.
 - Because of the location of Wetland B, the property line which abuts a stream, the location of the existing parking area, and the limited road entrance space to the site, the ability to place a sufficient number of docks in this location is not feasible.
 - If the new docks were placed on the north side of the warehouse, the number of parking spaces on the east side of the warehouse would be reduced from 14 to 9 as a result of modifying the site entrance and construction of the interior road. This number of spaces would not provide sufficient parking for the employees. Without impacting wetlands, there are no feasible options for additional parking on this site.

- Under both the PDA and MDA alternative plans, it is anticipated that the warehouse will employ between 25 and 30 employees. Currently, there are 14 parking spaces for employees on this site. Since the north side of the building is already land banked for parking, and is the only reasonable location for additional parking, the Applicant is proposing to use that space for parking purposes.

Location of the Interior Access Road and Truck Turnaround: The location of the interior road, and truck parking and turnaround area was selected based on the following criteria:

- The west and south side of the building is not possible for the reasons stated above.
- The north side is not practical for the spatial and operational reasons stated above.
- The east side is not feasible for the reasons stated above.

The PDA includes the construction of 12 new loading docks, additional employee parking, an interior access road, and truck parking and turnaround area. The PDA design allows for full and efficient use of the existing warehouse while also meeting the stipulations of the lease agreement.

Development costs of the PDA are estimated to be \$469,300. This cost includes predevelopment costs (\$13,000), construction costs (\$404,500), and estimated mitigation costs (\$64,800).

The MDA reduces impacts from the PDA by decreasing the number of docks to be constructed from 12 to 10 as well as cutting back on the truck parking and turnaround area. This design would limit the full use potential of the warehouse and would not meet the lease agreement.

Development costs of the MDA are estimated to be \$340,025. This cost includes predevelopment cost (\$10,000), construction costs (\$282,425), and estimated mitigation costs (\$57,600). The primary difference in costs between the PDA and MDA is associated with the construction of the docks.

The NDA has a smaller external footprint, which was designed to completely avoid all on-site wetlands. Due to the physical restrictions of the site discussed above, under this plan the number of docks would need to be reduced from 12 to 7, and parking spaces from 14 to 9. To accommodate the external design with no wetland impacts, the internal structure of the warehouse must also be significantly modified to accommodate the docks placed on the north side of the building. In the short-term this would result in greater construction costs. In the long-term this would restrict full utilization of warehouse space, and would make the internal operation of the facility inefficient. Finally, this plan does not meet the Project's purpose and would be cost prohibitive for the Applicant.

Development costs of the NDA are estimated to be \$327,000. This cost includes predevelopment costs (\$10,000) and construction costs (\$252,000), and estimated rack relocation and Tenant downtime cost (\$75,000). The primary difference in cost between the NDA and the PDA and MDA is because of the need to significantly modify the internal configuration of the warehouse to accommodate the docks being placed on the north side of the building.

Although the NDA is technically feasible, it is not cost effective and does not achieve the project purpose of providing a functional and profitable warehouse facility that meets the stipulations in the lease agreement.

1.6 Economic Consideration

As part of this submission process, the Applicant completed a socio-economic evaluation of both development costs and community economic benefits for the PDA, MDA, and NDA. The development of the Aurora Road site will have no adverse effect on local unemployment, poverty, or household incomes, but will improve both short-term and long-term employment in the area through construction and maintenance jobs, as well as the increase in the number of jobs due to the increase of docks.

Development costs of the PDA are estimated to be \$469,300. This cost includes predevelopments costs (\$13,000), construction costs (\$404,500), and estimated mitigation costs (\$64,800).

The Applicant estimates that the construction of the PDA will generate approximately 12 full-time construction jobs for 6-8 week at an average hourly wage of \$35-\$52/hour. Once construction is complete the warehouse is anticipated to employ a total of 30 full time workers. Enhancement of this facility would also benefit the City of Solon through construction permit fees and payroll tax from new tenant.

Development costs of the MDA are estimated to be \$340,025. This cost includes predevelopment cost (\$10,000), construction costs (\$282,425), and estimated mitigation costs (\$57,600). The primary difference in costs between the PDA and MDA is associated with the construction of the docks.

The Applicant estimates that the construction of the MDA will generate approximately 10 full-time construction jobs for 5-7 weeks at an average hourly wage of \$35-\$52/hour. Once construction is complete the warehouse is anticipated to employ a total of 25 full time workers. Enhancement of this facility would also benefit the City of Solon through construction permit fees and payroll tax from new tenant.

Development costs of the NDA are estimated to be \$327,000. This cost includes predevelopments costs (\$10,000) and construction costs (\$252,000), and estimated rack relocation and Tenant downtime cost (\$75,000). The primary difference is cost between the NDA and the PDA and MDA is associated with the need to significantly modify the internal configuration to accommodate the docks being place on the north side of the building.

The Applicant estimates that the construction of the NDA will generate approximately 12 full time construction jobs for 8-10 weeks at an average hourly wage of \$35-\$52/hour. Once construction is complete, the warehouse is anticipated to employ a total of 22 full time workers. Enhancement of this facility would also benefit the City of Solon through construction permit fees and payroll tax from new tenant.

1.7 Cumulative Impact

In terms of past impacts affecting water quality within this watershed, it is assumed impacts have taken place as residential, commercial, and industrial growths have occurred. Within the Project boundary, a previous permit issued by USACE Buffalo on February 17, 1994 (Department of the Army No.93-494-40) authorized the fill of 0.77 acre of Federal jurisdictional wetland.

To address any potential current impacts to water quality, the Applicant will adhere to all required storm water management regulations and appropriate BMPs. As a result, the development of the Project will not result any significant added impact to water quality.

Future effects to water quality due to the development of the Project were assessed. Under the PDA

one wetland totaling 0.0339 acres will be permanently impacted. However, a total of 0.093 acre of on-site wetland will be avoided. To ensure minimal future impacts to water quality, the Applicant will be implementing a variety of storm water BMPs both during and post construction. Since the project will have minimal impacts to wetlands and has been designed to protect water quality to the greatest extent practicable, negative impacts to the watershed are not anticipated.

1.8 Indirect Impacts

Indirect impacts are not anticipated as a result of the development activities relating to the Project. As stated in greater detail in section 1.4, the proposed impacts will have minimal overall effect on habitat and aquatic species.

To further minimize on-site and off-site impacts both during and after construction, the Applicant will utilize a number of BMPs. These include but are not limited to: stabilized construction entrances and access roads, silt fencing, geotextile mats on steep grades, inlet protection, installation of sediment basins, phased development, minimization of the amount of soil exposed during construction activity, temporary stabilization of soils within 14 days of soil exposure, and establishing vegetation in drainage swales. Additional measure will be taken to ensure no future indirect impacts will occur. These include but are not limited to: an enhanced storm water management basin that will manage runoff volume and moderate post construction flow peaks to the receiving waters. These control measures will ensure that peak post-development rates of surface water runoff from the site do not exceed the peak pre-development rates of runoff.

1.9 Construction Storm Water Management Plans

To address concerns of increased erosion, changing hydrologic conditions, and potential degradation of water quality, a full Storm Water Pollution Prevention Plan (SWPPP) will be created to ensure that all erosion and sediment control devices will be installed and maintained as needed to control all indirect impacts to receiving waters. The SWPPP will utilize both temporary and permanent BMPs as necessary, as discussed in the previous section.

A Notice of Intent (NOI) will be submitted to ensure the project will be in compliance with the conditions of the Ohio EPA Federal Section 402 National Pollution Discharge Elimination System General Permit for Construction. In addition, coordination with the Solon Township and/or Cuyahoga County Soil and Water Conservation District will be done to ensure the Project is in compliance with local storm water requirements.

1.10 Post-Construction Storm Water Management Plans

For long-term management of the increased storm water volume, permanent BMPs will be utilized. Storm water on this site will drain to an existing storm water management basin. This storm water basin will manage runoff volume and moderate post construction flow peaks to the receiving waters. These control measures will ensure that peak post-development rates of surface water runoff from the site do not exceed the peak pre-development rates of runoff as well as addressing the water quality volume as required by the most recent NPDES general permit.

All post construction BMPs will be designed to incorporate appropriate techniques from the latest Ohio Rainwater and Land Development Manual. Preparation of a SWPPP and submittal of a NOI is required for township and/or county approval of the development. Thus, no off-site impacts are anticipated with the development of this site as these measures will ensure that there will be no significant degradation of the receiving waters and the associated aquatic ecosystem.