

Section 401 Water Quality Certification Antidegradation Analysis

Seven Hills PUD

City of Seven Hills, Cuyahoga County, Ohio

INTRODUCTION

LSB Seven Hills, LLC (Applicant) is proposing to construct a mixed-use development (Project) within a 31.33-acre property located south of Rockside Road and east of Crossview Road in the City of Seven Hills, Cuyahoga County, Ohio (41.39912, -81.66625) and within the Cuyahoga River Watershed (HUC 04110002). Refer to the *Site Location Map* included in **Proposed Project Mapping**.

PROJECT PURPOSE AND NEED

The purpose of the Project is to construct a mixed-use development which would provide commercial frontage along Rockside Road and multi-family housing within the central and southern portions of the Project area. The Project area has been designated by the City of Seven Hills in their City Master Plan as being a focus area for commercial and residential development to provide amenities which currently exist in short supply or do not exist at all within the City proper. This Project area has the only remaining frontage along Rockside Road within the City of Seven Hills available for commercial development (Refer to **Seven Hills Zoning Map**). This Project will include restaurants, banks, and other retail establishments along Rockside Road, with enough area to the south to provide new multi-family flats and townhomes. This will help increase revenue generated within the City and increase the diversity of home types within the City of Seven Hills, attracting new residents to the community.

1.1 Detailed Project Description (10a)

1.1.1 Preferred Design

The Preferred Design proposes to construct commercial frontage along Rockside Road with residential properties in the southern half of the parcel. The commercial frontage will include five (5) large structures to support business offices, banks, retail stores, and restaurants. The residential component would contain a total of 205 multi-family townhomes and flats. A map showing the *Preferred Design* plan is included in **Proposed Project Mapping**.

A total of 29 acres of forested area would be cleared and grubbed to construct the Preferred Design. Under the Preferred Design, all wetlands and Streams 1, 2, 3, and 4 would be impacted with clean fill. Therefore, a total of 2.335 acres of wetland impacts and 652 linear feet of stream impacts would result from the implementation of this alternative.

Proposed Start Date: December 2016

Anticipated Completion Date: December 2017

Proposed Schedule for Implementing Mitigation: Summer/Fall 2016

1.1.2 Minimal Degradation Alternative (Plan of Record)

Stream and wetland impacts proposed in the Minimal Degradation Alternative have been minimized to the maximum extent practicable. The Minimal Degradation Alternative proposes to construct the same commercial frontage along Rockside Road as the Preferred Design, but reduces the number of residential properties in the south to 165 units, resulting in a loss of 40 units (20% reduction). A total of 25 acres of forested area will be cleared to construct this Project. Under this Alternative, Wetlands A, E, F, G, H, I, J, N, a portion of Wetland O, and Streams 1, 3, and 4 would be filled. A portion of Stream 2 (145 linear feet) will be relocated on-site. This design is the proposed Plan of Record (POR) as it meets the economic goals as well as the avoidance and minimization goals of the

Applicant. A map showing the *Minimal Degradation Alternative* design plan is included in **Proposed Project Mapping**.

Proposed Start Date: December 2016
Anticipated Completion Date: December 2017
Proposed Schedule for Implementing Mitigation: Summer/Fall 2016

1.1.3 Non-Degradation Alternative

The Non-Degradation Alternative is not a practicable or feasible design as it does not attain the Project’s purpose or need and would not be economically practical. In order to avoid all impacts to Waters of the U.S., the commercial frontage along Rockside Road would contain much smaller commercial properties and would reduce the southern residential component to only 68 units (89% reduction from the Preferred and 59% reduction from the Minimal). This alternative would not provide adequate commercial property or residential units desired by the Applicant or the City of Seven Hills and underutilize an ideal frontage location. With the cost of development for this design, the economic return (1.8%) would not make this a viable project. A map showing the *Non-Degradation Alternative* design plan is included in **Proposed Project Mapping**.

Proposed Start Date: N/A
Anticipated Completion Date: N/A
Proposed Schedule for Implementing Mitigation: N/A

1.2 Magnitude of the Proposed Lowering of Water Quality (10b)

The Preferred Design will result in impacts to twelve (12) jurisdictional wetlands and four (4) jurisdictional streams. The Minimal Degradation Alternative will result in impacts to nine (9) jurisdictional wetlands and four (4) streams. Refer to the **Wetland Delineation Results** for further information on these waterbodies. The USACE *Approved Jurisdictional Determination* letter for the proposed Project area, dated January 8, 2015, is included in **Correspondence**.

See **Table 1** and **Table 2**, below, for a summary of on-site surface waters and an avoidance analysis for each alternative.

Table 1. Wetland Impact and Avoidance Analysis

Resource	Classification	Acres/ Length*	ORAM Score**	Wetland Category	Preferred Design		Min-Deg Alternative	
					Impact	% Avoided	Impact	% Avoided
Wetland A	PSS/PFO	0.044	33.0	2	0.044	0%	0.044	0%
Wetland D/L/M	PEM/PFO	0.138	49.0	2	0.108	22%	0.000	100%
Wetland E	PEM	0.171	37.5	2	0.171	0%	0.171	0%
Wetland F	PEM/PSS	0.071	36.0	2	0.071	0%	0.071	0%
Wetland G	PFO	0.566	37.0	2	0.566	0%	0.566	0%
Wetland H	PFO	0.045	37.0	2	0.045	0%	0.045	0%
Wetland I	PEM	0.096	34.0	2	0.096	0%	0.096	0%
Wetland J	PEM	0.384	40.5	2	0.384	0%	0.384	0%
	PFO	0.174			0.174			

Resource	Classification	Acres/ Length*	ORAM Score**	Wetland Category	Preferred Design		Min-Deg Alternative	
					Impact	% Avoided	Impact	% Avoided
Wetland K	PSS/PFO	0.368	45.5	2	0.368	0%	0.000	100%
Wetland N	PFO	0.035	40.0	2	0.035	0%	0.035	0%
Wetland O	PFO	0.242	37.5	2	0.242	0%	0.109	55%
Wetland Q	PFO	0.031	32.5	2	0.031	0%	0.000	100%
Wetland Total		2.365 ac	—	—	2.335 ac	1%	1.695 ac	28%

*Refer to the *Approved Jurisdictional Determination* in **Correspondence**.

Refer to the *ORAM Forms* included in **Wetland Delineation Results.

Table 2. Stream Impact and Avoidance Analysis

Resource	Classification	Length*	HHEI Score**	Preferred Design		Min-Deg Alternative	
				Impact	% Avoided	Impact	% Avoided
Stream 1	Intermittent	291	29	291	0%	108	63%
Stream 2	Ephemeral	357	36	145	59%	145	59%
Stream 3	Intermittent	81	22	81	0%	81	0%
Stream 4	Intermittent	135	40	135	0%	135	0%
Stream 5	Intermittent	247	44	0	100%	0	100%
Stream Total		1,111 lf	—	652 lf	41%	469 lf	58%

*Refer to the *Approved Jurisdictional Determination (AJD)* in **Correspondence**.

Refer to the *HHEI Form* included in **Wetland Delineation Results.

1.2.1 Preferred Design

The Preferred Design would result in impacts to 99% of on-site wetlands and 59% of on-site streams. The wetlands that will be impacted by the Project are forested/scrub-shrub/emergent, Category 2 wetlands and the streams range from low to moderately-low quality. These features act primarily as stormwater detention for the surrounding residential development and infrastructure. The Preferred Design proposes to avoid the 0.080 acre open water within the center of the Project (transforming it into a stormwater basin) and to construct three (3) additional stormwater ponds within the residential component. In addition, four (4) underground detention systems will be constructed beneath the parking areas in the commercial development portion of the Project. These stormwater areas will serve to replace the water quality and detention function of the existing on-site wetlands and therefore, water quality within the area will not be lowered by development of the Preferred Design.

1.2.2 Minimal Degradation Alternative

The Minimal Degradation Alternative will result in fewer impacts to on-site wetlands and streams than the Preferred Design. As with the Preferred Design, it is not anticipated that the on-site water quality will be lowered as a result of this plan due to the construction of stormwater ponds and detention systems. In addition, the 0.67 acre of avoided wetlands with the Minimal Degradation

Alternative will assist in stormwater retention throughout the area and preserve habitat in some of the highest quality wetlands on-site.

1.2.3 Non-Degradation Alternative

Impacts to wetlands and streams under the Non-Degradation Alternative are completely avoided; therefore, impacts to water quality are not expected under the Non-Degradation Alternative. Under this design, one (1) underground detention system will be installed within the commercial portion of the Project.

1.3 Technical Feasibility and Cost Effectiveness (10c)

1.3.1 Preferred Design

The Preferred Design has a total estimated cost of \$59.9 million for the Project. The estimated return on costs for this design is 9.5%, which is significantly higher than the return on investment for the Minimal Degradation Alternative, which is 5.2%. However, the Applicant chose the Minimal Degradation Alternative to be the POR in order to meet the avoidance and minimization requirements as described in Sections 401 and 404 of the Clean Water Act. Refer to **Table 3** for a comparison of Project costs per alternative.

1.3.2 Minimal Degradation Alternative

The Minimal Degradation Alternative has a total estimated cost of \$50.1 million. As mentioned above, the return on investment for this plan is significantly lower than for the Preferred Design. However, this plan was developed in order to minimize impacts to on-site wetlands and stream and meet Water Quality Act requirements.

1.3.3 Non-Degradation Alternative

The Non-Degradation Alternative has a total cost of \$25.7 million. Return on investment for this plan is only 1.8%, which would not be a practicable or feasible project from an economic standpoint, nor would it meet the goals of the City of Seven Hills for development of this property.

Table 3. Project Cost Estimates per Alternative

Costs	Preferred Design	Minimal Degradation Alternative	Non-Degradation Alternative
Hard and Soft Costs	\$59.1 million	\$49.6 million	\$25.7 million
Wetland/Stream Mitigation	\$830,000	\$550,000	N/A
Total Development Cost	\$59.9 million	\$50.1 million	\$25.7 million

1.4 Conservation Projects for Water Quality and Recreational Opportunities (10e)

Many conservation projects for water quality and recreational opportunities exist within Cuyahoga River watershed. Organizations such as the West Creek Conservancy, the Cleveland Metroparks, and the Cuyahoga Valley National Park often have projects that improve water quality within the watershed. The City of Seven Hills has a project called “Project R.A.I.N.” (Residents Acting in Nature Preservation) which encourages residents to increase water quality by creating rain gardens on their properties, thereby capturing and treating storm water that might otherwise enter local waterways untreated. In addition, the Cuyahoga County Soil & Water Conservation District has

several projects throughout the area including projects that focus on removing existing residential septic systems to in an effort to clean up runoff entering local waterways.

This Project will assist with water quality and conservation efforts in the area by reducing stormwater runoff flowing unrestricted off-site via streams and sheet flow and by improving a degraded stream within the nearby West Creek Reservation, which is part of the Cleveland Metroparks. West Creek Land Conservancy will hold the on-site conservation easement for the preserved areas in the Minimal Degradation Plan, furthering their mission of protecting wetlands and streams within the Cuyahoga River Watershed.

1.5 Water Pollution Control and Best Management Practices Costs (10f)

1.5.1 Preferred Design

Under the Preferred Design, removal of regulated wetlands would reduce water detention capabilities within the Project area. Therefore, stormwater ponds and underground water detention systems will be constructed throughout the Project area to manage stormwater runoff. Implementation of this plan would include the use of site-appropriate Best Management Practices (BMPs) to manage the stormwater runoff during construction activities. These may include, but are not limited to silt fencing, straw bales, erosion matting, and inlet protection. A Stormwater Pollution Prevention Plan (SWPPP) will be designed and implemented under the State of Ohio's National Pollutant Discharge Elimination System (NPDES) program. The cost to design and implement stormwater management systems and a SWPPP for the Preferred Design is estimated at \$300,000 for construction and \$15,000/ year for maintenance.

1.5.2 Minimal Degradation Alternative

Under the Minimal Degradation Alternative, partial impacts to regulated wetlands would also reduce water detention capabilities within the Project area. Therefore, stormwater ponds and underground water detention systems would be needed for this alternative as well. Implementation of this design would also include the use of site-appropriate BMPs to manage the stormwater runoff during construction activities and preparation of a SWPPP. The cost to design and implement stormwater management systems and a SWPPP for the Minimal Degradation Alternative is estimated at \$250,000 and \$10,000/ year for maintenance.

1.5.3 Non-Degradation Alternative

Under the Non-Degradation Alternative, avoidance of all features would not reduce the water detention capabilities of the area. However, the construction of the commercial and residential buildings would increase impervious surface runoff in the area. Therefore, a water detention system would be needed for this alternative within the commercial portion of the project to offset the impervious surface increase. Implementation of this design would also include the use of site-appropriate BMPs to manage the stormwater runoff during construction activities and preparation of a SWPPP. The cost to design and implement stormwater management systems and a SWPPP for the Non-Degradation Alternative is estimated at \$100,000 and \$5,000/ year for maintenance.

1.6 Impacts to Human Health, Overall Quality, & Value of Water Resources (10g)

1.6.1 Preferred Design

No negative impacts to human health will occur under the Preferred Design. Although all most of the surface waters will be impacted under this design, the installation of stormwater ponds and

underground stormwater detention systems will help increase water quality and control runoff, thus benefitting downstream waters.

Construction of this alternative would include the development of a SWPPP, use of site-appropriate BMPs to manage silt-laden runoff during construction activities, and installation of stormwater management systems. Therefore, no negative effects on the downstream water resource (West Creek) should occur as a result of this Design.

1.6.2 Minimal Degradation Alternative

Like the Preferred Design, there will be no negative impacts to human health under the Minimal Degradation Alternative. The loss of surface waters under this alternative will be less than under the Preferred Design; however, the benefit of the remaining 0.67 acre of wetlands and the construction of stormwater ponds and underground detention systems will ensure there are no negative effects to downstream water resources. In addition, construction of this alternative would include the development of a SWPPP and use of site-appropriate BMPs.

1.6.3 Non-Degradation Alternative

There will be no impacts to human health or water quality as a result of this alternative. There will be no loss of wetlands or streams and an underground detention system will be installed to compensate for an increase impervious surfaces. This alternative would include the development of a SWPPP and the utilization of site-appropriate BMPs. Therefore, there will be no effects on downstream waters as a result of this design.

1.7 Social and Economic Benefits to be Gained (10h)

1.7.1 Preferred Design

The Preferred Design would have a positive impact on the City of Seven Hills and the State of Ohio. Upon completion, this Project is expected to generate \$819,250 in local taxes and \$964,256 in state taxes. Real estate taxes of approximately \$1.7 million will be generated annually, which would benefit the local school district (Parma School District). In addition, the Preferred Design will result in 548 new temporary jobs (during construction), resulting in a payroll of approximately \$27,130,000, and 122 permanent jobs (post-construction), resulting in an estimated payroll of \$3,118,969. Refer to **Table 4**, below.

1.7.2 Minimal Degradation Alternative

The Minimal Degradation Alternative would also have a positive impact on the City of Seven Hills and the State of Ohio. Upon completion, this Project is expected to generate \$726,737 in local taxes and \$964,256 in state taxes. Real estate taxes of approximately \$1.4 million will be generated annually, which would benefit Parma School District. In addition, the Minimal Degradation Alternative will result in 464 new temporary jobs (during construction), resulting in a payroll of approximately \$22,980,000, and 122 permanent jobs (post-construction), resulting in an estimated payroll of \$3,118,969. Refer to **Table 4**, below.

1.7.3 Non-Degradation Alternative

The Non-Degradation Alternative would have a positive impact on the City of Seven Hills and the State of Ohio, however, not as much as the Preferred Design or the Minimal Degradation Alternative. In fact, local and state taxes generated would be much less than the Preferred Design and Minimal Degradation Alternative, a reduction by 45% and 15%, respectively. Real estate taxes would also be

cut by 55%, not providing as much benefit to the Parma School District. In addition, the Non-Degradation Alternative will only result in 246 new temporary jobs with a \$12,155,000 estimated temporary payroll (a decrease by 55% from the Preferred and 47% from the Minimal) and 103 new permanent jobs with an estimated permanent payroll of \$2,629,000 (a decrease by 16% from the Preferred the Minimal). Refer to **Table 4**, below.

Table 4. Economic Benefits to be Gained

	Preferred Design	Minimal Degradation Alt.	Non-Degradation Alt.
No. of Residential Lots/Units	205	165	68
No. Commercial Properties	48,925	48,925	41,250
New Temporary Jobs	548	464	246
Est. Temporary Payroll	\$ 27,130,000	\$22,980,000	\$12,155,000
Est. Temporary Taxes	\$1,320,729	\$1,118,701	\$591,724
New Permanent Jobs	122	122	103
Est. Permeant Payroll	\$3,118,969	\$3,118,969	\$2,629,688
Real Estate Taxes Generated Pre-Development (annually)	\$105,633	\$105,633	\$105,633
Real Estate Taxes Generated Post-Development (annually)	\$1,705,956	\$1,446,322	\$767,962
Revenue Generated	\$15,112,500	\$15,112,500	\$12,810,000
Local Taxes Generated	\$819,250	\$726,737	\$451,638
State Taxes Generated	\$964,256	\$964,256	\$816,708
Estimated Local School Taxes	\$426,489	\$361,581	\$191,990

1.8 Social and Economic Benefits to be Lost (10i)

1.8.1 Preferred Design and Minimal Degradation Alternatives

As the Project area is currently undeveloped and not used for recreation, there are no social and economic benefits to be lost under the Preferred Design or Minimal Degradation Designs. However, implementation of the either of these plans would result in significant social and economic benefits to the local economy through the creation of temporary and permanent jobs, local, state, and real estate taxes generated, including the local school district.

1.8.2 Non-Degradation Alternative

The social and economic gains that would result from implementation of the Preferred Design or Minimal Degradation Alternative, as discussed in Sections 1.7.1 and 1.7.2, would not be realized under the Non-Degradation Alternative. While the Non-Degradation Alternative would have a small positive impact on the City of Seven Hills and the State of Ohio, the gains are not as significant as the Preferred Design of Minimal Degradation Alternative.

1.9 Environmental Benefits to be Gained and Lost (10j)

1.9.1 Preferred Design

This design will fill a total of 2.335 acres of forested wetlands and 652 linear feet of stream and remove 29 acres of upland forest. The loss of these features will impact wildlife species present in this area; however, due to the isolated nature of the woodlot and surrounding urban development, it is highly unlikely that any endangered or threatened species are utilizing this natural area. Atwell performed a bat presence/absence survey to determine if listed bat species occur within the Project

area. The results indicated that the federally endangered Indiana bat (*Myotis sodalis*) and federally threatened northern long-eared bat (*Myotis septentrionalis*) are not present within the area.

Although this design will result in the reduction of wetlands and streams, it proposes to install stormwater ponds and stormwater retention basins throughout the Project to offset the loss of water retention. This will benefit the downstream water resource, the West Creek.

In addition, the stream mitigation proposed within the West Creek Reservation will further enhance the watershed by narrowing improving the quality of a tributary to West Creek. The wetland mitigation credits purchased through the in-lieu fee program will benefit the overall watershed. Refer to the **Proposed Mitigation Techniques** for additional details.

1.9.2 Minimal Degradation Alternative

Like the Preferred Design, this alternative will impact wetlands and streams, however, the impacts will be less than under the Preferred Design. This design will allow for 0.67 acre of forested wetland, 0.080 acre of open water, and 642 linear feet of stream to remain, providing some shelter for common species that may be using this area. In addition, the Applicant is proposing to perform a tree survey in order to identify and preserve, where possible, the larger, high-quality trees.

This design will result in the fill of 1.695 acres of wetland and 469 linear feet of stream, reducing water retention within the Project area. However, this design proposes the construction of stormwater ponds and underground detention systems which would benefit downstream waters and surrounding areas prone to flooding. Due to the reduction in impacts and residential units, there is sufficient space to relocate 218 linear feet of ephemeral stream within the center of the Project area. The remaining mitigation will occur within the Cleveland Metroparks, West Creek Reservation, restoring 650 linear feet of an unnamed tributary to West Creek. Wetland mitigation will occur either through a wetland restoration project adjacent to Big Creek, within the immediate watershed, or purchased through the Nature Conservancy In-Lieu Fee Program, thereby having a positive effect within the watershed. Refer to the **Proposed Mitigation Techniques** for additional details.

1.9.3 Non-Degradation Alternative

No impacts to regulated features will occur as part of this alternative, therefore, no loss to water quality or common species will occur. However, this alternative will still require clearing of approximately 15 acres of upland forest that may provide habitat to local species.