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September 5, 2018

Ms. Melissa Miller
The Mannik & Smith Group, Inc.
1160 Dublin Rd., Suite 100
Columbus, Ohio 43215

Reference: Proposed Hyatt Place Development
2006 Polaris Parkway
Columbus, Delaware County, Ohio
GCI Project #18-E-21746

Dear Ms. Miller:

Geotechnical Consultants, Inc. (GCI) provides this letter as guidance and support for your variance application to the City of Columbus *Stormwater Drainage Manual* for the above reference property. GCI understands that a portion of an ephemeral stream located on the northeast portion of the property will be modified by future commercial development.

This ephemeral stream received a score of 11 out of a possible 100 points using the Ohio Environmental Protection Agency (Ohio EPA) Headwater Habitat Evaluation Index (HHEI). The stream scored poorly because it has no pools, no possibility of supporting fish communities, lacks high quality substrate, instream cover, channel morphology, riparian areas, and width. The stream has a severe gradient and is also lacking/absent in flow, water depth, riffle, run, and pool complexes to establish biotic communities.

It is GCI's opinion that the partial impact of this ephemeral channel will not alter the post-construction HHEI score of the stream. An estimated post-construction HHEI scoresheet is attached to this letter.

GCI appreciates the opportunity to serve you on this project and we look forward to working with you in the future. Please contact this office if you have questions or need additional services.

Respectfully submitted,

Geotechnical Consultants, Inc. (GCI)

Matthew R. Kaminski, EP
Senior Project Manager
Wetland Scientist, 401/404 Specialist

Attachment: Post-Construction HHEI Scoresheet – Impacted Ephemeral Stream

Cc: File

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **11**

SITE NAME/LOCATION: **Hyatt Place, 2006 Polaris Parkway, Columbus, Delaware County, Ohio**

SITE NUMBER: | RIVER BASIN: | DRAINAGE AREA (mi²): **0.00**

LENGTH OF STREAM REACH (ft): | LAT.: | LONG.: | RIVER CODE: | RIVER MILE:

DATE: **09/05/18** | SCORER: **MK** | COMMENTS: **Estimated post-construction HHEI of ephemeral stream**

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☑ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☐	SILT [3 pt]	10%
☐	BOULDER (>256 mm) [16 pts]	0%	☑	LEAF PACK/WOODY DEBRIS [3 pts]	60%
☐	BEDROCK [16 pt]	0%	☐	FINE DETRITUS [3 pts]	0%
☐	COBBLE (65-256 mm) [12 pts]	0%	☐	CLAY or HARDPAN [0 pt]	30%
☑	GRAVEL (2-64 mm) [9 pts]	0%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	0%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: **0.00%** (A) | Substrate Percentage Check: 100% | (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **3** **TOTAL NUMBER OF SUBSTRATE TYPES:** **3**

HHEI Metric Points

Substrate Max = 40

6

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☐	> 5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☐	< 5 cm [5 pts]
☐	> 10 - 22.5 cm [25 pts]	☑	NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: **no change post-construction** **MAXIMUM POOL DEPTH (centimeters):** **0**

Pool Depth Max = 30

0

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

☐	> 4.0 meters (> 13') [30 pts]	☐	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☑	≤ 1.0 m (<=3' 3") [5 pts]
☐	> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]		

COMMENTS: **no change in stream width post-construction** **AVERAGE BANKFULL WIDTH (meters):** **0.30**

Bankfull Width Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☑	☑	Urban or Industrial
☑	☑	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS:

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

☐ Stream Flowing ☑ Moist Channel, isolated pools, no flow (Intermittent)

☐ Subsurface flow with isolated pools (Interstitial) ☐ Dry channel, no water (Ephemeral)

COMMENTS: **moist channel; no flow or isolated pools post-construction**

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

☑ None	☐ 1.0	☐ 2.0	☐ 3.0
☐ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☑ Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - ☐ Yes ☑ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: **Galena, Ohio** NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: **Delaware** Township / City: **Columbus**

MISCELLANEOUS

Base Flow Conditions? (Y/N): **N** Date of last precipitation: _____ Quantity: **0.00**

Photograph Information: _____

Elevated Turbidity? (Y/N): **N** Canopy (% open): **100%**

Were samples collected for water chemistry? (Y/N): **N** (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) **Y** If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): **N** (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

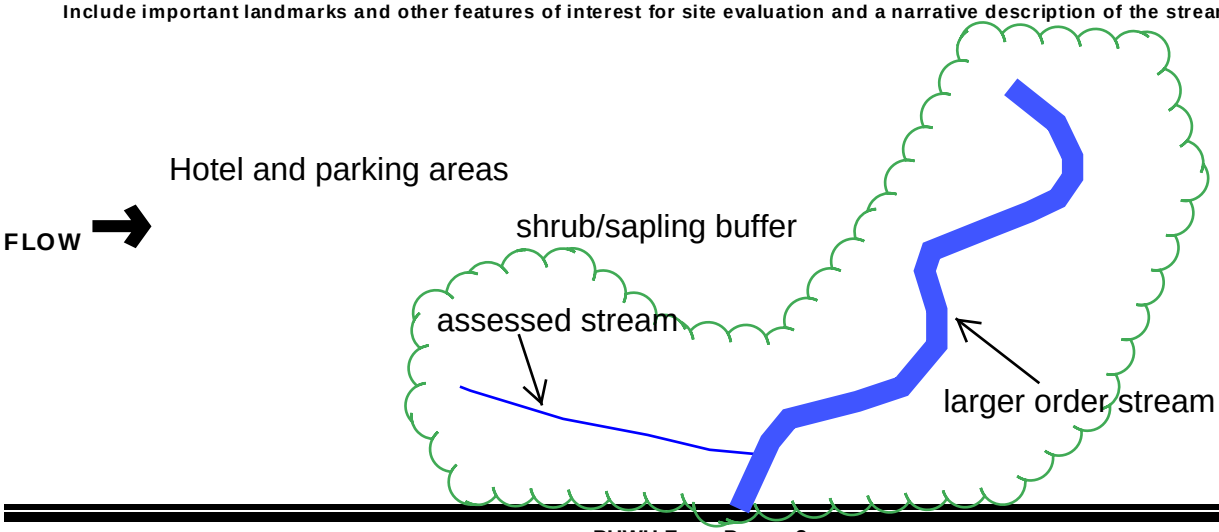
Fish Observed? (Y/N) **N** Voucher? (Y/N) **N** Salamanders Observed? (Y/N) **N** Voucher? (Y/N) **N**

Frogs or Tadpoles Observed? (Y/N) **N** Voucher? (Y/N) **N** Aquatic Macroinvertebrates Observed? (Y/N) **N** Voucher? (Y/N) **N**

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Save as pdf Reset Form