



Memorandum
Kennett Township Board of Supervisors

Meeting Date: January 4, 2021

Prepared by: Christina Norland, Kennett Trails Alliance

Motion before the Board: Motion to Approve Biohabitats' Task Order #7: Engineering Feasibility Study – Chandler Mill Road & South Street

Background:

Kennett Township is committed to securing the health, safety and welfare of local residents and the general public through the establishment and maintenance of trails and sidewalks. To that end, Kennett Township has been developing the Kennett Greenway, which is a 14-mile pedestrian and recreational-bike friendly trail loop designed to connect township residents to each other and to nature. The Greenway will connect residents to the assets of five municipalities, including Kennett Township, Kennett Borough, New Garden Township, East Marlborough Township and New Castle County, Delaware. Over ten parks and preserves will be connected on the Greenway loop, providing taxpayers with safe, walkable and bikeable access to the Township's open space investments.

On November 14, 2017, Kennett Township was awarded a CFA MTF Grant in the amount of \$1,700,000 for the Greenway project, and specifically for improvements to the Chandler Mill Bridge, Chandler Mill Road Trail, Parrish and Whittle Trails, South Street Path and Penns Manor. The Township match for this grant is 20% or \$340,000. Costs covered by this grant must be incurred by June 30, 2021.

Kennett Township's prior trails consultant, Penn Trails, has been working on these Trail Segments since 2015, including permitting, engineering and design work. In spring 2020, Penn Trails withdrew as the township's trail consultant. On May 20, 2020, the Board of Supervisors approved Biohabitats, together with its subcontractors, Meliora and Unknown Studio, as the Township's new trail consultants. At that meeting the Township also approved Biohabitats' Task Order #1 for the Magnolia Greenway Underpass. Biohabitats has successfully completed this task order, which provided conceptual engineering designs for an underpass under East Penn Railroad at Pennock Park.

On September 6, 2020, the Board of Supervisors approved Task Order #3 – Due Diligence Review. *In the request for the due diligence review, the Township requested that the consultants make several assumptions: (i) that the grant monies had to be spent by June 30, 2021, (ii) that no additional budget would be available, and (iii) that the goal was to complete as much trail as*

*possible within those constraints.*¹ Based on the assumptions, engineering progress, permitting requirements and progress to date, the consultants recommended that the Township complete the Chandler Mill Road and Whittle/Hillendale crossing trail segments. However, *if the Township required adherence to the assumptions above*, Chandler Mill Road would likely need to be one-way for vehicular traffic. Additional off-road construction work will require permitting, which would make it unlikely to meet the June 30, 2021 deadline. Estimated construction costs for the one-way Chandler Mill option was \$1,724,909, exclusive of community engagement, design,² and contingencies.

In December 2020, these recommendations were presented to the Trails and Sidewalks Committee, the community and the Board of Supervisors. Local residents objected to any design that made Chandler Mill into a one-way road for vehicular traffic. During the December 6, 2020 meeting, the Board of Supervisors directed Township management to see if any other alternatives were possible. Further, the Board of Supervisors approved Biohabitats' Task Order #6 – Traffic Study and Community Engagement in Support of the Design Process.³ The Traffic Study would provide for additional detail on the current use of Chandler Mill Road and safety impacts of potential designs. Task Order #6 also provided for additional community engagement and support for the design process through April 2021.

Subsequent to the December 6, 2020 meeting, Square Roots Collective (the parent organization of Kennett Trails Alliance) agreed to donate the services of its grant consultant, GMS Funding Solutions, to assist the Township in seeking reimbursements under the CFA MTF Grant. Further, GMS Funding Solutions would assist the Township in applying for an extension of the grant to June 30, 2022. The extension will be sought in late January, early February 2021.

At the December 16, 2020 Board of Supervisors meeting, the Township Manager gave an update on progress in seeking alternatives, per the Board's request. ***If a grant extension is granted and the Township expands the budget for the project***, the Township could reconsider the 2015 McMahan Plan for Chandler Mill Road. The 2015 McMahan Plan allows for two-way vehicular traffic with an off-road trail next to the road. The 2015 McMahan plan provides for two sections of Chandler Mill becoming one-way, with opposing traffic having to yield if oncoming traffic is present. These sections address tight grading in those areas and provide for traffic calming. In 2015, the construction cost estimate was \$2.5-\$2.7 million, exclusive of community engagement, design and contingencies. If this option is chosen, Township staff have developed options for affording the cost over the next several years.

¹ Biohabitats brought on McMahan Engineering for Task Order #3 to assist in the design of Chandler Mill Road, given their extensive traffic engineering experience and prior work on Chandler Mill Road. McMahan provided the initial preliminary design for the CFA MTF grant in 2015, known as the "2015 McMahan Plan."

² As required by Task Order #3, Biohabitats provided a quote for full construction-ready design documents based on their recommendations. This quote is contained in Task Order #4 – Full Design Services for Chandler Mill Road, Whittle Connector & Hillendale Crossing. The quote – based on Chandler Mill being 1-way for vehicular traffic – was \$263,179.00. This Task Order has not been presented to the Board of Supervisors for approval.

³ Task Order #5 – Kennett Township Community Engagement Support was approved by the Board of Supervisors at its September 16, 2020 meeting. This task order permitted the Township to engagement the consultants for community meetings and activities. Work under this Task Order has been now been rolled into Task Order #6.

In addition, the Township Manager noted that New Garden Township was potentially applying for a TASA grant in 2021 to create a trail from New Garden Shopping Center down Scarlett Road to W. South Street and then on W. South Street to the Kennett Township line. New Garden is also retaining McMahon for their project.

The Township Manager stated that Biohabitats is putting together a task order to provide for preliminary engineering for the 2015 McMahon Concept (and alternatives) and South Street. **During that meeting, the Board preliminarily approved Biohabitats to begin preliminary engineering work for Chandler Mill Road under the 2015 McMahon concept.**

Note that neither the 2015 McMahon concept nor South Street can be completed by June 30, 2021. Further, given delays to date, it is increasingly unlikely that the Township would be able to fully and meaningfully utilize the granted construction funds by June 30, 2021, regardless of design. As a result, the Township will need to rely on getting an extension. As part of the extension process, it is important for the Township to have a clear plan forward on its use for the CFA MTF Grant.

Current Matter:

Biohabitats has now provided Task Order #7: Engineering Feasibility Study – Chandler Mill Road & South Street for the Board of Supervisors’ approval.

The proposal provides for McMahon to evaluate the design configuration shown on the 2015 McMahon plan for creative and cost-effective solutions. The plan will provide for a couple of design options, likely including:

- Two-way vehicular traffic, with a 6ft pedestrian trail, with professional cyclists sharing the road north-south with vehicular traffic
- Two-way vehicular traffic, with a 10 ft multiuse trail, with bikers and pedestrians sharing the trail

In both of these design configurations, there would be two sections of one-way road, where oncoming traffic would need to yield. At that point, the trail would be 10ft wide with bikers and pedestrians using the trail. The trail surfacing would likely be paved and boardwalk, due to wetland impacts.

Further, McMahon will evaluate utilizing “two-way traffic to share a travel lane” configurations, aka “advisory shoulders”, “advisory bike lanes” and “edge lane roads” along Chandler Mill Road. This evaluation will consider current land use, ADT, speed, cartway width, roadway alignment, sight distance, roadside development and existing pedestrian facilities. In addition, a summary matrix will be prepared to compare the use of this type of configuration to similar facilities across the country.

Deliverables include:

- Preliminary engineering plans depicting the trail, roadway pavement markings, signage, critical fill slope lines, buffer areas, planter islands, lookout areas, and callouts for stream, tree and wetland impacts
- Summary matrix of impacts

- Opinion of costs
- Speed study at two locations on Chandler Mill Road
- Evaluation of “advisory shoulders”
- 2 eye-level view illustrative renderings for use in public engagement meetings

Total cost of Chandler Mill Road Preliminary Engineering: \$65,215

For South Street, Meliora Design would lead the effort, and provide preliminary plans that would include extending the trail from a new pedestrian bridge at Herb Pennock Park to Kaolin Mushroom facilities on W South Street. In addition, McMahon would provide the Township with TASA grant application assistance in conjunction with New Garden Township.

Deliverables include:

- Preliminary horizontal and vertical geometry design and layout for the South Street portion of the trail, from the proposed bridge connection at Herb Pennock Park to the Kaolin Mushroom Facility
- Narrative regarding design considerations and permitting requirements, including impact on project budget and schedule
- Preliminary construction cost estimate
- TASA grant application assistance (grant application materials detailed in the proposal)
- Renderings: 1 of a Parrish Crossing to Pennock Park; 1 plan of Kaolin Mushroom to Scarlett Road, 1 plan of South Street raised intersection

Total cost of South Street: \$37,960

Schedule & Implementation Guidance (for grant extension): \$4,170

Total cost: \$107,345 (note that this cost does not include final, construction-ready engineering documents, which would need to be completed after the Board of Supervisors’ approves a final direction/design for the use of CFA MTF funds)



The Stables Building
2081 Clipper Park Road
Baltimore, MD 21211

December 23, 2020

Township of Kennett, Chester County
801 Burrows Run Road
Chadds Ford, PA 19317

RE: REV FINAL Proposal for Task Order 7 - Engineering Feasibility Study – Chandler Mill Road & South Street

Dear Eden,

Following this letter is our **revised final** proposal for Task Order 7 under the current Master Service Agreement.

If you have any questions regarding this scope of work, please contact me by phone 667-401-8472 or by email at jdowdell@biohabitats.com. If this proposed scope and fee, are acceptable, please sign below to fully execute the Agreement and give formal notice to proceed.

Once signed, please return a copy of the full Agreement to: contracts@biohabitats.com or to the mailing address above.

Sincerely,

Biohabitats, Inc.

Jennifer Dowdell, Project Manager

Dec. 23, 2020

Signature

Name, Title

Date

Client: Township of Kennett

Execution of this Task Order authorizes Biohabitats to initiate the Work Plan in accordance with the Scope of Work, Schedule, Fee and terms as provided in the Master Services Agreement dated June 3, 2020. If this Agreement is not accepted within 30 days from the date of receipt, the offer to perform the described Services may be withdrawn and Biohabitats may renegotiate this proposal.

Signature

Name, Title

Date

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TASK ORDER 7 UNDERSTANDING

The purpose of this Task Order is to provide a preliminary engineering study of the Chandler Mill Road trail segment (based on the 2015 McMahon concept), including schedule considerations to help inform the grant extension efforts and one option for South Street. For Chandler Mill, the study will include permitting implications, design and traffic calming considerations, and some thoughts on a potential traffic control plan. For South Street, permitting implications will be considered, as well design considerations and supporting materials for a future grant proposal. Biohabitats will act as project manager for the design consultant team as well as provide input on ecological design considerations, with McMahon taking the lead on Chandler Mill and Meliora taking the lead on South Street. Unknown Studio will provide design support to both and provide renderings for use in public engagement activities listed in Task Order 6 (Meetings and Engagement).

The goal of this task order is to develop a deeper understanding of the engineering implications for the Chandler Mill road trail segment to inform a Board of Supervisors decision in February 2021 to support the future development of a 100% design proposal for a segment to be funded under the current grant award. This preliminary engineering effort will provide further information about engineering and design implications, as well as preliminarily exploring the user experience along the trail segment for the design options, and potential permitting implications to help with Board of Supervisors discussions and grant extension discussions. This task order will occur in parallel with the public engagement and meetings effort listed in Task Order 6, with the goal of completion in mid-February. Because the team already has meetings scoped in the Task Order 6 contract, we have not proposed any meetings in this task order.

SCOPE OF WORK

1. Biohabitats will provide management through the Master Services Agreement with Kennett Township for this task order with McMahon and Meliora providing preliminary engineering studies; and with design support and ecological input from Unknown and Biohabitats respectively.
2. The Client shall provide the following information or services within seven (7) days of notice to proceed, as required for performance of its services outlined herein:
 - a. All existing design documentation for segments via the Kennett Greenway Sharepoint site
 - b. A document with specific language required for grant extension responses.
3. The following design guidelines and publications will be utilized for the preliminary engineering study:
 - a. PennDOT Design Manual, Part 2 (DM-2): Highway Design, Publication 13M, March 2015 Edition
 - b. A Policy on Geometric Design of Highways and Streets (Green Book), Sixth Edition (2011), American Association of State Highway and Transportation Officials (AASHTO)
 - c. Guide for the Planning, Design and Operation of Pedestrian Facilities, (2004), American Association of State Highway and Transportation Officials (AASHTO)

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- d. Pennsylvania’s Traffic Calming Handbook (2012), PennDOT Publication 383
 - e. Guide for the Development of Bicycle Facilities (2012), American Association of State Highway and Transportation Officials (AASHTO) or latest revisions to these guidelines.
4. This proposal does not include refinements of the concepts developed within this task order after receiving feedback from the Township or public. All refinements will be incorporated into final design development of Chandler Mill or South Street – which would be completed under a separate (future) task order.
 5. All meetings will be attended as approved under Task Order No. 6. Additional meetings requested by Kennett Township or the evaluation of additional design options/alternatives for Chandler Mill Road or the South Street segments will be billed on a time and material basis with the rates specified below.
 6. This scope of work does not include 100% design development or documentation; nor does it provide any further survey work or wetland delineations.
 7. This scope of work does not include public meetings/engagement, as they are included under the scope of Task Order 6 - which the team assumes will occur in parallel with this preliminary engineering study effort.
 8. This proposed scope and fee is valid for a period of 60 days, after which it may be negotiated. This scope assumes an end date of February 28, 2021.

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PROPOSED WORK PLAN

TASK 1 Chandler Mill Road Preliminary Engineering Study

For the Preliminary Engineering Study for Chandler Mill Road trail, McMahon will evaluate the design configuration shown on the 2015 McMahon Associates concept plan for creative and cost-effective solutions. Design options for the McMahon design concept will be listed on the plan that is prepared, as well as discussed in detail with the Township and public (meetings under Task Order 6 contract).

McMahon will supplement the recently completed topographic survey with additional contour data from the Pennsylvania Spatial Data Access (PASDA) geospatial data portal for the purpose of completing the preliminary layout of the McMahon 2015 concept. McMahon will develop design criteria as it relates to the trail and roadway elements. Horizontal geometry will be developed with input from Unknown Studio. Unknown Studio will provide design input including planter islands, viewsheds and placemaking, and material details and edge conditions.

Meliora will lead the analysis of environmental and permitting impacts for the Chandler Mill Road preliminary design as developed by McMahon, including identifying permitting requirements, design requirements for work within the floodway, and the impact of permitting requirements on project cost and schedule. It is anticipated that potential impacts include work within the floodway, stormwater management design and permitting requirements, and wetland and Waters of the U.S. impacts.

Biohabitats will provide input on avoidance and minimization of wetland and Waters of the U.S. impacts for the McMahon 2015 concept based on a wetland delineation completed in conjunction with a survey conducted with McMahon under a separate contract and review of supplemental contour data compiled by McMahon. Meliora will provide recommendations related to addressing these issues to support McMahon's horizontal layout of the trail. Meliora will work with Unknown Studio to support McMahon in the Chandler Mill analysis.

A subsequent preliminary design layout will include the vertical component (vertical alignment, corridor setup and analysis and adjustments for the roadway vertical geometry along steep and curved sections) utilizing AutoCAD Civil 3D. McMahon will evaluate that there are no issues with safety with the transformation of the roadway. At the completion of the preliminary design layout, McMahon will work with the team to review impacts (stream embankment, trees, wetlands, crossing pipes, culverts) along the stream side and look for some refinement to avoid and minimize impacts. Also, McMahon will work with Unknown Studio on providing Civil 3D data for preparing renderings.

This task will include McMahon preparing preliminary plans depicting the trail, roadway pavement markings and legends, signage, critical fill slope lines (no contours), buffer area, planter islands, lookout areas, overall wayfinding signs for bicyclists and callouts for stream, tree and wetland impacts. McMahon will work with Meliora for the preparation of a summary matrix for these impacts. An opinion of cost estimate for the 2015 McMahon concept and options will be prepared. To supplement the traffic study (covered under Task Order 6), McMahon will develop a speed study proposal at two locations along Chandler Mill Road which would use a MioVision device to collect bike and pedestrian data along the roadway for a week or two.

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This task will include an evaluation of utilizing a “Two-way traffic to share a travel lane” configuration (aka “Advisory Shoulders”, “Advisory Bike Lanes” and “Edge Lane Roads”) along Chandler Mill Road. This evaluation will consider current land use, ADT, speed, cartway width, roadway alignment, sight distance, roadside development, and existing pedestrian facilities. In addition, a summary matrix will be prepared to compare the use of this type of configuration to similar facilities across the country.

NOTE: As noted above, this proposal does not include refinements of the Chandler Mill Road preliminary trail configuration and design options after receiving feedback from the Township or public. All refinements will be incorporated into the final design of the selected trail configuration and design options under a separate (future) work order. All meetings will be attended as approved under Task Order No. 6. Additional meetings requested by Kennett Township or the evaluation of additional design alternatives for Chandler Mill Road will be billed on a time and material basis.

Task 1 Deliverables

- Preliminary plans depicting the trail, roadway pavement markings and legends, signage, critical fill slope lines (no contours), buffer area, planter islands, lookout areas, overall wayfinding signs for bicyclists and callouts for stream, tree and wetland impacts.
- Summary matrix of impacts
- Opinion of cost
- Speed study at two locations along Chandler Mill Road
- Evaluation of “two-way traffic to share a travel lane” configuration, as described above
- 2 eye-level view illustrative renderings – for use in public and engagement meetings listed in Task Order 6

TASK 2 South Street Connector Preliminary Engineering Study & Grant Application Materials Support

Meliora will lead this effort, preparing preliminary plans extending from the proposed new pedestrian bridge at Herb Pennock Park to Kaolin Mushrooms facilities. This will include preliminary horizontal and vertical geometry, as well as identifying permitting requirements and their impact to cost and schedule. The Plans will be based on PennDOT Design Standards and AASHTO. McMahan Associates will provide design for the proposed raised intersection crossing at South Street. Meliora will coordinate with Unknown Studio and McMahan Associates to incorporate recommendations to improve the experience along this segment of the trail. The team will develop a construction cost estimate for this portion of the trail based on the preliminary design. Unknown Studio will provide input on materials, edging details, planting design, medians and traffic buffers, and raised intersection and connection to Pennock Park.

McMahan will work with Unknown Studio and Meliora to complete the preliminary horizontal and vertical geometry design layout for the proposed raised intersection crossing at South Street and a revised opinion of cost estimate based on the preliminary design layout.

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In addition, McMahon will provide the Township with TA Set-aside grant application assistance for the South Street Connector in conjunction with New Garden Township. We anticipate PennDOT will announce a TA Set-aside grant round in early 2021.

Since the TA Set-aside application and program guidelines have not been released, the following scope of services is based on previous program guidelines from 2018. McMahon will work closely with Township staff and understand that the Township will submit the application and supporting materials.

McMahon will prepare the grant application materials outlined below and support coordination with project partners regarding the project.

- Amount of grant funding request and matching funds: McMahon will coordinate with the Township to determine the amount of grant request and matching funds commitment based on the opinion of cost prepared as part of Task 1. This could include a phase of the overall connection, particularly if the project cost exceeds the maximum amount allowed for a TA Set-aside grant request.
- Project Initiation Form: McMahon will prepare a draft of the form for the Township's review and coordinate with representatives from DVRPC, PennDOT, and Chester County Planning Commission.
- Pre-application meeting: McMahon will attend one meeting with representatives DVRPC, PennDOT District 6-0, and Chester County Planning Commission to discuss the project and grant application.
- TA Set-aside application narrative, schedule, and opinion of cost: McMahon will prepare a draft of the narrative text, milestone schedule, and opinion of cost estimate by phase for the Township's review.
- Attachments: McMahon will compile and prepare PDF versions of the following attachments to support the Township's application.
 - Location Map
 - Concept Plan as prepared by our team
 - Conceptual Opinion of Cost prepared by McMahon
 - Other Supporting Documentation

NOTE: As noted above, this proposal does not include refinements of the South Street preliminary trail configuration and design options after receiving feedback from the Township or public. All refinements will be incorporated into the final design of the selected trail configuration and design options under a separate (future) work order. All meetings will be attended as approved under Task Order No. 6. Additional meetings requested by Kennett Township or the evaluation of additional design alternatives for South Street will be billed on a time and material basis.

Task Deliverables

- Preliminary horizontal and vertical geometry design and layout for the South Street portion of the trail, from the proposed bridge connection at Herb Pennock Park to the Kaolin Mushroom Facility with narrative regarding design considerations and permitting requirements, including impact on project budget and schedule.

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- Preliminary level Construction Cost Estimate
- TA Set-aside grant application assistance for the South Street Connector in conjunction with New Garden Township - grant application materials as listed above
- Renderings: 1 eye-level view illustrative rendering of Parrish Crossing to Pennock; 1 Illustrative Plan of Kaolin to Scarlett Road; 1 Detail Plan of South Street raised intersection area

TASK 3 Schedule Guidance

The team will prepare a preliminary schedule (Chandler Mill Road and South Street) to inform the grant extension application.

Task Deliverables

- Preliminary schedule for design and construction

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SCHEDULE

The Biohabitats-led team is available to begin work on this scope immediately upon notice-to-proceed and will adhere to a schedule mutually agreed upon with Kennett Township, through the middle to late February.

FEE

Compensation to Biohabitats for the services described herein are in accordance with the Scope of Work, Work Plan and Schedule specified above. This project shall be paid as a lump sum totaling: **\$107,345.00**. If the client needs to exceed the efforts described in the above scope of work, the team can provide additional support via the rates below, on a time and materials basis.

PHASES	FEE
TASK 1 Chandler Mill Road Preliminary Engineering Study	\$ 65,215.00
TASK 2 South Street Connector Preliminary Engineering Study and Grant Application supporting materials	\$ 37,960.00
TASK 3 Schedule and Implementation Guidance	\$ 4,170.00
TOTAL	\$ 107,345.00

Rates for additional efforts beyond the current scope of work:**Biohabitats Inc.**

Principal = \$225

Sr. Project Manager \$185

Sr. Construction Coordinator = \$170

PM/Sr Planner = \$165

Sr. Landscape Architect/Engineer/Env Scientist = \$145

Engineer/Scientist = \$130

Construction Coordinator = \$120

CADD and GIS Tech = \$110

These rates are subject to change annually every March

McMahon Associates, Inc.

Senior Project Manager = \$175

Project Manager, Survey Manager = \$155

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Sr Project Engineer = \$135

Project Engineer = \$120

Staff Engineer = \$100

Technician, Admin, Survey Tech = \$80

Field Personnel = \$50

Meliora Design

Principal = \$205

Sr Civil/ PM = \$140

Civil Engineer IV = \$125

Civil Designer III = \$110

Structural Designer = \$95

UNKNOWN

Principal = \$230

Sr LA = \$ 155

PM/LA = \$125

Landscape Designer = \$115

Staff Designer = \$80