

**Donald Bohning
& Associates**

7979 Hub Parkway
Valley View, Ohio 44125

T 216.642.1130

F 216.642.1132

September 28, 2018

City of Parma
6611 Ridge Road
Parma, Ohio 44129

ATTENTION: Paul W. Deichmann, P.E.
City Engineer & Building Commissioner

**RE: Orchard Park Drive Storm Sewer Outfall Repair, Forest Hills Boulevard
Storm Sewer Improvement, and Miscellaneous Drainage Improvements
Scope of Work & Engineering Service Proposal**

Dear Mr. Deichmann:

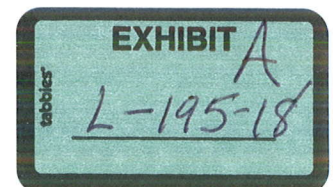
At the request of the City of Parma, please accept the following updated Scope of Work and Engineering Service Proposal for the above referenced drainage system improvement project. Attached is an outline of potential work scope as determined by the City, and associated service proposal for Parma's consideration and authorization.

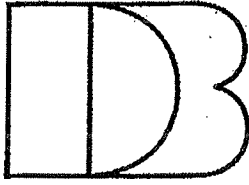
Accompanying this service proposal is an exhibit provided to us by the City of Parma Engineering Department, indicating the original proposed scope of work on Orchard Park Drive. We have been performing ongoing services for the City of Parma for the Orchard Park project under our previous Engineering Services Proposal dated June 12, 2017, and several authorizations for additional services per City request to date. This updated proposal incorporates these additional services and corresponding expanded project scope, as directed by the Parma Engineering Department.

Please note that this Engineering Service Proposal does not include surveying services in regard to temporary and permanent easement acquisition for the project, which have been provided under a separate City authorization. A summary of all project invoicing to date can be provided upon request.

Donald G. Bohning & Associates, Inc. shall perform the described services on a per task basis for a total fee not to exceed the total shown. Our engineering services will be billed monthly on a percent complete basis per task. As requested, an allowance is included for Construction Phase Services; this task would be invoiced at our current hourly rates. All review fees (if any) are the responsibility of the City of Parma.

Additional services, if requested, will be performed by DGB & Associates per the current hourly rate schedule (2018 schedule attached for reference).





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We appreciate the opportunity to provide this proposal and look forward to continuing to work with the City of Parma to bring this important project to a successful completion. If you have any questions or need additional information, don't hesitate to contact me.

Sincerely,

DONALD G. BOHNING & ASSOCIATES, INC.

David M. Gracon

Encl.

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AUTHORIZATION TO PROCEED

Total Engineering Fee Authorized

\$ _____

Paul W. Deichmann, P.E.

Date

**Scope of Work & Engineering Service Proposal For:
Orchard Park Drive Storm Sewer Outfall Repair, Forest Hills Boulevard
Storm Sewer Improvement, and Miscellaneous Drainage Improvements**

On Orchard Park Drive, between Forest Hills Boulevard and Regency Drive, several storm drainage facilities are in disrepair, roadside ditches and storm inlets are in need of maintenance, and some house flooding and ditch erosion is occurring. In order to address various issues, the City of Parma developed a potential scope of repair work to some public facilities (see the attached "Project Map" provided by City of Parma Engineering Dept.). Proposed work includes replacing a failed headwall on a 48" diameter storm sewer outfall, replacing a portion of the 48" sewer pipe, cleaning and re-shaping roadside ditches, replacing selected drive culverts and aprons, and replacing, repairing, or cleaning existing storm inlets.

Additional improvements to the Orchard Park public drainage system have also been reviewed with and directed by the City, including westerly overland flow corridor and storm drainage improvements from 5153 to 5308 Orchard Park Drive, and additional north side storm drainage improvements from 4812 to 4918 Orchard Park Drive. [A]

On the west side of Forest Hills Boulevard, the existing storm drainage system is limited and provides little storm runoff control or conveyance capacity, and some flooding and erosion is occurring, particularly during overland flow events. In order to address various issues, the City of Parma has developed a potential scope of storm sewer improvement work (see the attached "Concept Exhibit" developed per discussions with the City of Parma Engineering Dept. and DGB & Associates preliminary review). Proposed work includes installing a curb along the west side of the street and extending approximately 50' onto Padua Franciscan High School property, constructing a 12"-18" diameter storm sewer with curb inlet basins, re-grading treelawns, replacing and re-profiling selected drive aprons and/or driveways, constructing an outfall sewer, and possibly improving the downstream receiving channel to convey the additional storm sewer flows. [A]

Right-of-entry agreements or temporary access easements adjacent to the work areas will be required for the proposed repair and improvement project. Access to the Orchard Park storm sewer outfall repair site is alongside the driveway of 5144 Orchard Park Drive. The proposed Forest Hills storm sewer outfall to be constructed on private property will require access from near the intersection of Forest Hills Blvd. and Orchard Park Drive. Access is also expected to be required on Padua property and residential properties with frontage on the west side of Forest Hills Blvd. Additional access may be needed to downstream receiving channel improvement areas. The project construction is anticipated to require some clearing, removal of landscaping features, fence removal and replacement, driveway repair, and removal/replacement of roadside features such as guardrail and mailboxes.

Total construction cost for this Orchard Park Drive outfall repair, Forest Hills Boulevard storm sewer improvement, and miscellaneous drainage improvements project is anticipated to be in the range of \$500,000-\$525,000.

The City of Parma has also requested a drainage study to identify, evaluate and provide recommendations and preliminary cost estimates for other potential improvements to the public drainage system in the Orchard Park Drive / Forest Hills Boulevard area, which could further help control overland flows and reduce the incidence of flooding in that area. Design and construction costs will vary depending on what potential improvement(s) are identified in the drainage study and selected by the City for future implementation.

Note: [A] indicates additional scope items as directed by the City of Parma and additional services requested by the City subsequent to DGB & Assoc. original Service Proposal dated June 12, 2017.

Task 1: Preliminary Investigation and Design

- Prepare and supply Parma letters informing all abutting residents of the proposed project and upcoming investigations. Parma to approve and forward letters on Parma letterhead.
- Contact the Ohio Utilities Protection Service to obtain private utility records.
- Obtain available record plat and deed information from the Cuyahoga County Recorder's Office.
- DGB & Assoc. survey crews will access the Orchard Park Drive site to:
 - Establish roadway centerline and Right-of-way.
 - Field collect ground characteristics of repair areas, Right-of-way (construction staging) area, and access route(s).
 - Set temporary bench marks for use during construction.
 - Locate existing utilities as depicted on utility plans and visually apparent.
- Develop base mapping for the Orchard Park Drive outfall repair, and miscellaneous drainage improvements.
- Provide design concept and preliminary level anticipated range of construction cost to Parma for their review and authorization to develop Orchard Park Storm Sewer Outfall Repair & Storm Drainage Improvements Final Engineering Plans and Documents.
- Develop supplemental base mapping for the westerly overland flow corridor and storm drainage improvements. [A]
- Field investigate / view Forest Hills Blvd. outfall sewer downstream flow corridor to determine potential scope of downstream improvement work necessary to convey proposed storm sewer flows. [A]
- Utilizing Cuyahoga County GIS base mapping, provide basic design concept, alternate outfall extension concept, and preliminary level anticipated range of construction cost to Parma for their review and authorization to prepare Forest Hills Boulevard Storm Sewer Improvement Final Engineering Plans and Documents (incorporated into the Orchard Park Drive Storm Sewer Outfall Repair & Storm Drainage Improvement Plans). [A]
- DGB & Assoc. survey crews will access the Forest Hills Blvd. site to:
 - Field collect ground characteristics of areas within and adjacent to the roadway, storm sewer outfall areas, downstream flow corridor, and access route(s). [A]
 - Locate existing utilities as depicted on utility plans and visually apparent. [A]
- Develop supplemental base mapping for the Forest Hills Boulevard storm sewer improvements. [A]

Task 2: Right of Entry Acquisition

- Upon preliminary approval by the City, prepare temporary rights of access documents for Orchard Park Drive construction, staging and access areas. All ownership information being based on available records at the Cuyahoga County Fiscal Officer and Recorders Office web sites.
- Prepare temporary right of access documents based on standard language and format (e.g., Cuyahoga County standard) as approved by the City of Parma.
- If required, attend one (1) meeting with the City of Parma and residents of which access has been requested to discuss the project and attempt to obtain right of access signatures. All negotiations beyond this initial meeting and for any compensation to obtain right of access will be solely the responsibility of the City.
- All right of access documents will be submitted to Parma for their processing, acceptance by City Council, and recording with the Cuyahoga County Recorder's office as applicable.
- Perform the above Right of Entry Acquisition services for the proposed Forest Hills Boulevard storm sewer improvements. [A]
- Develop a tree preservation plan / exhibit for P.P.N. 450-09-020 to assist the City in obtaining an access agreement. [A]

Task 3: Final Design

- Upon Authorization by Parma, develop final construction plans and develop all specifications required to:
 - Remove and replace approximately 50' of 48" storm sewer, extend the sewer approximately 10' to 20' with the use of a manhole to step the sewer down to the bed of the receiving channel, and install a new concrete headwall. Clean the receiving channel of debris including the fallen pieces of the failed headwall. Rehabilitate the portion of the 48" pipe to remain (e.g. lining, joint repair).
 - Clean and re-shape roadside ditches indicated on the attached "Project Map" to improve their ability to convey storm flows within the Right-of-way. Replace the drive culverts and aprons of 4865 & 4909 Orchard Park Drive, and to the extent feasible, configure them to contain roadside ditch flows within the Right-of-way.
 - Replace, repair, or clean existing storm inlets "A" thru "E" as indicated on the attached "Project Map", and any other inlets within the project limits that the City determines are in need of maintenance.
 - Create an Orchard Park Drive westerly overland flow corridor from the elliptical culvert to the existing ditch in Klippel Avenue (unimproved) Right-of-Way. Re-shape roadside swales, add storm sewers, and incorporate miscellaneous storm drainage improvements from 5153 to 5308 Orchard Park Drive. [A]
 - Extend the existing 12" storm sewer on the north side of Orchard Park Drive and tie into a replacement catch basin at the end of the existing concrete gutter, and associated storm drainage improvements from 4812 to 4918 Orchard Park Drive. [A]

- Install approximately 400' of curbing along the west side of Forest Hills Blvd. and the private drive extending onto Padua Franciscan High School property. [A]
 - Construct approximately 440' of 12" to 18" diameter storm sewer with curb inlet basins along the west edge of Forest Hills Blvd., designed to convey the 5-year design storm for the tributary drainage area. [A]
 - Re-grade the west treelawn of Forest Hills Blvd. as applicable for the proposed curbed pavement. Replace the drive aprons of 6702 & 6708 Forest Hills Blvd., and to the extent feasible, re-configure and re-profile the aprons and/or driveways to contain storm flows within the Right-of-Way. [A]
 - Construct approximately 110' of 15" or 18" diameter Forest Hills Blvd. outfall sewer with the use of a manhole to step the sewer down to the base of the steepest part of the slope on P.P.N. 450-10-012, and install a new concrete headwall or end section and rock outlet protection. Alternately, upon Parma's authorization under Task I, extend the outfall sewer further down to the base of the slope by constructing approximately 115' of additional sewer and two added manholes. [A]
 - As necessary, clean and/or re-shape the Forest Hills Blvd. outfall sewer downstream receiving channel to improve its ability to convey the additional storm sewer flows. [A]
- Submit completed plans to private utility companies for notification of the proposed project and with a request to evaluate any impacts to their facilities. All further communication with the respective utility owners to coordinate the project work is the responsibility of the City of Parma.
 - Provide a summary of bid items and a final Engineer's Estimated Cost for the construction of the project.
 - Prepare contract documents using the standard template provided by the City of Parma along with an example document; DGB & Assoc. to perform cursory review of the template to verify no apparent conflicts exist with the design plans.
 - Upon City determination that the project warrants a full road closure during construction, develop a Detour Plan and amend the plans to include such. [A]
 - Respond to plan and contract review comments from the City's construction administration / inspection services firm, including one meeting. [A]
 - Provide fifteen (15) full size sets of plans on bond paper, along with fifteen (15) copies of the contract documents for the City's use in advertising for and bidding the project. An electronic copy of the final approved plans will also be included.

Task 4: Project Bidding

- Provide continuous engineering support during the bidding process, which will include attendance at a pre-bid meeting, prepare addendums as needed, answer questions during the bidding process and attend the public bid opening at the location directed.
- This task is based on bidding the project one time only.

Task 5: Drainage Corridor Study

- Analysis of the existing storm drainage system and overland flow corridors in the Orchard Park Drive / Forest Hills Boulevard area (the "Impacted Area" per the attached "Drainage Area and Impacted Area" exhibit):
 - Review of available subdivision plans, topographic mapping, storm sewer schematic maps, video sewer inspections, historic flood records, and other information regarding the study area as provided by the Cuyahoga County Engineer or City of Parma.
 - Research septic system discharge lines on private property on the south side of the street from 4807 to 5109 Orchard Park Drive, via records obtained from Cuyahoga County Board of Health, and evaluate with respect to the overall storm drainage system and overland flow corridors. [A]
 - Field work to obtain relevant additional information regarding the Orchard Park Drive / Forest Hills Boulevard area including ground elevations, storm structure top of casting and invert elevations, and pipe sizes.
 - Determination of sewer system drainage area, overland flow drainage area, and present storm sewer capacity.
 - Overland flow corridor examination and evaluation.
 - Does not include evaluation of local storm drainage systems or overland flow characteristics within the tributary drainage area upstream of 5153 Orchard Park Drive (i.e., the Regency Highlands development, Padua High School property, and Bruening Drive area).
- Identify and evaluate alternatives for storm drainage system improvements (e.g., increasing storm conduit size and/or adding relief sewers, adding inlet structures, re-grading of flow corridors, and potential modifications by private property owners) which could reduce the incidence of flooding in the Orchard Park Drive / Forest Hills Boulevard area.
- Provide design concepts for improvements to the public drainage system and preliminary level anticipated range of construction cost to Parma for their review and consideration for future project(s).

Task 6: Construction Phase Services

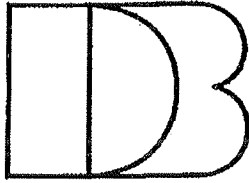
- Provide engineering support services on an as-needed basis during the project construction, at the direction of the City. This will include attendance at a pre-construction meeting, site visits, review contractor's submittals / shop drawings for plan conformance, communicate with private property owners and/or utility companies, answer questions during construction, review requests for information from the City's contractor and/or construction administration / inspection services firm, advise the City on cost or construction issues, and prepare minor plan revisions and addendums. [A]
- Clarifications and/or support of design intent for the project improvement plans by DGB & Associates are included in the fee for Task 3: Final Design, and such services will not be invoiced to the City as construction phase services.
- Construction phase services will be performed and invoiced by DGB & Associates per the current hourly rate schedule (2018 schedule attached for reference). An estimated allowance amount has been included in this service proposal for budgetary purposes. [A]

Reimbursables

- Reimbursable expenses include, but are not limited to: express mail, delivery services and prints at cost beyond what is identified in the proposal.
- Reimbursables will be invoiced to the City by DGB & Associates at cost. An estimated allowance amount has been included in this service proposal for budgetary purposes. [A]

Fee Schedule

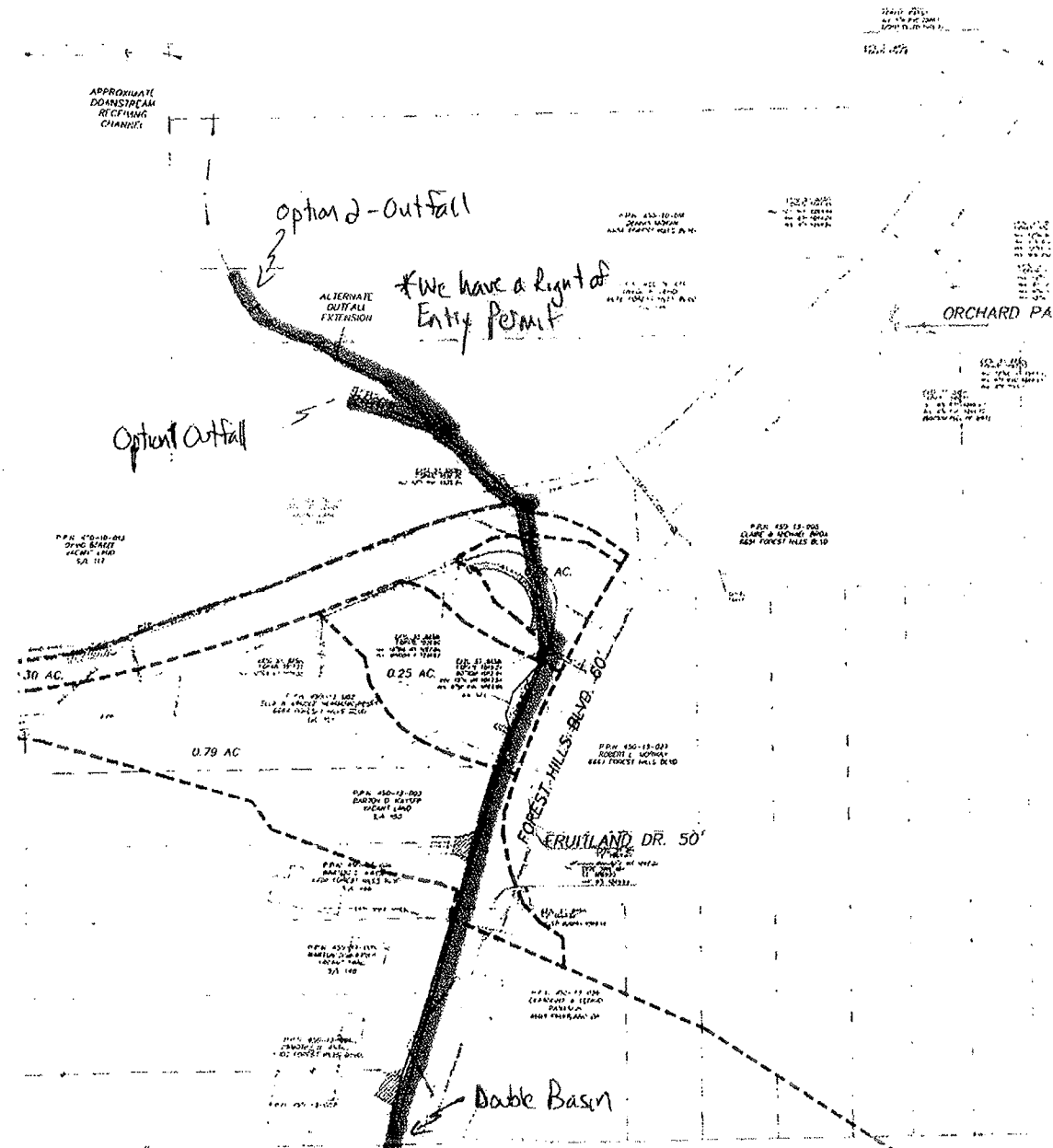
	<u>Totals</u>
Task 1 – Preliminary Investigation and Design	\$ 13,190.00
Task 2 – Right of Entry Acquisition	\$ 2,320.00
Task 3 – Final Design	\$ 20,661.00
Task 4 – Project Bidding	\$ 720.00
Task 5 – Drainage Corridor Study	\$ 5,200.00
Contingency (10%) if required	<u>\$ 4,209.00</u>
Total Engineering Fee	\$ 46,300.00
Task 6 – Construction Phase Services (Allowance)	\$ 5,000.00
Reimbursables (Allowance)	<u>\$ 500.00</u>
Total Fee including Allowances	\$ 51,800.00



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SCHEDULE OF HOURLY RATES - 2018

Principal Engineer-----	\$100.25
Project Coordinator-----	\$ 94.75
Registered Engineer Registered Surveyor-----	\$ 92.75
Senior Designer Party Chief-----	\$ 86.00
Senior C.A.D. Technician-----	\$ 83.00
C.A.D. Technician-----	\$ 74.75
Designer-----	\$ 66.25
Construction Observer-----	\$ 48.50
Assistant; Clerical-----	\$ 48.50
One-Man Field Crew-----	\$107.00
Two-Man Field Crew-----	\$148.25
Materials and services of others-----	At Cost



We have a right of entry permit from Padua.

On the west side of Forest Hills Boulevard, the existing storm drainage system is limited and provides little storm runoff control or conveyance capacity, and some flooding and erosion is occurring, particularly during overland flow events. In order to address various issues, the City of Parma has developed a potential scope of storm sewer improvement work (see the attached "Concept Exhibit" developed per discussions with the City of Parma Engineering Dept. and DCB & Associates preliminary review). Proposed work includes installing a curb along the west side of the street and extending approximately 50' onto Padua Franciscan High School property constructing a 12"-18" diameter storm sewer with curb inlet basins, re-grading treelawns, replacing and re-profiling selected drive aprons and/or driveways, constructing an outfall sewer, and possibly improving the downstream receiving channel to convey the additional storm sewer flows. [A]

CONCEPT EXHIBIT
FOREST HILLS BLVD.
STORM SEWER IMPROVEMENT
PARMA, OHIO
SEPT. 21, 2018

