

TOWNSHIP OF WEST ORANGE

TOWNSHIP HALL
66 MAIN STREET
WEST ORANGE, N.J. 07052

PURCHASE ORDER

Purchase Order Number

NO: 178441

This number must appear on
all packages, invoices, and
correspondence.

VOUCHER MUST BE RETURNED FOR PAYMENT

4

267-24

Ship to: TOWNSHIP OF WEST ORANGE
ENGINEERING DEPARTMENT
25 LAKESIDE AVE
WEST ORANGE, NJ 07052
FOB DESTINATION FREIGHT PREPAID & CHARGED BACK

Vendor: MOTT MACDONALD GROUP, INC
MOTT MCDONALD, LLC
111 WOOD AVE SOUTH
ISELIN, NJ 08830

Account Various - see below -- --

Vendor Code 1005243 Date of Order 10/27/22 Requisition # 0

Quantity	Unit	Description of Materials or Service	Unit Price	Extended
1.0000		RES 263-22 PROF SERV ENGINEERING SER MUNICIPAL SEPARATE STORMWATER SEWER (ms4) PERMIT AND COMPLIANCE - NOT TO EXCEED	74,000.000	74,000.00
		24618.27 03-2661-21-0500-140 Streets Roads and Se - STREET IMPROVEMENTS		
		49381.73 03-2661-21-0500-110 Streets Roads and Se - Road Improvements Va		

Purchase Order Total: 74,000.00

THIS ORDER IS TAX EXEMPT PER NJSA

54:32B-9(a)(1) TAX EXEMPT ID NO. 22-6002396

Mandatory Prevailing Wage Policy P.L. 2007,c.68 for all Public Works Contractors and Sub-Contractors

Proof of Business Registration Certificate is Mandatory. P.L. 2004 57.Pursuant to NJSA 2A:30A2 the TWO has an ADR policy.

CLAIMANT'S CERTIFICATION	OFFICER'S OR EMPLOYEE'S CERTIFICATION	VOUCHER MUST BE SUBMITTED TO THE TOWNSHIP TREASURER ON OR BEFORE THE 1ST DAY OF THE MONTH FOR PAYMENT.
I DO SOLEMNLY DECLARE AND CERTIFY UNDER THE PENALTIES OF THE LAW THAT THE WITHIN BILL IS CORRECT IN ALL ITS PARTICULARS; THAT THE ARTICLES HAVE BEEN FURNISHED OR SERVICES RENDERED AS STATED THEREIN; THAT NO BONUS HAS BEEN GIVEN OR RECEIVED BY ANY PERSON OR PERSONS WITH THE KNOWLEDGE OF THIS CLAIMANT IN CONNECTION WITH THE ABOVE CLAIM; THAT THE AMOUNT THEREIN STATED IS JUSTLY DUE AND OWING; AND THAT THE AMOUNT CHARGED IS A REASONABLE ONE.	HAVING KNOWLEDGE OF THE FACTS IN THE COURSE OF REGULAR PROCEDURES, I CERTIFY THAT THE MATERIALS AND SUPPLIES HAVE BEEN RECIEVED OR THE SERVICES RENDERED; SAID CERTIFICATION IS BASED ON DELIVERY SLIPS ACKNOWLEDGED BY A MUNICIPAL OFFICIAL OR EMPLOYEE OR OTHER REASONABLE PROCEDURES.	
(X)	DEPARTMENT HEAD	DEPARTMENT
VENDOR SIGN HERE	CERTIFICATION OF FUNDS AVAILABILITY	ORDERED BY
OFFICIAL POSITION DATE	CHIEF FINANCIAL OFFICER	PURCHASE ORDER APPROVED - PURCHASING AGENT
SIGN AND RETURN ONLY		
THIS ORIGINAL FOR PAYMENT		

VOUCHER COPY - SIGN AT X AND RETURN FOR PAYMENT

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Date Mailed _____

Date Received _____

Comments _____

Accounts Payable Copy

RESOLUTION

WHEREAS, the Township of West Orange requires Professional Engineering Services for its Municipal Separate Stormwater Sewer System (MS4) Permit and Compliance; and

WHEREAS, Mott MacDonald, 111 Wood Avenue South, Iselin, New Jersey 08830 submitted a proposal dated July 26, 2022 with a revision date of September 9, 2022 for updating the Municipal Stormwater Management Plan (MSWMP) for permit compliance including outfall pipe mapping and Geographic Information System (GIS) database for compliance with NJDEP Tier A MS4 current permit cycle in an amount not to exceed \$74,000.00; and

WHEREAS, the Township of West Orange will be required to extend services for the next permit cycle commencing on January 1, 2023 for compliance with new requirements that are to be adopted by NJDEP for Tier A MS4 Permit renewal; and

WHEREAS, the Township of West Orange declines a separate proposal letter dated September 9, 2022 for MS4 Full System Map and additional scope from Mott MacDonald for the next permit cycle; and

WHEREAS, the Township Engineer solicited a proposal from another five professional engineering and land surveying firms; and

WHEREAS, Mott MacDonald does not require stormwater as-built drawings for the location of stormwater structures to commence the work; and

WHEREAS, Mott MacDonald of Iselin, New Jersey responded to the Township's Request for Qualifications; and

WHEREAS, Mott MacDonald of Iselin, New Jersey has performed similar work for the Township and their work quality is very good; and

WHEREAS, by letter dated September 16, 2022 the Township Engineer recommended professional services contract be awarded to Mott MacDonald, 111 Wood Avenue South, Iselin, New Jersey 08830; and

WHEREAS, sufficient funds exist for this work; and

WHEREAS, the Township Council concurs in the foregoing.

NOW THEREFORE BE IT RESOLVED, by the Township Council of the Township of West Orange that the Township be and hereby authorized to enter into a Professional Services Contract with Mott MacDonald, 111 Wood Avenue South, Iselin, NJ 08830 to provide professional services for updating the Municipal Stormwater Management Plan (MSWMP), outfall pipe mapping for compliance with NJDEP Tier A MS4 current permit cycle for a fee of \$74,000.00 in accordance with their proposal dated July 26, 2022 and revised September 9, 2022.

BE IT FURTHER RESOLVED that a copy of this Resolution be published in the West Orange Chronicle within 10 days of approval in accordance with N.J.S.A. 40A:11-5(1)(a)(i).


Karen J. Carnevale, RMC, Municipal Clerk


Susan McCartney, Council President

Adopted: October 25, 2022

 I hereby certify funds are available from:


John Gross, Chief Financial Officer

ACCOUNT NO. ~~03-2661-21-0500-170~~
2021 CAPITAL BUDGET
\$74,000.00

03-2661-21-0500-140
03-2661-21-0500-110



TOWNSHIP OF WEST ORANGE

25 LAKESIDE AVENUE, WEST ORANGE, N.J. 07052

DEPARTMENT OF PUBLIC WORKS

ROBERT D. PARISI

Mayor

Tel: (973) 325-4160

Fax: (973) 669-9588

Email: Engineering@westorange.org

LEONARD R. LEPORE

Director, Municipal Engineer

September 16, 2022

Mayor and Township Council
Municipal Building
66 Main Street
West Orange, New Jersey 07052

RE: **REQUEST FOR PROPOSAL**
PROFESSIONAL ENGINEERING SERVICES FOR
MUNICIPAL STORMWATER MANAGEMENT PLAN
FOR PERMIT COMPLIANCE

Mayor Parisi, Council President McCartney and Council Members:

On Friday, September 9, 2022 the Township received a revised response from Mott Macdonald to provide professional engineering services to update the Municipal Stormwater Management Plan (MSWMP) for permit compliance including outfall pipe mapping and Geographic Information System (GIS) database for compliance with NJDEP Tier A Municipal Separate Stormwater Sewer System (MS4). In addition, the Township received three responses to the Request for Proposal issued on August 8, 2022 for the Municipal Stormwater Management Plan (MSWMP) for permit compliance.

Mott MacDonald was selected for this proposal due to their familiarity with and past experience with the Township on the previous MS4 permit cycle. Additionally, Mott MacDonald will gather all field data themselves and not rely on As-Built plans which do not exist. That was the method and plan of Suburban Consulting Engineers, Inc.

A summary of the responses for the project are as follows:

- | | |
|--|-----------|
| 1. Mott MacDonald
111 Wood Avenue South
Iselin, NJ 08830 | \$74,000 |
| 2. Suburban Consulting Engineers, Inc.
96 US Highway 206, Suite 101
Flanders, NJ 07836 | \$79,035 |
| 3. Greenman- Pedersen Inc.
301 Gibraltar Drive, Suite 2A
Morris Plains, NJ 07050 | \$109,050 |

- | | |
|---|-------------|
| 4. CME Associates
1460 Route 9 South
Howell, NJ 07731 | \$215,000 |
| 5. Colliers Engineering and Design
400 Valley Road, Suite 304
Mt. Arlington, NJ 07856 | No Response |
| 6. T&M
1455 Broad Street, Suite 250
Bloomfield, NJ 07003 | No Response |

Based on my review of the proposal provided by Mott Macdonald, I recommend you award a Professional Services Contract to Mott Macdonald, 111 Wood Avenue, Iselin, NJ 08830 in the amount of \$74,000.00. A Resolution of Award is enclosed.

Please contact me if you have any questions. A copy of the RFP and a copy of the responses are enclosed.

Very truly yours,

Leonard R. Lepore

Leonard R. Lepore, Municipal Engineer
Director of Public Works

LRL/zyc

cc: John Gross
Mott MacDonald



Zayibeth Carballo, PE.-LS, CME, CFM, Assistant
Municipal Engineer
25 Lakeside Avenue West Orange, NJ 07052
Phone: (973) 325-4165 Fax: (973) 669-9588
zcarballo@westorange.org

Your Reference
Municipal SWP

Our Reference
507107186

P6212022-ZC-West
Orange SWMP.docx

Mott MacDonald
111 Wood Avenue South
Iselin
NJ 08830-4112
United States of America

T +1 (800) 832 3272
mottmac.com

**Proposal for Professional Engineering and Permit Assistance Services
Municipal Stormwater Management Plan Updates Permit Compliance for
NJPDES: NJG0151190 / PI ID#: 168118 West Orange Township, Essex County,
New Jersey**

July 26, 2022, revised September 9, 2022

Dear Ms. Carballo:

Thank you for reaching out to Mott MacDonald related to updating several items related to the West Orange Township Municipal Stormwater Management Plan, Stormwater Pollution Prevention plan and Municipal Separate Stormwater Sewer System (MS4 permit) updates and compliance. As discussed, these updates are of priority due to the letter received by NJDEP on December 4, 2020 which captures the Stormwater Compliance Assistance Audit (Audit Letter) findings from the NJDEP that was conducted on July 31, 2019. The Audit Letter covers 17 items to which the Township must provide response and have required action items documented. The Audit letter is attached to this letter as Attachment 1. We also note that on June 21, 2022 NJDEP's Office of Water Compliance and Enforcement (Northern Regional Office) issued a second letter based upon an inspection conducted by the Department on February 17, 2022 related to issuance of a Notice of Violation (NOV) based upon non-compliance with a checklist of items that the inspector used during the evaluation that assess components of the MS4 permit and SPPP. At the time of the inspection, the NJDEP inspector cited submission of the Annual Report and Certification as out of compliance and therefore cause for the NOV. However, it is our understanding that the annual report was in the process of being submitted at the time. It is noted however, that there are several items that are under review and an overall comment by the inspector that the items noted in the 2020 Audit Letter.

1 Background

The two primary documents requiring update are the Stormwater Pollution Prevention Plan (SPPP) and the Municipal Stormwater Management Plan (MSWMP). Both are a requirement of the Tier A MS4 Permit and both require updates. Based upon our conversation, the intent is to have West Orange be

primarily responsible for the updates to the SPPP which consists of mostly templated text and a series of 17 'forms' that all now require update as the forms have changed since 2005. The SPPP also requires outfall mapping and other appendices. The following table has been prepared to coalesce the work required to address the Audit Letter and clarify where work can be completed in-house by West Orange, where it may be more efficient to have Mott MacDonald complete the item and, in some instances, where work by both West Orange and Mott MacDonald will offer a complete solution to address the item. Please note in the table where we have marked an asterisk for notes. The asterisks are follows:

Notes:

- * MM to update Outfall Map
- ** MM to provide some level of effort to coordinate
- *** Mostly WO but may need some technical depth or review from MM
- **** No Scope for MM

Table 1: July 31, 2019 Audit Letter: Summary of Deficiencies and Next Steps for Compliance

Audit Letter Item Description	Audit Letter Item	Observation July 2019	SPPP/MSWMP/Tier A MS4 Permit/Other	Current Status	Next Step for Compliance	By
1	Stormwater Pollution Prevention Plan	Unable to Locate / Failed to Provide	SPPP	Located, Needs Update	Update	WO*
2	Municipal Stormwater Management Plan	Unable to Locate / Failed to Provide	MSWMP	Located, Needs Update	MSWMP to be updated	MM
3	Required Elements to be Posted on Permittee's Website	1 & 2 Not Posted along with applicable ordinances	Both	Posted, Needs Update	Once elements are updated, WO to post	WO**
4	Local Public Education	No Copy Public Education and Outreach Program	SPPP/Tier A MS4 Permit	Needs to be Prepared	Review Permit Attachment B and current SPPP. WO DPW should coordinate with governing body and/or EC. MM could assist WO but no scope at this time.	WO
5	Major Development Project Review	Major Developments (SHP & GO Academy) Deficiencies and Lack of Inspection Data and Review Data	MSWMP/Tier A MS4 Permit	Missing Information	WO to take lead in locating information or NUDEP may indicate no action but going forward major developments must have these reviews and testing conducted and documented. Hence, no scope proposed.	WO***
			MSWMP/Tier A MS4 Permit	Nonstructural Strategies		WO***
			MSWMP/Tier A MS4 Permit	Soil Testing		WO***
			MSWMP/Tier A MS4 Permit	BMP Design/Calculation		WO***
			MSWMP/Tier A MS4 Permit	Water Quantity		WO***
6	Street Sweeping	Unable to Locate / Failed to Provide	MSWMP/Tier A MS4 Permit	Water Quality	WO to do or contract	WO***
			MSWMP/Tier A MS4 Permit	Groundwater Recharge		WO***
			MSWMP/Tier A MS4 Permit	Maintenance Plans		WO***
			SPPP/Tier A MS4 Permit	Prepare Plan & add to SPPP		WO***
			SPPP/Tier A MS4 Permit	Prepare Plan & add to SPPP		WO***
7	Catch Basin Inspection and Maintenance	Unable to Locate / Failed to Provide	SPPP/Tier A MS4 Permit	Prepare Plan & add to SPPP	MM to do the inspections and set up GIS tool to take data per SPPP forms. In future permit cycles, WO could take lead with training and onboarding of GIS tool.	WO/MM
8	Municipal Maintenance Yard BMPs	25 Lakeside S&S Dome Drainage	SPPP/Tier A MS4 Permit	s&s directed towards drain structures	Addressed by WO	WO***
		25 Lakeside Floor Drains Investigation	SPPP/Tier A MS4 Permit	unknown discharge and piping scheme	Addressed by WO	WO***
		25 Lakeside Storm Intel Cleaning	SPPP/Tier A MS4 Permit	filled and clogged	WO to do or contract	WO
		25 Lakeside Sweepings/Debris Clearing	SPPP/Tier A MS4 Permit	stockpiled not in conformance with permit and BMP	WO to do or contract	WO
9	Employee Training	580 Mt Pleasant Ave	Other	NOV clearing & secure the Industrial Stormwater Permit for Recycling Facility (not covered under Tier A Municipal Permit)	Requires submission of separate SPPP and Basic Industrial Stormwater General Permit. May also require DPPC (gasoline/fuel spill) prevention plan if quantities have changed. WO to investigate further and consult legal counsel. No scope but MM could offer services separately.	WO
		Municipal Training Program not available	SPPP/Tier A MS4 Permit	WO needs to have its new employees trained in Stormwater Management via NUDEP website	WO to do. Review SPPP form in current report and update accordingly for SPPP. Review NUDEP website Submit training proof to NUDEP per MSA permit	WO
10	Municipal Board and Governing Body Member Related Training	Municipal Board and Governing Body Member Program not available	Tier A MS4 Permit	WO needs to have its public servants trained in Stormwater Management via NUDEP website	WO to do. Review SPPP form in current report and update accordingly. Submit training proof to NUDEP per MSA permit	WO
11	Outfall Pipe Map	Unable to Locate / Failed to Provide	SPPP/Tier A MS4 Permit	Prepared and last updated in 2009	Submit current map immediately and then update and submit. Provide in paper and in GIS format per NUDEP requirements. Needs to also be included in the SPPP. Requires field work by MM	MM
12	Outfall Pipe Stream Scouring	Unable to Locate / Failed to Provide	SPPP/Tier A MS4 Permit	Needs to be prepared and inspections need to be done	MM will set up inspection tool for data to load into GIS and populate SPPP form. Needs to be coordinated with NUDEP tool ("app"). Requires field work by MM	MM
13	Illicit Discharge Detection and Elimination	Unable to Locate / Failed to Provide	SPPP/Tier A MS4 Permit	Needs to be Prepared and Inspections performed	Needs to be coordinated with NUDEP tool ("app") No scope for MM.	WO***
14	Stormwater Facilities Maintenance	Unable to Locate / Failed to Provide	SPPP/Tier A MS4 Permit	Needs to be Prepared and maintenance implemented	MM can prepare with WO. WO to implement and keep records. MM could set up tool to have the data collected by WO load into GIS automatically and populate SPPP form. Needs to be coordinated with NUDEP tool ("app")	MM/WO
15	Stormwater Facilities Maintenance (Privately Owned or Operated)	Unable to Locate / Failed to Provide	SPPP/Tier A MS4 Permit	Needs to be Prepared and maintenance implemented	MM can prepare with WO. WO to implement and keep records. MM could set up tool to have the data collected by WO load into GIS automatically and populate SPPP form. Needs to be coordinated with NUDEP tool ("app")	MM/WO
16	Total Maximum Daily Load (TMDL) Impaired Waterway	Unable to Locate / Failed to Provide	SPPP/Tier A MS4 Permit	Need to review 4 TMDL's for FC, 3 for Phosphorus, 1 for Verona Lake and associate if necessary to stream segments in municipality. Identify and develop strategies to address sources	MM can prepare and include in SPPP and assess if optional reduction in pollutants is applicable	MM
17	Annual Report and Certification	Unable to Locate / Failed to Provide	SPPP/Tier A MS4 Permit	Report Documents need to be submitted	WO to do and is the NOV item in the June 2022 NUDEP letter. No Scope for MM.	WO

2 Scope of Work

Based upon the above table, the following items are proposed to be included in Mott MacDonald's scope:

- Items 2, 7, 11-12, 14-16

Hence, our proposed scope of work is as follows:

2.1 Item 2 (Municipal Stormwater Management Plan)

Mott MacDonald prepared the original MSWMP in 2005. Mott MacDonald will update the document 10-part main section, 2 tables, 3 figures and 2 appendices as applicable. The following 10 Sections will be prepared and updated:

- Introduction (Update)
- Goals (Update)
- Stormwater Discussion (Update)
- Background (Update)
- Design and Performance Standards (Update)
- Plan Consistency (Update)
- Nonstructural Stormwater Management Strategies (Update)
- Land Use/Build-Out Analysis (Now Required)
- Mitigation Plans (Update)

As a result of the Land Use/Buildout Analysis, additional tables and figures will be added to the report. To complete the buildout the analysis, the Township's inventory of total land area sorted by HUC14 and land use zone will be tabulated using available GIS data. Existing Impervious lands and wetlands/water areas will be subtracted out of the total land area to calculate the developable area. The township's allowable impervious coverage in each zone will be applied to indicate a theoretical build-out of impervious land. An additional calculation is then made by zoning type to compute pollutant loads of Total Phosphorus, Total Nitrogen and Total Suspended Solids Loads from the buildout data using load criteria published by NJDEP (lbs/acre/yr).

For the above update, we propose 90 hours of engineering and scientist time to complete this task.

2.2 Item 7 (Catch Basin Inspection and Maintenance - Part IV.B.5.b.ii)

As of 2018, it is now a requirement to inspect all municipally owned catch basins and inlets at least once every five years, and then clean as frequently as necessary to eliminate recurring problems and restore proper function. However, it is our understanding that whereas all inspections should have been complete by the end of this year (2022), to bring the system into compliance all inlets require inspection at this time. Hence, Mott MacDonald proposes to conduct the inspections and record the data in accordance with the current requirements of the permit and SPPP. Based on the length of municipal roads, we estimate 2,000 catch basins to locate and inspect. We estimate one field person can conduct 75 inspections a day. Moreover, we will document where cleaning and clearing are needed and

provide the information as we progress the inspections to the Township so that arrangements by the Township can be made to clean the inlets. We propose to collect the data using digital form tied to an in-house GIS platform named MMFIT. The application makes use of the GPS capabilities of the user's smartphone to locate assets in the field adequately for locating and identifying for inspection purposes. This provides a cost savings over traditional survey methods. As the conclusion of the project the data will be transmitted to the Town. The town may elect to continue to use the MMFIT platform on a subscription basis and use the dashboard features to track the ongoing inspection requirements. The Township will need to record the data and supporting documentation to log in the amount of wet tons of material collected.

For the above update, we propose 286 hours of engineering and field technician specialist time to inspect the catch basins and inlets. In the event that there are significantly more inlets to inspect than anticipated we will inform the Town and provide a revised estimate.

2.3 Item 11 (Outfall Pipe Map - Part IV.B.6.a)

We have modified this item into two components. Item 11a, is our baseline scope needed for the current permit cycle. Item 11b addresses the next MS4 permit cycle and is additional scope item

Item 11a Outfall Pipe Map (Base Scope)

West Orange is required to update its stormwater outfall mapping which was last updated in 2009. As such, Mott MacDonald will consult with the DPW staff and will request any mapping for inspection notes to identify known areas of updates/changes in the outfall locations. Mott MacDonald will then deploy its survey and inspection crew to fill data gaps based upon the areas recommended by the DPW to investigate further. Outfalls will be logged in a GIS compatible file provided to the Town at the conclusion of the project. We anticipate walking the banks of the Town's streams to identify as many outfalls as possible. We anticipate that the Town will help identify the streams that need to be walked.

For this task, we propose 119 hours of field inspection time and field technician time.

Item 11b (MS4 Full System Map, Additional Scope, see Proposal Letter dated September 9, 2022)

Be advised that it will be required in the next permit cycle, the mapping requirement will be extended to all MS4 components, including but not limited to:

- MS4 outfalls (receiving surface water name, type of outfall);
- MS4 ground water discharge points (type);
- MS4 interconnections (type into/from, entity);
- Storm drain inlets (type, catch basin present, label present, retrofitted);
- MS4 manholes;
- MS4 conveyance (type, direction of flow);
- MS4 pump stations;
- Stormwater facilities (type); and

- Property boundaries of maintenance yard(s) and other ancillary operations (type)

As requested, we have now updated our proposal to include the completion of this mapping in advance of the permit issuance to provide for West Orange to continue to remain in compliance with the Tier A permit as completion of this task will be effective date of permit (EDP+36 months). Our scope and more detailed qualifications and pricing is included in a separate proposal letter dated September 9, 2022.

2.4 Item 12 (Outfall Pipe Stream Scouring - Part IV.B.6.b)

The NJDEP letter requires West Orange conduct stream scouring investigations and complete the appropriate SPPP forms, to be completed digitally and provide to the Town. Although you have indicated that the SPPP was to be principally undertaken directly by West Orange, there may be some efficiency to provide for Mott MacDonald to conduct these investigations in conjunction with the outfall mapping updates since the outfall mapping data collection requires field inspection of the receiving streams.

Hence, in conjunction with Item 2.5 above, we propose an additional 12 hours of inspection, scientist and GIS Specialist time to conduct the field investigations and complete the SPPP forms for West Orange to use in their SPPP overall submission. This estimate is based on evaluating 75 outfalls, if additional outfalls are encountered, we will notify the Town.

2.5 Item 14 Stormwater Facilities Maintenance (Municipally Owned or Operated) - Part IV.C.1.a

The NJDEP letter requires West Orange to prepare a written program of long-term cleaning, operation and maintenance of all municipally owned or operated stormwater facilities. Based upon our most recent conversation, it is assumed that West Orange will take the lead on this task and compile the necessary information. Mott MacDonald assumes a very limited scope to review and confirm the program meets the requirements of the permit and will assist the Township in developing a maintenance log digital tool app that can be used using NJDEP's example templates and then linked to the Township GIS system.

For this task we assume 44 hours of engineering and GIS specialist time but limit our scope to the assistance in developing the tool to be used by West Orange.

2.6 Item 15 Stormwater Facilities Maintenance (Privately Owned or Operated) - Part IV.C.1.b

Similar to Item 14, private long-term cleaning and maintenance is required on privately owned and operated stormwater facilities. Moreover, the Township is required to submit the maintenance procedures also similar to Item 14. However, it is believed the intent is to have the Township enforce the maintenance and collect the procedures from the private entity for inclusion in the SPPP. As such, it is assumed that West Orange will take the lead on this task and compile the necessary information. Mott MacDonald assumes a very limited scope to review and confirm the program meets the requirements of the permit and will assist the Township in developing a maintenance log digital tool app that should be deployed to the private entities so they can submit their records to the Township. Again the

tool will be such that it can be used using NJDEP's example templates and then linked to the Township GIS system.

For this task, we assume 18 hours of engineering and GIS specialist time but limit our scope to the assistance in developing the tool to be used by West Orange.

2.7 Item 16 Total Maximum Daily Load (TMDL)/Impaired Waterway - Part IV.C.2

The NJDEP Audit letter requires West Orange to identify TMDL's for the streams that fall within the municipal borders to assess initially and then annually stormwater related pollutants to prioritize maintenance schedules and repairs as well as overall strategies to address the sources of pollutants of the published TMDL's. Strategies that the Township implements shall be incorporated in the SPPP as Optional Measures.

Given the above, Mott MacDonald proposes to review the published TMDL's which based upon our initial review involve seven (7) TMDL's for streams and one (1) for lakes (Verona Park Lake). The TMDL's for the streams include Fecal Coliform and Phosphorus. The TMDL for Verona Park Lake is for Phosphorus.

Given the current permit requirements, Mott MacDonald's services are limited to documenting a formal review of the TMDL's noted above and preparing recommendations related to maintenance priority with the results written into the SPPP and updated Municipal Stormwater Management Plan.

For this task, we assume 36 hours of engineering and scientist time but limit our scope to the minimal requirements in the current permit.

Again, be advised that similar to Item 11, the new permit cycle will significant requirements to this aspect of the permit that would become effective in 2023. Mott MacDonald could provide a separate proposal to commence with services to address the permit requirements that will be in place by 2023.

3 Deliverables

For the above scope, our deliverables will include:

- Updated Outfall Map
- Updated Municipal Stormwater Management Plan
- Copies of all inspection reports (inspection tool, data and pdf report)
- GIS geodatabase containing the updated inlet and outfall data.
- Deliverables noted in the September 9, 2022 Proposal letter for Item 11b

We will submit 2 paper copies of the deliverables along with a readable electronic version of all documents.

4 Proposed Fee

We propose our fee based upon the following hours per task along with overall project management and Township and NJDEP coordination time. We propose our services on a reimbursable basis for time and expenses actually incurred. We have attached our rate table indicating hourly rates by professional title and categories of direct expenses. Given the nature of the scope for this project, we anticipate direct expenses generally limited to mileage for field inspection travel, necessary paper

copy mailings and an implementation cost to develop the digital application forms required by NJDEP for inspection as well as the "setup" of access for the West Orange DPW team.

For budgetary purposes, we indicate an overall fee of \$74,000 broken down by tasks, total hours and expenses in the table below. Note that under a separate proposal letter, we have provided our scope and pricing for the additional services identified above as Item 11b. Please refer to proposal letter dated September 9, 2022 for the additional fee amount beyond the costing noted below.

Mott MacDonald

Name	Nancy Wohlleb		John Denning	Kirk Barrett	Harsho Sanyal	Christopher Lieb	Data GIS Specialist	Task Total Labor	Task Total Expenses	Task Total Labor and Expense
	Principal Project Manager	Principal Project Manager								
Item 2 (Municipal Stormwater Management Plan)	6	4		20	60	0	0	\$11,687.83	\$-	\$11,687.83
Item 7 (Catch Basin Inspection and Maintenance - Part IV.B.5.b.ii)	6	2		44	0	226	8	\$29,629.49	\$1,626.00	\$31,255.49
Item 11a (Outfall Pipe Map - Part IV.B.6.a)	0	4		25	0	90	0	\$12,714.39	\$-	\$12,714.39
Item 12 (Outfall Pipe Stream Scouring - Part IV.B.6.b)	0	0		2	0	10	0	\$1,181.00	\$600.00	\$1,781.00
Item 14 Stormwater Facilities Maintenance (Municipally Owned or Operated) - Part IV.C.1.a	0	0		6	30	0	8	\$5,181.01	\$1,800.00	\$6,981.01
Item 15 Stormwater Facilities Maintenance (Privately Owned or Operated) - Part IV.C.1.b	0	2		8	0	0	8	\$2,962.31	\$-	\$2,962.31
Item 16 Total Maximum Daily Load (TMDL)/Impaired Waterway - Part IV.C.2	0	4		32	0	0	0	\$6,126.08	\$-	\$6,126.08
Total	12	16		137	90	326	24	\$69,482.11	\$4,026.00	\$73,508.11*

***Say \$74,000**

The fee will be not to exceed unless additional authorization is provided by the Township. We will only proceed with authorized work as selected by West Orange. Should West Orange accept our proposal, we would be delighted to forward our standard form of agreement and upon authorization, proceed immediately with the work. Both Nancy and myself will be pleased to answer any questions you might have and look forward to a project kickoff meeting where we would be pleased to introduce the project team and commence our services.

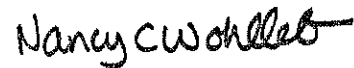
If you have any questions please do not hesitate to contact us.

Very truly yours,

Mott MacDonald



John R. Dening, P.E., C.F.M.
Senior Associate / Principal Project Manager
973-912-2464
908-723-0283
john.dening@mottmac.com



Nancy C. Wohlleb, P.E., C.M.E., Env SP
Vice-President / Principal Project Manager
973.912.2616
nancy.wohlleb@mottmac.com

Enclosures: Rate Table

cc: Leonard Lepore, P.E.,
Peter Kocsik, Mott MacDonald
Kirk Barrett, Mott MacDonald



Zayibeth Carballo, PE, PLS
Assistant Municipal Engineer
25 Lakeside Ave
West Orange, NJ 07052

**Professional Services for Geographic Information Systems (GIS)
Development of Municipal Separate Storm Sewer System**

September 9, 2022

Dear Ms. Carballo:

Mott MacDonald
111 Wood Avenue South
Iselin
NJ 08830-4112
United States of America

T +1 (800) 832 3272
www.mottmac.com/americas

Mott MacDonald is pleased to submit this proposal to provide continued support of the Township's MS4 permit compliance. The following proposal letter is an additional requested item related to Item 11b as noted in our proposal letter to you dated July 26, 2022 revised September 9, 2022. This item addresses forthcoming MS4 permit compliance effective 1/1/2023 requiring the Township to "map" its entire MS4 system. Based upon our discussions and recognizing NJDEP's mapping requirements and standards, our approach will be similar to other NJ municipalities where we have initial and subsequent refinement of storm sewer utility GIS databases. We believe with this phased approach the Township will be well-positioned to enter the next permit cycle in good standing and compliance.

Project Understanding

The Township of West Orange is seeking a qualified consultant to perform the necessary Geographic Information System (GIS) database development required to inventory the Township-owned MS4 assets. The database will be developed from a combination of available historical maps and the existing outfall GIS inventory.

The Township has historical mapping that depicts portions of the MS4 system on forty-two (42) tax maps. It is not known when the maps were last updated but there are areas of the Township developed in the 1990's that are not depicted on the maps. The completeness of the mapping is also not known as there are areas for which outfalls were found in the field but no MS4 assets are depicted on the corresponding historic map (ex. Wigwam Brook Area). The MS4 mapping typically terminates at the County roadway.

Given the unknown nature around the completeness of the historic mapping Mott MacDonald recommends a phased approach to the development of the Township's MS4 GIS Database.

Phase 1 – MS4 Geodatabase Development From Historic Mapping (~60-75% of the MS4 Captured)

Under this task Mott MacDonald will develop the base MS4 database using the following workflow:

1. The forty-two (42) historic maps will be georeferenced to the most current orthophotography/landbase using common features shown between the two sources. A minimum of 4 registration points will be used to spread any residual error across the entire image.
2. Working within a standardized MS4 data model, asset locations (inlets, manholes, storm main, etc) will be captured as depicted on the georeferenced plan sheets and connected to the GPS located outfalls. Asset information shown on the maps will be captured into the appropriate GIS attribute field. Based upon a review of the provided plans the following information (diameter, material, flow direction, etc) will be captured.
 - a. A hyperlink will be established between each feature and the corresponding plan image. This will allow for the on-screen retrieval of the source map from directly within the GIS environment.
3. Capture the extents and locations of gaps in the MS4 network. Areas will be identified using common sense logic and engineering principles (ex. All inlets need to terminate at an outfall or detention basin). As discussed previously there are outfalls found in the field for which there is not MS4 infrastructure depicted on the historic mapping.
 - a. The data gaps identified will require additional mapping provided by the Township or County and/or field investigation. The data gaps will aid in the development of the Phase II proposal to complete the mapping of the Township's MS4 network see below.
4. Apply Mott MacDonald's standardized QA/QC procedures to ensure features are valid, domain attributes are followed, and feature connectivity has been maintained.

Phase 2 – MS4 Geodatabase Refinement from Data Gaps (100% of the MS4 Captured)

We believe that at the completion of Phase I Items 1-4, approximately 60-75% of the Township MS4 system will be mapped. After the initial deliverable is presented to West Orange, we will be able to present a second proposal to the Township to complete the mapping for Phase 2. We also believe that the most cost-effective way to complete the mapping is to conduct the required field investigations at the same time the new permit requirements are in effect whereupon the facilities are to be inspected. Missing facilities and data can be captured with one field effort as inspections are made according to the schedule of the permit cycle. Hence, we would defer proposing on Phase 2 of the mapping effort and the future permit inspection items until this initial mapping effort is completed. Putting forth a proposal fee for the Phase 2 effort would truly only be guess, likely based upon the miles of roads in the Township which we do not want to irresponsibly offer without having a sounder understanding of the extent of missing data.

Project Deliverables

- MS4 GIS Database
- MS4 Data Gaps GIS Database



- MS4 Data Gaps Map
- MS4 Outfall GIS database for upload to NJDEP website
- Metadata that complies with Federal Geographic Data Committee (FGDC) requirements (required for submittal to NJDEP)
- Georeferenced Historic Maps

Fee & Schedule

Mott MacDonald anticipates completing the above scope of services within a 4-month time frame to complete the Phase 1 MS4 Geodatabase Development from Historic Mapping. We propose our services for a lump sum fee of \$30,000. Invoices will be made monthly on a percent complete basis. ***Note that this is an additional cost to our scope of work described in our proposal letter to you dated July 26, 2022 (revised September 9, 2022).*** All other terms of our services are as described in our July 26, 2022 letter to you. Upon completion of Phase I Items 1-3 noted above, we will provide West Orange our proposal for Phase II to complete the MS4 Geodatabase development.

Thank you for the opportunity to continue to serve the Township and please contact us should you have any questions or need any additional information.

Very truly yours,

Mott MacDonald

Handwritten signature of John R. Dening in cursive.

John R. Dening, P.E., C.F.M.
Senior Associate / Principal Project Manager
973-912-2464
908-723-0283
john.dening@mottmac.com

Handwritten signature of Nancy C. Wohlleb in cursive.

Nancy C. Wohlleb, P.E., C.M.E., Env SP
Vice-President / Principal Project Manager
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nancy.wohlleb@mottmac.com

Enclosures: Rate Table

cc: Leonard Lepore, P.E.,
Peter Kocsik, Mott MacDonald
Kirk Barrett, Mott MacDonald



August 22, 2022

Township of West Orange
Department of Public Works
25 Lakeside Avenue
West Orange, New Jersey 07052

Attn.: Leonard R. Lepore, Municipal Engineer
Director of Public Works

Re.: Township of West Orange, County of Essex, State of New Jersey
Professional Engineering Services
Municipal Stormwater Management Plan for Permit Compliance
Our File No.: Proposal SCE-P13155.011

Dear Mr. Lepore:

SUBURBAN CONSULTING ENGINEERS, INC. (SCE) is pleased to provide the following proposal for Professional Engineering Services to the Township of West Orange (Township) in response to the Request for Proposal (RFP) for Municipal Stormwater Management Plan.

Services for this project will be performed under the direct supervision of a State of New Jersey licensed Professional Engineer (PE). Geographic Information Systems (GIS) specific services will be performed under the direct supervision of a certified GIS Professional (GISP). SCE is an Esri Silver business partner which allows us to support our mutual customers by providing business solutions, GIS implementation services, and location intelligence faster and more efficiently by leveraging ArcGIS technology.



Project Overview

Based on the RFP, it is our understanding that the Township is requesting proposals to provide assistance for compliance with the requirements of Tier A Municipal Stormwater General Permit. ~~The successful proposal needs to be capable of conducting and preparing the necessary locations and maps for the stormwater outfall pipe mapping, as well as an update to the current Municipal Stormwater Management Plan.~~

Our team will leverage GIS to streamline the professional services necessary to complete this project. GIS will be utilized in the office to perform the buildout analysis and to create the maps and figures that are required for the Municipal Stormwater Management Plan (MSWMP) and other tasks. GIS will be utilized in the field to map and inventory the Township's stormwater assets. When implemented properly, GIS will improve Township access to stormwater related information and maps, including maintenance and inspection records, and increase the efficiency of field work by providing digital inspection forms and system maps that can be accessed by field workers using mobile devices.



SCE will utilize Esri's ArcGIS Online to perform the GIS tasks included in our proposal. We propose to purchase an annual ArcGIS Online organizational account for the Township, that SCE will use to complete the project scope of work. This approach will allow the ArcGIS Online account, including the GIS maps, applications, and digital inspection forms that are created for this project, to be owned by the Township and available for future use, should the Township desire to utilize GIS to support stormwater related operations and maintenance and Municipal Separate Storm Sewer System (MS4) permit specific requirements. The ArcGIS Online account will be active for one (1) year from the purchase date and can be renewed on an annual basis if desired by the Township. Using GIS in the manner outlined in this proposal and making this GIS available to the Township after the end of this project, adds significant value to the Township that may differentiate our proposal from others.

Scope of Services

1. Municipal Stormwater Management Plan (MSWMP)

SCE will revise the existing 2005 MSWMP in accordance with the New Jersey Department of Environmental Protection (NJDEP) Tier A Renewal Draft guidance, including a total buildout analysis. We will use GIS data that is available from the public domain, including the NJDEP, Federal Emergency Management Agency (FEMA), and more, to update the existing tables, figures, and appendices in the report. This will include the buildout analysis using the Township's inventory of total land area sorted by Hydraulic Unit Code 14 (HUC14) and land use zone.

The Stormwater Pollution Prevention Plan (SPPP) is one (1) of the appendices to the MSWMP. SCE will update the SPPP using the latest 2018 template on the NJDEP website and use GIS for the following requirements for easy reference during NJDEP or Environmental Protection Agency (EPA) audit and inspection:

- Storm Drain Inlet Retrofitting dashboard to show percent complete for annual report submission.
- Municipal Maintenance Yard Monthly, Quarterly, and Annual inspection reminders for Department of Public Works (DPW).
- Employee Training reminders with links to NJDEP training videos by training topic and frequency.
- Outfall Pipe Inspection annual reminders in addition to inspection forms as described in Part A below.
- Stormwater Facilities Maintenance reminders for required inspection intervals.

2. Catch Basin Inspection, Maintenance, and Mapping

SCE will utilize Esri's ArcGIS Field Maps and Survey123 mobile applications to map the location of each catch basin and to capture the results of the catch basin inspections. High accuracy, centimeter grade Global Navigation Satellite Systems (GNSS)



equipment paired with the Field Maps mobile application will be used to collect the location of each catch basin.

Our team will review the Township's existing as-built drawings to gain a general understanding of the location of stormwater catch basins prior to commencing the field work. Our general approach to the field data collection will be to travel the rights-of-way of each street and municipal easement where we anticipate stormwater catch basins to be located, based on our review of Township's existing as-built drawings. Our GNSS equipment will be connected to a real-time kinematic (RTK)

GPS vs. GNSS: What is the Difference?

GPS stands for Global Positioning System and refers to the satellite constellation which is owned and maintained by the United States Department of Defense. GPS consists of 24 operating satellites and is a type of GNSS.

GNSS stands for Global Navigation Satellite System which describes a constellation of satellites that provide positioning and timing data from space to GNSS receivers on earth. GNSS includes GPS (USA), GLONASS (Russia), Galileo (EU), BeiDou (China), and more. GNSS includes more than 108 individual satellites. Access to this many satellites results in higher accuracy data collected more quickly.

network which will improve the accuracy of GNSS measurements in real-time. Centimeter grade GNSS equipment will typically capture horizontal locations that are accurate to within a few inches of the actual location of the asset being collected, in optimal conditions. Vertical accuracy is typically two (2) to three (3) times the horizontal accuracy at each location. Location data collected for this project will meet or exceed the requirements of the NJDEP GPS Data collection Standards for GIS Data Development.

Once the catch basin location has been mapped, our team will inspect the catch basin to identify and document any suggested cleaning, clearing, or repair work. Our catch basin inspections will include both the grate opening and the catch basin structure, including the sump and any inlet and outlet pipe(s). We will document any observations about the condition of the catch basin structure including the frame and grate, water

quality, and surrounding ground surface using a standard digital inspection form. Our catch basin inspection form will be provided to the Township for review and comment, prior to the start of the field work. Revisions or additions that are mutually agreed upon by the Township and SCE will be incorporated into the inspection form prior to the start of the field work.

The NJDEP's Municipal Stormwater Mapping and Inventory guidance will be used when collecting information about each catch basin. The following information, when present in the field about each catch basin, will be collected and stored as attributes within the GIS data. This information will be in addition to the inspection results:

- Catch Basin ID
- Owner – Township, County, State, Private, etc.
- Catch Basin Type – Curb cut, grate inlet, etc.



- Bicycle Safe Grate – Yes or No
- “Drains to Waterway” casting, paint, etc. – Yes or No
- Inlet Best Management Practices (BMP) – Yes or No
- BMP Type
- Contributing Drainage Area – Residential, Commercial, Park/Open Space, etc.

A minimum of one (1) close-up photograph of each catch basin will be captured in the field, included in the final inspection report, and connected to that asset within the GIS. An additional photograph that shows the general location of each catch basin will also be taken. Our team will photograph any maintenance issues or unusual conditions that are observed in the field.

Esri's standardized stormwater conveyance data model will be used as a starting point and then modified to incorporate NJDEP specific standards for stormwater inventorying. GIS data will utilize the New Jersey State Plane Coordinate System (NJ SPCS) derived from the North American Datum of 1983 (NAD83).



The progress of our field work and summary of maintenance issues will be tracked within a GIS based project status dashboard in real time. The project status dashboard will include an interactive map that allows the Township to pan and zoom throughout the Township and select specific catch basin inlets to view detailed information about each catch basin and inspection results and photographs. A summary of any maintenance issues will be provided to the Township on a bi-weekly basis so that the Township can review and address when appropriate.

We have assumed the following for this phase of work:

- *Approximately 2,000 catch basin inlets will be mapped and inspected.*
- *Township will provide DPW staff member to assist SCE with accessing and locating catch basins.*

3. Outfall Pipes Mapping

Part A

Our team will use a similar approach for mapping outfalls as what is proposed for Task 2 Catch Basin Inspection, Maintenance, and Mapping above. Our team has extensive experience locating, mapping, and inspecting stormwater outfalls as required by the NJDEP and MS4 permit. We have identified that the majority of time spent performing an outfall inspection is spent locating the actual outfall; not performing the inspection. As such, we propose to include an outfall inspection in this phase of work as this will



provide the Township with added value without adding cost to the project. Outfall inspections that are completed as part of this phase will satisfy the MS4 requirement to complete an outfall inspection every five (5) years.

We will review the Township's 2009 outfall pipe mapping, as-built drawings, and meet with Township staff that are most familiar with the Township's outfalls to create a comprehensive list of known and potential outfall locations. Our field team will travel to each of the known and potential outfall locations to perform the GNSS mapping and outfall inspection. Additional outfalls that are located in the field will also be mapped and inspected. Outfall inspections will be performed during dry-flow conditions, which is at least 72-hours after the previous precipitation or snowmelt event.



The following outfall information, when present in the field, will be collected and stored as attributes within the GIS data. These attributes align with the NJDEP's recommendations for inventorying stormwater outfalls. This information will be in addition to the inspection results:

- Outfall ID
- Owner – Township, County, State, Private, etc.
- Pipe Material
- Pipe Shape
- Headwall Structure
- BMP Structure
- Contributing Drainage Area
- Type of Area Receiving

Esri's stormwater conveyance data model will be used as a starting point and modified to incorporate NJDEP standards for stormwater inventorying. GIS data will utilize the New Jersey State Plane Coordinate System (NJ SPCS) derived from the North American Datum of 1983 (NAD83). A minimum of one (1) close-up photograph of each catch basin will be captured in the field, included in the final inspection report, and connected to that asset within the GIS.

Once the outfall mapping and inspections in the field are completed, our team will prepare a storm sewer outfall pipe map and GIS data deliverable to be submitted to the NJDEP. The outfall location map will show the location of the end of all MS4 outfall pipes that are operated by the Township, and the location of all surface water bodies receiving discharge from those outfall pipes. Each outfall will be given a unique alphanumeric identifier and labelled on the map. SCE can either submit the outfall location data to the NJDEP on behalf of the Township or submit the outfall GIS data to the Township for future submittal to the NJDEP.



We have assumed the following for this phase of work:

- *Approximately 255 outfalls will be mapped and inspected.*
- *Township will provide DPW staff member to assist in accessing and locating outfalls.*

Part B

We understand the Township's MS4 permit obligations and how GIS can be used to efficiently collect, manage, analyze, and export data required to comply with the MS4 permit. Our team will supplement the outfall and catch basin data that is collected in Tasks 2 and 3 with the following stormwater system features:

- MS4 ground water discharge points (type)
- MS4 interconnections (type into/from, entity)
- Storm drain inlets (type, catch basin present, label present, retrofitted)
- MS4 manholes
- MS4 conveyance (type, direction of flow)
- MS4 pump stations
- Stormwater facilities (type)
- Property boundaries of maintenance yard(s) and other ancillary operations (type)

The subsurface stormwater conveyance system will be digitized into GIS based on a combination of the Township's existing stormwater as-built drawings and additional mapping, field observations including GNSS data collection of stormwater surface features, and stormwater system knowledge of Township staff. The GIS stormwater system will be digitized following GIS best practices. Point features including catch basins, outfalls, manholes, etc. will be "snapped" to line features such as gravity mains, retention/detention basins, etc. The system will be digitized to incorporate the proper flow direction.

The result and final deliverable of this phase of work will include GIS data of the Township's stormwater conveyance system. Preparing the Township's stormwater inventory and mapping in this manner will result in an authoritative GIS dataset that can be used by the Township in the future to analyze the stormwater conveyance system to trace potential illicit connections, perform stormwater modelling, assist with the operations and maintenance of the Township's stormwater system, and more.

4. Outfall Pipe Stream Scouring

Stream scouring is one (1) aspect of the outfall inspections that are proposed to be completed as part of Phase 3 Part A as outlined above. Outfall locations that may be contributing to localized stream scouring will be identified as part of the "Outfall Inspection Results Summary" letter report that will be provided to the Township. These locations will be mapped and photographed as part of the outfall mapping. An additional "Stream Scouring Investigation Recordkeeping Form" will be prepared for



outfalls that are found to be contributing to or causing stream scouring. We have assumed that stream scouring may be present at up to ten (10) outfall locations and will complete the supplemental form for these ten (10) outfall locations.

5. Stormwater Facilities Maintenance (Municipally Owned and/or Operated)

Using the GIS data collected in Part B above, SCE will create inspection forms for Township owned stormwater facilities for quarterly inspection and after each rainstorm exceeding one (1) inch for MS4 compliance.

The GIS system will be configured to allow the Township to add attachments of maintenance logs, photographs, and more to the municipal facilities. Our team will train Township staff how to add these attachments within the GIS. This will allow Township staff to continue to use GIS to track these maintenance activities, following the completion of this project. We will also evaluate the potential to create these maintenance logs as digital GIS based forms to make the Township maintenance and inspections more efficient.

6. Stormwater Facilities Maintenance (Privately Owned and/or Operated)

SCE will use the New Jersey Hydrologic Modeling Database with data collected by New Jersey Soil Conservation Districts and the New Jersey Department of Agriculture to identify stormwater basins in the Township. In addition to these records, we would request previous MS4 Annual Reports submitted to the NJDEP by the Township and Land Use Board records to confirm presence of stormwater infrastructure on private property.

The GIS system will be configured to allow the Township to add attachments of maintenance logs, photographs, and more to the private facilities. Our team will train Township staff how to add these attachments within the GIS. This will allow Township staff to continue to use GIS to track these maintenance activities, following the completion of this project.

7. Total Maximum Daily Load (TMDL)/Impaired Waterway

SCE will review the NJDEP published TMDL's for the watercourses within the Township and prepare written maintenance recommendations to be incorporated in the SPPP and MSWMP.

Reimbursable Expenses

Anticipated reimbursable expenses for this project are included in the total fee outlined below. Additional expenses will be billed on a time and material basis in accordance with the Fee Structure provided below. Reimbursable expenses may include mileage, parking and tolls, overnight postage, messenger fees, and printing expenses.



Fee Proposal

SCE proposes to provide the above referenced scope of services for the following fees. Invoicing for this project will summarize services provided in accordance with the Total Project fee limit indicated below.

Item No.	Description	Labor	Expenses	Total
1	Municipal Stormwater Management Plan (MSWMP)	\$8,400	\$50	\$8,450
2	Catch Basin Inspection, Maintenance and Mapping	\$25,100	\$800	\$25,900
3A	Outfall Pipes Mapping- Part A	\$10,930	-	\$10,930
3B	Outfall Pipes Mapping- Part B	\$17,550	-	\$17,550
4	Outfall Pipe Stream Scouring	\$1,800	-	\$1,800
5	Stormwater Facilities Maintenance (Municipally Owned and/or Operated)	\$3,000	-	\$3,000
6	Stormwater Facilities Maintenance (Privately Owned and/or Operated)	\$5,680	-	\$5,680
7	Total Maximum Daily Load (TMDL)/Impaired Waterway	\$5,725	-	\$5,725
Total Lump Sum Fee:				\$79,035

Deliverables

The following deliverables will be submitted to the Township:

- Outfall Location Map (PDF format).
- GIS geodatabase including the Township stormwater conveyance system (outfalls, catch basins, manholes, gravity mains, pump stations, detention/retention basins, etc.).
- Inspection reports including data, photographs, and summary report.
- TMDL written recommendations.
- Municipal Stormwater Management Plan in PDF and Word format.

Project Schedule

We are prepared to commence services within two (2) weeks of authorization to proceed and receipt of signed proposal or Purchase Order (PO). We anticipate completing the scope of work within three (3) months from project kickoff.

Services Not Included Unless Authorized

It should be noted that our fee is based on the specific tasks as explained in the above sections of this proposal. Services and items which have not been included or made part of this proposal include but are not limited to the following:

- Opening catch basin inlets or manholes.
- Measuring depth to inverts within catch basin inlets or manholes.



- Annual costs associated with ArcGIS Online following year 1.
- Water sampling and testing.
- Traffic control.
- Mapping and inspection of State and County owned stormwater structures, particularly along the Route 280 right-of-way.
- Roadside Erosion Control per IV.F.2a.ix.
- MS4 Conveyance System Inspection & Cleaning per IV.F.3a.v.
- Watershed Improvement Plan (WIP) including all three (3) phases: (1. Watershed Inventory Report, 2. Watershed Assessment Report, or 3. Watershed Improvement Plan Report) as outlined in the NJDEP Tier A Municipality 2022 Draft Renewal.

Fee Structure

SCE will utilize the following fee structure for all tasks where fee is estimated and for any additional work authorized by Client or for Client-initiated revisions. It should be noted that our fee is based on the specific tasks as explained in the above sections of this proposal. Additional services and items may be determined to be required during the course of the project that have not been included in this cost proposal.

Revisions to address any review agency comments that develop during the review process are typically required to obtain approvals. SCE is not able to predict the course of action necessary to address such comments at this time. All costs associated with addressing the review agency comments will be invoiced in accordance with the fee structure on a time and material basis.

- Principal/Project Officer \$165/hour
- Senior Project Manager \$163/hour
- Project Manager \$160/hour
- Senior Project Licensed Professional \$155/hour
- Project Licensed Professional \$150/hour
- Licensed Professional \$140/hour
- Senior Project Coordinator \$155/hour
- Project Coordinator \$150/hour
- ~~Senior Designer/Senior Survey Analyst \$130/hour~~
- Designer/Survey Analyst \$125/hour
- Senior Environmental Scientist \$130/hour
- Environmental Scientist \$125/hour
- Senior Project GIS Analyst \$145/hour
- Project GIS Analyst \$135/hour
- GIS Analyst \$130/hour
- Senior GIS Technician \$118/hour
- GIS Technician \$108/hour
- Senior GIS Project Coordinator \$135/hour
- GIS Project Coordinator \$130/hour
- Senior Inspector \$120/hour
- Inspector \$108/hour



- Senior Technician \$113/hour
- Technician \$103/hour
- Project Administrator \$120/hour
- Administrative Support \$65/hour
- Equipment Unit Cost
 - Unmanned Aerial Systems / Remotely Operated Vehicle \$150/hour
 - Robotic/LiDAR \$50/hour
 - GPS \$25/hour
- LSRP (Licensed Site Remediation Professional) Services Unit Cost
 - For any environmental services requiring LSRP oversight and certification, a \$25/hour unit cost will be included in addition to the hourly rate for roles above.
- Any actual disbursements and expenses which we incur on your behalf, such as subconsultant fees, application/permit fees, delivery charges, parking, printing and toll charges will be billed at actual cost-plus 15 percent.
- Mileage will be billed in accordance with federal prevailing wage.

Standard Contract Terms & Conditions

In accordance with the above information, Client agrees to the following:

Termination of Contract

Client may terminate this Agreement with seven days prior written notice to Suburban Consulting Engineers, Inc. (SCE) for convenience or cause. SCE may terminate this Agreement for cause with seven days prior written notice to Client. Failure of Client to make payments when due shall be cause for suspension of services or, ultimately, termination, unless and until SCE has been paid in full all amounts due for services, expenses and other related charges.

Hazardous Environmental Conditions

It is acknowledged by both parties that SCE's Scope of Services does not include any services related to the remediation at the site of asbestos, PCBs, petroleum, hazardous waste or radioactive materials. Client acknowledges that SCE is performing professional services for Client and SCE is not and shall not be required to become an "arranger", "operator", "generator" or "transporter" of hazardous substances, as defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1990 (CERCLA).

Ownership of Documents

All documents prepared or furnished by SCE pursuant to this Agreement are instruments of SCE's professional service, and SCE shall retain an ownership and property interest therein. SCE grants Client a license to use instruments of SCE's professional service for the purpose of constructing, occupying and maintaining the Project. Reuse or modification of any such documents by Client, without SCE's written permission, shall be at Client's sole risk, and Client agrees to indemnify and hold SCE harmless from all claims, damages and



expenses, including attorneys' fees, arising out of such reuse by Client or by others acting through Client.

Indemnification

To the fullest extent permitted by law, Client and SCE each agree to indemnify the other party and the other party's officers, directors, partners, employees and representatives, from and against losses, damages and judgments arising from claims by third parties, including reasonable attorneys' fees and expenses recoverable under applicable law, but only to the extent they are found to be caused by a negligent act, error or omission of the indemnifying party or any of the indemnifying party's officers, directors, members, partners, agents, employees or sub-consultants in the performance of services under this Agreement. If claims, losses, damages and judgments are found to be caused by the joint or concurrent negligence of Client and SCE, they shall be borne by each party in proportion to its negligence.

Force Majeure

Neither party shall be deemed in default of this agreement to the extent that any delay or failure in the performance of its obligations results from any cause beyond its reasonable control and without its negligence.

Dispute Resolution

Client and SCE agree that they shall first submit any and all unsettled claims, counterclaims, disputes and other matters in question between them arising out of or relating to the agreement to mediation in accordance with the Construction Industry Mediation Rules of the American Arbitration Association, effective as of the date of this agreement.

Use of Electronic Media

Documents that may be relied upon by Client are limited to those that are signed or sealed by SCE. Unsigned files in electronic media format or text, data, graphic or other types that are furnished by SCE to Client are only for convenience of Client. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. When transferring documents in electronic media format, SCE makes no representations as to long-term compatibility, usability or readability of documents resulting from the use of software application packages, operating systems or computer hardware differing from those in use by SCE at the beginning of this assignment.

Construction Phase Services

If this Agreement provides for any construction phase services by SCE, it is understood that the Contractor, not SCE, is responsible for the construction of the project, and that SCE is not responsible for the acts or omissions of any contractor, subcontractor or material supplier; for safety precautions, programs or enforcement; or for construction means, methods, techniques, sequences and procedures employed by the Contractor. It is the Owner's responsibility to advise their contractor of these terms.



Opinions of Cost

When included in SCE's Scope of Services, opinions or estimates of probable construction cost are prepared on the basis of SCE's experience and qualifications and represent SCE's judgment as a professional generally familiar with the industry. However, since SCE has no control over the cost of labor, materials, equipment or services furnished by others, over contractor's methods of determining prices, or over competitive bidding or market conditions, SCE cannot and does not guarantee that proposals, bids or actual construction cost will not vary from SCE's opinions or estimates of probable construction cost.

Professional Responsibility

SCE represents that the services shall be performed, within the limits prescribed by Client, in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representation to Client, expressed or implied, and no warranty or guarantee is included or intended in this Agreement, or in any report, opinion, document or otherwise. For any damage caused by professional negligence including errors, omissions or other professional acts, including unintentional breach of contract by SCE, its employees, agents or subcontractors, SCE's liability and that of its employees, agents and subcontractors is limited to SCE's total compensation paid under the contract. In no event shall either Client or SCE be liable for consequential damages, including, without limitation, loss of use or loss of profits, incurred by one another or their subsidiaries or successors, regardless of whether such damages are caused by breach of contract, willful misconduct, negligent act or omission, or other wrongful act of either of them.

Right of Entry

Client grants to SCE, and, if a project site is not owned by Client, warrants that permission has been granted for a right of entry from time to time by SCE, its employees, agents and subcontractors upon the project site for the purpose of providing the Services. Client recognizes that the use of investigative equipment and practices may unavoidably alter existing site conditions and affect the environment in the area being studied.

Statute of Limitations

The parties agree that any action relating to an alleged breach of the Agreement shall be commenced within one year of the date of the breach, without regard to the date the breach is discovered. Any action not brought within that one-year time period shall be barred, without regard to any other limitations period set forth by law or statute.

Billing Schedule

Invoices will be provided monthly based on the Fee Proposal referenced above. For Estimated Fee billing, invoices will reflect employee time charges including comments for services performed. Additionally, all expenses will be included as a separate line item for Estimated Fee projects. For Lump Sum billing, invoices will reflect a percent complete and will not including employee time or expense details.

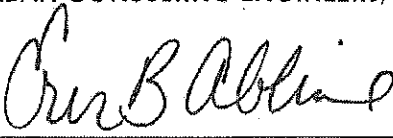


Payment for professional services shall be invoiced monthly as a proportion of the total work completed or upon completion of the work product. Payment is due within fifteen (15) days from receipt of invoice. A 1-1/2 percent per month late charge will be applied for all past due invoices. Amounts not paid when due may be referred for collection and mechanic's lien rights may be exercised, with all costs, including reasonable attorney fees, charged to client. Both parties understand that work will be stopped if account is not current; deliverables will not be furnished if account is past due.

If this proposal meets with your approval, please sign below and return one (1) copy to my office. Alternatively, if a purchase order is to be issued, please reference the SCE proposal number (SCE-P13155.011) and date in order to properly document authorization. We shall consider an appropriately executed copy of this letter or purchase order as our formal contract and authorization to proceed. Please note that the fees stated in this proposal are valid for thirty (30) days from the date of this correspondence. If you have any questions regarding this proposal, please do not hesitate to contact me.

Very truly yours,

SUBURBAN CONSULTING ENGINEERS, INC.

By: 

Erin B. Abline, PE, CME, CFM, Assistant Corporate Secretary
Principal/ Municipal & Land Development Department Manager

Accepted this _____ Day of _____ 20____

By: _____

(Printed Name & Title)

Enclosures

Proof of Insurance



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
3/1/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Dale Group PO Box 6 Florham Park NJ 07932		CONTACT NAME: Tina Taran PHONE (A/C, No, Ext): 973-377-7000 E-MAIL ADDRESS: linat@dalegroup.com FAX (A/C, No): 973-377-4614		
INSURED Suburban Consulting Eng. Inc. 96 Hwy RT 206 Suite 101 Flanders NJ 07836		INSURER(S) AFFORDING COVERAGE		NAIC #
		INSURER A : Continental Casualty Company		20443
		INSURER B : National Fire & Marine Insurance Company		20079
		INSURER C : Valley Forge Insurance Company		20508
		INSURER D : Continental Insurance Company Of New Jersey		42625
		INSURER E : HSB Specialty Insurance Company		14438
		INSURER F :		

COVERAGES **CERTIFICATE NUMBER:** 1784385551 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR ☒ Contractual Liab GEN'L AGGREGATE LIMIT APPLIES PER ☐ POLICY ☒ PROJECT ☐ LOC ☐ OTHER	Y	Y	7018338493	2/24/2022	2/24/2023 EACH OCCURRENCE - \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
B	AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☒ HIRED AUTOS ONLY ☒ NON-OWNED AUTOS ONLY	Y	Y	7018333701	2/24/2022	2/24/2023 COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	☒ UMBRELLA LIAB ☒ OCCUR ☐ EXCESS LIAB ☐ CLAIMS-MADE ☐ DED ☒ RETENTION \$ 0	Y	Y	7018338493	2/24/2022	2/24/2023 EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000 \$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	7018333715	2/24/2022	2/24/2023 ☒ PER STATUTE ☐ OTHER E L EACH ACCIDENT \$ 1,000,000 E L DISEASE - EA EMPLOYEE \$ 1,000,000 E L DISEASE - POLICY LIMIT \$ 1,000,000
D	Professional Liab			AEH004316497	2/24/2022	2/24/2023 Claim/Occurrence \$5,000,000
D	Pollution Liability			AEH004316497	2/24/2022	2/24/2023 Aggregate \$5,000,000
E	Cyber Liability			660757102	2/24/2022	2/24/2023 Limit \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Evidence of Insurance

CERTIFICATE HOLDER

CANCELLATION

Evidence of Insurance

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

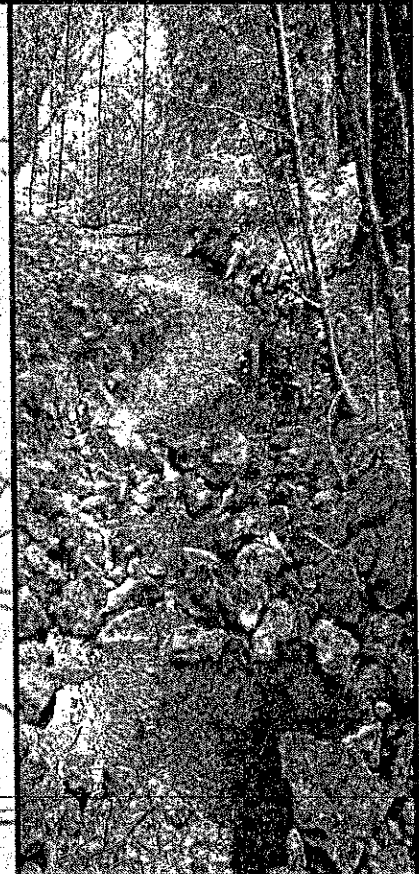
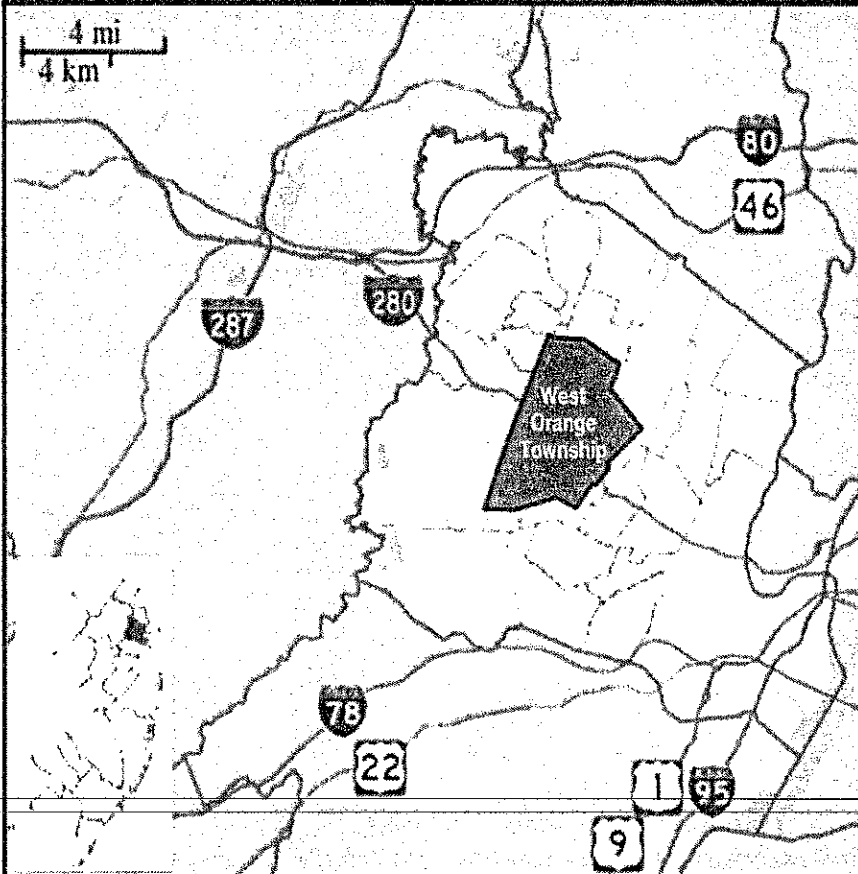
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PROPOSAL FOR PROFESSIONAL SERVICES FOR

**MUNICIPAL STORMWATER MANAGEMENT PLAN
FOR PERMIT COMPLIANCE**

WEST ORANGE TOWNSHIP, ESSEX COUNTY, NJ

August 22, 2022



Greenman-Pedersen, Inc.

ENGINEERING | SURVEYING | PLANNING | CONSTRUCTION MANAGEMENT

301 Gibraltar Drive – Suite 2A
Morris Plains, NJ 07950

973-377-8500
www.gpinet.com

GPI

ORIGINAL

TABLE OF CONTENTS

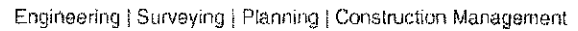
Statement of Interest

Section 1 - Scope of Services / Fee Proposal

Section 2 - Personnel Assignments

Section 3 - Project Schedule

Section 4 - Sample Insurance Certificate



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SECTION 1

Scope of Services / Fee Proposal

Greenman-Pedersen, Inc. (GPI) understands that the Township of West Orange requires professional services for the Municipal Stormwater Management Plan for Permit Compliance. Throughout the firm's 56-year history, we have provided professional services to dozens of New Jersey municipalities. We are very experienced in providing professional stormwater management solutions to our municipal clients that conform with the requirements of the New Jersey Department of Environmental Protection Municipal Stormwater Regulation Program on a cost-effective and timely manner.

The following is a copy of the County's Scope of Services with enhancements and additions noted in *blue text*.

1. Municipal Stormwater Management Plan (MSWMP)

The Township is required to update their existing 2005 MSWMP including tables, figures and appendices to the report. In addition, a complete the buildout analysis using Township's inventory of total land area sorted by HUC14 and land use zone will need to be tabulated using available GIS data. The existing impervious areas, wetlands areas and waterbodies will need to be subtracted out of the total land area to calculate the developable area. The Township's allowable impervious coverage in each zone will need to be applied to indicate a theoretical build-out of impervious land. Also, an additional calculation will be provided by zoning type to compute anticipated pollutant loads of Total Phosphorus, Total Nitrogen and Total Suspended Solids Loads from the buildout data using load criteria published by NJDEP (lbs/acre/yr).

Using the 2005 MSWMP as the base document, GPI will update the Township MSWMP and buildout analysis as indicated in the RFP. It is assumed the existing Township GIS data will be made available to GPI in a suitable GIS geodatabase format.

2. Catch Basin Inspection, Maintenance and Mapping

The Township estimates that approximately 2,000 catch basins will need to be located and inspected throughout the municipality including inspection documentation for cleaning, clearing and repairs of structures as inspections progress in order for the Township's DPW to schedule and make the necessary cleaning/clearing and repairs. The data collection will include:

- GPS data on all catch basins that can be field-located based on existing as-built drawings of the stormwater system. Catch basins identified on any as-built drawings which cannot be field verified will be marked as such; any additional catch basins found in the field which are not in the as-built drawings will be added to the database.
- GPS data on all catch basins that can be field-located.
- A photograph of each catch basin.

The graphical basis for this analysis will be the base map compiled from existing as-built plans, and other sources to build a useful and supportive base map for the Township's catch basins mapping. The data collected for mapping will need to in the ESRI GIS environment on NJ State Plane coordinate system required by the NJDEP. This base map will be used as a starting point for field data collection, and it is expected to be uploaded on mobile devices to record future data and supporting documentation to log in the number of wet tons of material collected.

Township to provide personnel to assist with access and location of stormwater facilities.

GPI will locate approximately 2,000 catch basins using GPS/GIS, in compliance with the NJDEP GPS Data Collection Standards for GIS Data Development. At same time, GPI will inspect the structures as indicated above. This proposal assumes GPI will be provided the Township's as-built drawings of the stormwater system to perform this task and that the Township will provide personnel to assist with access and locations of stormwater facilities.

3. Outfall Pipes Mapping

Part A

The Township is required to update their existing 2009 Municipal Outfall Pipe Mapping which will required to locate all municipally owned and operated outfall pipes. Outfalls are to be located for submission to NJDEP and will need to in the ESRI GIS environment on NJ State Plane coordinate system required by the NJDEP.

The data collection will include:

- GPS data on all outfalls that can be field-located based on the 2009 Municipal Outfall Pipe Mapping
- Any additional outfalls found in the field which are not in the 2009 Municipal Outfall Pipe Mapping
- GPS data on all outfalls that can be field-located
- A photograph of each outfall identifying the type of outfall and its receiving surface waterbody name

Township to provide personnel to assist with access and location of stormwater facilities.

The graphical basis for this analysis will be the base map compiled from existing asbuilt plans, and other sources to build a useful and supportive base map for the Township's outfalls mapping. The data collected for mapping will need to be in the ESRI GIS environment on NJ State Plane coordinate system required by the NJDEP. This base map will be used as a starting point for field data collection, and it is expected to be uploaded on mobile devices to record future data and supporting documentation.

GPI will locate, inspect, and photograph Municipal Outfalls using GPS/GIS in compliance with the NJDEP GPS Data Collection Standards and ESRI GIS environment on NJ State Plane coordinate system required by the NJDEP. GPI will prepare a suitable GIS basemap from existing Township as-built plans and other available sources.

Part B

The Township will be required in the next permit cycle starting in 2023 to comply with additional mapping requirements to the Municipal Separate Stormwater Sewer System (MS4 permit) that will require the following additional data collection:

- MS4 ground water discharge points (type)
- MS4 interconnections (type into/from, entity)
- Storm drain inlets (type, catch basin present, label present, retrofitted)
- MS4 manholes
- MS4 conveyance (type, direction of flow)
- MS4 pump stations
- Stormwater facilities (type)
- Property boundaries of maintenance yard(s) and other ancillary operations (type)

Using GIS methods for this Task, GPI will identify locations and include them on the GIS basemap, including their associated attributes noted in parentheses.

GPI assumes the following :

- MS4 groundwater discharge points will be collected from available State GIS data
- MS4 interconnections locations will identified by Township staff
- Township staff will assist in providing locations of municipal stormwater facilities
- Property boundary information required above will be taken from available sources, such as Township Taxmaps. Boundary surveys are excluded from this proposal.

4. **Outfall Pipe Stream Scouring**

Consultant is to conduct an investigation for stream scouring in conjunction with the outfall mapping and provide inspection reports to the Township in order to complete the Stormwater Pollution Prevention Plan (SPPP). Township to provide personnel to assist with access and location of stormwater facilities.

GPI will inspect each outfall and the surrounding area for localized scouring of the streambanks or bottom caused by the outfall. GPI will provide an inspection report for each location.

5. **Stormwater Facilities Maintenance (Municipally Owned and/or Operated)**

The Township is required to prepare a written program of long-term cleaning, operation and maintenance of municipally owned and/or operated stormwater facilities for which the Township staff will compile the necessary information for the Consultant to review for meeting the requirements of the permit and assist the Township in developing maintenance logs using NJDEP's sample templates to link to the Township's GIS system.

GPI will review and prepare maintenance logs in accordance with permit requirements with a link to the Township's GIS system.

6. **Stormwater Facilities Maintenance (Privately Owned and/or Operated)**

The Township is required to prepare a written program of long-term cleaning, operation and maintenance of privately owned and/or operated stormwater facilities for which the Township staff will compile the necessary information for the Consultant to review for meeting the requirements of the permit and assist the Township in developing maintenance logs using NJDEP's sample templates that can be provided to private entities and to link to the Township's GIS system.

GPI will review and prepare maintenance logs in accordance with permit requirements with a link to the Township's GIS system.

7. **Total Maximum Daily Load (TMDL)/Impaired Waterway**

The Township is required to identify TMDL's for the watercourses within the municipality to assess initially and then annually for stormwater related pollutants to assess and prioritize maintenance schedules and repairs in order to address sources of pollutants of the published TMDL's. Consultant will be required to review the published TMDL's for streams include Fecal Coliform and Phosphorus for lakes and prepared written recommendations to the Township relating to maintenance priorities to be incorporated into the SPPP and MSWMP.

GPI will review published TMDL's for the streams and prepare written recommendations for maintenance priorities to be incorporated into the SPPP and MSWMP.

8. **Deliverables**

For the scope of services delineated above the Township requires the following deliverables:

- Outfall Pipe Map in PDF
- GIS geodata containing catch basins and outfall data collected
- Inspection reports including data, photos and report
- TMDL written recommendations
- Municipal Stormwater Management Plan in PDF and Word format

Consultant is to submit two (2) paper copies of the deliverables along with electronic version of all documents.

GPI will provide the aforementioned deliverables.

9. **Proposal Fees**

Our fee for the services outlined above are as follows:

Item No.	Description	Labor	Expenses	Total
1	Municipal Stormwater Management Plan (MSWMP)	\$7,300.00	NO EXPENSES	\$7,300.00
2	Catch Basin Inspection, Maintenance and Mapping	\$62,050.00		\$62,050.00
3A	Outfall Pipes Mapping – Part A	\$14,000.00		\$14,000.00
3B	Outfall Pipes Mapping – Part B	\$8,700.00		\$8,700.00
4	Outfall Pipe Stream Scouring ¹	\$2,200.00		\$2,200.00
5	Stormwater Facilities Maintenance (Municipally Owned and/or Operated)	\$3,600.00		\$3,600.00
6	Stormwater Facilities Maintenance (Privately Owned and/or Operated)	\$6,500.00		\$6,500.00
7	Total Maximum Daily Load (TMDL)/Impaired Waterway	\$4,700.00		\$4,700.00
			TOTAL:	\$109,050.00

¹ Scouring field assessments are performed concurrently with Task 3A

HOURLY BILLING RATES

As submitted in our Qualification package to the Township of West Orange on December 21, 2021, following are our municipal billing rates:

PROFESSIONAL ENGINEER	\$ 165.00
SENIOR PROJECT MANAGER, ENGINEERING	\$ 150.00
SENIOR PROJECT MANAGER, LANDSCAPE ARCHITECTURE	\$ 145.00
SENIOR DESIGNER	\$ 120.00
DESIGNER	\$ 95.00
INSPECTOR	\$ 95.00
ENGINEERING TECHNICIAN	\$ 85.00
PROFESSIONAL LAND SURVEYOR	\$ 160.00
SENIOR PROJECT MANAGER, SURVEYING	\$ 145.00
PROJECT SURVEYOR	\$ 120.00
SURVEYING TECHNICIAN	\$ 80.00
PARTY CHIEF	\$ 95.00
INSTRUMENT PERSON	\$ 80.00
TECHNICAL TYPIST	\$ 60.00

SECTION 2

Personnel Assignments

For this project, GPI will perform the work in its entirety. No sub-consultants will be needed. All work will be done entirely within GPI's Engineering Department. The following individuals are proposed to be assigned to this project:

Andrew Cangiano, PE, CME, Director of Engineering

David Wagner, GISP, Director of Geospatial Services

Jerome Blannard, GIS Manager

Muhammed S. Assal, PE, CME, Project Manager

Valerie Hrabal, PE, PP, Water Quality Project Manager

SECTION 3

Project Schedule

GPI is committed to adhering to the Township's goal to conduct the scope of services by Fall 2022. We anticipate work will proceed within two (2) weeks after the award of contract. The schedule assumes there will be limited ability to conduct field inspections during winter months due to weather. We have the resources to complete the project in a timely fashion, and we are confident that we can achieve the Township's goal.

We have assumed an October 1, 2022 contract award, and have prepared the following Project Schedule.

	October 1, 2022 (Assumed Contract Award)	Project Schedule					
		October 2022	November 2022	December 2022	January 2023	February 2023	March 2023
1	Municipal Stormwater Management Plan						
2	Catch Basin Inspection, Maintenance and Mapping						
3	Outfall Pipes Mapping - Part A & B						
4	Outfall Pipe Stream Scouring						
5	Stormwater Facilities Maintenance (Municipally Owned and/or Operated)						
6	Stormwater Facilities Maintenance (Privately Owned and/or Operated)						
7	Total Maximum Daily Load (TMDL)/ Impaired Waterway						
8	Deliverables						

SECTION 4

Sample Insurance Certificate



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

12/28/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER PG Genett Group LLC 3333 NEW HYDE PARK RD SUITE 409 NEW HYDE PARK NY 11042		CONTACT NAME Jeff Kozarsky PHONE (A/C, MR, Ext.) 518-869-8788 FAX (A/C, No.) 518-470-0338 EMAIL jkozarsky@genettgrp.com ADDRESS															
INSURED Greenman Pedersen, Inc (Morris Plains) 301 Gibraltar Drive, Suite 2A Morris Plains NJ 07950		INSURER(S) AFFORDING COVERAGE <table border="1"> <tr> <th>INSURER</th> <th>NAIC #</th> </tr> <tr> <td>INSURER A: Starr Indemnity & Liability Company</td> <td>38318</td> </tr> <tr> <td>INSURER B: XL Specialty Insurance Company</td> <td>37885</td> </tr> <tr> <td>INSURER C: Westchester Surplus Line Insurance Company</td> <td>10172</td> </tr> <tr> <td>INSURER D: Berkley Insurance Company</td> <td>32603</td> </tr> <tr> <td>INSURER E: Everest National Insurance Company</td> <td>10120</td> </tr> <tr> <td>INSURER F:</td> <td></td> </tr> </table>		INSURER	NAIC #	INSURER A: Starr Indemnity & Liability Company	38318	INSURER B: XL Specialty Insurance Company	37885	INSURER C: Westchester Surplus Line Insurance Company	10172	INSURER D: Berkley Insurance Company	32603	INSURER E: Everest National Insurance Company	10120	INSURER F:	
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INSURER D: Berkley Insurance Company	32603																
INSURER E: Everest National Insurance Company	10120																
INSURER F:																	

COVERAGES		CERTIFICATE NUMBER: 111294590	REVISION NUMBER:
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.			
INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)
A	☒ COMMERCIAL GENERAL LIABILITY ☒ CLAIMS-MADE ☒ OCCUR ☒ Contractual Lim GEN'L AGGREGATE LIMIT APPLIES PER ☐ POLICY ☒ PRO-JECT ☒ LOC OTHER	100002563211	12/31/2021 12/31/2022
			EACH OCCURRENCE \$1,000,000 DAMAGE TO REVISED PREMISES (EA occurrence) \$300,000 MED EXP (any one person) \$10,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000
A	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO ☒ OWNED AUTOS ONLY ☒ SCHEDULED AUTOS ☒ HIRED AUTOS ONLY ☒ NON-OWNED AUTOS ONLY	1000198539211	12/31/2021 12/31/2022
			COMBINED SINGLE LIMIT (EA accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
C	☒ UMBRELLA LIAB ☒ OCCUR ☒ EXCESS LIAB ☒ CLAIMS-MADE DED ☒ RETENTION \$10,000	031780296003 X05EA01512-211	12/31/2021 12/31/2022
			EACH OCCURRENCE \$10,000,000 AGGREGATE \$10,000,000
A	☒ WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ☒ AUTHORIZED PARTNER/EXECUTIVE OFFICER/ MEMBER EXCLUDED (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	1000002543 1000002541	12/31/2021 12/31/2022
			☒ PER STATUTE ☒ PER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
B	☒ Property Professional Liability	UM00032200MA21A AEC-905031302	12/31/2021 12/31/2023
			Valuable Papers \$250,000 Extra Claim Aggregate \$1,000,000 Aggregate \$3,000,000
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)			

CERTIFICATE HOLDER SAMPLE FOR INFORMATIONAL PURPOSES ONLY	CANCELLATION 30 day notice applies SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
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ACORD 25 (2016/03)

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TOWNSHIP OF WEST ORANGE

25 Lakeside Avenue, West Orange, New Jersey 07052

DEPARTMENT OF PUBLIC WORKS

Engineering Division

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August 8, 2022

Reyna Burger
Suburban Consulting Engineers, Inc.
96 US Highway 206, Suite 101
Flanders, NJ, 07836

RE: **REQUEST FOR PROPOSALS**
PROFESSIONAL SERVICES FOR:
MUNICIPAL STORMWATER MANAGEMENT PLAN
FOR PERMIT COMPLIANCE

Dear Mrs. Burger,

The Engineering Division of the Department of Public Works (DPW) for the Township of West Orange requests proposals from consultant to provide assistance to the Township for compliance with the requirements of Tier A Municipal Stormwater General Permit. Consultant needs to be capable of conducting and preparing the necessary locations and maps for the stormwater outfall pipe mapping as well as an update to the current Municipal Stormwater Management Plan. The following services are required:

1. **Municipal Stormwater Management Plan (MSWMP):**

The Township is required to update their existing 2005 MSWMP including tables, figures and appendices to the report. In addition, a complete the buildout analysis using Township's inventory of total land area sorted by HUC14 and land use zone will need to be tabulated using available GIS data. The existing impervious areas, wetlands areas and waterbodies will need to be subtracted out of the total land area to calculate the developable area. The Township's allowable impervious coverage in each zone will need to be applied to indicate a theoretical build-out of impervious land. Also, an additional calculation will need to be provided by zoning type to compute pollutant loads of Total

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Phosphorus, Total Nitrogen and Total Suspended Solids Loads from the buildout data using load criteria published by NJDEP (lbs/acre/yr).

The 2005 Municipal Stormwater Management Plan can be downloaded at:

<https://www.westorange.org/1862/Stormwater-Information>

2. Catch Basin Inspection, Maintenance and Mapping:

Consultant is to locate catch basins using GPS/GIS using GPS, in compliance with the NJDEP GPS Data Collection Standards for GIS Data Development. The Township estimates that approximately 2,000 catch basins will need to be located and inspected throughout the municipality including inspection documentation for cleaning, clearing and repairs of structures as inspections progress in order for the Township's DPW to schedule and make the necessary cleaning/clearing and repairs. The data collection will include:

- GPS data on all catch basins that can be field-located based on existing as-built drawings of the stormwater system. Catch basins identified on any as-built drawings which cannot be field verified will be marked as such; any additional catch basins found in the field which are not in the as-built drawings will be added to the database.
- GPS data on all catch basins that can be field-located.
- A photograph of each catch basin.

The graphical basis for this analysis will be the base map compiled from existing as-built plans, and other sources to build a useful and supportive base map for the Township's catch basins mapping. The data collected for mapping will need to in the ESRI GIS environment on NJ State Plane coordinate system required by the NJDEP. This base map will be used as a starting point for field data collection, and it is expected to be uploaded on mobile devices to record future data and supporting documentation to log in the number of wet tons of material collected.

Township to provide personnel to assist with access and location of stormwater facilities.

3. Outfall Pipes Mapping:

Part A.

The Township is required to update their existing 2009 Municipal Outfall Pipe Mapping which will required to locate all municipally owned and operated outfall pipes. Outfalls are to be located for submission to NJDEP and will need to in the ESRI GIS environment on NJ State Plane coordinate system required by the NJDEP.

The data collection will include:

- GPS data on all outfalls that can be field-located based on the 2009 Municipal Outfall Pipe Mapping in PDF can be downloaded at: <https://www.westorange.org/1862/Stormwater-Information>
- Any additional outfalls found in the field which are not in the 2009 Municipal Outfall Pipe Mapping;
- GPS data on all outfalls that can be field-located.
- A photograph of each outfall identifying the type of outfall and its receiving surface waterbody name;

Township to provide personnel to assist with access and location of stormwater facilities.

The graphical basis for this analysis will be the base map compiled from existing as-built plans, and other sources to build a useful and supportive base map for the Township's outfalls mapping. The data collected for mapping will need to be in the ESRI GIS environment on NJ State Plane coordinate system required by the NJDEP. This base map will be used as a starting point for field data collection, and it is expected to be uploaded on mobile devices to record future data and supporting documentation.

Part B.

The Township will be required in the next permit cycle starting in 2023 to comply with additional mapping requirements to the Municipal Separate Stormwater Sewer System (MS4 permit) that will require the following additional data collection:

- MS4 ground water discharge points (type);
- MS4 interconnections (type into/from, entity);
- Storm drain inlets (type, catch basin present, label present, retrofitted);
- MS4 manholes;
- MS4 conveyance (type, direction of flow);
- MS4 pump stations;
- Stormwater facilities (type); and
- Property boundaries of maintenance yard(s) and other ancillary operations
(type)

4. Outfall Pipe Stream Scouring:

Consultant is to conduct an investigation for stream scouring in conjunction with the outfall mapping and provide inspection reports to the Township in order to complete the Stormwater Pollution Prevention Plan (SPPP). Township to provide personnel to assist with access and location of stormwater facilities.

5. Stormwater Facilities Maintenance (Municipally Owned and/or Operated):

The Township is required to prepare a written program of long-term cleaning, operation

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and maintenance of municipally owned and/or operated stormwater facilities for which the Township staff will compile the necessary information for the Consultant to review for meeting the requirements of the permit and assist the Township in developing maintenance logs using NJDEP's sample templates to link to the Township's GIS system.

6. Stormwater Facilities Maintenance (Privately Owned and/or Operated):

The Township is required to prepare a written program of long-term cleaning, operation and maintenance of privately owned and/or operated stormwater facilities for which the Township staff will compile the necessary information for the Consultant to review for meeting the requirements of the permit and assist the Township in developing maintenance logs using NJDEP's sample templates that can be provided to private entities and to link to the Township's GIS system.

7. Total Maximum Daily Load (TMDL)/Impaired Waterway:

The Township is required to identify TMDL's for the watercourses within the municipality to assess initially and then annually for stormwater related pollutants to assess and prioritize maintenance schedules and repairs in order to address sources of pollutants of the published TMDL's. Consultant will be required to review the published TMDL's for streams include Fecal Coliform and Phosphorus for lakes and prepared written recommendations to the Township relating to maintenance priorities to be incorporated into the SPPP and MSWMP.

8. Deliverables

For the scope of services delineated above the Township requires the following deliverables:

- Outfall Pipe Map in PDF;
- GIS geodata containing catch basins and outfall data collected;
- Inspection reports including data, photos and report;
- TMDL written recommendations;
- Municipal Stormwater Management Plan in PDF and Word format;

Consultant is to submit two (2) paper copies of the deliverables along with electronic version of all documents.

9. Proposal Fees

The Township will reserve the right to award a portion, individual and/or all items as outlined in the above scope of services as follows:

Proposal Fees

Item No.	Description	Labor	Expenses	Total
1	Municipal Stormwater Management Plan (MSWMP)			
2	Catch Basin Inspection, Maintenance and Mapping			
3A	Outfall Pipes Mapping- Part A			
3B	Outfall Pipes Mapping- Part B			
4	Outfall Pipe Stream Scouring			
5	Stormwater Facilities Maintenance (Municipally Owned and/or Operated)			
6	Stormwater Facilities Maintenance (Privately Owned and/or Operated)			
7	Total Maximum Daily Load (TMDL)/Impaired Waterway			
			Overall Fee:	

Please returned the proposal fee as outlined above to our office for review.

The cost of services shall be for professional services for the complete scope of the work including labor and materials for providing deliverables such as maps, GIS format files, reports as indicated in the deliverables section of this proposal. Proposals shall be on a lump sum basis. Hourly rates shall be submitted with all proposals for any additional work.

It is the intent of this office to conduct the scope of services by Fall 2022. Proposals shall be submitted in writing on or before 10:00 A.M. Monday, August 22, 2022 to the Department of Public Works, 25 Lakeside Avenue, West Orange, NJ 07052 and shall include a specified completion date or number of days required for completion of the work after approval is granted to proceed. Also, evidence of proper insurance shall be submitted for approval by the Township Attorney.

Very Truly yours,

Leonard R. Lepore

Leonard R. Lepore, Municipal Engineer
Director of Public Works

LRL/zyc