EMPIRE GEO SERVICES, INC.
A SUBSIDIARY OF SJB SERVICES, INC.

CORPORATE/
BUFFALO OFFICE
5167 South Park Avenue
Hamburg, NY 14075
Phone: (716) 649-8110
Fax: (716) 649-8051

ALBANY OFFICE
PO Box 2199
Ballston Spa, NY 12020

5 Knabner Road
Mechanicville, NY 12118
Phone: (518) 899-7491
Fax: (518) 899-7496

CORTLAND OFFICE
60 Miller Street
Cortland, NY 13045
Phone: (607) 758-7182
Fax: (607) 758-7188

ROCHESTER OFFICE
535 Summit Point Drive
Henrietta, NY 14467
Phone: (585) 359-2730
Fax: (585) 359-9668

MEMBER
ACEC New York
American Council of Engineering Companies of New York

Final Geotechnical Evaluation Report for Proposed Realignment Project Dewey Avenue & Driving Park Avenue Intersection PIN 4755.55 City of Rochester, Monroe County, New York

Prepared For:

Bergmann Associates
28 East Main Street
200 First Federal Plaza
Rochester, New York 14614-1909

Prepared By:

Empire Geo-Services, Inc.
535 Summit Point Drive
Henrietta, New York 14467

Project No.: RE-14-017
August 2014

EMPIRE GEO SERVICES, INC.
A SUBSIDIARY OF SJB SERVICES, INC.

August 19, 2014
Project No. RE-14-017

Bergmann Associates
28 East Main Street
200 First Federal Plaza
Rochester, New York 14614

Attention: Mr. Michael T. Croce, P.E.
Project Manager

Re: Final Geotechnical Evaluation Report for
Proposed Realignment Project
Dewey Avenue & Driving Park Avenue
PIN 4755.55
Rochester, Monroe County, New York

Dear Mr. Croce,

Pursuant to your request and authorization, Empire Geo-Services, Inc. (Empire) completed a subsurface exploration and subgrade evaluation with regard to the proposed Realignment Project (PIN 4755.55) planned at the intersection of Dewey Avenue and Driving Park Avenue in the City of Rochester, Monroe County, New York. The approximate location of the project site is shown on Figure 1.

This work was completed at the request and authorization of Bergmann Associates (Bergmann) in accordance with our May 20, 2014 proposal, which was approved on July 1, 2014. SJB Services, Inc. (SJB), Empire's affiliated subsurface exploration company, completed the subsurface exploration program, which included a total of four (4) pavement cores and three (3) test borings.

The purpose of our work was to investigate the existing pavement and subgrade conditions at the existing intersection and to develop appropriate design parameters and construction recommendations to assist Bergmann in the redesign and construction of the existing pavement areas. In addition, several indigenous soil samples were tested in our laboratory to provide an indication of the corrosion potential with regard to buried metallic conduits. Figure 2 shows the approximate location of this area and the exploration locations.

☐ CORPORATE/ BUFFALO OFFICE
5167 South Park Avenue
Hamburg, NY 14075
Phone: (716) 649-8110
Fax: (716) 649-8051

☐ ALBANY OFFICE
PO Box 2199
Ballston Spa, NY 12020

5 Knabner Road
Mechanicville, NY 12118
Phone: (518) 899-7491
Fax: (518) 899-7496

☐ CORTLAND OFFICE
60 Miller Street
Cortland, NY 13045
Phone: (607) 758-7182
Fax: (607) 758-7188

☒ ROCHESTER OFFICE
535 Summit Point Drive
Henrietta, NY 14467
Phone: (585) 359-2730
Fax: (585) 359-9668

MEMBER
ACEC New York
American Council of Engineering Companies of New York

SUBSURFACE EXPLORATION

Exploration of the existing asphalt pavement, subbase and subgrade conditions was completed by SJB on July 7, 2014. This work included extracting pavement cores of the existing asphalt concrete, sampling and measuring the underlying subbase layer, as well as sampling the underlying subgrade soils.

The pavement core and test boring locations were designated as B-1 through B-4 on a site plan provided to Empire by Bergmann. The exploration locations were then staked in the field by SJB using tape measurements referenced to existing site features. Due to the existing underground utilities located in the vicinity of test boring B-1, SJB was unable to sample the underlying subgrade soils (advance the test boring), and therefore, SJB just extracted the pavement core and hand sampled the subbase material. The approximate exploration locations are shown on Figure 2.

Portable coring equipment was utilized to obtain a nominal 6-inch diameter core sample of the asphaltic concrete at each location. The underlying subbase was then sampled and its thickness measured at the core locations after the pavement cores were extracted.

Test borings B-2 through B-4 were then advanced in the subbase and subgrade soils using hollow stem auger and split spoon soil sampling methods. Split spoon samples and Standard Penetration Tests (SPTs) were then taken continuously in the underlying subgrade soils to a depth of 10 feet below the existing ground surface. The split spoon sampling and SPTs were completed in general accordance with *ASTM D 1586 - "Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils"*.

A geologist from SJB prepared the test boring logs based on visual observation of the recovered soil samples, and review of the driller's field notes. The soil samples were described based on a visual/manual estimation of the grain size distribution, along with characteristics such as color, relative density, consistency, moisture, etc. The test boring logs are presented in Appendix A, along with general information and a key of terms and symbols used to prepare the logs.

The thickness of the pavement core samples were measured and photographed in our laboratory. The core photographs are presented in Appendix B. The thicknesses of the asphalt concrete and subbase layer encountered at each location, along with a general description of the underlying subgrade soils, are summarized on Table No. 1.

LABORATORY TESTING

The soil samples collected between depths of about 4 feet to 6 feet from test borings B-3 and B-4 and a composite sample of the soil collected from test boring B-2 between depths of 4 feet to 8 feet are currently being tested in SJB's geotechnical testing laboratory for resistivity, redox, pH, moisture, and sulfides according to procedures established by the Ductile Iron Pipe Research Association (DIPRA test). This testing will provide an indication of the corrosion potential of the on-site soils with regard to buried metallic conduits. The laboratory test data has been submitted under a separate cover letter.

SUBSURFACE CONDITIONS

Summary of Pavement, Subbase and Subsurface Conditions Encountered

General

The thicknesses of the asphalt concrete and subbase layer encountered at each exploration location, along with a general description of the underlying subgrade soils, are summarized on Table No. 1 and below. In addition, a thickness breakdown and description of the various components (i.e. top, binder, base) making up the asphalt concrete layer are presented on Table No. 1.

Pavement, Subbase and Subsurface Conditions

Asphalt concrete was encountered at the surface of each pavement core/test boring location. The thickness of the asphaltic concrete core samples obtained varied from 6.5-inches to 12.0-inches. In most cases, the pavement cores obtained appeared to be in a relatively good condition as minimal pitting and/or deterioration between and within the various asphalt concrete courses was apparent.

Beneath the asphalt at test boring location B-3, brick was encountered. The brick was about 4-inches thick and had a vertical crack through the center.

Beneath the asphaltic concrete or brick, a subbase layer was apparent at each location. The subbase consisted of crushed stone, sand and/or gravel or possibly crushed concrete. The thickness of the subbase course encountered was typically 3-inches to 5-inches. A geotextile fabric was not apparent beneath the subbase materials at any location.

We note that the asphalt and subbase measurements are widely spaced. In addition, the subbase material was measured within the test boring hole, and should therefore be considered approximate. It should be expected that the thickness of the asphalt or subbase could vary significantly dependent upon location.

Beneath the crushed stone subbase course at test boring location B-2, sand and gravel fill soils were encountered. The fill soils were found to extend to a depth of about 3 feet at this location. Fill soils were not present at the remaining boring locations (B-3 and B-4). It should be expected, however, that fill soils will vary between and away from the boring locations, will be dependent upon the native site topography and will extend to at least the bottom of any utility lines within the proposed project site area.

Beneath the fill at test boring location B-2 and the subbase material at borings B-3 and B-4, indigenous soils consisting of brown sand intermixed with gravel and/or silt were encountered. The sand soils grade to a brown clayey silt soil below a depth of about 4 feet or 6 feet at the boring locations. The clayey soils extend to boring completion at test borings B-2 and B-4. Silty sand soil deposits were encountered beneath the clay soils at a depth of about 8 feet at test boring B-3. The silty sand soils extend to boring completion at this location. The indigenous soils are classified as SM, SP-SM and ML group soils using the Unified Soil Classification System (USCS).

Standard Penetration Test (SPT) “N” values obtained in the subgrade soils directly beneath the subbase indicate the subgrades are generally of a loose to firm relative density. The deeper subgrade soils generally consist of medium to hard consistency clayey silt soils and firm to very compact sand soils.

Freestanding water was not apparent in any of the test holes immediately following the completion of drilling operations. Accordingly, based on the groundwater measurements within the test borings as well as the “moist” nature of the soil samples recovered, it appears a permanent groundwater condition (i.e. groundwater table) was not encountered within the depths explored at the boring locations. The installation of a groundwater observation well would help to better define the groundwater conditions present on the site.

Although not observed in the test borings, it is possible that some localized perched or trapped groundwater may be present within the looser or more granular zones of fill and indigenous soils, which overlie the less permeable indigenous soils. Perched groundwater conditions can be particularly more prevalent

following heavy or extended periods of precipitation and during seasonally wet periods. Both perched and general groundwater conditions should be expected to vary with location and with changes in soil conditions, precipitation and seasonal conditions.

GEOTECHNICAL CONSIDERATIONS AND RECOMMENDATIONS

The test boring data suggests the upper soils, which make up the pavement structure subgrades, generally vary in composition ranging from loose to firm, gravelly sand, silty sand or silty/gravelly sand. The drainage characteristics of these subgrade soils are variable ranging from "good" to "fair-poor".

It is our understanding, the proposed realignment project is expected to consist of full depth reconstruction. This will include removal of the existing asphalt concrete pavement, excavation of the underlying subbase, as well as the subgrade soils, as necessary to establish the new pavement profile (grade), preparation of the exposed subgrades for the new pavement structure, and placement of a new pavement subbase course and asphalt concrete pavement surface. In addition, due to the varying drainage characteristics of the subgrade soils, we would recommend installation of pavement structure drainage, as discussed further below.

Based on the site conditions and our analysis of subgrade conditions encountered in the test borings, an effective roadbed Soil Resilient Modulus (Mr) of 3,000 psi can be used in the analyses as being representative of the less favorable subgrade soil conditions encountered. This Mr value correlates to subgrade CBR value of approximately 3.5 to 4. This is contingent upon proper preparation and protection of the existing subgrade soils, as discussed further below.

In addition, the subgrade support characteristics of the upper subgrade soils are expected to vary, therefore, a woven polypropylene stabilization/separation geotextile (i.e., Mirafi 600X or approved suitable equivalent) is recommended prior to placement of the subbase stone.

In all cases we recommend that the existing soil subgrades be proof-rolled and evaluated prior to the placement of any subgrade fill required to raise site grades and/or the placement of the subbase course for the new pavement structure construction. In addition, the surface of the existing soil subgrades should be thoroughly compacted with numerous passes of a vibratory smooth drum roller (i.e. 10 tons or greater) to further compact the soils prior to placement of any additional subgrade fill and/or the new pavement subbase.

Placement and compaction of all subgrade fill to raise site grades, if necessary or the pavement subbase should be observed and tested by a representative of Empire (i.e. by our affiliated materials testing company, SJB Services, Inc.). We recommend the subbase or any site grade fill consist of a crusher run stone, as described below.

Structural Fill Material (Subbase Stone)

Structural Fill, used as subbase stone or as site grade fill, should consist of crusher run stone, which should be free of clay, organics and friable or deleterious particles. As a minimum, the crusher stone should meet the requirements of New York State Department of Transportation, Standard Specifications, Item 304.12 – Type 2 Subbase, with the following gradation requirements.

Sieve Size Distribution	Percent Finer by Weight
2 inch	100
¼ inch	25-60
No. 40	5-40
No. 200	0-10

The crusher run stone Structural Fill should be compacted to a minimum of 95 percent of the maximum dry density as measured by the modified Proctor test (ASTM D1557). Placement of the fill should not exceed a maximum loose lift thickness of 8 to 10 inches. It may be necessary to reduce the loose lift thickness depending on the type of compaction equipment used so that the required density is attained. The crusher run stone should have a moisture content within two percent of the optimum moisture content prior to compaction.

Additional Design Considerations and Recommendations

The installation of underdrains or edge drains are recommended to drain the pavement subbase course and subgrades in order to limit the potential for frost action and improve pavement structure performance and design life.

Underdrains should include a geotextile (i.e. Mirafi 160N or suitable equivalent), selected considering drainage and filtration, installed around drainage stone surrounding a slotted or perforated drain pipe. The drainage stone should be sized in accordance with the pipe slotting or perforations. A crushed aggregate conforming to NYSDOT Standard Specifications Section 703-02, Size Designation No. 1 (½-inch washed gravel or stone) is generally acceptable for

slotted underdrain pipe. The underdrain pipes should be set in the bottom of the subbase layer, or preferably below the top of the soil subgrade elevation. The drainage stone and surrounding geotextile should extend above the underdrain pipe and into the subbase layer. Underdrain pipes should be connected to the storm water drainage system.

Alternatively, the pavement subbase course should be allowed, as a minimum, to daylight/drain to an adjacent perimeter drainage swale or other drainage relief point. Accumulation of water on pavement subgrades should be avoided by grading the subgrade to a slope of at least 2 percent to allow drainage to the edge drains or drainage swale.

Pavement Construction Considerations

Existing asphalt pavement, as well as any surface slabs, vegetation, topsoil, soils containing organics, demolition rubble, or otherwise wet, soft, or unsuitable material should be removed in the areas to be fully reconstructed or within new pavement areas. Following removal of the surface materials and excavation to the proposed subgrades, the exposed subgrades should be thoroughly compacted and proof-rolled. The subgrade compaction and proof-rolling should be performed, prior to any required fill placement and ground improvement, using a vibratory smooth drum roller weighing at least 10 tons. The roller should be operated in the vibratory mode for compacting the subgrades and in the static mode for proof rolling. The roller should complete at least four (4) passes over the exposed subgrades for the compaction/densification operation and at least two (2) passes for the proof rolling evaluation.

The subgrade proof-rolling and compaction should be done under the guidance of, and observed by, a representative of Empire. It may be necessary to waive the compaction and/or proof-rolling requirement which will be dependent on the type of subgrade conditions exposed (i.e. cohesive vs. granular) and/or if wet subgrades are present. This should be determined by Empire. Any areas, which appear wet, loose, soft, unstable or otherwise contain unsuitable materials, should be undercut. Over excavation, which may be required as the result of the subgrade inspection and/or proof-rolling, should be performed based on evaluation of the conditions and guidance provided by Empire. Resulting over-excavations should be backfilled with additional subbase stone.

The pavement construction can proceed on suitable subgrade soils following the proof-rolling and compaction evaluation. Installation of adjacent geotextile panels should have minimum overlap of 12 to 18 inches. Construction of the asphaltic

concrete courses (i.e., binder and top) should be performed in accordance with NYSDOT Standard Specification Section 400. In addition, placement of asphalt concrete courses should not be permitted on wet or snow covered surfaces or when the subgrade surface is less than 40° F.

CONCLUDING REMARKS

This report was prepared to assist with design and construction of the proposed Realignment Project (PIN 4755.55) planned at the intersection of Dewey Avenue and Driving Park Avenue in the City of Rochester, Monroe County, New York. The report has been prepared for the exclusive use of Bergmann Associates and other members of the design team, for specific application to this site and this project only.

The recommendations were prepared based on Empire Geo-Services, Inc.'s understanding of the proposed project, as described herein, and through the application of generally accepted soils and foundation engineering practices. No warranties, expressed or inferred, are made by the conclusions, opinions, recommendations or services provided.

Empire Geo-Services, Inc. should be retained to review specifications and monitor the site work / pavement construction to verify that the recommendations were properly interpreted and implemented.

Important information regarding the use and interpretation of this report is presented in Appendix C.

Respectfully Submitted:

EMPIRE GEO-SERVICES, INC.

Wanda M. Allen, P.E.
Geotechnical Engineer

John J. Danzer, P.E.
Senior Geotechnical Engineer
and Project Reviewer

TABLE

EMPIRE GEO SERVICES, INC.
A SUBSIDIARY OF SJB SERVICES, INC.

TABLE 1

SUMMARY OF EXISTING PAVEMENT STRUCTURE AND SUBGRADE CONDITIONS

PROPOSED REALIGNMENT PROJECT
DEWEY AVENUE & DRIVING PARK AVENUE INTERSECTION
PIN 4755.55
CITY OF ROCHESTER, MONROE COUNTY, NEW YORK

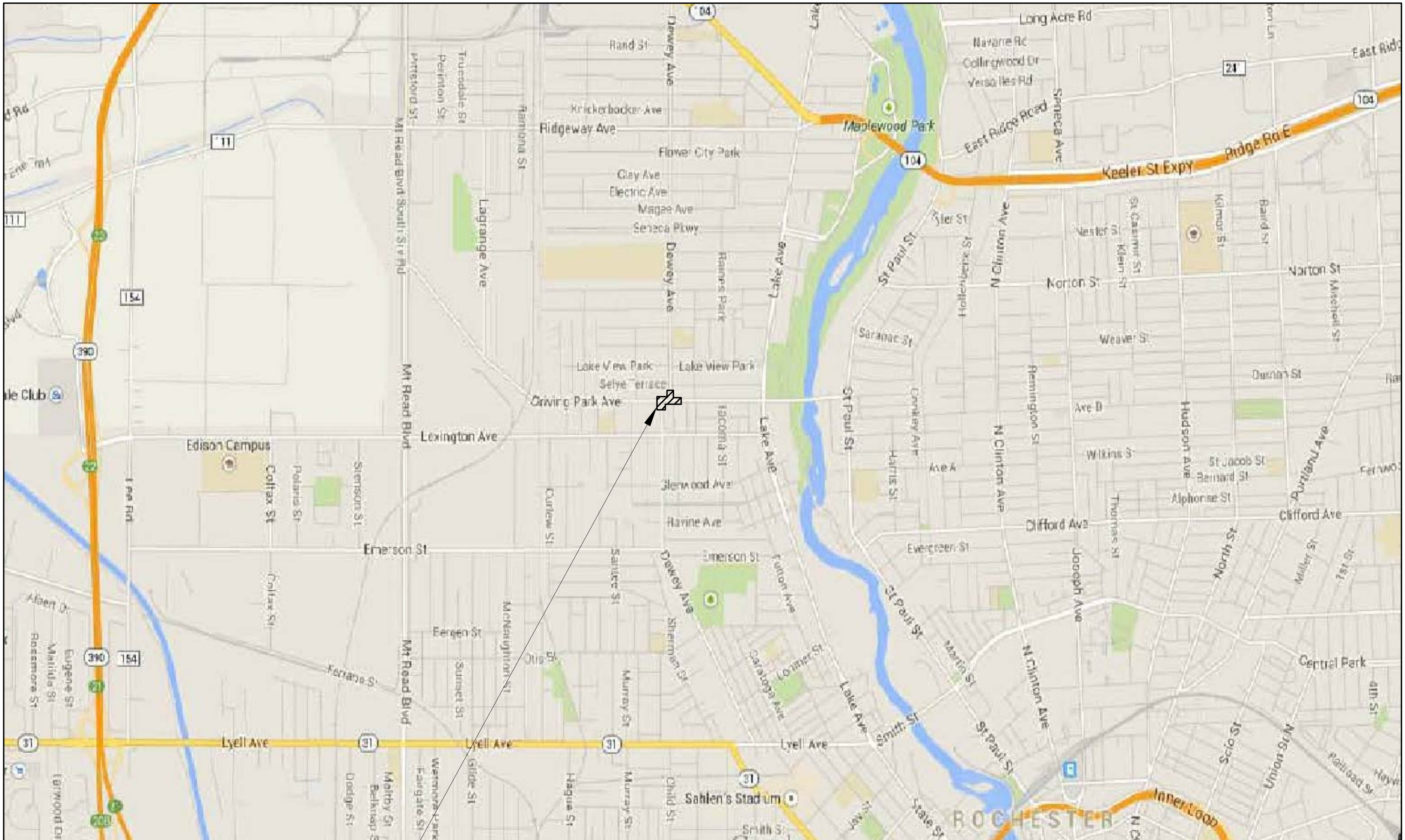
Core Number	Pavement Surface Material	Existing Asphalt Concrete (AC) Pavement					Subbase Material	Subbase Thickness (inches)	Subgrade Soil Conditions		
		Top Course Thickness (inches)	Binder Course (BI) Thickness (inches)	Base Course (BA) or Underlying Binder Course (BI) or Brick (BR) Thickness (inches)		Total AC Pavement Thicknes (inches)			Subgrade Material Type	Relative Density or Consistency of Subgrade	Subgrade Drainage Characteristics
B-1	Asphalt Concrete	2.50	2.50	7.00	BA	12.0	Crushed Stone	5	NA	NA	NA
B-2	Asphalt Concrete	2.00	2.25	5.75	BA	10.0	Crushed Stone	3	SAND and Gravel (FILL)	Loose to Firm	Good
B-3	Asphalt Concrete	1.75	4.75	4.00	BR	6.5	Sand	3	Silty SAND (SM)	Loose to Firm	Fair to Poor
B-4	Asphalt Concrete	4.25	1.75	3.00	BI	9.0	Gravel & Sand or Crushed Concrete	5	Gravelly/Silty fine SAND (SP-SM)	Loose to Firm	Fair

Notes

1.) NA - Not Applicable

2.) Underlying subgrade soils at boring location B-1 was not sampled due to underground utilities in the vicinity of the test boring.

FIGURES



APPROXIMATE PROJECT SITE LOCATION

N

NOTE:

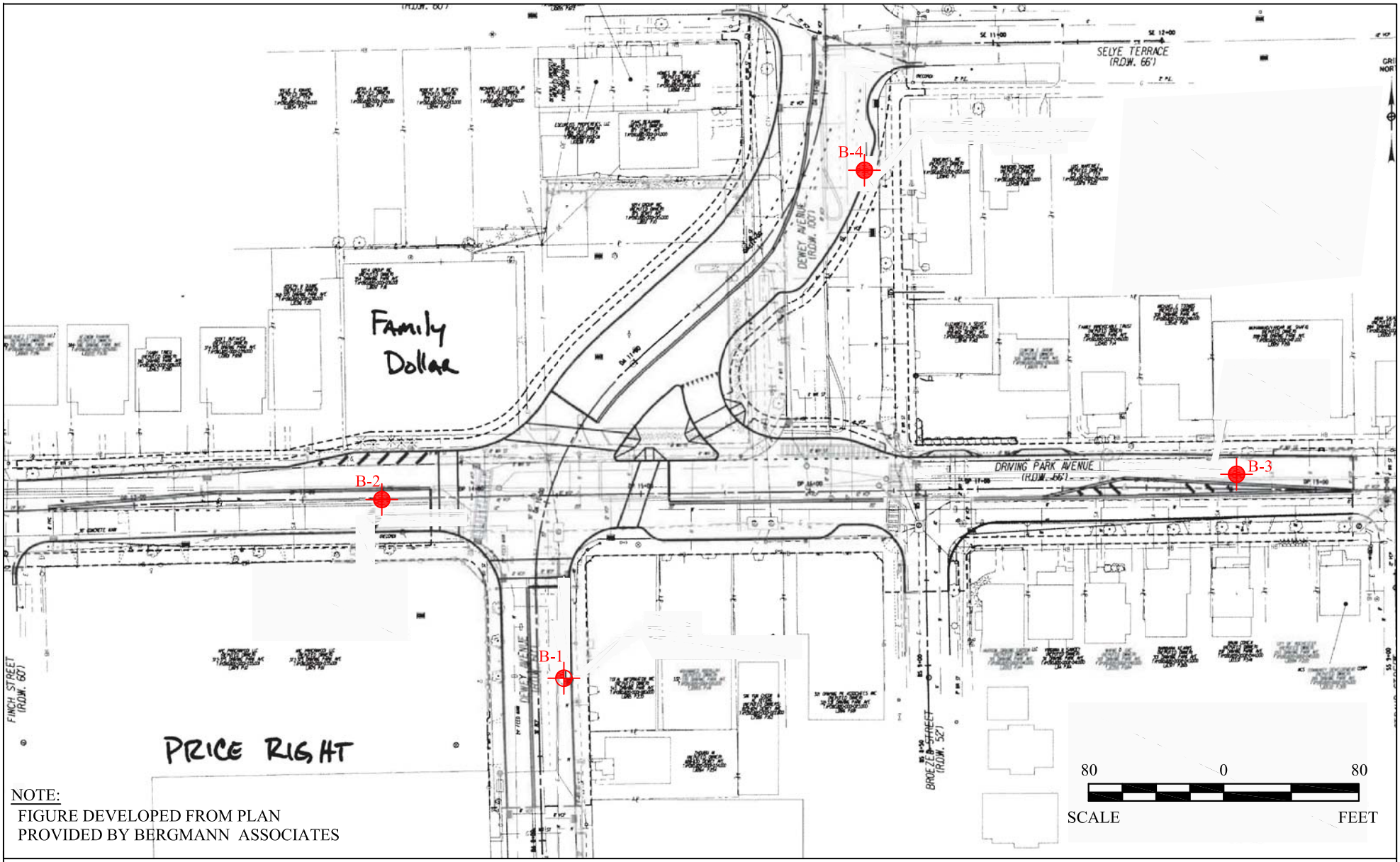
SITE LOCATION PLAN DEVELOPED
FROM GOOGLE MAP DATA © 2014 GOOGLE

EMPIREGEO SERVICES INC
a subsidiary of SJB Services, Inc.

PROPOSED REALIGNMENT PROJECT
DEWEY AVENUE & DRIVING PARK AVENUE INTERSECTION
PIN 4755.55
CITY OF ROCHESTER, MONROE COUNTY, NEW YORK

SITE LOCATION PLAN

DR BY: WMA	SCALE: NTS	PROJ NO.: RE-14-017
CHKD BY: JJD	DATE: 08/04/14	FIGURE NO: 1



NOTE:
FIGURE DEVELOPED FROM PLAN
PROVIDED BY BERGMANN ASSOCIATES

LEGEND:

B-1 INDICATES APPROXIMATE LOCATION AND DESIGNATION OF PAVEMENT CORE ONLY

B-2 INDICATES APPROXIMATE LOCATION AND DESIGNATION OF PAVEMENT CORE AND TEST BORING

N

EMPIRE GEO SERVICES INC
a subsidiary of SJB Services, Inc.

PROPOSED REALIGNMENT PROJECT
DEWEY AVENUE & DRIVING PARK AVENUE
PIN 4755.55
CITY OF ROCHESTER, MONROE COUNTY, NEW YORK

SUBSURFACE EXPLORATION PLAN	DR BY: WMA	SCALE: 1" ~ 80'	PROJ NO.: RE-14-017
	CHKD BY: JJD	DATE: 08/04/14	FIGURE NO: 2

APPENDIX A

SUBSURFACE EXPLORATION LOGS

DATE
START 7/7/2014
FINISH 7/7/2014
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-1
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: REALIGNMENT PROJECT (PIN 4755.55) LOCATION: DEWEY AVE & DRIVE PARK AVENUE
PROJ. NO.: RE-14-017 ROCHESTER, NEW YORK

DEPTH FT.		SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N		SOIL OR ROCK CLASSIFICATION	NOTES
								12" ASPHALT	12" Asphalt 2½" Top, 2½" Binder, 7" Base, & 5" Cr. Stone
								SUBBASE MATERIAL	
2.5								Complete at 1.5'	Geologist notes approx. 5" of Crushed Stone Subbase
5									
7.5									
10									
12.5									
15									
17.5									
20									

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: M. BILLY DRILL RIG TYPE : HAND EXCAVATED

METHOD OF INVESTIGATION --

DATE
START 7/7/2014
FINISH 7/7/2014
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-2
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: REALIGNMENT PROJECT (PIN 4755.55) LOCATION: DEWEY AVE & DRIVE PARK AVENUE
PROJ. NO.: RE-14-017 ROCHESTER, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N		SOIL OR ROCK CLASSIFICATION	NOTES
							10" ASPHALT	10" Asphalt
								2" Top
	1	21					SUBBASE MATERIAL	2¼" Binder
			15				Brown SAND and Gravel, tr.silt (moist, FILL)	5¾" Base
2.5	2	8						
			5				Brown SAND, some Gravel, little Silt, tr.clay	Driller notes approx.
				4			(moist, loose, SP-SM)	3" of Crushed Stone
					8	9		Subbase
	3	6					Brown with Gray Mottled Clayey SILT, little Gravel,	
5			5				tr.sand (moist, medium, ML)	
				8				
					7	13		
	4	9					Contains tr.gravel (hard)	
			13					
7.5				13				
					12	26		
	5	22					Contains tr.rock fragments	
			27					
				32				
10					30	59		
							Boring Complete at 10.0'	No Free Standing Water was encountered at Boring Completion
12.5								
15								
17.5								
20								

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: B. DELUDE DRILL RIG TYPE : CME 45

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
START 7/7/2014
FINISH 7/7/2014
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-3
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: REALIGNMENT PROJECT (PIN 4755.55) LOCATION: DEWEY AVE & DRIVE PARK AVENUE
PROJ. NO.: RE-14-017 ROCHESTER, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N		SOIL OR ROCK CLASSIFICATION	NOTES
							6½" ASPHALT	6½" Asphalt
								1¾" Top
							4" BRICK	4¾"Binder
	1	9						
			5				SUBBASE MATERIAL	
2.5	2	5					Brown fine SAND, some Silt, tr.gravel (moist, SM)	4" Brick
			5					
				9				Driller notes approx.
					27	14	(firm)	3" of Sand Subbase
	3	29						
5			27					
				20			Contains little Gravel, little Silt (compact, SP-SM)	
					19	47		
	4	21						
			16				Brown Clayey SILT, tr.sand (moist, hard, ML)	
7.5				17				
					16	33		
	5	26						
			23				Brown fine SAND, some Silt, little Gravel	
				31			(moist, v.compact, SM)	
10					28	54		
							Boring Complete at 10.0'	No Free Standing Water was encountered at Boring Completion
12.5								
15								
17.5								
20								

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: B. DELUDE DRILL RIG TYPE : CME 45

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
START 7/7/2014
FINISH 7/7/2014
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-4
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: REALIGNMENT PROJECT (PIN 4755.55) LOCATION: DEWEY AVE & DRIVE PARK AVENUE
PROJ. NO.: RE-14-017 ROCHESTER, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N		SOIL OR ROCK CLASSIFICATION	NOTES
							9" ASPHALT	9" Asphalt
								4¼" Top
							SUBBASE MATERIAL	1¾" Binder
	1	50						3" Binder
			8				Brown fine SAND, little Gravel, little Silt, tr.clay	
2.5	2	5					(moist, SP-SM)	
			5					Driller notes approx.
				6			(firm)	5" of Gravel & Sand
					5	11		or possible Crushed
	3	5						Concrete Subbase
5			4				Brown with Gray Mottled Clayey SILT, tr.sand	
				5			(v.moist, medium, ML)	
					4	9		
	4	8					Contains tr.rock fragments (stiff)	
			13					
7.5				12				
					17	25		
	5	49						
			25					
				32			(hard)	
10					38	57		
							Boring Complete at 10.0'	No Free Standing Water was encountered at Boring Completion
12.5								
15								
17.5								
20								

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: B. DELUDE DRILL RIG TYPE : CME 45

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

APPENDIX B

ASPHALT PAVEMENT CORE PHOTOGRAPHS

DRIVING PARK AVE AND DEWEY AVE RECONSTRUCTION
ROCHESTER, NEW YORK
CORE SUMMARY

CORE NUMBER	DESCRIPTION
B-1	**TOTAL CORE LENGTH = 12”** **CORE DIAMETER = 5-3/4”** **Asphalt Top Course = 2-1/2”** **Asphalt Binder Course = 2-1/2”** **Asphalt Base Course = 7”**

DRIVING PARK AVE AND DEWEY AVE RECONSTRUCTION
ROCHESTER, NEW YORK
CORE SUMMARY

CORE NUMBER	DESCRIPTION
B-2	**TOTAL CORE LENGTH = 10”** **CORE DIAMETER = 5-3/4”** **Asphalt Top Course = 2”** **Asphalt Binder Course = 2-1/4”** **Asphalt Base Course = 5-3/4”**

DRIVING PARK AVE AND DEWEY AVE RECONSTRUCTION
ROCHESTER, NEW YORK
CORE SUMMARY

CORE NUMBER	DESCRIPTION
B-3	**TOTAL CORE LENGTH = 10-1/2”** **CORE DIAMETER = 5-3/4”** **Asphalt Top Course = 1-3/4”** **Asphalt Binder Course = 4-3/4”** **Brick = 4”**

DRIVING PARK AVE AND DEWEY AVE RECONSTRUCTION
ROCHESTER, NEW YORK
CORE SUMMARY

CORE NUMBER	DESCRIPTION
B-4	**TOTAL CORE LENGTH = 9”** **CORE DIAMETER = 5-3/4”** **Asphalt Top Course = 4-1/4”** **Asphalt Binder Course = 1-3/4”** **Asphalt Binder Course = 3”**

APPENDIX C

REPORT LIMITATIONS

GEOTECHNICAL REPORT LIMITATIONS

Empire Geo-Services, Inc. (Empire) has endeavored to meet the generally accepted standard of care for the services completed, and in doing so is obliged to advise the geotechnical report user of our report limitations. Empire believes that providing information about the report preparation and limitations is essential to help the user reduce geotechnical-related delays, cost over-runs, and other problems that can develop during the design and construction process. Empire would be pleased to answer any questions regarding the following limitations and use of our report to assist the user in assessing risks and planning for site development and construction.

PROJECT SPECIFIC FACTORS: The conclusions and recommendations provided in our geotechnical report were prepared based on project specific factors described in the report, such as size, loading, and intended use of structures; general configuration of structures, roadways, and parking lots; existing and proposed site grading; and any other pertinent project information. Changes to the project details may alter the factors considered in development of the report conclusions and recommendations. *Accordingly, Empire cannot accept responsibility for problems which may develop if we are not consulted regarding any changes to the project specific factors that were assumed during the report preparation.*

SUBSURFACE CONDITIONS: The site exploration investigated subsurface conditions only at discrete test locations. Empire has used judgement to infer subsurface conditions between the discrete test locations, and on this basis the conclusions and recommendations in our geotechnical report were developed. It should be understood that the overall subsurface conditions inferred by Empire may vary from those revealed during construction, and these variations may impact on the assumptions made in developing the report conclusions and recommendations. *For this reason, Empire should be retained during construction to confirm that conditions are as expected, and to refine our conclusions and recommendations in the event that conditions are encountered that were not disclosed during the site exploration program.*

USE OF GEOTECHNICAL REPORT: Unless indicated otherwise, our geotechnical report has been prepared for the use of our client for specific application to the site and project conditions described in the report. *Without consulting with Empire, our geotechnical report should not be applied by any party to other sites or for any uses other than those originally intended.*

CHANGES IN SITE CONDITIONS: Surface and subsurface conditions are subject to change at a project site subsequent to preparation of the geotechnical report. Changes may include, but are not limited to, floods, earthquakes, groundwater fluctuations, and construction activities at the site and/or adjoining properties. *Empire should be informed of any such changes to determine if additional investigative and/or evaluation work is warranted.*

MISINTERPRETATION OF REPORT: The conclusions and recommendations contained in our geotechnical report are subject to misinterpretation. *To limit this possibility, Empire should review project plans and specifications relative to geotechnical issues to confirm that the recommendations contained in our report have been properly interpreted and applied.*

Subsurface exploration logs and other report data are also subject to misinterpretation by others if they are separated from the geotechnical report. This often occurs when copies of logs are given to contractors during the bid preparation process. *To minimize the potential for misinterpretation, the subsurface logs should not be separated from our geotechnical report and the use of excerpted or incomplete portions of the report should be avoided.*

OTHER LIMITATIONS: Geotechnical engineering is less exact than other design disciplines, as it is based partly on judgement and opinion. For this reason, our geotechnical report may include clauses that identify the limits of Empire's responsibility, or that may describe other limitations specific to a project. These clauses are intended to help all parties recognize their responsibilities and to assist them in assessing risks and decision making. Empire would be pleased to discuss these clauses and to answer any questions that may arise.