

BID PROJECT NO. 1216-11

COUNTY OF MONROE
DEPARTMENT OF TRANSPORTATION

ADDENDUM NO. 1

TO THE

CONSTRUCTION SPECIFICATIONS AND RELATED DOCUMENTS

FOR

JOHN STREET EXTENSION

Capital Improvement Project No. 1230.01



TO ALL BIDDERS:

The following constitutes ADDENDUM NO. 1 of the Contract Documents. Each Bidder shall acknowledge receipt of the Addendum on Page P-5 of the Proposal.

Pages ADD: 1-1 through ADD: 1-112

Date: January 17, 2012

TO ALL BIDDERS:

Pages ADD: 1-1 through ADD: 1-112 constitutes Addendum No. 1 to the Contract Documents. Make the following changes to the Contract Specifications and Related Documents:

A. REVISIONS TO THE PROJECT CONTRACT DOCUMENTS

1. Item 203.02 – Unclassified Excavation and Disposal quantity has been revised to 17422 CY.
2. Item 203.03 – Embankment in Place quantity has been revised to 12624 CY.
3. Item 304.12 – Subbase Course, Type 2 quantity has been revised to 5203 CY.
4. Item 603.9812 – Smooth Interior Corrugated Polyethylene Culvert and Storm Drain Pipe – 12” quantity has been revised to 1213 LF.
5. Item 610.02030106 – Wetland Seeding has been removed.
6. Item 610.050100MO – Meadow Seed Mix quantity has been revised to 214 LB.
7. Item 402.097212 – Plant Production Quality Adjustment to 402.097202 quantity has been revised to 125 QU for ADD Alternate #2.
8. ADD the enclosed Geotechnical Report to the Supplemental Information section.
9. REPLACE existing Pages P-24 thru P-37 with the enclosed Pages P-24R1 thru P-37R1.
10. REPLACE existing Pages SQ-1 thru SQ-2 with the enclosed Pages SQ-1R1 thru SQ-2R1.
11. ADD the enclosed Special Note Page that states: “Contractor will need to acquire work permit from Town of Henrietta with fees to be paid by contractor” to the Special Notes section.
12. ADD the enclosed SWPPP notes to the Supplemental Information section.
13. ADD the enclosed Figure 8 to the Supplemental Information section.
14. REPLACE the text “DC” with “CD” on the Highway Cross Sections Special Note Page in the Special Notes section.

B. REVISIONS TO THE PROJECT CONTRACT PLANS

1. REPLACE existing DWG. No. MD-05, Sheet 9 with the enclosed DWG. No. MD-05R1, Sheet 9.
2. DELETE Construction Staging Note #1 on DWG. No. WTC-01, Sheet 9.
3. REPLACE the Water Main Note #8 on DWG. No. MD-02, Sheet 17 with the following note: “When the new main is placed in service, the existing water main shall be capped and abandoned in place and will not require grout fill.”
4. REPLACE item quantities on DWG. No. QNT-01, Sheet 6 as follows:
 - a. Item 203.02 quantity is 17422 CY for Base Bid
 - b. Item 203.03 quantity is 12624 CY for Base Bid
 - c. Item 304.12 quantity is 5203 CY for Base Bid
 - d. Item 402.097212 quantity is 125 QU for ADD Alternate #2
 - e. Item 603.9812 quantity is 1213 LF for Base Bid
 - f. DELETE item 610.02030106 for Base Bid
 - g. Item 610.050100MO quantity is 214 LB for Base Bid

BASE BID

ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
201.06	CLEARING AND GRUBBING	1 LS	_____ Dollars _____ Cents				
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	17422 CY	_____ Dollars _____ Cents				
203.03	EMBANKMENT IN PLACE	12624 CY	_____ Dollars _____ Cents				
203.07	SELECT GRANULAR FILL	72 CY	_____ Dollars _____ Cents				
206.02	TRENCH AND CULVERT EXCAVATION	1695 CY	_____ Dollars _____ Cents				
206.03150010	TRAFFIC SIGNAL CONDUIT EXCAVATION AND RESTORATION IN ASPHALT	31 LF	_____ Dollars _____ Cents				
206.03200010	TRAFFIC SIGNAL CONDUIT EXCAVATION AND RESTORATION IN GRASS AND	80 LF	_____ Dollars _____ Cents				
207.10	GEOTEXTILE BEDDING	152 SY	_____ Dollars _____ Cents				
				CARRY FORWARD			

BASE BID				BROUGHT FORWARD			
ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
207.24	GEOTEXTILE STABILIZATION	15083 SY	_____ Dollars _____ Cents				
209.110101	CHECK DAM (DITCH BOTTOM WIDTH 0.0 TO 3.0 FEET), STONE - TEMPORARY	26 EA	_____ Dollars _____ Cents				
209.13	SILT FENCE - TEMPORARY	5350 LF	_____ Dollars _____ Cents				
209.1701	DRAINAGE STRUCTURE INLET PROTECTION, SILT FENCE - TEMPORARY	375 LF	_____ Dollars _____ Cents				
209.1702	DRAINAGE STRUCTURE INLET PROTECTION, GRAVEL BAG - TEMPORARY	10 CY	_____ Dollars _____ Cents				
304.12	SUBBASE COURSE, TYPE 2	5203 CY	_____ Dollars _____ Cents				
402.097202	9.5 F2 TOP COURSE HMA, 70 SERIES COMPACTION	1213 TON	_____ Dollars _____ Cents				
402.097212	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.097202	61 QU	seventy Dollars and zero Cents Fixed price: See Specification and <u>NYSDOT subsection 102-03</u>	70	00	4,270	00
				CARRY FORWARD			

BASE BID				BROUGHT FORWARD			
ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
402.197902	19 F9 BINDER COURSE HMA, 70 SERIES COMPACTION	1588 TON	_____ Dollars _____ Cents				
402.197912	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.197902	80 QU	seventy Dollars and zero Cents Fixed price: See Specification and NYSDOT subsection 102-03	70	00	5,600	00
402.377902	37.5 F9 BASE COURSE HMA, 70 SERIES COMPACTION	4548 TON	_____ Dollars _____ Cents				
402.377912	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.377902	228 QU	seventy Dollars and zero Cents Fixed price: See Specification and NYSDOT subsection 102-03	70	00	15,960	00
407.0101	TACK COAT	1736 GAL	_____ Dollars _____ Cents				
490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	72 SY	_____ Dollars _____ Cents				
520.50140008	SAWCUTTING ASPHALT PAVEMENT, CONCRETE PAVEMENT AND ASPHALT	200 LF	_____ Dollars _____ Cents				
603.171116	GALVANIZED STEEL END SECTIONS - PIPE 15 INCH DIAMETER, 16 GAUGE	6 EA	_____ Dollars _____ Cents				
				CARRY FORWARD			

BASE BID				BROUGHT FORWARD			
ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
603.171216	GALVANIZED STEEL END SECTIONS - PIPE 18 INCH DIAMETER, 16 GAUGE	2 EA	_____ Dollars _____ Cents				
603.171614	GALVANIZED STEEL END SECTIONS - PIPE 30 INCH DIAMETER, 14 GAUGE	8 EA	_____ Dollars _____ Cents				
603.171814	GALVANIZED STEEL END SECTIONS - PIPE 36 INCH DIAMETER, 14 GAUGE	4 EA	_____ Dollars _____ Cents				
603.9812	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM	1213 LF	_____ Dollars _____ Cents				
603.9815	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM	263 LF	_____ Dollars _____ Cents				
603.9824	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM	303 LF	_____ Dollars _____ Cents				
603.9830	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM	167 LF	_____ Dollars _____ Cents				
604.07	ALTERING DRAINAGE STRUCTURES, LEACHING BASINS, AND MANHOLES	2 EA	_____ Dollars _____ Cents				
				CARRY FORWARD			

BASE BID				BROUGHT FORWARD			
ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
604.301911	RECTANGULAR DRAINAGE STRUCTURE, TYPE S FOR #11 WELDED FRAME	93 LF	_____ Dollars _____ Cents				
604.4048	ROUND PRECAST CONCRETE MANHOLE TYPE 48	14 LF	_____ Dollars _____ Cents				
605.0901	UNDERDRAIN FILTER, TYPE I	544 CY	_____ Dollars _____ Cents				
605.1502	PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN TUBING - 6"	6809 LF	_____ Dollars _____ Cents				
605.25020007	PRECAST CONCRETE HEADWALLS FOR 4 INCH LATERAL OUTLET PIPES	10 EA	_____ Dollars _____ Cents				
608.0101	CONCRETE SIDEWALKS AND DRIVEWAYS	260 CY	_____ Dollars _____ Cents				
608.21	EMBEDDED DETECTABLE WARNING UNITS	7 SY	_____ Dollars _____ Cents				
609.0203	STONE CURB, GRANITE - TYPE C	6656 LF	_____ Dollars _____ Cents				
				CARRY FORWARD			

BASE BID				BROUGHT FORWARD			
ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
610.0203	ESTABLISHING TURF	6.60 ACRE	_____ Dollars _____ Cents				
610.050100MO	MEADOW SEED MIX	214 LB	_____ Dollars _____ Cents				
613.03	PLACING TOPSOIL - TYPE B	2831 CY	_____ Dollars _____ Cents				
615.04020008	TREE/VEGETATION PROTECTION BARRIER	604 LF	_____ Dollars _____ Cents				
619.01	BASIC WORK ZONE TRAFFIC CONTROL	1 LS	_____ Dollars _____ Cents				
619.04	TYPE III CONSTRUCTION BARRICADES	20 EA	_____ Dollars _____ Cents				
620.03	STONE FILLING (LIGHT)	54 CY	_____ Dollars _____ Cents				
625.01	SURVEY OPERATIONS	1 LS	_____ Dollars _____ Cents				
				CARRY FORWARD			

BASE BID				BROUGHT FORWARD			
ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
625.05	STEEL PIN AND CAP RIGHT OF WAY MARKERS	7 EA	_____ Dollars _____ Cents				
637.11	ENGINEERS FIELD OFFICE-TYPE 1	7 MO	_____ Dollars _____ Cents				
637.34	OFFICE TECHNOLOGY AND SUPPLIES	4000 DC	One Dollar and zero cents <u>(this is a fixed unit price item)</u>	1	00	4,000	00
645.5101	GROUND-MOUNTED SIGN PANELS WITHOUT Z BARS	60 SF	_____ Dollars _____ Cents				
645.81	TYPE A SIGN POSTS	10 EA	_____ Dollars _____ Cents				
647.01	REMOVAL OF SIGNS - SIZE A (0-10 SF)	6 EA	_____ Dollars _____ Cents				
647.11	RELOCATING SIGNS SIZE A (0-10 SF)	7 EA	_____ Dollars _____ Cents				
655.1202	MANHOLE FRAME AND COVER	3 EA	_____ Dollars _____ Cents				
655.1111	WELDED FRAME AND RETICULINE GRATE 11	24 EA	_____ Dollars _____ Cents				
				CARRY FORWARD			

BASE BID				BROUGHT FORWARD			
ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
663.0112	DUCTILE IRON CEMENT LINED WATER PIPE, 12"	197 LF	_____ Dollars _____ Cents				
663.0607	COPPER WATER SERVICE PIPE, 2"	42 LF	_____ Dollars _____ Cents				
663.1206	DOUBLE DISK GATE VALVE & VALVE BOX, 6"	1 EA	_____ Dollars _____ Cents				
663.1212	DOUBLE DISK GATE VALVE & VALVE BOX, 12"	1 EA	_____ Dollars _____ Cents				
663.1301	HYDRANT	1 EA	_____ Dollars _____ Cents				
663.161212	TAPPING SLEEVE, VALVE & VALVE BOX ASSEMBLY	1 EA	_____ Dollars _____ Cents				
663.2002	IRON WATER MAIN FITTINGS (10-16 INCH DIAMETER)	575 LB	_____ Dollars _____ Cents				
663.2312	POLYETHYLENE ENCASEMENT FOR WATER PIPE	197 LF	_____ Dollars _____ Cents				
				CARRY FORWARD			

BASE BID				BROUGHT FORWARD			
ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
663.2507	WATER SERVICE CONNECTION	1 EA	_____ Dollars _____ Cents				
663.2607	CURB STOP & CURB BOX	1 EA	_____ Dollars _____ Cents				
663.40	DISCONNECT AND CAP EXISTING WATER MAIN	1 EA	_____ Dollars _____ Cents				
663.42	REMOVE AND DISPOSE OF EXISTING WATER VALVE & VALVE BOX	1 EA	_____ Dollars _____ Cents				
663.46	REMOVE AND STORE EXISTING HYDRANT	1 EA	_____ Dollars _____ Cents				
680.510301	PULLBOX - CIRCULAR, 24" DIAMETER, REINFORCED CONCRETE	3 EA	_____ Dollars _____ Cents				
680.520110	CONDUIT, METAL STEEL, ZINC-COATED 4" DIAMETER	221 LF	_____ Dollars _____ Cents				
685.11	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 15 MILS	7163 LF	_____ Dollars _____ Cents				
				CARRY FORWARD			

**ALTERNATE 1: SIDEWALK INSTALLATION FROM JS 34+00 TO JS 66+75
(CUL-DE-SAC TO BAILEY ROAD)**

ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL (deduct: use same unit price as base bid)	-17422 CY	_____ Dollars _____ Cents				
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	18215 CY	_____ Dollars _____ Cents				
304.12	SUBBASE COURSE, TYPE 2 (deduct: use same unit price as base bid)	-51203 CY	_____ Dollars _____ Cents				
304.12	SUBBASE COURSE, TYPE 2	5559 CY	_____ Dollars _____ Cents				
608.0101	CONCRETE SIDEWALKS AND DRIVEWAYS (deduct: use same unit price as base bid)	-260 CY	_____ Dollars _____ Cents				
608.0101	CONCRETE SIDEWALKS AND DRIVEWAYS	496 CY	_____ Dollars _____ Cents				
608.21	EMBEDDED DETECTABLE WARNING UNITS (deduct: use same unit price as base bid)	-7 SY	_____ Dollars _____ Cents				
608.21	EMBEDDED DETECTABLE WARNING UNITS	35 SY	_____ Dollars _____ Cents				
CARRY FORWARD							

ALTERNATE 1: SIDEWALK INSTALLATION FROM JS 34+00 TO JS 66+75 (CUL-DE-SAC TO BAILEY ROAD)				BROUGHT FORWARD			
ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
610.0203	ESTABLISHING TURF (deduct: use same unit price as base bid)	-6.60 ACRE	_____ Dollars				
			_____ Cents				
610.0203	ESTABLISHING TURF	6.73 ACRE	_____ Dollars				
			_____ Cents				
613.03	PLACING TOPSOIL - TYPE B (deduct: use same unit price as base bid)	-2831 CY	_____ Dollars				
			_____ Cents				
613.03	PLACING TOPSOIL - TYPE B	2885 CY	_____ Dollars				
			_____ Cents				
TOTAL BID for ALTERNATE 1				\$			
TOTAL BID for ALTERNATE 1 - WRITTEN IN WORDS							

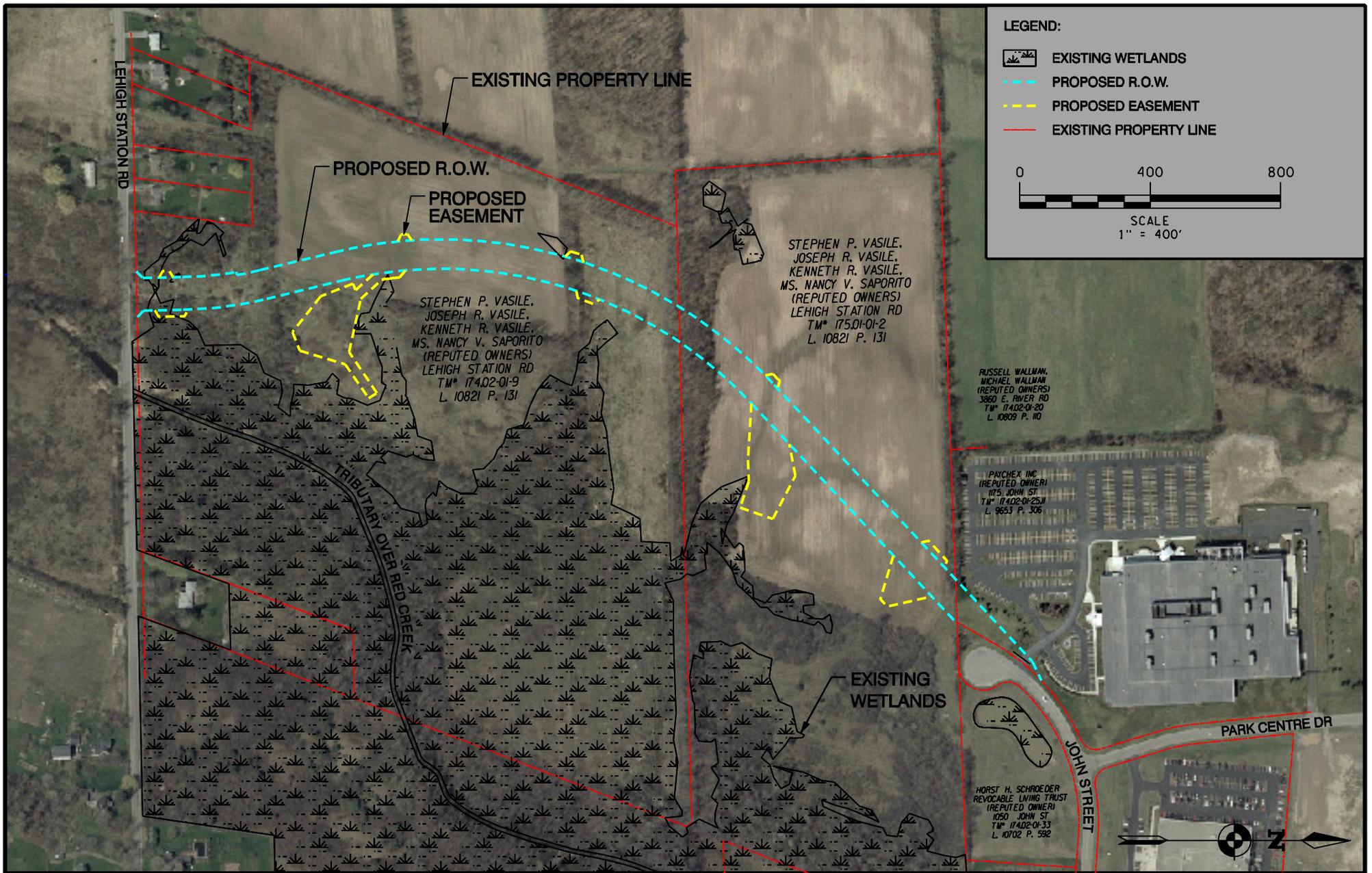
ALTERNATE 2: MILLING AND RESURFACING FROM JS 34+00 TO JS 66+75
(CUL-DE-SAC TO BAILEY ROAD)

ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
402.097202	9.5 F2 TOP COURSE HMA, 70 SERIES COMPACTION (deduct: use same unit price as base bid)	-1213 TON	_____ Dollars _____ Cents				
402.097202	9.5 F2 TOP COURSE HMA, 70 SERIES COMPACTION	2484 TON	_____ Dollars _____ Cents				
402.097212	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.097202 (deduct: use same unit price as base bid)	-61 QU	seventy Dollars and zero Cents Fixed price: See Specification and NYS DOT subsection 102-03	70	00	-4,270	00
402.097212	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.097202	125 QU	seventy Dollars and zero Cents Fixed price: See Specification and NYS DOT subsection 102-03	70	00	8,750	00
407.0101	TACK COAT (deduct: use same unit price as base bid)	-1736 GAL	_____ Dollars _____ Cents				
407.0101	TACK COAT	2493 GAL	_____ Dollars _____ Cents				
490.10	PRODUCTION COLD MILLING OF BITUMINOUS CONCRETE	15188 SY	_____ Dollars _____ Cents				
				CARRY FORWARD			

**ALTERNATE 2: MILLING AND RESURFACING FROM JS 34+00 TO JS 66+75
(CUL-DE-SAC TO BAILEY ROAD)**

BROUGHT FORWARD

ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE IN WORDS	UNIT BID PRICE		AMOUNT OF BID	
				DOLLARS	CENTS	DOLLARS	CENTS
619.01	BASIC WORK ZONE TRAFFIC CONTROL (deduct: use same unit price as base bid)	-1 LS	_____ Dollars _____ Cents				
619.01	BASIC WORK ZONE TRAFFIC CONTROL (unit price for base bid + Alt 2 work)	1 LS	_____ Dollars _____ Cents				
685.11	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES (deduct: use same unit price as base bid)	-7163 LF	_____ Dollars _____ Cents				
685.11	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES	14345 LF	_____ Dollars _____ Cents				
685.12	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES (deduct: use same unit price as base bid)	-6872 LF	_____ Dollars _____ Cents				
685.12	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES	13603 LF	_____ Dollars _____ Cents				
688.04	WHITE PREFORMED REFLECTORIZED PAVEMENT SYMBOLS	4 EA	_____ Dollars _____ Cents				
TOTAL BID for ALTERNATE 2				\$ _____			
TOTAL BID for ALTERNATE 2- WRITTEN IN WORDS				_____			



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DATE
MAY 2011

PROJ. NO.
11933

SCALE
AS SHOWN

PROJECT

TITLE
ALTERNATIVE 8

JOHN STREET EXTENSION
TOWN OF HENRIETTA, MONROE CO., NY

SHEET NO.
FIGURE 8

SPECIAL NOTE

PERMIT REQUIREMENTS

1. Contractor will need to acquire a work permit from Town of Henrietta with fees to be paid by contractor.

Item Number	Description	Unit	Quantity
201.06	CLEARING AND GRUBBING	LS	1
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	17422
203.03	EMBANKMENT IN PLACE	CY	12624
203.07	SELECT GRANULAR FILL	CY	72
206.02	TRENCH AND CULVERT EXCAVATION	CY	1695
206.03150010	TRAFFIC SIGNAL CONDUIT EXCAVATION AND RESTORATION IN ASPHALT CONCRETE	LF	31
206.03200010	TRAFFIC SIGNAL CONDUIT EXCAVATION AND RESTORATION IN GRASS AND UNPAVED AREAS	LF	80
207.10	GEOTEXTILE BEDDING	SY	152
207.24	GEOTEXTILE STABILIZATION	SY	15083
209.110101	CHECK DAM (DITCH BOTTOM WIDTH 0.0 TO 3.0 FEET), STONE - TEMPORARY	EA	26
209.13	SILT FENCE - TEMPORARY	LF	5350
209.1701	DRAINAGE STRUCTURE INLET PROTECTION, SILT FENCE - TEMPORARY	LF	375
209.1702	DRAINAGE STRUCTURE INLET PROTECTION, GRAVEL BAG - TEMPORARY	CY	10
304.12	SUBBASE COURSE, TYPE 2	CY	5203
402.097202	9.5 F2 TOP COURSE HMA, 70 SERIES COMPACTION	TON	1213
402.097212	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.097202	QU	61
402.197902	19 F9 BINDER COURSE HMA, 70 SERIES COMPACTION	TON	1588
402.197912	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.197902	QU	80
402.377902	37.5 F9 BASE COURSE HMA, 70 SERIES COMPACTION	TON	4548
402.377912	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.377902	QU	228
407.0101	TACK COAT	GAL	1736
490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	SY	72
520.50140008	SAWCUTTING ASPHALT PAVEMENT, CONCRETE PAVEMENT AND ASPHALT OVERLAY	LF	200
603.171116	GALVANIZED STEEL END SECTIONS - PIPE 15 INCH DIAMETER, 16 GAUGE	EA	6
603.171216	GALVANIZED STEEL END SECTIONS - PIPE 18 INCH DIAMETER, 16 GAUGE	EA	2
603.171614	GALVANIZED STEEL END SECTIONS - PIPE 30 INCH DIAMETER, 14 GAUGE	EA	8
603.171814	GALVANIZED STEEL END SECTIONS - PIPE 36 INCH DIAMETER, 14 GAUGE	EA	4
603.9812	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM DRAIN PIPE - 12"	LF	1213
603.9815	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM DRAIN PIPE - 15"	LF	263
603.9824	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM DRAIN PIPE - 24"	LF	303
603.9830	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM DRAIN PIPE - 30"	LF	167
604.07	ALTERING DRAINAGE STRUCTURES, LEACHING BASINS, AND MANHOLES	EA	2
604.301911	RECTANGULAR DRAINAGE STRUCTURE, TYPE S FOR #11 WELDED FRAME	LF	93
604.4048	ROUND PRECAST CONCRETE MANHOLE TYPE 48	LF	14
605.0901	UNDERDRAIN FILTER, TYPE I	CY	544
605.1502	PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN TUBING - 6"	LF	6809
605.25020007	PRECAST CONCRETE HEADWALLS FOR 4 INCH LATERAL OUTLET PIPES	EA	10
608.0101	CONCRETE SIDEWALKS AND DRIVEWAYS	CY	260
608.21	EMBEDDED DETECTABLE WARNING UNITS	SY	7
609.0203	STONE CURB, GRANITE - TYPE C	LF	6656
610.0203	ESTABLISHING TURF	ACRE	6.6
610.050100MO	MEADOW SEED MIX	LB	214
613.03	PLACING TOPSOIL - TYPE B	CY	2831
615.04020008	TREE/VEGETATION PROTECTION BARRIER	LF	604
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS	1
619.04	TYPE III CONSTRUCTION BARRICADES	EA	20
620.03	STONE FILLING (LIGHT)	CY	54
625.01	SURVEY OPERATIONS	LS	1
625.05	STEEL PIN AND CAP RIGHT OF WAY MARKERS	EA	7
637.11	ENGINEERS FIELD OFFICE-TYPE 1	MO	7
637.34	OFFICE TECHNOLOGY AND SUPPLIES	DC	4000
645.5101	GROUND-MOUNTED SIGN PANELS WITHOUT Z BARS	SF	60
645.81	TYPE A SIGN POSTS	EA	10
647.01	REMOVAL OF SIGNS - SIZE A (0-10 SF)	EA	6
647.11	RELOCATING SIGNS SIZE A (0-10 SF)	EA	7
655.1202	MANHOLE FRAME AND COVER	EA	3
655.1111	WELDED FRAME AND RETICULINE GRATE 11	EA	24

Item Number	Description	Unit	Quantity
663.0112	DUCTILE IRON CEMENT LINED WATER PIPE, 12"	LF	197
663.0607	COPPER WATER SERVICE PIPE, 2"	LF	42
663.1206	DOUBLE DISK GATE VALVE & VALVE BOX, 6"	EA	1
663.1212	DOUBLE DISK GATE VALVE & VALVE BOX, 12"	EA	1
663.1301	HYDRANT	EA	1
663.161212	TAPPING SLEEVE, VALVE & VALVE BOX ASSEMBLY	EA	1
663.2002	IRON WATER MAIN FITTINGS (10-16 INCH DIAMETER)	LB	575
663.2312	POLYETHYLENE ENCASEMENT FOR WATER PIPE	LF	197
663.2507	WATER SERVICE CONNECTION	EA	1
663.2607	CURB STOP & CURB BOX	EA	1
663.40	DISCONNECT AND CAP EXISTING WATER MAIN	EA	1
663.42	REMOVE AND DISPOSE OF EXISTING WATER VALVE & VALVE BOX	EA	1
663.46	REMOVE AND STORE EXISTING HYDRANT	EA	1
680.510301	PULLBOX - CIRCULAR, 24" DIAMETER, REINFORCED CONCRETE	EA	3
680.520110	CONDUIT, METAL STEEL, ZINC-COATED 4" DIAMETER	LF	221
685.11	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 15 MILS	LF	7163
685.12	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 15 MILS	LF	6872
698.04	ASPHALT PRICE ADJUSTMENT	DC	100
698.05	FUEL PRICE ADJUSTMENT	DC	100
699.040001	Mobilization	LS	1

Add Alternate 1 - Sidewalk installation from JS 34+00 to JS 66+75 (Cul-de-Sac to Bailey Road)			
Item Number	Description	Unit	Quantity
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	-17422
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	18215
304.12	SUBBASE COURSE, TYPE 2	CY	-5203
304.12	SUBBASE COURSE, TYPE 2	CY	5559
608.0101	CONCRETE SIDEWALKS AND DRIVEWAYS	CY	-260
608.0101	CONCRETE SIDEWALKS AND DRIVEWAYS	CY	496
608.21	EMBEDDED DETECTABLE WARNING UNITS	SY	-7
608.21	EMBEDDED DETECTABLE WARNING UNITS	SY	35
610.0203	ESTABLISHING TURF	ACRE	-6.6
610.0203	ESTABLISHING TURF	ACRE	6.73
613.03	PLACING TOPSOIL - TYPE B	CY	-2831
613.03	PLACING TOPSOIL - TYPE B	CY	2885

Add Alternate 2 - Milling & Resurfacing from JS 34+00 to JS 66+75 (Cul-de-Sac to Bailey Road)			
Item Number	Description	Unit	Quantity
402.097202	9.5 F2 TOP COURSE HMA, 70 SERIES COMPACTION	TON	-1213
402.097202	9.5 F2 TOP COURSE HMA, 70 SERIES COMPACTION	TON	2484
402.097212	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.097202	QU	-61
402.097212	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.097202	QU	125
407.0101	TACK COAT	GAL	-1736
407.0101	TACK COAT	GAL	2493
490.10	PRODUCTION COLD MILLING OF BITUMINOUS CONCRETE	SY	15188
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS	-1
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS	1
685.11	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES	LF	-7163
685.11	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES	LF	14345
685.12	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES	LF	-6872
685.12	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES	LF	13603
688.04	WHITE PREFORMED REFLECTORIZED PAVEMENT SYMBOLS	EA	4

**JOHN STREET EXTENSION
BAILEY ROAD TO LEHIGH STATION ROAD
STORMWATER POLLUTION PREVENTION PLAN**

**TOWN OF HENRIETTA
MONROE COUNTY
NEW YORK**



PREPARED FOR:

**DEPARTMENT OF TRANSPORTATION
CITY PLACE, SUITE 6100
50 WEST MAIN STREET
ROCHESTER, NEW YORK 14614-1231**

February 2011



Clark Patterson Lee
DESIGN PROFESSIONALS

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APPENDIX

A – HILLSIDE “VILLAGE GREEN” SITE PLANS

B – EXISTING PONDPACK ANALYSIS RESULTS

C – PROPOSED PONDPACK ANALYSIS RESULTS

Part A. Project Information

I. Executive Summary

- A. Project Name: John Street Extension
- B. Project Engineer and Firm: David Askinazi, Clark Patterson Lee
- C. Project Location
 - a. Municipality: Town of Henrietta
 - b. PIN: 4754.15
 - c. Tax Parcel #: 174.02-01-9 & 175.01-01-2
 - d. Nearest Cross Street: Lehigh Station
- D. Owner Name and Address: Monroe County Department of Transportation
City Place, Suite 6100
Rochester, New York 14614
- E. Type and Size of Project: Proposed Roadway Extension
7.0 acres of disturbance
- F. Project Description: The proposed project consists of the extension of John Street, from its current termination in a cul-de-sac south of Bailey Road, to Lehigh Station Road; a distance of about 0.6 mile (1.0 km). The drainage areas analyzed include the existing areas west of the proposed roadway. The proposed roadway drainage was separated due to grade restrictions and minimum flow path criteria. A location map is shown on Figure 1. Existing and proposed drainage areas for the site are shown on Figure 2 and 3. The proposed roadway consists of a total of 2.5 acres of new asphalt pavement, along with 0.70 acres of new sidewalk. The project proposes two (2) Stormwater Management Facilities (SWMF) located east of the proposed roadway to capture and treat roadway runoff. The Southern SWMF captures the flow from the 0.85 acres of proposed asphalt within the DC drainage area along with 0.65 acres of existing grassland. Due to site constraints, flows from the upstream DA and DB roadway drainage areas could not be captured. The DA and DB drainage areas consist of a total of 0.44 acres of proposed asphalt. The Southern SWMF was oversized to account for the DA and DB hydraulic and hydrologic requirements. The Northern SWMF captures the flow from the 1.38 acres of proposed asphalt within the DE drainage area along with the 0.91 acres of existing grassland. Due to site constraints, flows from the DD roadway drainage area could not be captured. The DD drainage area consists of 0.65 acres of proposed asphalt. The Northern SWMF was oversized to account for the DD hydraulic and hydrologic requirements. Runoff from drainage areas DA, DB, and DD is conveyed to outlets along the east side of the roadway. Drainage area DA and DB outlet to existing wetlands. Drainage area DD outlets approximately 160-feet upstream of an existing wetland. Water quality for these outlets shall be achieved through a dry swale system

as approved by the NYSDEC. Design calculations for the dry swales can be found in Appendix J.

Under existing conditions, stormwater runoff flows to an existing wetland east of the proposed roadway. Under proposed conditions, stormwater runoff west of the roadway flows through five (5) proposed culverts, while stormwater runoff from the proposed roadway is conveyed to two SWMF which eventually outlets to existing wetlands. All culverts have been sized for the 50-year storm as recommended by NYSDOT design standards (Appendix D). Flow west of the proposed roadway does not enter into the SWMF drainage area.

Soil disturbance shall be limited until the proposed sediment traps/stormwater management areas have been constructed. Once all of the erosion control measures have been installed, the proposed sequence of construction is as follows:

- All important trees and vegetated areas shall be marked and protected.
- A stabilized construction entrance per NYSDOT standards for a minor commercial shared two-way driveway shall be established to capture mud and debris from entering the public roadways.
- Silt fence shall be installed as shown on the construction drawing prior to work.
- Limit the initial clearing to areas where sediment control measures need to be installed. Once all sediment control measures are installed, excavation and fill activities associated with the site improvements can begin.
- Strip and stockpile topsoil.
- Place silt fence around stockpiles.
- Stockpiles and exposed areas shall be stabilized by seed, mulch or other appropriate measures as soon as possible, but in no case more than 14 days after construction activity has ended. All areas shall be temporarily or permanently stabilized if work is delayed.
- Temporary silt fencing, filter fabric inlet protection and excavated inlet protection will be established in various areas of the construction site to minimize the movement of soils during construction.
- The final SWMF shall be constructed according to the contract documents. Once the final SWMF have been constructed, all necessary controls shall be kept in place and maintained to prevent sediment from entering the facilities.
- During construction, inspection shall be performed every 7 calendar days and recorded in the inspection log. All practices shall be adequately operational, maintained and sediment removed as needed. All inspections shall look for evidence of erosion on the site, sediment entering the drainage systems, and signs of soil and mud transported from the site. All control measures shall be routinely maintained and whenever a problem is identified. All paperwork shall be kept on-site.

- All disturbed areas shall be seeded with the appropriate seed mixture as defined in the contract drawings. All stabilization shall be completed no later than 14 days after construction activity has ended. All temporary measures shall be removed once grass, etc. has been established.

G. Purpose of the Report: This Stormwater Pollution Prevention Plan (SWPPP) was created to comply with the NYSDEC SPDES General Permit for Stormwater Discharges Associated with Construction Activities (GP-0-10-001) and the stormwater management objectives of the Town of Henrietta. The project area is located wholly within the Town of Henrietta and drains to the Red Creek watershed. This SWPPP defines existing and proposed site conditions, how stormwater will be managed during and after the construction period, the timing of soil disturbing and stabilization practices, and appoints who will be responsible for implementing and maintaining the practices.

II. Existing & Proposed Site Characteristics

See Appendix for the Construction Drawings.

III. Receiving Waters: - Red Creek Tributary - Class C Stream

A Red Creek Tributary borders the project on the Southeast. Red Creek is not considered a navigable waterway by the U.S. Coast Guard, the U.S. Corp of Engineers, or by the NYSDEC.

Part B. Erosion & Sediment Control Plan

I. Diversion of Flow – The areas to be disturbed do not have any upstream areas where stormwater runoff will be directed across the disturbed areas. The only stormwater runoff impacting the proposed roadway is the runoff that falls directly onto the roadway itself. No stormwater runoff from any other areas will be directed to the roadway. Silt fence will be placed in locations around the proposed sediment traps and the final stormwater management areas to prevent any surface runoff with sediment from entering the areas. If the need arises, a temporary swale will be installed to intercept and divert stormwater runoff to the sediment trap.

II. Sequence of Major Activities

- Install Stabilized Construction Entrance
- Install silt fence, vegetation protection barriers and check dams
- Clear and grub as needed for the sediment traps (minimal amount)
- Construct sediment traps/stormwater management areas and stabilize soils
- Complete clearing and grubbing
- Build bus stop/pull-off area near Park Centre Drive
- Strip and stockpile topsoil and grade site
- Stabilize denuded areas and stockpiles within 14 days of last construction activity in each area

- Remove existing Cul-de-Sac pavement to be abandoned
- Construct roadway embankment to the finished subgrade
- Install roadway storm sewers and upland drainage cross culverts
- Install proposed curbs and apply stone subbase to paved areas
- Complete final roadway work/paving
- Install proposed concrete sidewalks
- Complete finish grading, reapply topsoil, install permanent seeding, fertilizer and mulch
- Remove accumulated sediment from sediment traps and grade final stormwater management areas
- Install outlet structures for stormwater management facilities
- Install wetland seeding and plantings.
- Remove all sediment control products after soils are stabilized

Note: Less than ½ of the site, or no more than five acres, will be denuded at one time without prior written approval from the Town of Henrietta.

III. Temporary/Permanent Erosion Control Measures

A. Temporary Stabilization – Topsoil stockpiles and disturbed portions of the site where construction activity temporarily ceases for 7 days or more will be stabilized with temporary seed and mulch no later than 7 days from the last construction activity in the area. The temporary seed shall be annual rye applied at the rate of 30 lbs. per acre. After seeding, each area shall be mulched with 2 tons per acre or 2 bales per 1000 square feet of straw. The straw mulch is to be attached into place by a disk with blades set nearly straight. Areas of the site that are to be paved will be temporary stabilized by applying stone subbase until bituminous pavement/concrete can be applied.

B. Permanent Stabilization – Disturbed portion of the site where construction activities permanently cease shall be stabilized with permanent seed no later than 14 days after the last construction activity. Lime and fertilizer will be applied as determined by soil tests. The contractor shall determine the permanent seed mix. After seeding, each area shall be mulched as described above. All slopes greater than 3H: 1V shall have jute mesh or other erosion control fabric applied.

C. Off-site Vehicle Tracking – A stabilized construction entrance will be provided to help reduce vehicle tracking of sediments. The paved street adjacent to the site entrance will be swept daily as needed to remove excess mud, dirt or rock tracked from the site. Dump trucks hauling material from the construction site will be covered with a tarpaulin.

D. Sediment Basins – The proposed SWMF will be used as sediment traps during construction to intercept sediment laden runoff and to trap and retain the sediment. A majority to the area directed to the detention area/sediment trap will not be distributed during construction. Once the site has been stabilized, the sediment traps will be configured to the new SWMF.

IV. Installation Details

See construction drawings in Appendix A.

V. Temporary To Permanent Structures – The proposed stormwater management areas will be used as a sediment trap/basin during construction. All stormwater runoff from the proposed roadway will be directed to the sediment traps/basins while the existing runoff from the site west of the proposed roadway will continue to function in its current manner utilizing the proposed culverts where necessary. Once the site has been stabilized, the sediment traps/basins will be converted into the proposed stormwater management areas.

Part C. Pollution Prevention Measures During Construction (Other than Soil Disturbance)

I. Pollution Prevention Measures (from Construction –Phase operations other than soil disturbance)

A. _____ (site superintendent responsible for the day-to-day site operations) will be the spill prevention and cleanup coordinator.

B. Product Specific Practices: The following product specific practices will be followed onsite:

1. Petroleum Products: All onsite vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum Products will be stored in tightly sealed containers that are clearly labeled. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations.

2. Fertilizers: Fertilizers used will be applied only in the minimum amounts recommended by the manufacturer and as described in part IV.A. Once applied, fertilizer will be worked into the soil to limit the exposure to stormwater. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

3. Paints: All containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm sewer system but will be properly disposed according to manufacturer's instructions or state and local regulations.

4. Concrete Trucks: Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water on the site.

5. Waste Removal: All waste materials will be collected and stored in a securely lidded metal dumpster rented from _____, which is a licensed solid waste management company in _____ (city). The dumpster will meet all local and any State solid waste management regulations. All trash and construction debris from the site will be deposited in the dumpster. This dumpster will be emptied as often as necessary, and the trash will be hauled to _____ landfill. No construction waste materials will be buried onsite. All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted in the office trailer. _____ (site superintendent responsible for the day-to-day site operations) will be responsible for seeing that these procedures are followed.

6. Hazardous Waste: All hazardous waste materials will be disposed of in the manner specified by local or State regulation or by the manufacturer. Site personnel will be instructed in these practices. _____ (site superintendent responsible for the day-to-day site operations) will be responsible for seeing that these procedures are followed.

7. Sanitary Waste: All sanitary waste will be collected from the portable units a minimum of three times per week by _____, a licensed sanitary waste management contractor.

8. Recyclable Waste: All recyclable waste (cardboard, wood, etc.) shall be collected and recycled.

II. On-Site Storage of Construction and Waste Materials

A. Spill Prevention Inventory: The materials or substances listed below are expected to be present onsite during construction: (Check appropriate boxes)

<input type="checkbox"/>	Concrete	<input type="checkbox"/>	Detergents	<input type="checkbox"/>	Roofing shingles
<input type="checkbox"/>	Metal Studs	<input type="checkbox"/>	Paints (enamel and latex	<input type="checkbox"/>	Wood
<input type="checkbox"/>	Petroleum-based Products	<input type="checkbox"/>	Fertilizers	<input type="checkbox"/>	Tar
<input type="checkbox"/>	Masonry Blocks	<input type="checkbox"/>	Cleaning solvents	<input type="checkbox"/>	Other)specify)

B. **Materials Management Practices:** The following are the management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances listed above to stormwater runoff:

- Products will be kept in the original containers unless they are not resealable,
- Original labels and material safety data sheets will be retained, they contain important product information,
- An effort will be made to store only enough product required to do the job,
- All materials stored onsite will be stored in a neat, orderly manner in the appropriate containers and, if possible, under a roof or other enclosed and/or on blacktop,
- Products will be kept in their original containers with the original manufacturer's label,
- Substances will not be mixed with one another unless recommended by the manufacturer,
- Whenever possible, all of a product will be used up before disposing of the container,
- Manufacturer's recommendations for proper use and disposal will be followed,
- The site superintendent will inspect daily to insure the proper use and disposal of materials onsite,
- Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies,
- Materials and equipment necessary for spill cleanup will be kept in the material storage unit area onsite. Equipment and materials will include but not be limited to brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose,
- All spills will be cleaned up immediately after discovery,
- The areas will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance,
- Spills, of any size, of toxic or hazardous material will be reported to the appropriate State or local government agency,
- The spill prevention plan will be adjusted to include measures to prevent this type of spill from recurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will be included.

Part D. Construction Phase Maintenance & Inspection Measures

I. Schedule/Procedures:

A. The Permittee/Operator agrees to have a qualified professional conduct an assessment of the site prior to the commencement of construction and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for commencement of construction. Following the commencement of construction, site inspections shall be conducted by the qualified professional at least every 7 calendar days. During each inspection, the qualified professional will record the following information:

- (1) On a site map, indicate the extent of all disturbed site areas and drainage pathways,
- (2) Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period,
- (3) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization,
- (4) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period,
- (5) Inspect all sediment control practices and record the approximate degree of sediment storage volume (for example, 10%, 20%),
- (6) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rocks filters around the outlet structure to pass water, and
- (7) All deficiencies that are identified with the implementation of the SWPPP.

II. Contractor's Certification:

Page 5-6 and pages 9-10 to be filled out at/prior to the pre-construction meeting.

In accordance with the requirements of the SPDES General Permit for Construction Activity, GP-0-10-001, each Contractor and Subcontractor identified on the Storm Water Pollution Prevention Plan (SWPPP) must certify that they understand the permit conditions and their responsibilities. Every Contractor and Subcontractor performing an activity that involves soil disturbance shall sign this certification and provide it to the Engineer prior to performing any contract work. This certification shall be signed by an Owner, Principal, President, Secretary or Treasurer of the firm.

“I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System (“SPDES”) general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.”

1. Name (Please print)

Prime or general Contractor, President

Signature: _____ Date: _____

For (Company Name and Address) Responsible For

2. Name (Please print)

SubContractor, President

Signature: _____ Date: _____

For (Company Name and Address) Responsible For

3. Name (Please print)

SubContractor, President

Signature: _____ Date: _____

For (Company Name and Address) Responsible For

4. Name (Please print)

Site Contractor, President

Signature: _____ Date: _____

For (Company Name and Address) Responsible For

5. Name (Please print)

Site Contractor, President

Signature: _____ Date: _____

For (Company Name and Address) Responsible For

6. Name (Please print)

Site Contractor, President

Signature: _____ Date: _____

For (Company Name and Address) Responsible For

7. Name (Please print)

Site Contractor, President

Signature: _____ Date: _____

For (Company Name and Address) Responsible For

Part E. Post Construction Water Quality & Water Quantity

I. Soil Description (including perviousness), Soil Map overlay, and description of assumed soils after development

The general hydrologic soil classification of Type C and D was determined after reviewing the information contained within the Soil Survey of Monroe County, New York for this area (see Appendix B). A curve number of 73 was used for all existing subareas, depicting the C and D cultivated soils and wooded areas that are present at the site. A soil map for the project area and can be found in Appendix B.

The following is a list of the majority of the soil series with a brief description located within the project corridor (see Appendix B for full report):

Cayuga silt loam, 2 to 6 percent slopes (CeB) – The series consists of very deep, moderately well drained soils formed in clayey lacustrine deposits overlying till. These soils are on undulating to hilly till plains where a veneer of lake-laid deposits overlie the till. Depth to the top of a seasonal high water table ranges from 18 to 36 inches. The available water capacity is moderate.

Churchville silt loam, 0 to 6 percent slopes (ChA & ChB) – The series consist of very deep, somewhat poorly drained soils that formed in clayey lacustrine sediments overlying loamy till. Saturated hydraulic conductivity is moderately high to high in the mineral surface layer and moderately high to low in the subsoil and substratum. Depth to the top of a seasonal high water table ranges from 6 to 18 inches. The available water capacity is moderate.

Lakemont silt loam, 0 to 2 percent slopes (Le) – The series consists of deep, poorly drained and very poorly drained soils of lake plains. They are nearly level soils formed in very slowly permeable reddish colored clayey lacustrine sediments. Permeability is moderately slow in the surface and very slow in the subsoil sand substratum. The available water capacity is moderate.

Odessa silt loam, 0 to 2 percent slopes (OdA) – The series consists of very deep, somewhat poorly drained soils formed in clayey lacustrine deposits. These soils are in moderately low areas on lake plains. Permeability is moderately slow in the surface layer and slow or very slow in the subsoil and substratum. Depth to the top of a seasonal high water table ranges from 6 to 18 inches. The available water capacity is moderate.

Empire Geo-Services performed a geotechnical evaluation for the site that included 19 test borings. The following is a brief summary of the findings: The near surface soils are typically looser than the deeper soils. The drainage characteristics of the cohesive clayey silt and silty clay soils are considered to be very poor. The non-cohesive sandy silts, silty sands, and silty clayey sands are expected to have better

drainage characteristics. However, due to the silt content of these soils, the drainage characteristics are considered to be poor to fair.

When measured, approximately 2 to 12 inches of topsoil was encountered at the surface of the test borings. Generally, only trace to little amounts of gravel was observed within the various soil types. The nature of the soils varies between non-cohesive and cohesive soils both spatially and with depth, with a relatively higher amount of non-cohesive soils through the project site. No groundwater or bedrock was encountered at depths of 10 feet.

II. Post construction Stormwater Control Practices

The SWMF were designed to mitigate an increase in runoff generated from the proposed roadway. The SWMF will decrease the rate at which the stormwater is discharged from the site while detaining the stormwater runoff as a means to improve the quality of the stormwater effluent. The SWMF were sized using the computer modeling software "PondPack." The software analyzes the peak inflow from the watershed areas and calculates discharge based upon pond characteristics, such as depth, area, volume, and outlet structure characteristics (See Appendix F for computer calculations and results). All user defined Tc values are based on the storm sewer calculations that can be found in Appendix D.

The proposed southern SWMF consists of a wet pond with a 4-foot deep permanent pool and forebay with a permanent water surface elevation of 532.50'. The proposed southern SWMF was designed to mitigate the 1-yr, 10-year, and 100-year storm event as required by the New York State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-10-001 and the Town of Henrietta. Additionally, the facilities were designed to mitigate the 24-hour extended detention volume for the post-developed 1-year, 24-hour storm event. The 24-hour extended detention volume for the post-developed 1-year, 24-hour storm event for the Southern SWMF was calculated to be 0.118 acre-feet which reduces to a release rate of 0.06 cfs over 24 hours. Using the computer program PondPack and all the variables associated with the SWMF (depth, area, outlet structure, water head, etc.), the release rate over 24 hours could not be met using the minimum 3-inch orifice for the SWMF. As a result, the peak stormwater runoff rates generated from the proposed site improvements for the various storm events were mitigated through peak flow attenuation. See Appendix F for these calculations.

The southern SWMF has a total storage capacity of 0.472 acre-feet calculated above the permanent pool elevation and a peak storage elevation of 534.50 feet. The peak outflows during the 1-year, 10-year, and 100-year storm events are shown in Section IV below. For mowing and erosion control, the side slopes of the facility will be graded no steeper than 4H:1V. The SWMF will have a 10-foot safety bench at 6% slope, as well as a 15-foot aquatic bench at a depth of 18-inches.

The proposed northern SWMF, consists of a wet pond with a 4-foot deep permanent pool and forebay with a permanent water surface elevation of 533.00'. The proposed northern SWMF was designed to mitigate the 1-yr, 10-year, and 100-year storm event as required by the New York State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-10-001 and the Town of Henrietta. Additionally, the facilities were designed to mitigate the 24-hour extended detention volume for the post-developed 1-year, 24-hour storm event. The 24-hour extended detention volume for the post-developed 1-year, 24-hour storm event for the northern SWMF was calculated to be 0.11 acre-feet which reduces to a release rate of 0.09 cfs over 24 hours. Using the computer program PondPack and all the variables associated with the SWMF (depth, area, outlet structure, water head, etc.), the release rate over 24 hours could not be met using the minimum 3-inch orifice for the SWMF. As a result, the peak stormwater runoff rates generated from the proposed site improvements for the various storm events were mitigated through peak flow attenuation. See Appendix F for these calculations.

The northern SWMF has a total storage capacity of 0.730 acre-feet calculated above the permanent pool elevation and a peak storage elevation of 536.00 feet. The peak outflows during the 1-year, 10-year, and 100-year storm events are shown in Section IV below. For mowing and erosion control, the side slopes of the facility will be graded no steeper than 4H:1V. The SWMF will have a 10-foot safety bench at 6% slope, as well as a 15-foot aquatic bench at a depth of 18-inches.

III. Materials, dimensions and installation procedures for Post Construction practices

The outfall structure for the southern SWMF consists of a 5-foot diameter concrete manhole structure. The 1-year outlet consists of one (1) 3-inch diameter orifice at elevation 532.50'. The 10-year outlet consists of two (2) 6-inch diameter orifices at elevation 532.95'. The 100-year outlets consist of two (2) 6-inch diameter orifices at elevation 533.25'. The bottom of the manhole will be at elevation 532.30' and the rim is at elevation 534.50'. The outfall structure includes an 18" PVC outlet pipe with a 0.5% slope. The outfall structure shall not be installed until the sediment trap/basin has been removed and the proposed SWMF is installed.

The outfall structure for the northern SWMF consists of a 5-foot diameter concrete manhole structure. The 1-year outlet consists of one (1) 3-inch diameter orifice at elevation 533.00'. The 10-year outlet consists of one (1) rectangular orifice 2-foot in length and 4-inches in height at elevation of 533.60'. The 100-year outlet consists of two (2) 8-inch diameter orifices at elevation 534.00'. The bottom of the manhole will be at elevation 532.50' and the rim is at elevation 535.50'. The outfall structure includes a 18" PVC outlet pipe with a 0.5% slope. The outfall structure shall not be installed until the sediment trap/basin has been removed and the proposed SWMF is installed.

IV. SWMF Hydrologic and Hydraulic Summary

Southern SWMF

	Event Return Interval		
	1-Year	10-Year	100-Year
Pre-Developed Conditions - Peak Inflow	1.01 cfs	2.57 cfs	4.16 cfs
Developed Conditions - Peak Inflow (before pond routing effect)	2.71 cfs	5.17 cfs	7.45 cfs
Developed Conditions - Peak Outflow	0.16 cfs	0.86 cfs	1.84 cfs
Percent Reduction of flow	84%	67%	56%
Peak Storage Capacity	0.096 ac-ft	0.171 ac-ft	0.238 ac-ft
Developed Conditions - Peak Pond Elevation (Top of Pond Elev = 535.00')	533.00'	533.34'	533.62'
Available Freeboard	2.00'	1.66'	1.38'

Northern SWMF

	Event Return Interval		
	1-Year	10-Year	100-Year
Pre-Developed Conditions - Peak Inflow	2.08 cfs	5.15 cfs	8.34 cfs
Developed Conditions - Peak Inflow (before pond routing effect)	3.86 cfs	7.44 cfs	10.77 cfs
Developed Conditions - Peak Outflow	0.64 cfs	2.68 cfs	4.17 cfs
Percent Reduction of flow	69%	48%	50%
Peak Storage Capacity	0.129 ac-ft	0.219 ac-ft	0.308 ac-ft
Developed Conditions - Peak Pond Elevation (Top of Pond Elev = 536.00')	533.69'	534.12'	534.50'
Available Freeboard	2.31'	1.88'	1.50'

V. Comparison of Post-Development Stormwater to Pre-Development Conditions

Pre-Development Conditions

- **Description of area analyzed, cover type, location of project within drainage area and existing conditions drainage area map.**

The proposed 0.60 mile roadway is located on an existing site consisting of brush and wetlands in the Town of Henrietta. The site is bordered by inactive farmland, wooded and secondary brush type growth areas and sections of wetlands. Analysis point #1 and #2 are located at the outfall of the proposed southern and northern SWMF. The drainage areas, for this analysis, have been delineated to include all the areas draining to these common analysis points.

- **Pre-development run-off Calculations – See Appendix E**
- **Existing conditions hydrology computations for runoff coefficients and time of concentration – See Appendix E**
- **Computations for 1, 10, & 100 year, 24-hour existing drainage conditions- See Appendix E**

Post-Development Conditions

- **Description of area analyzed, cover type, location of project within drainage area and proposed conditions drainage area map.**

All drainage areas west of the proposed roadway for both SWMF were not included in either analysis point due to the flow being redirected to proposed culverts along the roadway (See Appendix A). These culverts were designed according to NYS Highway Design Manual standards, Chapter 8.6.3.1.B. Flow from these areas will not enter into the pond's drainage areas, and will never enter into the roadway. Please see calculations for these culverts in Appendix D.

The subarea directed to the proposed southern SWMF consists of a portion of the roadway as well as existing adjacent brush areas. The total pervious and impervious areas within this subarea area are approximately 0.61 acres and 0.85 acres, respectively. The stormwater runoff generated generally begins as sheet flow over the roadway and develops into shallow concentrated flow against the curb where it is eventually collected by the proposed storm sewer system and then conveyed to analysis point #1 (see Figure 2).

The subarea directed to the proposed northern SWMF consists of a portion of the roadway as well as existing adjacent brush areas. The total pervious and impervious areas within this subarea area are approximately 1.30 acres and 0.99 acres, respectively. The stormwater runoff generated generally begins as sheet flow over the roadway and develops into shallow concentrated flow against the proposed curb where it is eventually collected by the proposed storm sewer system and then conveyed to analysis point #2 (see Figure 2).

Using the same analysis points as defined under existing conditions, the areas contributing stormwater runoff to the common analysis points under proposed conditions have been delineated using topographic maps, field surveys and the grading plans.

The proposed onsite improvements have been designed to limit their impact on natural features and maintain existing drainage patterns. The stormwater runoff from the roadway will directly enter the proposed storm sewer system and discharge to the proposed SWMF.

- **Post-development run-off Calculations – See Appendix F**
- **Pond Storage and Outfall Computations – See Appendix F**
- **Proposed conditions hydrology computations for runoff coefficients and time of concentration – See Appendix F**
- **Computations for 1, 10, & 100 year, 24-hour proposed drainage conditions- See Appendix F**
- **Pond Grading Detail – See Appendix A**
- **Pond Structure Outfall detail – See Appendix A**
- **Description of Proposed Drainage Structures – See Appendix A**
- **Description of Stormwater Quantity Mitigation –** The SWMF were designed to mitigate an increase in runoff generated from the proposed roadway extension of John Street. The SWMF will decrease the rate at which the stormwater is discharged from the site while detaining the stormwater runoff as a means to improve the quality of the stormwater effluent. The SWMF were sized using the computer modeling software “PondPack.” The software analyzes the peak inflow from the watershed areas and calculates discharge based upon pond characteristics, such as depth, area, volume, and outlet structure characteristics (See Appendix F for computer calculations and results).

VI. SWMF Characteristics & Elevations

A. Elevations

SOUTHERN SWMF CHARACTERISTICS	ELEVATION (FEET)
OUTLET	532.50
TOP OF SLOPE	534.50
TOE OF SLOPE	528.50
1 YEAR	533.00
10 YEAR	533.34
100 YEAR	533.62

NORTHERN SWMF CHARACTERISTICS	ELEVATION (FEET)
OUTLET	533.00
TOP OF SLOPE	536.00
TOE OF SLOPE	529.00
1 YEAR	533.69
10 YEAR	534.12
100 YEAR	534.50

B. Volumes

SOUTHERN SWMF	VOLUME	NORTHERN SWMF	VOLUME
Detention Storage	0.472	Detention Storage	0.730
Permanent Pool	0.233	Permanent Pool	0.319
Total Pond	0.705	Total Pond	1.049

VII. Post Construction Stormwater Management System Responsibility and Maintenance Schedule

Maintenance of each of the SWMF, storm sewer system and stone filling, located at the outlet of the stormwater drainage pipes, will be part of the annual maintenance under the jurisdiction of the Town of Henrietta. Trash and debris will need to be removed from the detention area and sediment removal in the forebay shall occur after 50% of the total forebay capacity has been lost. The pond shall be drained using a portable pump which will be directed to the outlet structure. The maintenance personnel shall slowly drawdown the SWMF and monitor the outfall for visual turbidity. If turbidity is evident, the pumping rate shall be reduced until a time as no turbidity is evident in the effluent. The stone filling will be reviewed to identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation.

VIII. Owner's Responsibilities

Site Assessment and Inspections

The following requirements set forth apply to all permittees applying for cover under the SPDES General Permit for Stormwater Runoff from Construction Activities, GP-0-10-001 and are contained within said permit. **The requirements detailed below are only partial list and are the sole responsibility of the Operator/Owner. For a complete list of Operator/Owner responsibilities and requirements, please refer to GP-0-10-001.** The operator/owner shall:

- In accordance with the requirements in the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control, inspect the erosion and sediment controls identified in the SWPPP to insure they are being maintained in effective operating condition at all times.
- For construction sites where soil disturbance activities have been temporarily suspended (winter shutdown, etc.) and temporary stabilization measures have been applied to all disturbed areas, the owner or operator can stop conducting inspections. The owner or operator shall begin conducting inspections in accordance with Part IV.B.1 as soon as soil disturbance activities resume.
- For construction sites where soil disturbance activities have been shut down with partial project completion, the owner or operator can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.
- Have a qualified professional (professional engineer, certified professional in erosion and sediment control or soil scientist) conduct an assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment controls described in the SWPPP and have been installed or implemented to ensure the overall preparedness of the site for commencement of construction.
- For construction sites where soil disturbance activities are on going, the qualified inspector shall conduct a site inspection at least once every seven (7) calendar days.
- For construction sites where soil disturbance activities are on going and the owner or operator has received authorization in accordance with Part II.C.3 to disturb greater than five (5) acres of soil at any one time, the qualified inspector shall conduct at least two (2) site inspections every seven (7) calendar days. When performing just two (2) inspections every seven (7) calendar days, the inspection shall be separated by a minimum of two (2) full calendar days.
- For construction sites where soil disturbance activities have been temporary suspended (winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the qualified inspector shall conduct a site inspection at least once every thirty (30) calendar days. The owner or operator shall notify the Regional Office stormwater contact person in writing prior to reducing the frequency of inspections.

- For construction sites where the soil disturbance activities have been shut down with partial project completion, the qualified inspector can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The owner or operator shall notify the Regional Office stormwater contact person in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the owner or operator shall have a qualified inspector(s) perform a final inspection and certify that all disturbed areas have achieved final stabilization, and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the “Final Stabilization” and “Post-Construction Stormwater Management Practice” certification statements on the Notice of Termination (NOT). The owner or operator shall then submit the completed NOT form to the address in Part II.A.1.
- At a minimum, the qualified inspector shall inspect all erosion and sediment control practices to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved final stabilization, and all points of discharge from the construction site.
- The qualified inspector shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include or address the following:
 - Date and time of inspection;
 - Name and title of person(s) performing inspection;
 - A description of the weather and soil conditions (Dry, wet, saturated) at the time of the inspection;
 - A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any discharge of sediment from the construction site. Include discharges from conveyance systems (pipes, culverts, ditches, etc.) and overland flow;
 - Identification of all erosion and sediment control practices that need repair of maintenance;
 - Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
 - Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;
 - Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards; and
 - Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct

deficiencies identified with the construction of the post-construction stormwater management practice(s).

- Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching;
 - Document any excessive deposition of sediment or ponding of water along barrier or diversion systems;
 - Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated risers pipes to pass water;
 - Maintain a record of all inspection reports;
- Within one (1) business day of the completion of an inspection, the qualified inspector shall notify the owner or operator and appropriate contractor (or subcontractor) identified in Part III.A.5. of any corrective actions that need to be taken. The contractor (or subcontractor) shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.
 - All inspection reports shall be signed by a qualified inspector. Pursuant to Part II.C.2, the inspection reports shall be maintained on site with the SWPPP.
 - The operator shall initiate stabilization measures as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased;
 - The operator shall make all contractors and subcontractors sign a copy of the certification statement in Part III.A.5 of the Permit, GP-0-10-001 in accordance with Part V.A.5 of the Permit, GP-0-10-001. All certifications must be included in the SWPPP and all new contractors and subcontractors need to similarly certify;
 - The operator shall retain copies of the SWPPP, NOI, NOI Acknowledgment Letter, MS4 SWPPP Acceptance form, Inspection Reports and any reports submitted in conjunction with this permit, and records of all data used to complete the NOI to be covered by this permit, for a period of five years from the date that the site is finally stabilized;
 - The operator shall retain copies of the SWPPP required by this permit at the construction site from the date of initiation of construction activities to the date of final stabilization;

Additional requirements are listed in the SPDES General Permit, GP-0-10-001 and are the sole responsibility of the Operator/Owner.

IX. Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Karen F. Cox
Signature

Karen F. Cox, P.E.
Transportation Project Manager
Monroe County
Department of Transportation

6-13-11
Date

David Askinazi
Signature

David Askinazi, P. E.
Principal Associate
Clark Patterson Lee

6-10-11
Date



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**Subsurface Exploration and Geotechnical Evaluation
for
Proposed John Street Extension – Revised Alignment
P.I.N. 4754.15
Town of Henrietta
Monroe County, New York**

Prepared For:

**Dewberry
183 East Main Street, Suite 700
Rochester, New York
14604-1617**

Prepared By:

**Empire Geo-Services, Inc.
5167 South Park Avenue
Hamburg, New York
14075**



**Project No. RE-08-001
February 2008**

February 4, 2008
Project No. RE-08-001

Mr. David Askinazi, P.E.
Dewberry
183 East Main Street, Suite 700
Rochester, New York
14604-1617

Re: Subsurface Exploration and Geotechnical Evaluation for
Proposed John Street Extension – Revised Alignment
P.I.N. 4754.15
Town of Henrietta
Monroe County, New York

Dear Mr. Askinazi:

This letter report summarizes the results of a supplemental subsurface exploration and geotechnical evaluation completed by Empire Geo-Services, Inc. (Empire) for the revised alignment of the proposed John Street Extension (P.I.N. 4754.15), in the Town of Henrietta, Monroe County, New York. Empire issued an August 3, 2007 report for the originally planned alignment of the John Street Extension. Since issuing the report, the proposed alignment has been revised. Accordingly, Dewberry retained Empire to complete the supplemental subsurface investigation and provide updated design and construction recommendations for the pavement structure. This work was completed in general accordance with our November 6, 2007 proposal for services.

1.00 PROJECT DESCRIPTION

The revised alignment of the proposed John Street extension is approximately 43 meters (141 feet) west of the originally proposed alignment. The revised John Street Extension alignment will be constructed from the vicinity of its current cul-de-sac terminus, approximately 980 meters (3,215 feet) southward, to Leigh Station Road. The approximate location of the project site is shown on Figure 1. The new road will be approximately 6.6 meters (21.7 feet) wide with 0.9 meter (3 feet) wide curb offsets with concrete curbs. Preliminary design drawings PL-01, PL-02, and PL-03 (Alternative 2 & 2A) were provided to Empire by Dewberry, showing the revised road realignment, as well as the proposed test boring locations. The road profile will generally follow the existing surface grades thereby limiting the amount of earthwork necessary to construct the road. We

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understand the pavement structure will be subjected to both automobile and heavy delivery truck traffic.

2.00 SUBSURFACE EXPLORATION PROGRAM

The supplemental subsurface exploration program consisted of 10 test borings, designated as B-20 through B-29, completed along the proposed revised alignment. The test borings were drilled by our affiliated drilling company, SJB Services, Inc. (SJB) on January 25, 2008.

The test boring locations and depths were initially selected by Dewberry and their locations plotted on the preliminary design drawings PL-01, PL-02, and PL-03 (Alternative 2 & 2A). The approximate centerline of the proposed alignment was then established in the field by others, at irregular station intervals. SJB used the centerline stakeout to establish the test boring locations. Due to heavily wooded and brush covered conditions within the area of test boring B-20, SJB revised the test boring location to allow for drill rig access. Ground surface elevations were not obtained at the test boring locations. The approximate test boring locations are shown on Figures 2, 3, and 4, based on Dewberry's preliminary design drawings. In addition, the following table summarizes the approximate "as-drilled" test boring locations.

Approximate "As-Drilled" Test Boring Station and Offset					
Test Boring	Stationing (meters)	Offset (meters)	Test Boring	Stationing (meters)	Offset (meters)
B-20	1+010 m	center line	B-25	1+510 m	1 m left
B-21	1+110 m	1 m left	B-26	1+610 m	1 m right
B-22	1+210 m	1 m right	B-27	1+710 m	1 m left
B-23	1+310 m	1 m left	B-28	1+810 m	1 m right
B-24	1+410 m	1 m right	B-29	1+910 m	1 m left

The test borings were made with a Central Mine Equipment (CME) model 850 track mounted drill rig, using hollow stem auger and split spoon sampling techniques. Split spoon samples and Standard Penetration Tests (SPTs) were taken continuously from the ground surface throughout the full depth of the test borings. 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"*. Each test boring was advanced to a depth of 1.2 to 2.4 meters (4 to 8 feet).

A geotechnical engineer 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.

3.00 SUBSURFACE CONDITIONS

The general soil stratigraphy and groundwater conditions encountered at the test boring locations are described below. More detailed subsurface information can be found on the test boring logs included in Appendix A.

Approximately 76 to 152 millimeters (3 to 6 inches) of topsoil was encountered at the surface of the test borings. In addition root fragments and organic odors were noted within the upper 0.6 meters (2 feet) of soil at most test boring locations. At test boring B-28, root fragments and organic odors extended throughout the full depth of the test boring at 1.2 meters (4 feet).

The following generalized soil types, followed by their Unified Soil Classification System soil group name, were encountered at the test boring locations:

- sandy clayey silts (ML);
- silty sands (SM); and
- silty clays (CL).

Generally, only trace to little amounts of gravel were observed within the various soil types. The nature of the soils varies between non-cohesive and cohesive soils both spatially and with depth, with a relatively higher amount of cohesive soils throughout the project site. Bedrock was not encountered within the depths explored at the test boring locations.

The Standard Penetration Test (SPT) "N" values obtained within the non-cohesive, silty sands, and silty clayey sands ranged from 9 to 27, indicating a relative density of "loose" to "firm". The Standard Penetration Test (SPT) "N" values obtained within the cohesive silty clays and clayey silts ranged from 6 to 23, indicating these soils have a "medium" to "very stiff" consistency.

Water level measurements that were made in the test borings at the completion of drilling did not encounter free standing water. In addition, the collected soil samples are typically described as "moist" suggesting the lack of free water. A

limited amount of soil samples were described as “moist to wet” or “wet” including some samples from test borings B-22, B-24, B-25, B-26 and B-28. These “moist to wet” or “wet” soil descriptions, appear to be an indication of a perched or trapped groundwater condition within zones of relatively more granular soils. Perched groundwater conditions can be particularly prevalent following heavy or extended periods of precipitation and during seasonally wet periods.

Installation of groundwater observation wells would be necessary to further define the groundwater conditions at the project site. It should be expected that both permanent and perched groundwater conditions could vary with location and with changes in soil conditions, precipitation and seasonal conditions.

4.00 EVALUATION, CONSIDERATIONS AND RECOMMENDATIONS

4.10 General

Based on the test boring data, the near surface soils are typically softer / looser than the deeper soils. The drainage characteristics of the cohesive clayey silt and silty clay soils are considered to be very poor. The non-cohesive sandy silts, silty sands, and silty clayey sands are expected to have better drainage characteristics. However, due to the silt content of these soils, the drainage characteristics are considered to be poor to fair.

The site preparation for the pavement construction should, at a minimum, include the removal of all surface topsoil, vegetation, and organic soil. For areas that require fill, the exposed subgrades should be proof-rolled and evaluated prior to placement of subgrade fill and/or the subbase course for the pavement structure construction. Areas that require additional cut after removal of the surface soils, should be proof-rolled and evaluated after achieving the design subgrade elevation. Depending on the results of the proof-rolling, and the actual conditions at the time of construction, additional stripping/undercutting may be necessary to prepare suitable, firm and stable subgrades for the pavement construction.

4.20 Road Pavement Structure

Based on the Equivalent Single Axle Load (ESAL) Calculation Worksheet completed by Dewberry, the John Street extension traffic intensity over a 30 year design life is expected to be about 2,500,000 18 kip ESAL. A pavement section was designed using a computer program developed by Empire based on the design analyses presented in the NYSDOT Thickness Design Manual for New

and Reconstructed Pavement, published in October 1994. An effective roadbed Soil Resilient Modulus (Mr) of 2,500 psi was used in the analyses as being representative of the subgrade soil conditions. Based on our analysis, the following asphalt concrete pavement section is recommended for the road structure.

- 38 mm (1.5 inches) – Top Course.
- 102 mm (4.0 inches) – Binder Course.
- 102 mm (4.0 inches) – Bituminous Base Course.
- 457 mm (18 inches) – Subbase Course*.
- Geotextile.
- Prepared Subgrade.

*It may be necessary to increase the subbase thickness in some areas to improve subgrade conditions and to promote drainage to underdrains, etc, as discussed below.

Based on our evaluation, the recommended pavement structure should provide approximately 2,700,000 18 kip ESALs over its design life. In areas where more than 305 mm (12 inches) of Suitable Granular Fill is installed to meet the design pavement subgrade elevation, the subbase course recommended above, can be reduced to 305 mm (12 inches).

4.30 Pavement Materials

Materials for the above pavement structure components should consist of the following:

- A. Asphalt Concrete Top Course - NYSDOT Standard Specifications, Item No. 403.198902 M - Hot Mix Asphalt, Type 7 Top Course.
- B. Asphalt Concrete Binder Course - NYSDOT Standard Specifications, Item No. 403.138902 M - Hot Mix Asphalt, Type 3 Binder Course.
- C. Asphalt Concrete Bituminous Base Course - NYSDOT Standard Specifications, Item No. 403.118902 M - Hot Mix Asphalt, Type 1 Base Course.
- D. Subbase Course – NYSDOT Standard Specifications, Item No. 304.12 M - Type 2 Subbase.
- E. Geotextile - Woven polypropylene stabilization/separation geotextile (i.e., Mirafi 500X or approved suitable equivalent).

4.40 Subbase Material

We recommend that the subbase material used for the pavement structure be a crusher run, quarried limestone or dolostone product, complying with NYSDOT Standard Specifications, Item No. 304.12 M - Type 2 Subbase.

Reclaimed Asphalt Pavement (RAP) obtained from milling of off-site pavement structures or Recycled Concrete Aggregate (RCA) obtained from suitable off-site sources will also be acceptable for subbase material provided the material complies with NYSDOT Standard Specifications, Section 304-2.02.

If RAP or RCA materials are used for the subbase layer, they should generally be placed in the lower 2/3 of the design subbase course. We would recommend the remaining portion of the subbase course be new subbase material as discussed above.

The subbase course thicknesses recommended for the above pavement section may not be adequate to act alone as a construction haul road for carrying frequent construction vehicle loads. Therefore, it may be desirable to increase the Subbase thickness if the road is to be used as temporary haul road prior to final paving. This will be particularly important if construction proceeds during wet periods. The additional subbase material could then be removed in preparation for final pavement surface construction and re-used in other areas of the site as otherwise determined appropriate.

4.50 Suitable Granular Fill

Suitable Granular Fill material can be used as subgrade fill to raise site grades beneath the subbase course. Suitable Granular Fill material should consist of suitable soil material, classified as GW, GP, GM, SW, SP and SM group soils using the Unified Soil Classification System (ASTM D-2487) and should have no more than 85- percent by weight material passing the No. 4 sieve, no more than 20- percent by weight material passing the No. 200 sieve and should be generally free of particles greater than 102 mm (4 inches). Suitable Granular Fill should also be free of topsoil, asphalt, concrete rubble, wood, debris, clay and other deleterious materials.

Material meeting the requirements of New York State Department of Transportation, Standard Specifications, Item 203.07M – Select Granular Fill is acceptable for use as Suitable Granular Fill.

4.60 Placement and Compaction of Subbase and Suitable Granular Fill

Subbase material 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 subbase material should not exceed a maximum lift thickness of 305 mm (12 inches). It may be necessary to reduce the lift thickness depending on the type of compaction equipment used so that the required density is attained. The subbase material should have a moisture content within two percent of the optimum moisture content prior to compaction.

Suitable Granular Fill should also be placed and compacted in accordance with the requirements as stated above for the Subbase Material.

4.70 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. This is particularly important as the subgrade soils have very poor to fair drainage characteristics.

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 site storm water drainage system.

Alternatively, the pavement subbase course can also be allowed to daylight/drain to an adjacent perimeter drainage swale. This could be accomplished by raising the pavement grade. 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 underdrains or drainage swale.

4.80 Pavement Construction Considerations

The site preparation work should be performed during dry periods to minimize potential degradation of the subgrade soils and undercuts which may be required to establish and maintain a stable subgrade for construction. Construction during the early spring, late fall or winter months is not recommended. It should be understood that the existing subgrade soils can be sensitive and be expected to degrade and lose strength when they are wet and disturbed by construction equipment traffic.

Accordingly, efforts should be made to maintain the subgrades in a dry and stable condition at all times, and minimize construction traffic directly over these soils. These efforts should include proper grading to divert surface runoff away from the construction areas, sloping of the subgrade and “sealing” of the surface, at the end of each day or when rain is anticipated, with a smooth drum roller to promote runoff, and restricting construction equipment traffic from traveling directly over the subgrade surfaces, especially when they are wet.

The contractor should take precautions to limit construction traffic over the subgrades. Any subgrades, including existing soil subgrades or fill subgrades, which become damaged, rutted or unstable should be undercut and repaired as necessary prior to placement of the subbase courses.

Following stripping of the topsoil and excavation to proposed subgrades, the exposed soil subgrades should be proof-rolled to determine if any soft or unstable conditions exist in the subgrade. The proof-rolling should be performed just prior to overlying fill placement using either a smooth steel drum roller weighing at least 10 tons or a loaded dump truck or as otherwise determined acceptable by Empire. The subgrade compaction and proof-rolling should be done under the guidance of, and observed by, a representative of Empire. Any areas, which appear wet, loose, soft, unstable or otherwise unsuitable, should be undercut. Over excavation, which may be required as the result of the proof-rolling, should be performed based on evaluation of the conditions by Empire.

Any required undercuts/over-excavations should generally be backfilled with additional subbase material. The placement of an initial lift of oversized stone fill material (i.e. “surge stone”, “shot rock”, No.4 & No.5 Stone, etc.), encased in stabilization geotextile (i.e. Mirafi 500X or suitable equivalent) top and bottom, can also be used to help stabilize subgrades prior to the subgrade fill or subbase placement, if any of the existing subgrades are found to be in a soft/wet condition.

Installation of adjacent geotextile panels should have minimum overlap of 305 to 457 mm (12 to 18 inches). Construction of the Asphalt Concrete Pavement 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.

5.00 CONCLUDING REMARKS

This report was prepared to assist with planning, design and construction of the revised alignment for the proposed John Street Extension, in the Town of Henrietta, Monroe County, New York. The report has been prepared for the exclusive use of Dewberry 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 informed of any changes to the planned construction so that it may be determined if any changes to the recommendations presented in this report are necessary. Empire Geo-Services, Inc. should also be retained to review final plans and specifications and monitor the site work / pavement construction to verify that the recommendations were properly interpreted and implemented.

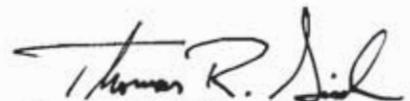
Important information regarding the use and interpretation of this report is presented in Appendix B.

Respectfully Submitted:

EMPIRE GEO-SERVICES, INC.

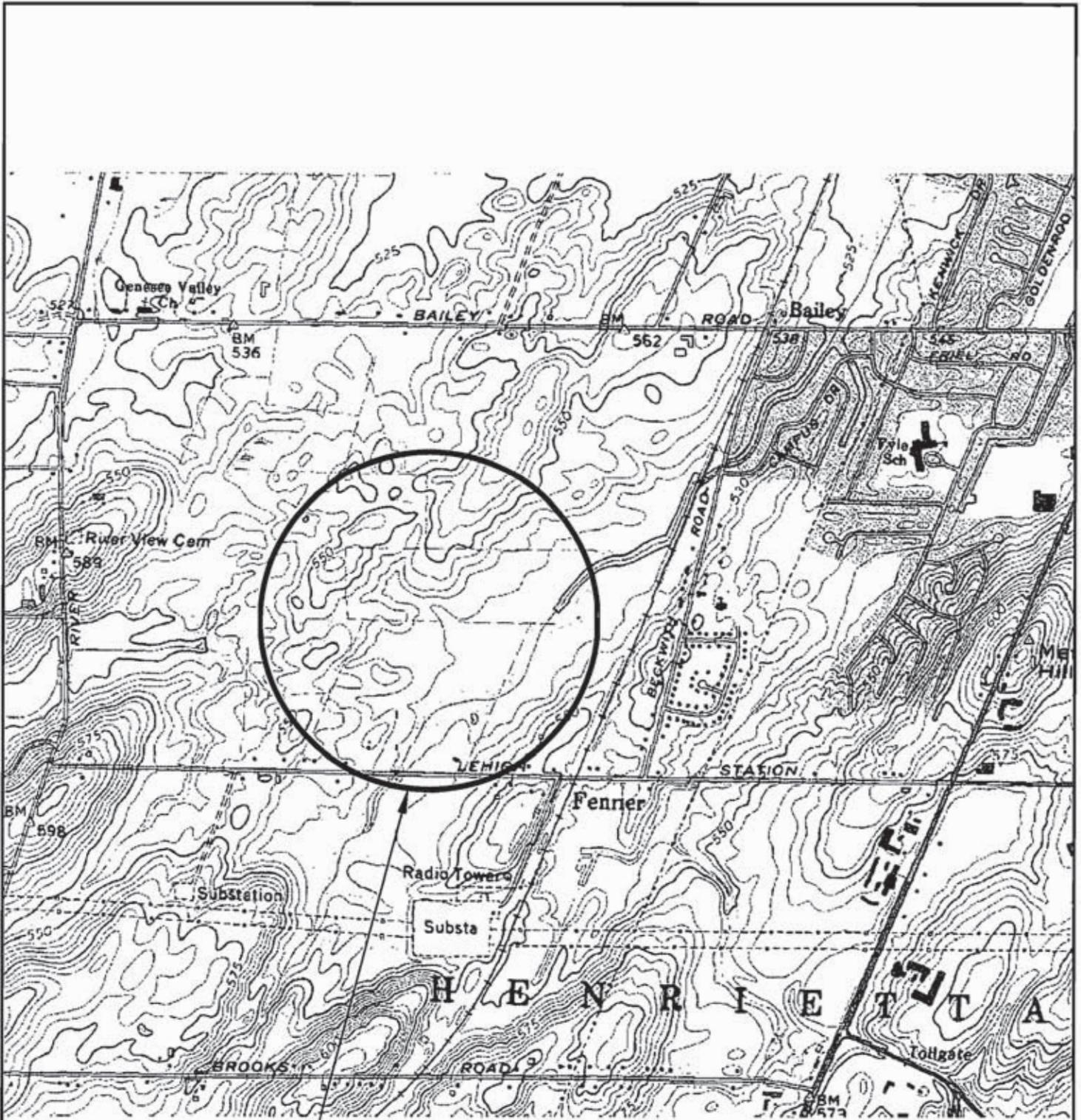


Wendel C. Armstrong, E.I.T.
Geotechnical Engineer



Thomas R. Seider, P.E.
Senior Geotechnical Engineer
and Project Reviewer

FIGURES



APPROXIMATE
SITE LOCATION

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

PROPOSED JOHN STREET EXTENSION - REVISED ALIGNMENT
P.L.N. 4754.15
TOWN OF HENRIETTA
MONROE COUNTY, NEW YORK

NOTES:

1. BASE PLAN OBTAINED FROM USGS.



SITE LOCATION PLAN

DR BY: WCA

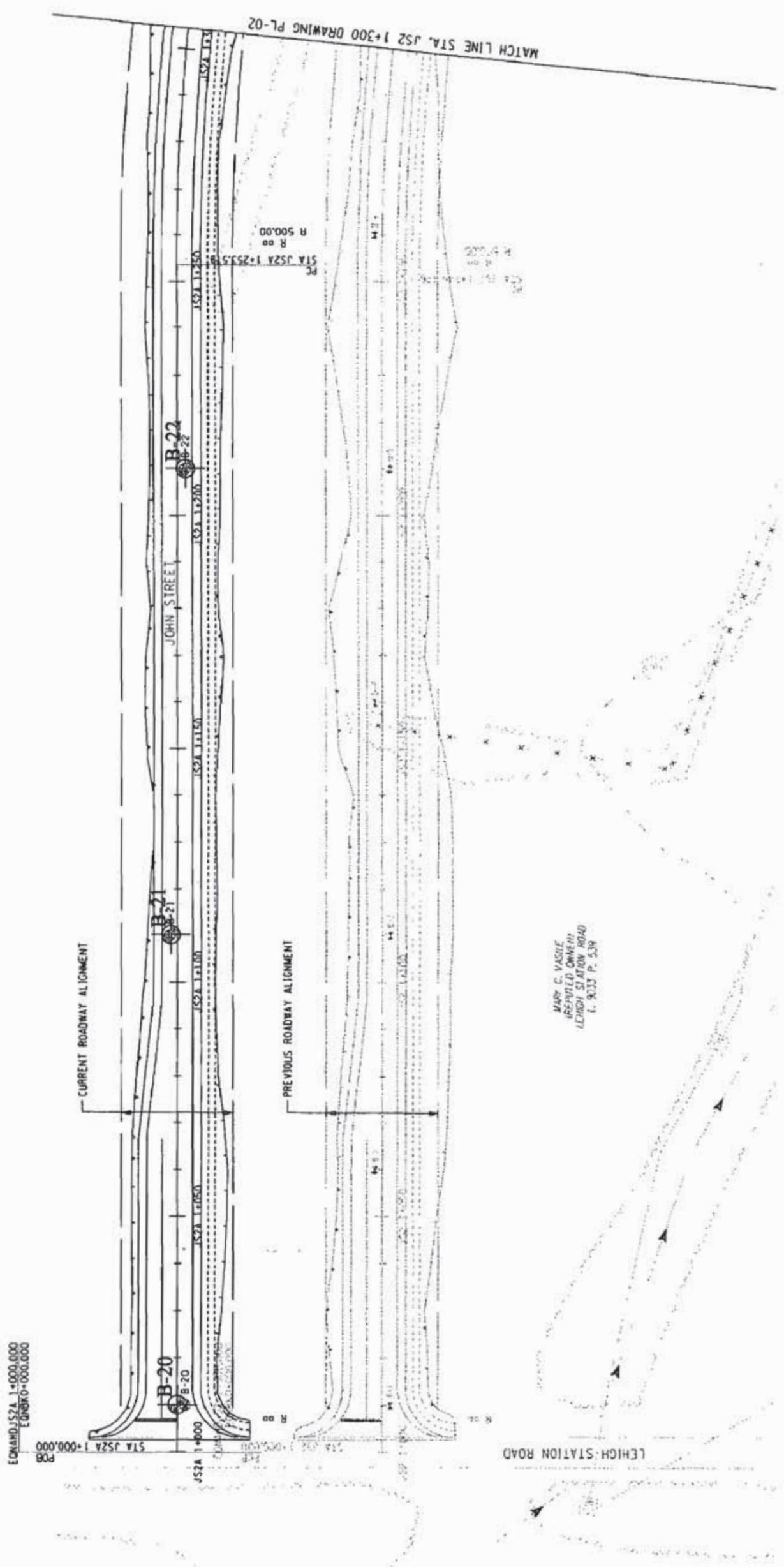
SCALE:
NONE

PROJ NO: RE-08-001

CHKD BY: TRS

DATE: FEBRUARY 2008

FIGURE NO: 1



EDWARD J. SZA 1+000,000
EDWARD J. SZA 1+000,000
EDWARD J. SZA 1+000,000

MATCH LINE STA. JS2 1+300 DRAWING PL-02

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



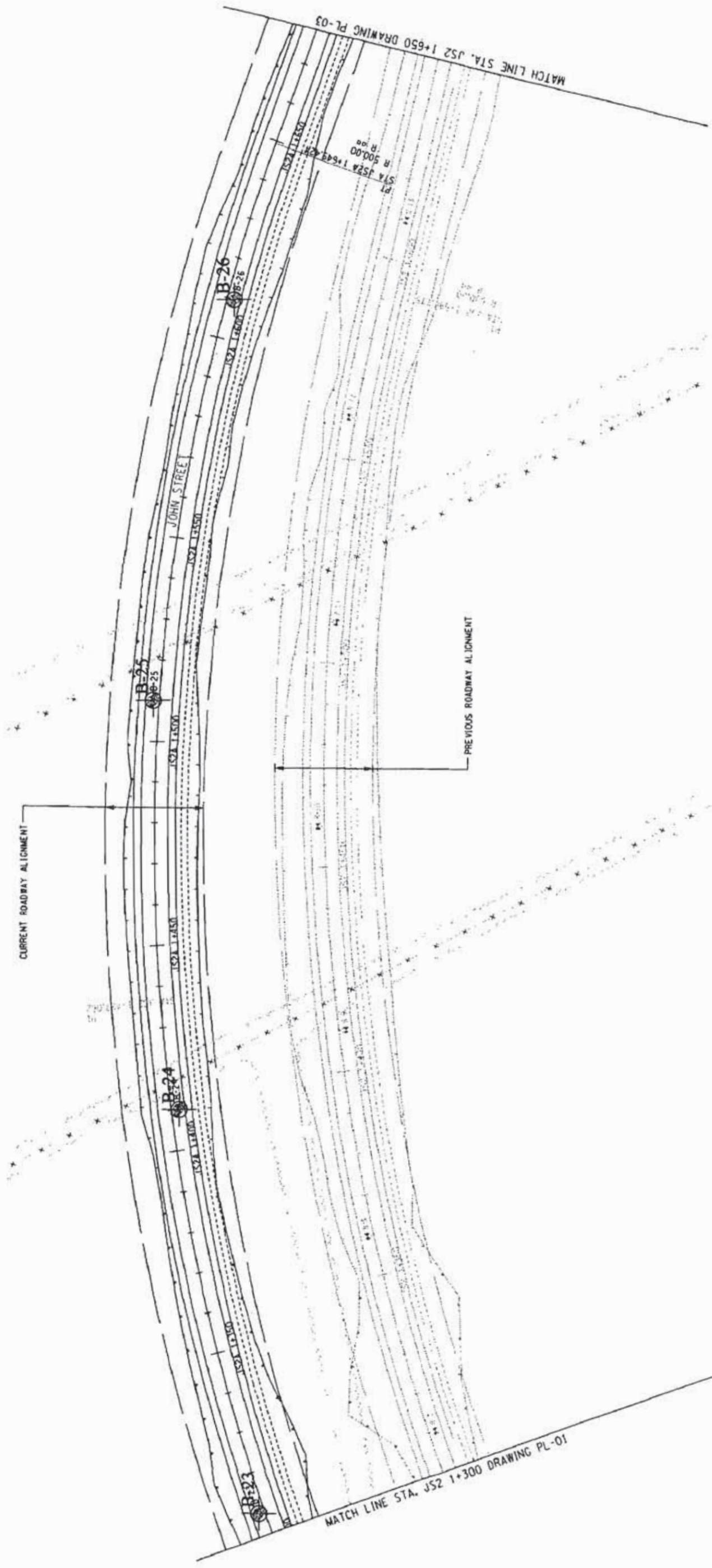
PROPOSED JOHN STREET EXTENSION - REVISED ALIGNMENT
P.I.N. 4754.15
TOWN OF HENRIETTA
MONROE COUNTY, NEW YORK

DR BY: WCA
CHKD BY: TRS

SCALE: NONE
DATE: FEBRUARY 2008
PROJ NO.: RE-08-001
FIGURE NO: 2

LEGEND:
B-1 [Symbol] APPROXIMATE LOCATION AND DESIGNATION OF TEST BORINGS DRILLED ON JANUARY 25, 2008 BY SJB.

NOTES:
1. BASEPLAN SHOWING EXISTING AND PROPOSED SITE FEATURES PROVIDED BY DEWBERRY-GOODKIND, INC. ENTITLED "HIGHWAY PLAN - ALTERNATIVES 2 & 2A", DRAWING NUMBERS PL-01, PL-02, AND PL-03.
2. THE BORING LOCATIONS WERE APPROXIMATELY DETERMINED IN THE FIELD BY SJB PERSONNEL WITH SURVEY TAPE MEASUREMENTS FROM PHYSICAL MAPPING FEATURES. THE LOCATION OF THE BORINGS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.



PROPOSED JOHN STREET EXTENSION - REVISED ALIGNMENT
 P.I.N. 4754.15
 TOWN OF HENRIETTA
 MONROE COUNTY, NEW YORK

DR BY: WCA
 CHKD BY: TRS

SCALE:
 NONE

PROJ NO.: RE-08-001
 DATE: FEBRUARY 2008
 FIGURE NO.: 3

EMPIRE
SERVICES INC
 A Subsidiary of SJB Services, Inc.

SUBSURFACE EXPLORATION PLAN



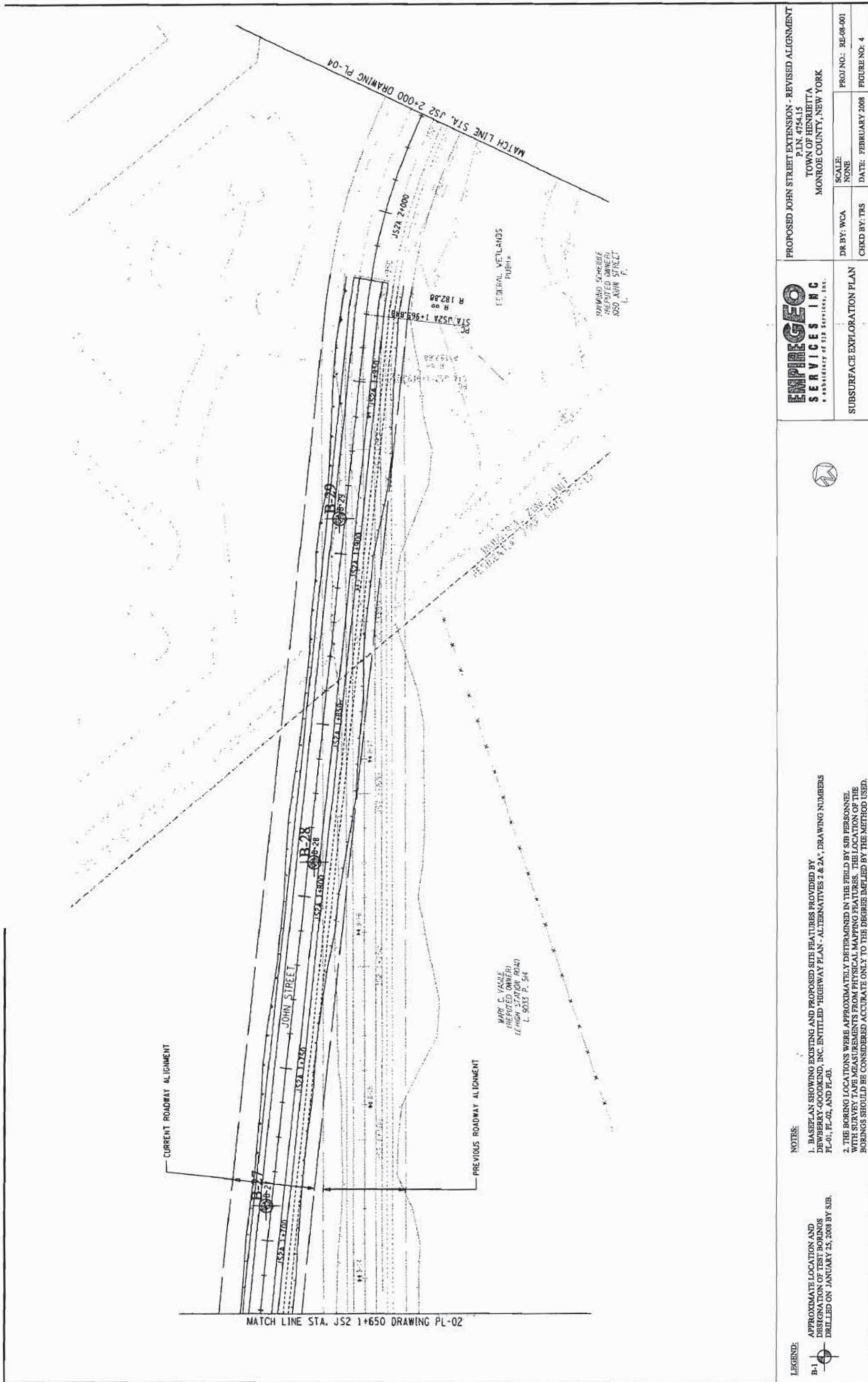
NOTES:

1. BASEPLAN SHOWING EXISTING AND PROPOSED SITE FEATURES PROVIDED BY DEWBERRY-GOODKIND, INC. ENTITLED "HIGHWAY PLAN - ALTERNATIVES 2 & 2A", DRAWING NUMBERS PL-01, PL-02, AND PL-03.
2. THE BORING LOCATIONS WERE APPROXIMATELY DETERMINED IN THE FIELD BY SJB PERSONNEL WITH SURVEY TAPE MEASUREMENTS FROM PHYSICAL MAPPING FEATURES. THE LOCATION OF THE BORINGS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

LEGEND:

B-1 APPROXIMATE LOCATION AND DESIGNATION OF TEST BORINGS DRILLED ON JANUARY 25, 2008 BY SJB.





PROPOSED JOHN STREET EXTENSION - REVISED ALIGNMENT
 P.L.N. 4754.15
 TOWN OF HENRIETTA
 MONROE COUNTY, NEW YORK

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

SUBSURFACE EXPLORATION PLAN

DR. BY: WCA
 SCALE: NONE
 CHKD BY: TBS
 DATE: FEBRUARY 2008
 PROJ NO.: RE-08-001
 FIGURE NO.: 4

NOTES:

1. BASEPLAN SHOWING EXISTING AND PROPOSED SITE FEATURES PROVIDED BY DEWBERRY-GOODKIND, INC. ENTITLED "HIGHWAY PLAN - ALTERNATIVES 2 & 2A", DRAWING NUMBERS PL-01, PL-02, AND PL-03.
2. THE BORING LOCATIONS WERE APPROXIMATELY DETERMINED IN THE FIELD BY SJB PERSONNEL WITH SURVEY TAPE MEASUREMENTS FROM PHYSICAL MAPPING FEATURES. THE LOCATION OF THE BORINGS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

LEGEND:

B-1 APPROXIMATE LOCATION AND DESIGNATION OF TEST BORINGS DRILLED ON JANUARY 25, 2008 BY SJB.

APPENDIX A
SUBSURFACE EXPLORATION LOGS

DATE _____
 STARTED _____
 FINISHED _____
 SHEET _____ OF _____



SJB SERVICES, INC. SUBSURFACE LOG

PROJ. No. _____
 HOLE No. _____
 SURF. ELEV. _____
 G.W. DEPTH _____

PROJECT _____ LOCATION _____

DEPTH (ft)	SAMPLES	SAMPLE No.	BLOWS ON SAMPLER					BLOWS ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
			0-6	6-12	12-18	18-24	N			
0								3" TOPSOIL	Groundwater at 10' upon completion, and 5' 24 hrs. after completion	
			1	3	3	4	8	7		Brown SILT, some Sand, trace clay, ML (Moist-Loose)
								15	Gray SHALE, medium hard, weathered, thin bedded, some fractures	
5								50/5		
									Run#1, 2.5'-5.0' 95% Recovery 50% RQD	

TABLE I

	Split Spoon Sample
	Shelby Tube Sample
	Geoprobe Macro-Core
	Auger or Test Pit Sample
	Rock Core

TABLE II

Identification of soil type is made on basis of an estimate of particle sizes, and in the case of fine grained soils also on basis of plasticity.

Soil Type	Soil Particle Size	
Boulder	>12"	Coarse Grained (Granular)
Cobble	3" - 12"	
Gravel - Coarse	3" - 3/4"	
- Fine	3/4" - #4	
Sand - Coarse	#4 - #10	Fine Grained
- Medium	#10 - #40	
- Fine	#40 - #200	
Silt - Non Plastic (Granular)	<#200	Fine Grained
Clay - Plastic (Cohesive)		

TABLE III

The following terms are used in classifying soils consisting of mixtures of two or more soil types. The estimate is based on weight of total sample.

Term	Percent of Total Sample
"and"	35 - 50
"some"	20 - 35
"little"	10 - 20
"trace"	less than 10

(When sampling gravelly soils with a standard split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter.)

TABLE IV

The relative compactness or consistency is described in accordance with the following terms:

Granular Soils		Cohesive Soils	
Term	Blows per Foot, N	Term	Blows per Foot, N
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Firm	10 - 30	Medium	4 - 8
Compact	30 - 50	Stiff	8 - 15
Very Compact	>50	Very Stiff	15 - 30
		Hard	>30

(Large particles in the soils will often significantly influence the blows per foot recorded during the penetration test)

TABLE V

Varved	Horizontal uniform layers or seams of soil(s).
Layer	Soil deposit more than 6" thick.
Seam	Soil deposit less than 6" thick.
Parting	Soil deposit less than 1/8" thick.
Laminated	Irregular, horizontal and angled seams and partings of soil(s).

TABLE VI

Rock Classification Term	Meaning	Rock Classification Term	Meaning
Hardness	- Soft	Bedding	- Laminated (<1")
	- Medium Hard		- Thin Bedded (1" - 4")
	- Hard		- Bedded (4" - 12")
	- Very Hard		- Thick Bedded (12" - 36")
Weathering	- Very Weathered	- Massive (>36")	Natural breaks in Rock Layers
	- Weathered		
	- Sound		

(Fracturing refers to natural breaks in the rock oriented at some angle to the rock layers)

DATE
 START 1/25/2008
 FINISH 1/25/2008
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



HOLE NO. B-20
 SURF. ELEV. _____
 G.W. DEPTH See Notes

PROJECT: PROPOSED JOHN ST. EXT. - REVISED ALIGNMENT LOCATION: APPROX. STA 1+010M
 PROJ. NO.: RE-08-001 ON CENTERLINE

DEPTH FT.	SAMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/6	6/12	12/18	N		
1	1	2	3			TOPSOIL Approximately 76 mm (3") Dark Brown to Red- Brown Clayey SILT and f-m Sand, tr. to little Gravel, tr. roots (moist, stiff, ML)	
		5	3		8		
2	2	3	4				
		5	6		9		
5						Boring Complete at 1.2 M (4.0')	No Free Standing Water Encountered at Boring Completion
10							
15							
20							
25							
30							
35							
40							

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: S. WOLKIEWICZ DRILL RIG TYPE: CME- 850
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
 START 1/25/2008
 FINISH 1/25/2008
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



HOLE NO. B-21
 SURF. ELEV. _____
 G.W. DEPTH See Notes

PROJECT: PROPOSED JOHN ST. EXT. - REVISED ALIGNMENT LOCATION: APPROX. STA 1+110M
 PROJ. NO.: RE-08-001 O/S 1M LEFT

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/6	6/12	12/18	N		
5	1	3	3			TOPSOIL Approximately 152 mm (6")	
		5	7		8	Red- Brown Silty CLAY, little fine Sand, tr. gravel (moist, stiff, CL)	
	2	4	6			Red- Brown Clayey SILT, little f-m Sand, tr. gravel (moist, stiff, ML)	
	3	10	29				
						Boring Complete at 1.5 M (5.0')	No Free Standing Water Encountered at Boring Completion
10							
15							
20							
25							
30							
35							
40							

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: S. WOLKIEWICZ DRILL RIG TYPE: CME- 850
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
 START 1/25/2008
 FINISH 1/25/2008
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



HOLE NO. B-26
 SURF. ELEV. _____
 G.W. DEPTH See Notes

PROJECT: PROPOSED JOHN ST. EXT - REVISED ALIGNMENT LOCATION: APPROX. STA 1+610M
 PROJ. NO.: RE-08-001 O/S 1M RIGHT

DEPTH FT.	SAMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/6	6/12	12/18	N		
1	1	6	6			TOPSOIL Approximately 152 mm (6")	
		4	5		10	Red- Brown Clayey SILT, tr. sand, tr. roots (moist, stiff, ML)	
2	2	6	5			Red- Brown Clayey SILT, some fine Sand, tr. to little	
		7	10		12	Gravel (moist- wet, stiff, ML)	
5						Boring Complete at 1.2 M (4.0')	No Free Standing Water Encountered at Boring Completion
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
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34							
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36							
37							
38							
39							
40							

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: S. WOLKIEWICZ DRILL RIG TYPE: CME- 850
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
 START 1/25/2008
 FINISH 1/25/2008
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



HOLE NO. B-27
 SURF. ELEV. _____
 G.W. DEPTH See Notes

PROJECT: PROPOSED JOHN ST. EXT. - REVISED ALIGNMENT LOCATION: APPROX. STA 1+710M
 PROJ. NO.: RE-08-001 O/S 1M LEFT

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/6	6/12	12/18	N		
1	1	5	3			TOPSOIL Approximately 102 mm (4") Red- Brown to Brown Clayey SILT, some f-m Sand, little to tr. Gravel, tr. roots (moist, medium, ML)	
		4	3		7		
2	2	4	7			no roots, little Sand, tr. gravel (moist, stiff, ML)	
		8	9		15		
5						Boring Complete at 1.2 M (4.0')	No Free Standing Water Encountered at Boring Completion
10							
15							
20							
25							
30							
35							
40							

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: S. WOLKIEWICZ DRILL RIG TYPE CME- 850
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
 START 1/25/2008
 FINISH 1/25/2008
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



HOLE NO. B-29
 SURF. ELEV. _____
 G.W. DEPTH See Notes

PROJECT: PROPOSED JOHN ST. EXT. - REVISED ALIGNMENT LOCATION: APPROX. STA 1+910M
 PROJ. NO.: RE-08-001 O/S 1M LEFT

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/6	6/12	12/18	N		
5	1	3	2			TOPSOIL Approximately 102 mm (4")	
		4	5		6	Red- Brown Clayey SILT, little Sand, tr. gravel, tr. roots (moist, medium, ML)	
	2	14	12			Red- Brown f-m SAND and clayey Silt, little Gravel (moist, firm, SM)	
		15	15		27		
						Boring Complete at 1.2 M (4.0')	No Free Standing Water Encountered at Boring Completion
10							
15							
20							
25							
30							
35							
40							

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: S. WOLKIEWICZ DRILL RIG TYPE: CME- 850
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

APPENDIX B
GEOTECHNICAL 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.

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Subsurface Exploration and Geotechnical Evaluation
for
Proposed John Street Extension, P.I.N. 4754.15
Town of Henrietta
Monroe County, New York

Prepared For:

Dewberry
183 East Main Street, Suite 700
Rochester, New York
14604-1617

Prepared By:

Empire Geo-Services, Inc.
5167 South Park Avenue
Hamburg, New York
14075



Project No. RE-07-004
August 2007

2.00 SUBSURFACE EXPLORATION PROGRAM

The subsurface exploration program consisted of 19 test borings, designated as B-1 through B-19, completed along the proposed alignment. The test borings were drilled by our affiliated drilling company, SJB Services, Inc. (SJB) between May 24th, and May 29th, 2007.

The test boring locations were initially selected by Dewberry and their locations plotted on the preliminary design drawings PL-01, PL-02, and PL-03. The approximate centerline of the proposed alignment was then established in the field by others, at irregular station intervals. SJB used the centerline stakeout to establish the test boring locations. Due to heavily wooded and brush covered areas within the project site, SJB revised the test boring locations to allow for drill rig access and to utilize the existing centerline stakeout. Ground surface elevations were not obtained at the test boring locations. Empire revised the preliminary design drawings, included as Attachment A, to show the approximate "as-drilled" test boring locations. In addition, the following table summarizes the approximate "as-drilled" test boring locations.

Approximate "As-Drilled" Test Boring Station and Offset					
Test Boring	Stationing (meters)	Offset (meters)	Test Boring	Stationing (meters)	Offset (meters)
B-1	1+036.3 m	center line	B-11	1+493.5	3 m right
B-2	1+066.8 m	3 m right	B-12	1+560 m +/-	3 m right
B-3	1+127.8 m	3 m left	B-13	1+615.4 m	3 m left
B-4	1+160 m +/-	center line	B-14	1+645.9 m	4.6 m right
B-5	1+219.2 m	1.5 m right	B-15	1+706.9 m	4.6 m left
B-6	1+249.7 m	3 m left	B-16	1+760 m +/-	3 m right
B-7	1+310.6 m	3 m right	B-17	1+798.3 m	3 m right
B-8	1+341.1 m	4.6 m left	B-18	1+859.3	3 m right
B-9	1+402.1 m	3 m right	B-19	1+910 m	center line
B-10	1+463.0 m	3 m left	----	----	----

The test borings were made with a Central Mine Equipment (CME) model 550x all-terrain vehicle mounted drill rig, using hollow stem auger and split spoon sampling techniques. Split spoon samples and Standard Penetration Tests (SPTs) were taken continuously from the ground surface throughout the full depth of the test borings. 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". Each test boring was advanced to a depth of 1.8 to 3.0 meters (6 to 10 feet).

A geologist 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 Attachment B, along with general information and a key of terms and symbols used to prepare the logs.

3.00 SUBSURFACE CONDITIONS

The general soil stratigraphy and groundwater conditions encountered at the test boring locations are described below. More detailed subsurface information can be found on the test boring logs included in Attachment B.

When measured, approximately 50 to 305 millimeters (2 to 12 inches) of topsoil was encountered at the surface of the test borings, except for test boring B-19 which was completed within the existing John Street cul-de-sac terminus. At test boring B-19, approximately 152 millimeters (6 inches) of asphalt pavement was encountered at the surface followed by about 152 millimeters (6 inches) of granular subbase.

The following generalized soil types, followed by their Unified Soil Classification System soil group name, were encountered at the test boring locations:

- sandy silts (ML);
- sandy clayey silts (ML);
- silty sands (SM);
- silty clayey sands (SC-SM); and
- silty clays (CL).

Generally, only trace to little amounts of gravel were observed within the various soil types. The nature of the soils varies between non-cohesive and cohesive soils both spatially and with depth, with a relatively higher amount of non-cohesive soils throughout the project site. Bedrock was not encountered within the depths explored at the test boring locations.

The Standard Penetration Test (SPT) "N" values obtained within the non-cohesive sandy silts, silty sands, and silty clayey sands ranged from 6 to greater than 50,

indicating a relative density of “loose” to “very compact”. Typically, the SPT “N” values were less than 20 indicating, in general, the non-cohesive soils have a “loose” to “firm” relative density. The more compact soils were encountered within test borings B-13 and B-14 beneath a depth of 1.8 meters (6 feet). The Standard Penetration Test (SPT) “N” values obtained within the cohesive silty clays and clayey silts ranged from 5 to 22, indicating these soils have a “medium” to “very stiff” consistency.

Water level measurements that were made in some of the test borings at the completion of drilling did not encounter free standing water. In addition, the collected soil samples are typically described as “moist” suggesting the lack of free water. A limited amount of soil samples were described as “moist to wet” including some samples from test borings B-4, B-9, B-12, B-15 and B-16. These “moist to wet” soil descriptions, in some cases, were only identified in one sample from a particular test boring and may be an indication of a perched or trapped groundwater condition. Perched groundwater conditions can be particularly prevalent following heavy or extended periods of precipitation and during seasonally wet periods.

Within test borings B-15 and B-16, all the samples collected beneath a depth of 0.6 meters (2 feet) are described as “moist to wet” and may be an indication of a permanent groundwater condition within this area. Installation of groundwater observation wells would be necessary to further define the groundwater conditions at the project site. It should be expected that both permanent and perched groundwater conditions could vary with location and with changes in soil conditions, precipitation and seasonal conditions.

4.00 EVALUATION, CONSIDERATIONS AND RECOMMENDATIONS

4.10 General

Based on the test boring data, the near surface soils are typically looser than the deeper soils. The drainage characteristics of the cohesive clayey silt and silty clay soils are considered to be very poor. The non-cohesive sandy silts, silty sands, and silty clayey sands are expected to have better drainage characteristics. However, due to the silt content of these soils, the drainage characteristics are considered to be poor to fair.

The site preparation for the pavement construction should, at a minimum, include the removal of all surface topsoil, vegetation, and organic soil. For areas that require fill, the exposed subgrades should be proof-rolled and evaluated prior to

placement of subgrade fill and/or the subbase course for the pavement structure construction. Areas that require additional cut after removal of the surface soils, should be proof-rolled and evaluated after achieving the design subgrade elevation. Depending on the results of the proof-rolling, and the actual conditions at the time of construction, additional stripping/undercutting may be necessary to prepare suitable, firm and stable subgrades for the pavement construction.

4.20 Road Pavement Structure

Based on the Equivalent Single Axle Load (ESAL) Calculation Worksheet completed by Dewberry, the John Street extension traffic intensity over a 30 year design life is expected to be about 2,500,000 18 kip ESAL. A pavement section was designed using a computer program developed by Empire based on the design analyses presented in the NYSDOT Thickness Design Manual for New and Reconstructed Pavement, published in October 1994. An effective roadbed Soil Resilient Modulus (Mr) of 2,500 psi was used in the analyses as being representative of the subgrade soil conditions.

Based on our analysis, the following asphalt concrete pavement section is recommended for the road structure.

- 38 mm (1.5 inches) – Top Course.
- 102 mm (4.0 inches) – Binder Course.
- 102 mm (4.0 inches) – Bituminous Base Course.
- 457 mm (18 inches) – Subbase Course*.
- Geotextile.
- Prepared Subgrade.

*It may be necessary to increase the subbase thickness in some areas to improve subgrade conditions and to promote drainage to underdrains, etc, as discussed below.

Based on our evaluation, the recommended pavement structure should provide approximately 2,700,000 18 kip ESALs over its design life. In areas where more than 305 mm (12 inches) of Suitable Granular Fill is installed to meet the design pavement subgrade elevation, the subbase course recommended above, can be reduced to 305 mm (12 inches).

4.30 Pavement Materials

Materials for the above pavement structure components should consist of the following:

- A. Asphalt Concrete Top Course - NYSDOT Standard Specifications, Item No. 403.198902 M - Hot Mix Asphalt, Type 7 Top Course.
- B. Asphalt Concrete Binder Course - NYSDOT Standard Specifications, Item No. 403.138902 M - Hot Mix Asphalt, Type 3 Binder Course.
- C. Asphalt Concrete Bituminous Base Course - NYSDOT Standard Specifications, Item No. 403.118902 M - Hot Mix Asphalt, Type 1 Base Course.
- D. Subbase Course – NYSDOT Standard Specifications, Item No. 304.12 M - Type 2 Subbase.
- E. Geotextile - Woven polypropylene stabilization/separation geotextile (i.e., Mirafi 500X or approved suitable equivalent).

4.40 Subbase Material

We recommend that the subbase material used for the pavement structure be a crusher run, quarried limestone or dolostone product, complying with NYSDOT Standard Specifications, Item No. 304.12 M - Type 2 Subbase.

Reclaimed Asphalt Pavement (RAP) obtained from milling of off-site pavement structures or Recycled Concrete Aggregate (RCA) obtained from suitable off-site sources will also be acceptable for subbase material provided the material complies with NYSDOT Standard Specifications, Section 304-2.02.

If RAP or RCA materials are used for the subbase layer, they should generally be placed in the lower 2/3 of the design subbase course. We would recommend the remaining portion of the subbase course be new subbase material as discussed above.

The subbase course thicknesses recommended for the above pavement section may not be adequate to act alone as a construction haul road for carrying frequent construction vehicle loads. Therefore, it may be desirable to increase the Subbase thickness if the road is to be used as temporary haul road prior to final paving. This will be particularly important if construction proceeds during wet periods. The additional subbase material could then be removed in preparation for final

pavement surface construction and re-used in other areas of the site as otherwise determined appropriate.

4.50 Suitable Granular Fill

Suitable Granular Fill material can be used as subgrade fill to raise site grades beneath the subbase course. Suitable Granular Fill material should consist of suitable soil material, classified as GW, GP, GM, SW, SP and SM group soils using the Unified Soil Classification System (ASTM D-2487) and should have no more than 85- percent by weight material passing the No. 4 sieve, no more than 20- percent by weight material passing the No. 200 sieve and should be generally free of particles greater than 102 mm (4 inches). Suitable Granular Fill should also be free of topsoil, asphalt, concrete rubble, wood, debris, clay and other deleterious materials.

Material meeting the requirements of New York State Department of Transportation, Standard Specifications, Item 203.07M – Select Granular Fill is acceptable for use as Suitable Granular Fill.

4.60 Placement and Compaction of Subbase and Suitable Granular Fill

Subbase material 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 subbase material should not exceed a maximum lift thickness of 305 mm (12 inches). It may be necessary to reduce the lift thickness depending on the type of compaction equipment used so that the required density is attained. The subbase material should have a moisture content within two percent of the optimum moisture content prior to compaction.

Suitable Granular Fill should also be placed and compacted in accordance with the requirements as stated above for the Subbase Material.

4.70 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. This is particularly important as the subgrade soils have very poor to fair drainage characteristics.

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 site storm water drainage system.

Alternatively, the pavement subbase course can also be allowed to daylight/drain to an adjacent perimeter drainage swale. This could be accomplished by raising the pavement grade. 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 underdrains or drainage swale.

4.80 Pavement Construction Considerations

The site preparation work should be performed during dry periods to minimize potential degradation of the subgrade soils and undercuts which may be required to establish and maintain a stable subgrade for construction. Construction during the early spring, late fall or winter months is not recommended. It should be understood that the existing subgrade soils can be sensitive and be expected to degrade and lose strength when they are wet and disturbed by construction equipment traffic.

Accordingly, efforts should be made to maintain the subgrades in a dry and stable condition at all times, and minimize construction traffic directly over these soils. These efforts should include proper grading to divert surface runoff away from the construction areas, sloping of the subgrade and “sealing” of the surface, at the end of each day or when rain is anticipated, with a smooth drum roller to promote runoff, and restricting construction equipment traffic from traveling directly over the subgrade surfaces, especially when they are wet.

The contractor should take precautions to limit construction traffic over the subgrades. Any subgrades, including existing soil subgrades or fill subgrades, which become damaged, rutted or unstable should be undercut and repaired as necessary prior to placement of the subbase courses.

Following stripping of the topsoil and excavation to proposed subgrades, the exposed soil subgrades should be proof-rolled to determine if any soft or unstable conditions exist in the subgrade. The proof-rolling should be performed just prior to overlying fill placement using either a smooth steel drum roller weighing at least 10 tons or a loaded dump truck or as otherwise determined acceptable by Empire.

The subgrade compaction and proof-rolling should be done under the guidance of, and observed by, a representative of Empire. Any areas, which appear wet, loose, soft, unstable or otherwise unsuitable, should be undercut. Over excavation, which may be required as the result of the proof-rolling, should be performed based on evaluation of the conditions by Empire.

Any required undercuts/over-excavations should generally be backfilled with additional subbase material. The placement of an initial lift of oversized stone fill material (i.e. "surge stone", "shot rock", No.4 & No.5 Stone, etc.), encased in stabilization geotextile (i.e. Mirafi 500X or suitable equivalent) top and bottom, can also be used to help stabilize subgrades prior to the subgrade fill or subbase placement, if any of the existing subgrades are found to be in a soft/wet condition.

Installation of adjacent geotextile panels should have minimum overlap of 305 to 457 mm (12 to 18 inches). Construction of the Asphalt Concrete Pavement should be performed in accordance with NYSDOT Standard Specification Section 400.

5.00 CONCLUDING REMARKS

This report was prepared to assist with planning, design and construction of a proposed John Street Extension, in the Town of Henrietta, Monroe County, New York. The report has been prepared for the exclusive use of Dewberry and other members of the design team, for specific application to this site and this project only.

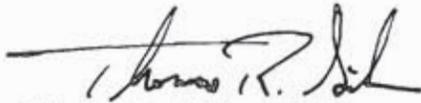
The recommendations were prepared based on Empire Geo-Services, Inc.'s understanding of the proposed project, as described herein, and through the application of generally accepted soils and foundation engineering practices. No warranties, expressed or inferred, are made by the conclusions, opinions,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

Empire Geo-Services, Inc. should be informed of any changes to the planned construction so that it may be determined if any changes to the recommendations presented in this report are necessary. Empire Geo-Services, Inc. should also be retained to review final plans and 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 Attachment C.

Respectfully Submitted:

EMPIRE GEO-SERVICES, INC.



Thomas R. Seider, P.E.
Senior Geotechnical Engineer

ATTACHMENT A

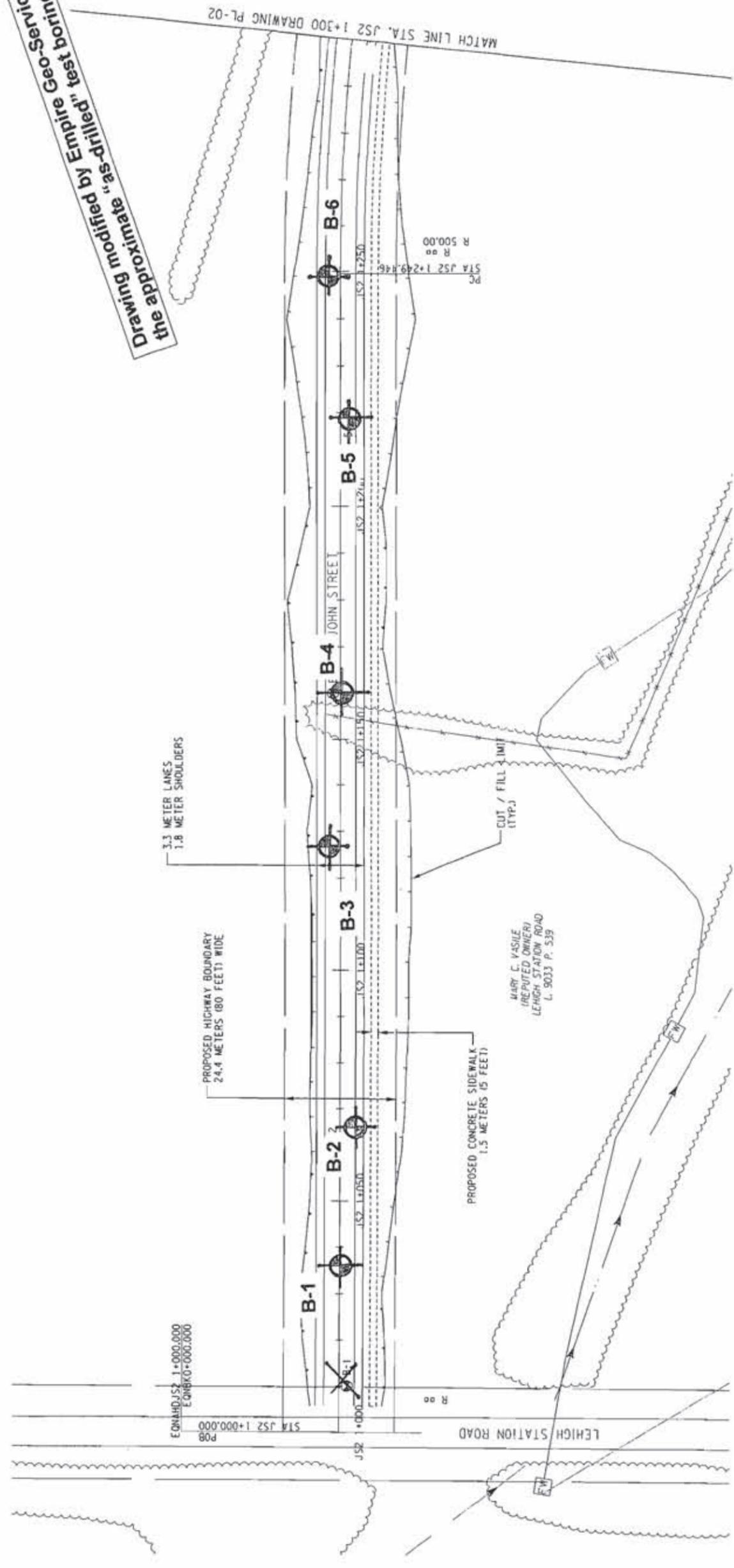
**PRELIMINARY DESIGN DRAWINGS PL-01, PL-02, PL-03
PROVIDED BY DEWBERRY**

(MODIFIED BY EMPIRE GEO-SERVICES)

FED. ROAD REG. NO.	STATE	CONTRACT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.			
JOHN STREET EXTENSION				
TOWN OF HENRIETTA				
MONROE COUNTY				
P.I.N. 4754.15				



Drawing modified by Empire Geo-Services to show the approximate "as-drilled" test boring locations.



ALTERNATIVE 2

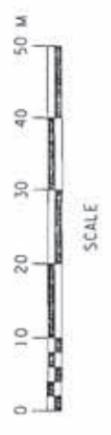
ALL DIMENSIONS ARE IN M UNLESS OTHERWISE NOTED
AS BUILT REVISIONS

SIGNATURE _____ DATE _____

HIGHWAY PLAN

DEWBERRY-GOODKIND, INC.
 CONSULTING ENGINEERS AND PLANNERS
 ROCHESTER, NEW YORK

DOCUMENT NAME	REGION	DATE	DRAWING NO.
47541502-PL01.dgn	4	01/2007	PL-01



DESIGN SUPERVISOR _____ JOB MANAGER _____ DBA _____ DESIGNED BY _____ DBA/SW/CS _____ CHECKED BY _____ RMC/DBA/SW/CS _____ ESTIMATED BY _____ DBA/SW/CS _____ DRAWN BY _____ SM/CS/RS _____ CHECKED BY _____ COX

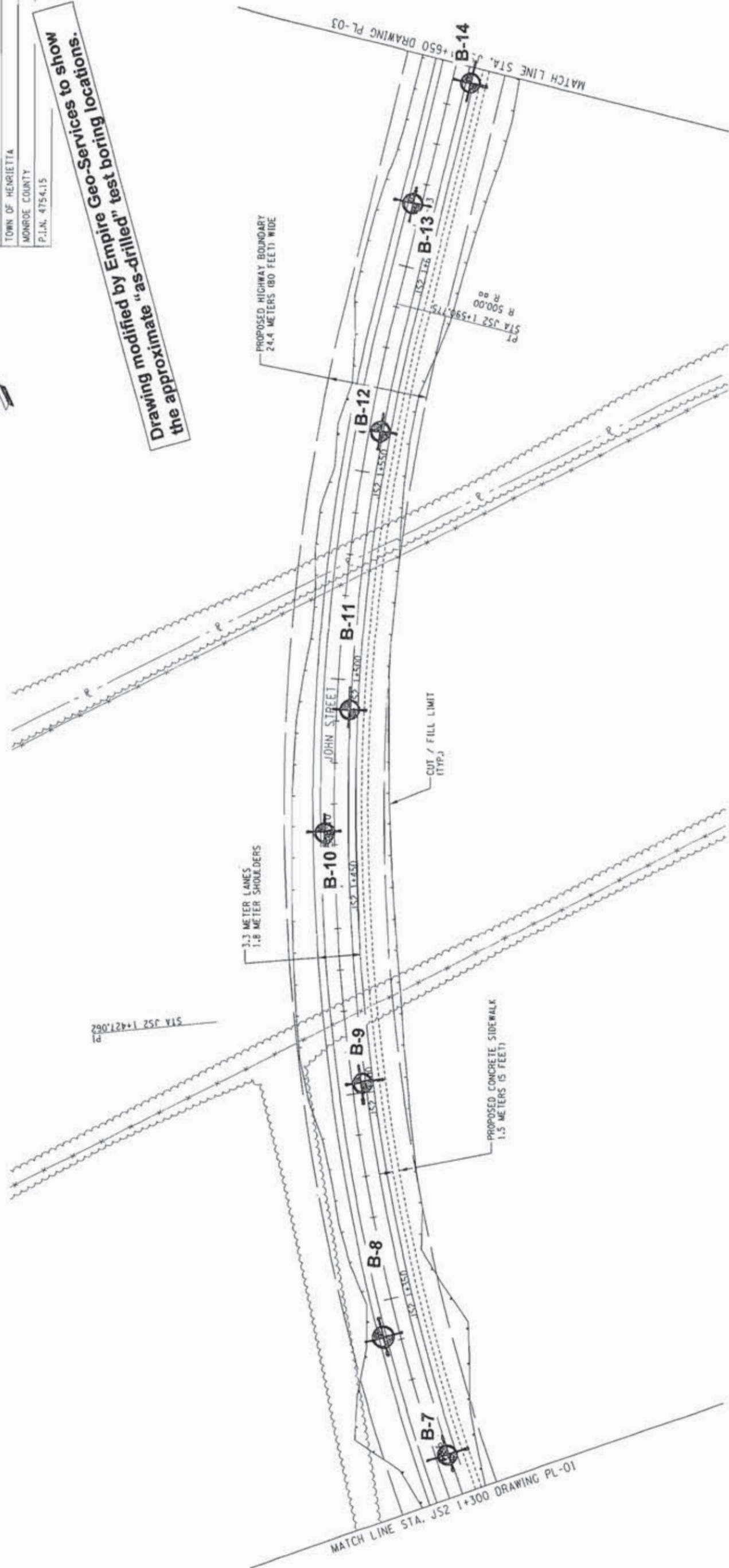
COPY

DATE/TIME = 4/12/2007 9:09:38 AM
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FED. ROAD REG. NO.	STATE	CONTRACT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.			
JOHN STREET EXTENSION				
TOWN OF HENRIETTA				
MONROE COUNTY				
P.L.N. 4754.15				



Drawing modified by Empire Geo-Services to show the approximate "as-drilled" test boring locations.

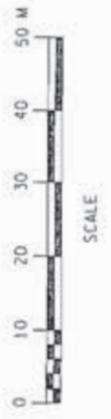


ALTERNATIVE 2

ALL DIMENSIONS ARE IN M UNLESS OTHERWISE NOTED
AS BUILT REVISIONS

SIGNATURE _____ DATE _____

HIGHWAY PLAN

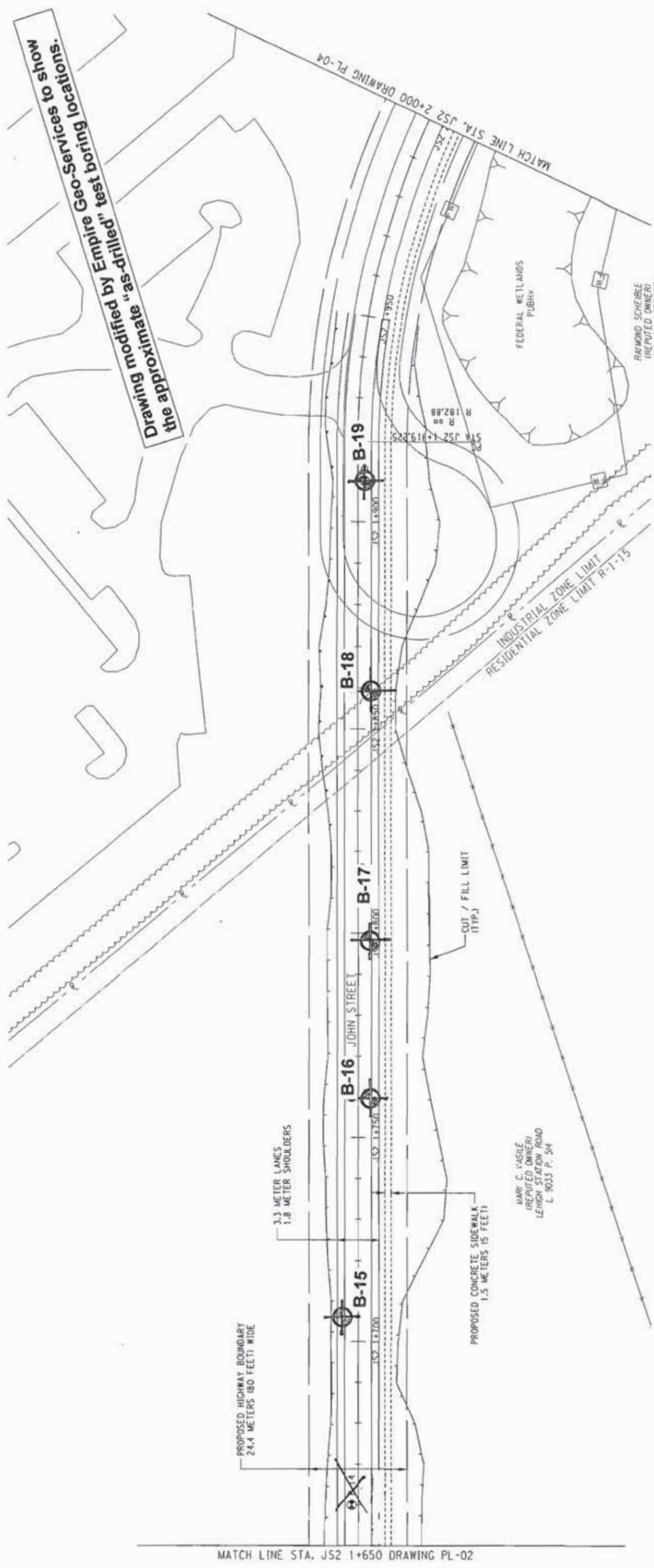
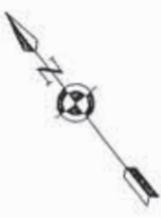


DEWBERRY-GOODKIND, INC.
CONSULTING ENGINEERS AND PLANNERS
ROCHESTER, NEW YORK

DOCUMENT NAME: 475415a2-PL02.dgn | REGION: 4 | DATE: 01/2007 | DRAWING NO.: PL-02

ESIGN SUPERVISOR RMC JOB MANAGER DBA DESIGNED BY DBA/SM/CS CHECKED BY RMC/DBA/SM/CS ESTIMATED BY DBA/SM/CS DRAFTED BY SM/CS/RS CHECKED BY CDX

FED. ROAD REG. NO.	STATE	CONTRACT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.			
JOHN STREET EXTENSION				
TOWN OF HENRIETTA				
MONROE COUNTY				
P.I.N. 4754.15				



MATCH LINE STA. JS2 1+650 DRAWING PL-02

MATCH LINE STA. JS2 2+000 DRAWING PL-04

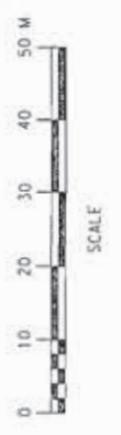
ALTERNATIVE 2

ALL DIMENSIONS ARE IN m UNLESS OTHERWISE NOTED
AS BUILT REVISIONS

SIGNATURE _____

DATE _____

HIGHWAY PLAN



DEWBERRY-GOODKIND, INC.
CONSULTING ENGINEERS AND PLANNERS
ROCHESTER, NEW YORK

DOCUMENT NAME: 47541502-PL-03.dgn REGION: 4 DATE: 01/2007 DRAWING NO.: PL-03

DESIGN SUPERVISOR _____ RMC JOB MANAGER _____ DBA DESIGNED BY _____ DBA/SW/CS CHECKED BY _____ RMC/DBA/SW/CS ESTIMATED BY _____ DBA/SW/CS DRAFTED BY _____ SW/CS/RS CHECKED BY _____ COX

ATTACHMENT B
SUBSURFACE EXPLORATION LOGS

DATE _____
 STARTED _____
 FINISHED _____
 SHEET _____ OF _____



SJB SERVICES, INC. SUBSURFACE LOG

PROJ. No. _____
 HOLE No. _____
 SURF. ELEV. _____
 G.W. DEPTH _____

PROJECT _____ LOCATION _____

DEPTH (ft)	SAMPLES	SAMPLE No.	BLOWS ON SAMPLER						BLOWS ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
			0-6	6-12	12-18	18-24	24-N	N			
0									3" TOPSOIL	Groundwater at 10' upon completion, and 5' 24 hrs. after completion	
								10	Brown SILT, some Sand, trace clay, ML (Moist-Loose)		
								15		Run#1, 2.5'-5.0' 95% Recovery 50% RQD	
5								50/ .5	Gray SHALE, medium hard, weathered, thin bedded, some fractures		
	①	②	③	④	⑤	⑥	⑦			⑧	

⑦ (numbered features explained on reverse)

TABLE I

	Split Spoon Sample
	Shelby Tube Sample
	Geoprobe Macro-Core
	Auger or Test Pit Sample
	Rock Core

TABLE II

Identification of soil type is made on basis of an estimate of particle sizes, and in the case of fine grained soils also on basis of plasticity.

Soil Type	Soil Particle Size	
Boulder	>12"	
Cobble	3" - 12"	
Gravel - Coarse	3" - 3/4"	Coarse Grained (Granular)
- Fine	3/4" - #4	
Sand - Coarse	#4 - #10	Fine Grained
- Medium	#10 - #40	
- Fine	#40 - #200	
Silt - Non Plastic (Granular)	<#200	
Clay - Plastic (Cohesive)		

TABLE III

The following terms are used in classifying soils consisting of mixtures of two or more soil types. The estimate is based on weight of total sample.

Term	Percent of Total Sample
"and"	35 - 50
"some"	20 - 35
"little"	10 - 20
"trace"	less than 10

(When sampling gravelly soils with a standard split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter.)

TABLE IV

The relative compactness or consistency is described in accordance with the following terms:

Granular Soils		Cohesive Soils	
Term	Blows per Foot, N	Term	Blows per Foot, N
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Firm	10 - 30	Medium	4 - 8
Compact	30 - 50	Stiff	8 - 15
Very Compact	>50	Very Stiff	15 - 30
		Hard	>30

(Large particles in the soils will often significantly influence the blows per foot recorded during the penetration test)

TABLE V

Varved	Horizontal uniform layers or seams of soil(s).
Layer	Soil deposit more than 6" thick.
Seam	Soil deposit less than 6" thick.
Parting	Soil deposit less than 1/8" thick.
Laminated	Irregular, horizontal and angled seams and partings of soil(s).

TABLE VI

Rock Classification Term	Meaning	Rock Classification Term	Meaning
Hardness	- Soft	Bedding	- Laminated (<1")
	- Medium Hard		- Thin Bedded (1" - 4")
	- Hard		- Bedded (4" - 12")
	- Very Hard		- Thick Bedded (12" - 36")
	- Massive (>36")		
Weathering	- Very Weathered	(Fracturing refers to natural breaks in the rock oriented at some angle to the rock layers)	
	- Weathered		
	- Sound		

GENERAL INFORMATION & KEY TO SUBSURFACE LOGS

The Subsurface Logs attached to this report present the observations and mechanical data collected by the driller at the site, supplemented by classification of the material removed from the borings as determined through visual identification by technicians in the laboratory. It is cautioned that the materials removed from the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface conditions between adjacent borings or between the sampled intervals. The data presented on the Subsurface Logs together with the recovered samples provide a basis for evaluating the character of the subsurface conditions relative to the project. The evaluation must consider all the recorded details and their significance relative to each other. Often analyses of standard boring data indicate the need for additional testing or sampling procedures to more accurately evaluate the subsurface conditions. Any evaluation of the contents of this report and recovered samples must be performed by qualified professionals. The following information defines some of the procedures and terms used on the Subsurface Logs to describe the conditions encountered, consistent with the numbered identifiers shown on the Key opposite this page.

1. The figures in the Depth column define the scale of the Subsurface Log.
2. The Samples column shows, graphically, the depth range from which a sample was recovered. See Table I for descriptions of the symbols used to represent the various types of samples.
3. The Sample No. is used for identification on sample containers and/or Laboratory Test Reports.
4. Blows-on Sampler - shows the results of the "Penetration Test", recording the number of blows required to drive a split spoon sampler into the soil. The number of blows required for each six inches is recorded. The first 6 inches of penetration is considered a seating drive. The number of blows required for the second and third 6 inches of penetration is termed the penetration resistance, *N*.
5. Blows on Casing - Shows the number of blows required to advance the casing a distance of 12 inches. The casing size, hammer weight, and length of drop are noted at the bottom of the Subsurface Log. If the casing is advanced by means other than driving, the method of advancement will be indicated in the Notes column or under the Method of Investigation at the bottom of the Subsurface Log. Alternatively, sample recovery may be shown in this column, or other data consistent with the column heading.
6. All recovered soil samples are reviewed in the laboratory by an engineering technician, geologist or geotechnical engineer, unless noted otherwise. Visual descriptions are made on the basis of a combination of the driller's field descriptions and noted observations together with the sample as received in the laboratory. The method of visual classification is based primarily on the Unified Soil Classification System (ASTM D 2487) with regard to the particle size and plasticity (See Table No. II), and the Unified Soil Classification System group symbols for the soil types are sometimes included with the soil classification. Additionally, the relative portion, by weight, of two or more soil types is described for granular soils in accordance with "Suggested Methods of Test for Identification of Soils" by D.M. Burmister, ASTM Special Technical Publication 479, June 1970. (See Table No. III). Description of the relative soil density or consistency is based upon the penetration records as defined in Table No. IV. The description of the soil moisture is based upon the relative wetness of the soil as recovered and is described as dry, moist, wet and saturated. Water introduced into the boring either naturally or during drilling may have affected the moisture condition of the recovered sample. Special terms are used as required to describe soil deposition in greater detail; several such terms are listed in Table V. When sampling gravelly soils with a standard two inch diameter split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter. The presence of boulders and large gravel is sometimes, but not necessarily, detected by an evaluation of the casing and sampler blows or through the "action" of the drill rig as reported by the driller.
7. Rock description is based on review of the recovered rock core and the driller's notes. Frequently used rock classification terms are included in Table VI.
8. The stratification lines represent the approximate boundary between soil types and the transition may be gradual. Solid stratification lines delineate apparent changes in soil type, based upon review of recovered soil samples and the driller's notes. Dashed lines convey a lesser degree of certainty with respect to either a change in soil type or where such change may occur.
9. Miscellaneous observations and procedures noted by the driller are shown in this column, including water level observations. It is important to realize the reliability of the water level observations depends upon the soil type (water does not readily stabilize in a hole through fine grained soils), and that any drill water used to advance the boring may have influenced the observations. The ground water level will fluctuate seasonally, typically. One or more perched or trapped water levels may exist in the ground seasonally. All the available readings should be evaluated. If definite conclusions cannot be made, it is often prudent to examine the conditions more thoroughly through test pit excavations or groundwater observation wells.
10. The length of core run is defined as the length of penetration of the core barrel. Core recovery is the length of core recovered divided by the core run. The RQD (Rock Quality Designation) is the total length of pieces of NX core exceeding 4 inches divided by the core run. The size core barrel used is also noted in the Method of Investigation at the bottom of the Subsurface Log.

DATE
 START 5/29/2007
 FINISH 5/29/2007
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



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

PROJECT: PROPOSED JOHN STREET EXTENSION LOCATION: APPROX. STA. 1+066.8M
 PROJ. NO.: RE-07-004 O/S 3M RIGHT

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/6	6/12	12/18	N		
5	1	1	1			TOPSOIL Approximately 50mm (2")	
		3	4		4	Black Clayey SILT, tr.- little f-c Sand (moist, medium, ML)	
5	2	4	6			Brown f-c SAND, some- and Silt, tr. gravel (moist, firm, SM)	
		9	9		15		
		11	6		26		
	4	15	11				
10						Boring Complete at 2.1M (7.0')	No Free Standing Water Reading Obtained at Boring Completion
15							
20							
25							
30							
35							
40							

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. FULLER DRILL RIG TYPE: CME- 550X
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
 START 5/29/2007
 FINISH 5/29/2007
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



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

PROJECT: PROPOSED JOHN STREET EXTENSION LOCATION: APPROX. STA. 1+160M
 PROJ. NO.: RE-07-004 ON CENTERLINE

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/6	6/12	12/18	N		
5	1	2	4			TOPSOIL, Approximately 102mm (4")	
		3	6		7	Brown SILT, little fine Sand, tr. gravel (moist, loose, ML)	
	2	6	4			Brown Silty CLAY, little f-c Sand (moist- wet, medium, CL)	
		4	4		8	(stiff)	
5	3	6	6				
		6	4		12		
10							
15							
20							
25							
30							
35							
40							

Boring Complete at 1.8M (6.0')

No Free Standing Water
 Reading Obtained at
 Boring Completion

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. FULLER DRILL RIG TYPE: CME- 550X
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
 START 5/25/2007
 FINISH 5/25/2007
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



HOLE NO. B-7
 SURF. ELEV. _____
 G.W. DEPTH See Notes

PROJECT: PROPOSED JOHN STREET EXTENSION LOCATION: APPROX. STA. 1+310.6M
 PROJ. NO.: RE-07-004 O/S 3M RIGHT

DEPTH FT.	SAMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/6	6/12	12/18	N		
5	1	2	2			TOPSOIL, Approximately 203mm (8")	
		3	3		5	Red- Brown Silty CLAY, some f-c Sand (moist, medium, CL)	
	2	3	8			Red- Brown SILT, some f-c Sand (moist, firm, ML)	
5	3	6	12			Becomes Brown	
		17	9		29		
10						Boring Complete at 1.8M (6.0')	No Free Standing Water Reading Obtained at Boring Completion
15							
20							
25							
30							
35							
40							

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. FULLER DRILL RIG TYPE CME- 550X
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
 START 5/25/2007
 FINISH 5/25/2007
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



HOLE NO. B-9
 SURF. ELEV. _____
 G.W. DEPTH See Notes

PROJECT: PROPOSED JOHN STREET EXTENSION LOCATION: APPROX. STA. 1+402.1M
 PROJ. NO.: RE-07-004 O/S 3M RIGHT

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/6	6/12	12/18	N		
5	1	2	4			TOPSOIL, Approximately 152mm (6")	
		6	10		10	Brown f-c SAND, some Silt, little f-c Gravel (moist, loose, SM)	
5	2	9	13			(firm)	
		8	9		22	Red- Brown Clayey SILT, little- some f-c Sand, tr. gravel (moist- wet, stiff, ML)	
5	3	5	8			Brown f-c SAND and Silt, little f-c Gravel	
		6	6		14	(moist, loose, SM)	
5	4	6	3				
		3	3		6		
5	5	4	4				
10						Boring Complete at 2.7M (9.0')	No Free Standing Water Encountered at Boring Completion
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

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. FULLER DRILL RIG TYPE: CME- 550X
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
 START 5/24/2007
 FINISH 5/24/2007
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



HOLE NO. B-13
 SURF. ELEV. _____
 G.W. DEPTH See Notes

PROJECT: PROPOSED JOHN STREET EXTENSION LOCATION: APPROX. STA. 1+615.4M
 PROJ. NO.: RE-07-004 O/S 3M LEFT

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/5	5/12	12/18	N		
1	1	2	4			Red- Brown SILT, some f-m Sand (moist, loose, ML)	
		4	5		8		
2	2	3	6			Brown f-c SAND, some- and Clayey Silt, tr. gravel (moist, firm, SC- SM)	
		5	5		11		
3	3	16	5			Olive- Brown Clayey SILT, some f-c Sand (moist, stiff, ML)	
		4	5		9		
4	4	20	23			Olive- Brown SILT, little f-c Sand (moist, v. compact, ML)	
		30	33		53		
5	5	18	21				
		35	33		56		
						Boring Complete at 3.0M (10.0')	No Free Standing Water Encountered at Boring Completion
15							
20							
25							
30							
35							
40							

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. FULLER DRILL RIG TYPE: CME- 550X
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
 START 5/24/2007
 FINISH 5/24/2007
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



HOLE NO. B-14
 SURF. ELEV. _____
 G.W. DEPTH See Notes

PROJECT: PROPOSED JOHN STREET EXTENSION LOCATION: APPROX. STA. 1+645.9M
 PROJ. NO.: RE-07-004 O/S 4.6M RIGHT

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/5	6/12	12/18	N		
1	1	3	6			Red- Brown f-m SAND, some- and Silt, tr. gravel (moist, loose, SM)	
		4	3		10		
2	2	15	7			Contains tr. clay, tr. boulder fragments (firm) Red- Brown f-m SAND, some- and Clayey Silt, tr. gravel (moist, firm, SC- SM)	
		8	8		15		
5	3	7	5			Brown f-m SAND, some Silt, tr. gravel (moist, v. compact, SM)	
		10	12		15		
	4	26	29			Boring Complete at 2.4M (8.0')	No Free Standing Water Encountered at Boring Completion
		30	23		59		
10							
15							
20							
25							
30							
35							
40							

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. FULLER DRILL RIG TYPE: CME- 550X
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
 START 5/24/2007
 FINISH 5/24/2007
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



HOLE NO. B-15
 SURF. ELEV. _____
 G.W. DEPTH See Notes

PROJECT: PROPOSED JOHN STREET EXTENSION LOCATION: APPROX. STA. 1+706.9M
 PROJ. NO.: RE-07-004 O/S 4.6M LEFT

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/5	5/12	12/18	N		
5	1	2	5			Red- Brown f-m SAND, some- and Silt (moist, loose, SM)	
		5	5		10		
	2	5	6			Red- Brown f-m SAND and Clayey Silt, tr. gravel (moist- wet, firm, SC- SM)	
		8	6		14		
	3	5	5			Contains tr. gravel	
		6	8		11		
	4	18	14				
10						Boring Complete at 2.1M (7.0')	No Free Standing Water Encountered at Boring Completion
15							
20							
25							
30							
35							
40							

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. FULLER DRILL RIG TYPE: CME- 550X
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
 START 5/24/2007
 FINISH 5/24/2007
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



HOLE NO. B-18
 SURF. ELEV. _____
 G.W. DEPTH See Notes

PROJECT: PROPOSED JOHN STREET EXTENSION LOCATION: APPROX. STA. 1+859.3M
 PROJ. NO.: RE-07-004 O/S 3M RIGHT

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER				SOIL OR ROCK CLASSIFICATION	NOTES
		0/6	6/12	12/18	N		
5	1	2	6			Red- Brown SILT, little f-c Sand, tr. gravel (moist, loose, ML)	
		3	4		9		
	2	4	6			Red- Brown Clayey SILT, tr.- little f-c Sand (moist, v. stiff, ML)	
5		10	16		16	Red- Brown Fine SAND and Silt (moist, compact, SM)	
	3	18	20				
		23	31		43		
						Boring Complete at 1.8M (6.0')	No Free Standing Water Reading Obtained at Boring Completion
10							
15							
20							
25							
30							
35							
40							

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. FULLER DRILL RIG TYPE CME- 550X
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
 START 5/25/2007
 FINISH 5/25/2007
 SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG



HOLE NO. B-19
 SURF. ELEV. _____
 G.W. DEPTH See Notes

PROJECT: PROPOSED JOHN STREET EXTENSION LOCATION: APPROX. STA. 1+910M
 PROJ. NO.: RE-07-004 ON CENTERLINE

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER					SOIL OR ROCK CLASSIFICATION	NOTES
		0/6	6/12	12/18	N			
		A	U	G	E	R		
	1	12	9				ASPHALTIC CONCRETE, Approximately 152mm (6") SUBBASE, Approximately 152mm (6")	
		7	9		16		Red- Brown f-m SAND, some Silt, little f-c Gravel (moist, firm, SM)	
5	2	5	7				Red- Brown Silty CLAY, tr. sand (moist, stiff, CL)	
		7	8		14			
	3	13	8				(v. stiff)	
		11	6		19			
10							Boring Complete at 2.1M (7.0')	No Free Standing Water Reading Obtained at Boring Completion
15								
20								
25								
30								
35								
40								

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. FULLER DRILL RIG TYPE: CME- 550X
 METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

APPENDIX C

**INFORMATION REGARDING THIS
GEOTECHNICAL ENGINEERING REPORT**

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.*

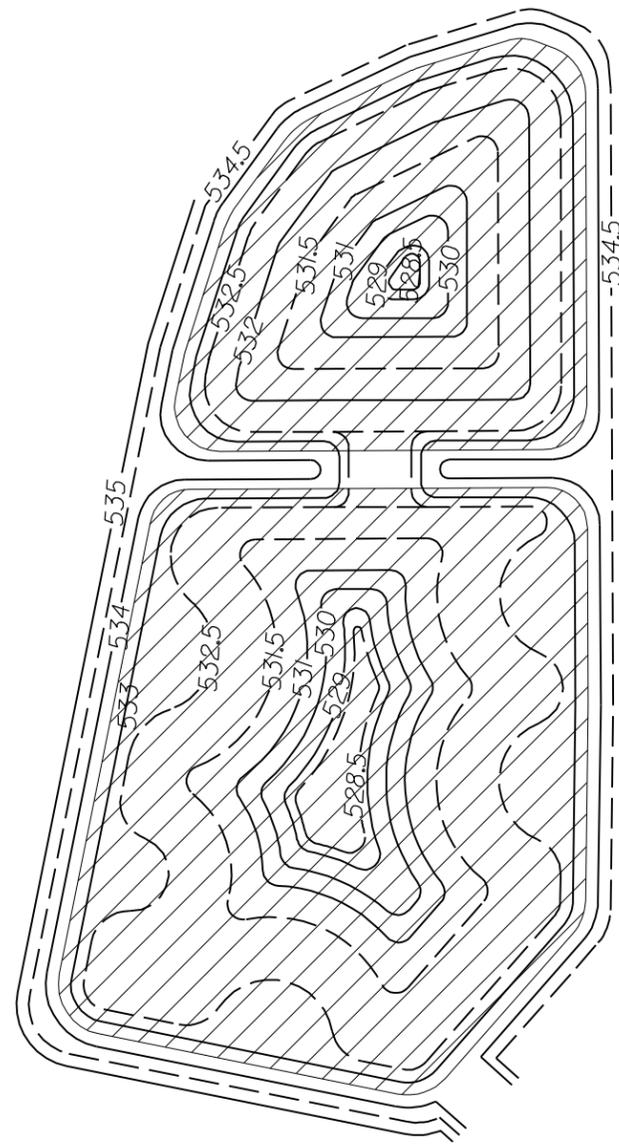
MISINTERPRETATION OF REPORT: The conclusions and recommendations contained in our geotechnical report are subject to misinterpretation. *To limit this possibility, Empire should review project plans and specifications relative to geotechnical issues to confirm that the recommendations contained in our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

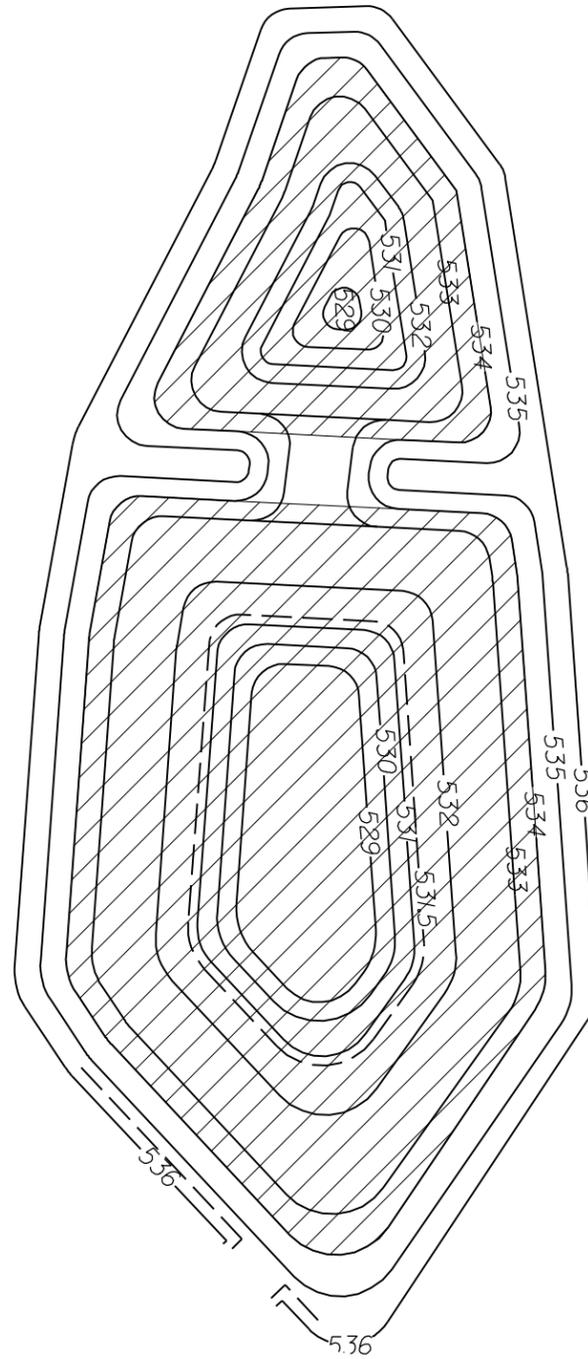
FILE NAME = \$FILEL\$
 DATE/TIME = \$DATE\$

\$TIMES



SOUTH POND SEEDING

N.T.S.



NORTH POND SEEDING

N.T.S.

STORM WATER POND SEEDING

SOIL PREPARATION

(SHALL COMMENCE FOLLOWING SUCCESSFUL COMPLETION OF EROSION CONTROL WORK FOR SITE CONSTRUCTION)

1. ESTABLISH OR RE-ESTABLISH PROPOSED FINISHED GRADES WITHIN ALL POND AREAS.
2. TOPSOIL PLACED IN THE POND AREAS SHALL HAVE AN ORGANIC CONTENT NOT LESS THAN 10% NOR GREATER THAN 20%.
3. TOPSOIL SHALL BE DISTRIBUTED IN THE PONDS IMMEDIATELY PRIOR TO FINAL GRADING AND SEEDING.
4. AFTER FINAL GRADING IS COMPLETED, STABILIZE BY HYDROSEEDING WITH NATIVE / NATURAL WILDFLOWER SEED MIX (SEE SEED MIX TABLE AND ZONE).

SEEDING NOTES

1. THE PONDS SHALL BE FULLY DRAINED, USING PUMPING AS NEEDED AT LEAST THREE DAYS PRIOR TO SEEDING.
2. SEED SHALL BE APPLIED ACCORDING TO THE SUPPLIER'S INSTRUCTIONS AT THE RATES INDICATED IN THE SEEDING SCHEDULE OR AS RECOMMENDED BY THE SUPPLIER. SEED PRODUCTS AVAILABLE THROUGH SOUTHERN TIER CONSULTING, INC.
3. BEGIN REFILLING OF PONDS SHORTLY AFTER SEEDS GERMINATE AND GROW 3 IN. TO 6 IN. TALL.

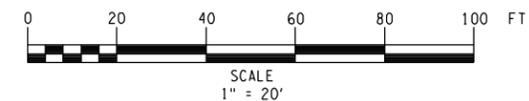
TABLE 1 - SEEDING ZONE

MEADOW SEED MIX	ITEM 610.050100MO
TIMOTHY	10 LBS
ORCHARDGRASS	12 LBS
KENTUCKY BLUEGRASS	8 LBS
RED TOP	2 LBS
TOTAL 32 LBS	

APPLY 208 LBS PER ACRE

POND SEEDING LEGEND

	SEEDING ZONE
	SOUTH POND: TO 1.0 FT ABOVE NORMAL WATER ELEVATION (ELEV. 533.50)
	NORTH POND: TO 1.0 FT ABOVE NORMAL WATER ELEVATION (ELEV. 534.00)



ADDENDUM #1		REVISION
RT 101/12 ACH		No. DATE BY
		
CLARK PATTERSON LEE DESIGN PROFESSIONALS 20 WEST MAIN STREET, SUITE 6100 ROCHESTER, NEW YORK 14614-1231 TEL (800) 274-9000 TEL (585) 232-5836 FAX (585) 232-5836 www.clarkpatterson.com		
PROJECT MANAGER: DAVE ASKINAZI	DRAWN BY:	
		
DEPARTMENT OF TRANSPORTATION 50 WEST MAIN STREET, SUITE 6100 ROCHESTER, NEW YORK 14614-1231 <small>UNEMPLOYED ASSISTANCE AS APPLICABLE TO THE DESIGN & CONSTRUCTION OF THE NEW YORK STATE EDUCATION LAW ARTICLE 145, SECTION 1209</small>		
PROJECT NAME JOHN STREET EXTENSION	COUNTY ROAD	
LIMITS BAILEY ROAD TO LEHIGH STATION ROAD		
TOWN HENRIETTA		
CAPITAL PROJECT NO. 4754.15		
MISCELLANEOUS DETAILS		
SCALE: AS SHOWN		
DATE ISSUED: 9/2011		
DRAWING NO. MD-05R1		
SHEET NO.: 20		