



**APPENDIX C**  
**STANDARD FORMS**



## Highway Agreement

This is an agreement between the Town of Essex (the Town) and \_\_\_\_\_, (the Developer), the owner of \_\_\_\_\_ (the Development), together known as the parties to this agreement.

1. The purpose of this highway agreement, which is required by Section 240 of the Town of Essex Standard Specifications for Construction, is to set forth in detail when and in accord with what plans and standards the Developer will construct or install the required improvements in the Development. This highway agreement also addresses the inspection of those required improvements and establishes how the Developer will guarantee that the promised improvements are in fact made.
2. The term of this agreement begins when it is signed by the Town Engineer and ends at the time the last promise is fulfilled by either of the parties. The Town Engineer's signature will follow approval of the final plans for the Development by the Town of Essex Planning Commission. This agreement must be signed by the Town Engineer and recorded before a zoning permit for work on the Development will be approved.
3. The basis for this highway agreement is the approval of the final plans submitted in compliance with the Town of Essex Planning Commission approval. It is understood that the scope of this agreement is confined to the required improvements that are shown on the approved final plans (see Item 4, below) and listed on the Project Construction Estimate form found in Appendix C of these specifications. This highway agreement is not intended to address other conditions of approval.
4. The final plans of the Development, as approved by the Town of Essex Planning Commission on \_\_\_\_\_ are hereby incorporated into this agreement by reference. It is understood that those approved final plans are binding on the Developer and the Town, and that this creates a vested right for the Developer. It is also understood that only the minor changes in plans permitted by the Town of Essex Planning Commission are permitted without renegotiation of this development agreement.
  - 4A: In the case of a phased development, the final plans of the Phase/s I/I-n, approved by the Town of Essex Planning Commission are hereby incorporated into this agreement by reference. It is understood that those approved final plans are binding on the Developer and the Town, and that this creates a vested right for the Developer. It is further understood that the final plans for additional phases of the Development will be submitted to the Town of Essex Community Development Office prior to the issuance of a zoning permit for those phases. Finally, it is also understood that only the minor changes in plans permitted by the Town of Essex Planning Commission are permitted without renegotiation of this development agreement.
5. Construction or installation of the improvements shall be in accord with all applicable standards of the Town of Essex Public Works Specifications, including the state or national standards referenced in those documents.

6. All public infrastructure improvements shown on the approved final must be made before a Certificate of Substantial Completion will be issued.

**6A:** In the case of a phased development the Development to be constructed in \_\_\_\_\_ phases, which are shown on \_\_\_\_\_. The Project Construction Estimate found in Appendix C of these specifications must also been organized by phase so that the list and the costs of the improvements to be made in each phase are clear. It is understood that all improvements shown on the approved final plan for each phase must be complete before a Certificate of Substantial Completion will be issued for that phase.

7. All work covered by this highway agreement is subject to inspection by the Town, as provided by the Town of Essex Standard Specifications for Construction. It is understood that the signature of the Developer on this agreement constitutes permission for representatives of the Town to enter onto the private property of Developer for the purpose of completing these inspections. The Developer further agrees to provide the Town with entry into locked areas and to arrange for safe inspections of potentially hazardous sites. The Developer will also, at his/her expense, provide the opportunity for the Town to discuss work on the required improvements with contractors, designers, and employees retained by the Developer.

A final inspection schedule consistent with the Public Works Specifications will be set at the pre-construction meeting, the date, time, and place for which will be set by mutual agreement of the Town and the Developer.

The Developer will provide reports of inspections of the types and at the intervals specified in Chapter 4 of these specifications to the Town Engineer.

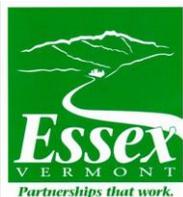
8. Record drawings must be provided to the Town prior to acceptance of the infrastructure by the Town.
9. If the Developer fails to construct or install the improvements shown on the approved plans within the time frames established by this Highway Agreement, the Town may use the securities provided in accord with Section 132 of these specifications to complete the required improvements. If any funds remain in the escrow account after the Town has completed the required improvements, those funds will be returned to the Developer. Securities for phased developments will be provided by phase.

Dated this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, at Essex, Vermont.

\_\_\_\_\_  
Town Engineer, Town of Essex

Dated this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, at Essex, Vermont.

\_\_\_\_\_  
Duly-appointed Agent of Developer



## Water Main Pressure and Leakage Test Data Sheet

Town of Essex Public Works  
81 Main Street  
Essex Junction, Vermont 05452  
Voice: (802) 878-1344  
Fax: (802) 878-1355  
E-mail: [www.essex.org](http://www.essex.org)

<b>Project Name:</b>	<b>Date:</b>
<b>Street / Location Description:</b>	
<b>Contractor:</b>	
<b>Inspector:</b>	
<b>Test Firm:</b>	
<b>Leakage Calculation</b>	
S = length of pipe tested D = nominal diameter pipe tested P = average test pressure during test L = allowable leakage/hr	$L = \frac{(S) \times (D) \times \sqrt{(P)}}{148,000}$

\*The 2 hour test pressure shall be maintained at 150% of the normal operating pressure for the surrounding infrastructure +/- 5 psi

<b>Allowable Leakage (Calculated)</b>	_____ Gallons / Hour
<b>Length of Tested Line ( S )</b>	_____ Linear Feet
<b>Nominal Pipe Diameter ( D )</b>	_____ In
<b>Normal Operating Pressure</b>	_____ psig
<b>Actual Test Pressure*</b>	_____ psig

<b>Actual Leakage (Measured)</b>	_____ Gallons / Hour
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<b>Disinfection</b>	[ ] Pass [ ] Fail [ ] N / A
<b>Total Chlorine Sample 1 (Initial)</b>	_____ PPM (Minimum 25 PPM)
<b>Total Chlorine Sample 2 (24 Hour)</b>	_____ PPM (Minimum 10 PPM)

<b>Bacteriologic Sampling</b>	[ ] Pass [ ] Fail [ ] N / A
<b>Bacteriologic Sample 1 (Initial)</b>	[ ] Pass [ ] Fail [ ] N / A
<b>Bacteriologic Sample 2 (24 Hour)</b>	[ ] Pass [ ] Fail [ ] N / A

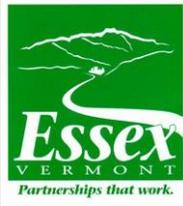
**Comments:**

\_\_\_\_\_  
Contractors Signature

\_\_\_\_\_  
Inspectors Signature







## Gravity Sewer Pressure Test Data Sheet

Town of Essex Public Works  
81 Main Street  
Essex Junction, Vermont 05452  
Voice: (802) 878-1344  
Fax: (802) 878-1355  
E-mail: [www.essex.org](http://www.essex.org)

<b>Project Name:</b>	<b>Date:</b>
<b>Street / Location:</b>	
<b>Contractor:</b>	
<b>Inspector:</b>	
<b>Test Firm:</b>	
<b>Pressure Testing Procedures</b>	
<ul style="list-style-type: none"> <li>▪ The test shall be performed by trained personal and acceptable equipment provided by the Contractor.</li> <li>▪ A section of sewer shall be tested manhole to manhole, including all service connections.</li> <li>▪ The pressure shall be pumped up to 4.0 psig, and the actual test time is based of length of pipe and diameter. A chart has been provided in the Town of Essex Standard Specifications for Construction.</li> <li>▪ A minimum duration of 2.0 minutes shall pass before the test starts to allow for pressure to stabilize.</li> <li>▪ Any section of gravity sewer that drops more than 1.0 psig, during the specified test time, fails.</li> <li>▪ Refer to Section 534.0 of the Town of Essex Standard Specifications for Construction for further direction.</li> </ul>	
<b>Mandrel Testing Procedures</b>	
<ul style="list-style-type: none"> <li>▪ The diameter of the mandrel shall be 95% of the internal diameter of the pipe, and shall be pulled manhole to manhole for each section of pipe.</li> <li>▪ A section of sewer shall be FAILED, if the mandrel gets hung up and can not pass through the entire length of the sewer section being tested.</li> <li>▪ Refer to Section 534.0 of the Town of Essex Standard Specifications for Construction for further direction.</li> </ul>	

**Field Conditions:** Groundwater \_\_\_\_feet above invert

Gravity Sewer Test Data							
Tested Section		Test Time			Test Pressure		
Upstream Manhole	Down Stream Manhole	Start Time	End Time	Test Duration	Start Pressure	End Pressure	Pressure Drop

<b>Mandrel Test</b>	[ ] Pass [ ] Fail [ ] N/A
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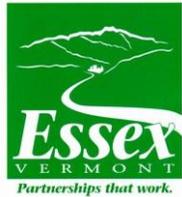
<b>Visual Inspection</b>	[ ] Pass [ ] Fail [ ] N/A
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**Comments:**

\_\_\_\_\_  
Contractor's Signature

\_\_\_\_\_  
Inspector's Signature





## Manhole Test Data Sheet

Town of Essex Public Works  
81 Main Street  
Essex Junction, Vermont 05452  
Voice: (802) 878-1344  
Fax: (802) 878-1355  
E-mail: [www.essex.org](http://www.essex.org)

<b>Project Name:</b>	<b>Date:</b>
<b>Street / Location:</b>	
<b>Contractor:</b>	
<b>Inspector:</b>	
<b>Test Firm:</b>	
<b>Vacuum Testing Procedures</b> <ul style="list-style-type: none"> <li>▪ The test shall be performed by trained personal and acceptable equipment provided by the Contractor.</li> <li>▪ The vacuum shall be pumped down to 10+of Mercury, and the test has a minimum duration of 2.0 minutes.</li> <li>▪ Any manhole that drops more than 1.0+of Hg, ( 10+ . 9+drop ), during the test, fails.</li> <li>▪ Refer to Section 516.0 of the Town of Essex Standard Specifications for Construction for further direction.</li> </ul> <b>Exfiltration Testing Procedures</b> <ul style="list-style-type: none"> <li>▪ The manhole shall be filled with water to the top of the cone section. (A period of time for absorption should be given, and the structure filled up again.).</li> <li>▪ The test shall last a minimum of 6 hours. Measure level of water before and after test.</li> <li>▪ The allowable leakage in a 6 hour period shall be converted to a 24 hour volume. The leakage shall not exceed 1 gallon per vertical foot based on a 24 hour period.</li> </ul>	
<b>Depth:</b>	<b>Diameter:</b>
<b>Joint Type:</b>	

**Field Condition:**     Open     Backfilled        Groundwater \_\_\_\_ feet above invert

**Manhole No:** \_\_\_\_\_

Manhole Test Data				
Vacuum Start ("Hg)	Start Time	Vacuum End ("Hg)	Finish Time	Vacuum Change ("Hg)

Manhole Vacuum Test Data					
Allowable Vacuum Drop = 1" Hg			[ ] Pass    [ ] Fail    [ ] N/A		
MH Depth	Time (min.)	Actual Drop	MH Depth	Time (min.)	Actual Drop
0q. 10q	2.0		15q. 20q	3.0	
10q. 15q	2.5		20q+	See project manual	

Visual Inspection	[ ] Pass    [ ] Fail    [ ] N/A
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**Comments:**

\_\_\_\_\_

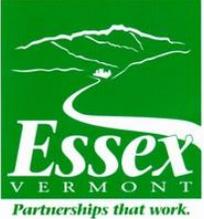
Contractors Signature

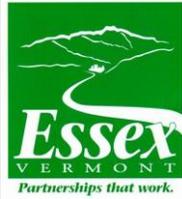
\_\_\_\_\_

Inspectors Signature



# Erosion and Sediment Control Monitoring Report

	<b>Town of Essex</b> <b>Public Works Department</b> 81 Main Street Essex Junction, Vermont 05452 P: 802-878-1344 F: 802-878-1355 Email: www.essex.org		<u><b>Project Location:</b></u>    <u><b>Project Description:</b></u>	
	<b>Project Name:</b>			
	<b>Reviewed By:</b>			
	<b>Dates Reviewed:</b>			
Measure Inspected	Location	Effectiveness (Good/Fair/Poor)	Noted Deficiencies	Corrective Action



## Project Construction Estimate

Town of Essex Public Works  
 81 Main Street  
 Essex Junction, Vermont 05452  
 Voice: (802) 878-1344  
 Fax: (802) 878-1355  
 E-mail: www.essex.org

<b>Project Name:</b>				
<b>Project Location:</b>				
<b>Section:</b>			<b>Phase:</b>	
<b>Owner:</b>				
<b>Engineer:</b>				
<b>Engineer:</b>			<b>Date:</b>	
<b>Approved By:</b>			<b>Date:</b>	
Estimate				
Item	Quantity	Unit Measure	Unit Price	Total Price
<b>Road / Street</b>				
Clearing & Grubbing		Lump sum		
Rough Grading		Lump Sum		
Road Sub-base Material		Cubic Yards		
Paving (Top Course) Type III		Tons		
Paving (Base Course) Type II		Tons		
Paving (Drive Aprons)		Tons		
Sidewalks		Square Foot		
Bike Paths		Square Foot		
Curb		Linear Foot		
Line Striping / Pavement Markings		Lump Sum		
Street / Traffic Signs		Each		
Other				
<b>Storm Drainage</b>				
Pipe		Linear Foot		
Catch Basins		Each		
Dry Wells		Each		
Headwalls		Each		
End Sections		Each		
Stormwater Treatment Facilities		Lump Sum		
Other				
<b>Potable Water System</b>				
Mains		Linear Foot		
Hydrants		Each		
Valves		Each		
Services		Each		
Other				
<b>Sanitary Sewer System</b>				
Mains (Gravity)		Linear Foot		
Mains (Pressure)		Linear Foot		
Manhole		Each		
Pump Stations and Appurtenances		Lump Sum		
Other				
<b>Other Construction Items</b>				
Landscaping		Lump Sum		
Utilities (Electric)		Lump Sum		
Utilities (Communication)		Lump Sum		
Utilities (Gas)		Lump Sum		

Miscellaneous		Lump Sum		
				<b>Project Total</b>

