## Profiler Manufacturer Settings Document

## A. Ames Engineering Profilers

The following screenshot displays the proper settings when producing reports in the Ames Profiling Software:

eport Options Analysis Set	p Profiler Setup	Camera Setup		
Input Format	Printer Setu	Printer Setup		
V Profile 1 Enabled V Profile 2 Enabled	Printer Type	Windows Printer		
Header Format	Printer Port	Windows Driver		
🔿 Short 🔿 Long 🖲 Texas	5			
Profiler Indices Produced	Printer Out	out Format		
🕅 IRI 📃 RN	Print Profile	Print Profile on Report		
HRI HRN	Print Summ	ary Tables		
RQI Verages	Drint Innorth	Brist Issued Capitons		
Cal Pro Simulation	- Print ignore	u opulatio		
Straightedge Simulation	Profile Horiz	Profile Horizontal Scaling 300		
Texture Indices Produced				
MPD MPD Filter RMS	OT			
ASTM E1845				
ETD = 0.00800 + 0.80000 * MR	n O			
Analysis Summary Files	Profile Data	Output Files		
ASCII Tables Auto Open 1	able ASCII Text	File ProVAL PPF File		
CSV Tables GPS Report	PRO File	Google™ Earth KML		
Ohio Flat ASCI	PS) CRD File			
HTML Tables Wisconsin	GPS Elevat	tion		

FIGURE 1. AMES REPORT OPTIONS

The user needs to be sure that the following boxes are checked on this screen:

- Under Input Format, both 'Profile 1 Enabled' and 'Profile 2 Enabled'
- Under Profiler Indices Produced, 'IRI'
- Under *Profile Data Output Files*, 'ERD File'

The following screenshot displays the proper settings when performing data analysis in the Ames Profiler Software:

eport Options A	nalysis Se	ətup	Profiler Setup	Cam	era Setup	
Reduction Setting	5		Rolling Strai	ighted	dge Simula	tion
Reduction Length	528	feet	Straightedge Ler	ngth 1(	)	feet
Static Reductio	n Segments		Specification	Limit 0.	25	inches
Localized Roughr	ess Settin	gs	CalPro Simu	latio	n	
IRI Baselength	25	ft	Blanking Band	Width	0.2	inches
IRI Threshold	125 Inness Enabled	in/mi	Minimum Scallop	Height	0.03	inches
Bump\Dip Detection Settings		Minimum Scallor	Width	2	feet	
Bump\Dip Width 25		feet	Scallop Ro	unding	0.01	inches
Bump Dip Height 0.4		inches	Count Sca	allops On	ce	
Bump Detectio	n Enabled		Create Sh	ort Segr	nent Summary	
Dip Detection	Enabled		Short Segment	Length	250	feet
Profile Filter Settir	ngs	-	Data Output	t File	Sample Rat	te
High Pass Ritter Cutoff 0	1	feet		rate		
Low Pass Filter Cutoff 0		feet	A Ose law antibie tare			
CalPro Filter Setti	ngs		Units			
Low Pass Filter Cutoff 2		feet	English		Metric	
			Feet		Meters	
Moving Average	3rd Order Butte	worth	Miles		Kiomete	rs
				_		

FIGURE 2. AMES ANALYSIS SETUP

The user needs to make sure that following boxes and inputs are enabled on this screen:

- Profile Filter Settings, 'High Pass Filter Cutoff' set to 300 feet
- **Profile Filter Settings**, 'Low Pass Filter Cutoff' set to 0 feet

Checking that one of the two preceding data filtering options are applied will ensure that no additional filtering will be necessary when the data is exported into the ProVAL Software (with the exception of the '250 mm Moving Average Filter' in the SAM Module).

All other settings, such as 'Localized Roughness,' apply to analysis *within* the Ames Software and *are not* required to have a particular value assigned to them. The user may decide if they would like to apply MDOT's specification values within these settings for *their own use* within the software.

## **B.** International Cybernetics Corporation (ICC) Profilers

International Cybernetics Corporation (ICC) profilers have a way to properly filter data when producing ERD files in the field. The following screenshots are taken from ICC's *WinReport* reporting software and displays the proper settings for each instance:

The ICC Road Profiler Reporting			
File Parameters PI Reporting PI G	h Options Gph Options Print Optio	ons System Info	
Reports Graph		Process Input File(s)	
Report     ERD (ft or m)     Ou       Style     General     Cl       Units     Feet     Ou       Output PPF File     Lc	put ear Output Directory Output put Directory ad Save Configuration File C:\PROGRAM FILES\LC	File Ext txt  File Ext txt  File Ext Txt  File Ext  File	<ul> <li>✓ Add Rpt Type to File Name</li> <li>✓ Add Wavelength</li> <li>File Suffix</li> </ul>
Interval Rpt Hdr PI Param SurP	ro Gps/Image Texture Slope/Grd	Control PI/Roll Bar Adv Opt	Format   Hdr Lbls   Rut Opt
Use Grade Lasers Front Laser Pos Back Laser Pos X Distance 10	Use Grade Angle Grade Angle 0 Slope/Grade © Degrees © Percent Show IMU Slope and Sensor Stope In	<ul> <li>Filter Options</li> <li>Short Wavelength 2.000</li> <li>Long Wavelength 300.000</li> <li>Moving Avg 1</li> <li>Filter Type BW High Pass</li> <li>Filter Type Filter</li> </ul>	Apply 250mm Mov Avg Use Elev File Format DOS Filter Max Delta Profile 0.25000 Lead In Dist 300.000 ead Out Dist 300.000 Add Leads to Profile List Event Options
Use Default Rutting Lasers     Use Selected Lasers  Slope Lasers  Output Slope Data at IRI Interval	Slope/Grade Report	Report Controls  Section Control  Roughness Control  Interval Control  Interval Reset  New Section on RefAdd  Use Speed File  Frror Summary  Include Error Status Interval  528.00  Spd Limit  15.00	Add Section End Use Offset from File Edit Mode Profile Interval Ctrl Interval 9.50000 Moving Avg 24.00000
		UseSurproEvts :	
•			•

FIGURE 3. ICC '300 FOOT BUTTERWORTH HIGH PASS' ERD FILE

The preceding screenshot fits the description for the following ERD file settings:

• 300 foot Butterworth High Pass Filter (Figure 3): These files are generated with the Filter Option box checked, Moving Avg=1, Filter Type= Butterworth High-Pass, Reverse Filter Checked, Apply 250 mm Mov Avg box not checked.

## C. Surface Systems & Instruments (SSI) Profilers

Surface Systems & Instruments (SSI) contains an internal hardware filter that the user has no control over. The following figure displays the data export screen in the SSI profiler and how the profile data can be used to create ERD and PPF file formats.

Dipen File	View Summary	Collect Data	🔀 Exit
Preview Analysis Parameters Export Type ERD Output Locali PRO Excel CVData Files Survey GPS Metching	Project Details   Report Op	tions Print Options Export Station Extraction Specify Station Nurr Start 0000000 End 00000000 Fiber Sellings High Pass Length Uses Low Pass Length Uses	Data Corrections Ad
SSPM	**	Settings Dutput Format Advan	sad IZ Match Tracks IT Include Runup/Runout
Data Dulput Summary Repor	© Segments	T Second	000+00.0 Sove

FIGURE 4. SSI PROFILER DATA EXPORT SCREEN