



Plan Review, Inspection, and Permit Fees

Application Number : 17-50042687

\$200.00	<input type="checkbox"/>	Explosive Material (90 Days)	\$	-
\$100.00	<input type="checkbox"/>	Explosive Materials (72 Hours)	\$	-
\$100.00	<input type="checkbox"/>	Fireworks Public Display	\$	-
\$50.00	<input type="checkbox"/>	Final Inspection	\$	-
\$35.00 + \$2.00 per device	<input type="checkbox"/>	Fire Alarm Testing	\$	-
\$35.00 + \$2.00 per nozzle	<input type="checkbox"/>	Fixed Fire Suppression	\$	-
\$75.00	<input type="checkbox"/>	Insecticide Fog/Fumigation	\$	-
\$100.00	<input type="checkbox"/>	Pipe Test/UST/AGST	\$	-
\$50.00	<input type="checkbox"/>	Plans up to 5000 sq ft	\$	-
\$100.00	<input type="checkbox"/>	Plans 5001 sq ft to 10,000 sq ft	\$	-
\$150.00	<input type="checkbox"/>	Plans 10,001 sq ft to 25,000 sq ft	\$	-
\$250.00	<input type="checkbox"/>	Plans 25,001 sq ft and over	\$	-
\$35.00 + 2.00 per head	<input checked="" type="checkbox"/>	Sprinkler Certification Test	\$	35.00
\$50.00	<input type="checkbox"/>	Standpipe Testing	\$	-
\$50.00	<input type="checkbox"/>	Special Assembly (ie. amusement buildings, carnivals, fairs)	\$	-
\$75.00	<input type="checkbox"/>	Tents/Canopies/Air Supported Structure	\$	-
\$100.00	<input type="checkbox"/>	Tank Installation (charge for each tank)	\$	-
\$100.00	<input type="checkbox"/>	Tank Removal (charge for each tank)	\$	-
		42 Total Devices/Heads	\$	84.00
		Total Cost	\$	119.00

Code Enforcement Official

D. Banks Wallace

8/3/2018



Application for Plan Review

KB

Application # 17-50042687

Date Received: 7/30/18

Received By: LR

SCANNED

Name of Project: MAC-VANN PLUMBING (125' x 36' ADDITION)

DATE

Physical Address of Project: 4792 RAWLS CHURCH RD.

FUQUAY VARINA NC

Plans Submitted By: MARK FORD

Project Phone: (910)-892-1700

Contact Person/Address:

HARNETT COUNTY EMERGENCY SERVICES
REVIEWED FOR CODE COMPLIANCE

8/3/18
DATE

D.B. WYBACE
CODE COMPLIANCE OFFICER

Contact Phone: (910)-892-1700

Contractor's Name/Info: CAROLINA FIRE PROTECTION, INC.

4055 HODGES CHAPEL RD.

DUNN, N.C. 28334

Contractor's Phone: (910)-892-1700

- Plans that are submitted will be reviewed as quickly as possible with an average time of review between 7-10 working days.
- Status checks may be conducted on plan reviews by visiting the website <http://htweb.harnett.org/Click2GovBP/Index.jsp> or by calling the Harnett County Central Permitting Office (910-893-7525, Option #2), or the Harnett County Fire Marshal's Office (910-893-7580).
- Approved plans must be picked up from the Central Permitting Office and all fees paid before any required inspections can be conducted.



Fire Marshal Division

August 3, 2018

**Re: Mac-Vann Plumbing
4792 Rawls Church Rd.
Fuquay Varina, NC**

Application Number 17-50042687

To Whom It May Concern,

Thank you for submitting the sprinkler system plans for the sprinkler addition. The plans have been carefully reviewed by a qualified code enforcement official to examine for compliance with the North Carolina Fire Prevention Code and all other fire protection regulatory documents. There are some items that were found during the plan review process that need to be addressed before a final inspection of the new facility can be given. These items are outlined and described below.

- **Plan Review Comments to Contractor.**
 - Installation of the sprinkler system shall be per contract specifications and NFPA 20013 edition.
 - Provide an FDC detail on the plans, also, the type and size indicated.
 - Provide hydraulic design data plate, spare sprinklers and wrench cabinet, and approved signage at final inspection per NFPA 13.

- **901.2.1 Statement of Compliance.**
 - Before requesting final approval of the installation, where required by the fire code official, the installing contractor shall furnish a written statement to the fire code official that the subject fire protection system has been installed in accordance with the manufacturer's specifications and the appropriate installation standard. Any deviations from the design standards shall be noted and copies of the approvals for such deviations shall be attached to the written statement.

- **903.2.6.1 Dry Pipe System.**
 - When dry-pipe sprinkler systems are installed, upon activation a full flow of water shall be delivered to the most remote point of the system in no more than 60 seconds. Provide further design details and information on amended sprinkler drawings for quick opening device to meet the above requirement.



- **903.4 Sprinkler system monitoring and alarms.**
 - All valves controlling the water supply for automatic sprinkler systems and water-flow switches on all sprinkler systems shall be electrically supervised according to the NC State Fire Code.

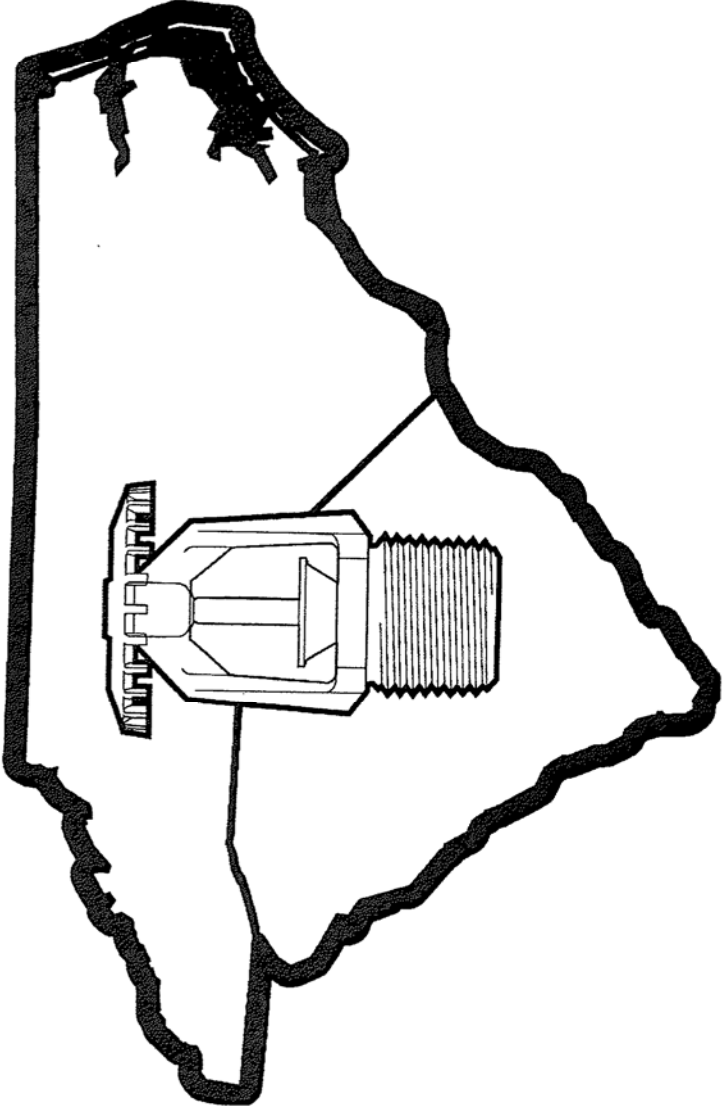
- **901.5 Installation acceptance testing.**
 - All piping and attached appurtenances subjected to system working pressure shall be hydrostatically tested at 200 psi or 50 psi in excess of the system working pressure, whichever is greater, and shall maintain that pressure without loss for 2 hours. This test is required to be witnessed by a representative from the Harnett County Fire Marshal's Office.
 - A contractor's material and test certificate shall be furnished by the trained representative of VSC Fire & Security before approval.
 - A piping and hanger inspection is required before closure of ceiling system(s).
 - A sprinkler final inspection is required at completion of project.
 - **Schedule all inspections with the Fire Marshal's Office.**
 - **(910) 984-4003**

- **912.4 Fire Department Connection Signage.**
 - Automatic sprinkler, test connection and standpipe signs to be properly installed.

Thank you again for submitting the plans for the expansion and renovations. Please review the plans and adhere to any notes and alterations that were made in addition to the original drawings. These remarks are for the plans that were submitted and its original intent. These remarks do not apply if the original intent changes or what was submitted on the above date changes. If you have any questions, please do not hesitate to call this office.

Sincerely,

D. Banks Wallace
Chief Deputy Fire Marshal



Carolina Fire Protection, Inc.
4055 Hodges Chapel Rd
Your Street Address 2
Dunn, NC 28334
(910) 892-1700

Job Name : MAC-VAN PLUMBING
Building :
Location : FUQUAY-VARINA, NC
System : 1
Contract : 18G275
Data File : mac vann.WXF

Hydraulic Design Information Sheet

Name - MAC-VAN PLUMBING
 Location - FUQUAY-VARINA, NC
 Building -
 Contractor - CAROLINA FIRE PROTECTION, INC.
 Calculated By - M. FORD
 Construction: () Combustible (X) Non-Combustible
 Occupancy - WOOD PRODUCT ASSEMBLY

Date - 7-26-18
 System No. - 1
 Contract No. - 18G275
 Drawing No. - FP-1
 Ceiling Height - VARIES

S (X) NFPA 13 () Lt. Haz. Ord.Haz.Gp. () 1 (X) 2 () 3 () Ex.Haz.
 Y () NFPA 231 () NFPA 231C () Figure Curve
 S Other
 T Specific Ruling Made By Date
 E

M Area of Sprinkler Operation - 1950 System Type Sprinkler/Nozzle
 Density - .20 () Wet Make RELIABLE
 Area Per Sprinkler - 130 (X) Dry Model UPRIGHT
 Elevation at Highest Outlet - 13.333 () Deluge Size 3/4"
 S Hose Allowance - Inside - 100 () Preaction K-Factor 8.0
 I Rack Sprinkler Allowance - N/A () Other Temp.Rat.286
 G Hose Allowance - Outside - 150
 N

Note

Calculation Flow Required - 724.348 Press Required - 44.261 TEST
 Summary C-Factor Used: 100 Overhead 140 Underground

W Water Flow Test: Pump Data: Tank or Reservoir:
 A Date of Test - 7-25-18 Rated Cap.- Cap.-
 T Time of Test - @ Press - Elev.-
 E Static Press - 88 Elev. - Well
 R Residual Press - 41 Flow - 1034 Proof Flow
 S Elevation -

U Location - 4792 RAWLS CHURCH ROAD

P Source of Information - ANGIER FIRE DEPARTMENT (RICKY BEASLEY)

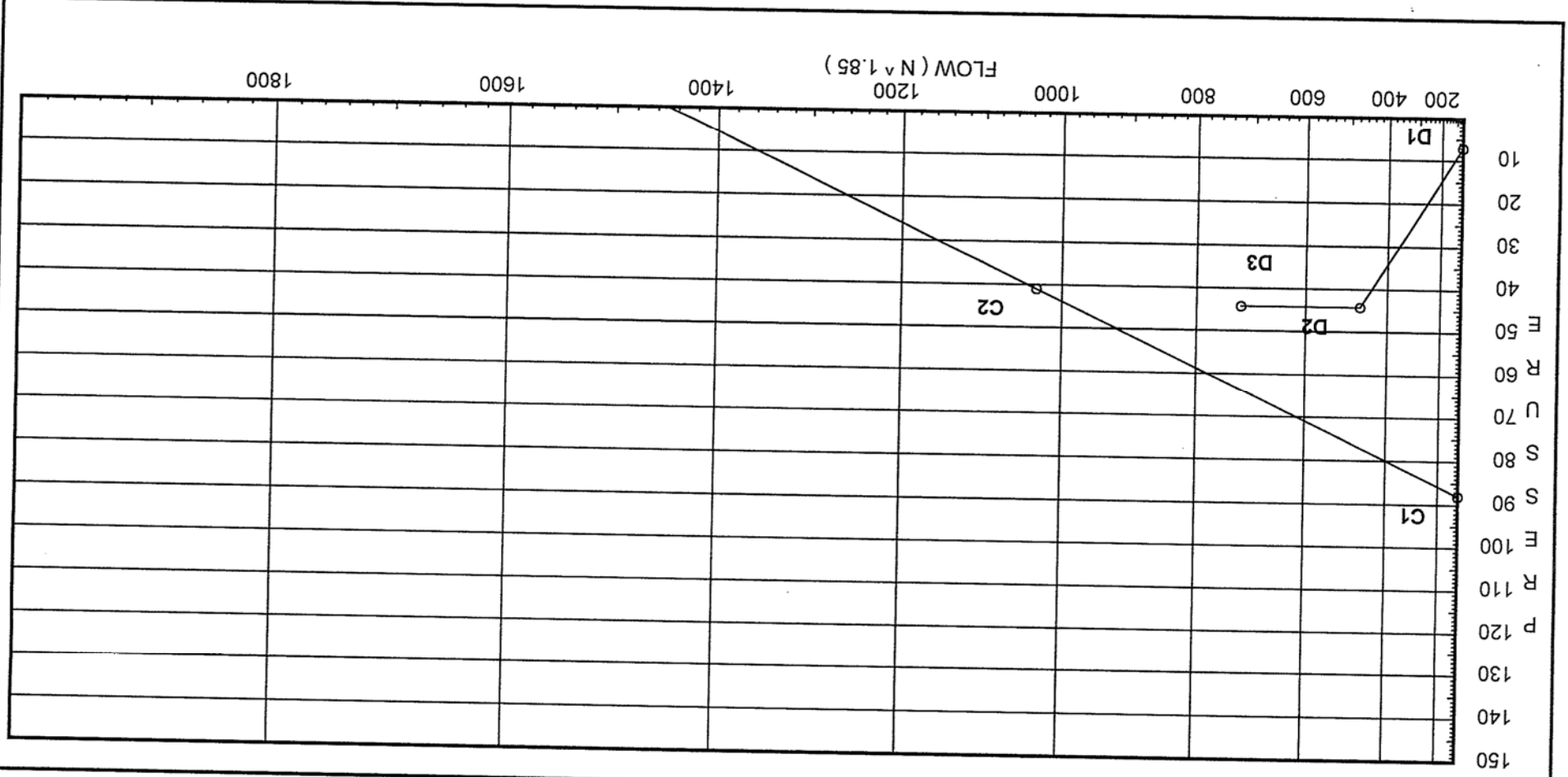
C Commodity Class Area % Palletized % Rack
 O Storage Ht. Location
 M Storage Method: Solid Piled () Auto. Storage () Encap.
 M () Single Row () Slave Pallet () Solid Shelf () Non
 S () Double Row () Open Shelf
 T () Mult. Row
 O

R Flue Spacing Clearance:Storage to Ceiling
 A Longitudinal Transverse
 G

E Horizontal Barriers Provided:

City Water Supply:
 C1 - Static Pressure : 88
 C2 - Residual Pressure: 41
 C2 - Residual Flow : 1034

Demand:
 D1 - Elevation : 7.074
 D2 - System Flow : 474.348
 D2 - System Pressure : 44.261
 Hose (Demand) : 250
 D3 - System Demand : 724.348
 Safety Margin : 19.409



Fittings Used Summary

Carolina Fire Protection, Inc.
MAC-VAN PLUMBING

Fitting Legend	Abbrev. Name	%	%	1	1%	1%	2	2%	3	3%	4	5	6	8	10	12	14	16	18	20	24
Dvk	Dry Viking F1	1	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61
E	NFPA 13 90' Standard Elbow	0	0	0	0	1	1	2	3	4	5	6	7	8	10	12	14	16	18	20	24
G	NFPA 13 Gate Valve	0	0	0	0	1	1	2	3	4	5	6	7	8	10	12	14	16	18	20	24
T	NFPA 13 90' Flow thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
Zaf	Ames 3000SS												49								

Fitting generates a Fixed Loss Based on Flow

Unit Summary

Diameter Units
Length Units
Flow Units
Pressure Units
Inches
Feet
US Gallons per Minute
Pounds per Square Inch

Note: Fitting Legend provides equivalent pipe lengths for fittings types of various diameters. Equivalent lengths shown are standard for actual diameters of Sched 40 pipe and CFactors of 120 except as noted with *. The fittings marked with a * show equivalent lengths values supplied by manufacturers based on specific pipe diameters and CFactors and they require no adjustment. All values for fittings not marked with a * will be adjusted in the calculation for CFactors of other than 120 and diameters other than Sched 40 per NFPA.

Pressure / Flow Summary - STANDARD

Carolina Fire Protection, Inc.
MAC-VAN PLUMBING

Page 4
Date 7-26-18

Node No.	Elevation	K-Fact	Pt Actual	Ph	Flow Actual	Density	Area	Press Req.
1	14.0	8	10.2	na	25.56	0.2	105	7.0
2	13.333	8	10.56	na	26.0	0.2	130	7.0
3	12.5	8	11.24	na	26.82	0.2	130	7.0
4	11.75	8	12.24	na	27.99	0.2	130	7.0
5	14.0	8	10.36	na	25.75	0.2	105	7.0
6	13.333	8	10.72	na	26.2	0.2	130	7.0
7	12.5	8	11.4	na	27.01	0.2	130	7.0
8	11.75	8	12.42	na	28.19	0.2	130	7.0
9	14.0	8	10.94	na	26.46	0.2	105	7.0
10	13.333	8	11.3	na	26.89	0.2	130	7.0
11	12.5	8	12.0	na	27.71	0.2	130	7.0
12	11.75	8	13.05	na	28.9	0.2	130	7.0
13	14.0	8	12.18	na	27.92	0.2	105	7.0
14	13.333	8	12.55	na	28.34	0.2	130	7.0
15	12.5	8	13.28	na	29.16	0.2	130	7.0
16	11.75	8	14.41	na	30.37	0.2	130	7.0
17	11.75	8	19.22	na	35.08	0.2	130	7.0
M1	11.0		14.54	na				
M2	11.0		14.74	na				
M3	11.0		15.47	na				
M4	11.0		17.04	na				
M5	11.0		19.8	na				
M6	11.0		24.01	na				
M7	12.0		30.05	na				
M8	12.0		31.48	na				
TASR	12.0		31.63	na	100.0			
BASR	1.0		40.12	na	150.0			
TEST	-3.0		44.26	na				

The maximum velocity is 18.23 and it occurs in the pipe between nodes M5 and M6

Hyd. Ref. Point	Qa	Dia. "C"	PffT	Fitting or Eqv.	Ln.	Pipe Fing's Total	Pt Pe Pf	Pt Pv Pn	***** Notes *****
1	25.56	2.157			0.0	8.000	10.205		K Factor = 8.00
to		100.0			0.0	0.0	0.289		
2	25.56	0.0085			0.0	8.000	0.068		Vel = 2.24
2	26.00	2.157			0.0	10.000	10.562		K Factor = 8.00
to		100.0			0.0	0.0	0.361		
3	51.56	0.0314			0.0	10.000	0.314		Vel = 4.53
3	26.81	2.157			0.0	10.000	11.237		K Factor = 8.00
to		100.0			0.0	0.0	0.325		
4	78.37	0.0682			0.0	10.000	0.682		Vel = 6.88
4	28.00	2.157	E	4.392	0.0	3.250	12.244		K Factor = 8.00
to		100.0	T	8.783	0.0	13.174	0.325		
M1	106.37	0.1199			0.0	16.424	1.969		Vel = 9.34
	0.0								
	106.37						14.538		K Factor = 27.90
5	25.75	2.157			0.0	8.000	10.364		K Factor = 8.00
to		100.0			0.0	0.0	0.289		
6	25.75	0.0086			0.0	8.000	0.069		Vel = 2.26
6	26.20	2.157			0.0	10.000	10.722		K Factor = 8.00
to		100.0			0.0	0.0	0.361		
7	51.95	0.0318			0.0	10.000	0.318		Vel = 4.56
7	27.01	2.157			0.0	10.000	11.401		K Factor = 8.00
to		100.0			0.0	0.0	0.325		
8	78.96	0.0691			0.0	10.000	0.691		Vel = 6.93
8	28.19	2.157	E	4.392	0.0	3.250	12.417		K Factor = 8.00
to		100.0	T	8.783	0.0	13.174	0.325		
M2	107.15	0.1216			0.0	16.424	1.997		Vel = 9.41
	0.0								
	107.15						14.739		K Factor = 27.91
9	26.46	2.157			0.0	8.000	10.940		K Factor = 8.00
to		100.0			0.0	0.0	0.289		
10	26.46	0.0091			0.0	8.000	0.073		Vel = 2.32
10	26.89	2.157			0.0	10.000	11.302		K Factor = 8.00
to		100.0			0.0	0.0	0.361		
11	53.35	0.0334			0.0	10.000	0.334		Vel = 4.68
11	27.71	2.157			0.0	10.000	11.997		K Factor = 8.00
to		100.0			0.0	0.0	0.325		
12	81.06	0.0725			0.0	10.000	0.725		Vel = 7.12
12	28.90	2.157	E	4.392	0.0	3.250	13.047		K Factor = 8.00
to		100.0	T	8.783	0.0	13.174	0.325		
M3	109.96	0.1276			0.0	16.424	2.095		Vel = 9.65
	0.0								
	109.96						15.467		K Factor = 27.96
13	27.92	2.157			0.0	8.000	12.184		K Factor = 8.00
to		100.0			0.0	0.0	0.289		
14	27.92	0.0100			0.0	8.000	0.080		Vel = 2.45
14	28.35	2.157			0.0	10.000	12.553		K Factor = 8.00
to		100.0			0.0	0.0	0.361		
15	56.27	0.0369			0.0	10.000	0.369		Vel = 4.94

Hyd. Ref. Point	Qa	Dia. "C"	Pf/Ft	Fitting or Eqv.	Ln.	Pipe Ftg's Total	Pt Pe Pf	Pt Pv Pn	***** Notes *****
15 to	29.16	2.157			0.0	10.000	13.283		K Factor = 8.00
16 to	85.43	0.0799			0.0	10.000	0.325		Vel = 7.50
16 to	30.36	2.157		E	4.392	3.250	14.407		K Factor = 8.00
M4	115.79	0.1403		T	8.783	13.174	0.325		Vel = 10.17
	0.0				0.0	16.424	2.305		
	115.79						17.037		K Factor = 28.05
17 to	35.08	2.157		E	4.392	3.250	19.224		K Factor = 8.00
M5	35.08	0.0154		T	8.783	13.174	0.325		Vel = 3.08
	0.0				0.0	16.424	0.253		
	35.08						19.802		K Factor = 7.88
M1 to	106.37	3.26			0.0	12.500	14.538		
M2 to	106.37	0.0161			0.0	0.0	0.0		Vel = 4.09
M2 to	107.15	3.26			0.0	12.500	14.739		
M3 to	213.52	0.0582			0.0	0.0	0.0		Vel = 8.21
M3 to	109.96	3.26			0.0	12.500	15.467		
M4 to	323.48	0.1256			0.0	0.0	0.0		Vel = 12.43
M4 to	115.79	3.26			0.0	12.500	17.037		
M5 to	439.27	0.2212			0.0	12.500	2.765		Vel = 16.88
M5 to	35.08	3.26			0.0	16.500	19.802		
M6 to	474.35	0.2550			0.0	0.0	0.0		Vel = 18.23
M6 to	0.0	4.26		2E	18.795	37.000	24.010		
M7 to	474.35	0.0693		2T	37.589	56.384	-0.433		Vel = 10.68
M7 to	0.0	6.357		T	26.921	118.000	30.047		
M8 to	474.35	0.0099			0.0	26.921	0.0		Vel = 4.79
M8 to	0.0	6.357		E	12.563	3.000	31.477		
TASR	474.35	0.0098			0.0	15.563	0.153		Vel = 4.79
TASR to	100.00	6.357		Dvk	43.971	11.000	31.630		Qa = 100
BASR	574.35	0.0141		Zaf	0.0	43.970	7.715		* Fixed Loss = 2.951
BASR to	150.00	6.28		2E	44.125	100.000	40.118		Qa = 150
TEST	724.35	0.0123		T	47.277	96.130	1.732		Vel = 7.50
	0.0			G	4.728	196.130	2.411		
	724.35						44.261		K Factor = 108.88