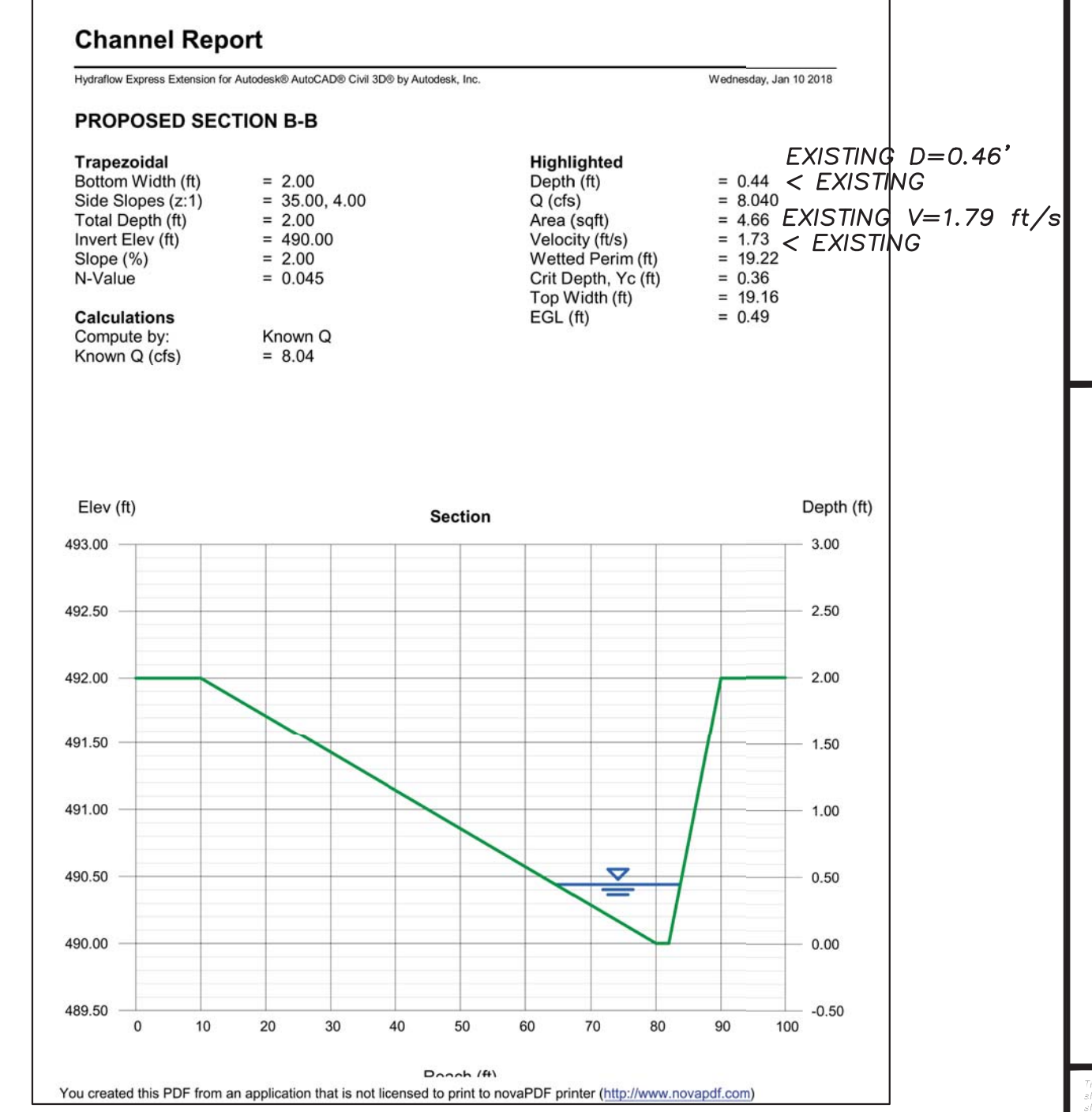
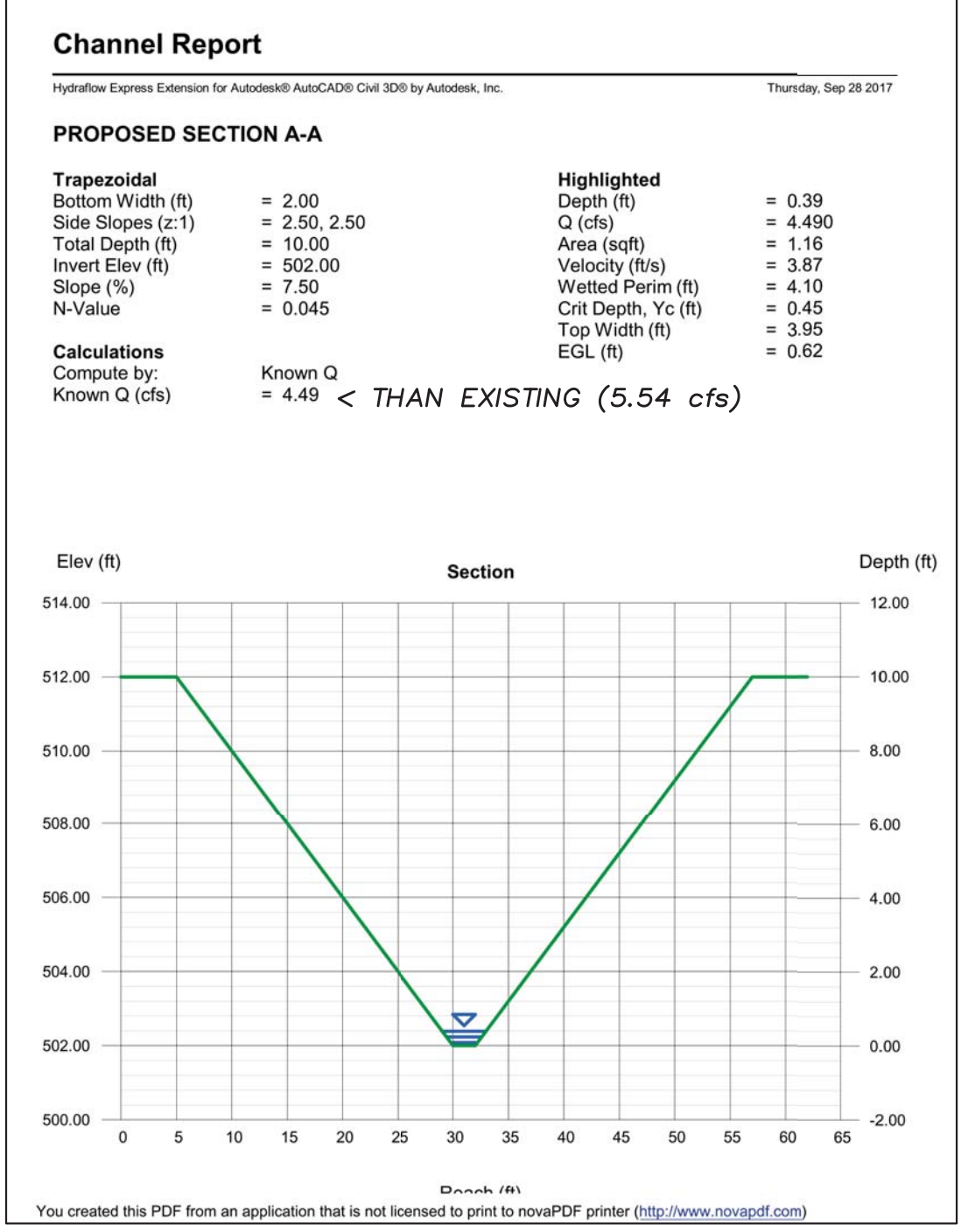


PROPOSED AREA A1
 PROPOSED SECTION A-A
 AREA = 2.40 ac.
 PI = 1.87 cfs/ac.
 Q15 = 4.49 cfs

PROPOSED AREA A4
 TOTAL AREA = 1.4 ac.
 GRASS AREA = 1.4 ac.
 PI = 1.87 cfs/ac.
 TOTAL Q15 = 2.62 cfs

PROPOSED AREAS A2 + A3
 PROPOSED SECTION B-B
 TOTAL AREA = 3.71 ac.
 AREA A2 = 1.57 ac.
 AREA A3 = 2.14 ac.
 GRASS AREA (A3) = 2.14 ac.
 PI = 1.87 cfs/ac.
 TOTAL Q15 = 8.04 cfs



P.I. Factors (20 Minute Duration)

Area	Return Frequency			
	2 Year (cfs/ac)	15 Year (cfs/ac)	25 Year (cfs/ac)	100 Year (cfs/ac)
5% IMP (Grass)	1.15	1.87	2.31	2.95
40% IMP (Single Family Residential Lots, 10,000 s.f. or less)	1.63	2.64	3.26	4.17
100% IMP (Pavement/Buildings)	2.37	3.85	4.75	6.08

EXISTING DRAINAGE AREAS

Drainage Area	Description	Total Acreage (Acres)	Grass Area (Acres)	Lot Area (Acres)	Impervious Area (Acres)	2 Year Q (cfs)	15 Year Q (cfs)	25 Year Q (cfs)	100 Year Q (cfs)
EX 1A	To Existing Ditch	2.96	2.96	0.00	0.00	3.40	5.54	6.84	8.73
EX 1B	To Existing Ditch	3.00	3.00	0.00	0.00	3.45	5.61	6.93	8.85
EX 1C	To Existing Ditch	1.83	1.83	0.00	0.00	2.10	3.42	4.23	5.40
EX 1 TOTAL	To Existing Ditch	7.79	7.79	0.00	0.00	8.96	14.57	17.99	22.98
EX 2	To Existing Storm Sewer	17.29	17.29	0.00	0.00	19.88	32.33	39.94	51.01
TOTAL		25.08	25.08	0.00	0.00	28.84	46.90	57.93	73.99

PROPOSED DRAINAGE AREAS

Drainage Area	Description	Total Acreage (Acres)	Grass Area (Acres)	Lot Area (Acres)	Impervious Area (Acres)	2 Year Q (cfs)	15 Year Q (cfs)	25 Year Q (cfs)	100 Year Q (cfs)
A1	Bypass Detention-To Existing Ditch	2.40	2.40	0.00	0.00	2.76	4.49	5.54	7.08
A2	Bypass Detention-To HDS Unit & Existing Ditch	1.57	0.14	1.43	0.00	2.49	4.04	4.99	6.38
A3	Bypass Detention-To Existing Ditch	2.14	2.14	0.00	0.00	2.46	4.00	4.94	6.31
A4	Bypass Detention-To Existing Ditch	1.40	1.40	0.00	0.00	1.61	2.62	3.23	4.13
A TOTAL	Bypass Detention-To Existing Ditch	7.51	6.08	1.43	0.00	9.32	15.14	18.71	23.90
B1	To HDS Unit & Basin B	1.03	0.00	1.03	0.00	1.68	2.72	3.36	4.30
B2	To Basin B	0.75	0.35	0.40	0.00	1.05	1.71	2.11	2.70
B	To Basin B	1.78	0.35	1.43	0.00	2.73	4.43	5.47	7.00
C1	To HDS Unit & Basin C	9.74	0.00	9.74	0.00	15.88	25.71	31.75	40.62
C2	To Basin C	2.47	1.49	0.98	0.00	3.31	5.37	6.64	8.48
C	To Basin C	12.21	1.49	10.72	0.00	19.19	31.09	38.39	49.10
D	Bypass Detention-To Existing Storm Sewer	0.55	0.51	0.04	0.00	0.65	1.06	1.31	1.67
F	Bypass Detention-To Existing Ditch	0.39	0.19	0.09	0.11	0.63	1.02	1.25	1.60
G	Offsite Bypass Detention-To Ex. Storm Sewer	2.73	2.73	0.00	0.00	3.14	5.11	6.31	8.05
TOTAL		25.17	11.35	13.71	0.11	35.66	57.84	71.44	91.32

ROUTED Q'S

Basin/Drainage Area	2 Year Q Outflow (cfs)	15 Year Q Outflow (cfs)	25 Year Q Outflow (cfs)	100 Year Q Outflow (cfs)
A	9.32	15.14	18.71	23.90
B	1.83	2.23	2.44	2.7
C	9.96	12.95	14.35	24.97
D	0.65	1.06	1.31	1.67
F	0.63	1.02	1.25	1.60
G	3.14	5.11	6.31	8.05
TOTAL	25.53	37.51	44.37	62.90
EXISTING Q=	28.84	46.90	57.93	73.99

RUNOFF DIFFERENTIAL NORTH SIDE OF SITE

(10 YR./20 MIN. STORM EVENT)

EXISTING Q100 = 22.98 C.F.S.
 PROPOSED Q100 = 23.90 C.F.S.
 DIFFERENTIAL = 23.90 - 22.98 = 0.92 C.F.S. < 1 C.F.S., THEREFORE DETENTION IS NOT REQUIRED.

HIGHWATER ELEVATIONS & FREEBOARD

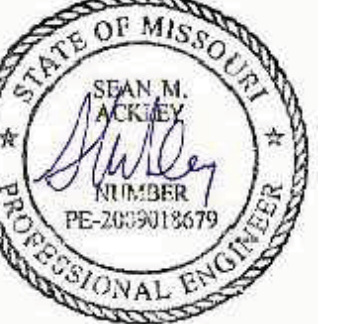
Basin	Top of Berm Elevation (Minimum)	2 Year Storm HW ELEV. (from PondPack)	2 Year Storm Freeboard	15 Year Storm HW ELEV. (from PondPack)	15 Year Storm Freeboard	25 Year Storm HW ELEV. (from PondPack)	25 Year Storm Freeboard	100 Year Storm HW ELEV. (from PondPack)	100 Year Storm Freeboard	100 Year Low Flow Blocked HW ELEV. (from PondPack)	100 Year Low Flow Blocked Freeboard
B	546.00	542.02	3.98	542.59	3.41	543.94	3.06	543.41	2.59	544.53	1.47
C	522.50	518.76	3.74	519.64	2.86	520.15	2.35	520.68	1.82	521.04	1.46

PROJECT TITLE

Brookview

OFFALLON, MISSOURI

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WATER QUALITY & DETENTION DRAINAGE AREA PLAN

P+Z No. 17-005894
 City No. 17-008288
 Date: 01/11/18
 Job No. 17-02-041

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