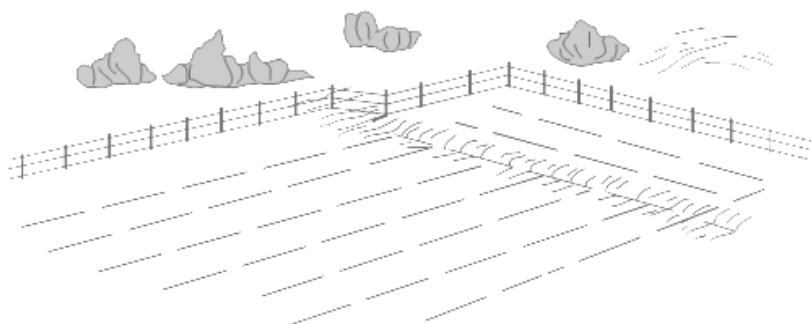

СИСТЕМА ЗА ДВУСТРАННО РЕГУЛИРАНЕ НА ПОЧВЕНАТА ВЛАГА (ДРЕНАЖНО НАПОЯВАНЕ)

на земеделски земи в землищата на с. Крум и с. Ябълково
общ. Димитровград

Първа фаза- ИДЕЕН ПРОЕКТ

Август, 2007 година



Том III

**НАПОИТЕЛНО- ОТВОДНИТЕЛНИ ПОЛЕТА,
ХИДРОМЕЛИОРАТИВНИ МРЕЖИ И СЪОРЪЖЕНИЯ.
ЕКСПЛОАТАЦИЯ НА ОБЕКТА**

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Изпълнител: **„Агрокомплект” ЕАД**



Том III

Напоително- отводнителни полета, хидромелиоративни мрежи и съоръжения. Експлоатация на обекта.

Съдържание

Точка	Описание	Страница
	Увод	1
	Цел на разработката	1
	Общи условия	1
Част 1 <u>Напояване</u>		
1.1	Въведение	3
1.2	Основни характеристики и параметри	4
1.3	Избор на техника за напояване	6
1.4	Дренажно напояване	6
1.4.1	Определяне на отстоянието между дренажните смукатели- напоители	8
1.4.2	Технически данни за дренажните смукатели- напоители	11
1.4.3	Блокови тръбопроводи	13
1.4.4	Разпределителни тръбопроводи	17
1.4.5	Главен Напоителен Тръбопровод	19
1.5	Гравитачно напояване	19
1.5.1	Главен Напоително- Отводнителен Канал (ГНОК)	20
1.6	Съоръжения към напоителната мрежа	23
Част 2 <u>Отводняване</u>		
2.1	Общи положения	24
2.2	Избор на начин за отводняване	24
2.3	Главен Отводнителен Канал №1 (ГОК 1)	26
2.4	Главен Отводнителен Канал №2 (ГОК 2)	28
2.5	Напоително- Отводнителни Канали (НОК)	30

Точка	Описание	Страница
2.6	Систематичен хоризонтален закрит тръбен дренаж	33
2.7	Контрол на Водното Ниво (КВН)	33
Част 3 <u>Пътища</u>		
3.1	Общи положения	34
3.2	Избор на видове пътища	34
3.3	Главни пътища	35
3.4	Вътрешностопанска пътна мрежа	35
3.5	Съоръжения към пътната мрежа	35
Част 4 <u>Моделиране на водния баланс в почвения профил</u> <u>DRAINMOD</u>		
4.1	Увод	37
4.2	Основни предпоставки	37
4.3	Годишни симулации	38
4.3.1	Поле Z 1-1	38
4.3.2	Поле Z 1-2	68
4.3.3	Поле Z 1-3	89
4.3.4	Поле Z 2-1	110
4.3.5	Поле Z 2-2	110
4.3.6	Поле Z 2-3	131
4.3.7	Поле Z 3-1	152
4.3.8	Поле Z 3-2	173
4.3.9	Поле Z 4-1	194

Увод

Настоящият **Том III – Напоително- отводнителни полета, хидромелиоративни мрежи и съоръжения и Експлоатация на обекта**, е неделима част от проекта в първа фаза- Идеен проект на Система за двустранно регулиране на почвената влага (дренажно напояване) на земеделски земи в землищата на селата Крум и Ябълково- община Димитровград.

Изготвен е въз основа на Договор № Б-2/16.05.2007 г, подписан между Гошо Русев Николов и фирма „Агрокомплект“ ЕАД, както и Техническото задание за проучване и проектиране към него с Времеви график за изпълнение.

Цел на разработката

Целта на настоящият том е да систематизира и покаже техническата възможност и норми, приети при разработване на напоително- отводнителните полета. Отделните части са обособени като методически ръководства, с подробни принципи за избор на решения, схеми, формули и стандарти. Приетите техники, методики и решения са съобразени със спецификата на месните условия, изградената напоително- отводнителна мрежа в района и предпочитанията на Възложителя на проекта.

Общи условия

Анализът на конкретните природни, агро- технически, технико- икономически и социални условия определя площите от настоящия проект като проблемни и средно трудни за мелиорации. Обобщени, основните дадености, с които проектът трябва да се съобрази са следните:

◇ Климатът в района на обекта обуславя воден дефицит в почвата, водещ до невъзможност за високо продуктивно отглеждане на културни растения без изкуствено доставяне на поливна вода за тях;

◇ Геоложкият строеж на Долината е предпоставка за трайна поява на високи подпочвени води, в следствие на високи водни стоежи в река Марица и неправилни мелиорации. Земеделските площи са потенциално застрашени от наводняване и заблатяване;

◇ Генетичните, физико- химичните и водните свойства на почвите, установени от полско- проучвателни проучвания в района са относително разнородни. Скоростта на филтрация в почвените хоризонти е от много висока, до изключително ниска. Наличието на различни типове почви, налага различен подход при мелиорирането им;

◇ В площите на обекта са изградени напоително- отводнителни системи, понастоящем почти напълно унищожени и неизползваеми. По дължина на обекта частично са запазени два земни канала, с относително големи размери на напречното сечение и надлъжен наклон следващ естествения наклон на терена, успоредно на реката. Първият разделя площта почти централно върху виртуалния голям диаметър на елипсовидната граница на обекта, а вторият се намира на границата на алувиалните и делувиалните формирания в близост до ЖП линията. Със съществуването им е съобразено и устройството на територията, като частните

земеделски земи са възстановени на собствениците извън сервитутите на каналите;

◇ Собствеността на земите е частна, понастоящем частично използваема, без спазване на основни агрономически норми и правила. Обработката се извършва от собствениците поединично или в кооперативно обединение, разпокъсано в зависимост от местоположението на имотите на обединените стопани;

◇ Демографските проблеми са се отразили и на количеството и качеството на работната ръка. От една страна наемането на сезонни работници е наложително, но от друга стопаните не могат да си го позволят поради финансова неизгода;

Отчитайки всички проучени условия, проектът е разработен при следните **ГЛАВНИ ПРЕДПОСТАВКИ:**

◇ Основният филтрационен поток от река Марица към площите на обекта (явяващ се като следствие на бъдещото строителство на МВЕЦ „Крум” и МВЕЦ „Ябълково”) е редуциран, съгласно приетите противифилтрационни мероприятия (шлицова стена) в частта на проекта за МВЕЦ „Крум”, касаеща защитните диги;

◇ Проектът за МВЕЦ „Ябълково” не беше предоставен на Изпълнителя за съгласуване на решенията, поради което основното водовземно съоръжение е определено по аналог с проекта за МВЕЦ „Крум” и с КРВН=110,30, зададена от Възложителя;

◇ Устройството на територията на обекта е прието съгласно предоставената извадка от кадастралния план на част от землищата на селата Крум и Ябълково, при 100% запазване на съществуващият в момента статут на земите;

◇ Бъдещата организация на територията, поливният режим, поливните схеми, както и осъществяването на полива са разработени за обект в единно организирана експлоатация. Такава може да бъде постигната например при кооперативно обединение на собствениците в размерите на поне едно поле, или при експлоатация на площите под аренда.

Част 1 Напояване

1.1 Въведение

Понятието напояване означава изкуствено снабдяване на селскостопанските култури с недостигащата им вода, чрез поддържане на подходяща влажност на почвата. Осъществява се с помощта на комплексни инженерно-технически съоръжения, наречени напоителна система.

Напоителното поле е част от напоителната система, в което разпределението на водата за напояване се извършва от самостоятелна водоразпределителна мрежа. Захранва се с вода от един водовземен пункт на транспортиращата и водоразпределителна мрежа на напоителната система. Състои се от следните основни, функционално свързани части:

- ◇ Водовземен пункт, като в настоящият проект това е гравитачно водовземане от река Марица;
- ◇ Водоразпределителна мрежа от постоянни открити канали, подземни тръбопроводи и съоръжения;
- ◇ Водовземни съоръжения (хидранти, шахти, вододелители и др.);
- ◇ Поливна техника (инсталации, крила, машини, апарати и др.).

В зависимост от начина на постъпване на поливната вода в активния почвен слой, се различават четири основни начина за напояване:

- ◇ Повърхностно;
- ◇ Дъждообразно;
- ◇ Капково;
- ◇ Подпочвено.

Поливна инсталация се нарича техническо средство, чрез което водата се разпределя равномерно върху обработваемата площ. Основни видове са:

- ◇ Поливна тръба (вада);
- ◇ Дъждовален апарат;
- ◇ Дъждовално крило;
- ◇ Дъждовална батерия;
- ◇ Инсталация за подпочвено или капково напояване.

Поливна площадка се нарича площта, поливана от една позиция на поливната инсталация

Водооборотен участък е част от площта на напоителното поле, която се полива в рамките на една поливка от една поливна инсталация, чрез последователно поливане на поливните площадки.

Окрупнен водооборотен участък е площта няколко водооборотни участъка, захранвани от един или няколко тръбопровода.

1.2 Основни характеристики и параметри

Площите, върху които се разполага напоителното поле от мелиоративна гледна точка са:

- ◇ **Обща площ** (F_{total})- това е абсолютно цялата площ, оградена от даден контур (географска площ);
- ◇ **Бруто площ** (F_{gross})- това е площ, представляваща разликата между Total area и сумата на площи с единична големина повече от 100 ха (големи населени места, застроени терени, могили и други, които се намират вътре в контура на Общата площ);
- ◇ **Непродуктивна площ** ($F_{uncultivated}$)- необработваема площ в рамките на напоителното поле, състояща се от населени места, застроени терени, реки, оврази, дерета, пътища и други нестопанисвани земи;
- ◇ **Нето площ** (F_{net})- това е площ, представляваща разликата между Бруто площта и Непродуктивната площ;
- ◇ **Продуктивна площ** ($F_{productive}$)- това е площта, от която се добива селскостопанска продукция. Същата представлява разликата между Нето площта и сума от необходимите площи, върху които ще бъдат разположени различни съоръжения (площадки за помпени станции, изравнителни басейни, сервитути на канали, обслужващи пътища, временни сезонни отчуждения и други).

Таблица №1.2-1

Характерни площи

Характерни площи	декари
Обща площ (F_{total})	7 962,45
Бруто площ (F_{gross})	7 962,45
Непродуктивна площ ($F_{uncultivated}$)	1 103,13
Нето площ (F_{net})	6 859,32
Продуктивна площ ($F_{productive}$)	6 859,32

Схема №1.3.1-2

Брутни площи

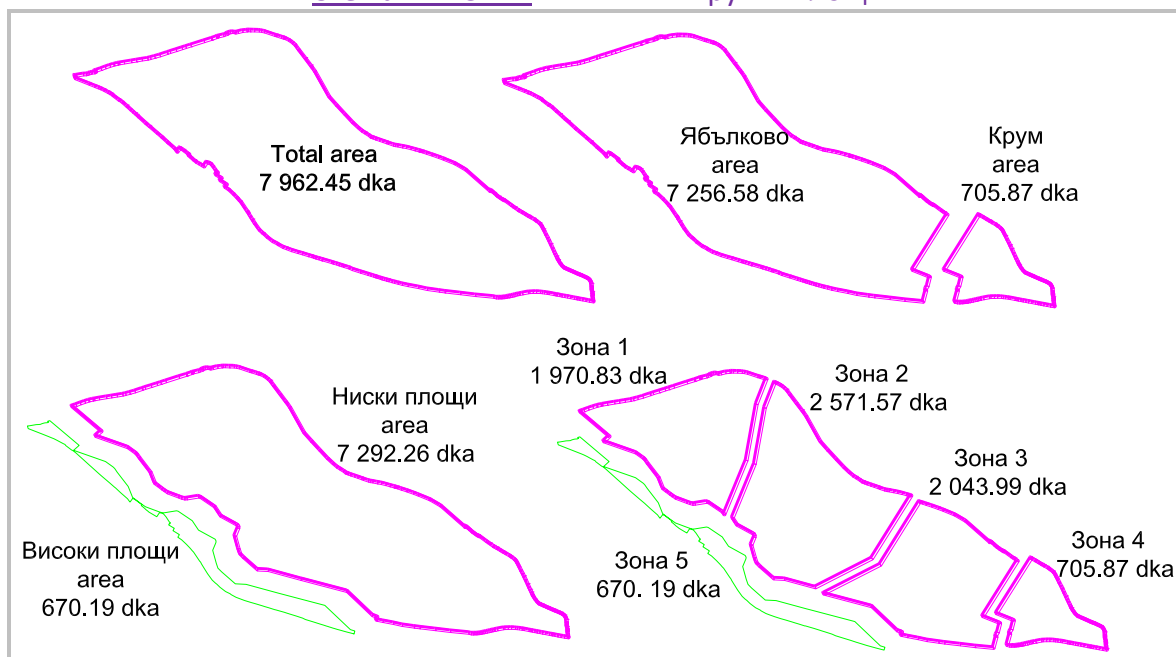


Таблица №1.2-2

Продуктивни площи

	Нетна площ по зони и полета в декари									
Местност	Zone 1			Zone 2			Zone 3		Zone 4	Zone 5
име	Z 1-1	Z 1-2	Z 1-3	Z 2-1	Z 2-2	Z 2-3	Z 3-1	Z 3-2	Z 4-1	Z 5
Свински пясък	58,37									
Гемията	94,70									
Пясъка	68,90									
Чожаково кладенче	81,93									
Пъмпалови върбалаци		100,11								
Хаджиева бахча		112,51								
Чиликов дъб		224,36								
Урчазма-1		144,92								
Урчазма-2		153,12								
Запрянова ада-1		117,69								
Запрянова ада-2		17,00								
Карапачово кладенче				124,19						
Бахчите				97,89						
Рогошев бент				161,91						
Лигова ада				60,25						
Кинтов кладенец-1				61,88						
Кинтов кладенец-2				79,01						
Кинтов кладенец-3				82,09						
Димитрова воденица				117,14						
Сотирово кладенче				74,00						
Жеково кладенче				160,44						
Тончо Пеюво кладенче				221,65						
Къневи върби-1							272,80			
Къневи върби-2							214,11			
Стоева бахча							188,32			
Белички чеир							186,66			
Бостанлъка							258,46			
Хашимово кладенче-1							54,89			
Хашимово кладенче-2							53,90			
Водника								396,41		
Чеири								189,79		
Саливки						150,61				
Чакърови чеири-1						40,80				
Чакърови чеири-2						66,11				
Баирчето						113,08				
Дядо Колев кладенец						188,82				
Зона А-1						13,91				
Зона А-2						5,00				
Зона А-3						28,40				
Под бахчите					139,10					
Глухарево кладенче					92,81					
Агова бахча					63,41					
Бажанак баир					164,72					
Калинова бахча-1			97,44							
Калинова бахча-2			144,01							
Донева бахча			136,71							
Стрелките			10,26							
Мерата-1			69,41							
Мерата-2			75,83							
Пърчев азмак-1	28,70									
Пърчев азмак-2	37,62									
Горно куле										20,40
Горно куле'										34,38
Герена										58,74
Гарата										28,92
Гарата'										8,24
Гарата"										32,18
Гарата'''										12,53
Герена'										32,38
Герена										16,07
Герена'										10,62
Герена										42,48
Герените										17,98
Герените										84,17
Минчов кладенец										35,10
Минчов кладенец										55,79
Минчов кладенец										43,79
Горен бостанлък-1									147,41	
Горен бостанлък-2									163,79	
Горен бостанлък-3									118,20	
ОБЩО	370,22	869,71	533,66	1240,45	460,04	606,73	1229,14	586,20	429,40	533,77
	1773,59			2307,22			1815,34		429,40	533,77
	6859,32									

Нетните площи са определени графично, в рамките на окрупнен масив от възстановени земеделски земи с различни собственици. Съобразно приетият начин за напояване и отводняване, същите се явяват като чисто продуктивни площи. В **Таблица № 1.2.-2** е дадено разпределението на нетните (продуктивните) площи в общата площ на обекта, а наименованията на обособените полета са съгласно графичните означения от картовия материал.

Коефициент на възстановените земеделски земи (Ψ) е:

$$\Psi = \frac{F_{net}}{F_{gross}} = \frac{5859.32}{7962.45} = 73.59 \%$$

Коефициент на полезно използване на земята (Ω) е:

$$\Omega = \frac{F_{productive}}{F_{net}} = 100\%$$

1.3 Избор на техника за напояване

Изборът на най- подходящите техники (технологии) на полива за всяко напоително поле е съобразен с конкретните природни, агротехнически, технико- икономически и социални условия. Изследвана е възможността за прилагане на дренажно напояване, възложена като техника на полива съгласно Договора и Техническото задание за проучване и проектиране към него.

За обособените отделни мелиоративни Зони в обекта са приети следните техники на полива, разгледани в следващите точки от тома:

- | | | |
|---|------------------|-----------------------|
| ◇ | Зони 1, 2, 3 и 4 | Дренажно напояване; |
| ◇ | Зона 5 | Гравитачно напояване. |

1.4 Дренажно напояване

Дренажното напояване е процес, при който необходимата за правилното развитие на културите вода се доставя до коренообитаемият хоризонт под земята, като се използват частично или напълно изградените отводнителни системи. Възможни са множество технически решения, като в настоящия проект е избрана популярната в Америка схема за напояване на крайречни терени с относително високо естествено ниво на подземните води- контролируем дренаж и подпочвено напояване (Controlled Drainage and Subirrigation).

Като цяло може да се отбележи, че за условията на България това се явява новост, а съответно и проекта може да се разглежда като **пилотен проект**. В разработките са направени известни модификации съгласно класическото прилагане, като по този начин системата за двустранно регулиране на почвената влага е адаптирана за конкретния случай.

При приложената схема не е редно отделните елементи да се класифицират като чисто напоителни или отводнителни, понеже част от тях изпълняват различна функция във времето.

Поливната площадка, Водооборотният участък и Окрупненият водооборотен участък се сливат в едно, което представлява самостоятелно обособен напоителен блок.

Отделните блокове (окрупнени масиви от частни земеделски имоти, съгласно кадасталният план) се обслужват от:

◇ Разпределителен Тръбопровод (РТ)- Ситуиран е по границата между отделните блокове (в предвидените в кадастъра сервитутни ивици) Доставя необходимите водни количества от Главния Напоителен Тръбопровод (ГНТ) до Блоковите Тръбопроводи (БТ);

◇ Блоков Тръбопровод (БТ)- Ситуирани централно на площта (по границата между отделните парцели). Доставя необходимите водни количества за напояване на културите в блока;

◇ Дренажни Смукатели- Напоители ДС(Н)- Директно свързани към Блоковите Тръбопроводи перфорирани тръби, с двойна функция (отводнителна и напоителна). Разположени са систематично в площта, през разстояния, определени в проекта. Заустват в НОК;

◇ Напоително- Отводнителни Канали (НОК)- Разположени по границата между отделните блокове (в предвидените в кадастъра сервитутни ивици). Имат двойна функция- Отводнителна (като колектор), когато служат за водоприемник при дренажен режим на Смукателите и Напоителна, когато подприщват напоителната вода и създават необходимият напор и кота в Напоителите;

◇ Главен Отводнителен Канал (ГОК)- Ситуиран е по границата между отделните блокове (в предвидените в кадастъра сервитутни ивици) и служи за водоприемник на НОК;

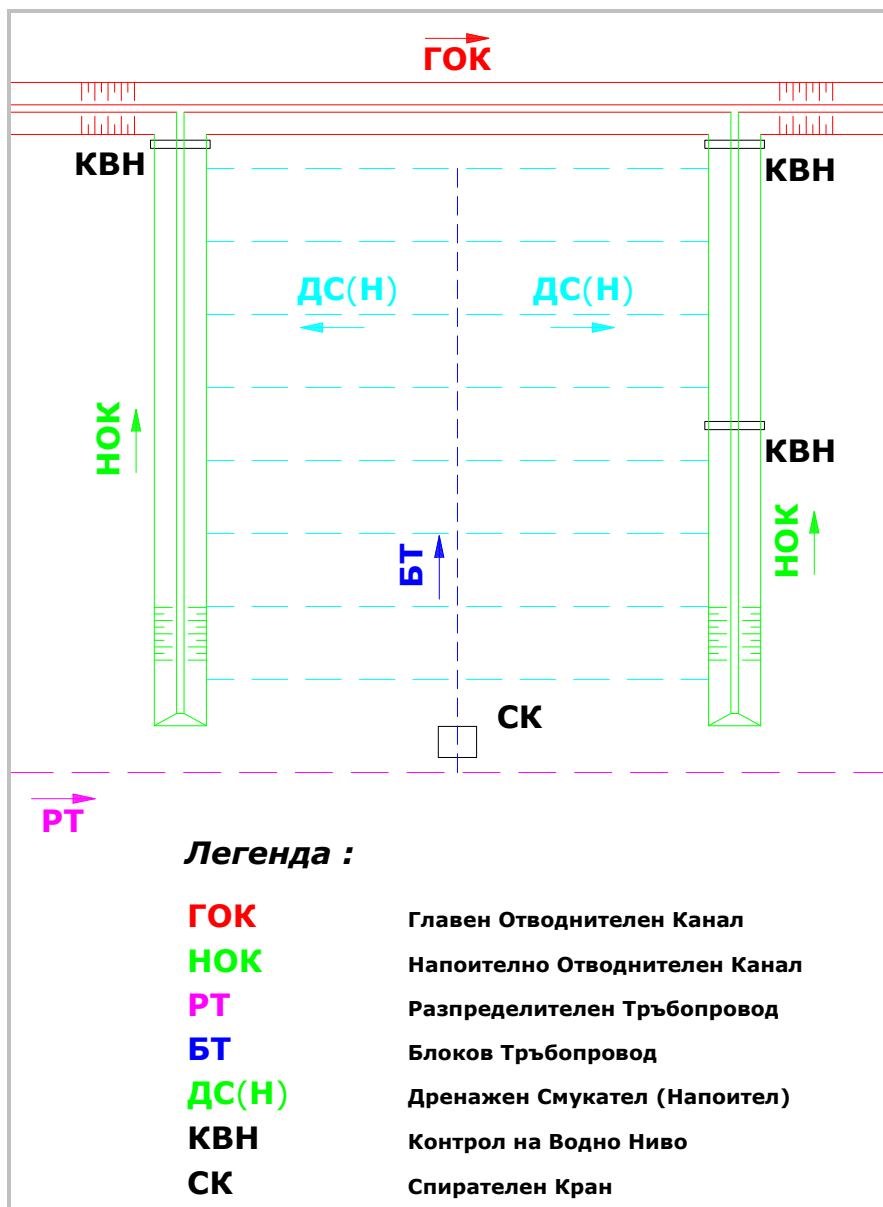
◇ Контрол на Водното Ниво (КВН)- Съоръжения по Напоително- Отводнителни Канали (НОК), създаващи необходима кота на водното ниво при режим на работа напояване или контролиран дренаж. Разположени са непосредствено преди заустването на канала, или на определени места, където се получава разлика в теренните коти в порядъка на около 30 сантиметра;

◇ Спирателен Кран (СК)- Съоръжение за пускане и спиране на напоителната вода в блока, осъществяващо автоматичен контрол на напора и дебита.

Общата схема, приложена в отделните блокове на полето има следния вид (виж **Схема № 1.4-1**).

Схема № 1.4-1

Организация на Напоително- Отводнителното Плое



1.4.1 Определяне на отстоянието между Дренажните Смукатели- Напоители

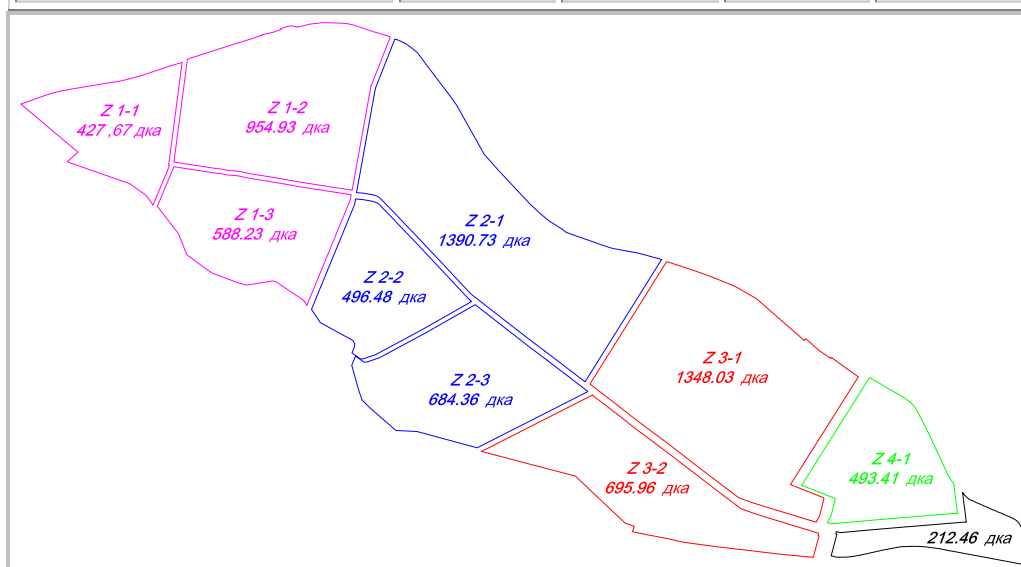
Определянето на отстоянието между перфорираните Дренажни смукатели- Напоители е от съществено значение за правилната работа на системата и стойността на обекта. Съгъстването на отстоянието между тях гарантира по- плавно изменение на депресионната крива на подземните води, но оскъпява обекта.

При приетия двустранен режим на работа е необходимо да се гарантират и двата процеса- Напояване и Отводняване. За настоящия пилотен проект е подходено по следната блок- схема:

◇ Схематизирани са площи със сходни природни дадености (инженерно- геоложки и почвено- мелиоративни), които формират 9 разновидности. Те образуват отделни полета, всяко включващо в себе си няколко Напоително- Отводнителни блока. От своя страна едно или няколко полета образуват Напоително- Отводнителни Зони (виж **Том I**;

Чертеж № 008-III.1,2) и Таблица № 1.4.1-1.**Таблица №1.4.1-1** Площи по Зони и Полета (ниска част)

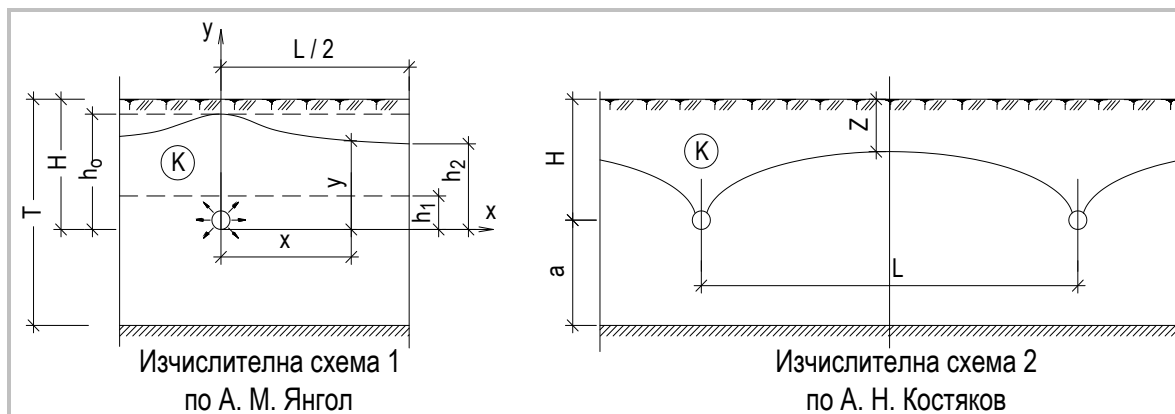
Зона	Поле	Бруто площ в дка			
Зона 1 Z 1	Z 1-1	427,67	1 970,83	7079,80	7 292,26
	Z 1-2	954,93			
	Z 1-3	588,23			
Зона 2 Z 2	Z 2-1	1390,73	2 571,57		
	Z 2-2	496,48			
	Z 2-3	684,36			
Зона 3 Z 3	Z 3-1	1348,03	2 043,99		
	Z 3-2	695,96			
Зона 4 Z 4	Z 4-1	493,41	705,87		
	Общ. мера	212,46			
Общо		7 292,26	7 292,26	7 292,26	7 292,26



◇ За всяко поле със сходни характеристики са определени отстоянието между перфорираните Дренажни смукатели- Напоители по два метода, като е приет инженерно удовлетворяващ среден резултат (**виж Таблица № 1.4.1-2**).

Таблица №1.4.1-2 Дренажни отстояния

									по А. М. Янгол						по А. Н. Костяков					прието	
		T	K*	K	μ	z	H	t _n	h ₀	h ₁	h ₂	β	M	L	a	δ	P	E	L	L	
		m	m/d	m/d		m	m	days	m	m	m			m	m	m	%	mm	mm	m	m
Zone 1	none 1-3	4,30	1,74	3,43	0,24	0,75	1,30	3	1,10	0,30	0,80	0,36	1,90	22,83	3,00	16,18	0,022	0,013	22,25	25	
	none 1-2	6,80	3,64	5,58	0,24	0,75	1,30	3	1,10	0,30	0,80	0,36	1,97	29,65	5,50	16,73	0,022	0,013	34,50	35	
	none 1-1	6,80	10,68	12,50	0,24	0,75	1,30	3	1,10	0,30	0,80	0,36	1,97	44,38	5,50	21,89	0,022	0,013	45,15	45	
Zone 2	none 2-3	5,50	0,73	0,98	0,24	0,75	1,30	3	1,10	0,30	0,80	0,36	1,94	12,34	4,20	14,14	0,022	0,013	14,24	15	
	none 2-2	5,50	9,12	16,15	0,24	0,75	1,30	3	1,10	0,30	0,80	0,36	1,94	50,09	4,20	18,60	0,022	0,013	50,42	50	
	none 2-1	6,80	10,68	12,50	0,24	0,75	1,30	3	1,10	0,30	0,80	0,36	1,97	44,38	5,50	21,89	0,022	0,013	45,15	45	
Zone 3	none 3-2	3,50	0,73	0,98	0,24	0,75	1,30	3	1,10	0,30	0,80	0,36	1,86	12,06	2,20	14,14	0,022	0,013	11,60	15	
	none 3-1	7,20	4,11	5,79	0,24	0,75	1,30	3	1,10	0,30	0,80	0,36	1,98	30,25	5,90	16,98	0,022	0,013	35,84	35	
Zone 4	none 4-1	10,00	17,10	18,57	0,24	0,75	1,30	3	1,10	0,30	0,80	0,36	2,01	54,58	8,70	26,23	0,022	0,013	60,38	60	



$$L = 1.73 \times \sqrt{\frac{t_n \times \left(\frac{1}{\mu} \times \frac{1}{1.5 \times 10^{-3}} + \beta \right) \times \frac{h_0^2 - h_2^2}{2}}{H}}$$

$$M = 1 + 5.5 \times \sqrt{\frac{T - E}{T} \times \frac{e}{H}}$$

$$\beta = \frac{h_2^2}{2 \times (h_0^2 - h_2^2)} \times \operatorname{arcsch} \sqrt{\frac{h_0^2}{h_2^2} - 1}$$

$$L = 1.73 \times \sqrt{\frac{K \times \left(\frac{1}{\delta} \times \frac{1}{1.5 \times 10^{-3}} + \beta \right) \times \frac{H - z}{2}}{H}}$$

Където:

- T Отстояние до водоупора;
- K* Коефициент на филтрация, усреднен за проучваната дълбочина;
- K Коефициент на филтрация, усреднен за двуметров пласт;
- μ Коефициент на водоотдаване, съгл. Проекта за МВЕЦ „Крум“;
- Z норма на отводняване;
- H Дълбочина на полагане на дренажа;
- t_n Време за повишаване на водното ниво от h₁ до h₂ (по Янгол в напоителен режим) или за понижаване на депресионната крива от повърхността до z (по Костяков в отводнителен режим);
- h₀ Височина на НПВ над смукателя в края на поливния период;
- h₁ Височина на НПВ над смукателя в началото на поливния период;
- h₂ Височина на НПВ над смукателя за среден створ в края на поливния период;
- a Отстояние от дренажа до водоупора;
- δ Коефициент на водоотдаването в %, равен на ПВ-ППВ;
- P Паднали валежи за периода t_n;
- E Сумарно изпарение за периода t_n;
- L Разстояние между дренажите.

◇ За всеки приет резултат от **Таблица № 1.4.1-2**, чрез DRAINMOD са проведени по 4 броя симулации на отводнително-напоителния процес, като е търсен възможният диапазон на отстоянието (от минимум до максимум) и оптималното дренажно отстояние (**виж Таблица № 1.4.1-3**). За полета Z 2-3 и Z 3-2 минималните отстояния са непрактични и поради това е търсена средна стойност (middle), която да стесни подходящият за използване интервал.

Таблица №1.4.1-3 Оптимални дренажни отстояния

Зона	Поле	Дренажно отстояние в метри			
		По Янгол Костяков	Минимум	Максимум	Оптимално
Зона 1 Z 1	Z 1-1	45	15	60	40
	Z 1-2	35	15	60	35
	Z 1-3	25	15	60	35
Зона 2 Z 2	Z 2-1	45	15	60	40
	Z 2-2	50	20	100	55
	Z 2-3	15	35*	50	25
Зона 3 Z 3	Z 3-1	35	15	60	40
	Z 3-2	15	35*	40	30
Зона 4 Z 4	Z 4-1	60	20	100	70

1.4.2 Технически данни за дренажните смукатели-напоители

А) Ситуационно разположение

Поради различният размер на площите и тяхната неправилна форма, е неудачно използването на типови напоително- отводнителни единици. Всяко поле е решавано само за себе си, съобразно площта и дренажното отстояние. Смукателите са разположени перпендикулярно на главната посока на течението, като заустването им в Напоително-Отводнителния канал е едностранно или двустранно, с ъгъл по- голям от 50^{gr}.

В) Дълбочина на дренажните Смукатели- Напоители

Средната дълбочина за полагане на регулиращата мрежа от тръбни Смукатели-Напоители е приета на 1,30 метра. Тя е съобразена с конкретните изисквания за общо понижаване на подпочвените води и осигуряване поливната такава.

С) Материал и диаметър на Смукатели- Напоители

Най- подходящи за настоящият проект са продуктите, отговарящи на **ASTM F 405** (Standard Specification for Corrugated Polyethylene (PE) Tubing and Fittings) и **AASHTO M 252** (Corrugated Polyethylene Drainage Tubing). Избрани са Dual Wall Corrugated Smooth Interior High Density Perforated Polyethylene Drainage Pipe (Двойностенни гофрирани с гладка вътрешност високо плътни полиетиленови перфорирани дренажни тръби) с номинален диаметър 4" (100 mm), при следните изисквания (виж **Таблица № 1.4.2-1**).

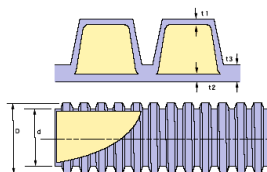
Относително по- скъпи от едностенните и с гофрирана вътрешност, избраните тръби имат много високи механични и хидравлични показатели. Предвидено е при заустването им в Напоително- Отводнителния канал да се монтира мрежа, предпазваща тръбата от попадане

на неподходящи материали в нея. Промиването им трябва да се извършва поне веднъж в годината, чрез напоителната система и последователното затваряне/отваряне на отвора при заустването. За целта може да се използва бързосвързваща тапа, или друго подръчно средство.

Таблица №1.4.2-1 Dual Wall Corrugated HD Polyethylene Perforated Drainage Pipe

Nominal Diameter In mm (in inches)	Minimum Inside Diameter (mm)	Maximum Inside Diameter (mm)	Pipe Stiffness (kPa)	Waterway Wall Thickness (mm)	Outside Diameter (mm)	Slot		Minimum Opening cm ² /m
						Wide In mm (in inches)	Long In mm (in inches)	
100 (4")	99	104	345	0.5	118	0.09÷0.13 (0.035÷0.050)	1.3÷1.9 (0.50"÷0.75")	25

Общият вид на тръбите за дренажни смукатели е показан на **Фигура № 1.4.2-1**, като прорезите са разположени по 4 броя в ниската част на гофрираната външна повърхност през 90°. Разположението на отворите във всяка следваща улама е на 15° спрямо предходната, оформяйки 24 реда от отвори с минимална площ 25 cm²/m.



Фигура №. 1.4.2-1

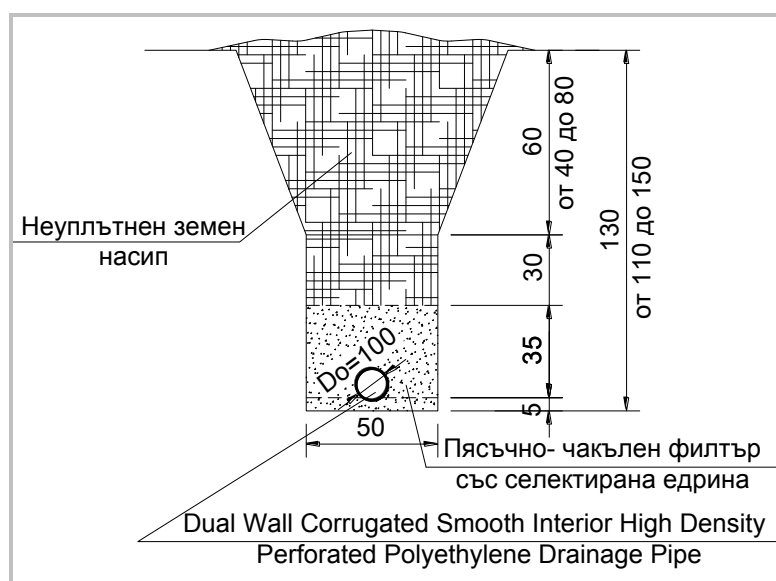


D) Ефективен диаметър на смукателите. Дренажни филтри.

Ефективният диаметър на тръбните смукатели- напоители влияе върху коефициента на полезно действие и при двата режима на работа, както и при определянето на дренажното отстояние. Той е в зависимост от избраната технология на строителството (траншейно или безтраншейно полагане) и конструкцията и размера на дренажния филтър.

За настоящият проект е избрана технология на траншейно полагане на смукателите и изграждането на мощен пясъчно- чакълен филтър (виж **Схема № 1.4.2-1**).

Схема №. 1.4.2-1



Пясъчно- чакъленият филтър е с крива на зърнометричния състав, подобна по

форма на тази на почвата, като: $\frac{D_{50}^f}{D_{50}^s} = 12 \div 18$ $\frac{D_{15}^f}{D_{15}^s} = 12 \div 10$ $\frac{K^f}{K^s} > 5$

Е) Пропускна способност, дължина и надлъжен наклон на дренажните смукатели

Пропускната способност на смукателите- напоители с номинален диаметър 100 mm е изследвана за различни надлъжни наклони, с цел установяване на техните гранични стойности, във връзка с процента на запълване на сечението и допустимите минимални и максимални стойности на скоростта на течението. Коефициента на Manning е 0,012, а по-характерни резултати са дадени в **Таблица № 1.4.2-2**.

Таблица №1.4.2-2 Пропускна способност на смукателите- напоители

Design Q Q _d	Pipe Slope J	Flow Dept d	Flow Velocity V _d	Dept Ratio	Design Q Q _d	Pipe Slope J	Flow Dept d	Flow Velocity V _d	Dept Ratio
l/s	%	mm	m/s	%	l/s	%	mm	m/s	%
0.50	0.10	36	0.19	36.4	0.50	2.00	17	0.56	17.0
1.00	0.10	54	0.23	53.8	1.00	2.00	24	0.69	24.0
1.50	0.10	71	0.25	70.7	2.00	2.00	34	0.84	34.3
1.80	0.10	100	0.23	100.0	3.00	2.00	43	0.94	42.7
0.50	0.20	30	0.25	30.3	4.00	2.00	50	1.01	50.3
1.00	0.20	44	0.30	44.0	6.00	2.00	65	1.11	65.1
1.50	0.20	56	0.33	55.8	7.00	2.00	73	1.14	73.1
2.00	0.20	68	0.35	67.6	8.00	2.00	100	1.02	100.0
2.60	0.20	100	0.33	100.0	1.00	3.00	22	0.80	21.7
0.50	0.25	29	0.27	28.6	2.00	3.00	31	0.97	30.8
1.00	0.25	41	0.33	41.3	4.00	3.00	45	1.17	44.8
1.50	0.25	52	0.36	52.1	6.00	3.00	57	1.30	56.9
2.00	0.25	63	0.39	62.5	7.00	3.00	63	1.34	63.0
2.50	0.25	74	0.40	73.7	9.00	3.00	76	1.40	76.2
2.80	0.25	100	0.36	100.0	9.70	3.00	100	1.24	100.0
0.50	0.30	27	0.29	27.3	1.00	3.50	21	0.84	20.9
1.00	0.30	39	0.35	39.3	2.00	3.50	30	1.03	29.6
1.50	0.30	49	0.39	49.4	4.00	3.50	43	1.24	42.9
2.00	0.30	59	0.42	58.9	6.00	3.50	54	1.38	54.3
2.50	0.30	69	0.44	68.6	8.00	3.50	65	1.47	65.5
3.00	0.30	80	0.44	80.1	9.00	3.50	71	1.50	71.5
3.10	0.30	100	0.39	100.0	10.00	3.50	78	1.52	78.2
					10.10	3.50	100	1.40	100.0

За настоящия проект са избрани следните гранични стойности за надлъжен наклон на смукателите: $J_{\min} = 0,2\%$ $J_{\max} = 3,5\%$

1.4.3 Блокови тръбопроводи

Блоковите тръбопроводи е предвидено да се изпълнят от PVC тръби, с клас за налягане PN6 atm. Оразмерителното водно количество на всеки един от тях е определено по два начина, като за меродавно е прието средно аритметичното от тях (виж **Таблица №1.4.3-1**). Процедирано е по следната блок- схема:

Таблица №1.4.3-1

Блокови Тръбопроводи Б.Т.

Оразмерителни водни количества

		Съгласно DRAINMOD								Съгласно Проектен Поливен Режим (24ч)						Прието	Организация на полива		
Зона	Поле	БТ	Площ	Площ	W _{irrig}	q _{irrig}	Q _{irrig}	Q _{irrig} fors	i	q	q	q*	Q _{irrig}	i	i _{ср}	Q _{БТ}	i	T _{необх}	
		№	дка	м ²	см/мес/м ²	л/сек/м ²	л/сек	л/сек	мм/час	л/сек/ха	л/сек/м ²	л/сек/м ²	л/сек	мм/час	мм/час	л/сек	мм/час	час/ден	
Зона 1 Z1	Z1-1	БТ 1-1	72,68	72 680	6,82	0,000026	1,91	2,39	0,12	0,64	0,000064	0,000048	4,65	0,23	0,17440	5	0,25	16,90	
		БТ 1-2	185,32	185 320	6,82	0,000026	4,88	6,10	0,12	0,64	0,000064	0,000048	11,86	0,23	0,17440	15	0,29	14,36	
		БТ 1-3	91,56	91 560	6,82	0,000026	2,41	3,01	0,12	0,64	0,000064	0,000048	5,86	0,23	0,17440	10	0,39	10,65	
	Z1-2	БТ 2-1	34,20	34 200	6,82	0,000026	0,90	1,12	0,12	0,64	0,000064	0,000048	2,19	0,23	0,17440	5	0,53	7,95	
		БТ 2-2	43,91	43 910	6,82	0,000026	1,16	1,44	0,12	0,64	0,000064	0,000048	2,81	0,23	0,17440	5	0,41	10,21	
		БТ 1-4	110,18	110 180	6,41	0,000025	2,72	3,41	0,11	0,64	0,000064	0,000048	7,05	0,23	0,17084	10	0,33	12,55	
	Z1-3	БТ 1-5	420,88	420 880	6,41	0,000025	10,41	13,01	0,11	0,64	0,000064	0,000048	26,94	0,23	0,17084	30	0,26	15,98	
		БТ 1-6	423,87	423 870	6,41	0,000025	10,48	13,10	0,11	0,64	0,000064	0,000048	27,13	0,23	0,17084	30	0,25	16,09	
		БТ 2-3	77,50	77 500	4,10	0,000016	1,23	1,53	0,07	0,64	0,000064	0,000048	4,96	0,23	0,15079	5	0,23	15,58	
		БТ 2-4	247,37	247 370	4,10	0,000016	3,91	4,89	0,07	0,64	0,000064	0,000048	15,83	0,23	0,15079	20	0,29	12,43	
		БТ 2-5	263,36	263 360	4,10	0,000016	4,17	5,21	0,07	0,64	0,000064	0,000048	16,86	0,23	0,15079	20	0,27	13,24	
			1 970,83	1 970 830														155	
Зона 2 Z2	Z2-1	БТ 1-7	432,66	432 660	7,09	0,000027	11,83	14,79	0,12	0,64	0,000064	0,000048	27,69	0,23	0,17675	35	0,29	14,57	
		БТ 1-7-1	104,55	104 550	7,09	0,000027	2,86	3,57	0,12	0,64	0,000064	0,000048	6,69	0,23	0,17675	10	0,34	12,32	
		БТ 1-8	192,47	192 470	7,09	0,000027	5,26	6,58	0,12	0,64	0,000064	0,000048	12,32	0,23	0,17675	15	0,28	15,12	
		БТ 1-9	261,16	261 160	7,09	0,000027	7,14	8,93	0,12	0,64	0,000064	0,000048	16,71	0,23	0,17675	20	0,28	15,39	
		БТ 1-10	256,92	256 920	7,09	0,000027	7,03	8,78	0,12	0,64	0,000064	0,000048	16,44	0,23	0,17675	20	0,28	15,14	
		БТ 1-11	247,52	247 520	7,09	0,000027	6,77	8,46	0,12	0,64	0,000064	0,000048	15,84	0,23	0,17675	20	0,29	14,58	
	Z2-2	БТ 2-6	248,53	248 530	8,05	0,000031	7,72	9,65	0,14	0,64	0,000064	0,000048	15,91	0,23	0,18508	20	0,29	15,33	
		БТ 2-7	247,95	247 950	8,05	0,000031	7,70	9,63	0,14	0,64	0,000064	0,000048	15,87	0,23	0,18508	20	0,29	15,30	
	Z2-3	БТ 2-8	231,38	231 380	5,48	0,000021	4,89	6,11	0,10	0,64	0,000064	0,000048	14,81	0,23	0,16277	15	0,23	16,74	
		БТ 2-9	186,17	186 170	5,48	0,000021	3,94	4,92	0,10	0,64	0,000064	0,000048	11,91	0,23	0,16277	15	0,29	13,47	
		БТ 2-10	266,81	266 810	5,48	0,000021	5,64	7,05	0,10	0,64	0,000064	0,000048	17,08	0,23	0,16277	20	0,27	14,48	
			2571,57	2 571 570														200	
Зона 3 Z3	Z3-1	БТ 1-12	337,60	337 600	5,47	0,000021	7,12	8,91	0,09	0,64	0,000064	0,000048	21,61	0,23	0,16268	25	0,27	14,65	
		БТ 1-13	600,10	600 100	5,47	0,000021	12,66	15,83	0,09	0,64	0,000064	0,000048	38,41	0,23	0,16268	45	0,27	14,46	
		БТ 1-14	60,98	60 980	5,47	0,000021	1,29	1,61	0,09	0,64	0,000064	0,000048	3,90	0,23	0,16268	5	0,30	13,23	
		БТ 1-15	313,92	313 920	5,47	0,000021	6,62	8,28	0,09	0,64	0,000064	0,000048	20,09	0,23	0,16268	25	0,29	13,62	
		БТ 1-16	35,43	35 430	5,47	0,000021	0,75	0,93	0,09	0,64	0,000064	0,000048	2,27	0,23	0,16268	5	0,51	7,69	
	Z3-2	БТ 2-11	212,02	212 020	4,39	0,000017	3,59	4,49	0,08	0,64	0,000064	0,000048	13,57	0,23	0,15331	15	0,25	14,45	
		БТ 2-12	269,95	269 950	4,39	0,000017	4,57	5,72	0,08	0,64	0,000064	0,000048	17,28	0,23	0,15331	20	0,27	13,80	
		БТ 2-13	126,42	126 420	4,39	0,000017	2,14	2,68	0,08	0,64	0,000064	0,000048	8,09	0,23	0,15331	10	0,28	12,92	
		БТ 2-14	87,57	87 570	4,39	0,000017	1,48	1,85	0,08	0,64	0,000064	0,000048	5,60	0,23	0,15331	10	0,41	8,95	
			2 043,99	2 043 990														160	
Зона 4 Z4	Z4-1	БТ 1-16	133,79	133 790	11,67	0,000045	6,02	7,53	0,20	0,64	0,000064	0,000048	8,56	0,23	0,21650	15	0,40	12,87	
		БТ 1-17	218,88	218 880	11,67	0,000045	9,85	12,32	0,20	0,64	0,000064	0,000048	14,01	0,23	0,21650	20	0,33	15,80	
		БТ 1-18	140,74	140 740	11,67	0,000045	6,34	7,92	0,20	0,64	0,000064	0,000048	9,01	0,23	0,21650	15	0,38	13,54	
		БТ 1-18-1	32,70	32 700	11,67	0,000045	1,47	1,84	0,20	0,64	0,000064	0,000048	2,09	0,23	0,21650	5	0,55	9,44	
		493,41	493 410													50			
ОБЩО			7 079,80	7 079 800												565			

◇ За всеки блок тръбопровод е изчислена бруто площта, която той обслужва (площта, в която при режим напояване се потдържа желаното ниво на подземните води). Номерацията на блоковете тръбопроводи е съставена от две цифри- първата показва от кой разпределителен тръбопровод се захранва, а втората е пореден номер на отклонение от разпределителния тръбопровод;

◇ Съгласно решенията за оптималния вариант на дренажното отстояние, от DRAINMOD симулацията е получена поливна максимална месечна стойност в сантиметри за всяко поле W_{irrig};

◇ Същата е превърната в необходими литри/секунда/24 часа (Q_{irrig}) и е определена екстремна (форсирана) стойност (Q_{irrig}^{fors})=1,25x(Q_{irrig});

◇ Изчислен е интензитетът $j = \frac{3600Q}{F}$ (mm/h), с който би трябвало да се подава напоителна вода, за достигане на максималната месечна стойност в сантиметри;

◇ Съгласно проектния поливен режим е взет максималният 24 часов хидромодул за повърхностно напояване (q), който е редуциран за подпочвено напояване

$q^*=0,75.q;$

◇ Изчислени са Q_{irig} и интензитета, с който би трябвало да се подава напоителна вода, за достигане на максималния 24 часов хидромодул;

◇ Стойностите за интензитета, получени по двете методики са осреднени и е получен приетия необходим интензитет $i_{cp};$

◇ Прието е, че в рамките на върховото водопотребление на културите работният ден е с продължителност до 16 часа. За всеки блок тръбопровод е задавано водно количество (кратно на 5л/сек), изчисляван е експлоатационния интензитет и времето в часове за ден за което ще се осъществи поливката.

Хидравличното оразмеряване на тръбопроводните мрежи в настоящия проект е извършено чрез компютърна симулация на разклонена напорна мрежа и оптимизиране на диаметрите на различните тръбопроводни участъци. Във всеки пункт от мрежата е достигнат удовлетворяващ напояването напор, при набор от диаметри на тръбните участъци, гарантиращ минимални капиталовложения и годишни разходи.

В основата на хидравличното оразмеряване е методологията на Brandel- Colburg и най- често използваната в световен мащаб формула на Colburg -White:

$$\frac{1}{\sqrt{\lambda}} = \left| -2 \lg \left(\frac{K}{3,71D} + \frac{2,51}{R_e} \frac{1}{\sqrt{\lambda}} \right) \right|, \text{ където:}$$

λ	friction losses coef.;
K	absolute roughness coefficient in mm;
D	pipe diameter in m;
g	acceleration due to gravity in m/s^2 ;
R_e	Reynolds number = $\frac{vD}{\nu}$,
ν	kinematics viscosity

Хидравличният градиент (загубите на напор по дължина) в тръбопроводите е определен по формулата на Darsi –Weisbach $J = \frac{\lambda}{2gD} V^2$, като местните загуби на напор са приети на 10% от линейните. Температурата на флуида е приета $20^{\circ}C$, а минималната и максимална скорост е съответно $V_{min}=0,5 \text{ m/sec.}$ и $V_{max}=3,0 \text{ m/sec.}$

За илюстрация на решенията е съставена **Таблица № 1.4.3-2**, показваща най-подходящия за случая набор от диаметри, пропускащи оразмерителните водни количества:

Прието е за тръбопроводните мрежи в проекта да се използват новото поколение “изкуствени” материали- PVC, GRP и PE. Освен високата си устойчивост към агресивна среда, те притежават много висока гладкост на вътрешните стени, пълен набор от фитинги и арматури, а еластичността им е предимство при нестационарни хидравлични процеси и деформации на терена.

Избраните PVC тръби отговарят на международните стандарти и норми. Минималното покритие над тръбите е 0.80 метра, а основните параметри на траншеята за полагане на тръбите са показани в **Таблица № 1.4.3-3** и **Схема № 1.4.3-1**:

Таблица №1.4.3-2 Загуби на напор в PVC тръбопроводи

PVC pipes- 6 bars Flow resistance							
K=0.04 mm t=20°C							
Q	D	Db	s	V	J	L	h
l/sec	mm	mm	mm	m/sec		m	m/100m
5	110	103,6	3,2	0,59	0,00371	100	0,371
	125	117,6	3,7	0,46	0,00200	100	0,200
10	125	117,6	3,7	0,92	0,00714	100	0,714
	160	150,6	4,7	0,56	0,00212	100	0,212
	200	188,2	5,9	0,36	0,00072	100	0,072
15	160	150,6	4,7	0,84	0,00447	100	0,447
	200	188,2	5,9	0,54	0,00150	100	0,150
	250	235,4	7,3	0,34	0,00050	100	0,050
20	200	188,2	5,9	0,72	0,00255	100	0,255
	250	235,4	7,3	0,46	0,00085	100	0,085
	315	296,6	9,2	0,29	0,00028	100	0,028
25	200	188,2	5,9	0,90	0,00385	100	0,385
	250	235,4	7,3	0,57	0,00128	100	0,128
	315	296,6	9,2	0,36	0,00042	100	0,042
30	250	235,4	7,3	0,69	0,00180	100	0,180
	315	296,6	9,2	0,43	0,00058	100	0,058
	355	334,2	10,4	0,34	0,00032	100	0,032
35	250	235,4	7,3	0,80	0,00239	100	0,239
	315	296,6	9,2	0,51	0,00077	100	0,077
	355	334,2	10,4	0,40	0,00043	100	0,043
40	315	296,6	9,2	0,58	0,00098	100	0,098
	355	334,2	10,4	0,46	0,00055	100	0,055
45	315	296,6	9,2	0,65	0,00122	100	0,122
	355	334,2	10,4	0,51	0,00068	100	0,068

Таблица № 1.4.3-3

DN	Dext	B	t	H
mm	m	m	m	m
63	0.06	0.60	0.10	1,00
75	0.08	0.60	0.10	1,00
90	0.09	0.60	0.10	1,00
110	0.11	0.60	0.10	1,05
160	0.16	0.60	0.10	1,10
225	0.23	0.60	0.10	1,15
250	0.25	0.60	0.10	1,15
280	0.28	0.60	0.10	1,20
315	0.32	0.70	0.10	1,25
355	0.36	0.80	0.10	1.30

Схема № 1.4.3-1

Допустимите минимални надлъжни наклони на тръбопроводите са:

- ◇ J = 0,0005 за качващи се клонове;
- ◇ J = 0,0010 за слизащи по посока на течението на водата клонове.

В началото на всеки Блоков тръбопровод е предвидено монтиране на изолиращо-контролна арматура, поставена в стоманобетонова шахта (виж Том IV от проекта). Връзката между Блоковите тръбопроводи и Дренажните Смукатели- Напоители се осъществява със стандартни преходни фасонни части (от PVC към PE).

1.4.4 Разпределителни тръбопроводи

Разпределителните Тръбопроводи (РТ) са ситуирани по границата между отделните блокове, в предвидените в кадастъра сервитутни ивици. Функцията им е да доставят необходимите водни количества от Главния Напоителен Тръбопровод (ГНТ), до Блоковите Тръбопроводи (БТ). В проекта са предвидени два броя Разпределителни Тръбопроводи:

◇ Разпределителен Тръбопровод № 1 (РТ 1) ситуиран е успоредно на централния за площите канал, в рамките на неговия сервитут. Захранва площите на полета Z1-1, Z1-2, Z2-1, Z3-1 и Z4-1. Общата му дължина е 5 355,97 метра. Предвиден е за изграждане от стъклопластови GRP тръби с диаметри по- големи от и PVC тръби при по- малки от DIA 400 mm диаметри.

Оразмерителните водни количества са получени по участъци, като интегрална сума на приетите за Блоковите тръбопроводи. Максималното оразмерително водно количество е $Q_{max}=365,00$ l/sec.

Хидравличното изчисляване е извършено по методологията на Brandel- Colburg и най- често използваната в световен мащаб формула на Colburg –White. (виж т.1.4.3 от тома). Изборът на диаметри е съобразен с изискуемият напор при отклоненията, а скоростите са в долната граница, поради ниският статичен напор в системата (виж Таблица № 1.4.4-1).

Таблица №1.4.4-1 РТ 1- Хидравлично изчисление и оптимизиране на диаметрите

POINTS	DISTANCE	GROUND ELEVATION	DYNAMIC LEVEL	DYNAMIC PRESSURE	WATER QUANTITIES	DIAMETER	MATERIAL	VELOCITY	HYDRAULIC GRADIENT	HYDRAULIC LOSSES	KILOMETERS	POINTS
No	m			m	l/sec	mm	GRP/PVC	m/sec	m/m	m	m	No
W_{PT1&2}		107,00	108,90	1,90							0,00	W_{PT1&2}
W_{BT1}	100,31	106,00	108,85	2,85	365,00	800	GRP	0,726	0,00047	0,05		W_{BT1}
W_{BT2}	239,03	104,50	108,74	4,24	360,00	800	GRP	0,716	0,00046	0,11	100,31	W_{BT2}
W_{BT3&4}	310,43	104,20	108,61	4,41	345,00	800	GRP	0,686	0,00043	0,13	339,34	W_{BT3&4}
W_{BT5}	327,27	103,20	108,49	5,29	325,00	800	GRP	0,647	0,00038	0,13	649,77	W_{BT5}
W_{BT6}	524,89	103,20	108,17	4,97	295,00	700	GRP	0,767	0,00061	0,32	977,04	W_{BT6}
W_{BT7}	364,02	102,10	107,90	5,80	265,00	650	GRP	0,799	0,00072	0,26	1501,93	W_{BT7}
W_{BT8}	335,01	102,10	107,63	5,53	230,00	600	GRP	0,813	0,00081	0,27	1865,95	W_{BT8}
W_{BT9}	320,38	101,90	107,40	5,50	215,00	600	GRP	0,760	0,00072	0,23	2200,96	W_{BT9}
W_{BT10}	411,07	101,90	107,02	5,12	195,00	550	GRP	0,821	0,00092	0,38	2521,34	W_{BT10}
W_{BT11&12}	601,55	101,80	106,57	4,77	175,00	550	GRP	0,737	0,00075	0,45	2932,41	W_{BT11}
W_{BT13}	654,07	101,40	106,12	4,72	130,00	500	GRP	0,662	0,00069	0,45	3533,96	W_{BT12}
W_{BT14}	415,59	100,70	105,90	5,20	85,00	450	GRP	0,534	0,00053	0,22	4188,03	W_{BT13}
W_{BT15&16}	321,58	100,60	105,64	5,04	80,00	400	GRP	0,637	0,00083	0,27	4603,62	W_{BT14}
W_{BT17&18}	430,77	100,70	105,30	4,60	35,00	315	PVC	0,510	0,00077	0,33	4925,20	W_{BT15&16}
											5355,97	W_{BT17&18}
L= 5355,97												

◇ Разпределителен Тръбопровод № 2 (РТ 2) ситуиран е успоредно на съществуващия напоително- отводнителен канал, отделящ ниските от високите площи, в

рамките на неговия сервитут. Захранва площите на полета Z1-3, Z2-2, Z2-3, и Z3-2. Общата му дължина е 4 636,23 метра, а максимално- оразмерителното водно количество е $Q_{\max}=200,00$ l/sec. Предвиден е за изграждане от стъклопластови GRP тръби с диаметри по-големи от и PVC тръби при по- малки от DIA 400 mm диаметри.

Хидравличното изчисляване и оптимизиране на диаметрите му е дадено в Таблица № 1.4.4-2.

Таблица №1.4.4-2 РТ 2- Хидравлично изчисление и оптимизиране на диаметрите

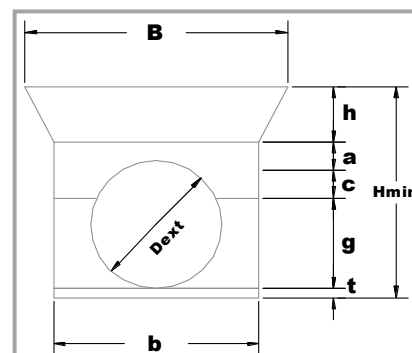
POINTS	DISTANCE	GROUND ELEVATION	DYNAMIC LEVEL	DYNAMIC PRESSURE	WATER QUANTITIES	DIAMETER	MATERIAL	VELOCITY	HYDRAULIC GRADIENT	HYDRAULIC LOSSES	KILOMETERS	POINTS
No	m			m	l/sec	mm	GRP/PVC	m/sec	m/m	m	m	No
W_{PT1&2}		107,00	108,90	1,90							0,00	W_{PT1&2}
	41,45				200,00	600	GRP	0,707	0,00063	0,03		
W_{BT1}		107,00	108,87	1,87							41,45	W_{BT1}
	556,78				195,00	600	GRP	0,690	0,00060	0,33		
W_{BT2&3}		106,30	108,54	2,24							598,23	W_{BT2&3}
	520,73				185,00	600	GRP	0,654	0,00055	0,28		
W_{BT4}		105,00	108,26	3,26							1118,96	W_{BT4}
	391,06				165,00	550	GRP	0,694	0,00067	0,26		
W_{BT5}		105,20	107,99	2,79							1510,02	W_{BT5}
	376,00				145,00	550	GRP	0,610	0,00053	0,20		
W_{BT6}		105,10	107,79	2,69							1886,02	W_{BT6}
	208,68				125,00	500	GRP	0,637	0,00064	0,13		
W_{BT7}		104,00	107,66	3,66							2094,70	W_{BT7}
	375,27				105,00	450	GRP	0,660	0,00078	0,29		
W_{BT8}		105,00	107,37	2,37							2469,97	W_{BT8}
	246,99				90,00	450	GRP	0,566	0,00059	0,14		
W_{BT9}		103,00	107,22	4,22							2716,96	W_{BT9}
	256,37				75,00	400	GRP	0,597	0,00074	0,19		
W_{BT10}		102,80	107,03	4,23							2973,33	W_{BT10}
	477,76				55,00	355	PVC	0,630	0,00099	0,47		
W_{BT11}		104,30	106,56	2,26							3451,09	W_{BT11}
	687,38				40,00	315	PVC	0,580	0,00098	0,67		
W_{BT12}		103,80	105,89	2,09							4138,47	W_{BT12}
	497,76				20,00	250	PVC	0,460	0,00085	0,42		
W_{BT13&14}		102,10	105,46	3,36							4636,23	W_{BT13&14}
L= 4636,23												

Избраните GRP тръби отговарят на международните стандарти и норми. Минималното покритие над тръбите е 0.80 метра, а основните параметри на траншеята за полагане на тръбите са показани в Таблица № 1.4.4-3 и Схема № 1.4.4-1:

Таблица № 1.4.4-3 GRP PN6, SN 5000

DN	Dext	b	B	t	g	a	c	h	Hmin
mm	m	m	m	m	m	m	m	m	m
400	0.43	0.80	1.77	0.10	0.30	0.30	0.13	0.57	1.40
500	0.53	0.90	1.77	0.10	0.40	0.30	0.13	0.57	1.50
600	0.62	1.20	2.13	0.15	0.45	0.30	0.17	0.53	1,60
700	0.72	1.30	2.23	0.15	0.50	0.30	0.22	0.53	1,70
800	0.82	1.40	2.33	0.15	0.60	0.30	0.22	0.53	1,80

Схема № 1.4.4-1



На Разпределителните тръбопроводи е предвидено да се монтират изолаторни и контролни арматури, поставена в стоманобетонени шахти (виж Том IV от проекта). Допустимите минимални надлъжни наклони на тръбопроводите са: $J=0,0005$ за качващи се клонове и $J=0,0010$ за слизащи по посока на течението на водата клонове.

1.4.5 Главен Напоителен Тръбопровод

Главният Напоителен тръбопровод осъществява връзката между основното водовземане от река Марица и разпределителната мрежа в полето. Разделен е на два участъка:

◇ Първият се намира между водовземането и предвиденото отклонение (Разпределителна Шахта- РзШ) за Напоително- Отводнителният Канал. Дължината му е приблизително 462 метра, а водното количество е 765 литра за секунда. То се явява максимално за полето, във времето с най- голямо водопотребление на културите;

◇ Вторият участък захранва разпределителните тръбопроводи, а оразмерителното му водно количество е 565 литра за секунда.

Таблица №1.4.5-1 ГНТ - Хидравлично изчисление и оптимизиране на диаметрите

POINTS	DISTANCE	GROUND ELEVATION	DYNAMIC LEVEL	DYNAMIC PRESSURE	WATER QUANTITIES	DIAMETER	MATERIAL	VELOCITY	HYDRAULIC GRADIENT	HYDRAULIC LOSSES	KILOMETERS	POINTS
No	m			m	l/sec	mm	GRP/PVC	m/sec	m/m	m	m	No
BEG		105,00	110,30	5,30							0,00	BEG
	462,00				765,00	800	GRP	1,520	0,00186	0,86		
РзШ		106,00	109,44	3,44							462,00	РзШ
	508,60				565,00	800	GRP	1,120	0,00106	0,54		
W _{PT1&2}		107,00	108,90	1,90							970,60	W _{PT1&2}
L= 970,60												

1.5 Гравитачно напояване

Разгледаното в проекта гравитачно напояване би могло да се счита за разработено извън Договорните отношения, които лимитират начина на полив в проекта като подпочвено напояване. След запознаването с първоначалните условия, проучванията и огледа на място бе установено следното:

◇ В естествено обособените граници на обекта (предпазните диги на р. Марица и ЖП линията) попадат плодородни площи, непригодни за подпочвено напояване;

◇ Същите се явяват на границата на алувиално-ливадните и алувиално-делувиалните разновидности. Имат издължена, неправилна и некомпактна форма, ограничена от ЖП линията и съществуващия канал в петата на ската;

◇ Понастоящем се обработват при неполивни условия, с относително стабилни добиви;

◇ Изграждането на отделна, самостоятелна напоителна мрежа с водоизточник р. Марица би довело до скъпо решение, поради необходимостта от помпено подаване на водата и голяма дължина на тръбопроводи/декар;

◇ В площите, които в проекта за краткост се наричат „високи“ са възстановени земеделски земи на отделни собственици. Бруто площите са 670.19, а продуктивните 533.77 декара.

В настоящия проект тези площи са обособени в една Зона №5 (Z 5), като необходимата за напояване вода се доставя на границата на площта от реконструирания съществуващ канал. Същият е предвидено да има двойна функция: Напоителна в напоителния сезон и Отводнителна- като скатов канал.

Гравитачното напояване е разработено при следните условия:

◇ Разгледана е площ от 1 декар (20/50 метра), която се напоява чрез помпа с дебит 10л/сек. Реализираният интензитет е:

$$i = \frac{3600Q}{F} = \frac{3600 \times 0,0}{20 \times 50} = 3,6 \text{ mm/h}$$

◇ Времето за подаване на максималната брутна поливна норма в поливната площадка е:

$$t = \left(\frac{m_{\text{net}}}{i} \right) = \left(\frac{50,0}{3,6} \right) = 13,9 \text{ h (прието } t = 2 \text{ часа), където:}$$

m_{net} (m³/decare) - максимална нетна поливна норма за десетдневка;
 $\eta = 0,70$ - коефициент на полезно действие, определен по нормативни стойности, както следва:

$\eta_1 = 0,95$ - Загуби на вода в мрежата;
 $\eta_2 = 0,91$ - Загуби на вода от оттичане при поливането;
 $\eta_3 = 0,89$ - Загуби на вода от дълбока филтрация;
 $\eta_4 = 0,91$ - Загуби на вода от изпарение;

◇ Отчитайки времето, необходимо за преместване на водното количество в различни поливни басейни (лехи или бразди), може да се приеме следното:

$T = 5 \text{бр. по } 2 \text{ часа} + 2 \text{ часа (преместване)} = 12 \text{ часа}$, или с други думи, дневната производителност при 12 часов работен ден е 5 декара. В рамките на една десетдневка чрез една помпа (дизелова, електрическа или прикачна) може да се полеят около 50 декара, което представлява един водооборотен участък;

◇ Необходимият минимален брой помпи е:

$$n = \frac{F}{f} = \frac{533,77}{50} = 10,67 \text{ броя}$$
 прието 12 броя по организация на полива в полетата.

Водоизточник за всяка помпа се явява Главният Напоително- Отводнителен Канал

1.5.1 Главен Напоително- Отводнителен Канал (ГНОК)

Главният Напоително- Отводнителният Канал (ГНОК) е предвидено да се изгради чрез частична реконструкция на съществуващия земен канал. Същият не е поддържан от години, обрушен и затлачен е в определени участъци. По откосите си, както и по дъното е обрасъл (вероятно и изкуствено залесен) с храстови и дървесни видове.

Общ вид на съществуващия канал е показан на **Снимка № 1.5.1-1** и **Схема № 1.5.1-1**.

На Схема **№ 1.5.1-2** е показан приетият типов напречен профил на Главния

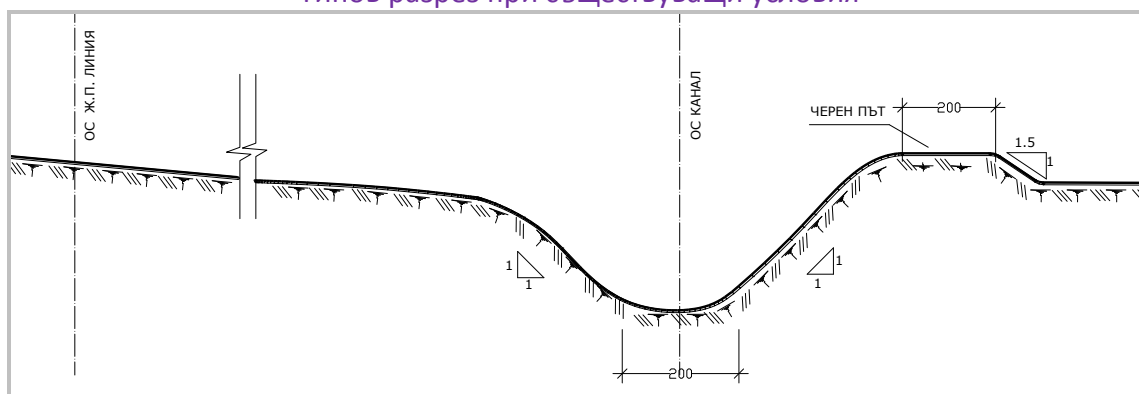
Напоително- Отводнителният Канал (ГНОК), след реконструкцията му.

Снимка №1.5.1-1

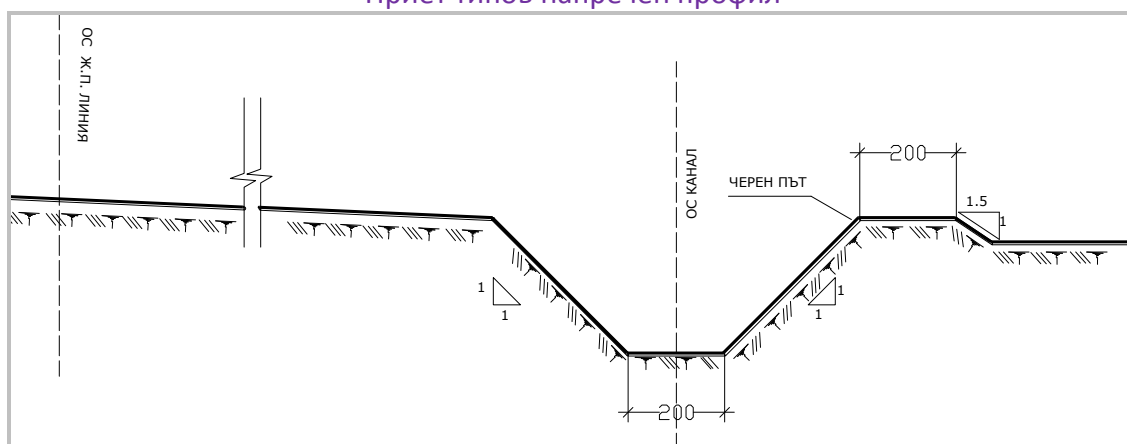
Поглед към канала в района на съществуващ мост

Схема №1.5.1-1

Типов разрез при съществуващи условия

Схема №1.5.1-2

Приет типов напречен профил



Общата дължина на ГНОК е 7596,50 метра, при среден надлъжен наклон $J=0,001$.
Оразмерителните водни количества са както следва:

- ◇ За 12 броя водовземания за гравитачно напояване
 $Q=12 \times 10=120 \text{ l/sec}$
- ◇ За 2 броя водовземания за напояване на дървесни видове
 $Q=2 \times 10=20 \text{ l/sec}$

Общо нето водно количество $Q=140 \text{ l/sec}$

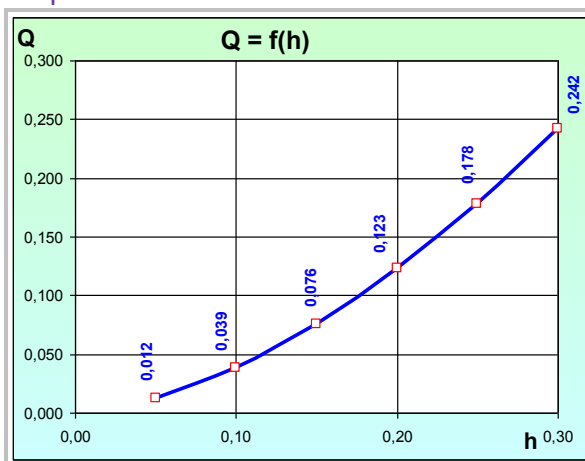
При КПД на канала ($\eta=0,80$) се получава $Q_{\text{irrig}}=140:0,80=175 \text{ l/sec}$

Прието е, че в канала ще се пропускат целогодишно санитарни водни количества, в рамките на около 10% от Q_{irrig} , като по този начин е определено и оразмерително водно количество $Q_{\text{max}} = 200 \text{ l/sec}$.

Пропускната способност на ГНОК е значително по-голяма от оразмерителното водно количество, а съответно и дълбочините на водата по участъци са малки (виж **Схема № 1.5.1-3**). За осигуряване на работни водни нива за помпите, са предвидени водовземни съоръжения (виж Том IV).

Схема №1.5.1-3 Ключова крива на ГНОК

b	m	2,00	2,00	2,00	2,00	2,00	2,00
m₁		1,00	1,00	1,00	1,00	1,00	1,00
m₂		1,00	1,00	1,00	1,00	1,00	1,00
h	m	0,05	0,10	0,15	0,20	0,25	0,30
F	m ²	0,10	0,21	0,32	0,44	0,56	0,69
c	m	2,14	2,28	2,42	2,57	2,71	2,85
R		0,05	0,09	0,13	0,17	0,21	0,24
B	m	2,10	2,20	2,30	2,40	2,50	2,60
C		17,22	19,20	20,41	21,30	21,99	22,56
n		0,035	0,035	0,035	0,035	0,035	0,035
J		0,00100	0,00100	0,00100	0,00100	0,00100	0,00100
V	m/sec	0,12	0,18	0,24	0,28	0,32	0,35
Q	m ³ /sec	0,012	0,039	0,076	0,123	0,178	0,242



Водовземните съоръжения са с опростен вид и представляват подприщване на канала с дамбалкени, тръбно отклонение DIA 200 и кръгли ст.бет. шахти от готови елементи Ø1250 мм, в които се потапя смукателя на помпата.

Достъпът до дъното на канала, и възможността за монтаж и демонтира на дамбалкените се осигуряват със стъпала в откоса, преминаващи в площадка с достатъчни за нуждите размери.

Около шахтите се оформя площадка, свободна от дървесни насаждения, осигуряваща място за монтаж на помпата и складиране на дамбалкените.

От водостопанските изчисления общо по дължина на канала са предвисени 10 бр. водовземни съоръжения, като при 8 от тях водата ще се подава едностранно ($Q=10 \text{ l/sec}$), а при 2 – двустранно ($Q=20 \text{ l/sec}$),.

В обсега на канала от км. 4+768 до края му се предвижда залесителен пояс, граничещ с ж.п. линията. За осигуряване на необходимата почвена влага за този пояс, водните нива на 2 места в канала се повдигат чрез преграждане с дамбалкени. За тези преграждания не са дадени отделни чертежи, тъй като те са идентични с прегражданията при водовземанията.

1.6 Съоръжения към напоителната мрежа

За нормалната експлоатация на напорната тръбна мрежа е предвидено изграждането на следните съоръжения:

- ◇ **Затворни органи**, служещи за спиране на водния поток и изолиране на отделни тръбни участъци. Предвидено е да се поставят в началото на всеки тръбопровод, както и на определени разстояния (1,0÷1,5 км.) по главните транспортни разпределители. В зависимост от предназначението си, в настоящият проект са използвани ръчно управляеми и с ел. задвижване затвори, разположени в охранителни стомано- бетонови шахти;
- ◇ **Въздушници**, служещи за изпускане на насъбралия се в тръбопроводите въздух, или впускане на въздух в тръбопроводите, при понижаване на налягането. Поставят се на всяка изпъкнала чупка по трасето на тръбопроводите, след затворни органи и през определени разстояния при низходяща нивелета. Действието им е автоматично, а за предпазване от повреда са разположени в охранителна кръгла бетонова шахта;
- ◇ **Изпускатели**, служещи за изпразване и промиване на тръбната мрежа. Поставени са на най- ниските места по мрежата
- ◇ **Регулиращи органи**, имащи за цел осигуряване на постоянен напор или дебит в тръбната мрежа на изхода си;
- ◇ **Водомерни устройства**, за отчитане на протекли обеми вода през пункта на който са монтирани;
- ◇ **Ревизионни шахти**, за възможност от директен достъп при тръбопроводи с DIA 800.

Общият вид на съоръженията е показан в съответните чертежи от Том IV на проекта.

Част 2 Отводняване

2.1 **Общи положения**

Отводняването на обработваемите земи се изразява в провеждане на мероприятия, посредством които се отстраняват излишните повърхностни води или се понижава подпочвеното водно ниво, с цел да се създадат подходящи благоприятни условия за отглеждане на селскостопанските култури.

Движението на водата в порьозна среда (в която или от която са изградени мелиоративните обекти и някои хидротехнически съоръжения), обуславя филтрационните процеси в нея. В почвата водата се намира в различни състояния, като водните пари, капилярната и гравитачната вода за разлика от хигроскопичната и молекулярната са свободни и могат да се придвижват. Процесите филтрация и инфилтрация дефинират придвижването на капилярната и гравитачната вода в порьозната почвена среда под действието на силата на тежестта или в резултат на хидродинамично въздействие върху тях.

Разположението на порите и почвените частици при различните видове почви, има случаен характер. Поради това, филтрационната област се дефинира с осреднени почвени и геоложки показатели и с характерните гранични участъци.

Проекта за мелиоративна отводнителна система обхваща комплекса от инженерни, агротехнически и организационни мероприятия и съоръжения, които служат за отстраняване (събиране и отвеждане) на излишната и вредна филтрационна вода от почвата или по- дълбоки пластове, с оглед да се създаде благоприятен за развитието на селскостопанските култури водно- въздушен режим, както и на свързаните с него топлинен, хранителен и солеви режими на почвата.

2.2 **Избор на начин за отводняване**

Според направеният анализ на природните условия и избора на начина за напояване в площите на обекта е необходимо да се разработи отводнителна система, предпазваща долината от:

А) Предпазване на площите от външни води

Външен приток на води към площите от настоящия проект се формира по граничните участъци- делувиялните възвишения, река Марица и притоците ѝ. Типът на подхранване е както от външни повърхностни, така и от инфилтрирани води.

◇ Външни повърхностни води, стичащи се като повсеместен поток от ската се проявяват при интензивни валежи. Оттока се концентрира към пресичащите долината дерета и само малка част от него, формирана по прилежащия склон (високите площи, обособени като Зона 5) постъпва директно към площите от настоящия проект. Предпазването им е предвидено да се извърши чрез съществуващия канал, който в настоящия проект е с двойна функция- Главен Напоително- Отводнителен Канал (**ГНОК**). Същият е разгледан в **т.1.5.1** от настоящия том във функция напояване, а след предвидената му рехабилитация, и повишаване на пропускателната

му способност ще служи при необходимост като скатов канал. Заустванията на отделни малки притоци, преминаващи под ЖП линията са изградени, както и основните съоръжения на пресичането му със съществуващата инфраструктура. В настоящата фаза на проекта не се предвижда подмяна на основни съществуващи съоръжения, а само тяхното почистване.

◇ Външни повърхностно разливащи се речни води- Предпазването на площите е задача на проектите за МВЕЦ „Крум” и МВЕЦ „Ябълково”. Предвидено е изграждане на нови предпазни диги, разположени между речното течение и старите съществуващи диги. Поради тази причина в настоящият проект е прието, че опасност от заливане не съществува.

◇ Филтрационен приток от страна на ската не се очаква. Предпоставка за това са ниската стойност на валежите, геоложките и топографски условия. При водонасищане на склона в следствие на паднал интензивен дъжд и формиране на инфилтрационен поток в посока долината, същият ще бъде естествено дрениран в дълбокия, съществуващ Главен Напоително-Отводнителен канал (ГНОК);

◇ Филтрационният приток от страна на р. Марица има променлив характер. Той е във функция от водните стоежи на реката и моментното състояние подпочвеното водно ниво в долината. Хидравличният градиент, определящ посоката на движение на подземните води е променлив както по стойност, така и по знак. Значително е подхранването на подземните води в участъци, където чакълестият пласт контактува директно с речните води. За предпазване на долината от филтрационно подхранване от реката, както и понижаване на подпочвените води е предвидено изграждане на шлицова стена в остта на новата дига, предмет на проекта за МВЕЦ „Крум”. В настоящия проект е предвидено изграждането на нов брегови отводнителен канал, с двойна функция- понижаване на депресионната крива от подземната напорна филтрация на границата на площите и водоприемник на отдренирани води от полето. Същият е разработен в настоящият проект, като е наименован Главен Отводнителен Канал №1 (ГОК1).

В) Предпазване на площите от вътрешни води

Филтрационната област във вътрешността на площите от настоящия проект е под влиянието на повърхностни води (паднали валежи и напояване) и филтрационно подхранване от р. Марица. Необходимо е изграждането на систематичен дренаж, като в проекта е предвиден комбиниран такъв- подземен и с открити канали.

Отводнителната система в настоящия проект се отличава от класическите решения, като освен задължителните Регулираща и Проводяща част, включва и Контролна. По този начин освен дренажна функция, системата може да работи и като напоителна.

Основните експлоатационни режими са три:

1) Обикновен дренаж Регулираща част осигурява събирането на излишни повърхностни и подпочвени води, а проводяща част ги отвежда във водоприемника;

2) Котролируем дренаж Регулираща част осигурява събирането на излишни повърхностни и подпочвени води. Проводяща част е подприщана на определено ниво преди заустването си във водоприемника. По този начин се оформя статично водно ниво в цялата отводнявана територия. Възможни са две състояния:

А) Притокът в регулиращата част (смукателите) е по- голям от разходите

(изпарение, странична и дълбока филтрация и др) и нивото на водата в подприщната проводяща част се покачва над контролното ниво. В този случай прелялото водно количество се отвежда във водоприемника;

Б) Притокът в регулиращата част (смукателите) е по- малък от разходите- в този случай по естествен път не може да се достигне желаното ниво на подземните води. Необходимо е допълнително подаване на определени водни количества (Режим 3).

3) Подпочвено (Дренажно напояване) Доставяне на допълнителни водни количества в отводнителната мрежа, за достигане на желаното ниво на подпочвените води.

Отводнителната система за предпазване на площите от вътрешни води включва:

- ◇ Проводяща мрежа, включваща:
 - Главен Отводнителен Канал №1 (**ГОК1**)- новопроектиран;
 - Главен Отводнителен Канал №2 (**ГОК2**)- преустройство на съществуващ;
 - Напоително- Отводнителни Канали (**НОК**).
- ◇ Регулираща мрежа, включваща:
 - Закрит систематичен хоризонтален тръбен дренаж, представляващ Блокови Смукатели- Напоители (**БС(Н)**). Поради двойната си функция, същите са разработени в т.1.4 от настоящия том;
 - Контрол на Водното Ниво (**КВН**), осъществен от подприщване на НОК чрез дамбалкени.

2.3 Главен Отводнителен Канал №1 (ГОК 1)

Ситуационно разположение и трасе на канала

Главният отводнителен канал №1 има функцията на брегови канал и водоприемник на дренажни води от полето. Началото на канала е избрано в близост до разпределителната шахта на главния напоително - отводнителен канал и главния тръбопровод.

Краят на канала е предвиден да бъде на около 1,5 км по течението след бента на МВЕЦ “Крум” и на около 150 м от заустването на Борисова река в р. Марица, в близост до съществуваща помпена станция.

Трасето на канала е съобразено с предоставения кадастрален план и попада в предвидените сервитутни ивици, извън границите на земеделските земи. Трасето е отложено върху карти в М1:5000 и е показано в **Чертеж № 014-III.2** от Том IV на проекта.

Каналът се явява успореден на съществуващата предпазна дига. Ъглите при върховете му са така подбрани, че разбиването на кривите в следващите фази да става с минимални радиуси и по възможност да отнеме възможно най – малко обработваеми площи.

Надлъжен и напречен профил

Надлъжният профил на канала е даден на **Чертеж № 015-III.2** от Том IV на проекта. Котите на терена се определени по предоставените от Възложителя топографски материали. Показани са видовете почви, в съответствие с профилите от Том II на проекта. Отбелязани са местата на вливане на напоително - отводнителните канали от по – нисък клас.

На същият чертеж е даден типов напречен профил, представляващ земен, необлицован канал. Горният ръб на канала следва котата на терена. Откъм страна на напоително-отводнителното поле е предвиден стопански обслужващ път с трошено-каменна настилка.

Хидравлично оразмеряване

Хидравличното оразмеряване е извършено в съответствие с работния проект на МВЕЦ “Крум”, при който дигата се изгражда с шлицова стена до водоупора (типов напречен профил на дясната дига).

Хидрогеоложките проучвания в района на полето, направени през м. юни 2007 год. показват, че нивото на ПВ в близост до р. Марица се колебае от 1,20 до 2,80 м под терена, като навътре в полето слабо се променя. Пластовете, определящи геоложката картина, се характеризират с доста различни в стойностно изражение коефициенти на филтрация, дадени в Геоложкия доклад.

Изграждането на бентовете за минивецове “Ябълково” и “Крум” повдига съществуващото ВН на р. Марица и съответно нивото на ПВ в полето. Изчисленията за филтрацията са извършени по метода на Чугаев за съпротивленията и усреднените резултати ясно показват, че напоително – отводнителен канал -1 ще бъде ефикасен при изградена свършена противифилтрационна преграда.

Хидравличното оразмеряване на канала е извършено и при предпоставката, че към него се отводнява ивица с ширина от 100 м, при отводнителен модул 0,7 л/сек/ха и се вливат 6 бр. напоително – отводнителни канали (НОК).

Приети са:

- ширина на дъното $b = 0.6$ м;
- откоси $m = 1$;
- надлъжен наклон $J = 1\text{‰}$.
-

За изчислените водни количества Q е построена ключова крива $Q = f(h)$ при равномерно движение на водата ($Q = FC\sqrt{R} \times \bar{I}$) и са намерени дълбочините, които провеждат тези водни количества, като е спазено условието скоростта да бъде по-малка от граничната неизравняща такава, която за леки и средно пясъчни почви е в границите от 0,35 м/сек до 0,70 м/сек.

Надлъжният наклон е избран така, че да се доближава до естествения наклон на полето в югоизточна посока. По аналог със съществуващите в района открити канали е приет и откоса, следващ естествения откос на породите в които се изгражда.

Широчината на дъното 0,60 м е приета с оглед на механизизирано изпълнение на изкопните работи и минимална загуба на обработваема земя. Коефициентът на грапавина е приет $n = 0.027$, а скоростният множител C е определен по формулата на Манинг:

$$C = \frac{1}{n} R^{\frac{1}{6}}$$

Резултатите от хидравличните изчисления са отразени в надлъжния профил на канала.

Заустване в р. Марица

Заустването на канала е предвидено да става под ъгъл около 30° по течението на реката. При различни водни стоежи в реката се обуславят следните възможности:

-При нормални водни стоежи в р. Марица, водното ниво в нея ще бъде по-ниско от дъното на канала. Подприщване в него няма да има;

-При работа на 2 турбини на централата ($Q = 70 \text{ м}^3/\text{сек}$) в реката се поддържа водно ниво на кота 97,17, по-ниска от котата на дъното в края на канала 97,41. Подприщване в него няма да има;

-При работа на 1 турбина в реката се поддържа водно ниво на кота 96,81, подприщване също няма да има;

-При всеки приток към централата, определящ кота на долното водно ниво над 97,80, съгласно ключовата крива на долните водни нива – черт. II – А -04(2) от проекта за МВЕЦ “Крум”, в канала ще започне хидростатично подприщване.

При хидростатичното подприщване водното ниво е почти хоризонтално. Приблизителната дължина на подприщването се определя по зависимостта:

$$L = a \times \frac{h_0 + z}{J}, \text{ където:}$$

J – наклон на водната повърхност без влияние на подприщването;

h_0 – дълбочината в отводнителния канал преди подприщването;

z – височина на подприщването, непосредствено в мястото на заустване на канала;

a – коефициент, зависещ от отношението z/h_0 , отчитан таблично.

От черт. II – А - 04(2) и от напречния профил на дясната дига от проекта на МВЕЦ “Крум” за $Q = 460,00 \text{ м}^3/\text{сек}$ се определя кота 99,00, при която се получава подприщване на 1478,70 м назад по канала. Подприщва се и НОК 1-1, което са форсмажорни обстоятелства и ще бъдат кратковременни.

2.4 Главен Отводнителен Канал №2 (ГОК 2)

Главният Отводнителен Канал №2 е предвидено да се реализира, чрез реконструкция на съществуващия, централно разполовяващ площите отрит земен канал. Същият е част от полуразрушената стара напоително-отводнителна система, понастоящем в окаяно състояние. Общият вид на канала в момента е илюстриран със следният снимков материал (*Снимки №№ 2.4-1 до 2.4-4*) и *Схема № 2.4-1*.

Предвидено е основно почистване на дъното и откосите, а бъдещото напречно сечение ще има следните размери:

Дъно $b=2.00 \text{ m}$;

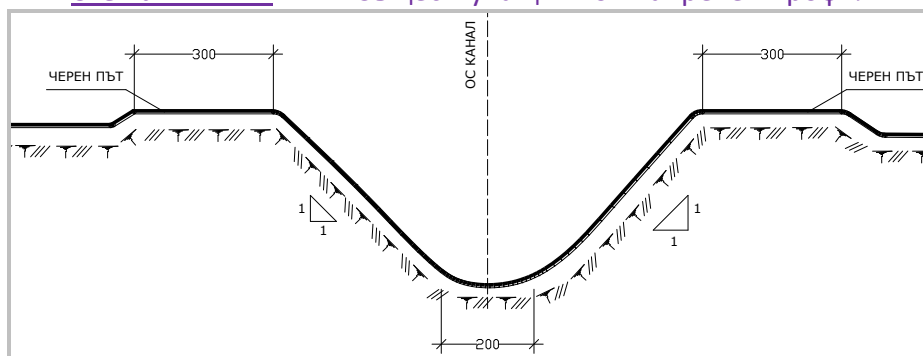
Височина $H=2.00 \text{ до } 3.00 \text{ m}$;

Откоси $m=1.00$

Общата дължина на канала е около 6 550 метра, при надлъжен наклон $J=0.001$.

Снимки №2.4-1 и №2.4-2 Водосток DIA 140 под път (вход и изход)**Снимка №2.4-3** Дъно и откоси**Снимка №2.4-4** Остатък от вододел**Схема №2.4-1**

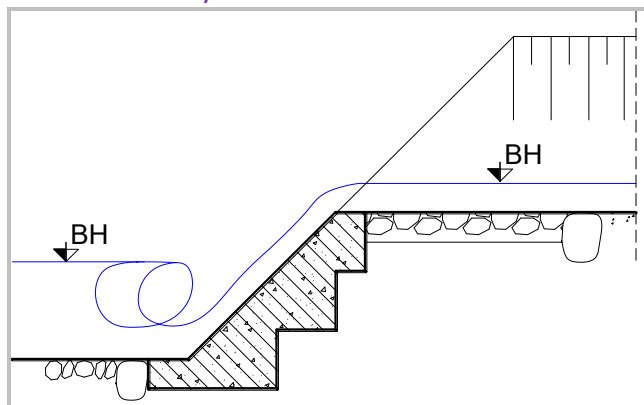
Съществуващ типичен напречен профил



Предназначението му е да събира отдренираните водни количества от напоително-отводнителните канали и да ги отвежда до основния водоприемник- р. Марица. Предвидено е изграждането на заустващи съоръжения, представляващи укрепване на дъното и откоса (виж **Схема № 2.4-2**).

В настоящата фаза е предвидено заустванията да се изпълнят чрез изграждане на предпазна стоманобетонова стена, като по този начин се спрягат нивата на дълбокия ГОК-2 и относително плитките НОК. Видът на заустващите съоръжения може да бъде променен, след детайлното заснемане на място в следващите фази на проекта. Типът на заустването е показан на **Схема № 2.4-2**.

Схема №2.4-2
Заустване на НОК в ГОК



Хидравличното изследване е аналогично с това за ГНОК, поради еднаквостта на входните параметри. Проводимостта е многократно по- голяма от необходимата.

2.5 Напоително- Отводнителни Канали (НОК)

Напоително- Отводнителни Канали (НОК) са разположени по границата между отделните блокове (в предвидените в кадастъра сервитутни ивици). В повечето случаи там са били изградени плитки напоителни канали, понастоящем унищожени и представляващи обрасла с храсти и дървета необработваема ивица (виж **Снимка № 2.5-1**).

Снимка №2.5-1
Сервитут за изграждане на НОК (съществуващо положение)



Напоително- Отводнителни Канали (НОК) имат двойна функция- Отводнителна (като колектор), когато служат за водоприемник при дренажен режим на Смукателите и Напоителна, когато подприщват напоителната вода и създават необходимият напор и кота в Напоителите.

Хидравличното оразмеряване на НОК е извършено по два независими начина, като е избрано по- неблагоприятното решение по следната блок- схема:

- ◇ За всеки канал е определена припадащата му се площ и местонахождение в напоително- отводнителните полета;
- ◇ Съгласно математическото моделиране, проведено чрез програмата DRAINMOD е определен максималният дрениран воден обем W_{drain} в см/мес/м²;
- ◇ Водният обем е редуциран до дренажен отток q и съответно водно количество Q ;
- ◇ Прието е появяването на екстремен отток, в рамките на 25% в повече от изчисления и е определено $Q_{\text{drain}}^{\text{fors}}$ – форсирано водно количество по DRAINMOD;
- ◇ Съгласно опитни измервания и теоретичните изследвания на А. Н. Костяков, за сходни обекти се приема модул на дренажен отток от 0,6 до 0,9л/сек/ха. За изчисленията в проекта е прието $q = 0.70$;
- ◇ За всеки НОК е изчислена стойност Q_{drain} , отговаряща на припадащата му се площ;
- ◇ Двете стойности за Q са сравнени, като за оразмерително е прието по-голямото число, закръглено нагоре на нула или пет (виж **Таблица № 2.5-1**).

Напоително- Отводнителни Канали (НОК) е предвидено да се изградят като земни, с конструктивни размери:

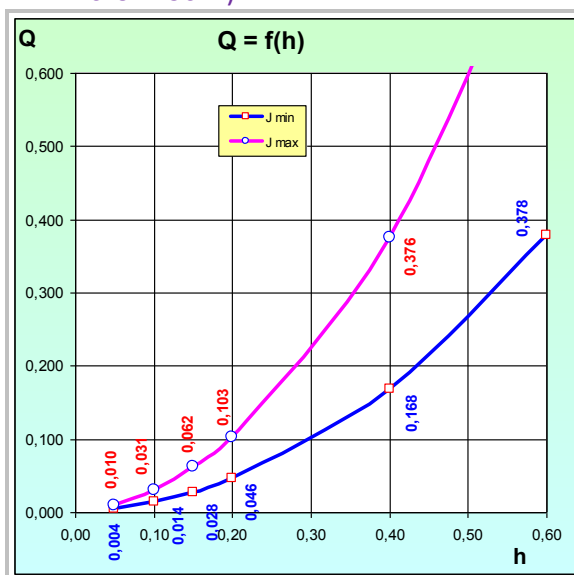
Дъно $b = 0,50$ m;
Височина $H = 1,00$ до $1,50$ m;
Откоси $m = 1.00$.

За определяне на надлъжния им наклон е направено хидравлично изследване, даващо екстремните стойности J_{min} и J_{max} , в рамките на които каналът трябва да бъде изграден (виж **Схема № 2.5-1**).

Схема №2.5-1

Ключова крива на НОК (гранични стойности)

b	m	0,50	0,50	0,50	0,50	0,50	0,50
m₁		1,00	1,00	1,00	1,00	1,00	1,00
m₂		1,00	1,00	1,00	1,00	1,00	1,00
h	m	0,05	0,10	0,15	0,20	0,40	0,60
F	m ²	0,03	0,06	0,10	0,14	0,36	0,66
c	m	0,64	0,78	0,92	1,07	1,63	2,20
R		0,04	0,08	0,11	0,13	0,22	0,30
B	m	0,60	0,70	0,80	0,90	1,30	1,70
C		16,90	18,62	19,64	20,37	22,21	23,38
n		0,035	0,035	0,035	0,035	0,035	0,035
J_{min}		0,00200	0,00200	0,00200	0,00200	0,00200	0,00200
V_{min}	m/sec	0,16	0,23	0,29	0,33	0,47	0,57
Q_{min}	m ³ /sec	0,004	0,014	0,028	0,046	0,168	0,378
J_{max}		0,01000	0,01000	0,01000	0,01000	0,01000	0,01000
V_{max}	m/sec	0,35	0,52	0,64	0,74	1,04	1,28
Q_{max}	m ³ /sec	0,010	0,031	0,062	0,103	0,376	0,846



Видно е, че оразмерителните водни количества се провеждат при относително малки дълбочини при чисто дренажен режим на работа. При фази на контролиран дренаж и подпочвено напояване дълбочината на водата е функция от желаното подприщване. Същото се реализира чрез затваряне на напречното сечение чрез дамбалкени.

Таблица №2.5-1

Напоително Отводнителни Канали Н.О.К.

Оразмерителни водни количества при дренажен режим на работа

					Съгласно DRAINMOD				Съгласно А. Н. Костяков			ПРИЕТО
Зона	Поле	НОК	Площ	Площ	W _{drain}	q _{drain}	Q _{drain}	Q _{drain} ^{fors}	q	q	Q _{drain}	Q _{drain}
		№	дка	м ²	см/мес/м ²	л/сек/м ²	л/сек	л/сек	л/сек/ха	л/сек/м ²	л/сек	л/сек
Зона 1 Z1	Z1-1	Н.О.К.-2-29	168,62	168 620	11,18	0,000043	7,27	9,09	0,7	0,000070	11,80	15
		Н.О.К.-2-30	78,12	78 120	11,18	0,000043	3,37	4,21	0,7	0,000070	5,47	10
		Н.О.К.-2-31	180,93	180 930	11,18	0,000043	7,80	9,76	0,7	0,000070	12,67	15
	Z1-2	Н.О.К.-2-24	230,89	230 890	11,82	0,000046	10,53	13,16	0,7	0,000070	16,16	20
		Н.О.К.-2-26	485,94	485 940	11,82	0,000046	22,16	27,70	0,7	0,000070	34,02	35
		Н.О.К.-2-28	238,10	238 100	11,82	0,000046	10,86	13,57	0,7	0,000070	16,67	20
	Z1-3	Н.О.К.-2-23	154,94	154 940	3,12	0,000012	1,87	2,33	0,7	0,000070	10,85	15
		Н.О.К.-2-25	271,20	271 200	3,12	0,000012	3,26	4,08	0,7	0,000070	18,98	20
		Н.О.К.-2-27	162,09	162 090	3,12	0,000012	1,95	2,44	0,7	0,000070	11,35	15
			1 970,83	1 970 830								165
Зона 2 Z2	Z2-1	Н.О.К.-1-4	216,75	216 750	18,40	0,000071	15,39	19,23	0,7	0,000070	15,17	20
		Н.О.К.-1-5	112,74	112 740	18,40	0,000071	8,00	10,00	0,7	0,000070	7,89	10
		Н.О.К.-1-6	185,53	185 530	18,40	0,000071	13,17	16,46	0,7	0,000070	12,99	20
		Н.О.К.-2-12	196,03	196 030	18,40	0,000071	13,92	17,39	0,7	0,000070	13,72	20
		Н.О.К.-2-16	121,67	121 670	18,40	0,000071	8,64	10,80	0,7	0,000070	8,52	15
		Н.О.К.-2-18	216,03	216 030	18,40	0,000071	15,34	19,17	0,7	0,000070	15,12	20
		Н.О.К.-2-20	203,84	203 840	18,40	0,000071	14,47	18,09	0,7	0,000070	14,27	20
		Н.О.К.-2-22	138,14	138 140	18,40	0,000071	9,81	12,26	0,7	0,000070	9,67	15
	Z2-2	Н.О.К.-2-17	118,00	118 000	8,58	0,000033	3,91	4,88	0,7	0,000070	8,26	10
		Н.О.К.-2-19	237,61	237 610	8,58	0,000033	7,87	9,83	0,7	0,000070	16,63	20
		Н.О.К.-2-21	140,87	140 870	8,58	0,000033	4,66	5,83	0,7	0,000070	9,86	10
	Z2-3	Н.О.К.-2-11	154,23	154 230	4,05	0,000016	2,41	3,01	0,7	0,000070	10,80	15
		Н.О.К.-2-13	206,63	206 630	4,05	0,000016	3,23	4,04	0,7	0,000070	14,46	15
		Н.О.К.-2-14	185,56	185 560	4,05	0,000016	2,90	3,62	0,7	0,000070	12,99	15
		Н.О.К.-2-15	137,94	137 940	4,05	0,000016	2,16	2,69	0,7	0,000070	9,66	10
			2571,57	2 571 570								235
Зона 3 Z3	Z3-1	Н.О.К.-1-2	215,48	215 480	5,49	0,000021	4,56	5,70	0,7	0,000070	15,08	20
		Н.О.К.-1-3	360,80	360 800	5,49	0,000021	7,64	9,55	0,7	0,000070	25,26	30
		Н.О.К.-2-3	34,57	34 570	5,49	0,000021	0,73	0,92	0,7	0,000070	2,42	5
		Н.О.К.-2-5	56,93	56 930	5,49	0,000021	1,21	1,51	0,7	0,000070	3,99	5
		Н.О.К.-2-6	394,76	394 760	5,49	0,000021	8,36	10,45	0,7	0,000070	27,63	30
		Н.О.К.-2-8	285,49	285 490	5,49	0,000021	6,05	7,56	0,7	0,000070	19,98	20
	Z3-2	Н.О.К.-2-4	152,16	152 160	3,34	0,000013	1,96	2,45	0,7	0,000070	10,65	15
		Н.О.К.-2-7	181,93	181 930	3,34	0,000013	2,34	2,93	0,7	0,000070	12,74	15
		Н.О.К.-2-9	260,07	260 070	3,34	0,000013	3,35	4,19	0,7	0,000070	18,20	20
		Н.О.К.-2-10	101,80	101 800	3,34	0,000013	1,31	1,64	0,7	0,000070	7,13	10
			2 043,99	2 043 990								170
Зона 4 Z4	Z4-1	Н.О.К.-1-1	210,87	210 870	13,95	0,000054	11,35	14,19	0,7	0,000070	14,76	15
		Н.О.К.-2-1	41,64	41 640	13,95	0,000054	2,24	2,80	0,7	0,000070	2,91	5
		Н.О.К.-2-2	240,90	240 900	13,95	0,000054	12,97	16,21	0,7	0,000070	16,86	20
			493,41	493 410								40
ОБЩО			7 079,80	7 079 800								610
Заустващи в канал ГОК-1												115
Заустващи в канал ГОК-2												495

2.6 Систематичен хоризонтален закрит тръбен дренаж

За понижаване на нивото на подпочвените води и регулиране на почвената влага в обработваемите площи от настоящия проект е предвидено изграждането на систематичен хоризонтален закрит тръбен дренаж. Същият е разгледан в **т.1.4** от настоящия том, като са показани изчислителните схеми, дренажни отстояния и параметри.

2.7 Контрол на Водното Ниво (КВН)

Една от основните идеи на проекта е, в разглежданите площи да се контролира нивото на подземните води. Прието е този контрол да се осъществява ръчно. За разлика от класическите схеми за подпочвено напояване, където контрол се упражнява на всеки отделен смукател (напоител), в проекта е заложен окрупнен контрол. Той се реализира чрез подприщване на Напоително- Отводнителните Канали в крайните участъци, или при разлика в котите на прилежащите площи по- голяма от 25- 30 сантиметра. По този начин едновременно се управляват по няколко смукателя (напоители).

Контролните пунктове на всеки два съседни НОК са определени за паралелна работа, или с други думи подържат равни коти на статично водно ниво.

За осигуряване на необходимата почвена влага, водните нива в тези канали се повдигат чрез преграждане със стоманени саваци. Същите са с размери 0,70 x 0,15 м от стоманена ламарина, затворена в рамка. Всеки един от тях е снабден с куки за монтаж и демонтаж. Страната с куките трябва да се монтира зад подприщването.

Постигането на желаното ниво се достига чрез поставянето на саваците един над друг. За едно подприщване максималния им брой е 9. Монтажът и демонтажът на саваците се извършва от бетонова площадка, с достатъчни за нуждите размери. Достъпът до дъното на канала се осигурява от стъпала от арматурно желязо.

От водостопанските изчисления общо за полето са предвидени общо 123 броя от които 37 бр. подприщителни съоръжения в края на НОК (6 бр. заустващи в ГОК 1 и 31 бр. в ГОК 2) и 86 вътрешни броя .

Част 3 Пътища

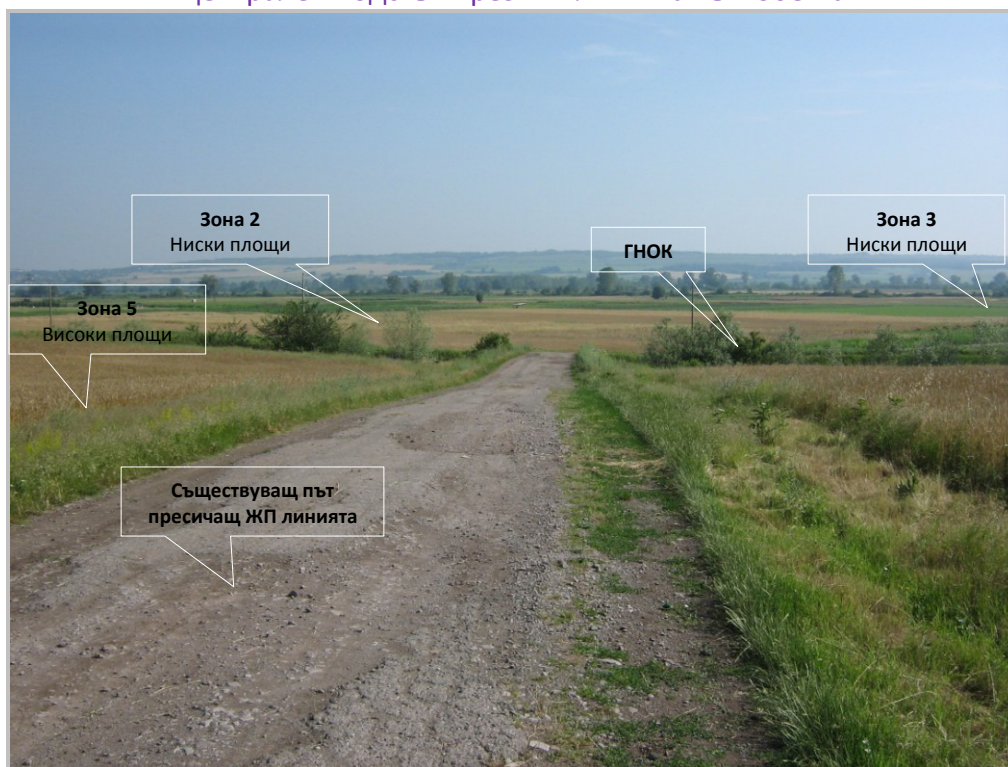
3.1 Общи положения

Площите, върху които е предвидено изграждането на напоително- отводнителната система са относително компактни, граничещи със селата Крум и Ябълково. Строителството на напоителна система в миналото е наложило изграждането на обслужващи пътища със земен профил, частично запазени и досега.

Подстъпът към полето се осъществява от двете села, намиращи се в двата края на обекта, както и централно на площта, през изграден прелез на ЖП линията (виж **Снимка № 3.1-1**).

Схема №3.1-1

Централен подстъп през ЖП линията към обекта



3.2 Избор на видове пътища

Разработването на напоително- отводнителните мрежи е изцяло съобразено със сервитутите и съществуващите хидротехнически съоръжения. Запазено е и разположението на основните пътища, като е предвидено реконструкцията на някои от тях.

Според своето предназначение, пътищата към настоящият проект са разделени най- общо на два вида:

- ◇ Главни селскостопански пътища;
- ◇ Вътрешностопанска пътна мрежа.

3.3 Главни пътища

Главните селскостопански пътища е предвидено да свързват и обслужват по-големите хидротехнически съоръжения със съществуващата републиканска пътна мрежа. Пътната настилка е предвидена да бъде асфалтова (АП)- 2 броя или трошено- каменна (ПТКН)-3 броя пътища.

Минималните размери на пътното платно са 6 метра, а на настилката- 4 метра.

Трасетата на главните пътища ще се използват за достъп при строителството на хидротехническите съоръжения. За целта същите ще бъдат изградени с необходимата нивелета и съоръжения до ниво трошенокаменна засипка. Основният асфалтов пласт ще се полага след изграждане на хидротехническото съоръжение и саниране на пътното легло.

Трасетата на главните пътища са отразени на чертежите в Том IV от проекта.

3.4 Вътрешностопанска пътна мрежа

Вътрешностопанската пътна мрежа е проектирана с оглед обслужване и ремонт на напоително- отводнителната система. Предвидени са два типа пътища:

◇ Постоянни земни пътища с широчина на пътното платно 4 метра. Същите са ситуирани успоредно на трасетата на тръбопроводи и канали. Чрез тях се осъществява достъпа от главните пътища до вътрешността на напоителното поле. Нивелетата им по принцип следва терена, като по този начин изкопно- насипните работи са минимални. Трасетата им са съобразени със съществуващата пътна мрежа и сервитутите, с цел максимално използване на плодородните площи;

◇ Временни земни пътища за придвижване на селскостопанска техника и извозване на продукцията. Същите имат сезонен характер при осъществяване на укрощени агрономически работи. Подържането им се осъществява от селскостопанските работници, а габаритите им са минимални, във функция от тяхното предназначение.

3.5 Съоръжения към пътната мрежа

Главните и пътищата от вътрешностопанската пътна мрежа са осигурени с необходимият брой съоръжения. Габаритите им и носимоспособността им са съобразени с проектните автомобилен и пешеходен трафик, като е отчетен най- натовареният период от експлоатацията или строителството на обслужваните съоръжения. Решенията са типови, с приоритет за използване на сглобяеми елементи.

◇ Водостоци за НОК Прието е водостоците да са кръгли, от готови ст. бет. тръби с дължина 3,0 м всяка и поради малките водни количества в напоително отводнителните канали да са с диаметър 60 см. Полагат с минимален надлъжен наклон 2‰. Направена е проверка за хидравличната проводимост на приетия напречен профил. При водно количество 35 л/сек (максимално за полето при НОК 2-26) и приета грапавина на тръбата $n=0.012$ (ст. бет. тръби в добро състояние и нормална гладкост) се получава относителна дълбочина на запълване 0,23, определяща 14 см дълбочина на водата в тръбата. Входът и изходът на водосточа са оформени

чрез изграждането на челни бетонови стени. Дъното на НОК преди входа се разширява, а след изхода се стеснява до нормалните си размери. Предвидено е двата преходни участъка да се заскалят, а тръбите под пътя да се монтират върху бетонови блокчета. Минималното покритие на тръбите под пътното платно е 80 см;

Част 4 Моделиране на водния баланс в почвения профил DRAINMOD

4.1 Увод

За нуждите на настоящият проект е използвана последната версия на програмата **DRAINMOD 5.1**, разработена в Държавния Университет в щата Северна Каролина САЩ под ръководството на проф. Skaggs.

Програмата се базира на водния баланс в почвения профил и използва климатични данни, за да симулира работата на контролирани дренажни системи чрез управление нивата на подпочвените води. Моделът е разработен специално за почви с плитко разположени подпочвени води, най-вече в крайречни тераси, което го прави изключително полезен за проекта. В програмата са въведени алгоритми за определяне параметрите на подземното дрениране, подземното напояване, инфилтрацията за определените видове почви, евапотранспирацията (ЕТ), както и повърхностния отток. Използвани са уравненията разработени от Hooghoudt (Luthin, 1978), Kirkham (1957) и Ernst (1975) за изчисляване порядъка на дренираните и напоителните обеми, както и инфилтрацията чрез уравнението на Green и Ampt (1911).

4.2 Основни предпоставки

◇ Площта, върху която е определено да се използва системата за двустранно регулиране на почвената влага е 7 292,26 декара бруто. Поради различната степен на влияние на очакваното РВН на МВЕЦ „Крум“ върху прилежащите площи, са определени 4 зони;

◇ В рамките на всяка зона според почвеното различие са обособени полета, с еднакви (или сходни) природни дадености (**Таблица № 4.2-1**);

◇ **Таблица №4.2-1** Площи по Зони и Полета (ниска част)

Зона	Поле	Бруто площ в дка			
Зона 1 Z 1	Z 1-1	427,67	1 970,83	7079,80	7 292,26
	Z 1-2	954,93			
	Z 1-3	588,23			
Зона 2 Z 2	Z 2-1	1390,73	2 571,57		
	Z 2-2	496,48			
	Z 2-3	684,36			
Зона 3 Z 3	Z 3-1	1348,03	2 043,99		
	Z 3-2	695,96			
Зона 4 Z 4	Z 4-1	493,41	705,87		
	Общ. мера	212,46		212,46	
Общо		7 292,26	7 292,26	7 292,26	7 292,26

◇ Моделирането е извършено за една календарна година (365 дни), като за такава е приета условно 2006;

◇ Всички дневни климатични стойности, заложили в програмата за 2006 година са дневните средномногогодишни стойности за района на гр. Димитровград;

◇ въведени са данни за един вид култури (монокултура) за всяко поле, които за настоящата фаза на проекта се считат за достатъчно представителни (летни култури – царевица, слънчоглед, захарно цвекло и др.);

◇ Заложени са трите основни режима на работа на напоително-отводнителната система:

- Обикновен дренаж през неполивния зимен период;
- Контролиран дренаж в ранна пролет за акумулиране на воден обем в долината и предсеитбеният период;
- Контролиран дренаж с подпочвено напояване при различно ниво на подземните води, във функция от големината на кореновата система на културите.

4.3 Годишни симулации

За всяко от деветте полета са направени по 4 броя симулации, с цел определяне на оптимални дренажни параметри, както и оразмерителни водни количества на напоителната и отводнителната мрежи.

- За стойности на дренажните параметри, изчислени чрез методиката на Костяков – Янгол;
- За минимални стойности на дренажните параметри;
- За максимални стойности на дренажните параметри;
- За оптимални стойности на дренажните параметри.

4.3.1 Поле Z 1-1

ПРОЕКТ Z 1-1

Входни данни

Файл №1 – Z 1-1.gen

Базисен файл съдържащ основните входящи данни.

```
*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 235.60 4500.00 2.00 2.00 1.00 9.78 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
680.00 2.00
18. 2.10 38. 2.45 56. 5.30 86. 6.08 110. 2.09
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
```

```

410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.001231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 30.0
2 7 1 30.0
2 8 1 30.0
1 9 8 60.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

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STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

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Файл №2 – summer.cin

Файл съдържащ данни за културите.

```

*** First Possible and last possible dates for crop ***
1 365
*** Weir Control ***
4
1140 1140 1140 1140 1 20 1 35 1 60 1 90 8140 1140 1140 1140
*** Trafficability ***
3 1 930 820 3.0 1.2 2.0
10 11231 818 3.0 1.2 2.0
*** Crop ***
4 1 930 30.00
4 1 930
*** Root Depths ***
12
1 1 3.00 2 1 3.00 3 1 3.00 4 1 3.00 5 15 10.00 6 15 35.00 7 1 60.00 8 1 90.00
9 8 90.00 10 1 3.00 11 1 3.00 12 1 3.00
*** Yield Inputs ***
1
135 130 .00000 .00000 .00000 .00000
7 7 11.16000 -1.17000 .05800 -.00050 100.00000 .00000
.0000 .0000 .0000 .0000 121 1 1
0 -1 .00 0 -1 .00 0 -1 .00 0 -1 .00 0 -1 .00 0 130 .00
.00 .00 .00 .00 .00 .00
*** Salinity Modifications ***
Threshold Slope
0.000000E+00 0.000000E+00
*** Irrigation Water Salinity ***
0

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Файл №5 – ra1.RAI

Файл съдържащ климатични данни за валежите.

120061 11 012 013 014 015 016 017 018 019 0110 0111 0112 0
120061 113 0114 0115 0116 0117 0118 0119 0120 0121 0122 0123 0124 12
120061 31 032 033 034 035 036 037 038 039 0310 0311 0312 0
120061 313 0314 0315 0316 0317 0318 0319 0320 0321 0322 0323 0324 16
120061 51 052 053 054 055 056 057 058 059 0510 0511 0512 0
120061 513 0514 0515 0516 0517 0518 0519 0520 0521 0522 0523 0524 16
120061 71 072 073 074 075 076 077 078 079 0710 0711 0712 0
120061 713 0714 0715 0716 0717 0718 0719 0720 0721 0722 0723 0724 20
120061 101 0102 0103 0104 0105 0106 0107 0108 0109 01010 01011 01012 0
120061 1013 01014 01015 01016 01017 01018 01019 01020 01021 01022 01023 01024 20
120061 113 0132 0133 0134 0135 0136 0137 0138 0139 01310 01311 01312 0
120061 11313 01314 01315 01316 01317 01318 01319 01320 01321 01322 01323 01324 16
120061 151 0152 0153 0154 0155 0156 0157 0158 0159 01510 01511 01512 0
120061 1513 01514 01515 01516 01517 01518 01519 01520 01521 01522 01523 01524 12
120061 171 0172 0173 0174 0175 0176 0177 0178 0179 01710 01711 01712 0
120061 1713 01714 01715 01716 01717 01718 01719 01720 01721 01722 01723 01724 8
120061 181 0182 0183 0184 0185 0186 0187 0188 0189 01810 01811 01812 0
120061 1813 01814 01815 01816 01817 01818 01819 01820 01821 01822 01823 01824 8
120061 191 0192 0193 0194 0195 0196 0197 0198 0199 01910 01911 01912 0
120061 1913 01914 01915 01916 01917 01918 01919 01920 01921 01922 01923 01924 8
120061 201 0202 0203 0204 0205 0206 0207 0208 0209 02010 02011 02012 0
120061 2013 02014 02015 02016 02017 02018 02019 02020 02021 02022 02023 02024 8
120061 211 0212 0213 0214 0215 0216 0217 0218 0219 02110 02111 02112 0
120061 2113 02114 02115 02116 02117 02118 02119 02120 02121 02122 02123 02124 8
120061 221 0222 0223 0224 0225 0226 0227 0228 0229 02210 02211 02212 0
120061 2213 02214 02215 02216 02217 02218 02219 02220 02221 02222 02223 02224 8
120061 231 0232 0233 0234 0235 0236 0237 0238 0239 02310 02311 02312 0
120061 2313 02314 02315 02316 02317 02318 02319 02320 02321 02322 02323 02324 8
120061 241 0242 0243 0244 0245 0246 0247 0248 0249 02410 02411 02412 0
120061 2413 02414 02415 02416 02417 02418 02419 02420 02421 02422 02423 02424 16
120061 261 0262 0263 0264 0265 0266 0267 0268 0269 02610 02611 02612 0
120061 2613 02614 02615 02616 02617 02618 02619 02620 02621 02622 02623 02624 16
120061 291 0292 0293 0294 0295 0296 0297 0298 0299 02910 02911 02912 0
120061 2913 02914 02915 02916 02917 02918 02919 02920 02921 02922 02923 02924 16
120061 31 032 033 034 035 036 037 038 039 0310 0311 0312 0
120061 313 0314 0315 0316 0317 0318 0319 0320 0321 0322 0323 0324 16
120062 51 052 053 054 055 056 057 058 059 0510 0511 0512 0
120062 513 0514 0515 0516 0517 0518 0519 0520 0521 0522 0523 0524 12
120062 81 082 083 084 085 086 087 088 089 0810 0811 0812 0
120062 813 0814 0815 0816 0817 0818 0819 0820 0821 0822 0823 0824 12
120062 111 0112 0113 0114 0115 0116 0117 0118 0119 01110 01111 01112 0
120062 1113 01114 01115 01116 01117 01118 01119 01120 01121 01122 01123 01124 16
120062 131 0132 0133 0134 0135 0136 0137 0138 0139 01310 01311 01312 0
120062 1313 01314 01315 01316 01317 01318 01319 01320 01321 01322 01323 01324 12
120062 181 0182 0183 0184 0185 0186 0187 0188 0189 01810 01811 01812 0
120062 1813 01814 01815 01816 01817 01818 01819 01820 01821 01822 01823 01824 16
120062 191 0192 0193 0194 0195 0196 0197 0198 0199 01910 01911 01912 0
120062 1913 01914 01915 01916 01917 01918 01919 01920 01921 01922 01923 01924 12
120062 201 0202 0203 0204 0205 0206 0207 0208 0209 02010 02011 02012 0
120062 2013 02014 02015 02016 02017 02018 02019 02020 02021 02022 02023 02024 4
120062 211 0212 0213 0214 0215 0216 0217 0218 0219 02110 02111 02112 0
120062 2113 02114 02115 02116 02117 02118 02119 02120 02121 02122 02123 02124 8
120062 221 0222 0223 0224 0225 0226 0227 0228 0229 02210 02211 02212 0
120062 2213 02214 02215 02216 02217 02218 02219 02220 02221 02222 02223 02224 20
120062 251 0252 0253 0254 0255 0256 0257 0258 0259 02510 02511 02512 0
120062 2513 02514 02515 02516 02517 02518 02519 02520 02521 02522 02523 02524 16
120062 281 0282 0283 0284 0285 0286 0287 0288 0289 02810 02811 02812 0
120062 2813 02814 02815 02816 02817 02818 02819 02820 02821 02822 02823 02824 16
120062 31 032 033 034 035 036 037 038 039 0310 0311 0312 0
120062 313 0314 0315 0316 0317 0318 0319 0320 0321 0322 0323 0324 4
120063 41 042 043 044 045 046 047 048 049 0410 0411 0412 0
120063 413 0414 0415 0416 0417 0418 0419 0420 0421 0422 0423 0424 8
120063 51 052 053 054 055 056 057 058 059 0510 0511 0512 0
120063 513 0514 0515 0516 0517 0518 0519 0520 0521 0522 0523 0524 12
120063 61 062 063 064 065 066 067 068 069 0610 0611 0612 0
120063 613 0614 0615 0616 0617 0618 0619 0620 0621 0622 0623 0624 4
120063 91 092 093 094 095 096 097 098 099 0910 0911 0912 0
120063 913 0914 0915 0916 0917 0918 0919 0920 0921 0922 0923 0924 16
120063 101 0102 0103 0104 0105 0106 0107 0108 0109 01010 01011 01012 0
120063 1013 01014 01015 01016 01017 01018 01019 01020 01021 01022 01023 01024 8
120063 111 0112 0113 0114 0115 0116 0117 0118 0119 01110 01111 01112 0
120063 1113 01114 01115 01116 01117 01118 01119 01120 01121 01122 01123 01124 4

120063151	1152	1153	1154	1155	1156	1157	1158	1159	11510	11511	11512	1
1200631513	11514	11515	11516	11517	11518	11519	11520	11521	11522	11523	11524	1
120063201	0202	0203	0204	0205	0206	0207	0208	0209	02010	02011	02012	0
1200632013	02014	02015	02016	02017	02018	02019	02020	02021	02022	02023	02024	20
120063231	0232	0233	0234	0235	0236	0237	0238	0239	02310	02311	02312	0
1200632313	02314	02315	02316	02317	02318	02319	02320	02321	02322	02323	02324	16
120063251	0252	0253	0254	0255	0256	0257	0258	0259	02510	02511	02512	0
1200632513	02514	02515	02516	02517	02518	02519	02520	02521	02522	02523	02524	12
120063281	0282	0283	0284	0285	0286	0287	0288	0289	02810	02811	02812	0
1200632813	02814	02815	02816	02817	02818	02819	02820	02821	02822	02823	02824	12
120063311	0312	0313	0314	0315	0316	0317	0318	0319	03110	03111	03112	0
1200633113	03114	03115	03116	03117	03118	03119	03120	03121	03122	03123	03124	8
12006341	042	043	044	045	046	047	048	049	0410	0411	0412	0
120063413	0414	0415	0416	0417	0418	0419	0420	0421	0422	0423	0424	8
12006451	052	053	054	055	056	057	058	059	0510	0511	0512	0
120064513	0514	0515	0516	0517	0518	0519	0520	0521	0522	0523	0524	12
12006461	062	063	064	065	066	067	068	069	0610	0611	0612	0
120064613	0614	0615	0616	0617	0618	0619	0620	0621	0622	0623	0624	8
12006491	092	093	094	095	096	097	098	099	0910	0911	0912	0
120064913	0914	0915	0916	0917	0918	0919	0920	0921	0922	0923	0924	16
120064101	0102	0103	0104	0105	0106	0107	0108	0109	01010	01011	01012	0
1200641013	01014	01015	01016	01017	01018	01019	01020	01021	01022	01023	01024	12
120064121	0122	0123	0124	0125	0126	0127	0128	0129	01210	01211	01212	0
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120064161	0162	0163	0164	0165	0166	0167	0168	0169	01610	01611	01612	0
1200641613	01614	01615	01616	01617	01618	01619	01620	01621	01622	01623	01624	12
120064171	0172	0173	0174	0175	0176	0177	0178	0179	01710	01711	01712	0
1200641713	01714	01715	01716	01717	01718	01719	01720	01721	01722	01723	01724	8
120064201	0202	0203	0204	0205	0206	0207	0208	0209	02010	02011	02012	0
1200642013	02014	02015	02016	02017	02018	02019	02020	02021	02022	02023	02024	20
120064221	0222	0223	0224	0225	0226	0227	0228	0229	02210	02211	02212	0
1200642213	02214	02215	02216	02217	02218	02219	02220	02221	02222	02223	02224	16
120064231	0232	0233	0234	0235	0236	0237	0238	0239	02310	02311	02312	0
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120064241	0242	0243	0244	0245	0246	0247	0248	0249	02410	02411	02412	0
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120064261	0262	0263	0264	0265	0266	0267	0268	0269	02610	02611	02612	0
1200642613	02614	02615	02616	02617	02618	02619	02620	02621	02622	02623	02624	12
120064271	0272	0273	0274	0275	0276	0277	0278	0279	02710	02711	02712	0
1200642713	02714	02715	02716	02717	02718	02719	02720	02721	02722	02723	02724	8
120064281	0282	0283	0284	0285	0286	0287	0288	0289	02810	02811	02812	0
1200642813	02814	02815	02816	02817	02818	02819	02820	02821	02822	02823	02824	8
120064301	0302	0303	0304	0305	0306	0307	0308	0309	03010	03011	03012	0
1200643013	03014	03015	03016	03017	03018	03019	03020	03021	03022	03023	03024	12
12006431	032	033	034	035	036	037	038	039	0310	0311	0312	0
120064313	0314	0315	0316	0317	0318	0319	0320	0321	0322	0323	0324	12
12006541	042	043	044	045	046	047	048	049	0410	0411	0412	0
120065413	0414	0415	0416	0417	0418	0419	0420	0421	0422	0423	0424	12
12006571	172	173	174	175	176	177	178	179	1710	1711	1712	1
120065713	1714	1715	1716	1717	1718	1719	1720	1721	1722	1723	1724	1
120065101	1102	1103	1104	1105	1106	1107	1108	1109	11010	11011	11012	1
1200651013	11014	11015	11016	11017	11018	11019	11020	11021	11022	11023	11024	1
120065141	1142	1143	1144	1145	1146	1147	1148	1149	11410	11411	11412	1
1200651413	11414	11415	11416	11417	11418	11419	11420	11421	11422	11423	11424	8
120065171	1172	1173	1174	1175	1176	1177	1178	1179	11710	11711	11712	1
1200651713	11714	11715	11716	11717	11718	11719	11720	11721	11722	11723	11724	1
120065191	0192	0193	0194	0195	0196	0197	0198	0199	01910	01911	01912	0
1200651913	01914	01915	01916	01917	01918	01919	01920	01921	01922	01923	01924	16
120065201	0202	0203	0204	0205	0206	0207	0208	0209	02010	02011	02012	0
1200652013	02014	02015	02016	02017	02018	02019	02020	02021	02022	02023	02024	4
120065211	0212	0213	0214	0215	0216	0217	0218	0219	02110	02111	02112	0
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120065221	0222	0223	0224	0225	0226	0227	0228	0229	02210	02211	02212	0
1200652213	02214	02215	02216	02217	02218	02219	02220	02221	02222	02223	02224	12
120065231	0232	0233	0234	0235	0236	0237	0238	0239	02310	02311	02312	0
1200652313	02314	02315	02316	02317	02318	02319	02320	02321	02322	02323	02324	12
120065241	0242	0243	0244	0245	0246	0247	0248	0249	02410	02411	02412	0
1200652413	02414	02415	02416	02417	02418	02419	02420	02421	02422	02423	02424	20
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1200652613	02614	02615	02616	02617	02618	02619	02620	02621	02622	02623	02624	12
120065271	0272	0273	0274	0275	0276	0277	0278	0279	02710	02711	02712	0
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1200652913	02914	02915	02916	02917	02918	02919	02920	02921	02922	02923	02924	12
120065311	0312	0313	0314	0315	0316	0317	0318	0319	03110	03111	03112	0
1200653113	03114	03115	03116	03117	03118	03119	03120	03121	03122	03123	03124	12
12006531	132	133	134	135	136	137	138	139	1310	1311	1312	1
120065313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1
12006651	052	053	054	055	056	057	058	059	0510	0511	0512	0
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12006671	072	073	074	075	076	077	078	079	0710	0711	0712	0
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120066101	0102	0103	0104	0105	0106	0107	0108	0109	01010	01011	01012	0
1200661013	01014	01015	01016	01017	01018	01019	01020	01021	01022	01023	01024	20
120066111	0112	0113	0114	0115	0116	0117	0118	0119	01110	01111	01112	0
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1200661313	01314	01315	01316	01317	01318	01319	01320	01321	01322	01323	01324	8
120066141	0142	0143	0144	0145	0146	0147	0148	0149	01410	01411	01412	0
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120066151	0152	0153	0154	0155	0156	0157	0158	0159	01510	01511	01512	0
1200661513	01514	01515	01516	01517	01518	01519	01520	01521	01522	01523	01524	12
120066161	0162	0163	0164	0165	0166	0167	0168	0169	01610	01611	01612	0
1200661613	01614	01615	01616	01617	01618	01619	01620	01621	01622	01623	01624	8
120066171	0172	0173	0174	0175	0176	0177	0178	0179	01710	01711	01712	0
1200661713	01714	01715	01716	01717	01718	01719	01720	01721	01722	01723	01724	12
120066181	0182	0183	0184	0185	0186	0187	0188	0189	01810	01811	01812	0
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120066191	0192	0193	0194	0195	0196	0197	0198	0199	01910	01911	01912	0
1200661913	01914	01915	01916	01917	01918	01919	01920	01921	01922	01923	01924	8
120066201	0202	0203	0204	0205	0206	0207	0208	0209	02010	02011	02012	0
1200662013	02014	02015	02016	02017	02018	02019	02020	02021	02022	02023	02024	8
120066221	0222	0223	0224	0225	0226	0227	0228	0229	02210	02211	02212	0
1200662213	02214	02215	02216	02217	02218	02219	02220	02221	02222	02223	02224	12
120066241	0242	0243	0244	0245	0246	0247	0248	0249	02410	02411	02412	0
1200662413	02414	02415	02416	02417	02418	02419	02420	02421	02422	02423	02424	16
120066271	1272	1273	1274	1275	1276	1277	1278	1279	12710	12711	12712	1
1200662713	12714	12715	12716	12717	12718	12719	12720	12721	12722	12723	12724	1
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1200663013	13014	13015	13016	13017	13018	13019	13020	13021	13022	13023	13024	1
12006631	132	133	134	135	136	137	138	139	1310	1311	1312	1
120066313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	5
12006741	142	143	144	145	146	147	148	149	1410	1411	1412	1
120067413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	16
12006781	182	183	184	185	186	187	188	189	1810	1811	1812	1
120067813	1814	1815	1816	1817	1818	1819	1820	1821	1822	1823	1824	1
12006791	192	193	194	195	196	197	198	199	1910	1911	1912	1
120067913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	12
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1200671013	11014	11015	11016	11017	11018	11019	11020	11021	11022	11023	11024	5
120067111	1112	1113	1114	1115	1116	1117	1118	1119	11110	11111	11112	1
1200671113	11114	11115	11116	11117	11118	11119	11120	11121	11122	11123	11124	1
120067131	1132	1133	1134	1135	1136	1137	1138	1139	11310	11311	11312	1
1200671313	11314	11315	11316	11317	11318	11319	11320	11321	11322	11323	11324	1
120068141	1142	1143	1144	1145	1146	1147	1148	1149	11410	11411	11412	1
1200681413	11414	11415	11416	11417	11418	11419	11420	11421	11422	11423	11424	5
120068191	1192	1193	1194	1195	1196	1197	1198	1199	11910	11911	11912	1
1200681913	11914	11915	11916	11917	11918	11919	11920	11921	11922	11923	11924	1
120068211	2212	2213	2214	2215	2216	2217	2218	2219	22110	22111	22112	2
1200682113	22114	22115	22116	22117	22118	22119	22120	22121	22122	22123	22124	5
120068261	1262	1263	1264	1265	1266	1267	1268	1269	12610	12611	12612	1
1200682613	12614	12615	12616	12617	12618	12619	12620	12621	12622	12623	12624	5
12006851	152	153	154	155	156	157	158	159	1510	1511	1512	1
120068513	1514	1515	1516	1517	1518	1519	1520	1521	1522	1523	1524	1
12006981	082	083	084	085	086	087	088	089	0810	0811	0812	0
120069813	0814	0815	0816	0817	0818	0819	0820	0821	0822	0823	0824	16
120069231	0232	0233	0234	0235	0236	0237	0238	0239	02310	02311	02312	0
1200692313	02314	02315	02316	02317	02318	02319	02320	02321	02322	02323	02324	20
120069261	1262	1263	1264	1265	1266	1267	1268	1269	12610	12611	12612	1
1200692613	12614	12615	12616	12617	12618	12619	12620	12621	12622	12623	12624	5
120069281	1282	1283	1284	1285	1286	1287	1288	1289	12810	12811	12812	1
1200692813	12814	12815	12816	12817	12818	12819	12820	12821	12822	12823	12824	8
120069301	1302	1303	1304	1305	1306	1307	1308	1309	13010	13011	13012	1
1200693013	13014	13015	13016	13017	13018	13019	13020	13021	13022	13023	13024	1
12006921	022	023	024	025	026	027	028	029	0210	0211	0212	0
120069213	0214	0215	0216	0217	0218	0219	0220	0221	0222	0223	0224	8

1200610	41	042	043	044	045	046	047	048	049	0410	0411	0412	0
1200610	413	0414	0415	0416	0417	0418	0419	0420	0421	0422	0423	0424	4
1200610	121	012	012	012	012	012	012	012	012	012	012	012	0
1200610	1213	01214	01215	01216	01217	01218	01219	01220	01221	01222	01223	01224	8
1200610	141	014	014	014	014	014	014	014	014	014	014	014	0
1200610	1413	01414	01415	01416	01417	01418	01419	01420	01421	01422	01423	01424	16
1200610	171	117	117	117	117	117	117	117	117	117	117	117	1
1200610	1713	11714	11715	11716	11717	11718	11719	11720	11721	11722	11723	11724	1
1200610	201	120	120	120	120	120	120	120	120	120	120	120	1
1200610	2013	12014	12015	12016	12017	12018	12019	12020	12021	12022	12023	12024	5
1200610	211	021	021	021	021	021	021	021	021	021	021	021	0
1200610	2113	02114	02115	02116	02117	02118	02119	02120	02121	02122	02123	02124	20
1200610	221	022	022	022	022	022	022	022	022	022	022	022	0
1200610	2213	02214	02215	02216	02217	02218	02219	02220	02221	02222	02223	02224	12
1200610	241	024	024	024	024	024	024	024	024	024	024	024	0
1200610	2413	02414	02415	02416	02417	02418	02419	02420	02421	02422	02423	02424	12
1200610	261	026	026	026	026	026	026	026	026	026	026	026	0
1200610	2613	02614	02615	02616	02617	02618	02619	02620	02621	02622	02623	02624	8
1200610	271	027	027	027	027	027	027	027	027	027	027	027	0
1200610	2713	02714	02715	02716	02717	02718	02719	02720	02721	02722	02723	02724	20
1200610	281	128	128	128	128	128	128	128	128	128	128	128	1
1200610	2813	12814	12815	12816	12817	12818	12819	12820	12821	12822	12823	12824	5
1200610	291	129	129	129	129	129	129	129	129	129	129	129	1
1200610	2913	12914	12915	12916	12917	12918	12919	12920	12921	12922	12923	12924	5
1200610	301	030	030	030	030	030	030	030	030	030	030	030	0
1200610	3013	03014	03015	03016	03017	03018	03019	03020	03021	03022	03023	03024	20
1200610	311	031	031	031	031	031	031	031	031	031	031	031	0
1200610	3113	03114	03115	03116	03117	03118	03119	03120	03121	03122	03123	03124	12
1200610	21	022	023	024	025	026	027	028	029	0210	0211	0212	0
1200610	213	0214	0215	0216	0217	0218	0219	0220	0221	0222	0223	0224	12
1200611	41	042	043	044	045	046	047	048	049	0410	0411	0412	0
1200611	413	0414	0415	0416	0417	0418	0419	0420	0421	0422	0423	0424	8
1200611	91	192	193	194	195	196	197	198	199	1910	1911	1912	1
1200611	913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	5
1200611	101	010	010	010	010	010	010	010	010	010	010	010	0
1200611	1013	01014	01015	01016	01017	01018	01019	01020	01021	01022	01023	01024	16
1200611	111	011	011	011	011	011	011	011	011	011	011	011	0
1200611	1113	01114	01115	01116	01117	01118	01119	01120	01121	01122	01123	01124	8
1200611	141	014	014	014	014	014	014	014	014	014	014	014	0
1200611	1413	01414	01415	01416	01417	01418	01419	01420	01421	01422	01423	01424	20
1200611	171	017	017	017	017	017	017	017	017	017	017	017	0
1200611	1713	01714	01715	01716	01717	01718	01719	01720	01721	01722	01723	01724	20
1200611	221	122	122	122	122	122	122	122	122	122	122	122	1
1200611	2213	12214	12215	12216	12217	12218	12219	12220	12221	12222	12223	12224	8
1200611	241	024	024	024	024	024	024	024	024	024	024	024	0
1200611	2413	02414	02415	02416	02417	02418	02419	02420	02421	02422	02423	02424	20
1200611	261	026	026	026	026	026	026	026	026	026	026	026	0
1200611	2613	02614	02615	02616	02617	02618	02619	02620	02621	02622	02623	02624	12
1200611	271	027	027	027	027	027	027	027	027	027	027	027	0
1200611	2713	02714	02715	02716	02717	02718	02719	02720	02721	02722	02723	02724	8
1200611	281	028	028	028	028	028	028	028	028	028	028	028	0
1200611	2813	02814	02815	02816	02817	02818	02819	02820	02821	02822	02823	02824	8
1200611	291	029	029	029	029	029	029	029	029	029	029	029	0
1200611	2913	02914	02915	02916	02917	02918	02919	02920	02921	02922	02923	02924	8
1200611	301	030	030	030	030	030	030	030	030	030	030	030	0
1200611	3013	03014	03015	03016	03017	03018	03019	03020	03021	03022	03023	03024	8
1200611	11	012	013	014	015	016	017	018	019	0110	0111	0112	0
1200611	113	0114	0115	0116	0117	0118	0119	0120	0121	0122	0123	0124	8
1200612	21	022	023	024	025	026	027	028	029	0210	0211	0212	0
1200612	213	0214	0215	0216	0217	0218	0219	0220	0221	0222	0223	0224	8
1200612	31	032	033	034	035	036	037	038	039	0310	0311	0312	0
1200612	313	0314	0315	0316	0317	0318	0319	0320	0321	0322	0323	0324	8
1200612	41	042	043	044	045	046	047	048	049	0410	0411	0412	0
1200612	413	0414	0415	0416	0417	0418	0419	0420	0421	0422	0423	0424	8
1200612	51	052	053	054	055	056	057	058	059	0510	0511	0512	0
1200612	513	0514	0515	0516	0517	0518	0519	0520	0521	0522	0523	0524	8
1200612	61	062	063	064	065	066	067	068	069	0610	0611	0612	0
1200612	613	0614	0615	0616	0617	0618	0619	0620	0621	0622	0623	0624	8
1200612	81	082	083	084	085	086	087	088	089	0810	0811	0812	0
1200612	813	0814	0815	0816	0817	0818	0819	0820	0821	0822	0823	0824	12
1200612	101	010	010	010	010	010	010	010	010	010	010	010	0
1200612	1013	01014	01015	01016	01017	01018	01019	01020	01021	01022	01023	01024	16
1200612	141	014	014	014	014	014	014	014	014	014	014	014	0
1200612	1413	01414	01415	01416	01417	01418	01419	01420	01421	01422	01423	01424	20
1200612	171	017	017	017	017	017	017	017	017	017	017	017	0
1200612	1713	01714	01715	01716	01717	01718	01719	01720	01721	01722	01723	01724	20


```

1 200612 19 1 019 2 019 3 019 4 019 5 019 6 019 7 019 8 019 9 01910 01911 01912 0
1 200612 1913 01914 01915 01916 01917 01918 01919 01920 01921 01922 01923 01924 16
1 200612 22 1 122 2 122 3 122 4 122 5 122 6 122 7 122 8 122 9 12210 12211 12212 1
1 200612 2213 12214 12215 12216 12217 12218 12219 12220 12221 12222 12223 12224 1
1 200612 24 1 024 2 024 3 024 4 024 5 024 6 024 7 024 8 024 9 02410 02411 02412 0
1 200612 2413 02414 02415 02416 02417 02418 02419 02420 02421 02422 02423 02424 16
1 200612 26 1 026 2 026 3 026 4 026 5 026 6 026 7 026 8 026 9 02610 02611 02612 0
1 200612 2613 02614 02615 02616 02617 02618 02619 02620 02621 02622 02623 02624 16
1 200612 27 1 027 2 027 3 027 4 027 5 027 6 027 7 027 8 027 9 02710 02711 02712 0
1 200612 2713 02714 02715 02716 02717 02718 02719 02720 02721 02722 02723 02724 8
1 200612 28 1 028 2 028 3 028 4 028 5 028 6 028 7 028 8 028 9 02810 02811 02812 0
1 200612 2813 02814 02815 02816 02817 02818 02819 02820 02821 02822 02823 02824 8
1 200612 29 1 029 2 029 3 029 4 029 5 029 6 029 7 029 8 029 9 02910 02911 02912 0
1 200612 2913 02914 02915 02916 02917 02918 02919 02920 02921 02922 02923 02924 8
1 200612 30 1 030 2 030 3 030 4 030 5 030 6 030 7 030 8 030 9 03010 03011 03012 0
1 200612 3013 03014 03015 03016 03017 03018 03019 03020 03021 03022 03023 03024 8
1 200612 31 1 031 2 031 3 031 4 031 5 031 6 031 7 031 8 031 9 03110 03111 03112 0
1 200612 3113 03114 03115 03116 03117 03118 03119 03120 03121 03122 03123 03124 8

```

Файл №5 – pet.PET

Файл съдържащ климатични данни за потенциалната евапотранспирация (PET).

```

1 2006 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 2006 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
1 2006 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
1 2006 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
1 2006 5 12 12 12 12 12 12 12 12 12 12 12 12 12 12
12 12 12 12 12 12 12 12 12 12 12 12 12 12 12
1 2006 6 15 15 15 15 15 15 15 15 15 15 15 15 15 15
15 15 15 15 15 15 15 15 15 15 15 15 15 15 15
1 2006 7 16 16 16 16 16 16 16 16 16 16 16 16 16 16
16 16 16 16 16 16 16 16 16 16 16 16 16 16 16
1 2006 8 14 14 14 14 14 14 14 14 14 14 14 14 14 14
14 14 14 14 14 14 14 14 14 14 14 14 14 14 14
1 2006 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
1 200610 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
1 200611 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
1 200612 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

```

Забележки:

Файл №2 за културите е един и същ за всички следващи проекти и за краткост не се публикува по-нататък.

Файлове №№ 3,4 и 5 за климатичните данни са едни и същи за всички следващи проекти и за краткост не се публикуват по-нататък.

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 1-1

Файл Z 1-1.MON

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* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

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COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

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-----RUN STATISTICS ----- time: 7/23/2007 @ 15:16
input file: C:\Program Files\Drainmod\INPUTS\Z 1-1.Prj
parameters: combination run and yields calculated
drain spacing = 4500. cm drain depth = 130.0 cm

```

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006
MONTH RAIN INFIL ET DRAIN RUNOFF DRY DAYS WRK DAYS SEW PUMP

1	5.49	5.49	.79	5.07	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	3.34	.00	.00	.00	.00	.00
3	3.66	3.66	1.12	2.84	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.45	.00	.00	30.00	.00	.00
5	7.19	7.19	3.66	-5.86	.00	.00	31.00	.00	-5.86
6	6.60	6.60	5.72	-3.54	.00	.00	30.00	.00	-3.54
7	4.42	4.42	3.25	-2.53	.00	.00	20.60	9.13	-2.61
8	3.94	3.94	1.07	-4.16	.00	.00	29.00	.00	-4.16
9	3.23	3.23	2.51	.89	.00	.00	30.00	.00	-.94
10	6.40	6.40	1.52	9.43	.00	.00	31.00	.00	.00
11	5.16	5.16	.61	6.58	.00	.00	30.00	.00	.00
12	5.59	5.59	.71	1.19	.00	.00	31.00	.00	.00

TOTALS 60.91 60.91 25.83 13.70 .00 .00 293.60 9.13 -17.11

Файл Z 1-1.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15:16
input file: C:\Program Files\Drainmod\INPUTS\Z 1-1.Prj
parameters: combination run and yields calculated
drain spacing = 4500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.3	3.3	2.8	.0	.0	.0	.0	.0	11.3	6.6	.0	
AVERAGE	4.3	3.3	2.8	.0	.0	.0	.0	.0	11.3	6.6	.0	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.1	3.3	2.8	.4	-5.9	-3.5	-2.5	-4.2	.9	9.4	6.6	1.2
AVERAGE	5.1	3.3	2.8	.4	-5.9	-3.5	-2.5	-4.2	.9	9.4	6.6	1.2

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	1.1	3.5	3.7	5.7	3.3	1.1	2.5	1.5	.6	.7
AVERAGE	.8	1.4	1.1	3.5	3.7	5.7	3.3	1.1	2.5	1.5	.6	.7

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	31.0	30.0	27.0	31.0	10.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	31.0	30.0	27.0	31.0	10.0	.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	65.6	70.6	74.8	75.5	54.9	44.4	40.1	46.7	55.5	75.7	87.2	83.6
AVERAGE	65.6	70.6	74.8	75.5	54.9	44.4	40.1	46.7	55.5	75.7	87.2	83.6

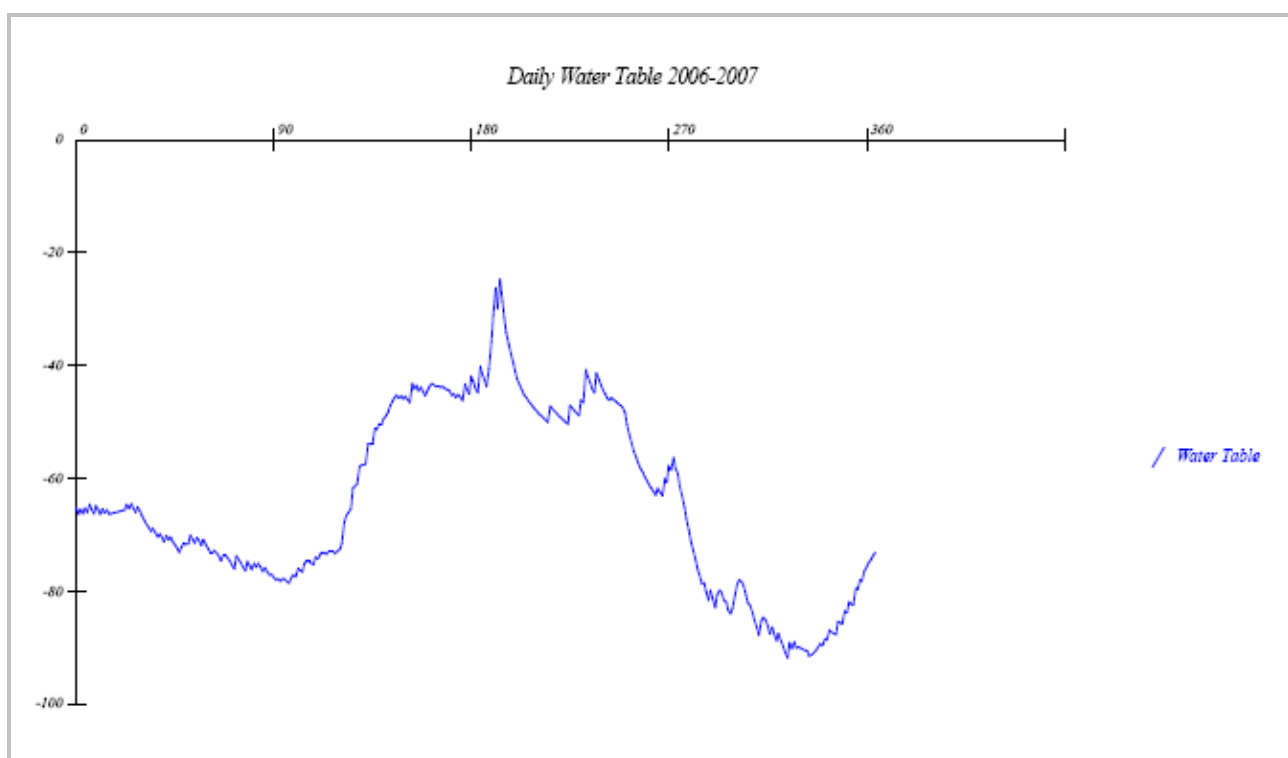
Файл Z 1-1.IR

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COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15:16
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-1.Prj
 parameters: combination run and yields calculated
 drain spacing = 4500. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	25.83	13.70	.00	.00	293.60	9.1	-17.11
AVG	60.91	60.91	25.83	13.70	.00	.00	293.60	9.1	-17.11



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

Забележка:

Поради големия обем от информация съдържаща се в изходния файл за дневните стойности на дренираните обеми, евапотранспирацията, инфилтрацията, дълбочините на водните стоежи, повърхностния отток, загубите и пр., за краткост файл за тези стойности е публикуван за всеки конкретен проект само при моделното изследване за оптималния вариант.

Същото се отнася и за графичните изображения на отделните изходни файлове.

ПРОЕКТ Z 1-1_min

Входни данни

Файл №1 – Z 1-1_min.gen

Базисен файл съдържащ основните входящи данни.

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 107.69 1500.00 2.00 2.00 1.00 9.82 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
680.00 2.00
18. 2.10 38. 2.45 56. 5.30 86. 6.08 110. 2.09
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 30.0
2 7 1 30.0
2 8 1 45.0
1 9 8 60.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature

```

0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 1-1_min Файл Z 1-1_min.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15:17
input file: C:\Program Files\Drainmod\INPUTS\Z 1-1_min.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	9.09	.00	.00	.00	.00	.00
2	3.76	3.76	.61	2.61	.00	.00	.00	.00	.00
3	3.66	3.66	1.12	2.53	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.61	.00	.00	30.00	.00	.00
5	7.19	7.19	6.71	-11.87	.00	.00	9.00	6.21	-12.21
6	6.60	6.60	10.29	-3.96	.00	.00	.00	.49	-3.98
7	4.42	4.42	10.16	-4.33	.00	.00	.00	38.17	-6.40
8	3.94	3.94	1.07	-1.18	.00	.00	28.54	.00	-1.99
9	3.23	3.23	2.06	3.61	.00	.00	30.00	.00	-1.24
10	6.40	6.40	1.12	15.91	.00	.00	31.00	.00	.00
11	5.16	5.16	.61	6.00	.00	.00	30.00	.00	.00
12	5.59	5.59	.43	1.16	.00	.00	31.00	.00	.00

TOTALS 60.91 60.91 38.40 20.19 .00 .00 220.54 44.87 -25.83

Файл Z 1-1_min.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15:17
input file: C:\Program Files\Drainmod\INPUTS\Z 1-1_min.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	6.7	2.6	2.5	.0	.0	.0	.0	20.6	6.0	.0		
AVERAGE	6.7	2.6	2.5	.0	.0	.0	.0	20.6	6.0	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	9.1	2.6	2.5	.6	-11.9	-4.0	-4.3	-1.2	3.6	15.9	6.0	1.2

AVERAGE 9.1 2.6 2.5 .6 -11.9 -4.0 -4.3 -1.2 3.6 15.9 6.0 1.2

RANKING OF MONTHLY SURFACE RUNOFF

RANK JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
AVERAGE .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0

RANKING OF MONTHLY TOTAL RAINFALL

RANK JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1 5.5 3.8 3.7 5.5 7.2 6.6 4.4 3.9 3.2 6.4 5.2 5.6
AVERAGE 5.5 3.8 3.7 5.5 7.2 6.6 4.4 3.9 3.2 6.4 5.2 5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1 .8 .6 1.1 3.5 6.7 10.3 10.2 1.1 2.1 1.1 .6 .4
AVERAGE .8 .6 1.1 3.5 6.7 10.3 10.2 1.1 2.1 1.1 .6 .4

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1 .0 .0 .0 2.0 26.0 29.0 24.0 20.0 14.0 .0 .0 .0
AVERAGE .0 .0 .0 2.0 26.0 29.0 24.0 20.0 14.0 .0 .0 .0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1 81.0 86.2 86.8 85.1 37.7 31.9 32.6 46.0 63.3 107.8 120.0 113.5
AVERAGE 81.0 86.2 86.8 85.1 37.7 31.9 32.6 46.0 63.3 107.8 120.0 113.5

Файл Z 1-1_min.IR

* DRAINMOD version 5.1 *
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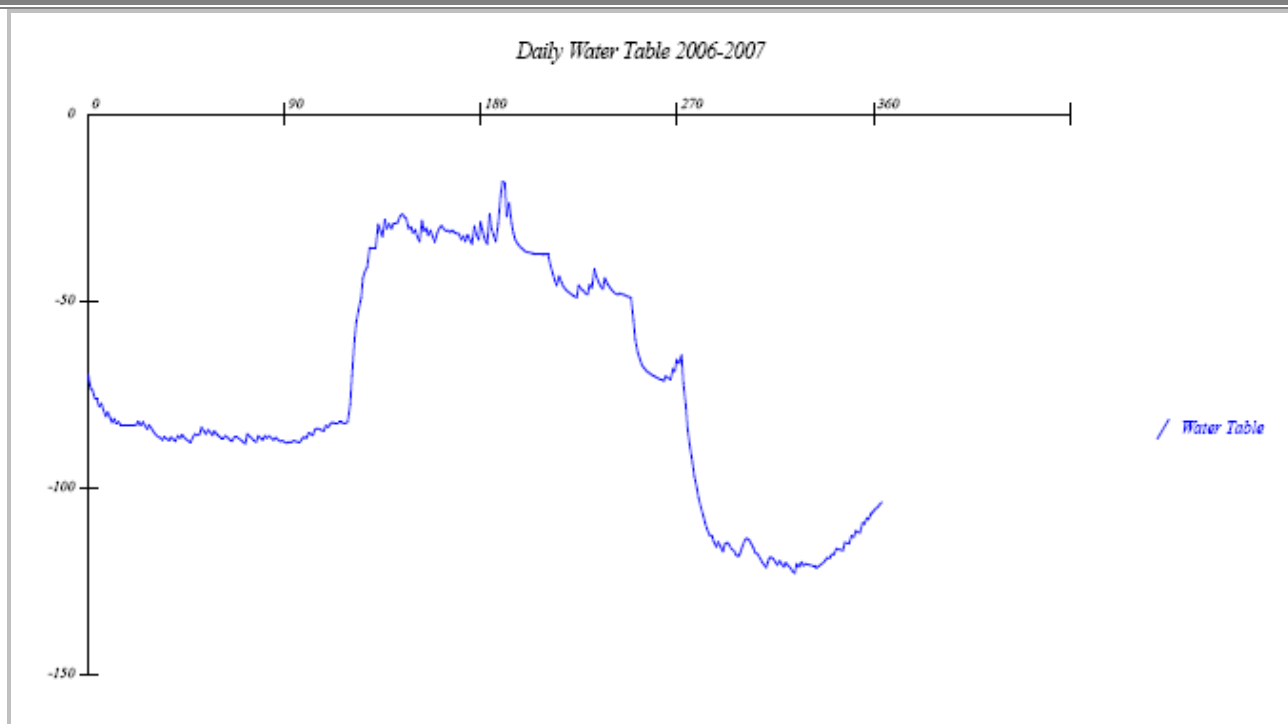
COMBO, SUMMER YIELD, MIRCHO SOIL

DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15:17
input file: C:\Program Files\Drainmod\INPUTS\Z 1-1_min.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

YEAR RAINFALL INFILTR ET DRAIN RUNOFF DRYDAYS WORKDAYS SEW PUMPV
2006 60.91 60.91 38.40 20.19 .00 .00 220.54 44.9 -25.83

AVG 60.91 60.91 38.40 20.19 .00 .00 220.54 44.9 -25.83



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 1-1_max**Входни данни****Файл №1 – Z 1-1_max.gen**

Базисен файл съдържащ основните входящи данни.

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 275.33 6000.00 2.00 2.00 1.00 9.78 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
680.00 2.00
18.2 10 38.2 45 56.5 30 86.6 08 110.2 09
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.001231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 30.0
2 7 1 30.0
2 8 1 30.0
1 9 8 60.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)

```

.00 .00
Freezing characteristic curve
0

Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 1-1_max Файл Z 1-1_max.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15:16
input file: C:\Program Files\Drainmod\INPUTS\Z 1-1_max.Prj
parameters: combination run and yields calculated
drain spacing = 6000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	3.72	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.97	.00	.00	.00	.00	.00
3	3.66	3.66	1.93	2.66	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.43	.00	.00	30.00	.00	.00
5	7.19	7.19	3.66	-3.83	.00	.00	31.00	.00	-3.83
6	6.60	6.60	5.72	-2.79	.00	.00	30.00	.00	-2.79
7	4.42	4.42	2.44	-2.12	.00	.00	23.48	.00	-2.12
8	3.94	3.94	.00	-3.06	.00	.00	29.00	.00	-3.06
9	3.23	3.23	2.06	.61	.00	.00	30.00	.00	-.68
10	6.40	6.40	1.83	6.81	.00	.00	31.00	.00	.00
11	5.16	5.16	1.02	5.80	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	1.16	.00	.00	31.00	.00	.00

TOTALS 60.91 60.91 25.07 12.35 .00 .00 296.48 .00 -12.48

Файл Z 1-1_max.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15:16
input file: C:\Program Files\Drainmod\INPUTS\Z 1-1_max.Prj
parameters: combination run and yields calculated
drain spacing = 6000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.1	3.0	2.7	.0	.0	.0	.0	8.0	5.8	.0		
AVERAGE	3.1	3.0	2.7	.0	.0	.0	.0	8.0	5.8	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.7	3.0	2.7	.4	-3.8	-2.8	-2.1	-3.1	.6	6.8	5.8	1.2
AVERAGE	3.7	3.0	2.7	.4	-3.8	-2.8	-2.1	-3.1	.6	6.8	5.8	1.2

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

[illegible]

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	1.9	3.5	3.7	5.7	2.4	.0	2.1	1.8	1.0	.8
AVERAGE	.8	1.4	1.9	3.5	3.7	5.7	2.4	.0	2.1	1.8	1.0	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	31.0	30.0	31.0	31.0	8.0	.0	.0	.0	
AVERAGE	.0	.0	.0	.0	31.0	30.0	31.0	31.0	8.0	.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

NUMBER OF AVERAGE MONTHLY WATER TABLE DEPTHS												
RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	62.3	63.9	68.5	71.1	56.4	48.9	43.8	50.1	57.6	69.9	75.8	71.9
AVERAGE	62.3	63.9	68.5	71.1	56.4	48.9	43.8	50.1	57.6	69.9	75.8	71.9

Файл Z 1-1_max.IR

* DRAINMOD version 5.1 *

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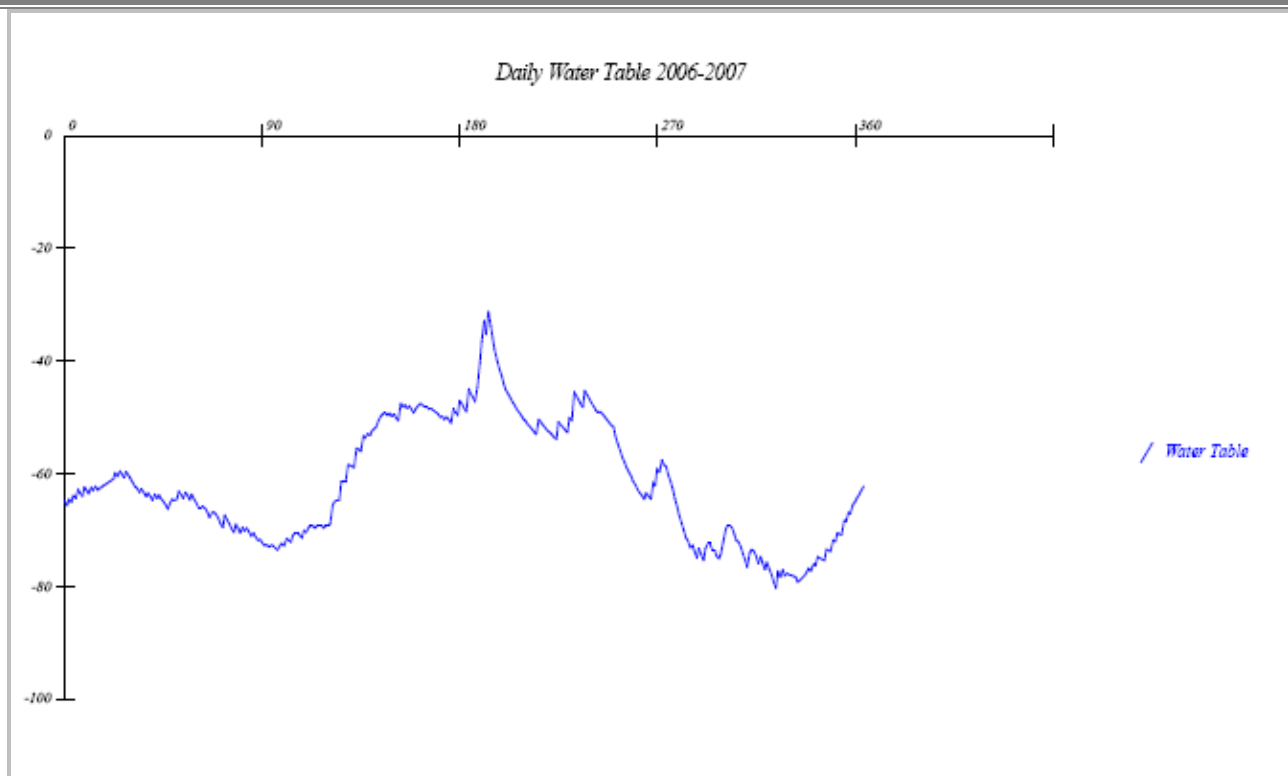
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

```

-----RUN STATISTICS -----      time: 7/23/2007 @ 15:16
input file: C:\Program Files\Drainmod\INPUTS\Z 1-1_max.Prj
parameters: combination run        and yields calculated
          drain spacing = 6000. cm  drain depth = 130.0 cm

```

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	25.07	12.35	.00	.00	296.48	.0	-12.48
AVG	60.91	60.91	25.07	12.35	.00	.00	296.48	.0	-12.48



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 1-1_opt

Входни данни

Файл №1 – Z 1-1_opt.gen

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 219.68 4000.00 2.00 2.00 1.00 9.78 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
680.00 2.00
18. 2.10 38. 2.45 56. 5.30 86. 6.08 110. 2.09
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 30.0
2 7 1 30.0
2 8 1 15.0
1 9 8 60.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve

```

0

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 1-1_opt

Файл Z 1-1_opt.DAY

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL

DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15:20

input file: C:\Program Files\Drainmod\INPUTS\Z 1-1_opt.Prj

parameters: combination run and yields calculated

drain spacing = 4000. cm drain depth = 130.0 cm

1

2006 1

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.30	.30	.03	.38185E+00	9.66	.00	65.43	.00	.00	.00
2	.00	.00	.03	.27982E+00	9.96	.00	66.73	.00	.00	.00
3	.41	.41	.03	.20594E+00	9.79	.00	65.99	.00	.00	.00
4	.00	.00	.03	.18289E+00	9.99	.00	66.87	.00	.00	.15
5	.41	.41	.03	.17401E+00	9.79	.00	65.99	.00	.00	.17
6	.00	.00	.03	.18193E+00	9.99	.00	66.87	.00	.00	.18
7	.51	.51	.03	.17399E+00	9.69	.00	65.56	.00	.00	.17
8	.00	.00	.03	.18576E+00	9.90	.00	66.46	.00	.00	.19
9	.00	.00	.03	.17780E+00	10.10	.00	67.32	.00	.00	.18
10	.51	.51	.03	.17006E+00	9.79	.00	65.99	.00	.00	.17
11	.00	.00	.03	.18191E+00	9.99	.00	66.87	.00	.00	.18
12	.00	.00	.03	.17413E+00	10.19	.00	67.72	.00	.00	.17
13	.41	.41	.03	.16657E+00	9.98	.00	66.81	.00	.00	.17
14	.00	.00	.03	.17469E+00	10.18	.00	67.66	.00	.00	.17
15	.30	.30	.03	.16710E+00	10.07	.00	67.18	.00	.00	.17
16	.00	.00	.03	.17141E+00	10.26	.00	68.02	.00	.00	.17
17	.20	.20	.03	.16398E+00	10.25	.00	67.96	.00	.00	.16
18	.20	.20	.03	.16449E+00	10.24	.00	67.90	.00	.00	.16
19	.20	.20	.03	.16498E+00	10.22	.00	67.85	.00	.00	.16
20	.20	.20	.03	.16545E+00	10.21	.00	67.80	.00	.00	.17
21	.20	.20	.03	.16591E+00	10.20	.00	67.75	.00	.00	.17
22	.20	.20	.03	.16635E+00	10.19	.00	67.70	.00	.00	.17
23	.20	.20	.03	.16677E+00	10.18	.00	67.65	.00	.00	.17
24	.41	.41	.03	.16718E+00	9.96	.00	66.74	.00	.00	.17
25	.00	.00	.03	.17528E+00	10.16	.00	67.59	.00	.00	.18
26	.41	.41	.03	.16766E+00	9.95	.00	66.69	.00	.00	.17
27	.00	.00	.03	.17575E+00	10.15	.00	67.54	.00	.00	.18
28	.00	.00	.03	.16827E+00	10.35	.00	68.36	.00	.00	.17
29	.41	.41	.03	.16098E+00	10.13	.00	67.43	.00	.00	.16
30	.00	.00	.03	.16924E+00	10.32	.00	68.26	.00	.00	.17
31	.00	.00	.03	.16206E+00	10.51	.00	69.05	.00	.00	.16

1

2006 2

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.05	.15478E+00	10.71	.00	69.92	.00	.00	.15
2	.00	.00	.05	.14735E+00	10.91	.00	70.76	.00	.00	.15
3	.10	.10	.05	.14031E+00	11.00	.00	71.14	.00	.00	.14
4	.00	.00	.05	.13709E+00	11.19	.00	71.94	.00	.00	.14
5	.30	.30	.05	.13060E+00	11.07	.00	71.42	.00	.00	.13
6	.00	.00	.05	.13482E+00	11.25	.00	72.21	.00	.00	.13
7	.00	.00	.05	.12830E+00	11.43	.00	72.97	.00	.00	.13
8	.30	.30	.05	.12227E+00	11.30	.00	72.41	.00	.00	.12
9	.00	.00	.05	.12665E+00	11.48	.00	73.16	.00	.00	.13
10	.00	.00	.05	.12050E+00	11.65	.00	73.89	.00	.00	.12
11	.41	.41	.05	.11487E+00	11.41	.00	72.86	.00	.00	.11
12	.00	.00	.05	.12290E+00	11.58	.00	73.60	.00	.00	.12
13	.30	.30	.05	.11712E+00	11.44	.00	73.02	.00	.00	.12
14	.00	.00	.05	.12163E+00	11.62	.00	73.75	.00	.00	.12
15	.00	.00	.05	.11570E+00	11.78	.00	74.46	.00	.00	.12
16	.00	.00	.05	.11001E+00	11.94	.00	75.17	.00	.00	.11
17	.00	.00	.00	.10402E+00	12.10	.00	75.93	.00	.00	.10
18	.41	.41	.05	.98398E-01	11.84	.00	74.70	.00	.00	.10

Напоително – отводнителни полета

19	.30	.30	.05	.10823E+00	11.69	.00	74.09	.00	.00	.11
20	.10	.10	.05	.11326E+00	11.76	.00	74.35	.00	.00	.11
21	.20	.20	.05	.11114E+00	11.72	.00	74.18	.00	.00	.11
22	.51	.51	.05	.11254E+00	11.37	.00	72.71	.00	.00	.11
23	.00	.00	.05	.12413E+00	11.55	.00	73.46	.00	.00	.12
24	.00	.00	.05	.11809E+00	11.72	.00	74.17	.00	.00	.12
25	.41	.41	.05	.11257E+00	11.47	.00	73.14	.00	.00	.11
26	.00	.00	.05	.12064E+00	11.64	.00	73.87	.00	.00	.12
27	.00	.00	.05	.11476E+00	11.81	.00	74.57	.00	.00	.11
28	.41	.41	.05	.10934E+00	11.56	.00	73.53	.00	.00	.11

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2006 3

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	.11732E+00	11.74	.00	74.28	.00	.00	.12
2	.00	.00	.00	.11135E+00	11.91	.00	74.99	.00	.00	.11
3	.00	.00	.00	.10545E+00	12.07	.00	75.77	.00	.00	.11
4	.20	.20	.10	.99642E-01	12.06	.00	75.76	.00	.00	.10
5	.30	.30	.10	.99718E-01	11.96	.00	75.25	.00	.00	.10
6	.10	.10	.10	.10372E+00	12.06	.00	75.76	.00	.00	.10
7	.00	.00	.00	.99365E-01	12.21	.00	76.50	.00	.00	.10
8	.00	.00	.00	.93652E-01	12.35	.00	77.20	.00	.00	.09
9	.41	.41	.10	.88617E-01	12.14	.00	76.13	.00	.00	.09
10	.20	.20	.10	.96866E-01	12.13	.00	76.10	.00	.00	.10
11	.10	.10	.10	.97049E-01	12.23	.00	76.58	.00	.00	.10
12	.00	.00	.00	.92991E-01	12.37	.00	77.28	.00	.00	.09
13	.00	.00	.00	.87668E-01	12.50	.00	77.94	.00	.00	.09
14	.00	.00	.00	.82626E-01	12.63	.00	78.58	.00	.00	.08
15	.61	.61	.00	.89643E-01	12.11	.00	76.00	.00	.00	.09
16	.00	.00	.00	.97485E-01	12.26	.00	76.73	.00	.00	.10
17	.00	.00	.00	.91890E-01	12.40	.00	77.42	.00	.00	.09
18	.00	.00	.00	.86612E-01	12.53	.00	78.07	.00	.00	.09
19	.00	.00	.00	.81666E-01	12.66	.00	78.70	.00	.00	.08
20	.51	.51	.10	.77260E-01	12.33	.00	77.07	.00	.00	.08
21	.00	.00	.00	.89291E-01	12.46	.00	77.74	.00	.00	.09
22	.00	.00	.00	.84160E-01	12.59	.00	78.38	.00	.00	.08
23	.41	.41	.10	.79622E-01	12.37	.00	77.27	.00	.00	.08
24	.00	.00	.00	.87756E-01	12.50	.00	77.93	.00	.00	.09
25	.30	.30	.10	.83023E-01	12.38	.00	77.34	.00	.00	.08
26	.00	.00	.00	.87220E-01	12.51	.00	78.00	.00	.00	.09
27	.00	.00	.00	.82240E-01	12.64	.00	78.63	.00	.00	.08
28	.30	.30	.10	.77775E-01	12.52	.00	78.01	.00	.00	.08
29	.00	.00	.00	.82155E-01	12.64	.00	78.64	.00	.00	.08
30	.00	.00	.00	.77422E-01	12.77	.00	79.24	.00	.00	.08
31	.20	.20	.10	.73258E-01	12.74	.00	79.10	.00	.00	.07

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2006 4

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	.67349E-01	12.85	.00	79.64	.00	.00	.00
2	.00	.00	.00	.51322E-01	12.94	.00	80.10	.00	.00	.00
3	.30	.30	.20	.39173E-01	12.88	.00	79.79	.00	.00	.00
4	.00	.00	.00	.34062E-01	12.95	.00	80.17	.00	.00	.00
5	.30	.30	.20	.25802E-01	12.88	.00	79.79	.00	.00	.00
6	.20	.20	.20	.23706E-01	12.90	.00	79.91	.00	.00	.00
7	.00	.00	.00	.18613E-01	12.96	.00	80.21	.00	.00	.00
8	.00	.00	.00	.13847E-01	13.02	.00	80.48	.00	.00	.00
9	.41	.41	.20	.69218E-02	12.82	.00	79.51	.00	.00	.00
10	.30	.30	.20	.11934E-01	12.73	.00	79.06	.00	.00	.00
11	.00	.00	.00	.12926E-01	12.79	.00	79.34	.00	.00	.00
12	.51	.51	.20	.62771E-02	12.49	.00	77.86	.00	.00	.00
13	.00	.00	.00	.14949E-01	12.55	.00	78.17	.00	.00	.00
14	.00	.00	.00	.76302E-02	12.60	.00	78.42	.00	.00	.00
15	.51	.51	.20	.29396E-02	12.30	.00	76.93	.00	.00	.00
16	.30	.30	.20	.12185E-01	12.21	.00	76.49	.00	.00	.00
17	.20	.20	.20	.13037E-01	12.22	.00	76.55	.00	.00	.00
18	.00	.00	.00	.10654E-01	12.28	.00	76.84	.00	.00	.00
19	.00	.00	.00	.49613E-02	12.34	.00	77.11	.00	.00	.00
20	.51	.51	.20	.11317E-02	12.03	.00	75.60	.00	.00	.00
21	.00	.00	.00	.11130E-01	12.09	.00	75.91	.00	.00	.00
22	.41	.41	.20	.48339E-02	11.90	.00	74.94	.00	.00	.00
23	.30	.30	.20	.10510E-01	11.80	.00	74.55	.00	.00	.00
24	.20	.20	.20	.11379E-01	11.82	.00	74.60	.00	.00	.00
25	.00	.00	.00	.94242E-02	11.88	.00	74.88	.00	.00	.00
26	.30	.30	.20	.38356E-02	11.78	.00	74.47	.00	.00	.00

27	.20	.20	.20	.60002E-02	11.79	.00	74.49	.00	.00	.00
28	.20	.20	.20	.48197E-02	11.80	.00	74.51	.00	.00	.00
29	.00	.00	.00	.42323E-02	11.86	.00	74.77	.00	.00	.00
30	.30	.30	.20	.61226E-03	11.76	.00	74.35	.00	.00	.00

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2006 5

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.00	.00	.00	-.18352E+00	11.63	.00	73.81	.00	.00	.00
2	.00	.00	.00	-.36458E+00	11.33	.00	72.55	.00	.00	.00
3	.61	.61	.00	-.34844E+00	10.37	.00	68.49	.00	.00	.00
4	.30	.30	.30	-.33127E+00	10.04	.00	67.08	.00	.00	.00
5	.00	.00	.00	-.32293E+00	9.83	.00	66.17	.00	.00	.00
6	.00	.00	.00	-.31690E+00	9.63	.00	65.32	.00	.00	.00
7	.61	.61	.00	-.30058E+00	8.72	.00	61.46	.00	.00	.00
8	.00	.00	.00	-.28414E+00	8.58	.00	60.89	.00	.00	.00
9	.00	.00	.00	-.28006E+00	8.46	.00	60.35	.00	.00	.00
10	.61	.61	.00	-.26567E+00	7.58	.00	57.07	.00	.00	.00
11	.00	.00	.00	-.25168E+00	7.51	.00	56.81	.00	.00	.00
12	.00	.00	.00	-.24977E+00	7.45	.00	56.59	.00	.00	.00
13	.00	.00	.00	-.24798E+00	7.39	.00	56.36	.00	.00	.00
14	.79	.79	.00	-.23458E+00	6.37	.00	52.58	.00	.00	.00
15	.00	.00	.00	-.21541E+00	6.38	.00	52.60	.00	.00	.00
16	.00	.00	.00	-.21564E+00	6.39	.00	52.63	.00	.00	.00
17	.61	.61	.00	-.20320E+00	5.57	.00	49.62	.00	.00	.00
18	.00	.00	.00	-.19043E+00	5.63	.00	49.83	.00	.00	.00
19	.41	.41	.30	-.19041E+00	5.34	.00	48.75	.00	.00	.00
20	.10	.10	.30	-.18103E+00	5.36	.00	48.83	.00	.00	.00
21	.41	.41	.30	-.18175E+00	5.08	.00	47.78	.00	.00	.00
22	.30	.30	.30	-.17256E+00	4.90	.00	47.14	.00	.00	.00
23	.30	.30	.30	-.16689E+00	4.74	.00	46.53	.00	.00	.00
24	.51	.51	.30	-.16142E+00	4.37	.00	45.17	.00	.00	.00
25	.41	.41	.30	-.14926E+00	4.12	.00	44.12	.00	.00	.00
26	.30	.30	.30	-.13995E+00	3.98	.00	43.51	.00	.00	.00
27	.30	.30	.30	-.13461E+00	3.85	.00	42.92	.00	.00	.00
28	.00	.00	.30	-.13172E+00	4.02	.00	43.68	.00	.00	.00
29	.30	.30	.30	-.13614E+00	3.88	.00	43.09	.00	.00	.00
30	.00	.00	.30	-.13320E+00	4.06	.00	43.83	.00	.00	.00
31	.30	.30	.30	-.13751E+00	3.92	.00	43.23	.00	.00	.00

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2006 6

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.00	.00	.00	-.13513E+00	4.11	.00	44.05	.00	.00	.00
2	.00	.00	.00	-.14210E+00	4.27	.00	44.77	.00	.00	.00
3	.71	.71	.00	-.13123E+00	3.43	.00	41.12	.00	.00	.00
4	.00	.00	.00	-.11638E+00	3.69	.00	42.24	.00	.00	.00
5	.41	.41	.38	-.12319E+00	3.54	.00	41.60	.00	.00	.00
6	.00	.00	.00	-.12075E+00	3.80	.00	42.70	.00	.00	.00
7	.41	.41	.38	-.12745E+00	3.64	.00	42.04	.00	.00	.00
8	.00	.00	.00	-.12462E+00	3.87	.00	43.02	.00	.00	.00
9	.00	.00	.00	-.13314E+00	4.07	.00	43.90	.00	.00	.00
10	.51	.51	.38	-.13810E+00	3.81	.00	42.75	.00	.00	.00
11	.41	.41	.38	-.12782E+00	3.65	.00	42.08	.00	.00	.00
12	.41	.41	.38	-.12174E+00	3.51	.00	41.44	.00	.00	.00
13	.20	.20	.38	-.11599E+00	3.57	.00	41.71	.00	.00	.00
14	.20	.20	.38	-.11846E+00	3.63	.00	41.97	.00	.00	.00
15	.30	.30	.38	-.12075E+00	3.58	.00	41.77	.00	.00	.00
16	.20	.20	.38	-.11904E+00	3.64	.00	42.03	.00	.00	.00
17	.30	.30	.38	-.12130E+00	3.60	.00	41.83	.00	.00	.00
18	.20	.20	.38	-.11957E+00	3.65	.00	42.09	.00	.00	.00
19	.20	.20	.38	-.12177E+00	3.71	.00	42.33	.00	.00	.00
20	.20	.20	.38	-.12399E+00	3.76	.00	42.56	.00	.00	.00
21	.00	.00	.00	-.12934E+00	3.98	.00	43.52	.00	.00	.00
22	.30	.30	.38	-.13469E+00	3.93	.00	43.26	.00	.00	.00
23	.00	.00	.00	-.13541E+00	4.11	.00	44.08	.00	.00	.00
24	.41	.41	.38	-.13965E+00	3.95	.00	43.36	.00	.00	.00
25	.00	.00	.00	-.13628E+00	4.13	.00	44.17	.00	.00	.00
26	.00	.00	.00	-.14322E+00	4.30	.00	44.89	.00	.00	.00
27	.61	.61	.00	-.13232E+00	3.56	.00	41.67	.00	.00	.00
28	.00	.00	.00	-.12140E+00	3.81	.00	42.78	.00	.00	.00
29	.00	.00	.00	-.13114E+00	4.03	.00	43.72	.00	.00	.00
30	.61	.61	.00	-.12150E+00	3.30	.00	40.55	.00	.00	.00

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2006 7

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	-.11142E+00	3.59	.00	41.81	.00	.00	.00
2	.00	.00	.00	-.12263E+00	3.84	.00	42.91	.00	.00	.00
3	.00	.00	.00	-.13230E+00	4.06	.00	43.85	.00	.00	.00
4	.99	.99	.00	-.12268E+00	2.95	.00	38.82	.00	.00	.00
5	.00	.00	.41	-.96300E-01	3.26	.00	40.36	.00	.00	.00
6	.00	.00	.00	-.10971E+00	3.55	.00	41.63	.00	.00	.00
7	.00	.00	.00	-.12111E+00	3.80	.00	42.74	.00	.00	.00
8	.61	.61	.00	-.11226E+00	3.08	.00	39.52	.00	.00	.00
9	.89	.89	.00	-.78880E-01	2.11	.00	34.35	.00	.00	.00
10	.71	.71	.00	-.23971E-01	1.38	.00	29.43	.00	.00	.00
11	.61	.61	.00	.31035E-01	.80	.00	24.12	.00	.00	.00
12	.00	.00	.41	.39228E-01	1.25	.00	28.28	.00	.00	.00
13	.61	.61	.00	.43543E-01	.68	.00	22.56	.00	.00	.00
14	.00	.00	.41	.51102E-01	1.14	.00	27.34	.00	.00	.00
15	.00	.00	.41	.10329E-01	1.55	.00	30.71	.00	.00	.00
16	.00	.00	.41	-.20450E-01	1.94	.00	33.22	.00	.00	.00
17	.00	.00	.41	-.43724E-01	2.30	.00	35.47	.00	.00	.00
18	.00	.00	.41	-.63844E-01	2.65	.00	37.25	.00	.00	.00
19	.00	.00	.41	-.81377E-01	2.97	.00	38.94	.00	.00	.00
20	.00	.00	.41	-.97404E-01	3.28	.00	40.46	.00	.00	.00
21	.00	.00	.00	-.11059E+00	3.57	.00	41.72	.00	.00	.00
22	.00	.00	.00	-.12191E+00	3.83	.00	42.83	.00	.00	.00
23	.00	.00	.00	-.13161E+00	4.04	.00	43.77	.00	.00	.00
24	.00	.00	.00	-.13985E+00	4.23	.00	44.56	.00	.00	.00
25	.00	.00	.00	-.14667E+00	4.38	.00	45.18	.00	.00	.00
26	.00	.00	.00	-.15157E+00	4.51	.00	45.67	.00	.00	.00
27	.00	.00	.00	-.15597E+00	4.63	.00	46.13	.00	.00	.00
28	.00	.00	.00	-.15995E+00	4.74	.00	46.55	.00	.00	.00
29	.00	.00	.00	-.16375E+00	4.86	.00	46.96	.00	.00	.00
30	.00	.00	.00	-.16733E+00	4.96	.00	47.34	.00	.00	.00
31	.00	.00	.00	-.17068E+00	5.05	.00	47.70	.00	.00	.00

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2006 8

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	-.31610E+00	5.00	.00	47.51	.00	.00	.00
2	.00	.00	.00	-.32724E+00	4.94	.00	47.28	.00	.00	.00
3	.00	.00	.00	-.32529E+00	4.88	.00	47.06	.00	.00	.00
4	.00	.00	.00	-.32345E+00	4.83	.00	46.87	.00	.00	.00
5	.61	.61	.00	-.30753E+00	3.91	.00	43.20	.00	.00	.00
6	.00	.00	.00	-.29070E+00	3.96	.00	43.40	.00	.00	.00
7	.00	.00	.00	-.29246E+00	4.00	.00	43.59	.00	.00	.00
8	.00	.00	.00	-.29414E+00	4.04	.00	43.77	.00	.00	.00
9	.00	.00	.00	-.29575E+00	4.08	.00	43.95	.00	.00	.00
10	.00	.00	.00	-.29710E+00	4.11	.00	44.06	.00	.00	.00
11	.00	.00	.00	-.29781E+00	4.12	.00	44.11	.00	.00	.00
12	.00	.00	.00	-.29827E+00	4.13	.00	44.16	.00	.00	.00
13	.00	.00	.00	-.29870E+00	4.14	.00	44.21	.00	.00	.00
14	.71	.71	.00	-.28193E+00	3.15	.00	39.86	.00	.00	.00
15	.00	.00	.36	-.26102E+00	3.24	.00	40.31	.00	.00	.00
16	.00	.00	.36	-.26487E+00	3.34	.00	40.70	.00	.00	.00
17	.00	.00	.36	-.26847E+00	3.42	.00	41.08	.00	.00	.00
18	.00	.00	.36	-.27191E+00	3.51	.00	41.44	.00	.00	.00
19	.61	.61	.00	-.25543E+00	2.64	.00	37.22	.00	.00	.00
20	.00	.00	.36	-.23633E+00	2.76	.00	37.84	.00	.00	.00
21	1.30	1.30	.00	-.19907E+00	1.27	.00	28.44	.00	.00	.00
22	.00	.00	.36	-.15036E+00	1.47	.00	30.14	.00	.00	.00
23	.00	.00	.36	-.16580E+00	1.66	.00	31.40	.00	.00	.00
24	.00	.00	.36	-.17833E+00	1.84	.00	32.56	.00	.00	.00
25	.00	.00	.36	-.18999E+00	2.00	.00	33.63	.00	.00	.00
26	.71	.71	.00	-.16968E+00	1.12	.00	27.20	.00	.00	.00
27	.00	.00	.36	-.13802E+00	1.34	.00	29.09	.00	.00	.00
28	.00	.00	.36	-.15642E+00	1.54	.00	30.61	.00	.00	.00
29	.00	.00	.36	-.17035E+00	1.72	.00	31.82	.00	.00	.00
30	.00	.00	.36	-.18254E+00	1.90	.00	32.94	.00	.00	.00
31	.00	.00	.36	-.19392E+00	2.06	.00	34.00	.00	.00	.00

1

2006 9

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

Напоително – отводнителни полета

1	.00	.00	.23	-.20066E+00	2.09	.00	34.18	.00	.00	.00
2	.20	.20	.23	-.20257E+00	1.91	.00	33.03	.00	.00	.00
3	.00	.00	.23	-.19086E+00	1.95	.00	33.27	.00	.00	.00
4	.00	.00	.23	-.19334E+00	1.98	.00	33.50	.00	.00	.00
5	.00	.00	.23	-.19566E+00	2.02	.00	33.71	.00	.00	.00
6	.00	.00	.23	-.19782E+00	2.05	.00	33.91	.00	.00	.00
7	.00	.00	.23	-.19984E+00	2.08	.00	34.10	.00	.00	.00
8	.41	.41	.23	.62599E+00	2.52	.00	36.61	.00	.00	.00
9	.00	.00	.23	.47872E+00	3.23	.00	40.25	.00	.00	.00
10	.00	.00	.23	.34533E+00	3.81	.00	42.74	.00	.00	.00
11	.00	.00	.23	.25527E+00	4.29	.00	44.84	.00	.00	.00
12	.00	.00	.23	.19046E+00	4.71	.00	46.42	.00	.00	.00
13	.00	.00	.23	.14291E+00	5.08	.00	47.79	.00	.00	.00
14	.00	.00	.23	.10860E+00	5.42	.00	49.04	.00	.00	.06
15	.00	.00	.23	.94179E-01	5.74	.00	50.24	.00	.00	.09
16	.00	.00	.23	.83009E-01	6.05	.00	51.39	.00	.00	.08
17	.00	.00	.00	.72362E-01	6.35	.00	52.50	.00	.00	.07
18	.00	.00	.00	.62340E-01	6.63	.00	53.54	.00	.00	.06
19	.00	.00	.00	.53075E-01	6.89	.00	54.52	.00	.00	.05
20	.00	.00	.00	.44486E-01	7.14	.00	55.43	.00	.00	.04
21	.00	.00	.00	.36545E-01	7.37	.00	56.28	.00	.00	.04
22	.00	.00	.00	.29194E-01	7.58	.00	57.06	.00	.00	.03
23	.51	.51	.23	.23689E-01	7.33	.00	56.12	.00	.00	.02
24	.00	.00	.00	.30581E-01	7.54	.00	56.93	.00	.00	.03
25	.00	.00	.00	.23586E-01	7.75	.00	57.70	.00	.00	.02
26	.71	.71	.00	.29095E-01	7.07	.00	55.17	.00	.00	.03
27	.00	.00	.00	.38811E-01	7.30	.00	56.03	.00	.00	.04
28	.79	.79	.00	.43831E-01	6.56	.00	53.27	.00	.00	.04
29	.00	.00	.00	.55499E-01	6.82	.00	54.25	.00	.00	.06
30	.61	.61	.00	.59725E-01	6.27	.00	52.22	.00	.00	.06

1

2006 10

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.10	.55450E+00	6.93	.00	54.65	.00	.00	2.65
2	.30	.30	.10	.57088E+00	7.30	.00	56.01	.00	.00	.57
3	.00	.00	.10	.55622E+00	7.95	.00	58.45	.00	.00	.56
4	.10	.10	.10	.52874E+00	8.48	.00	60.47	.00	.00	.53
5	.00	.00	.10	.50537E+00	9.09	.00	63.04	.00	.00	.51
6	.00	.00	.10	.47787E+00	9.67	.00	65.50	.00	.00	.48
7	.00	.00	.10	.45220E+00	10.22	.00	67.85	.00	.00	.45
8	.00	.00	.00	.42827E+00	10.75	.00	70.07	.00	.00	.43
9	.00	.00	.00	.40635E+00	11.23	.00	72.12	.00	.00	.41
10	.00	.00	.00	.38648E+00	11.68	.00	74.03	.00	.00	.39
11	.00	.00	.00	.36808E+00	12.10	.00	75.96	.00	.00	.37
12	.20	.20	.10	.34924E+00	12.35	.00	77.19	.00	.00	.35
13	.00	.00	.00	.33780E+00	12.73	.00	79.08	.00	.00	.34
14	.41	.41	.10	.32078E+00	12.75	.00	79.16	.00	.00	.32
15	.00	.00	.00	.31996E+00	13.11	.00	80.95	.00	.00	.32
16	.00	.00	.00	.30408E+00	13.45	.00	82.65	.00	.00	.30
17	.61	.61	.00	.30247E+00	13.15	.00	81.13	.00	.00	.30
18	.00	.00	.00	.30252E+00	13.49	.00	82.82	.00	.00	.30
19	.00	.00	.00	.28789E+00	13.81	.00	84.42	.00	.00	.29
20	.71	.71	.00	.28711E+00	13.39	.00	82.32	.00	.00	.29
21	.51	.51	.10	.29229E+00	13.27	.00	81.75	.00	.00	.29
22	.30	.30	.10	.29720E+00	13.37	.00	82.22	.00	.00	.30
23	.00	.00	.00	.29307E+00	13.70	.00	83.85	.00	.00	.29
24	.30	.30	.10	.27917E+00	13.77	.00	84.22	.00	.00	.28
25	.00	.00	.00	.27591E+00	14.08	.00	85.75	.00	.00	.28
26	.20	.20	.10	.26401E+00	14.24	.00	86.55	.00	.00	.26
27	.51	.51	.10	.25875E+00	14.09	.00	85.82	.00	.00	.26
28	.71	.71	.00	.27511E+00	13.66	.00	83.66	.00	.00	.28
29	.71	.71	.00	.29364E+00	13.24	.00	81.59	.00	.00	.29
30	.51	.51	.10	.29857E+00	13.13	.00	81.06	.00	.00	.30
31	.30	.30	.10	.30325E+00	13.23	.00	81.56	.00	.00	.30

1

2006 11

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.20	.20	.05	.29891E+00	13.38	.00	82.28	.00	.00	.30
2	.00	.00	.00	.29251E+00	13.71	.00	83.91	.00	.00	.29
3	.00	.00	.00	.27858E+00	14.02	.00	85.45	.00	.00	.28
4	.20	.20	.05	.26611E+00	14.13	.00	86.02	.00	.00	.27
5	.00	.00	.00	.26220E+00	14.42	.00	87.46	.00	.00	.26

6	.00	.00	.00	.25291E+00	14.70	.00	88.84	.00	.00	.25
7	.00	.00	.00	.24404E+00	14.97	.00	90.14	.00	.00	.24
8	.00	.00	.00	.23610E+00	15.23	.00	91.28	.00	.00	.24
9	.71	.71	.00	.23729E+00	14.75	.00	89.09	.00	.00	.24
10	.41	.41	.05	.24246E+00	14.64	.00	88.53	.00	.00	.24
11	.20	.20	.05	.24601E+00	14.74	.00	89.00	.00	.00	.25
12	.00	.00	.00	.24306E+00	15.00	.00	90.28	.00	.00	.24
13	.00	.00	.00	.23523E+00	15.26	.00	91.41	.00	.00	.24
14	.51	.51	.05	.22800E+00	15.03	.00	90.40	.00	.00	.23
15	.00	.00	.00	.23445E+00	15.28	.00	91.53	.00	.00	.23
16	.00	.00	.00	.22725E+00	15.53	.00	92.62	.00	.00	.23
17	.51	.51	.05	.22029E+00	15.30	.00	91.58	.00	.00	.22
18	.00	.00	.00	.22694E+00	15.54	.00	92.67	.00	.00	.23
19	.00	.00	.00	.21999E+00	15.78	.00	93.73	.00	.00	.22
20	.00	.00	.00	.21328E+00	16.02	.00	94.76	.00	.00	.21
21	.00	.00	.00	.20680E+00	16.24	.00	95.76	.00	.00	.21
22	.79	.79	.00	.20880E+00	15.67	.00	93.21	.00	.00	.21
23	.00	.00	.00	.21660E+00	15.90	.00	94.25	.00	.00	.22
24	.51	.51	.05	.21001E+00	15.65	.00	93.16	.00	.00	.21
25	.00	.00	.00	.21690E+00	15.89	.00	94.20	.00	.00	.22
26	.30	.30	.05	.21030E+00	15.85	.00	94.01	.00	.00	.21
27	.20	.20	.05	.21152E+00	15.91	.00	94.27	.00	.00	.21
28	.20	.20	.05	.20987E+00	15.96	.00	94.53	.00	.00	.21
29	.20	.20	.05	.20827E+00	16.02	.00	94.77	.00	.00	.21
30	.20	.20	.05	.20672E+00	16.07	.00	95.01	.00	.00	.21

1

2006 12

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	.17253E+00	16.27	.00	95.86	.00	.00	.00
2	.20	.20	.03	.11890E+00	16.21	.00	95.60	.00	.00	.00
3	.20	.20	.03	.91214E-01	16.12	.00	95.21	.00	.00	.00
4	.20	.20	.03	.72514E-01	16.02	.00	94.75	.00	.00	.00
5	.20	.20	.03	.59308E-01	15.90	.00	94.23	.00	.00	.00
6	.20	.20	.03	.49754E-01	15.77	.00	93.66	.00	.00	.00
7	.00	.00	.00	.42820E-01	15.83	.00	93.94	.00	.00	.00
8	.30	.30	.03	.32527E-01	15.58	.00	92.85	.00	.00	.00
9	.00	.00	.00	.32318E-01	15.64	.00	93.09	.00	.00	.00
10	.41	.41	.03	.24632E-01	15.28	.00	91.51	.00	.00	.00
11	.00	.00	.00	.28903E-01	15.33	.00	91.73	.00	.00	.00
12	.00	.00	.00	.22064E-01	15.37	.00	91.92	.00	.00	.00
13	.00	.00	.00	.16690E-01	15.41	.00	92.09	.00	.00	.00
14	.51	.51	.03	.91405E-02	14.94	.00	89.99	.00	.00	.00
15	.00	.00	.00	.19545E-01	14.98	.00	90.18	.00	.00	.00
16	.00	.00	.00	.14777E-01	15.02	.00	90.35	.00	.00	.00
17	.51	.51	.03	.80997E-02	14.54	.00	88.04	.00	.00	.00
18	.00	.00	.03	.19970E-01	14.59	.00	88.27	.00	.00	.00
19	.41	.41	.03	.15109E-01	14.22	.00	86.45	.00	.00	.00
20	.00	.00	.03	.22997E-01	14.27	.00	86.69	.00	.00	.00
21	.00	.00	.03	.17061E-01	14.31	.00	86.90	.00	.00	.00
22	.61	.61	.00	.18973E-01	13.72	.00	83.98	.00	.00	.00
23	.00	.00	.03	.24033E-01	13.77	.00	84.22	.00	.00	.00
24	.41	.41	.03	.18285E-01	13.41	.00	82.43	.00	.00	.00
25	.00	.00	.03	.26263E-01	13.46	.00	82.68	.00	.00	.00
26	.41	.41	.03	.20002E-01	13.10	.00	80.89	.00	.00	.00
27	.20	.20	.03	.27810E-01	12.95	.00	80.15	.00	.00	.00
28	.20	.20	.03	.27703E-01	12.80	.00	79.41	.00	.00	.00
29	.20	.20	.03	.27659E-01	12.65	.00	78.66	.00	.00	.00
30	.20	.20	.03	.27674E-01	12.50	.00	77.92	.00	.00	.00
31	.20	.20	.03	.27745E-01	12.35	.00	77.18	.00	.00	.00

Файл Z 1-1_opt.MON

 * DRAINMOD version 5.1 *
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COMBO, SUMMER YIELD, MIRCHO SOIL

DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15:20
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-1_opt.Prj
 parameters: combination run and yields calculated

drain spacing = 4000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	5.65	.00	.00	.00	.00	.00
2	3.76	3.76	1.37	3.39	.00	.00	.00	.00	.00
3	3.66	3.66	1.12	2.80	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.45	.00	.00	30.00	.00	.00
5	7.19	7.19	4.27	-6.82	.00	.00	31.00	.00	-6.82
6	6.60	6.60	5.72	-3.83	.00	.00	30.00	.00	-3.83
7	4.42	4.42	3.66	-2.78	.00	.00	19.74	16.69	-2.96
8	3.94	3.94	4.98	-7.70	.00	.00	18.42	3.01	-7.70
9	3.23	3.23	3.89	1.55	.00	.00	21.33	.00	-1.39
10	6.40	6.40	1.63	11.18	.00	.00	31.00	.00	.00
11	5.16	5.16	.61	7.01	.00	.00	30.00	.00	.00
12	5.59	5.59	.56	1.14	.00	.00	31.00	.00	.00

TOTALS 60.91 60.91 32.03 12.04 .00 .00 273.48 19.70 -22.70

Файл Z 1-1_opt.MRK

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COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15:20
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-1_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 4000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.8	3.4	2.8	.0	.0	.0	.0	.8	13.3	7.0	.0	
AVERAGE	4.8	3.4	2.8	.0	.0	.0	.0	.8	13.3	7.0	.0	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.7	3.4	2.8	.4	-6.8	-3.8	-2.8	-7.7	1.5	11.2	7.0	1.1
AVERAGE	5.7	3.4	2.8	.4	-6.8	-3.8	-2.8	-7.7	1.5	11.2	7.0	1.1

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	1.1	3.5	4.3	5.7	3.7	5.0	3.9	1.6	.6	.6
AVERAGE	.8	1.4	1.1	3.5	4.3	5.7	3.7	5.0	3.9	1.6	.6	.6

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	31.0	30.0	26.0	31.0	7.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	31.0	30.0	26.0	31.0	7.0	.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	67.2	73.3	77.2	77.3	53.8	42.7	39.1	38.8	47.2	76.3	91.1	88.1
AVERAGE	67.2	73.3	77.2	77.3	53.8	42.7	39.1	38.8	47.2	76.3	91.1	88.1

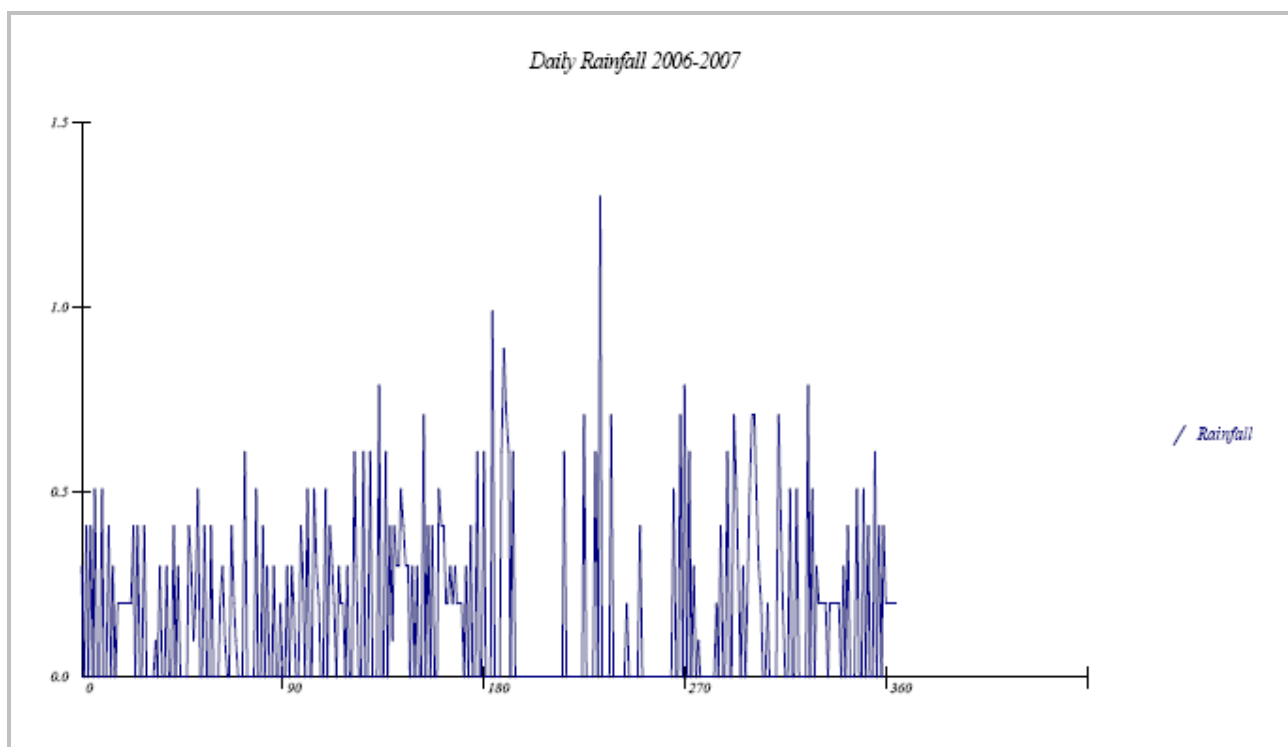
Файл Z 1-1_opt.IR

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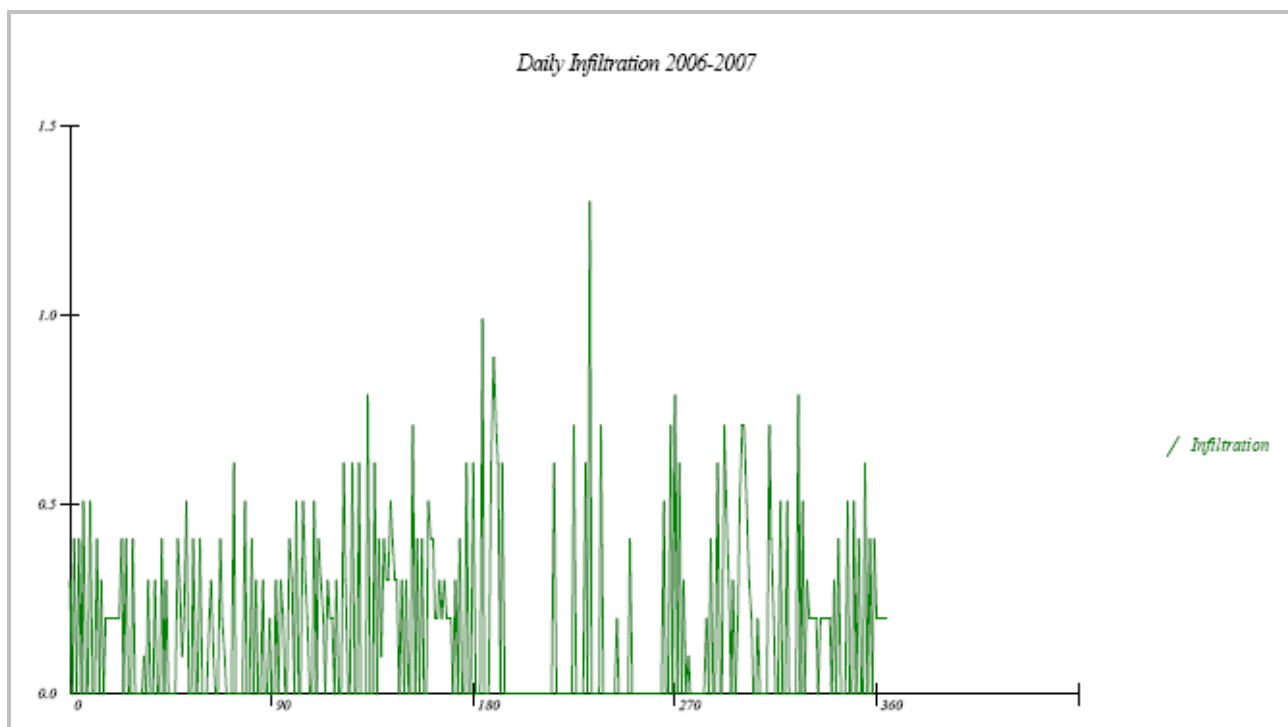
COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15:20
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-1_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 4000. cm drain depth = 130.0 cm

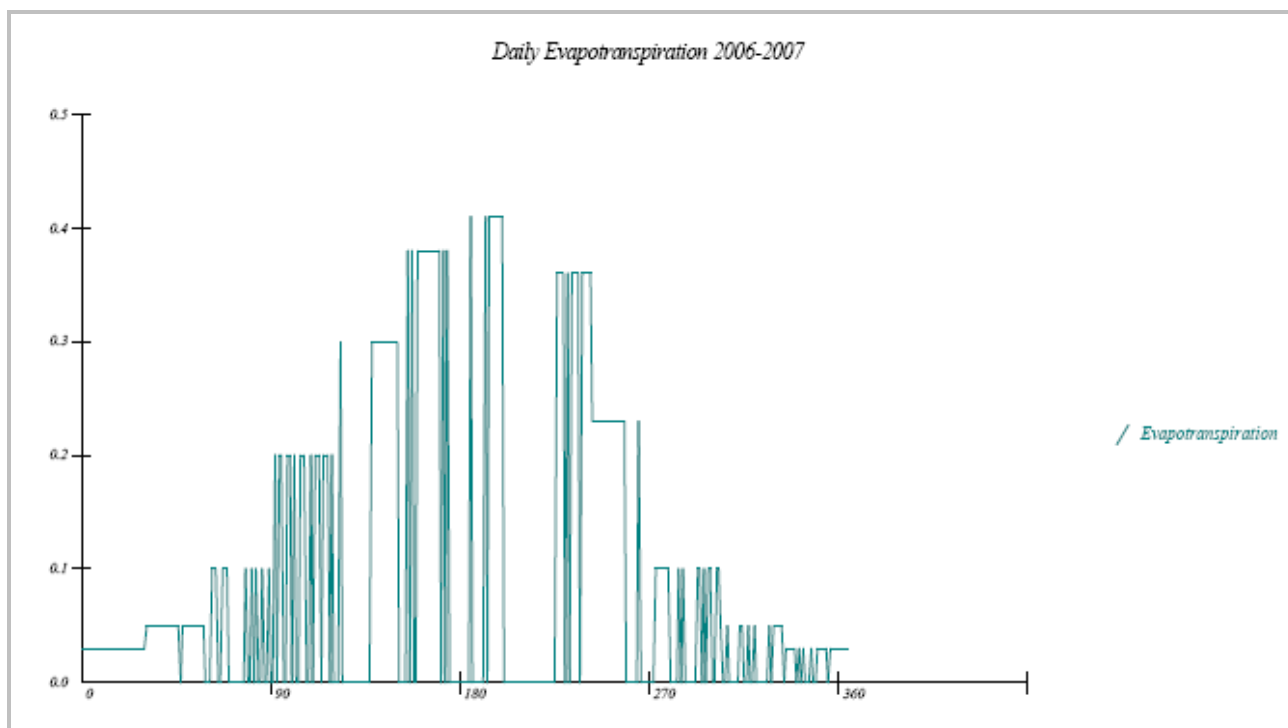
YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	32.03	12.04	.00	.00	273.48	19.7	-22.70
AVG	60.91	60.91	32.03	12.04	.00	.00	273.48	19.7	-22.70



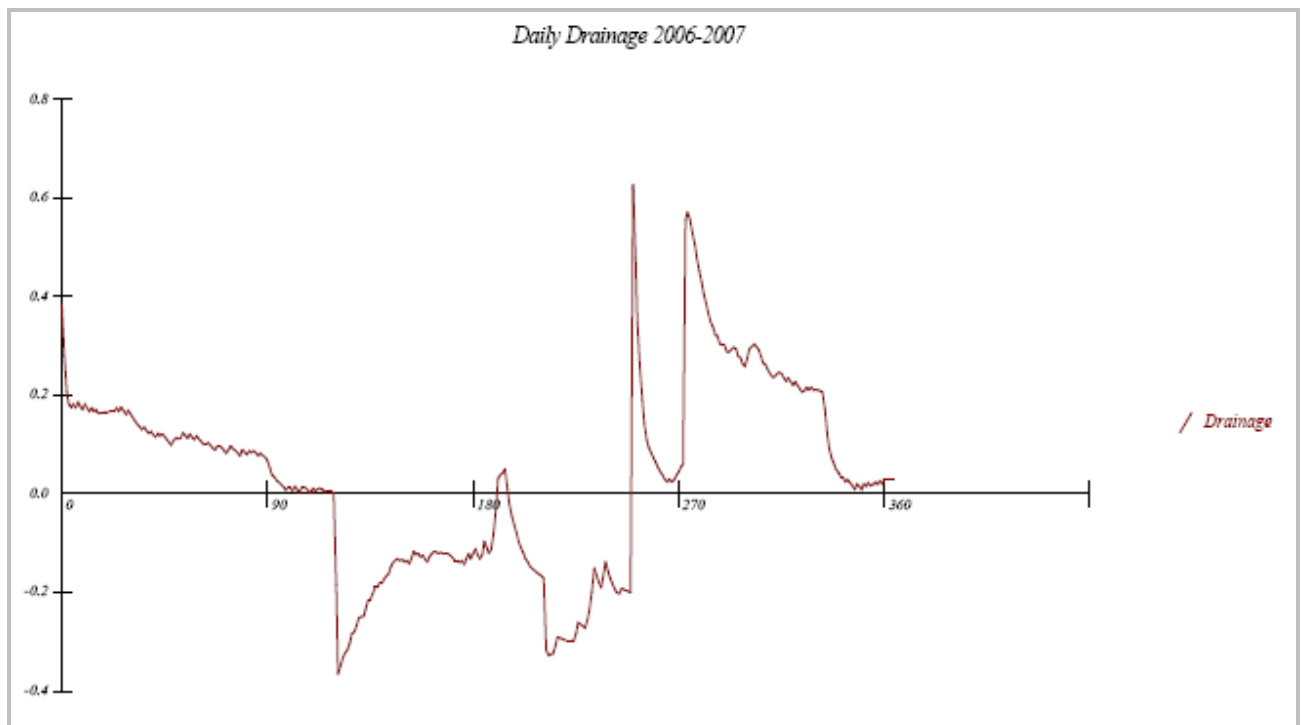
Графика на дневните валежи за периода на изследване 01.01.2006 – 31.12.2006 год



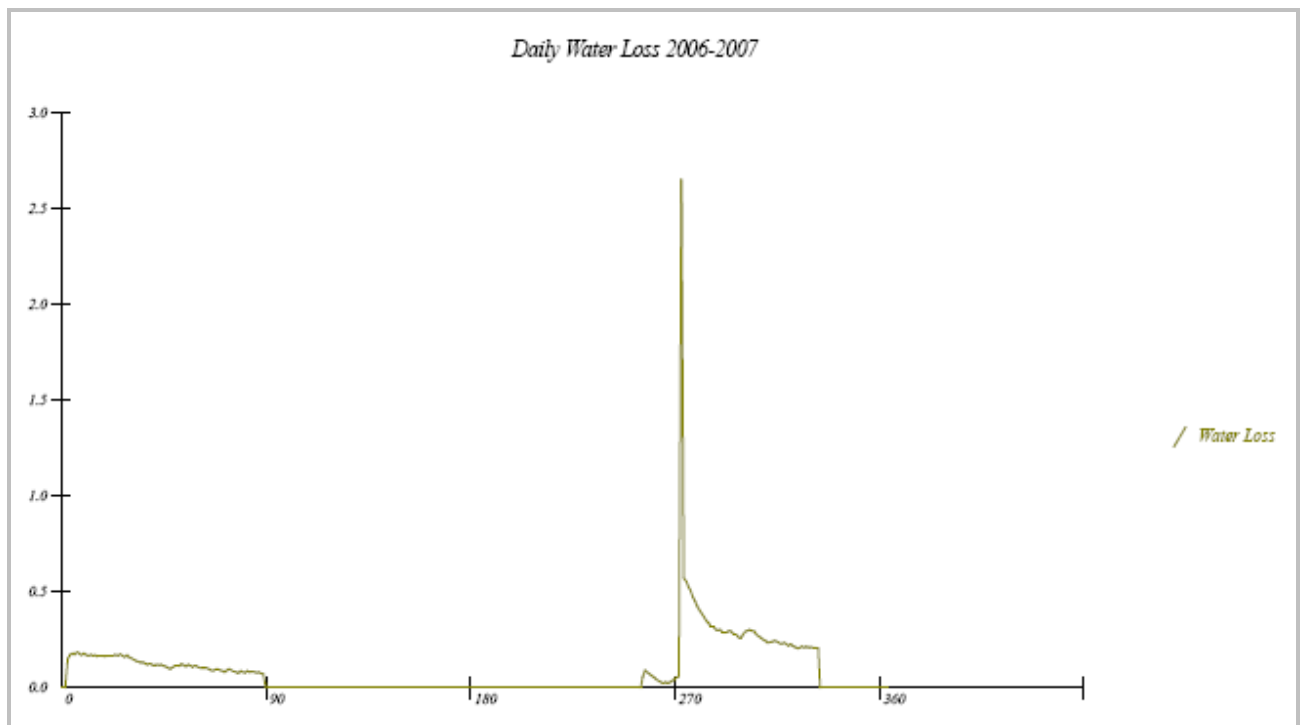
Графика на дневната инфилтрация за периода на изследване 01.01.2006 – 31.12.2006 год



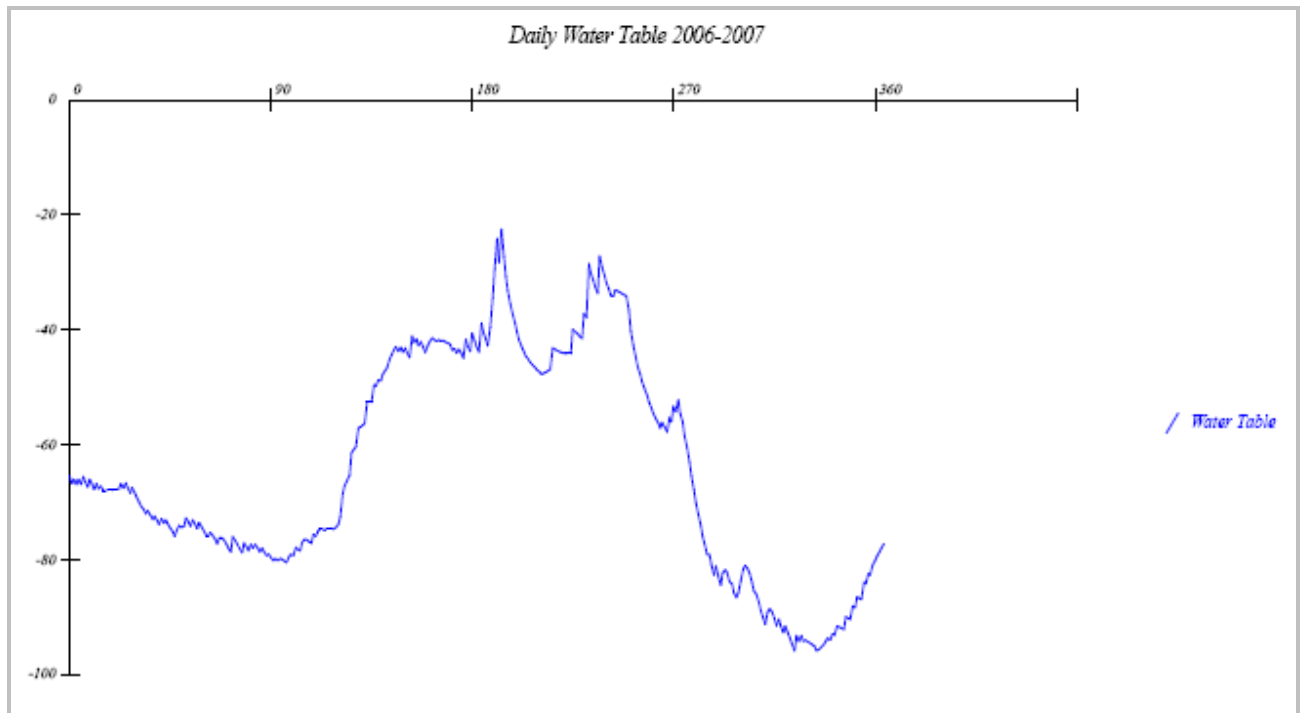
Графика на дневната евапотранспирация за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните дренирани обеми за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните водни загуби за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

Забележка:

За краткост поради факта, че графиките за дневните валежи и инфилтрация са еднакви за всички останали проекти, по-нататък те не се публикуват.

4.3.2 Поле Z 1-2

ПРОЕКТ Z 1-2

Входни данни

Файл №1 – Z 1-2.gen

Базисен файл съдържащ основните входящи данни.

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 202.09 3500.00 2.00 2.00 1.00 9.78 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
680.00 2.00
30. .59 56. .67 90. 3.00 0. .00 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 30.0
2 7 1 30.0
2 8 1 45.0
1 9 8 60.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

STM *** Soil Temperature ***

ZA	ZB	TKA	TKB	TB	TLAG	TSNOW	TMELT	CDEG	CICE
.000	.000	.000	.000	.0	.0	.0	.0	.0	.0

Initial Soil Temperature

0

Initial snow depth(m) & density(kg/m3)

.00 .00

Freezing characteristic curve

0

Файл №3 – В 1-2.SIN

Файл съдържащ данни за почвите.

В 1-2

320

.3600000 .0

.2200000 -108.0

.1200000 -1010.0

.0000 .0000 .5000

3.0000 .0060 .5000

6.0000 .0230 .5000

9.0000 .0520 .5000

12.0000 .0930 .5000

15.0000 .1460 .5000

20.0000 .2590 .5000

25.0000 .4050 .5000

30.0000 .5830 .5000

35.0000 .7950 .2646

40.0000 1.0390 .0965

45.0000 1.3170 .0464

60.0000 2.4030 .0113

75.0000 4.8180 .0048

90.0000 8.8510 .0025

120.0000 17.8850 .0008

150.0000 26.2690 .0003

200.0000 39.9050 .0000

500.0000 100.0000 .0000

1000.0000 100.0000 .0000

10

.00 .00 5.92

10.00 .97 5.92

20.00 1.94 5.92

40.00 3.99 6.11

60.00 7.70 7.84

80.00 17.47 13.35

100.00 21.84 13.35

150.00 40.43 13.35

200.00 40.43 13.35

1000.00 40.43 13.35

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 1-2
Файл Z 1-2.MON

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12: 2
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-2.Prj
 parameters: combination run and yields calculated
 drain spacing = 3500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006
 MONTH RAIN INFIL ET DRAIN RUNOFF DRY DAYS WRK DAYS SEW PUMP
 1 5.49 5.49 .79 6.61 .00 .00 .00 .00 .00
 2 3.76 3.76 1.42 3.31 .00 .00 .00 .00 .00

3	3.66	3.66	1.12	2.36	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.22	.00	.00	30.00	.00	-.01
5	7.19	7.19	6.71	-6.14	.00	.00	6.08	20.45	-6.41
6	6.60	6.60	10.29	-3.90	.00	.00	.00	.70	-3.91
7	4.42	4.42	9.75	-3.99	.00	.00	.00	148.68	-5.92
8	3.94	3.94	4.62	-4.32	.00	.00	.00	.00	-4.46
9	3.23	3.23	2.29	.31	.00	.00	21.99	.00	-1.43
10	6.40	6.40	1.32	11.82	.00	.00	31.00	.00	.00
11	5.16	5.16	.61	7.13	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	.63	.00	.00	31.00	.00	.00

TOTALS 60.91 60.91 43.13 14.04 .00 .00 181.07 169.84 -22.14

Файл Z 1-2.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12: 2
input file: C:\Program Files\Drainmod\INPUTS\Z 1-2.Prj
parameters: combination run and yields calculated
drain spacing = 3500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.6	3.3	2.4	.0	.0	.0	.0	13.5	7.1	.0		
AVERAGE	5.6	3.3	2.4	.0	.0	.0	.0	13.5	7.1	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	6.6	3.3	2.4	.2	-6.1	-3.9	-4.0	-4.3	.3	11.8	7.1	.6
AVERAGE	6.6	3.3	2.4	.2	-6.1	-3.9	-4.0	-4.3	.3	11.8	7.1	.6

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	1.1	3.5	6.7	10.3	9.8	4.6	2.3	1.3	.6	.8
AVERAGE	.8	1.4	1.1	3.5	6.7	10.3	9.8	4.6	2.3	1.3	.6	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	5.0	26.0	30.0	24.0	29.0	14.0	.0	.0	1.0
AVERAGE	.0	.0	.0	5.0	26.0	30.0	24.0	29.0	14.0	.0	.0	1.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	72.6	79.7	83.4	84.2	42.7	37.9	39.2	55.3	70.8	93.6	106.4	103.7
AVERAGE	72.6	79.7	83.4	84.2	42.7	37.9	39.2	55.3	70.8	93.6	106.4	103.7

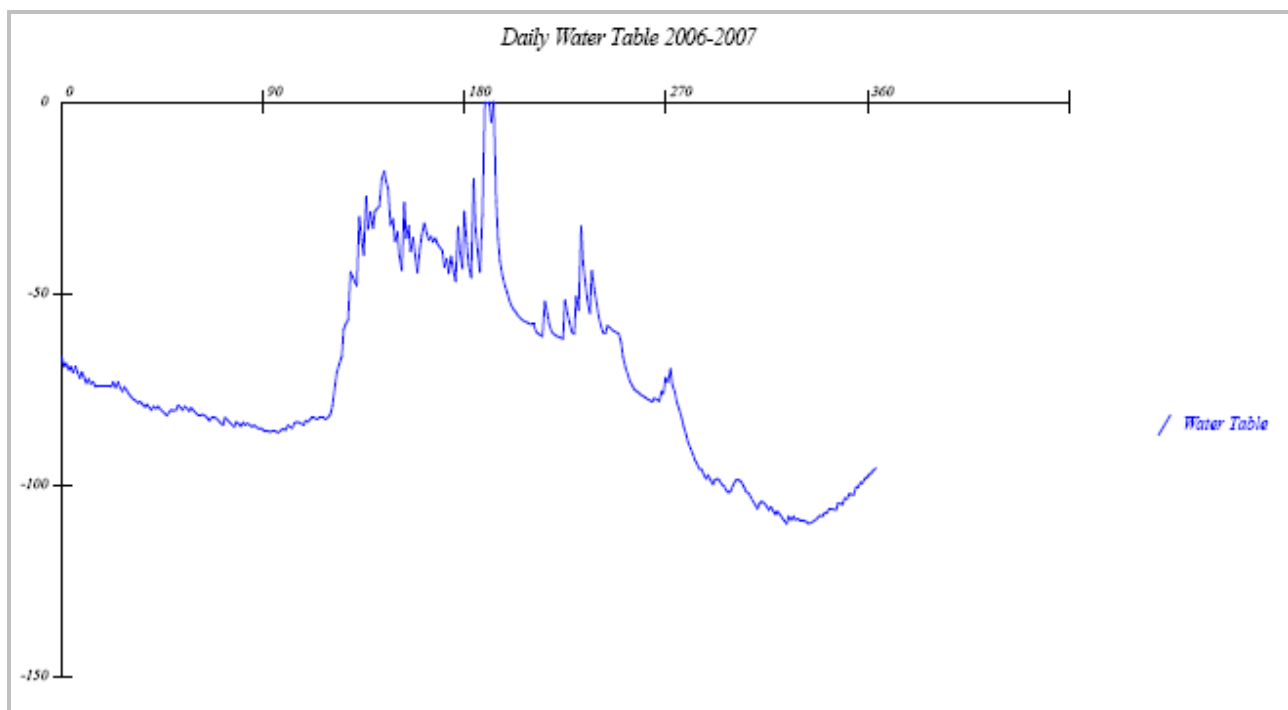
Файл Z 1-2. IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12: 2
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-2.Prj
 parameters: combination run and yields calculated
 drain spacing = 3500. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	43.13	14.04	.00	.00	181.07	169.8	-22.14
AVG	60.91	60.91	43.13	14.04	.00	.00	181.07	169.8	-22.14



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 1-2_min**Входни данни****Файл №1 – Z 1-2_min.gen**

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 107.69 1500.00 2.00 2.00 1.00 9.82 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
680.00 2.00
30. .59 56. .67 90. 3.00 0. .00 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 45.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

```

Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 1-2_min

Файл Z 1-2_min.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:10
input file: C:\Program Files\Drainmod\INPUTS\Z 1-2_min.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	9.39	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.35	.00	.00	.00	.00	.00
3	3.66	3.66	1.12	1.87	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.30	.00	.00	30.00	.00	-.06
5	7.19	7.19	7.32	-7.53	.00	.00	2.25	30.95	-9.47
6	6.60	6.60	10.29	-3.12	.00	.00	.00	.09	-3.93
7	4.42	4.42	10.16	-4.89	.00	.00	.00	.67	-7.54
8	3.94	3.94	9.25	-5.41	.00	.00	.00	.10	-6.45
9	3.23	3.23	2.06	5.09	.00	.00	22.33	.00	-1.57
10	6.40	6.40	1.12	14.94	.00	.00	31.00	.00	.00
11	5.16	5.16	.61	5.69	.00	.00	30.00	.00	.00
12	5.59	5.59	.48	.85	.00	.00	31.00	.00	.00
TOTALS	60.91	60.91	48.06	19.53	.00	.00	177.58	31.80	-29.02

Файл Z 1-2_min.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:10
input file: C:\Program Files\Drainmod\INPUTS\Z 1-2_min.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	7.0	2.4	1.9	.0	.0	.0	.0	4.3	17.3	5.7	.0	
AVERAGE	7.0	2.4	1.9	.0	.0	.0	.0	4.3	17.3	5.7	.0	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	9.4	2.3	1.9	.3	-7.5	-3.1	-4.9	-5.4	5.1	14.9	5.7	.8
AVERAGE	9.4	2.3	1.9	.3	-7.5	-3.1	-4.9	-5.4	5.1	14.9	5.7	.8

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	1.1	3.5	7.3	10.3	10.2	9.2	2.1	1.1	.6	.5
AVERAGE	.8	1.4	1.1	3.5	7.3	10.3	10.2	9.2	2.1	1.1	.6	.5

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	7.0	15.0	26.0	23.0	26.0	7.0	.0	.0	1.0
AVERAGE	.0	.0	.0	7.0	15.0	26.0	23.0	26.0	7.0	.0	.0	1.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	83.0	87.6	88.3	87.5	32.4	46.0	48.0	48.4	75.8	114.4	123.2	117.6
AVERAGE	83.0	87.6	88.3	87.5	32.4	46.0	48.0	48.4	75.8	114.4	123.2	117.6

Файл Z 1-2_min.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

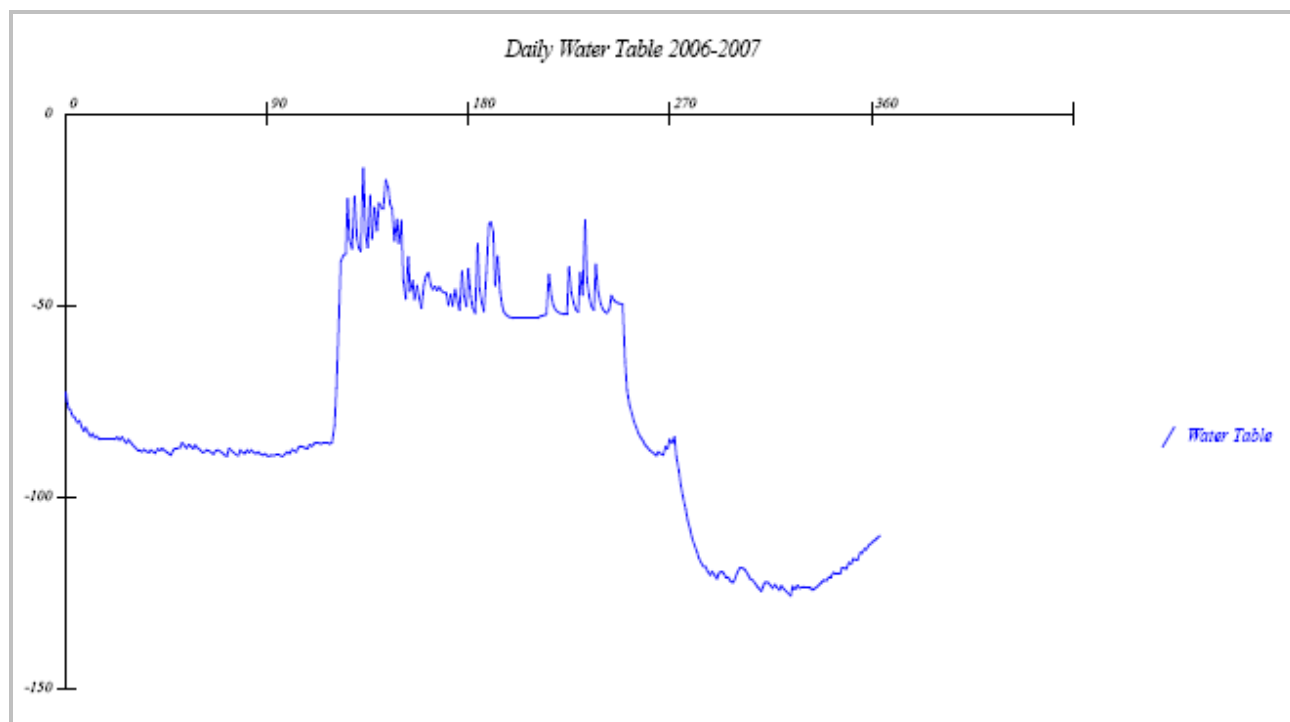
COMBO, SUMMER YIELD, MIRCHO SOIL

DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:10
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-2_min.Prj
 parameters: combination run and yields calculated
 drain spacing = 1500. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	48.06	19.53	.00	.00	177.58	31.8	-29.02

AVG	60.91	60.91	48.06	19.53	.00	.00	177.58	31.8	-29.02
-----	-------	-------	-------	-------	-----	-----	--------	------	--------



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 1-2_max**Входни данни****Файл №1 – Z 1-2_max.gen**

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 275.33 6000.00 2.00 2.00 1.00 9.78 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
680.00 2.00
30. .59 56. .67 90. 3.00 0. .00 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 30.0
2 7 1 30.0
2 8 1 45.0
1 9 8 60.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

```

Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 1-2_max

Файл Z 1-2_max.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12: 7
input file: C:\Program Files\Drainmod\INPUTS\Z 1-2_max.Prj
parameters: combination run and yields calculated
drain spacing = 6000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	SEW	PUMP
1	5.49	5.49	.79	4.45	.00	.00	.00	.00
2	3.76	3.76	1.42	3.10	.00	.00	.00	.00
3	3.66	3.66	3.05	2.46	.00	.00	31.00	.00
4	5.49	5.49	3.45	.26	.00	.00	30.00	.00
5	7.19	7.19	5.49	-4.08	.00	.00	8.80	.02 -4.08
6	6.60	6.60	10.29	-3.32	.00	.00	.00	.00 -3.32
7	4.42	4.42	6.10	-2.57	.00	.00	.65	154.86 -3.44
8	3.94	3.94	1.78	-2.98	.00	.00	14.20	.00 -2.98
9	3.23	3.23	1.37	.13	.00	.00	28.49	.00 -.80
10	6.40	6.40	1.52	6.86	.00	.00	31.00	.00 .00
11	5.16	5.16	1.42	5.85	.00	.00	30.00	.00 .00
12	5.59	5.59	.76	.76	.00	.00	31.00	.00 .00

TOTALS 60.91 60.91 37.44 10.92 .00 .00 205.13 154.88 -14.62

Файл Z 1-2_max.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12: 7
input file: C:\Program Files\Drainmod\INPUTS\Z 1-2_max.Prj
parameters: combination run and yields calculated
drain spacing = 6000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.8	3.1	2.5	.0	.0	.0	.0	.0	7.8	5.9	.0	
AVERAGE	3.8	3.1	2.5	.0	.0	.0	.0	.0	7.8	5.9	.0	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.4	3.1	2.5	.3	-4.1	-3.3	-2.6	-3.0	.1	6.9	5.9	.8
AVERAGE	4.4	3.1	2.5	.3	-4.1	-3.3	-2.6	-3.0	.1	6.9	5.9	.8

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	3.5	5.5	10.3	6.1	1.8	1.4	1.5	1.4	.8
AVERAGE	.8	1.4	3.0	3.5	5.5	10.3	6.1	1.8	1.4	1.5	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	3.0	31.0	30.0	25.0	31.0	12.0	.0	.0	.0
AVERAGE	.0	.0	.0	3.0	31.0	30.0	25.0	31.0	12.0	.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	63.5	68.5	74.6	77.8	51.5	48.0	44.0	61.8	72.8	83.6	88.8	84.8
AVERAGE	63.5	68.5	74.6	77.8	51.5	48.0	44.0	61.8	72.8	83.6	88.8	84.8

Файл Z 1-2_max.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL

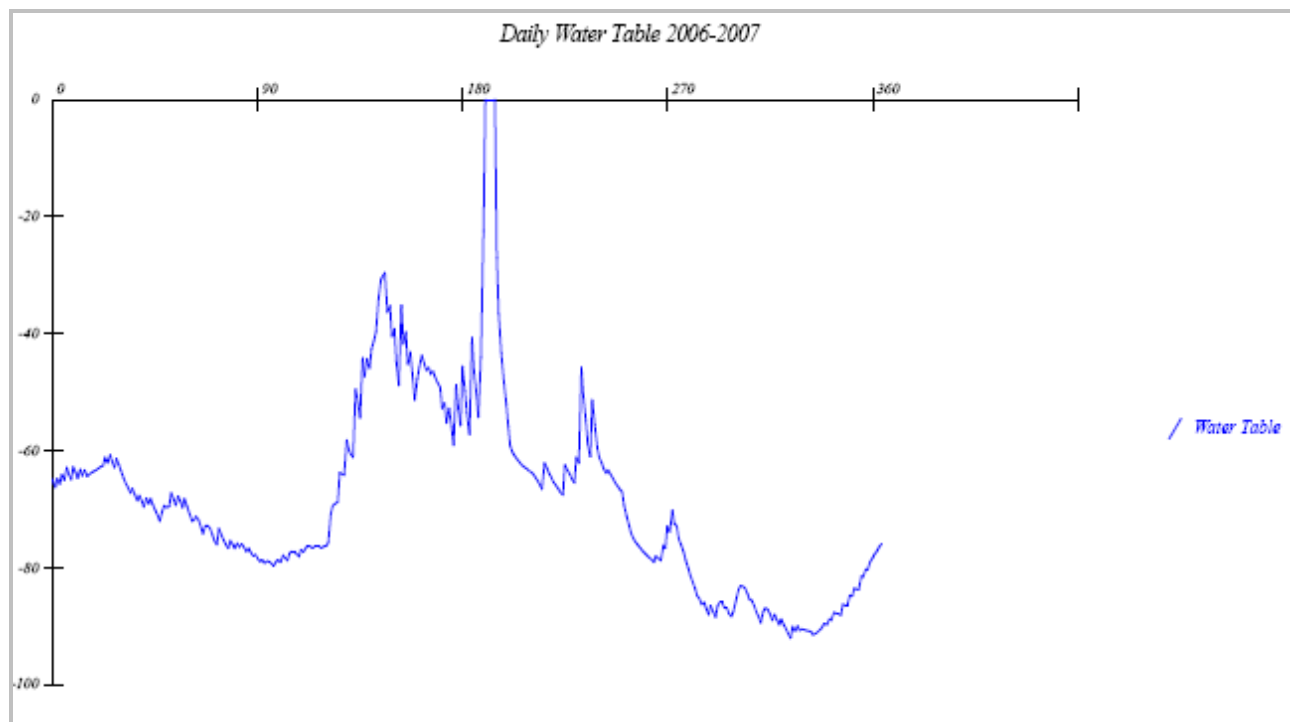
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12: 7
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-2_max.Prj
 parameters: combination run and yields calculated
 drain spacing = 6000. cm drain depth = 130.0 cm

YEAR RAINFALL INFILTR ET DRAIN RUNOFF DRYDAYS WORKDAYS SEW PUMPV

2006 60.91 60.91 37.44 10.92 .00 .00 205.13 154.9 -14.62

AVG 60.91 60.91 37.44 10.92 .00 .00 205.13 154.9 -14.62



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 1-2_opt**Входни данни****Файл №1 – Z 1-2_opt.gen**

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*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 202.09 3500.00 2.00 2.00 1.00 9.78 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
680.00 2.00
30. .59 56. .67 90. 3.00 0. .00 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 30.0
2 7 1 30.0
2 8 1 45.0
1 9 8 60.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve

```

0

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 1-2_opt

Файл Z 1-2_opt.DAY

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:15
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-2_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 3500. cm drain depth = 130.0 cm

1

2006 1

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.30	.30	.03	.54759E+00	3.48	.00	66.67	.00	.00	.00
2	.00	.00	.03	.36198E+00	3.86	.00	69.07	.00	.00	.00
3	.41	.41	.03	.24701E+00	3.73	.00	68.24	.00	.00	.13
4	.00	.00	.03	.24903E+00	4.00	.00	69.94	.00	.00	.25
5	.41	.41	.03	.22834E+00	3.85	.00	69.00	.00	.00	.23
6	.00	.00	.03	.24001E+00	4.12	.00	70.64	.00	.00	.24
7	.51	.51	.03	.22005E+00	3.85	.00	69.01	.00	.00	.22
8	.00	.00	.03	.23980E+00	4.12	.00	70.66	.00	.00	.24
9	.00	.00	.03	.22024E+00	4.37	.00	72.19	.00	.00	.22
10	.51	.51	.03	.20187E+00	4.08	.00	70.44	.00	.00	.20
11	.00	.00	.03	.22282E+00	4.33	.00	71.98	.00	.00	.22
12	.00	.00	.03	.20460E+00	4.56	.00	73.41	.00	.00	.20
13	.41	.41	.03	.18748E+00	4.37	.00	72.21	.00	.00	.19
14	.00	.00	.03	.20193E+00	4.60	.00	73.62	.00	.00	.20
15	.30	.30	.03	.18502E+00	4.50	.00	73.04	.00	.00	.19
16	.00	.00	.03	.19222E+00	4.72	.00	74.39	.00	.00	.19
17	.20	.20	.03	.17697E+00	4.72	.00	74.38	.00	.00	.18
18	.20	.20	.03	.17702E+00	4.72	.00	74.38	.00	.00	.18
19	.20	.20	.03	.17707E+00	4.72	.00	74.37	.00	.00	.18
20	.20	.20	.03	.17711E+00	4.72	.00	74.37	.00	.00	.18
21	.20	.20	.03	.17715E+00	4.72	.00	74.37	.00	.00	.18
22	.20	.20	.03	.17719E+00	4.72	.00	74.36	.00	.00	.18
23	.20	.20	.03	.17722E+00	4.71	.00	74.36	.00	.00	.18
24	.41	.41	.03	.17726E+00	4.51	.00	73.09	.00	.00	.18
25	.00	.00	.03	.19156E+00	4.73	.00	74.44	.00	.00	.19
26	.41	.41	.03	.17649E+00	4.52	.00	73.17	.00	.00	.18
27	.00	.00	.03	.19066E+00	4.74	.00	74.51	.00	.00	.19
28	.00	.00	.03	.17604E+00	4.94	.00	75.46	.00	.00	.18
29	.41	.41	.03	.16636E+00	4.73	.00	74.43	.00	.00	.17
30	.00	.00	.03	.17679E+00	4.93	.00	75.41	.00	.00	.18
31	.00	.00	.03	.16709E+00	5.12	.00	76.13	.00	.00	.17

1

2006 2

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.05	.15813E+00	5.33	.00	76.90	.00	.00	.16
2	.00	.00	.05	.14899E+00	5.53	.00	77.65	.00	.00	.15
3	.10	.10	.05	.14010E+00	5.62	.00	77.98	.00	.00	.14
4	.00	.00	.05	.13639E+00	5.81	.00	78.68	.00	.00	.14
5	.30	.30	.05	.12810E+00	5.68	.00	78.21	.00	.00	.13
6	.00	.00	.05	.13373E+00	5.86	.00	78.89	.00	.00	.13
7	.00	.00	.05	.12572E+00	6.04	.00	79.55	.00	.00	.13
8	.30	.30	.05	.11794E+00	5.91	.00	79.04	.00	.00	.12
9	.00	.00	.05	.12397E+00	6.08	.00	79.69	.00	.00	.12
10	.00	.00	.05	.11641E+00	6.25	.00	80.32	.00	.00	.12
11	.41	.41	.05	.10909E+00	6.00	.00	79.40	.00	.00	.11
12	.00	.00	.05	.11983E+00	6.17	.00	80.03	.00	.00	.12
13	.30	.30	.05	.11236E+00	6.03	.00	79.51	.00	.00	.11

14	.00	.00	.05	.11858E+00	6.20	.00	80.14	.00	.00	.12
15	.00	.00	.05	.11127E+00	6.36	.00	80.74	.00	.00	.11
16	.00	.00	.05	.10428E+00	6.52	.00	81.32	.00	.00	.10
17	.00	.00	.05	.97615E-01	6.66	.00	81.87	.00	.00	.10
18	.41	.41	.05	.91236E-01	6.40	.00	80.89	.00	.00	.09
19	.30	.30	.05	.10254E+00	6.25	.00	80.32	.00	.00	.10
20	.10	.10	.05	.10902E+00	6.31	.00	80.54	.00	.00	.11
21	.20	.20	.05	.10652E+00	6.26	.00	80.37	.00	.00	.11
22	.51	.51	.05	.10849E+00	5.91	.00	79.07	.00	.00	.11
23	.00	.00	.05	.12365E+00	6.09	.00	79.72	.00	.00	.12
24	.00	.00	.05	.11611E+00	6.25	.00	80.34	.00	.00	.12
25	.41	.41	.05	.10881E+00	6.01	.00	79.42	.00	.00	.11
26	.00	.00	.05	.11956E+00	6.18	.00	80.06	.00	.00	.12
27	.00	.00	.05	.11220E+00	6.34	.00	80.66	.00	.00	.11
28	.41	.41	.05	.10509E+00	6.09	.00	79.73	.00	.00	.11

1

2006 3

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	.11502E+00	6.30	.00	80.53	.00	.00	.12
2	.00	.00	.00	.10585E+00	6.50	.00	81.27	.00	.00	.11
3	.00	.00	.00	.97286E-01	6.69	.00	81.98	.00	.00	.10
4	.20	.20	.10	.89956E-01	6.68	.00	81.94	.00	.00	.09
5	.30	.30	.10	.90454E-01	6.57	.00	81.52	.00	.00	.09
6	.10	.10	.10	.95246E-01	6.67	.00	81.87	.00	.00	.10
7	.00	.00	.00	.90410E-01	6.85	.00	82.55	.00	.00	.09
8	.00	.00	.00	.82672E-01	7.02	.00	83.18	.00	.00	.08
9	.41	.41	.10	.76211E-01	6.79	.00	82.33	.00	.00	.08
10	.20	.20	.10	.85926E-01	6.77	.00	82.27	.00	.00	.09
11	.10	.10	.10	.86596E-01	6.86	.00	82.59	.00	.00	.09
12	.00	.00	.00	.82137E-01	7.03	.00	83.23	.00	.00	.08
13	.00	.00	.00	.74960E-01	7.19	.00	83.82	.00	.00	.07
14	.00	.00	.00	.68150E-01	7.34	.00	84.39	.00	.00	.07
15	.61	.61	.00	.75801E-01	6.81	.00	82.40	.00	.00	.08
16	.00	.00	.00	.84322E-01	6.98	.00	83.04	.00	.00	.08
17	.00	.00	.00	.77053E-01	7.14	.00	83.65	.00	.00	.08
18	.00	.00	.00	.70124E-01	7.30	.00	84.22	.00	.00	.07
19	.00	.00	.00	.63643E-01	7.44	.00	84.76	.00	.00	.06
20	.51	.51	.10	.58181E-01	7.09	.00	83.47	.00	.00	.06
21	.00	.00	.00	.72180E-01	7.25	.00	84.05	.00	.00	.07
22	.00	.00	.00	.65613E-01	7.40	.00	84.60	.00	.00	.07
23	.41	.41	.10	.60057E-01	7.15	.00	83.69	.00	.00	.06
24	.00	.00	.00	.69678E-01	7.31	.00	84.26	.00	.00	.07
25	.30	.30	.10	.63921E-01	7.17	.00	83.74	.00	.00	.06
26	.00	.00	.00	.69074E-01	7.32	.00	84.31	.00	.00	.07
27	.00	.00	.00	.62630E-01	7.47	.00	84.85	.00	.00	.06
28	.30	.30	.10	.57225E-01	7.32	.00	84.31	.00	.00	.06
29	.00	.00	.00	.62683E-01	7.46	.00	84.84	.00	.00	.06
30	.00	.00	.00	.56576E-01	7.60	.00	85.35	.00	.00	.06
31	.20	.20	.10	.51512E-01	7.55	.00	85.17	.00	.00	.05

1

2006 4

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	.46092E-01	7.68	.00	85.63	.00	.00	.00
2	.00	.00	.00	.29558E-01	7.78	.00	86.02	.00	.00	.00
3	.30	.30	.20	.18627E-01	7.70	.00	85.72	.00	.00	.00
4	.00	.00	.00	.16346E-01	7.79	.00	86.06	.00	.00	.00
5	.30	.30	.20	.93865E-02	7.70	.00	85.72	.00	.00	.00
6	.20	.20	.20	.10367E-01	7.71	.00	85.76	.00	.00	.00
7	.00	.00	.00	.79054E-02	7.80	.00	86.08	.00	.00	.00
8	.00	.00	.00	.55422E-03	7.87	.00	86.36	.00	.00	.00
9	.41	.41	.20	-.32126E-02	7.67	.00	85.59	.00	.00	.00
10	.30	.30	.20	.51447E-02	7.57	.00	85.23	.00	.00	.00
11	.00	.00	.00	.79424E-02	7.66	.00	85.55	.00	.00	.00
12	.51	.51	.20	.24117E-03	7.35	.00	84.42	.00	.00	.00
13	.00	.00	.00	.11480E-01	7.44	.00	84.77	.00	.00	.00
14	.00	.00	.00	.19821E-02	7.53	.00	85.08	.00	.00	.00
15	.51	.51	.20	-.29064E-02	7.22	.00	83.94	.00	.00	.00
16	.30	.30	.20	.91580E-02	7.13	.00	83.59	.00	.00	.00
17	.20	.20	.20	.10303E-01	7.14	.00	83.63	.00	.00	.00
18	.00	.00	.00	.79882E-02	7.23	.00	83.98	.00	.00	.00
19	.00	.00	.00	.37100E-03	7.32	.00	84.30	.00	.00	.00
20	.51	.51	.20	-.38074E-02	7.01	.00	83.15	.00	.00	.00

Напоително – отводнителни полета

21	.00	.00	.00	.91588E-02	7.10	.00	83.50	.00	.00	.00
22	.41	.41	.20	.39908E-03	6.90	.00	82.75	.00	.00	.00
23	.30	.30	.20	.75170E-02	6.81	.00	82.40	.00	.00	.00
24	.20	.20	.20	.91931E-02	6.82	.00	82.43	.00	.00	.00
25	.00	.00	.00	.72794E-02	6.91	.00	82.79	.00	.00	.00
26	.30	.30	.20	-.77075E-03	6.81	.00	82.41	.00	.00	.00
27	.20	.20	.20	.31010E-02	6.81	.00	82.43	.00	.00	.00
28	.20	.20	.20	.22298E-02	6.82	.00	82.43	.00	.00	.00
29	.00	.00	.00	.24073E-02	6.91	.00	82.78	.00	.00	.00
30	.30	.30	.20	-.31197E-02	6.80	.00	82.39	.00	.00	.00

1

2006 5

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	-.35572E+00	6.54	.00	81.40	.00	.00	.00
2	.00	.00	.00	-.68784E+00	5.95	.00	79.20	.00	.00	.00
3	.61	.61	.00	-.64260E+00	4.69	.00	74.23	.00	.00	.00
4	.30	.30	.30	-.58631E+00	4.11	.00	70.59	.00	.00	.00
5	.00	.00	.00	-.54427E+00	3.74	.00	68.31	.00	.00	.00
6	.00	.00	.00	-.51581E+00	3.42	.00	66.34	.00	.00	.00
7	.61	.61	.00	-.45835E+00	2.36	.00	59.35	.00	.00	.00
8	.00	.00	.30	-.39911E+00	2.26	.00	58.05	.00	.00	.00
9	.00	.00	.30	-.38286E+00	2.18	.00	56.97	.00	.00	.00
10	.61	.61	.00	-.28723E+00	1.29	.00	44.46	.00	.00	.00
11	.00	.00	.30	-.20679E+00	1.38	.00	45.93	.00	.00	.00
12	.00	.00	.30	-.22485E+00	1.46	.00	47.04	.00	.00	.00
13	.00	.00	.30	-.23914E+00	1.53	.00	47.95	.00	.00	.00
14	.79	.79	.00	-.15840E+00	.58	.00	29.98	.00	.00	.00
15	.00	.00	.30	-.46436E-01	.84	.00	35.98	.00	.00	.00
16	.00	.00	.30	-.10669E+00	1.04	.00	39.98	.00	.00	.00
17	.61	.61	.00	-.37756E-01	.39	.00	24.61	.00	.00	.00
18	.00	.00	.30	.14156E-01	.71	.00	33.06	.00	.00	.00
19	.41	.41	.30	-.75602E-01	.54	.00	28.64	.00	.00	.00
20	.10	.10	.30	-.28768E-01	.71	.00	32.99	.00	.00	.00
21	.41	.41	.30	-.74890E-01	.53	.00	28.58	.00	.00	.00
22	.30	.30	.30	-.28199E-01	.51	.00	27.81	.00	.00	.00
23	.30	.30	.30	-.20347E-01	.48	.00	27.24	.00	.00	.00
24	.51	.51	.30	-.14514E-01	.27	.00	20.09	.00	.00	.00
25	.41	.41	.30	.52250E-01	.22	.00	18.10	.00	.00	.00
26	.30	.30	.30	.69140E-01	.29	.00	20.88	.00	.00	.00
27	.30	.30	.30	.45672E-01	.33	.00	22.52	.00	.00	.00
28	.00	.00	.30	.33015E-01	.67	.00	32.06	.00	.00	.00
29	.30	.30	.30	-.64717E-01	.61	.00	30.54	.00	.00	.00
30	.00	.00	.30	-.52036E-01	.86	.00	36.30	.00	.00	.00
31	.30	.30	.30	-.11179E+00	.75	.00	33.85	.00	.00	.00

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2006 6

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.38	-.91905E-01	1.04	.00	39.88	.00	.00	.00
2	.00	.00	.38	-.16029E+00	1.26	.00	43.91	.00	.00	.00
3	.71	.71	.00	-.94152E-01	.45	.00	26.28	.00	.00	.00
4	.00	.00	.38	-.13056E-01	.82	.00	35.49	.00	.00	.00
5	.41	.41	.38	-.11144E+00	.68	.00	32.34	.00	.00	.00
6	.00	.00	.38	-.75548E-01	.99	.00	38.95	.00	.00	.00
7	.41	.41	.38	-.15082E+00	.81	.00	35.34	.00	.00	.00
8	.00	.00	.38	-.10784E+00	1.08	.00	40.81	.00	.00	.00
9	.00	.00	.38	-.17128E+00	1.29	.00	44.59	.00	.00	.00
10	.51	.51	.38	-.21537E+00	.95	.00	38.22	.00	.00	.00
11	.41	.41	.38	-.14254E+00	.78	.00	34.73	.00	.00	.00
12	.41	.41	.38	-.10290E+00	.66	.00	31.72	.00	.00	.00
13	.20	.20	.38	-.70586E-01	.76	.00	34.23	.00	.00	.00
14	.20	.20	.38	-.97652E-01	.84	.00	35.99	.00	.00	.00
15	.30	.30	.38	-.11709E+00	.80	.00	35.15	.00	.00	.00
16	.20	.20	.38	-.10738E+00	.87	.00	36.59	.00	.00	.00
17	.30	.30	.38	-.12402E+00	.82	.00	35.61	.00	.00	.00
18	.20	.20	.38	-.11279E+00	.89	.00	36.94	.00	.00	.00
19	.20	.20	.38	-.12805E+00	.94	.00	37.96	.00	.00	.00
20	.20	.20	.38	-.13966E+00	.98	.00	38.74	.00	.00	.00
21	.00	.00	.38	-.14711E+00	1.21	.00	43.10	.00	.00	.00
22	.30	.30	.38	-.19892E+00	1.09	.00	40.89	.00	.00	.00
23	.00	.00	.38	-.17223E+00	1.30	.00	44.65	.00	.00	.00
24	.41	.41	.38	-.21602E+00	1.06	.00	40.27	.00	.00	.00
25	.00	.00	.38	-.16490E+00	1.27	.00	44.20	.00	.00	.00

26	.00	.00	.38	-.21073E+00	1.44	.00	46.74	.00	.00	.00
27	.61	.61	.00	-.13871E+00	.69	.00	32.63	.00	.00	.00
28	.00	.00	.38	-.78640E-01	1.00	.00	39.13	.00	.00	.00
29	.00	.00	.38	-.15144E+00	1.23	.00	43.37	.00	.00	.00
30	.61	.61	.00	-.86545E-01	.53	.00	28.49	.00	.00	.00

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2006 7

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.41	-.45904E-01	.89	.00	36.96	.00	.00	.00
2	.00	.00	.41	-.12960E+00	1.17	.00	42.31	.00	.00	.00
3	.00	.00	.41	-.19188E+00	1.38	.00	45.88	.00	.00	.00
4	.99	.99	.00	-.12458E+00	.27	.00	20.07	.00	.00	.00
5	.00	.00	.41	.39405E-01	.71	.00	33.05	.00	.00	.00
6	.00	.00	.41	-.86310E-01	1.03	.00	39.82	.00	.00	.00
7	.00	.00	.41	-.16230E+00	1.28	.00	44.28	.00	.00	.00
8	.61	.61	.00	-.99179E-01	.57	.00	29.53	.00	.00	.00
9	.89	.68	.00	.11670E+00	.00	.00	.20	.00	.00	.00
10	.71	.39	.00	.38763E+00	.00	.00	.53	.00	.00	.00
11	.61	.39	.00	.38763E+00	.00	.00	.75	.00	.00	.00
12	.00	.75	.41	.38508E+00	.04	.00	5.16	.00	.00	.00
13	.61	.42	.00	.38124E+00	.00	.00	.19	.00	.00	.00
14	.00	.19	.41	.21884E+00	.44	.00	25.92	.00	.00	.00
15	.00	.00	.41	-.12885E-01	.83	.00	35.76	.00	.00	.00
16	.00	.00	.41	-.11568E+00	1.12	.00	41.51	.00	.00	.00
17	.00	.00	.41	-.18235E+00	1.35	.00	45.37	.00	.00	.00
18	.00	.00	.41	-.22661E+00	1.53	.00	47.89	.00	.00	.00
19	.00	.00	.41	-.25888E+00	1.67	.00	49.93	.00	.00	.00
20	.00	.00	.41	-.28549E+00	1.80	.00	51.60	.00	.00	.00
21	.00	.00	.41	-.30743E+00	1.89	.00	52.97	.00	.00	.00
22	.00	.00	.41	-.32549E+00	1.97	.00	54.09	.00	.00	.00
23	.00	.00	.41	-.34032E+00	2.04	.00	55.00	.00	.00	.00
24	.00	.00	.41	-.35247E+00	2.09	.00	55.74	.00	.00	.00
25	.00	.00	.41	-.36232E+00	2.14	.00	56.35	.00	.00	.00
26	.00	.00	.41	-.36999E+00	2.18	.00	56.86	.00	.00	.00
27	.00	.00	.41	-.37628E+00	2.21	.00	57.27	.00	.00	.00
28	.00	.00	.41	-.38148E+00	2.23	.00	57.62	.00	.00	.00
29	.00	.00	.41	-.38578E+00	2.25	.00	57.90	.00	.00	.00
30	.00	.00	.41	-.38890E+00	2.27	.00	58.14	.00	.00	.00
31	.00	.00	.00	-.39048E+00	2.26	.00	58.05	.00	.00	.00

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2006 8

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	-.20337E+00	2.41	.00	60.05	.00	.00	.00
2	.00	.00	.00	-.20339E+00	2.48	.00	60.48	.00	.00	.00
3	.00	.00	.00	-.20888E+00	2.54	.00	60.87	.00	.00	.00
4	.00	.00	.00	-.21367E+00	2.60	.00	61.20	.00	.00	.00
5	.61	.61	.00	-.16281E+00	1.82	.00	52.00	.00	.00	.00
6	.00	.00	.36	-.11427E+00	2.07	.00	55.33	.00	.00	.00
7	.00	.00	.36	-.15565E+00	2.27	.00	58.09	.00	.00	.00
8	.00	.00	.00	-.18852E+00	2.40	.00	59.98	.00	.00	.00
9	.00	.00	.00	-.20294E+00	2.50	.00	60.60	.00	.00	.00
10	.00	.00	.00	-.21036E+00	2.56	.00	60.98	.00	.00	.00
11	.00	.00	.00	-.21483E+00	2.61	.00	61.30	.00	.00	.00
12	.00	.00	.00	-.21880E+00	2.65	.00	61.56	.00	.00	.00
13	.00	.00	.00	-.22210E+00	2.69	.00	61.80	.00	.00	.00
14	.71	.71	.00	-.17653E+00	1.81	.00	51.74	.00	.00	.00
15	.00	.00	.36	-.11108E+00	2.05	.00	55.12	.00	.00	.00
16	.00	.00	.36	-.15303E+00	2.25	.00	57.92	.00	.00	.00
17	.00	.00	.00	-.18663E+00	2.42	.00	60.09	.00	.00	.00
18	.00	.00	.00	-.20399E+00	2.49	.00	60.53	.00	.00	.00
19	.61	.61	.00	-.14631E+00	1.73	.00	50.74	.00	.00	.00
20	.00	.00	.36	-.98602E-01	1.99	.00	54.29	.00	.00	.00
21	1.30	1.30	.00	-.46062E-02	.69	.00	32.51	.00	.00	.00
22	.00	.00	.36	.10074E+00	1.15	.00	41.92	.00	.00	.00
23	.00	.00	.36	.26997E-02	1.50	.00	47.58	.00	.00	.00
24	.00	.00	.36	-.59729E-01	1.80	.00	51.67	.00	.00	.00
25	.00	.00	.36	-.11017E+00	2.05	.00	55.06	.00	.00	.00
26	.71	.71	.00	-.71720E-01	1.26	.00	44.02	.00	.00	.00
27	.00	.00	.36	-.22192E-01	1.60	.00	48.85	.00	.00	.00
28	.00	.00	.36	-.75304E-01	1.88	.00	52.72	.00	.00	.00
29	.00	.00	.36	-.12328E+00	2.11	.00	55.93	.00	.00	.00
30	.00	.00	.36	-.16298E+00	2.30	.00	58.59	.00	.00	.00

31	.00	.00	.00	-.19350E+00	2.43	.00	60.18	.00	.00	.00
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2006 9

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.23	-.20350E+00	2.46	.00	60.34	.00	.00	.00
2	.20	.20	.23	-.20193E+00	2.28	.00	58.35	.00	.00	.00
3	.00	.00	.23	-.18230E+00	2.33	.00	58.99	.00	.00	.00
4	.00	.00	.23	-.19007E+00	2.37	.00	59.52	.00	.00	.00
5	.00	.00	.23	-.19654E+00	2.40	.00	59.96	.00	.00	.00
6	.00	.00	.23	-.20068E+00	2.43	.00	60.14	.00	.00	.00
7	.00	.00	.23	-.20296E+00	2.45	.00	60.31	.00	.00	.00
8	.41	.41	.23	.56382E+00	2.84	.00	62.71	.00	.00	.00
9	.00	.00	.23	.38974E+00	3.46	.00	66.55	.00	.00	.00
10	.00	.00	.00	.24662E+00	3.90	.00	69.29	.00	.00	.00
11	.00	.00	.00	.15757E+00	4.22	.00	71.30	.00	.00	.00
12	.00	.00	.00	.99348E-01	4.47	.00	72.86	.00	.00	.00
13	.00	.00	.00	.60232E-01	4.67	.00	74.08	.00	.00	.00
14	.00	.00	.00	.34069E-01	4.82	.00	74.99	.00	.00	.00
15	.00	.00	.00	.18498E-01	4.96	.00	75.54	.00	.00	.00
16	.00	.00	.00	.10573E-01	5.09	.00	76.01	.00	.00	.00
17	.00	.00	.00	.60212E-03	5.20	.00	76.43	.00	.00	.00
18	.00	.00	.00	-.39306E-02	5.31	.00	76.83	.00	.00	.00
19	.00	.00	.00	-.60524E-02	5.41	.00	77.22	.00	.00	.00
20	.00	.00	.00	-.70341E-02	5.52	.00	77.59	.00	.00	.00
21	.00	.00	.00	-.73380E-02	5.62	.00	77.97	.00	.00	.00
22	.00	.00	.00	-.74618E-02	5.72	.00	78.34	.00	.00	.00
23	.51	.51	.23	-.87096E-02	5.43	.00	77.27	.00	.00	.00
24	.00	.00	.00	.52830E-02	5.54	.00	77.69	.00	.00	.00
25	.00	.00	.00	-.15951E-02	5.65	.00	78.08	.00	.00	.00
26	.71	.71	.00	.69806E-02	4.94	.00	75.47	.00	.00	.00
27	.00	.00	.00	.18550E-01	5.08	.00	75.96	.00	.00	.00
28	.79	.79	.00	.25554E-01	4.31	.00	71.88	.00	.00	.00
29	.00	.00	.00	.42936E-01	4.50	.00	73.05	.00	.00	.00
30	.61	.61	.00	.45477E-01	3.94	.00	69.55	.00	.00	.00

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2006 10

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.10	.58769E+00	4.63	.00	73.83	.00	.00	2.26
2	.30	.30	.10	.58919E+00	5.02	.00	75.73	.00	.00	.59
3	.00	.00	.10	.57099E+00	5.69	.00	78.24	.00	.00	.57
4	.10	.10	.10	.54220E+00	6.23	.00	80.25	.00	.00	.54
5	.00	.00	.00	.51845E+00	6.84	.00	82.53	.00	.00	.52
6	.00	.00	.00	.49243E+00	7.42	.00	84.68	.00	.00	.49
7	.00	.00	.00	.46805E+00	7.97	.00	86.71	.00	.00	.47
8	.00	.00	.00	.44519E+00	8.48	.00	88.63	.00	.00	.45
9	.00	.00	.00	.42381E+00	8.97	.00	90.40	.00	.00	.42
10	.00	.00	.00	.40513E+00	9.43	.00	91.94	.00	.00	.41
11	.00	.00	.00	.38804E+00	9.88	.00	93.42	.00	.00	.39
12	.20	.20	.10	.37192E+00	10.15	.00	94.31	.00	.00	.37
13	.00	.00	.00	.36192E+00	10.57	.00	95.70	.00	.00	.36
14	.41	.41	.10	.34701E+00	10.61	.00	95.84	.00	.00	.35
15	.00	.00	.00	.34533E+00	11.01	.00	97.15	.00	.00	.35
16	.00	.00	.00	.33103E+00	11.39	.00	98.42	.00	.00	.33
17	.61	.61	.00	.32849E+00	11.11	.00	97.49	.00	.00	.33
18	.00	.00	.00	.32745E+00	11.48	.00	98.74	.00	.00	.33
19	.00	.00	.00	.31395E+00	11.84	.00	99.94	.00	.00	.31
20	.71	.71	.00	.31207E+00	11.45	.00	98.62	.00	.00	.31
21	.51	.51	.10	.31541E+00	11.35	.00	98.31	.00	.00	.32
22	.30	.30	.10	.31866E+00	11.47	.00	98.70	.00	.00	.32
23	.00	.00	.00	.31439E+00	11.83	.00	99.90	.00	.00	.31
24	.30	.30	.10	.30162E+00	11.93	.00	100.23	.00	.00	.30
25	.00	.00	.00	.29799E+00	12.28	.00	101.37	.00	.00	.30
26	.20	.20	.10	.28596E+00	12.46	.00	101.98	.00	.00	.29
27	.51	.51	.10	.27947E+00	12.33	.00	101.56	.00	.00	.28
28	.71	.71	.00	.29472E+00	11.92	.00	100.18	.00	.00	.29
29	.71	.71	.00	.30953E+00	11.51	.00	98.84	.00	.00	.31
30	.51	.51	.10	.31296E+00	11.42	.00	98.53	.00	.00	.31
31	.30	.30	.10	.31630E+00	11.53	.00	98.91	.00	.00	.32

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2006 11

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.20	.20	.05	.31226E+00	11.69	.00	99.44	.00	.00	.31
2	.00	.00	.00	.30642E+00	12.05	.00	100.61	.00	.00	.31
3	.00	.00	.00	.29387E+00	12.39	.00	101.74	.00	.00	.29
4	.20	.20	.05	.28202E+00	12.52	.00	102.17	.00	.00	.28
5	.00	.00	.00	.27732E+00	12.84	.00	103.24	.00	.00	.28
6	.00	.00	.00	.26608E+00	13.14	.00	104.26	.00	.00	.27
7	.00	.00	.00	.25533E+00	13.44	.00	105.24	.00	.00	.26
8	.00	.00	.00	.24505E+00	13.72	.00	106.18	.00	.00	.25
9	.71	.71	.00	.24585E+00	13.26	.00	104.64	.00	.00	.25
10	.41	.41	.05	.25148E+00	13.15	.00	104.29	.00	.00	.25
11	.20	.20	.05	.25510E+00	13.26	.00	104.63	.00	.00	.26
12	.00	.00	.00	.25140E+00	13.55	.00	105.60	.00	.00	.25
13	.00	.00	.00	.24127E+00	13.83	.00	106.53	.00	.00	.24
14	.51	.51	.05	.23170E+00	13.60	.00	105.78	.00	.00	.23
15	.00	.00	.00	.23937E+00	13.88	.00	106.71	.00	.00	.24
16	.00	.00	.00	.22975E+00	14.15	.00	107.60	.00	.00	.23
17	.51	.51	.05	.22067E+00	13.91	.00	106.81	.00	.00	.22
18	.00	.00	.00	.22869E+00	14.18	.00	107.69	.00	.00	.23
19	.00	.00	.00	.21953E+00	14.43	.00	108.54	.00	.00	.22
20	.00	.00	.00	.21076E+00	14.68	.00	109.36	.00	.00	.21
21	.00	.00	.00	.20237E+00	14.92	.00	110.14	.00	.00	.20
22	.79	.79	.00	.20475E+00	14.33	.00	108.21	.00	.00	.20
23	.00	.00	.00	.21423E+00	14.58	.00	109.03	.00	.00	.21
24	.51	.51	.05	.20582E+00	14.33	.00	108.20	.00	.00	.21
25	.00	.00	.00	.21431E+00	14.58	.00	109.03	.00	.00	.21
26	.30	.30	.05	.20590E+00	14.53	.00	108.87	.00	.00	.21
27	.20	.20	.05	.20754E+00	14.59	.00	109.05	.00	.00	.21
28	.20	.20	.05	.20566E+00	14.64	.00	109.23	.00	.00	.21
29	.20	.20	.05	.20384E+00	14.69	.00	109.40	.00	.00	.20
30	.20	.20	.05	.20208E+00	14.74	.00	109.56	.00	.00	.20

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2006 12

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.00	.00	.03	.15385E+00	14.92	.00	110.16	.00	.00	.00
2	.20	.20	.03	.85450E-01	14.83	.00	109.85	.00	.00	.00
3	.20	.20	.03	.56377E-01	14.71	.00	109.45	.00	.00	.00
4	.20	.20	.03	.39809E-01	14.57	.00	108.99	.00	.00	.00
5	.20	.20	.03	.29983E-01	14.42	.00	108.50	.00	.00	.00
6	.20	.20	.03	.24027E-01	14.27	.00	107.99	.00	.00	.00
7	.00	.00	.03	.20464E-01	14.31	.00	108.14	.00	.00	.00
8	.30	.30	.03	.12355E-01	14.05	.00	107.25	.00	.00	.00
9	.00	.00	.03	.15122E-01	14.09	.00	107.39	.00	.00	.00
10	.41	.41	.03	.34949E-02	13.71	.00	106.13	.00	.00	.00
11	.00	.00	.03	.12572E-01	13.75	.00	106.26	.00	.00	.00
12	.00	.00	.03	.26558E-02	13.78	.00	106.35	.00	.00	.00
13	.00	.00	.03	.20814E-03	13.80	.00	106.44	.00	.00	.00
14	.51	.51	.03	-.59435E-03	13.32	.00	104.83	.00	.00	.00
15	.00	.00	.03	.12689E-01	13.36	.00	104.96	.00	.00	.00
16	.00	.00	.03	.28422E-02	13.38	.00	105.05	.00	.00	.00
17	.51	.51	.03	.20707E-03	12.90	.00	103.45	.00	.00	.00
18	.00	.00	.03	.13560E-01	12.94	.00	103.58	.00	.00	.00
19	.41	.41	.03	.35223E-02	12.56	.00	102.33	.00	.00	.00
20	.00	.00	.03	.13017E-01	12.60	.00	102.46	.00	.00	.00
21	.00	.00	.03	.32207E-02	12.63	.00	102.55	.00	.00	.00
22	.61	.61	.00	.99491E-02	12.03	.00	100.56	.00	.00	.00
23	.00	.00	.03	.14603E-01	12.07	.00	100.69	.00	.00	.00
24	.41	.41	.03	.41652E-02	11.69	.00	99.44	.00	.00	.00
25	.00	.00	.03	.13744E-01	11.73	.00	99.57	.00	.00	.00
26	.41	.41	.03	.39860E-02	11.36	.00	98.32	.00	.00	.00
27	.20	.20	.03	.14297E-01	11.19	.00	97.78	.00	.00	.00
28	.20	.20	.03	.15163E-01	11.03	.00	97.24	.00	.00	.00
29	.20	.20	.03	.15803E-01	10.87	.00	96.70	.00	.00	.00
30	.20	.20	.03	.16280E-01	10.71	.00	96.16	.00	.00	.00
31	.20	.20	.03	.16651E-01	10.55	.00	95.63	.00	.00	.00

Файл Z 1-2_opt.MON

* DRAINMOD version 5.1 *

* Copyright 1980-04 North Carolina State University *

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:15
input file: C:\Program Files\Drainmod\INPUTS\Z 1-2_opt.Prj
parameters: combination run and yields calculated
drain spacing = 3500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	6.61	.00	.00	.00	.00	
2	3.76	3.76	1.42	3.31	.00	.00	.00	.00	
3	3.66	3.66	1.12	2.36	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.22	.00	.00	30.00	.00	-.01
5	7.19	7.19	6.71	-6.14	.00	.00	6.08	20.45	-6.41
6	6.60	6.60	10.29	-3.90	.00	.00	.00	.70	-3.91
7	4.42	4.42	9.75	-3.99	.00	.00	.00	148.68	-5.92
8	3.94	3.94	4.62	-4.32	.00	.00	.00	.00	-4.46
9	3.23	3.23	2.29	.31	.00	.00	21.99	.00	-1.43
10	6.40	6.40	1.32	11.82	.00	.00	31.00	.00	.00
11	5.16	5.16	.61	7.13	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	.63	.00	.00	31.00	.00	.00

TOTALS 60.91 60.91 43.13 14.04 .00 .00 181.07 169.84 -22.14

Файл Z 1-2_opt.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:15
input file: C:\Program Files\Drainmod\INPUTS\Z 1-2_opt.Prj
parameters: combination run and yields calculated
drain spacing = 3500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.6	3.3	2.4	.0	.0	.0	.0	13.5	7.1	.0		
AVERAGE	5.6	3.3	2.4	.0	.0	.0	.0	13.5	7.1	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	6.6	3.3	2.4	.2	-6.1	-3.9	-4.0	-4.3	.3	11.8	7.1	.6
AVERAGE	6.6	3.3	2.4	.2	-6.1	-3.9	-4.0	-4.3	.3	11.8	7.1	.6

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

	RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	1.1	3.5	6.7	10.3	9.8	4.6	2.3	1.3	.6	.8	
AVERAGE	.8	1.4	1.1	3.5	6.7	10.3	9.8	4.6	2.3	1.3	.6	.8	

NUMBER OF DAYS IN MONTH WITH NO FLOW

	RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	5.0	26.0	30.0	24.0	29.0	14.0	.0	.0	1.0	
AVERAGE	.0	.0	.0	5.0	26.0	30.0	24.0	29.0	14.0	.0	.0	1.0	

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

	RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	72.6	79.7	83.4	84.2	42.7	37.9	39.2	55.3	70.8	93.6	106.4	103.7	
AVERAGE	72.6	79.7	83.4	84.2	42.7	37.9	39.2	55.3	70.8	93.6	106.4	103.7	

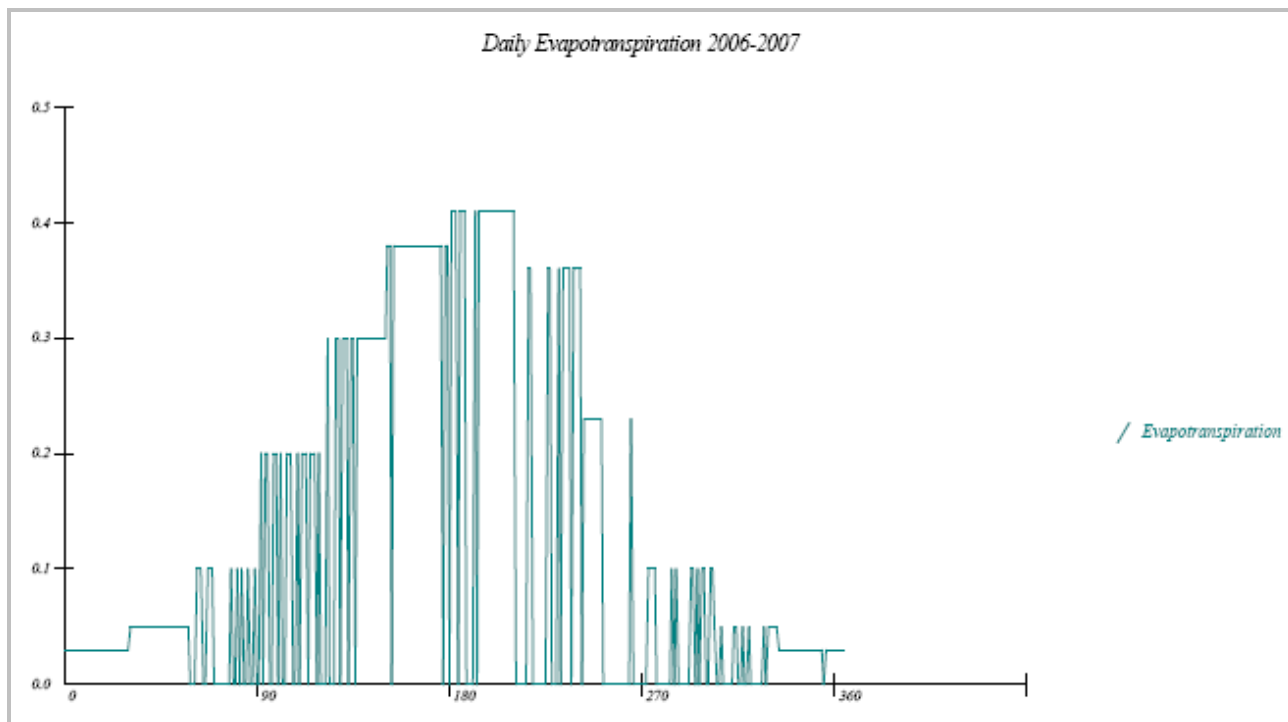
Файл Z 1-2_opt.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

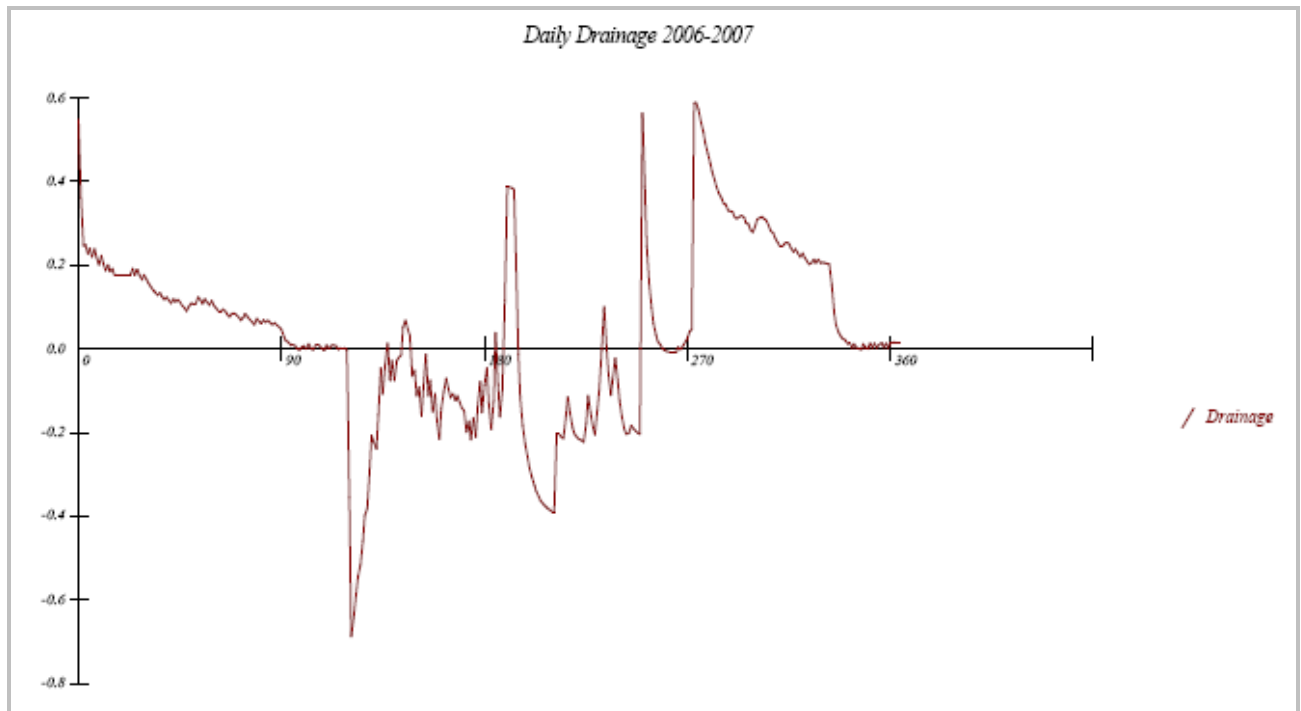
COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:15
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-2_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 3500. cm drain depth = 130.0 cm

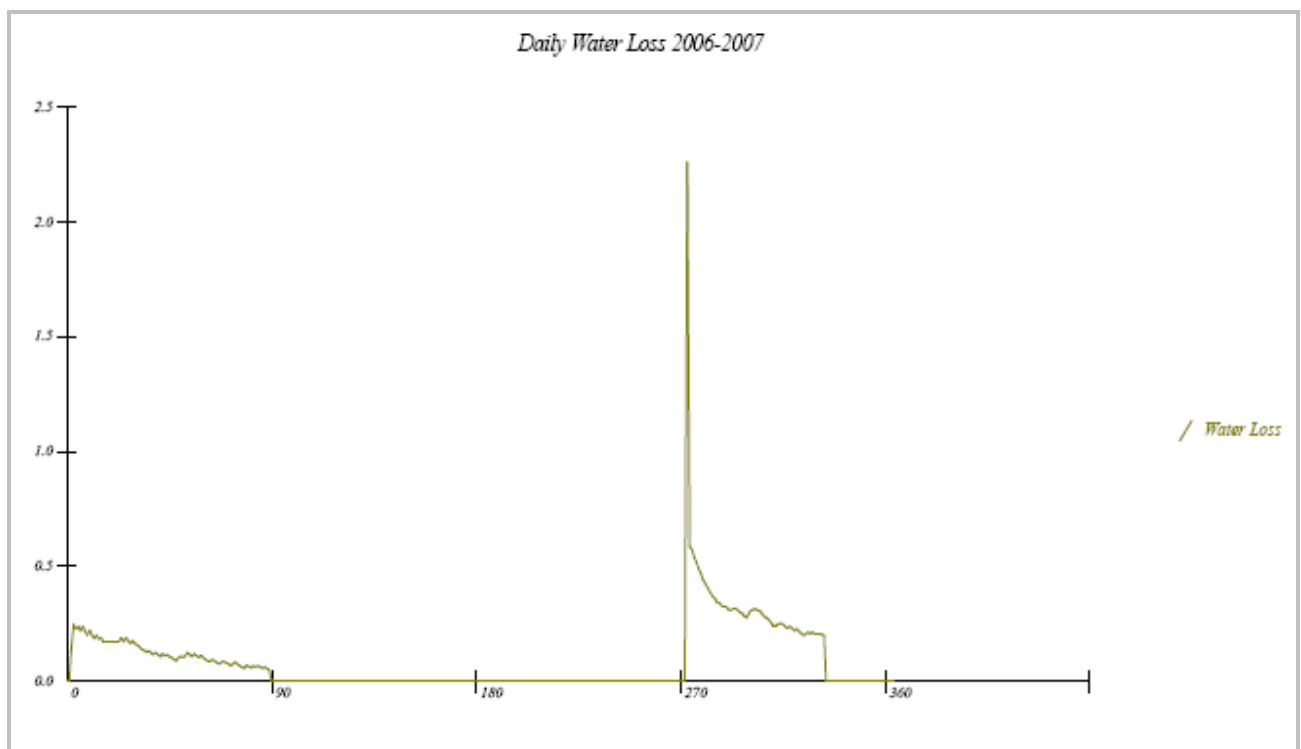
YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	43.13	14.04	.00	.00	181.07	169.8	-22.14
AVG	60.91	60.91	43.13	14.04	.00	.00	181.07	169.8	-22.14



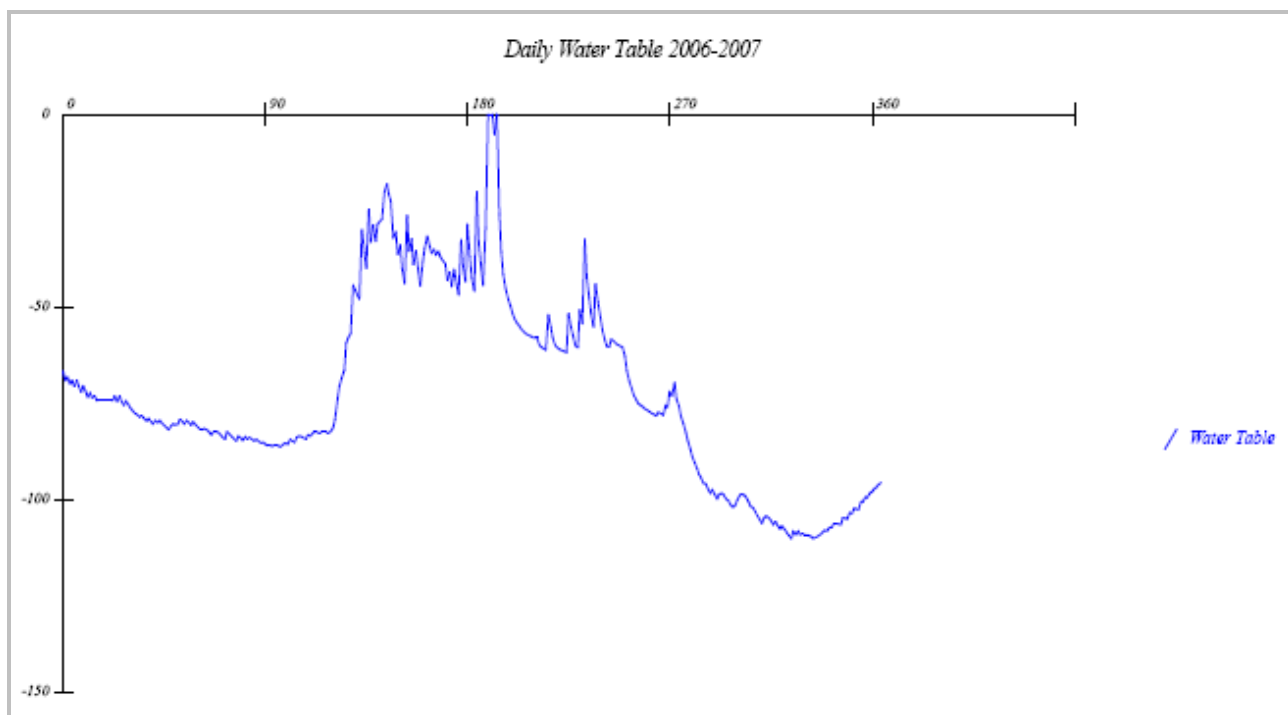
Графика на дневната евапотранспирация за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните дренирани обеми за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните водни загуби за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

4.3.3

Поле Z 1-3

ПРОЕКТ Z 1-3

Входни данни

Файл №1 – Z 1-3.gen

```

*** Job Title ***
SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
PLYMOUTH, NC WEATHER DATA
*** Printout and Input Control ***
1 201 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\RAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\RAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 141.20 2500.00 2.00 2.00 1.00 9.88 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
430.00 2.00
26. .32 50. .20 70. .09 100. .52 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 2 1 3.00 3 1 4.00 4 1 15.00 5 1 25.00 6 1 30.00 7 1 30.00 8 1 20.00
9 8 10.00 10 25 3.00 11 31 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 75.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0

```


Initial snow depth(m) & density(kg/m3)

.00 .00

Freezing characteristic curve

0

Файл №3 – 4.SIN

Файл съдържащ данни за почвите.

D-4

420

.3600000	.0
.2200000	-108.0
.1200000	-710.0
.1200000	-1000.0
.0000	.0000 .5000
3.0000	.0060 .5000
6.0000	.0230 .5000
9.0000	.0520 .5000
12.0000	.0930 .5000
15.0000	.1460 .5000
20.0000	.2590 .5000
25.0000	.4050 .5000
30.0000	.5740 .5000
35.0000	.7470 .4823
40.0000	.9230 .4221
45.0000	1.1030 .3641
60.0000	1.6720 .2226
75.0000	2.3170 .1573
90.0000	3.1880 .1288
120.0000	5.6580 .0672
150.0000	8.5180 .0278
200.0000	15.4870 .0100
500.0000	71.5180 .0003
1000.0000	100.0000 .0000

10

.00	.00	3.21
10.00	.54	3.21
20.00	1.08	3.21
40.00	1.87	2.78
60.00	2.35	2.33
80.00	3.37	2.50
100.00	4.21	2.50
150.00	7.80	2.50
200.00	7.80	2.50
1000.00	7.80	2.50

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 1-3

Файл Z 1-3.MON

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
 PLYMOUTH, NC WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:19
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-3.Prj
 parameters: combination run and yields calculated
 drain spacing = 2500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	3.95	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.54	.00	.00	.00	.00	.00

3	3.66	3.66	3.05	1.76	.00	.00	.00	.00	.00
4	5.49	5.49	6.10	.00	.00	.00	25.35	.00	-1.10
5	7.19	7.19	7.92	-2.86	.00	.00	2.25	1.14	-2.86
6	6.60	6.60	10.29	-2.53	.00	.00	.56	.00	-2.53
7	4.42	4.42	10.16	-2.77	.00	.00	9.62	63.50	-3.25
8	3.94	3.94	9.25	-5.33	.00	.00	29.00	.00	-5.33
9	3.23	3.23	6.17	-1.16	.00	.00	30.00	.00	-1.26
10	6.40	6.40	2.74	.37	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	2.86	.00	.00	25.00	.00	.00
12	5.59	5.59	.76	2.70	.00	.00	.00	.00	.00

TOTALS 60.91 60.91 60.07 -.47 .00 .00 152.77 64.64 -15.33

Файл Z 1-3.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
PLYMOUTH, NC WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:19
input file: C:\Program Files\Drainmod\INPUTS\Z 1-3.Prj
parameters: combination run and yields calculated
drain spacing = 2500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.5	2.5	1.8	.0	.0	.0	.0	.4	2.9	.0		
AVERAGE	2.5	2.5	1.8	.0	.0	.0	.0	.4	2.9	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.0	2.5	1.8	.0	-2.9	-2.5	-2.8	-5.3	-1.2	.4	2.9	2.7
AVERAGE	4.0	2.5	1.8	.0	-2.9	-2.5	-2.8	-5.3	-1.2	.4	2.9	2.7

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	16.0	31.0	30.0	24.0	31.0	25.0	19.0	.0	.0
AVERAGE	.0	.0	.0	16.0	31.0	30.0	24.0	31.0	25.0	19.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	49.9	58.4	70.7	87.6	54.2	68.1	71.5	115.1	130.3	127.6	91.6	62.2
AVERAGE	49.9	58.4	70.7	87.6	54.2	68.1	71.5	115.1	130.3	127.6	91.6	62.2

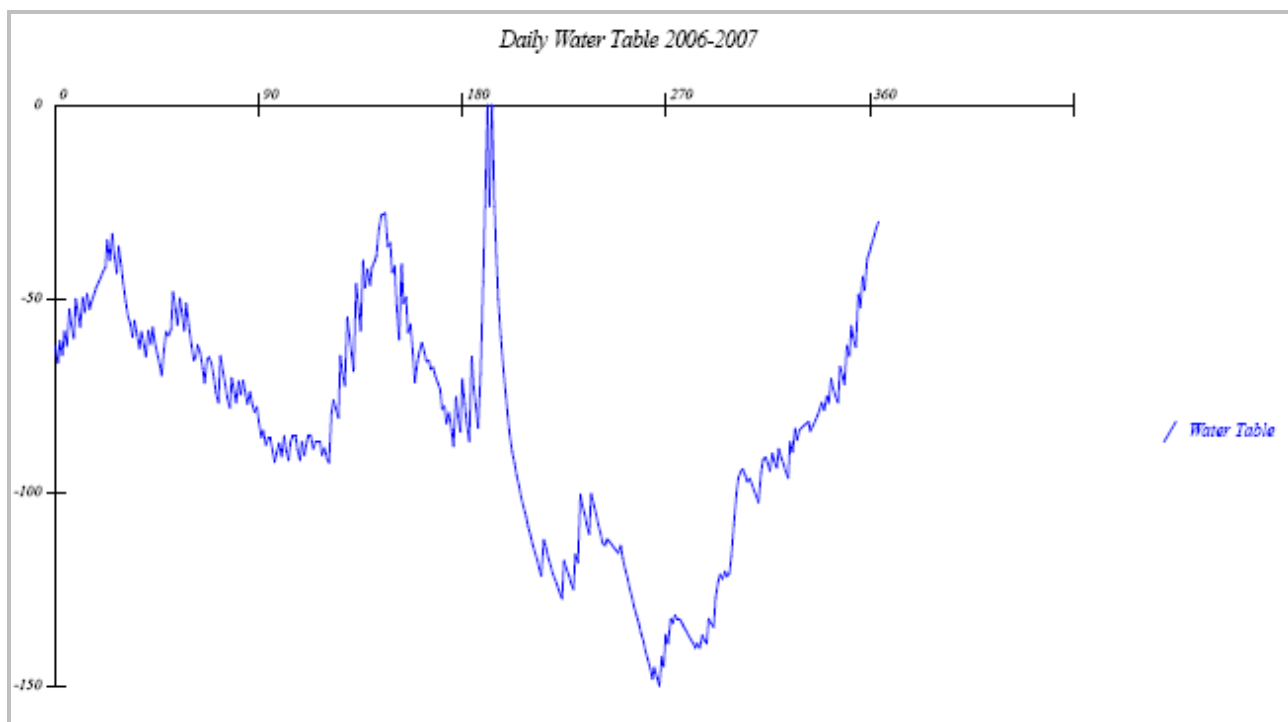
Файл Z 1-3.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
 PLYMOUTH, NC WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:19
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-3.Prj
 parameters: combination run and yields calculated
 drain spacing = 2500. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	-.47	.00	.00	152.77	64.6	-15.33
AVG	60.91	60.91	60.07	-.47	.00	.00	152.77	64.6	-15.33



Графика на дневните нива на подпочвените води за периода на изследване
 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 1-3_min**Входни данни****Файл №1 – Z 1-3_min.gen**

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*** Job Title ***
SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
PLYMOUTH, NC WEATHER DATA
*** Printout and Input Control ***
1 201 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 103.81 1500.00 2.00 2.00 1.00 9.89 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
430.00 2.00
26. .32 50. .20 70. .09 100. .52 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 2 1 3.00 3 1 4.00 4 1 15.00 5 1 25.00 6 1 30.00 7 1 30.00 8 1 20.00
9 8 10.00 10 25 3.00 11 31 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 75.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

```

Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 1-3_min

Файл Z 1-3_min.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
PLYMOUTH, NC WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:26
input file: C:\Program Files\Drainmod\INPUTS\Z 1-3_min.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	4.98	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.28	.00	.00	.00	.00	.00
3	3.66	3.66	3.05	1.44	.00	.00	4.62	.00	.00
4	5.49	5.49	6.10	-.22	.00	.00	30.00	.00	-.29
5	7.19	7.19	7.92	-3.30	.00	.00	2.00	25.73	-3.51
6	6.60	6.60	10.29	-3.20	.00	.00	.00	.00	-3.27
7	4.42	4.42	10.16	-3.69	.00	.00	5.35	96.64	-5.10
8	3.94	3.94	9.25	-5.66	.00	.00	16.72	.00	-5.68
9	3.23	3.23	6.17	-.95	.00	.00	23.90	.00	-1.76
10	6.40	6.40	2.74	2.10	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	4.39	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	2.74	.00	.00	20.20	.00	.00
TOTALS	60.91	60.91	60.07	.90	.00	.00	163.78	122.37	-19.61

Файл Z 1-3_min.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
PLYMOUTH, NC WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:26
input file: C:\Program Files\Drainmod\INPUTS\Z 1-3_min.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.6	2.3	1.4	.0	.0	.0	.0	.0	2.5	4.4	.0	
AVERAGE	2.6	2.3	1.4	.0	.0	.0	.0	.0	2.5	4.4	.0	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.0	2.3	1.4	-.2	-3.3	-3.2	-3.7	-5.7	-.9	2.1	4.4	2.7
AVERAGE	5.0	2.3	1.4	-.2	-3.3	-3.2	-3.7	-5.7	-.9	2.1	4.4	2.7

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	21.0	25.0	28.0	24.0	30.0	19.0	.0	.0	.0
AVERAGE	.0	.0	.0	21.0	25.0	28.0	24.0	30.0	19.0	.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	69.3	76.6	82.4	91.7	40.9	56.7	60.1	84.3	108.4	115.5	101.4	88.3
AVERAGE	69.3	76.6	82.4	91.7	40.9	56.7	60.1	84.3	108.4	115.5	101.4	88.3

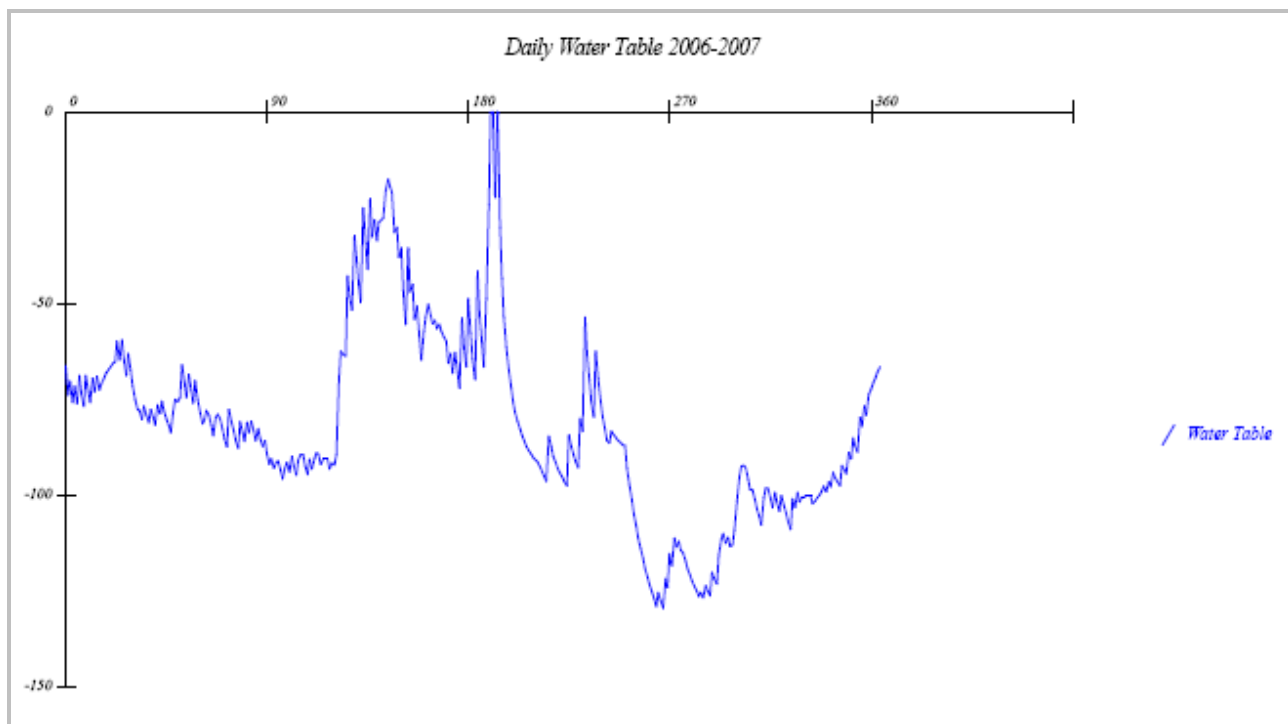
Файл Z 1-3_min.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
 PLYMOUTH, NC WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:26
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-3_min.Prj
 parameters: combination run and yields calculated
 drain spacing = 1500. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	.90	.00	.00	163.78	122.4	-19.61
AVG	60.91	60.91	60.07	.90	.00	.00	163.78	122.4	-19.61



Графика на дневните нива на подпочвените води за периода на изследване
 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 1-3_max**Входни данни****Файл №1 – Z 1-3_max.gen**

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*** Job Title ***
SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
PLYMOUTH, NC WEATHER DATA
*** Printout and Input Control ***
1 201 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 204.89 6000.00 2.00 2.00 1.00 9.88 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
430.00 2.00
26. .32 50. .20 70. .09 100. .52 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 2 1 3.00 3 1 4.00 4 1 15.00 5 1 25.00 6 1 30.00 7 1 30.00 8 1 20.00
9 8 10.00 10 25 3.00 11 31 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 75.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

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STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

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Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 1-3_max

Файл Z 1-3_max.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
PLYMOUTH, NC WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:22
input file: C:\Program Files\Drainmod\INPUTS\Z 1-3_max.Prj
parameters: combination run and yields calculated
drain spacing = 6000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	4.58	.79	1.91	.00	.00	.00	.00	.00
2	3.76	3.51	1.42	2.08	.00	.00	.00	.00	.00
3	3.66	4.81	3.05	1.98	.00	.00	.00	.00	.00
4	5.49	5.49	6.10	.58	.00	.00	.00	.00	.00
5	7.19	7.19	7.92	-.61	.00	.00	.00	.00	-.61
6	6.60	6.60	10.29	-.97	.00	.00	17.92	.00	-.97
7	4.42	4.42	10.16	-1.45	.00	.00	25.68	.00	-1.45
8	3.94	3.94	9.25	-2.11	.00	.00	29.00	.00	-2.11
9	3.23	3.23	6.17	-.52	.00	.00	30.00	.00	-.52
10	6.40	6.40	2.74	.00	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	.00	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	.24	.00	.00	26.10	.00	.00

TOTALS 60.91 60.91 60.07 1.11 .00 .00 189.70 .00 -5.67

Файл Z 1-3_max.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
PLYMOUTH, NC WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:22
input file: C:\Program Files\Drainmod\INPUTS\Z 1-3_max.Prj
parameters: combination run and yields calculated
drain spacing = 6000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.3	2.1	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	1.3	2.1	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.9	2.1	2.0	.6	-.6	-1.0	-1.5	-2.1	-.5	.0	.0	.2
AVERAGE	1.9	2.1	2.0	.6	-.6	-1.0	-1.5	-2.1	-.5	.0	.0	.2

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	31.0	30.0	31.0	30.0	31.0	30.0	3.0	
AVERAGE	.0	.0	.0	.0	31.0	30.0	31.0	30.0	31.0	30.0	3.0	

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	18.6	.0	2.5	45.4	53.9	87.5	109.9	164.1	188.3	186.8	151.6	106.2
AVERAGE	18.6	.0	2.5	45.4	53.9	87.5	109.9	164.1	188.3	186.8	151.6	106.2

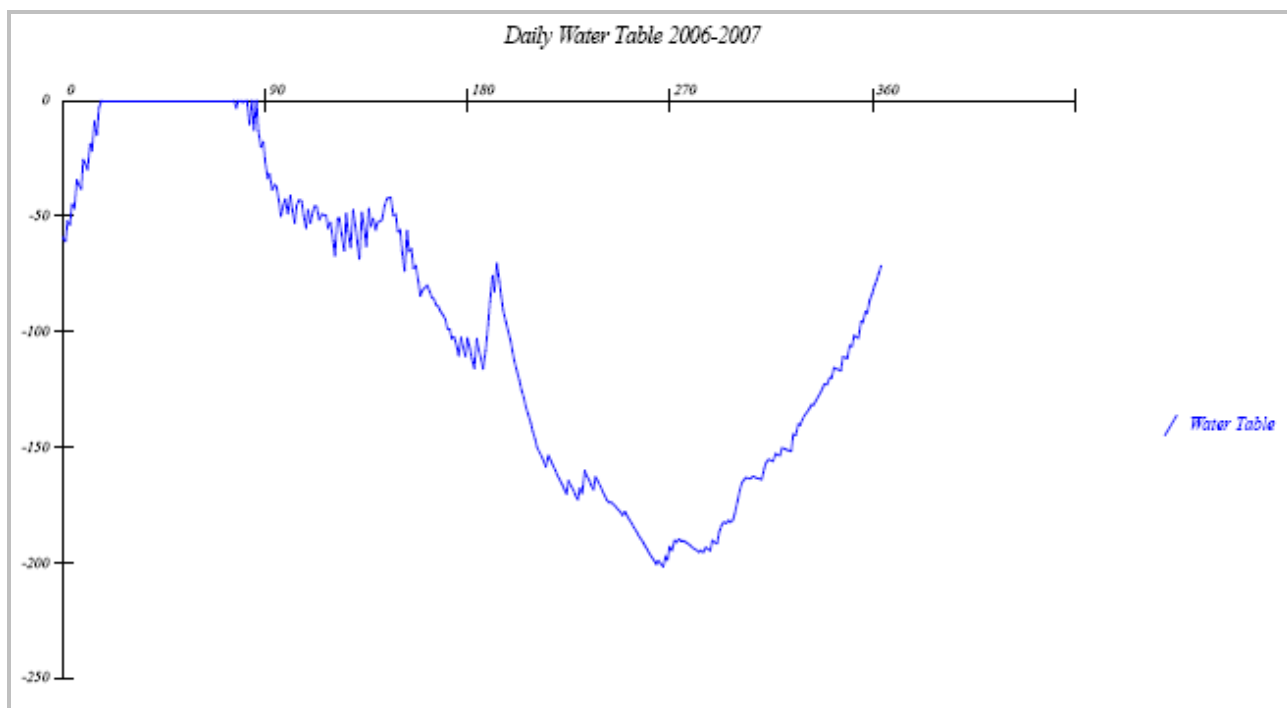
Файл Z 1-3_max.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
 PLYMOUTH, NC WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:22
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-3_max.Prj
 parameters: combination run and yields calculated
 drain spacing = 6000. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	1.11	.00	.00	189.70	.0	-5.67
AVG	60.91	60.91	60.07	1.11	.00	.00	189.70	.0	-5.67



Графика на дневните нива на подпочвените води за периода на изследване
 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 1-3_opt**Входни данни****Файл №1 – Z 1-3_opt.gen**

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*** Job Title ***
SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
PLYMOUTH, NC WEATHER DATA
*** Printout and Input Control ***
1 201 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 166.68 3500.00 2.00 2.00 1.00 9.88 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
430.00 2.00
26. .32 50. .20 70. .09 100. .52 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 2 1 3.00 3 1 4.00 4 1 15.00 5 1 25.00 6 1 30.00 7 1 30.00 8 1 20.00
9 8 10.00 10 25 3.00 11 31 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 75.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

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```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve

```

0

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 1-3_opt

Файл Z 1-3_opt.DAY

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
 PLYMOUTH, NC WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:28
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-3_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 3500. cm drain depth = 130.0 cm

1

2006 1

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.30	.30	.03	.97362E-01	1.70	.00	60.77	.00	.00	.00
2	.00	.00	.03	.96442E-01	1.83	.00	63.60	.00	.00	.00
3	.41	.41	.03	.85734E-01	1.53	.00	56.30	.00	.00	.00
4	.00	.00	.03	.91358E-01	1.65	.00	59.33	.00	.00	.00
5	.41	.41	.03	.81653E-01	1.35	.00	51.48	.00	.00	.00
6	.00	.00	.03	.89271E-01	1.46	.00	54.51	.00	.00	.00
7	.51	.51	.03	.80081E-01	1.06	.00	43.84	.00	.00	.00
8	.00	.00	.03	.93066E-01	1.18	.00	47.02	.00	.00	.00
9	.00	.00	.03	.83837E-01	1.29	.00	49.90	.00	.00	.00
10	.51	.51	.03	.75423E-01	.88	.00	38.82	.00	.00	.00
11	.00	.00	.03	.90216E-01	1.00	.00	42.06	.00	.00	.00
12	.00	.00	.03	.81322E-01	1.10	.00	45.02	.00	.00	.02
13	.41	.41	.03	.75267E-01	.80	.00	36.46	.00	.00	.08
14	.00	.00	.03	.89552E-01	.91	.00	39.71	.00	.00	.09
15	.30	.30	.03	.84024E-01	.72	.00	34.15	.00	.00	.08
16	.00	.00	.03	.93395E-01	.84	.00	37.55	.00	.00	.09
17	.20	.20	.03	.87620E-01	.75	.00	34.97	.00	.00	.09
18	.20	.20	.03	.91907E-01	.66	.00	32.50	.00	.00	.09
19	.20	.20	.03	.96025E-01	.58	.00	30.13	.00	.00	.10
20	.20	.20	.03	.99977E-01	.50	.00	27.84	.00	.00	.10
21	.20	.20	.03	.10378E+00	.43	.00	25.63	.00	.00	.10
22	.20	.20	.03	.10745E+00	.36	.00	23.34	.00	.00	.11
23	.20	.20	.03	.11111E+00	.29	.00	21.00	.00	.00	.11
24	.41	.41	.03	.11493E+00	.02	.00	2.95	.00	.00	.11
25	.00	.00	.03	.13804E+00	.19	.00	16.75	.00	.00	.14
26	.41	.33	.03	.12167E+00	.00	.00	.07	.00	.00	.12
27	.00	.07	.03	.15134E+00	.10	.00	12.63	.00	.00	.15
28	.00	.00	.03	.12836E+00	.26	.00	19.73	.00	.00	.13
29	.41	.40	.03	.11690E+00	.00	.00	.01	.00	.00	.12
30	.00	.01	.03	.14246E+00	.16	.00	15.45	.00	.00	.14
31	.00	.00	.03	.12381E+00	.31	.00	21.76	.00	.00	.12

1

2006 2

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.05	.11322E+00	.47	.00	27.05	.00	.00	.11
2	.00	.00	.05	.10464E+00	.63	.00	31.62	.00	.00	.10
3	.10	.10	.05	.96909E-01	.68	.00	32.95	.00	.00	.10
4	.00	.00	.05	.94838E-01	.82	.00	37.12	.00	.00	.09
5	.30	.30	.05	.87748E-01	.66	.00	32.35	.00	.00	.09
6	.00	.00	.05	.95830E-01	.80	.00	36.56	.00	.00	.10
7	.00	.00	.05	.88815E-01	.94	.00	40.51	.00	.00	.09
8	.30	.30	.05	.82123E-01	.77	.00	35.64	.00	.00	.08
9	.00	.00	.05	.90349E-01	.91	.00	39.65	.00	.00	.09
10	.00	.00	.05	.83689E-01	1.05	.00	43.40	.00	.00	.08
11	.41	.41	.05	.77348E-01	.77	.00	35.57	.00	.00	.08
12	.00	.00	.05	.90474E-01	.91	.00	39.58	.00	.00	.09
13	.30	.30	.05	.83672E-01	.74	.00	34.73	.00	.00	.08

14	.00	.00	.05	.91862E-01	.88	.00	38.80	.00	.00	.09
15	.00	.00	.05	.85101E-01	1.02	.00	42.60	.00	.00	.09
16	.00	.00	.05	.78775E-01	1.15	.00	46.14	.00	.00	.08
17	.00	.00	.05	.72971E-01	1.27	.00	49.40	.00	.00	.07
18	.41	.41	.05	.67449E-01	.98	.00	41.63	.00	.00	.07
19	.30	.30	.05	.80251E-01	.81	.00	36.74	.00	.00	.08
20	.10	.10	.05	.88388E-01	.85	.00	37.80	.00	.00	.09
21	.20	.20	.05	.86614E-01	.78	.00	35.93	.00	.00	.09
22	.51	.51	.05	.89724E-01	.41	.00	25.20	.00	.00	.09
23	.00	.00	.05	.10773E+00	.57	.00	29.90	.00	.00	.11
24	.00	.00	.05	.99914E-01	.72	.00	34.26	.00	.00	.10
25	.41	.41	.05	.92502E-01	.46	.00	26.58	.00	.00	.09
26	.00	.00	.05	.10543E+00	.61	.00	31.18	.00	.00	.11
27	.00	.00	.05	.97789E-01	.76	.00	35.46	.00	.00	.10
28	.41	.41	.05	.90510E-01	.50	.00	27.76	.00	.00	.09

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2006 3

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.10	.10232E+00	.70	.00	33.71	.00	.00	.10
2	.00	.00	.10	.92457E-01	.90	.00	39.24	.00	.00	.09
3	.00	.00	.10	.83278E-01	1.08	.00	44.39	.00	.00	.08
4	.20	.20	.10	.74650E-01	1.05	.00	43.65	.00	.00	.07
5	.30	.30	.10	.75860E-01	.93	.00	40.10	.00	.00	.08
6	.10	.10	.10	.81667E-01	1.01	.00	42.38	.00	.00	.08
7	.00	.00	.10	.78088E-01	1.19	.00	47.25	.00	.00	.08
8	.00	.00	.10	.70094E-01	1.36	.00	51.77	.00	.00	.07
9	.41	.41	.10	.62547E-01	1.12	.00	45.38	.00	.00	.06
10	.20	.20	.10	.73030E-01	1.09	.00	44.61	.00	.00	.07
11	.10	.10	.10	.74295E-01	1.16	.00	46.59	.00	.00	.07
12	.00	.00	.10	.71181E-01	1.34	.00	51.15	.00	.00	.07
13	.00	.00	.10	.63718E-01	1.50	.00	55.51	.00	.00	.06
14	.00	.00	.10	.56622E-01	1.66	.00	59.62	.00	.00	.06
15	.61	.61	.00	.64448E-01	1.11	.00	45.30	.00	.00	.06
16	.00	.00	.10	.73334E-01	1.29	.00	49.92	.00	.00	.07
17	.00	.00	.10	.65716E-01	1.46	.00	54.33	.00	.00	.07
18	.00	.00	.10	.58536E-01	1.62	.00	58.53	.00	.00	.06
19	.00	.00	.10	.51786E-01	1.77	.00	62.29	.00	.00	.05
20	.51	.51	.10	.45653E-01	1.41	.00	53.08	.00	.00	.05
21	.00	.00	.10	.60568E-01	1.57	.00	57.36	.00	.00	.06
22	.00	.00	.10	.53642E-01	1.73	.00	61.28	.00	.00	.05
23	.41	.41	.10	.47327E-01	1.47	.00	54.66	.00	.00	.05
24	.00	.00	.10	.57990E-01	1.63	.00	58.84	.00	.00	.06
25	.30	.30	.10	.51183E-01	1.48	.00	54.86	.00	.00	.05
26	.00	.00	.10	.57665E-01	1.64	.00	59.03	.00	.00	.06
27	.00	.00	.10	.51003E-01	1.79	.00	62.72	.00	.00	.05
28	.30	.30	.10	.44932E-01	1.63	.00	58.89	.00	.00	.04
29	.00	.00	.10	.51231E-01	1.78	.00	62.59	.00	.00	.05
30	.00	.00	.10	.45267E-01	1.93	.00	66.01	.00	.00	.05
31	.20	.20	.10	.39438E-01	1.87	.00	64.56	.00	.00	.04

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2006 4

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.20	.39309E-01	2.11	.00	70.20	.00	.00	.00
2	.00	.00	.20	.28022E-01	2.34	.00	75.37	.00	.00	.00
3	.30	.30	.20	.18676E-01	2.26	.00	73.65	.00	.00	.00
4	.00	.00	.20	.20620E-01	2.48	.00	77.86	.00	.00	.00
5	.30	.30	.20	.12805E-01	2.39	.00	76.32	.00	.00	.00
6	.20	.20	.20	.14883E-01	2.41	.00	76.58	.00	.00	.00
7	.00	.00	.20	.13595E-01	2.63	.00	80.32	.00	.00	.00
8	.00	.00	.20	.59587E-02	2.83	.00	83.92	.00	.00	.00
9	.41	.41	.20	.52306E-03	2.63	.00	80.41	.00	.00	.00
10	.30	.30	.20	.53772E-02	2.53	.00	78.75	.00	.00	.00
11	.00	.00	.20	.77602E-02	2.75	.00	82.39	.00	.00	.00
12	.51	.51	.20	.10452E-02	2.44	.00	77.16	.00	.00	.00
13	.00	.00	.20	.96489E-02	2.66	.00	80.82	.00	.00	.00
14	.00	.00	.20	.24919E-02	2.86	.00	84.36	.00	.00	.00
15	.51	.51	.20	.35949E-02	2.55	.00	79.05	.00	.00	.00
16	.30	.30	.20	.54799E-02	2.46	.00	77.40	.00	.00	.00
17	.20	.20	.20	.80775E-02	2.46	.00	77.54	.00	.00	.00
18	.00	.00	.20	.73068E-02	2.67	.00	81.16	.00	.00	.00
19	.00	.00	.20	.42840E-03	2.88	.00	84.67	.00	.00	.00
20	.51	.51	.20	.54284E-02	2.57	.00	79.33	.00	.00	.00

Напоително – отводнителни полета

21	.00	.00	.20	.35817E-02	2.77	.00	82.89	.00	.00	.00
22	.41	.41	.20	-.26608E-02	2.57	.00	79.34	.00	.00	.00
23	.30	.30	.20	.34244E-02	2.47	.00	77.65	.00	.00	.00
24	.20	.20	.20	.61653E-02	2.48	.00	77.76	.00	.00	.00
25	.00	.00	.20	.55363E-02	2.69	.00	81.35	.00	.00	.00
26	.30	.30	.20	-.95386E-03	2.58	.00	79.59	.00	.00	.00
27	.20	.20	.20	.20731E-02	2.59	.00	79.62	.00	.00	.00
28	.20	.20	.20	.19216E-02	2.59	.00	79.65	.00	.00	.00
29	.00	.00	.20	.16020E-02	2.79	.00	83.18	.00	.00	.00
30	.30	.30	.20	-.44193E-02	2.69	.00	81.36	.00	.00	.00

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2006 5

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.30	-.56309E-01	2.93	.00	85.64	.00	.00	.00
2	.00	.00	.30	-.11532E+00	3.12	.00	88.88	.00	.00	.00
3	.61	.61	.00	-.10743E+00	2.41	.00	76.55	.00	.00	.00
4	.30	.30	.30	-.98568E-01	2.31	.00	74.76	.00	.00	.00
5	.00	.00	.30	-.95177E-01	2.52	.00	78.46	.00	.00	.00
6	.00	.00	.30	-.10202E+00	2.72	.00	81.95	.00	.00	.00
7	.61	.61	.00	-.93693E-01	2.02	.00	68.04	.00	.00	.00
8	.00	.00	.30	-.83273E-01	2.24	.00	73.19	.00	.00	.00
9	.00	.00	.30	-.92722E-01	2.45	.00	77.31	.00	.00	.00
10	.61	.61	.00	-.82538E-01	1.76	.00	62.02	.00	.00	.00
11	.00	.00	.30	-.70458E-01	1.99	.00	67.47	.00	.00	.00
12	.00	.00	.30	-.82125E-01	2.22	.00	72.65	.00	.00	.00
13	.00	.00	.30	-.91848E-01	2.43	.00	76.93	.00	.00	.00
14	.79	.79	.00	-.81541E-01	1.56	.00	57.05	.00	.00	.00
15	.00	.00	.30	-.60412E-01	1.80	.00	63.08	.00	.00	.00
16	.00	.00	.30	-.72730E-01	2.04	.00	68.48	.00	.00	.00
17	.61	.61	.00	-.62220E-01	1.36	.00	51.90	.00	.00	.00
18	.00	.00	.30	-.49973E-01	1.62	.00	58.60	.00	.00	.00
19	.41	.41	.30	-.63688E-01	1.45	.00	54.26	.00	.00	.00
20	.10	.10	.30	-.55083E-01	1.60	.00	58.16	.00	.00	.00
21	.41	.41	.30	-.62806E-01	1.44	.00	53.83	.00	.00	.00
22	.30	.30	.30	-.54222E-01	1.38	.00	52.40	.00	.00	.00
23	.30	.30	.30	-.51315E-01	1.33	.00	51.05	.00	.00	.00
24	.51	.51	.30	-.48569E-01	1.08	.00	44.38	.00	.00	.00
25	.41	.41	.30	-.35248E-01	.94	.00	40.57	.00	.00	.00
26	.30	.30	.30	-.28019E-01	.92	.00	39.79	.00	.00	.00
27	.30	.30	.30	-.26538E-01	.89	.00	39.04	.00	.00	.00
28	.00	.00	.30	-.25519E-01	1.17	.00	46.73	.00	.00	.00
29	.30	.30	.30	-.39864E-01	1.13	.00	45.67	.00	.00	.00
30	.00	.00	.30	-.37424E-01	1.40	.00	52.72	.00	.00	.00
31	.30	.30	.30	-.51975E-01	1.34	.00	51.35	.00	.00	.00

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2006 6

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.38	-.23091E-01	1.70	.00	60.70	.00	.00	.00
2	.00	.00	.38	-.38010E-01	2.04	.00	68.67	.00	.00	.00
3	.71	.71	.00	-.31818E-01	1.30	.00	50.24	.00	.00	.00
4	.00	.00	.38	-.19507E-01	1.66	.00	59.72	.00	.00	.00
5	.41	.41	.38	-.36556E-01	1.60	.00	58.14	.00	.00	.00
6	.00	.00	.38	-.33283E-01	1.95	.00	66.45	.00	.00	.00
7	.41	.41	.38	-.49711E-01	1.87	.00	64.70	.00	.00	.00
8	.00	.00	.38	-.46030E-01	2.21	.00	72.49	.00	.00	.00
9	.00	.00	.38	-.60152E-01	2.53	.00	78.67	.00	.00	.00
10	.51	.51	.38	-.70836E-01	2.33	.00	75.19	.00	.00	.00
11	.41	.41	.38	-.64524E-01	2.24	.00	73.26	.00	.00	.00
12	.41	.41	.38	-.61384E-01	2.16	.00	71.24	.00	.00	.00
13	.20	.20	.38	-.58163E-01	2.27	.00	74.02	.00	.00	.00
14	.20	.20	.38	-.62569E-01	2.39	.00	76.25	.00	.00	.00
15	.30	.30	.38	-.66410E-01	2.40	.00	76.43	.00	.00	.00
16	.20	.20	.38	-.66726E-01	2.51	.00	78.34	.00	.00	.00
17	.30	.30	.38	-.70243E-01	2.52	.00	78.44	.00	.00	.00
18	.20	.20	.38	-.70431E-01	2.62	.00	80.29	.00	.00	.00
19	.20	.20	.38	-.73808E-01	2.73	.00	82.08	.00	.00	.00
20	.20	.20	.38	-.77062E-01	2.83	.00	83.82	.00	.00	.00
21	.00	.00	.38	-.80000E-01	3.13	.00	88.99	.00	.00	.00
22	.30	.30	.38	-.88506E-01	3.12	.00	88.78	.00	.00	.00
23	.00	.00	.38	-.88206E-01	3.41	.00	92.70	.00	.00	.00
24	.41	.41	.38	-.94786E-01	3.29	.00	91.24	.00	.00	.00
25	.00	.00	.38	-.92066E-01	3.58	.00	94.75	.00	.00	.00

26	.00	.00	.38	-.98275E-01	3.86	.00	98.19	.00	.00	.00
27	.61	.61	.00	-.94230E-01	3.16	.00	89.45	.00	.00	.00
28	.00	.00	.38	-.89165E-01	3.45	.00	93.18	.00	.00	.00
29	.00	.00	.38	-.95505E-01	3.74	.00	96.65	.00	.00	.00
30	.61	.61	.00	-.91372E-01	3.03	.00	87.36	.00	.00	.00

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2006 7

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.41	-.86364E-01	3.35	.00	92.02	.00	.00	.00
2	.00	.00	.41	-.93703E-01	3.67	.00	95.82	.00	.00	.00
3	.00	.00	.41	-.10040E+00	3.97	.00	99.54	.00	.00	.00
4	.99	.99	.00	-.96623E-01	2.89	.00	84.80	.00	.00	.00
5	.00	.00	.41	-.82116E-01	3.21	.00	90.27	.00	.00	.00
6	.00	.00	.41	-.90588E-01	3.53	.00	94.11	.00	.00	.00
7	.00	.00	.41	-.97388E-01	3.84	.00	97.86	.00	.00	.00
8	.61	.61	.00	-.93640E-01	3.13	.00	89.02	.00	.00	.00
9	.89	.89	.00	-.74728E-01	2.17	.00	71.54	.00	.00	.00
10	.71	.71	.00	-.37714E-01	1.42	.00	53.34	.00	.00	.00
11	.61	.61	.00	-.90540E-03	.81	.00	36.76	.00	.00	.00
12	.00	.00	.41	.45790E-02	1.22	.00	48.08	.00	.00	.00
13	.61	.61	.00	.92252E-02	.62	.00	31.31	.00	.00	.00
14	.00	.00	.41	.15282E-01	1.04	.00	43.28	.00	.00	.00
15	.00	.00	.41	-.71656E-02	1.44	.00	53.89	.00	.00	.00
16	.00	.00	.41	-.26784E-01	1.82	.00	63.44	.00	.00	.00
17	.00	.00	.41	-.44065E-01	2.18	.00	71.87	.00	.00	.00
18	.00	.00	.41	-.59573E-01	2.53	.00	78.65	.00	.00	.00
19	.00	.00	.41	-.70973E-01	2.86	.00	84.43	.00	.00	.00
20	.00	.00	.41	-.81454E-01	3.19	.00	89.97	.00	.00	.00
21	.00	.00	.41	-.90128E-01	3.51	.00	93.86	.00	.00	.00
22	.00	.00	.41	-.96950E-01	3.82	.00	97.62	.00	.00	.00
23	.00	.00	.41	-.10354E+00	4.12	.00	101.30	.00	.00	.00
24	.00	.00	.41	-.10993E+00	4.41	.00	104.90	.00	.00	.00
25	.00	.00	.41	-.11611E+00	4.70	.00	108.42	.00	.00	.00
26	.00	.00	.41	-.12209E+00	4.99	.00	111.88	.00	.00	.00
27	.00	.00	.41	-.12789E+00	5.27	.00	115.26	.00	.00	.00
28	.00	.00	.41	-.13352E+00	5.54	.00	118.57	.00	.00	.00
29	.00	.00	.41	-.13886E+00	5.81	.00	121.57	.00	.00	.00
30	.00	.00	.41	-.14353E+00	6.07	.00	124.33	.00	.00	.00
31	.00	.00	.41	-.14799E+00	6.33	.00	127.04	.00	.00	.00

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2006 8

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.36	-.12209E+00	6.56	.00	129.49	.00	.00	.00
2	.00	.00	.36	-.12321E+00	6.80	.00	131.93	.00	.00	.00
3	.00	.00	.36	-.12697E+00	7.02	.00	134.33	.00	.00	.00
4	.00	.00	.36	-.13064E+00	7.25	.00	136.69	.00	.00	.00
5	.61	.61	.00	-.12687E+00	6.51	.00	128.96	.00	.00	.00
6	.00	.00	.36	-.12239E+00	6.75	.00	131.41	.00	.00	.00
7	.00	.00	.36	-.12617E+00	6.98	.00	133.82	.00	.00	.00
8	.00	.00	.36	-.12986E+00	7.20	.00	136.18	.00	.00	.00
9	.00	.00	.36	-.13346E+00	7.42	.00	138.51	.00	.00	.00
10	.00	.00	.36	-.13698E+00	7.64	.00	140.81	.00	.00	.00
11	.00	.00	.36	-.14041E+00	7.86	.00	143.06	.00	.00	.00
12	.00	.00	.36	-.14377E+00	8.07	.00	145.29	.00	.00	.00
13	.00	.00	.36	-.14704E+00	8.28	.00	147.47	.00	.00	.00
14	.71	.71	.00	-.14315E+00	7.42	.00	138.51	.00	.00	.00
15	.00	.00	.36	-.13698E+00	7.64	.00	140.80	.00	.00	.00
16	.00	.00	.36	-.14041E+00	7.86	.00	143.06	.00	.00	.00
17	.00	.00	.36	-.14376E+00	8.07	.00	145.28	.00	.00	.00
18	.00	.00	.36	-.14704E+00	8.28	.00	147.47	.00	.00	.00
19	.61	.61	.00	-.14315E+00	7.52	.00	139.58	.00	.00	.00
20	.00	.00	.36	-.13857E+00	7.74	.00	141.85	.00	.00	.00
21	1.30	1.30	.00	-.13005E+00	6.32	.00	126.90	.00	.00	.00
22	.00	.00	.36	-.11918E+00	6.55	.00	129.38	.00	.00	.00
23	.00	.00	.36	-.12304E+00	6.78	.00	131.82	.00	.00	.00
24	.00	.00	.36	-.12680E+00	7.01	.00	134.22	.00	.00	.00
25	.00	.00	.36	-.13048E+00	7.24	.00	136.58	.00	.00	.00
26	.71	.71	.00	-.12671E+00	6.40	.00	127.79	.00	.00	.00
27	.00	.00	.36	-.12057E+00	6.64	.00	130.26	.00	.00	.00
28	.00	.00	.36	-.12440E+00	6.87	.00	132.68	.00	.00	.00
29	.00	.00	.36	-.12813E+00	7.09	.00	135.07	.00	.00	.00
30	.00	.00	.36	-.13177E+00	7.32	.00	137.42	.00	.00	.00

31	.00	.00	.36	-.13533E+00	7.54	.00	139.73	.00	.00	.00
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2006 9

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.23	-.13788E+00	7.63	.00	140.68	.00	.00	.00
2	.20	.20	.23	-.13934E+00	7.52	.00	139.48	.00	.00	.00
3	.00	.00	.23	-.13752E+00	7.61	.00	140.44	.00	.00	.00
4	.00	.00	.23	-.13895E+00	7.70	.00	141.38	.00	.00	.00
5	.00	.00	.23	-.14036E+00	7.78	.00	142.30	.00	.00	.00
6	.00	.00	.23	-.14173E+00	7.87	.00	143.22	.00	.00	.00
7	.00	.00	.23	-.14309E+00	7.96	.00	144.11	.00	.00	.00
8	.41	.41	.23	-.59921E-02	7.77	.00	142.18	.00	.00	.00
9	.00	.00	.23	.00000E+00	8.00	.00	144.58	.00	.00	.00
10	.00	.00	.23	.00000E+00	8.23	.00	146.98	.00	.00	.00
11	.00	.00	.23	.00000E+00	8.46	.00	149.38	.00	.00	.00
12	.00	.00	.23	.00000E+00	8.69	.00	151.21	.00	.00	.00
13	.00	.00	.23	.00000E+00	8.92	.00	152.86	.00	.00	.00
14	.00	.00	.23	.00000E+00	9.14	.00	154.50	.00	.00	.00
15	.00	.00	.23	.00000E+00	9.37	.00	156.14	.00	.00	.00
16	.00	.00	.23	.00000E+00	9.60	.00	157.78	.00	.00	.00
17	.00	.00	.23	.00000E+00	9.83	.00	159.42	.00	.00	.00
18	.00	.00	.23	.00000E+00	10.06	.00	161.06	.00	.00	.00
19	.00	.00	.23	.00000E+00	10.29	.00	162.70	.00	.00	.00
20	.00	.00	.23	.00000E+00	10.52	.00	164.34	.00	.00	.00
21	.00	.00	.23	.00000E+00	10.74	.00	165.98	.00	.00	.00
22	.00	.00	.23	.00000E+00	10.97	.00	167.62	.00	.00	.00
23	.51	.51	.23	.00000E+00	10.69	.00	165.61	.00	.00	.00
24	.00	.00	.23	.00000E+00	10.92	.00	167.25	.00	.00	.00
25	.00	.00	.23	.00000E+00	11.15	.00	168.89	.00	.00	.00
26	.71	.71	.00	.00000E+00	10.44	.00	163.79	.00	.00	.00
27	.00	.00	.23	.00000E+00	10.67	.00	165.43	.00	.00	.00
28	.79	.79	.00	.00000E+00	9.88	.00	159.78	.00	.00	.00
29	.00	.00	.23	.00000E+00	10.11	.00	161.42	.00	.00	.00
30	.61	.61	.00	.00000E+00	9.50	.00	157.05	.00	.00	.00

1

2006 10

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.10	.00000E+00	9.60	.00	157.78	.00	.00	.00
2	.30	.30	.10	.00000E+00	9.40	.00	156.32	.00	.00	.00
3	.00	.00	.10	.00000E+00	9.50	.00	157.05	.00	.00	.00
4	.10	.10	.10	.00000E+00	9.50	.00	157.05	.00	.00	.00
5	.00	.00	.10	.00000E+00	9.60	.00	157.78	.00	.00	.00
6	.00	.00	.10	.00000E+00	9.70	.00	158.50	.00	.00	.00
7	.00	.00	.10	.00000E+00	9.80	.00	159.23	.00	.00	.00
8	.00	.00	.10	.00000E+00	9.91	.00	159.96	.00	.00	.00
9	.00	.00	.10	.00000E+00	10.01	.00	160.69	.00	.00	.00
10	.00	.00	.10	.00000E+00	10.11	.00	161.42	.00	.00	.00
11	.00	.00	.10	.00000E+00	10.21	.00	162.15	.00	.00	.00
12	.20	.20	.10	.00000E+00	10.11	.00	161.42	.00	.00	.00
13	.00	.00	.10	.00000E+00	10.21	.00	162.15	.00	.00	.00
14	.41	.41	.10	.00000E+00	9.91	.00	159.96	.00	.00	.00
15	.00	.00	.10	.00000E+00	10.01	.00	160.69	.00	.00	.00
16	.00	.00	.10	.00000E+00	10.11	.00	161.42	.00	.00	.00
17	.61	.61	.00	.00000E+00	9.50	.00	157.05	.00	.00	.00
18	.00	.00	.10	.00000E+00	9.60	.00	157.78	.00	.00	.00
19	.00	.00	.10	.00000E+00	9.70	.00	158.50	.00	.00	.00
20	.71	.71	.00	.00000E+00	8.99	.00	153.40	.00	.00	.00
21	.51	.51	.10	.00000E+00	8.59	.00	150.48	.00	.00	.00
22	.30	.30	.10	.00000E+00	8.38	.00	148.58	.00	.00	.00
23	.00	.00	.10	.00000E+00	8.48	.00	149.64	.00	.00	.00
24	.30	.30	.10	.00000E+00	8.28	.00	147.51	.00	.00	.00
25	.00	.00	.10	.00000E+00	8.38	.00	148.58	.00	.00	.00
26	.20	.20	.10	.00000E+00	8.28	.00	147.51	.00	.00	.00
27	.51	.51	.10	.00000E+00	7.87	.00	143.25	.00	.00	.00
28	.71	.71	.00	.00000E+00	7.16	.00	135.79	.00	.00	.00
29	.71	.71	.00	.23193E-04	6.45	.00	128.33	.00	.00	.00
30	.51	.51	.10	.15678E-02	6.05	.00	124.08	.00	.00	.00
31	.30	.30	.10	.74085E-02	5.85	.00	122.03	.00	.00	.01

1

2006 11

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.20	.20	.05	.10646E-01	5.71	.00	120.54	.00	.00	.01
2	.00	.00	.05	.12731E-01	5.77	.00	121.21	.00	.00	.01
3	.00	.00	.05	.11785E-01	5.84	.00	121.87	.00	.00	.01
4	.20	.20	.05	.10877E-01	5.69	.00	120.38	.00	.00	.01
5	.00	.00	.05	.12964E-01	5.76	.00	121.05	.00	.00	.01
6	.00	.00	.05	.12010E-01	5.82	.00	121.71	.00	.00	.01
7	.00	.00	.05	.11078E-01	5.88	.00	122.36	.00	.00	.01
8	.00	.00	.05	.10162E-01	5.94	.00	123.00	.00	.00	.01
9	.71	.71	.00	.14196E-01	5.25	.00	115.01	.00	.00	.01
10	.41	.41	.05	.20669E-01	4.91	.00	110.94	.00	.00	.02
11	.20	.20	.05	.26693E-01	4.79	.00	109.41	.00	.00	.03
12	.00	.00	.05	.29019E-01	4.87	.00	110.38	.00	.00	.03
13	.00	.00	.05	.27559E-01	4.94	.00	111.33	.00	.00	.03
14	.51	.51	.05	.26103E-01	4.51	.00	106.10	.00	.00	.03
15	.00	.00	.05	.34067E-01	4.60	.00	107.13	.00	.00	.03
16	.00	.00	.05	.32488E-01	4.68	.00	108.14	.00	.00	.03
17	.51	.51	.05	.30914E-01	4.26	.00	102.96	.00	.00	.03
18	.00	.00	.05	.38922E-01	4.34	.00	104.05	.00	.00	.04
19	.00	.00	.05	.37226E-01	4.43	.00	105.12	.00	.00	.04
20	.00	.00	.05	.35571E-01	4.52	.00	106.17	.00	.00	.04
21	.00	.00	.05	.33955E-01	4.60	.00	107.20	.00	.00	.03
22	.79	.79	.00	.38308E-01	3.85	.00	98.10	.00	.00	.04
23	.00	.00	.05	.46604E-01	3.95	.00	99.28	.00	.00	.05
24	.51	.51	.05	.44678E-01	3.54	.00	94.27	.00	.00	.04
25	.00	.00	.05	.52784E-01	3.64	.00	95.53	.00	.00	.05
26	.30	.30	.05	.50698E-01	3.44	.00	93.06	.00	.00	.05
27	.20	.20	.05	.54720E-01	3.34	.00	91.87	.00	.00	.05
28	.20	.20	.05	.56670E-01	3.25	.00	90.71	.00	.00	.06
29	.20	.20	.05	.58591E-01	3.15	.00	89.36	.00	.00	.06
30	.20	.20	.05	.60588E-01	3.06	.00	87.81	.00	.00	.06

1

2006 12

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.00	.00	.03	.60801E-01	3.15	.00	89.27	.00	.00	.00
2	.20	.20	.03	.53497E-01	3.02	.00	87.16	.00	.00	.00
3	.20	.20	.03	.52876E-01	2.90	.00	85.01	.00	.00	.00
4	.20	.20	.03	.52733E-01	2.77	.00	82.85	.00	.00	.00
5	.20	.20	.03	.52842E-01	2.65	.00	80.70	.00	.00	.00
6	.20	.20	.03	.53143E-01	2.52	.00	78.55	.00	.00	.00
7	.00	.00	.03	.53709E-01	2.60	.00	79.91	.00	.00	.00
8	.30	.30	.03	.48196E-01	2.37	.00	75.90	.00	.00	.00
9	.00	.00	.03	.52418E-01	2.45	.00	77.27	.00	.00	.00
10	.41	.41	.03	.47160E-01	2.12	.00	70.31	.00	.00	.00
11	.00	.00	.03	.56494E-01	2.20	.00	72.21	.00	.00	.00
12	.00	.00	.03	.50266E-01	2.27	.00	73.97	.00	.00	.00
13	.00	.00	.03	.44794E-01	2.34	.00	75.39	.00	.00	.00
14	.51	.51	.03	.40225E-01	1.90	.00	65.32	.00	.00	.00
15	.00	.00	.03	.55118E-01	1.98	.00	67.19	.00	.00	.00
16	.00	.00	.03	.49540E-01	2.06	.00	68.93	.00	.00	.00
17	.51	.51	.03	.44315E-01	1.62	.00	58.55	.00	.00	.00
18	.00	.00	.03	.58983E-01	1.70	.00	60.70	.00	.00	.00
19	.41	.41	.03	.53003E-01	1.37	.00	52.15	.00	.00	.00
20	.00	.00	.03	.64368E-01	1.46	.00	54.51	.00	.00	.00
21	.00	.00	.03	.57937E-01	1.55	.00	56.71	.00	.00	.00
22	.61	.61	.00	.65126E-01	1.00	.00	42.21	.00	.00	.00
23	.00	.00	.03	.73048E-01	1.10	.00	44.95	.00	.00	.00
24	.41	.41	.03	.65681E-01	.79	.00	36.10	.00	.00	.00
25	.00	.00	.03	.78001E-01	.89	.00	39.04	.00	.00	.00
26	.41	.41	.03	.70118E-01	.58	.00	30.12	.00	.00	.00
27	.20	.20	.03	.82538E-01	.48	.00	27.31	.00	.00	.00
28	.20	.20	.03	.84387E-01	.39	.00	24.48	.00	.00	.00
29	.20	.20	.03	.86264E-01	.30	.00	21.33	.00	.00	.00
30	.20	.20	.03	.88588E-01	.21	.00	17.75	.00	.00	.00
31	.20	.20	.03	.91562E-01	.12	.00	13.53	.00	.00	.00

Файл Z 1-3_opt.MON

* DRAINMOD version 5.1 *

* Copyright 1980-04 North Carolina State University *

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:28
input file: C:\Program Files\Drainmod\INPUTS\Z 1-3_opt.Prj
parameters: combination run and yields calculated
drain spacing = 3500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	3.12	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.52	.00	.00	.00	.00	.00
3	3.66	3.66	3.05	1.98	.00	.00	.00	.00	.00
4	5.49	5.49	6.10	.21	.00	.00	1.50	.00	-.02
5	7.19	7.19	7.92	-2.08	.00	.00	.65	.00	-2.08
6	6.60	6.60	10.29	-1.99	.00	.00	9.77	.00	-1.99
7	4.42	4.42	10.16	-2.45	.00	.00	19.23	.00	-2.48
8	3.94	3.94	9.25	-4.10	.00	.00	29.00	.00	-4.10
9	3.23	3.23	6.17	-.98	.00	.00	30.00	.00	-.98
10	6.40	6.40	2.74	.01	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	.94	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	1.89	.00	.00	3.00	.00	.00
TOTALS	60.91	60.91	60.07	-.93	.00	.00	154.15	.00	-11.65

Файл Z 1-3_opt.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
PLYMOUTH, NC WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:28
input file: C:\Program Files\Drainmod\INPUTS\Z 1-3_opt.Prj
parameters: combination run and yields calculated
drain spacing = 3500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.1	2.5	2.0	.0	.0	.0	.0	.0	.9	.0		
AVERAGE	2.1	2.5	2.0	.0	.0	.0	.0	.0	.9	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.1	2.5	2.0	.2	-2.1	-2.0	-2.4	-4.1	-1.0	.0	.9	1.9
AVERAGE	3.1	2.5	2.0	.2	-2.1	-2.0	-2.4	-4.1	-1.0	.0	.9	1.9

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0		
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0		

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	6.0	31.0	28.0	31.0	30.0	29.0	.0	.0	
AVERAGE	.0	.0	.0	6.0	31.0	30.0	28.0	31.0	30.0	29.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	33.7	35.9	52.6	79.3	61.7	78.3	86.9	136.7	154.6	152.5	107.2	58.4
AVERAGE	33.7	35.9	52.6	79.3	61.7	78.3	86.9	136.7	154.6	152.5	107.2	58.4

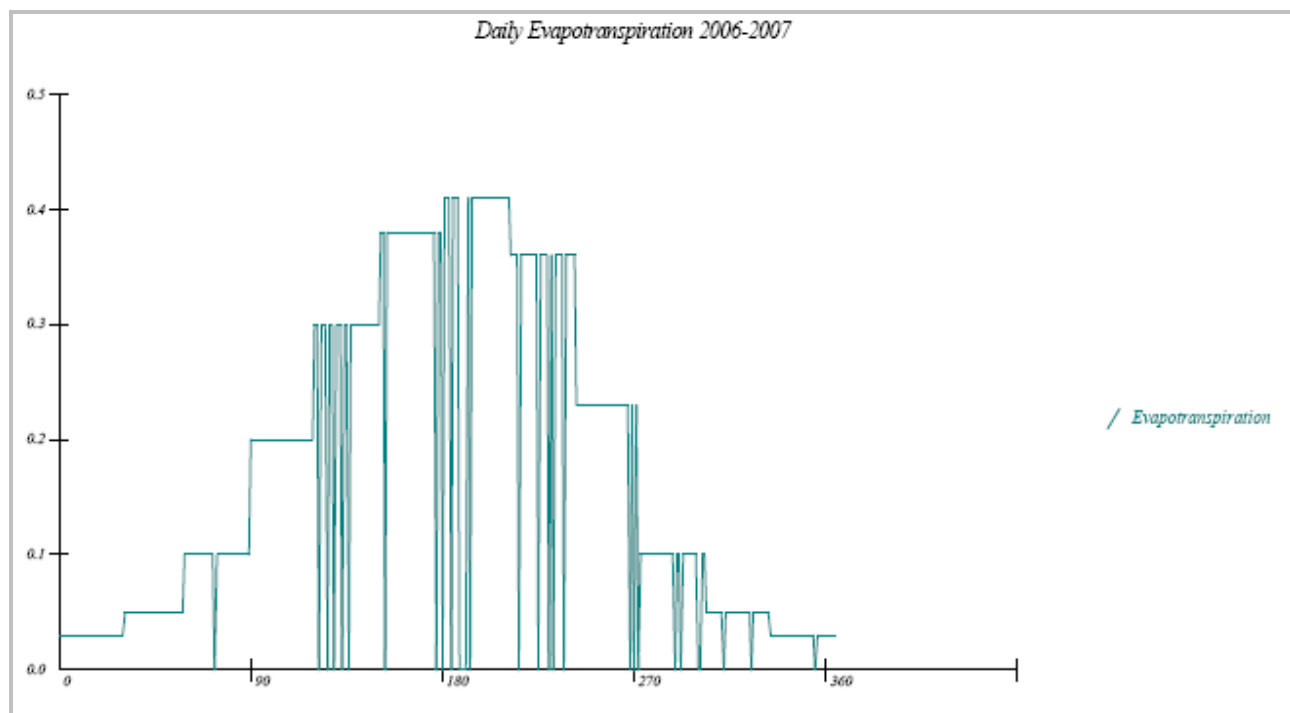
Файл Z 1-3_opt.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

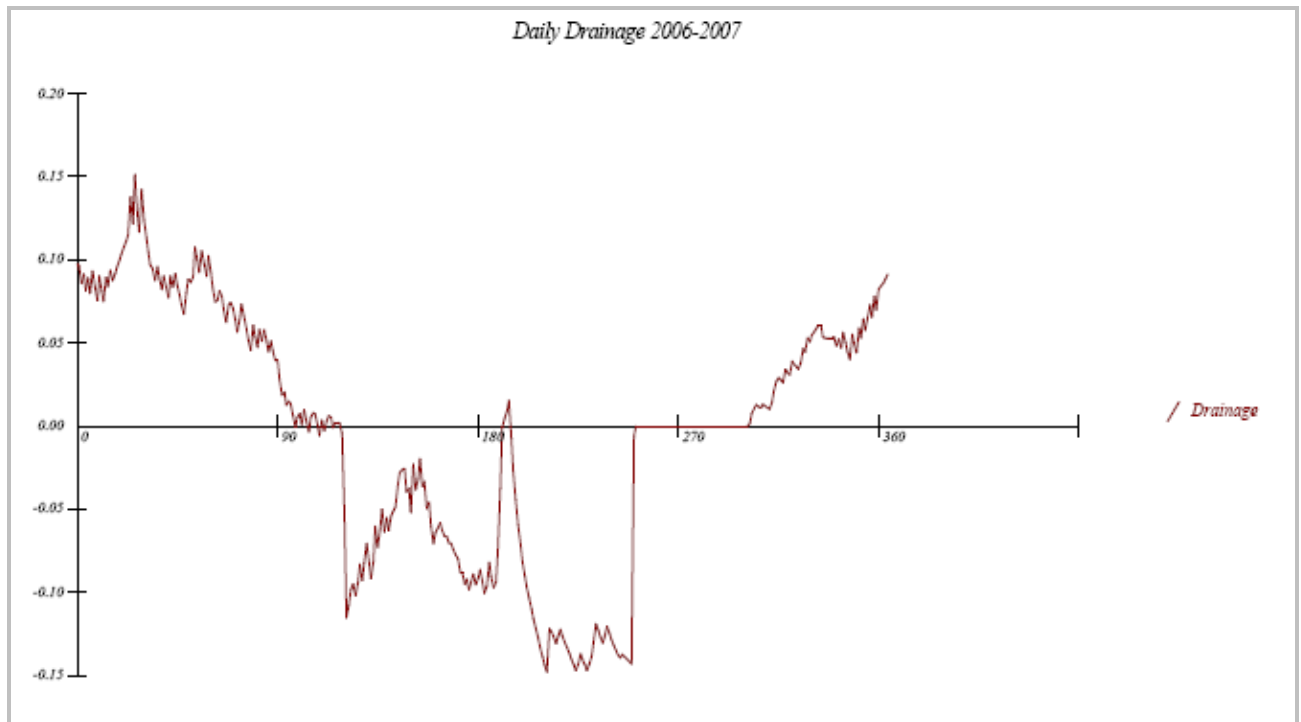
SUBIRRIGATION, CORN YIELD, PORTSMOUTH-E SOIL
 PLYMOUTH, NC WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 12:28
 input file: C:\Program Files\Drainmod\INPUTS\Z 1-3_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 3500. cm drain depth = 130.0 cm

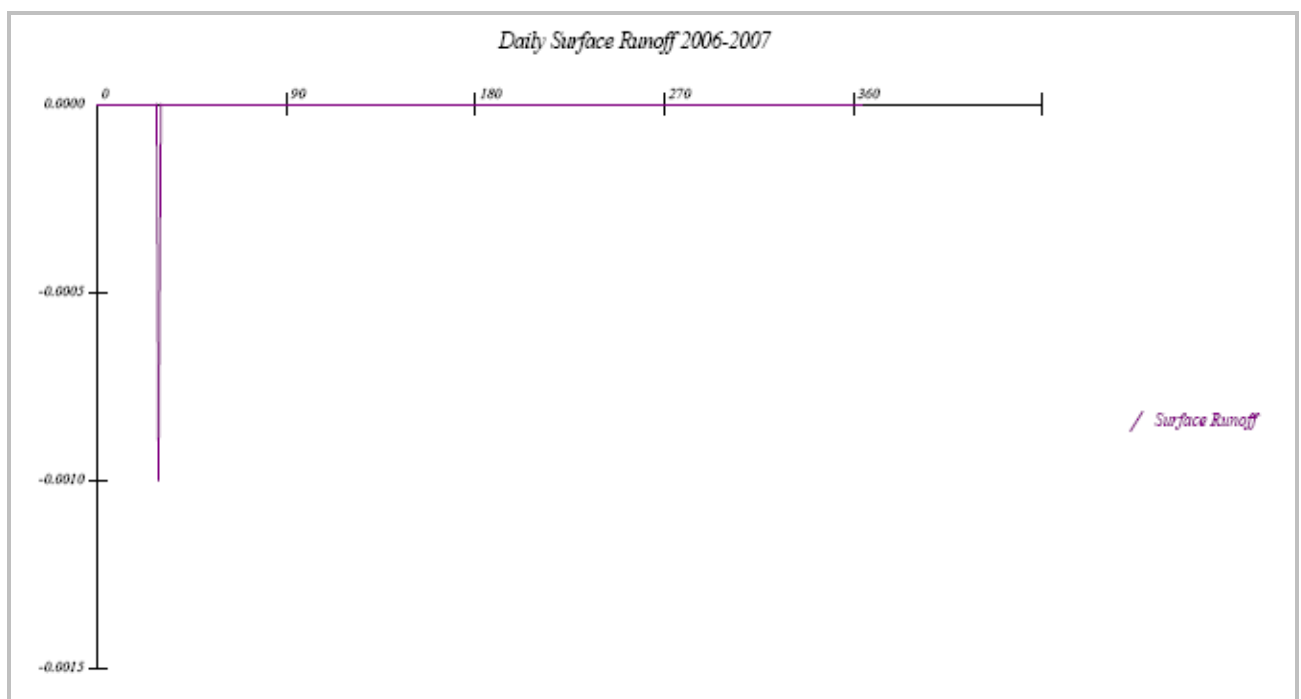
YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	-.93	.00	.00	154.15	.0	-11.65
AVG	60.91	60.91	60.07	-.93	.00	.00	154.15	.0	-11.65



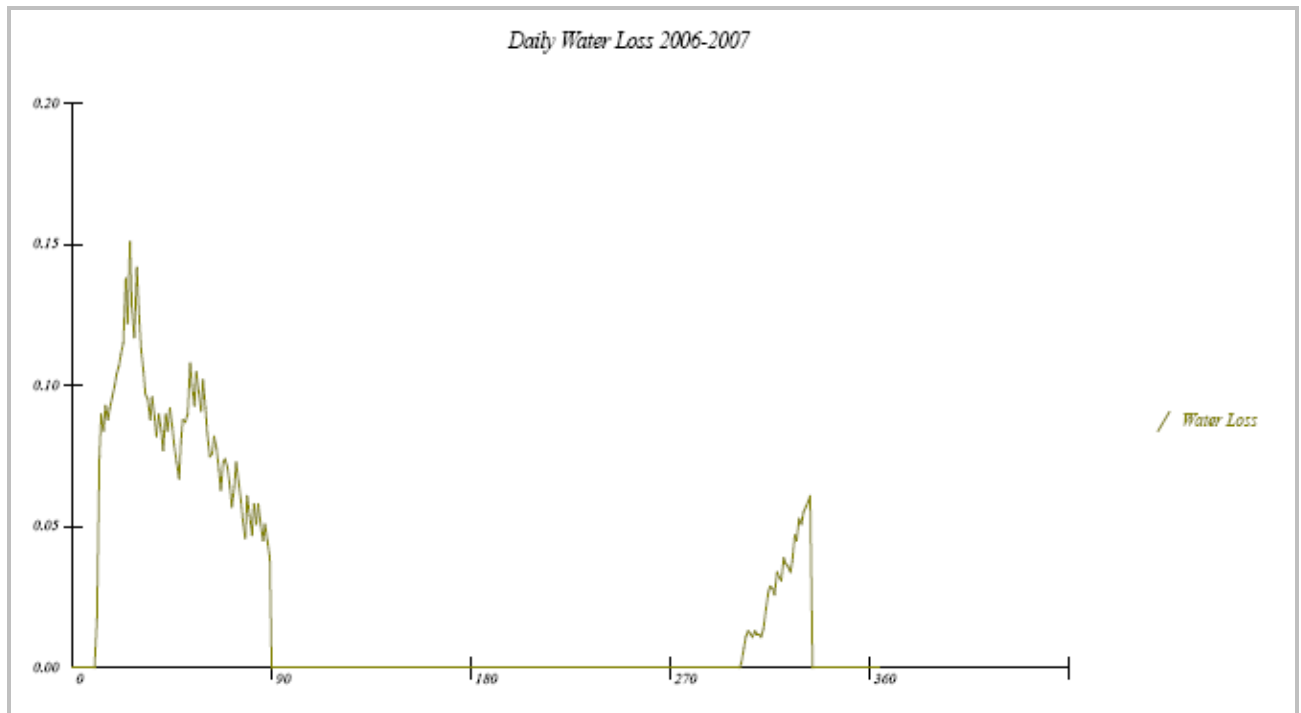
Графика на дневната евапотранспирация за периода на изследване 01.01.2006 – 31.12.2006 год



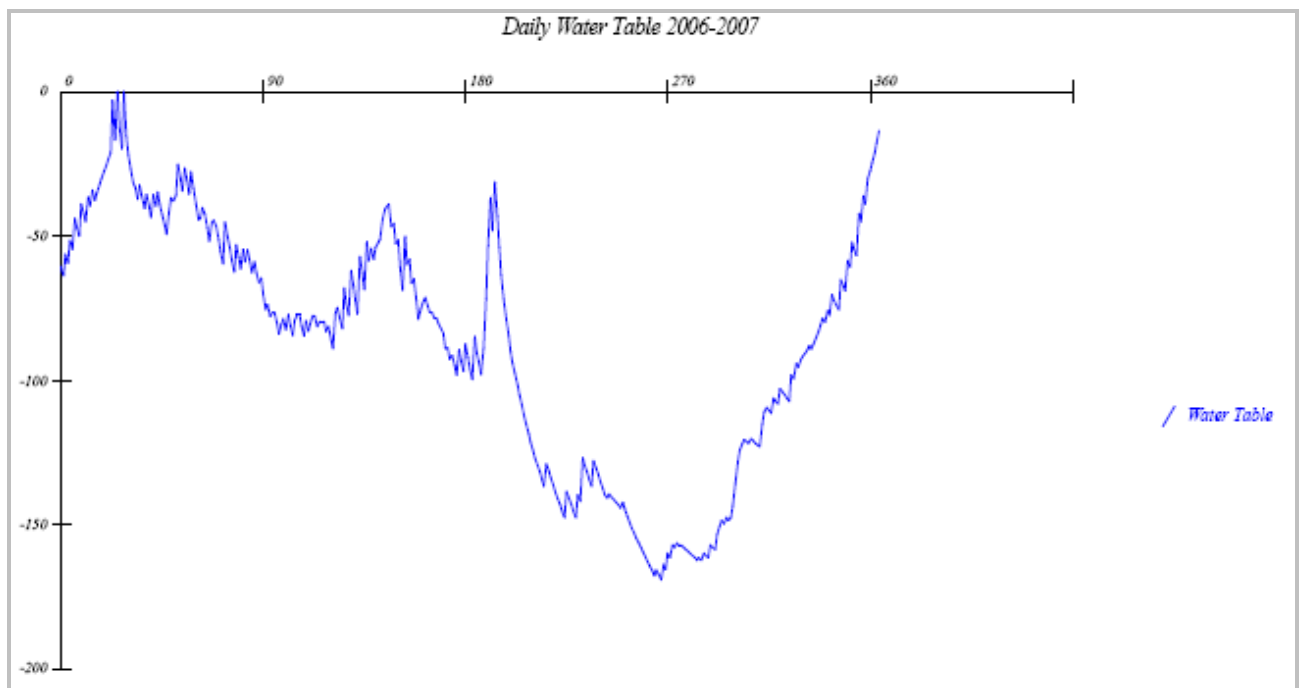
Графика на дневните дренирани обеми за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневният повърхностен отток за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните водни загуби за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните нива на подпочвените води за периода на изследване 01.01.2006 – 31.12.2006 год

4.3.4 Поле Z 2-1

ПРОЕКТ Z 2-1

Проект Z 2-1 е аналогичен с Проект Z 1-1, поради еднаквостта в почвения профил, а културите са същите, както бе споменато в основните представки в началото.

4.3.5 Поле Z 2-2

ПРОЕКТ Z 2-2

Входни данни

Файл №1 – Z 2-2.gen

```
*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 226.33 5000.00 2.00 2.00 1.00 9.81 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
550.00 2.00
20. .03 39. .03 65. .20 85. 6.20 120.10.60
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.001231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
0 1 1 140.0
0 2 1 140.0
0 3 1 140.0
1 4 1 90.0
2 5 1 90.0
2 6 1 75.0
2 7 1 75.0
2 8 1 75.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
0 12 1 140.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
```

1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

Файл №3 – 3.SIN
Файл съдържащ данни за почвите.

3 LLL
420
.4100000 .0
.3300000 -173.0
.2200000 -2087.0
.0010000 -15000.0
.0000 .0000 .5000
3.0000 .0020 .5000
6.0000 .0080 .5000
9.0000 .0190 .5000
12.0000 .0330 .4990
15.0000 .0520 .4629
20.0000 .0920 .4035
25.0000 .1440 .3467
30.0000 .2060 .2941
35.0000 .2790 .2473
40.0000 .3630 .2077
45.0000 .4520 .1771
60.0000 .7340 .1539
75.0000 1.3050 .1346
90.0000 3.0250 .0169
120.0000 10.0440 .0032
150.0000 18.8140 .0016
200.0000 33.5090 .0007
500.0000 100.0000 .0000
1000.0000 100.0000 .0000
10
.00 .00 .25
10.00 .03 .25
20.00 .07 .25
40.00 .15 .29
60.00 .23 .29
80.00 .31 .29
100.00 .38 .29
150.00 3.31 .29
200.00 3.31 .29
1000.00 3.31 .29

Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 2-2 Файл Z 2-2.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:42
input file: C:\Program Files\Drainmod\INPUTS\Z 2-2.Prj
parameters: combination run and yields calculated
drain spacing = 5000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	13.70	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	3.45	.00	.00	.00	.00	.00
3	3.66	3.66	1.12	2.29	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.04	.00	.00	30.00	.00	-.03
5	7.19	7.19	5.18	-7.10	.00	.00	31.00	.00	-7.10
6	6.60	6.60	9.52	-5.94	.00	.00	2.75	.00	-5.94
7	4.42	4.42	7.32	-3.80	.00	.00	8.34	.00	-5.68
8	3.94	3.94	9.25	-6.24	.00	.00	4.00	.00	-6.46
9	3.23	3.23	6.17	-.86	.00	.00	21.31	.00	-1.65
10	6.40	6.40	2.03	8.33	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	5.13	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	4.64	.00	.00	31.00	.00	.00

TOTALS 60.91 60.91 48.44 13.63 .00 .00 220.40 .00 -26.86

Файл Z 2-2.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL

DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:42

input file: C:\Program Files\Drainmod\INPUTS\Z 2-2.Prj

parameters: combination run and yields calculated

drain spacing = 5000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	13.7	3.4	2.3	.0	.0	.0	.7	.0	8.9	5.1	4.6	
AVERAGE	13.7	3.4	2.3	.0	.0	.0	.7	.0	8.9	5.1	4.6	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	13.7	3.4	2.3	.0	-7.1	-5.9	-3.8	-6.2	-.9	8.3	5.1	4.6
AVERAGE	13.7	3.4	2.3	.0	-7.1	-5.9	-3.8	-6.2	-.9	8.3	5.1	4.6

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	1.1	3.5	5.2	9.5	7.3	9.2	6.2	2.0	1.4	.8
AVERAGE	.8	1.4	1.1	3.5	5.2	9.5	7.3	9.2	6.2	2.0	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	11.0	31.0	30.0	25.0	29.0	21.0	.0	.0	.0
AVERAGE	.0	.0	.0	11.0	31.0	30.0	25.0	29.0	21.0	.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	107.8	123.3	126.0	125.5	100.6	82.8	80.2	83.7	94.1	116.0	120.8	121.8
AVERAGE	107.8	123.3	126.0	125.5	100.6	82.8	80.2	83.7	94.1	116.0	120.8	121.8

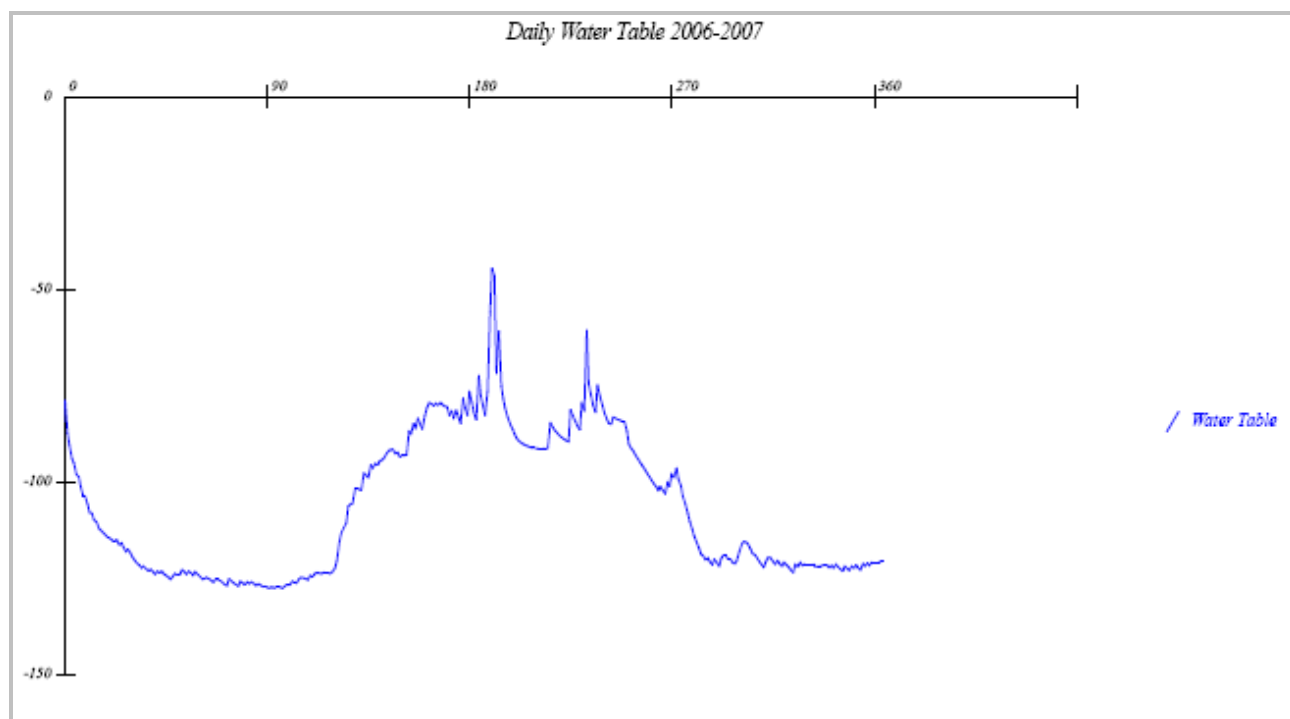
Файл Z 2-2.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:42
 input file: C:\Program Files\Drainmod\INPUTS\Z 2-2.Prj
 parameters: combination run and yields calculated
 drain spacing = 5000. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	48.44	13.63	.00	.00	220.40	.0	-26.86
AVG	60.91	60.91	48.44	13.63	.00	.00	220.40	.0	-26.86



Графика на дневните нива на подпочвените води за периода на изследване
 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 2-2_min**Входни данни****Файл №1 – Z 2-2_min.gen**

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 132.66 2000.00 2.00 2.00 1.00 9.82 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
550.00 2.00
20. .03 39. .03 65. .20 85. 6.20 120.10.60
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.001231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
0 1 1 140.0
0 2 1 140.0
0 3 1 140.0
1 4 1 90.0
2 5 1 90.0
2 6 1 75.0
2 7 1 75.0
2 8 1 75.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
0 12 1 140.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

```

Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 2-2_min

Файл Z 2-2_min.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:50
input file: C:\Program Files\Drainmod\INPUTS\Z 2-2_min.Prj
parameters: combination run and yields calculated
drain spacing = 2000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK	DAYS	SEW	PUMP
1	5.49	5.49	.79	16.25	.00	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.17	.00	.00	.00	.00	.00	.00
3	3.66	3.66	1.12	1.76	.00	.00	31.00	.00	.00	.00
4	5.49	5.49	3.45	.12	.00	.00	30.00	.00	-.09	.00
5	7.19	7.19	7.32	-8.90	.00	.00	26.98	.00	-9.49	.00
6	6.60	6.60	10.29	-5.77	.00	.00	.00	.00	-6.50	.00
7	4.42	4.42	10.16	-5.06	.00	.00	.00	.00	-8.21	.00
8	3.94	3.94	9.25	-5.38	.00	.00	.00	.00	-7.14	.00
9	3.23	3.23	6.17	-.21	.00	.00	21.84	.00	-2.19	.00
10	6.40	6.40	1.32	11.02	.00	.00	31.00	.00	.00	.00
11	5.16	5.16	1.42	4.55	.00	.00	30.00	.00	.00	.00
12	5.59	5.59	.76	4.71	.00	.00	31.00	.00	.00	.00

TOTALS 60.91 60.91 53.47 15.26 .00 .00 201.83 .00 -33.62

Файл Z 2-2_min.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:50
input file: C:\Program Files\Drainmod\INPUTS\Z 2-2_min.Prj
parameters: combination run and yields calculated
drain spacing = 2000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	16.2	2.2	1.8	.0	.0	.0	.0	.0	12.4	4.5	4.7	
AVERAGE	16.2	2.2	1.8	.0	.0	.0	.0	.0	12.4	4.5	4.7	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	16.2	2.2	1.8	.1	-8.9	-5.8	-5.1	-5.4	-.2	11.0	4.5	4.7
AVERAGE	16.2	2.2	1.8	.1	-8.9	-5.8	-5.1	-5.4	-.2	11.0	4.5	4.7

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

AVERAGE 5.5 3.8 3.7 5.5 7.2 6.6 4.4 3.9 3.2 6.4 5.2 5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	1.1	3.5	7.3	10.3	10.2	9.2	6.2	1.3	1.4	.8
AVERAGE	.8	1.4	1.1	3.5	7.3	10.3	10.2	9.2	6.2	1.3	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	14.0	24.0	24.0	22.0	21.0	22.0	.0	.0	.0
AVERAGE	.0	.0	.0	14.0	24.0	24.0	22.0	21.0	22.0	.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	122.1	128.6	129.1	127.8	92.5	75.5	76.2	76.4	92.5	125.1	127.6	127.5
AVERAGE	122.1	128.6	129.1	127.8	92.5	75.5	76.2	76.4	92.5	125.1	127.6	127.5

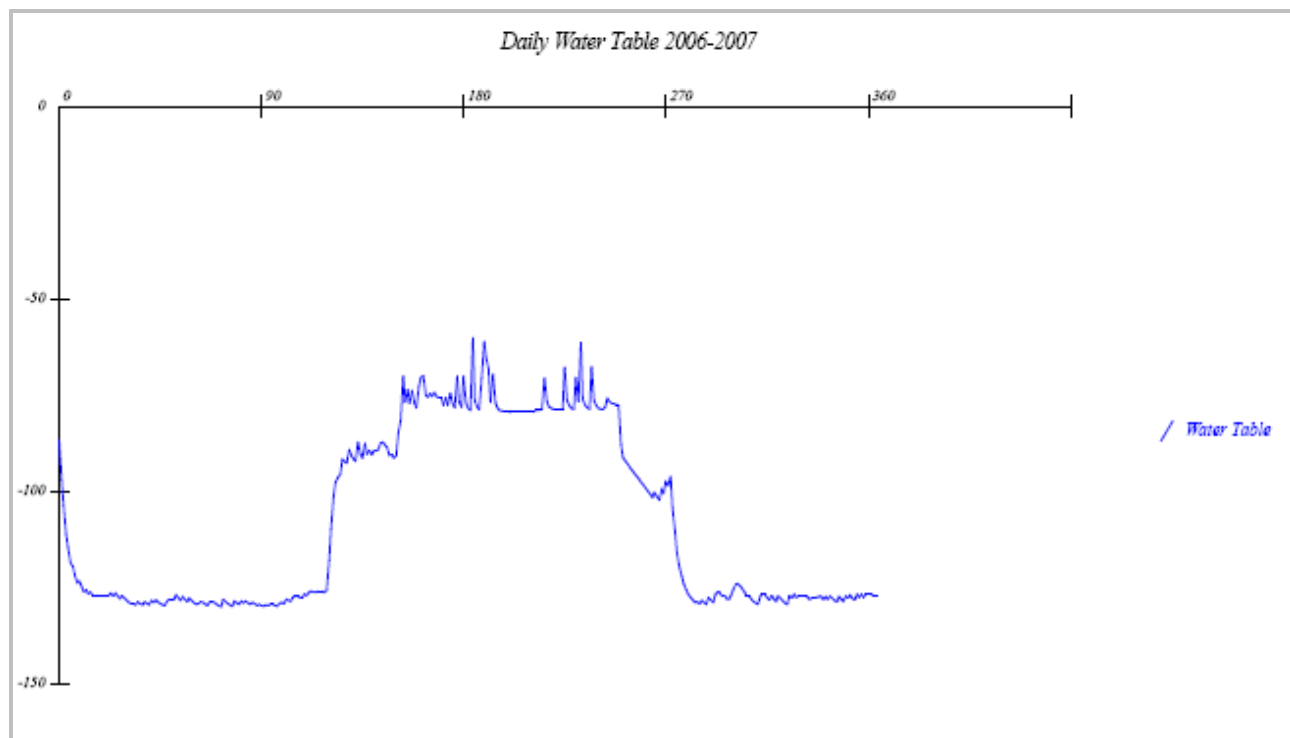
Файл Z 2-2_min.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:50
 input file: C:\Program Files\Drainmod\INPUTS\Z 2-2_min.Prj
 parameters: combination run and yields calculated
 drain spacing = 2000. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	53.47	15.26	.00	.00	201.83	.0	-33.62
AVG	60.91	60.91	53.47	15.26	.00	.00	201.83	.0	-33.62



Графика на дневните нива на подпочвените води за периода на изследване
 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 2-2_max**Входни данни****Файл №1 – Z 2-2_max.gen**

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 294.64 10000.00 2.00 2.00 1.00 9.81 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
550.00 2.00
20. .03 39. .03 65. .20 85. 6.20 120.10.60
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.001231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
0 1 1 140.0
0 2 1 140.0
0 3 1 140.0
1 4 1 90.0
2 5 1 90.0
2 6 1 75.0
2 7 1 75.0
2 8 1 75.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
0 12 1 140.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

```

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 2-2_max

Файл Z 2-2_max.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:48
input file: C:\Program Files\Drainmod\INPUTS\Z 2-2_max.Prj
parameters: combination run and yields calculated
drain spacing = 10000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	8.33	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	4.60	.00	.00	.00	.00	.00
3	3.66	3.66	3.05	3.25	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.07	.00	.00	30.00	.00	-.03
5	7.19	7.19	3.96	-3.12	.00	.00	31.00	.00	-3.12
6	6.60	6.60	5.72	-4.61	.00	.00	30.00	.00	-4.61
7	4.42	4.42	2.84	-3.14	.00	.00	20.54	.00	-3.24
8	3.94	3.94	2.13	-5.04	.00	.00	29.00	.00	-5.04
9	3.23	3.23	3.89	-.90	.00	.00	30.00	.00	-1.15
10	6.40	6.40	2.74	3.61	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	4.23	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	4.43	.00	.00	31.00	.00	.00

TOTALS 60.91 60.91 32.18 11.71 .00 .00 293.54 .00 -17.20

Файл Z 2-2_max.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:48
input file: C:\Program Files\Drainmod\INPUTS\Z 2-2_max.Prj
parameters: combination run and yields calculated
drain spacing = 10000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	8.3	4.6	3.3	.0	.0	.0	.0	.0	3.7	4.2	4.4	
AVERAGE	8.3	4.6	3.3	.0	.0	.0	.0	.0	3.7	4.2	4.4	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	8.3	4.6	3.3	.1	-3.1	-4.6	-3.1	-5.0	-.9	3.6	4.2	4.4
AVERAGE	8.3	4.6	3.3	.1	-3.1	-4.6	-3.1	-5.0	-.9	3.6	4.2	4.4

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	3.5	4.0	5.7	2.8	2.1	3.9	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	3.5	4.0	5.7	2.8	2.1	3.9	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	11.0	31.0	30.0	27.0	31.0	20.0	.0	.0	.0
AVERAGE	.0	.0	.0	11.0	31.0	30.0	27.0	31.0	20.0	.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	88.0	103.7	113.0	116.9	105.1	96.9	89.5	98.4	104.2	110.6	107.1	106.7
AVERAGE	88.0	103.7	113.0	116.9	105.1	96.9	89.5	98.4	104.2	110.6	107.1	106.7

Файл Z 2-2_max.IR

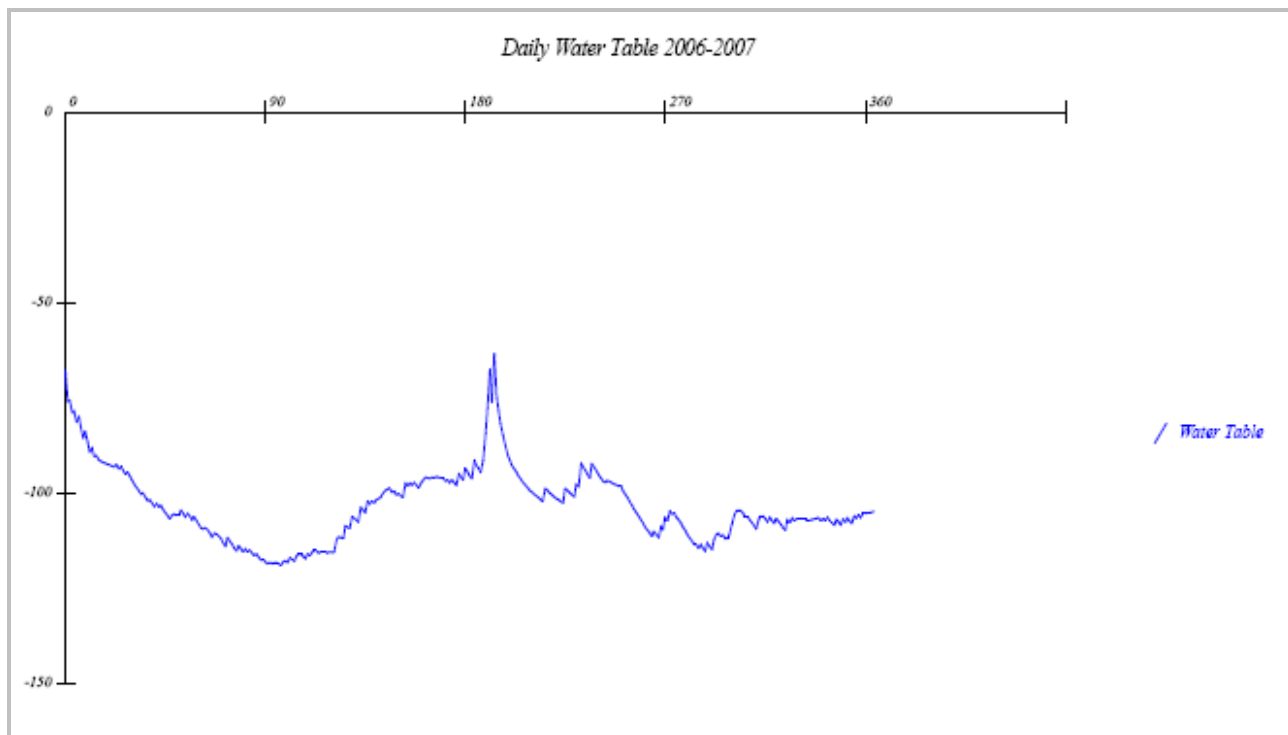
* DRAINMOD version 5.1 *

* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:48
input file: C:\Program Files\Drainmod\INPUTS\Z 2-2_max.Prj
parameters: combination run and yields calculated
drain spacing = 10000. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	32.18	11.71	.00	.00	293.54	.0	-17.20
AVG	60.91	60.91	32.18	11.71	.00	.00	293.54	.0	-17.20



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 2-2_opt

Входни данни

Файл №1 – Z 2-2_opt.gen

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 236.34 5500.00 2.00 2.00 1.00 9.81 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
550.00 2.00
20. .03 39. .03 65. .20 85. 6.20 120.10.60
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve

```

0

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 2-2_opt

Файл Z 2-2_opt.DAY

```

-----
*      DRAINMOD version 5.1      *
* Copyright 1980-04 North Carolina State University *
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COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

```

-----RUN STATISTICS -----      time: 7/23/2007 @ 13:28
input file: C:\Program Files\Drainmod\INPUTS\Z 2-2_opt.Prj
parameters: combination run      and yields calculated
            drain spacing = 5500. cm  drain depth = 130.0 cm
-----

```

1

2006 1

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.30	.30	.03	.58844E+00	1.23	.00	73.12	.00	.00	.00
2	.00	.00	.03	.28032E+00	1.54	.00	77.04	.00	.00	.21
3	.41	.41	.03	.22353E+00	1.38	.00	75.65	.00	.00	.22
4	.00	.00	.03	.24843E+00	1.66	.00	78.06	.00	.00	.25
5	.41	.41	.03	.20581E+00	1.48	.00	76.53	.00	.00	.21
6	.00	.00	.03	.23333E+00	1.74	.00	78.78	.00	.00	.23
7	.51	.51	.03	.19310E+00	1.45	.00	76.26	.00	.00	.19
8	.00	.00	.03	.23803E+00	1.71	.00	78.56	.00	.00	.24
9	.00	.00	.03	.19779E+00	1.94	.00	80.50	.00	.00	.20
10	.51	.51	.03	.16312E+00	1.62	.00	77.72	.00	.00	.16
11	.00	.00	.03	.21249E+00	1.85	.00	79.79	.00	.00	.21
12	.00	.00	.03	.17618E+00	2.06	.00	81.55	.00	.00	.18
13	.41	.41	.03	.14489E+00	1.82	.00	79.49	.00	.00	.14
14	.00	.00	.03	.18145E+00	2.03	.00	81.30	.00	.00	.18
15	.30	.30	.03	.14934E+00	1.90	.00	80.16	.00	.00	.15
16	.00	.00	.03	.16974E+00	2.09	.00	81.86	.00	.00	.17
17	.20	.20	.03	.13945E+00	2.05	.00	81.53	.00	.00	.14
18	.20	.20	.03	.14528E+00	2.02	.00	81.24	.00	.00	.15
19	.20	.20	.03	.15022E+00	1.99	.00	81.00	.00	.00	.15
20	.20	.20	.03	.15441E+00	1.97	.00	80.80	.00	.00	.15
21	.20	.20	.03	.15796E+00	1.95	.00	80.63	.00	.00	.16
22	.20	.20	.03	.16098E+00	1.93	.00	80.48	.00	.00	.16
23	.20	.20	.03	.16353E+00	1.92	.00	80.36	.00	.00	.16
24	.41	.41	.03	.16570E+00	1.70	.00	78.48	.00	.00	.17
25	.00	.00	.03	.19918E+00	1.93	.00	80.44	.00	.00	.20
26	.41	.41	.03	.16429E+00	1.71	.00	78.55	.00	.00	.16
27	.00	.00	.03	.19797E+00	1.94	.00	80.50	.00	.00	.20
28	.00	.00	.03	.16390E+00	2.12	.00	82.15	.00	.00	.16
29	.41	.41	.03	.13452E+00	1.88	.00	80.00	.00	.00	.13
30	.00	.00	.03	.17262E+00	2.08	.00	81.72	.00	.00	.17
31	.00	.00	.03	.14243E+00	2.24	.00	83.19	.00	.00	.14

1

2006 2

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.05	.11505E+00	2.41	.00	84.63	.00	.00	.12
2	.00	.00	.05	.89784E-01	2.55	.00	85.86	.00	.00	.09
3	.10	.10	.05	.67902E-01	2.57	.00	86.01	.00	.00	.07
4	.00	.00	.05	.65712E-01	2.68	.00	87.02	.00	.00	.07
5	.30	.30	.05	.47634E-01	2.48	.00	85.22	.00	.00	.05
6	.00	.00	.05	.79421E-01	2.61	.00	86.36	.00	.00	.08
7	.00	.00	.05	.59564E-01	2.72	.00	87.32	.00	.00	.06
8	.30	.30	.05	.42455E-01	2.51	.00	85.48	.00	.00	.04
9	.00	.00	.05	.74987E-01	2.63	.00	86.58	.00	.00	.07
10	.00	.00	.05	.55819E-01	2.74	.00	87.50	.00	.00	.06
11	.41	.41	.05	.39299E-01	2.42	.00	84.75	.00	.00	.04
12	.00	.00	.05	.87802E-01	2.56	.00	85.96	.00	.00	.09
13	.30	.30	.05	.66232E-01	2.37	.00	84.32	.00	.00	.07
14	.00	.00	.05	.95306E-01	2.52	.00	85.59	.00	.00	.10
15	.00	.00	.05	.72996E-01	2.64	.00	86.67	.00	.00	.07
16	.00	.00	.05	.54138E-01	2.75	.00	87.59	.00	.00	.05

Напоително – отводнителни полета

17	.00	.00	.05	.38202E-01	2.84	.00	88.36	.00	.00	.04
18	.41	.41	.05	.24445E-01	2.51	.00	85.47	.00	.00	.02
19	.30	.30	.05	.74606E-01	2.33	.00	83.91	.00	.00	.07
20	.10	.10	.05	.10190E+00	2.38	.00	84.36	.00	.00	.10
21	.20	.20	.05	.94132E-01	2.32	.00	83.85	.00	.00	.09
22	.51	.51	.05	.10299E+00	1.97	.00	80.76	.00	.00	.10
23	.00	.00	.05	.15746E+00	2.17	.00	82.57	.00	.00	.16
24	.00	.00	.05	.12573E+00	2.35	.00	84.11	.00	.00	.13
25	.41	.41	.05	.98341E-01	2.09	.00	81.87	.00	.00	.10
26	.00	.00	.05	.13803E+00	2.28	.00	83.52	.00	.00	.14
27	.00	.00	.05	.10928E+00	2.44	.00	84.91	.00	.00	.11
28	.41	.41	.05	.84402E-01	2.17	.00	82.55	.00	.00	.08

1

2006 3

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.10	.12254E+00	2.39	.00	84.50	.00	.00	.12
2	.00	.00	.10	.88394E-01	2.58	.00	86.16	.00	.00	.09
3	.00	.00	.10	.59411E-01	2.75	.00	87.56	.00	.00	.06
4	.20	.20	.10	.34448E-01	2.68	.00	86.98	.00	.00	.03
5	.30	.30	.10	.44602E-01	2.52	.00	85.60	.00	.00	.04
6	.10	.10	.10	.68656E-01	2.59	.00	86.19	.00	.00	.07
7	.00	.00	.10	.58815E-01	2.75	.00	87.59	.00	.00	.06
8	.00	.00	.10	.34451E-01	2.89	.00	88.78	.00	.00	.03
9	.41	.41	.10	.13432E-01	2.59	.00	86.24	.00	.00	.01
10	.20	.20	.10	.57457E-01	2.55	.00	85.85	.00	.00	.06
11	.10	.10	.10	.64157E-01	2.61	.00	86.41	.00	.00	.06
12	.00	.00	.10	.54994E-01	2.77	.00	87.78	.00	.00	.05
13	.00	.00	.10	.31226E-01	2.90	.00	88.94	.00	.00	.03
14	.00	.00	.10	.10694E-01	3.02	.00	89.87	.00	.00	.02
15	.61	.61	.00	.46831E-01	2.45	.00	85.01	.00	.00	.05
16	.00	.00	.10	.79544E-01	2.63	.00	86.59	.00	.00	.08
17	.00	.00	.10	.51939E-01	2.79	.00	87.93	.00	.00	.05
18	.00	.00	.10	.28646E-01	2.92	.00	89.06	.00	.00	.03
19	.00	.00	.10	.89118E-02	3.03	.00	89.93	.00	.00	.02
20	.51	.51	.10	-.27636E-02	2.62	.00	86.46	.00	.00	.00
21	.00	.00	.10	.54376E-01	2.77	.00	87.82	.00	.00	.05
22	.00	.00	.10	.30528E-01	2.91	.00	88.97	.00	.00	.03
23	.41	.41	.10	.10441E-01	2.61	.00	86.40	.00	.00	.01
24	.00	.00	.10	.55151E-01	2.77	.00	87.77	.00	.00	.06
25	.30	.30	.10	.30863E-01	2.60	.00	86.27	.00	.00	.03
26	.00	.00	.10	.57522E-01	2.76	.00	87.66	.00	.00	.06
27	.00	.00	.10	.33360E-01	2.89	.00	88.83	.00	.00	.03
28	.30	.30	.10	.12587E-01	2.70	.00	87.17	.00	.00	.01
29	.00	.00	.10	.41799E-01	2.84	.00	88.42	.00	.00	.04
30	.00	.00	.10	.20081E-01	2.97	.00	89.48	.00	.00	.02
31	.20	.20	.10	.31950E-02	2.87	.00	88.62	.00	.00	.00

1

2006 4

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.20	.63076E-02	3.08	.00	90.20	.00	.00	.00
2	.00	.00	.20	-.12827E-01	3.27	.00	91.03	.00	.00	.00
3	.30	.30	.20	-.10928E-01	3.15	.00	90.55	.00	.00	.00
4	.00	.00	.20	-.21605E-02	3.36	.00	91.41	.00	.00	.00
5	.30	.30	.20	-.14204E-01	3.24	.00	90.92	.00	.00	.00
6	.20	.20	.20	-.40610E-03	3.24	.00	90.92	.00	.00	.00
7	.00	.00	.20	-.31106E-02	3.44	.00	91.77	.00	.00	.00
8	.00	.00	.20	-.14504E-01	3.63	.00	92.58	.00	.00	.00
9	.41	.41	.20	-.95254E-02	3.42	.00	91.67	.00	.00	.00
10	.30	.30	.20	.68054E-02	3.32	.00	91.26	.00	.00	.00
11	.00	.00	.20	.85212E-02	3.53	.00	92.17	.00	.00	.00
12	.51	.51	.20	-.76710E-02	3.22	.00	90.83	.00	.00	.00
13	.00	.00	.20	.13356E-01	3.44	.00	91.76	.00	.00	.00
14	.00	.00	.20	-.78199E-02	3.63	.00	92.59	.00	.00	.00
15	.51	.51	.20	-.11899E-01	3.32	.00	91.24	.00	.00	.00
16	.30	.30	.20	.11077E-01	3.22	.00	90.85	.00	.00	.00
17	.20	.20	.20	.10010E-01	3.23	.00	90.90	.00	.00	.00
18	.00	.00	.20	.33340E-03	3.44	.00	91.77	.00	.00	.00
19	.00	.00	.20	-.15517E-01	3.63	.00	92.57	.00	.00	.00
20	.51	.51	.20	-.91714E-02	3.31	.00	91.23	.00	.00	.00
21	.00	.00	.20	.12655E-01	3.53	.00	92.15	.00	.00	.00
22	.41	.41	.20	-.58995E-02	3.32	.00	91.26	.00	.00	.00
23	.30	.30	.20	.83987E-02	3.23	.00	90.86	.00	.00	.00

Напоително – отводнителни полета

24	.20	.20	.20	.89378E-02	3.23	.00	90.90	.00	.00	.00
25	.00	.00	.20	-.23403E-03	3.44	.00	91.76	.00	.00	.00
26	.30	.30	.20	-.14796E-01	3.32	.00	91.27	.00	.00	.00
27	.20	.20	.20	-.70972E-03	3.32	.00	91.26	.00	.00	.00
28	.20	.20	.20	-.25451E-03	3.32	.00	91.26	.00	.00	.00
29	.00	.00	.20	-.30964E-02	3.52	.00	92.12	.00	.00	.00
30	.30	.30	.20	-.13690E-01	3.40	.00	91.62	.00	.00	.00

1

2006 5

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.30	-.66499E+00	3.04	.00	90.02	.00	.00	.00
2	.00	.00	.30	-.12070E+01	2.14	.00	82.30	.00	.00	.00
3	.61	.61	.00	-.90778E+00	.63	.00	54.21	.00	.00	.00
4	.30	.30	.30	-.43149E+00	.19	.00	28.95	.00	.00	.00
5	.00	.00	.30	-.11933E+00	.38	.00	40.86	.00	.00	.00
6	.00	.00	.30	-.25314E+00	.43	.00	43.76	.00	.00	.00
7	.61	.61	.00	.18151E+00	.00	.00	.54	.00	.00	.00
8	.00	.00	.30	.33774E-01	.34	.00	38.65	.00	.00	.00
9	.00	.00	.30	-.22632E+00	.42	.00	43.16	.00	.00	.00
10	.61	.61	.00	.19190E+00	.00	.00	.41	.00	.00	.00
11	.00	.00	.30	.34341E-01	.34	.00	38.65	.00	.00	.00
12	.00	.00	.30	-.22626E+00	.42	.00	43.15	.00	.00	.00
13	.00	.00	.30	-.28159E+00	.44	.00	44.42	.00	.00	.00
14	.79	.61	.00	.17011E+00	.00	.00	.17	.00	.00	.00
15	.00	.17	.30	.16437E+00	.29	.00	35.90	.00	.00	.00
16	.00	.00	.30	-.19317E+00	.41	.00	42.43	.00	.00	.00
17	.61	.61	.00	.20442E+00	.00	.00	.25	.00	.00	.00
18	.00	.00	.30	.35013E-01	.34	.00	38.64	.00	.00	.00
19	.41	.41	.30	-.23459E+00	.00	.00	1.00	.00	.00	.00
20	.10	.10	.30	.22887E-01	.23	.00	31.60	.00	.00	.00
21	.41	.38	.30	-.15604E+00	.00	.00	.03	.00	.00	.00
22	.30	.03	.30	.50325E-01	.33	.00	37.90	.30	.00	.00
23	.30	.61	.30	.27027E-02	.03	.00	5.46	.00	.00	.00
24	.51	.34	.30	.39490E-02	.00	.00	.17	.00	.00	.00
25	.41	.17	.30	.16333E+00	.30	.00	35.92	.41	.00	.00
26	.30	.71	.30	.11126E+00	.00	.00	.00	.00	.00	.00
27	.30	.00	.30	.27169E-01	.33	.00	38.11	.30	.00	.00
28	.00	.30	.30	-.43321E-03	.33	.00	38.09	.00	.00	.00
29	.30	.30	.30	-.22796E+00	.10	.00	21.08	.00	.00	.00
30	.00	.00	.30	-.50993E-01	.36	.00	39.59	.00	.00	.00
31	.30	.30	.30	-.24603E+00	.11	.00	21.76	.00	.00	.00

1

2006 6

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.38	.86630E-01	.58	.00	51.75	.00	.00	.00
2	.00	.00	.38	-.22621E+00	.73	.00	59.39	.00	.00	.00
3	.71	.71	.00	.50481E-01	.07	.00	15.17	.00	.00	.00
4	.00	.00	.38	.12342E+00	.58	.00	51.67	.00	.00	.00
5	.41	.41	.38	-.22895E+00	.32	.00	37.60	.00	.00	.00
6	.00	.00	.38	-.53483E-01	.65	.00	55.57	.00	.00	.00
7	.41	.41	.38	-.27250E+00	.35	.00	39.32	.00	.00	.00
8	.00	.00	.38	-.73649E-01	.66	.00	56.07	.00	.00	.00
9	.00	.00	.38	-.27664E+00	.76	.00	60.47	.00	.00	.00
10	.51	.51	.38	-.33473E+00	.30	.00	36.41	.00	.00	.00
11	.41	.41	.38	-.52649E-01	.22	.00	31.18	.00	.00	.00
12	.41	.41	.38	.94605E-03	.20	.00	29.53	.00	.00	.00
13	.20	.20	.38	.17863E-01	.40	.00	41.84	.00	.00	.00
14	.20	.20	.38	-.11504E+00	.46	.00	45.29	.00	.00	.00
15	.30	.30	.38	-.15537E+00	.38	.00	40.88	.00	.00	.00
16	.20	.20	.38	-.10426E+00	.45	.00	44.98	.00	.00	.00
17	.30	.30	.38	-.15179E+00	.38	.00	40.76	.00	.00	.00
18	.20	.20	.38	-.10289E+00	.45	.00	44.94	.00	.00	.00
19	.20	.20	.38	-.15136E+00	.48	.00	46.39	.00	.00	.00
20	.20	.20	.38	-.16805E+00	.49	.00	46.92	.00	.00	.00
21	.00	.00	.38	-.16597E+00	.70	.00	58.32	.00	.00	.00
22	.30	.30	.38	-.30276E+00	.48	.00	46.29	.00	.00	.00
23	.00	.00	.38	-.15812E+00	.70	.00	58.18	.00	.00	.00
24	.41	.41	.38	-.30071E+00	.37	.00	40.55	.00	.00	.00
25	.00	.00	.38	-.87943E-01	.67	.00	56.43	.00	.00	.00
26	.00	.00	.38	-.28060E+00	.77	.00	60.57	.00	.00	.00
27	.61	.61	.00	.27413E-01	.19	.00	28.20	.00	.00	.00
28	.00	.00	.38	.41791E-01	.61	.00	53.29	.00	.00	.00

29	.00	.00	.38	-.24461E+00	.74	.00	59.76	.00	.00	.00
30	.61	.61	.00	.43282E-01	.18	.00	27.58	.00	.00	.00

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2006 7

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.41	.37316E-01	.62	.00	54.02	.00	.00	.00
2	.00	.00	.41	-.26089E+00	.77	.00	60.57	.00	.00	.00
3	.00	.00	.41	-.34115E+00	.83	.00	62.58	.00	.00	.00
4	.99	.82	.00	-.16567E-01	.00	.00	.00	.17	.00	.00
5	.00	.17	.41	.28996E+00	.52	.00	48.70	.00	.00	.00
6	.00	.00	.41	-.19719E+00	.73	.00	59.28	.00	.00	.00
7	.00	.00	.41	-.32283E+00	.81	.00	62.11	.00	.00	.00
8	.61	.61	.00	-.45249E-02	.20	.00	29.53	.00	.00	.00
9	.89	.67	.00	.47435E+00	.00	.00	.00	.21	.00	.00
10	.71	.83	.00	.83441E+00	.00	.00	.00	.09	.00	.00
11	.61	.70	.00	.75717E+00	.06	.00	11.49	.00	.00	.06
12	.00	.00	.41	.12763E+00	.59	.00	52.31	.00	.00	.15
13	.61	.61	.00	.15371E+00	.13	.00	23.70	.00	.00	.13
14	.00	.00	.41	.68718E-01	.61	.00	53.33	.00	.00	.10
15	.00	.00	.41	-.25287E+00	.76	.00	60.39	.00	.00	.00
16	.00	.00	.41	-.33872E+00	.83	.00	62.52	.00	.00	.00
17	.00	.00	.41	-.36945E+00	.87	.00	63.49	.00	.00	.00
18	.00	.00	.41	-.38561E+00	.89	.00	64.03	.00	.00	.00
19	.00	.00	.41	-.39472E+00	.90	.00	64.34	.00	.00	.00
20	.00	.00	.41	-.39984E+00	.91	.00	64.51	.00	.00	.00
21	.00	.00	.41	-.40272E+00	.91	.00	64.61	.00	.00	.00
22	.00	.00	.41	-.40434E+00	.91	.00	64.66	.00	.00	.00
23	.00	.00	.41	-.40524E+00	.91	.00	64.69	.00	.00	.00
24	.00	.00	.41	-.40575E+00	.91	.00	64.71	.00	.00	.00
25	.00	.00	.41	-.40604E+00	.91	.00	64.72	.00	.00	.00
26	.00	.00	.41	-.40620E+00	.91	.00	64.73	.00	.00	.00
27	.00	.00	.41	-.40629E+00	.91	.00	64.73	.00	.00	.00
28	.00	.00	.41	-.40634E+00	.91	.00	64.73	.00	.00	.00
29	.00	.00	.41	-.40636E+00	.91	.00	64.73	.00	.00	.00
30	.00	.00	.41	-.40638E+00	.91	.00	64.73	.00	.00	.00
31	.00	.00	.41	-.40639E+00	.91	.00	64.73	.00	.00	.00

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2006 8

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.36	-.16479E+00	1.10	.00	69.74	.00	.00	.00
2	.00	.00	.36	-.22830E+00	1.23	.00	73.09	.00	.00	.00
3	.00	.00	.36	-.28133E+00	1.31	.00	74.93	.00	.00	.00
4	.00	.00	.36	-.30348E+00	1.36	.00	75.43	.00	.00	.00
5	.61	.61	.00	-.12024E+00	.63	.00	54.40	.00	.00	.00
6	.00	.00	.36	-.23687E-01	.96	.00	65.96	.00	.00	.00
7	.00	.00	.36	-.16827E+00	1.15	.00	70.88	.00	.00	.00
8	.00	.00	.36	-.24626E+00	1.26	.00	73.75	.00	.00	.00
9	.00	.00	.36	-.29072E+00	1.32	.00	75.08	.00	.00	.00
10	.00	.00	.36	-.30626E+00	1.37	.00	75.56	.00	.00	.00
11	.00	.00	.36	-.31497E+00	1.41	.00	75.94	.00	.00	.00
12	.00	.00	.36	-.32172E+00	1.45	.00	76.23	.00	.00	.00
13	.00	.00	.36	-.32721E+00	1.47	.00	76.48	.00	.00	.00
14	.71	.71	.00	-.16822E+00	.60	.00	52.61	.00	.00	.00
15	.00	.00	.36	-.64521E-02	.94	.00	65.52	.00	.00	.00
16	.00	.00	.36	-.16142E+00	1.14	.00	70.62	.00	.00	.00
17	.00	.00	.36	-.24225E+00	1.25	.00	73.60	.00	.00	.00
18	.00	.00	.36	-.28877E+00	1.32	.00	75.05	.00	.00	.00
19	.61	.61	.00	-.10198E+00	.61	.00	53.25	.00	.00	.00
20	.00	.00	.36	-.12565E-01	.95	.00	65.68	.00	.00	.00
21	1.30	1.28	.00	.33017E+00	.00	.00	.00	.02	.00	.00
22	.00	.02	.36	.36549E+00	.71	.00	58.40	.00	.00	.00
23	.00	.00	.36	-.60574E-01	1.00	.00	67.01	.00	.00	.00
24	.00	.00	.36	-.18500E+00	1.17	.00	71.49	.00	.00	.00
25	.00	.00	.36	-.25605E+00	1.27	.00	74.11	.00	.00	.00
26	.71	.71	.00	-.79266E-01	.48	.00	46.49	.00	.00	.00
27	.00	.00	.36	.55861E-01	.89	.00	64.15	.00	.00	.00
28	.00	.00	.36	-.13973E+00	1.11	.00	69.82	.00	.00	.00
29	.00	.00	.36	-.22955E+00	1.23	.00	73.13	.00	.00	.00
30	.00	.00	.36	-.28203E+00	1.31	.00	74.94	.00	.00	.00
31	.00	.00	.36	-.30366E+00	1.36	.00	75.44	.00	.00	.00

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2006 9

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.00	.00	.23	-.30188E+00	1.29	.00	74.51	.00	.00	.00
2	.20	.20	.23	-.27831E+00	1.03	.00	67.86	.00	.00	.00
3	.00	.00	.23	-.17191E+00	1.09	.00	69.35	.00	.00	.00
4	.00	.00	.23	-.19549E+00	1.12	.00	70.22	.00	.00	.00
5	.00	.00	.23	-.20927E+00	1.14	.00	70.73	.00	.00	.00
6	.00	.00	.23	-.21732E+00	1.15	.00	71.03	.00	.00	.00
7	.00	.00	.23	-.22202E+00	1.16	.00	71.20	.00	.00	.00
8	.41	.41	.23	.52161E+00	1.50	.00	76.74	.00	.00	.00
9	.00	.00	.23	.23565E+00	1.97	.00	80.79	.00	.00	.11
10	.00	.00	.23	.14421E+00	2.34	.00	84.04	.00	.00	.14
11	.00	.00	.23	.87411E-01	2.66	.00	86.79	.00	.00	.09
12	.00	.00	.23	.39302E-01	2.93	.00	89.13	.00	.00	.04
13	.00	.00	.23	.23588E-02	3.16	.00	90.56	.00	.00	.02
14	.00	.00	.23	-.14946E-01	3.37	.00	91.47	.00	.00	.00
15	.00	.00	.23	-.13095E-01	3.59	.00	92.39	.00	.00	.00
16	.00	.00	.23	-.13429E-01	3.80	.00	93.31	.00	.00	.00
17	.00	.00	.23	-.13140E-01	4.02	.00	94.23	.00	.00	.00
18	.00	.00	.23	-.13035E-01	4.23	.00	95.16	.00	.00	.00
19	.00	.00	.23	-.12874E-01	4.45	.00	96.08	.00	.00	.00
20	.00	.00	.23	-.12731E-01	4.66	.00	97.00	.00	.00	.00
21	.00	.00	.23	-.12581E-01	4.88	.00	97.92	.00	.00	.00
22	.00	.00	.23	-.12434E-01	5.10	.00	98.85	.00	.00	.00
23	.51	.51	.23	-.89578E-02	4.81	.00	97.62	.00	.00	.00
24	.00	.00	.23	.93121E-02	5.04	.00	98.63	.00	.00	.00
25	.00	.00	.23	-.10429E-01	5.26	.00	99.57	.00	.00	.00
26	.71	.71	.00	.11929E-01	4.56	.00	96.58	.00	.00	.00
27	.00	.00	.23	.17145E-01	4.81	.00	97.63	.00	.00	.00
28	.79	.79	.00	.18263E-01	4.04	.00	94.34	.00	.00	.00
29	.00	.00	.23	.23967E-01	4.29	.00	95.42	.00	.00	.00
30	.61	.61	.00	.21124E-01	3.70	.00	92.90	.00	.00	.00

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2006 10

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.00	.00	.10	.56352E+00	4.37	.00	95.75	.00	.00	1.11
2	.30	.30	.10	.55923E+00	4.73	.00	97.27	.00	.00	.56
3	.00	.00	.10	.53373E+00	5.36	.00	99.98	.00	.00	.53
4	.10	.10	.10	.48580E+00	5.85	.00	102.06	.00	.00	.49
5	.00	.00	.10	.45107E+00	6.40	.00	104.42	.00	.00	.45
6	.00	.00	.10	.41084E+00	6.91	.00	106.61	.00	.00	.41
7	.00	.00	.10	.37383E+00	7.39	.00	108.64	.00	.00	.37
8	.00	.00	.10	.33976E+00	7.83	.00	110.53	.00	.00	.34
9	.00	.00	.10	.30835E+00	8.24	.00	112.28	.00	.00	.31
10	.00	.00	.10	.27938E+00	8.62	.00	113.91	.00	.00	.28
11	.00	.00	.10	.25261E+00	8.97	.00	115.43	.00	.00	.25
12	.20	.20	.10	.22868E+00	9.10	.00	115.97	.00	.00	.23
13	.00	.00	.10	.21904E+00	9.42	.00	117.34	.00	.00	.22
14	.41	.41	.10	.19797E+00	9.31	.00	116.88	.00	.00	.20
15	.00	.00	.10	.20420E+00	9.62	.00	118.19	.00	.00	.20
16	.00	.00	.00	.18320E+00	9.90	.00	119.37	.00	.00	.18
17	.61	.61	.00	.18739E+00	9.47	.00	117.57	.00	.00	.19
18	.00	.00	.10	.19316E+00	9.77	.00	118.83	.00	.00	.19
19	.00	.00	.00	.17316E+00	10.04	.00	119.95	.00	.00	.17
20	.71	.71	.00	.17785E+00	9.50	.00	117.69	.00	.00	.18
21	.51	.51	.10	.19249E+00	9.29	.00	116.77	.00	.00	.19
22	.30	.30	.10	.20713E+00	9.29	.00	116.79	.00	.00	.21
23	.00	.00	.10	.20574E+00	9.60	.00	118.10	.00	.00	.21
24	.30	.30	.10	.18582E+00	9.58	.00	118.03	.00	.00	.19
25	.00	.00	.00	.18579E+00	9.86	.00	119.22	.00	.00	.19
26	.20	.20	.10	.16813E+00	9.93	.00	119.50	.00	.00	.17
27	.51	.51	.10	.16387E+00	9.69	.00	118.47	.00	.00	.16
28	.71	.71	.00	.20198E+00	9.18	.00	116.29	.00	.00	.20
29	.71	.71	.00	.23732E+00	8.70	.00	114.27	.00	.00	.24
30	.51	.51	.10	.24738E+00	8.54	.00	113.59	.00	.00	.25
31	.30	.30	.10	.25840E+00	8.60	.00	113.82	.00	.00	.26

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2006 11

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.20	.20	.05	.25528E+00	8.70	.00	114.26	.00	.00	.26
2	.00	.00	.05	.24853E+00	9.00	.00	115.54	.00	.00	.25

3	.00	.00	.05	.22764E+00	9.28	.00	.116.73	.00	.00	.23
4	.20	.20	.05	.20791E+00	9.33	.00	.116.97	.00	.00	.21
5	.00	.00	.05	.20444E+00	9.59	.00	.118.06	.00	.00	.20
6	.00	.00	.05	.18680E+00	9.83	.00	.119.07	.00	.00	.19
7	.00	.00	.05	.17047E+00	10.05	.00	.120.00	.00	.00	.17
8	.00	.00	.05	.15671E+00	10.26	.00	.120.73	.00	.00	.16
9	.71	.71	.00	.16346E+00	9.71	.00	.118.57	.00	.00	.16
10	.41	.41	.05	.17842E+00	9.53	.00	.117.81	.00	.00	.18
11	.20	.20	.05	.19053E+00	9.57	.00	.117.97	.00	.00	.19
12	.00	.00	.05	.18821E+00	9.81	.00	.118.99	.00	.00	.19
13	.00	.00	.05	.17176E+00	10.03	.00	.119.93	.00	.00	.17
14	.51	.51	.05	.15782E+00	9.73	.00	.118.67	.00	.00	.16
15	.00	.00	.05	.17703E+00	9.96	.00	.119.64	.00	.00	.18
16	.00	.00	.05	.16194E+00	10.17	.00	.120.44	.00	.00	.16
17	.51	.51	.05	.14995E+00	9.86	.00	.119.23	.00	.00	.15
18	.00	.00	.05	.16797E+00	10.08	.00	.120.13	.00	.00	.17
19	.00	.00	.05	.15474E+00	10.29	.00	.120.84	.00	.00	.15
20	.00	.00	.05	.14341E+00	10.48	.00	.121.50	.00	.00	.14
21	.00	.00	.05	.13275E+00	10.67	.00	.122.13	.00	.00	.13
22	.79	.79	.00	.14000E+00	10.02	.00	.119.89	.00	.00	.14
23	.00	.00	.05	.15838E+00	10.23	.00	.120.63	.00	.00	.16
24	.51	.51	.05	.14684E+00	9.92	.00	.119.46	.00	.00	.15
25	.00	.00	.05	.16449E+00	10.13	.00	.120.31	.00	.00	.16
26	.30	.30	.05	.15207E+00	10.03	.00	.119.93	.00	.00	.15
27	.20	.20	.05	.15777E+00	10.04	.00	.119.95	.00	.00	.16
28	.20	.20	.05	.15746E+00	10.04	.00	.119.97	.00	.00	.16
29	.20	.20	.05	.15717E+00	10.05	.00	.119.99	.00	.00	.16
30	.20	.20	.05	.15690E+00	10.05	.00	.120.01	.00	.00	.16

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2006 12

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.03	.81778E-01	10.16	.00	.120.39	.00	.00	.00
2	.20	.20	.03	.15803E-01	10.00	.00	.119.80	.00	.00	.00
3	.20	.20	.03	.95824E-02	9.83	.00	.119.08	.00	.00	.00
4	.20	.20	.03	.91975E-02	9.66	.00	.118.36	.00	.00	.00
5	.20	.20	.03	.93266E-02	9.49	.00	.117.64	.00	.00	.00
6	.20	.20	.03	.94903E-02	9.32	.00	.116.92	.00	.00	.00
7	.00	.00	.03	.55101E-02	9.35	.00	.117.05	.00	.00	.00
8	.30	.30	.03	-.80488E-02	9.07	.00	.115.82	.00	.00	.00
9	.00	.00	.03	.54850E-02	9.10	.00	.115.95	.00	.00	.00
10	.41	.41	.03	-.76366E-02	8.71	.00	.114.29	.00	.00	.00
11	.00	.00	.03	.14084E-01	8.75	.00	.114.46	.00	.00	.00
12	.00	.00	.03	.12785E-02	8.77	.00	.114.58	.00	.00	.00
13	.00	.00	.03	-.21340E-02	8.80	.00	.114.68	.00	.00	.00
14	.51	.51	.03	.45143E-03	8.32	.00	.112.61	.00	.00	.00
15	.00	.00	.03	.20734E-01	8.36	.00	.112.81	.00	.00	.00
16	.00	.00	.03	.26965E-02	8.39	.00	.112.93	.00	.00	.00
17	.51	.51	.03	-.42922E-02	7.90	.00	.110.85	.00	.00	.00
18	.00	.00	.03	.20087E-01	7.95	.00	.111.05	.00	.00	.00
19	.41	.41	.03	.46547E-02	7.57	.00	.109.44	.00	.00	.00
20	.00	.00	.03	.18667E-01	7.62	.00	.109.63	.00	.00	.00
21	.00	.00	.03	.27333E-02	7.64	.00	.109.75	.00	.00	.00
22	.61	.61	.00	.12519E-01	7.05	.00	.107.19	.00	.00	.00
23	.00	.00	.03	.15511E-01	7.09	.00	.107.37	.00	.00	.00
24	.41	.41	.03	.36538E-02	6.71	.00	.105.76	.00	.00	.00
25	.00	.00	.03	.19161E-01	6.76	.00	.105.95	.00	.00	.00
26	.41	.41	.03	.49320E-02	6.38	.00	.104.34	.00	.00	.00
27	.20	.20	.03	.19573E-01	6.22	.00	.103.66	.00	.00	.00
28	.20	.20	.03	.15170E-01	6.06	.00	.102.97	.00	.00	.00
29	.20	.20	.03	.13792E-01	5.89	.00	.102.27	.00	.00	.00
30	.20	.20	.03	.13428E-01	5.73	.00	.101.56	.00	.00	.00
31	.20	.20	.03	.13409E-01	5.57	.00	.100.86	.00	.00	.00

Файл Z 2-2_opt.MON

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:28

input file: C:\Program Files\Drainmod\INPUTS\Z 2-2_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 5500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	6.02	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.26	.00	.00	.00	.00	.00
3	3.66	3.66	3.05	1.31	.00	.00	2.98	.00	.00
4	5.49	5.49	6.10	-.07	.00	.00	29.69	.00	-.17
5	7.19	7.19	7.92	-4.03	.00	.00	1.00	96.51	-6.50
6	6.60	6.60	10.29	-3.62	.00	.00	.00	1.75	-4.60
7	4.42	4.42	10.16	-5.00	.00	.00	.00	76.99	-8.05
8	3.94	3.94	9.25	-4.86	.00	.00	.00	5.39	-5.76
9	3.23	3.23	6.17	-.60	.00	.00	17.68	.00	-1.74
10	6.40	6.40	2.44	8.58	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	5.19	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	.34	.00	.00	31.00	.00	-.02

TOTALS 60.91 60.91 59.77 5.51 .00 .00 143.34 180.63 -26.85

Файл Z 2-2_opt.MRK

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:28
 input file: C:\Program Files\Drainmod\INPUTS\Z 2-2_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 5500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.4	2.3	1.3	.0	.0	.0	.4	.0	.4	9.1	5.2	.0
AVERAGE	5.4	2.3	1.3	.0	.0	.0	.4	.0	.4	9.1	5.2	.0

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	6.0	2.3	1.3	-.1	-4.0	-3.6	-5.0	-4.9	-.6	8.6	5.2	.3
AVERAGE	6.0	2.3	1.3	-.1	-4.0	-3.6	-5.0	-4.9	-.6	8.6	5.2	.3

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.4	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.4	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	1.0	20.0	16.0	22.0	23.0	28.0	18.0	.0	.0	4.0
AVERAGE	.0	.0	1.0	20.0	16.0	22.0	23.0	28.0	18.0	.0	.0	4.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	79.6	85.1	87.4	91.4	30.2	45.5	51.9	66.7	87.7	113.3	119.2	111.3
AVERAGE	79.6	85.1	87.4	91.4	30.2	45.5	51.9	66.7	87.7	113.3	119.2	111.3

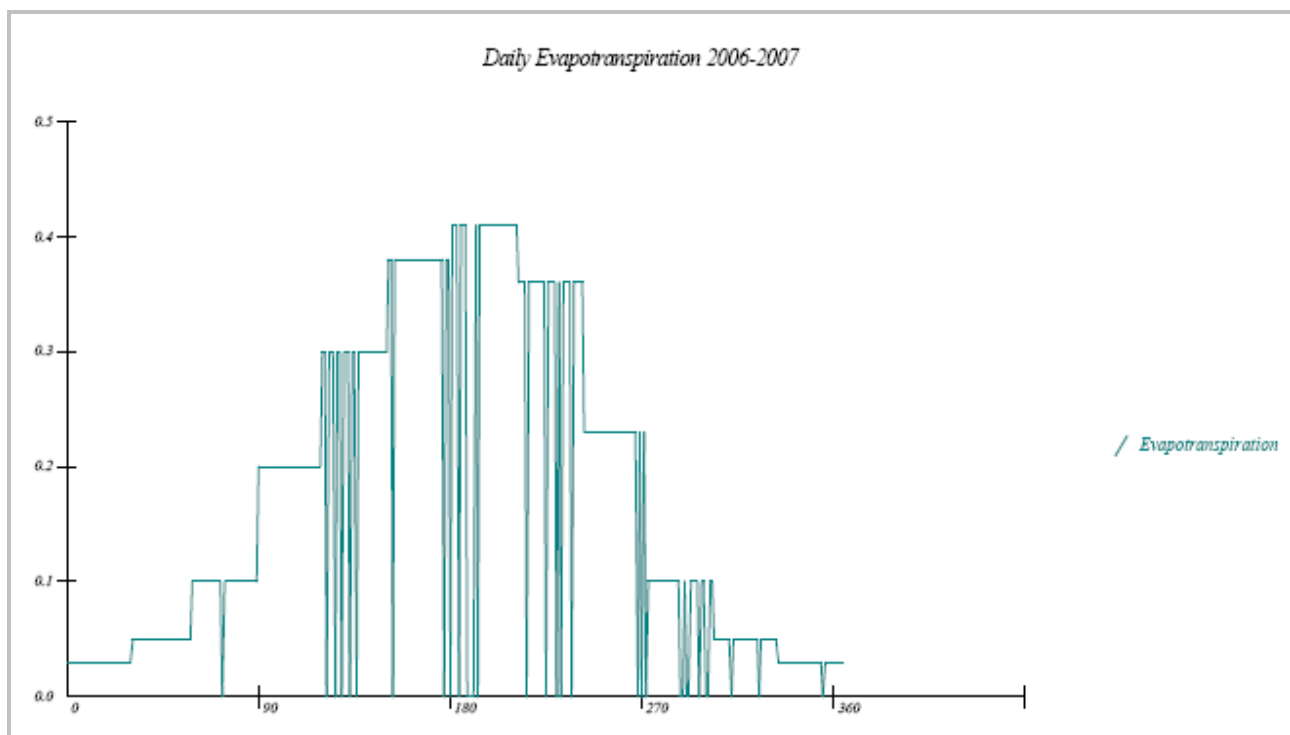
Файл Z 2-2_opt.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

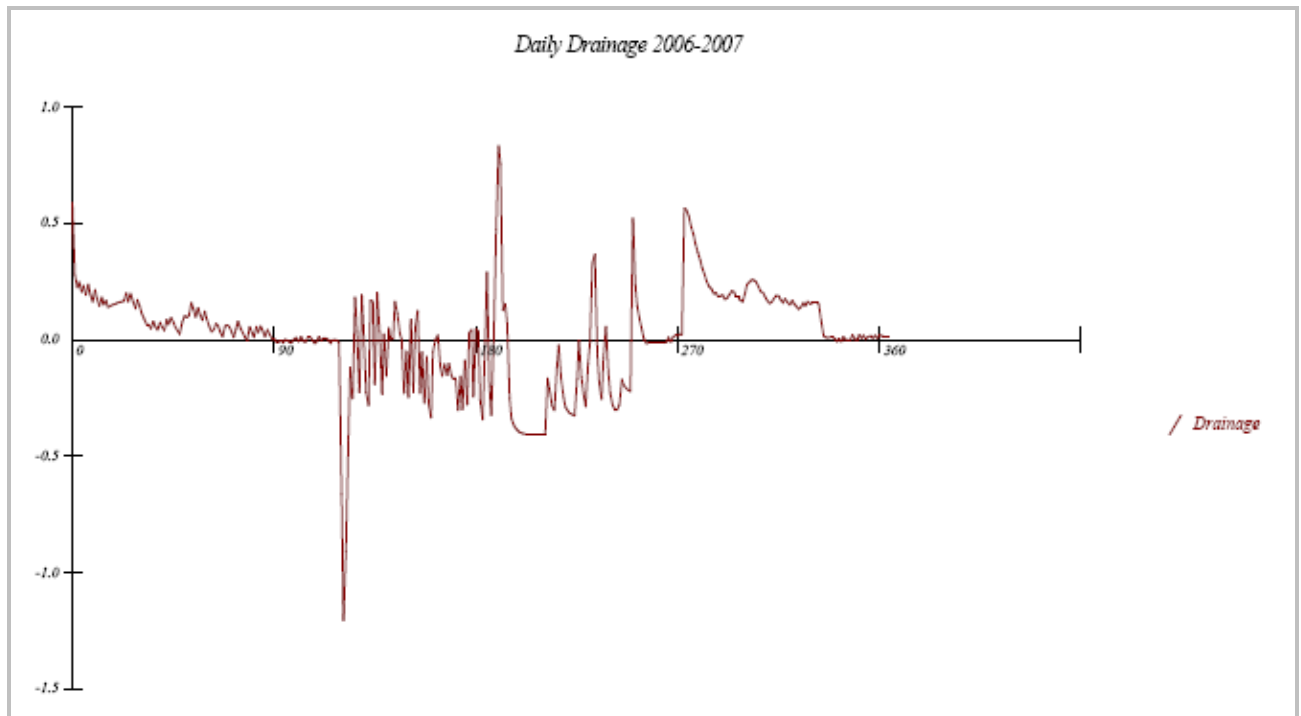
COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:28
 input file: C:\Program Files\Drainmod\INPUTS\Z 2-2_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 5500. cm drain depth = 130.0 cm

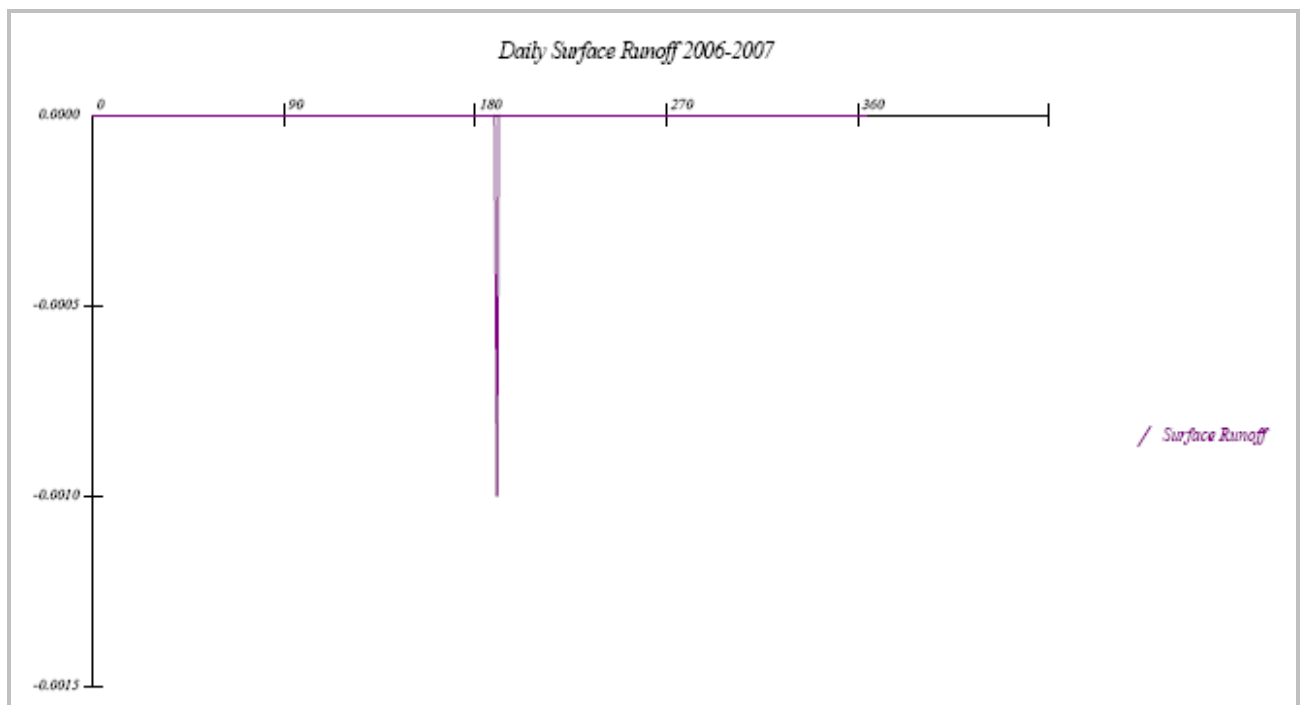
YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	59.77	5.51	.00	.00	143.34	180.6	-26.85
AVG	60.91	60.91	59.77	5.51	.00	.00	143.34	180.6	-26.85



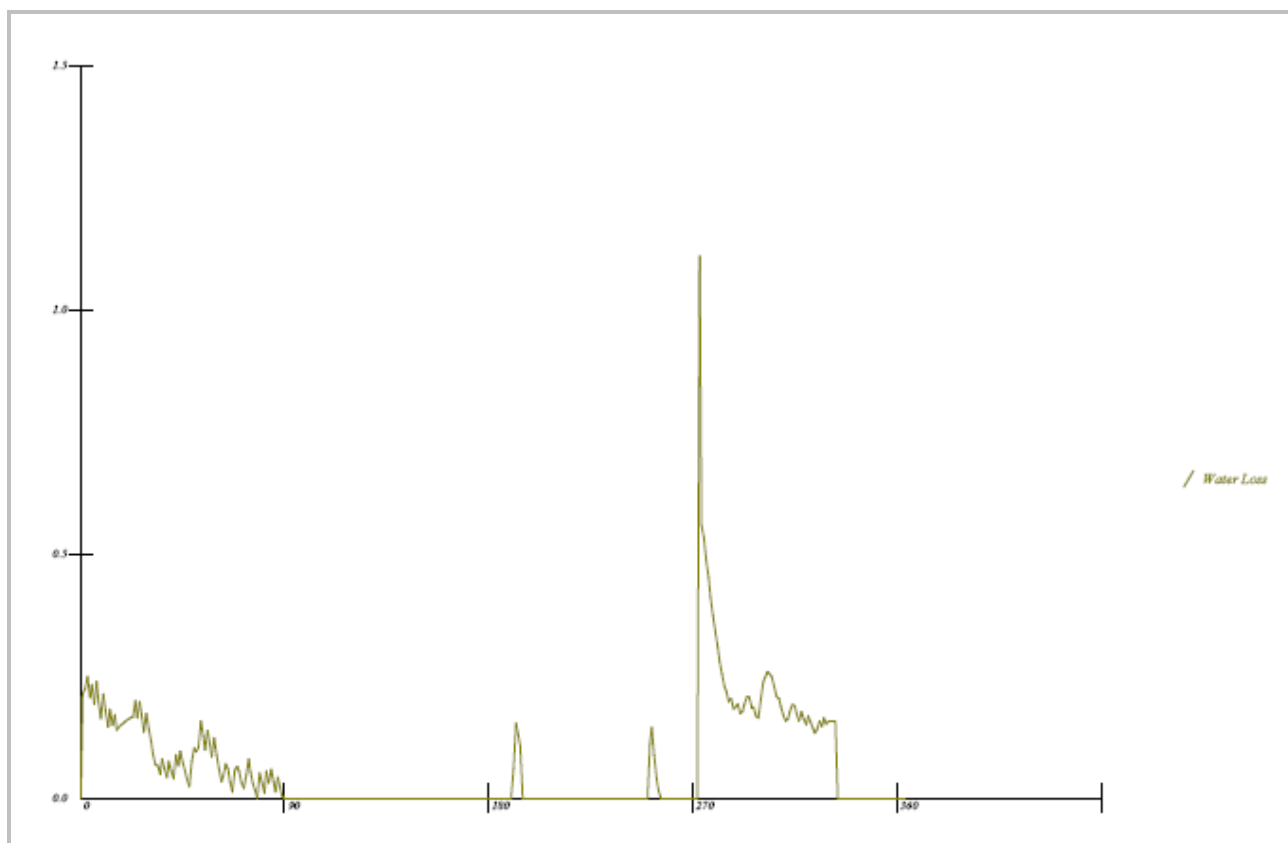
Графика на дневната евапотранспирация за периода на изследване 01.01.2006 – 31.12.2006 год



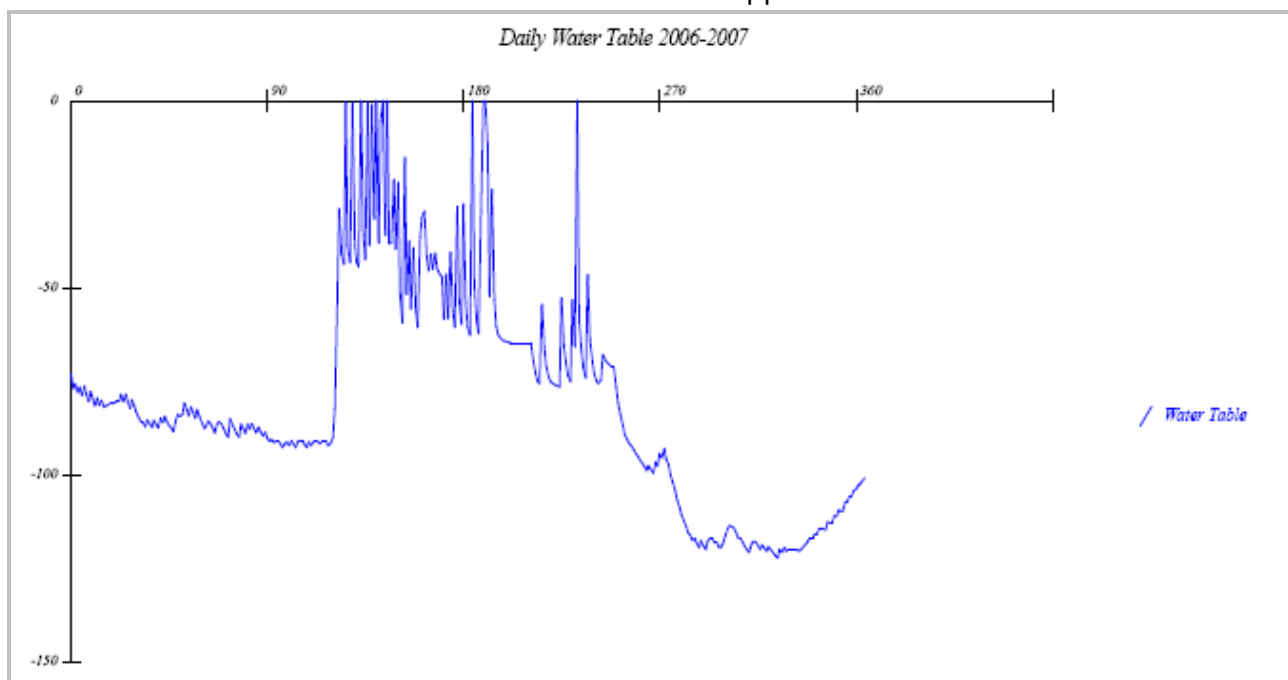
Графика на дневните дренирани обеми за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневният повърхностен отток за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните водни загуби за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните нива на подпочвените води за периода на изследване 01.01.2006 – 31.12.2006 год

4.3.6 Поле Z 2-3

ПРОЕКТ Z 2-3 Входни данни Файл №1 – Z 2-3.gen

```
*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 107.69 1500.00 2.00 2.00 1.00 9.84 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
550.00 2.00
26. .30 50. .20 70. .09 100. .52 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***
```

```
STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
```

.00 .00
Freezing characteristic curve
0

Файл №3 – 4.SIN
Файл съдържащ данни за почвите.

D-4
420
.3600000 .0
.2200000 -108.0
.1200000 -710.0
.1200000 -1000.0
.0000 .0000 .5000
3.0000 .0060 .5000
6.0000 .0230 .5000
9.0000 .0520 .5000
12.0000 .0930 .5000
15.0000 .1460 .5000
20.0000 .2590 .5000
25.0000 .4050 .5000
30.0000 .5740 .5000
35.0000 .7470 .4823
40.0000 .9230 .4221
45.0000 1.1030 .3641
60.0000 1.6720 .2226
75.0000 2.3170 .1573
90.0000 3.1880 .1288
120.0000 5.6580 .0672
150.0000 8.5180 .0278
200.0000 15.4870 .0100
500.0000 71.5180 .0003
1000.0000 100.0000 .0000
10
.00 .00 3.21
10.00 .54 3.21
20.00 1.08 3.21
40.00 1.87 2.78
60.00 2.35 2.33
80.00 3.37 2.50
100.00 4.21 2.50
150.00 7.80 2.50
200.00 7.80 2.50
1000.00 7.80 2.50

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 2-3
Файл Z 2-3.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:56
input file: C:\Program Files\Drainmod\INPUTS\Z 2-3.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006
MONTH RAIN INFIL ET DRAIN RUNOFF DRY DAYS WRK DAYS SEW PUMP
1 5.49 5.49 .79 5.00 .00 .00 .00 .00 .00
2 3.76 3.76 1.42 2.28 .00 .00 .00 .00 .00
3 3.66 3.66 3.05 1.43 .00 .00 5.30 .00 .00
4 5.49 5.49 6.10 -.22 .00 .00 30.00 .00 -.30
5 7.19 7.19 7.92 -3.31 .00 .00 2.00 26.64 -3.53
6 6.60 6.60 10.29 -3.22 .00 .00 .00 .00 -3.29
7 4.42 4.42 10.16 -3.74 .00 .00 4.69 96.05 -5.18

8	3.94	3.94	9.25	-5.62	.00	.00	15.21	.00	-5.65
9	3.23	3.23	6.17	-.95	.00	.00	23.39	.00	-1.78
10	6.40	6.40	2.74	2.16	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	4.42	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	2.71	.00	.00	20.59	.00	.00
TOTALS	60.91	60.91	60.07	.94	.00	.00	162.18	122.69	-19.72

Файл Z 2-3.MRK

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS----- time: 7/23/2007 @ 13:56
 input file: C:\Program Files\Drainmod\INPUTS\Z 2-3.Prj
 parameters: combination run and yields calculated
 drain spacing = 1500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.6	2.3	1.4	.0	.0	.0	.0	.0	2.5	4.4	.0	
AVERAGE	2.6	2.3	1.4	.0	.0	.0	.0	.0	2.5	4.4	.0	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.0	2.3	1.4	-.2	-3.3	-3.2	-3.7	-5.6	-.9	2.2	4.4	2.7
AVERAGE	5.0	2.3	1.4	-.2	-3.3	-3.2	-3.7	-5.6	-.9	2.2	4.4	2.7

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	20.0	25.0	28.0	24.0	30.0	19.0	.0	.0	.0
AVERAGE	.0	.0	.0	20.0	25.0	28.0	24.0	30.0	19.0	.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	69.7	76.9	82.6	91.7	40.5	56.4	59.7	83.4	108.0	115.6	102.1	89.0
AVERAGE	69.7	76.9	82.6	91.7	40.5	56.4	59.7	83.4	108.0	115.6	102.1	89.0

Файл Z 2-3.IR

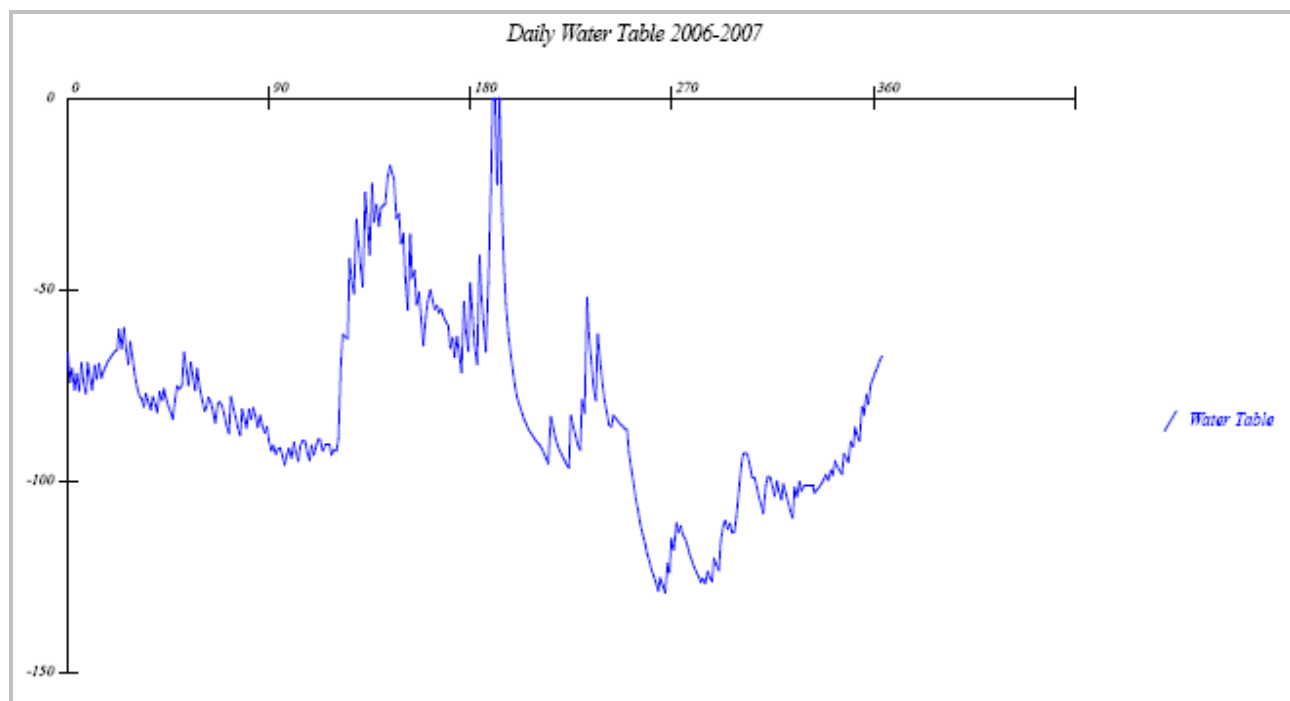
 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL

DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:56
input file: C:\Program Files\Drainmod\INPUTS\Z 2-3.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	.94	.00	.00	162.18	122.7	-19.72
AVG	60.91	60.91	60.07	.94	.00	.00	162.18	122.7	-19.72



Графика на дневните нива на подпочвените води за периода
на изследване 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 2-3_midl**Входни данни****Файл №1 – Z 2-3_midl.gen**

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 188.55 3500.00 2.00 2.00 1.00 9.81 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
550.00 2.00
26. .30 50. .20 70. .09 100. .52 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

```

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 2-3_midl

Файл Z 2-3_midl.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14: 1
input file: C:\Program Files\Drainmod\INPUTS\Z 2-3_midl.Prj
parameters: combination run and yields calculated
drain spacing = 3500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	3.25	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.56	.00	.00	.00	.00	.00
3	3.66	3.66	3.05	1.95	.00	.00	.00	.00	.00
4	5.49	5.49	6.10	.16	.00	.00	4.75	.00	-.03
5	7.19	7.19	7.92	-2.23	.00	.00	1.15	.00	-2.23
6	6.60	6.60	10.29	-2.09	.00	.00	8.99	.00	-2.09
7	4.42	4.42	10.16	-2.52	.00	.00	18.23	.72	-2.60
8	3.94	3.94	9.25	-4.38	.00	.00	29.00	.00	-4.38
9	3.23	3.23	6.17	-1.04	.00	.00	30.00	.00	-1.04
10	6.40	6.40	2.74	.03	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	1.29	.00	.00	29.70	.00	.00
12	5.59	5.59	.76	2.06	.00	.00	.80	.00	.00

TOTALS 60.91 60.91 60.07 -.95 .00 .00 153.62 .72 -12.37

Файл Z 2-3_midl.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14: 1
input file: C:\Program Files\Drainmod\INPUTS\Z 2-3_midl.Prj
parameters: combination run and yields calculated
drain spacing = 3500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.2	2.6	2.0	.0	.0	.0	.0	.0	1.3	.0		
AVERAGE	2.2	2.6	2.0	.0	.0	.0	.0	.0	1.3	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.2	2.6	2.0	.2	-2.2	-2.1	-2.5	-4.4	-1.0	.0	1.3	2.1
AVERAGE	3.2	2.6	2.0	.2	-2.2	-2.1	-2.5	-4.4	-1.0	.0	1.3	2.1

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0		
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0		

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

AVERAGE 5.5 3.8 3.7 5.5 7.2 6.6 4.4 3.9 3.2 6.4 5.2 5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	8.0	31.0	30.0	26.0	31.0	30.0	28.0	.0	.0
AVERAGE	.0	.0	.0	8.0	31.0	30.0	26.0	31.0	30.0	28.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	36.9	40.2	56.5	81.2	61.0	76.7	84.0	132.5	149.8	147.7	102.7	56.2
AVERAGE	36.9	40.2	56.5	81.2	61.0	76.7	84.0	132.5	149.8	147.7	102.7	56.2

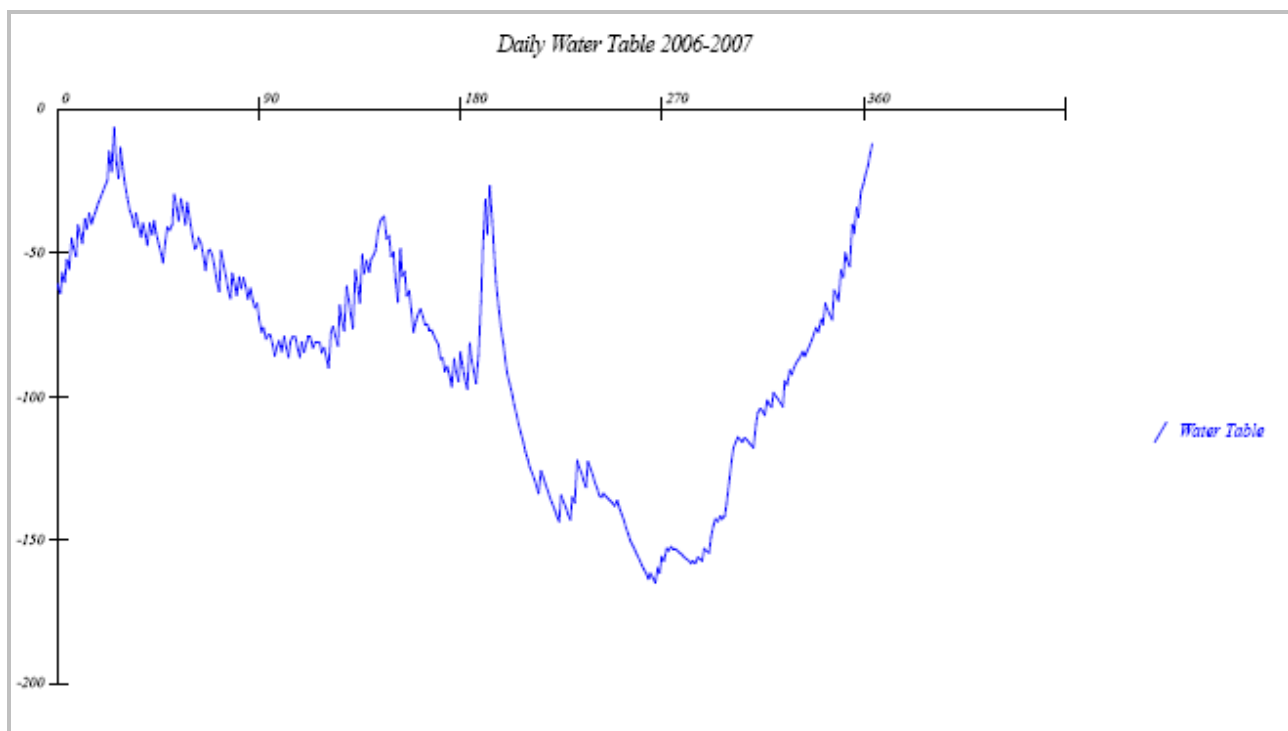
Файл Z 2-3_midl.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14: 1
 input file: C:\Program Files\Drainmod\INPUTS\Z 2-3_midl.Prj
 parameters: combination run and yields calculated
 drain spacing = 3500. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	-.95	.00	.00	153.62	.7	-12.37
AVG	60.91	60.91	60.07	-.95	.00	.00	153.62	.7	-12.37



Графика на дневните нива на подпочвените води за периода на изследване
 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 2-3_max**Входни данни****Файл №1 – Z 2-3_max.gen**

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 226.33 5000.00 2.00 2.00 1.00 9.81 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
550.00 2.00
26. .30 50. .20 70. .09 100. .52 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

```

Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 2-3_max

Файл Z 2-3_max.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:59
input file: C:\Program Files\Drainmod\INPUTS\Z 2-3_max.Prj
parameters: combination run and yields calculated
drain spacing = 5000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.03	.79	2.35	.00	.00	.00	.00	.00
2	3.76	3.82	1.42	2.48	.00	.00	.00	.00	.00
3	3.66	4.06	3.05	2.02	.00	.00	.00	.00	.00
4	5.49	5.49	6.10	.38	.00	.00	.00	.00	.00
5	7.19	7.19	7.92	-1.25	.00	.00	.00	.00	-1.25
6	6.60	6.60	10.29	-1.46	.00	.00	15.92	.00	-1.46
7	4.42	4.42	10.16	-2.00	.00	.00	22.95	.00	-2.00
8	3.94	3.94	9.25	-3.09	.00	.00	29.00	.00	-3.09
9	3.23	3.23	6.17	-.75	.00	.00	30.00	.00	-.75
10	6.40	6.40	2.74	.00	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	.11	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	.84	.00	.00	17.00	.00	.00
TOTALS	60.91	60.91	60.07	-.35	.00	.00	175.87	.00	-8.54

Файл Z 2-3_max.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:59
input file: C:\Program Files\Drainmod\INPUTS\Z 2-3_max.Prj
parameters: combination run and yields calculated
drain spacing = 5000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.6	2.5	2.0	.0	.0	.0	.0	.0	.1	.0		
AVERAGE	1.6	2.5	2.0	.0	.0	.0	.0	.0	.1	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.4	2.5	2.0	.4	-1.2	-1.5	-2.0	-3.1	-.8	.0	.1	.8
AVERAGE	2.4	2.5	2.0	.4	-1.2	-1.5	-2.0	-3.1	-.8	.0	.1	.8

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	2.0	31.0	30.0	31.0	30.0	31.0	17.0	.0	
AVERAGE	.0	.0	.0	2.0	31.0	30.0	31.0	30.0	31.0	17.0	.0	

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	23.2	7.4	29.2	65.3	61.3	85.3	100.9	153.2	172.8	171.1	131.0	79.2
AVERAGE	23.2	7.4	29.2	65.3	61.3	85.3	100.9	153.2	172.8	171.1	131.0	79.2

Файл Z 2-3_max.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL

DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 13:59

input file: C:\Program Files\Drainmod\INPUTS\Z 2-3_max.Prj

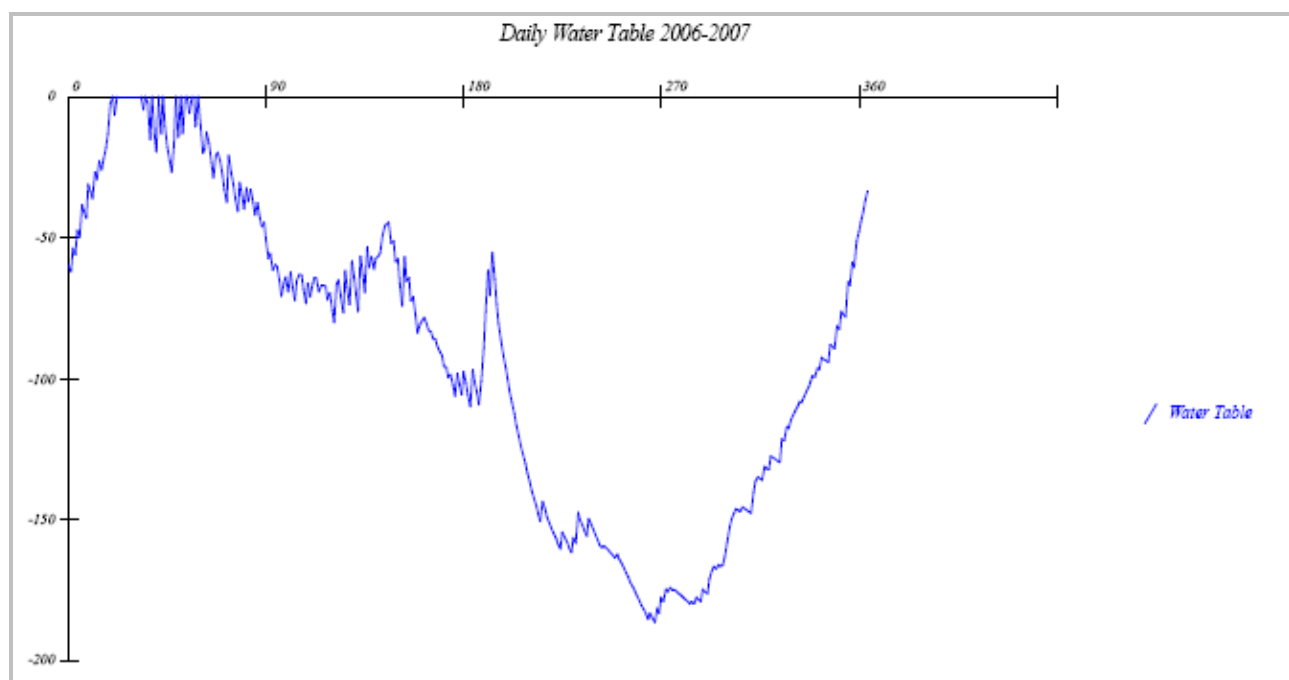
parameters: combination run and yields calculated

drain spacing = 5000. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
------	----------	---------	----	-------	--------	---------	----------	-----	-------

2006	60.91	60.91	60.07	-.35	.00	.00	175.87	.0	-8.54
------	-------	-------	-------	------	-----	-----	--------	----	-------

AVG	60.91	60.91	60.07	-.35	.00	.00	175.87	.0	-8.54
-----	-------	-------	-------	------	-----	-----	--------	----	-------



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 2-3_opt**Входни данни****Файл №1 – Z 2-3_opt.gen**

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 154.03 2500.00 2.00 2.00 1.00 9.81 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
550.00 2.00
26. .30 50. .20 70. .09 100. .52 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve

```

0

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 2-3_opt

Файл Z 2-3_opt.DAY

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14: 4
 input file: C:\Program Files\Drainmod\INPUTS\Z 2-3_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 2500. cm drain depth = 130.0 cm

1

2006 1

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.30	.30	.03	.17410E+00	1.78	.00	62.55	.00	.00	.00
2	.00	.00	.03	.16508E+00	1.97	.00	66.98	.00	.00	.00
3	.41	.41	.03	.13943E+00	1.73	.00	61.36	.00	.00	.00
4	.00	.00	.03	.14479E+00	1.90	.00	65.32	.00	.00	.00
5	.41	.41	.03	.12349E+00	1.64	.00	59.21	.00	.00	.00
6	.00	.00	.03	.13245E+00	1.80	.00	63.00	.00	.00	.00
7	.51	.51	.03	.11343E+00	1.43	.00	53.67	.00	.00	.00
8	.00	.00	.03	.13261E+00	1.59	.00	57.84	.00	.00	.00
9	.00	.00	.03	.11340E+00	1.73	.00	61.32	.00	.00	.00
10	.51	.51	.03	.97085E-01	1.34	.00	51.33	.00	.00	.00
11	.00	.00	.03	.12026E+00	1.49	.00	55.17	.00	.00	.02
12	.00	.00	.03	.10637E+00	1.62	.00	58.63	.00	.00	.11
13	.41	.41	.03	.96110E-01	1.34	.00	51.14	.00	.00	.10
14	.00	.00	.03	.11828E+00	1.48	.00	54.93	.00	.00	.12
15	.30	.30	.03	.10689E+00	1.31	.00	50.38	.00	.00	.11
16	.00	.00	.03	.12051E+00	1.45	.00	54.22	.00	.00	.12
17	.20	.20	.03	.10896E+00	1.38	.00	52.41	.00	.00	.11
18	.20	.20	.03	.11430E+00	1.32	.00	50.74	.00	.00	.11
19	.20	.20	.03	.11922E+00	1.26	.00	49.19	.00	.00	.12
20	.20	.20	.03	.12376E+00	1.21	.00	47.77	.00	.00	.12
21	.20	.20	.03	.12799E+00	1.16	.00	46.45	.00	.00	.13
22	.20	.20	.03	.13193E+00	1.11	.00	45.24	.00	.00	.13
23	.20	.20	.03	.13559E+00	1.07	.00	44.08	.00	.00	.14
24	.41	.41	.03	.13899E+00	.83	.00	37.30	.00	.00	.14
25	.00	.00	.03	.15952E+00	1.01	.00	42.50	.00	.00	.16
26	.41	.41	.03	.14365E+00	.78	.00	35.81	.00	.00	.14
27	.00	.00	.03	.16401E+00	.97	.00	41.16	.00	.00	.16
28	.00	.00	.03	.14792E+00	1.14	.00	45.93	.00	.00	.15
29	.41	.41	.03	.13351E+00	.89	.00	39.09	.00	.00	.13
30	.00	.00	.03	.15418E+00	1.07	.00	44.09	.00	.00	.15
31	.00	.00	.03	.13924E+00	1.24	.00	48.48	.00	.00	.14

1

2006 2

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.05	.12519E+00	1.41	.00	53.12	.00	.00	.13
2	.00	.00	.05	.11152E+00	1.57	.00	57.40	.00	.00	.11
3	.10	.10	.05	.98731E-01	1.62	.00	58.64	.00	.00	.10
4	.00	.00	.05	.95399E-01	1.77	.00	62.22	.00	.00	.10
5	.30	.30	.05	.84812E-01	1.60	.00	58.06	.00	.00	.08
6	.00	.00	.05	.97096E-01	1.75	.00	61.73	.00	.00	.10
7	.00	.00	.05	.86513E-01	1.88	.00	64.92	.00	.00	.09
8	.30	.30	.05	.76657E-01	1.71	.00	60.79	.00	.00	.08
9	.00	.00	.05	.89316E-01	1.85	.00	64.05	.00	.00	.09
10	.00	.00	.05	.79480E-01	1.98	.00	67.08	.00	.00	.08
11	.41	.41	.05	.70081E-01	1.69	.00	60.42	.00	.00	.07
12	.00	.00	.05	.90379E-01	1.83	.00	63.73	.00	.00	.09
13	.30	.30	.05	.80268E-01	1.66	.00	59.59	.00	.00	.08

14	.00	.00	.05	.92698E-01	1.80	.00	63.02	.00	.00	.09
15	.00	.00	.05	.82597E-01	1.94	.00	66.13	.00	.00	.08
16	.00	.00	.05	.73187E-01	2.06	.00	69.01	.00	.00	.07
17	.00	.00	.05	.64269E-01	2.17	.00	71.68	.00	.00	.06
18	.41	.41	.05	.55386E-01	1.87	.00	64.70	.00	.00	.06
19	.30	.30	.05	.77312E-01	1.70	.00	60.59	.00	.00	.08
20	.10	.10	.05	.89706E-01	1.74	.00	61.50	.00	.00	.09
21	.20	.20	.05	.86986E-01	1.67	.00	59.91	.00	.00	.09
22	.51	.51	.05	.91588E-01	1.31	.00	50.34	.00	.00	.09
23	.00	.00	.05	.11972E+00	1.48	.00	54.83	.00	.00	.12
24	.00	.00	.05	.10647E+00	1.63	.00	58.95	.00	.00	.11
25	.41	.41	.05	.94319E-01	1.37	.00	52.09	.00	.00	.09
26	.00	.00	.05	.11456E+00	1.54	.00	56.45	.00	.00	.11
27	.00	.00	.05	.10173E+00	1.69	.00	60.39	.00	.00	.10
28	.41	.41	.05	.90251E-01	1.42	.00	53.47	.00	.00	.09

1

2006 3

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.10	.10863E+00	1.63	.00	58.99	.00	.00	.11
2	.00	.00	.10	.92747E-01	1.83	.00	63.65	.00	.00	.09
3	.00	.00	.10	.79030E-01	2.01	.00	67.85	.00	.00	.08
4	.20	.20	.10	.65850E-01	1.97	.00	67.02	.00	.00	.07
5	.30	.30	.10	.68458E-01	1.84	.00	63.89	.00	.00	.07
6	.10	.10	.10	.78032E-01	1.92	.00	65.70	.00	.00	.08
7	.00	.00	.10	.72801E-01	2.09	.00	69.76	.00	.00	.07
8	.00	.00	.10	.60058E-01	2.25	.00	73.52	.00	.00	.06
9	.41	.41	.10	.48250E-01	2.00	.00	67.55	.00	.00	.05
10	.20	.20	.10	.66797E-01	1.96	.00	66.74	.00	.00	.07
11	.10	.10	.10	.69328E-01	2.03	.00	68.35	.00	.00	.07
12	.00	.00	.10	.64572E-01	2.20	.00	72.22	.00	.00	.06
13	.00	.00	.10	.52159E-01	2.35	.00	75.54	.00	.00	.05
14	.00	.00	.10	.42548E-01	2.50	.00	78.07	.00	.00	.04
15	.61	.61	.00	.55968E-01	1.94	.00	66.27	.00	.00	.06
16	.00	.00	.10	.71067E-01	2.11	.00	70.29	.00	.00	.07
17	.00	.00	.10	.58332E-01	2.27	.00	74.01	.00	.00	.06
18	.00	.00	.10	.47042E-01	2.42	.00	76.82	.00	.00	.05
19	.00	.00	.10	.38539E-01	2.56	.00	79.24	.00	.00	.04
20	.51	.51	.10	.30682E-01	2.19	.00	71.99	.00	.00	.03
21	.00	.00	.10	.52877E-01	2.34	.00	75.37	.00	.00	.05
22	.00	.00	.10	.43080E-01	2.49	.00	77.92	.00	.00	.04
23	.41	.41	.10	.34872E-01	2.22	.00	72.66	.00	.00	.03
24	.00	.00	.10	.50825E-01	2.37	.00	75.86	.00	.00	.05
25	.30	.30	.10	.41377E-01	2.21	.00	72.45	.00	.00	.04
26	.00	.00	.10	.51474E-01	2.36	.00	75.70	.00	.00	.05
27	.00	.00	.10	.42033E-01	2.50	.00	78.22	.00	.00	.04
28	.30	.30	.10	.33919E-01	2.33	.00	75.24	.00	.00	.03
29	.00	.00	.10	.43492E-01	2.48	.00	77.80	.00	.00	.04
30	.00	.00	.10	.35410E-01	2.62	.00	80.16	.00	.00	.04
31	.20	.20	.10	.27762E-01	2.54	.00	78.89	.00	.00	.03

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2006 4

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.20	.28545E-01	2.77	.00	82.88	.00	.00	.00
2	.00	.00	.20	.14756E-01	2.99	.00	86.63	.00	.00	.00
3	.30	.30	.20	.24905E-02	2.89	.00	84.93	.00	.00	.00
4	.00	.00	.20	.69579E-02	3.10	.00	88.54	.00	.00	.00
5	.30	.30	.20	-.37884E-02	3.00	.00	86.73	.00	.00	.00
6	.20	.20	.20	.11659E-02	3.00	.00	86.75	.00	.00	.00
7	.00	.00	.20	.73409E-03	3.20	.00	90.19	.00	.00	.00
8	.00	.00	.20	-.83571E-02	3.40	.00	92.55	.00	.00	.00
9	.41	.41	.20	-.14374E-01	3.18	.00	89.82	.00	.00	.00
10	.30	.30	.20	-.56802E-02	3.07	.00	88.03	.00	.00	.00
11	.00	.00	.20	-.99957E-03	3.28	.00	91.06	.00	.00	.00
12	.51	.51	.20	-.90060E-02	2.96	.00	86.10	.00	.00	.00
13	.00	.00	.20	.43482E-02	3.17	.00	89.64	.00	.00	.00
14	.00	.00	.20	-.55572E-02	3.37	.00	92.17	.00	.00	.00
15	.51	.51	.20	-.12193E-01	3.05	.00	87.62	.00	.00	.00
16	.30	.30	.20	.78608E-03	2.95	.00	85.89	.00	.00	.00
17	.20	.20	.20	.56355E-02	2.95	.00	85.98	.00	.00	.00
18	.00	.00	.20	.45986E-02	3.16	.00	89.52	.00	.00	.00
19	.00	.00	.20	-.54034E-02	3.36	.00	92.09	.00	.00	.00
20	.51	.51	.20	-.12110E-01	3.04	.00	87.51	.00	.00	.00

Напоително – отводнителни полета

21	.00	.00	.20	.74275E-03	3.25	.00	90.72	.00	.00	.00
22	.41	.41	.20	-.77600E-02	3.04	.00	87.39	.00	.00	.00
23	.30	.30	.20	.13032E-02	2.94	.00	85.66	.00	.00	.00
24	.20	.20	.20	.61052E-02	2.94	.00	85.77	.00	.00	.00
25	.00	.00	.20	.50728E-02	3.15	.00	89.32	.00	.00	.00
26	.30	.30	.20	-.49683E-02	3.04	.00	87.52	.00	.00	.00
27	.20	.20	.20	-.94926E-04	3.04	.00	87.52	.00	.00	.00
28	.20	.20	.20	-.85280E-04	3.04	.00	87.52	.00	.00	.00
29	.00	.00	.20	-.25681E-03	3.25	.00	90.71	.00	.00	.00
30	.30	.30	.20	-.86134E-02	3.14	.00	89.09	.00	.00	.00

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2006 5

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.30	-.12009E+00	3.32	.00	91.62	.00	.00	.00
2	.00	.00	.30	-.23660E+00	3.39	.00	92.45	.00	.00	.00
3	.61	.61	.00	-.21652E+00	2.56	.00	79.24	.00	.00	.00
4	.30	.30	.30	-.19379E+00	2.37	.00	75.87	.00	.00	.00
5	.00	.00	.30	-.18167E+00	2.49	.00	78.02	.00	.00	.00
6	.00	.00	.30	-.18928E+00	2.61	.00	80.01	.00	.00	.00
7	.61	.61	.00	-.16535E+00	1.83	.00	63.75	.00	.00	.00
8	.00	.00	.30	-.13708E+00	2.00	.00	67.65	.00	.00	.00
9	.00	.00	.30	-.15294E+00	2.15	.00	71.18	.00	.00	.00
10	.61	.61	.00	-.12537E+00	1.42	.00	53.30	.00	.00	.00
11	.00	.00	.30	-.97097E-01	1.63	.00	58.75	.00	.00	.00
12	.00	.00	.30	-.11763E+00	1.81	.00	63.27	.00	.00	.00
13	.00	.00	.30	-.13515E+00	1.98	.00	67.22	.00	.00	.00
14	.79	.79	.00	-.10894E+00	1.09	.00	44.53	.00	.00	.00
15	.00	.00	.30	-.64524E-01	1.33	.00	50.89	.00	.00	.00
16	.00	.00	.30	-.87941E-01	1.54	.00	56.60	.00	.00	.00
17	.61	.61	.00	-.66129E-01	.87	.00	38.42	.00	.00	.00
18	.00	.00	.30	-.43293E-01	1.13	.00	45.68	.00	.00	.00
19	.41	.41	.30	-.69266E-01	.96	.00	40.97	.00	.00	.00
20	.10	.10	.30	-.52704E-01	1.11	.00	45.14	.00	.00	.00
21	.41	.41	.30	-.67305E-01	.94	.00	40.45	.00	.00	.00
22	.30	.30	.30	-.50918E-01	.89	.00	39.03	.00	.00	.00
23	.30	.30	.30	-.45968E-01	.84	.00	37.72	.00	.00	.00
24	.51	.51	.30	-.41477E-01	.60	.00	30.69	.00	.00	.00
25	.41	.41	.30	-.17259E-01	.48	.00	27.19	.00	.00	.00
26	.30	.30	.30	-.53881E-02	.47	.00	27.03	.00	.00	.00
27	.30	.30	.30	-.48476E-02	.47	.00	26.89	.00	.00	.00
28	.00	.00	.30	-.54169E-02	.77	.00	35.60	.00	.00	.00
29	.30	.30	.30	-.34130E-01	.73	.00	34.62	.00	.00	.00
30	.00	.00	.30	-.31708E-01	1.01	.00	42.34	.00	.00	.00
31	.30	.30	.30	-.57480E-01	.95	.00	40.74	.00	.00	.00

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2006 6

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.38	-.61538E-02	1.32	.00	50.84	.00	.00	.00
2	.00	.00	.38	-.36118E-01	1.67	.00	59.88	.00	.00	.00
3	.71	.71	.00	-.24293E-01	.93	.00	40.30	.00	.00	.00
4	.00	.00	.38	-.24361E-02	1.31	.00	50.53	.00	.00	.00
5	.41	.41	.38	-.35804E-01	1.25	.00	48.91	.00	.00	.00
6	.00	.00	.38	-.31399E-01	1.60	.00	58.13	.00	.00	.00
7	.41	.41	.38	-.61677E-01	1.51	.00	55.83	.00	.00	.00
8	.00	.00	.38	-.53386E-01	1.84	.00	63.94	.00	.00	.00
9	.00	.00	.38	-.81990E-01	2.14	.00	70.90	.00	.00	.00
10	.51	.51	.38	-.10671E+00	1.91	.00	65.46	.00	.00	.00
11	.41	.41	.38	-.88097E-01	1.79	.00	62.82	.00	.00	.00
12	.41	.41	.38	-.78482E-01	1.69	.00	60.38	.00	.00	.00
13	.20	.20	.38	-.69483E-01	1.80	.00	62.93	.00	.00	.00
14	.20	.20	.38	-.78859E-01	1.90	.00	65.23	.00	.00	.00
15	.30	.30	.38	-.87243E-01	1.89	.00	64.97	.00	.00	.00
16	.20	.20	.38	-.86309E-01	1.98	.00	67.10	.00	.00	.00
17	.30	.30	.38	-.94019E-01	1.96	.00	66.68	.00	.00	.00
18	.20	.20	.38	-.92521E-01	2.04	.00	68.67	.00	.00	.00
19	.20	.20	.38	-.99455E-01	2.12	.00	70.49	.00	.00	.00
20	.20	.20	.38	-.10544E+00	2.20	.00	72.17	.00	.00	.00
21	.00	.00	.38	-.11063E+00	2.47	.00	77.56	.00	.00	.00
22	.30	.30	.38	-.12788E+00	2.41	.00	76.67	.00	.00	.00
23	.00	.00	.38	-.12445E+00	2.67	.00	81.09	.00	.00	.00
24	.41	.41	.38	-.14002E+00	2.51	.00	78.24	.00	.00	.00
25	.00	.00	.38	-.12988E+00	2.76	.00	82.57	.00	.00	.00

26	.00	.00	.38	-.14475E+00	2.99	.00	86.63	.00	.00	.00
27	.61	.61	.00	-.13054E+00	2.25	.00	73.50	.00	.00	.00
28	.00	.00	.38	-.11451E+00	2.52	.00	78.48	.00	.00	.00
29	.00	.00	.38	-.13069E+00	2.77	.00	82.79	.00	.00	.00
30	.61	.61	.00	-.11623E+00	2.04	.00	68.64	.00	.00	.00

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2006 7

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.41	-.10005E+00	2.35	.00	75.51	.00	.00	.00
2	.00	.00	.41	-.12129E+00	2.63	.00	80.47	.00	.00	.00
3	.00	.00	.41	-.13827E+00	2.90	.00	85.09	.00	.00	.00
4	.99	.99	.00	-.12498E+00	1.79	.00	62.68	.00	.00	.00
5	.00	.00	.41	-.78313E-01	2.12	.00	70.31	.00	.00	.00
6	.00	.00	.41	-.10564E+00	2.42	.00	76.71	.00	.00	.00
7	.00	.00	.41	-.12528E+00	2.70	.00	81.55	.00	.00	.00
8	.61	.61	.00	-.11126E+00	1.98	.00	67.08	.00	.00	.00
9	.89	.89	.00	-.51942E-01	1.04	.00	43.13	.00	.00	.00
10	.71	.71	.00	.34306E-01	.36	.00	23.41	.00	.00	.00
11	.61	.48	.00	.12046E+00	.00	.00	.00	.13	.00	.00
12	.00	.13	.41	.11711E+00	.39	.00	24.57	.00	.00	.00
13	.61	.51	.00	.11492E+00	.00	.00	.00	.10	.00	.00
14	.00	.10	.41	.11376E+00	.42	.00	25.36	.00	.00	.00
15	.00	.00	.41	.46900E-01	.87	.00	38.53	.00	.00	.00
16	.00	.00	.41	.40963E-02	1.28	.00	49.71	.00	.00	.00
17	.00	.00	.41	-.35337E-01	1.65	.00	59.45	.00	.00	.00
18	.00	.00	.41	-.66638E-01	1.99	.00	67.45	.00	.00	.00
19	.00	.00	.41	-.95856E-01	2.30	.00	74.66	.00	.00	.00
20	.00	.00	.41	-.11844E+00	2.59	.00	79.72	.00	.00	.00
21	.00	.00	.41	-.13567E+00	2.86	.00	84.38	.00	.00	.00
22	.00	.00	.41	-.15164E+00	3.12	.00	88.76	.00	.00	.00
23	.00	.00	.41	-.16557E+00	3.36	.00	92.06	.00	.00	.00
24	.00	.00	.41	-.17578E+00	3.59	.00	94.86	.00	.00	.00
25	.00	.00	.41	-.18524E+00	3.81	.00	97.54	.00	.00	.00
26	.00	.00	.41	-.19426E+00	4.02	.00	100.12	.00	.00	.00
27	.00	.00	.41	-.20286E+00	4.22	.00	102.59	.00	.00	.00
28	.00	.00	.41	-.21107E+00	4.42	.00	104.96	.00	.00	.00
29	.00	.00	.41	-.21891E+00	4.61	.00	107.24	.00	.00	.00
30	.00	.00	.41	-.22639E+00	4.79	.00	109.43	.00	.00	.00
31	.00	.00	.41	-.23354E+00	4.96	.00	111.53	.00	.00	.00

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2006 8

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.36	-.18293E+00	5.13	.00	113.63	.00	.00	.00
2	.00	.00	.36	-.18446E+00	5.30	.00	115.70	.00	.00	.00
3	.00	.00	.36	-.19094E+00	5.47	.00	117.70	.00	.00	.00
4	.00	.00	.36	-.19714E+00	5.63	.00	119.61	.00	.00	.00
5	.61	.61	.00	-.18565E+00	4.83	.00	109.97	.00	.00	.00
6	.00	.00	.36	-.17299E+00	5.01	.00	112.19	.00	.00	.00
7	.00	.00	.36	-.17996E+00	5.19	.00	114.32	.00	.00	.00
8	.00	.00	.36	-.18663E+00	5.36	.00	116.37	.00	.00	.00
9	.00	.00	.36	-.19302E+00	5.52	.00	118.35	.00	.00	.00
10	.00	.00	.36	-.19910E+00	5.68	.00	120.19	.00	.00	.00
11	.00	.00	.36	-.20453E+00	5.83	.00	121.80	.00	.00	.00
12	.00	.00	.36	-.20942E+00	5.98	.00	123.33	.00	.00	.00
13	.00	.00	.36	-.21413E+00	6.12	.00	124.82	.00	.00	.00
14	.71	.71	.00	-.20339E+00	5.20	.00	114.47	.00	.00	.00
15	.00	.00	.36	-.18709E+00	5.37	.00	116.51	.00	.00	.00
16	.00	.00	.36	-.19346E+00	5.53	.00	118.48	.00	.00	.00
17	.00	.00	.36	-.19951E+00	5.69	.00	120.32	.00	.00	.00
18	.00	.00	.36	-.20489E+00	5.84	.00	121.91	.00	.00	.00
19	.61	.61	.00	-.19356E+00	5.04	.00	112.46	.00	.00	.00
20	.00	.00	.36	-.18080E+00	5.21	.00	114.58	.00	.00	.00
21	1.30	1.30	.00	-.15845E+00	3.76	.00	96.92	.00	.00	.00
22	.00	.00	.36	-.13130E+00	3.98	.00	99.64	.00	.00	.00
23	.00	.00	.36	-.14011E+00	4.20	.00	102.26	.00	.00	.00
24	.00	.00	.36	-.14851E+00	4.40	.00	104.78	.00	.00	.00
25	.00	.00	.36	-.15655E+00	4.60	.00	107.19	.00	.00	.00
26	.71	.71	.00	-.14634E+00	3.75	.00	96.78	.00	.00	.00
27	.00	.00	.36	-.13085E+00	3.97	.00	99.51	.00	.00	.00
28	.00	.00	.36	-.13967E+00	4.19	.00	102.13	.00	.00	.00
29	.00	.00	.36	-.14810E+00	4.39	.00	104.65	.00	.00	.00
30	.00	.00	.36	-.15615E+00	4.59	.00	107.07	.00	.00	.00

31	.00	.00	.36	-.16385E+00	4.79	.00	109.40	.00	.00	.00
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2006 9

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.23	-.16896E+00	4.85	.00	110.13	.00	.00	.00
2	.20	.20	.23	-.17131E+00	4.70	.00	108.36	.00	.00	.00
3	.00	.00	.23	-.16565E+00	4.76	.00	109.12	.00	.00	.00
4	.00	.00	.23	-.16807E+00	4.82	.00	109.86	.00	.00	.00
5	.00	.00	.23	-.17039E+00	4.88	.00	110.56	.00	.00	.00
6	.00	.00	.23	-.17262E+00	4.94	.00	111.24	.00	.00	.00
7	.00	.00	.23	-.17476E+00	4.99	.00	111.90	.00	.00	.00
8	.41	.41	.23	.31543E-01	4.84	.00	110.12	.00	.00	.00
9	.00	.00	.23	.40988E-01	5.11	.00	113.39	.00	.00	.00
10	.00	.00	.23	.28384E-01	5.37	.00	116.52	.00	.00	.00
11	.00	.00	.23	.17700E-01	5.62	.00	119.49	.00	.00	.00
12	.00	.00	.23	.85047E-02	5.85	.00	122.06	.00	.00	.00
13	.00	.00	.23	.37595E-03	6.08	.00	124.46	.00	.00	.00
14	.00	.00	.23	-.57662E-02	6.31	.00	126.80	.00	.00	.00
15	.00	.00	.23	-.10485E-01	6.52	.00	129.09	.00	.00	.00
16	.00	.00	.23	-.14051E-01	6.74	.00	131.34	.00	.00	.00
17	.00	.00	.23	-.16659E-01	6.95	.00	133.56	.00	.00	.00
18	.00	.00	.23	-.18459E-01	7.16	.00	135.77	.00	.00	.00
19	.00	.00	.23	-.19565E-01	7.37	.00	137.96	.00	.00	.00
20	.00	.00	.23	.00000E+00	7.60	.00	140.36	.00	.00	.00
21	.00	.00	.23	.00000E+00	7.83	.00	142.75	.00	.00	.00
22	.00	.00	.23	.00000E+00	8.06	.00	145.15	.00	.00	.00
23	.51	.51	.23	.00000E+00	7.78	.00	142.22	.00	.00	.00
24	.00	.00	.23	.00000E+00	8.01	.00	144.62	.00	.00	.00
25	.00	.00	.23	.00000E+00	8.23	.00	147.02	.00	.00	.00
26	.71	.71	.00	.00000E+00	7.52	.00	139.56	.00	.00	.00
27	.00	.00	.23	.00000E+00	7.75	.00	141.96	.00	.00	.00
28	.79	.79	.00	.00000E+00	6.96	.00	133.70	.00	.00	.00
29	.00	.00	.23	.00000E+00	7.19	.00	136.09	.00	.00	.00
30	.61	.61	.00	.34811E-05	6.58	.00	129.70	.00	.00	.00

1

2006 10

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.10	.36959E-03	6.68	.00	130.77	.00	.00	.00
2	.30	.30	.10	.00000E+00	6.48	.00	128.64	.00	.00	.00
3	.00	.00	.10	.20047E-02	6.59	.00	129.72	.00	.00	.00
4	.10	.10	.10	.22659E-03	6.59	.00	129.73	.00	.00	.00
5	.00	.00	.10	.33619E-03	6.69	.00	130.80	.00	.00	.00
6	.00	.00	.10	.00000E+00	6.79	.00	131.86	.00	.00	.00
7	.00	.00	.10	.00000E+00	6.89	.00	132.93	.00	.00	.00
8	.00	.00	.10	.00000E+00	6.99	.00	133.99	.00	.00	.00
9	.00	.00	.10	.00000E+00	7.09	.00	135.06	.00	.00	.00
10	.00	.00	.10	.00000E+00	7.20	.00	136.12	.00	.00	.00
11	.00	.00	.10	.00000E+00	7.30	.00	137.19	.00	.00	.00
12	.20	.20	.10	.00000E+00	7.20	.00	136.12	.00	.00	.00
13	.00	.00	.10	.00000E+00	7.30	.00	137.19	.00	.00	.00
14	.41	.41	.10	.00000E+00	6.99	.00	133.99	.00	.00	.00
15	.00	.00	.10	.00000E+00	7.09	.00	135.06	.00	.00	.00
16	.00	.00	.10	.00000E+00	7.20	.00	136.12	.00	.00	.00
17	.61	.61	.00	.31601E-06	6.59	.00	129.73	.00	.00	.00
18	.00	.00	.10	.33183E-03	6.69	.00	130.80	.00	.00	.00
19	.00	.00	.10	.00000E+00	6.79	.00	131.87	.00	.00	.00
20	.71	.71	.00	.37291E-02	6.08	.00	124.44	.00	.00	.00
21	.51	.51	.10	.12450E-01	5.69	.00	120.30	.00	.00	.01
22	.30	.30	.10	.22952E-01	5.51	.00	118.17	.00	.00	.02
23	.00	.00	.10	.28306E-01	5.64	.00	119.72	.00	.00	.03
24	.30	.30	.10	.24362E-01	5.46	.00	117.58	.00	.00	.02
25	.00	.00	.10	.29847E-01	5.59	.00	119.17	.00	.00	.03
26	.20	.20	.10	.25722E-01	5.51	.00	118.25	.00	.00	.03
27	.51	.51	.10	.28025E-01	5.14	.00	113.66	.00	.00	.03
28	.71	.71	.00	.51355E-01	4.48	.00	105.64	.00	.00	.05
29	.71	.71	.00	.73719E-01	3.84	.00	97.90	.00	.00	.07
30	.51	.51	.10	.83992E-01	3.52	.00	93.98	.00	.00	.08
31	.30	.30	.10	.95486E-01	3.41	.00	92.68	.00	.00	.10

1

2006 11

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.20	.20	.05	.10027E+00	3.36	.00	92.04	.00	.00	.10
2	.00	.00	.05	.10228E+00	3.51	.00	93.90	.00	.00	.10
3	.00	.00	.05	.96725E-01	3.66	.00	95.69	.00	.00	.10
4	.20	.20	.05	.91314E-01	3.60	.00	94.95	.00	.00	.09
5	.00	.00	.05	.93612E-01	3.74	.00	96.71	.00	.00	.09
6	.00	.00	.05	.88447E-01	3.88	.00	98.40	.00	.00	.09
7	.00	.00	.05	.83512E-01	4.01	.00	100.03	.00	.00	.08
8	.00	.00	.05	.78793E-01	4.14	.00	101.60	.00	.00	.08
9	.71	.71	.00	.85363E-01	3.52	.00	94.00	.00	.00	.09
10	.41	.41	.05	.96318E-01	3.26	.00	90.85	.00	.00	.10
11	.20	.20	.05	.10574E+00	3.21	.00	90.29	.00	.00	.11
12	.00	.00	.05	.10758E+00	3.37	.00	92.21	.00	.00	.11
13	.00	.00	.05	.10178E+00	3.52	.00	94.06	.00	.00	.10
14	.51	.51	.05	.96137E-01	3.16	.00	89.50	.00	.00	.10
15	.00	.00	.05	.10951E+00	3.32	.00	91.62	.00	.00	.11
16	.00	.00	.05	.10354E+00	3.48	.00	93.50	.00	.00	.10
17	.51	.51	.05	.97813E-01	3.12	.00	88.76	.00	.00	.10
18	.00	.00	.05	.11141E+00	3.28	.00	91.10	.00	.00	.11
19	.00	.00	.05	.10511E+00	3.43	.00	93.00	.00	.00	.11
20	.00	.00	.05	.99422E-01	3.58	.00	94.82	.00	.00	.10
21	.00	.00	.05	.93997E-01	3.73	.00	96.58	.00	.00	.09
22	.79	.79	.00	.10018E+00	3.04	.00	87.50	.00	.00	.10
23	.00	.00	.05	.11495E+00	3.21	.00	90.25	.00	.00	.11
24	.51	.51	.05	.10757E+00	2.86	.00	84.33	.00	.00	.11
25	.00	.00	.05	.12460E+00	3.03	.00	87.35	.00	.00	.12
26	.30	.30	.05	.11521E+00	2.90	.00	84.96	.00	.00	.12
27	.20	.20	.05	.12246E+00	2.87	.00	84.44	.00	.00	.12
28	.20	.20	.05	.12405E+00	2.84	.00	83.96	.00	.00	.12
29	.20	.20	.05	.12555E+00	2.81	.00	83.49	.00	.00	.13
30	.20	.20	.05	.12698E+00	2.78	.00	83.06	.00	.00	.13

1

2006 12

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.00	.00	.03	.12255E+00	2.93	.00	85.60	.00	.00	.00
2	.20	.20	.03	.10264E+00	2.86	.00	84.31	.00	.00	.00
3	.20	.20	.03	.97364E-01	2.78	.00	82.92	.00	.00	.00
4	.20	.20	.03	.93459E-01	2.69	.00	81.47	.00	.00	.00
5	.20	.20	.03	.90539E-01	2.61	.00	79.97	.00	.00	.00
6	.20	.20	.03	.88362E-01	2.52	.00	78.43	.00	.00	.00
7	.00	.00	.03	.87016E-01	2.63	.00	80.36	.00	.00	.00
8	.30	.30	.03	.74822E-01	2.42	.00	76.84	.00	.00	.00
9	.00	.00	.03	.80872E-01	2.53	.00	78.67	.00	.00	.00
10	.41	.41	.03	.69688E-01	2.22	.00	72.72	.00	.00	.00
11	.00	.00	.03	.83119E-01	2.33	.00	75.10	.00	.00	.00
12	.00	.00	.03	.71177E-01	2.42	.00	76.84	.00	.00	.00
13	.00	.00	.03	.61495E-01	2.51	.00	78.34	.00	.00	.00
14	.51	.51	.03	.52955E-01	2.08	.00	69.52	.00	.00	.00
15	.00	.00	.03	.76910E-01	2.18	.00	71.90	.00	.00	.00
16	.00	.00	.03	.64885E-01	2.27	.00	73.99	.00	.00	.00
17	.51	.51	.03	.54655E-01	1.85	.00	64.04	.00	.00	.00
18	.00	.00	.03	.81954E-01	1.95	.00	66.54	.00	.00	.00
19	.41	.41	.03	.69813E-01	1.64	.00	59.17	.00	.00	.00
20	.00	.00	.03	.87793E-01	1.76	.00	61.93	.00	.00	.00
21	.00	.00	.03	.75254E-01	1.86	.00	64.28	.00	.00	.00
22	.61	.61	.00	.86622E-01	1.33	.00	51.06	.00	.00	.00
23	.00	.00	.03	.98661E-01	1.46	.00	54.33	.00	.00	.00
24	.41	.41	.03	.83889E-01	1.16	.00	46.50	.00	.00	.00
25	.00	.00	.03	.10345E+00	1.29	.00	49.89	.00	.00	.00
26	.41	.41	.03	.88067E-01	1.00	.00	42.02	.00	.00	.00
27	.20	.20	.03	.10761E+00	.93	.00	40.06	.00	.00	.00
28	.20	.20	.03	.10872E+00	.86	.00	38.11	.00	.00	.00
29	.20	.20	.03	.10984E+00	.79	.00	36.18	.00	.00	.00
30	.20	.20	.03	.11096E+00	.72	.00	34.26	.00	.00	.00
31	.20	.20	.03	.11210E+00	.66	.00	32.37	.00	.00	.00

Файл Z 2-3_opt.MON

* DRAINMOD version 5.1 *

* Copyright 1980-04 North Carolina State University *

-----RUN STATISTICS ----- time: 7/23/2007 @ 14: 4
input file: C:\Program Files\Drainmod\INPUTS\Z 2-3_opt.Prj
parameters: combination run and yields calculated
drain spacing = 2500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	4.05	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.53	.00	.00	.00	.00	.00
3	3.66	3.66	3.05	1.73	.00	.00	.00	.00	.00
4	5.49	5.49	6.10	-.02	.00	.00	26.73	.00	-.11
5	7.19	7.19	7.92	-2.92	.00	.00	2.25	2.12	-2.93
6	6.60	6.60	10.29	-2.59	.00	.00	.00	.00	-2.59
7	4.42	4.42	10.16	-2.82	.00	.00	9.46	73.08	-3.38
8	3.94	3.94	9.25	-5.48	.00	.00	29.00	.00	-5.48
9	3.23	3.23	6.17	-1.15	.00	.00	30.00	.00	-1.28
10	6.40	6.40	2.74	.48	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	3.11	.00	.00	25.89	.00	.00
12	5.59	5.59	.76	2.70	.00	.00	.60	.00	.00

TOTALS 60.91 60.91 60.07 -.39 .00 .00 154.93 75.19 -15.78

Файл Z 2-3_opt.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14: 4
input file: C:\Program Files\Drainmod\INPUTS\Z 2-3_opt.Prj
parameters: combination run and yields calculated
drain spacing = 2500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.6	2.5	1.7	.0	.0	.0	.0	.5	3.1	.0		
AVERAGE	2.6	2.5	1.7	.0	.0	.0	.0	.5	3.1	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.0	2.5	1.7	.0	-2.9	-2.6	-2.8	-5.5	-1.1	.5	3.1	2.7
AVERAGE	4.0	2.5	1.7	.0	-2.9	-2.6	-2.8	-5.5	-1.1	.5	3.1	2.7

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

AVERAGE .8 1.4 3.0 6.1 7.9 10.3 10.2 9.2 6.2 2.7 1.4 .8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	16.0	31.0	30.0	24.0	31.0	24.0	14.0	.0	.0
AVERAGE	.0	.0	.0	16.0	31.0	30.0	24.0	31.0	24.0	14.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	51.5	60.5	72.2	88.2	53.1	67.1	70.3	112.2	127.2	124.8	91.4	64.1
AVERAGE	51.5	60.5	72.2	88.2	53.1	67.1	70.3	112.2	127.2	124.8	91.4	64.1

Файл Z 2-3_opt.IR

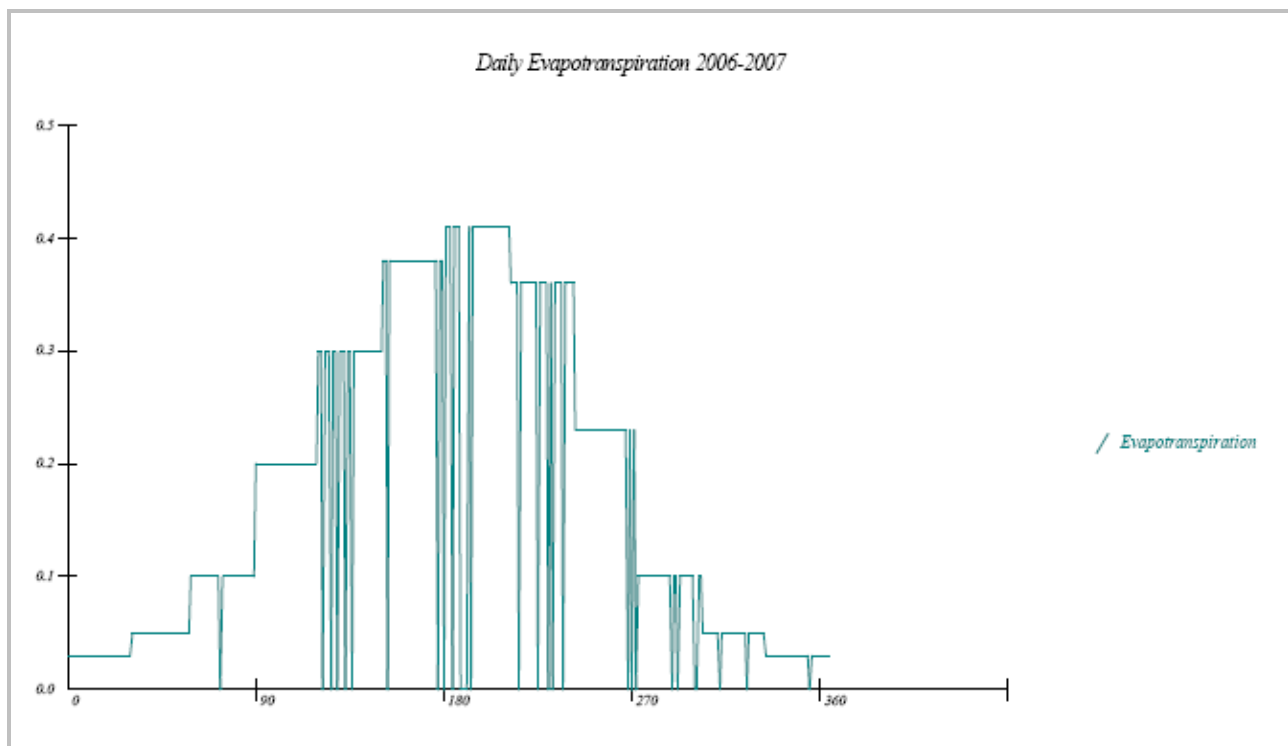
* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL

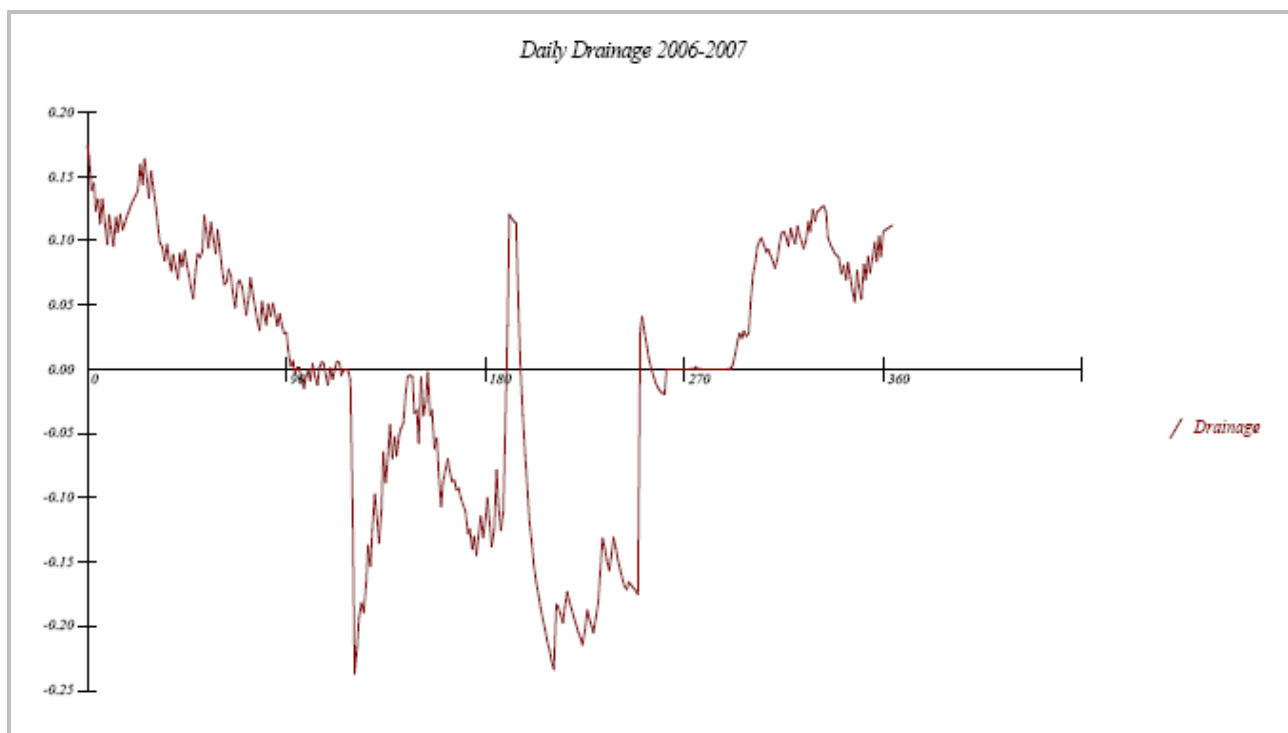
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14: 4
input file: C:\Program Files\Drainmod\INPUTS\Z 2-3_opt.Prj
parameters: combination run and yields calculated
drain spacing = 2500. cm drain depth = 130.0 cm

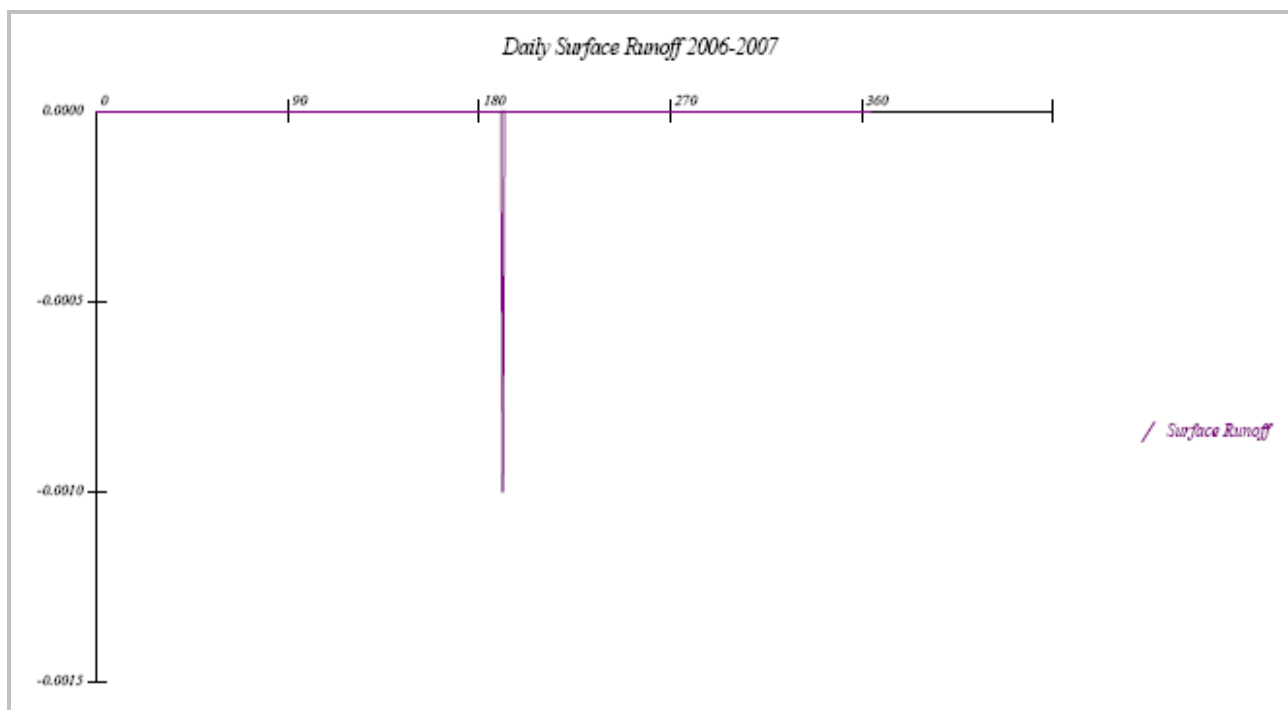
YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	-.39	.00	.00	154.93	75.2	-15.78
AVG	60.91	60.91	60.07	-.39	.00	.00	154.93	75.2	-15.78



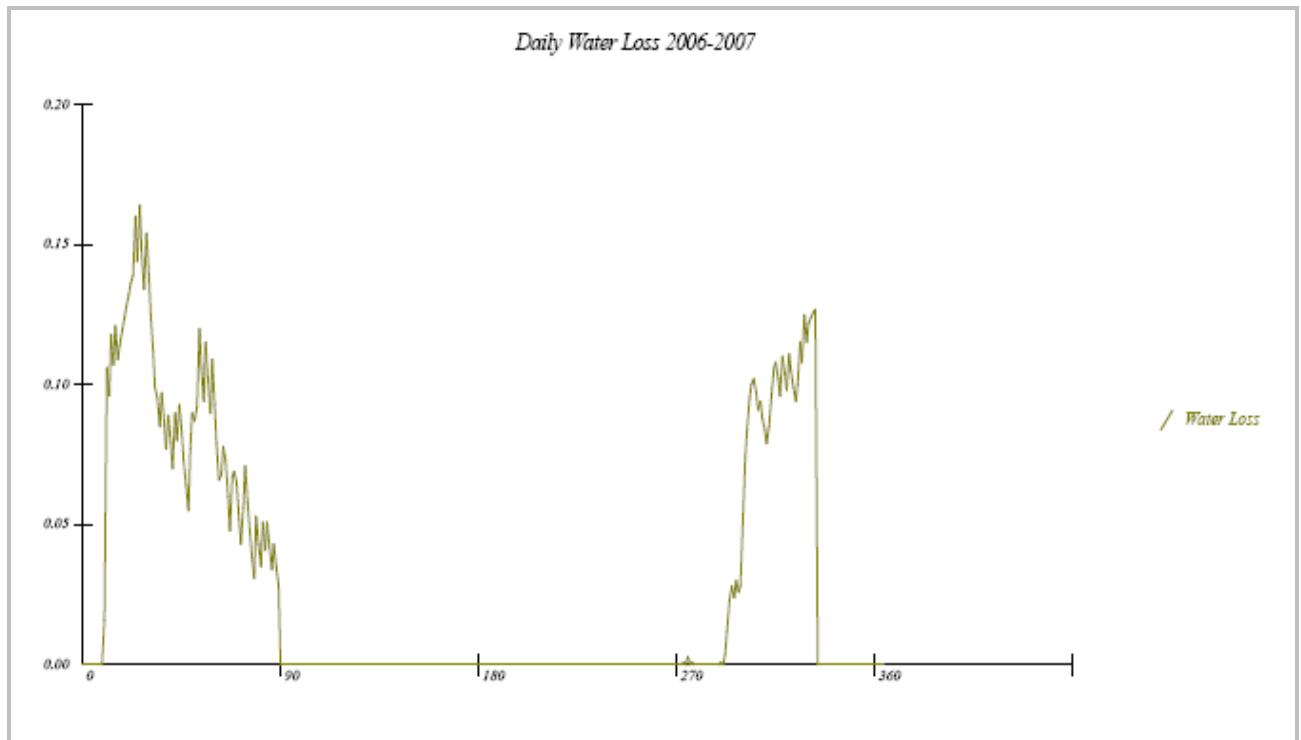
Графика на дневната евапотранспирация за периода на изследване 01.01.2006 – 31.12.2006 год



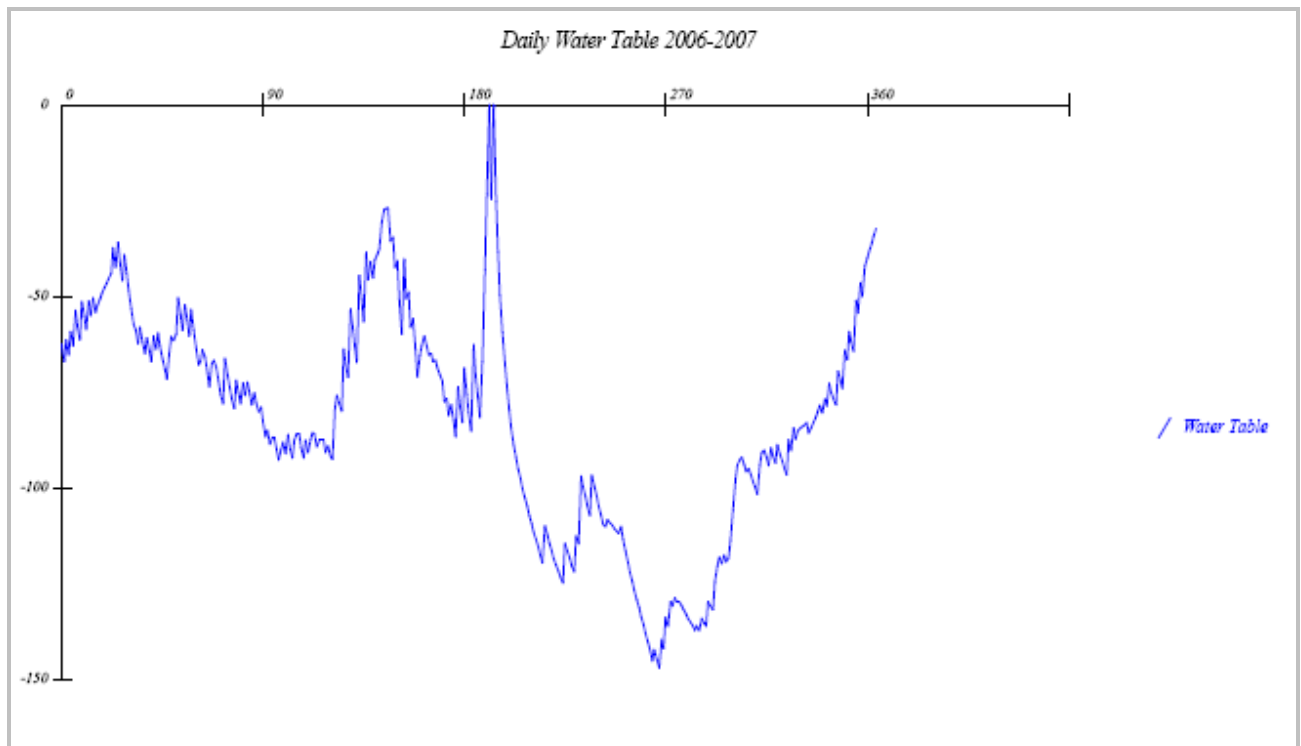
Графика на дневните дренирани обеми за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневният повърхностен отток за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните водни загуби за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните нива на подпочвените води за периода на изследване 01.01.2006 – 31.12.2006 год

4.3.7

Поле Z 3-1

ПРОЕКТ Z 3-1

Входни данни

Файл №1 – Z 3-1.gen

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 204.96 3500.00 2.00 2.00 1.00 9.77 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
720.00 2.00
28. .90 58. 1.10 90. 3.00 0. .00 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)

```

.00 .00
Freezing characteristic curve
0

Файл №3 – 1.SIN
Файл съдържащ данни за почвите.

B-1
320
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.1900000 -180.0
.0900000 -1010.0
.0000 .0000 .5000
3.0000 .0040 .5000
6.0000 .0170 .5000
9.0000 .0380 .5000
12.0000 .0680 .5000
15.0000 .1060 .5000
20.0000 .1890 .5000
25.0000 .2950 .5000
30.0000 .4240 .5000
35.0000 .5700 .5000
40.0000 .7310 .5000
45.0000 .9070 .5000
60.0000 1.5300 .3264
75.0000 2.5510 .0942
90.0000 4.1250 .0438
120.0000 8.9340 .0178
150.0000 15.0950 .0101
200.0000 25.3990 .0052
500.0000 83.8790 .0004
1000.0000 100.0000 .0000
10
.00 .00 8.78
10.00 1.65 8.78
20.00 3.29 8.78
40.00 7.17 9.55
60.00 12.14 10.77
80.00 23.35 15.54
100.00 29.18 15.54
150.00 83.44 15.54
200.00 83.44 15.54
1000.00 83.44 15.54

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 3-1
Файл Z 3-1.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14: 9
input file: C:\Program Files\Drainmod\INPUTS\Z 3-1.Prj
parameters: combination run and yields calculated
drain spacing = 3500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006
MONTH RAIN INFIL ET DRAIN RUNOFF DRY DAYS WRK DAYS SEW PUMP
1 5.49 5.49 .79 5.74 .00 .00 .00 .00 .00
2 3.76 3.76 1.42 2.42 .00 .00 .00 .00 .00
3 3.66 3.66 3.05 1.48 .00 .00 31.00 .00 .00
4 5.49 5.49 6.10 -.13 .00 .00 30.00 .00 -.21
5 7.19 7.19 7.92 -4.56 .00 .00 2.33 46.04 -5.22
6 6.60 6.60 10.29 -3.40 .00 .00 .00 .00 -3.54
7 4.42 4.42 10.16 -4.02 .00 .00 .00 70.48 -6.03

8	3.94	3.94	9.25	-5.14	.00	.00	3.48	.00	-5.25
9	3.23	3.23	6.17	-.59	.00	.00	22.55	.00	-1.65
10	6.40	6.40	2.74	5.48	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	4.84	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	.89	.00	.00	31.00	.00	.00

TOTALS 60.91 60.91 60.07 3.01 .00 .00 181.37 116.52 -21.91

Файл Z 3-1.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14: 9
input file: C:\Program Files\Drainmod\INPUTS\Z 3-1.Prj
parameters: combination run and yields calculated
drain spacing = 3500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.7	2.4	1.5	.0	.0	.0	.0	6.2	4.8	.0		
AVERAGE	4.7	2.4	1.5	.0	.0	.0	.0	6.2	4.8	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.7	2.4	1.5	-.1	-4.6	-3.4	-4.0	-5.1	-.6	5.5	4.8	.9
AVERAGE	5.7	2.4	1.5	-.1	-4.6	-3.4	-4.0	-5.1	-.6	5.5	4.8	.9

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	20.0	23.0	28.0	24.0	30.0	18.0	.0	.0	.0
AVERAGE	.0	.0	.0	20.0	23.0	28.0	24.0	30.0	18.0	.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	74.7	82.0	85.6	91.2	37.3	51.5	54.6	72.8	91.7	112.2	113.6	103.2
AVERAGE	74.7	82.0	85.6	91.2	37.3	51.5	54.6	72.8	91.7	112.2	113.6	103.2

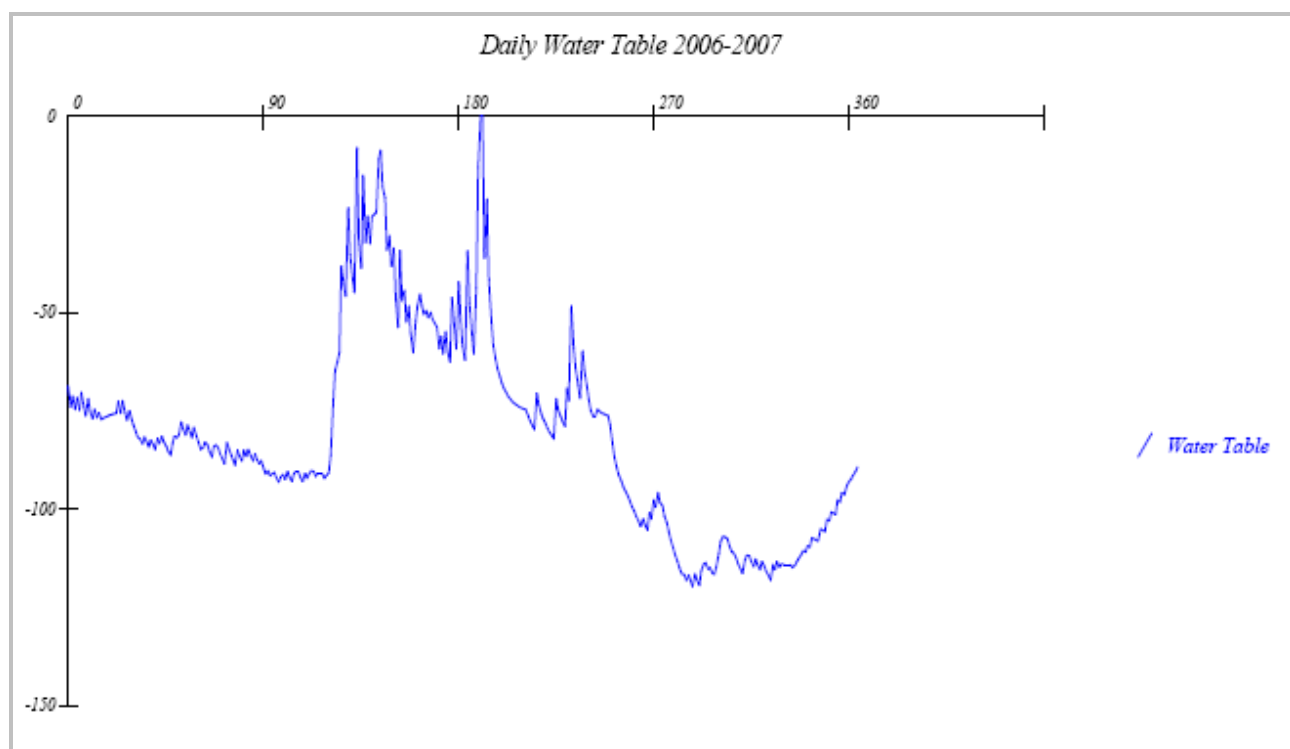
Файл Z 3-1.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14: 9
 input file: C:\Program Files\Drainmod\INPUTS\Z 3-1.Prj
 parameters: combination run and yields calculated
 drain spacing = 3500. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	3.01	.00	.00	181.37	116.5	-21.91
AVG	60.91	60.91	60.07	3.01	.00	.00	181.37	116.5	-21.91



Графика на дневните нива на подпочвените води за периода на изследване
 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 3-1_min**Входни данни****Файл №1 – Z 3-1_min.gen**

*** Job Title ***

COMBO, SUMMER YIELD, MIRCHO SOIL

DIMITROVGRAD WEATHER DATA

*** Printout and Input Control ***

1 211 C:\Program Files\Drainmod\outputs

*** Climate ***

1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI

1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET

2006 1 2006 12 4200 75 0

1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

*** Drainage System Design ***

4 .00

130.00 107.69 1500.00 2.00 2.00 1.00 9.82 65.00

0 2.500000E-01 300.000000

0 0.000000E+00 150.000000 2.000000

0 150.000000 200.000000 2000.000000 1.500000

50.00 1.00 .00

1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120

*** Soils ***

720.00 2.00

28. .90 58. 1.10 90. 3.00 0. .00 0. .00

99 .00

*** Trafficability ***

4 1 5 1 820 3.9 1.2 2.0

12321232 820 3.9 1.2 2.0

*** Crop ***

.600

410 818 30.00

410 818

11

1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00

924 10.00 925 3.00 1231 3.00

*** Wastewater Irrigation ***

0 1 1 10 1 6

0 0 0 0 0 0

7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40

WET *** Wetlands Information ***

0

1 365

30.0 14

COM *** Combo Drainage Weir Settings ***

1 1 1 90.0

1 2 1 90.0

1 3 1 90.0

1 4 1 60.0

2 5 1 30.0

2 6 1 45.0

2 7 1 45.0

2 8 1 60.0

1 9 8 90.0

0 10 1 140.0

0 11 1 140.0

1 12 1 65.0

FPE *** Fixed Avg Daily PET for the month(cm) ***

.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00

MRA *** Monthly Ranking ***

1

FAC *** Daily PET Factors ***

0

AQH *** Time series of aquifer head ***

STM *** Soil Temperature ***

ZA	ZB	TKA	TKB	TB	TLAG	TSNOW	TMELT	CDEG	CICE
.000	.000	.000	.000	.0	.0	.0	.0	.0	.0

Initial Soil Temperature

0

Initial snow depth(m) & density(kg/m3)

.00 .00

Freezing characteristic curve

0

Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 3-1_min

Файл Z 3-1_min.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:15
input file: C:\Program Files\Drainmod\INPUTS\Z 3-1_min.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	6.70	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.09	.00	.00	.00	.00	-.01
3	3.66	3.66	3.05	1.04	.00	.00	31.00	.00	-.13
4	5.49	5.49	6.10	-.22	.00	.00	30.00	.00	-.53
5	7.19	7.19	7.92	-4.90	.00	.00	.00	40.47	-7.79
6	6.60	6.60	10.29	-3.32	.00	.00	.00	.28	-4.72
7	4.42	4.42	10.16	-5.13	.00	.00	.00	3.55	-8.25
8	3.94	3.94	9.25	-4.53	.00	.00	.00	.00	-5.79
9	3.23	3.23	6.17	.09	.00	.00	22.40	.00	-2.39
10	6.40	6.40	2.74	7.35	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	4.72	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	1.24	.00	.00	31.00	.00	.00

TOTALS 60.91 60.91 60.07 5.14 .00 .00 175.40 44.30 -29.62

Файл Z 3-1_min.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:15
input file: C:\Program Files\Drainmod\INPUTS\Z 3-1_min.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.3	2.1	1.0	.0	.0	.0	.0	.0	9.0	4.7	.0	.0
AVERAGE	4.3	2.1	1.0	.0	.0	.0	.0	.0	9.0	4.7	.0	.0

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	6.7	2.1	1.0	-.2	-4.9	-3.3	-5.1	-4.5	.1	7.4	4.7	1.2
AVERAGE	6.7	2.1	1.0	-.2	-4.9	-3.3	-5.1	-4.5	.1	7.4	4.7	1.2

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW												
RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	1.0	8.0	16.0	14.0	22.0	21.0	24.0	20.0	.0	.0	1.0
AVERAGE	.0	1.0	8.0	16.0	14.0	22.0	21.0	24.0	20.0	.0	.0	1.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS												
RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	84.9	87.4	88.8	91.8	27.8	44.8	48.0	63.2	89.8	121.9	124.2	114.7
AVERAGE	84.9	87.4	88.8	91.8	27.8	44.8	48.0	63.2	89.8	121.9	124.2	114.7

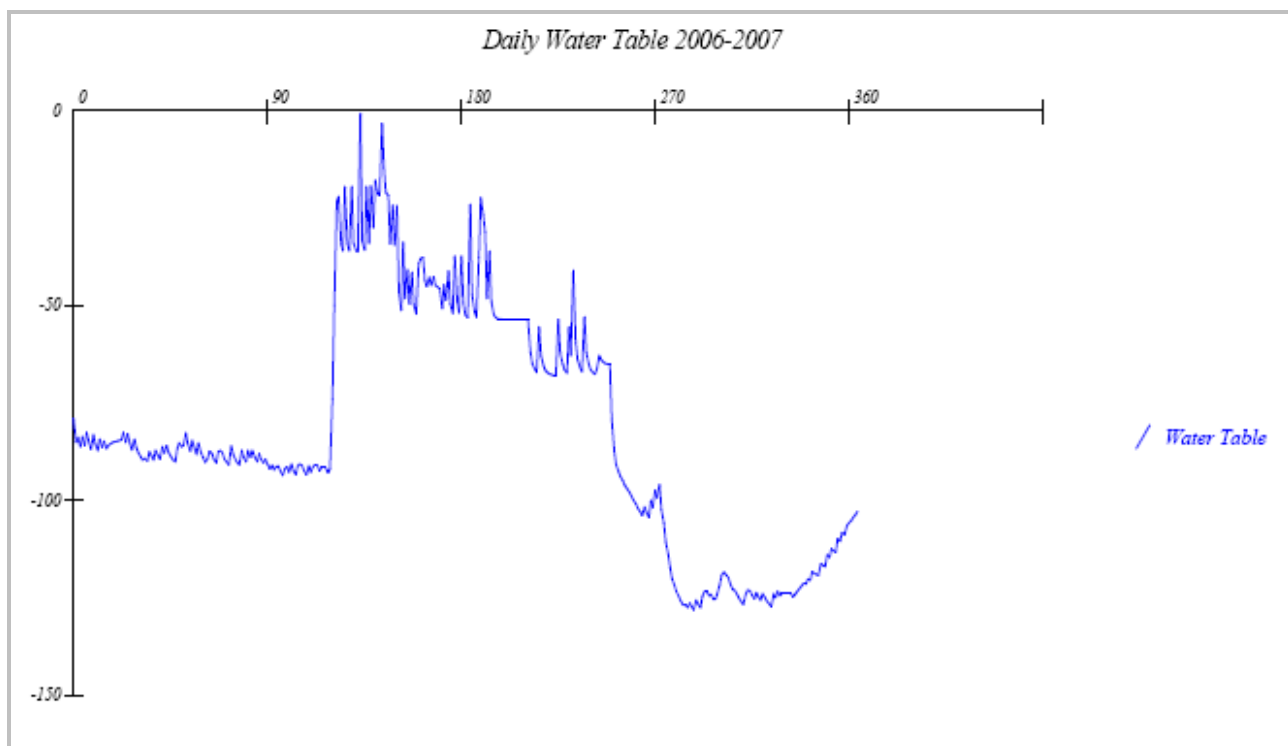
Файл Z 3-1_min.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:15
 input file: C:\Program Files\Drainmod\INPUTS\Z 3-1_min.Prj
 parameters: combination run and yields calculated
 drain spacing = 1500. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	5.14	.00	.00	175.40	44.3	-29.62
AVG	60.91	60.91	60.07	5.14	.00	.00	175.40	44.3	-29.62



Графика на дневните нива на подпочвените води за периода на изследване
 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 3-1_max**Входни данни****Файл №1 – Z 3-1_max.gen**

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 282.50 6000.00 2.00 2.00 1.00 9.77 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
720.00 2.00
28. .90 58. 1.10 90. 3.00 0. .00 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

```

Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 3-1_max

Файл Z 3-1_max.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:12
input file: C:\Program Files\Drainmod\INPUTS\Z 3-1_max.Prj
parameters: combination run and yields calculated
drain spacing = 6000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK	DAYS	SEW	PUMP
1	5.49	5.49	.79	4.64	.00	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.60	.00	.00	.00	.00	.00	.00
3	3.66	3.66	3.05	1.85	.00	.00	14.62	.00	.00	.00
4	5.49	5.49	6.10	-.02	.00	.00	30.00	.00	-.11	.00
5	7.19	7.19	7.92	-3.99	.00	.00	4.00	17.27	-4.09	.00
6	6.60	6.60	10.29	-2.81	.00	.00	.00	.00	-2.84	.00
7	4.42	4.42	10.16	-2.83	.00	.00	8.42	99.82	-3.87	.00
8	3.94	3.94	9.25	-5.46	.00	.00	29.00	.00	-5.46	.00
9	3.23	3.23	6.17	-.90	.00	.00	30.00	.00	-1.32	.00
10	6.40	6.40	2.74	2.87	.00	.00	31.00	.00	.00	.00
11	5.16	5.16	1.42	3.97	.00	.00	30.00	.00	.00	.00
12	5.59	5.59	.76	.91	.00	.00	24.00	.00	.00	.00
TOTALS	60.91	60.91	60.07	.84	.00	.00	201.05	117.09	-17.70	.00

Файл Z 3-1_max.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:12
input file: C:\Program Files\Drainmod\INPUTS\Z 3-1_max.Prj
parameters: combination run and yields calculated
drain spacing = 6000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.0	2.6	1.9	.0	.0	.0	.0	3.1	4.0	.0	.0	.0
AVERAGE	4.0	2.6	1.9	.0	.0	.0	.0	3.1	4.0	.0	.0	.0

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.6	2.6	1.9	.0	-4.0	-2.8	-2.8	-5.5	-.9	2.9	4.0	.9
AVERAGE	4.6	2.6	1.9	.0	-4.0	-2.8	-2.8	-5.5	-.9	2.9	4.0	.9

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	17.0	27.0	28.0	25.0	31.0	19.0	.0	.0	.0
AVERAGE	.0	.0	.0	17.0	27.0	28.0	25.0	31.0	19.0	.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	62.1	71.7	78.4	87.5	49.5	60.1	61.2	91.9	102.0	109.8	101.7	87.4
AVERAGE	62.1	71.7	78.4	87.5	49.5	60.1	61.2	91.9	102.0	109.8	101.7	87.4

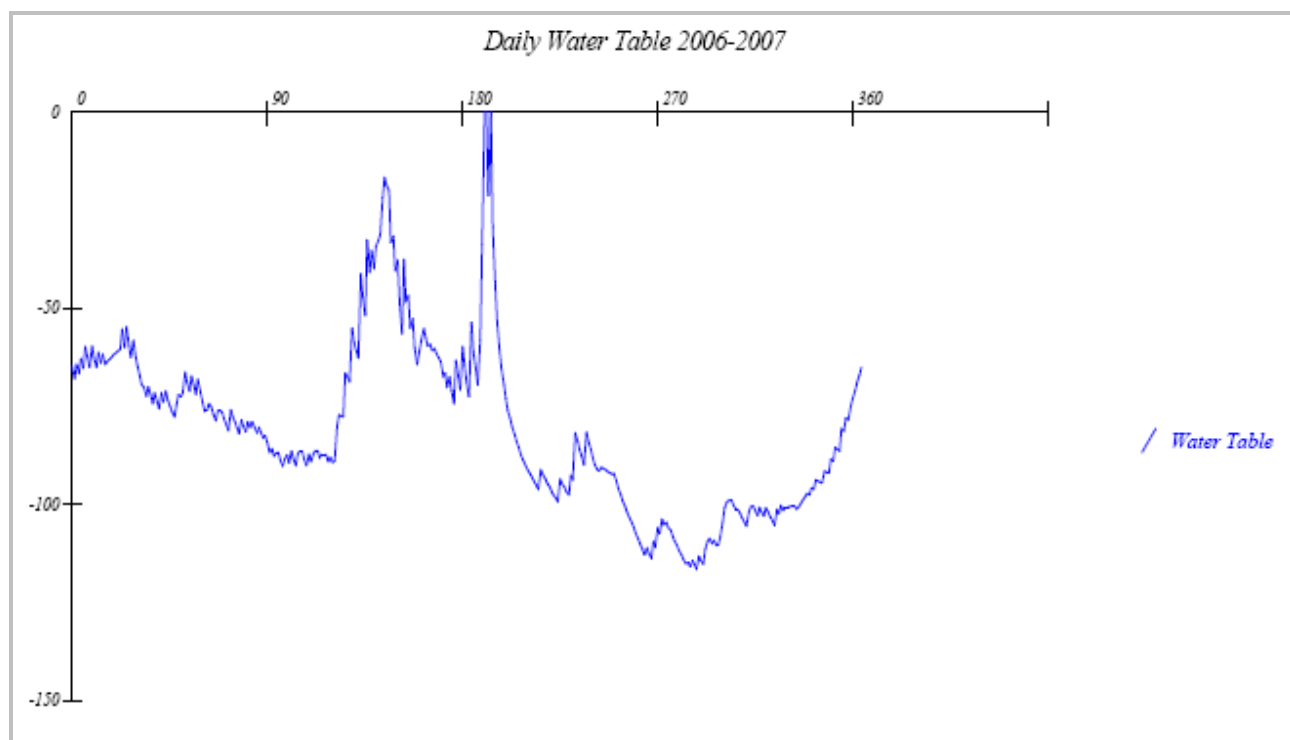
Файл Z 3-1_max.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:12
 input file: C:\Program Files\Drainmod\INPUTS\Z 3-1_max.Prj
 parameters: combination run and yields calculated
 drain spacing = 6000. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	.84	.00	.00	201.05	117.1	-17.70
AVG	60.91	60.91	60.07	.84	.00	.00	201.05	117.1	-17.70



Графика на дневните нива на подпочвените води за периода на изследване
 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 3-1_opt

Входни данни

Файл №1 – Z 3-1_opt.gen

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 223.41 4000.00 2.00 2.00 1.00 9.77 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
720.00 2.00
28. .90 58. 1.10 90. 3.00 0. .00 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.001231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve

```

0

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 3-1_opt

Файл Z 3-1_opt.DAY

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:16
 input file: C:\Program Files\Drainmod\INPUTS\Z 3-1_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 4000. cm drain depth = 130.0 cm

1

2006 1

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.30	.30	.03	.44445E+00	2.04	.00	67.42	.00	.00	.00
2	.00	.00	.03	.29553E+00	2.36	.00	72.14	.00	.00	.00
3	.41	.41	.03	.17996E+00	2.16	.00	69.19	.00	.00	.02
4	.00	.00	.03	.18998E+00	2.37	.00	72.35	.00	.00	.19
5	.41	.41	.03	.15972E+00	2.15	.00	69.10	.00	.00	.16
6	.00	.00	.03	.19081E+00	2.37	.00	72.28	.00	.00	.19
7	.51	.51	.03	.16038E+00	2.04	.00	67.54	.00	.00	.16
8	.00	.00	.03	.20566E+00	2.27	.00	70.94	.00	.00	.21
9	.00	.00	.03	.17338E+00	2.47	.00	73.86	.00	.00	.17
10	.51	.51	.03	.14703E+00	2.14	.00	68.93	.00	.00	.15
11	.00	.00	.03	.19245E+00	2.36	.00	72.13	.00	.00	.19
12	.00	.00	.03	.16223E+00	2.54	.00	74.77	.00	.00	.16
13	.41	.41	.03	.13967E+00	2.30	.00	71.34	.00	.00	.14
14	.00	.00	.03	.16958E+00	2.50	.00	74.20	.00	.00	.17
15	.30	.30	.03	.14444E+00	2.36	.00	72.22	.00	.00	.14
16	.00	.00	.03	.16139E+00	2.55	.00	74.84	.00	.00	.16
17	.20	.20	.03	.13913E+00	2.51	.00	74.37	.00	.00	.14
18	.20	.20	.03	.14306E+00	2.48	.00	73.89	.00	.00	.14
19	.20	.20	.03	.14680E+00	2.44	.00	73.43	.00	.00	.15
20	.20	.20	.03	.15041E+00	2.42	.00	73.03	.00	.00	.15
21	.20	.20	.03	.15379E+00	2.39	.00	72.68	.00	.00	.15
22	.20	.20	.03	.15685E+00	2.37	.00	72.37	.00	.00	.16
23	.20	.20	.03	.15956E+00	2.35	.00	72.10	.00	.00	.16
24	.41	.41	.03	.16197E+00	2.13	.00	68.88	.00	.00	.16
25	.00	.00	.03	.19288E+00	2.35	.00	72.09	.00	.00	.19
26	.41	.41	.03	.16207E+00	2.13	.00	68.87	.00	.00	.16
27	.00	.00	.03	.19297E+00	2.35	.00	72.08	.00	.00	.19
28	.00	.00	.03	.16266E+00	2.54	.00	74.74	.00	.00	.16
29	.41	.41	.03	.13995E+00	2.30	.00	71.30	.00	.00	.14
30	.00	.00	.03	.16993E+00	2.49	.00	74.17	.00	.00	.17
31	.00	.00	.03	.14503E+00	2.67	.00	76.09	.00	.00	.15

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2006 2

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.00	.00	.05	.12753E+00	2.84	.00	77.79	.00	.00	.13
2	.00	.00	.05	.11137E+00	3.01	.00	79.33	.00	.00	.11
3	.10	.10	.05	.96469E-01	3.05	.00	79.77	.00	.00	.10
4	.00	.00	.05	.92656E-01	3.19	.00	81.13	.00	.00	.09
5	.30	.30	.05	.79556E-01	3.02	.00	79.47	.00	.00	.08
6	.00	.00	.05	.95438E-01	3.17	.00	80.87	.00	.00	.10
7	.00	.00	.05	.82332E-01	3.30	.00	82.13	.00	.00	.08
8	.30	.30	.05	.70217E-01	3.12	.00	80.38	.00	.00	.07
9	.00	.00	.05	.86865E-01	3.25	.00	81.69	.00	.00	.09
10	.00	.00	.05	.74563E-01	3.38	.00	82.89	.00	.00	.07
11	.41	.41	.05	.63184E-01	3.09	.00	80.10	.00	.00	.06
12	.00	.00	.05	.89498E-01	3.23	.00	81.44	.00	.00	.09
13	.30	.30	.05	.76700E-01	3.05	.00	79.75	.00	.00	.08

Напоително – отводнителни полета

14	.00	.00	.05	.92817E-01	3.19	.00	81.12	.00	.00	.09
15	.00	.00	.05	.79957E-01	3.32	.00	82.36	.00	.00	.08
16	.00	.00	.05	.68300E-01	3.44	.00	83.50	.00	.00	.07
17	.00	.00	.05	.57726E-01	3.55	.00	84.53	.00	.00	.06
18	.41	.41	.05	.47931E-01	3.24	.00	81.60	.00	.00	.05
19	.30	.30	.05	.75183E-01	3.06	.00	79.90	.00	.00	.08
20	.10	.10	.05	.91147E-01	3.11	.00	80.28	.00	.00	.09
21	.20	.20	.05	.87537E-01	3.04	.00	79.66	.00	.00	.09
22	.51	.51	.05	.93342E-01	2.68	.00	76.20	.00	.00	.09
23	.00	.00	.05	.12648E+00	2.85	.00	77.89	.00	.00	.13
24	.00	.00	.05	.11042E+00	3.02	.00	79.42	.00	.00	.11
25	.41	.41	.05	.95615E-01	2.76	.00	76.94	.00	.00	.10
26	.00	.00	.05	.11936E+00	2.93	.00	78.57	.00	.00	.12
27	.00	.00	.05	.10398E+00	3.08	.00	80.04	.00	.00	.10
28	.41	.41	.05	.89796E-01	2.81	.00	77.51	.00	.00	.09

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2006 3

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.10	.11187E+00	3.03	.00	79.54	.00	.00	.11
2	.00	.00	.10	.92645E-01	3.22	.00	81.39	.00	.00	.09
3	.00	.00	.10	.75267E-01	3.40	.00	83.08	.00	.00	.08
4	.20	.20	.10	.59216E-01	3.36	.00	82.68	.00	.00	.06
5	.30	.30	.10	.62970E-01	3.22	.00	81.34	.00	.00	.06
6	.10	.10	.10	.75426E-01	3.29	.00	82.06	.00	.00	.08
7	.00	.00	.10	.69059E-01	3.46	.00	83.68	.00	.00	.07
8	.00	.00	.10	.53915E-01	3.62	.00	85.17	.00	.00	.05
9	.41	.41	.10	.39904E-01	3.35	.00	82.64	.00	.00	.04
10	.20	.20	.10	.63282E-01	3.31	.00	82.28	.00	.00	.06
11	.10	.10	.10	.66681E-01	3.38	.00	82.91	.00	.00	.07
12	.00	.00	.10	.61094E-01	3.54	.00	84.46	.00	.00	.06
13	.00	.00	.10	.46697E-01	3.69	.00	85.88	.00	.00	.05
14	.00	.00	.10	.33640E-01	3.83	.00	87.16	.00	.00	.03
15	.61	.61	.00	.51992E-01	3.27	.00	81.85	.00	.00	.05
16	.00	.00	.10	.70994E-01	3.44	.00	83.50	.00	.00	.07
17	.00	.00	.10	.55668E-01	3.60	.00	84.99	.00	.00	.06
18	.00	.00	.10	.41778E-01	3.74	.00	86.36	.00	.00	.04
19	.00	.00	.10	.29176E-01	3.87	.00	87.61	.00	.00	.03
20	.51	.51	.10	.17493E-01	3.48	.00	83.90	.00	.00	.02
21	.00	.00	.10	.51906E-01	3.64	.00	85.36	.00	.00	.05
22	.00	.00	.10	.38366E-01	3.78	.00	86.70	.00	.00	.04
23	.41	.41	.10	.25822E-01	3.50	.00	84.04	.00	.00	.03
24	.00	.00	.10	.50625E-01	3.65	.00	85.49	.00	.00	.05
25	.30	.30	.10	.36925E-01	3.49	.00	83.90	.00	.00	.04
26	.00	.00	.10	.51867E-01	3.64	.00	85.37	.00	.00	.05
27	.00	.00	.10	.38330E-01	3.78	.00	86.70	.00	.00	.04
28	.30	.30	.10	.25790E-01	3.60	.00	85.01	.00	.00	.03
29	.00	.00	.10	.41630E-01	3.74	.00	86.38	.00	.00	.04
30	.00	.00	.10	.29042E-01	3.88	.00	87.62	.00	.00	.03
31	.20	.20	.10	.17371E-01	3.79	.00	86.82	.00	.00	.02

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2006 4

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.20	.17913E-01	4.01	.00	88.92	.00	.00	.00
2	.00	.00	.20	-.36529E-02	4.21	.00	90.54	.00	.00	.00
3	.30	.30	.20	-.14414E-01	4.10	.00	89.72	.00	.00	.00
4	.00	.00	.20	-.54477E-02	4.29	.00	91.05	.00	.00	.00
5	.30	.30	.20	-.13888E-01	4.18	.00	90.31	.00	.00	.00
6	.20	.20	.20	-.46069E-02	4.17	.00	90.28	.00	.00	.00
7	.00	.00	.20	-.39778E-02	4.37	.00	91.54	.00	.00	.00
8	.00	.00	.20	-.13365E-01	4.56	.00	92.73	.00	.00	.00
9	.41	.41	.20	-.16704E-01	4.34	.00	91.36	.00	.00	.00
10	.30	.30	.20	-.15634E-02	4.24	.00	90.71	.00	.00	.00
11	.00	.00	.20	.29798E-02	4.45	.00	92.00	.00	.00	.00
12	.51	.51	.20	-.97948E-02	4.13	.00	89.98	.00	.00	.00
13	.00	.00	.20	.74059E-02	4.34	.00	91.35	.00	.00	.00
14	.00	.00	.20	-.88268E-02	4.54	.00	92.56	.00	.00	.00
15	.51	.51	.20	-.14774E-01	4.22	.00	90.57	.00	.00	.00
16	.30	.30	.20	.48747E-02	4.12	.00	89.90	.00	.00	.00
17	.20	.20	.20	.86048E-02	4.13	.00	89.96	.00	.00	.00
18	.00	.00	.20	.49973E-02	4.34	.00	91.32	.00	.00	.00
19	.00	.00	.20	-.98239E-02	4.53	.00	92.53	.00	.00	.00
20	.51	.51	.20	-.15205E-01	4.21	.00	90.53	.00	.00	.00

Напоително – отводнителни полета

21	.00	.00	.20	.35452E-02	4.42	.00	91.82	.00	.00	.00
22	.41	.41	.20	-.95610E-02	4.20	.00	90.49	.00	.00	.00
23	.30	.30	.20	.34464E-02	4.11	.00	89.80	.00	.00	.00
24	.20	.20	.20	.76790E-02	4.11	.00	89.86	.00	.00	.00
25	.00	.00	.20	.43720E-02	4.32	.00	91.22	.00	.00	.00
26	.30	.30	.20	-.95509E-02	4.21	.00	90.53	.00	.00	.00
27	.20	.20	.20	-.16087E-02	4.21	.00	90.52	.00	.00	.00
28	.20	.20	.20	-.11078E-02	4.21	.00	90.51	.00	.00	.00
29	.00	.00	.20	-.16392E-02	4.41	.00	91.77	.00	.00	.00
30	.30	.30	.20	-.11760E-01	4.30	.00	91.06	.00	.00	.00

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2006 5

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.30	-.34865E+00	4.25	.00	90.79	.00	.00	.00
2	.00	.00	.30	-.66305E+00	3.89	.00	87.79	.00	.00	.00
3	.61	.61	.00	-.58507E+00	2.70	.00	76.40	.00	.00	.00
4	.30	.30	.30	-.51134E+00	2.19	.00	69.65	.00	.00	.00
5	.00	.00	.30	-.43825E+00	2.05	.00	67.69	.00	.00	.00
6	.00	.00	.30	-.41820E+00	1.94	.00	66.03	.00	.00	.00
7	.61	.61	.00	-.31655E+00	1.01	.00	47.58	.00	.00	.00
8	.00	.00	.30	-.21032E+00	1.11	.00	49.85	.00	.00	.00
9	.00	.00	.30	-.23353E+00	1.18	.00	51.57	.00	.00	.00
10	.61	.61	.00	-.13095E+00	.44	.00	30.46	.00	.00	.00
11	.00	.00	.30	-.59213E-01	.68	.00	38.57	.00	.00	.00
12	.00	.00	.30	-.12436E+00	.87	.00	43.82	.00	.00	.00
13	.00	.00	.30	-.17359E+00	1.00	.00	47.15	.00	.00	.00
14	.79	.79	.00	-.78174E-01	.13	.00	16.38	.00	.00	.00
15	.00	.00	.30	.53710E-01	.49	.00	32.23	.00	.00	.00
16	.00	.00	.30	-.67020E-01	.73	.00	39.83	.00	.00	.00
17	.61	.61	.00	.94128E-02	.13	.00	16.15	.00	.00	.00
18	.00	.00	.30	.55216E-01	.49	.00	32.15	.00	.00	.00
19	.41	.41	.30	-.68243E-01	.32	.00	25.86	.00	.00	.00
20	.10	.10	.30	-.14953E-01	.51	.00	32.78	.00	.00	.00
21	.41	.41	.30	-.73806E-01	.33	.00	26.36	.00	.00	.00
22	.30	.30	.30	-.19104E-01	.31	.00	25.62	.00	.00	.00
23	.30	.30	.30	-.12899E-01	.30	.00	25.10	.00	.00	.00
24	.51	.51	.30	-.87257E-02	.09	.00	12.51	.00	.00	.00
25	.41	.41	.30	.70151E-01	.05	.00	7.94	.00	.00	.00
26	.30	.30	.30	.85658E-01	.14	.00	16.94	.00	.00	.00
27	.30	.30	.30	.48126E-01	.19	.00	19.83	.00	.00	.00
28	.00	.00	.30	.32030E-01	.53	.00	33.44	.00	.00	.00
29	.30	.30	.30	-.79709E-01	.45	.00	30.68	.00	.00	.00
30	.00	.00	.30	-.61077E-01	.69	.00	38.71	.00	.00	.00
31	.30	.30	.30	-.12734E+00	.56	.00	34.67	.00	.00	.00

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2006 6

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.38	.33892E-01	.98	.00	46.68	.00	.00	.00
2	.00	.00	.38	-.66147E-01	1.29	.00	54.26	.00	.00	.00
3	.71	.71	.00	-.16223E-01	.56	.00	34.74	.00	.00	.00
4	.00	.00	.38	.43437E-01	.99	.00	46.96	.00	.00	.00
5	.41	.41	.38	-.64065E-01	.90	.00	44.78	.00	.00	.00
6	.00	.00	.38	-.48267E-01	1.23	.00	52.82	.00	.00	.00
7	.41	.41	.38	-.12074E+00	1.09	.00	49.31	.00	.00	.00
8	.00	.00	.38	-.84522E-01	1.38	.00	56.44	.00	.00	.00
9	.00	.00	.38	-.15275E+00	1.61	.00	61.18	.00	.00	.00
10	.51	.51	.38	-.19246E+00	1.29	.00	54.25	.00	.00	.00
11	.41	.41	.38	-.13350E+00	1.13	.00	50.42	.00	.00	.00
12	.41	.41	.38	-.97684E-01	1.01	.00	47.46	.00	.00	.00
13	.20	.20	.38	-.68841E-01	1.12	.00	50.08	.00	.00	.00
14	.20	.20	.38	-.94366E-01	1.20	.00	52.09	.00	.00	.00
15	.30	.30	.38	-.11389E+00	1.16	.00	51.18	.00	.00	.00
16	.20	.20	.38	-.10510E+00	1.24	.00	52.93	.00	.00	.00
17	.30	.30	.38	-.12174E+00	1.19	.00	51.84	.00	.00	.00
18	.20	.20	.38	-.11145E+00	1.26	.00	53.44	.00	.00	.00
19	.20	.20	.38	-.12626E+00	1.31	.00	54.68	.00	.00	.00
20	.20	.20	.38	-.13728E+00	1.35	.00	55.65	.00	.00	.00
21	.00	.00	.38	-.14580E+00	1.58	.00	60.76	.00	.00	.00
22	.30	.30	.38	-.18841E+00	1.47	.00	58.61	.00	.00	.00
23	.00	.00	.38	-.16996E+00	1.68	.00	62.25	.00	.00	.00
24	.41	.41	.38	-.20330E+00	1.45	.00	58.19	.00	.00	.00
25	.00	.00	.38	-.16682E+00	1.67	.00	62.04	.00	.00	.00

26	.00	.00	.38	-.20034E+00	1.85	.00	64.70	.00	.00	.00
27	.61	.61	.00	-.14256E+00	1.10	.00	49.59	.00	.00	.00
28	.00	.00	.38	-.87251E-01	1.39	.00	56.66	.00	.00	.00
29	.00	.00	.38	-.15457E+00	1.62	.00	61.29	.00	.00	.00
30	.61	.61	.00	-.93641E-01	.91	.00	45.15	.00	.00	.00

1

2006 7

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.41	-.55143E-01	1.27	.00	53.63	.00	.00	.00
2	.00	.00	.41	-.12973E+00	1.54	.00	60.02	.00	.00	.00
3	.00	.00	.41	-.18314E+00	1.77	.00	63.46	.00	.00	.00
4	.99	.99	.00	-.12549E+00	.65	.00	37.47	.00	.00	.00
5	.00	.00	.41	.17945E-01	1.07	.00	49.02	.00	.00	.00
6	.00	.00	.41	-.84572E-01	1.40	.00	56.77	.00	.00	.00
7	.00	.00	.41	-.15764E+00	1.64	.00	61.68	.00	.00	.00
8	.61	.61	.00	-.99574E-01	.94	.00	45.66	.00	.00	.00
9	.89	.89	.00	.77998E-01	.12	.00	15.98	.00	.00	.00
10	.71	.55	.00	.42850E+00	.00	.00	.00	.16	.00	.00
11	.61	.48	.00	.47752E+00	.00	.00	.00	.29	.00	.00
12	.00	.29	.41	.33005E+00	.45	.00	30.69	.00	.00	.00
13	.61	.61	.00	.24137E+00	.08	.00	11.28	.00	.00	.00
14	.00	.00	.41	.19179E+00	.68	.00	38.29	.00	.00	.00
15	.00	.00	.41	.11079E-01	1.09	.00	49.49	.00	.00	.00
16	.00	.00	.41	-.89174E-01	1.41	.00	57.12	.00	.00	.00
17	.00	.00	.41	-.16057E+00	1.66	.00	61.86	.00	.00	.00
18	.00	.00	.41	-.20026E+00	1.86	.00	64.89	.00	.00	.00
19	.00	.00	.41	-.23063E+00	2.04	.00	67.47	.00	.00	.00
20	.00	.00	.41	-.25644E+00	2.19	.00	69.67	.00	.00	.00
21	.00	.00	.41	-.27838E+00	2.32	.00	71.55	.00	.00	.00
22	.00	.00	.41	-.29707E+00	2.43	.00	73.16	.00	.00	.00
23	.00	.00	.41	-.31295E+00	2.52	.00	74.48	.00	.00	.00
24	.00	.00	.41	-.32511E+00	2.60	.00	75.47	.00	.00	.00
25	.00	.00	.41	-.33408E+00	2.67	.00	76.16	.00	.00	.00
26	.00	.00	.41	-.34105E+00	2.74	.00	76.78	.00	.00	.00
27	.00	.00	.41	-.34734E+00	2.80	.00	77.35	.00	.00	.00
28	.00	.00	.41	-.35302E+00	2.85	.00	77.85	.00	.00	.00
29	.00	.00	.41	-.35816E+00	2.90	.00	78.31	.00	.00	.00
30	.00	.00	.41	-.36279E+00	2.94	.00	78.73	.00	.00	.00
31	.00	.00	.41	-.36698E+00	2.98	.00	79.10	.00	.00	.00

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2006 8

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.36	-.21867E+00	3.12	.00	80.41	.00	.00	.00
2	.00	.00	.36	-.21848E+00	3.26	.00	81.72	.00	.00	.00
3	.00	.00	.36	-.23125E+00	3.38	.00	82.90	.00	.00	.00
4	.00	.00	.36	-.24281E+00	3.49	.00	83.98	.00	.00	.00
5	.61	.61	.00	-.20977E+00	2.67	.00	76.17	.00	.00	.00
6	.00	.00	.36	-.17686E+00	2.85	.00	77.87	.00	.00	.00
7	.00	.00	.36	-.19361E+00	3.01	.00	79.41	.00	.00	.00
8	.00	.00	.36	-.20875E+00	3.16	.00	80.81	.00	.00	.00
9	.00	.00	.36	-.22244E+00	3.29	.00	82.08	.00	.00	.00
10	.00	.00	.36	-.23484E+00	3.42	.00	83.23	.00	.00	.00
11	.00	.00	.36	-.24606E+00	3.52	.00	84.28	.00	.00	.00
12	.00	.00	.36	-.25622E+00	3.62	.00	85.23	.00	.00	.00
13	.00	.00	.36	-.26543E+00	3.71	.00	86.08	.00	.00	.00
14	.71	.71	.00	-.23035E+00	2.77	.00	77.11	.00	.00	.00
15	.00	.00	.36	-.18615E+00	2.94	.00	78.73	.00	.00	.00
16	.00	.00	.36	-.20200E+00	3.10	.00	80.19	.00	.00	.00
17	.00	.00	.36	-.21634E+00	3.23	.00	81.52	.00	.00	.00
18	.00	.00	.36	-.22931E+00	3.36	.00	82.72	.00	.00	.00
19	.61	.61	.00	-.19747E+00	2.55	.00	74.91	.00	.00	.00
20	.00	.00	.36	-.16547E+00	2.74	.00	76.84	.00	.00	.00
21	1.30	1.30	.00	-.86723E-01	1.36	.00	55.96	.00	.00	.00
22	.00	.00	.36	.41669E-02	1.72	.00	62.82	.00	.00	.00
23	.00	.00	.36	-.51785E-01	2.03	.00	67.28	.00	.00	.00
24	.00	.00	.36	-.95285E-01	2.29	.00	71.11	.00	.00	.00
25	.00	.00	.36	-.13235E+00	2.51	.00	74.36	.00	.00	.00
26	.71	.71	.00	-.97237E-01	1.70	.00	62.51	.00	.00	.00
27	.00	.00	.36	-.48760E-01	2.01	.00	67.02	.00	.00	.00
28	.00	.00	.36	-.92710E-01	2.27	.00	70.88	.00	.00	.00
29	.00	.00	.36	-.13016E+00	2.50	.00	74.19	.00	.00	.00
30	.00	.00	.36	-.15941E+00	2.69	.00	76.35	.00	.00	.00

31	.00	.00	.36	-.17862E+00	2.87	.00	78.03	.00	.00	.00
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2006 9

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
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1	.00	.00	.23	-.18965E+00	2.91	.00	78.40	.00	.00	.00
2	.20	.20	.23	-.19343E+00	2.74	.00	76.80	.00	.00	.00
3	.00	.00	.23	-.17755E+00	2.79	.00	77.29	.00	.00	.00
4	.00	.00	.23	-.18234E+00	2.84	.00	77.73	.00	.00	.00
5	.00	.00	.23	-.18667E+00	2.88	.00	78.13	.00	.00	.00
6	.00	.00	.23	-.19060E+00	2.92	.00	78.49	.00	.00	.00
7	.00	.00	.23	-.19415E+00	2.95	.00	78.82	.00	.00	.00
8	.41	.41	.23	.31953E+00	3.09	.00	80.17	.00	.00	.00
9	.00	.00	.23	.22356E+00	3.55	.00	84.48	.00	.00	.00
10	.00	.00	.23	.12559E+00	3.90	.00	87.85	.00	.00	.00
11	.00	.00	.23	.65440E-01	4.19	.00	90.42	.00	.00	.00
12	.00	.00	.23	.31153E-01	4.45	.00	92.05	.00	.00	.00
13	.00	.00	.23	.84049E-02	4.69	.00	93.53	.00	.00	.00
14	.00	.00	.23	-.96200E-02	4.91	.00	94.89	.00	.00	.00
15	.00	.00	.23	-.16744E-01	5.12	.00	96.22	.00	.00	.00
16	.00	.00	.23	-.19437E-01	5.33	.00	97.52	.00	.00	.00
17	.00	.00	.23	-.20294E-01	5.54	.00	98.82	.00	.00	.00
18	.00	.00	.23	-.20397E-01	5.75	.00	100.12	.00	.00	.00
19	.00	.00	.23	-.20192E-01	5.96	.00	101.42	.00	.00	.00
20	.00	.00	.23	-.19863E-01	6.16	.00	102.72	.00	.00	.00
21	.00	.00	.23	-.19484E-01	6.37	.00	104.03	.00	.00	.00
22	.00	.00	.23	-.19085E-01	6.58	.00	105.33	.00	.00	.00
23	.51	.51	.23	-.18330E-01	6.29	.00	103.48	.00	.00	.00
24	.00	.00	.23	-.29478E-03	6.51	.00	104.90	.00	.00	.00
25	.00	.00	.23	-.12517E-01	6.73	.00	106.25	.00	.00	.00
26	.71	.71	.00	.40587E-02	6.02	.00	101.84	.00	.00	.00
27	.00	.00	.23	.16001E-01	6.27	.00	103.36	.00	.00	.00
28	.79	.79	.00	.19689E-01	5.50	.00	98.57	.00	.00	.00
29	.00	.00	.23	.30334E-01	5.76	.00	100.19	.00	.00	.00
30	.61	.61	.00	.29397E-01	5.18	.00	96.57	.00	.00	.00

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2006 10

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
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1	.00	.00	.10	.25924E+00	5.54	.00	98.82	.00	.00	.83
2	.30	.30	.10	.25833E+00	5.59	.00	99.16	.00	.00	.26
3	.00	.00	.10	.25570E+00	5.95	.00	101.39	.00	.00	.26
4	.10	.10	.10	.23559E+00	6.19	.00	102.86	.00	.00	.24
5	.00	.00	.10	.22308E+00	6.51	.00	104.89	.00	.00	.22
6	.00	.00	.10	.20540E+00	6.82	.00	106.80	.00	.00	.21
7	.00	.00	.10	.18882E+00	7.11	.00	108.62	.00	.00	.19
8	.00	.00	.10	.17324E+00	7.38	.00	110.33	.00	.00	.17
9	.00	.00	.10	.15861E+00	7.64	.00	111.95	.00	.00	.16
10	.00	.00	.10	.14484E+00	7.89	.00	113.49	.00	.00	.14
11	.00	.00	.10	.13188E+00	8.12	.00	114.95	.00	.00	.13
12	.20	.20	.10	.11942E+00	8.14	.00	115.06	.00	.00	.12
13	.00	.00	.10	.11874E+00	8.36	.00	116.43	.00	.00	.12
14	.41	.41	.10	.10706E+00	8.16	.00	115.20	.00	.00	.11
15	.00	.00	.10	.11757E+00	8.38	.00	116.57	.00	.00	.12
16	.00	.00	.10	.10619E+00	8.59	.00	117.86	.00	.00	.11
17	.61	.61	.00	.11303E+00	8.09	.00	114.76	.00	.00	.11
18	.00	.00	.10	.12119E+00	8.32	.00	116.15	.00	.00	.12
19	.00	.00	.10	.10961E+00	8.53	.00	117.47	.00	.00	.11
20	.71	.71	.00	.11628E+00	7.93	.00	113.76	.00	.00	.12
21	.51	.51	.10	.12935E+00	7.66	.00	112.03	.00	.00	.13
22	.30	.30	.10	.14389E+00	7.60	.00	111.66	.00	.00	.14
23	.00	.00	.10	.14729E+00	7.85	.00	113.22	.00	.00	.15
24	.30	.30	.10	.13393E+00	7.78	.00	112.78	.00	.00	.13
25	.00	.00	.10	.13783E+00	8.02	.00	114.28	.00	.00	.14
26	.20	.20	.10	.12502E+00	8.04	.00	114.42	.00	.00	.13
27	.51	.51	.10	.12380E+00	7.76	.00	112.66	.00	.00	.12
28	.71	.71	.00	.15676E+00	7.20	.00	109.20	.00	.00	.16
29	.71	.71	.00	.18634E+00	6.68	.00	105.93	.00	.00	.19
30	.51	.51	.10	.19605E+00	6.47	.00	104.61	.00	.00	.20
31	.30	.30	.10	.20743E+00	6.47	.00	104.64	.00	.00	.21

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2006 11

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.20	.20	.05	.20853E+00	6.53	.00	104.99	.00	.00	.21
2	.00	.00	.05	.20578E+00	6.78	.00	106.59	.00	.00	.21
3	.00	.00	.05	.19191E+00	7.03	.00	108.11	.00	.00	.19
4	.20	.20	.05	.17861E+00	7.05	.00	108.27	.00	.00	.18
5	.00	.00	.05	.17747E+00	7.28	.00	109.69	.00	.00	.18
6	.00	.00	.05	.16528E+00	7.50	.00	111.04	.00	.00	.17
7	.00	.00	.05	.15380E+00	7.70	.00	112.32	.00	.00	.15
8	.00	.00	.05	.14299E+00	7.90	.00	113.53	.00	.00	.14
9	.71	.71	.00	.14941E+00	7.33	.00	110.02	.00	.00	.15
10	.41	.41	.05	.16223E+00	7.14	.00	108.82	.00	.00	.16
11	.20	.20	.05	.17253E+00	7.16	.00	108.94	.00	.00	.17
12	.00	.00	.05	.17171E+00	7.38	.00	110.33	.00	.00	.17
13	.00	.00	.05	.15986E+00	7.59	.00	111.64	.00	.00	.16
14	.51	.51	.05	.14847E+00	7.29	.00	109.72	.00	.00	.15
15	.00	.00	.05	.16507E+00	7.50	.00	111.06	.00	.00	.17
16	.00	.00	.05	.15361E+00	7.71	.00	112.34	.00	.00	.15
17	.51	.51	.05	.14259E+00	7.39	.00	110.38	.00	.00	.14
18	.00	.00	.05	.15945E+00	7.60	.00	111.69	.00	.00	.16
19	.00	.00	.05	.14832E+00	7.80	.00	112.93	.00	.00	.15
20	.00	.00	.05	.13782E+00	7.99	.00	114.11	.00	.00	.14
21	.00	.00	.05	.12793E+00	8.17	.00	115.22	.00	.00	.13
22	.79	.79	.00	.13511E+00	7.52	.00	111.15	.00	.00	.14
23	.00	.00	.05	.15285E+00	7.72	.00	112.42	.00	.00	.15
24	.51	.51	.05	.14188E+00	7.40	.00	110.46	.00	.00	.14
25	.00	.00	.05	.15877E+00	7.61	.00	111.76	.00	.00	.16
26	.30	.30	.05	.14745E+00	7.51	.00	111.10	.00	.00	.15
27	.20	.20	.05	.15308E+00	7.51	.00	111.10	.00	.00	.15
28	.20	.20	.05	.15305E+00	7.51	.00	111.11	.00	.00	.15
29	.20	.20	.05	.15301E+00	7.51	.00	111.11	.00	.00	.15
30	.20	.20	.05	.15298E+00	7.51	.00	111.12	.00	.00	.15

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2006 12

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.00	.00	.03	.11883E+00	7.65	.00	112.01	.00	.00	.00
2	.20	.20	.03	.64527E-01	7.54	.00	111.31	.00	.00	.00
3	.20	.20	.03	.45900E-01	7.41	.00	110.49	.00	.00	.00
4	.20	.20	.03	.35661E-01	7.27	.00	109.60	.00	.00	.00
5	.20	.20	.03	.29868E-01	7.12	.00	108.68	.00	.00	.00
6	.20	.20	.03	.26576E-01	6.97	.00	107.73	.00	.00	.00
7	.00	.00	.03	.24965E-01	7.02	.00	108.05	.00	.00	.00
8	.30	.30	.03	.14542E-01	6.75	.00	106.39	.00	.00	.00
9	.00	.00	.03	.22108E-01	6.80	.00	106.69	.00	.00	.00
10	.41	.41	.03	.12891E-01	6.43	.00	104.39	.00	.00	.00
11	.00	.00	.03	.25931E-01	6.48	.00	104.71	.00	.00	.00
12	.00	.00	.03	.14760E-01	6.52	.00	104.97	.00	.00	.00
13	.00	.00	.03	.31179E-02	6.55	.00	105.14	.00	.00	.00
14	.51	.51	.03	-.17716E-03	6.07	.00	102.13	.00	.00	.00
15	.00	.00	.03	.22277E-01	6.12	.00	102.43	.00	.00	.00
16	.00	.00	.03	.12734E-01	6.16	.00	102.67	.00	.00	.00
17	.51	.51	.03	.29901E-02	5.68	.00	99.67	.00	.00	.00
18	.00	.00	.03	.24860E-01	5.73	.00	99.99	.00	.00	.00
19	.41	.41	.03	.15208E-01	5.36	.00	97.71	.00	.00	.00
20	.00	.00	.03	.28547E-01	5.41	.00	98.04	.00	.00	.00
21	.00	.00	.03	.17946E-01	5.46	.00	98.31	.00	.00	.00
22	.61	.61	.00	.26379E-01	4.87	.00	94.67	.00	.00	.00
23	.00	.00	.03	.31917E-01	4.93	.00	95.03	.00	.00	.00
24	.41	.41	.03	.20276E-01	4.57	.00	92.78	.00	.00	.00
25	.00	.00	.03	.32753E-01	4.63	.00	93.14	.00	.00	.00
26	.41	.41	.03	.20997E-01	4.27	.00	90.90	.00	.00	.00
27	.20	.20	.03	.33290E-01	4.12	.00	89.94	.00	.00	.00
28	.20	.20	.03	.32172E-01	3.98	.00	88.61	.00	.00	.00
29	.20	.20	.03	.33964E-01	3.84	.00	87.24	.00	.00	.00
30	.20	.20	.03	.36427E-01	3.69	.00	85.89	.00	.00	.00
31	.20	.20	.03	.38269E-01	3.55	.00	84.56	.00	.00	.00

Файл Z 3-1_opt.MON

* DRAINMOD version 5.1 *

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-----RUN STATISTICS----- time: 7/23/2007 @ 14:16
input file: C:\Program Files\Drainmod\INPUTS\Z 3-1_opt.Prj
parameters: combination run and yields calculated
drain spacing = 4000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	5.49	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.49	.00	.00	.00	.00	.00
3	3.66	3.66	3.05	1.59	.00	.00	31.00	.00	.00
4	5.49	5.49	6.10	-.11	.00	.00	30.00	.00	-.18
5	7.19	7.19	7.92	-4.47	.00	.00	2.75	41.25	-4.94
6	6.60	6.60	10.29	-3.33	.00	.00	.00	.00	-3.43
7	4.42	4.42	10.16	-3.67	.00	.00	.00	82.76	-5.47
8	3.94	3.94	9.25	-5.42	.00	.00	14.05	.00	-5.43
9	3.23	3.23	6.17	-.64	.00	.00	23.00	.00	-1.52
10	6.40	6.40	2.74	4.95	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	4.77	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	.87	.00	.00	31.00	.00	.00

TOTALS 60.91 60.91 60.07 2.52 .00 .00 192.80 124.01 -20.97

Файл Z 3-1_opt.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS----- time: 7/23/2007 @ 14:16
input file: C:\Program Files\Drainmod\INPUTS\Z 3-1_opt.Prj
parameters: combination run and yields calculated
drain spacing = 4000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.6	2.5	1.6	.0	.0	.0	.0	5.5	4.8	.0		
AVERAGE	4.6	2.5	1.6	.0	.0	.0	.0	5.5	4.8	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	2.5	1.6	-.1	-4.5	-3.3	-3.7	-5.4	-.6	5.0	4.8	.9
AVERAGE	5.5	2.5	1.6	-.1	-4.5	-3.3	-3.7	-5.4	-.6	5.0	4.8	.9

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	20.0	24.0	28.0	23.0	30.0	19.0	.0	.0	1.0
AVERAGE	.0	.0	.0	20.0	24.0	28.0	23.0	30.0	19.0	.0	.0	1.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	72.0	80.2	84.4	90.8	39.8	53.3	55.9	76.7	93.0	110.7	110.8	100.1
AVERAGE	72.0	80.2	84.4	90.8	39.8	53.3	55.9	76.7	93.0	110.7	110.8	100.1

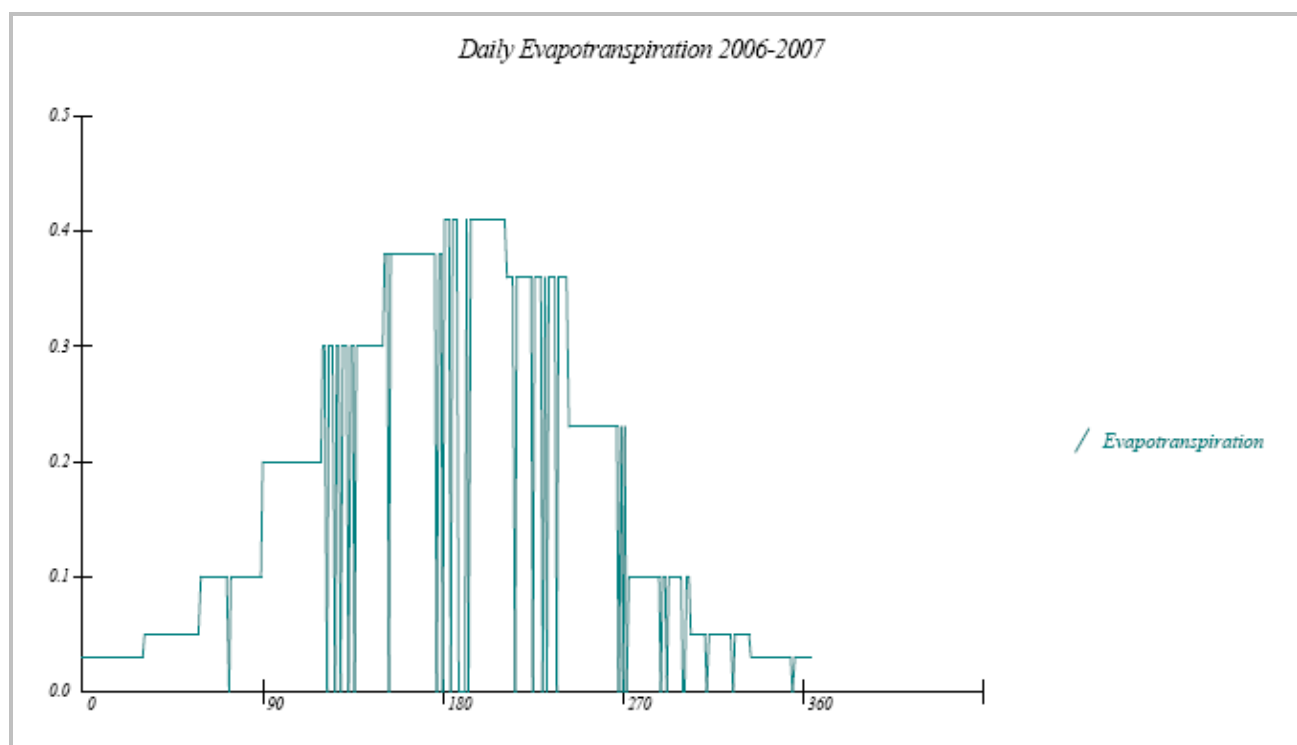
Файл Z 3-1_opt.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

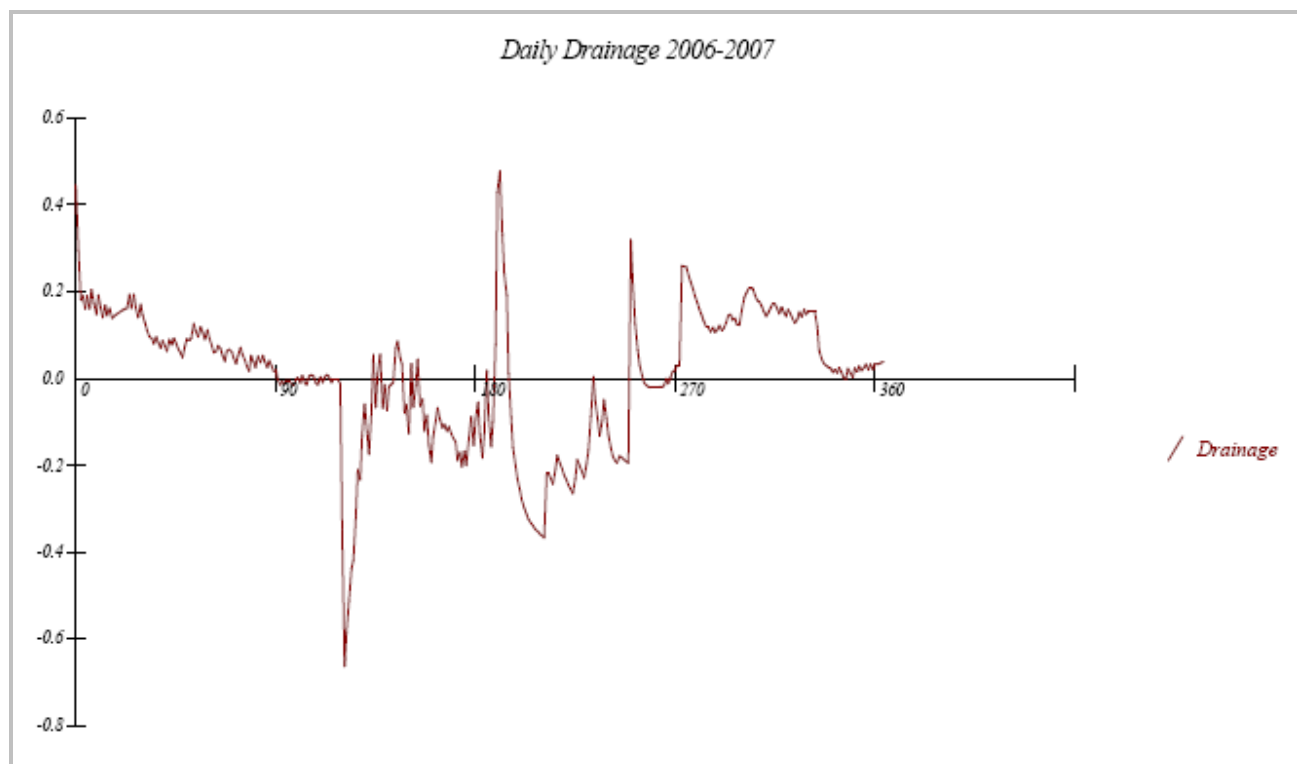
COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS----- time: 7/23/2007 @ 14:16
 input file: C:\Program Files\Drainmod\INPUTS\Z 3-1_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 4000. cm drain depth = 130.0 cm

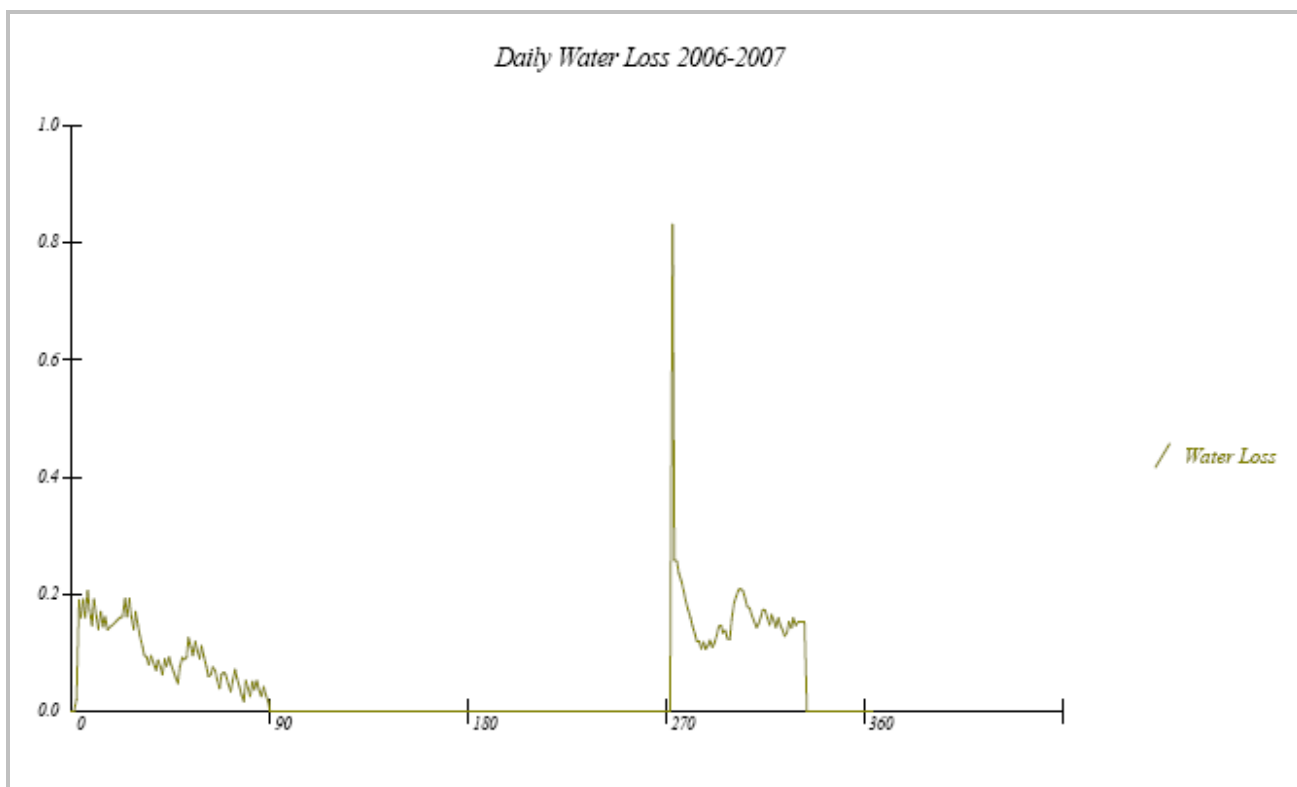
YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	2.52	.00	.00	192.80	124.0	-20.97
AVG	60.91	60.91	60.07	2.52	.00	.00	192.80	124.0	-20.97



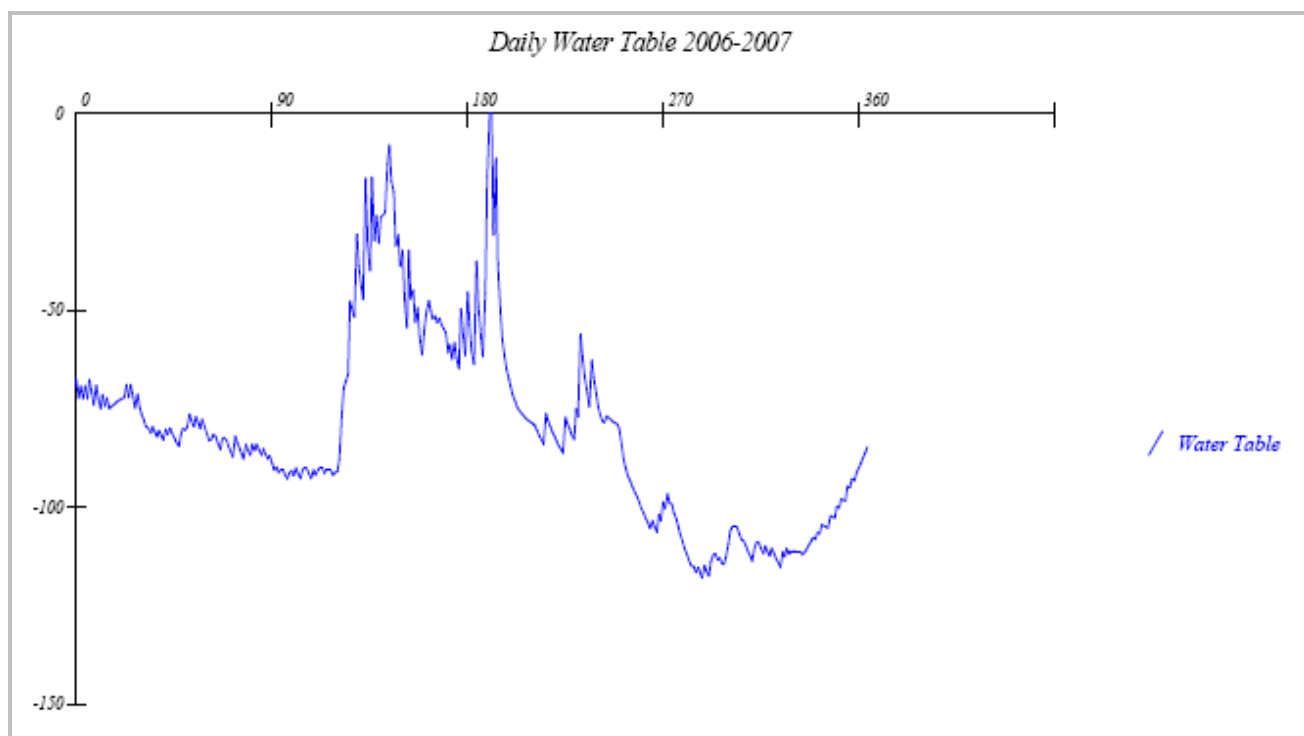
Графика на дневната евапотранспирация за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните дренирани обеми за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните водни загуби за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

4.3.8

Поле Z 3-2

ПРОЕКТ Z 3-2

Входни данни

Файл №1 – Z 3-2.gen

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 97.22 1500.00 2.00 2.00 1.00 9.97 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
350.00 2.00
26. .30 50. .20 70. .09 100. .52 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)

```

.00 .00
Freezing characteristic curve
0

Файл №3 – 4.SIN
Файл съдържащ данни за почвите.

D-4
420
.3600000 .0
.2200000 -108.0
.1200000 -710.0
.1200000 -1000.0
.0000 .0000 .5000
3.0000 .0060 .5000
6.0000 .0230 .5000
9.0000 .0520 .5000
12.0000 .0930 .5000
15.0000 .1460 .5000
20.0000 .2590 .5000
25.0000 .4050 .5000
30.0000 .5740 .5000
35.0000 .7470 .4823
40.0000 .9230 .4221
45.0000 1.1030 .3641
60.0000 1.6720 .2226
75.0000 2.3170 .1573
90.0000 3.1880 .1288
120.0000 5.6580 .0672
150.0000 8.5180 .0278
200.0000 15.4870 .0100
500.0000 71.5180 .0003
1000.0000 100.0000 .0000
10
.00 .00 3.21
10.00 .54 3.21
20.00 1.08 3.21
40.00 1.87 2.78
60.00 2.35 2.33
80.00 3.37 2.50
100.00 4.21 2.50
150.00 7.80 2.50
200.00 7.80 2.50
1000.00 7.80 2.50

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 3-2
Файл Z 3-2.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:22
input file: C:\Program Files\Drainmod\INPUTS\Z 3-2.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006
MONTH RAIN INFIL ET DRAIN RUNOFF DRY DAYS WRK DAYS SEW PUMP
1 5.49 5.49 .79 4.93 .00 .00 .00 .00 .00
2 3.76 3.76 1.42 2.29 .00 .00 .00 .00 .00
3 3.66 3.66 3.05 1.46 .00 .00 3.80 .00 .00
4 5.49 5.49 6.10 -.21 .00 .00 30.00 .00 -.28
5 7.19 7.19 7.92 -3.29 .00 .00 2.00 24.13 -3.48
6 6.60 6.60 10.29 -3.18 .00 .00 .00 .00 -3.24
7 4.42 4.42 10.16 -3.60 .00 .00 6.12 98.85 -4.97

8	3.94	3.94	9.25	-5.72	.00	.00	18.58	.00	-5.73
9	3.23	3.23	6.17	-.96	.00	.00	26.32	.00	-1.72
10	6.40	6.40	2.74	1.99	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	4.34	.00	.00	30.00	.00	.00
12	5.59	5.59	.76	2.79	.00	.00	19.43	.00	.00

TOTALS 60.91 60.91 60.07 .84 .00 .00 167.25 122.99 -19.42

Файл Z 3-2.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:22
input file: C:\Program Files\Drainmod\INPUTS\Z 3-2.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.5	2.3	1.5	.0	.0	.0	.0	2.4	4.3	.0		
AVERAGE	2.5	2.3	1.5	.0	.0	.0	.0	2.4	4.3	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.9	2.3	1.5	-.2	-3.3	-3.2	-3.6	-5.7	-1.0	2.0	4.3	2.8
AVERAGE	4.9	2.3	1.5	-.2	-3.3	-3.2	-3.6	-5.7	-1.0	2.0	4.3	2.8

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	21.0	26.0	28.0	24.0	31.0	19.0	.0	.0	.0
AVERAGE	.0	.0	.0	21.0	26.0	28.0	24.0	31.0	19.0	.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	68.5	75.9	82.0	91.6	41.5	57.2	60.5	86.0	109.0	115.4	100.3	87.0
AVERAGE	68.5	75.9	82.0	91.6	41.5	57.2	60.5	86.0	109.0	115.4	100.3	87.0

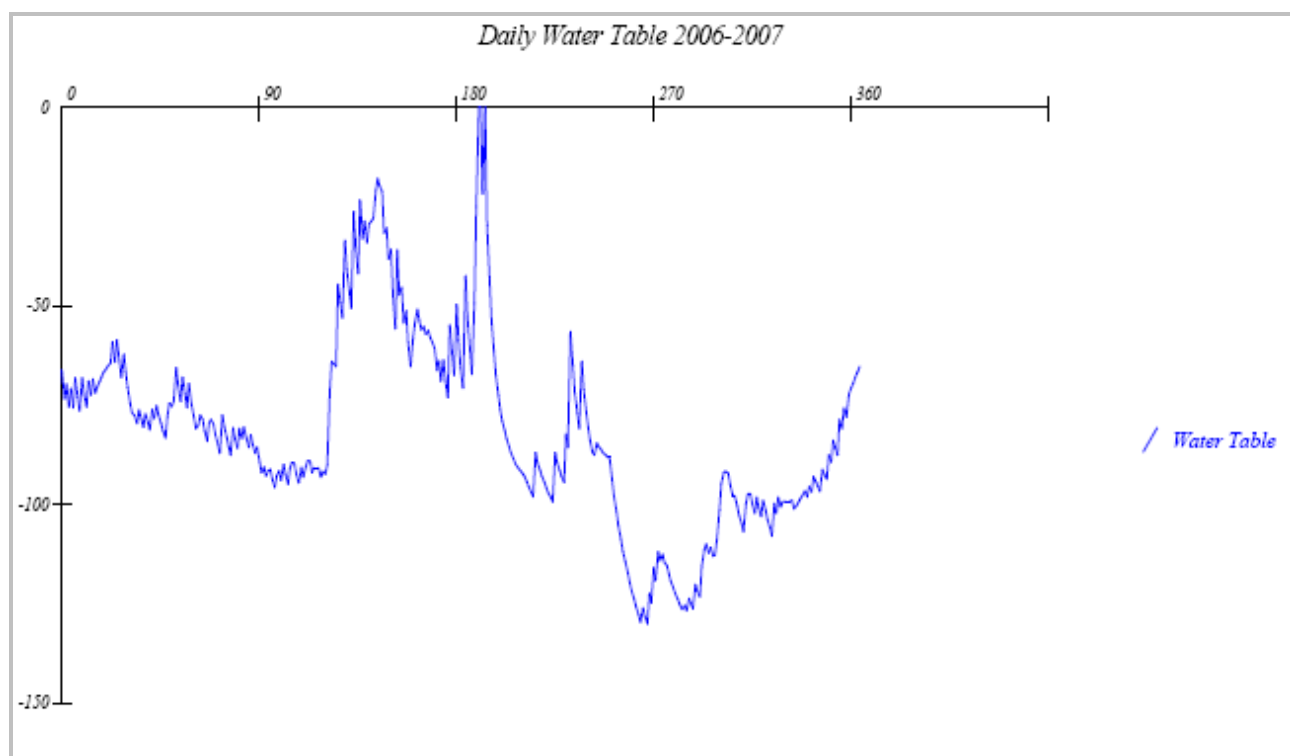
Файл Z 3-2.IR

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:22
input file: C:\Program Files\Drainmod\INPUTS\Z 3-2.Prj
parameters: combination run and yields calculated
drain spacing = 1500. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	.84	.00	.00	167.25	123.0	-19.42
AVG	60.91	60.91	60.07	.84	.00	.00	167.25	123.0	-19.42



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 3-2_midl**Входни данни****Файл №1 – Z 3-2_midl.gen**

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 143.32 3500.00 2.00 2.00 1.00 9.96 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
350.00 2.00
26. .30 50. .20 70. .09 100. .52 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

```


Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 3-2_midl

Файл Z 3-2_midl.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:26
input file: C:\Program Files\Drainmod\INPUTS\Z 3-2_midl.Prj
parameters: combination run and yields calculated
drain spacing = 3500. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	SEW	PUMP
1	5.49	5.49	.79	2.98	.00	.00	.00	.00
2	3.76	3.76	1.42	2.47	.00	.00	.00	.00
3	3.66	3.66	3.05	2.00	.00	.00	.00	.00
4	5.49	5.49	6.10	.26	.00	.00	.00	-.01
5	7.19	7.19	7.92	-1.89	.00	.00	.12	.00 -1.89
6	6.60	6.60	10.29	-1.87	.00	.00	10.92	.00 -1.87
7	4.42	4.42	10.16	-2.34	.00	.00	20.45	.00 -2.35
8	3.94	3.94	9.25	-3.77	.00	.00	29.00	.00 -3.77
9	3.23	3.23	6.17	-.92	.00	.00	30.00	.00 -.92
10	6.40	6.40	2.74	.00	.00	.00	31.00	.00 .00
11	5.16	5.16	1.42	.59	.00	.00	30.00	.00 .00
12	5.59	5.59	.76	1.65	.00	.00	5.00	.00 .00
TOTALS	60.91	60.91	60.07	-.84	.00	.00	156.49	.00 -10.81

Файл Z 3-2_midl.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:26
input file: C:\Program Files\Drainmod\INPUTS\Z 3-2_midl.Prj
parameters: combination run and yields calculated
drain spacing = 3500. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.9	2.5	2.0	.0	.0	.0	.0	.0	.6	.0		
AVERAGE	1.9	2.5	2.0	.0	.0	.0	.0	.0	.6	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.0	2.5	2.0	.3	-1.9	-1.9	-2.3	-3.8	-.9	.6	1.6	
AVERAGE	3.0	2.5	2.0	.3	-1.9	-1.9	-2.3	-3.8	-.9	.6	1.6	

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0		
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0		

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	4.0	31.0	30.0	31.0	30.0	31.0	.0	.0	
AVERAGE	.0	.0	.0	4.0	31.0	30.0	31.0	30.0	31.0	.0	.0	

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	30.3	30.7	47.4	76.7	62.1	80.2	90.4	141.6	160.2	157.9	113.1	62.5
AVERAGE	30.3	30.7	47.4	76.7	62.1	80.2	90.4	141.6	160.2	157.9	113.1	62.5

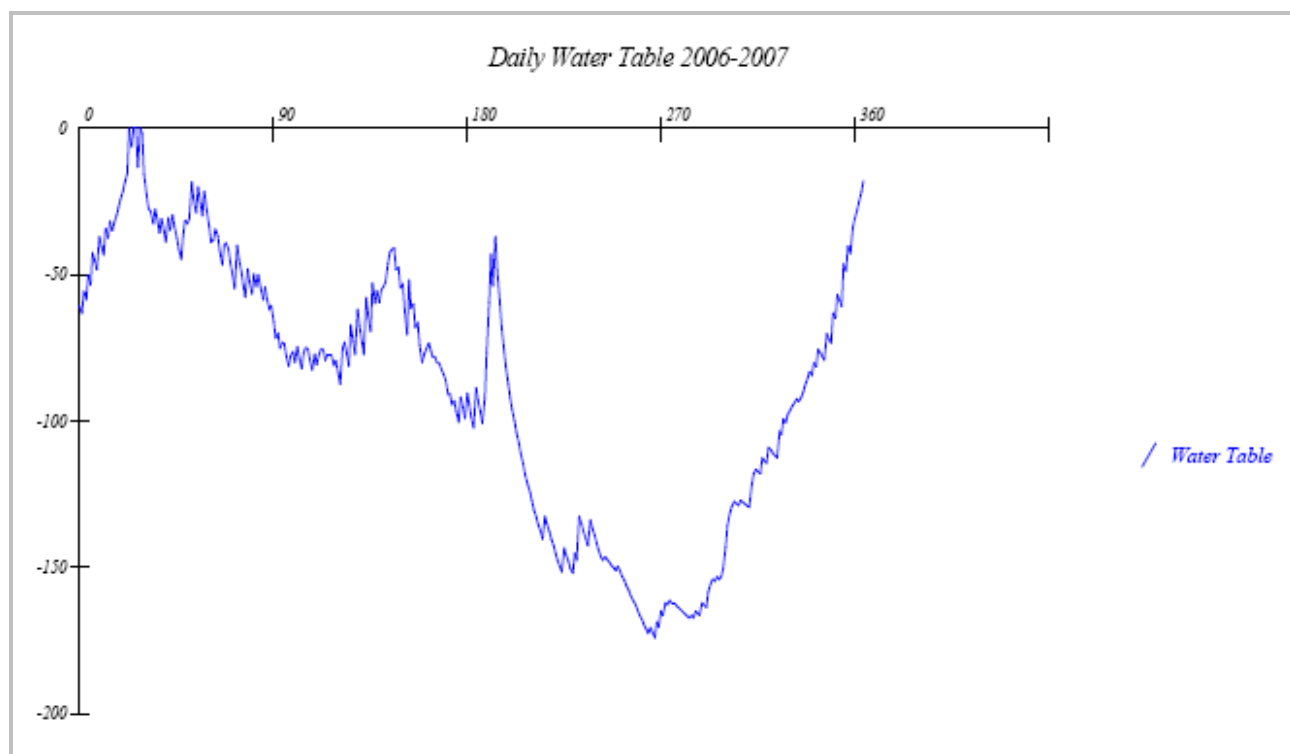
Файл Z 3-2_midl.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:26
 input file: C:\Program Files\Drainmod\INPUTS\Z 3-2_midl.Prj
 parameters: combination run and yields calculated
 drain spacing = 3500. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	-.84	.00	.00	156.49	.0	-10.81
AVG	60.91	60.91	60.07	-.84	.00	.00	156.49	.0	-10.81



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 3-2_max**Входни данни****Файл №1 – Z 3-2_max.gen**

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 149.91 4000.00 2.00 2.00 1.00 9.96 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
350.00 2.00
26. .30 50. .20 70. .09 100. .52 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

```

Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 3-2_max

Файл Z 3-2_max.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:24
input file: C:\Program Files\Drainmod\INPUTS\Z 3-2_max.Prj
parameters: combination run and yields calculated
drain spacing = 4000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	SEW	PUMP
1	5.49	5.26	.79	2.59	.00	.00	.00	.00
2	3.76	3.88	1.42	2.46	.00	.00	.00	.00
3	3.66	3.76	3.05	2.02	.00	.00	.00	.00
4	5.49	5.49	6.10	.36	.00	.00	.00	.00
5	7.19	7.19	7.92	-1.49	.00	.00	.00	-1.49
6	6.60	6.60	10.29	-1.60	.00	.00	14.50	.00 -1.60
7	4.42	4.42	10.16	-2.12	.00	.00	22.31	.00 -2.12
8	3.94	3.94	9.25	-3.23	.00	.00	29.00	.00 -3.23
9	3.23	3.23	6.17	-.78	.00	.00	30.00	.00 -.78
10	6.40	6.40	2.74	.00	.00	.00	31.00	.00 .00
11	5.16	5.16	1.42	.19	.00	.00	30.00	.00 .00
12	5.59	5.59	.76	1.10	.00	.00	14.00	.00 .00

TOTALS 60.91 60.91 60.07 -.50 .00 .00 170.81 .00 -9.22

Файл Z 3-2_max.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:24
input file: C:\Program Files\Drainmod\INPUTS\Z 3-2_max.Prj
parameters: combination run and yields calculated
drain spacing = 4000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.7	2.5	2.0	.0	.0	.0	.0	.0	.2	.0		
AVERAGE	1.7	2.5	2.0	.0	.0	.0	.0	.0	.2	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.6	2.5	2.0	.4	-1.5	-1.6	-2.1	-3.2	-.8	.0	.2	1.1
AVERAGE	2.6	2.5	2.0	.4	-1.5	-1.6	-2.1	-3.2	-.8	.0	.2	1.1

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0		
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0		

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	2.0	31.0	30.0	31.0	30.0	31.0	14.0	.0	
AVERAGE	.0	.0	.0	2.0	31.0	30.0	31.0	31.0	30.0	31.0	14.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	25.3	15.8	36.2	70.0	62.1	83.6	97.3	150.0	169.4	167.5	125.9	74.3
AVERAGE	25.3	15.8	36.2	70.0	62.1	83.6	97.3	150.0	169.4	167.5	125.9	74.3

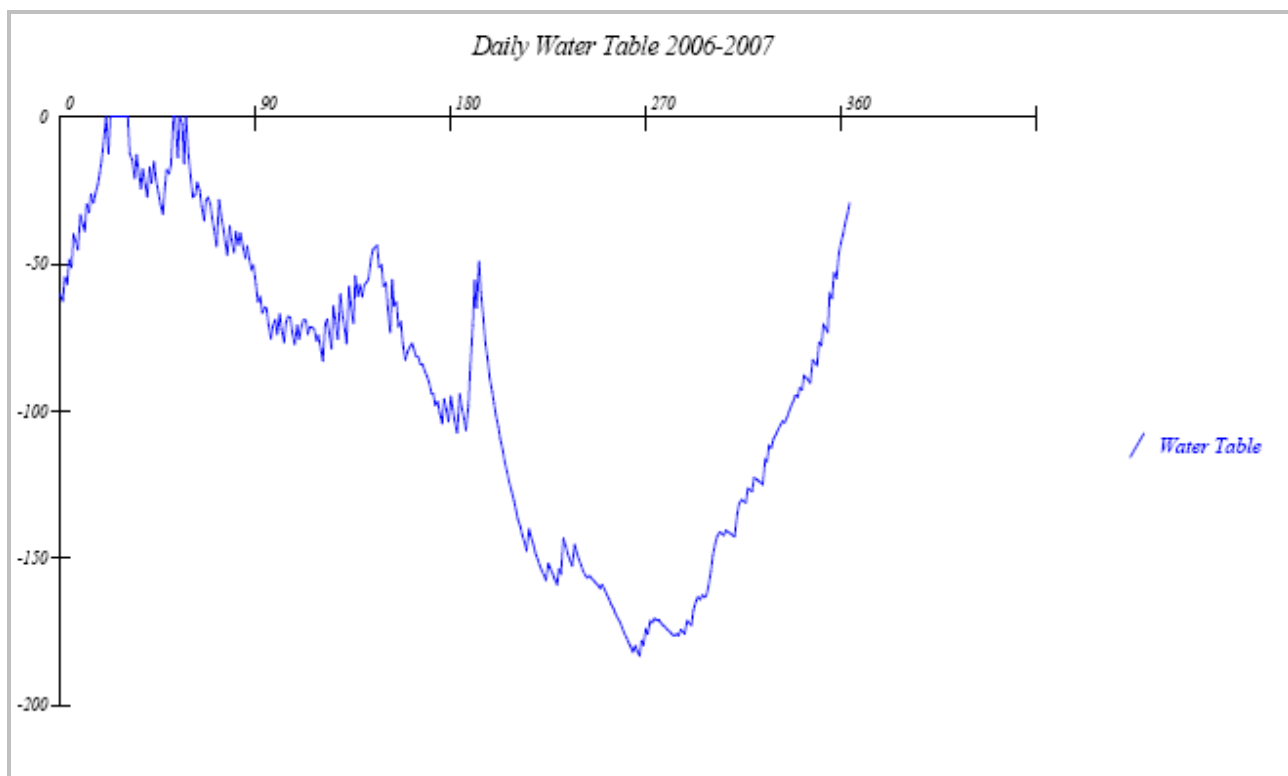
Файл Z 3-2_max.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:24
 input file: C:\Program Files\Drainmod\INPUTS\Z 3-2_max.Prj
 parameters: combination run and yields calculated
 drain spacing = 4000. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	-.50	.00	.00	170.81	.0	-9.22
AVG	60.91	60.91	60.07	-.50	.00	.00	170.81	.0	-9.22



Графика на дневните нива на подпочвените води за периода на изследване
 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 3-2_opt

Входни данни

Файл №1 – Z 3-2_opt.gen

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*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 135.36 3000.00 2.00 2.00 1.00 9.96 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
350.00 2.00
26. .30 50. .20 70. .09 100. .52 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.001231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 45.0
2 7 1 45.0
2 8 1 60.0
1 9 8 90.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve

```

0

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 3-2_opt

Файл Z 3-2_opt.DAY

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:28
 input file: C:\Program Files\Drainmod\INPUTS\Z 3-2_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 3000. cm drain depth = 130.0 cm

1

2006 1

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.30	.30	.03	.11135E+00	1.72	.00	61.09	.00	.00	.00
2	.00	.00	.03	.11011E+00	1.85	.00	64.24	.00	.00	.00
3	.41	.41	.03	.97629E-01	1.57	.00	57.34	.00	.00	.00
4	.00	.00	.03	.10361E+00	1.70	.00	60.65	.00	.00	.00
5	.41	.41	.03	.92364E-01	1.41	.00	53.13	.00	.00	.00
6	.00	.00	.03	.10054E+00	1.54	.00	56.45	.00	.00	.00
7	.51	.51	.03	.89689E-01	1.14	.00	46.09	.00	.00	.00
8	.00	.00	.03	.10411E+00	1.27	.00	49.51	.00	.00	.00
9	.00	.00	.03	.93276E-01	1.39	.00	52.64	.00	.00	.00
10	.51	.51	.03	.83460E-01	.99	.00	41.96	.00	.00	.00
11	.00	.00	.03	.99763E-01	1.12	.00	45.41	.00	.00	.00
12	.00	.00	.03	.89354E-01	1.23	.00	48.44	.00	.00	.00
13	.41	.41	.03	.80640E-01	.93	.00	40.27	.00	.00	.06
14	.00	.00	.03	.96271E-01	1.05	.00	43.66	.00	.00	.10
15	.30	.30	.03	.89627E-01	.86	.00	38.35	.00	.00	.09
16	.00	.00	.03	.99970E-01	.99	.00	41.87	.00	.00	.10
17	.20	.20	.03	.93040E-01	.91	.00	39.50	.00	.00	.09
18	.20	.20	.03	.97619E-01	.83	.00	37.23	.00	.00	.10
19	.20	.20	.03	.10199E+00	.75	.00	35.06	.00	.00	.10
20	.20	.20	.03	.10617E+00	.68	.00	33.01	.00	.00	.11
21	.20	.20	.03	.11015E+00	.61	.00	31.05	.00	.00	.11
22	.20	.20	.03	.11393E+00	.55	.00	29.18	.00	.00	.11
23	.20	.20	.03	.11753E+00	.49	.00	27.40	.00	.00	.12
24	.41	.41	.03	.12096E+00	.23	.00	18.44	.00	.00	.12
25	.00	.00	.03	.13790E+00	.39	.00	24.47	.00	.00	.14
26	.41	.41	.03	.12659E+00	.14	.00	14.15	.00	.00	.13
27	.00	.00	.03	.14551E+00	.31	.00	21.61	.00	.00	.15
28	.00	.00	.03	.13210E+00	.46	.00	26.72	.00	.00	.13
29	.41	.41	.03	.12227E+00	.20	.00	17.58	.00	.00	.12
30	.00	.00	.03	.13956E+00	.37	.00	23.79	.00	.00	.14
31	.00	.00	.03	.12798E+00	.52	.00	28.49	.00	.00	.13

1

2006 2

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.05	.11837E+00	.69	.00	33.42	.00	.00	.12
2	.00	.00	.05	.10886E+00	.85	.00	37.98	.00	.00	.11
3	.10	.10	.05	.99872E-01	.90	.00	39.37	.00	.00	.10
4	.00	.00	.05	.97375E-01	1.05	.00	43.50	.00	.00	.10
5	.30	.30	.05	.89289E-01	.88	.00	38.90	.00	.00	.09
6	.00	.00	.05	.98273E-01	1.03	.00	43.07	.00	.00	.10
7	.00	.00	.05	.90260E-01	1.17	.00	46.89	.00	.00	.09
8	.30	.30	.05	.82835E-01	1.00	.00	42.23	.00	.00	.08
9	.00	.00	.05	.91853E-01	1.15	.00	46.13	.00	.00	.09
10	.00	.00	.05	.84439E-01	1.28	.00	49.70	.00	.00	.08
11	.41	.41	.05	.77483E-01	1.00	.00	42.23	.00	.00	.08
12	.00	.00	.05	.91865E-01	1.15	.00	46.13	.00	.00	.09
13	.30	.30	.05	.84302E-01	.98	.00	41.47	.00	.00	.08

14	.00	.00	.05	.93311E-01	1.12	.00	45.45	.00	.00	.09
15	.00	.00	.05	.85762E-01	1.26	.00	49.05	.00	.00	.09
16	.00	.00	.05	.78833E-01	1.39	.00	52.47	.00	.00	.08
17	.00	.00	.05	.72433E-01	1.51	.00	55.72	.00	.00	.07
18	.41	.41	.05	.66205E-01	1.22	.00	48.09	.00	.00	.07
19	.30	.30	.05	.80527E-01	1.05	.00	43.44	.00	.00	.08
20	.10	.10	.05	.89411E-01	1.09	.00	44.51	.00	.00	.09
21	.20	.20	.05	.87400E-01	1.02	.00	42.71	.00	.00	.09
22	.51	.51	.05	.90798E-01	.65	.00	32.31	.00	.00	.09
23	.00	.00	.05	.11099E+00	.82	.00	36.95	.00	.00	.11
24	.00	.00	.05	.10202E+00	.97	.00	41.26	.00	.00	.10
25	.41	.41	.05	.93549E-01	.71	.00	33.83	.00	.00	.09
26	.00	.00	.05	.10806E+00	.87	.00	38.36	.00	.00	.11
27	.00	.00	.05	.99307E-01	1.02	.00	42.57	.00	.00	.10
28	.41	.41	.05	.91055E-01	.75	.00	35.10	.00	.00	.09

1

2006 3

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.10	.10430E+00	.96	.00	40.94	.00	.00	.10
2	.00	.00	.10	.93093E-01	1.15	.00	46.28	.00	.00	.09
3	.00	.00	.10	.82960E-01	1.34	.00	51.15	.00	.00	.08
4	.20	.20	.10	.73565E-01	1.31	.00	50.41	.00	.00	.07
5	.30	.30	.10	.74947E-01	1.18	.00	47.03	.00	.00	.07
6	.10	.10	.10	.81340E-01	1.26	.00	49.17	.00	.00	.08
7	.00	.00	.10	.77456E-01	1.44	.00	53.89	.00	.00	.08
8	.00	.00	.10	.68603E-01	1.61	.00	58.37	.00	.00	.07
9	.41	.41	.10	.60179E-01	1.37	.00	51.93	.00	.00	.06
10	.20	.20	.10	.72100E-01	1.34	.00	51.15	.00	.00	.07
11	.10	.10	.10	.73556E-01	1.41	.00	53.09	.00	.00	.07
12	.00	.00	.10	.70108E-01	1.58	.00	57.62	.00	.00	.07
13	.00	.00	.10	.61680E-01	1.74	.00	61.69	.00	.00	.06
14	.00	.00	.10	.54223E-01	1.90	.00	65.32	.00	.00	.05
15	.61	.61	.00	.62906E-01	1.35	.00	51.62	.00	.00	.06
16	.00	.00	.10	.72873E-01	1.53	.00	56.22	.00	.00	.07
17	.00	.00	.10	.64254E-01	1.69	.00	60.51	.00	.00	.06
18	.00	.00	.10	.56478E-01	1.85	.00	64.20	.00	.00	.06
19	.00	.00	.10	.49410E-01	2.00	.00	67.71	.00	.00	.05
20	.51	.51	.10	.42411E-01	1.64	.00	59.11	.00	.00	.04
21	.00	.00	.10	.58973E-01	1.80	.00	62.98	.00	.00	.06
22	.00	.00	.10	.51759E-01	1.95	.00	66.54	.00	.00	.05
23	.41	.41	.10	.44719E-01	1.69	.00	60.48	.00	.00	.04
24	.00	.00	.10	.56525E-01	1.85	.00	64.17	.00	.00	.06
25	.30	.30	.10	.49306E-01	1.70	.00	60.59	.00	.00	.05
26	.00	.00	.10	.56335E-01	1.86	.00	64.27	.00	.00	.06
27	.00	.00	.10	.49274E-01	2.01	.00	67.78	.00	.00	.05
28	.30	.30	.10	.42276E-01	1.85	.00	64.03	.00	.00	.04
29	.00	.00	.10	.49725E-01	2.00	.00	67.55	.00	.00	.05
30	.00	.00	.10	.42889E-01	2.14	.00	70.91	.00	.00	.04
31	.20	.20	.10	.35835E-01	2.08	.00	69.38	.00	.00	.04

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2006 4

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.20	.36112E-01	2.31	.00	74.87	.00	.00	.00
2	.00	.00	.20	.24599E-01	2.54	.00	78.88	.00	.00	.00
3	.30	.30	.20	.15496E-01	2.46	.00	77.40	.00	.00	.00
4	.00	.00	.20	.17959E-01	2.68	.00	81.21	.00	.00	.00
5	.30	.30	.20	.95169E-02	2.59	.00	79.62	.00	.00	.00
6	.20	.20	.20	.12217E-01	2.60	.00	79.83	.00	.00	.00
7	.00	.00	.20	.11045E-01	2.81	.00	83.52	.00	.00	.00
8	.00	.00	.20	.27946E-02	3.02	.00	87.07	.00	.00	.00
9	.41	.41	.20	-.40619E-02	2.81	.00	83.50	.00	.00	.00
10	.30	.30	.20	.28330E-02	2.71	.00	81.80	.00	.00	.00
11	.00	.00	.20	.57769E-02	2.92	.00	85.40	.00	.00	.00
12	.51	.51	.20	-.15640E-02	2.61	.00	80.12	.00	.00	.00
13	.00	.00	.20	.84603E-02	2.83	.00	83.77	.00	.00	.00
14	.00	.00	.20	.53102E-03	3.03	.00	87.28	.00	.00	.00
15	.51	.51	.20	-.60296E-02	2.72	.00	81.93	.00	.00	.00
16	.30	.30	.20	.43636E-02	2.62	.00	80.25	.00	.00	.00
17	.20	.20	.20	.74488E-02	2.63	.00	80.38	.00	.00	.00
18	.00	.00	.20	.66570E-02	2.84	.00	83.99	.00	.00	.00
19	.00	.00	.20	-.10501E-02	3.04	.00	87.47	.00	.00	.00
20	.51	.51	.20	-.73925E-02	2.73	.00	82.10	.00	.00	.00

Напоително – отводнителни полета

21	.00	.00	.20	.28459E-02	2.94	.00	85.65	.00	.00	.00
22	.41	.41	.20	-.41474E-02	2.73	.00	82.08	.00	.00	.00
23	.30	.30	.20	.28881E-02	2.63	.00	80.38	.00	.00	.00
24	.20	.20	.20	.60831E-02	2.64	.00	80.48	.00	.00	.00
25	.00	.00	.20	.53989E-02	2.84	.00	84.07	.00	.00	.00
26	.30	.30	.20	-.19512E-02	2.74	.00	82.29	.00	.00	.00
27	.20	.20	.20	.15747E-02	2.74	.00	82.32	.00	.00	.00
28	.20	.20	.20	.14572E-02	2.74	.00	82.34	.00	.00	.00
29	.00	.00	.20	.11332E-02	2.95	.00	85.86	.00	.00	.00
30	.30	.30	.20	-.56553E-02	2.84	.00	84.01	.00	.00	.00

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2006 5

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.30	-.69474E-01	3.08	.00	88.07	.00	.00	.00
2	.00	.00	.30	-.14053E+00	3.24	.00	90.63	.00	.00	.00
3	.61	.61	.00	-.13062E+00	2.50	.00	78.15	.00	.00	.00
4	.30	.30	.30	-.11966E+00	2.38	.00	76.07	.00	.00	.00
5	.00	.00	.30	-.11502E+00	2.57	.00	79.36	.00	.00	.00
6	.00	.00	.30	-.12212E+00	2.75	.00	82.50	.00	.00	.00
7	.61	.61	.00	-.11180E+00	2.03	.00	68.35	.00	.00	.00
8	.00	.00	.30	-.99060E-01	2.24	.00	73.14	.00	.00	.00
9	.00	.00	.30	-.10931E+00	2.43	.00	76.99	.00	.00	.00
10	.61	.61	.00	-.96291E-01	1.73	.00	61.27	.00	.00	.00
11	.00	.00	.30	-.81159E-01	1.95	.00	66.47	.00	.00	.00
12	.00	.00	.30	-.94464E-01	2.16	.00	71.36	.00	.00	.00
13	.00	.00	.30	-.10578E+00	2.36	.00	75.69	.00	.00	.00
14	.79	.79	.00	-.92338E-01	1.48	.00	54.93	.00	.00	.00
15	.00	.00	.30	-.66149E-01	1.72	.00	61.08	.00	.00	.00
16	.00	.00	.30	-.80683E-01	1.94	.00	66.29	.00	.00	.00
17	.61	.61	.00	-.67472E-01	1.27	.00	49.28	.00	.00	.00
18	.00	.00	.30	-.52525E-01	1.52	.00	55.93	.00	.00	.00
19	.41	.41	.30	-.68797E-01	1.35	.00	51.44	.00	.00	.00
20	.10	.10	.30	-.58100E-01	1.49	.00	55.27	.00	.00	.00
21	.41	.41	.30	-.67232E-01	1.32	.00	50.82	.00	.00	.00
22	.30	.30	.30	-.56595E-01	1.27	.00	49.32	.00	.00	.00
23	.30	.30	.30	-.53028E-01	1.21	.00	47.93	.00	.00	.00
24	.51	.51	.30	-.49718E-01	.96	.00	41.05	.00	.00	.00
25	.41	.41	.30	-.34039E-01	.83	.00	37.23	.00	.00	.00
26	.30	.30	.30	-.25568E-01	.80	.00	36.50	.00	.00	.00
27	.30	.30	.30	-.23949E-01	.78	.00	35.82	.00	.00	.00
28	.00	.00	.30	-.22950E-01	1.06	.00	43.74	.00	.00	.00
29	.30	.30	.30	-.40040E-01	1.02	.00	42.63	.00	.00	.00
30	.00	.00	.30	-.37209E-01	1.29	.00	49.81	.00	.00	.00
31	.30	.30	.30	-.54175E-01	1.23	.00	48.38	.00	.00	.00

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2006 6

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.38	-.20425E-01	1.59	.00	57.88	.00	.00	.00
2	.00	.00	.38	-.38573E-01	1.93	.00	66.10	.00	.00	.00
3	.71	.71	.00	-.31026E-01	1.19	.00	47.34	.00	.00	.00
4	.00	.00	.38	-.16545E-01	1.56	.00	56.95	.00	.00	.00
5	.41	.41	.38	-.36924E-01	1.49	.00	55.31	.00	.00	.00
6	.00	.00	.38	-.33037E-01	1.84	.00	63.95	.00	.00	.00
7	.41	.41	.38	-.52750E-01	1.76	.00	62.14	.00	.00	.00
8	.00	.00	.38	-.48097E-01	2.10	.00	69.88	.00	.00	.00
9	.00	.00	.38	-.65707E-01	2.41	.00	76.64	.00	.00	.00
10	.51	.51	.38	-.78796E-01	2.21	.00	72.42	.00	.00	.00
11	.41	.41	.38	-.70611E-01	2.11	.00	70.19	.00	.00	.00
12	.41	.41	.38	-.66378E-01	2.02	.00	68.06	.00	.00	.00
13	.20	.20	.38	-.61972E-01	2.13	.00	70.75	.00	.00	.00
14	.20	.20	.38	-.67458E-01	2.24	.00	73.32	.00	.00	.00
15	.30	.30	.38	-.72248E-01	2.25	.00	73.41	.00	.00	.00
16	.20	.20	.38	-.72415E-01	2.35	.00	75.59	.00	.00	.00
17	.30	.30	.38	-.76621E-01	2.35	.00	75.58	.00	.00	.00
18	.20	.20	.38	-.76605E-01	2.45	.00	77.37	.00	.00	.00
19	.20	.20	.38	-.80362E-01	2.55	.00	79.05	.00	.00	.00
20	.20	.20	.38	-.83920E-01	2.65	.00	80.67	.00	.00	.00
21	.00	.00	.38	-.87102E-01	2.94	.00	85.73	.00	.00	.00
22	.30	.30	.38	-.97711E-01	2.92	.00	85.36	.00	.00	.00
23	.00	.00	.38	-.96870E-01	3.20	.00	90.18	.00	.00	.00
24	.41	.41	.38	-.10557E+00	3.07	.00	88.00	.00	.00	.00
25	.00	.00	.38	-.10187E+00	3.35	.00	91.98	.00	.00	.00

26	.00	.00	.38	-.10912E+00	3.62	.00	95.28	.00	.00	.00
27	.61	.61	.00	-.10363E+00	2.91	.00	85.20	.00	.00	.00
28	.00	.00	.38	-.96551E-01	3.19	.00	90.04	.00	.00	.00
29	.00	.00	.38	-.10523E+00	3.47	.00	93.42	.00	.00	.00
30	.61	.61	.00	-.99039E-01	2.76	.00	82.65	.00	.00	.00

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2006 7

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.41	-.91671E-01	3.08	.00	88.07	.00	.00	.00
2	.00	.00	.41	-.10230E+00	3.38	.00	92.33	.00	.00	.00
3	.00	.00	.41	-.11013E+00	3.68	.00	95.93	.00	.00	.00
4	.99	.99	.00	-.10515E+00	2.58	.00	79.54	.00	.00	.00
5	.00	.00	.41	-.85140E-01	2.90	.00	85.07	.00	.00	.00
6	.00	.00	.41	-.96684E-01	3.21	.00	90.28	.00	.00	.00
7	.00	.00	.41	-.10596E+00	3.51	.00	93.93	.00	.00	.00
8	.61	.61	.00	-.10034E+00	2.80	.00	83.35	.00	.00	.00
9	.89	.89	.00	-.75157E-01	1.84	.00	63.85	.00	.00	.00
10	.71	.71	.00	-.25484E-01	1.10	.00	44.94	.00	.00	.00
11	.61	.61	.00	.18048E-01	.51	.00	28.09	.00	.00	.00
12	.00	.00	.41	.24671E-01	.94	.00	40.48	.00	.00	.00
13	.61	.61	.00	.27968E-01	.36	.00	23.42	.00	.00	.00
14	.00	.00	.41	.34123E-01	.80	.00	36.49	.00	.00	.00
15	.00	.00	.41	.58697E-02	1.21	.00	47.86	.00	.00	.00
16	.00	.00	.41	-.18473E-01	1.60	.00	58.09	.00	.00	.00
17	.00	.00	.41	-.39661E-01	1.97	.00	66.84	.00	.00	.00
18	.00	.00	.41	-.59712E-01	2.31	.00	74.84	.00	.00	.00
19	.00	.00	.41	-.75306E-01	2.64	.00	80.63	.00	.00	.00
20	.00	.00	.41	-.87454E-01	2.96	.00	86.13	.00	.00	.00
21	.00	.00	.41	-.98787E-01	3.27	.00	91.00	.00	.00	.00
22	.00	.00	.41	-.10743E+00	3.57	.00	94.64	.00	.00	.00
23	.00	.00	.41	-.11478E+00	3.86	.00	98.18	.00	.00	.00
24	.00	.00	.41	-.12186E+00	4.15	.00	101.63	.00	.00	.00
25	.00	.00	.41	-.12867E+00	4.42	.00	105.01	.00	.00	.00
26	.00	.00	.41	-.13522E+00	4.69	.00	108.30	.00	.00	.00
27	.00	.00	.41	-.14154E+00	4.96	.00	111.52	.00	.00	.00
28	.00	.00	.41	-.14762E+00	5.22	.00	114.66	.00	.00	.00
29	.00	.00	.41	-.15349E+00	5.47	.00	117.73	.00	.00	.00
30	.00	.00	.41	-.15913E+00	5.72	.00	120.63	.00	.00	.00
31	.00	.00	.41	-.16411E+00	5.96	.00	123.18	.00	.00	.00

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2006 8

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.36	-.13332E+00	6.18	.00	125.51	.00	.00	.00
2	.00	.00	.36	-.13426E+00	6.40	.00	127.83	.00	.00	.00
3	.00	.00	.36	-.13828E+00	6.62	.00	130.11	.00	.00	.00
4	.00	.00	.36	-.14218E+00	6.84	.00	132.35	.00	.00	.00
5	.61	.61	.00	-.13774E+00	6.09	.00	124.51	.00	.00	.00
6	.00	.00	.36	-.13251E+00	6.31	.00	126.85	.00	.00	.00
7	.00	.00	.36	-.13658E+00	6.53	.00	129.15	.00	.00	.00
8	.00	.00	.36	-.14054E+00	6.74	.00	131.40	.00	.00	.00
9	.00	.00	.36	-.14438E+00	6.96	.00	133.62	.00	.00	.00
10	.00	.00	.36	-.14812E+00	7.16	.00	135.79	.00	.00	.00
11	.00	.00	.36	-.15175E+00	7.37	.00	137.93	.00	.00	.00
12	.00	.00	.36	-.15529E+00	7.57	.00	140.03	.00	.00	.00
13	.00	.00	.36	-.15873E+00	7.76	.00	142.10	.00	.00	.00
14	.71	.71	.00	-.15419E+00	6.90	.00	133.02	.00	.00	.00
15	.00	.00	.36	-.14712E+00	7.11	.00	135.21	.00	.00	.00
16	.00	.00	.36	-.15078E+00	7.31	.00	137.36	.00	.00	.00
17	.00	.00	.36	-.15434E+00	7.51	.00	139.47	.00	.00	.00
18	.00	.00	.36	-.15781E+00	7.71	.00	141.54	.00	.00	.00
19	.61	.61	.00	-.15327E+00	6.95	.00	133.54	.00	.00	.00
20	.00	.00	.36	-.14799E+00	7.16	.00	135.72	.00	.00	.00
21	1.30	1.30	.00	-.13820E+00	5.72	.00	120.68	.00	.00	.00
22	.00	.00	.36	-.12577E+00	5.95	.00	123.09	.00	.00	.00
23	.00	.00	.36	-.13003E+00	6.18	.00	125.46	.00	.00	.00
24	.00	.00	.36	-.13417E+00	6.40	.00	127.78	.00	.00	.00
25	.00	.00	.36	-.13819E+00	6.62	.00	130.06	.00	.00	.00
26	.71	.71	.00	-.13378E+00	5.77	.00	121.20	.00	.00	.00
27	.00	.00	.36	-.12668E+00	6.00	.00	123.60	.00	.00	.00
28	.00	.00	.36	-.13092E+00	6.23	.00	125.95	.00	.00	.00
29	.00	.00	.36	-.13503E+00	6.45	.00	128.27	.00	.00	.00
30	.00	.00	.36	-.13903E+00	6.66	.00	130.54	.00	.00	.00

31	.00	.00	.36	-.14292E+00	6.88	.00	132.77	.00	.00	.00
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2006 9

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.23	-.14566E+00	6.96	.00	133.64	.00	.00	.00
2	.20	.20	.23	-.14716E+00	6.84	.00	132.36	.00	.00	.00
3	.00	.00	.23	-.14497E+00	6.92	.00	133.24	.00	.00	.00
4	.00	.00	.23	-.14646E+00	7.00	.00	134.10	.00	.00	.00
5	.00	.00	.23	-.14791E+00	7.08	.00	134.95	.00	.00	.00
6	.00	.00	.23	-.14932E+00	7.16	.00	135.78	.00	.00	.00
7	.00	.00	.23	-.15071E+00	7.24	.00	136.60	.00	.00	.00
8	.41	.41	.23	-.63106E-02	7.06	.00	134.67	.00	.00	.00
9	.00	.00	.23	.00000E+00	7.28	.00	137.06	.00	.00	.00
10	.00	.00	.23	.00000E+00	7.51	.00	139.46	.00	.00	.00
11	.00	.00	.23	.00000E+00	7.74	.00	141.86	.00	.00	.00
12	.00	.00	.23	.00000E+00	7.97	.00	144.26	.00	.00	.00
13	.00	.00	.23	.00000E+00	8.20	.00	146.66	.00	.00	.00
14	.00	.00	.23	.00000E+00	8.43	.00	149.05	.00	.00	.00
15	.00	.00	.23	.00000E+00	8.66	.00	150.99	.00	.00	.00
16	.00	.00	.23	.00000E+00	8.89	.00	152.63	.00	.00	.00
17	.00	.00	.23	.00000E+00	9.11	.00	154.27	.00	.00	.00
18	.00	.00	.23	.00000E+00	9.34	.00	155.91	.00	.00	.00
19	.00	.00	.23	.00000E+00	9.57	.00	157.55	.00	.00	.00
20	.00	.00	.23	.00000E+00	9.80	.00	159.19	.00	.00	.00
21	.00	.00	.23	.00000E+00	10.03	.00	160.83	.00	.00	.00
22	.00	.00	.23	.00000E+00	10.26	.00	162.47	.00	.00	.00
23	.51	.51	.23	.00000E+00	9.98	.00	160.47	.00	.00	.00
24	.00	.00	.23	.00000E+00	10.21	.00	162.11	.00	.00	.00
25	.00	.00	.23	.00000E+00	10.43	.00	163.75	.00	.00	.00
26	.71	.71	.00	.00000E+00	9.72	.00	158.65	.00	.00	.00
27	.00	.00	.23	.00000E+00	9.95	.00	160.29	.00	.00	.00
28	.79	.79	.00	.00000E+00	9.16	.00	154.64	.00	.00	.00
29	.00	.00	.23	.00000E+00	9.39	.00	156.28	.00	.00	.00
30	.61	.61	.00	.00000E+00	8.78	.00	151.90	.00	.00	.00

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2006 10

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.10	.00000E+00	8.89	.00	152.63	.00	.00	.00
2	.30	.30	.10	.00000E+00	8.68	.00	151.18	.00	.00	.00
3	.00	.00	.10	.00000E+00	8.78	.00	151.90	.00	.00	.00
4	.10	.10	.10	.00000E+00	8.78	.00	151.90	.00	.00	.00
5	.00	.00	.10	.00000E+00	8.89	.00	152.63	.00	.00	.00
6	.00	.00	.10	.00000E+00	8.99	.00	153.36	.00	.00	.00
7	.00	.00	.10	.00000E+00	9.09	.00	154.09	.00	.00	.00
8	.00	.00	.10	.00000E+00	9.19	.00	154.82	.00	.00	.00
9	.00	.00	.10	.00000E+00	9.29	.00	155.55	.00	.00	.00
10	.00	.00	.10	.00000E+00	9.39	.00	156.28	.00	.00	.00
11	.00	.00	.10	.00000E+00	9.49	.00	157.01	.00	.00	.00
12	.20	.20	.10	.00000E+00	9.39	.00	156.28	.00	.00	.00
13	.00	.00	.10	.00000E+00	9.49	.00	157.01	.00	.00	.00
14	.41	.41	.10	.00000E+00	9.19	.00	154.82	.00	.00	.00
15	.00	.00	.10	.00000E+00	9.29	.00	155.55	.00	.00	.00
16	.00	.00	.10	.00000E+00	9.39	.00	156.28	.00	.00	.00
17	.61	.61	.00	.00000E+00	8.78	.00	151.90	.00	.00	.00
18	.00	.00	.10	.00000E+00	8.88	.00	152.63	.00	.00	.00
19	.00	.00	.10	.00000E+00	8.99	.00	153.36	.00	.00	.00
20	.71	.71	.00	.00000E+00	8.28	.00	147.46	.00	.00	.00
21	.51	.51	.10	.00000E+00	7.87	.00	143.19	.00	.00	.00
22	.30	.30	.10	.00000E+00	7.67	.00	141.06	.00	.00	.00
23	.00	.00	.10	.00000E+00	7.77	.00	142.13	.00	.00	.00
24	.30	.30	.10	.00000E+00	7.56	.00	140.00	.00	.00	.00
25	.00	.00	.10	.00000E+00	7.67	.00	141.06	.00	.00	.00
26	.20	.20	.10	.00000E+00	7.56	.00	140.00	.00	.00	.00
27	.51	.51	.10	.00000E+00	7.16	.00	135.73	.00	.00	.00
28	.71	.71	.00	.32899E-04	6.45	.00	128.27	.00	.00	.00
29	.71	.71	.00	.72972E-02	5.74	.00	120.89	.00	.00	.01
30	.51	.51	.10	.13216E-01	5.35	.00	116.25	.00	.00	.01
31	.30	.30	.10	.20513E-01	5.17	.00	114.03	.00	.00	.02

1

2006 11

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.20	.20	.05	.24648E-01	5.04	.00	112.48	.00	.00	.02
2	.00	.00	.05	.27267E-01	5.12	.00	113.43	.00	.00	.03
3	.00	.00	.05	.25683E-01	5.19	.00	114.36	.00	.00	.03
4	.20	.20	.05	.24110E-01	5.07	.00	112.80	.00	.00	.02
5	.00	.00	.05	.26733E-01	5.14	.00	113.74	.00	.00	.03
6	.00	.00	.05	.25164E-01	5.22	.00	114.67	.00	.00	.03
7	.00	.00	.05	.23635E-01	5.29	.00	115.57	.00	.00	.02
8	.00	.00	.05	.22146E-01	5.37	.00	116.46	.00	.00	.02
9	.71	.71	.00	.27062E-01	4.68	.00	108.15	.00	.00	.03
10	.41	.41	.05	.34595E-01	4.36	.00	104.25	.00	.00	.03
11	.20	.20	.05	.41386E-01	4.25	.00	102.90	.00	.00	.04
12	.00	.00	.05	.43816E-01	4.34	.00	104.05	.00	.00	.04
13	.00	.00	.05	.41779E-01	4.44	.00	105.17	.00	.00	.04
14	.51	.51	.05	.39760E-01	4.02	.00	100.10	.00	.00	.04
15	.00	.00	.05	.48832E-01	4.12	.00	101.31	.00	.00	.05
16	.00	.00	.05	.46651E-01	4.22	.00	102.50	.00	.00	.05
17	.51	.51	.05	.44490E-01	3.80	.00	97.48	.00	.00	.04
18	.00	.00	.05	.53605E-01	3.91	.00	98.75	.00	.00	.05
19	.00	.00	.05	.51285E-01	4.01	.00	99.99	.00	.00	.05
20	.00	.00	.05	.49033E-01	4.11	.00	101.20	.00	.00	.05
21	.00	.00	.05	.46846E-01	4.21	.00	102.39	.00	.00	.05
22	.79	.79	.00	.51659E-01	3.47	.00	93.45	.00	.00	.05
23	.00	.00	.05	.61094E-01	3.58	.00	94.81	.00	.00	.06
24	.51	.51	.05	.58497E-01	3.19	.00	89.91	.00	.00	.06
25	.00	.00	.05	.67722E-01	3.30	.00	91.41	.00	.00	.07
26	.30	.30	.05	.64903E-01	3.12	.00	88.73	.00	.00	.06
27	.20	.20	.05	.69588E-01	3.03	.00	87.32	.00	.00	.07
28	.20	.20	.05	.72204E-01	2.95	.00	85.94	.00	.00	.07
29	.20	.20	.05	.74865E-01	2.87	.00	84.60	.00	.00	.07
30	.20	.20	.05	.77474E-01	2.80	.00	83.31	.00	.00	.08

1

2006 12

DAY	RAIN	INFIL	ET	DRAIN	TVOL	DDZ	DTWT	STOR	RUNOFF	WLOSS
1	.00	.00	.03	.77406E-01	2.90	.00	85.08	.00	.00	.00
2	.20	.20	.03	.67986E-01	2.79	.00	83.19	.00	.00	.00
3	.20	.20	.03	.66856E-01	2.68	.00	81.28	.00	.00	.00
4	.20	.20	.03	.66179E-01	2.57	.00	79.36	.00	.00	.00
5	.20	.20	.03	.65839E-01	2.46	.00	77.43	.00	.00	.00
6	.20	.20	.03	.65757E-01	2.35	.00	75.44	.00	.00	.00
7	.00	.00	.03	.66058E-01	2.44	.00	77.07	.00	.00	.00
8	.30	.30	.03	.59111E-01	2.22	.00	72.68	.00	.00	.00
9	.00	.00	.03	.64445E-01	2.31	.00	74.73	.00	.00	.00
10	.41	.41	.03	.57243E-01	1.98	.00	67.24	.00	.00	.00
11	.00	.00	.03	.68960E-01	2.08	.00	69.43	.00	.00	.00
12	.00	.00	.03	.61479E-01	2.16	.00	71.45	.00	.00	.00
13	.00	.00	.03	.54396E-01	2.24	.00	73.31	.00	.00	.00
14	.51	.51	.03	.47953E-01	1.81	.00	63.20	.00	.00	.00
15	.00	.00	.03	.65319E-01	1.90	.00	65.31	.00	.00	.00
16	.00	.00	.03	.58496E-01	1.98	.00	67.26	.00	.00	.00
17	.51	.51	.03	.52133E-01	1.55	.00	56.88	.00	.00	.00
18	.00	.00	.03	.69031E-01	1.65	.00	59.33	.00	.00	.00
19	.41	.41	.03	.61565E-01	1.33	.00	50.95	.00	.00	.00
20	.00	.00	.03	.74579E-01	1.43	.00	53.59	.00	.00	.00
21	.00	.00	.03	.66749E-01	1.52	.00	56.02	.00	.00	.00
22	.61	.61	.00	.74794E-01	.99	.00	41.75	.00	.00	.00
23	.00	.00	.03	.83667E-01	1.10	.00	44.78	.00	.00	.00
24	.41	.41	.03	.74658E-01	.79	.00	36.19	.00	.00	.00
25	.00	.00	.03	.88663E-01	.90	.00	39.43	.00	.00	.00
26	.41	.41	.03	.79062E-01	.60	.00	30.78	.00	.00	.00
27	.20	.20	.03	.93155E-01	.52	.00	28.29	.00	.00	.00
28	.20	.20	.03	.94857E-01	.43	.00	25.82	.00	.00	.00
29	.20	.20	.03	.96551E-01	.35	.00	23.19	.00	.00	.00
30	.20	.20	.03	.98400E-01	.27	.00	20.31	.00	.00	.00
31	.20	.20	.03	.10072E+00	.20	.00	17.17	.00	.00	.00

Файл Z 3-2_opt.MON

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS----- time: 7/23/2007 @ 14:28
input file: C:\Program Files\Drainmod\INPUTS\Z 3-2_opt.Prj
parameters: combination run and yields calculated
drain spacing = 3000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	3.34	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	2.56	.00	.00	.00	.00	.00
3	3.66	3.66	3.05	1.93	.00	.00	.00	.00	.00
4	5.49	5.49	6.10	.16	.00	.00	6.86	.00	-.03
5	7.19	7.19	7.92	-2.35	.00	.00	1.59	.00	-2.35
6	6.60	6.60	10.29	-2.15	.00	.00	7.98	.00	-2.15
7	4.42	4.42	10.16	-2.54	.00	.00	17.31	2.85	-2.65
8	3.94	3.94	9.25	-4.39	.00	.00	29.00	.00	-4.39
9	3.23	3.23	6.17	-1.04	.00	.00	30.00	.00	-1.04
10	6.40	6.40	2.74	.04	.00	.00	31.00	.00	.00
11	5.16	5.16	1.42	1.37	.00	.00	28.90	.00	.00
12	5.59	5.59	.76	2.22	.00	.00	.00	.00	.00

TOTALS 60.91 60.91 60.07 -.85 .00 .00 152.64 2.85 -12.62

Файл Z 3-2_opt.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS----- time: 7/23/2007 @ 14:28
input file: C:\Program Files\Drainmod\INPUTS\Z 3-2_opt.Prj
parameters: combination run and yields calculated
drain spacing = 3000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.1	2.6	1.9	.0	.0	.0	.0	.0	1.4	.0		
AVERAGE	2.1	2.6	1.9	.0	.0	.0	.0	.0	1.4	.0		

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.3	2.6	1.9	.2	-2.3	-2.2	-2.5	-4.4	-1.0	.0	1.4	2.2
AVERAGE	3.3	2.6	1.9	.2	-2.3	-2.2	-2.5	-4.4	-1.0	.0	1.4	2.2

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0		
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0		

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8
AVERAGE	.8	1.4	3.0	6.1	7.9	10.3	10.2	9.2	6.2	2.7	1.4	.8

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	8.0	31.0	30.0	26.0	31.0	30.0	28.0	.0	.0
AVERAGE	.0	.0	.0	8.0	31.0	30.0	26.0	31.0	30.0	28.0	.0	.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	39.0	42.6	58.6	82.3	60.2	75.3	82.1	131.0	148.5	146.4	101.4	57.0
AVERAGE	39.0	42.6	58.6	82.3	60.2	75.3	82.1	131.0	148.5	146.4	101.4	57.0

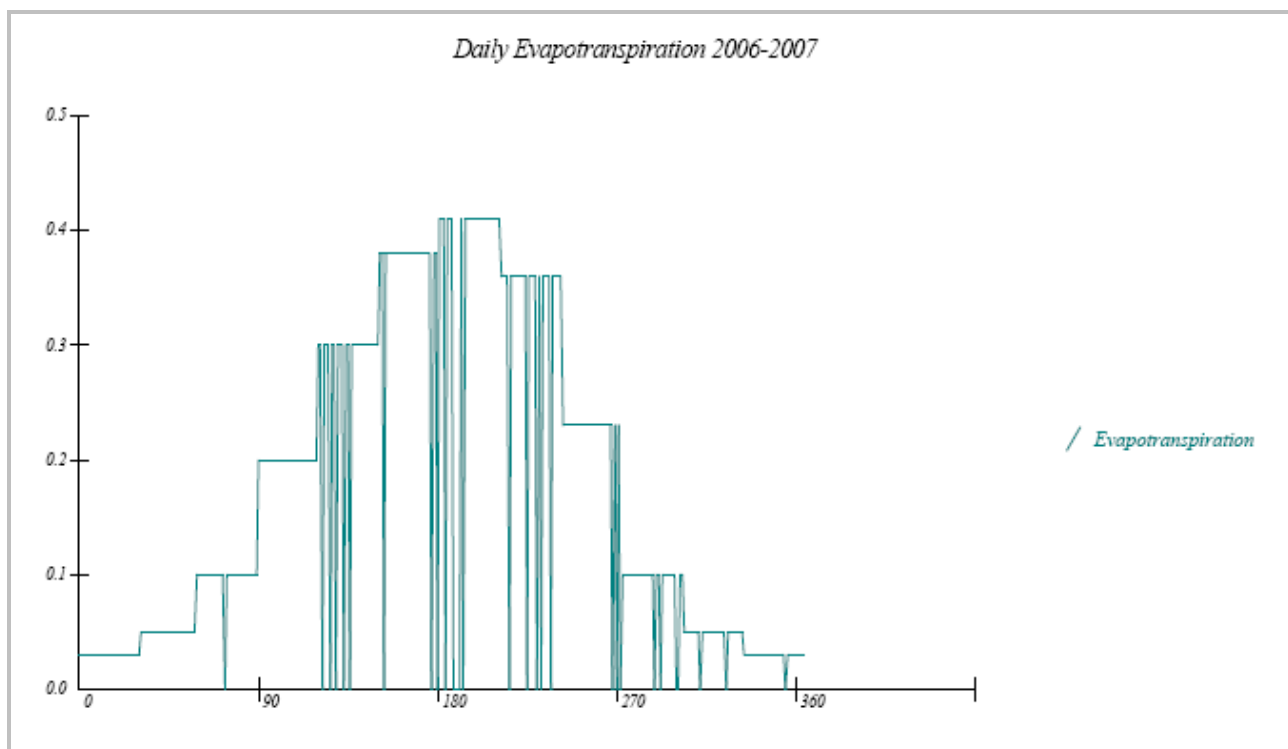
Файл Z 3-2_opt.IR

 * DRAINMOD version 5.1 *
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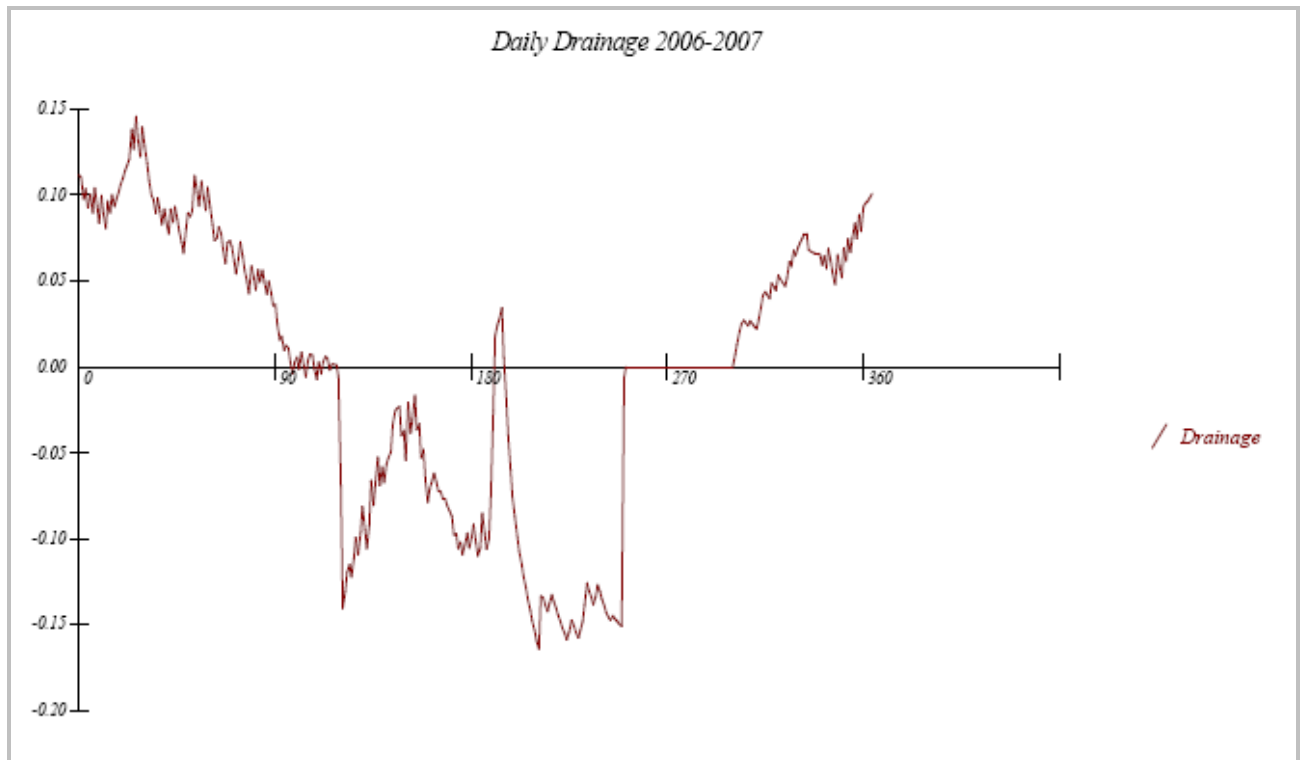
COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:28
 input file: C:\Program Files\Drainmod\INPUTS\Z 3-2_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 3000. cm drain depth = 130.0 cm

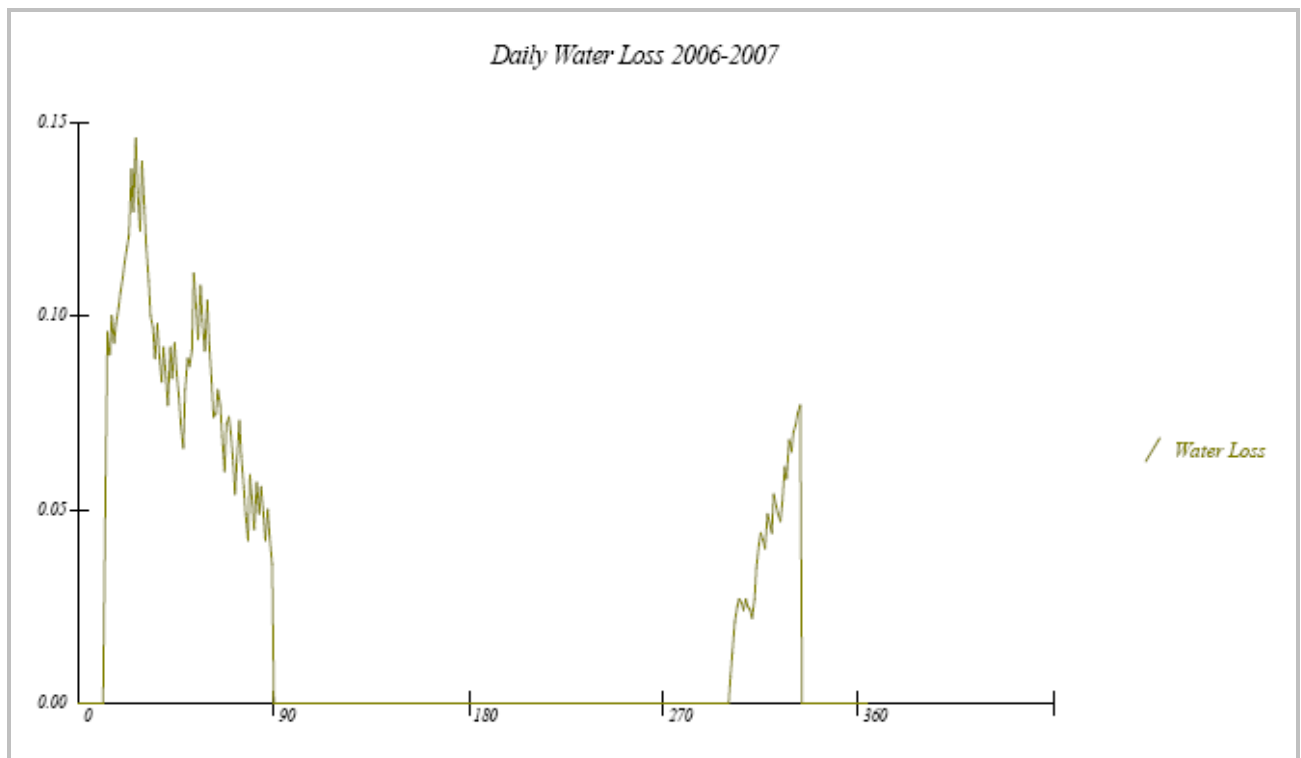
YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	60.07	-.85	.00	.00	152.64	2.8	-12.62
AVG	60.91	60.91	60.07	-.85	.00	.00	152.64	2.8	-12.62



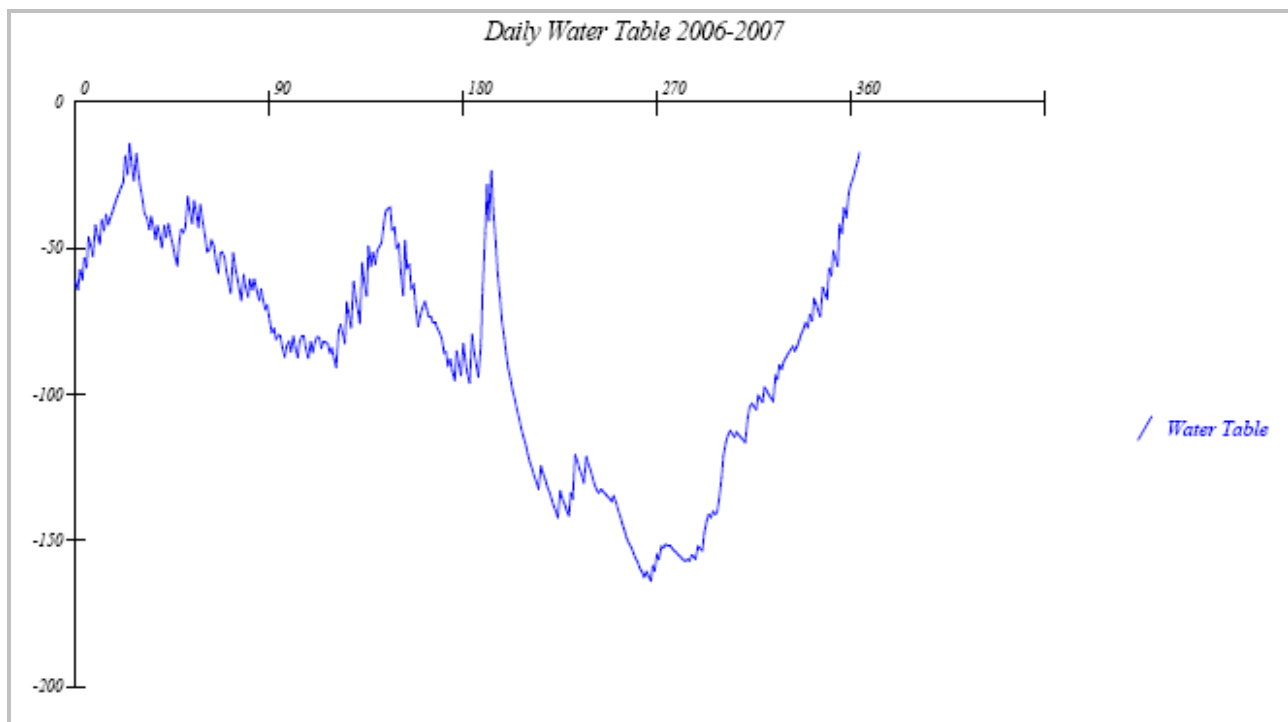
Графика на дневната евапотранспирация за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните дренирани обеми за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните водни загуби за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

4.3.9 Поле Z 4-1

ПРОЕКТ Z 4-1

Входни данни

Файл №1 – Z 4-1.gen

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\RAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\RAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 315.67 6000.00 2.00 2.00 1.00 9.75 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
1000.00 2.00
23. 4.70 47. 8.85 120. 8.02 0. .00 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.001231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 30.0
2 6 1 30.0
2 7 1 45.0
2 8 1 45.0
1 9 8 75.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0

```

Initial snow depth(m) & density(kg/m3)

.00 .00

Freezing characteristic curve

0

Файл №3 – 2-1.SIN

Файл съдържащ данни за почвите.

A 2-1

420

.3500000	.0	
.1200000	-30.0	
.0500000	-185.0	
.0500000	-1000.0	
.0000	.0000	.5000
3.0000	.0350	.5000
6.0000	.1380	.5000
9.0000	.3110	.5000
12.0000	.5520	.5000
15.0000	.8630	.5000
20.0000	1.5330	.4675
25.0000	2.3910	.1496
30.0000	3.3940	.0639
35.0000	4.4420	.0419
40.0000	5.4450	.0360
45.0000	6.4020	.0322
60.0000	9.1780	.0051
75.0000	12.9280	.0020
90.0000	17.1490	.0010
120.0000	25.6650	.0003
150.0000	34.2770	.0000
200.0000	48.7970	.0000
500.0000	100.0000	.0000
1000.0000	100.0000	.0000

10

.00	.00	47.05
10.00	10.05	47.05
20.00	20.01	47.05
40.00	42.14	64.67
60.00	47.92	70.82
80.00	51.34	73.17
100.00	53.18	73.17
150.00	60.98	73.17
200.00	60.98	73.17
1000.00	60.98	73.17

Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 4-1

Файл Z 4-1.MON

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL

DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15: 0
 input file: C:\Program Files\Drainmod\INPUTS\Z 4-1.Prj
 parameters: combination run and yields calculated
 drain spacing = 6000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	8.12	.00	.00	.00	.00	.00
2	3.76	3.76	.61	3.51	.00	.00	.00	.00	.00
3	3.66	3.66	1.12	2.82	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.16	.00	.00	30.00	.00	-.02
5	7.19	7.19	6.10	-9.67	.00	.00	31.00	.00	-9.67

6	6.60	6.60	10.29	-3.60	.00	.00	30.00	.00	-3.60
7	4.42	4.42	6.50	-.38	.00	.00	31.00	.00	-2.12
8	3.94	3.94	4.98	-4.85	.00	.00	29.00	.00	-4.85
9	3.23	3.23	2.06	2.08	.00	.00	30.00	.00	-1.19
10	6.40	6.40	1.12	15.34	.00	.00	31.00	.00	.00
11	5.16	5.16	.61	7.42	.00	.00	30.00	.00	.00
12	5.59	5.59	.43	.31	.00	.00	31.00	.00	-.03

TOTALS 60.91 60.91 38.05 21.27 .00 .00 304.00 .00 -21.48

Файл Z 4-1.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS----- time: 7/23/2007 @ 15: 0
input file: C:\Program Files\Drainmod\INPUTS\Z 4-1.Prj
parameters: combination run and yields calculated
drain spacing = 6000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	7.5	3.5	2.8	.0	.0	.0	.0	2.3	16.3	7.4	.0	
AVERAGE	7.5	3.5	2.8	.0	.0	.0	.0	2.3	16.3	7.4	.0	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	8.1	3.5	2.8	.2	-9.7	-3.6	-.4	-4.8	2.1	15.3	7.4	.3
AVERAGE	8.1	3.5	2.8	.2	-9.7	-3.6	-.4	-4.8	2.1	15.3	7.4	.3

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	.6	1.1	3.5	6.1	10.3	6.5	5.0	2.1	1.1	.6	.4
AVERAGE	.8	.6	1.1	3.5	6.1	10.3	6.5	5.0	2.1	1.1	.6	.4

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	11.0	31.0	30.0	14.0	31.0	7.0	.0	.0	7.0
AVERAGE	.0	.0	.0	11.0	31.0	30.0	14.0	31.0	7.0	.0	.0	7.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	73.5	81.7	84.0	82.7	47.5	36.4	46.1	54.1	64.6	95.8	112.2	107.8
AVERAGE	73.5	81.7	84.0	82.7	47.5	36.4	46.1	54.1	64.6	95.8	112.2	107.8

Файл Z 4-1.IR

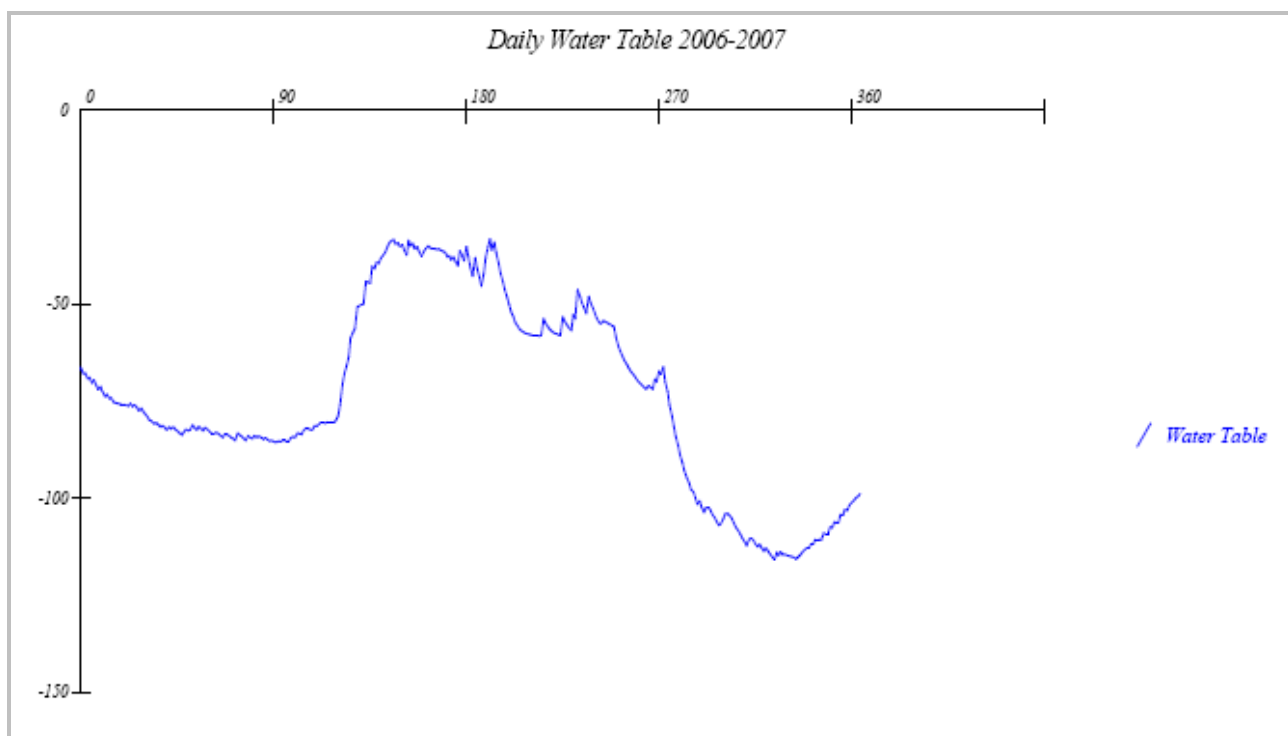
* DRAINMOD version 5.1 *

* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 15:0
input file: C:\Program Files\Drainmod\INPUTS\Z 4-1.Prj
parameters: combination run and yields calculated
drain spacing = 6000. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	38.05	21.27	.00	.00	304.00	.0	-21.48
AVG	60.91	60.91	38.05	21.27	.00	.00	304.00	.0	-21.48



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 4-1_min**Входни данни****Файл №1 – Z 4-1_min.gen**

*** Job Title ***

COMBO, SUMMER YIELD, MIRCHO SOIL

DIMITROVGRAD WEATHER DATA

*** Printout and Input Control ***

1 211 C:\Program Files\Drainmod\outputs

*** Climate ***

1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI

1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET

2006 1 2006 12 4200 75 0

1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

*** Drainage System Design ***

4 .00

130.00 136.41 2000.00 2.00 2.00 1.00 9.78 65.00

0 2.500000E-01 300.000000

0 0.000000E+00 150.000000 2.000000

0 150.000000 200.000000 2000.000000 1.500000

50.00 1.00 .00

1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120

*** Soils ***

1000.00 2.00

23.470 47.885 120.802 0. .00 0. .00

99 .00

*** Trafficability ***

4 1 5 1 820 3.9 1.2 2.0

12321232 820 3.9 1.2 2.0

*** Crop ***

.600

410 818 30.00

410 818

11

1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00

924 10.00 925 3.00 1231 3.00

*** Wastewater Irrigation ***

0 1 1 10 1 6

0 0 0 0 0 0

7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40

WET *** Wetlands Information ***

0

1 365

30.0 14

COM *** Combo Drainage Weir Settings ***

1 1 1 90.0

1 2 1 90.0

1 3 1 90.0

1 4 1 60.0

2 5 1 15.0

2 6 1 30.0

2 7 1 45.0

2 8 1 45.0

1 9 8 75.0

0 10 1 140.0

0 11 1 140.0

1 12 1 65.0

FPE *** Fixed Avg Daily PET for the month(cm) ***

.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00

MRA *** Monthly Ranking ***

1

FAC *** Daily PET Factors ***

0

AQH *** Time series of aquifer head ***

STM *** Soil Temperature ***

ZA	ZB	TKA	TKB	TB	TLAG	TSNOW	TMELT	CDEG	CICE
.000	.000	.000	.000	.0	.0	.0	.0	.0	.0

Initial Soil Temperature

0

Initial snow depth(m) & density(kg/m3)

.00 .00

Freezing characteristic curve

0

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 4-1

Файл Z 4-1.MON

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:37
 input file: C:\Program Files\Drainmod\INPUTS\Z 4-1_min.Prj
 parameters: combination run and yields calculated
 drain spacing = 2000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	10.96	.00	.00	.00	.00	.00
2	3.76	3.76	.61	2.49	.00	.00	.00	.00	.00
3	3.66	3.66	1.12	2.45	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.32	.00	.00	30.00	.00	-.05
5	7.19	7.19	7.32	-14.91	.00	.00	5.00	308.92	-16.01
6	6.60	6.60	10.29	-1.36	.00	.00	26.11	25.94	-3.28
7	4.42	4.42	10.16	-1.65	.00	.00	31.00	.06	-6.08
8	3.94	3.94	9.25	-5.52	.00	.00	29.00	.00	-6.07
9	3.23	3.23	2.06	4.77	.00	.00	30.00	.00	-1.61
10	6.40	6.40	1.12	19.77	.00	.00	31.00	.00	.00
11	5.16	5.16	.61	5.40	.00	.00	30.00	.00	.00
12	5.59	5.59	.43	.60	.00	.00	31.00	.00	.00
TOTALS	60.91	60.91	47.19	23.32	.00	.00	274.11	334.92	-33.11

Файл Z 4-1.MRK

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:37
 input file: C:\Program Files\Drainmod\INPUTS\Z 4-1_min.Prj
 parameters: combination run and yields calculated
 drain spacing = 2000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	9.2	2.5	2.4	.0	.0	.0	.0	3.4	22.7	5.4	.0	
AVERAGE	9.2	2.5	2.4	.0	.0	.0	.0	3.4	22.7	5.4	.0	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	11.0	2.5	2.4	.3	-14.9	-1.4	-1.7	-5.5	4.8	19.8	5.4	.6
AVERAGE	11.0	2.5	2.4	.3	-14.9	-1.4	-1.7	-5.5	4.8	19.8	5.4	.6

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	.6	1.1	3.5	7.3	10.3	10.2	9.2	2.1	1.1	.6	.4
AVERAGE	.8	.6	1.1	3.5	7.3	10.3	10.2	9.2	2.1	1.1	.6	.4

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	7.0	20.0	24.0	19.0	27.0	12.0	.0	.0	2.0
AVERAGE	.0	.0	.0	7.0	20.0	24.0	19.0	27.0	12.0	.0	.0	2.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	85.2	88.5	88.8	86.8	21.3	30.1	45.9	47.1	66.4	117.9	126.5	119.3
AVERAGE	85.2	88.5	88.8	86.8	21.3	30.1	45.9	47.1	66.4	117.9	126.5	119.3

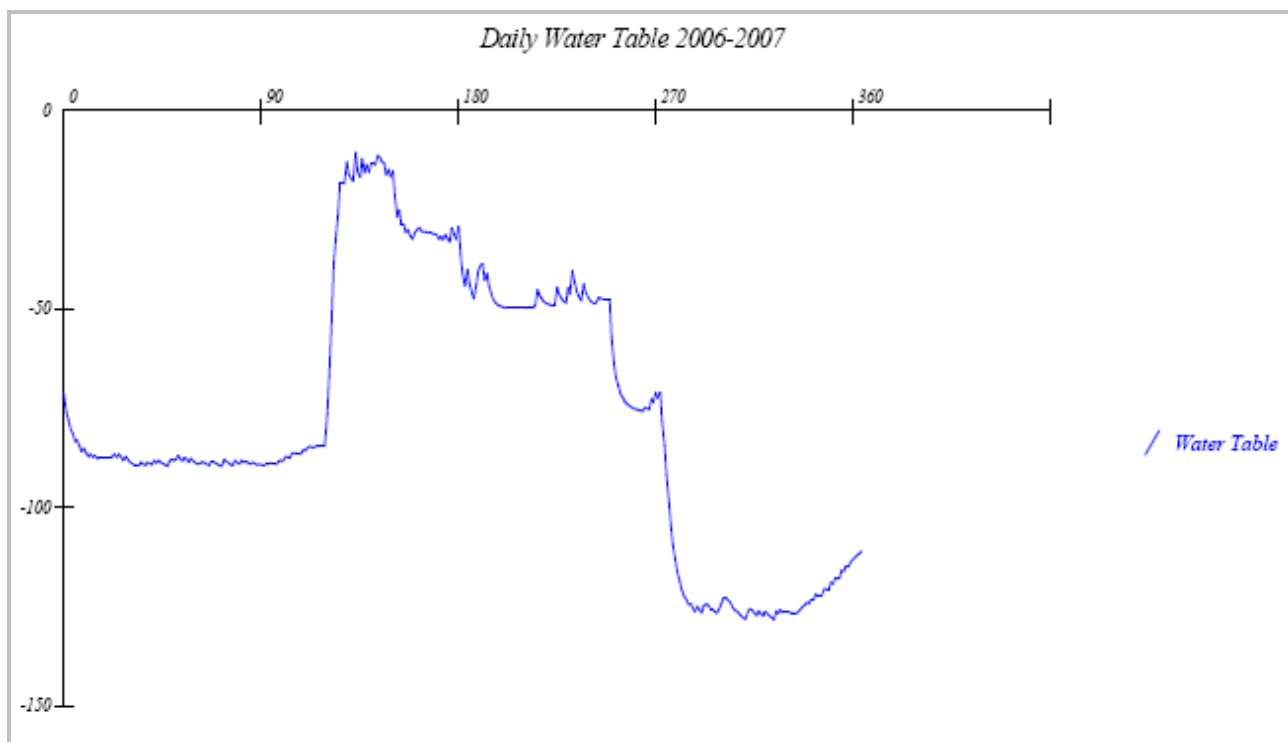
Файл Z 4-1.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:37
 input file: C:\Program Files\Drainmod\INPUTS\Z 4-1_min.Prj
 parameters: combination run and yields calculated
 drain spacing = 2000. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	47.19	23.32	.00	.00	274.11	334.9	-33.11
AVG	60.91	60.91	47.19	23.32	.00	.00	274.11	334.9	-33.11



Графика на дневните нива на подпочвените води за периода на изследване
 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 4-1_max**Входни данни****Файл №1 – Z 4-1_max.gen**

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 424.83 10000.00 2.00 2.00 1.00 9.75 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
1000.00 2.00
23.470 47.885 120.802 0. .00 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
00 00 00 00
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 15.0
2 6 1 30.0
2 7 1 45.0
2 8 1 45.0
1 9 8 75.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve
0

```


Изходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 4-1_max

Файл Z 4-1_max.MON

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:35
input file: C:\Program Files\Drainmod\INPUTS\Z 4-1_max.Prj
parameters: combination run and yields calculated
drain spacing = 10000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	5.46	.00	.00	.00	.00	.00
2	3.76	3.76	1.42	3.57	.00	.00	.00	.00	.00
3	3.66	3.66	1.12	3.06	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.18	.00	.00	30.00	.00	-.01
5	7.19	7.19	6.10	-8.31	.00	.00	31.00	.00	-8.31
6	6.60	6.60	10.29	-2.14	.00	.00	30.00	.00	-2.14
7	4.42	4.42	6.50	-.53	.00	.00	31.00	.00	-1.09
8	3.94	3.94	2.49	-2.86	.00	.00	29.00	.00	-2.86
9	3.23	3.23	.91	1.02	.00	.00	30.00	.00	-.77
10	6.40	6.40	1.22	10.39	.00	.00	31.00	.00	.00
11	5.16	5.16	.61	7.48	.00	.00	30.00	.00	.00
12	5.59	5.59	.53	.38	.00	.00	31.00	.00	.00

TOTALS 60.91 60.91 35.43 17.69 .00 .00 304.00 .00 -15.17

Файл Z 4-1_max.MRK

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:35
input file: C:\Program Files\Drainmod\INPUTS\Z 4-1_max.Prj
parameters: combination run and yields calculated
drain spacing = 10000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.1	3.6	3.1	.0	.0	.0	1.2	11.0	7.5	.0		
AVERAGE	5.1	3.6	3.1	.0	.0	.0	.0	1.2	11.0	7.5	.0	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.6	3.1	.2	-8.3	-2.1	-.5	-2.9	1.0	10.4	7.5	.4
AVERAGE	5.5	3.6	3.1	.2	-8.3	-2.1	-.5	-2.9	1.0	10.4	7.5	.4

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	1.4	1.1	3.5	6.1	10.3	6.5	2.5	.9	1.2	.6	.5
AVERAGE	.8	1.4	1.1	3.5	6.1	10.3	6.5	2.5	.9	1.2	.6	.5

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	10.0	31.0	30.0	17.0	31.0	7.0	.0	.0	11.0
AVERAGE	.0	.0	.0	10.0	31.0	30.0	17.0	31.0	7.0	.0	.0	11.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	66.3	72.4	76.4	76.3	47.8	38.6	47.5	56.8	64.7	81.7	93.5	90.4
AVERAGE	66.3	72.4	76.4	76.3	47.8	38.6	47.5	56.8	64.7	81.7	93.5	90.4

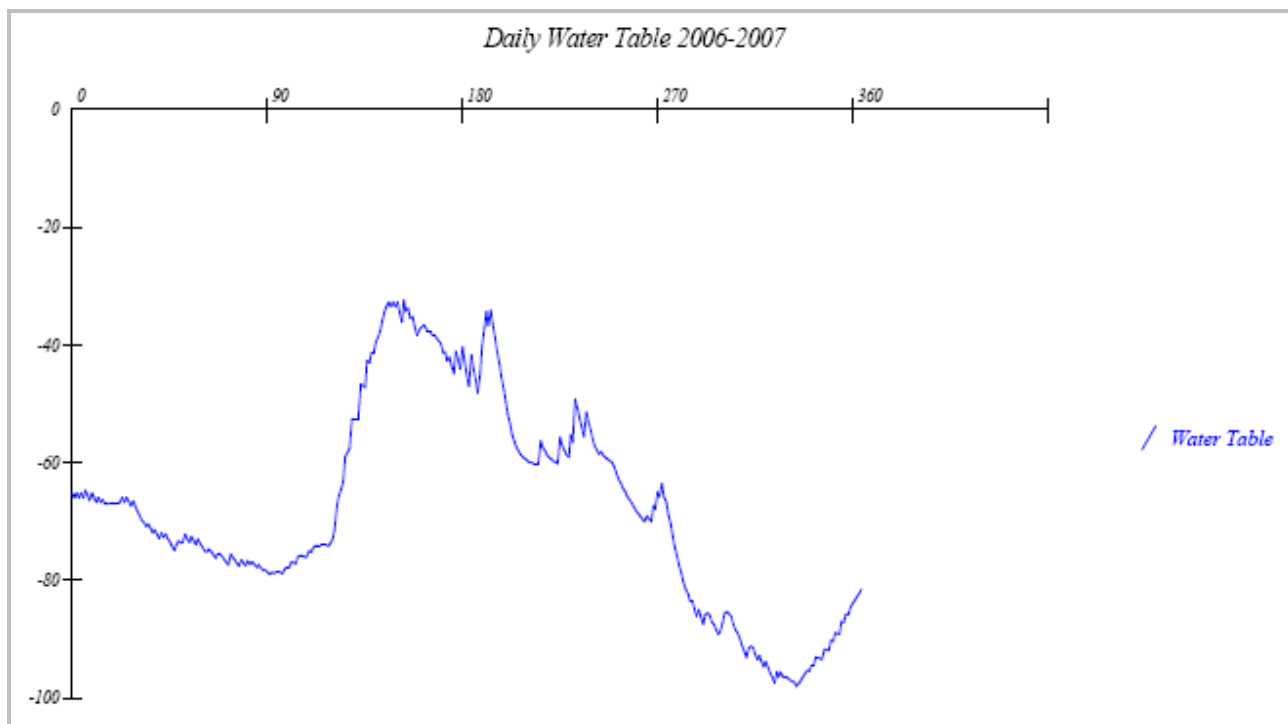
Файл Z 4-1_max.IR

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:35
 input file: C:\Program Files\Drainmod\INPUTS\Z 4-1_max.Prj
 parameters: combination run and yields calculated
 drain spacing = 10000. cm drain depth = 130.0 cm

YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	35.43	17.69	.00	.00	304.00	.0	-15.17
AVG	60.91	60.91	35.43	17.69	.00	.00	304.00	.0	-15.17



Графика на дневните нива на подпочвените води за периода на изследване
 01.01.2006 – 31.12.2006 год

ПРОЕКТ Z 4-1_opt

Входни данни

Файл №1 – Z 4-1_opt.gen

```

*** Job Title ***
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA
*** Printout and Input Control ***
1 211 C:\Program Files\Drainmod\outputs
*** Climate ***
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\RAI.RAI
1 C:\PROGRAM FILES\DRAINMOD\WEATHER\PET.PET
2006 1 2006 12 4200 75 0
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
*** Drainage System Design ***
4 .00
130.00 347.66 7000.00 2.00 2.00 1.00 9.75 65.00
0 2.500000E-01 300.000000
0 0.000000E+00 150.000000 2.000000
0 150.000000 200.000000 2000.000000 1.500000
50.00 1.00 .00
1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120 1120
*** Soils ***
1000.00 2.00
23.470 47.885 120.802 0. .00 0. .00
99 .00
*** Trafficability ***
4 1 5 1 820 3.9 1.2 2.0
12321232 820 3.9 1.2 2.0
*** Crop ***
.600
410 818 30.00
410 818
11
1 1 3.00 416 3.00 5 4 4.00 517 15.00 6 1 25.00 620 30.00 718 30.00 820 20.00
924 10.00 925 3.00 1231 3.00
*** Wastewater Irrigation ***
0 1 1 10 1 6
0 0 0 0 0 0
7.00000 1.00000 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40
WET *** Wetlands Information ***
0
1 365
30.0 14
COM *** Combo Drainage Weir Settings ***
1 1 1 90.0
1 2 1 90.0
1 3 1 90.0
1 4 1 60.0
2 5 1 15.0
2 6 1 30.0
2 7 1 45.0
2 8 1 45.0
1 9 8 75.0
0 10 1 140.0
0 11 1 140.0
1 12 1 65.0
FPE *** Fixed Avg Daily PET for the month(cm) ***
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
MRA *** Monthly Ranking ***
1
FAC *** Daily PET Factors ***
0
AQH *** Time series of aquifer head ***

```

```

STM *** Soil Temperature ***
ZA ZB TKA TKB TB TLAG TSNOW TMELT CDEG CICE
.000 .000 .000 .000 .0 .0 .0 .0 .0 .0
Initial Soil Temperature
0
Initial snow depth(m) & density(kg/m3)
.00 .00
Freezing characteristic curve

```

0

Исходни файлове и графики с резултати от моделното изследване на ПРОЕКТ Z 4-1_opt

Файл Z 4-1_opt.DAY

 * DRAINMOD version 5.1 *
 * Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
 DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:45
 input file: C:\Program Files\Drainmod\INPUTS\Z 4-1_opt.Prj
 parameters: combination run and yields calculated
 drain spacing = 7000. cm drain depth = 130.0 cm

1

2006 1

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.30	.30	.03	.48803E+00	10.64	.00	65.83	.00	.00	.00
2	.00	.00	.03	.29726E+00	10.96	.00	67.13	.00	.00	.27
3	.41	.41	.03	.27929E+00	10.86	.00	66.72	.00	.00	.28
4	.00	.00	.03	.28474E+00	11.17	.00	67.96	.00	.00	.28
5	.41	.41	.03	.26883E+00	11.06	.00	67.51	.00	.00	.27
6	.00	.00	.03	.27477E+00	11.36	.00	68.71	.00	.00	.27
7	.51	.51	.03	.25940E+00	11.13	.00	67.82	.00	.00	.26
8	.00	.00	.03	.27090E+00	11.43	.00	69.00	.00	.00	.27
9	.00	.00	.03	.25603E+00	11.71	.00	70.13	.00	.00	.26
10	.51	.51	.03	.24167E+00	11.47	.00	69.17	.00	.00	.24
11	.00	.00	.03	.25401E+00	11.75	.00	70.28	.00	.00	.25
12	.00	.00	.03	.24003E+00	12.01	.00	71.34	.00	.00	.24
13	.41	.41	.03	.22652E+00	11.86	.00	70.73	.00	.00	.23
14	.00	.00	.03	.23449E+00	12.12	.00	71.77	.00	.00	.23
15	.30	.30	.03	.22127E+00	12.06	.00	71.53	.00	.00	.22
16	.00	.00	.03	.22443E+00	12.31	.00	72.53	.00	.00	.22
17	.20	.20	.03	.21175E+00	12.35	.00	72.67	.00	.00	.21
18	.20	.20	.03	.21006E+00	12.38	.00	72.80	.00	.00	.21
19	.20	.20	.03	.20846E+00	12.41	.00	72.92	.00	.00	.21
20	.20	.20	.03	.20694E+00	12.44	.00	73.04	.00	.00	.21
21	.20	.20	.03	.20549E+00	12.46	.00	73.15	.00	.00	.21
22	.20	.20	.03	.20412E+00	12.49	.00	73.25	.00	.00	.20
23	.20	.20	.03	.20282E+00	12.52	.00	73.35	.00	.00	.20
24	.41	.41	.03	.20158E+00	12.34	.00	72.64	.00	.00	.20
25	.00	.00	.03	.21072E+00	12.57	.00	73.58	.00	.00	.21
26	.41	.41	.03	.19877E+00	12.39	.00	72.85	.00	.00	.20
27	.00	.00	.03	.20804E+00	12.62	.00	73.78	.00	.00	.21
28	.00	.00	.03	.19646E+00	12.85	.00	74.67	.00	.00	.20
29	.41	.41	.03	.18552E+00	12.65	.00	73.89	.00	.00	.19
30	.00	.00	.03	.19516E+00	12.87	.00	74.77	.00	.00	.20
31	.00	.00	.03	.18455E+00	13.08	.00	75.54	.00	.00	.18

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2006 2

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	.17478E+00	13.30	.00	76.33	.00	.00	.17
2	.00	.00	.00	.16506E+00	13.51	.00	77.08	.00	.00	.17
3	.10	.10	.05	.15614E+00	13.62	.00	77.46	.00	.00	.16
4	.00	.00	.00	.15124E+00	13.81	.00	78.15	.00	.00	.15
5	.30	.30	.05	.14302E+00	13.70	.00	77.76	.00	.00	.14
6	.00	.00	.00	.14757E+00	13.89	.00	78.44	.00	.00	.15
7	.00	.00	.00	.13922E+00	14.08	.00	79.08	.00	.00	.14
8	.30	.30	.05	.13161E+00	13.95	.00	78.65	.00	.00	.13
9	.00	.00	.00	.13664E+00	14.13	.00	79.28	.00	.00	.14

Напоително – отводнителни полета

10	.00	.00	.00	.12886E+00	14.30	.00	79.89	.00	.00	.13
11	.41	.41	.05	.12174E+00	14.07	.00	79.06	.00	.00	.12
12	.00	.00	.00	.13163E+00	14.24	.00	79.67	.00	.00	.13
13	.30	.30	.05	.12437E+00	14.11	.00	79.21	.00	.00	.12
14	.00	.00	.00	.12973E+00	14.28	.00	79.82	.00	.00	.13
15	.00	.00	.00	.12228E+00	14.45	.00	80.40	.00	.00	.12
16	.00	.00	.00	.11521E+00	14.60	.00	80.95	.00	.00	.12
17	.00	.00	.00	.10849E+00	14.75	.00	81.48	.00	.00	.11
18	.41	.41	.05	.10237E+00	14.50	.00	80.58	.00	.00	.10
19	.30	.30	.05	.11333E+00	14.36	.00	80.08	.00	.00	.11
20	.10	.10	.05	.11944E+00	14.43	.00	80.32	.00	.00	.12
21	.20	.20	.05	.11646E+00	14.39	.00	80.19	.00	.00	.12
22	.51	.51	.05	.11802E+00	14.05	.00	78.99	.00	.00	.12
23	.00	.00	.00	.13247E+00	14.23	.00	79.61	.00	.00	.13
24	.00	.00	.00	.12486E+00	14.39	.00	80.20	.00	.00	.12
25	.41	.41	.05	.11796E+00	14.15	.00	79.35	.00	.00	.12
26	.00	.00	.00	.12799E+00	14.32	.00	79.96	.00	.00	.13
27	.00	.00	.00	.12064E+00	14.48	.00	80.53	.00	.00	.12
28	.41	.41	.05	.11390E+00	14.24	.00	79.67	.00	.00	.11

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2006 3

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	.12411E+00	14.41	.00	80.26	.00	.00	.12
2	.00	.00	.00	.11696E+00	14.56	.00	80.82	.00	.00	.12
3	.00	.00	.00	.11016E+00	14.71	.00	81.35	.00	.00	.11
4	.20	.20	.10	.10397E+00	14.72	.00	81.35	.00	.00	.10
5	.30	.30	.10	.10387E+00	14.62	.00	81.00	.00	.00	.10
6	.10	.10	.10	.10817E+00	14.72	.00	81.39	.00	.00	.11
7	.00	.00	.00	.10321E+00	14.87	.00	81.89	.00	.00	.10
8	.00	.00	.00	.97096E-01	15.00	.00	82.37	.00	.00	.10
9	.41	.41	.10	.91551E-01	14.79	.00	81.61	.00	.00	.09
10	.20	.20	.10	.10076E+00	14.79	.00	81.61	.00	.00	.10
11	.10	.10	.10	.10079E+00	14.89	.00	81.97	.00	.00	.10
12	.00	.00	.00	.96180E-01	15.02	.00	82.44	.00	.00	.10
13	.00	.00	.00	.90398E-01	15.15	.00	82.89	.00	.00	.09
14	.00	.00	.00	.84920E-01	15.27	.00	83.32	.00	.00	.08
15	.61	.61	.00	.93052E-01	14.75	.00	81.49	.00	.00	.09
16	.00	.00	.00	.10198E+00	14.89	.00	81.99	.00	.00	.10
17	.00	.00	.00	.95931E-01	15.03	.00	82.46	.00	.00	.10
18	.00	.00	.00	.90161E-01	15.15	.00	82.91	.00	.00	.09
19	.00	.00	.00	.84693E-01	15.27	.00	83.34	.00	.00	.08
20	.51	.51	.10	.79760E-01	14.95	.00	82.18	.00	.00	.08
21	.00	.00	.00	.93577E-01	15.08	.00	82.64	.00	.00	.09
22	.00	.00	.00	.87940E-01	15.20	.00	83.08	.00	.00	.09
23	.41	.41	.10	.82879E-01	14.98	.00	82.29	.00	.00	.08
24	.00	.00	.00	.92175E-01	15.11	.00	82.75	.00	.00	.09
25	.30	.30	.10	.86874E-01	14.99	.00	82.34	.00	.00	.09
26	.00	.00	.00	.91628E-01	15.12	.00	82.80	.00	.00	.09
27	.00	.00	.00	.86085E-01	15.24	.00	83.23	.00	.00	.09
28	.30	.30	.10	.81100E-01	15.12	.00	82.80	.00	.00	.08
29	.00	.00	.00	.86086E-01	15.24	.00	83.23	.00	.00	.09
30	.00	.00	.00	.80840E-01	15.36	.00	83.64	.00	.00	.08
31	.20	.20	.10	.76101E-01	15.33	.00	83.55	.00	.00	.08

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2006 4

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	.57784E-01	15.43	.00	83.88	.00	.00	.00
2	.00	.00	.00	.27602E-01	15.49	.00	84.10	.00	.00	.00
3	.30	.30	.20	.12932E-01	15.40	.00	83.79	.00	.00	.00
4	.00	.00	.00	.92789E-02	15.45	.00	83.95	.00	.00	.00
5	.30	.30	.20	-.20056E-02	15.34	.00	83.58	.00	.00	.00
6	.20	.20	.20	.22796E-02	15.34	.00	83.58	.00	.00	.00
7	.00	.00	.00	.13588E-02	15.38	.00	83.71	.00	.00	.00
8	.00	.00	.00	-.82147E-03	15.41	.00	83.84	.00	.00	.00
9	.41	.41	.20	-.15487E-02	15.21	.00	83.11	.00	.00	.00
10	.30	.30	.20	.58367E-02	15.11	.00	82.77	.00	.00	.00
11	.00	.00	.00	.60620E-02	15.16	.00	82.92	.00	.00	.00
12	.51	.51	.20	-.18178E-02	14.85	.00	81.83	.00	.00	.00
13	.00	.00	.00	.85661E-02	14.90	.00	82.00	.00	.00	.00
14	.00	.00	.00	-.10640E-02	14.93	.00	82.13	.00	.00	.00
15	.51	.51	.20	-.17342E-02	14.63	.00	81.04	.00	.00	.00
16	.30	.30	.20	.91331E-02	14.54	.00	80.71	.00	.00	.00

Напоително – отводнителни полета

17	.20	.20	.20	.81303E-02	14.54	.00	80.74	.00	.00	.00
18	.00	.00	.00	.42343E-02	14.59	.00	80.90	.00	.00	.00
19	.00	.00	.00	-.95559E-03	14.63	.00	81.04	.00	.00	.00
20	.51	.51	.20	-.18128E-02	14.32	.00	79.95	.00	.00	.00
21	.00	.00	.00	.86970E-02	14.37	.00	80.13	.00	.00	.00
22	.41	.41	.20	-.19190E-02	14.17	.00	79.40	.00	.00	.00
23	.30	.30	.20	.57397E-02	14.07	.00	79.06	.00	.00	.00
24	.20	.20	.20	.64350E-02	14.08	.00	79.08	.00	.00	.00
25	.00	.00	.00	.34828E-02	14.12	.00	79.24	.00	.00	.00
26	.30	.30	.20	-.18037E-02	14.02	.00	78.87	.00	.00	.00
27	.20	.20	.20	.24240E-02	14.02	.00	78.88	.00	.00	.00
28	.20	.20	.20	.12909E-02	14.02	.00	78.89	.00	.00	.00
29	.00	.00	.00	.99588E-03	14.07	.00	79.04	.00	.00	.00
30	.30	.30	.20	-.18352E-02	13.96	.00	78.68	.00	.00	.00

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2006 5

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	-.44616E+00	13.56	.00	77.24	.00	.00	.00
2	.00	.00	.00	-.85812E+00	12.75	.00	74.29	.00	.00	.00
3	.61	.61	.00	-.79876E+00	11.34	.00	68.66	.00	.00	.00
4	.30	.30	.30	-.74033E+00	10.60	.00	65.69	.00	.00	.00
5	.00	.00	.00	-.70269E+00	10.00	.00	63.29	.00	.00	.00
6	.00	.00	.00	-.67062E+00	9.44	.00	61.06	.00	.00	.00
7	.61	.61	.00	-.61398E+00	8.22	.00	54.82	.00	.00	.00
8	.00	.00	.30	-.55839E+00	7.97	.00	53.45	.00	.00	.00
9	.00	.00	.30	-.53990E+00	7.73	.00	52.18	.00	.00	.00
10	.61	.61	.00	-.48995E+00	6.63	.00	46.24	.00	.00	.00
11	.00	.00	.30	-.44226E+00	6.49	.00	45.50	.00	.00	.00
12	.00	.00	.30	-.43223E+00	6.37	.00	44.82	.00	.00	.00
13	.00	.00	.30	-.42313E+00	6.25	.00	44.20	.00	.00	.00
14	.79	.79	.00	-.38316E+00	5.08	.00	38.17	.00	.00	.00
15	.00	.00	.30	-.33268E+00	5.05	.00	38.03	.00	.00	.00
16	.00	.00	.30	-.33077E+00	5.02	.00	37.90	.00	.00	.00
17	.61	.61	.00	-.29880E+00	4.12	.00	33.44	.00	.00	.00
18	.00	.00	.30	-.26763E+00	4.15	.00	33.62	.00	.00	.00
19	.41	.41	.30	-.27017E+00	3.78	.00	31.85	.00	.00	.00
20	.10	.10	.30	-.24568E+00	3.74	.00	31.64	.00	.00	.00
21	.41	.41	.30	-.24288E+00	3.39	.00	30.00	.00	.00	.00
22	.30	.30	.30	-.22008E+00	3.17	.00	28.90	.00	.00	.00
23	.30	.30	.30	-.20505E+00	2.97	.00	27.88	.00	.00	.00
24	.51	.51	.30	-.19087E+00	2.57	.00	25.92	.00	.00	.00
25	.41	.41	.30	-.16356E+00	2.31	.00	24.52	.00	.00	.00
26	.30	.30	.30	-.14466E+00	2.16	.00	23.68	.00	.00	.00
27	.30	.30	.30	-.13341E+00	2.03	.00	22.90	.00	.00	.00
28	.00	.00	.30	-.12226E+00	2.21	.00	23.97	.00	.00	.00
29	.30	.30	.30	-.13734E+00	2.08	.00	23.17	.00	.00	.00
30	.00	.00	.30	-.12592E+00	2.26	.00	24.21	.00	.00	.00
31	.30	.30	.30	-.14056E+00	2.11	.00	23.39	.00	.00	.00

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2006 6

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.38	.59979E-01	2.56	.00	25.82	.00	.00	.00
2	.00	.00	.38	.45270E-01	2.98	.00	27.95	.00	.00	.00
3	.71	.71	.00	.48389E-01	2.32	.00	24.58	.00	.00	.00
4	.00	.00	.38	.61663E-01	2.76	.00	26.85	.00	.00	.00
5	.41	.41	.38	.30479E-01	2.77	.00	26.88	.00	.00	.00
6	.00	.00	.38	.30771E-01	3.18	.00	28.93	.00	.00	.00
7	.41	.41	.38	.22253E-02	3.16	.00	28.81	.00	.00	.00
8	.00	.00	.38	.30279E-02	3.54	.00	30.70	.00	.00	.00
9	.00	.00	.38	-.22294E-01	3.90	.00	32.41	.00	.00	.00
10	.51	.51	.38	-.44914E-01	3.73	.00	31.59	.00	.00	.00
11	.41	.41	.38	-.33741E-01	3.67	.00	31.30	.00	.00	.00
12	.41	.41	.38	-.29895E-01	3.61	.00	31.04	.00	.00	.00
13	.20	.20	.38	-.26297E-01	3.76	.00	31.76	.00	.00	.00
14	.20	.20	.38	-.36151E-01	3.91	.00	32.44	.00	.00	.00
15	.30	.30	.38	-.45355E-01	3.94	.00	32.59	.00	.00	.00
16	.20	.20	.38	-.47359E-01	4.07	.00	33.21	.00	.00	.00
17	.30	.30	.38	-.55827E-01	4.09	.00	33.31	.00	.00	.00
18	.20	.20	.38	-.57156E-01	4.21	.00	33.88	.00	.00	.00
19	.20	.20	.38	-.65060E-01	4.32	.00	34.42	.00	.00	.00
20	.20	.20	.38	-.72509E-01	4.43	.00	34.93	.00	.00	.00
21	.00	.00	.38	-.79014E-01	4.73	.00	36.42	.00	.00	.00

Напоително – отводнителни полета

22	.30	.30	.38	-.99850E-01	4.70	.00	36.31	.00	.00	.00
23	.00	.00	.38	-.97804E-01	4.99	.00	37.72	.00	.00	.00
24	.41	.41	.38	-.11732E+00	4.84	.00	37.01	.00	.00	.00
25	.00	.00	.38	-.10728E+00	5.12	.00	38.37	.00	.00	.00
26	.00	.00	.38	-.12572E+00	5.37	.00	39.64	.00	.00	.00
27	.61	.61	.00	-.11093E+00	4.65	.00	36.05	.00	.00	.00
28	.00	.00	.38	-.94358E-01	4.94	.00	37.48	.00	.00	.00
29	.00	.00	.38	-.11369E+00	5.21	.00	38.81	.00	.00	.00
30	.61	.61	.00	-.99709E-01	4.50	.00	35.28	.00	.00	.00

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2006 7

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.41	.10088E+00	5.00	.00	37.81	.00	.00	.00
2	.00	.00	.41	.83152E-01	5.49	.00	40.26	.00	.00	.00
3	.00	.00	.41	.49713E-01	5.95	.00	42.64	.00	.00	.00
4	.99	.99	.00	.51599E-01	5.01	.00	37.84	.00	.00	.00
5	.00	.00	.41	.82705E-01	5.50	.00	40.29	.00	.00	.00
6	.00	.00	.41	.49282E-01	5.96	.00	42.67	.00	.00	.00
7	.00	.00	.41	.17724E-01	6.38	.00	44.89	.00	.00	.00
8	.61	.61	.00	.21862E-01	5.79	.00	41.82	.00	.00	.00
9	.89	.89	.00	.62460E-01	4.97	.00	37.61	.00	.00	.00
10	.71	.71	.00	.11805E+00	4.37	.00	34.67	.00	.00	.00
11	.61	.61	.00	.15720E+00	3.92	.00	32.51	.00	.00	.00
12	.00	.00	.41	.15536E+00	4.48	.00	35.20	.00	.00	.00
13	.61	.61	.00	.15010E+00	4.02	.00	33.00	.00	.00	.00
14	.00	.00	.41	.14869E+00	4.58	.00	35.68	.00	.00	.00
15	.00	.00	.41	.11177E+00	5.10	.00	38.26	.00	.00	.00
16	.00	.00	.41	.77015E-01	5.58	.00	40.70	.00	.00	.00
17	.00	.00	.41	.43804E-01	6.03	.00	43.05	.00	.00	.00
18	.00	.00	.41	.12734E-01	6.45	.00	45.25	.00	.00	.00
19	.00	.00	.41	-.18224E-01	6.84	.00	47.35	.00	.00	.00
20	.00	.00	.41	-.44238E-01	7.20	.00	49.31	.00	.00	.00
21	.00	.00	.41	-.69858E-01	7.54	.00	51.13	.00	.00	.00
22	.00	.00	.41	-.93621E-01	7.85	.00	52.82	.00	.00	.00
23	.00	.00	.41	-.11563E+00	8.14	.00	54.39	.00	.00	.00
24	.00	.00	.00	-.13503E+00	8.37	.00	55.61	.00	.00	.00
25	.00	.00	.00	-.14936E+00	8.53	.00	56.52	.00	.00	.00
26	.00	.00	.00	-.16008E+00	8.65	.00	57.13	.00	.00	.00
27	.00	.00	.00	-.16680E+00	8.73	.00	57.60	.00	.00	.00
28	.00	.00	.00	-.17281E+00	8.79	.00	57.91	.00	.00	.00
29	.00	.00	.00	-.17610E+00	8.85	.00	58.20	.00	.00	.00
30	.00	.00	.00	-.17930E+00	8.88	.00	58.37	.00	.00	.00
31	.00	.00	.00	-.18139E+00	8.90	.00	58.52	.00	.00	.00

1

2006 8

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	-.18333E+00	8.93	.00	58.65	.00	.00	.00
2	.00	.00	.00	-.18514E+00	8.95	.00	58.78	.00	.00	.00
3	.00	.00	.00	-.18682E+00	8.98	.00	58.91	.00	.00	.00
4	.00	.00	.00	-.18838E+00	9.00	.00	59.02	.00	.00	.00
5	.61	.61	.00	-.16204E+00	8.22	.00	54.85	.00	.00	.00
6	.00	.00	.36	-.14010E+00	8.44	.00	56.01	.00	.00	.00
7	.00	.00	.00	-.15365E+00	8.58	.00	56.78	.00	.00	.00
8	.00	.00	.00	-.16303E+00	8.69	.00	57.38	.00	.00	.00
9	.00	.00	.00	-.17002E+00	8.78	.00	57.83	.00	.00	.00
10	.00	.00	.00	-.17535E+00	8.83	.00	58.13	.00	.00	.00
11	.00	.00	.00	-.17828E+00	8.86	.00	58.29	.00	.00	.00
12	.00	.00	.00	-.18044E+00	8.89	.00	58.45	.00	.00	.00
13	.00	.00	.00	-.18245E+00	8.92	.00	58.59	.00	.00	.00
14	.71	.71	.00	-.15652E+00	8.05	.00	53.90	.00	.00	.00
15	.00	.00	.36	-.12817E+00	8.28	.00	55.13	.00	.00	.00
16	.00	.00	.00	-.14360E+00	8.45	.00	56.07	.00	.00	.00
17	.00	.00	.00	-.15443E+00	8.59	.00	56.84	.00	.00	.00
18	.00	.00	.00	-.16358E+00	8.70	.00	57.43	.00	.00	.00
19	.61	.61	.00	-.14148E+00	7.95	.00	53.37	.00	.00	.00
20	.00	.00	.36	-.12129E+00	8.19	.00	54.64	.00	.00	.00
21	1.30	1.30	.00	-.84307E-01	6.81	.00	47.19	.00	.00	.00
22	.00	.00	.36	-.40408E-01	7.12	.00	48.89	.00	.00	.00
23	.00	.00	.36	-.62714E-01	7.41	.00	50.47	.00	.00	.00
24	.00	.00	.36	-.83408E-01	7.69	.00	51.94	.00	.00	.00
25	.00	.00	.36	-.10261E+00	7.94	.00	53.31	.00	.00	.00
26	.71	.71	.00	-.87807E-01	7.14	.00	48.99	.00	.00	.00

27	.00	.00	.36	-.64062E-01	7.43	.00	50.57	.00	.00	.00
28	.00	.00	.36	-.84659E-01	7.70	.00	52.03	.00	.00	.00
29	.00	.00	.36	-.10377E+00	7.96	.00	53.39	.00	.00	.00
30	.00	.00	.36	-.12151E+00	8.19	.00	54.66	.00	.00	.00
31	.00	.00	.36	-.13775E+00	8.41	.00	55.83	.00	.00	.00

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2006 9

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.23	-.14915E+00	8.49	.00	56.26	.00	.00	.00
2	.20	.20	.23	-.15211E+00	8.36	.00	55.58	.00	.00	.00
3	.00	.00	.23	-.14583E+00	8.44	.00	56.03	.00	.00	.00
4	.00	.00	.23	-.15164E+00	8.52	.00	56.44	.00	.00	.00
5	.00	.00	.23	-.15705E+00	8.59	.00	56.83	.00	.00	.00
6	.00	.00	.23	-.16207E+00	8.66	.00	57.19	.00	.00	.00
7	.00	.00	.23	-.16674E+00	8.72	.00	57.52	.00	.00	.00
8	.41	.41	.23	.52852E+00	9.07	.00	59.42	.00	.00	.00
9	.00	.00	.00	.27433E+00	9.49	.00	61.23	.00	.00	.00
10	.00	.00	.00	.17091E+00	9.77	.00	62.38	.00	.00	.16
11	.00	.00	.00	.15579E+00	10.04	.00	63.44	.00	.00	.16
12	.00	.00	.00	.14239E+00	10.29	.00	64.43	.00	.00	.14
13	.00	.00	.00	.12995E+00	10.52	.00	65.35	.00	.00	.13
14	.00	.00	.00	.11842E+00	10.73	.00	66.20	.00	.00	.12
15	.00	.00	.00	.10774E+00	10.93	.00	66.99	.00	.00	.11
16	.00	.00	.00	.97858E-01	11.11	.00	67.75	.00	.00	.10
17	.00	.00	.00	.88451E-01	11.29	.00	68.44	.00	.00	.09
18	.00	.00	.00	.79804E-01	11.45	.00	69.08	.00	.00	.08
19	.00	.00	.00	.71889E-01	11.60	.00	69.68	.00	.00	.07
20	.00	.00	.00	.64410E-01	11.74	.00	70.24	.00	.00	.06
21	.00	.00	.00	.57518E-01	11.87	.00	70.76	.00	.00	.06
22	.00	.00	.00	.51032E-01	11.99	.00	71.25	.00	.00	.05
23	.51	.51	.23	.45761E-01	11.76	.00	70.31	.00	.00	.05
24	.00	.00	.00	.56617E-01	11.89	.00	70.83	.00	.00	.06
25	.00	.00	.00	.50187E-01	12.01	.00	71.31	.00	.00	.05
26	.71	.71	.00	.60483E-01	11.35	.00	68.71	.00	.00	.06
27	.00	.00	.00	.76486E-01	11.51	.00	69.33	.00	.00	.08
28	.79	.79	.00	.85227E-01	10.81	.00	66.53	.00	.00	.09
29	.00	.00	.00	.10368E+00	11.00	.00	67.30	.00	.00	.10
30	.61	.61	.00	.11081E+00	10.50	.00	65.31	.00	.00	.11

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2006 10

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	.70077E+00	11.30	.00	68.47	.00	.00	1.53
2	.30	.30	.10	.71309E+00	11.81	.00	70.51	.00	.00	.71
3	.00	.00	.00	.68771E+00	12.56	.00	73.52	.00	.00	.69
4	.10	.10	.10	.65097E+00	13.21	.00	76.00	.00	.00	.65
5	.00	.00	.00	.62197E+00	13.88	.00	78.37	.00	.00	.62
6	.00	.00	.00	.59287E+00	14.51	.00	80.63	.00	.00	.59
7	.00	.00	.00	.56536E+00	15.12	.00	82.77	.00	.00	.57
8	.00	.00	.00	.53933E+00	15.69	.00	84.81	.00	.00	.54
9	.00	.00	.00	.51468E+00	16.24	.00	86.76	.00	.00	.51
10	.00	.00	.00	.49135E+00	16.76	.00	88.61	.00	.00	.49
11	.00	.00	.00	.46925E+00	17.25	.00	90.36	.00	.00	.47
12	.20	.20	.10	.44825E+00	17.60	.00	91.58	.00	.00	.45
13	.00	.00	.00	.43391E+00	18.05	.00	93.19	.00	.00	.43
14	.41	.41	.10	.41470E+00	18.16	.00	93.58	.00	.00	.41
15	.00	.00	.00	.41028E+00	18.60	.00	95.10	.00	.00	.41
16	.00	.00	.00	.39235E+00	19.01	.00	96.56	.00	.00	.39
17	.61	.61	.00	.38749E+00	18.79	.00	95.77	.00	.00	.39
18	.00	.00	.00	.38444E+00	19.19	.00	97.20	.00	.00	.38
19	.00	.00	.00	.36772E+00	19.58	.00	98.57	.00	.00	.37
20	.71	.71	.00	.36394E+00	19.23	.00	97.34	.00	.00	.36
21	.51	.51	.10	.36592E+00	19.19	.00	97.20	.00	.00	.37
22	.30	.30	.10	.36759E+00	19.36	.00	97.78	.00	.00	.37
23	.00	.00	.00	.36095E+00	19.74	.00	99.12	.00	.00	.36
24	.30	.30	.10	.34520E+00	19.88	.00	99.62	.00	.00	.35
25	.00	.00	.00	.33950E+00	20.24	.00	100.88	.00	.00	.34
26	.20	.20	.10	.32474E+00	20.46	.00	101.67	.00	.00	.32
27	.51	.51	.10	.31565E+00	20.37	.00	101.35	.00	.00	.32
28	.71	.71	.00	.33153E+00	19.99	.00	100.01	.00	.00	.33
29	.71	.71	.00	.34708E+00	19.63	.00	98.73	.00	.00	.35
30	.51	.51	.10	.34976E+00	19.57	.00	98.53	.00	.00	.35
31	.30	.30	.10	.35209E+00	19.72	.00	99.05	.00	.00	.35

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2006 11

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.20	.20	.05	.34598E+00	19.91	.00	99.73	.00	.00	.35
2	.00	.00	.00	.33817E+00	20.27	.00	100.99	.00	.00	.34
3	.00	.00	.00	.32358E+00	20.61	.00	102.19	.00	.00	.32
4	.20	.20	.05	.30956E+00	20.77	.00	102.75	.00	.00	.31
5	.00	.00	.00	.30328E+00	21.09	.00	103.88	.00	.00	.30
6	.00	.00	.00	.29028E+00	21.39	.00	104.96	.00	.00	.29
7	.00	.00	.00	.27787E+00	21.69	.00	105.99	.00	.00	.28
8	.00	.00	.00	.26602E+00	21.97	.00	106.98	.00	.00	.27
9	.71	.71	.00	.26660E+00	21.53	.00	105.42	.00	.00	.27
10	.41	.41	.05	.27251E+00	21.44	.00	105.12	.00	.00	.27
11	.20	.20	.05	.27587E+00	21.57	.00	105.56	.00	.00	.28
12	.00	.00	.00	.27097E+00	21.85	.00	106.57	.00	.00	.27
13	.00	.00	.00	.25944E+00	22.13	.00	107.53	.00	.00	.26
14	.51	.51	.05	.24834E+00	21.92	.00	106.80	.00	.00	.25
15	.00	.00	.00	.25681E+00	22.19	.00	107.75	.00	.00	.26
16	.00	.00	.00	.24591E+00	22.45	.00	108.67	.00	.00	.25
17	.51	.51	.05	.23541E+00	22.23	.00	107.89	.00	.00	.24
18	.00	.00	.00	.24437E+00	22.49	.00	108.80	.00	.00	.24
19	.00	.00	.00	.23402E+00	22.73	.00	109.67	.00	.00	.23
20	.00	.00	.00	.22412E+00	22.97	.00	110.51	.00	.00	.22
21	.00	.00	.00	.21466E+00	23.20	.00	111.31	.00	.00	.21
22	.79	.79	.00	.21739E+00	22.63	.00	109.30	.00	.00	.22
23	.00	.00	.00	.22834E+00	22.87	.00	110.15	.00	.00	.23
24	.51	.51	.05	.21864E+00	22.63	.00	109.31	.00	.00	.22
25	.00	.00	.00	.22822E+00	22.87	.00	110.16	.00	.00	.23
26	.30	.30	.05	.21853E+00	22.84	.00	110.04	.00	.00	.22
27	.20	.20	.05	.21994E+00	22.90	.00	110.27	.00	.00	.22
28	.20	.20	.05	.21725E+00	22.97	.00	110.50	.00	.00	.22
29	.20	.20	.05	.21467E+00	23.03	.00	110.72	.00	.00	.21
30	.20	.20	.05	.21219E+00	23.09	.00	110.93	.00	.00	.21

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2006 12

DAY RAIN INFIL ET DRAIN TVOL DDZ DTWT STOR RUNOFF WLOSS

1	.00	.00	.00	.12202E+00	23.23	.00	111.41	.00	.00	.00
2	.20	.20	.03	.36781E-01	23.08	.00	110.91	.00	.00	.00
3	.20	.20	.03	.17748E-01	22.92	.00	110.35	.00	.00	.00
4	.20	.20	.03	.11242E-01	22.76	.00	109.76	.00	.00	.00
5	.20	.20	.03	.89513E-02	22.59	.00	109.16	.00	.00	.00
6	.20	.20	.03	.81708E-02	22.42	.00	108.57	.00	.00	.00
7	.00	.00	.00	.65606E-02	22.44	.00	108.64	.00	.00	.00
8	.30	.30	.03	-.35275E-02	22.16	.00	107.64	.00	.00	.00
9	.00	.00	.00	.51883E-02	22.18	.00	107.71	.00	.00	.00
10	.41	.41	.03	-.27817E-02	21.79	.00	106.36	.00	.00	.00
11	.00	.00	.00	.78372E-02	21.82	.00	106.44	.00	.00	.00
12	.00	.00	.00	-.26965E-02	21.83	.00	106.48	.00	.00	.00
13	.00	.00	.00	.49301E-03	21.84	.00	106.54	.00	.00	.00
14	.51	.51	.03	-.97995E-04	21.36	.00	104.84	.00	.00	.00
15	.00	.00	.00	.10738E-01	21.39	.00	104.93	.00	.00	.00
16	.00	.00	.00	-.33300E-02	21.40	.00	104.98	.00	.00	.00
17	.51	.51	.03	.52223E-03	20.92	.00	103.28	.00	.00	.00
18	.00	.00	.00	.13818E-01	20.95	.00	103.39	.00	.00	.00
19	.41	.41	.03	.52988E-02	20.57	.00	102.06	.00	.00	.00
20	.00	.00	.00	.11244E-01	20.60	.00	102.16	.00	.00	.00
21	.00	.00	.00	-.29830E-02	20.62	.00	102.21	.00	.00	.00
22	.61	.61	.00	.98764E-02	20.02	.00	100.10	.00	.00	.00
23	.00	.00	.00	.10550E-01	20.05	.00	100.20	.00	.00	.00
24	.41	.41	.03	-.36899E-02	19.66	.00	98.85	.00	.00	.00
25	.00	.00	.00	.83423E-02	19.69	.00	98.95	.00	.00	.00
26	.41	.41	.03	-.29069E-02	19.30	.00	97.59	.00	.00	.00
27	.20	.20	.03	.99102E-02	19.14	.00	97.00	.00	.00	.00
28	.20	.20	.03	.97665E-02	18.97	.00	96.41	.00	.00	.00
29	.20	.20	.03	.97487E-02	18.80	.00	95.82	.00	.00	.00
30	.20	.20	.03	.97917E-02	18.63	.00	95.23	.00	.00	.00
31	.20	.20	.03	.98666E-02	18.46	.00	94.63	.00	.00	.00

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* DRAINMOD version 5.1 *

* Copyright 1980-04 North Carolina State University *

COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:45
input file: C:\Program Files\Drainmod\INPUTS\Z 4-1_opt.Prj
parameters: combination run and yields calculated
drain spacing = 7000. cm drain depth = 130.0 cm

MONTHLY VOLUMES IN CENTIMETERS FOR YEAR 2006

MONTH	RAIN	INFIL	ET	DRAIN	RUNOFF	DRY DAYS	WRK DAYS	SEW	PUMP
1	5.49	5.49	.79	7.35	.00	.00	.00	.00	.00
2	3.76	3.76	.61	3.64	.00	.00	.00	.00	.00
3	3.66	3.66	1.12	2.92	.00	.00	31.00	.00	.00
4	5.49	5.49	3.45	.16	.00	.00	30.00	.00	-.02
5	7.19	7.19	6.71	-11.67	.00	.00	23.83	41.39	-11.67
6	6.60	6.60	10.29	-1.30	.00	.00	25.10	20.58	-1.60
7	4.42	4.42	6.91	-.17	.00	.00	31.00	.00	-1.67
8	3.94	3.94	4.27	-4.23	.00	.00	29.00	.00	-4.23
9	3.23	3.23	2.06	1.64	.00	.00	30.00	.00	-1.09
10	6.40	6.40	1.12	13.95	.00	.00	31.00	.00	.00
11	5.16	5.16	.61	7.68	.00	.00	30.00	.00	.00
12	5.59	5.59	.43	.32	.00	.00	31.00	.00	-.02

TOTALS 60.91 60.91 38.35 20.30 .00 .00 291.93 61.98 -20.30

Файл Z 4-1_opt.MRK

* DRAINMOD version 5.1 *
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COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:45
input file: C:\Program Files\Drainmod\INPUTS\Z 4-1_opt.Prj
parameters: combination run and yields calculated
drain spacing = 7000. cm drain depth = 130.0 cm

RANKING OF MONTHLY TOTAL WATER LOSSES

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	6.8	3.6	2.9	.0	.0	.0	.0	1.9	14.8	7.7	.0	
AVERAGE	6.8	3.6	2.9	.0	.0	.0	.0	1.9	14.8	7.7	.0	

RANKING OF MONTHLY SUBSURFACE DRAINAGE

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	7.4	3.6	2.9	.2	-11.7	-1.3	-.2	-4.2	1.6	14.0	7.7	.3
AVERAGE	7.4	3.6	2.9	.2	-11.7	-1.3	-.2	-4.2	1.6	14.0	7.7	.3

RANKING OF MONTHLY SURFACE RUNOFF

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
AVERAGE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

RANKING OF MONTHLY TOTAL RAINFALL

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6
AVERAGE	5.5	3.8	3.7	5.5	7.2	6.6	4.4	3.9	3.2	6.4	5.2	5.6

RANKING OF MONTHLY EVAPOTRANSPIRATION

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.8	.6	1.1	3.5	6.7	10.3	6.9	4.3	2.1	1.1	.6	.4

AVERAGE .8 .6 1.1 3.5 6.7 10.3 6.9 4.3 2.1 1.1 .6 .4

NUMBER OF DAYS IN MONTH WITH NO FLOW

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.0	.0	.0	11.0	31.0	22.0	13.0	31.0	7.0	.0	.0	8.0
AVERAGE	.0	.0	.0	11.0	31.0	22.0	13.0	31.0	7.0	.0	.0	8.0

RANKING OF AVERAGE MONTHLY WATER TABLE DEPTHS

RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	71.3	79.4	82.3	81.4	41.1	32.9	45.8	55.0	64.7	91.4	107.3	103.6
AVERAGE	71.3	79.4	82.3	81.4	41.1	32.9	45.8	55.0	64.7	91.4	107.3	103.6

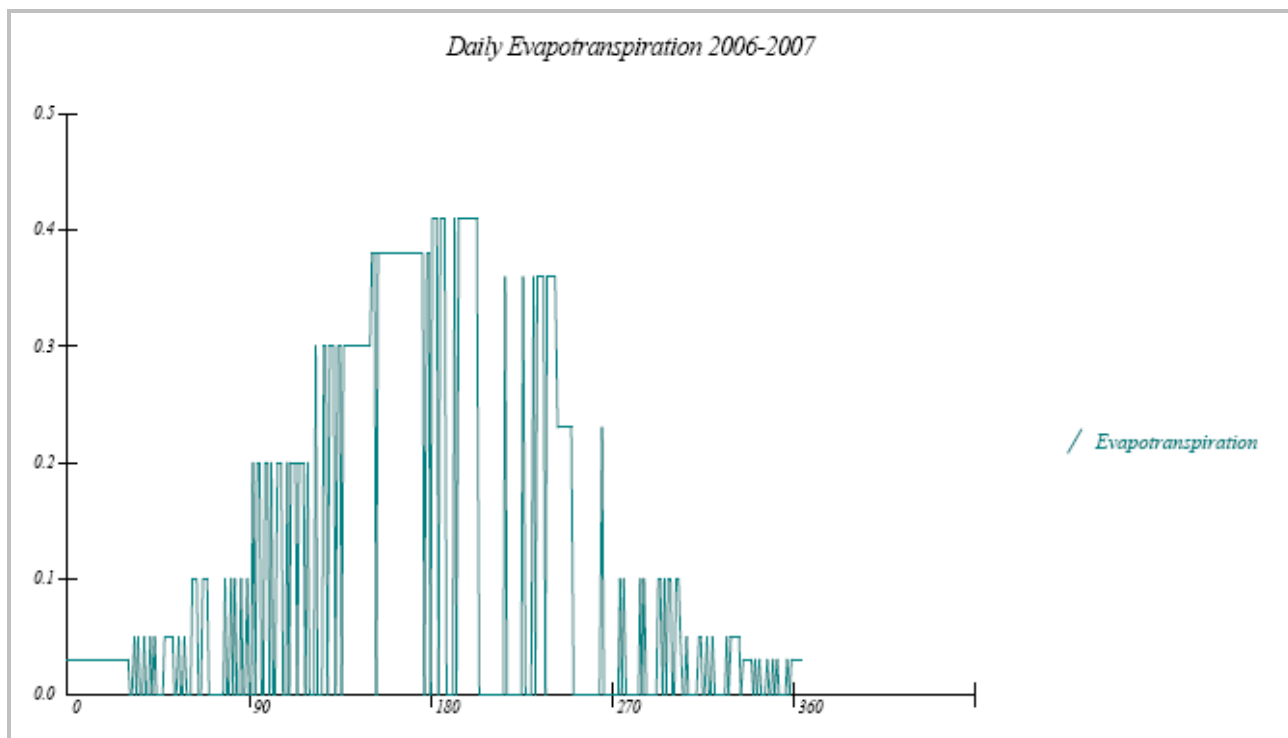
Файл Z 4-1_opt.IR

* DRAINMOD version 5.1 *
* Copyright 1980-04 North Carolina State University *

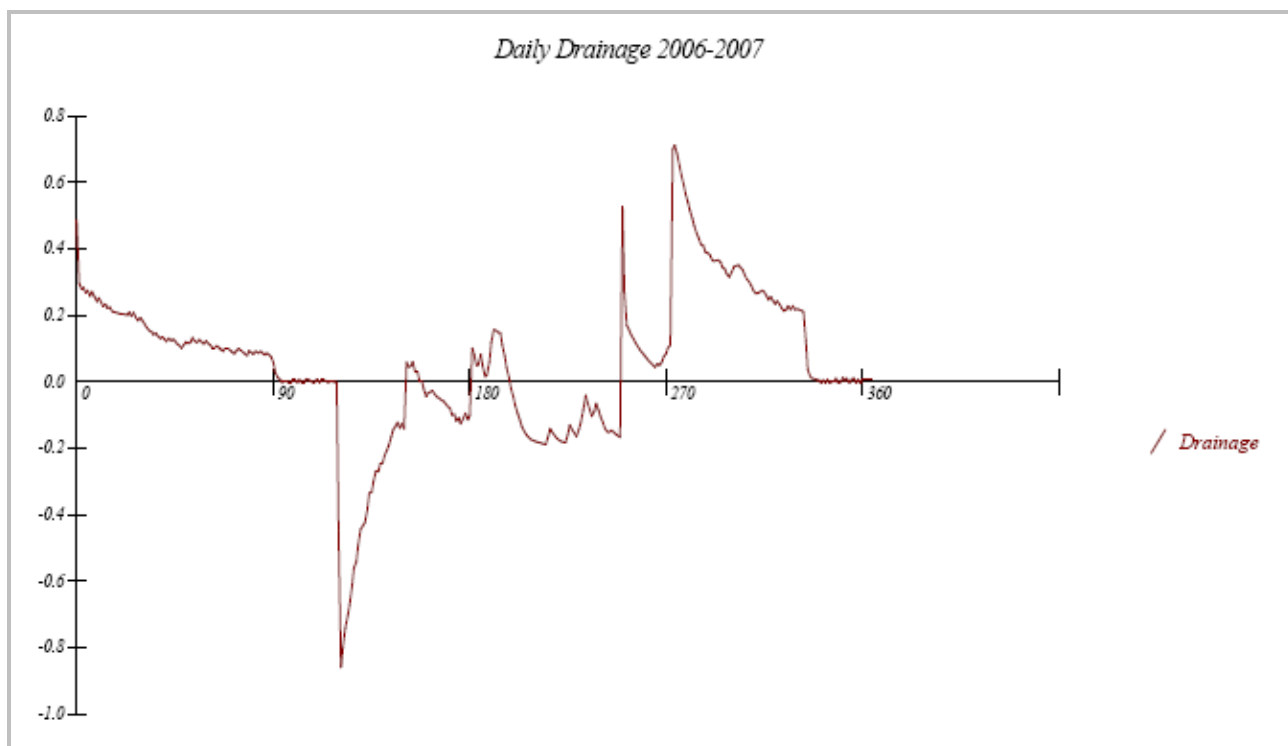
COMBO, SUMMER YIELD, MIRCHO SOIL
DIMITROVGRAD WEATHER DATA

-----RUN STATISTICS ----- time: 7/23/2007 @ 14:45
input file: C:\Program Files\Drainmod\INPUTS\Z 4-1_opt.Prj
parameters: combination run and yields calculated
drain spacing = 7000. cm drain depth = 130.0 cm

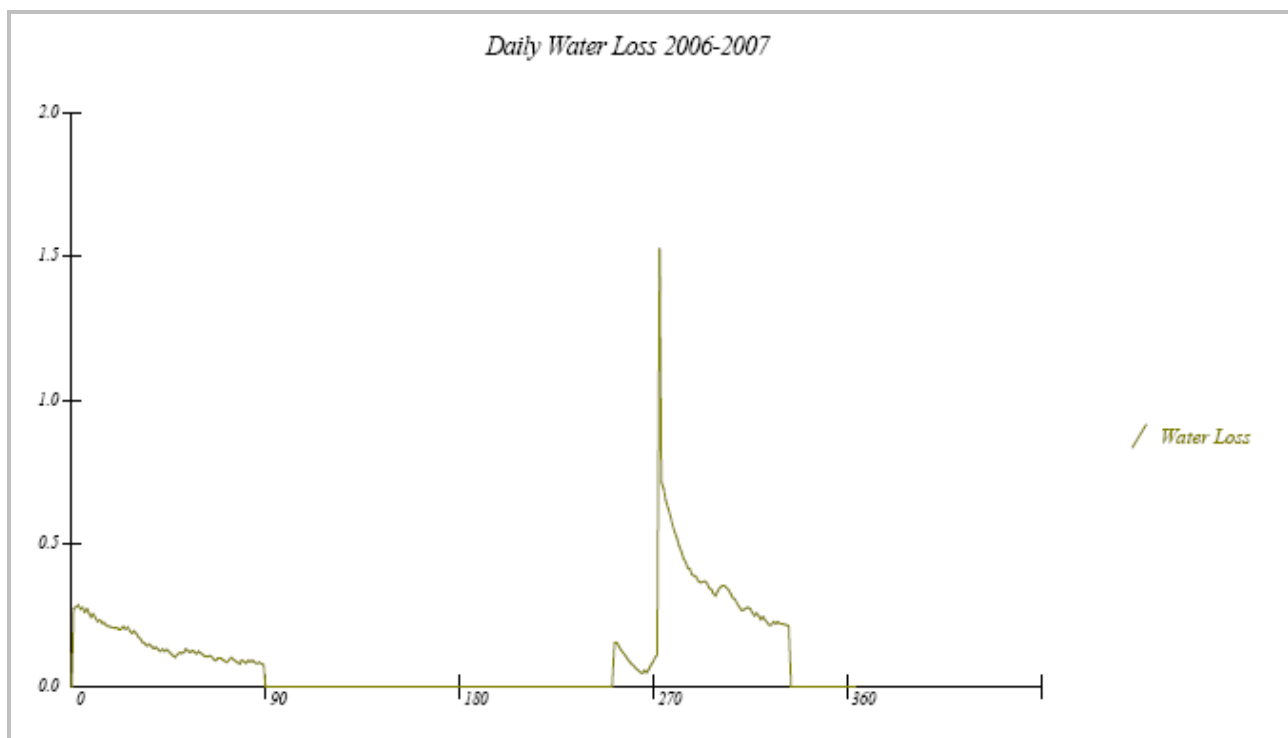
YEAR	RAINFALL	INFILTR	ET	DRAIN	RUNOFF	DRYDAYS	WORKDAYS	SEW	PUMPV
2006	60.91	60.91	38.35	20.30	.00	.00	291.93	62.0	-20.30
AVG	60.91	60.91	38.35	20.30	.00	.00	291.93	62.0	-20.30



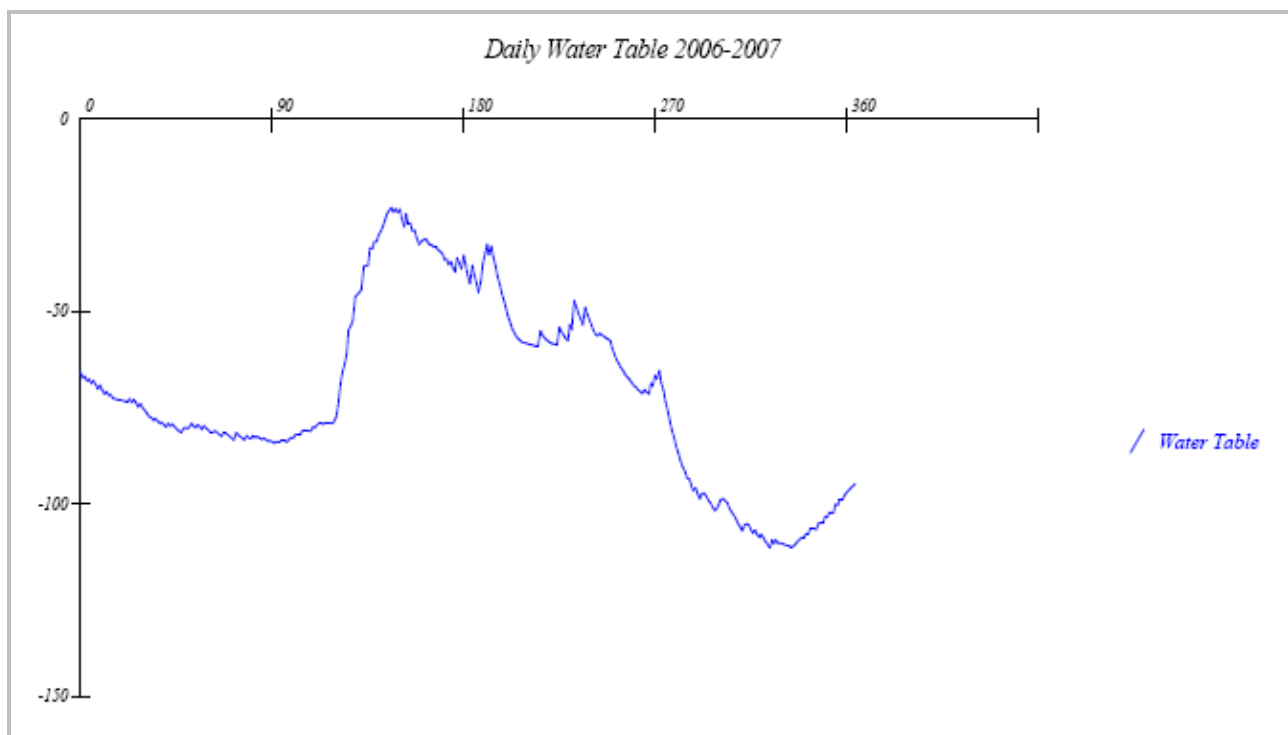
Графика на дневната евапотранспирация за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните дренирани обеми за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните водни загуби за периода на изследване 01.01.2006 – 31.12.2006 год



Графика на дневните нива на подпочвените води за периода на изследване
01.01.2006 – 31.12.2006 год