City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 16, 2001

Tucker H. Green, P.E.
Per Se Engineering
905 Palomas NE
Albuquerque, NM 87108

RE: WELLS FARGO BANK REMODEL @ MONTGOMERY AND WYOMING NE (F19-D13B). DRAINAGE REPORT AND GRADING & DRAINAGE PLAN FOR BUILDING PERMIT AND SO#19 PERMIT APPROVALS. ENGINEER'S STAMP DATED NOVEMBER 7, 2001.

Dear Mr.Green:

Based on the information provided on your November 7, 2001 submittal, the above referenced project is approved for Building and SO#19 Permits.

***It is unclear where the north property line is located. Please show on the plan and complete any necessary plat action. The report notes a 25-foot strip was added on the north side. Is the limit of grading within that addition? If not, permission will be required from abutting site owner.

A separate permit is required for construction within the City right-of-way. A copy of this approval letter must be on hand when applying for the excavation permit.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology

Prior to Certificate of Occupancy approval, an Engineer's Certification per the DPM will be required.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: Pam Lujan
Terri Martin
File

PUBLIC WORKS DEPARTMENT

NOVEMBER 16, 2001

INTEROFFICE CORRESPONDENCE HYDROLOGY DIVISION

TO: Pam Lujan, Permits

FROM: John Murray , Hydrology, PWD

SUBJECT: **PRIVATE DRAINAGE FACILITIES WITHIN PUBLIC RIGHT-OF-WAY DRAINAGE FILE NUMBER (F19-D13B). WELLS FARGO @ MONTGOMERY AND WYOMING NE.**

Transmitted herewith is a copy of the approved drainage plan for the referenced project incorporating the SO #19 design.

This plan is being submitted to you for permitting and inspection. Please provide this section with a signed-off copy per the signature block upon construction and acceptance by your office.

As you are aware, the signed off SO #19 is required by this office for Certificate of Occupancy release; therefore your expeditious processing of this plan would be greatly appreciated and would avoid any unnecessary delay in the release of the Certificate of Occupancy.

Thank you for your cooperation and if you should have any questions and/or comments, please feel free to call me at 924-3984.

Attachment

DRAINAGE INFORMATION SHEET
(REV. 11/01/2001)

RECEIVED
NOV 07 2001
HYDROLOGY SECTION

F19/D13B

PROJECT TITLE: WELLS FARGO REMODEL ZONE MAP/DRG. FILE #: ~~D09~~
DRB #: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: PORTIONS OF LOS PASTORES SHOPPING CENTER
CITY ADDRESS: _____

ENGINEERING FIRM: PER SE ENGINEERING CONTACT: TUCKER GREEN
ADDRESS: 905 PALOMAS NE PHONE: 232-9394
CITY, STATE: ALBQ NM ZIP CODE: 87108

OWNER: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: VAN GILBERT ARCHITECT CONTACT: DICK DAWSON
ADDRESS: 2428 BAYLOR PK SE PHONE: 247-9955
CITY, STATE: ALBQ NM ZIP CODE: 87106

SURVEYOR: JAMES BASFORD @ RHOMBUS PA CONTACT: CECIL TOMLINSON
ADDRESS 2620 SAN MATEO NE SUITE B PHONE: 881-6690
CITY, STATE: ALBQ NM ZIP CODE: _____

CONTRACTOR: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:
- ✓ DRAINAGE REPORT
- ✓ DRAINAGE PLAN
- _____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ✓ GRADING PLAN
- _____ EROSION CONTROL PLAN
- _____ ENGINEER'S CERTIFICATION (HYDROLOGY)
- _____ CLOMR/LOMR
- _____ TRAFFIC CIRCULATION LAYOUT (TCL)
- _____ ENGINEERS CERTIFICATION (TCL)
- _____ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- _____ OTHER

CHECK TYPE OF APPROVAL SOUGHT:
- _____ SIA / FINANCIAL GUARANTEE RELEASE
- _____ PRELIMINARY PLAT APPROVAL
- _____ S. DEV. PLAN FOR SUB'D. APPROVAL
- _____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- _____ SECTOR PLAN APPROVAL
- _____ FINAL PLAT APPROVAL
- _____ FOUNDATION PERMIT APPROVAL
- ✓ BUILDING PERMIT APPROVAL
- _____ CERTIFICATE OF OCCUPANCY (PERM.)
- _____ CERTIFICATE OF OCCUPANCY (TEMP.)
- _____ GRADING PERMIT APPROVAL
- _____ PAVING PERMIT APPROVAL
- _____ WORK ORDER APPROVAL
- ✓ OTHER (SPECIFY) SO19

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- ✓ YES INFORMAL W/ BRAD BINGHAM
- _____ NO
- _____ COPY PROVIDED

THE 2ND COPY OF THE PLANS IS FOR SO 19 APPROVAL

DATE SUBMITTED: 11-7-2001 BY: TUCKER GREEN

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5)
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or

DRAINAGE REPORT
for
WELLS FARGO BANK REMODEL

PROJECT LOCATION & LEGAL DESCRIPTION :
Wells Fargo Branch Bank @ 8333 Montgomery Blvd. NE
Leased Portions of Tract A-1, Los Pastores Shopping Center
Northwest corner of Montgomery & Wyoming, Albuquerque NM, Map F19

PROJECT DESCRIPTION: The project consists primarily of rebuilding and enlarging the existing bank building while the original bank remains in service. The new site (leased) will be somewhat larger than the existing approximately 1.2-acre site. In addition to the remodel there will be an expansion of the driveup banking facilities and parking areas and a reduction in landscaped area. Under the proposed drainage there will be a decrease in the calculated design runoff amount of runoff leaving the site and entering an existing pond behind McDonald's and a reduction in the peak rate of runoff leaving the site and entering Montgomery Blvd.

100-YEAR FLOOD ZONES: Per FEMA Community Panel 35001C0 143) (Sept 1996) the site is not in a 100-year flood area but there are shallow flood zones (Zone A0, depth 1 ft) in the adjacent streets but not extending onto the site. See further discussion below (EXISTING CONDITIONS).

EXISTING CONDITIONS: The site is currently completely developed. It is fairly flat but does slope down toward the west and south. It is bordered on the west by a McDonald's (McD's) restaurant, on the northwest and north by undeveloped land, and on the east and south by Wyoming Blvd and Montgomery Blvd. respectively, which are major city streets. A paved access (not a city ROW) runs between the bank and McD's and continues north for several hundred feet before turning east up to Wyoming Blvd. Long ago grading raised the north part of the site above the adjacent Los Pastores Shopping center (undeveloped), and there is no flow onto the site from the north.

The existing bank has been there for quite a while, certainly before the development plan for the Los Pastores Shopping Center (F19/D13, +/- 1980), which mostly was never built, except for the McDonald's restaurant west of (and downhill from) the site. Most of the site, including the bank building, is lower than the adjacent roadways. However, if any flow ever did overtop the curb it would pass safely through the existing landscaping and parking in approximately its historical paths (as modified by the McD's development). Preliminary, informal, discussion with Brad Bingham of the City Public Works. Dept. indicated that this condition could be expected to continue.

Currently runoff from roughly 2/3 of the site flows to an earth pond located north of the McD's site. Site photos taken for this project include sprinkler runoff patterns at McD's confirming that runoff entering either of the east driveways of McD's (west of the bank) flows to the pond. This pond apparently does not have an outlet, although it may have been designed to have one. The remainder of runoff from the bank flows to Montgomery Bldv., either out the access road between the bank and McD's or through an existing curb opening near the southeast corner of McD's. There is a quasi-, pretend water block at the SE entrance to McD's, but it does not appear to have any significant effect or to be part of any approved drainage plan.

PROPOSED CONDITIONS: The new site includes a strip - about 25 feet wide - on the north side of the site that was not part of the old bank. This area, a mixture of native vegetation and packed dirt, currently drains north and west, heading for the McD's pond in a large storm. This area will be paved parking and its runoff will be directed through the site, still heading for the pond. The new bank building will be larger, and there will be more parking and pavement. Almost all the landscaping will be xeric; a small area near the southeast corner of the building may be turf to provide a seating area for bank patrons.

DRAINAGE DISCUSSION: The primary drainage goals for this project were: (1) No increase in runoff amount (volume, cubic feet) to the pond behind McD's; and (2) No increase in peak runoff rate (cubic feet per second) to Montgomery. The proposed design also provides wide open paths around the building for any flow that might ever enter from the streets.

To accomplish these goals runoff from much of the east and northeast part of the site is routed through a set of buried storage pipes, with a small diameter outlet pipe to a new curb opening in Montgomery Blvd. The rest of the north part of the site has free discharge to the access road and then to the pond behind McD's; the contributing area and the runoff volume are less than under existing conditions. The rest of the east and the south part of the site free discharges to Montgomery, either via the access road west of the site or via the proposed sidewalk culvert just east of the access road. When the runoff from this area is combined runoff routed through the storage pipes the combined peak rate is less than existing peak rate to Montgomery.

Flow to the storage pipes is collected by an inlet in the landscape area just east of the bank, and by slotted drains in the parking area just east of that landscaping, and also just east of the drive-up banking islands. Should rainfall exceed the 100-year design storm, the landscaped area would overflow to the south and then southwest to Montgomery. As shown in the accompanying AHYMO output the combined peak flow to Montgomery under proposed conditions is slightly less than under existing conditions.

Some comments on the storage-routing analysis performed with the AHYMO computer program: The outlet pipe has a small slope, while most of the main storage pipes are level and have the same invert elevation. (Two of the pipes are sloped to more positively direct water away from the new bank building. Analysis treats the storage pipes as a reservoir with a level water surface, which essentially implies no head loss, which in turn is quite reasonable for the conditions at hand. Analysis assumes that the lowest 0.1 ft of each storage pipe is filled with sediment ("crud"). If a storage pipe is sloped slightly to promote emptying, the fall is accounted for by increasing the amount of crud. For instance, if the invert of the high end is 0.2 ft higher than the invert of the low end, the crud depth is increased by the same 0.2 ft, and the pipe is analyzed as level. Any difference in elevation between pipes is accounted for by using separate storage-elevation tables and then combining the volumes. The depression in the landscaping east of the bank where the area inlet is located is not included in the storage vs elevation calculations used to route flow through the storage pipes. The inlet is at the same elevation as the calculated 100-year water surace..

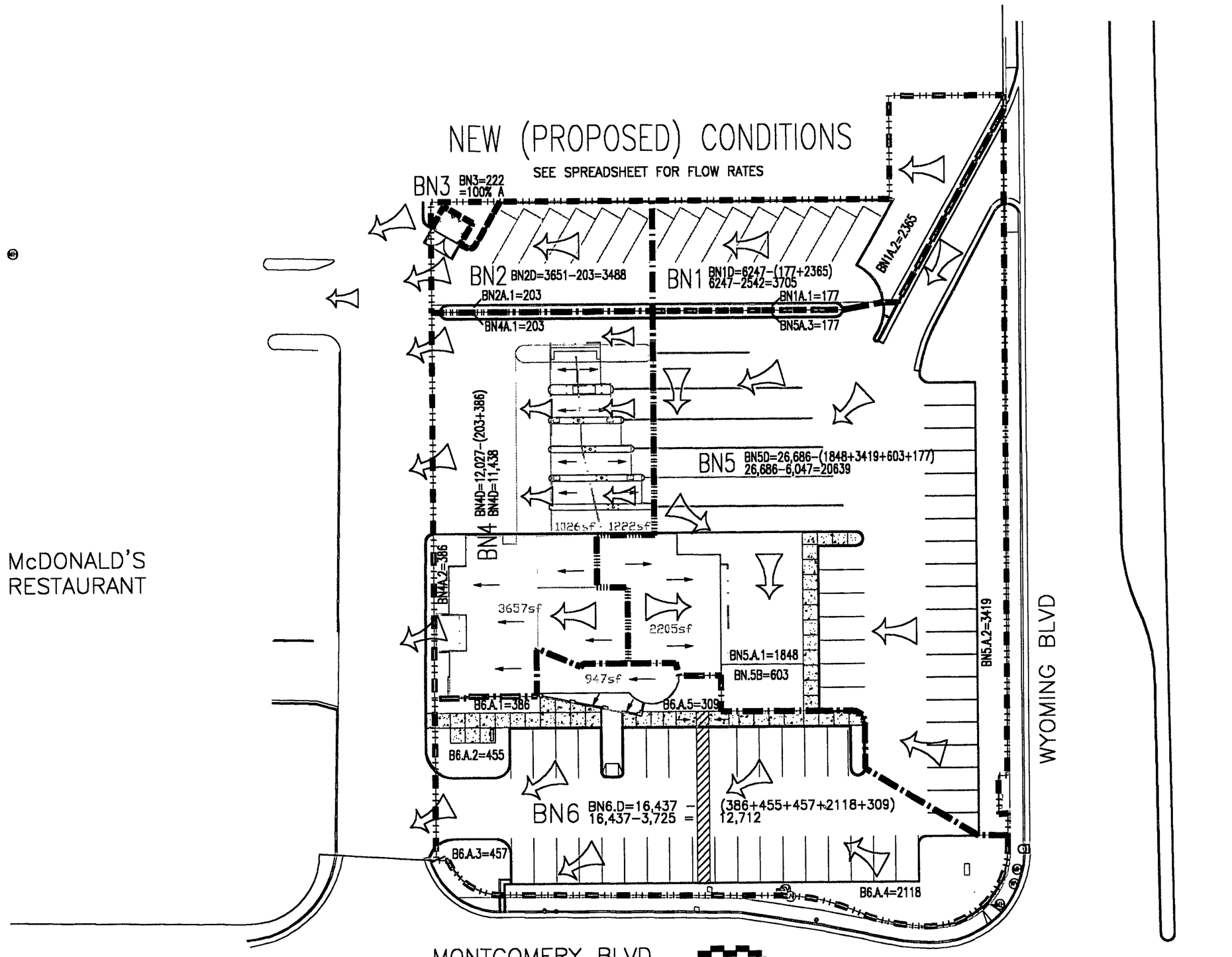
The rating curve for the outlet pipe was prepared using the Culvert Master computer program, which allows for part-full flow in the pipe, as occurs at the beginning and end of a storm. The pipe length used in Culvert Master was a combination of actual pipe length plus equivalent lengths for fittings, resulting in roughly 10% additional length. The actual drop was used with the equivalent length, so that the calculated slope is more like a friction slope, and is flatter than the actual pipe slope.

Documentation for drainage design includes:
On-site basin maps
Outlet pipe rating curve(s)
Storage pipe elevation-vs-depth spreadsheet, with outlet rating shown
Small watershed hydrology calculations
AYHYMO storage routing & combined hydrographs for flow to Montgomery

END OF REPORT TEXT

11-7-01

2


NEW (PROPOSED) CONDITIONS
SEE SPREADSHEET FOR FLOW RATES
BN3 BN3=222 =100% A
BN2 BN2D=3651-203=3488
BN1 BN1D=6247-(177+2365) 6247-2542=3705
BN1A.2=2365
BN2A.1=203
BN1A.1=177
BN4A.1=203
BN5A.3=177
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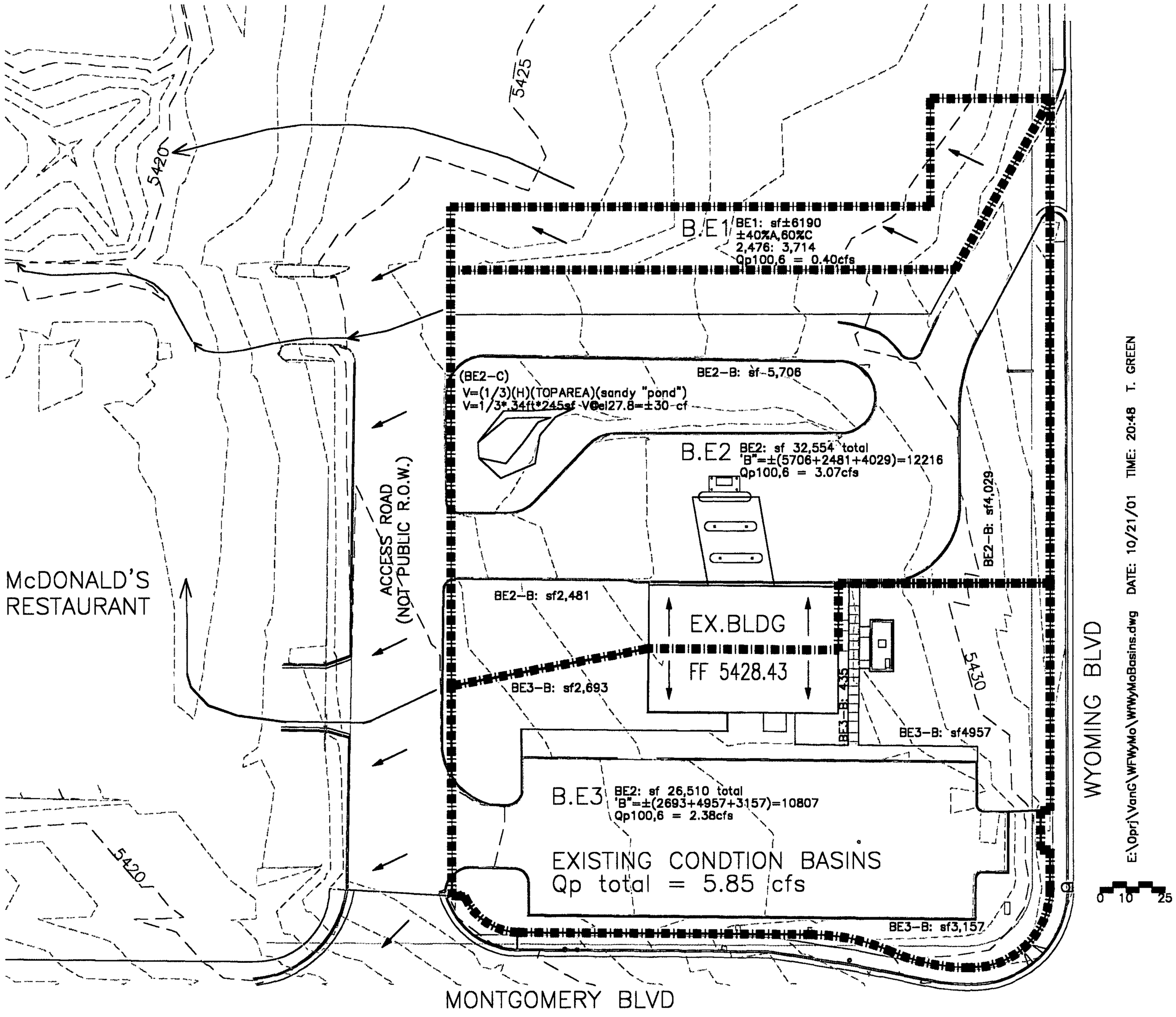
BN5.A.2=3419
BN6 BN6.D=16,437 - 16,437-3,725 = (386+455+457+2118+309) 12,712
B6.A.3=457
B6.A.4=2118
McDONALD'S RESTAURANT
WYOMING BLVD
MONTGOMERY BLVD
0 10 25
E:\Oprj\VanG\WFWyMo\WfWyMoBasins2.dwg DATE: 11/07/01 TIME: 09:56 T. GREEN


5425
5420
B.E1
BE1: sf±6190
±40%A,60%C
2,476: 3,714
Qp100,6 = 0.40cfs
(BE2-C)
V=(1/3)(H)(TOPAREA)(sandy "pond")
V=1/3*.34ft*245sf-V@el27.8=±30-cf
BE2-B: sf-5,706
B.E2
BE2: sf 32,554 total
'B"=±(5706+2481+4029)=12216
Qp100,6 = 3.07cfs
BE2-B: sf4,029
ACCESS ROAD
(NOT PUBLIC R.O.W.)
McDONALD'S
RESTAURANT
BE2-B: sf2,481
EX.BLDG
FF 5428.43
BE3-B: sf2,693
BE3-B: 435
BE3-B: sf4957
5430
B.E3
BE2: sf 26,510 total
'B"=±(2693+4957+3157)=10807
Qp100,6 = 2.38cfs
EXISTING CONDTION BASINS
Qp total = 5.85 cfs
5420
BE3-B: sf3,157
MONTGOMERY BLVD
WYOMING BLVD
E:\Oprj\VanG\WfWyMo\WfWyMoBasins.dwg DATE: 10/21/01 TIME: 20:48 T. GREEN
0 10 25

ALBUQUERQUE, NM (1/93) CRITERIA - SIMPLE PROCEDURE FOR <= 40 ACRES
PX100-6 = PRECIPITATION EXCESS FROM 100-YEAR 6-HOUR STORM
VOL10D = VOLUME OF RUNOFF FROM 100-YEAR 10-DAY STORM
TRTMT CLASS A=UNDISTURBED, B=LAWNS, C=UNPAVED ROADS, D=ROOFS,PAVEMENT: SEE DPM 22.2 P A-5

*** WELLS-FARGO BANK - NW Corner of Wyoming Blvd & Montgomery Blvd NE, Albuquerque Map F-19
*** EXISTING CONDITIONS ***

RAIN ZO 3 SEE DPM P 22.2-2
100-YEAR PRECIPTATION (P) DEPTHS, INCHES

1 HR	6 HR	24 HR	4 DAY	10 DAY
2.14	2.6	3.1	3.95	4.9

'BASIN E1: JUST OFF CURRENT SITE, PART OF NEW SITE, NATURAL ON STEEP SLOPE, ELSE PACKED DIRT SF TOTAL 6,190

TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT	TRTMT PERCENT
A	2,476.0	0.0568	0.66	1.87	0.106	0.003	0.003	0.003	0.003	40.00
B	0.0	0.0000	0.92	2.60	0.000	0.000	0.000	0.000	0.000	0.00
C	3,714.0	0.0853	1.29	3.45	0.294	0.009	0.009	0.009	0.009	60.00
D	0.0	0.0000	2.36	5.02	0.000	0.000	0.000	0.000	0.000	0.00
TOTAL	6,190	0.1421	AVG Q/AC=	2.818	0.400	0.012	0.012	0.012	0.012	100.00
	SQ MI=>	0.000222			CU FT=>	535	535	535	535	<=CU FT

BASIN E2: NORTH PART OF SITE, DRAINS TO McD'S & THEN TO EX.POND BEHIND McD'S SF TOTAL 32,554

TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT	TRTMT PERCENT
A	0.0	0.0000	0.66	1.87	0.000	0.000	0.000	0.000	0.000	0.00
B	12,216	0.2804	0.92	2.60	0.729	0.022	0.022	0.022	0.022	37.53
C	0.0	0.0000	1.29	3.45	0.000	0.000	0.000	0.000	0.000	0.00
D	20,338.0	0.4669	2.36	5.02	2.344	0.092	0.111	0.144	0.181	62.47
TOTAL	32,554	0.7473	AVG Q/AC=	4.112	3.073	0.113	0.133	0.166	0.203	100.00
	SQ MI=>	0.001168			CU FT=>	4936	5784	7224	8834	<=CU FT
			NEW-OLD	1.294	2.673	4401				

BASIN E3: SOUTH PART OF SITE, DRAINS TO MONTGOMERY (MOSTLY VIA CURB OPENING TO McD'S) SF TOTAL 26,510

TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT	TRTMT PERCENT
A	0.0	0.0000	0.66	1.87	0.000	0.000	0.000	0.000	0.000	0.00
B	12,216.0	0.2804	0.92	2.60	0.729	0.022	0.022	0.022	0.022	37.53
C	0.0	0.0000	1.29	3.45	0.000	0.000	0.000	0.000	0.000	0.00
D	14,294.0	0.3281	2.36	5.02	1.647	0.065	0.078	0.101	0.127	62.47
TOTAL	26,510	0.6086	AVG Q/AC=	3.905	2.376	0.086	0.100	0.123	0.149	100.00
	SQ MI=>	0.000951			CU FT=>	3748	4343	5356	6487	<=CU FT

TOTAL Qp100-6, CFS 5.850 5472 TOTAL Vol100-6, CU FT

5

BASIN N4 TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	SF TOTAL VOL10D AC-FT	12,027 TRTMT PERCENT
A	589.0	0.0135	0.66	1.87	0.025	0.001	0.001	0.001	0.001	4.90
B	0	0.0000	0.92	2.60	0.000	0.000	0.000	0.000	0.000	0.00
C	0.0	0.0000	1.29	3.45	0.000	0.000	0.000	0.000	0.000	0.00
D	11,438.0	0.2626	2.36	5.02	1.318	0.052	0.063	0.081	0.102	95.10
TOTAL	12,027	0.2761	AVG Q/AC=	4.866	1.343	0.052	0.063	0.082	0.103	100.00
	SQ MI=>	0.000431			CU FT=>	2282	2758	3569	4474	<=CU FT
			NEW-OLD	0.538	-1.250	-2032				

BASIN N5 TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	SF TOTAL VOL10D AC-FT	26,101 TRTMT PERCENT
A	5,275.0	0.1211	0.66	1.87	0.226	0.007	0.007	0.007	0.007	20.21
B	603.0	0.0138	0.92	2.60	0.036	0.001	0.001	0.001	0.001	2.31
C	0.0	0.0000	1.29	3.45	0.000	0.000	0.000	0.000	0.000	0.00
D	20,223.0	0.4643	2.36	5.02	2.331	0.091	0.111	0.144	0.180	77.48
TOTAL	26,101	0.5992	AVG Q/AC=	4.327	2.593	0.099	0.118	0.151	0.188	100.00
	SQ MI=>	0.000936			CU FT=>	4314	5156	6589	8190	<=CU FT

BASIN N6 TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	SF TOTAL VOL10D AC-FT	17,020 TRTMT PERCENT
A	3,893.0	0.0894	0.66	1.87	0.167	0.005	0.005	0.005	0.005	22.87
B	0.0	0.0000	0.92	2.60	0.000	0.000	0.000	0.000	0.000	0.00
C	0.0	0.0000	1.29	3.45	0.000	0.000	0.000	0.000	0.000	0.00
D	13,127.0	0.3014	2.36	5.02	1.513	0.059	0.072	0.093	0.117	95.10
TOTAL	17,020	0.3907	AVG Q/AC=	4.299	1.680	0.064	0.077	0.098	0.122	117.98
	SQ MI=>	0.000611			CU FT=>	2796	3343	4273	5312	<=CU FT

TOTAL Qp100-6, CFS 6.568 10961 TOTAL Vol100-6, CU FT

ALBUQUERQUE, NM (1/93) CRITERIA - SIMPLE PROCEDURE FOR <= 40 ACRES
PX100-6 = PRECIPITATION EXCESS FROM 100-YEAR 6-HOUR STORM
VOL10D = VOLUME OF RUNOFF FROM 100-YEAR 10-DAY STORM
TRTMT CLASS A=UNDISTURBED, B=LAWNS, C=UNPAVED ROADS, D=ROOFS,PAVEMENT: SEE DPM 22.2 P A-5

*** WELLS-FARGO BANK - NW Corner of Wyoming Blvd & Montgomery Blvd NE, Albuquerque Map F-19
*** NEW=PROPOSED CONDITIONS ***

RAIN ZONE 3 SEE DPM P 22.2-2
100-YEAR PRECIPTATION (P) DEPTHS, INCHES

1 HR	6 HR	24 HR	4 DAY	10 DAY
2.14	2.6	3.1	3.95	4.9

BASIN N1 SF TOTAL 6,247

TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT	TRTMT PERCENT
A	2,542.0	0.0584	0.66	1.87	0.109	0.003	0.003	0.003	0.003	40.69
B	0.0	0.0000	0.92	2.60	0.000	0.000	0.000	0.000	0.000	0.00
C	0.0	0.0000	1.29	3.45	0.000	0.000	0.000	0.000	0.000	0.00
D	3,705.0	0.0851	2.36	5.02	0.427	0.017	0.020	0.026	0.033	59.31
TOTAL	6,247	0.1434 AVG Q/AC=		3.738	0.536	0.020	0.023	0.030	0.036	100.00
	SQ MI=>	0.000224			CU FT=>	868	1023	1285	1579	<=CU FT

BASIN N2 SF TOTAL 3,651

TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT	TRTMT PERCENT
A	203.0	0.0047	0.66	1.87	0.009	0.000	0.000	0.000	0.000	5.56
B	0	0.0000	0.92	2.60	0.000	0.000	0.000	0.000	0.000	0.00
C	0.0	0.0000	1.29	3.45	0.000	0.000	0.000	0.000	0.000	0.00
D	3,448.0	0.0792	2.36	5.02	0.397	0.016	0.019	0.024	0.031	94.44
TOTAL	3,651	0.0838 AVG Q/AC=		4.845	0.406	0.016	0.019	0.025	0.031	100.00
	SQ MI=>	0.000131			CU FT=>	689	833	1077	1350	<=CU FT
			NEW-OLD	1.107	-0.130	-179				

BASIN N3 SF TOTAL 222

TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT	TRTMT PERCENT
A	222.0	0.0051	0.66	1.87	0.010	0.000	0.000	0.000	0.000	100.00
B	0.0	0.0000	0.92	2.60	0.000	0.000	0.000	0.000	0.000	0.00
C	0.0	0.0000	1.29	3.45	0.000	0.000	0.000	0.000	0.000	0.00
D	0.0	0.0000	2.36	5.02	0.000	0.000	0.000	0.000	0.000	94.44
TOTAL	222	0.0051 AVG Q/AC=		1.870	0.010	0.000	0.000	0.000	0.000	194.44
	SQ MI=>	0.000008			CU FT=>	12	12	12	12	<=CU FT

7

ALBUQUERQUE, NM (1/93) CRITERIA - SIMPLE PROCEDURE FOR <= 40 ACRES
PX100-6 = PRECIPITATION EXCESS FROM 100-YEAR 6-HOUR STORM
VOL10D = VOLUME OF RUNOFF FROM 100-YEAR 10-DAY STORM
TRTMT CLASS A=UNDISTURBED, B=LAWNS, C=UNPAVED ROADS, D=ROOFS,PAVEMENT: SEE DPM 22.2 P A-5

*** WELLS-FARGO BANK - NW Corner of Wyoming Blvd & Montgomery Blvd NE, Albuquerque Map F-19
*** NEW=PROPOSED CONDITIONS ***
*** COMBINED NEEW BASINS 5 & 6, FOR INPUT INTO AHYMO

RAIN ZONE 3 SEE DPM P 22.2-2

100-YEAR PRECIPTATION (P) DEPTHS, INCHES

1 HR	6 HR	24 HR	4 DAY	10 DAY
2.14	2.6	3.1	3.95	4.9

BASIN N5 — SF TOTAL 26,101

TRTMT CLASS	AREA JARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT	TRTMT PERCENT
A	5,275.0	0.1211	0.66	1.87	0.226	0.007	0.007	0.007	0.007	20.21
B	603.0	0.0138	0.92	2.60	0.036	0.001	0.001	0.001	0.001	2.31
C	0.0	0.0000	1.29	3.45	0.000	0.000	0.000	0.000	0.000	0.00
D	20,223.0	0.4643	2.36	5.02	2.331	0.091	0.111	0.144	0.180	77.48
TOTAL	26,101	0.5992	AVG Q/AC=	4.327	2.593	0.099	0.118	0.151	0.188	100.00
	SQ MI=>	0.000936			CU FT=>	4314	5156	6589	8190	<=CU FT

BASIN N6 — SF TOTAL 17,020

TRTMT CLASS	AREA JARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT	TRTMT PERCENT
A	3,893.0	0.0894	0.66	1.87	0.167	0.005	0.005	0.005	0.005	22.87
B	0.0	0.0000	0.92	2.60	0.000	0.000	0.000	0.000	0.000	0.00
C	0.0	0.0000	1.29	3.45	0.000	0.000	0.000	0.000	0.000	0.00
D	13,127.0	0.3014	2.36	5.02	1.513	0.059	0.072	0.093	0.117	77.13
TOTAL	17,020	0.3907	AVG Q/AC=	4.299	1.680	0.064	0.077	0.098	0.122	100.00
	SQ MI=>	0.000611			CU FT=>	2796	3343	4273	5312	<=CU FT

BASINS N5 & N6 COMBINED — SF TOTAL 43,121.0

TRTMT CLASS	AREA JARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT	TRTMT PERCENT
A	9,168.0	0.2105	0.66	1.87	0.394	0.012	0.012	0.012	0.012	21.26
B	603.0	0.0138	0.92	2.60	0.036	0.001	0.001	0.001	0.001	1.40
C	0.0	0.0000	1.29	3.45	0.000	0.000	0.000	0.000	0.000	0.00
D	33,350.0	0.7656	2.36	5.02	3.843	0.151	0.182	0.237	0.297	77.34
TOTAL	43,121	0.9899	AVG Q/AC=	4.316	4.273	0.163	0.195	0.249	0.310	100.00
	SQ MI=>	0.001547			CU FT=>	7109	8499	10861	13501	<=CU FT

Head loss to bend $= h_b = k_b \frac{V^2}{2g}$

$h_b = 0.2\sqrt{\frac{\Delta}{90^0}}$ $\quad h_{70^0} = 0.176$ use 0.18 ;

$h_{22.5^0} = 0.10$

Tee's for clean cut
flow only main branch
$K_{6''} \sim 0.12$ Hydraulic Institute 1979
Engr Data Book p 75
$K_{8''} \sim 0.10$ $K_{10''} \sim 0.08$

Equivalent lengths L_e: 6" pipe

70^0 bend $f \frac{L_e}{D}\frac{V^2}{2g} = 0.18\frac{V^2}{2g}$ $\quad f \sim 0.016 - 0.018$

$L_e = (0.18)D/f$

$L_e \sim (0.18)(0.5)/(.018) = 5'$

22.5^0 Bend $L_e \sim (0.10)(.5)/.018 = 2.78 \sim 2.8'$

Tees $L_e = (.12)(.5)/(.018) = 3.33'$

$\Rightarrow$ 3 TEES $\rightarrow L_{e,TOT} = 10'$

Σ Fitting equiv lengths $= 5 + 2.8 + 10 = 17.8$

Basic length $= 38.4 + 73.5 + 74.5 = 186.4$

Combined equiv length 6" $= 186.4 + 17.8 \quad 204.2$

$\approx 204.$

Rating Table Report
6"PVC,Leq=204 (base188),Kent=.5,n=.010

Range Data:			
	Minimum	Maximum	Increment
Allowable HW Eleva	5.50	8.10	0.10 ft

HW Elev (ft)	Discharge (cfs)
5.50	0.00
5.60	0.02
5.70	0.07
5.80	0.15
5.90	0.26
6.00	0.37
6.10	0.47
6.20	0.49
6.30	0.51
6.40	0.53
6.50	0.55
6.60	0.57
6.70	0.58
6.80	0.60
6.90	0.62
7.00	0.64
7.10	0.65
7.20	0.67
7.30	0.69
7.40	0.70
7.50	0.72
7.60	0.73
7.70	0.75
7.80	0.76
7.90	0.78
8.00	0.79
8.10	0.80

10

Based on MANCIRC: MANning's equation forCIRCular pipes flowing just full (or less), with sediment (crud) depth allowed

Wells-Fargo Bank at Wyoming & Montgomery NE, Albuquerque, NM
USED HERE JUST FOR cross-section area at various depths, and then combined volumes at various lengths & combinations

Delta Y = 0.10 Invert = 5.50 Length = 304 Base Elev = 5.5

# Diam inches	Diam ft	# Depth of water	# Depth of crud	Theta water	Theta crud	Area,sf = cf/lf	DeltaVol at Given Length	Water Surface Elev	Cum Vol, cf at Given Depth	Cfs Out, 6"PVC, per Culvert Master	Cum Vol, acre-ft	Water Surface Elev
30.00	2.50	0.000	0.10	0.000	0.403	0.000	0.0	5.50	0.0	0.00	0.00000	5.50
30.00	2.50	0.100	0.10	0.403	0.403	0.000	0.0	5.60	0.0	0.00	0.00000	5.60
30.00	2.50	0.200	0.10	0.574	0.403	0.118	35.9	5.70	39.3	0.07	0.00090	5.70
30.00	2.50	0.300	0.10	0.707	0.403	0.268	45.5	5.80	89.0	0.15	0.00204	5.80
30.00	2.50	0.400	0.10	0.823	0.403	0.441	52.7	5.90	151.4	0.26	0.00348	5.90
30.00	2.50	0.500	0.10	0.927	0.403	0.633	58.4	6.00	220.4	0.37	0.00506	6.00
30.00	2.50	0.600	0.10	1.024	0.403	0.840	62.9	6.10	299.6	0.47	0.00688	6.10
30.00	2.50	0.700	0.10	1.115	0.403	1.059	66.6	6.20	383.6	0.49	0.00881	6.20
30.00	2.50	0.800	0.10	1.203	0.403	1.288	69.6	6.30	476.2	0.51	0.01093	6.30
30.00	2.50	0.900	0.10	1.287	0.403	1.525	72.0	6.40	572.1	0.53	0.01313	6.40
30.00	2.50	1.000	0.10	1.369	0.403	1.768	73.8	6.50	670.6	0.55	0.01539	6.50
30.00	2.50	1.100	0.10	1.451	0.403	2.014	75.0	6.60	770.7	0.57	0.01769	6.60
30.00	2.50	1.200	0.10	1.531	0.403	2.264	75.7	6.70	871.6	0.58	0.02001	6.70
30.00	2.50	1.300	0.10	1.611	0.403	2.513	76.0	6.80	972.7	0.60	0.02233	6.80
30.00	2.50	1.400	0.10	1.691	0.403	2.763	75.7	6.90	1073.2	0.62	0.02464	6.90
30.00	2.50	1.500	0.10	1.772	0.403	3.009	75.0	7.00	1172.2	0.64	0.02691	7.00
30.00	2.50	1.600	0.10	1.855	0.403	3.252	73.8	7.10	1268.9	0.65	0.02913	7.10
30.00	2.50	1.700	0.10	1.939	0.403	3.489	72.0	7.20	1362.5	0.67	0.03128	7.20
30.00	2.50	1.800	0.10	2.026	0.403	3.718	69.6	7.30	1451.9	0.69	0.03333	7.30
30.00	2.50	1.900	0.10	2.118	0.403	3.937	66.6	7.40	1535.8	0.70	0.03526	7.40
30.00	2.50	2.000	0.10	2.214	0.403	4.144	62.9	7.50	1612.1	0.72	0.03701	7.50
30.00	2.50	2.100	0.10	2.319	0.403	4.336	58.4	7.60	1678.7	0.73	0.03854	7.60
30.00	2.50	2.200	0.10	2.434	0.403	4.509	52.7	7.70	1737.4	0.75	0.03989	7.70
30.00	2.50	2.300	0.10	2.568	0.403	4.659	45.5	7.80	1858.3	0.76	0.04266	7.80
30.00	2.50	2.400	0.10	2.739	0.403	4.777	35.9	7.90	1896.1	0.78	0.04353	7.90
30.00	2.50	2.499	0.10	3.102	0.403	4.843	20.0	8.00	1919.1	0.78	0.04406	8.00

Delta Y = 0.10 Invert = 5.50 Length = 28

# Diam inches	Diam ft	# Depth of water	# Depth of crud	Theta water	Theta crud	Area,sf = cf/lf	DeltaVol at Given Length	Water Surface Elev
24.00	2.00	0.000	0.10	0.000	0.451	0.000	0.00	5.50
24.00	2.00	0.100	0.10	0.451	0.451	0.000	0.00	5.60
24.00	2.00	0.200	0.10	0.644	0.451	0.105	3.35	5.70
24.00	2.00	0.300	0.10	0.795	0.451	0.237	4.22	5.80
24.00	2.00	0.400	0.10	0.927	0.451	0.389	4.86	5.90
24.00	2.00	0.500	0.10	1.047	0.451	0.555	5.34	6.00
24.00	2.00	0.600	0.10	1.159	0.451	0.734	5.71	6.10
24.00	2.00	0.700	0.10	1.266	0.451	0.921	5.99	6.20
24.00	2.00	0.800	0.10	1.369	0.451	1.115	6.19	6.30
24.00	2.00	0.900	0.10	1.471	0.451	1.312	6.32	6.40
24.00	2.00	1.000	0.10	1.571	0.451	1.512	6.39	6.50
24.00	2.00	1.100	0.10	1.671	0.451	1.712	6.39	6.60
24.00	2.00	1.200	0.10	1.772	0.451	1.909	6.32	6.70
24.00	2.00	1.300	0.10	1.875	0.451	2.103	6.19	6.80
24.00	2.00	1.400	0.10	1.982	0.451	2.290	5.99	6.90
24.00	2.00	1.500	0.10	2.094	0.451	2.469	5.71	7.00
24.00	2.00	1.600	0.10	2.214	0.451	2.636	5.34	7.10
24.00	2.00	1.700	0.10	2.346	0.451	2.787	4.86	7.20
24.00	2.00	1.800	0.10	2.498	0.451	2.919	4.22	7.30
24.00	2.00	1.900	0.10	2.691	0.451	3.024	3.35	7.40
24.00	2.00	1.999	0.10	3.097	0.451	3.083	1.88	7.50

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Based on MANCIRC: MANning's equation forCIRCular pipes flowing just full (or less), with sediment (crud) depth allowed

Delta Y = 0.10 Invert = 5.50 Length = 32

# Diam inches	Diam ft	# Depth of water	# Depth of crud	Theta water	Theta crud	Area,sf = cf/lf	DeltaVol at Given Length	Water Surface Elev
24.00	2.00	0.000	0.30	0.000	0.795	0.000	0.00	5.50
24.00	2.00	0.100	0.30	0.451	0.795	0.000	0.00	5.60
24.00	2.00	0.200	0.30	0.644	0.795	0.000	0.00	5.70
24.00	2.00	0.300	0.30	0.795	0.795	0.000	0.00	5.80
24.00	2.00	0.400	0.30	0.927	0.795	0.152	4.86	5.90
24.00	2.00	0.500	0.30	1.047	0.795	0.319	5.34	6.00
24.00	2.00	0.600	0.30	1.159	0.795	0.497	5.71	6.10
24.00	2.00	0.700	0.30	1.266	0.795	0.684	5.99	6.20
24.00	2.00	0.800	0.30	1.369	0.795	0.878	6.19	6.30
24.00	2.00	0.900	0.30	1.471	0.795	1.076	6.32	6.40
24.00	2.00	1.000	0.30	1.571	0.795	1.275	6.39	6.50
24.00	2.00	1.100	0.30	1.671	0.795	1.475	6.39	6.60
24.00	2.00	1.200	0.30	1.772	0.795	1.673	6.32	6.70
24.00	2.00	1.300	0.30	1.875	0.795	1.866	6.19	6.80
24.00	2.00	1.400	0.30	1.982	0.795	2.053	5.99	6.90
24.00	2.00	1.500	0.30	2.094	0.795	2.232	5.71	7.00
24.00	2.00	1.600	0.30	2.214	0.795	2.399	5.34	7.10
24.00	2.00	1.700	0.30	2.346	0.795	2.551	4.86	7.20
24.00	2.00	1.800	0.30	2.498	0.795	2.683	4.22	7.30
24.00	2.00	1.900	0.30	2.691	0.795	2.787	3.35	7.40
24.00	2.00	1.999	0.30	3.097	0.795	2.846	1.88	7.50

Delta Y = 0.10 Invert = 5.70 Length = 40

# Diam inches	Diam ft	# Depth of water	# Depth of crud	Theta water	Theta crud	Area,sf = cf/lf	DeltaVol at Given Length	Water Surface Elev
24.00	2.00	0.000	0.30	0.000	0.795	0.000	0.00	5.70
24.00	2.00	0.100	0.30	0.451	0.795	0.000	0.00	5.80
24.00	2.00	0.200	0.30	0.644	0.795	0.000	0.00	5.90
24.00	2.00	0.300	0.30	0.795	0.795	0.000	0.00	6.00
24.00	2.00	0.400	0.30	0.927	0.795	0.152	4.86	6.10
24.00	2.00	0.500	0.30	1.047	0.795	0.319	5.34	6.20
24.00	2.00	0.600	0.30	1.159	0.795	0.497	5.71	6.30
24.00	2.00	0.700	0.30	1.266	0.795	0.684	5.99	6.40
24.00	2.00	0.800	0.30	1.369	0.795	0.878	6.19	6.50
24.00	2.00	0.900	0.30	1.471	0.795	1.076	6.32	6.60
24.00	2.00	1.000	0.30	1.571	0.795	1.275	6.39	6.70
24.00	2.00	1.100	0.30	1.671	0.795	1.475	6.39	6.80
24.00	2.00	1.200	0.30	1.772	0.795	1.673	6.32	6.90
24.00	2.00	1.300	0.30	1.875	0.795	1.866	6.19	7.00
24.00	2.00	1.400	0.30	1.982	0.795	2.053	5.99	7.10
24.00	2.00	1.500	0.30	2.094	0.795	2.232	5.71	7.20
24.00	2.00	1.600	0.30	2.214	0.795	2.399	5.34	7.30
24.00	2.00	1.700	0.30	2.346	0.795	2.551	4.86	7.40
24.00	2.00	1.800	0.30	2.498	0.795	2.683	4.22	7.50
24.00	2.00	1.900	0.30	2.691	0.795	2.787	3.35	7.60
24.00	2.00	1.999	0.30	3.097	0.795	2.846	1.88	7.70

Based on MANCIRC: MANning's equation forCIRCular pipes flowing just full (or less), with sediment (crud) depth allowed

Delta Y = 0.10 Invert = 5.90 Length = 3

# Diam inches	Diam ft	# Depth of water	# Depth of crud	Theta water	Theta crud	Area,sf = cf/lf	DeltaVol at Given Length	Water Surface Elev
24.00	2.00	0.000	0.30	0.000	0.795	0.000	0.00	5.90
24.00	2.00	0.100	0.30	0.451	0.795	0.000	0.00	6.00
24.00	2.00	0.200	0.30	0.644	0.795	0.000	0.00	6.10
24.00	2.00	0.300	0.30	0.795	0.795	0.000	0.00	6.20
24.00	2.00	0.400	0.30	0.927	0.795	0.152	4.86	6.30
24.00	2.00	0.500	0.30	1.047	0.795	0.319	5.34	6.40
24.00	2.00	0.600	0.30	1.159	0.795	0.497	5.71	6.50
24.00	2.00	0.700	0.30	1.266	0.795	0.684	5.99	6.60
24.00	2.00	0.800	0.30	1.369	0.795	0.878	6.19	6.70
24.00	2.00	0.900	0.30	1.471	0.795	1.076	6.32	6.80
24.00	2.00	1.000	0.30	1.571	0.795	1.275	6.39	6.90
24.00	2.00	1.100	0.30	1.671	0.795	1.475	6.39	7.00
24.00	2.00	1.200	0.30	1.772	0.795	1.673	6.32	7.10
24.00	2.00	1.300	0.30	1.875	0.795	1.866	6.19	7.20
24.00	2.00	1.400	0.30	1.982	0.795	2.053	5.99	7.30
24.00	2.00	1.500	0.30	2.094	0.795	2.232	5.71	7.40
24.00	2.00	1.600	0.30	2.214	0.795	2.399	5.34	7.50
24.00	2.00	1.700	0.30	2.346	0.795	2.551	4.86	7.60
24.00	2.00	1.800	0.30	2.498	0.795	2.683	4.22	7.70
24.00	2.00	1.900	0.30	2.691	0.795	2.787	3.35	7.80
24.00	2.00	1.999	0.30	3.097	0.795	2.846	1.88	7.90

```
   AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
      RUN DATE (MON/DAY/YR) = 11/01/2001
      START TIME (HR:MIN:SEC) = 13:27:32    USER NO.= PERSEENG.194
      INPUT FILE = WFWM-AH5.txt

START          0.0   PUNCH CODE=0   PRINT LINES=58
              CONTROL CODES AT START = 027 038 107 050 083
              0 0 0 0 0   0 0 0 0 0   0 0 0 0 0
              CONTROL CODES AT END = 0 0 0 0 0
              0 0 0 0 0   0 0 0 0 0   0 0 0 0 0
* CONTROL CODES ABOVE FOR HP DESKJET 540 INKJET PRINTER

*S FILE  WFWM-AH5: WELLS-FARGO BANK, NWC WYOMING & MONTGOMERY, AHYMO RUN 5
*S ROUTE COMBINED NEW BASIN 5 THROUGH "POND" CONSISTING OF BURIED PIPES WITH
*S CONTROLLED OUTLET, THEN COMBINE W/ NEW BASIN 6 & OUTLET TO MONTGOMERY.
*S PEAK COMBINED OUTFLOW TO BE <= EXISTING TO MONTGOMERY = 2.38 CFS
*S
*S STORAGE CMP's
*S    30", INV=5.50, CRUD=.10: 304'  (IN 2 SIDES + 4 LENGTHS OF >68)
*S    24", INV=5.50, CRUD=.10: 28'   (NO SLOPE)
*S    24", INV=5.70, CRUD=.30: 28'   (CRUD 0.10 + 0.20 TO MIMIC SLOPED PIPE)
*S    24", INV=5.90, CRUD=.30: 32'   (CRUD 0.10 + 0.20 TO MIMIC SLOPED PIPE)
*S    24", INV=5.90, CRUD=.10: 66'   (NO SLOPE)
*S OUTLET: 6" PVC,Lequiv=204'(BASE=188'),FALL=0.75,Kent=0.5,n=0.010

* RAIN ZONE 3, BUT USE RAIN DATA FROM COA DPM (1/93) FIGS C.1 - C.3
* RAIN ONE (HOUR) = 2.10,   RAIN SIX= 2.51,  RAIN DAY (24 HOURS) = 2.96 INCHES

* !!AHYMO MAY CRASH FOR VOL < VERY SMALL ACRE-FEET:
* TUCKER GREEN, PER SE ENGINEERING, OCT 2001

* REVISION NOTES:
* BASIN 5 DOWN SLIGHTLY, & BASIN 6 UP, AS DETERMINED BY GRADING, AT SE CORNER
*
* 3456789a123456789b123456789c123456789d123456789e123456789f123456789g12345678
*******************************************************************************
* RAINFALL PER ALBUQUERQUE NM DPM - COMMENT OUT THOSE THAT DON'T APPLY
* TYPE 1 IS 6-HR STORM PER NOAA ATLAS 2 W PEAK INTENSITY @ 1.4 HRS (EQ C1-C5)
*    FOR 6-HR USE DT = 0.033333 HR = 2 MINUTES
* TYPE 2 IS 24-HR STORM PER NOAA ATLAS 2 W PEAK INTENSITY @ 1.4 HRS (EQ C1-C6)
*    FOR 24-HR USE DT = 0.0500 HR = 5 MINUTES
* RAIN QUARTER = 0.0 EXCEPT FOR TYPE 3 (6-HR PMP: SEE AHYMO MANUAL)
*
* RAINFALL          TWO YR   TYPE= 1  RAIN QUARTER= 0.0   RAIN ONE= x.xx
*                   RAIN SIX= x.xx    RAIN DAY= x.xx     DT= .033333 HR
* RAINFALL          TEN YR   TYPE= 1  RAIN QUARTER= 0.0   RAIN ONE= 0.xx
*                   RAIN SIX= x.xx    RAIN DAY= x.xx     DT= .033333 HR
RAINFALL          HUNDRED YR  TYPE= 1  RAIN QUARTER= 0.0   RAIN ONE= 2.10
                  RAIN SIX= 2.51    RAIN DAY= 2.96     DT= .033333 HR

          COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
          DT =    .033333 HOURS      END TIME =     5.999940 HOURS
            .0000  .0022  .0045  .0068  .0092  .0116  .0141
            .0166  .0192  .0219  .0246  .0274  .0303  .0332
            .0363  .0394  .0426  .0460  .0494  .0529  .0566
            .0604  .0644  .0685  .0728  .0773  .0819  .0868
            .0920  .0974  .1032  .1090  .1152  .1219  .1361
            .1680  .2172  .2877  .3839  .5104  .6716  .8724
           1.1174 1.3441 1.4389 1.5190 1.5903 1.6551 1.7148
           1.7702 1.8219 1.8705 1.9162 1.9592 1.9999 2.0385
           2.0750 2.1096 2.1424 2.1736 2.2032 2.2103 2.2170
           2.2234 2.2295 2.2353 2.2409 2.2463 2.2515 2.2565
           2.2614 2.2661 2.2706 2.2751 2.2794 2.2835 2.2876
```

2.2916 2.2955 2.2993 2.3030 2.3066 2.3102 2.3136
2.3171 2.3204 2.3237 2.3269 2.3301 2.3332 2.3362
2.3392 2.3422 2.3451 2.3480 2.3508 2.3536 2.3563
2.3590 2.3617 2.3643 2.3669 2.3694 2.3720 2.3745
2.3769 2.3794 2.3818 2.3841 2.3865 2.3888 2.3911
2.3934 2.3956 2.3978 2.4000 2.4022 2.4043 2.4065
2.4086 2.4107 2.4127 2.4148 2.4168 2.4188 2.4208
2.4228 2.4247 2.4267 2.4286 2.4305 2.4324 2.4342
2.4361 2.4379 2.4398 2.4416 2.4434 2.4452 2.4469
2.4487 2.4504 2.4522 2.4539 2.4556 2.4573 2.4589
2.4606 2.4623 2.4639 2.4655 2.4672 2.4688 2.4704
2.4720 2.4735 2.4751 2.4767 2.4782 2.4797 2.4813
2.4828 2.4843 2.4858 2.4873 2.4888 2.4902 2.4917
2.4932 2.4946 2.4960 2.4975 2.4989 2.5003 2.5017
2.5031 2.5045 2.5059 2.5073 2.5086 2.5100

*

****

COMPUTE NM HYD ID= 1 HYD NO= BASIN.5 DA= 0.000936 SQ MI
PER A = 20.21 B= 2.31 C= 0.00 D= 77.48
TP= -0.13333 HRS RAIN= -1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.8625 CFS UNIT VOLUME = .9955 B = 526.28 P60 = 2.1000
AREA = .000725 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .155386HR TP = .133330HR K/TP RATIO = 1.165422 SHAPE CONSTANT, N = 3.042363
UNIT PEAK = .45098 CFS UNIT VOLUME = .9677 B = 285.26 P60 = 2.1000
AREA = .000211 SQ MI IA = .63461 INCHES INF = 1.62692 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID= 1 CODE=5
HYDROGRAPH FROM AREA BASIN.5

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.7	2.667	.1	4.000	.0	5.333	.0
.167	.0	1.500	2.5	2.833	.0	4.167	.0	5.500	.0
.333	.0	1.667	1.3	3.000	.0	4.333	.0	5.667	.0
.500	.0	1.833	.8	3.167	.0	4.500	.0	5.833	.0
.667	.0	2.000	.6	3.333	.0	4.667	.0	6.000	.0
.833	.0	2.167	.3	3.500	.0	4.833	.0	6.167	.0
1.000	.0	2.333	.1	3.667	.0	5.000	.0	6.333	.0
1.167	.1	2.500	.1	3.833	.0	5.167	.0		

RUNOFF VOLUME = 1.90176 INCHES = .0949 ACRE-FEET
PEAK DISCHARGE RATE = 2.55 CFS AT 1.500 HOURS BASIN AREA = .0009 SQ. MI.

ROUTE RESERVOIR ID= 5 HYD= 5.ROUTED INFLOW ID= 1 CODE=5

OUTFLOW CFS	STORAGE AC-FT	ELEVATION FT
0.0	0.00001	5.50
0.07	0.00090	5.70
0.15	0.00204	5.80
0.26	0.00348	5.90
0.37	0.00506	6.00
0.47	0.00688	6.10
0.49	0.00881	6.20
0.51	0.01093	6.30
0.53	0.01313	6.40
0.55	0.01539	6.50
0.57	0.01769	6.60

0.58	0.02001	6.70
0.60	0.02233	6.80
0.62	0.02464	6.90
0.64	0.02691	7.00
0.65	0.02913	7.10
0.67	0.03128	7.20
0.69	0.03333	7.30
0.70	0.03526	7.40
0.72	0.03701	7.50
0.73	0.03854	7.60
0.75	0.03989	7.70
0.76	0.04266	7.80
0.78	0.04353	7.90
0.78	0.04406	8.00

* * * * * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5.50	.000	.00
.17	.00	5.50	.000	.00
.33	.00	5.50	.000	.00
.50	.00	5.50	.000	.00
.67	.00	5.50	.000	.00
.83	.00	5.50	.000	.00
1.00	.00	5.50	.000	.00
1.17	.05	5.55	.000	.02
1.33	.73	5.87	.003	.23
1.50	2.55	6.69	.020	.58
1.67	1.30	7.53	.037	.72
1.83	.82	7.75	.041	.75
2.00	.60	7.72	.040	.75
2.17	.28	7.48	.037	.72
2.33	.13	7.13	.030	.66
2.50	.08	6.81	.023	.60
2.67	.05	6.51	.016	.55
2.83	.04	6.21	.009	.49
3.00	.03	5.92	.004	.28
3.17	.02	5.76	.002	.12
3.33	.02	5.67	.001	.06
3.50	.02	5.60	.000	.03
3.67	.02	5.57	.000	.02
3.83	.02	5.56	.000	.02
4.00	.02	5.55	.000	.02
4.17	.02	5.55	.000	.02
4.33	.02	5.55	.000	.02
4.50	.02	5.55	.000	.02
4.67	.02	5.55	.000	.02
4.83	.02	5.55	.000	.02
5.00	.02	5.55	.000	.02
5.17	.02	5.55	.000	.02
5.33	.02	5.55	.000	.02
5.50	.02	5.55	.000	.02
5.67	.02	5.55	.000	.02
5.83	.02	5.55	.000	.02
6.00	.02	5.55	.000	.02
6.17	.01	5.54	.000	.02
6.33	.00	5.52	.000	.01
6.50	.00	5.51	.000	.00

PEAK DISCHARGE = .755 CFS - PEAK OCCURS AT HOUR 1.87
MAXIMUM WATER SURFACE ELEVATION = 7.753
MAXIMUM STORAGE = .0414 AC-FT INCREMENTAL TIME= .033333HRS

COMPUTE NM HYD ID= 2 HYD NO= BASIN.6 DA= 0.000611 SQ MI
PER A = 22.87 B= 0.00 C= 0.00 D= 77.13
TP= -0.13333 HRS RAIN= -1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.8602 CFS UNIT VOLUME = .9932 B = 526.28 P60 = 2.1000
AREA = .000471 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .157921HR TP = .133330HR K/TP RATIO = 1.184438 SHAPE CONSTANT, N = 2.997004
UNIT PEAK = .29511 CFS UNIT VOLUME = .9522 B = 281.58 P60 = 2.1000
AREA = .000140 SQ MI IA = .65000 INCHES INF = 1.67000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID= 2 CODE=5

HYDROGRAPH FROM AREA BASIN.6

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.5	2.667	.0	4.000	.0	5.333	.0
.167	.0	1.500	1.7	2.833	.0	4.167	.0	5.500	.0
.333	.0	1.667	.8	3.000	.0	4.333	.0	5.667	.0
.500	.0	1.833	.5	3.167	.0	4.500	.0	5.833	.0
.667	.0	2.000	.4	3.333	.0	4.667	.0	6.000	.0
.833	.0	2.167	.2	3.500	.0	4.833	.0	6.167	.0
1.000	.0	2.333	.1	3.667	.0	5.000	.0	6.333	.0
1.167	.0	2.500	.0	3.833	.0	5.167	.0		

RUNOFF VOLUME = 1.89077 INCHES = .0616 ACRE-FEET
PEAK DISCHARGE RATE = 1.66 CFS AT 1.500 HOURS BASIN AREA = .0006 SQ. MI.

*C
*S GET COMBINED TOTAL OF BASIN 5 ROUTED PLUS BASIN 6 NOT ROUTED
ADD HYD ID= 6 HYD= 6.PLUS.5.ROUTED IDIN I= 5 IDIN II= 2
PRINT HYD ID= 6 CODE= 5

HYDROGRAPH FROM AREA 6.PLUS.5.ROUTED

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.500	2.2	3.000	.3	4.500	.0	6.000	.0
.167	.0	1.667	1.6	3.167	.1	4.667	.0	6.167	.0
.333	.0	1.833	1.3	3.333	.1	4.833	.0	6.333	.0
.500	.0	2.000	1.1	3.500	.0	5.000	.0	6.500	.0
.667	.0	2.167	.9	3.667	.0	5.167	.0	6.667	.0
.833	.0	2.333	.7	3.833	.0	5.333	.0		
1.000	.0	2.500	.6	4.000	.0	5.500	.0		
1.167	.1	2.667	.6	4.167	.0	5.667	.0		
1.333	.7	2.833	.5	4.333	.0	5.833	.0		

RUNOFF VOLUME = 1.89692 INCHES = .1565 ACRE-FEET
PEAK DISCHARGE RATE = 2.24 CFS AT 1.500 HOURS BASIN AREA = .0015 SQ. MI.

FINISH
NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 13:27:32

Product details

Pipe

Slotted drain made from CONTECH Corrugated Steel Pipe with HUGGER Joints meets applicable portions of AASHTO Designation M36 and ASTM A 760. Pipe is fabricated from galvanized steel for excellent durability, or from Armco ALUMINIZED STEEL Type 2 when more corrosion resistance is required. Pipe is available in 12-inch through 36-inch diameters and in 14-gage and 16-gage. Thirty-and 36-inch-diameter pipe also is available in 12-gage.

Grate

The slotted drain concept was developed in the early 1960s in California. From the beginning, a need for certain structural requirements was recognized in the grating design and in its attachment to the pipe wall. The CONTECH grating system and design is the result of many years of experience and is the only product of its type that will meet the State of California Department of Transportation qualification tests.

Joints and couplers

Standard 20-foot lengths of slotted drain normally are joined with a modified version of the HUGGER Band. Because the grate is extended to within one inch of the end of the pipe (to provide a fully continuous slot), the band is trimmed back to accommodate the grating at the joint. A single band bolt is provided for band tensioning.

An alternate jointing system is the use of closure plates. The closure plate jointing system helps align the grates and gives a more finished appearance as desired in some applications.

Heel guard

When slotted drain is installed in areas of heavy pedestrian traffic, expanded wire mesh can be specified for installation across the top of the drain opening. This helps to prevent shoe heels from being caught in the open slot. One-half-inch (#13) standard galvanized expanded metal mesh is welded directly to the grating at the plant. As an alternative, paint wide, bright yellow warning stripes on the pavement adjacent to each side of the slot.

Fittings

A complete line of standard corrugated steel pipe fittings is available to simplify installation of slotted drain under many conditions: On a curve, through a change in elevation, or through a change in pipe diameter.

Fittings include 90-degree tees, wyes, and elbows with annular ends for the HUGGER Band; stubs, special junctions, angle/tee combinations, and special end caps. *These fittings do not have a grate.*

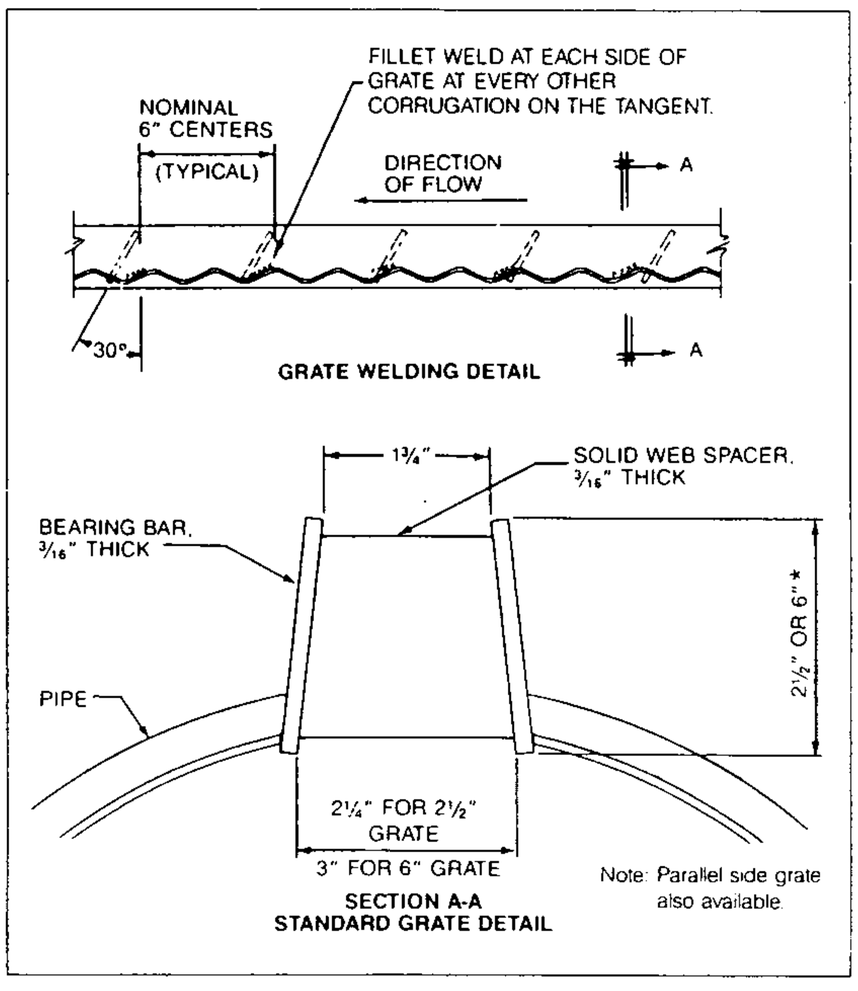
Pipe diameters can be changed with a plate reducer.

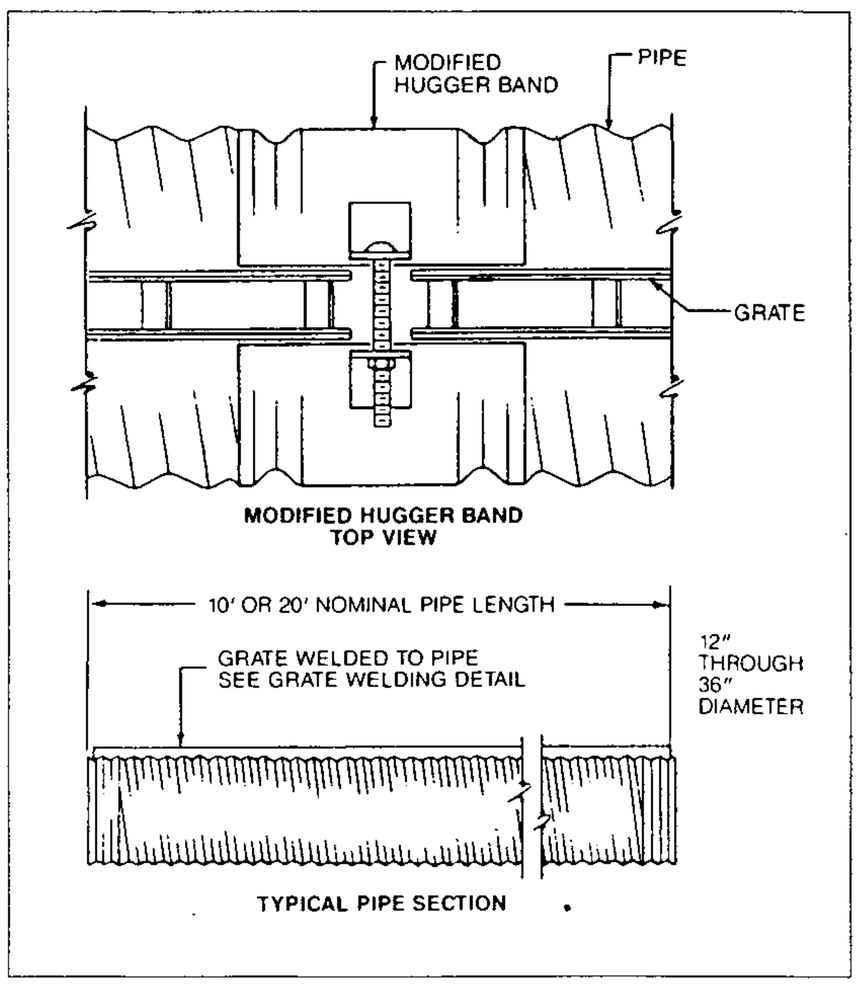
Variable-height grate

Variable-height grates* (straight-sided grate only) can be supplied for installation on flat grades. Generally, the grade built into variable-height grates is a maximum of 1%. See CONTECH Drawing 1008732.

Tolerances (20-foot length)

The design engineer should be able to work with the manufacturing tolerances of vertical bow ±3/8 inch, horizontal bow ±5/8 inch, and twist ±1/2 inch on a 6-inch grate. On special requirements, the engineer should call the local CONTECH Sales Engineer.





*Heights up to 31 inches are available in *special* straight-sided grates. Call your CONTECH Sales Engineer for details.

Installation

One of CONTECH Slotted Drain's primary advantages is economical design and installation. Unlike typical parking lots that require grades to be sloped in four directions for *each grate*, a parking lot with slotted drain requires only one transverse and one longitudinal slope for the entire drainage area. That translates to a lower-cost installation for the contractor, and less stake-out for the engineer. And because of slotted drain's efficiency in removing surface water, fewer collectors—and fewer laterals under the roadway—are needed.

When properly installed, slotted drain provides a better-looking, more efficient drainage system at a lower cost. Photographs illustrate the basic steps for installing slotted drain as a curb inlet. The procedure is basically the same in other applications.

Experience has shown the best method for installing slotted drain is to place it in a contoured trench, level it to grade, backfill with high slump concrete, then pave with the desired surfacing material. The pipe must be placed so the slanted spacer plates are facing upstream, leaning against the direction of surface flow.

In long runs, construction joints should be placed perpendicular to the pipe runs.

Modified HUGGER Bands or the closure plate jointing system is used to join adjacent pipes.

Your CONTECH Sales Engineer can discuss various installation techniques with you.

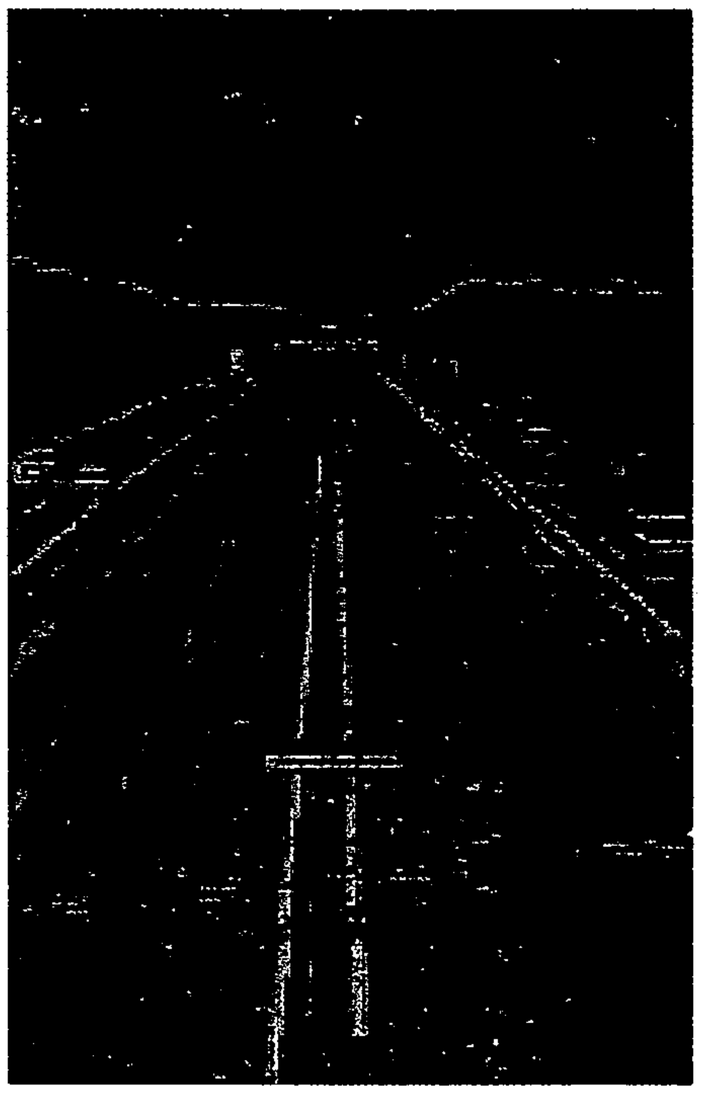
Contoured trench
Installing slotted drain in a contoured trench reduces the amount of concrete required.

Leveling to grade
Contractors have developed many methods for positioning slotted drain in the trench prior to backfilling.

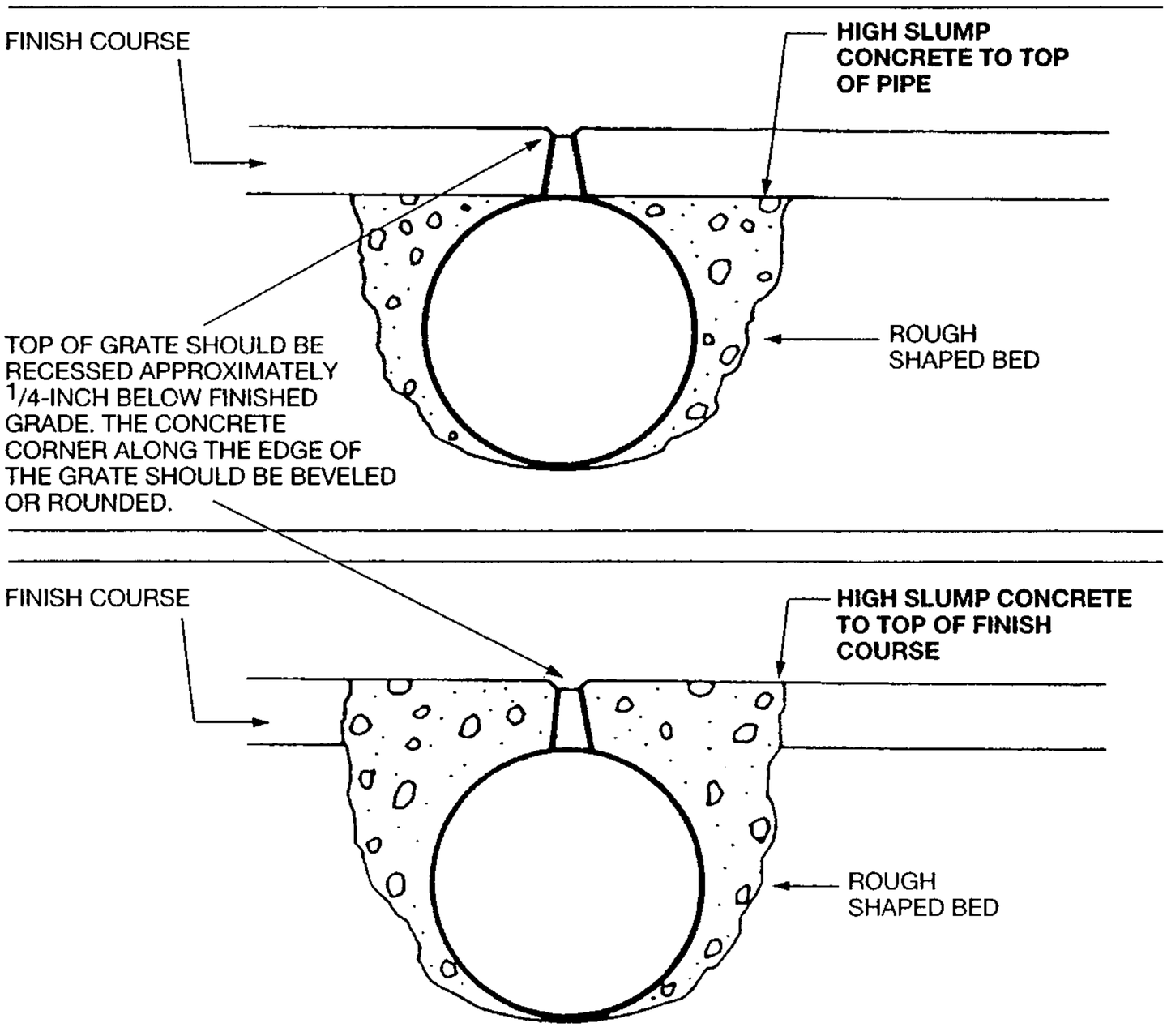
One popular method is to use positioning devices fastened through the slotted opening with a toggle bolt or similar device.

Another method involves leveling the pipe with granular material at selected points along the drain pipe. The remaining area is backfilled with high slump concrete.

Grate extensions
Grate extensions are available if the height needs to be raised at a future time.



Slotted drain is used often in interstate highway widening projects.



RECOMMENDED INSTALLATION PRACTICES
Ask for CONTECH Drawing 1008607

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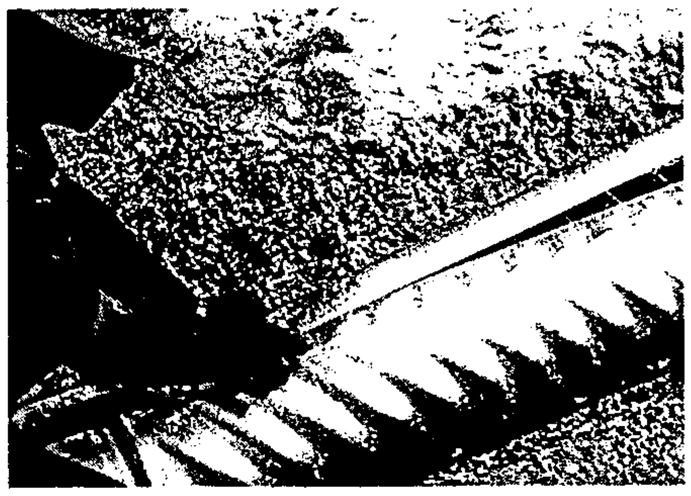
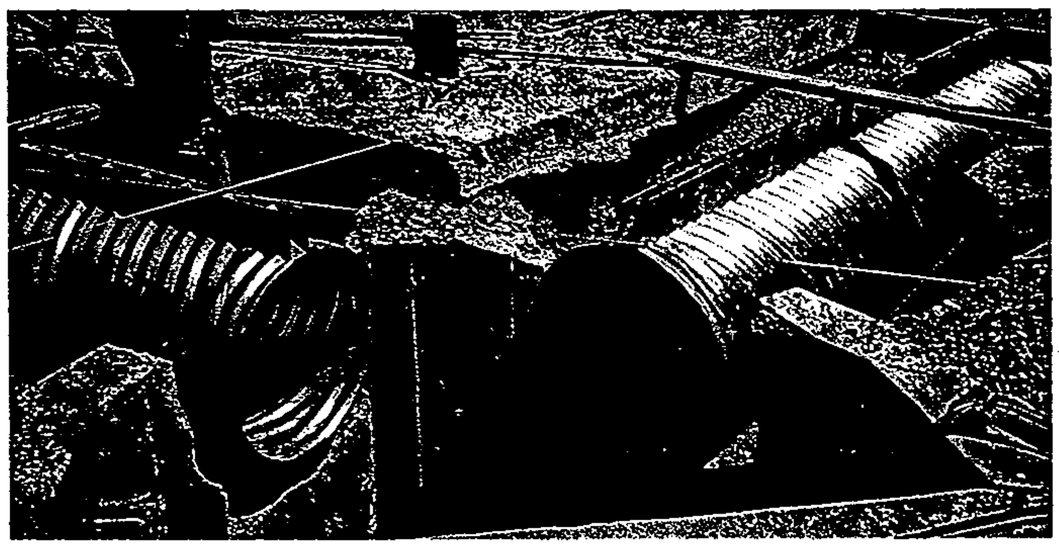
For installation aids, call your local CONTECH Sales Engineer.

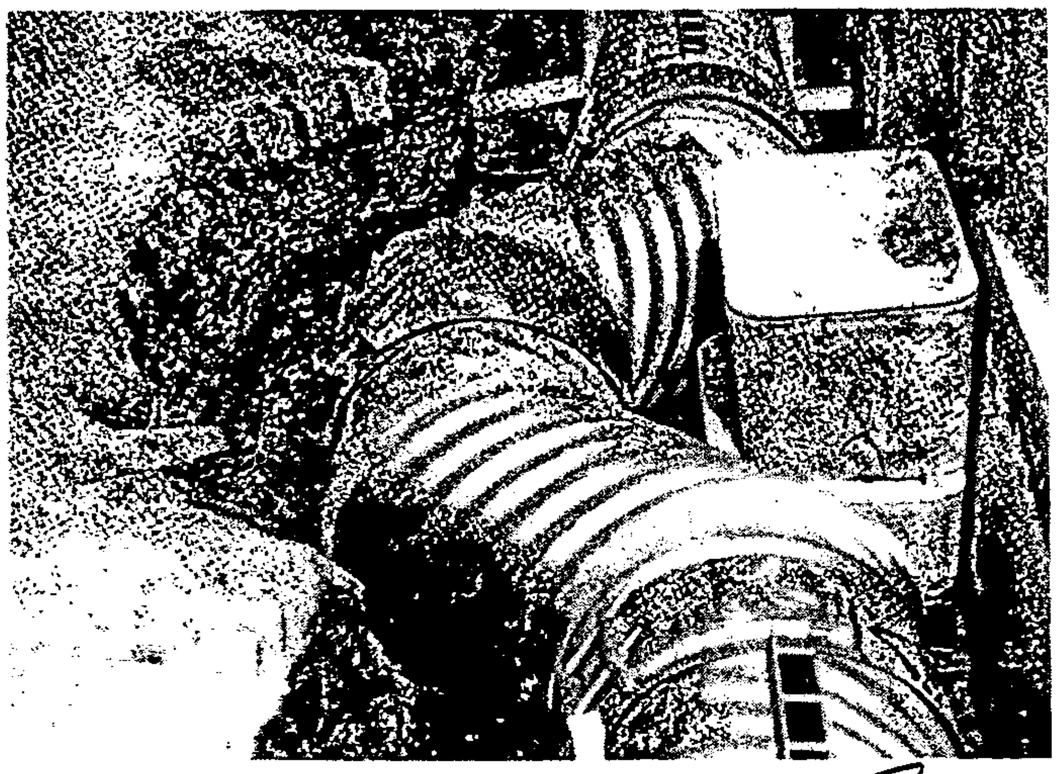
High slump concrete
After the slotted drain has been leveled to grade, it is important that a high slump concrete or lean grout (minimum 750 psi compressive strength) be used as backfill. The high slump concrete helps ensure a uniform foundation and side support, and transfers the live load to the surrounding earth. In non-live load areas, A-1-a AASHTO M145 backfill or cement stabilized sand is sufficient.

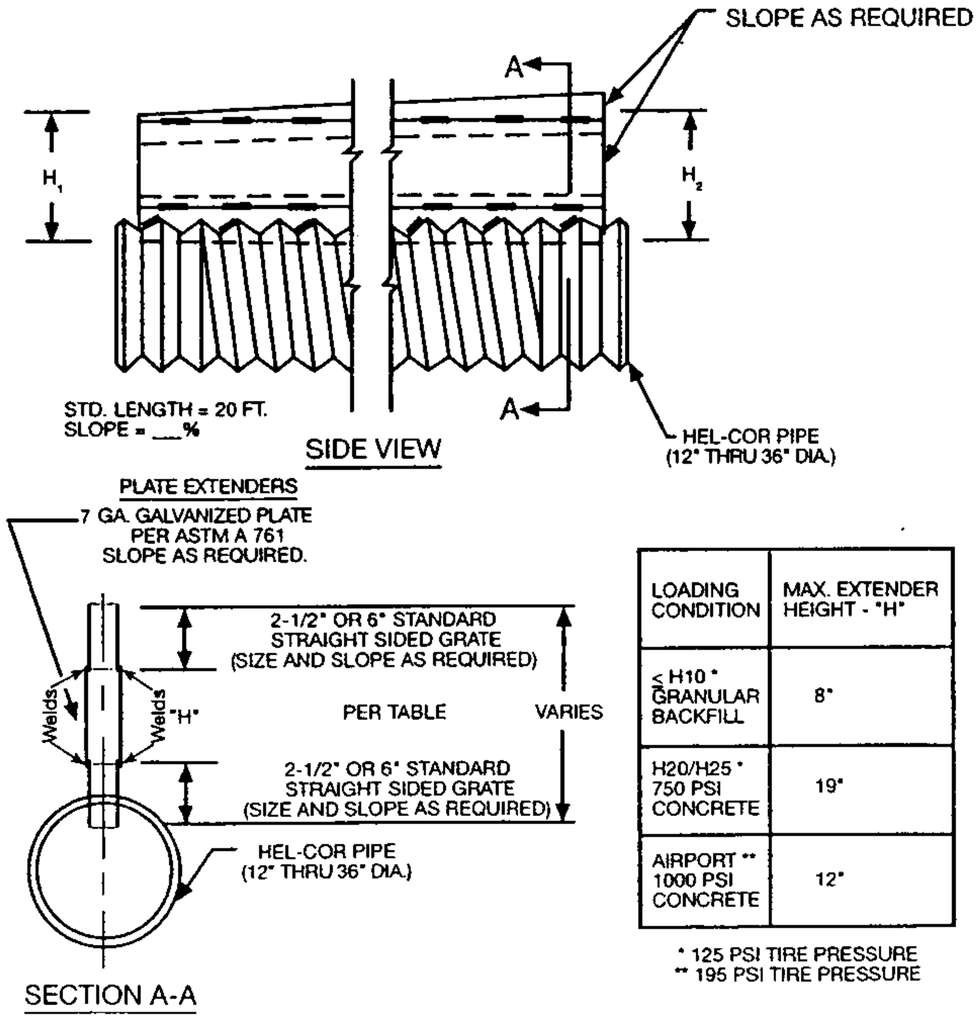
Surfacing
Once the slotted drain is backfilled with high slump concrete, cover the slotted opening before surfacing, and leave it covered until the paving operation is complete. Duct tape, metal strips, or lumber can be used to cover the slot.



See Variable Height Grate Drawing 1008732





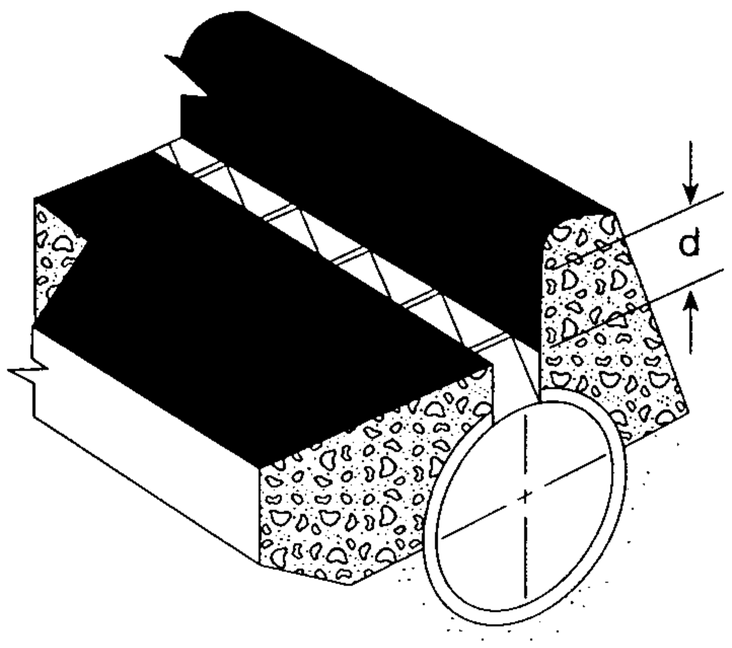


LOADING CONDITION	MAX. EXTENDER HEIGHT - "H"
≤ H10 * GRANULAR BACKFILL	8"
H20/H25 * 750 PSI CONCRETE	19"
AIRPORT ** 1000 PSI CONCRETE	12"

* 125 PSI TIRE PRESSURE
** 195 PSI TIRE PRESSURE

Grate inlet hydraulics

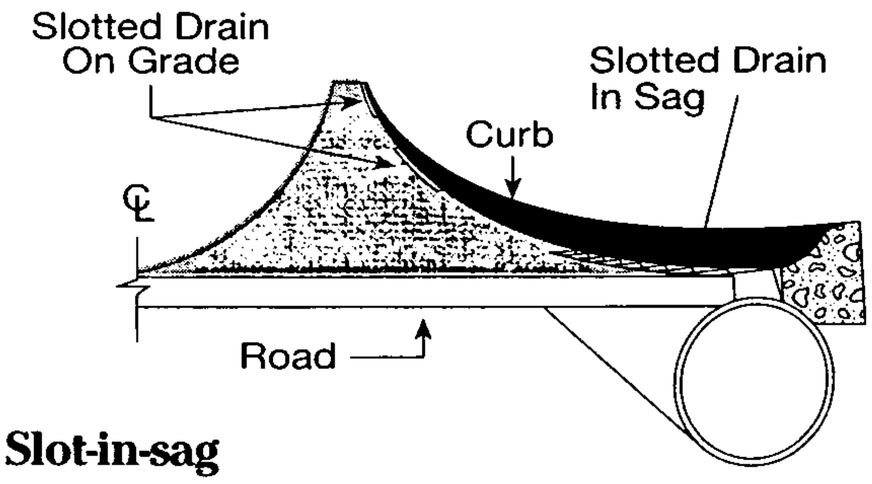
Slotted drain can be used to intercept runoff in any one of the following ways:
1. Installed in a typical curb-and-gutter as a slot-on-grade to intercept flow from streets and highways.
2. Installed in a typical curb-and-gutter at a sag or low point in a grade to accommodate carryover from preceding slots on a grade and to intercept surface runoff sloped to the gutter.
3. Installed in wide, flat areas to intercept overland or sheet flow (as on a parking lot).



1. Slot-on-grade in typical curb and gutter

For any given discharge, Q, cross slope, S_X, and longitudinal gutter slope, S, the required slotted drain length can be determined from the nomograph (Figure A) on Page 7.

It is common practice in curb and gutter drainage design to carry over up to 35% of the total discharge, Q_d, to the next inlet. See Figure B on Page 7 for the carryover efficiency curve.



Typical cross section of combination slot-on-grade and a slot-in-sag

2. Slot-in-sag

When slotted drain is installed in a sag or at a low point in grade, the length of the slot is calculated from the formula:

$$L_r = \frac{1.4Q}{\sqrt{d}}$$

Normally a safety factor of two is used in a sag. $L_S = 2 \times L_r$.

3. Overland sheet flow

Slotted drain is used effectively to intercept runoff from wide, flat areas such as parking lots, highway medians—even tennis courts and airport taxiways. In these installations, the drain is placed transverse to the direction of flow, so that the open slot acts as a weir intercepting all of the flow uniformly along the entire length of the drain. The water is not collected and channeled against a berm (curb), as required by slot-on-grade installations.

Slotted drain has been tested for overland flow (sheet flow). These results are published in Report No. FHWA-RD-79-106 by the Federal Highway Administration.

The test system was designed to supply at least 0.025 cfs per foot, which corresponds to a rainstorm of 15 inches per hour over a 72-foot-wide roadway (six lanes).

At the design discharge of 0.025 cfs per foot, the total flow fell through the slot as a weir flow. The tests included flows up to 0.040 cfs per foot of slot.

Slopes ranged from a longitudinal slope of 9% and a Ƶ of 16, to a longitudinal slope of 5% and a Ƶ of 48.

The water ranged in depth from 0.38 inches to 0.56 inches. Velocity ranged from 1.263 ft/sec to 0.857 ft/sec.

Even at the maximum discharge of 0.04 cfs per foot and maximum slopes, nearly all the flow passed through the slot. Only some water hitting the spacer plates and splashing over was not intercepted.

Using:

$Q = CIA$, then $A = \frac{Q}{CI}$

Where:
Q given as 0.04 $ft^3/sec/ft$ of slotted drain
C = 0.80 to 0.95 for asphalt pavement

After the engineer selects C and I (ft/sec), A can be calculated. Since Q is per foot of slot, A is ft^2/ft of slot. Since the units for A can be reduced to feet, the value of A is also the distance parallel to the flow intercepted by one foot of slot.

Example:
C = 0.85
I = 10 in./hr or 0.0002315 ft/sec

$$A = \frac{0.04\ ft^3/sec/ft}{0.85 \times 0.0002315\ ft/sec}$$

$A = 203.3\ ft^2/ft$

Therefore, at the selected C and I, one foot of slot will intercept flow from 203.3 linear feet upstream of the slot.

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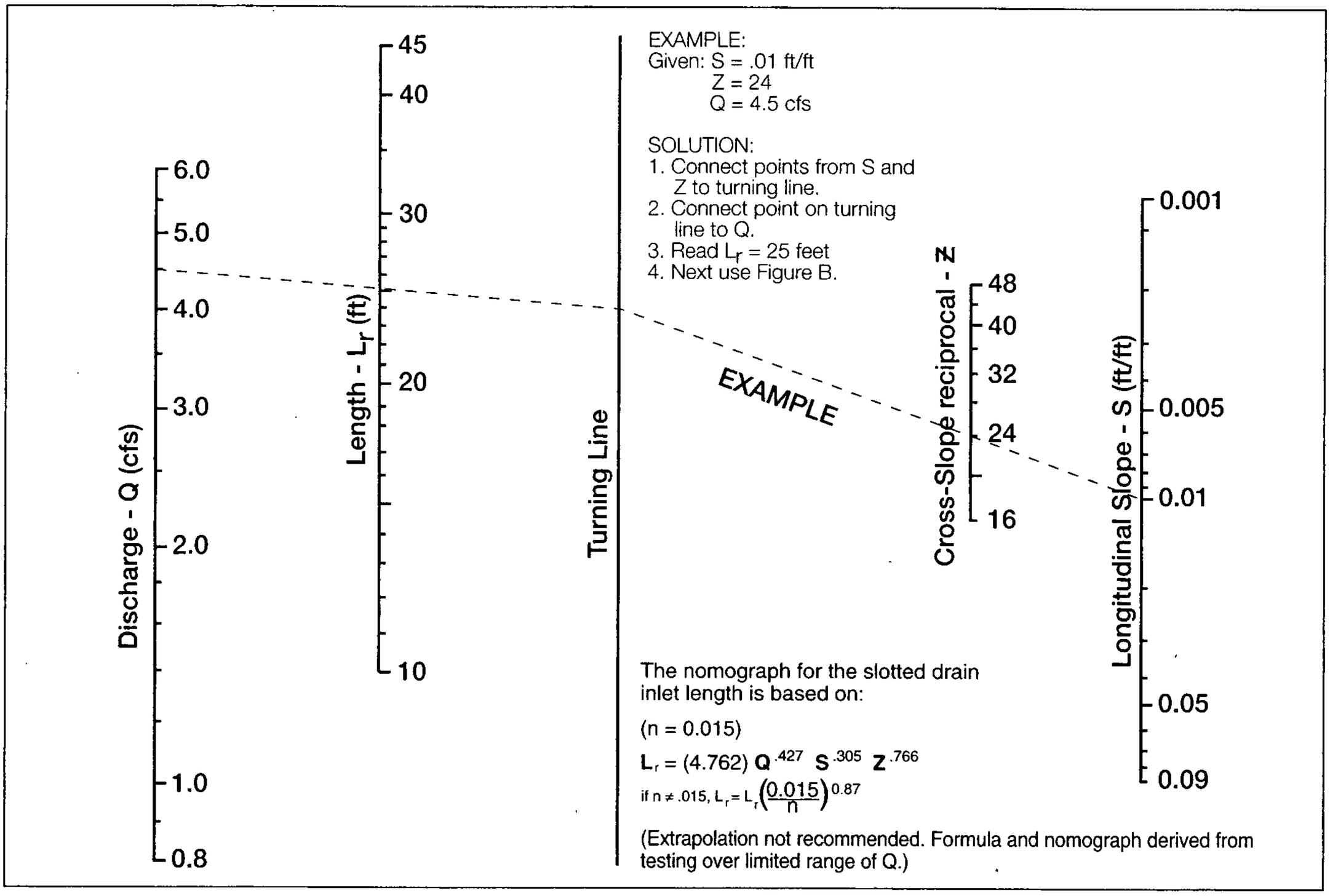
Figure A: **NOMOGRAPH—SLOTTED DRAIN ON GRADE IN CURB AND GUTTER**



EXAMPLE:
Given: S = .01 ft/ft
Z = 24
Q = 4.5 cfs

SOLUTION:
1. Connect points from S and Z to turning line.
2. Connect point on turning line to Q.
3. Read L_r = 25 feet
4. Next use Figure B.

The nomograph for the slotted drain inlet length is based on:

(n = 0.015)

$L_r = (4.762)\ Q^{.427}\ S^{.305}\ Z^{.766}$

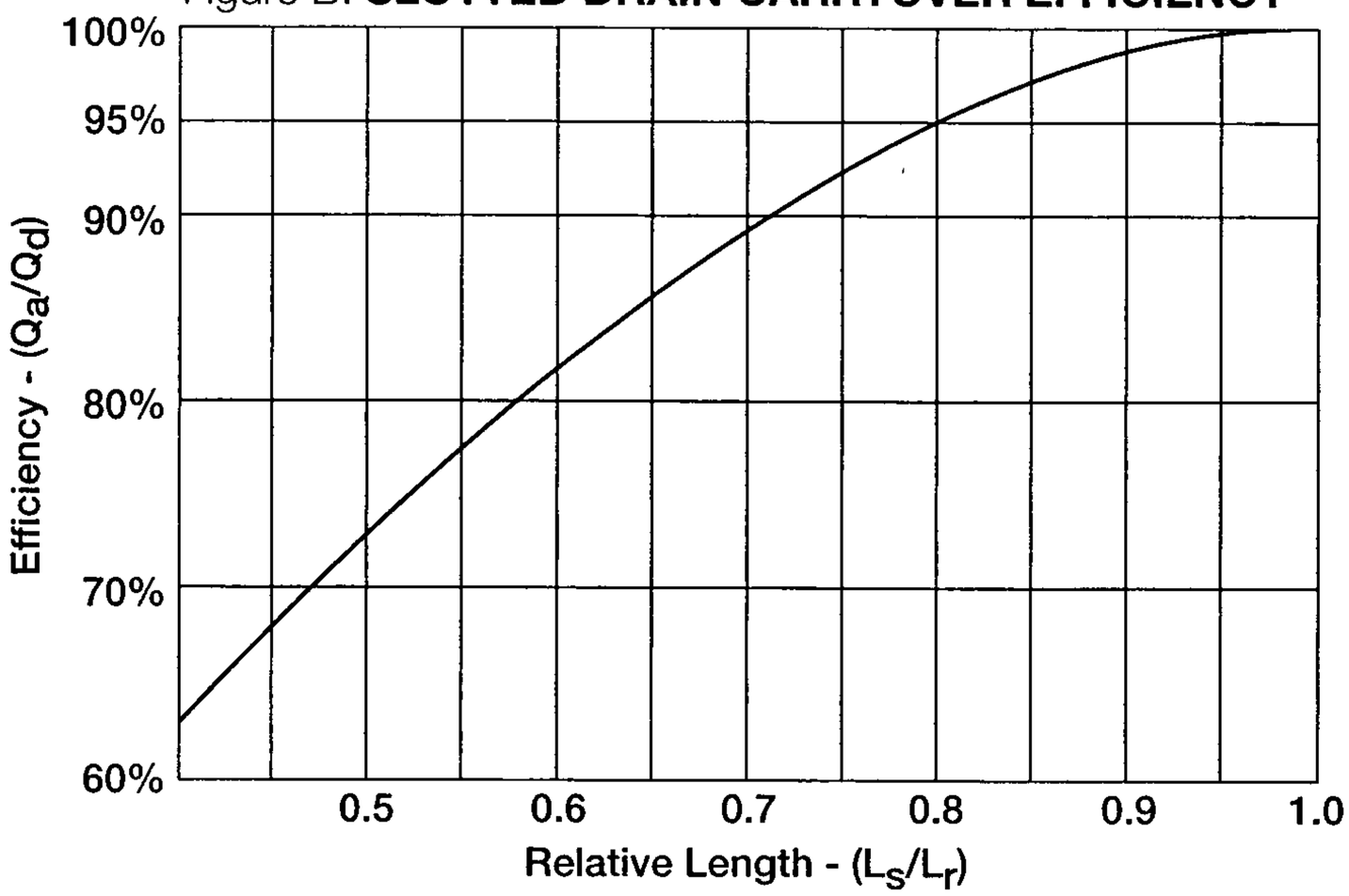
if $n \neq .015$, $L_r = L_r\left(\frac{0.015}{n}\right)^{0.87}$

(Extrapolation not recommended. Formula and nomograph derived from testing over limited range of Q.)

Definitions

S — Longitudinal gutter or channel slope, ft/ft
S_x — Transverse slope, ft/ft
Ż — Transverse slope reciprocal $\left(\frac{1}{S_x}\right)$, ft/ft
d — Depth of flow over the slot, ft
L — Length of slot, ft
L_r — Length of slot required for total interception, ft
L_s — A selected length of slot, ft
Q — Discharge into inlet, cfs
Q_d — Total discharge at an inlet, cfs
Q_a — An allowed discharge, cfs
C — Runoff coefficient
I — Rainfall intensity, ft/sec
A — Area drained

Figure B: **SLOTTED DRAIN CARRYOVER EFFICIENCY**



Example: Solution from Figure A is L_r = 25 feet. If a standard 20-foot length is used, relative length ratio L_s/L_r = 20 ft/25 ft = 0.8. From Figure B with a relative length ratio of 0.8, the efficiency is 95%. Ninety-five percent of the flow is intercepted by the 20-foot length, and 5% runs down the gutter to be intercepted by the next slot.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Public Works Department

Transportation Development Services Section

February 13, 2002

Dick Dawson for Van Gilbert, Registered Architect
2428 Baylor Dr. S.E.
Albuquerque, NM 87106

Re: Traffic Circulation Layout (TCL) Submittal for Building Permit Approval for Wells Fargo Bank Remodel, [F19 / D013B]
8333 Montgomery N.E.
Architect's Stamp Dated 01/30/02

Dear Mr. Dawson:

The TCL submittal, dated February 13, 2002, is sufficient for acceptance by this office and is stamped and signed as such. Four copies were made as required: two for attachment to building permit plans, one for this office and one to be kept by you to be used for certification of the site for final C.O. for Hydrology/Transportation.

When the superintendent of this project calls for a Temporary C.O. immediate issuance is no longer possible at that time. An exact copy of the approved TCL, marked up, showing incomplete work remaining, along with a letter of certification is required prior to issuance of Temporary C.O. If this project is one of multiple phases for this building permit, Barricading Plan is needed clearly illustrating how vehicles and pedestrians using this site will be separated from coming phases, not completed or yet begun.

When site is complete and a Final C.O. is needed, a Letter of Certification (specifically stating "Certification"), stating that the site was built in substantial compliance with the approved plan, needs to be included with your copy of the TCL. A second option would be to place a typed or stamped Statement of Certification on the approved TCL copy, with the designer's seal, signed and dated for that certification. All documentation must be submitted with a completed Drainage and Transportation Information Sheet (also used for the Grading and Drainage submittal) to Hydrology at the Development Services Center of Plaza Del Sol Building.

Once verification of certification is completed and approved, notification will be made to Building Safety to issue Final C.O. To confirm that the Final C.O. has been issued for this address call Building Safety at 924-3306.

Sincerely,

Mike Zamora, Commercial Plan Checker
Development and Building Services
Public Works Department

c: Engineer
Hydrology file
Mike Zamora

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/11/2002)

PROJECT TITLE: WELLS FARGO BANK ZONE MAP/DRG. FILE #: F19 / D013B
DRB #: — EPC#: — WORK ORDER#:

LEGAL DESCRIPTION:
CITY ADDRESS: 8333 Montgomery NE

ENGINEERING FIRM: Pete Se Engineering CONTACT: Tucker Green
ADDRESS: 905 Palomas N.E PHONE: 232-9394
CITY, STATE: Alb. ZIP CODE: 87108

OWNER: WELLS FARGO CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

ARCHITECT: Van Gilbert + Arch. P.C. CONTACT: Dick Donovan
ADDRESS: 2428 Baylor SE PHONE: 247-9955
CITY, STATE: Albq ZIP CODE: 87106

SURVEYOR: CONTACT:
ADDRESS PHONE:
CITY, STATE: ZIP CODE:

CONTRACTOR: CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

CHECK TYPE OF SUBMITTAL:

- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN
- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ____ CLOMR/LOMR
- X TRAFFIC CIRCULATION LAYOUT (TCL)
- ____ ENGINEERS CERTIFICATION (TCL)
- ____ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ____ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ____ SIA / FINANCIAL GUARANTEE RELEASE
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D. APPROVAL
- ____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- X BUILDING PERMIT APPROVAL
- ____ CERTIFICATE OF OCCUPANCY (PERM.)
- ____ CERTIFICATE OF OCCUPANCY (TEMP.)
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- ____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ____ YES
- ____ NO
- ____ COPY PROVIDED

DATE SUBMITTED: over Counter BY: 2/13/02

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5)
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or

2/13/02 - T.C.L. App'd; 3/4/02 - Sent letter (dated 2/13); Logged in - ✓;
(4 Copies Made?;)
await Permit Set.;)

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Public Works Department
Transportation Development Services Section

December 10, 2001

Van H. Gilbert, Registered Architect
2428 Baylor Drive SE
Albuquerque, NM 87106

Re: TCL Submittal for Building Permit Approval for Los Pastores Shopping Center
Wells Fargo Bank, [F19 / D13B]
8333 Montgomery Blvd. NE
Architect's Stamp Dated (Need Registered Stamp Date)

Dear Mr. Gilbert:

The location referenced above is not acceptable and requires modification to the Traffic Circulation Layout (TCL) prior to Building Permit release as stated on the attached TCL preliminary checklist, Development Process Manuel (Ch. 23), and red-lined TCL markup with comments.

Please resubmit revised TCL after addressing typed and marked up comments. Submit plan along with typed comments and all red-lined, mark-up copies. In addition, please make sure TCL plans have a current stamp and date with every future submittal for Building Permit Approval.

Sincerely,

Leslie Romero
Engineering Associate
Development and Building Services
Public Works Department

c: Engineer
Terri Martin, Hydrology
Mike Zamora, Plan Checker

DRAINAGE INFORMATION SHEET

(REV. 11/01/2001)

F-19/D13B

PROJECT TITLE: Wells Fargo Bank
DRB #: _____ EPC#: _____ ZONE MAP/DRG. FILE #: E19
WORK ORDER#: _____

LEGAL DESCRIPTION: Portions of Tract A-1 Los Pastores Shopping Ctr
CITY ADDRESS: _____

ENGINEERING FIRM: Pro Sc Engr
ADDRESS: 905 Palomas
CITY, STATE: ABQ NM
CONTACT: Tucker Green
PHONE: 232-9394
ZIP CODE: 87108

OWNER: _____
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

ARCHITECT: Van Gilbert Architect
ADDRESS: 2428 Baylor SE
CITY, STATE: ABQ NM
CONTACT: Dick Dawson
PHONE: 247-9955
ZIP CODE: 87106

SURVEYOR: Rambus PA
ADDRESS: San Mateo NE
CITY, STATE: _____
CONTACT: Celia Tomlinson
PHONE: 881-6690
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN
- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ____ CLOMR/LOMR
- ✓ TRAFFIC CIRCULATION LAYOUT (TCL)
- ____ ENGINEERS CERTIFICATION (TCL)
- ____ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- C OTHER

FCL to go w/ drainage Plan per your call

CHECK TYPE OF APPROVAL SOUGHT:

- ____ SIA / FINANCIAL GUARANTEE RELEASE
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D. APPROVAL
- ____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- C BUILDING PERMIT APPROVAL
- ____ CERTIFICATE OF OCCUPANCY (PERM.)
- ____ CERTIFICATE OF OCCUPANCY (TEMP.)
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- ____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED

- ____ YES
- ____ NO
- ____ COPY PROVIDED

RECEIVED
NOV 27 2001
HYDROLOGY SECTION

RECEIVED
NOV 13 2001
HYDROLOGY SECTION

DATE SUBMITTED: 11-13-01 BY: Tucker Green

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

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3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or

12/11/01 denied / sent red-lines w/ Prelim. checklist & DPM Ch. 23 - called architect to pick up