



NDS[®]
We put water in its place

Drainage Reference Guide



CAPTURE

Calculate stormwater GPM using surface area and surface type and determine best drainage products



CONVEY

Determine size/type of pipe needed to move calculated stormwater GPM



DAYLIGHT

Determine slope/grade and optimal outlet point for stormwater

Part #	Type	GPM
50	6" Round Grate (GR)	28
990	9"x9" Grate (GR)	115
915	9"x9" Galvanized Steel Grate	190
1212	12"x12" Grate (GR)	155
1200DSG	12"x12" Downspout Defender Grate (BLACK)	166
1215	12"x12" Galvanized Steel Grate	348
864	5"x40" Pro Series Channel Kit (Gray)	216
420	4" Pop Up Emitter (use w/#4P02 Elbow)	40
620	6" Pop Up Emitter (use w/#6P02 Elbow)	125
1243	Universal Locking Outlet	68
1245	Offset Universal Outlet	Up to 73
900	9"x9" Cath Basin *Largest Pipe Outlet= 6"	
1200	12'X12" Catch Basin *Largest Pipe Outlet= 8"	

Approximate Pipe Flow Rates at 1% Slope

Size:

3" Corrugated	31 GPM
4" Corrugated	72 GPM
6" Corrugated	199 GPM
3" PVC	63 GPM
4" PVC	135 GPM
6" PVC	391 GPM
8" PVC	833 GPM
10" PVC	1498 GPM
12" PVC	2420 GPM



SURFACE CAPTURE

Area Drain
(Catch Basin)



SURFACE CAPTURE

Channel Drain
(Trench Drain)



SUBSURFACE CAPTURE

EZ Flow Engineered
French Drain

NDS Large Catch Basin - Drainage Systems



1812

18" X 18" Catch Basin Grates w/Flow Rates

Part #	Type	GPM
1811	Plastic/Flat - Black	264
1812	Plastic/Flat - Green	264
1881	Plastic/Atrium - Black	273
1891	Plastic/Atrium - Green	273
1813	Cast Iron	293
1815	Galvanized Steel	731

NOTE: *LARGEST PIPE OUTLET = 8"



2412

24" X 24" Catch Basin Grates w/Flow Rates

Part #	Type	GPM
2411	Plastic/Flat - Black	708
2412	Plastic/Flat - Green	708
2413	Cast Iron	602
2415	Galvanized Steel	1292

NOTE: *LARGEST PIPE OUTLET = 12"

STORMWATER RUNOFF EXAMPLES

3,000 sq ft (54' X 54')

Surface Type:
Concrete - 263 GPM
Grass - 140 GPM

6,000 sq ft (77' X 77')

Surface Type:
Concrete - 526 GPM
Grass - 277 GPM

10,000 sq ft (100' X 100')

Surface Type:
Concrete - 877 GPM
Grass - 462 GPM

Use the NDS Drainage Calculator to determine the Stormwater runoff for your project



**Get Trained Today to Build Your
Drainage Skills - and Your Business.**