

FERP 101



What is the FERP?



UNIVERSITY OF IOWA FLOOD EMERGENCY RESPONSE PLAN

January 2016



SHIVEHATTERY
ARCHITECTURE+ENGINEERING



**Facilities
Management**

The FERP is . . .

A series of measures implemented across campus in response to increasing river levels as a means to protect the campus.

Three Parts – General Information, Campus and Buildings

University of Iowa
Flood Emergency Response Plan-Table of Contents

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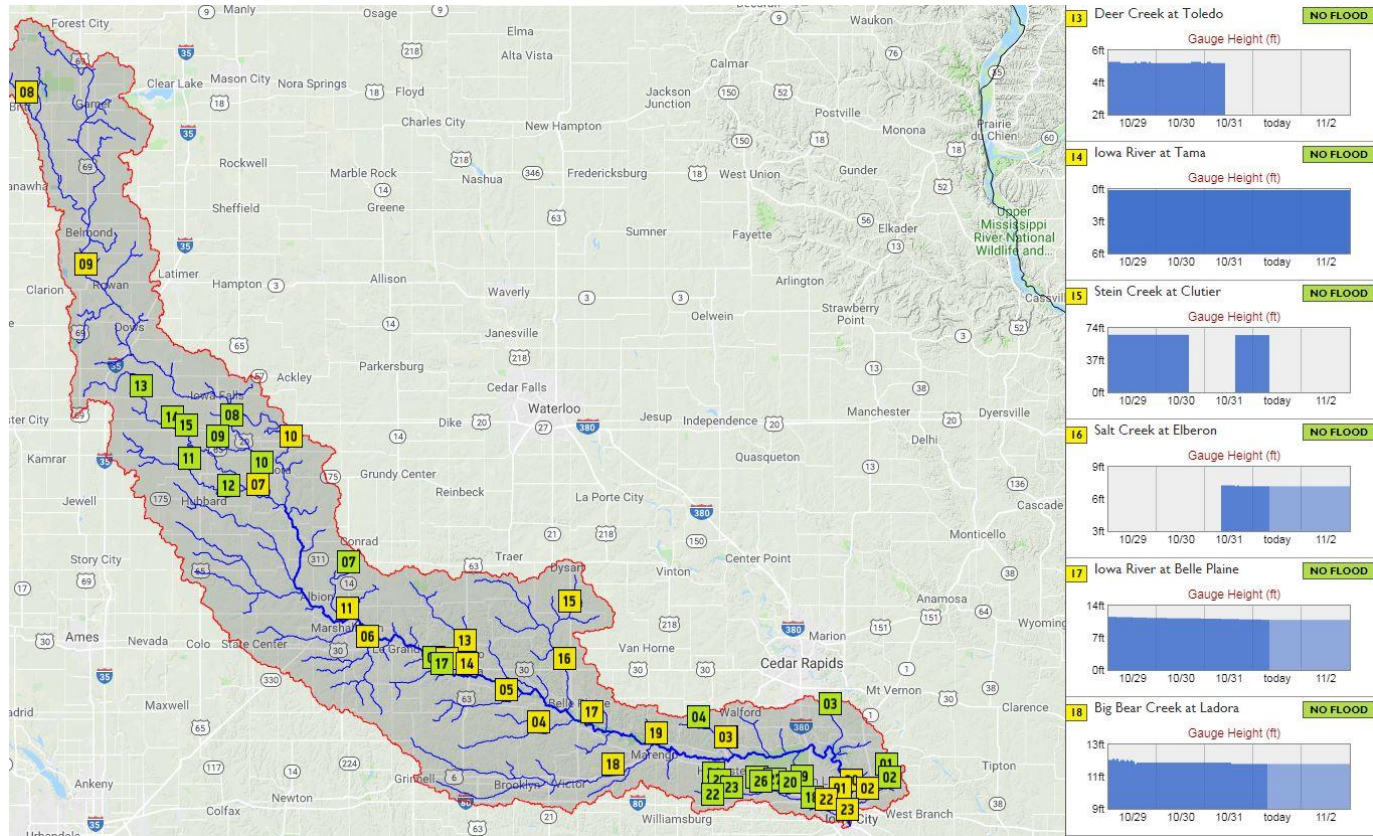
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(319) 354-3040, FAX: (319) 354-6921
UI Project No. 0587001

Iowa Flood Center and USGS



River Gauges

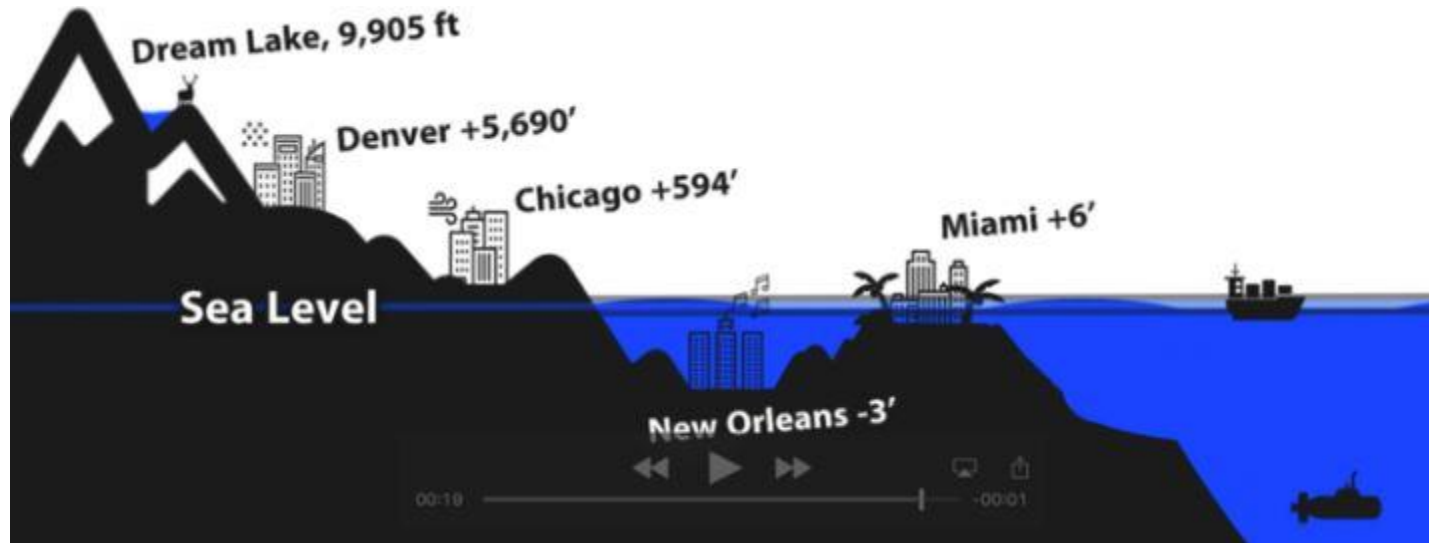


Multiple Players at the Table

COE/JCEM/USGS/NWS/IFC/UI/IC/Coralville/Counties/State/Federal

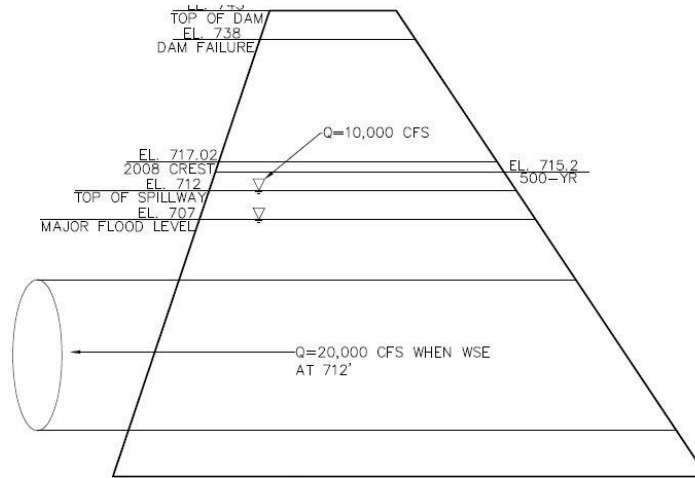


Understanding Elevation



Coralville Dam Stage/Discharge

Elevation and Cubic Feet Per Second



CORALVILLE DAM & SPILLWAY

1993 DATA

1993 PEAK CREST – 716.7'
 1993 PEAK INFLOW – 39,000 CFS AT DAM
 1993 PEAK OUTFLOW – 25,800 CFS AT DAM
 1993 PEAK FLOW AT – 28,200 CFS AT IOWA CITY

2008 DATA

2008 PEAK CREST – 717.2'
 2008 PEAK INFLOW – 57,000 CFS AT DAM
 2008 PEAK OUTFLOW – 39,500 CFS AT DAM
 2008 PEAK FLOW AT – 41,800 CFS AT IOWA CITY

Dates for CFS and Pool Elevation				
Date	Max Release		Date	Normal Pool Elevation
5/1 - 12/15	6,000 CFS		5/20 - 9/15 & 12/15 - 2/15	683'
12/15 - 5/1	10,000 CFS		3/20 - 5/20	679'

* FOR EVERY FOOT FROM 707'–711', ADD 1,000 CFS FOR OUTFLOW

Spillway, October 17, 2018



Lake Level: 710.92 ft.

Lake Level Forecast:

Oct 18: 710.81 ft.

Outflow: 12500 CFS

**Percentage of flood storage in
the Lake:** 92.40 % / 8.60 %
available storage in the lake

Burlington Street Dam Gauge



Notes:

1.) This table corresponds the river gauge elevation to the actual elevation on the river at Datum NGVD29 and the flow at that location in the Iowa River. Note that the flow at this location is generally higher than what is being released from the Coralville dam due to local runoff from Clear Creek and the surrounding drainage basin.

2.) River gauge is located at Iowa City, IA downstream of the Burlington Street bridge.

USGS GAUGE STATION-05454500 DOWNSTREAM FROM BURLINGTON STREET DAM AT IOWA RIVER STATION-20475		
Gauge Elevation (FT)	River Elevation (FT)	Flow (CFS)
0	617.27	
1	618.27	
2	619.27	
3	620.27	
4	621.27	
5	622.27	
6	623.27	
7	624.27	
8	625.27	
9	626.27	167
10	627.27	631
11	628.27	1,330
12	629.27	2,190
13	630.27	3,120
14	631.27	4,080
15	632.27	5,120
16	633.27	6,230
17	634.27	7,410
18	635.27	8,640
19	636.27	9,820
20	637.27	11,100
21	638.27	12,600
22	639.27	14,100
23	640.27	16,000
24	641.27	18,200
25	642.27	20,500
26	643.27	22,900
27	644.27	25,300
28	645.27	27,900
29	646.27	31,200
30	647.27	34,900
31	648.27	38,900
31.83	649.10	42,300

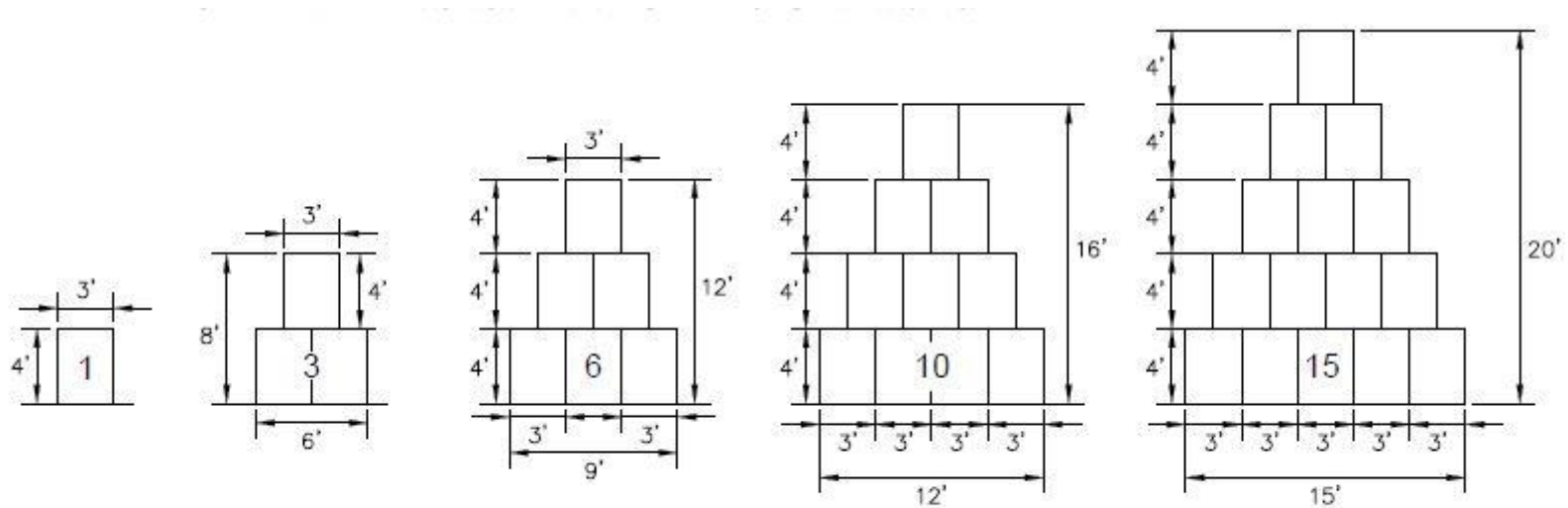
Material Quantities

East Campus-Material Quantities for Hesco Construction							
Sheet	Profile Name	Hesco (LF)	HESCO Cells	Sand (Tons)	20% Waste Sand (Tons)	Total Sand (Tons)	Plastic Sheeting (LF)
C1.01	Wall East - 1A	2,237	746	1,392	278	1,670	791
C1.01	Wall East - 1B	417	139	259	52	311	96
C1.01	Wall East - 1C	2,046	682	1,273	255	1,528	389
C1.02	Wall East - 2A	3,193	1,064	1,987	397	2,384	993
C1.02	Wall East - 2B	432	144	269	54	323	72
C1.02	Wall East - 2C	1,614	538	1,004	201	1,205	626
C1.03	Wall East - 2D	955	318	594	119	713	905
C1.04	Wall East - 3A	893	298	556	111	667	779
C1.04&C1.05	Wall East - 3B	13,021	4,340	8,102	1,620	9,722	2,313
C1.05	Wall East - 3C	584	195	363	73	436	280
Total for East		25,392	8,464	15,799	3,160	18,959	7,244
West Campus-Material Quantities for Hesco Construction							
Sheet	Profile Name	Hesco (LF)	HESCO CELLS	Sand (Tons)	20% Waste Sand (Tons)	Total Sand (Tons)	Plastic Sheeting (LF)
C1.06&C1.07	Wall West - 1A	10,060	3,353	6,259	1,252	7,511	2,898
C1.07&C1.08	Wall East - 1B	17,122	5,707	10,663	2,131	12,794	1,976
C1.08	Wall East - 1C	253	84	157	31	189	133
Total for West		27,435	9,145	17,079	3,414	20,494	5,007
TOTAL FOR EAST AND WEST CAMPUS		52,827	17,609	32,869	6,574	39,443	12,251

NOTE: HESCO MODEL FL4836 CONTAINS 5 CELLS IN EACH UNIT

HESCO MATERIAL QUANTITIES

HESCO Installation Principle



 HESCO UNIT CONFIGURATION DETAIL
NOT TO SCALE

HESCO Installation



Floodwall Installation



The reason for FERP . . . FM Mission

“Providing a physical environment that promotes University excellence.”



Steps going forward

FERP Evaluation and Refinement Emergency Action Plans