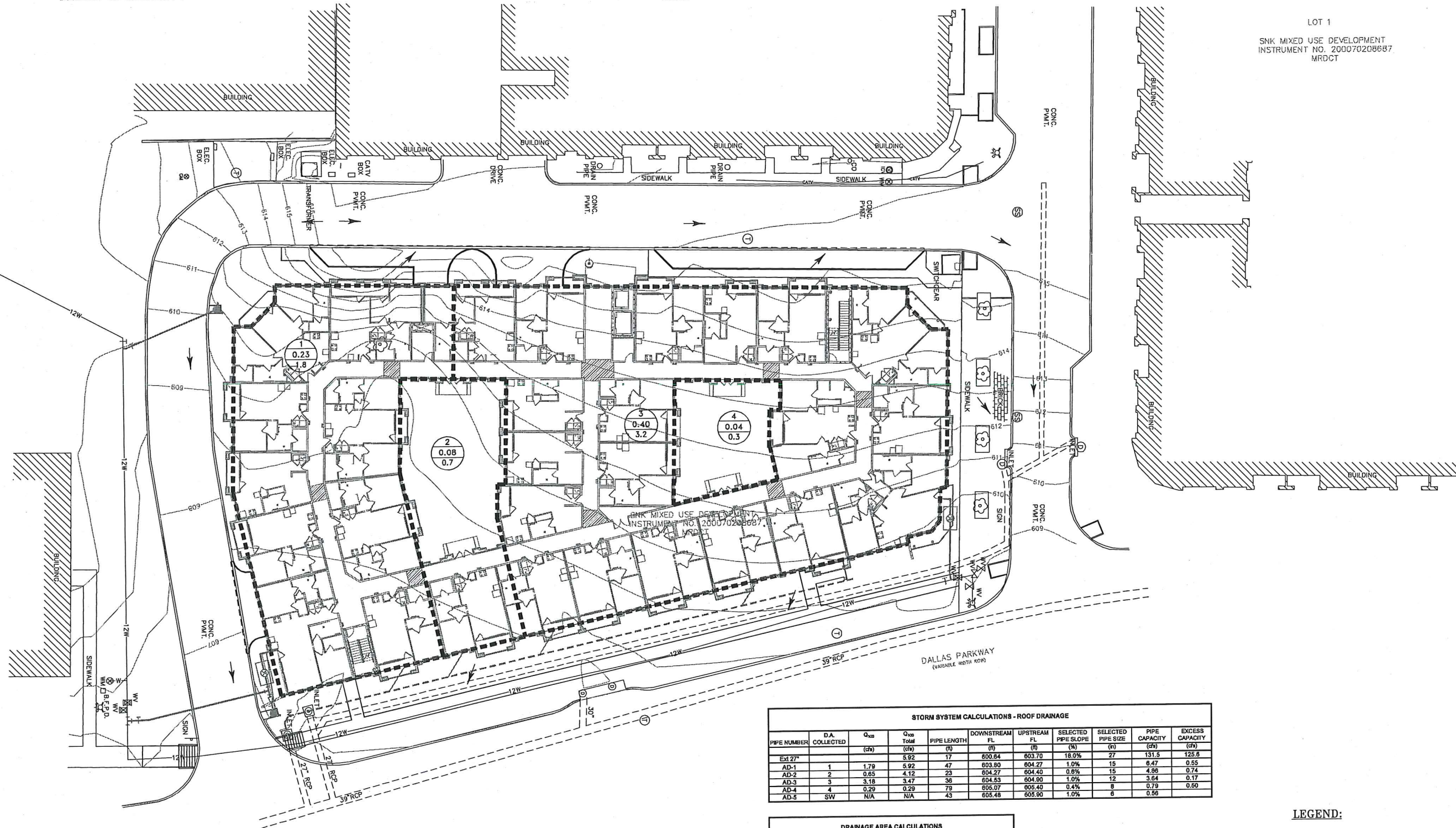
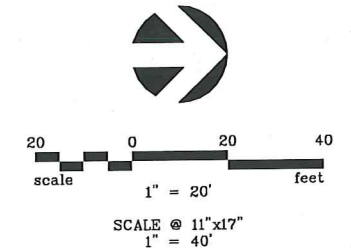


- NOTES:**
- REFER TO SHEET 4A (ORIGINALLY SHEET 6 OF 11 FROM SNK MIXED USE DEVELOPMENT) FOR OFF-SITE DRAINAGE AREAS.
 - MINOR REVISIONS TO PHASE 2 DRAINAGE AREAS SHOWN OF SHEET 4A DO NOT COMPROMISE CAPACITY OF EXISTING DALLAS PARKWAY STORM SEWER.

OPUS ADDITION
DOCUMENT NO. 201000085949

SNK MIXED USE DEVELOPMENT
INSTRUMENT NO. 200070208687
MRDCT

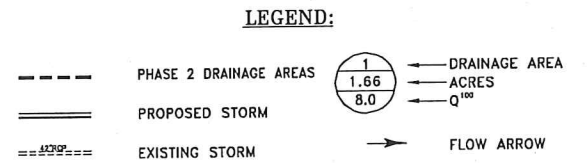


STORM SYSTEM CALCULATIONS - ROOF DRAINAGE

PIPE NUMBER	D.A. COLLECTED	Q ₁₀₀ (cfs)	Q ₁₀₀ Total (cfs)	PIPE LENGTH (ft)	DOWNSTREAM FL (ft)	UPSTREAM FL (ft)	SELECTED PIPE SLOPE (%)	SELECTED PIPE SIZE (in)	PIPE CAPACITY (cfs)	EXCESS CAPACITY (cfs)
Ext 27"			5.92	17	803.84	803.70	18.0%	27	131.5	125.6
AD-1	1	1.79	5.92	47	803.90	804.27	1.0%	15	8.47	0.55
AD-2	2	0.65	4.12	23	804.27	804.40	0.6%	15	4.86	0.74
AD-3	3	3.18	3.47	36	804.63	804.90	1.0%	12	3.64	0.17
AD-4	4	0.29	0.29	79	805.07	805.40	0.4%	8	0.79	0.80
AD-5	SW	N/A	N/A	43	805.48	805.90	1.0%	8	0.86	

DRAINAGE AREA CALCULATIONS

DRAINAGE AREA NO.	AREA (ACRES)	C	T _c (MINUTES)	1 100 YR (IN/HR)	Q (cfs) (100-YR)
1	0.23	0.90	10	8.74	1.8
2	0.08	0.90	10	8.74	0.7
3	0.40	0.90	10	8.74	3.2
4	0.04	0.90	10	8.74	0.3



Grantham & Associates, Inc.
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6570 NAAMAN FOREST BLVD., SUITE 200, L.B. 2
GARLAND, TEXAS 75044
(972) 864-2333 (TEL)
(972) 864-2334 (FAX)

NO.	DATE	REVISION	APPROV.
1			
2			
3			
4			
5			
6			

GRANTHAM & ASSOCIATES
F-005438
STATE OF TEXAS
P. CHRISTOPHER ROBINSON
101252
REGISTERED PROFESSIONAL ENGINEER

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CONSTRUCTION PLANS FOR ALLEGRO - PHASE 2 DRAINAGE AREA MAP
HARVARD PROPERTY TRUST, LLC

DATE: DECEMBER 2011
SCALE: 1"=20'
DRAWN BY: G&A
DESIGN: BRG
REVIEWED: BRG
JOB NO: 1132-11
DWG: 1132DRN-AREA
SHEET 4 OF 6