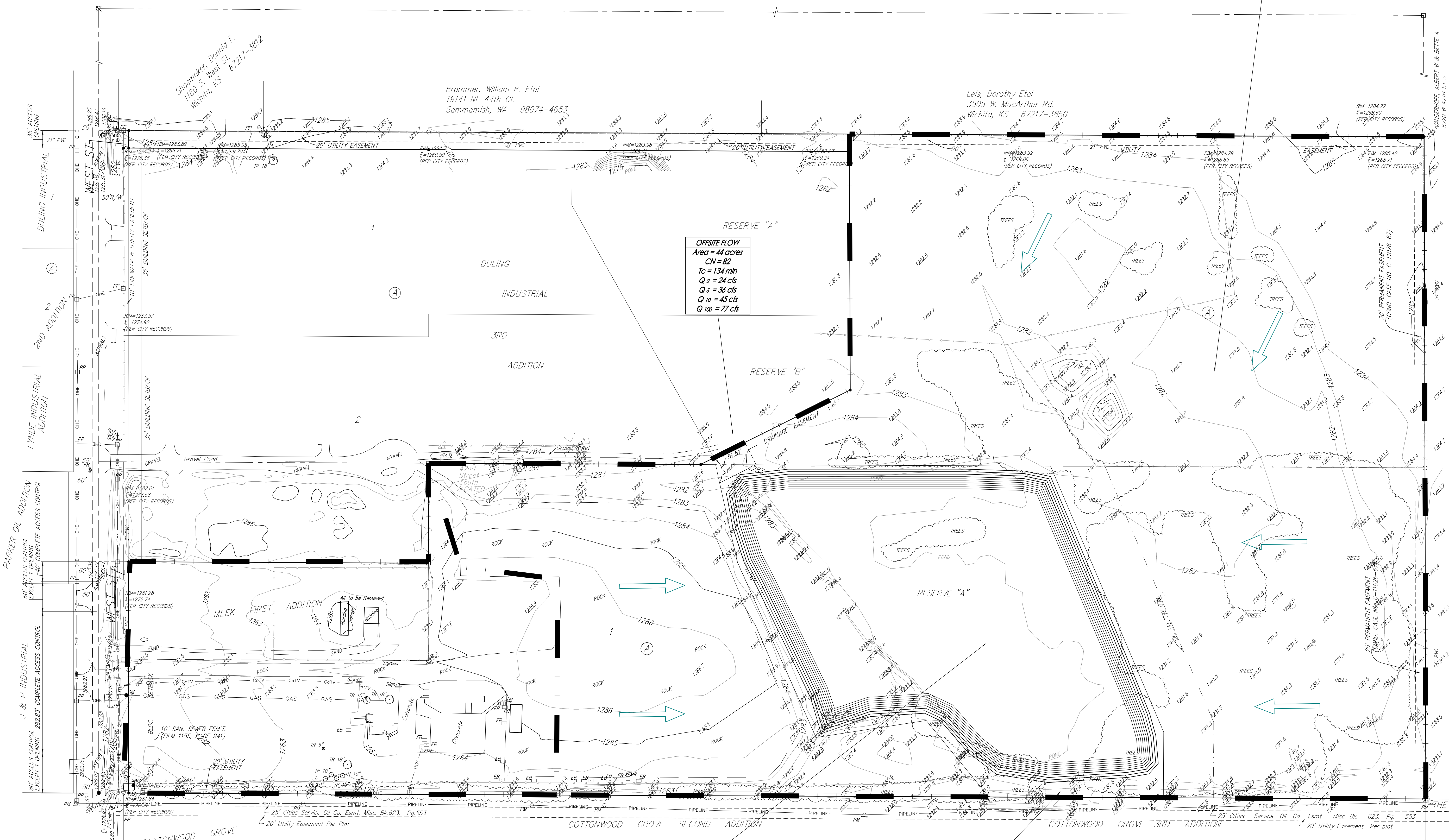
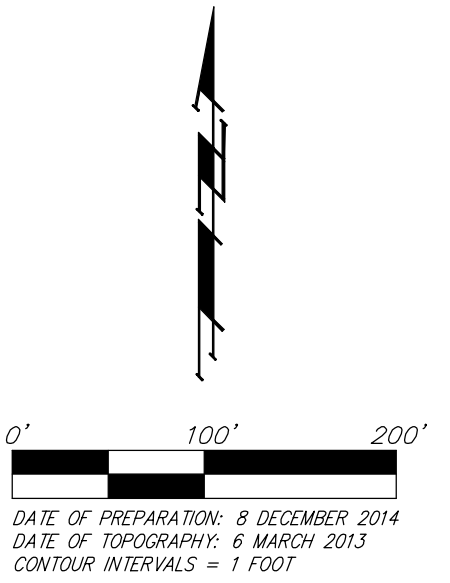


DRAINAGE PLAN

LANGE 3RD ADDITION

WICHITA, SEDGWICK COUNTY, KANSAS

Site is expected to be covered with gravel and used for parking and storage. Site will be filled and graded to drain to the onsite pond.



EXISTING POND (Static WS = 1281.0)

STAGE	INFLOW	OUTFLOW	ELEVATION
2 yr	72 cfs	26 cfs	1281.5
10 yr	130 cfs	56 cfs	1281.9
100 yr	222 cfs	101 cfs	1282.3

PROPOSED POND

ELEVATION	STORAGE (ac-ft)
1281	0
1282	9.91
1283	24.3

Existing Outfall: 25' natural weir at elevation 1281

PROPOSED EXPANDED POND (Static WS = 1280.0)

STAGE	INFLOW	OUTFLOW	ELEVATION
2 yr	116 cfs	15 cfs	1281.4
10 yr	188 cfs	42 cfs	1282.0
100 yr	298 cfs	94 cfs	1282.6

PROPOSED POND

ELEVATION	STORAGE (ac-ft)
1280	0
1281	7.64
1282	15.57
1283	23.77

Proposed Outfall: 24' RCP at elevation 1280. 15' weir at elevation 1281

Table 4-13 Volumetric Runoff Coefficients by Land Use and Hydrologic Soil Group

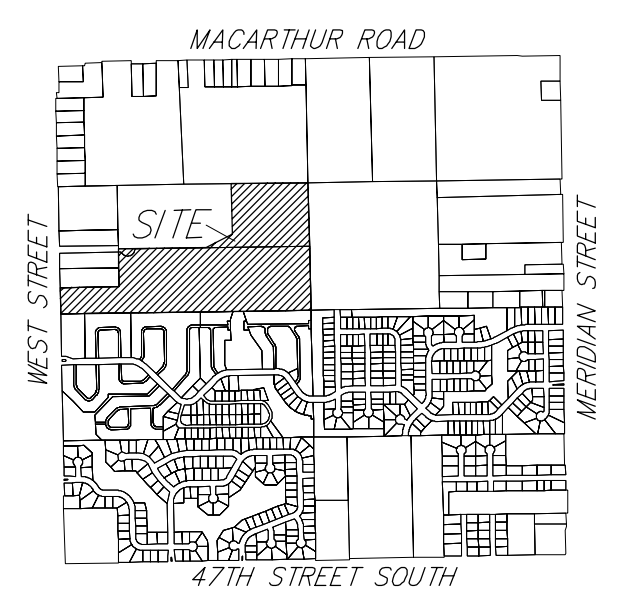
Land Use	Hydrologic Soil Group A				Hydrologic Soil Group B				Hydrologic Soil Group C				Hydrologic Soil Group D			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Undisturbed	0.05	0.20	0.44	0.55	0.05	0.20	0.44	0.55	0.05	0.20	0.44	0.55	0.05	0.20	0.44	0.55
Turf or Disturbed Soils	0.15	0.20	0.22	0.25	0.15	0.20	0.22	0.25	0.15	0.20	0.22	0.25	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95

Basin	Unobst. Area (ac)	Dist. Area (ac)	Imperv. Area (ac)	Weighted Volumetric Runoff Coef. (WV) (Eq. 4-24)				WV _{tot}			
				A	B	C	D				
Total Large Area	0	0	0	1.029,520	1,029,520	0.000	0.000	0.000	0.950	0.900	173,894

Basin	Static Pond Storage Area (Ac)	Pond Bottom Area (Ac)	Depth (Feet)	Volume (Ac-ft)		
					Basin C Pond	34,000
Totals:	7.9	2.2	2.2	30.1		

Basin	Pond Volume (Ac-ft)	WV _{tot}	Check

Pond Volumes were estimated using a depth of 6" of water surface with a 1' slope below the static water surface. The existing pond volume exceeds the water quality volume needed for the entire Large site - which includes the frontage area drain.



VICINITY MAP
SEC. 13, 12B5, R1W

MINIMUM BUILDING PAD ELEVATIONS FOR LOWEST OPENING TO THE STRUCTURES

LOT	BLOCK	ELEVATION NAVD88
1	A	1284.7

WEST SITE FLOW
Area = 9.2 acres
CN = 84
Tc = 32 min
Q 2 = 15 cfs
Q 5 = 22 cfs
Q 10 = 27 cfs
Q 100 = 45 cfs

Existing = Proposed
Minimal changes to this area in regards to additional impervious area.

Pond to be over-excavated and re-shaped. A permanent outfall will be constructed at south end of pond near existing overland outfall. Pond static elevation will be lowered 1' to a 1280.0 elevation to achieve more storage and facilitate the new outfall.

Existing: 25' Overland / Natural Weir.
Proposed: Install a 24' RCP at elevation 1280.0 and overland weir 1281.0. This will lower the static elevation 1' from existing and allow more incremental storage as well as a more defined outfall.

EXISTING - EAST
Area = 49 acres
CN = 84
Tc = 50 min
Q 2 = 61 cfs
Q 5 = 89 cfs
Q 10 = 108 cfs
Q 100 = 183 cfs

DEVELOPED - EAST
Area = 49 acres
CN = 92
Tc = 32 min
Q 2 = 108 cfs
Q 5 = 146 cfs
Q 10 = 172 cfs
Q 100 = 267 cfs

DRAINAGE PLAN

LANGE 3RD ADDITION

4 December 2014

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