

DRAINAGE CONCEPT

FOR

CLEARVIEW ADDITION
Wichita, Kansas

MARCH 2011



Drainage Concept Submittal Checklist

Reviewer: _____	Date: _____
Project Name: _____	Location: _____
Total Land Area of Project: _____ Acres	
Type: _____ Residential _____ Commercial _____ Industrial _____ Recreation _____ Municipal _____ Other	
Applicant: _____	Contact: _____ Phone #: _____
Applicant email: _____	
Surveyor: _____	Contact: _____ Phone #: _____
Surveyor email: _____	
Engineer: _____	Contact: _____ Phone #: _____
Engineer email: _____	

Please check the appropriate box: I = Included; NA = Non-Applicable
(If "NA" is checked, an explanation must be entered)

	Applicant			Engr	
	I	NA	Explanation / Location in Plan	I	NA
1.1 The drainage concept shall be submitted by Thursday at 4 PM, two weeks prior to the subdivision committee hearing on the preliminary plat					
1.2 Boundaries of the tract to be subdivided clearly marked					
1.3 The location, width and names of all existing public or private streets within or adjacent to the tract, together with easements, railroad rights of way, and other important features such as section lines and corners, city boundary lines and monuments.					
1.4 Contour lines based on NAVD 88 at two foot maximum contour intervals extending a minimum of 200' beyond the tract					
1.5 The date of the survey					
1.6 The location, flow direction and name of all perennial and intermittent watercourses					
1.7 Natural and manmade features such rock outcroppings, wetlands, lakes, sewage disposal facilities, water wells, wooded areas and tree rows					
1.8 The horizontal location of storm sewers including size, flow lines, structures, and culverts for the tract and all adjacent properties and rights-of-way					
1.9 Location, elevation and description of the benchmark controlling the vertical survey					

	Applicant			Engr	
	I	NA	Explanation / Location in Plan	I	NA
2.1 Proposed streets showing the location, width and names.					
2.2 Proposed lots					



Drainage Concept Submittal Checklist



	Applicant			Engr	
	I	NA	Explanation / Location in Plan	I	NA
Preliminary Hydrologic Analysis					
3.1 Topographic map showing onsite and offsite drainage areas for predeveloped conditions					
3.2 Proposed use of existing drainage features, showing those that will be removed and those that will remain after the final plat is recorded					
3.3 Proposed methods of storm water control and conveyance clearly labeled with basic descriptions (e.g. concrete pipe, channel, retention and/or detention pond etc.)					
3.4 Proposed storm water quality management facilities clearly labeled with basic descriptions (e.g. bioretention, wet pond, enhanced swale etc.)					
3.5 Proposed water quality volume reduction areas					
3.6 Drawing and note showing all storm water management facilities placed in reserves					
3.7 Reserve areas shown with adequate width and area for access and maintenance					
3.8 Arrows depicting proposed overland flow direction					
3.9 FEMA floodplains and floodways are shown with base flood elevations					

Tab 1. Project Narrative

Location

The subject property is in the City of Wichita, Sedgwick County, Kansas. The proposed development is south of West 21st Street between 167th Street and 151st Streets. The site is the east half of the northwest quarter of Section 10, Township 27 South, Range 2 West. The plat area is 77.9 acres. The site is shown on the USGS Map, Appendix 1.1.

Discussion of Development

The site is currently undeveloped agricultural land and will develop as 5 commercial lots approximately 1.2 acres in size and 179 single family residential lots approximately 1/3 of an acre in size. The site and the surroundings are shown on the Aerial Photograph, Appendix 1.2. The proposed site is shown on the pre-plat plat, Appendix 1.3.

FEMA Floodplains

The platted area is located in Zone X, areas outside of the 500-year flood, as shown on the Sedgwick County Kansas February 2, 2007 Map Number 20173C0310E, Appendix 1.4. The site nearest floodplains are created by Dry Cree, approximately 1/2 mile east and 1/2 mile south of the site.

Soils

According to the NRCS (SCS) Sedgwick County Soil Survey, Appendix 1.5, soils on the site are:

- Blanket silt loam, 0 to 1 percent slopes, HSG "C"
- Vanoss silt loam, 0 to 1 percent slopes, HSG "B"

Hydraulic Soil Group "C" is used to represent the site.

Drainage Summary

Pre-Development

The site generally drains from southwest to north east. Runoff exits the site in three locations along the east boundary of the site. A roadside ditch flows along West 21st Street from west to east. Offsite runoff enters the site from the west into the ditch. Two natural draws convey water offsite to the property east of the site. Offsite runoff enters the site near the southeast corner of the site and along the west property line.

Post-Development

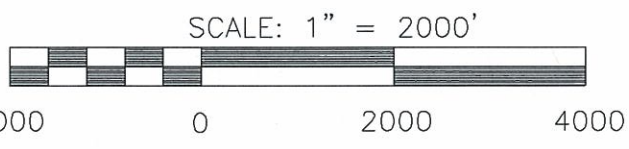
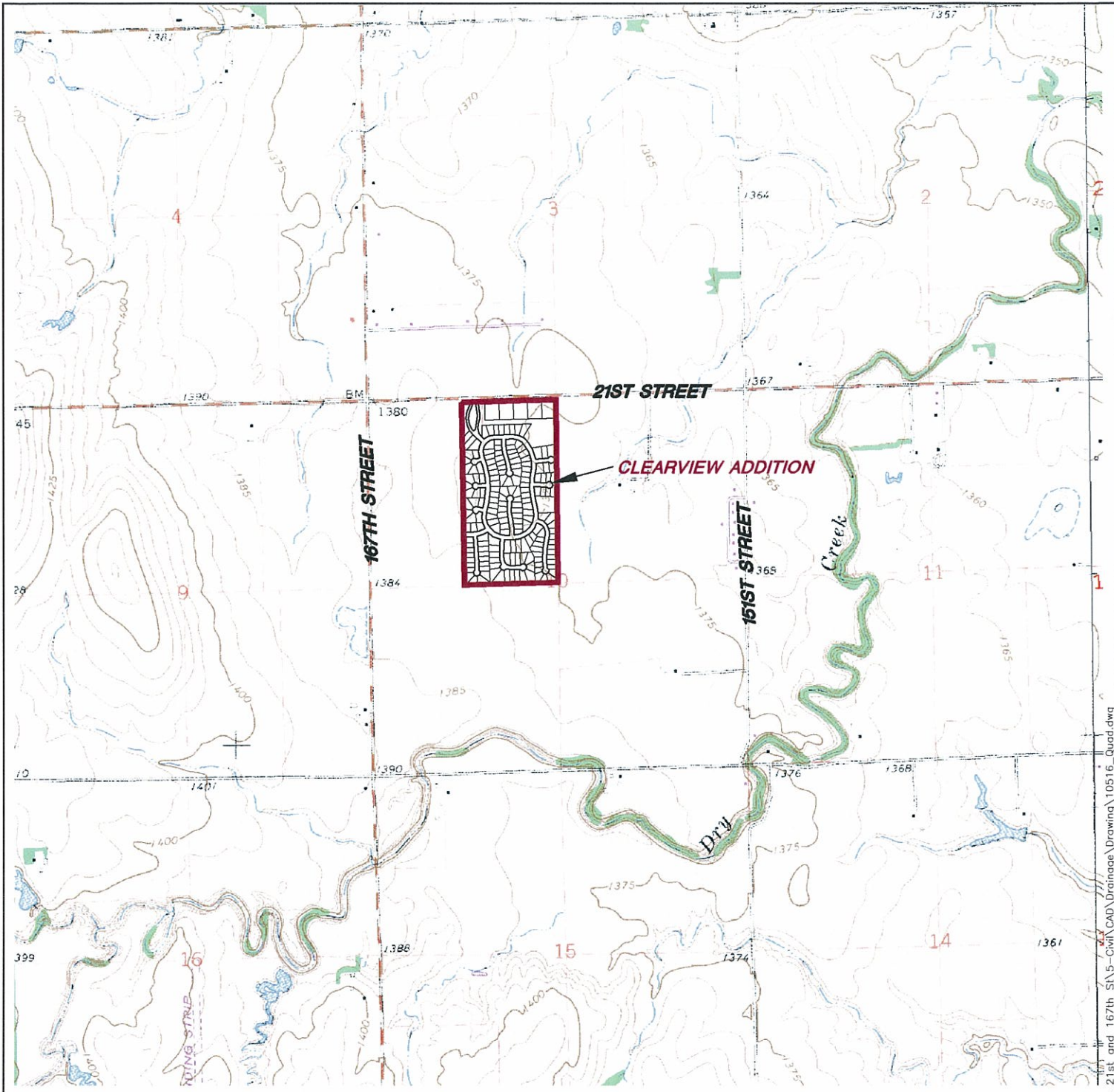
Two wet detention ponds will be located on site. These wet detention ponds will be designed to provide detention, channel protection volume, and water quality volume. Final calculations will be done at the time of the final plat. There will be overflow conveyance systems to convey offsite runoff from the West and South through the site into the proposed ponds. The basin boundaries are shown in the Pre-Development Drainage Basin Concept, Appendix 1.6.

Utilities

Proposed storm water sewer, sanitary sewer, and water layouts are shown on the Drainage and Utility Concept, Appendix 1.7.

Appendix 1.1

USGS Quadrangle Map

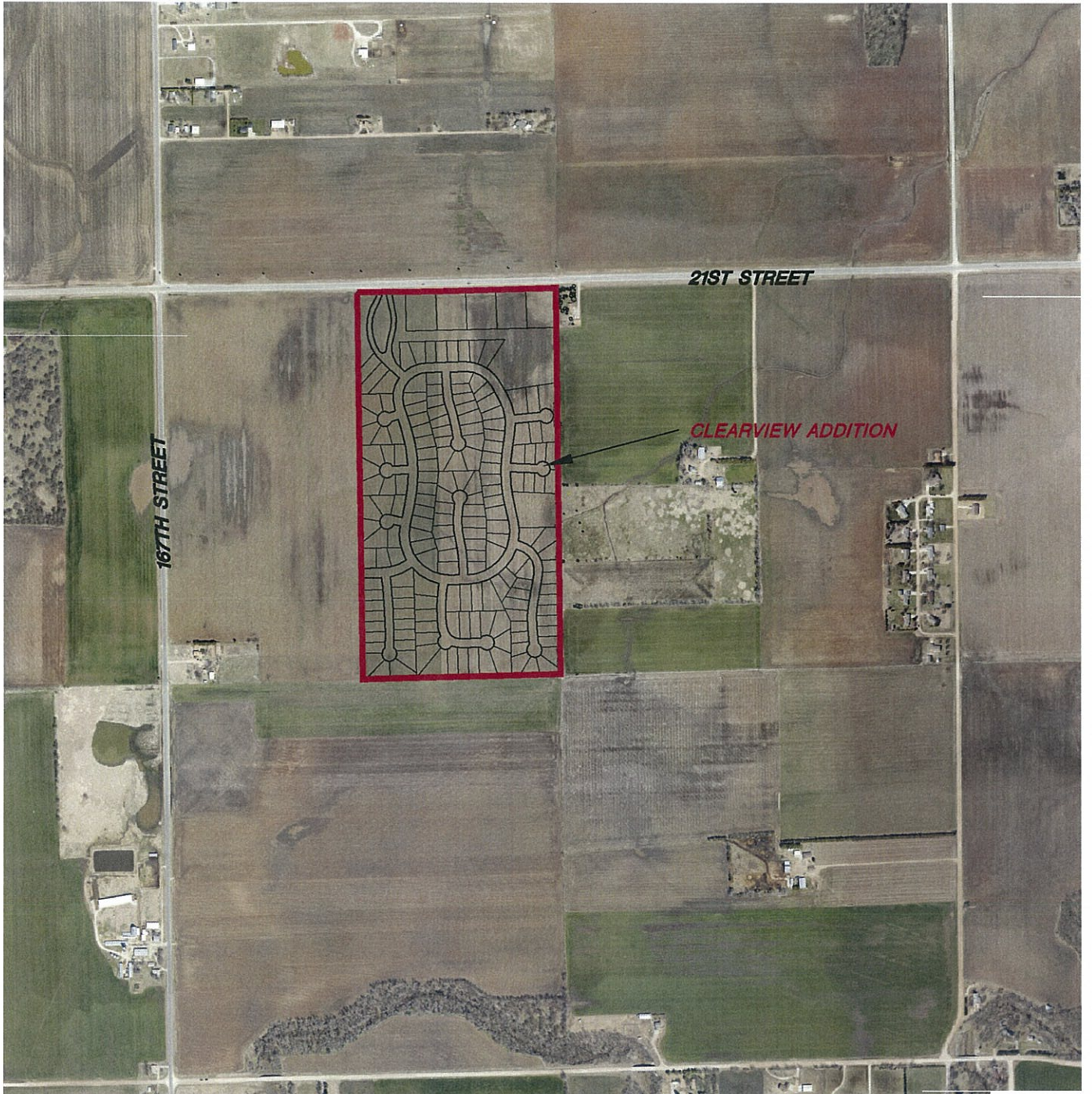


**SECTION 10
TOWNSHIP 27S
RANGE 2W**

MKEC ENGINEERING CONSULTANTS, INC. 411 N. WEBB ROAD WICHITA, KS. 67206 316-684-9600	CLEARVIEW ADDITION PROJECT NAME		
	QUAD MAP SHEET TITLE		
KLA DESIGN BY:	CMJ DRAWN BY:	GJA CHECKED BY:	
MARCH 2011 DATE	10516 JOB NO.	1 / 1 SHEET/OF	

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Appendix 1.2
Aerial Photograph



SCALE: 1" = 1000'



1000 0 1000 2000



**SECTION 10
TOWNSHIP 27S
RANGE 2W**

MKEC
ENGINEERING
CONSULTANTS, INC.

411 N. WEBB ROAD
WICHITA, K.S. 67206
316 - 684 - 9600

CLEARVIEW ADDITION
PROJECT NAME

AERIAL MAP
SHEET TITLE

KLA
DESIGN BY:

CMJ
DRAWN BY:

GJA
CHECKED BY:

MARCH 2011
DATE

10516
JOB NO.

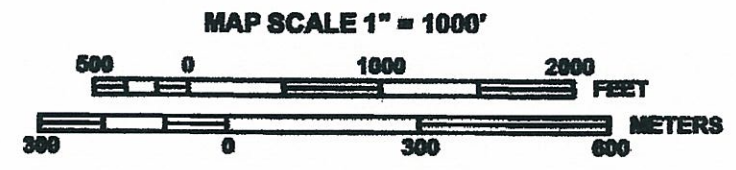
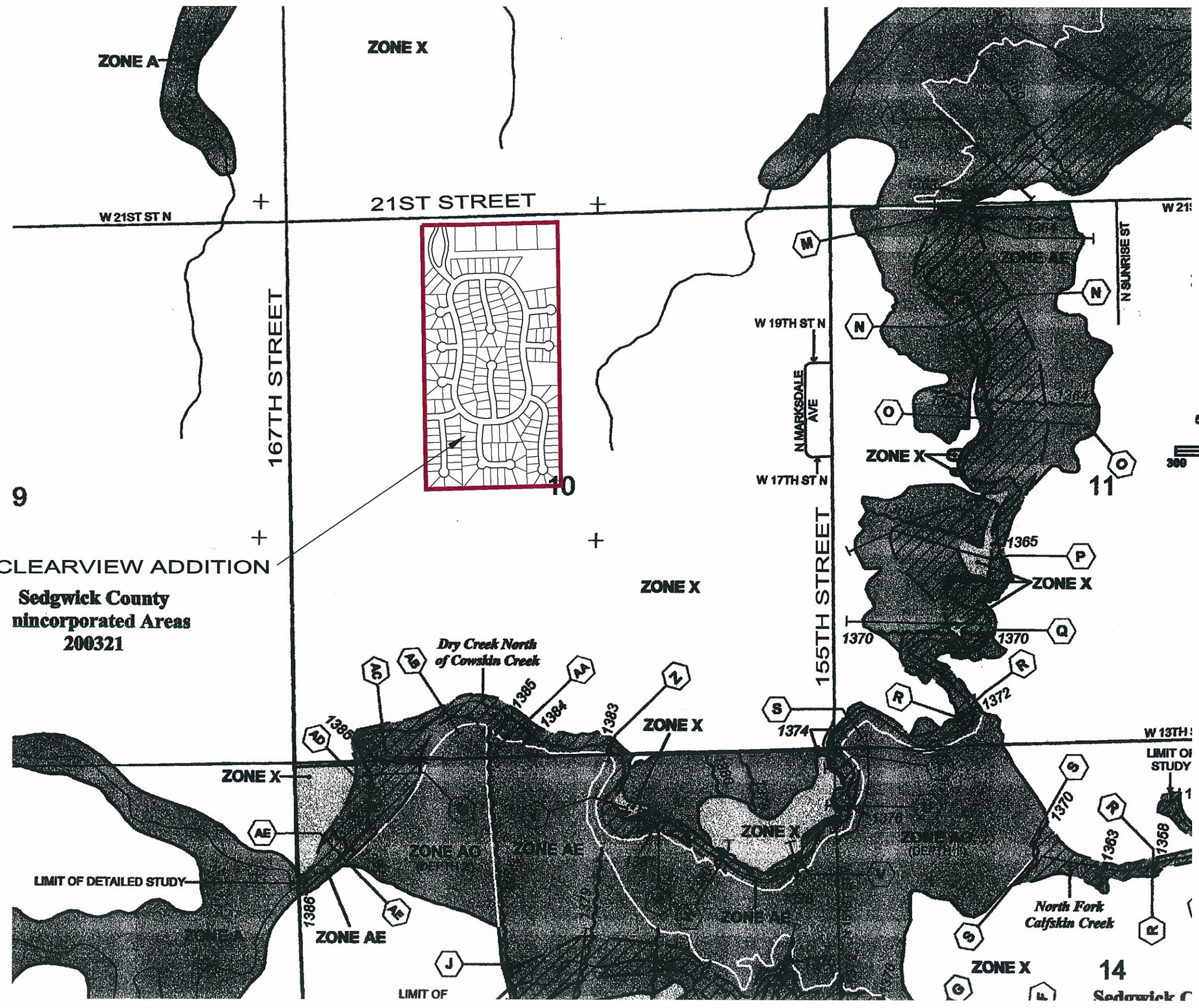
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SHEET/OF

Appendix 1.3

Pre-Plat

Appendix 1.4

Flood Insurance Rate Map (FIRM)



9
CLEARVIEW ADDITION
Sedgwick County
Incorporated Areas
200321

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0310E

FIRM
FLOOD INSURANCE RATE MAP
SEDGWICK COUNTY,
KANSAS
AND INCORPORATED AREAS

PANEL 310 OF 760
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SAFEZ
SEDGWICK COUNTY	200321	0310	E
WICHITA, CITY OF	200328	0310	E

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
20173C0310E

EFFECTIVE DATE
FEBRUARY 2, 2007

Federal Emergency Management Agency

DATE	March 11
REVISED	

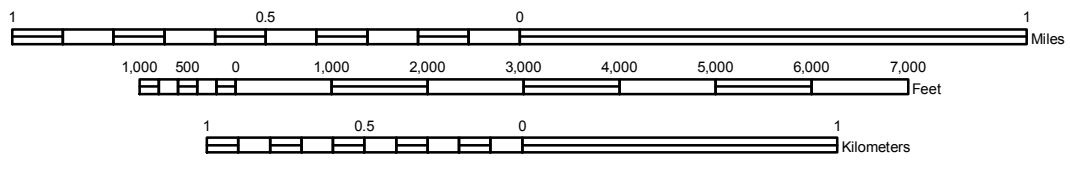
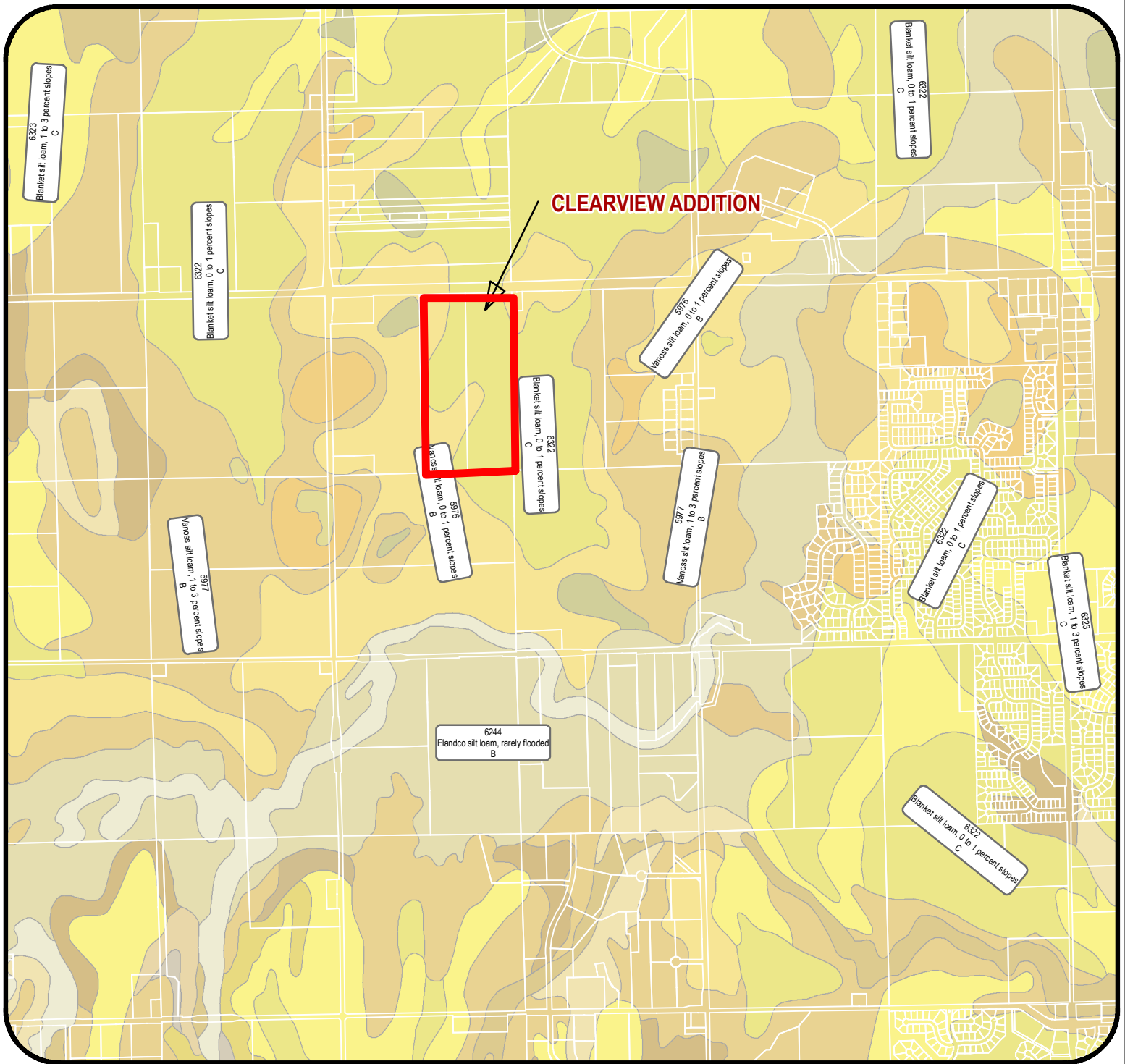
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DRAWN BY	CMJ
CHECKED BY	GJA

SHEET NUMBER
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Appendix 1.5

Soil Survey



CLEARVIEW ADDITION

Project Name: _____

Soil Survey - Sedgwick County, KS

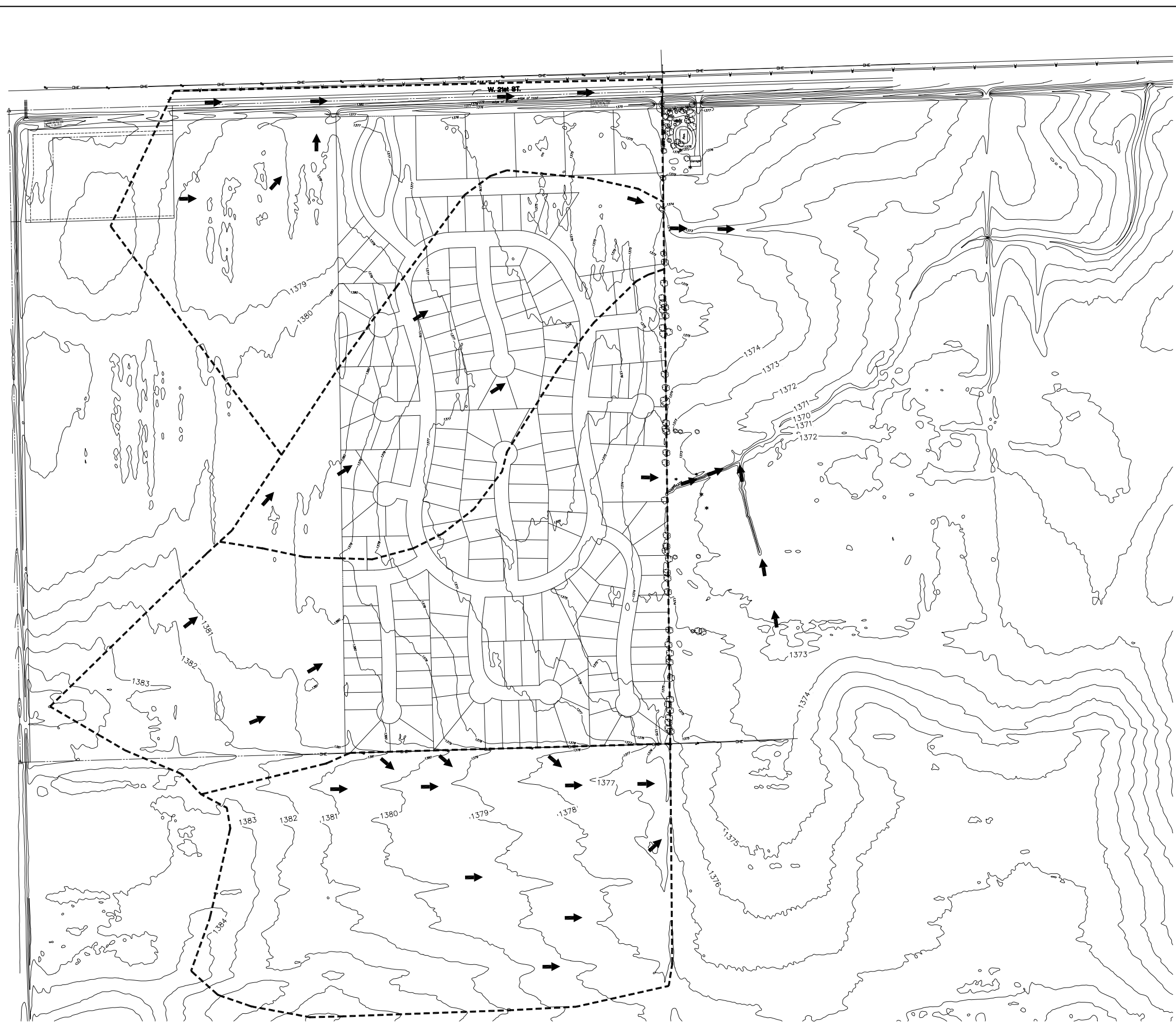
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CMJ	MARCH 2011
Drawn By:	Date:
KLA	10516
Design / Review:	Job No.:

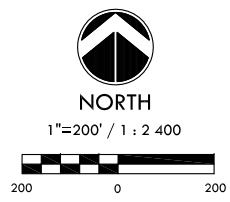
Appendix 1.6

Pre-Development Drainage



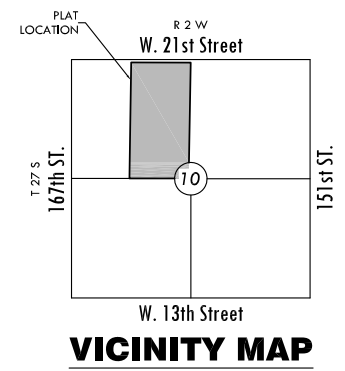
LEGEND

- EDGE OF TREES
- BTN - CONIFEROUS TREE
- DTN - DECIDUOUS TREE
- SN - SIGN
- PP - POWER POLE
- ELEC BOX - ELECTRIC BOX
- LP - LIGHT POLE
- FH - FIRE HYDRANT
- WV - WATER VALVE
- WM - WATER METER
- EASEMENT
- BUILDING SETBACK
- FENCE
- STORM SEWER PIPE
- WATER LINE
- SANITARY SEWER LINE
- GAS LINE
- OVERHEAD ELECTRIC
- 3/4" REBAR/MKEC CLS 39
- △ SECTION CORNER
- PROPOSED SANITARY SEWER
- PROPOSED STORM WATER
- PROPOSED WATER
- DRAINAGE BOUNDARY



BENCHMARK

BM #1 Square cut on wing wall at west end south HDWL south side 13th Street 310' west 41' south of south 1/4 corner. Elev.=1377.32 (NGVD 29)



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WICHITA, KANSAS
PRE DEVELOPMENT DRAINAGE CONCEPT

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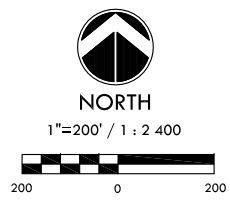
Appendix 1.6

Post-Development Drainage Concept



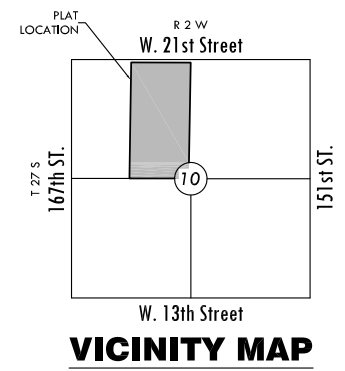
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CLEARVIEW ADDITION
WICHITA, KANSAS
POST DEVELOPMENT DRAINAGE CONCEPT

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REVISED	

DESIGN BY	KLA
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CHECKED BY	GJA

SHEET NUMBER
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Appendix 1.7

Drainage and Utility Concept

NOTES

1. LOCATION: Located 1 mile west of the City of Wichita corporate boundary in the northwest Sedgwick County in an area developing as a commercial corridor. The property has direct access to 21st Street. Existing adjoining land uses include: agricultural production and rural residence at the northeast corner of the proposed development.
2. LOT TOTAL - 179 Single Family Residential
5 Commercial
3. ANNEXATION: To be annexed into Wichita
4. EXISTING/PROPOSED USES:
Existing - Agriculture
Proposed - Single Family Residential and Commercial
5. ZONING:
Existing - "RR" Rural Residential w/
"CP-O" Corridor Preservation Plan Overlay
Proposed - "SF-5" Single Family
"LC" Limited Commercial
6. PLAT AREA: Gross = 77.90 acres
7. SURVEY DATE: March 9th, 2011 (by MKEC)

1. PUBLIC UTILITIES: Municipal sanitary sewer shall be extended to the development from the east (0.9 mile). Municipal water shall be extended to the development from the east (0.5 mile).
2. ACCESS / ACCESS CONTROLS: Access to 21st Street shall as shown hereon.
3. RESERVES: As shown and determined on final plat. Proposed uses: Drainage Ponds, Earthen Berms, Landscaping, Irrigation, Monuments, Bio-Swale, Passive Recreation, Private Pool/Pool House and associated parking.
4. FLOOD: According to FEMA FIRM Community Unit Panel 20173C0310E, effective date February 7th, 2007; this property lies within flood zone "X", "Areas determined to be outside the 0.2% annual chance floodplain."
5. DRAINAGE: A drainage report shall accompany this preliminary plat and shall be filed with the Public Works & Utility Stormwater Management Division.
6. BUILDING SETBACK: As per Wichita-Sedgwick County Unified Zoning Code.

LEGAL DESCRIPTION

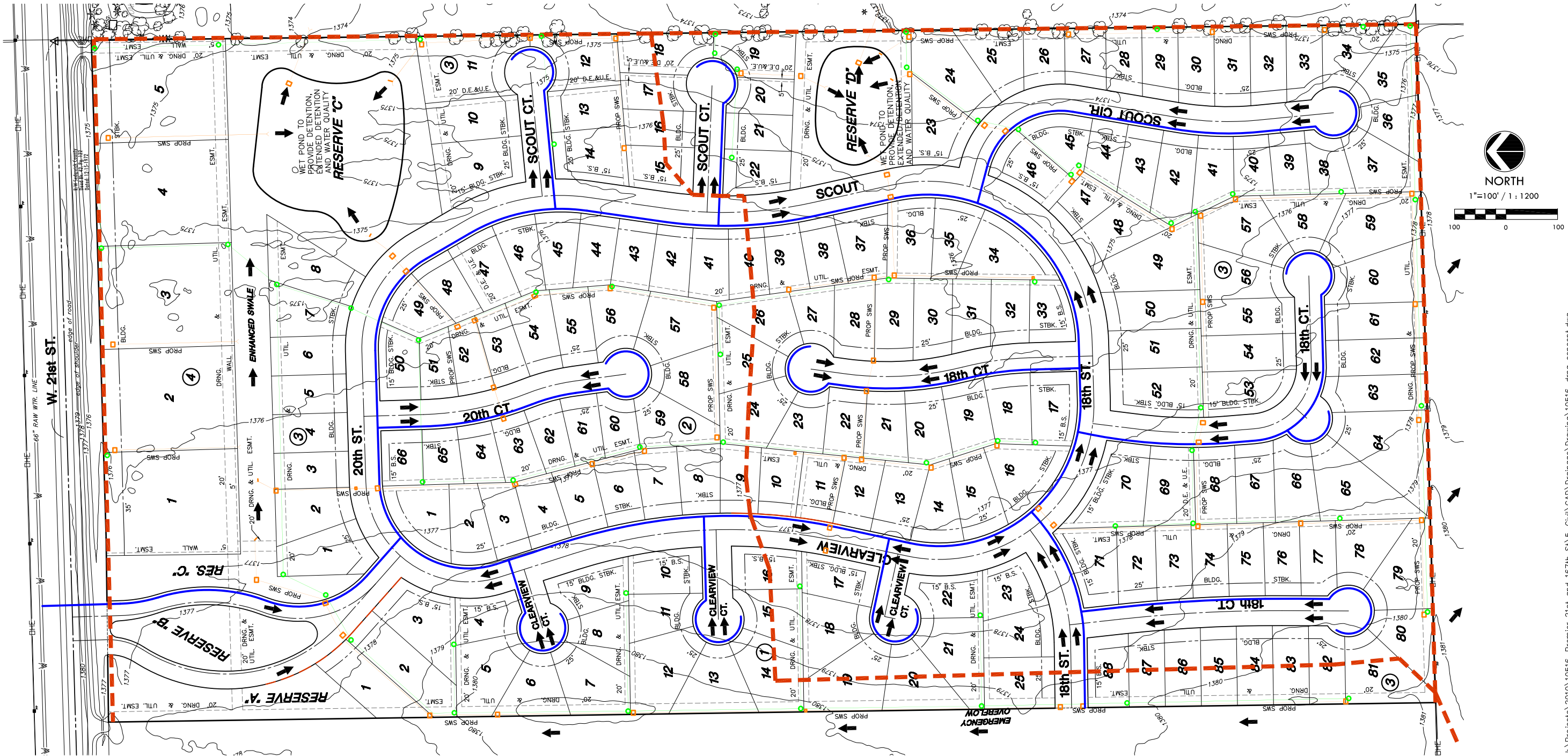
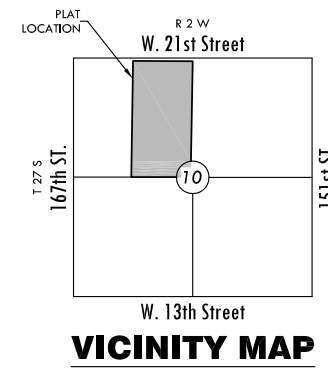
East Half of the Northwest Quarter of Section 10, Township 27 South, Range 2 West of the 6th P.M., Sedgwick County, Kansas, EXCEPT that part deeded to Sedgwick County, Kansas, for Highway on Film 42, Page 122.

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310' west 41' south of south 1/4 corner.
Elev.=1377.32 (NGVD 29)

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DRAINAGE & UTILITY CONCEPT

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