

**Newmarket Office LOMR
29th & Maize Rd.
Wichita, KS**

**Newmarket Office Development
Drainage Construction LOMR**

Prepared for:
Design Division, City of Wichita
Wichita, Kansas

PEC Project No.
35-13799-000-0042

Date:
June 2014



303 SOUTH TOPEKA WICHITA, KS 67202 316-262-2691 www.pec1.com

June 4, 2014

LOMC Clearinghouse
7390 Coca Cola Drive
Suite 204
Hanover, MD 21076

Reference: Newmarket Office Development Drainage Construction LOMR Application
PEC Project No. 35-13799-0042

To Whom It May Concern:

This letter, along with the accompanied documentation, is provided for the approval of the LOMR for the Newmarket Office Development within the Cadillac Lake drainage basin.

Accompanied with this letter is a Project Report containing the following:

1. Project Narrative and maps.
2. MT-2 Forms 1, 2, and 3.
3. FEMA Form 81-107.
4. Check for \$5,300.
5. CD of HEC-HMS models.

If you have any questions or require additional information in order to make a determination, please feel free to contact me either by telephone (316) 262-2691 or by email (joseph.hickle@pec1.com).

Very truly yours,

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.



Joseph Hickle, P.E.
Project Manager

JEH/tac

Encl: As noted

cc: Julianne Kallman, P.E., Wichita (w/encl.)
~~Scott Lindébak, P.E., Wichita (w/encl.)~~

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STATE OF NEW YORK

Newmarket Office Development: Drainage Construction LOMR

1.0 Project Objective

The property north of 29th street and west of Maize Road in Wichita Kansas is being developed as a commercial tract. The site is within the 100-year floodplain on the recently updated FIRM map panels Nos. 20173C0326F and 20173C0330F in zone AE with the 100-year floodplain elevation of 1352.10. The project site is in the drainage basin of Cadillac Lake that recently had a comprehensive LOMR approved (Case No. 12-07-0465P).

The development site has two retention ponds that were constructed just after the Cadillac Lake LOMR was filed and approved. The recent constructions are the ponds and their weir outfall spillways. The currently mapped floodplain on the property was based on the drainage analysis within the basin both upstream and downstream of the site without the ponds included using the vacant site's 2011 LIDAR topography. Now that the two retention ponds have been completed, the city desires to update the approved LOMR accounting for the presence of the ponds and to remap the 100-year floodplain on the development property within the sideslopes of the ponds.

The HEC-HMS computer model for the Current Conditions in the former Cadillac Lake LOMR application that generated FIRM map panels 20173C0326F and 20173C0330F was modified incorporating the presence of the two retention ponds and their outfalls. The Newmarket Office (NMO) Current LOMR model includes the constructed ponds. The two ponds are Ponds A and B and are nodes WN-P4 and WN-P2 respectively in the HEC-HMS model. The project site is on both FIRM map panels. The two HEC-HMS models are enclosed on CD.

The drainage basins to Ponds A and B are estimated at 16.4 and 21.8 acres respectively. For conservatism a curve number of 96 for a commercial developed land use condition and only a 15 minute time of concentration were used in the model. A topographic survey of the extent of the ponds static level, sideslopes and their outfall structures was performed to document the construction and to provide accurate hydraulic stage storage and discharge information for the modeling. Both ponds discharge through concrete weirs at their normal static level. Pond A discharges through a 40-foot wide weir and Pond B discharges through a weir of approximately 20 feet in width. The vertical datum of this survey is NAVD 88 consistent with the FIRM maps. The horizontal datum is Kansas State Plane Grid Coordinates – South Zone (SPCS 1502) – NAD1983-US Survey Feet.

Node WE-P1 in the model is a downstream pond and model node that has a stormwater pump station and the impounded stage of the 100-year flow acts as a tailwater condition for the two ponds upstream on the commercial tract. The peak 100-year stage in this node is at elevation 1352.10. This maximum stage establishes the peak 100-year flood stage in the two subject retention ponds. The proposed site conditions model named Newmarket Office (NMO) Current LOMR shows this 100-year peak stage at elevation 1352.10. For reference in the model schematic the next upstream nodes beyond the commercial development are WN-P1 and WF-P4.

Newmarket Office Development: Drainage Construction LOMR

A 500-year proposed conditions model was prepared matching the flood level elevation of 1352.6 in the downstream node of WE-P1 for the existing conditions. This model is named NMO 500 yr. Applying this tailwater in the model, the peak 500-year stage of 1352.6 is established in the two site retention ponds.

A site plan titled *Retention Ponds Record Topographic Workmap* of the completed two retention ponds is enclosed along with a plan of the field survey. A map from the approved *Cadillac Lake LOMR* is enclosed showing the model drainage basins adjacent to this project and estimated times of concentration. Design plans of the ponds are enclosed. An annotated FIRM map is enclosed showing how the floodplain would be re-mapped. See the enclosed MT-2 forms.

MT-2 Form 1
City of Wichita

U.S. DEPARTMENT OF HOMELAND SECURITY
 FEDERAL EMERGENCY MANAGEMENT AGENCY
OVERVIEW & CONCURRENCE FORM

*O.M.B No. 1660-0016
 Expires February 28, 2014*

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington, VA 20958-3005, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. Please do not send your completed survey to the above address.

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

A. REQUESTED RESPONSE FROM DHS-FEMA

This request is for a (check one):

- CLOMR: A letter from DHS-FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes. (See 44 CFR Ch. 1, Parts 60, 65 & 72).
- LOMR: A letter from DHS-FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See 44 CFR Ch. 1, Parts 60, 65 & 72)

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Example: 480301 480287	City of Katy Harris County	TX TX	48473C 48201C	0005D 0220G	02/08/83 09/28/90
200328	City of Wichita	KS	20173C	0326F	03/12/13
200328	City of Wichita	KS	20173C	0330F	03/12/13

2. a. Flooding Source: Cadillac Lake Drainage Basin

b. Types of Flooding: Riverine Coastal Shallow Flooding (e.g., Zones AO and AH)
 Alluvial fan Lakes Other (Attach Description)

3. Project Name/Identifier: New Market Office Drainage Construction

4. FEMA zone designations affected: AE (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

5. Basis for Request and Type of Revision:

a. The basis for this revision request is (check all that apply)

- Physical Change Improved Methodology/Data Regulatory Floodway Revision Base Map Changes
 Coastal Analysis Hydraulic Analysis Hydrologic Analysis Corrections
 Weir-Dam/Changes Levee Certification Alluvial Fan Analysis Natural Changes
 New Topographic Data Other (Attach Description)

Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following structures (check all that apply)

Structures: Channelization Levee/Floodwall Bridge/Culvert
 Dam Fill Other (Attach Description)

6. Documentation of ESA compliance is submitted (required to initiate CLOMR review). Please refer to the instructions for more information.

C. REVIEW FEE

Has the review fee for the appropriate request category been included? Yes Fee amount: \$5,300
 No, Attach Explanation

Please see the DHS-FEMA Web site at http://www.fema.gov/plan/prevent/fhm/frm_fees.shtm for Fee Amounts and Exemptions.

D. SIGNATURE

All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: Joseph E. Hickle, P.E.	Company: Professional Engineering Consultants, PA	
Mailing Address: 303 S. Topeka Wichita, KS 67202	Daytime Telephone No.: 316-262-2691	Fax No.: 316-262-3003
	E-Mail Address: Joseph.Hickle@pec1.com	

Signature of Requester (required): _____ Date: _____

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirements for when fill is placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. For Conditional LOMR requests, the applicant has documented Endangered Species Act (ESA) compliance to FEMA prior to FEMA's review of the Conditional LOMR application. For LOMR requests, I acknowledge that compliance with Sections 9 and 10 of the ESA has been achieved independently of FEMA's process. For actions authorized, funded, or being carried out by Federal or State agencies, documentation from the agency showing its compliance with Section 7(a)(2) of the ESA will be submitted. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Scott C. Lindebak, P.E. CFM, Stormwater Engineer Community Name: City of Wichita

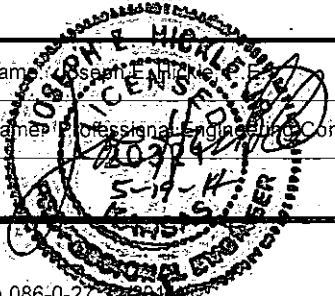
Mailing Address: City of Wichita Stormwater, 8th Floor 455 N. Main Wichita, KS 67202	Daytime Telephone No.: 316-268-4498	Fax No.: 316-858-7761
E-Mail Address: S.Lindebak@wichita.gov		

Community Official's Signature (required): *SLC* Date: *5-20-14*

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.2(b) and as described in the MT-2 Forms Instructions. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: Joseph E. Hickle	License No.: 20321	Expiration Date: 12/31/2016
Company Name: Professional Engineering Consultants, PA	Telephone No.: 316-262-2691	Fax No.: 316-262-3003
Signature: _____	Date: _____	E-Mail Address: Joseph.Hickle@pec1.com

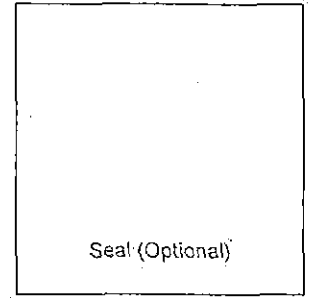


Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)

Required if ...

- | | |
|---|---|
| <input checked="" type="checkbox"/> Riverine Hydrology and Hydraulics Form (Form 2) | New or revised discharges or water surface elevations |
| <input checked="" type="checkbox"/> Riverine Structures Form (Form 3) | Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam |
| <input type="checkbox"/> Coastal Analysis Form (Form 4) | New or revised coastal elevations |
| <input type="checkbox"/> Coastal Structures Form (Form 5) | Addition/revision of coastal structure |
| <input type="checkbox"/> Alluvial Fan Flooding Form (Form 6) | Flood control measures on alluvial fans |



MT-2 Form 1
Sedgwick County

U.S. DEPARTMENT OF HOMELAND SECURITY
 FEDERAL EMERGENCY MANAGEMENT AGENCY
OVERVIEW & CONCURRENCE FORM

O.M.B No. 1660-0016
 Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

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PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

A. REQUESTED RESPONSE FROM DHS-FEMA

This request is for a (check one):

- CLOMR: A letter from DHS-FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60, 65 & 72).
- LOMR: A letter from DHS-FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See 44 CFR Ch. 1, Parts 60, 65 & 72)

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Example: 480301	City of Katy	TX	48473C	0005D	02/08/83
480287	Harris County	TX	48201C	0220G	09/28/90
200321	Sedgwick County Unincorporated Areas	KS	20173C	0326F	03/12/13
200321	Sedgwick County Unincorporated Areas	KS	20173C	0330F	03/12/13

2. a. Flooding Source: Cadillac Lake Drainage Basin

- b. Types of Flooding: Riverine Coastal Shallow Flooding (e.g., Zones AO and AH)
 Alluvial fan Lakes Other (Attach Description)

3. Project Name/Identifier: NewMarket Office Drainage Construction

4. FEMA zone designations affected: AE (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

5. Basis for Request and Type of Revision:

a. The basis for this revision request is (check all that apply)

- Physical Change Improved Methodology/Data Regulatory Floodway Revision Base Map Changes
 Coastal Analysis Hydraulic Analysis Hydrologic Analysis Corrections
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 New Topographic Data Other (Attach Description)

Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following structures (check all that apply).

Structures: Channelization Levee/Floodwall Bridge/Culvert
 Dam Fill Other (Attach Description)

6. Documentation of ESA compliance is submitted (required to initiate CLOMR review). Please refer to the instructions for more information.

C. REVIEW FEE

Has the review fee for the appropriate request category been included? Yes Fee amount: \$5,300
 No, Attach Explanation

Please see the DHS-FEMA Web site at http://www.fema.gov/plan/prevent/fhm/frm_fees.shtml for Fee Amounts and Exemptions.

D. SIGNATURE

All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: Joseph E. Hickle, P.E.	Company: Professional Engineering Consultants, PA	
Mailing Address: 303 S. Topeka Wichita, KS 67202	Daytime Telephone No.: 316-262-2691	Fax No.: 316-262-3003
	E-Mail Address: Joseph.Hickle@pec1.com	

Signature of Requester (required): _____ Date: _____

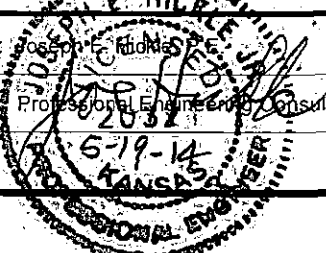
As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirements for when fill is placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. For Conditional LOMR requests, the applicant has documented Endangered Species Act (ESA) compliance to FEMA prior to FEMA's review of the Conditional LOMR application. For LOMR requests, I acknowledge that compliance with Sections 9 and 10 of the ESA has been achieved independently of FEMA's process. For actions authorized, funded, or being carried out by Federal or State agencies, documentation from the agency showing its compliance with Section 7(a)(2) of the ESA will be submitted. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Kelly L. Dixon, CFM, Codes & Floodplain Management Technician	Community Name: Sedgwick County	
Mailing Address: Department of Code Enforcement 1144 S. Seneca Wichita, KS 67213-4443	Daytime Telephone No.: 316-660-1840	Fax No.: 316-383-7502
	E-Mail Address: kdixon@sedgwick.gov	

Community Official's Signature (required):  Date: 6-2-14

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.2(b) and as described in the MT-2 Forms Instructions. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: Joseph E. Hickle	License No.: 20321	Expiration Date: 4/30/16
Company Name: Professional Engineering Consultants, PA	Telephone No.: 316-262-2691	Fax No.: 316-262-3003
Signature: 	Date: 6-19-14	E-Mail Address: Joseph.Hickle@pec1.com

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)

Required if ...

- | | |
|---|---|
| <input checked="" type="checkbox"/> Riverine Hydrology and Hydraulics Form (Form 2) | New or revised discharges or water-surface elevations |
| <input checked="" type="checkbox"/> Riverine Structures Form (Form 3) | Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam |
| <input type="checkbox"/> Coastal Analysis Form (Form 4) | New or revised coastal elevations |
| <input type="checkbox"/> Coastal Structures Form (Form 5) | Addition/revision of coastal structure |
| <input type="checkbox"/> Alluvial Fan Flooding Form (Form 6) | Flood control measures on alluvial fans. |

Seal (Optional)

MT-2 Form 2
FEMA Form 086-0-27A

U.S. DEPARTMENT OF HOMELAND SECURITY
 FEDERAL EMERGENCY MANAGEMENT AGENCY
RIVERINE HYDROLOGY & HYDRAULICS FORM

O.M.B No. 1660-0016
 Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

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DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a NFIP Flood Insurance Rate Maps (FIRM).

Flooding Source: Cadillac Lakes Drainage Basin

Note: Fill out one form for each flooding source studied

A. HYDROLOGY

1. Reason for New Hydrologic Analysis (check all that apply)

- | | | |
|--|--|---|
| <input type="checkbox"/> Not revised (skip to section B) | <input type="checkbox"/> No existing analysis | <input checked="" type="checkbox"/> Improved data |
| <input type="checkbox"/> Alternative methodology | <input type="checkbox"/> Proposed Conditions (CLOMR) | <input checked="" type="checkbox"/> Changed physical condition of watershed |

2. Comparison of Representative 1%-Annual-Chance Discharges

Location	Drainage Area (Sq. Mi.)	Effective/FIS (cfs)	Revised (cfs)
See Table 1 for 1%-Annual Chance-Discharges of the attached Drainage Study			

3. Methodology for New Hydrologic Analysis (check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Statistical Analysis of Gage Records | <input checked="" type="checkbox"/> Precipitation/Runoff Model → Specify Model: <u>HEC-HMS</u> |
| <input type="checkbox"/> Regional Regression Equations | <input type="checkbox"/> Other (please attach description) |

Please enclose all relevant models in digital format, maps, computations (including computation of parameters), and documentation to support the new analysis.

4. Review/Approval of Analysis

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review.

5. Impacts of Sediment Transport on Hydrology

Is the hydrology for the revised flooding source(s) affected by sediment transport? Yes No

If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation...

B. HYDRAULICS

1. Reach to be Revised

	Description	Cross Section	Water-Surface Elevations (ft.)	
			Effective	Proposed/Revised
Downstream Limit*	N/A			
Upstream Limit*				

*Proposed/Revised elevations must tie-into the Effective elevations within 0.5 foot at the downstream and upstream limits of revision.

2. Hydraulic Method/Model Used: _____

3. Pre-Submittal Review of Hydraulic Models*

DHS-FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS.

4.

Models Submitted	Natural Run		Floodway Run		Datum
	File Name:	Plan Name:	File Name:	Plan Name:	
Duplicate Effective Model*	N/A	N/A	N/A	N/A	
Corrected Effective Model*	N/A	N/A	N/A	N/A	
Existing or Pre-Project Conditions Model	Current Conditions	Current Conditions	N/A	N/A	NAVD 88
Revised or Post-Project Conditions Model	NMO Current LOMR	NMO Current LOMR	N/A	N/A	NAVD 88
Other - (attach description)					

* For details, refer to the corresponding section of the instructions.

Digital Models Submitted? (Required)

C. MAPPING REQUIREMENTS

A certified topographic work map must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%- and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g., dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

Digital Mapping (GIS/CADD) Data Submitted (preferred)

Topographic Information: Lidar Mapping, NAVD

Source: Sedgwick Country Date: 2011

Accuracy: Within 6-inches

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach a copy of the effective FIRM and/or FBFM, at the same scale as the original, annotated to show the boundaries of the revised 1%- and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%- and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area on revision.

Annotated FIRM and/or FBFM (Required)

D. COMMON REGULATORY REQUIREMENTS*

1. For LOMR/CLOMR requests, do Base Flood Elevations (BFEs) increase? Yes No
- a. For CLOMR requests, if either of the following is true, please submit evidence of compliance with Section 65.12 of the NFIP regulations:
- The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot compared to pre-project conditions.
 - The proposed project encroaches upon a SFHA with or without BFEs established and would result in increases above 1.00 foot compared to pre-project conditions.
- b. Does this LOMR request cause increase in the BFE and/or SFHA compared with the effective BFEs and/or SFHA? Yes No
If Yes, please attach proof of property owner notification and acceptance (if available). Elements of and examples of property owner notifications can be found in the MT-2 Form 2 Instructions.
2. Does the request involve the placement or proposed placement of fill? Yes No
If Yes, the community must be able to certify that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets all of the standards of the local floodplain ordinances, and is reasonably safe from flooding in accordance with the NFIP regulations set forth at 44 CFR 60.3(A)(3), 65.5(a)(4), and 65.6(a)(14). Please see the MT-2 instructions for more information.
3. For LOMR requests, is the regulatory floodway being revised? Yes No
If Yes, attach evidence of regulatory floodway revision notification. As per Paragraph 65.7(b)(1) of the NFIP Regulations, notification is required for requests involving revisions to the regulatory floodway. (Not required for revisions to approximate 1%-annual-chance floodplains [studied Zone A designation] unless a regulatory floodway is being established. Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.)
4. For CLOMR requests, please submit documentation to FEMA and the community to show that you have complied with Sections 9 and 10 of the Endangered Species Act (ESA).

For actions authorized, funded, or being carried out by Federal or State agencies, please submit documentation from the agency showing its compliance with Section 7(a)(2) of the ESA. Please see the MT-2 instructions for more detail.

* Not inclusive of all applicable regulatory requirements. For details, see 44 CFR parts 60 and 65.

MT-2 Form 3
FEMA Form 086-0-27B

DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
RIVERINE STRUCTURES FORM

O.M.B. NO. 1660-0016
Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 7 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington, VA 20598-3005, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. Please do not send your completed survey to the above address.

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a NFIP Flood Insurance Rate Maps (FIRM).

Flooding Source: Cadillac Lake Drainage Basin

Note: Fill out one form for each flooding source studied.

A. GENERAL

Complete the appropriate section(s) for each Structure listed below:

- Channelization.....complete Section B
- Bridge/Culvert.....complete Section C
- Dam.....complete Section D
- Levee/Floodwall.....complete Section E
- Sediment Transport.....complete Section F (if required)

Description Of Modeled Structure

1. Name of Structure: Pond A

Type (check one): Channelization Bridge/Culvert Levee/Floodwall Dam

Location of Structure: North of 29th Street, West of Maize Road

Downstream Limit/Cross Section: WE-P1

Upstream Limit/Cross Section: WF-P4

2. Name of Structure: Pond B

Type (check one): Channelization Bridge/Culvert Levee/Floodwall Dam

Location of Structure: North of 29th Street, West of Maize Road

Downstream Limit/Cross Section: WE-P1

Upstream Limit/Cross Section: WF-P4

3. Name of Structure: _____

Type (check one) Channelization Bridge/Culvert Levee/Floodwall Dam

Location of Structure: _____

Downstream Limit/Cross Section: _____

Upstream Limit/Cross Section: _____

NOTE: FOR MORE STRUCTURES, ATTACH ADDITIONAL PAGES AS NEEDED.

B. CHANNELIZATION

Flooding Source: Cadillac Lake Drainage Basin

Name of Structure: Ponds A and B

1. Hydraulic Considerations

The channel was designed to carry _____ (cfs) and/or the 100-year flood.

The design elevation in the channel is based on (check one):

- Subcritical flow
- Critical flow
- Supercritical flow
- Energy grade line

If there is the potential for a hydraulic jump at the following locations, check all that apply and attach an explanation of how the hydraulic jump is controlled without affecting the stability of the channel.

- Inlet to channel
- Outlet of channel
- At Drop Structures
- At Transitions
- Other locations (specify): _____

2. Channel Design Plans

Attach the plans of the channelization certified by a registered professional engineer, as described in the instructions.

3. Accessory Structures

The channelization includes (check one):

- Levees [Attach Section E (Levee/Floodwall)]
- Drop structures
- Superelevated sections
- Transitions in cross sectional geometry
- Debris basin/detention basin [Attach Section D (Dam/Basin)]
- Energy dissipator
- Weir
- Other (Describe): _____

4. Sediment Transport Considerations

Are the hydraulics of the channel affected by sediment transport? Yes No

If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation for why sediment transport was not considered.

C. BRIDGE/CULVERT

Flooding Source: _____

Name of Structure: _____

1. This revision reflects (check one):

- Bridge/culvert not modeled in the FIS
- Modified bridge/culvert previously modeled in the FIS
- Revised analysis of bridge/culvert previously modeled in the FIS

2. Hydraulic model used to analyze the structure (e.g., HEC-2 with special bridge routine, WSPRO, HY8): _____

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structures. Attach justification.

3. Attach plans of the structures certified by a registered professional engineer. The plan detail and information should include the following (check the information that has been provided):

- Dimensions (height, width, span, radius, length)
- Distances Between Cross Sections
- Shape (culverts only)
- Erosion Protection
- Material
- Low Chord Elevations – Upstream and Downstream
- Beveling or Rounding
- Top of Road Elevations – Upstream and Downstream
- Wing Wall Angle
- Structure Invert Elevations – Upstream and Downstream
- Skew Angle
- Stream Invert Elevations – Upstream and Downstream
- Cross-Section Locations

4. Sediment Transport Considerations

Are the hydraulics of the structure affected by sediment transport? Yes No

If Yes, then fill out Section F (Sediment Transport) of Form 3. If no, then attach an explanation.

D. DAM/BASIN

Flooding Source: _____
 Name of Structure: _____

1. This request is for (check one): Existing dam/basin New dam/basin Modification of existing dam/basin
2. The dam/basin was designed by (check one): Federal agency State agency Private organization Local government agency

Name of the agency or organization: _____

3. The Dam was permitted as (check one): Federal Dam State Dam

Provide the permit or identification number (ID) for the dam and the appropriate permitting agency or organization

Permit or ID number _____ Permitting Agency or Organization _____

- a. Local Government Dam Private Dam

Provided related drawings, specification and supporting design information.

4. Does the project involve revised hydrology? Yes No

If Yes, complete the Riverine Hydrology & Hydraulics Form (Form 2).

Was the dam/basin designed using critical duration storm? (must account for the maximum volume of runoff)

- Yes, provide supporting documentation with your completed Form 2.
 No, provide a written explanation and justification for not using the critical duration storm.

5. Does the submittal include debris/sediment yield analysis? Yes No

If Yes, then fill out Section F (Sediment Transport). If No, then attach your explanation for why debris/sediment analysis was not considered?

6. Does the Base Flood Elevation behind the dam/basin or downstream of the dam/basin change? Yes No

If Yes, complete the Riverine Hydrology & Hydraulics Form (Form 2) and complete the table below.

FREQUENCY (% annual chance)	Stillwater Elevation Behind the Dam/Basin	
	FIS	REVISED
10-year (10%)	_____	_____
50-year (2%)	_____	_____
100-year (1%)	_____	_____
500-year (0.2%)	_____	_____
Normal Pool Elevation	_____	_____

7. Please attach a copy of the formal Operation and Maintenance Plan

E. LEVEE/FLOODWALL

1. System Elements

a. This Levee/Floodwall analysis is based on (check one):

- upgrading of an existing levee/floodwall system a newly constructed levee/floodwall system reanalysis of an existing levee/floodwall system

b. Levee elements and locations are (check one):

- earthen embankment, dike, berm, etc. Station _____ to _____
 structural floodwall Station _____ to _____
 Other (describe): _____ Station _____ to _____

c. Structural Type (check one): monolithic cast-in place reinforced concrete reinforced concrete masonry block sheet piling
 Other (describe): _____

d. Has this levee/floodwall system been certified by a Federal agency to provide protection from the base flood?

- Yes No

If Yes, by which agency? _____

e. Attach certified drawings containing the following information (indicate drawing sheet numbers):

- 1. Plan of the levee embankment and floodwall structures. Sheet Numbers: _____
- 2. A profile of the levee/floodwall system showing the Base Flood Elevation (BFE), levee and/or wall crest and foundation, and closure locations for the total levee system. Sheet Numbers: _____
- 3. A profile of the BFE, closure, opening outlet and inlet invert elevations, type and size of opening, and kind of closure. Sheet Numbers: _____
- 4. A layout detail for the embankment protection measures. Sheet Numbers: _____
- 5. Location, layout, and size and shape of the levee embankment features, foundation treatment, Floodwall structure, closure structures, and pump stations. Sheet Numbers: _____

2. Freeboard

a. The minimum freeboard provided above the BFE is:

Riverine

- 3.0 feet or more at the downstream end and throughout Yes No
- 3.5 feet or more at the upstream end Yes No
- 4.0 feet within 100 feet upstream of all structures and/or constrictions Yes No

Coastal

- 1.0 foot above the height of the one percent wave associated with the 1%-annual-chance stillwater surge elevation or maximum wave runup (whichever is greater). Yes No
- 2.0 feet above the 1%-annual-chance stillwater surge elevation Yes No

Please note, occasionally exceptions are made to the minimum freeboard requirement. If an exception is requested, attach documentation addressing Paragraph 65.10(b)(1)(ii) of the NFIP Regulations.

If No is answered to any of the above, please attach an explanation.

b. Is there an indication from historical records that ice-jamming can affect the BFE? Yes No

If Yes, provide ice-jam analysis profile and evidence that the minimum freeboard discussed above still exists.

3. Closures

a. Openings through the levee system (check one): exists does not exist

If opening exists, list all closures:

Channel Station	Left or Right Bank	Opening Type	Highest Elevation for Opening Invert	Type of Closure Device

(Extend table on an added sheet as needed and reference)

Note: Geotechnical and geologic data

In addition to the required detailed analysis reports, data obtained during field and laboratory investigations and used in the design analysis for the following system features should be submitted in a tabulated summary form. (Reference U.S. Army Corps of Engineers [USACE] EM 1110-2-1906 Form 2086.)

4. Embankment Protection

- a. The maximum levee slope land side is: _____
- b. The maximum levee slope flood side is: _____
- c. The range of velocities along the levee during the base flood is: _____ (min.) to _____ (max.)
- d. Embankment material is protected by (describe what kind): _____
- e. Riprap Design Parameters (check one): Velocity Tractive stress
 Attach references.

Reach	Sideslope	Flow Depth	Velocity	Curve or Straight	Stone Riprap			Depth of Toedown
					D ₁₀₀	D ₅₀	Thickness	
Sta _____ to _____								
Sta _____ to _____								
Sta _____ to _____								
Sta _____ to _____								
Sta _____ to _____								
Sta _____ to _____								

(Extend table on an added sheet as needed and reference each entry)

- f. Is a bedding/filter analysis and design attached? Yes No
- g. Describe the analysis used for other kinds of protection used (include copies of the design analysis):

Attach engineering analysis to support construction plans.

5. Embankment And Foundation Stability

- a. Identify locations and describe the basis for selection of critical location for analysis:

Overall height: Sta.: _____, height _____ ft.

Limiting foundation soil strength:

Strength ϕ = _____ degrees, c = _____ psf

Slope: SS = _____ (h) to _____ (v).

(Repeat as needed on an added sheet for additional locations)

- b. Specify the embankment stability analysis methodology used (e.g., circular arc, sliding block, infinite slope, etc.):

- c. Summary of stability analysis results:

E. LEVEE/FLOODWALL (CONTINUED)

5. Embankment And Foundation Stability (continued)

Case	Loading Conditions	Critical Safety Factor	Criteria (Min.)
I	End of construction		1.3
II	Sudden drawdown		1.0
III	Critical flood stage		1.4
IV	Steady seepage at flood stage		1.4
VI	Earthquake (Case I)		1.0

(Reference: USACE EM-1110-2-1913 Table 6-1)

- d. Was a seepage analysis for the embankment performed? Yes No
If Yes, describe methodology used:
- e. Was a seepage analysis for the foundation performed? Yes No
- f. Were uplift pressures at the embankment landside toe checked? Yes No
- g. Were seepage exit gradients checked for piping potential? Yes No
- h. The duration of the base flood hydrograph against the embankment is ____ hours.

Attach engineering analysis to support construction plans.

6. Floodwall And Foundation Stability

- a. Describe analysis submittal based on Code (check one): UBC (1988) Other (specify): ____
- b. Stability analysis submitted provides for: Overturning Sliding If not, explain: ____
- c. Loading included in the analyses were: Lateral earth @ $P_A =$ ____ psf; $P_p =$ ____ psf
 Surcharge-Slope @ ____ surface ____ psf
 Wind @ $P_w =$ ____ psf
 Seepage (Uplift); ____ Earthquake @ $P_{eq} =$ ____ %g
- 1%-annual-chance significant wave height: ____ ft.
- 1%-annual-chance significant wave period: ____ sec.
- d. Summary of Stability Analysis Results: Factors of Safety.
Itemize for each range in site layout dimension and loading condition limitation for each respective reach.

Loading Condition	Criteria (Min)		Sta	To	Sta	To
	Overturn	Sliding	Overturn	Sliding	Overturn	Sliding
Dead & Wind	1.5	1.5				
Dead & Soil	1.5	1.5				
Dead, Soil, Flood, & Impact	1.5	1.5				
Dead, Soil, & Seismic	1.3	1.3				

(Ref: FEMA 114 Sept 1986; USACE EM 1110-2-2502)
Note: (Extend table on an added sheet as needed and reference)

E. LEVEE/FLOODWALL (CONTINUED)

6. Floodwall And Foundation Stability (continued)

e. Foundation bearing strength for each soil type:

Bearing Pressure	Sustained Load (psf)	Short Term Load (psf)
Computed design maximum		
Maximum allowable		

f. Foundation scour protection is, is not provided. If provided, attach explanation and supporting documentation:

Attach engineering analysis to support construction plans.

7. Settlement

a. Has anticipated potential settlement been determined and incorporated into the specified construction elevations to maintain the established freeboard margin? Yes No

b. The computed range of settlement is ____ ft. to ____ ft.

c. Settlement of the levee crest is determined to be primarily from: Foundation consolidation Embankment compression
 Other (Describe): _____

d. Differential settlement of floodwalls has, has not been accommodated in the structural design and construction.

Attach engineering analysis to support construction plans.

8. Interior Drainage

a. Specify size of each interior watershed:

Draining to pressure conduit: ____ acres

Draining to ponding area: ____ acres

b. Relationships Established

Ponding elevation vs. storage Yes No

Ponding elevation vs. gravity flow Yes No

Differential head vs. gravity flow Yes No

c. The river flow duration curve is enclosed: Yes No

d. Specify the discharge capacity of the head pressure conduit: ____ cfs

e. Which flooding conditions were analyzed?

• Gravity flow (Interior Watershed) Yes No

• Common storm (River Watershed) Yes No

• Historical ponding probability Yes No

• Coastal wave overtopping Yes No

If No for any of the above, attach explanation.

e. Interior drainage has been analyzed based on joint probability of interior and exterior flooding and the capacities of pumping and outlet facilities to provide the established level of flood protection. Yes No. If No, attach explanation.

g. The rate of seepage through the levee system for the base flood is ____ cfs

h. The length of levee system used to drive this seepage rate in item g: ____ ft.

E. LEVEE/FLOODWALL (CONTINUED)

8. Interior Drainage (continued)

i. Will pumping plants be used for interior drainage? Yes No

If Yes, include the number of pumping plants: ____ For each pumping plant, list:

	Plant #1	Plant #2
The number of pumps		
The ponding storage capacity		
The maximum pumping rate		
The maximum pumping head		
The pumping starting elevation		
The pumping stopping elevation		
Is the discharge facility protected?		
Is there a flood warning plan?		
How much time is available between warning and flooding?		

Will the operation be automatic?

Yes No

If the pumps are electric, are there backup power sources?

Yes No

(Reference: USACE EM-1110-2-3101, 3102, 3103, 3104, and 3105)

Include a copy of supporting documentation of data and analysis. Provide a map showing the flooded area and maximum ponding elevations for all interior watersheds that result in flooding.

9. Other Design Criteria

a. The following items have been addressed as stated:

Liquefaction is is not a problem

Hydrocompaction is is not a problem

Heave differential movement due to soils of high shrink/swell is is not a problem.

b. For each of these problems, state the basic facts and corrective action taken:

Attach supporting documentation

c. If the levee/floodwall is new or enlarged, will the structure adversely impact flood levels and/or flow velocities floodside of the structure?
 Yes No Attach supporting documentation

d. Sediment Transport Considerations:

Was sediment transport considered? Yes No

If Yes, then fill out Section F (Sediment Transport). If No, then attach your explanation for why sediment transport was not considered.

10. Operational Plan And Criteria

a. Are the planned/installed works in full compliance with Part 65.10 of the NFIP Regulations? Yes No

b. Does the operation plan incorporate all the provisions for closure devices as required in Paragraph 65.10(c)(1) of the NFIP regulations?
 Yes No

c. Does the operation plan incorporate all the provisions for interior drainage as required in Paragraph 65.10(c)(2) of the NFIP regulations?
 Yes No If the answer is No to any of the above, please attach supporting documentation.

E. LEVEE/FLOODWALL (CONTINUED)

11. Maintenance Plan

Please attach a copy of the formal maintenance plan for the levee/floodwall

12. Operations and Maintenance Plan

Please attach a copy of the formal Operations and Maintenance Plan for the levee/floodwall.

CERTIFICATION OF THE LEVEE DOCUMENTATION

This certification is to be signed and sealed by a licensed registered professional engineer authorized by law to certify elevation information data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.10(e) and as described in the MT-2 Form Instructions. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: _____ License No.: _____ Expiration Date: _____
Company Name: _____ Telephone No.: _____ Fax No.: _____
Signature: _____ Date: _____ E-Mail Address: _____

F. SEDIMENT TRANSPORT

Flooding Source: _____

Name of Structure: _____

If there is any indication from historical records that sediment transport (including scour and deposition) can affect the Base Flood Elevation (BFE); and/or based on the stream morphology, vegetative cover, development of the watershed and bank conditions, there is a potential for debris and sediment transport (including scour and deposition) to affect the BFEs, then provide the following information along with the supporting documentation:

Sediment load associated with the base flood discharge: Volume _____ acre-feet

Debris load associated with the base flood discharge: Volume _____ acre-feet

Sediment transport rate _____ (percent concentration by volume)

Method used to estimate sediment transport: _____

Most sediment transport formulas are intended for a range of hydraulic conditions and sediment sizes; attach a detailed explanation for using the selected method.

Method used to estimate scour and/or deposition: _____

Method used to revise hydraulic or hydrologic analysis (model) to account for sediment transport: _____

Please note that bulked flows are used to evaluate the performance of a structure during the base flood; however, FEMA does not map BFEs based on bulked flows.

If a sediment analysis has not been performed, an explanation as to why sediment transport (including scour and deposition) will not affect the BFEs or structures must be provided.

Payment Form
FEMA Form 81-107

**FEDERAL EMERGENCY MANAGEMENT AGENCY
PAYMENT INFORMATION FORM**

Community Name: City of Wichita

Project Identifier: NewMarket Office Drainage Construction

THIS FORM MUST BE MAILED, ALONG WITH THE APPROPRIATE FEE, TO THE ADDRESS BELOW OR FAXED TO THE FAX NUMBER BELOW.

Type of Request:

MT-1 application
 MT-2 application
 }
LOMC Clearinghouse
 7390 Coca Cola Drive
 Suite 204
 Hanover, MD 21076
 Attn.: LOMA Manager

EDR application
 }
FEMA Project Library
 847 South Pickett St.
 Alexandria, VA 22304
 FAX (703) 212-4090

Request No.: _____ (if known)

Amount: \$5,300

INITIAL FEE*
 FINAL FEE
 FEE BALANCE**
 MASTER CARD
 VISA
 CHECK
 MONEY ORDER

*Note: Check only for EDR and/or Alluvial Fan requests (as appropriate).

**Note: Check only if submitting a corrected fee for an ongoing request.

COMPLETE THIS SECTION ONLY IF PAYING BY CREDIT CARD

CARD NUMBER

EXP. DATE

<table border="1" style="width: 100%; height: 20px;"> <tr><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td></tr> </table> <p align="center">1 2 3 4</p>					<table border="1" style="width: 100%; height: 20px;"> <tr><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td></tr> </table> <p align="center">5 6 7 8</p>					<table border="1" style="width: 100%; height: 20px;"> <tr><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td></tr> </table> <p align="center">9 10 11 12</p>					<table border="1" style="width: 100%; height: 20px;"> <tr><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td></tr> </table> <p align="center">13 14 15 16</p>				

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Date _____

Signature _____

NAME (AS IT APPEARS ON CARD): _____
(please print or type)

ADDRESS: _____
(for your credit card receipt please print or type)

DAYTIME PHONE: _____

Appendices

Appendix A

Retention Ponds Record Topographic Workmap

Appendix C

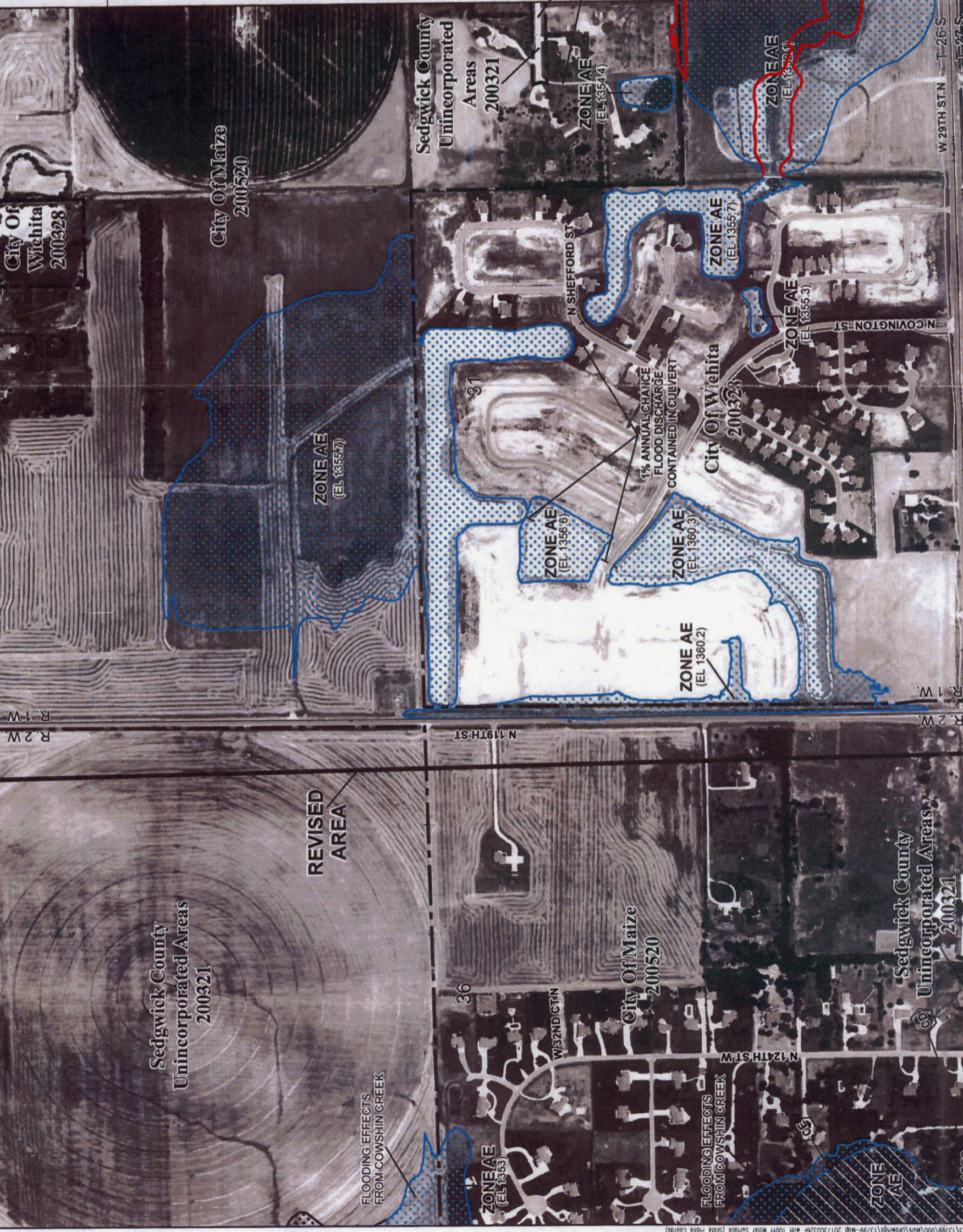
Annotated FIRM Map

JOINS PANEL 0190

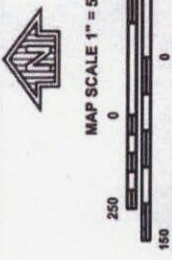
37° 45' 00"

41.79° 00m N

R. 1 W.
R. 2 W.



- Legend
- 1% annual chance (100-Year) Floodplain
 - 1% annual chance (100-Year) Floodway
 - 0.2% annual chance (500-Year) Floodplain



NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0326F

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

PANEL 326 OF 700
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:	
COMMUNITY NUMBER	PANEL SUFFIX
MAIZE CITY OF 200520	F 0328
SEDGWICK COUNTY 200321	F 0328
WICHITA CITY OF 200326	F 0328

REVISED TO REFLECT LOMR EFFECTIVE: March 12, 2013

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 20173C0326F
MAP REVISED

JOINS PANEL 0330

41.78° 00m N

W 29TH ST N T-26 S
T-27 S

R. 1 W.
R. 2 W.

1959

131313799\000\Map\Drawings\1379-Map 20173C0326F with 100yr Water Surface (State Plane Coord)



Federal Emergency Management Agency
 MAP NUMBER
 20173C0326
 MAY 2, 2012
 MAP REVISED

REVISED TO
 REFLECT LOMR
 EFFECTIVE:
 March 12, 2013

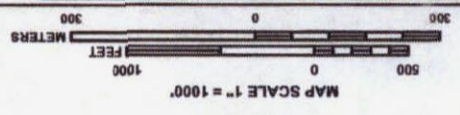
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

CONTAINS:
 COMMUNITY NUMBER PANEL SUFFIX
 MAIZE CITY OF 20050 0330 F
 SEDGWICK COUNTY 20021 0330 F
 WICHITA CITY OF 20028 0330 F

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

PANEL 330 OF 700
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

PANEL 0330F



MAP SCALE 1" = 1000'

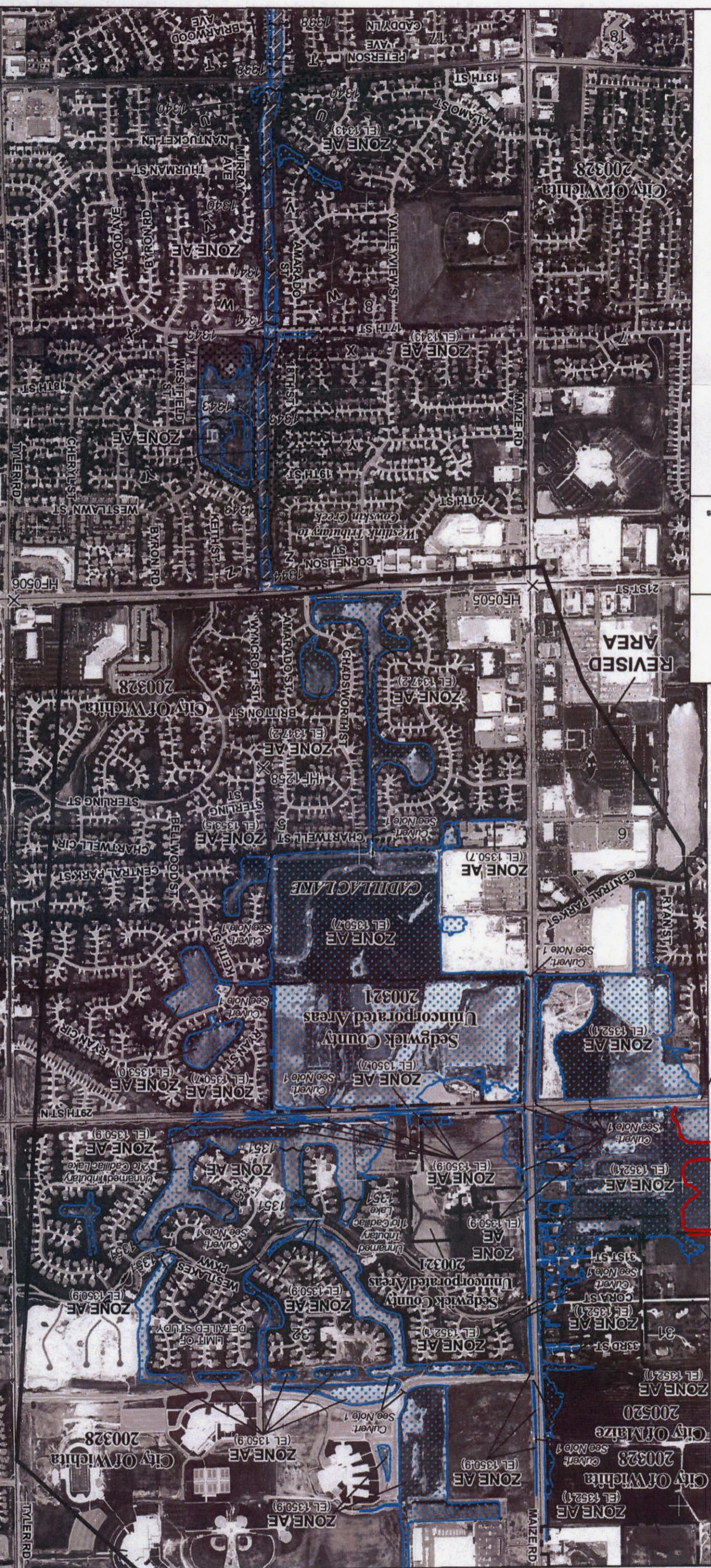


- Legend
- 1% annual chance (100-Year) Floodplain
 - 1% annual chance (100-Year) Floodway
 - 0.2% annual chance (500-Year) Floodplain

NOTE:
 1. 1% ANNUAL CHANGE
 FLOOD DISCHARGE
 CONTAINED IN CULVERT

THIS AREA SHOWN AT A
 SCALE OF 1" = 500'
 ON MAP NUMBER
 20173C0326

Sedgwick County
 Unincorporated Areas
 200321



NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 26 NORTH, RANGE 1 WEST AND TOWNSHIP 27 NORTH, RANGE 1 WEST.
 1610000 FT
 JOINS PANEL 0190
 1615000 FT

Appendix D

Former LOMR Drainage Basin Map

Appendix E

Pond Design Plans

STORM WATER DRAIN NO. 376 (PART B)

TO SERVE

NEWMARKET OFFICE 2ND

OCA NO. 751498

CITY OF WICHITA PROJECT NO. 468-84753

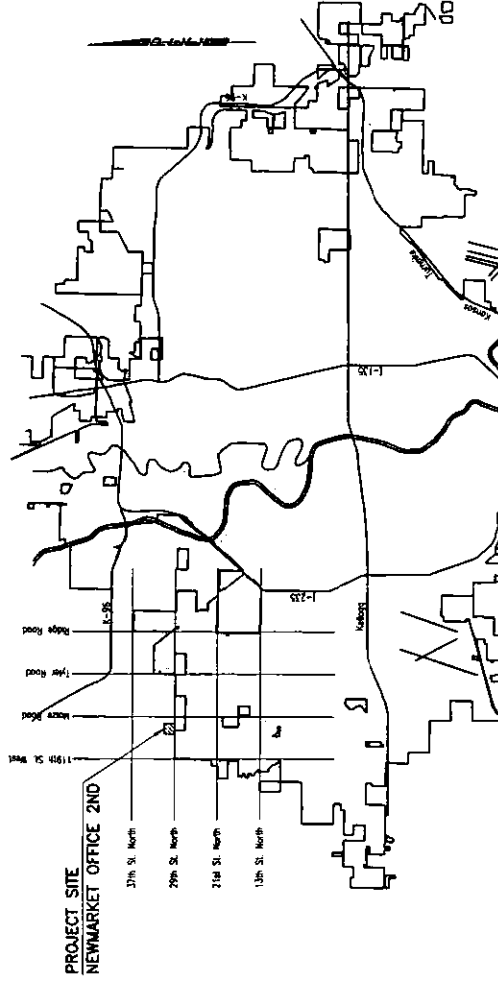
CITY OF WICHITA, KANSAS

GARY JANZEN, P.E. - CITY ENGINEER

84753

DEVELOPER CONTACT
MR. DAVID HAMBRICK
NEWMARKET OFFICE, L.L.C.
727 N. WACO, SUITE 400
WICHITA, KANSAS 67203
(316) 263-3201

- INDEX OF SHEETS**
1. TITLE SHEET
 2. KEY MAP AND GENERAL NOTES
 3. PLAT
 4. PLAT COORDINATES POINTS
 5. SITE GRADING PLAN
 6. POND A GRADING PLAN (WEST)
 7. POND B GRADING PLAN (EAST)
 8. POND TYPICAL SECTIONS AND COORDINATE LISTS
 9. R.C. WEIR DETAILS
 10. R.C. WEIR DETAILS (4' WIDE)
 11. WEST POND INFLOW-RRRAP DETAILS
 12. RRAP AND MISCELLANEOUS DETAILS
 13. EROSION CONTROL PLAN
 - 14-17. EROSION CONTROL DETAILS



LOCATION MAP

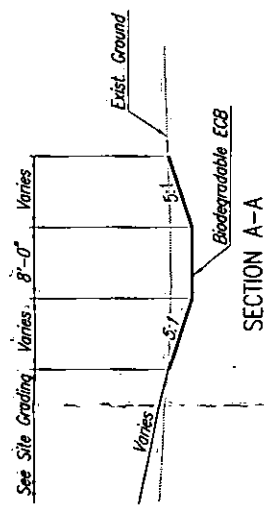
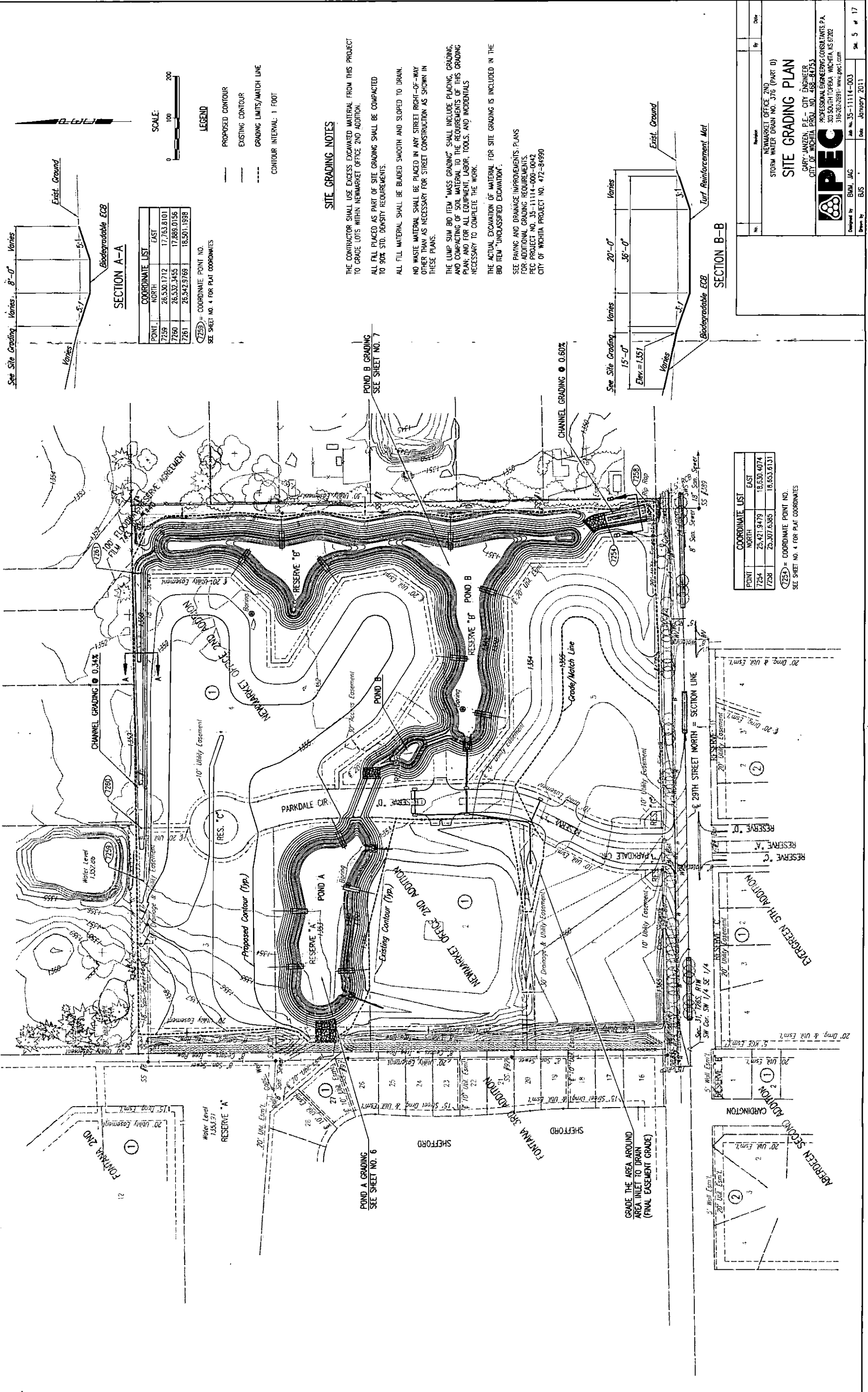
EARTHWORK
EXCAVATION 71,505 CU. YDS.
FILL 58,360 CU. YDS.

CONSTRUCTION SCHEDULE/SEQUENCE

THE CONTRACTOR FOR THIS PROJECT SHALL COORDINATE THEIR EFFORTS SUCH THAT ANY NECESSARY SIMULTANEOUS PRIVATE PROJECT CONSTRUCTION CAN PROCEED CONCURRENTLY WITHOUT CAUSING UNDUE DELAYS SO THAT CONSTRUCTION CAN BE COMPLETED WITHIN THE TIME FRAME AS OUTLINED IN THE SPECIAL PROVISIONS.



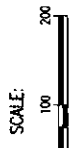
DECEMBER 2012
PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS



SECTION A-A

COORDINATE LIST		EAST	
POINT	NORTH	EAST	
7259	26,536.1712	17,763.8101	
7260	26,532.3455	17,886.0156	
7261	26,542.9769	18,501.1998	

(7259) = COORDINATE POINT NO.
 SEE SHEET NO. 4 FOR PLAT COORDINATES



- LEGEND**
- PROPOSED CONTOUR
 - - - EXISTING CONTOUR
 - - - GRADING LIMITS/MATCH LINE
 - CONTOUR INTERVAL: 1 FOOT

SITE GRADING NOTES

THE CONTRACTOR SHALL USE EXCESS EXCAVATED MATERIAL FROM THIS PROJECT TO GRADE LOTS WITHIN NEWMARKET OFFICE 2ND ADDITION.

ALL FILL PLACED AS PART OF SITE GRADING SHALL BE COMPACTED TO 80% STD. DENSITY REQUIREMENTS.

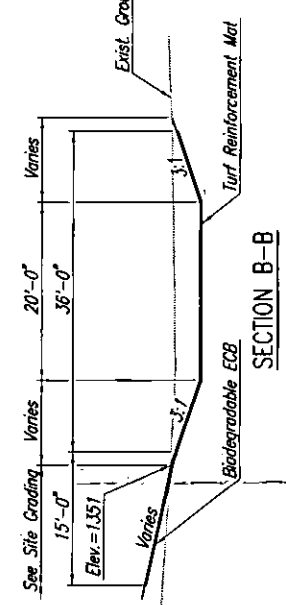
ALL FILL MATERIAL SHALL BE BLADED SMOOTH AND SLOPED TO DRAIN.

NO WASTE MATERIAL SHALL BE PLACED IN ANY STREET RIGHT-OF-WAY OTHER THAN AS NECESSARY FOR STREET CONSTRUCTION AS SHOWN IN THESE PLANS.

THE LUMP SUM BID ITEM "MASS GRADING" SHALL INCLUDE PLACING, GRADING, AND COMPACTING OF SOIL MATERIAL TO THE REQUIREMENTS OF THIS GRADING PLAN; AND FOR ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

THE ACTUAL EXCAVATION OF MATERIAL FOR SITE GRADING IS INCLUDED IN THE BID ITEM "UNCLASSIFIED EXCAVATION".

SEE PAVING AND DRAINAGE IMPROVEMENTS PLANS FOR ADDITIONAL GRADING REQUIREMENTS.
 PEC PROJECT NO. 35-11114-000-0042
 CITY OF WICHITA PROJECT NO. 472-84990



SECTION B-B

COORDINATE LIST		EAST	
POINT	NORTH	EAST	
7254	25,421.9479	18,630.4074	
7258	25,307.6365	18,653.6131	

(7254) = COORDINATE POINT NO.
 SEE SHEET NO. 4 FOR PLAT COORDINATES

NEWMARKET OFFICE 2ND
 STORM WATER DRAIN NO. 376 (PART B)

SITE GRADING PLAN

GARY JANZEN, P.E. - CITY ENGINEER
 CITY OF WICHITA PROJ. NO. 488-84753

PEC
 PROFESSIONAL ENGINEERING CONSULTANTS P.A.
 303 SOUTH TOPEKA WICHITA, KS 67202
 316-262-2891 www.pec3.com

Designed by: BMM, JAC
 Drawn by: BUS
 Job No. 35-11114-003
 Date: January, 2011
 SW: 5 of 17

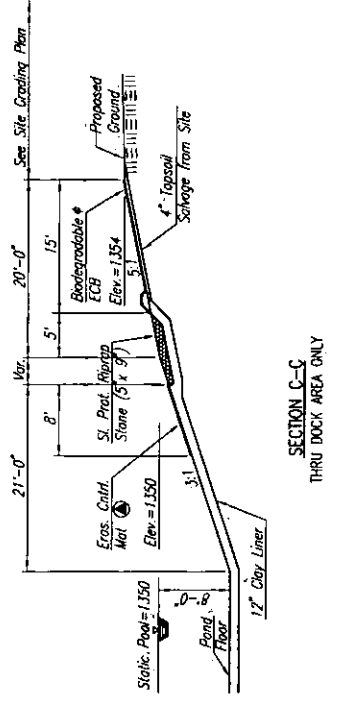
POINT	NORTH	EAST	COORDINATE LIST-PT. AT ELEV. 1350
7000	26,101.0267	17,432.3870	
7001	26,160.5608	17,498.0278	
7002	26,181.5756	17,519.8690	
7003	26,178.8045	17,550.9560	
7004	26,178.6474	17,557.7555	
7005	26,179.2639	17,563.3664	
7006	26,185.7369	17,603.0945	
7007	26,186.3462	17,613.1715	
7008	26,184.9188	17,623.1656	
7009	26,170.9969	17,679.2268	
7010	26,169.5301	17,690.8918	
7011	26,170.7813	17,702.4822	
7012	26,182.3658	17,753.2423	
7013	26,161.0227	17,819.8878	
7014	26,078.6677	17,874.0234	
7015	26,051.4812	17,882.3567	
7016	26,036.6768	17,906.8576	
7017	26,009.4645	17,911.0668	
7018	25,991.7077	17,883.4036	
7019	25,969.6662	17,845.8307	
7020	25,979.8570	17,807.7142	
7021	25,994.3475	17,783.9765	
7022	26,011.4448	17,741.4410	
7023	26,013.9229	17,695.7206	
7024	26,011.9529	17,677.9027	
7025	26,011.5295	17,660.8784	
7026	26,014.0099	17,644.0291	
7027	26,021.8876	17,609.8218	
7028	26,023.5695	17,548.9251	
7029	26,020.7155	17,535.0046	
7030	26,034.3780	17,461.9872	
7031	26,085.9418	17,432.4043	
7032			

7000 = COORDINATE POINT NO.
SEE SHEET NO. 4 FOR PLAT COORDINATES



See Sheet No. 8 for
Pond Grading Notes and
Pond Sealing Notes and
Section A-A and Section B-B.

- LEGEND**
- SLOPE PROTECTION RIPRAP STONE (5' x 9')
 - LIGHT STONE RIPRAP (18')
 - EROSION CONTROL MAT
 - SLOPE PROTECTION (BIODEGRADABLE ECB)



NOTE: POND CONTRACTOR TO COORDINATE WITH THE SITE CONTRACTOR (PRIVATE PROJECT NO. 0036 PPD 607861) REGARDING THE CONSTRUCTION OF THE TWO STORM SEWER OUTFALLS INTO THE POND. A POSITIVE DRAINAGE OUTFALL DITCH FROM THE STORM SEWER PIPING OUTFALLS SHALL BE DEVELOPED AS NECESSARY BY THE POND CONTRACTOR. SIMULTANEOUS CONSTRUCTION OF THE POND IS ANTICIPATED.

EROSION CONTROL MAT SHALL BE NORTH AMERICAN GREEN P300 OR APPROVED EQUIVALENT. EQUIVALENT MUST INCLUDE PRODUCT WARRANTY EQUAL TO THAT OF NORTH AMERICAN GREEN. INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

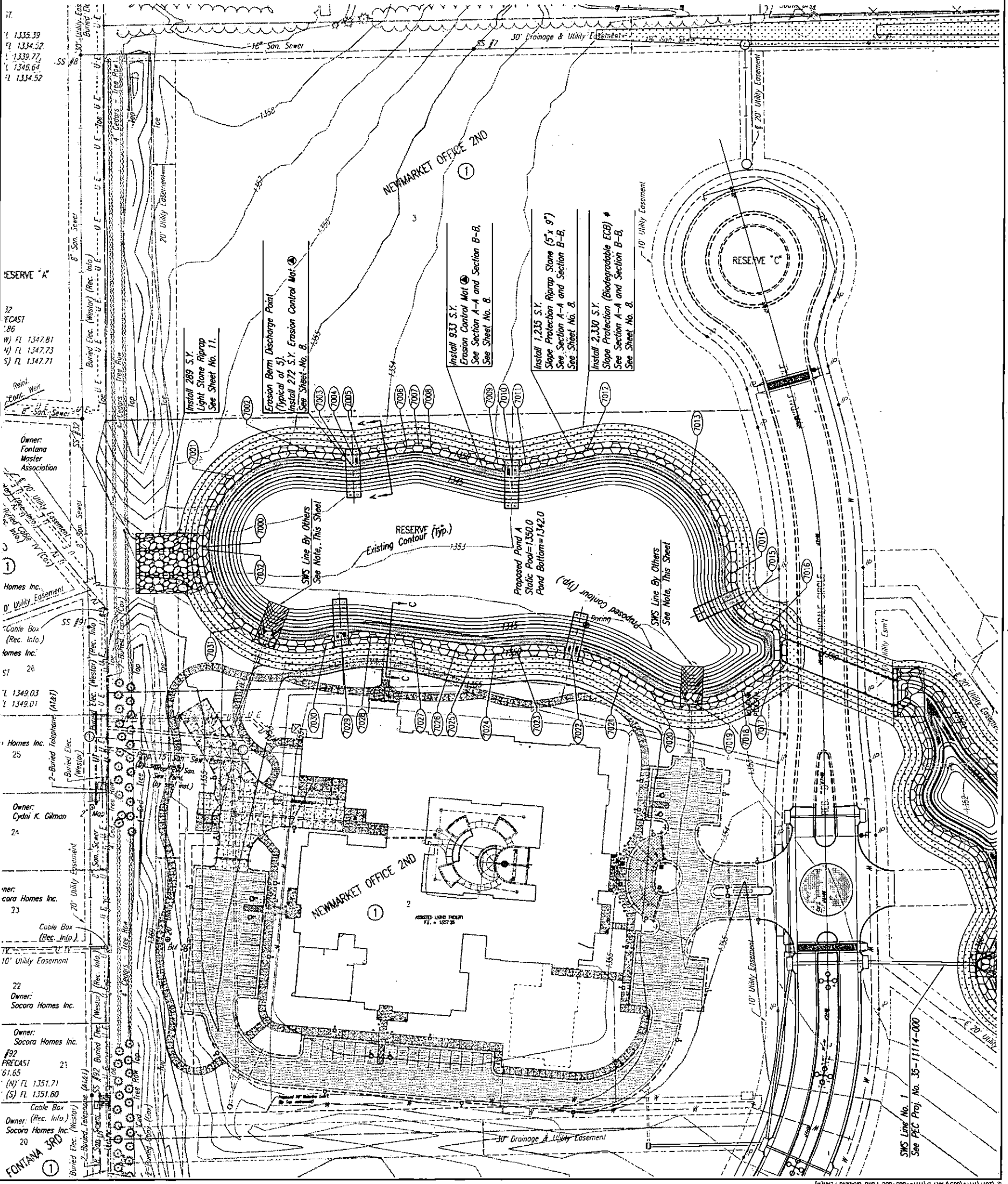
PAID FOR AS S.Y. "SLOPE PROTECTION" AS INDICATED ON PLANS. THE BID PRICE SHALL BE CONSIDERED FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTS NECESSARY TO COMPLETE WORK.

NEWMARKET OFFICE 2ND
STORM WATER DRAIN NO. 376 (PART B)

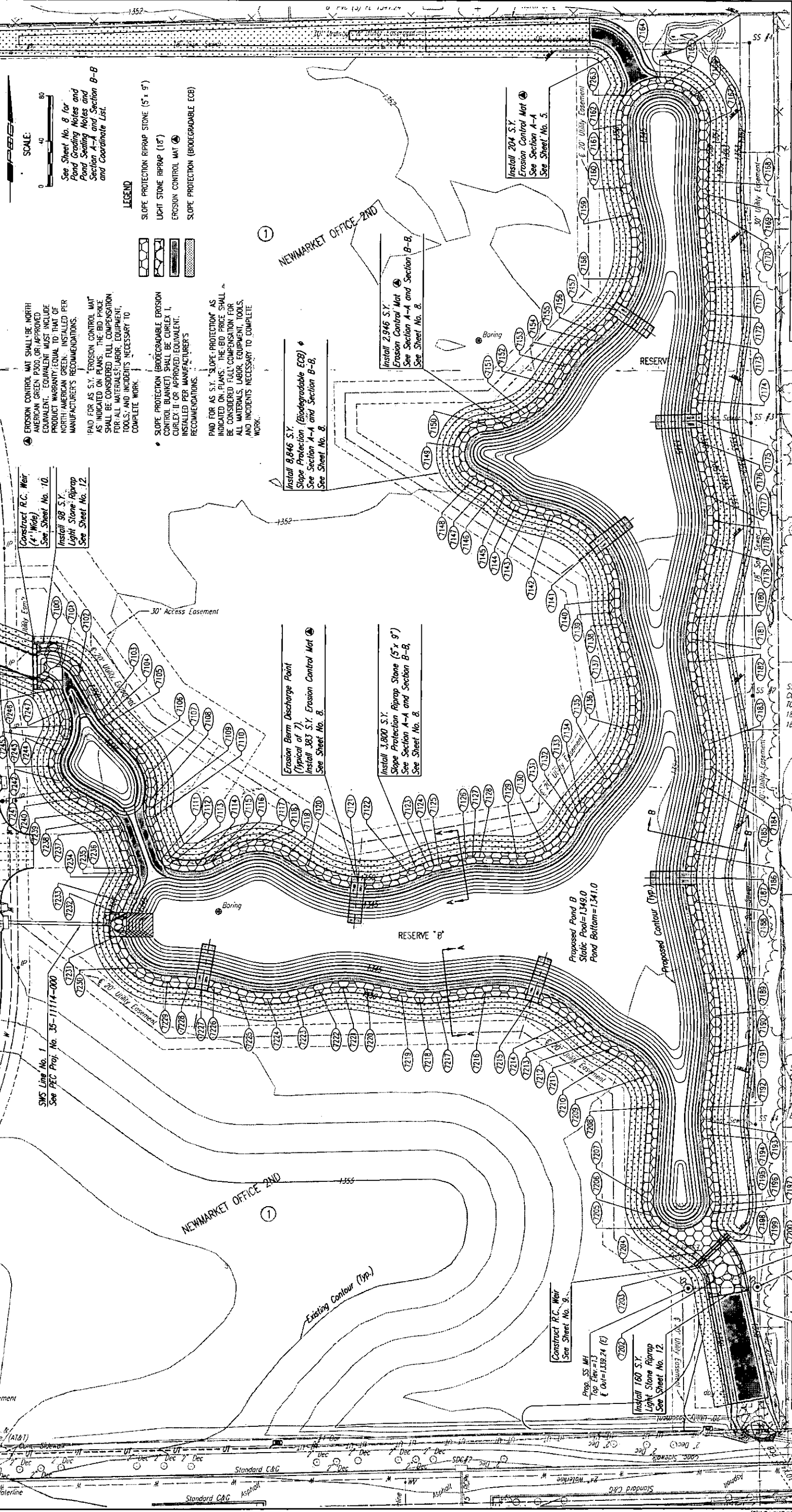
POND A GRADING PLAN (WEST)

PECC
CARY JANZEN, P.E. - CITY ENGINEER
CITY OF WICHITA, KS
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2891 - www.pecc.com

Designed by: BMW, JAC
Drawn by: BJS
Date: January 2011
Sheet No. 35-11114-003
PK. 6 of 17



SWS Line No. 1
See PECC Proj. No. 35-11114-000



EROSION CONTROL MAT SHALL BE NORTH AMERICAN GREEN P300 OR APPROVED EQUIVALENT. EQUIVALENT MUST INCLUDE PRODUCT WARRANTY/EQUAL TO THAT OF NORTH AMERICAN GREEN. INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

PAID FOR AS S.Y. EROSION CONTROL MAT AS INDICATED ON PLANS. THE BID PRICE SHALL BE CONSIDERED FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTS NECESSARY TO COMPLETE WORK.

• SLOPE PROTECTION (BIODEGRADABLE EROSION CONTROL MAT) SHALL BE CORLEX 1, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

PAID FOR AS S.Y. SLOPE PROTECTION AS INDICATED ON PLANS. THE BID PRICE SHALL BE CONSIDERED FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTS NECESSARY TO COMPLETE WORK.

Construct R.C. Weir
(4' Wide)
See Sheet No. 10.

Install 98 S.Y.
Light Stone Riprap
See Sheet No. 12.

Install 8,846 S.Y.
Slope Protection (Biodegradable ECB)
See Section A-A and Section B-B.
See Sheet No. 8.

Install 2,946 S.Y.
Erosion Control Mat
See Section A-A and Section B-B.
See Sheet No. 8.

Install 204 S.Y.
Erosion Control Mat
See Section A-A
See Sheet No. 5.

Erosion Berm Discharge Point
(Typical of 7)
Install 383 S.Y. Erosion Control Mat
See Sheet No. 8.

Install 3,800 S.Y.
Slope Protection Riprap Stone (5' x 9')
See Section A-A and Section B-B.
See Sheet No. 8.

Proposed Pond B
Static Pool=1349.0
Pond Bottom=1341.0

Construct R.C. Weir
See Sheet No. 9.

Prop. SS MH
Top Elev.=1509
E. In.=1339.24 (E)

Install 160 S.Y.
Light Stone Riprap
See Sheet No. 12.

Install 392 S.Y.
Erosion Control Mat
See Section B-B
See Sheet No. 5.

Prop. SS MH
Top Elev.=1509
E. In.=1339.0 (M)
E. Out.=1337.31 (S)

SS MH #1
CONC. PRECAST
TOP=1357.89
18" PVC (S) FL 1331.50
18" PVC (N) FL 1331.52
8" PVC (W) FL 1332.31

SS MH #2
CONC. PRECAST
TOP=1352.20
18" PVC (N) FL 1332.09
18" PVC (S) FL 1331.98

SS MH #3
CONC. PRECAST
TOP=1352.26
18" PVC (S) FL 1332.47
18" PVC (N) FL 1332.29
8" PVC (W) FL 1333.17
8" PVC (W) FL 1340.30

Owner: Katherine M. & Randy Ambrose

Owner: Flatland Investments, LLC

Owner: Flatland Investments, LLC

Owner: Flatland Investments, LLC

SS MH #1
CONC. PRECAST
TOP=1355.02
24" RCP (W) FL 1342.42
Fence 1.32' East of P

SS MH #2
CONC. PRECAST
TOP=1355.02
24" RCP (W) FL 1342.42
Fence 1.27' East of P

SS MH #3
CONC. PRECAST
TOP=1352.26
24" RCP (W) FL 1342.42
Fence 3.80' East of P

SDW #1
MANHOLE
TOP 1355.02
Fence 1.32' East of P

Scale: 1" = 20'

North Arrow

See Sheet No. 8 for Pond Sealing Notes and Section A-A and Section B-B and Coordinate List.

NEWMARKET OFFICE 2ND

RESERVE B

Proposed Contour (Typ.)

Existing Contour (Typ.)

Proposed Pond B
Static Pool=1349.0
Pond Bottom=1341.0

Construct R.C. Weir
See Sheet No. 9.

Prop. SS MH
Top Elev.=1509
E. In.=1339.24 (E)

Install 160 S.Y.
Light Stone Riprap
See Sheet No. 12.

Install 392 S.Y.
Erosion Control Mat
See Section B-B
See Sheet No. 5.

Prop. SS MH
Top Elev.=1509
E. In.=1339.0 (M)
E. Out.=1337.31 (S)

SS MH #1
CONC. PRECAST
TOP=1357.89
18" PVC (S) FL 1331.50
18" PVC (N) FL 1331.52
8" PVC (W) FL 1332.31

SS MH #2
CONC. PRECAST
TOP=1352.20
18" PVC (N) FL 1332.09
18" PVC (S) FL 1331.98

SS MH #3
CONC. PRECAST
TOP=1352.26
18" PVC (S) FL 1332.47
18" PVC (N) FL 1332.29
8" PVC (W) FL 1333.17
8" PVC (W) FL 1340.30

Owner: Katherine M. & Randy Ambrose

Owner: Flatland Investments, LLC

Owner: Flatland Investments, LLC

Owner: Flatland Investments, LLC

SS MH #1
CONC. PRECAST
TOP=1355.02
24" RCP (W) FL 1342.42
Fence 1.32' East of P

SS MH #2
CONC. PRECAST
TOP=1355.02
24" RCP (W) FL 1342.42
Fence 1.27' East of P

SS MH #3
CONC. PRECAST
TOP=1352.26
24" RCP (W) FL 1342.42
Fence 3.80' East of P

SDW #1
MANHOLE
TOP 1355.02
Fence 1.32' East of P

Scale: 1" = 20'

North Arrow

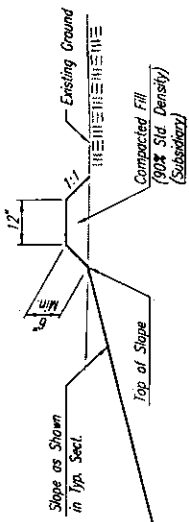
See Sheet No. 8 for Pond Sealing Notes and Section A-A and Section B-B and Coordinate List.

POND B GRADING PLAN (EAST)

NEWMARKET OFFICE 2ND
STORM WATER DRAIN NO. 376 (PART B)

APPEC
CARY JANZEN, P.E. - CITY ENGINEER
303 SOUTH DOEKA WICHITA KS 67202
316-262-2881 www.appec.com

Designed by: B.M. JAC
Drawn by: B.S.
Date: January, 2011
Sheet: 7 of 17



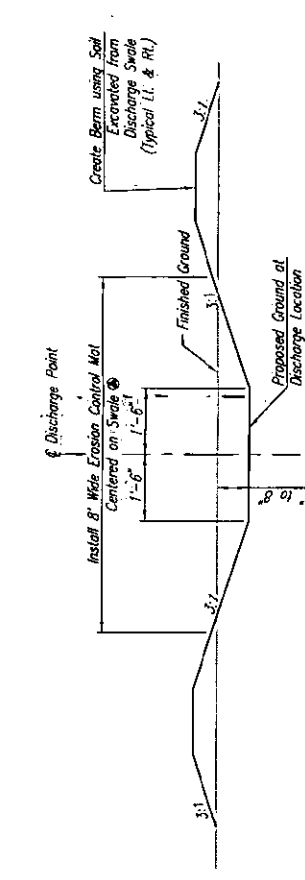
TEMPORARY EROSION CONTROL DETAIL FOR SLOPE PROTECTION

THE ENGINEER MAY DETERMINE THAT THE HEIGHT OF BERM SHOULD BE INCREASED OVER THAT SHOWN IF DRAINAGE CONDITIONS ARE PRODUCING SLOPE EROSION.

TEMPORARY EROSION CONTROL BERMS SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

AT REGULAR INTERVALS OF NO GREATER THAN 250 FT. AND WHERE FLOW IS CONCENTRATED, SUCH AS THE CORNERS OF THE POND, OR AS DIRECTED BY THE ENGINEER, AND AS PER PLANS DEPICT PROVIDE BREAKS IN THE BERM TO ALLOW CONTROLLED DISCHARGE OF TRAPPED WATER. DISCHARGE LOCATIONS SHALL BE PROTECTED AS NECESSARY TO PREVENT SLOPE EROSION. SEE TYPICAL SECTION.

ALL AREAS WHERE FLOW IS CONCENTRATED SHALL BE PROTECTED BY SLOPE PROTECTION PRIOR TO DISCHARGING INTO ANY DITCH, STORM SEWER, OR WATERCOURSE, AS APPROVED BY THE ENGINEER. MEASUREMENT AND PAYMENT: THIS WORK SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO UNCLASSIFIED EXCAVATION.



TYPICAL SECTION
(Erosion Berm Discharge Point)

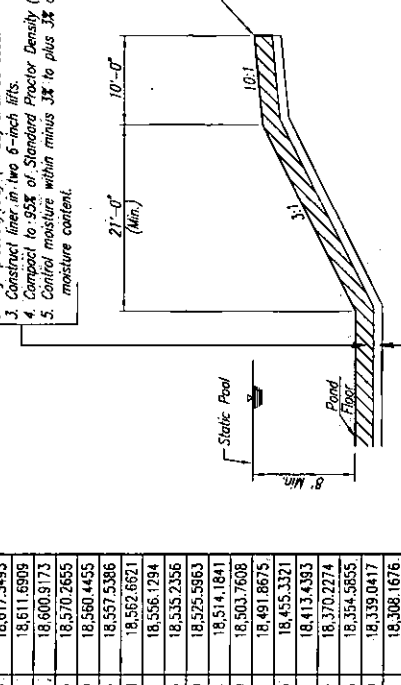
EROSION CONTROL MAT SHALL BE NORTH AMERICAN GREEN P-300 OR APPROVED EQUIVALENT. EQUIPMENT MUST INCLUDE PRODUCT WARRANTY EQUAL TO THAT OF NORTH AMERICAN GREEN. INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

PAID FOR AS S.Y. "EROSION CONTROL MAT" AS INDICATED ON PLANS. THE BID PRICE SHALL BE CONSIDERED FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTS NECESSARY TO COMPLETE WORK.

SLOPE PROTECTION (BIOGRADEABLE EROSION CONTROL BLANKET) SHALL BE CURLEY I, CURLEY II OR APPROVED EQUIVALENT. INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

PAID FOR AS S.Y. "SLOPE PROTECTION" AS INDICATED ON PLANS. THE BID PRICE SHALL BE CONSIDERED FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTS NECESSARY TO COMPLETE WORK.

CLAY LINER CONSTRUCTION PROCEDURE FOR POND SEALING



1. Construct 12 inches of clay liner.
2. High plasticity clay (PI>25) shall be used.
3. Construct liner in two 6-inch lifts.
4. Compact to 95% of Standard Proctor Density (ASTM D-698).
5. Control moisture within minus 3% to plus 3% of optimum.

Match Grades as Shown on Plans

Compact exposed subgrade to assure firm base for liner.

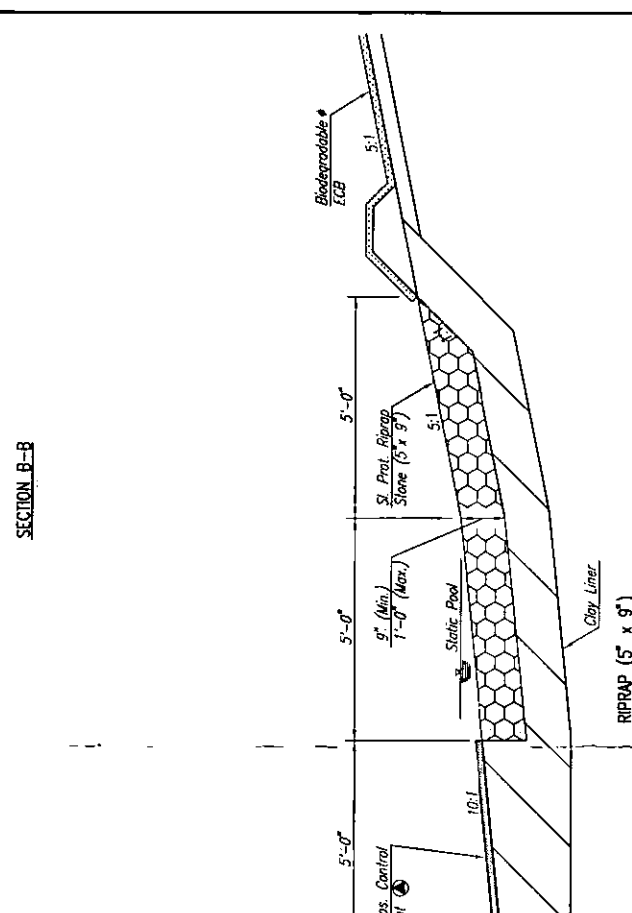
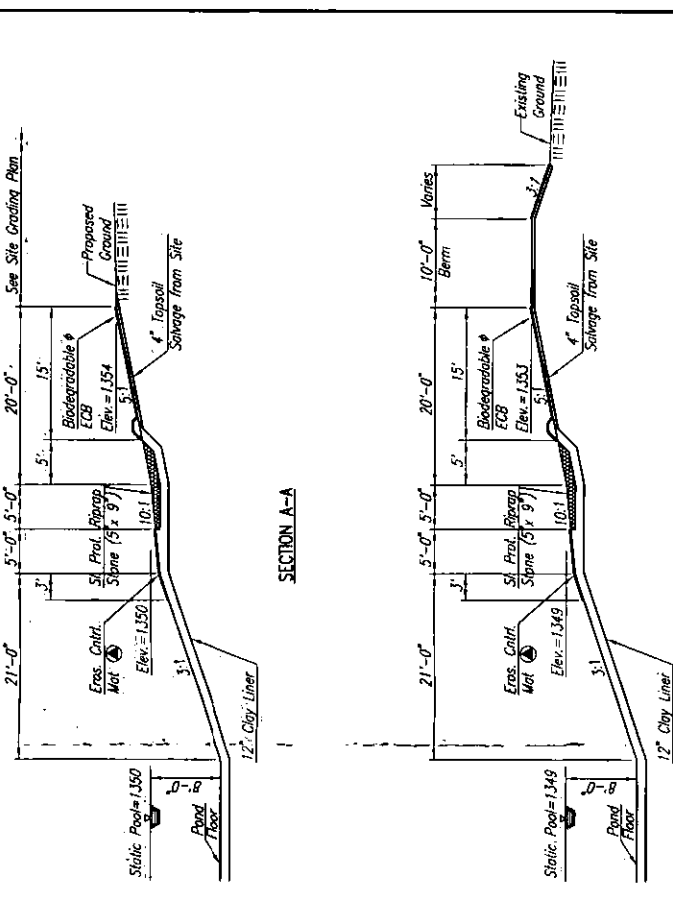
POND SEALING NOTES:

THE POND AREAS BELOW STATIC POOL ELEVATION SHALL BE OVER-EXCAVATED TO A DEPTH OF 12 INCHES BELOW THE FINAL POND SURFACE. THE OVER-EXCAVATED MATERIAL SHALL BE STOCKPILED FOR RE-USE, UTILIZED IN PROJECT EMBANKMENTS, OR WASTED ON SITE. BACKFILL OVER-EXCAVATED AREA WITH HEAVY CLAY MATERIAL (PI>25) AND COMPACT TO 95% STD. DENSITY IN MAXIMUM 6-INCH LIFTS TO PROVIDE AN IMPERVIOUS SURFACE. NO SHALE PERMITTED IN THIS ZONE.

POND SEALING, AS DESCRIBED HEREIN, SHALL BE MEASURED AND PAID FOR BY THE LUMP SUM. THE LUMP SUM BID FOR "POND SEALING" SHALL BE CONSIDERED FULL COMPENSATION FOR ALL OVEREXCAVATION, STOCKPILING, DOUBLE HANDLING OF EARTHWORK (IF NECESSARY), COMPACTING, CORRECTION OF LEAKAGE AS DIRECTED BY THE ENGINEER, AND FOR ALL TOOLS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

POND GRADING NOTES:

CONTRACTOR SHALL PERFORM GRADING AS SHOWN BY CONTOURS AND COORDINATES ON THIS SHEET AND ON SHEET NOS. 7 THRU 10. EARTHWORK VOLUMES FOR THIS GRADING HAVE BEEN INCLUDED IN THE BID ITEM "UNCLASSIFIED EXCAVATION."



NOTES

RIPRAP MATERIALS SHALL MEET THE REQUIREMENTS FOR QUALITY AND DECELERIOUS SUBSTANCES AS SET FORTH IN SUBSECTION 1114 OF STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, KANSAS DEPARTMENT OF TRANSPORTATION, 2007 EDITION.

SHALL BE PAID FOR AS SQUARE YARD "SLOPE PROTECTION RIPRAP STONE (5' x 9') AS INDICATED ON PLANS.

POINT	NORTH	EAST	COORDINATE LIST - PT. AT ELEV. 1349.0
7100	25.980.5944	18.019.8531	
7101	25.986.1909	18.037.5652	
7102	25.973.4694	18.050.6523	
7103	25.939.3105	18.070.9327	
7104	25.934.4711	18.074.2025	
7105	25.930.0461	18.078.0143	
7106	25.905.6536	18.101.6448	
7107	25.884.7200	18.113.7746	
7108	25.860.5420	18.114.6559	
7109	25.852.2927	18.114.0863	
7110	25.844.1996	18.115.7888	
7111	25.811.4835	18.127.9407	
7112	25.807.6105	18.130.0770	
7113	25.805.2901	18.134.0710	
7114	25.803.0767	18.136.4942	
7115	25.803.5377	18.162.7927	
7116	25.806.1065	18.168.7684	
7117	25.816.2506	18.189.5386	
7118	25.821.2540	18.214.0924	
7119	25.813.7170	18.237.9855	
7120	25.802.9823	18.255.1577	
7121	25.795.1388	18.299.6154	
7122	25.795.1828	18.345.9532	
7123	25.802.1046	18.367.9171	
7124	25.803.6369	18.367.2261	
7125	25.804.7691	18.371.6572	
7126	25.809.6729	18.395.3123	
7127	25.810.5363	18.401.2514	
7128	25.810.6818	18.407.2514	
7129	25.809.4870	18.440.7484	
7130	25.815.9931	18.467.2676	
7131	25.835.4649	18.486.4106	
7132	25.845.1982	18.491.7320	
7133	25.849.7451	18.494.5436	
7134	25.853.9659	18.497.8246	
7135	25.860.3876	18.520.7311	
7136	25.923.9270	18.542.7308	
7137	25.972.6938	18.541.5150	
7138	26.018.3617	18.528.8110	
7139	26.029.2165	18.526.6394	
7140	26.040.2727	18.526.0892	
7141	26.067.8188	18.510.5524	
7142	26.115.0216	18.468.5758	
7143	26.119.5593	18.449.6250	
7144	26.123.8905	18.438.0730	
7145	26.130.9165	18.427.9331	
7146	26.136.7298	18.420.5901	
7147	26.141.5668	18.412.1895	
7148	26.147.6147	18.400.8837	
7149	26.175.1212	18.387.9888	
7200	25.456.1727	18.631.1808	
7201	25.439.1975	18.637.5766	
7202	25.433.4335	18.617.3493	
7203	25.447.9477	18.611.6909	
7204	25.459.1996	18.609.1733	
7205	25.480.6745	18.570.2655	
7206	25.492.2380	18.560.4455	
7207	25.507.1275	18.557.5386	
7208	25.588.5931	18.562.6621	
7209	25.616.6142	18.556.1294	
7210	25.636.3955	18.535.2356	
7211	25.641.2460	18.525.5963	
7212	25.647.9708	18.514.1841	
7213	25.655.1449	18.503.7608	
7214	25.666.8167	18.491.8675	
7215	25.687.7025	18.455.3321	
7216	25.691.7074	18.413.4393	
7217	25.696.6419	18.370.2774	
7218	25.686.0418	18.354.5655	
7219	25.687.8900	18.339.0417	
7220	25.684.0424	18.308.1676	
7221	25.685.9448	18.286.3539	
7222	25.681.0519	18.264.6492	
7223	25.688.2975	18.245.2274	
7224	25.685.3598	18.219.3049	
7225	25.689.2646	18.193.5148	
7226	25.695.3002	18.172.2966	
7227	25.697.8560	18.161.5730	
7228	25.699.1267	18.150.6435	
7229	25.700.3245	18.131.0232	
7230	25.712.5255	18.101.2287	
7231	25.740.3608	18.085.0492	
7232	25.761.3479	18.085.2892	
7233	25.771.7110	18.099.1118	
7234	25.793.1485	18.099.1118	
7235	25.796.9500	18.100.0693	
7236	25.800.8274	18.099.4918	
7237	25.835.2069	18.087.1319	
7238	25.844.7247	18.081.5548	
7239	25.851.5632	18.072.9146	
7240	25.863.0065	18.051.2920	
7241	25.869.5819	18.041.7291	
7242	25.878.1847	18.033.9397	
7243	25.891.0852	18.029.2009	
7244	25.904.5997	18.031.7008	
7245	25.913.5471	18.036.0274	
7246	25.927.5203	18.039.4948	
7247	25.941.7072	18.037.0440	
7248	25.960.0459	18.029.7572	
7249	25.966.6718	18.024.5932	
7250	25.989.4823	18.016.6765	

(7200) = COORDINATE POINT NO.
SEE SHEET NO. 7 FOR PLAT COORDINATES

(7150) = COORDINATE POINT NO.
SEE SHEET NO. 8 FOR PLAT COORDINATES

(7100) = COORDINATE POINT NO.
SEE SHEET NO. 9 FOR PLAT COORDINATES

NEWARK OFFICE 2ND FLOOR
STORM WATER DRAIN NO. 376 (PART B)
POND TYPICAL SECTIONS AND COORDINATE LISTS
GARY JANZEN, P.E. - CITY ENGINEER
CITY OF WICHITA, KAN. NO. 488-84753

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
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Designed by: JMM, JAC
Drawn by: JUS
Date: January 2011
SHEET NO. 8 OF 17