



## #2011-06 Banner Apartments Senior Housing Project Review for Planning and Zoning Commission

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**Meeting Dates:** February 16, 2011

**Requests:**

1. Final Planned Unit Development Amendment for a senior independent living development.
2. Use Variation from Article 2, Land Use of the Unified Development Ordinance, to allow a continuing care retirement community without nursing facilities, in the “B-2” zoning district.
3. Plat of Resubdivision

**Location:** Station Drive (345-375 Station Drive)

**Acreage:** Approximately 5.8 acres (4.17 acre site excluding roadway)

**Existing Zoning:** B-2 PUD General Commercial

**Surrounding Properties:**

North:	B-2 PUD General Commercial (future Al and Joe’s Deli)
South:	B-2 PUD General Commercial (Centegra MOB)
East:	M, Manufacturing
West:	B-2 PUD General Commercial (Office Buildings)

**Staff Contact:** Elizabeth Maxwell (815.356.3615)

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### **Background:**

The site is approximately 4 acres on Station Drive adjacent to the Centegra Medical Office Building and the future Al and Joe’s Deli. A previous planned unit development for an office complex was approved for the site. This request would be to amend that PUD to allow the continuing care retirement community, without nursing facilities. This is an independent senior living apartment complex.

### **Land Use Analysis:**

#### **SITE**

The site is currently zoned B-2 PUD. B-2 Commercial generally permits retail and office uses. The City classifies the proposed use as a continuing care retirement community without nursing facilities, which requires a Use Variation within the B-2 zoning district. The building is three-stories with a surface parking lot. The site is below the building impervious and overall site impervious coverage limits. The developer chose this location because it is near the Pingree Road Metra Train Station. The site is also located near medical office buildings, retail and service

providers and recreational areas. Around the site is a series of sidewalks which lead out to Station Drive. They also provide access to the Tenant Gardens and outdoor patio.

#### **PARKING**

The site is providing a total of 85 parking spaces. The parking requirement for retirement communities is between 0.75 spaces per unit up to a maximum of 1.25 spaces per unit. This project is providing 1.07 spaces per unit. Along the front of the building is a drop off lane and with angled parking. This drop off lane will need to be widened to accommodate emergency rescue equipment.

#### **ELEVATIONS**

The building's exterior elevations are primarily comprised of masonry materials. Around the base of the building and at both entries is cultured stone. Along the Station Drive elevations the remaining portion of the first floor and the entire second floor is constructed with brick. The third floor is 5" fiber cement lap siding. The interior elevations have 7" fiber cement lap siding along the second floor and 5" fiber cement lap siding along the third floor. Several of the residential units have projecting bays, which add visual interest to the exterior elevations and create a more residential appearance. All windows are aluminum single-hung. The roof is a 6/12 pitch with hip roof elements over the projecting bay areas.

#### **FLOOR PLAN**

The building is an "L" shape with three residential floors. There is a mix of one and three-bedroom units. Sixteen of the units will be three-bedroom units and 63 of the units will be one-bedroom. The first floor houses many of the resident facilities including the community room, business center, mailboxes and fitness room. The second and third floors are a mix of one and three-bedroom units. Laundry facilities are provided on each floor. Two elevators and three stairwells are planned to safely move the residents through the building.

#### **LANDSCAPE PLAN**

The landscape plan illustrates street trees along Station Drive. Trees are also within the foundation base landscape of the building, in parking lot islands and around the exterior of the building and parking lot. Numerous shrubs, ground cover and flowers are proposed throughout the site. Along the parking areas are several bio-swales intended to clean the water before it reaches the storm sewer system.

#### **Findings of fact:**

##### **Final Planned Unit Development Amendment**

The petitioner is requesting approval of a Final Planned Unit Development Amendment to allow the construction of the retirement community with a variation in the B-2 PUD zoning district. A Planned Unit Development is a Special Use and Special Uses require separate review because of their potential to impact surrounding properties and the orderly development of the City.

Section 2-400 B General Standards for all special uses in the Unified Ordinance establishes standards for all special uses in Crystal Lake. Briefly, the criteria are as follows:

1. The use is necessary or desirable, at the proposed location, to provide a service or facility which will further the public convenience and general welfare.  
 *Meets*             *Does not meet*
2. The use will not be detrimental to area property values.  
 *Meets*             *Does not meet*
3. The use will comply with the zoning districts regulations.  
 *Meets*             *Does not meet*
4. The use will not negatively impact traffic circulation.  
 *Meets*             *Does not meet*
5. The use will not negatively impact public utilities or municipal service delivery systems. If required, the use will contribute financially to the upgrading of public utilities and municipal service delivery systems.  
 *Meets*             *Does not meet*
6. The use will not negatively impact the environment or be unsightly.  
 *Meets*             *Does not meet*
7. The use, where possible will preserve existing mature vegetation, and provide landscaping and architecture, which is aesthetically pleasing, compatible or complementary to surrounding properties and acceptable by community standards.  
 *Meets*             *Does not meet*
8. The use will meet requirements of all regulating governmental agencies.  
 *Meets*             *Does not meet*
9. The use will conform to any conditions approved as part of the issued Special Use Permit.  
 *Meets*             *Does not meet*
10. The use will conform to the regulations established for specific special uses, where applicable.  
 *Meets*             *Does not meet*

In addition PUDs must also meet the standards in Section 4-500 C. Development Standards and 4-500 D. 2 Additional standards for Planned Unit Developments Commercial PUDs.

1. Implements the vision and land use policies of the Comprehensive Plan.  
 *Meets*             *Does not meet*

2. Shall not result in substantial adverse effect on adjacent property, natural resources, infrastructure, public sites or other matter of public health, safety and welfare.  
 *Meets*                       *Does not meet*
3. PUD's must provide transitional uses to blend with adjacent development.  
 *Meets*                       *Does not meet*
4. PUD phases must be logically sequenced.  
 *Meets*                       *Does not meet*
5. The density and intensity of a PUD shall be in accordance with the Comprehensive Plan.  
 *Meets*                       *Does not meet*
6. All dimensional standards shall be listed within the PUD plan if they do not meet the Ordinance minimum standards.  
 *Meets*                       *Does not meet*
7. The responsible parties for all on-site and other required public improvements shall be established and a utility plan indicating all proposed easements shall be provided.  
 *Meets*                       *Does not meet*
8. Any private infrastructure shall comply with the city standards.  
 *Meets*                       *Does not meet*
9. The PUD plan shall establish the responsibility of the applicant/developer.  
 *Meets*                       *Does not meet*
10. A bond or letter of credit shall be posted to cover required fees or public improvements.  
 *Meets*                       *Does not meet*

**Planned Unit Development Variation**

The purpose of Planned Unit Developments is to encourage and allow more creative and imaginative design of land developments than is possible under district zoning regulations. Planned Unit Developments are, therefore, intended to allow substantial flexibility in planning and designing a proposal. This flexibility is often in the form of relief from compliance with conventional zoning ordinance site and design requirements.

Ideally, this flexibility results in a development that is better planned, contains more amenities, and is ultimately more desirable than one that would have been produced through compliance with typical zoning ordinance and subdivision controls.

Therefore more lenient site requirements may be granted where the Planned Unit Development contains features not normally required of traditional developments. If the evidence is not found to justify such conditions, that fact shall be reported to the City Council with a recommendation that the variation request be lessened or denied.

*Specific variation as part of the PUD*

The petitioner is asking for a variation in conjunction with their PUD request. It is to allow a three-story building at 38 feet in height as measured at the midway point of the roof, from the allowed two-story 28 feet height maximum. This building is adjacent to the Centegra Medical Arts Building, which is 48 feet high.

**Findings of Fact:**

**USE VARIATION**

As illustrated previously in the Land Use Table, this type of residential use is not a permitted use within the B-2 zoning district. B-2 zoning is intended for general business uses. It is evident from recent applications that the nature of this area is changing from the envisioned commercial corridor to more office and low impact residential uses. The proposed project would be independent living for persons 55 years of age and better. This location would allow them to use the existing medical office, retail, recreational and mass transit services in the vicinity.

**PLAT OF RESUBDIVISION**

The petitioner is requesting a Plat of Resubdivision. This will divide off a portion of this lot on the northwest side of the site. It will also allow the developer to dedicate appropriate MUE's for this project. The lot still meets all of the bulk requirements for the B-2 zoning.

**Recommended Conditions:**

If a motion to recommend approval of the petitioner's request is made it should be with the following conditions:

1. Approved plans, reflecting staff and advisory board recommendations, as approved by the City Council:
  - A. Application (Tom Suminski, received 1/27/2011).
  - B. Preliminary Plat of Resubdivision (iG Consulting, Inc, dated 01/19/11, received 1/27/11).
  - C. Site Plan (Worn Jerabek Architects, dated 1/26/11, received 1/27/11).
  - D. Landscape Plan (Williams Design Group, dated 1/26/11, received 1/27/11).
  - E. Engineering Plans (iG consulting, Inc. dated 1/26/11, received 1/27/11)
2. Site Plan
  - A. Aerial apparatus access roads shall be 26 feet in width within a minimum of 15 feet and a maximum of 30 feet from the building. The south access and the west access will need to increase in width.
  - B. The fire apparatus access should not be greater than 250 feet to any portion of the building from an approved fire apparatus access. The fire access lane may need to be extended to meet this requirement.
  - C. Except for the designated parking areas, the access roads shall be posted "No-parking Fire Lane and Station Drive will need "No-Parking Fire Lane" on the side with the fire hydrants.

- D. Provide an auto-turn exhibit indicating that a fire truck can access the entrance closest to Exchange Drive. Due to the proximity of the entrance to Exchange Drive, the entrance must remain one-way inbound.
  - E. The one-way entrance off Station Drive shall not be moved closer to Exchange Drive.
  - F. Illustrate the location for the trash enclosure, ensure it is readily accessible to a waste hauling truck.
3. Architecture
- A. Provide actual material samples and colors for the elevation materials at the Planning and Zoning Commission and City Council meetings.
  - B. To provide better definition in the elevations all windows shall have a stone top cap and bottom sill.
4. Plat of Resubdivision
- A. Revise the plat so that Outlot 1 is not shown within Lot 1.
  - B. Create a separate outlot labeled Outlot 3 for the Roadway Access/ Landscape/ Private Utility Easement.
  - C. Provide a final copy of the revised CC&R's
5. The following Variation is hereby granted as part of the PUD:
- A. A variation from Article 3 Section 3 Density and Dimensional Standards to allow a building at 38 feet exceeding the maximum height of 28 feet, a variation of 10 feet.
6. The petitioner shall address all of the review comments and requirements of the Engineering and Building, Fire Rescue, Police, Public Works, and Planning and Economic Development Departments.

# City of Crystal Lake Development Application

Office Use Only

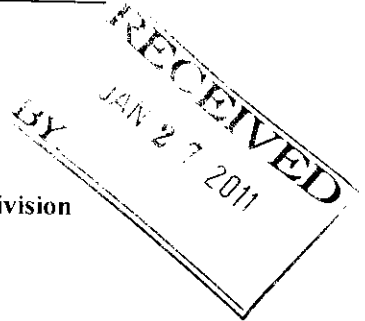
File # \_\_\_\_\_

06 2011

Project Title: Senior Residences of Crystal Lake

## Action Requested

- |                                                         |                                                          |
|---------------------------------------------------------|----------------------------------------------------------|
| <input type="checkbox"/> Annexation                     | <input type="checkbox"/> Preliminary PUD                 |
| <input type="checkbox"/> Comprehensive Plan Amendment   | <input type="checkbox"/> Preliminary Plat of Subdivision |
| <input type="checkbox"/> Conceptual PUD Review          | <input type="checkbox"/> Rezoning                        |
| <input type="checkbox"/> Final PUD                      | <input type="checkbox"/> Special Use Permit              |
| <input checked="" type="checkbox"/> Final PUD Amendment | <input type="checkbox"/> Variation                       |
| <input type="checkbox"/> Final Plat of Subdivision      | <input type="checkbox"/> Other                           |



## Petitioner Information

Name: B-Dev, LLC c/o Tom Suminski  
Address: 500 Skokie Blvd., Suite 600  
Northbrook, IL 60062  
Phone: 847-656-5130  
Fax: 847-480-5760  
E-mail: kyle.peterson@bannerapartments.com

## Owner Information (if different)

Name: Congress Parkway Ventures LLC c/o Rick Delisle  
Address: 1400 Rockland Road  
Libertyville, IL 60048  
Phone: 847-812-8180  
Fax: 773-409-5354  
E-mail: rdelisle@lee-associates.com

## Property Information

Project Description: Final PUD Amendment requested to allow for the construction of a  
three story independent senior housing community.

Project Address/Location: 345-375 Station Drive (NW corner of Exchange Dr. and Station Dr.)

PIN Number(s): 19-04-404-002

**Development Team**

Please include address, phone, fax and e-mail

**Developer:** B-Dev, LLC or Affiliate 500 Skokie Blvd., Suite 600 Northbrook, IL 60062 Ph:847-501-5450, Fx:847-480-5760, kyle.peterson@bannerapartments.com

**Architect:** Worn Jerabek Architects, P.C. 212 W. Superior Street, Ste. 600 Chicago, IL 60654 Ph:312-642-5567, Fx: 312-642-4189, heidid@wjaworks.com

**Attorney:** Fred Langtry 500 Skokie Blvd., Suite 600 Northbrook, IL 60062 Ph:847-501-5450, Fx:847-480-5760, fred.langtry@bannerapartments.com

**Engineer:** IG Consulting 300 E. Marquardt Dr. Wheeling, IL 60090 Ph:847-215-1133, Fx:847-215-1177, jerry@igconsulting.net

**Landscape Architect:** Williams Design Group 5615 N. Glenwood Ave. Chicago, IL 60660 Ph:773-942-7172, Fx:773-942-7172, paulwilliams@williamsdesign.org

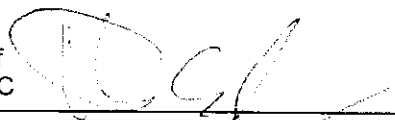
**Planner:**

**Surveyor:** IG Consulting 300 E. Marquardt Dr. Wheeling, IL 60090 Ph:847-215-1133, Fx:847-215-1177, kevin@igconsulting.net

**Other:**

**Signatures**

Tom Suminski/ Vice President of  
Managing Member of B-Dev, LLC



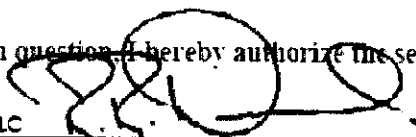
January 26th, 2011

**PETITIONER:** Print and Sign name (if different from owner)

Date

As owner of the property in question, I hereby authorize the seeking of the above requested action.

Rick Delisle/ Member  
Congress Parkway Ventures LLC



January 25th, 2011

**OWNER:** Print and Sign name

Date

NOTE: If the property is held in trust, the trust officer must sign this petition as owner. In addition, the trust officer must provide a letter that names all beneficiaries of the trust.



**PUBLIC NOTICE**

**BEFORE THE PLANNING AND  
ZONING COMMISSION  
OF THE CITY OF CRYSTAL LAKE,  
MCHENRY COUNTY, ILLINOIS**

IN THE MATTER OF THE PETITION  
OF B-Dev, LLC

**LEGAL NOTICE**

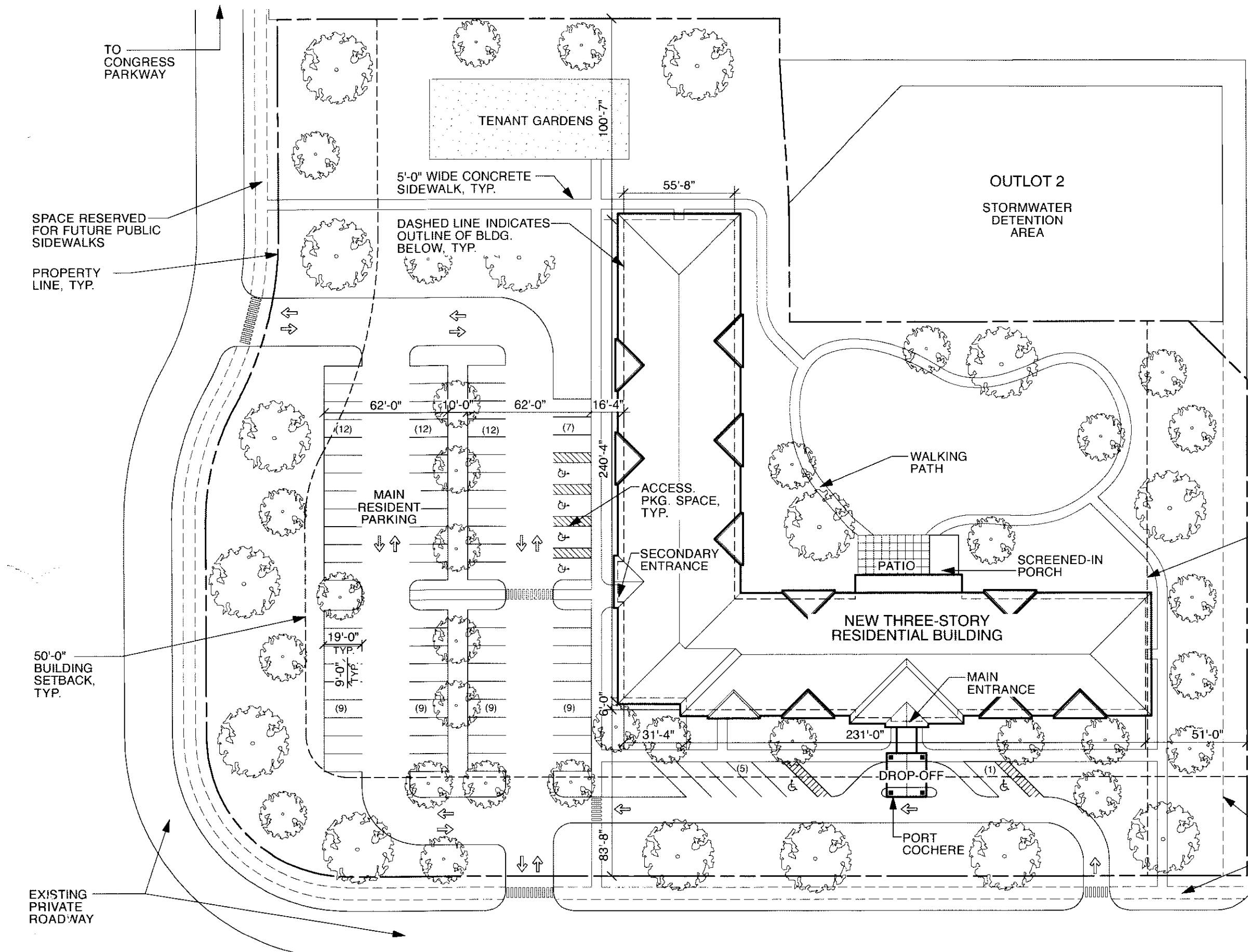
Notice is hereby given in compli-  
ance with the Unified Development  
Ordinance of the City of Crystal  
Lake, Illinois that a public hearing  
will be held before the Planning  
and Zoning Commission of the City  
of Crystal Lake upon the applica-  
tion by B-Dev, LLC represented by  
Kyle Peterson, on behalf of

Congress Parkway Ventures LLC,  
for a Special Use Permit Amend-  
ment for a Planned Unit Develop-  
ment Amendment relating to the  
following described real estate  
commonly known as 345-375  
Station Drive, Crystal Lake, Illinois  
60014, PIN: 19-04-404-002.

This application is filed for the  
purposes of seeking an amendment  
to a Special Use Permit, which  
granted a Planned Unit Develop-  
ment approval and Use Variation,  
to allow a continuing care retire-  
ment community within the B-2  
PUD zoning district, pursuant to Ar-  
ticle 4-500 Planned Unit Develop-  
ment Standards B. General Stan-  
dards and C. Development Stan-  
dards of the Unified Development  
Ordinance. Plans for this project  
can be viewed at the City of Crystal  
Lake Community Development De-  
partment at City Hall.

A public hearing before the Plan-  
ning and Zoning Commission for  
this request will be held at 7:30  
p.m. on Wednesday February 16,  
2011, at the Crystal Lake City Hall,  
100 West Woodstock Street, at  
which time and place any person  
determining to be heard may be  
present.

Tom Hayden, Chairperson  
Planning and Zoning Commission  
City of Crystal Lake  
(Published in the Northwest Herald  
February 1, 2011)



PROJECT DATA	
SITE AREA (APPROX.)	4.17 ACRES 181,749 SF
PARKING SPACES	85
AREA CALCULATIONS (GSF)	
- FIRST FLOOR	25,970 SF
- SECOND FLOOR	25,630 SF
- THIRD FLOOR	25,630 SF
TOTAL BUILDING AREA	77,230 SF
DWELLING UNIT MIX	
- ONE BEDROOM	63
- THREE BEDROOM	16
TOTAL DWELLING UNITS	79
ACCESSIBILITY	
- (8) ACCESSIBLE UNITS	10.1%
- (8) ADAPTABLE UNITS	10.1%
- (2) HEARING IMPAIRED	2.5%
- (79) FHAA ACCESSIBLE	100%

06 2011  
**RECEIVED**  
 JAN 27 2011  
 BY:

January 26, 2011

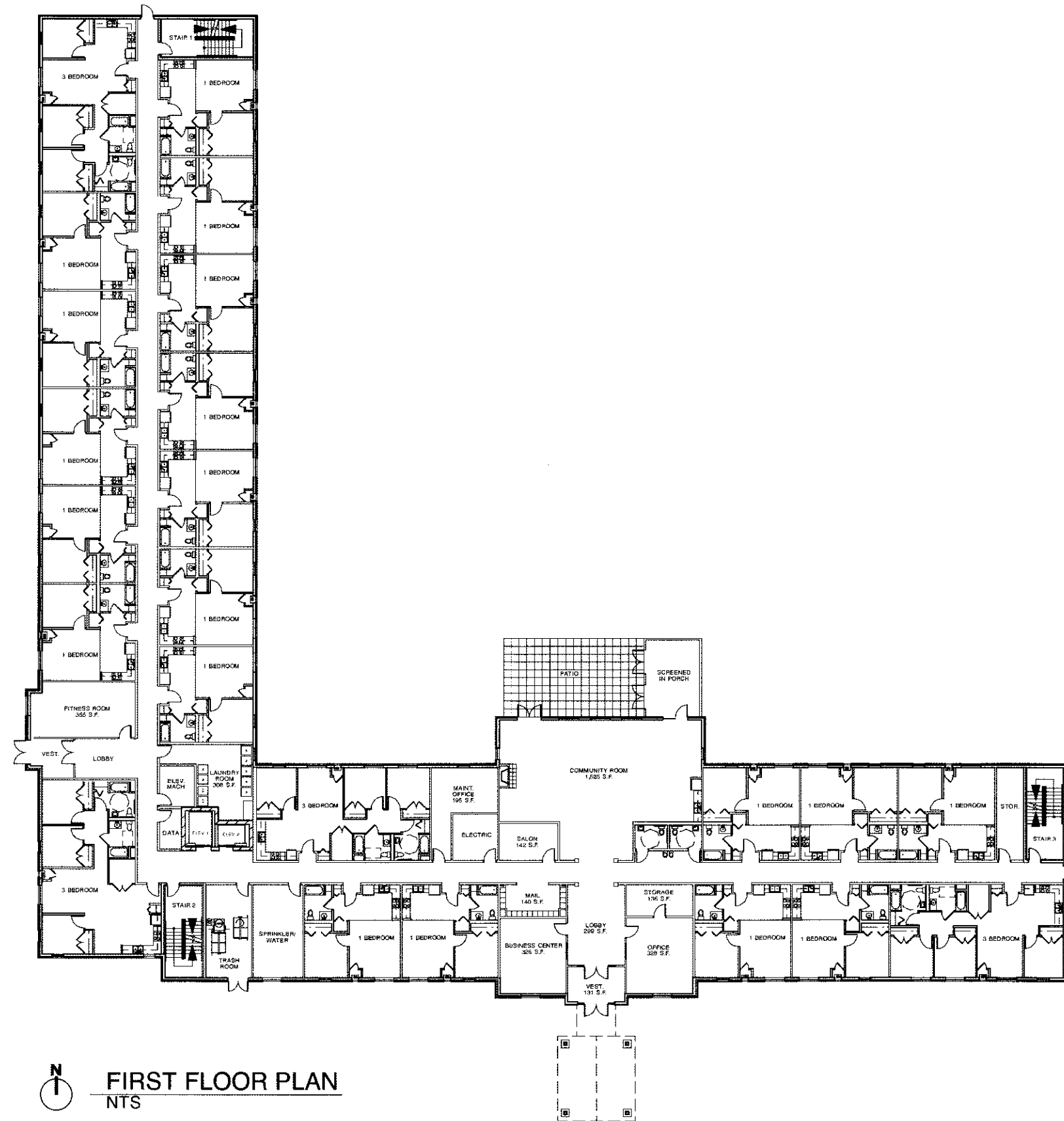
BANNER APARTMENTS  
 500 North Skokie Boulevard, #600  
 Northbrook, IL 60062

# Crystal Lake Senior Apartments

Congress Parkway and Exchange Drive  
 Crystal Lake, IL 60532

DRAFT - NOT FOR CONSTRUCTION

WORN JERABEK ARCHITECTS, P.C.  
 212 W. Superior St. #600  
 Chicago, IL 60654



January 26, 2011

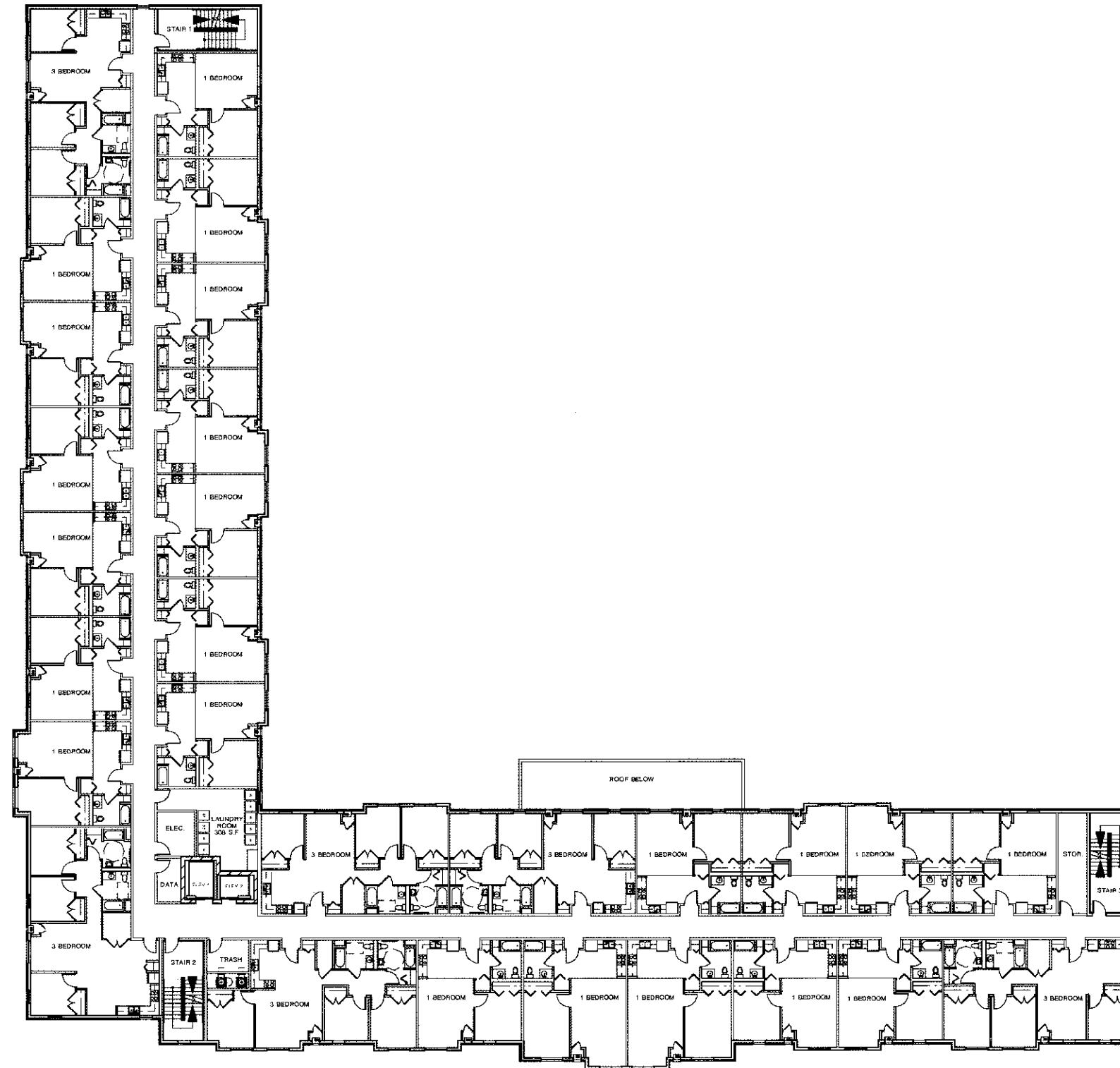
BANNER APARTMENTS  
 500 North Skokie Boulevard, #600  
 Northbrook, IL 60062

# Crystal Lake Senior Apartments

Congress Parkway and Exchange Drive  
 Crystal Lake, IL 60532

DRAFT - NOT FOR CONSTRUCTION

WORN JERABEK ARCHITECTS, P.C.  
 212 W. Superior St. #600  
 Chicago, IL 60654




**TYPICAL FLOOR PLAN**  
 NTS

January 26, 2011

**BANNER APARTMENTS**  
 500 North Skokie Boulevard, #600  
 Northbrook, IL 60062

**Crystal Lake Senior Apartments**  
 Congress Parkway and Exchange Drive  
 Crystal Lake, IL 60532

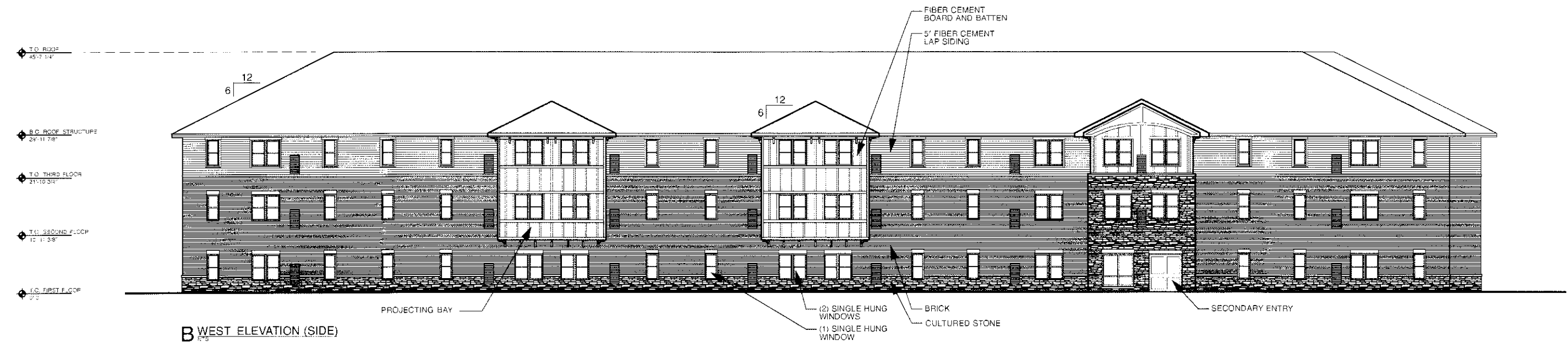
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 212 W. Superior St. #600  
 Chicago, IL 60654

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**A SOUTH ELEVATION (FRONT)**



**B WEST ELEVATION (SIDE)**

January 26, 2011

BANNER APARTMENTS  
500 North Skokie Boulevard, #600  
Northbrook, IL 60062

**Crystal Lake Senior Apartments**  
Congress Parkway and Exchange Drive  
Crystal Lake, IL 60532

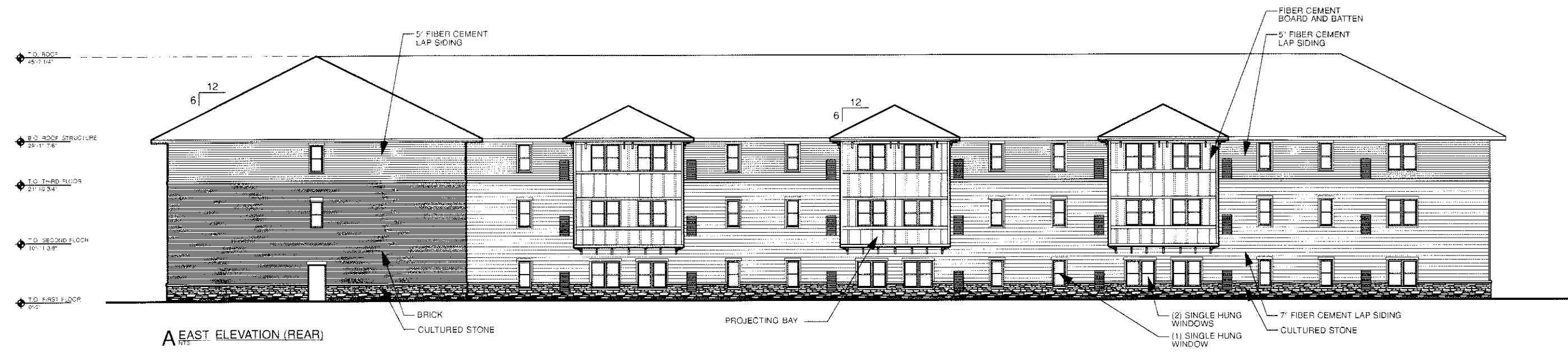
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A NORTH ELEVATION (REAR)



A EAST ELEVATION (REAR)

January 26, 2011

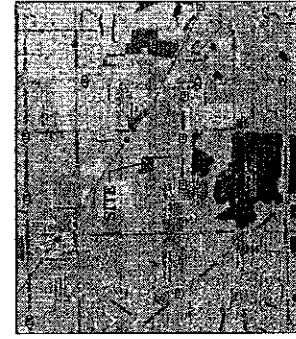
BANNER APARTMENTS  
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Northbrook, IL 60062

**Crystal Lake Senior Apartments**  
Congress Parkway and Exchange Drive  
Crystal Lake, IL 60532

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Chicago, IL 60654

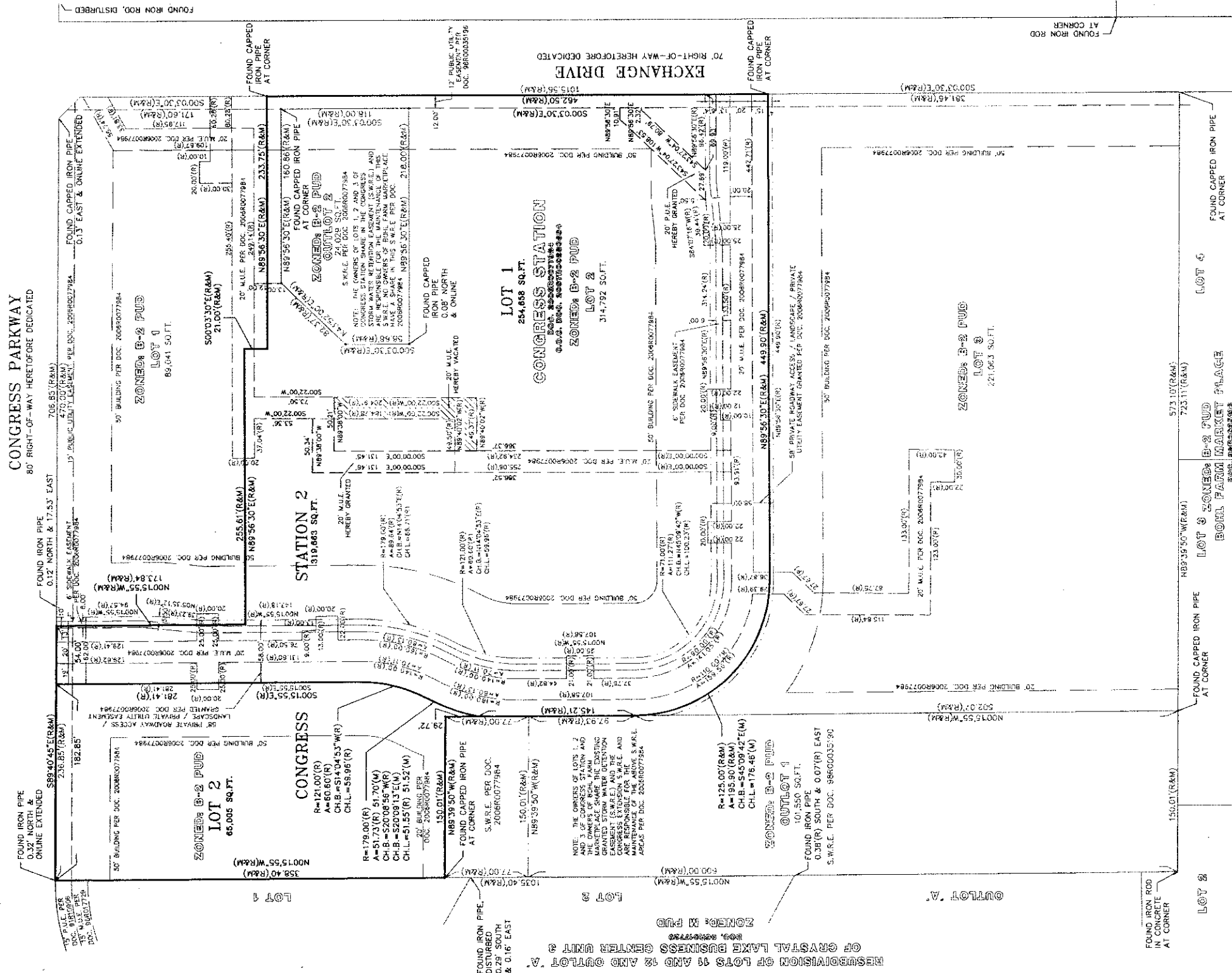
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VICINITY MAP N.T.S.

# PRELIMINARY PLAT OF RESUBDIVISION OF CONGRESS STATION 2

LOT 2 IN CONGRESS STATION, BEING A RESUBDIVISION IN PART OF THE SOUTHEAST QUARTER OF SECTION 4, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN IN CRYSTAL LAKE, WHEHENY COUNTY, ILLINOIS, AND RECORDED OCTOBER 23, 2006 AS DOCUMENT NUMBER 20060077984 AND CORRECTED BY CORRECTION RECORDED DECEMBER 14, 2007 AS DOCUMENT NUMBER 20070080889, IN WHEHENY COUNTY, ILLINOIS.



**FLOOD CERTIFICATE:**  
BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE "X" OF THE FLOOD INSURANCE RATE MAP, COMMUNITY FANEL NO. 1111C-0335-7, WHICH DENOTES AN EFFECTIVE FLOOD HAZARD AREA. ZONE "X" DENOTES AREAS OUTSIDE OF THE 500 YEAR FLOOD PLAIN.

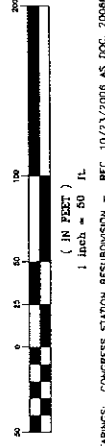
**DEVELOPER:**  
BANNER ACQUISITIONS, LLC  
500 SKOKIE BOULEVARD, SUITE 600  
NORTHBROOK, ILLINOIS 60062

**ENGINEERING & SURVEYING BY:**  
IG CONSULTING, INC.  
300 MARGUARDT DRIVE, SUITE 101  
WHEELING, IL 60090

**PROJECT NUMBER**  
11105

**PRELIMINARY PLAT OF RESUBDIVISION CONGRESS STATION 2 CONGRESS PKWY & EXCHANGE DR. CRYSTAL LAKE, ILLINOIS**

**IG CONSULTING, INC.**  
INFRACON & GECON  
CONSULTING CIVIL ENGINEERS & LAND SURVEYORS  
300 MARGUARDT DRIVE, WHEELING, ILLINOIS 60090 PH. (847) 215-1133 FAX (847) 215-1177  
PREPARED FOR: BANNER ACQUISITIONS, LLC  
FIELD WORK: 01/19/11 DRAFTED BY: JK. CHECKED BY:  
SCALE: 1" = 50'



**DATE PREPARED:** 01/25/2011  
BASIS OF BEARINGS: CONGRESS STATION RESUBDIVISION - REC. 10/23/2006 AS DOC. 20060077984  
ALL DISTANCES IN FEET AND DECIMAL PARTS THEREOF. NO DIMENSIONS TO BE ASSUMED FROM SCALING.  
COMPARE YOUR DESCRIPTION AND SITE MARKINGS WITH THIS PLAT AND AT ONCE REPORT ANY DISCREPANCIES WHICH YOU MAY FIND.  
FIRM NO. 184-001330

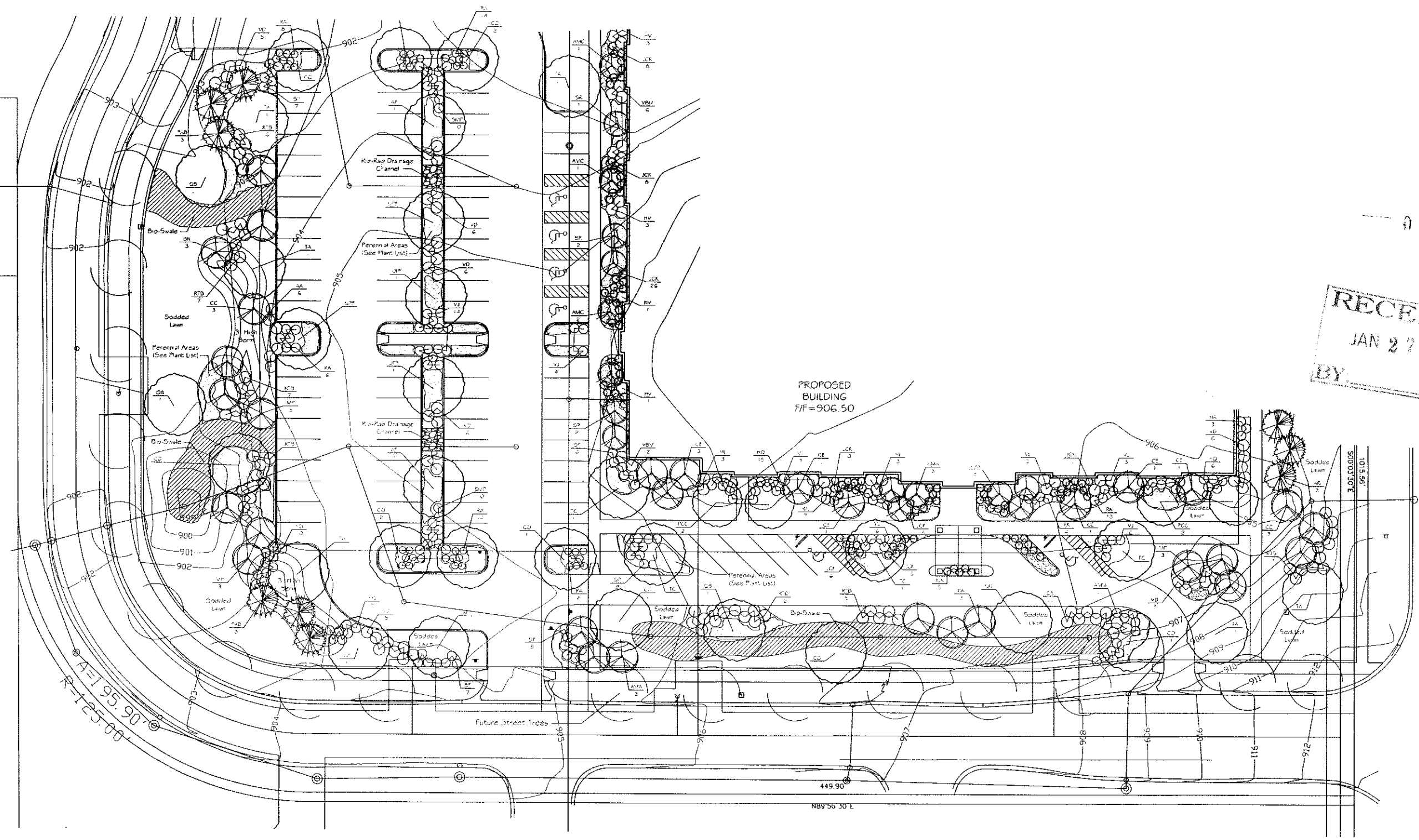
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100 FEET  
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JAN 27 2011  
BY

Crystal Lake Senior Apartments  
Crystal Lake, Illinois

06 2011

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JAN 27 2011  
BY \_\_\_\_\_

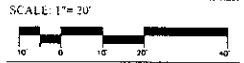
Landscape Plan



Banner Apartments  
500 N Skokie Blvd.  
Suite 600  
Northbrook, IL 60060  
(847) 501-5450

**W D G**  
WILLIAMS DESIGN GROUP  
LANDSCAPE ARCHITECTURE F I AND PLANNING  
5615 N GLENWOOD AVENUE  
CHICAGO, ILLINOIS 60649  
PHONE: 773.942.7172 FAX: 773.942.0955

DATE	REV.	BY	CHK	APP	DATE	JOB #	0111
01-26-11							



Sheet  
**L-1**

NORTH



Banner Apartments  
500 N Skokie Blvd.  
Suite 600  
Northbrook, IL 60060  
(847) 501-5450

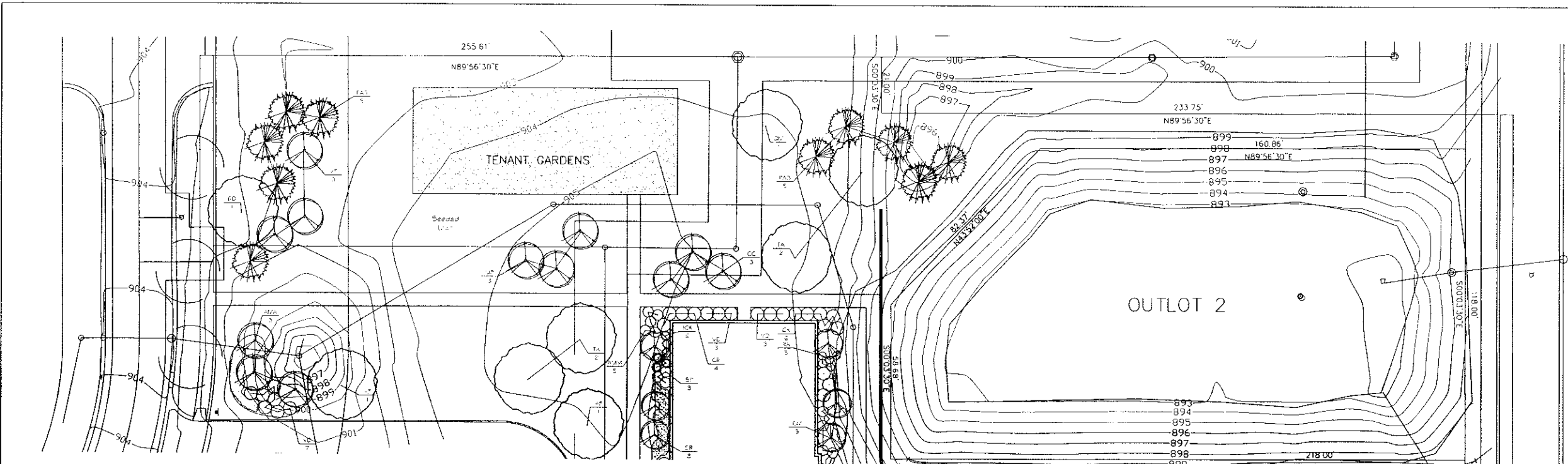


WILLIAMS DESIGN GROUP  
LANDSCAPE ARCHITECTURE / LAND PLANNING  
5615 N GLENWOOD AVENUE  
NILES, IL 60064  
PHONE: 773.942.7172 FAX: 773.942.9555

DATE: 01-26-11 JOB #: 0111  
REV: \_\_\_\_\_

SCALE: 1"=20'  
0 10 20 40

EXCHANGE DRIVE



SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AA	10	<i>Aronia arbutifolia</i> 'Millersdelight'	Bright Red Chokeberry	3"
AB	6	<i>Abies concolor</i>	Concolor Fir	8"
AF	6	<i>Acer x freemanii</i>	Freeman Maple	2 1/2"
AL	3	<i>Alnus glutinosa</i>	Black Alder	12"
ANA	18	<i>Artemisia biennis</i>	Downy Senecio	8"
ANL	4	<i>Artemisia ludoviciana</i>	Shudown Senecio	8"
AMM	53	<i>Arenia melanocarpa</i> 'Morton'	Innoble Beauty Chokeberry	18"
BN	9	<i>Betula nigra</i>	River Birch	12"
OC	12	<i>Corylus rostrata</i> 'Inermis'	Thornless Cootspur Hawthorn	8"
CE	11	<i>Cercis canadensis</i>	Eastern Redbud	8"
CM	4	<i>Cornus mas</i> 'Golden Glory'	Common Dogwood	8"
CO	16	<i>Celtis occidentalis</i>	Common Hackberry	2 1/2"
GD	2	<i>Gymnocladia dioica</i>	Kentucky Coffee Tree	2 1/2"
HA	18	<i>Hydrangea macrophylla</i> 'Annabelle'	Annabelle Hydrangea	18"
HQ	38	<i>Hydrangea paniculata</i> 'Sonic'	Quick Fire Hydrangea	18"
HV	8	<i>Hamelis veneta</i>	Vermel Wiltshazel	36"
JCK	113	<i>Juniperus chinensis</i> 'Kilites Compacta'	Katays Compact Juniper	24"
MP	15	<i>Makia x Phyllis</i>	Pranite Crabapple	2 1/2"
NS	1	<i>Nyssa sylvatica</i>	Black Tupelo	2 1/2"
PAB	23	<i>Picea abies</i>	Norway Spruce	8"
PCC	4	<i>Pyrus calleryana</i> 'Chandler'	Chandler Pear	2 1/2"
QB	9	<i>Quercus bicolor</i>	Swamp White Oak	2 1/2"
OM	1	<i>Quercus macrocarpa</i>	Bur Oak	2 1/2"
RA	55	<i>Rhus aromatica</i> 'Golf-Low'	Golf-Low Fragrant Sumac	18"
RK	24	<i>Rosa x Knockout</i>	Knockout Shrub Rose	18"
RTB	59	<i>Rhus typhina</i> 'Ballgar'	Tiger Eyes Staghorn Sumac	36"
SMP	26	<i>Syringa meyeri</i> 'Palibin'	Wart Korean Lilac	18"
SP	40	<i>Syringa patula</i> 'Miss Kim'	Miss Kim Dwarf Lilac	18"
SR	8	<i>Syringa reticulata</i> 'Hory Silk'	Hory Silk Japanese Tree Lilac	2 1/2"
TA	10	<i>Tilia americana</i> 'Redmond'	Redmond Linden	2 1/2"
TC	6	<i>Tilia cordata</i> 'Greene Park'	Greene Park Linden	2 1/2"
UPF	4	<i>Ulmus parviflora</i> 'Frontier'	Frontier Elm	2 1/2"
VEA	8	<i>Viburnum x burkwoodii</i> 'Mohawk'	Mohawk Viburnum	8"
VD	70	<i>Viburnum dentatum</i> 'Autumn Jazz'	Autumn Jazz Arrowwood Viburnum	3"
VJ	51	<i>Viburnum juddii</i>	Judd Viburnum	24"
VL	16	<i>Viburnum lantana</i> 'Molokai'	Molokai Viburnum	3"
VP	6	<i>Viburnum prunifolium</i>	Blackthorn Viburnum	8"
			Subtotal	

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AJV	1	<i>Asiella japonica</i> 'White Glorie'	White Glorie False Spirea	1 Gal
ALS	1	<i>Allium</i> 'Summer Beauty'	Summer Beauty Onion	1 Gal
AM	1	<i>Achillea millefolium</i>	Lady's Mantle	1 Gal
AS	1	<i>Asarum canadense</i> 'Blue Ice'	Blue Ice Yellow Herb	1 Gal
ANA	1	<i>Aster novae-angliae</i> 'Purple Dome'	New England Aster	1 Gal
ANB	1	<i>Acornth napellus</i> 'Bresingham Spire'	Bresingham Spire Monkshood	1 Gal
AVP	1	<i>Asiella chinensis</i> 'Merona in Pink'	Merona in Pink False Spirea	1 Gal
CAK	1	<i>Callitriche occidentalis</i> 'Karl Foerster'	Karl Foerster's Feather Reed Grass	1 Gal
CNN	1	<i>Callitriche nappellus</i> ssp. 'Nepes'	Callitriche	1 Gal
CX	1	<i>Carex bromoides</i>	Plains Owl Sedge	1 Gal
CXB	1	<i>Carex bromoides</i>	Brown Hummock Sedge	1 Gal
CXS	1	<i>Carex sparganii</i>	Spring's Sedge	1 Gal
EP	1	<i>Echinacea purpurea</i> 'Magnus'	Magnus Purple Coneflower	1 Gal
EPW	1	<i>Echinacea purpurea</i> 'White Swan'	White Swan Purple Coneflower	1 Gal
EPA	1	<i>Echinacea purpurea</i> 'Arlis Pride'	Orange Meadowbrite Coneflower	1 Gal
GMB	1	<i>Geranium macranthum</i> 'Bevans'	Bevans Bigroot Geranium	1 Gal
GMP	1	<i>Geranium sanguineum</i> 'Max Frei'	Max Frei Geranium	1 Gal
GR	1	<i>Geranium 'Rozanne'</i>	Rozanne Geranium	1 Gal
GSS	1	<i>Geranium sanguineum</i> var. 'astratum'	Starburst Geranium	1 Gal
HCA	1	<i>Hemerocallis 'Chicago Apache'</i>	Chicago Apache Daylily	1 Gal
HE	1	<i>Hosta sibirica</i> 'Elegans'	Elegans Sibirica Hosta	1 Gal
HFR	1	<i>Hosta 'Frances'</i>	Frances Hosta	1 Gal
HPW	1	<i>Hosta 'Frances Williams'</i>	Frances Williams Hosta	1 Gal
HR	1	<i>Hemerocallis x 'Happy Returns'</i>	Happy Returns Daylily	1 Gal
HHS	1	<i>Hemerocallis helferholides</i> 'Summer Sun'	False Sun Flower	1 Gal
HL	1	<i>Hemerocallis x 'Lilac Wine Cup'</i>	Lilac Wine Cup Daylily	1 Gal
HM	1	<i>Heuchera micrantha</i> 'Palace Purple'	Palace Purple Coral Bell	1 Gal
KB	1	<i>Kalmia latifolia</i> 'Blue Star'	Blue Star False Azalea	1 Gal
MSA	1	<i>Miscanthus sinensis</i> 'Adagio'	Adagio Japanese Silver Grass	1 Gal
PT	1	<i>Pachyandra terminalis</i>	Japanese Spurge	3" CP
RH	1	<i>Rudbeckia hirta</i> 'Blackberry'	Blackberry Rudbeckia	1 Gal
RVL	1	<i>Rudbeckia 'Niles's Little Suzi'</i>	Niles's Little Suzi Black Eye Susan	1 Gal
SH	1	<i>Sporobolus heterolepis</i>	Prairie Dropseed	1 Gal

Notes:  
1. All new landscape plant materials shall be grown in a nursery located in Plant Hardiness Zone 4 (as defined by the U.S. Department of Agriculture) and shall conform to the applicable requirements as specified in the current edition of the American Standard for Nursery Stock as approved by the American National Standards Institute, Inc. and sponsored by the American Association of Nurserymen, Inc.  
2. All landscape beds shall be finished with a 3" layer of shredded hardwood mulch beneath all trees, shrubs & perennials.  
3. Perennial areas will be planted with a blend of species selected from the list above. Perennials will be spaced 12" x 24" apart depending upon the plant.

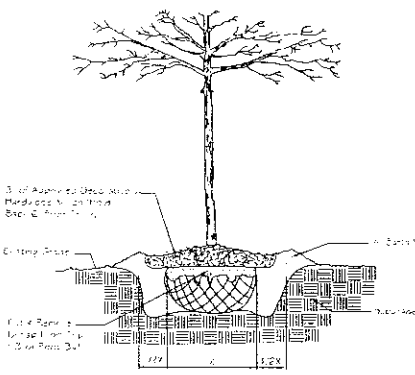
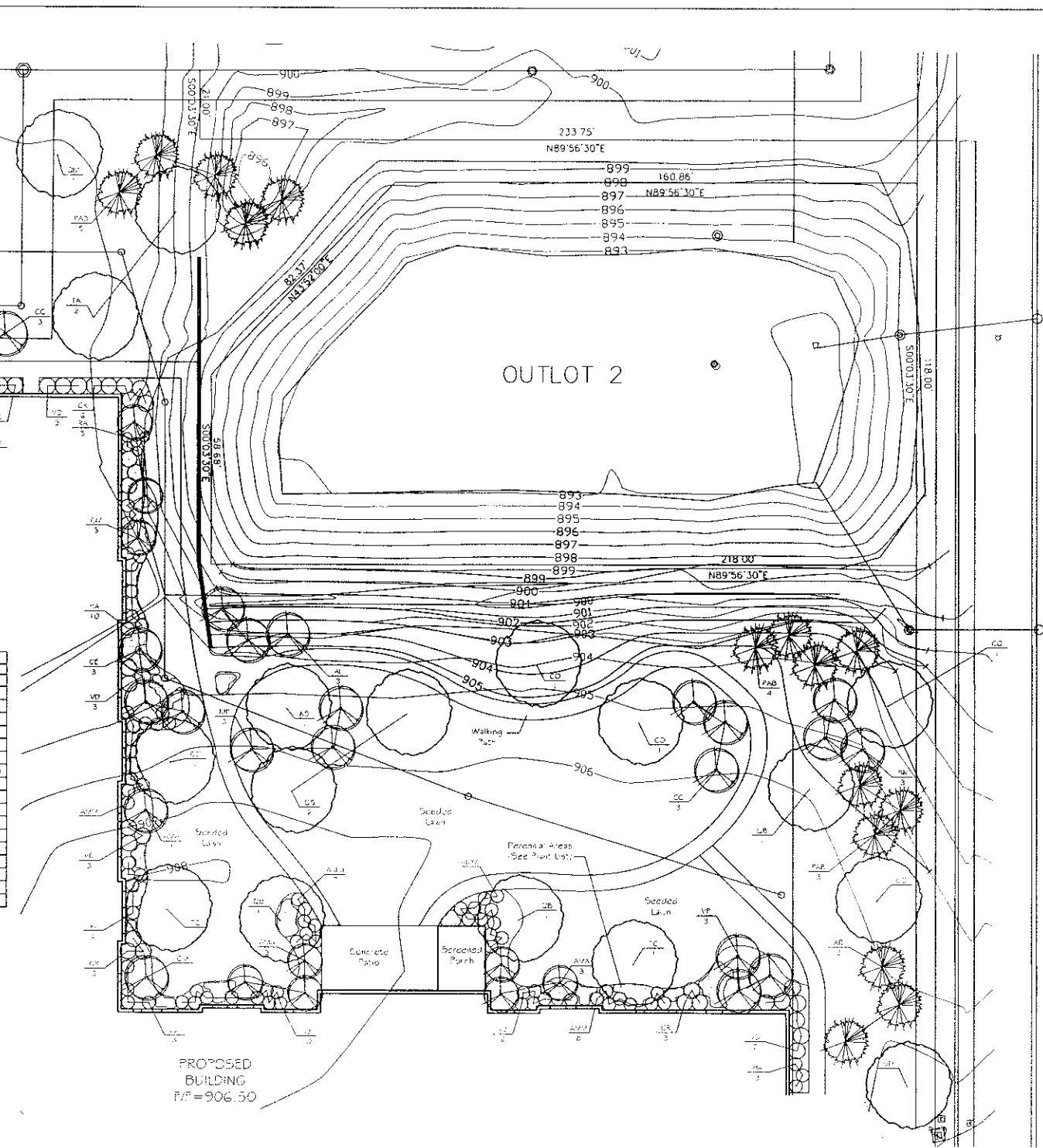
Requirement	Specified
Parking Island	
Required - 1 Tree/40 LF (300 LF Total Island Length/40 LF = 8 Trees)	
- 5 Shrubs/40 LF (300 LF/40 LF x 5 = 38 Shrubs)	
Provided - 9 Trees	
- 52 Shrubs	
Perimeter Landscaping (Abutting ROW)	
Required - Continuous Visual Screen Utilizing Shrubs and/or 2.5' High Berm	
- 1 Tree/40 LF of Frontage (Split 1/3 each Shade, Ornamental, and Evergreen)	
- 400 LF/40 LF = 10 Trees Required	
Provided - Combination of 2.5' - 3' Berms & Shrubs to Provide Continuous Screen	
- 24 Trees Provided (8 Shade, 8 Evergreen, 10 Ornamental)	
Perimeter Buffer Plantings (Other Than ROW)	
Required - None Since Surrounding Uses are More Intense Than Proposed Use	
Foundation Plantings	
Required - Continuous Planting	
Provided - Continuous Planting	

Scientific Name	Common Name	Oz/ AC
<i>Alisma subcordatum</i>	Common Water Plantain	1.00
<i>Asclepias incarnata</i>	Swamp Milkweed	2.00
<i>Aster novae-angliae</i>	New England Aster	0.50
<i>Conoclinium octosperum</i>	Tall Coreopsis	2.00
<i>Eupatorium maculatum</i>	Spotted Joe Pye Weed	0.25
<i>Iris virginica</i> ssp. 'Blue Flag Iris'	Blue Flag Iris	3.00
<i>Liatris spicata</i>	Marsh Blazing Star	2.00
<i>Lobelia cardinalis</i>	Cardinal Flower	0.25
<i>Lobelia siphilitica</i>	Great Blue Lobelia	0.50
<i>Sagittaria latifolia</i>	Common Arrowhead	0.75
<i>Sagittaria arifolia</i>	Prairie Dock	1.00
<i>Veronica hastata</i>	Blue Verain	1.00
<i>Zizia aurea</i>	Golden Alexanders	0.75
	<b>Total</b>	<b>15.00</b>

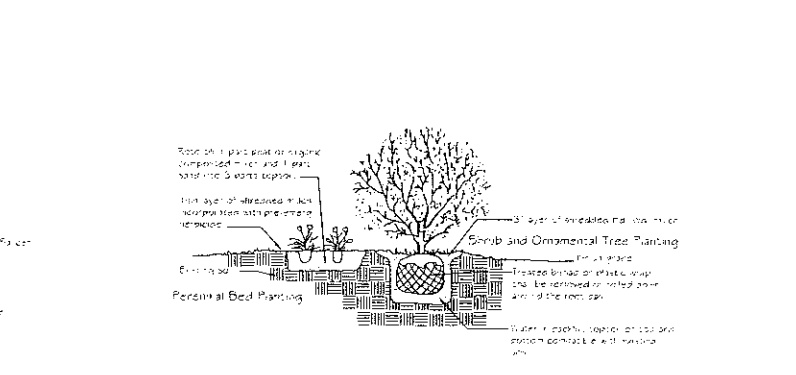
Scientific Name	Common Name	Oz/ AC
<i>Andropogon gerardii</i>	Big Bluestem Grass	12.00
<i>Carex acutata</i>	Groby Sedge	2.00
<i>Carex catenata</i>	Orsted Owl Sedge	2.00
<i>Carex lasiocarpa</i>	BCRoughstem Sedge	2.50
<i>Carex sparganoides</i>	Rough Oathead Sedge	3.00
<i>Carex vulpinoidea</i>	Brown Fox Fodge	3.00
<i>Elymus virginicus</i>	Virginia Wild Rye	8.00
<i>Glyceria striata</i>	Fowl Mania Grass	1.00
<i>Panicum virgatum</i>	Switch Grass	2.00
<i>Scirpus americanus</i>	Dark Green Rush	2.50
<i>Scirpus cyperinus</i>	Wood Grass	0.50
<i>Sporobolus vaginatus</i>	Prairie Cord Grass	2.50
	<b>Total</b>	<b>40.50</b>

Scientific Name	Common Name	Oz/ AC
<i>Avena sativa</i>	Seed Oats	360.00
<i>Lolium multiflorum</i>	Annual Ryegrass	28.00
	<b>Total</b>	<b>388.00</b>

Note: The Swale Seed Mix is a Native Seed Mix Specified from the JF New Catalog that is Generally Suitable for the Proposed Planting Conditions. Site Specific Conditions Will be Determined After the Site is Constructed and the Areas Specified for Native Seeding are Graded. At this time the Species or Quantities in the Seed Mix may be Modified. The Seed Mix may also be Specified from Another Supplier.



Tree Planting Detail (NTS)



Shrub & Perennial Planting Detail (NTS)

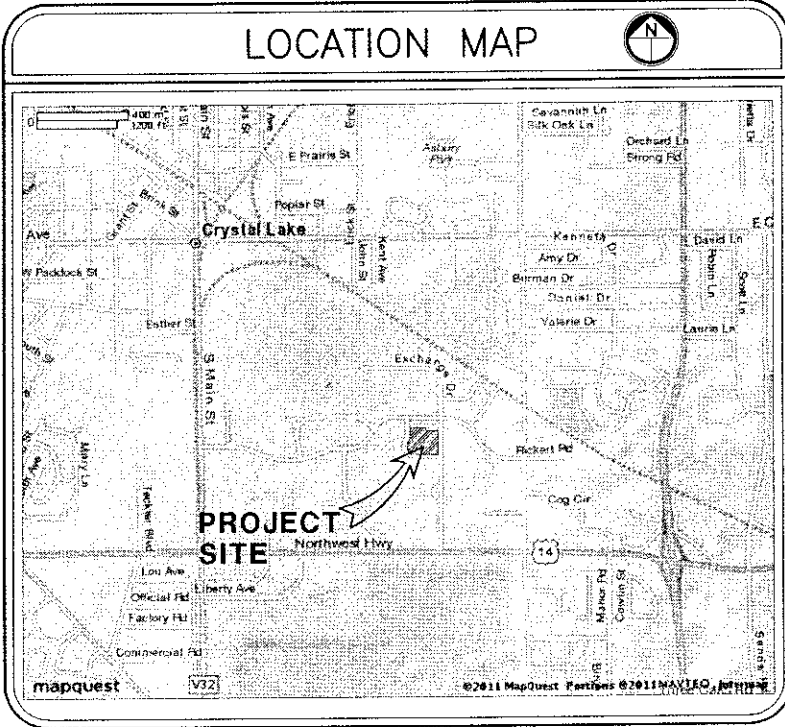
# CRYSTAL LAKE SENIOR APARTMENTS CONGRESS PARKWAY & EXCHANGE DRIVE CRYSTAL LAKE, ILLINOIS 2011

1/9/2011

RECEIVED  
JAN 27 2011

## PRELIMINARY ENGINEERING

LEGEND	
EXISTING	PROPOSED



INDEX	
1	COVER SHEET
2	SITE CLEARING PLAN
3	GEOMETRIC PLAN
4	GRADING PLAN
5	UTILITY PLAN
6	PROJECT NOTES AND SPECIFICATIONS
7	PROJECT NOTES AND SPECIFICATIONS
8	CONSTRUCTION STANDARDS
9	CONSTRUCTION STANDARDS

SECTIONS 4, TOWNSHIP 43 N, RANGE 8 E

**NOTE:**  
EXISTING WATER, SANITARY SEWER AND STORM SEWER INFORMATION IS BASED ON RECORDS PROVIDED BY THE MUNICIPALITY. CONTRACTOR MUST VERIFY LOCATIONS, DEPTHS, MATERIALS AND POTENTIAL CONFLICTS PRIOR TO BIDDING AND CONSTRUCTING THE PROPOSED IMPROVEMENTS. SUCH VERIFICATION SHALL ALSO INCLUDE FACILITIES OWNED AND OPERATED BY VARIOUS UTILITY COMPANIES. ENGINEER MAKES NO REPRESENTATION AS TO THE ACCURACY OR EXISTENCE OF PLAN INFORMATION PROVIDED BY OTHERS.

BENCHMARK:  
SOUTH BONNET BOLT ON FIRE HYDRANT 63±  
SOUTHEAST OF THE NORTHEAST CORNER OF  
SUBJECT PROPERTY.  
  
ELEV=899.98 NAVD88  
(DATUM ESTABLISHED BY STATIC GPS OBSERVATION)

THE CONTRACTOR MUST CALL J.U.L.I.E. FOR THE LOCATION AND STAKING OF EXISTING UNDERGROUND UTILITIES (GAS, ELECTRIC, TELEPHONE, ETC.) AT 1-800-892-0123 48 HOURS PRIOR TO CONSTRUCTION.

ENGINEER: KEVIN C. LEWIS      DATE: \_\_\_\_\_  
ILLINOIS REGISTRATION NO. 062-055368      EXPIRATION DATE: 11-30-2011  
THESE PLANS OR ANY PART THEREOF SHALL BE CONSIDERED VOID WITHOUT THE SIGNATURE, SEAL, AND EXPIRATION DATE OF THE SEAL OF THE ENGINEER.

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND ALL AMENDMENTS THERETO AS ADOPTED BY THE STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION (I.D.O.T.).  
  
STORM SEWER, SANITARY SEWER AND WATER MAIN CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST ISSUE.

**FOR REVIEW ONLY**

DATE	DESCRIPTION	DRAWN BY

**IG CONSULTING, INC.**  
INFRACON & GECON  
CONSULTING CIVIL ENGINEERS & LAND SURVEYORS  
300 MARGARITO DRIVE WHEELING, ILLINOIS 60090 PH: (847) 215-1133 FAX: (847) 215-1177  
DESIGN: J.K.      DRAFTING: S.R.M.      DATE: 01/26/11  
SCALE: N/A  
GEOMETRIC PLAN

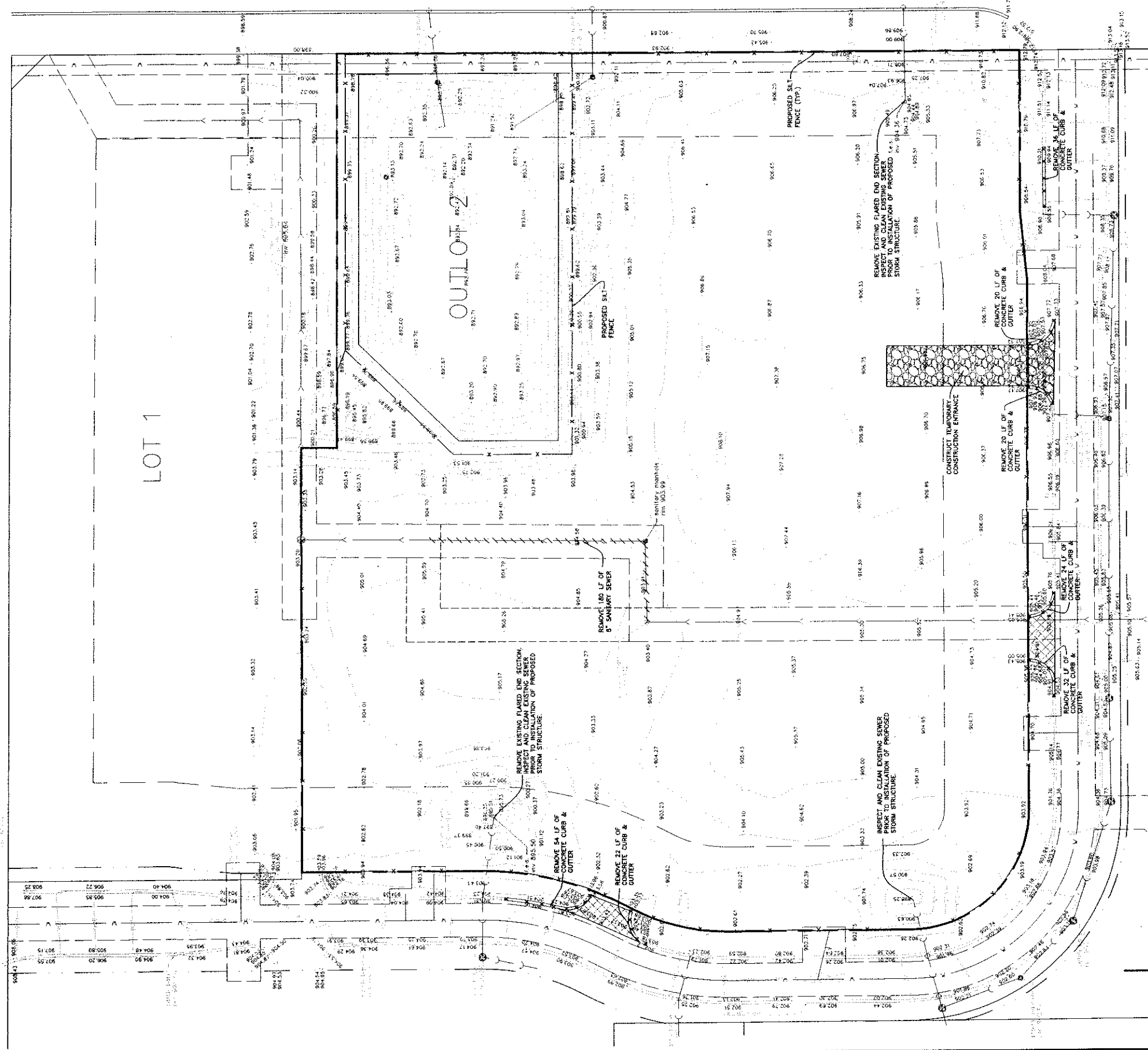
**CRYSTAL LAKE SENIOR APARTMENTS  
CONGRESS PARKWAY & EXCHANGE DRIVE  
CRYSTAL LAKE, ILLINOIS**

PROJECT No.  
11105  
1 of 9

CONGRESS PARKWAY

LOT 1

EXCHANGE DRIVE



SITE CLEARING PLAN

1. PLAT OF TOPOGRAPHY PREPARED BY IC CONSULTING INC., 300 MARQUARDT DRIVE, WHEELING, ILLINOIS, (847) 215-1133 JOB #11105



**CRYSTAL LAKE SENIOR APARTMENTS**  
**CONGRESS PARKWAY & EXCHANGE DRIVE**  
**CRYSTAL LAKE, ILLINOIS**

PROJECT No.  
11105

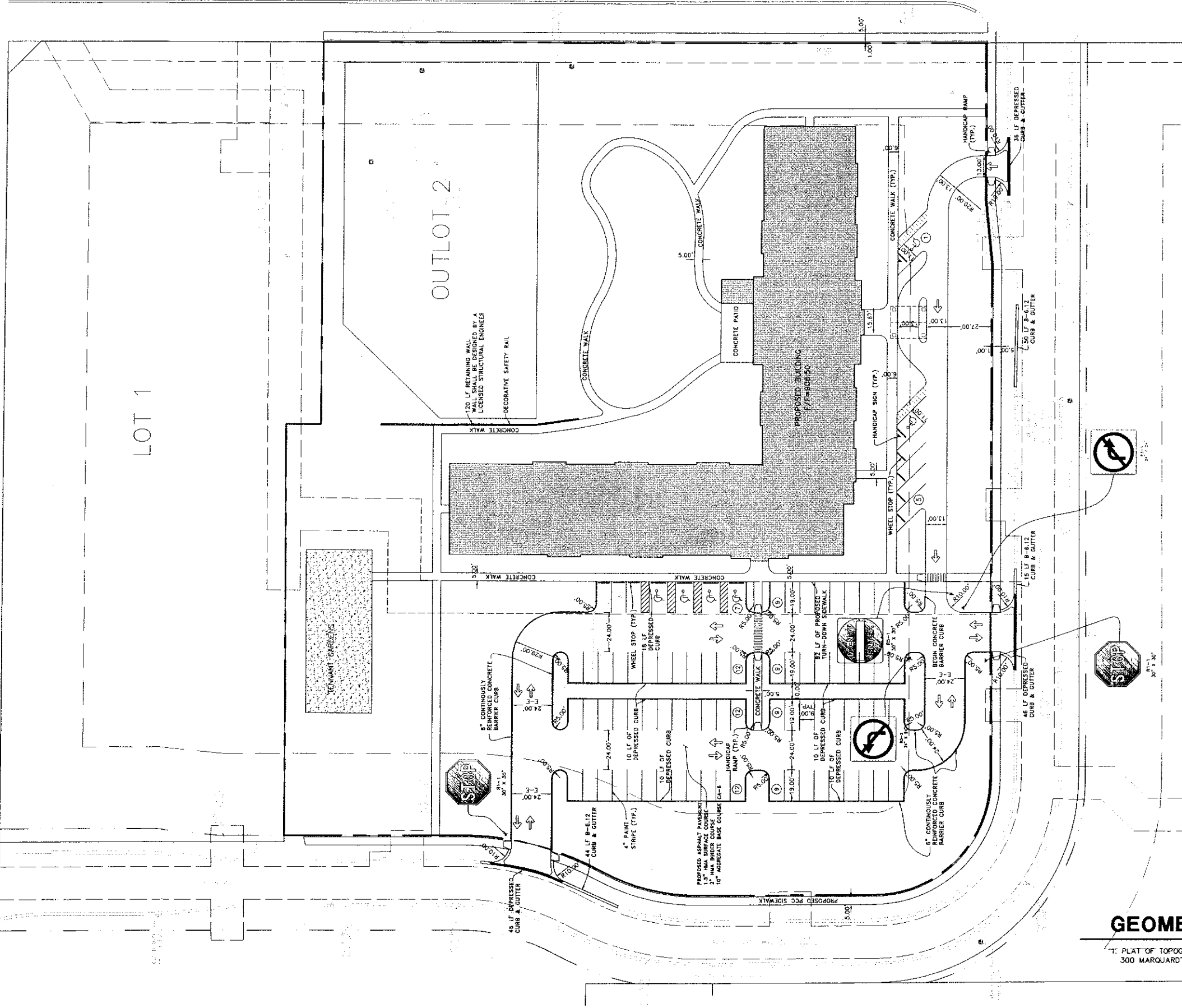
2 of 9

**IC CONSULTING, INC.**  
**INFRACON & GECON**  
 CONSULTING CIVIL ENGINEERS, PLANNERS & LAND SURVEYORS  
 300 MARQUARDT DRIVE, WHEELING, ILLINOIS 60090  
 PH. (847) 215-1133 • FAX (847) 215-1177  
 e-mail: ig@icconsulting.net

**SITE CLEARING PLAN**  
 DESIGN: J.K.  
 DRAFTING: S.R.M.  
 SCALE: 1"=30'  
 DATE: 01/26/11

DATE	DESCRIPTION	DRAWN BY

CONGRESS PARKWAY



EXCHANGE DRIVE

LOT 1

OUTLOT 2

PROPOSED BUILDING  
F/F=904/50

GEOMETRIC PLAN

PLAT OF TOPOGRAPHY PREPARED BY IG CONSULTING INC.,  
300 MARQUARDT DRIVE, WHEELING, ILLINOIS, (847) 215-1133 JOB# 11105



CRYSTAL LAKE SENIOR APARTMENTS  
CONGRESS PARKWAY & EXCHANGE DRIVE  
CRYSTAL LAKE, ILLINOIS

PROJECT No.  
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3 of 9

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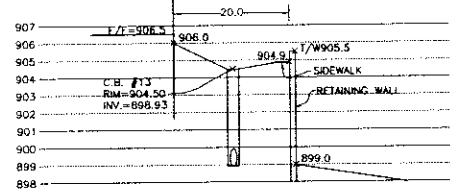
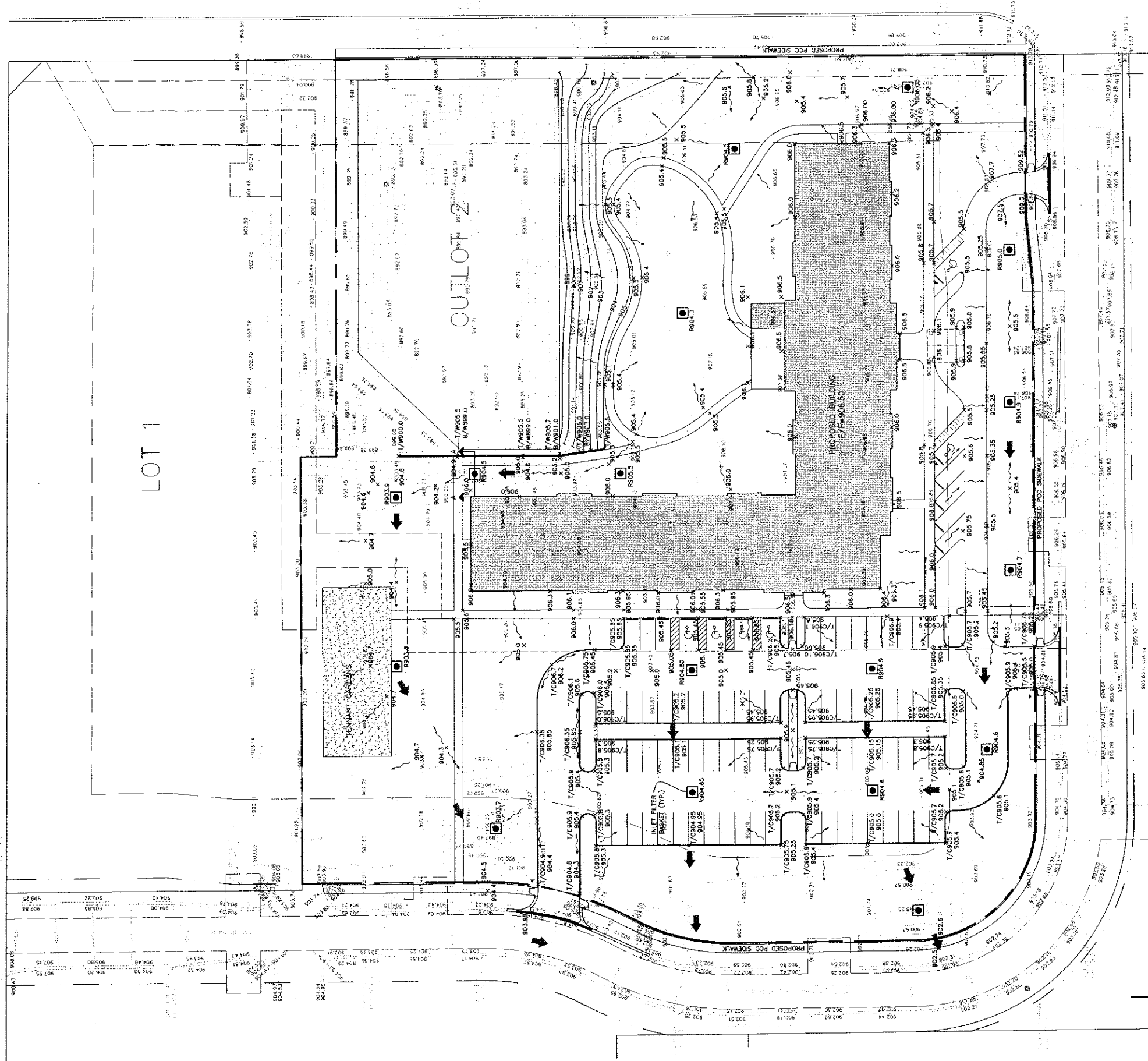
DESIGN: J.K. DRAFTING: S.R.M.  
 SCALE: 1"=30' DATE: 01/26/11

DATE	DESCRIPTION	DRAWN BY

CONGRESS PARKWAY

LOT 1

EXCHANGE DRIVE



SECTION A-A  
SCALE: H:1"=15', V:1"=5'

### GRADING PLAN

1. PLAT OF TOPOGRAPHY PREPARED BY IG CONSULTING INC.,  
300 MARQUARDT DRIVE, WHEELING, ILLINOIS, (847) 215-1133 JOB# 11105



PROJECT No.  
11105

4 of 9

**CRYSTAL LAKE SENIOR APARTMENTS**  
**CONGRESS PARKWAY**  
**CRYSTAL LAKE, ILLINOIS**

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 300 MARQUARDT DRIVE WHEELING, ILLINOIS 60090 PH: (847) 215-1133 FAX: (847) 215-1177  
 DESIGN: J.K. DRAFTING: S.R.M. DATE: 07/26/11

DATE	DESCRIPTION	DRAWN BY



CONGRESS PARKWAY

LOT 1

EXCHANGE DRIVE

OUTLOT 2

PROPOSED BUILDING

UTILITY PLAN



±1. PLAT OF TOPOGRAPHY PREPARED BY IG CONSULTING INC.,  
300 MARQUARDT DRIVE, WHEELING, ILLINOIS, (847) 215-1133 JOB# 11105

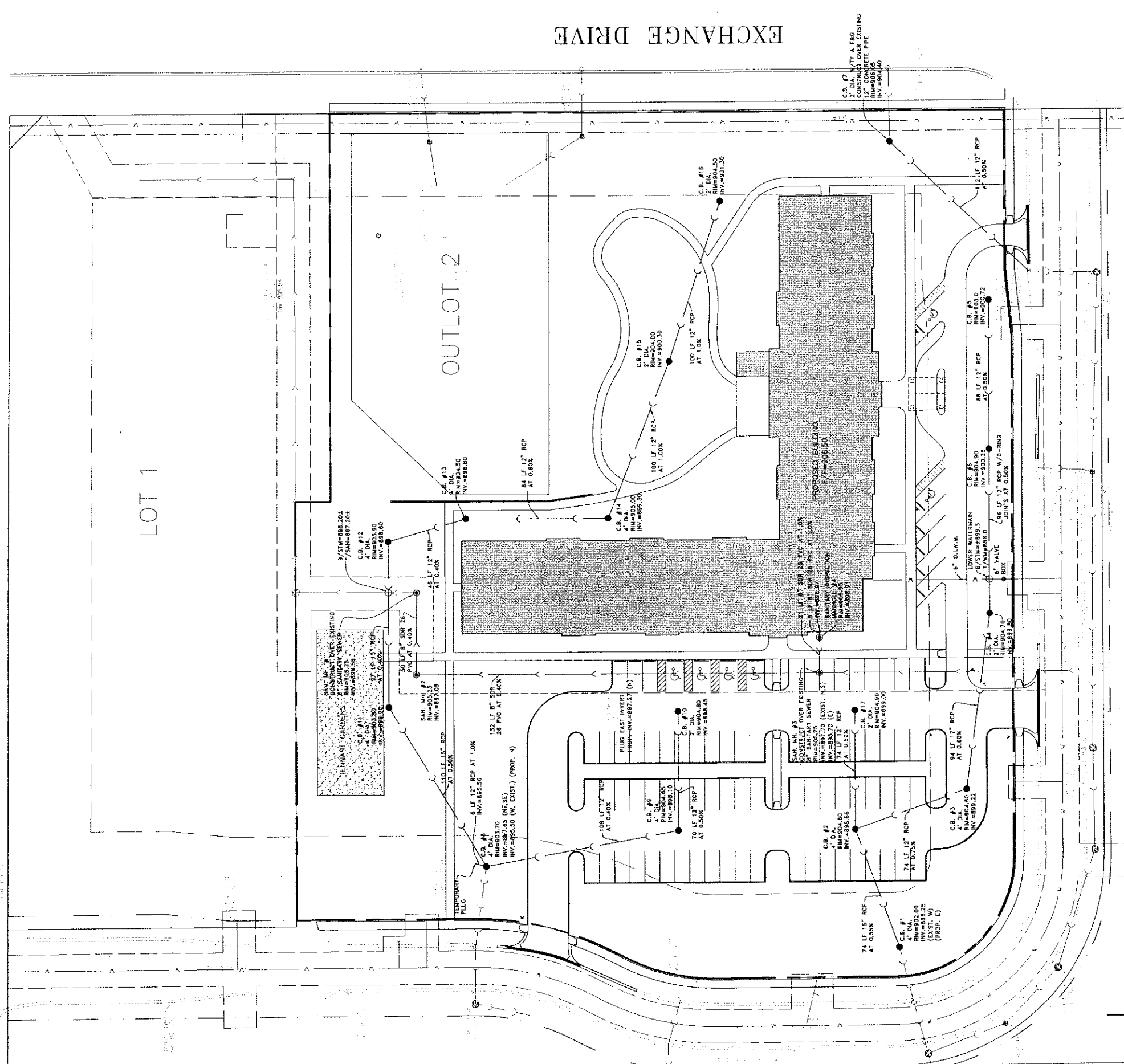
**CRYSTAL LAKE SENIOR APARTMENTS**  
**CONGRESS PARKWAY**  
**CRYSTAL LAKE, ILLINOIS**

PROJECT No.  
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5 of 9

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DESIGN: J.K. DRAFTING: S.R.M.  
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GENERAL

- 1. CONTRACT DOCUMENTS AS REFERRED TO HEREIN INCLUDE THE CONSTRUCTION CONTRACT, SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, DRAWINGS, AND ANY OTHER DOCUMENTS CONTAINED IN THE AGREEMENT BETWEEN OWNER AND CONTRACTOR... 2. UNLESS MODIFIED BY THE CONTRACT DOCUMENTS, ALL WORK PROPOSED HEREIN SHALL COMPLY WITH THE FOLLOWING: A. THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED AND REVISED TO THE LATEST EDITION...

- 17. EXCESS OVERPAVING BRANCHES INTERFERING WITH OPERATIONS OF CONSTRUCTION, SAID BRANCHES SHALL BE TRIMMED AND SEALED IN ACCORDANCE WITH SECTION 101.05 OF THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION... 18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES... 19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL STRUCTURES... 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT PROPERTIES...

SOIL EROSION CONTROL

- 1. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OF THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION... 2. ANY SOIL EROSION CONTROL MEASURES IN ADDITION TO THOSE OUTLINED IN THESE PLANS AND WHICH ARE DEEMED NECESSARY BY THE CONTRACTOR... 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES... 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL STRUCTURES...

SEWER AND WATER

- 1. ALL SEWER AND WATER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION... 2. ALL SEWER AND WATER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION... 3. ALL SEWER AND WATER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION...

SITE PREPARATION AND EARTHWORK

- 1. WORK UNDER THIS SECTION SHALL INCLUDE BUT NOT LIMITED TO THE FOLLOWING: A. CLEARING AND REMOVAL OF ALL UNDESIRABLE TREES AND OTHER VEGETATION... B. GRADING AND FINISHING OF ALL EXPOSED SURFACES... C. STABILIZATION OF EXPOSED SOILS... D. EROSION CONTROL MEASURES... E. SITE CLEANUP AND DISPOSAL OF EXCESS MATERIALS...

- 1. ALL SEWER AND WATER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION... 2. ALL SEWER AND WATER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION... 3. ALL SEWER AND WATER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION...

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- 1. CONSTRUCTION MATERIALS: THE FOLLOWING SPECIFICATIONS SHALL APPLY TO MATERIALS GENERALLY USED IN STORM SEWER CONSTRUCTION... 2. REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-411 AND JANTS... 3. POLYETHYLENE GLASS FIBER REINFORCED PIPE CONFORMING TO ASTM C-1248... 4. CORRUGATED STEEL DUCTILE IRON PIPE CONFORMING TO ASTM A-750... 5. TRENCH CONDITIONS: TRENCH BOTTOMS, UNSTABLE SAND AND SILTY SUBSOIL SHALL BE COMPLETELY REMOVED WITH WELL POINTS WHEN DEEMED NECESSARY BY THE ENGINEER...

SEWER AND WATER

- 1. CONSTRUCTION MATERIALS: THE FOLLOWING SPECIFICATIONS SHALL APPLY TO MATERIALS GENERALLY USED IN SANITARY SEWER CONSTRUCTION... 2. REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-411 AND JANTS... 3. POLYETHYLENE GLASS FIBER REINFORCED PIPE CONFORMING TO ASTM C-1248... 4. CORRUGATED STEEL DUCTILE IRON PIPE CONFORMING TO ASTM A-750... 5. TRENCH CONDITIONS: TRENCH BOTTOMS, UNSTABLE SAND AND SILTY SUBSOIL SHALL BE COMPLETELY REMOVED WITH WELL POINTS WHEN DEEMED NECESSARY BY THE ENGINEER...

SEWER AND WATER

- 1. CONSTRUCTION MATERIALS: THE FOLLOWING SPECIFICATIONS SHALL APPLY TO MATERIALS GENERALLY USED IN SANITARY SEWER CONSTRUCTION... 2. REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-411 AND JANTS... 3. POLYETHYLENE GLASS FIBER REINFORCED PIPE CONFORMING TO ASTM C-1248... 4. CORRUGATED STEEL DUCTILE IRON PIPE CONFORMING TO ASTM A-750... 5. TRENCH CONDITIONS: TRENCH BOTTOMS, UNSTABLE SAND AND SILTY SUBSOIL SHALL BE COMPLETELY REMOVED WITH WELL POINTS WHEN DEEMED NECESSARY BY THE ENGINEER...

- 1. WATER MAINS MAY BE Laid DEEPER THAN TEN FEET TO A SEWER MAIN... 2. LOCAL CONDITIONS PRESENT A LATERAL SEPARATION OF TEN FEET... 3. THE WATER MAIN INVERT IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER MAIN... 4. THE WATER MAIN IS EITHER IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED SAND BED... 5. THE INSTALLATION COMPLETS WITH ALL APPLICABLE SECTIONS OF THE STATE OF ILLINOIS PLUMBING CODE, LATEST EDITION... 6. BOTH THE WATER MAIN AND DRAIN OR SEWER SHALL BE CONSTRUCTED OF CORRUGATED STEEL DUCTILE IRON PIPE OR PRECAST CONCRETE PIPE... 7. WATER MAINS SHALL BE SEPARATED FROM SEPTIC TANKS, DISPOSAL PILES AND SEWAGE BEDS BY A MINIMUM OF 25 FEET... 8. WATER MAINS SHALL BE SEPARATED FROM ALL EXPOSED CONCRETE SURFACES... 9. ALL WATER MAINS SHALL BE SUBJECT TO A PRESURE TEST TO 150 PSI... 10. THE UNDERGROUND CONTRACTOR SHALL CONSIDER INCIDENTAL TO THE WORK THE OBTAINING OF ALL NECESSARY PERMITS... 11. THE UNDERGROUND CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES... 12. THE UNDERGROUND CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL STRUCTURES... 13. THE UNDERGROUND CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT PROPERTIES...

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PAVEMENTS, CURBS, AND WALKS

- 1. WORK UNDER THIS SECTION SHALL INCLUDE FINAL SUBGRADE SHAPING AND PREPARATION, FORMING, JOINTING, PLACING OF ROADWAY AND PAVEMENT BASE COURSE MATERIALS AND SUBSEQUENT FINISHING, CURB AND GUTTER, CLEAN-UP, AND ALL RELATED WORK... 2. ALL PAVING, SIDEWALKS, AND CURB AND GUTTER WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION... 3. SUBGRADE FOR PROPOSED PAVEMENT SHALL BE FINISHED BY THE CONTRACTOR... 4. THE PROPOSED PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION... 5. THE MAXIMUM SIZE AGGREGATE FOR THE BITUMINOUS SURFACE COURSE SHALL BE THREE EIGHTS (3/8) INCH... 6. BITUMINOUS CONCRETE BRIDGE COURSE SHALL BE PLACED ONLY WHEN THE AMBIENT AIR TEMPERATURE AT THE TIME OF PLACEMENT IS AT LEAST 40 DEGREES FAHRENHEIT... 7. WHEN PLACING THE BASE MATERIAL BETWEEN CURBS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES... 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL STRUCTURES... 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT PROPERTIES... 10. CURB AND GUTTER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION... 11. CURB AND GUTTER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION... 12. CURB AND GUTTER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION... 13. CURB AND GUTTER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION...

REVISIONS table with columns: NO., DATE, DESCRIPTION. Includes entries for revisions to the contract documents.

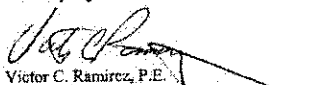
IG CONSULTING, INC. logo and contact information: 300 MARQUARDT DRIVE, WHEELING, ILLINOIS 60090. Phone: (847) 215-1133. Fax: (847) 215-1177. Website: www.igconsulting.net. Project No: 11105.

CRYSTAL LAKE SENIOR APARTMENTS logo and address: CONGRESS PARKWAY & EXCHANGE DRIVE, CRYSTAL LAKE, ILLINOIS. Project No: 11105.

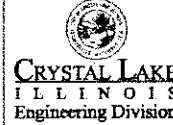
**SANITARY SEWER:**

- Non-shear stainless steel couplings shall be used when connecting sewer pipes of dissimilar materials and pipes with no hub joints. When connecting to an existing sanitary sewer by means other than an existing wye or manhole, contractor shall use a Shower-Tap and hub-wye or hub-tee saddle.
- Unless an alternate method is approved, water stop gaskets shall be provided at all sanitary sewer manhole connections. Type and manufacturer to be approved by the City.
- PVC plastic sewer pipe and fittings of sizes 4-inch through 15-inch shall conform to the latest revised specification requirements of ASTM D3034 for type PSM polyvinyl chloride (PVC) sewer pipe and fittings of minimum wall thickness SDR 35.
- Joints shall be either the solvent weld type conforming to the latest revised specification requirements of ASTM D2564 and ASTM D2855, or elastomeric gasket type conforming to the latest revised specification requirements of ASTM D1869 and ASTM D3212.
- A thicker walled pipe such as SDR 26 may be specified by the engineer depending on design and/or field conditions.
- PVC plastic sewer pipe and fittings of sizes 18-inch through 36-inch shall conform to the latest revised specification requirements of ASTM F573 or polyvinyl chloride (PVC) large diameter ribbed gravity sewer pipe and fittings, with integral ball gasketed joints and elastomeric gaskets to form a watertight seal conforming to the latest revised specification requirements of ASTM F477 or ASTM D3212.
- Pipe and fittings shall be the products of one approved manufacturer only, and there shall not be any mixing of pipe and fittings of different manufacturers.
- The handling and installation of pipe, assembly or joints, and manhole connections shall be in accordance with the manufacturer's recommendations.
- Gasket-type watertight collars consist of a neoprene collar and a stainless steel band or other approved manhole watertight shall be installed wherever the pipe passes through the manhole walls to provide a watertight joint to prohibit infiltration into the sewer system.
- PVC pipe shall be installed in accordance with the latest revised specification requirements of ASTM D2321 using either compacted class 1 or class II granular embankment materials for bedding, haunching and initial backfill of 12 inches over the top of pipe to provide the necessary support for the pipe so that the maximum deflection does not exceed five percent (5%) of the pipe's original internal diameter.

- The Contractor shall provide the necessary tools and equipment and perform the work necessary to test the deflection in the initial 1,200 feet of installed sewer and not less than ten percent (10%) of the remainder of the sewer project at random locations selected by the engineers no sooner than 30 days after backfilling has been completed. In the event that deflection exceeds the maximum limit of five percent (5%), the Contractor shall test all other new flexible pipe for deflection. Deflection shall be tested by use of either a mandrel or rigid ball having a diameter equal to ninety-five percent (95%) of the inside diameter of the pipe, and the test shall be performed without using mechanical pulling devices. Wherever the deflection limitation is exceeded, the contractor shall uncover the pipe, carefully replace compacted embankment and backfill material, and retest for deflection.
- The Contractor shall subject all sanitary sewers, including service lines, to an air test. Allowable infiltration shall not exceed 100 gallons per inch diameter of pipe per mile per day. Televising of testing, cost for televising, and testing shall be the responsibility of the Contractor.
- Cast Iron Soil Pipe: service weight cast iron soil pipe and fittings conforming C.I.S.P. Specification HS-67 with compression type rubber gasket joints conforming to ASTM specification C564, or other suitable materials approved by the City Engineer.

Approved: City Engineer  
  
 Victor C. Ramirez, P.E.  
 Director of Engineering and Building

Drawing Name  
**STANDARD NOTES AND SPECIFICATIONS**

Drawing Number  
**GE-02c**  
 Date: 6/1/2007  
 Drawn: EM  
 Checked: LZ  


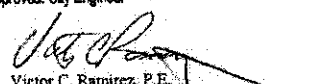
GE-02c

**GENERAL SITE-WORK:**


- Pre-Construction meeting shall be conducted with City Staff and all Contractors prior to commencing any grading or underground utility construction activities (schedule meeting with the Engineering Division Inspection Services Coordinator at 815-356-3815).
- 24-hour Emergency contact numbers shall be provided to City Staff at the Pre-Construction meeting.
- Working hours shall be limited to the hours of 7:00 a.m. and 7:00 p.m. on weekdays only (except in cases of emergency). Non-emergency work on weekends or holidays is not permitted per City Code except under a separate permit from the City Engineer, limited to a period of not more than three days and renewable only once.
- Public/private streets shall be kept free of dirt and debris with regular cleaning, sweeping, and scraping conducted by the Contractor. Junk and debris shall not be allowed to accumulate, blow, or scatter onto streets or adjacent properties.
- J.U.L.I.E. shall be contacted for utility locations on-site and in the adjacent rights-of-way.
- Contractor shall provide and maintain fencing, barricades, traffic control signs, and other safeguarding measures during the course of all work to protect the public from the construction operations.
- Maintain access to adjacent streets during construction. No closing of streets unless approval first obtained from the agency with jurisdiction (City Engineering Division, McHenry County Department of Transportation, Illinois Department of Transportation, etc).
- Any damage to public right-of-way, public utilities, streets, curb, etc. shall be repaired/replaced as soon as possible and as directed by the Engineering Division.
- The contractor shall give the City of Crystal Lake, Illinois Department of Transportation, and any other governmental agency having jurisdiction, at least two (2) working days notice excluding Saturday and Sunday prior to the initiation of any phase of construction. Contractor shall immediately notify if construction has ceased and renew the two (2) working day notification thereafter.
- The Contractor shall be responsible for obtaining all required permits for construction along or across existing streets or highways. The Contractor shall make arrangements for the proper bracing, shoring and other protection of all roadways before construction begins.
- The owner is responsible for the cost of overtime inspection beyond the normal eight (8) hour day, including weekends and holidays.

**GRADING:**

- The grading and construction of the site improvements shall not cause ponding of storm sewer water. All areas adjacent to these improvements shall be graded to allow positive drainage.
- The proposed grading elevations shown on the plans are finished grade. A minimum of six (6) inches of topsoil is to be placed before finished grade elevations are achieved.
- Embankment material within parkway and open space areas shall be compacted to a minimum of ninety percent (90%) of maximum density in accordance with ASTM Specification D-1557 (modified proctor method), or to such other density as may be determined appropriate by the soils engineer.
- All subgrade material shall have a minimum CBR (California Bearing Ratio) of 3.0 as determined by the soils engineer, or base replacement and pavement design revisions shall be provided which are adequate to obtain equivalent pavement strength.
- Proposed pavement areas, building pads, driveways and sidewalks and yard/open space areas shall be excavated or filled to plus or minus 0.1 foot of design subgrade elevations by the Contractor.
- Any borrow pit locations shall be identified by the Contractor on a copy of the approved site plans and forwarded to the Engineering Division at least 24-hours prior to excavation. Provide backfill composition reports from a geotechnical engineer and as-built plans to the Engineering Division for any borrow pit area.
- Backfill shall be monitored by a geotechnical engineer on-site with compaction reports forwarded to the Engineering Division for review.
- Water truck shall be on-site at all times during mass-grading operations and be available as needed for the purposes of dust control or at the request of City Staff.
- Use of City fire hydrants is not allowed unless approved (separate from this permit) by the Public Works Department and a hydrant meter and RPZ is obtained from the City of Crystal Lake Water Division. Only the City of Crystal Lake Water Division may operate valves and hydrants.

Approved: City Engineer  
  
 Victor C. Ramirez, P.E.  
 Director of Engineering and Building

Drawing Name  
**STANDARD NOTES AND SPECIFICATIONS**

Drawing Number  
**GE-02a**  
 Date: 6/1/2007  
 Drawn: EM  
 Checked: LZ  



GE-02a

**TOPSOIL STOCKPILING:**

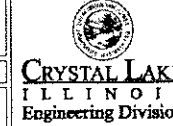
- Location of any on-site topsoil stockpiles shall be identified on the approved plans with silt fence installed around the perimeter of the stockpile.
- Topsoil stockpiled for future use shall be relatively free from large roots, sticks, weeds, brush, stones larger than one (1) inch diameter, or other filler and waste products including other extraneous materials not conducive to plant growth.
- Topsoil shall be stockpiled in sequence to eliminate any re-handling or double movements by the Contractor. Failure to properly sequence the stockpiling operations shall not constitute a claim for additional compensation. No material shall be stockpiled in front yards, in utility easements, or in the right-of-way lines.
- Topsoil stockpiles shall be located in areas to avoid erosion of said stockpile to offsite areas. Topsoil stockpiles are to have a minimum three (3) foot high berm around the circumference of the pile so as to control erosion and runoff.
- If a stockpile is to remain in place for more than twelve (12) months, it is required that the stockpile be seeded so as to minimize soil erosion by both wind and water.

**UNDERGROUND UTILITY:**

- The Contractor shall coordinate water main, water service, sanitary and storm sewer inspections and testing with the City Engineering and Building Department at least 24 hours in advance.
- All main line sanitary and storm sewer shall be cleaned and televised (provide a VHS videotape or DVD to the City's Public Works Department).
- All manholes or valve covers shall be imprinted [SANITARY] or [STORM] or [WATER].
- Reference the latest edition of the [Standard Specifications for Water and Sewer Main Construction in Illinois].
- Existing manholes to be circular cored and booted.

Approved: City Engineer  
  
 Victor C. Ramirez, P.E.  
 Director of Engineering and Building

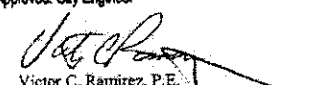
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**STANDARD NOTES AND SPECIFICATIONS**

Drawing Number  
**GE-02b**  
 Date: 6/1/2007  
 Drawn: EM  
 Checked: LZ  



GE-02b

**EROSION CONTROL:**

- All specified erosion control measures shall be installed and maintained per the requirements of the Crystal Lake Stormwater Ordinance in accordance with the active NPDES permit.
- All slopes 4:1 or steeper shall be sodded or blanketed immediately after mass earthwork.
- All overland flow routes to be stabilized by sod or blanket.
- Erosion control measures to be inspected and approved by City Engineering Division prior to additional work on site.
- Continuous monitoring of erosion control measures is required. Maintain records of weekly reports per the City of Crystal Lake Stormwater Ordinance.
- The Contractor shall implement any additional erosion control measures deemed necessary by the City per the standards of the City of Crystal Lake Stormwater Ordinance.
- All storm sewer catch basins, sumps and/or retention basins provided with this project are to be cleaned at the end of construction of the project prior to final acceptance. Cleaning may also be required during the course of the construction of the project if it is determined that the silt and debris traps are not properly functioning and their performance is impaired.
- Rip-rap material shall be in accordance with Article 705 and grouted in place according to Article 601 of the IDOT [Standard Specifications].

Approved: City Engineer  
  
 Victor C. Ramirez, P.E.  
 Director of Engineering and Building

Drawing Name  
**STANDARD NOTES AND SPECIFICATIONS**

Drawing Number  
**GE-02d**  
 Date: 6/1/2007  
 Drawn: EM  
 Checked: LZ  


GE-02d

**WATER MAIN:**

- Thrust blocking shall be installed on water mains at all bends, tees, elbows, etc. except as noted below.
- Thrust blocks not permitted with 45° vertical bends in water main [ ] these shall be restrained with [ Mega-Lug ] or equivalent.
- Water main shall be ductile iron pipe, Class 52 conforming to A.N.S.I. A-21.51 or AWWA C-151.
- Gaskets and cast iron fittings shall conform to A.N.S.I. A-21.11 or AWWA C-110 and C-111 water main shall be cement lined in conformance with A.N.S.I. A-21.4 or AWWA C-104.
- Minimum cover from finished grade to top of water main shall be six (6) feet. Maximum cover shall be eight (8) feet.
- Water Main Taps: an Illinois licensed plumber is required for any water main tap.
- All water mains shall be subjected to a pressure test and a separate leakage test at system pressure for 24 hours by the Contractor. Hydrostatic pressure test and leakage shall be based on 125 psi for two (2) hours. Water mains shall be chlorinated in accordance with the Standard Specifications.
- The Underground Contractor shall consider incidental to the contract any chlorination and testing of existing water main where connections to and conclusion of such mains is indicated on the drawings. In the event that the pressure attributable to defective original workmanship and material, then the Contractor shall be entitled to additional payment for correcting the deficiencies.

**PAVING:**

- All subgrades and bases shall be proof-rolled and approved by the Engineering Division prior to base or binder installation.
- Subgrade and proposed pavements shall be finished by the Excavation Contractor to within 0.1 foot plus or minus, of plan elevation.
- The Paving Contractor shall ensure that the subgrade has been properly prepared and that the finished top of subgrade elevation has been graded within the tolerance allowed in these specifications. Unless the Paving Contractor advises the owner and engineer in writing prior to fine grading for base course construction, it is understood that the Contractor has approved and accepts responsibility for the subgrade.
- For the purpose of providing handicap accessibility and complying with the American Disability Act and City Standards, curbs shall be depressed at locations where public works or pedestrian paths intersect curb lines at street intersections and other locations as directed.
- 3/4 inch thick precast concrete curb and gutter shall be installed at designated intervals and at all P.C., P.T., curb returns and at the end of each pour. Alternate ends of the dowel bars shall be greased and fitted with metal expansion tubes.
- 3/4 inch thick fibre expansion joints shall be used in every case where the sidewalk coincides with the curb and gutter. Construction joints shall be saw cut at designated intervals in the curb. The cost of these joints shall be considered as incidental to the cost of the contract.
- All poured in place concrete curb and gutter shall incorporate two (2) No. 4 reinforcing bars installed wherever the curb and gutter crosses utility service lines, the cost of which shall be considered incidental to the cost of concrete curb and gutter.
- Sidewalks (where required) shall be of the thickness and dimensions as shown in the construction plans. All sidewalk concrete shall be a minimum of 8.1 bag mix (or IDOT class S1 concrete) and shall develop a minimum of 3,500 psi compressive strength at twenty eight (28) days. Construction joints shall be set at four (4) foot centers, and one-half inch (1/2 inch) precast fibre expansion joints at four (4) foot centers and where the sidewalk meets the curb or another sidewalk, or at the end of each pour. All sidewalks constructed over utility trenches and/or abutting driveway aprons shall be reinforced with three (3) No. 4 reinforcing bars (10 foot minimum length).

ENGINEERING AND BUILDING DEPARTMENT DETAILS AND STANDARDS

ENGINEERING AND BUILDING DEPARTMENT DETAILS AND STANDARDS

DATE	DESCRIPTION	DRAWN BY

**IG CONSULTING, INC.**  
 INFRACON & GEOCOON  
 CONSULTING CIVIL ENGINEERS & LAND SURVEYORS  
 300 MARQUARDT DRIVE WHEELING, ILLINOIS 60090  
 PH. (847) 215-1133 FAX (847) 215-1177  
 e-mail: ig@igconsulting.net

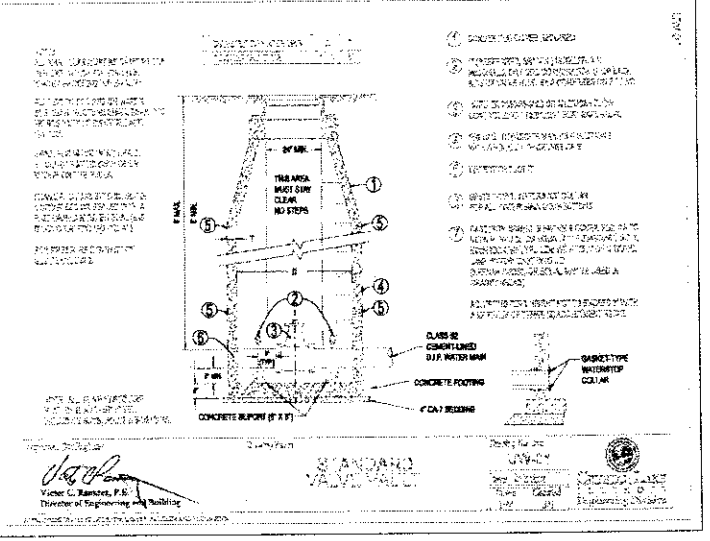
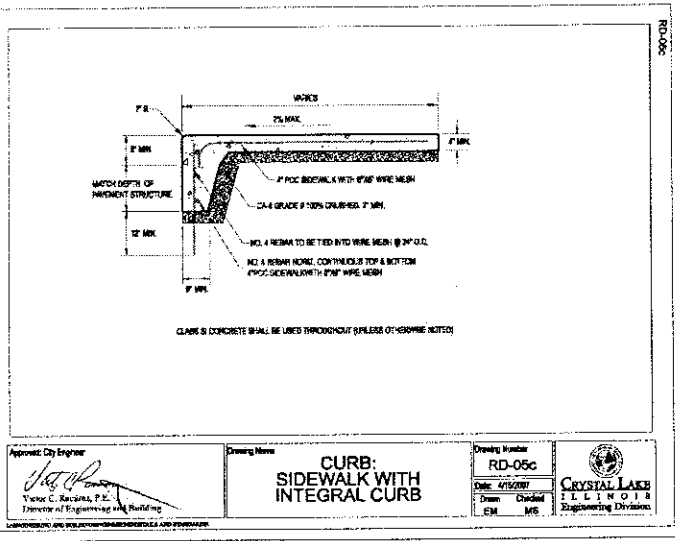
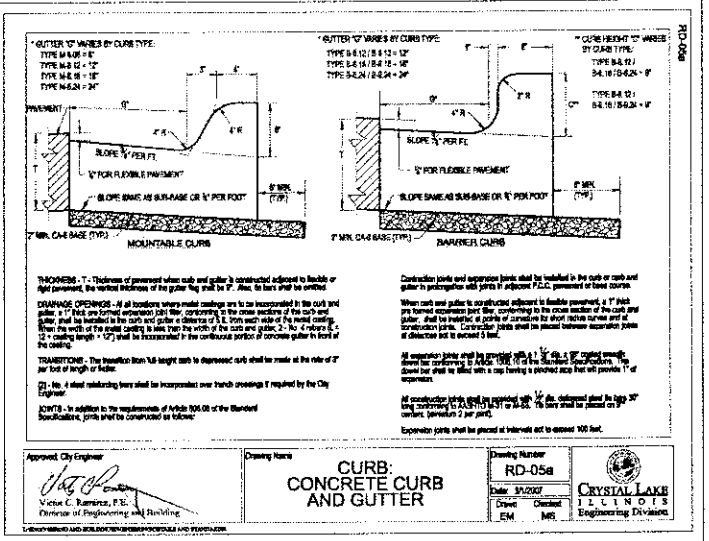
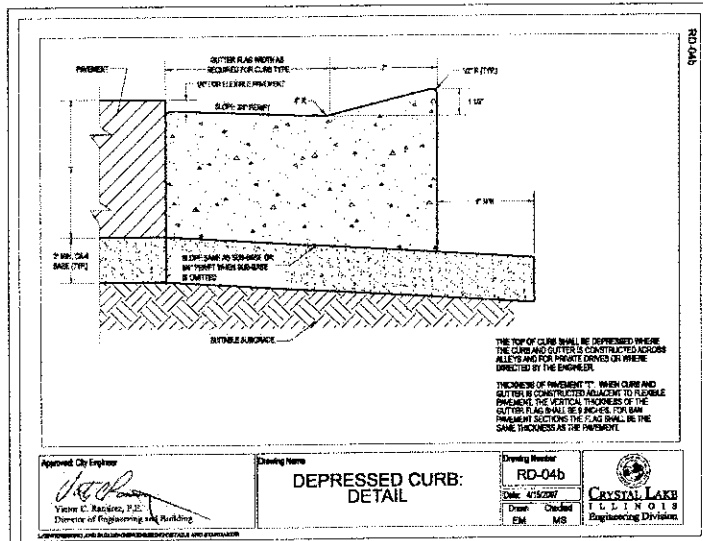
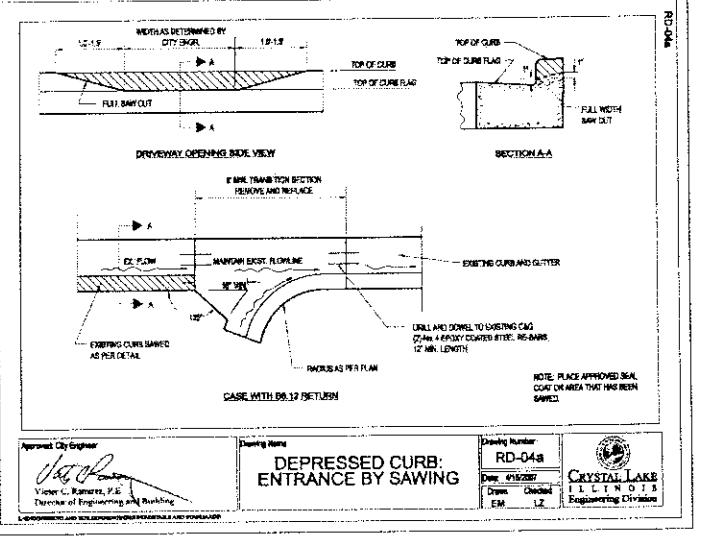
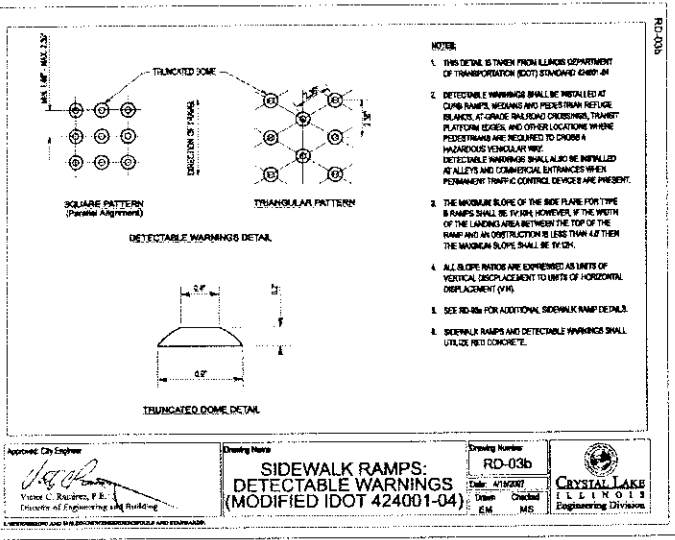
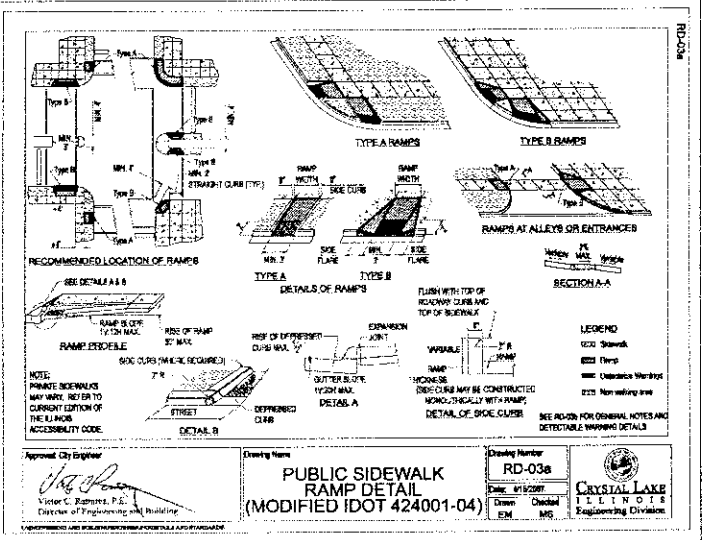
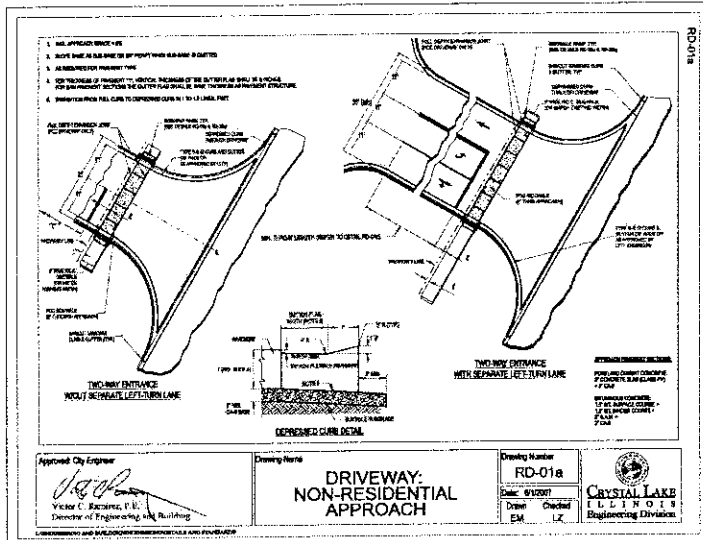
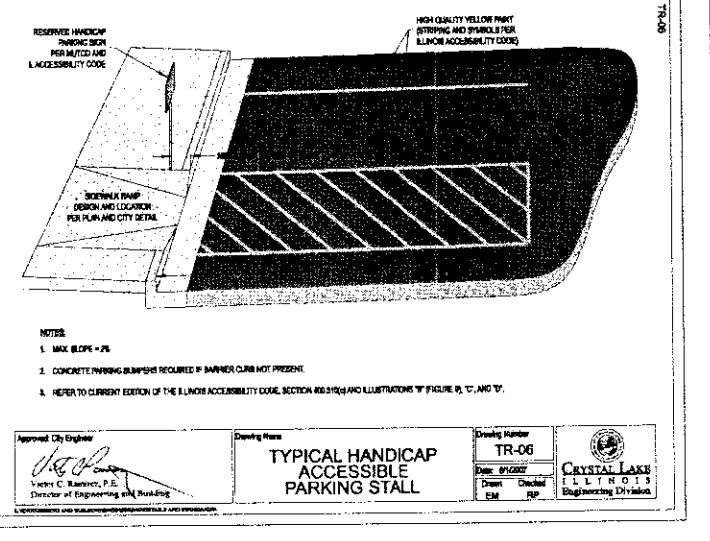
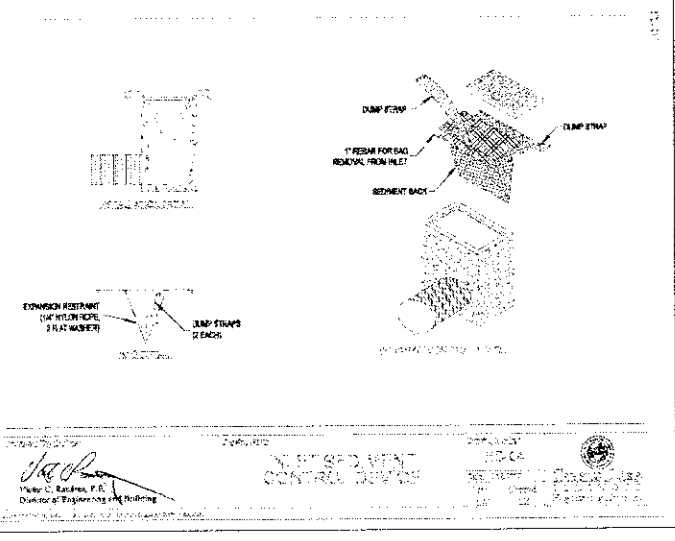
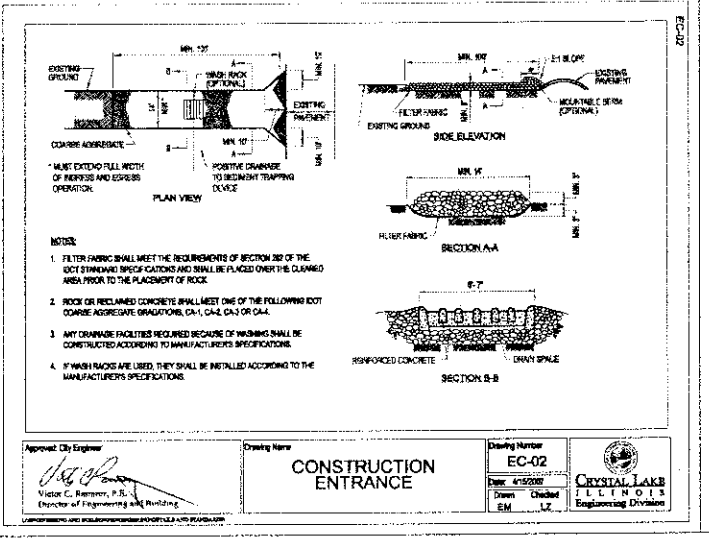
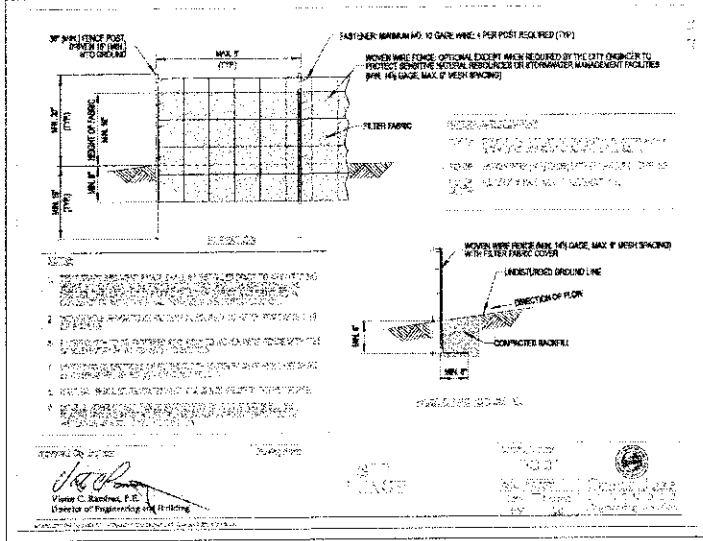
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 SCALE: N/A      DATE: 01/26/11

**CRYSTAL LAKE SENIOR APARTMENTS**  
**CONGRESS PARKWAY & EXCHANGE DRIVE**  
**CRYSTAL LAKE, ILLINOIS**

PROJECT No.  
 11105  
 7 of 9



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REVISIONS	DATE	DESCRIPTION

**ig CONSULTING, INC.**  
**INFRACON & GECON**  
 CONSULTING CIVIL ENGINEERS & LAND SURVEYORS  
 300 WASHINGTON DRIVE WHEELING, ILLINOIS 60090  
 PH. (847) 215-1133 - FAX (847) 215-1177  
 e-mail: ig@igconsulting.net

**CONSTRUCTION STANDARDS**  
 DESIGN: J.K.  
 SCALE: N/A

**CRYSTAL LAKE SENIOR APARTMENTS**  
**CONGRESS PARKWAY & EXCHANGE DRIVE**  
**CRYSTAL LAKE, ILLINOIS**

PROJECT No. 11105  
 8 of 9

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LOCATION	LEN	HEIGH
8" x 14" CAST	7200	2030-A
DEPRESSED CURB	7200	4-201
PAVED	180	4-173
NON-PAVED	180	4-206

**CASTING SCHEDULE**

**ALTERNATE MATERIALS FOR WALLS**

PRE-CAST REINFORCED CONCRETE SECTIONS	F
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**APPROVED CITY ENGINEER:** Victor C. Ramirez, P.E., Director of Engineering and Building

**DRAWING NAME:** DRAINAGE STRUCTURES: INLET, TYPE A

**DRAWING NUMBER:** UD-01a

**DATE:** 4/15/2007

**CRYSTAL LAKE ILLINOIS ENGINEERING DIVISION**

**CASTING SCHEDULE**

LOCATION	LEN	HEIGH
8" x 14" CAST	7200	2030-A
DEPRESSED CURB	7200	4-201
PAVED	180	4-173
NON-PAVED	180	4-206

**ALTERNATE MATERIALS FOR WALLS**

PRE-CAST REINFORCED CONCRETE SECTIONS	F
CAST-IN-PLACE CONCRETE	F

**APPROVED CITY ENGINEER:** Victor C. Ramirez, P.E., Director of Engineering and Building

**DRAWING NAME:** CATCH BASIN, TYPE A

**DRAWING NUMBER:** UD-01b

**DATE:** 4/15/2007

**CRYSTAL LAKE ILLINOIS ENGINEERING DIVISION**

**CASTING SCHEDULE**

LOCATION	LEN	HEIGH
8" x 14" CAST	7200	2030-A
DEPRESSED CURB	7200	4-201
PAVED	180	4-173
NON-PAVED	180	4-206

**ALTERNATE MATERIALS FOR WALLS**

PRE-CAST REINFORCED CONCRETE SECTIONS	F
CONCRETE MASONRY UNITS	F
CAST-IN-PLACE CONCRETE	F
BRICK MASONRY	F

**APPROVED CITY ENGINEER:** Victor C. Ramirez, P.E., Director of Engineering and Building

**DRAWING NAME:** CATCH BASIN, TYPE C

**DRAWING NUMBER:** UD-01c

**DATE:** 4/15/2007

**CRYSTAL LAKE ILLINOIS ENGINEERING DIVISION**

**CASTING SCHEDULE**

LOCATION	LEN	HEIGH
8" x 14" CAST	7200	2030-A
DEPRESSED CURB	7200	4-201
PAVED	180	4-173
NON-PAVED	180	4-206

**ALTERNATE MATERIALS FOR WALLS**

PRE-CAST REINFORCED CONCRETE SECTIONS	F
CONCRETE MASONRY UNITS	F
CAST-IN-PLACE CONCRETE	F
BRICK MASONRY	F

**APPROVED CITY ENGINEER:** Victor C. Ramirez, P.E., Director of Engineering and Building

**DRAWING NAME:** STORM MANHOLE TYPE A

**DRAWING NUMBER:** UD-01d

**DATE:** 4/15/2007

**CRYSTAL LAKE ILLINOIS ENGINEERING DIVISION**

- TRENCH BACKFILL TO BE COMPACTED AND WITHIN 3 FEET OF PROPOSED INVERT, OPENING CURB AND GUTTER OR INTERNAL TRENCH BACKFILL MATERIALS SHALL BE EXIST APPROVED GRANULATION CAS, GRADE 7, 8, OR 9.
- FINAL BACKFILL TO BE TO BE EXIST APPROVED GRANULATION CAS, GRADE 7, 8, OR 9.
- PIPE BEDDING SHALL BE FRACTURED GRANULATED MATERIAL, NOT GRANULATION CAS, OR GRADE 7, 8, OR 9.
- UNDESIRABLE MATERIAL TO BE REMOVED WHERE ENCOUNTERED BY THE ENGINEER AND REPLACED WITH COMPACTED SUITABLE MATERIAL.
- TRENCH WIDTH: PIPE O.D. - 12 INCHES MINIMUM PIPE I.D. - 18 INCHES MINIMUM
- CONTRACTOR SHALL COMPLY WITH THE LATEST CITY SPECIFICATIONS INCLUDING BUT NOT LIMITED TO: SLOPING AND BENCHING TRENCHING WALLS, TRENCH SUPPORT AND SHIELDING SYSTEMS, SHIELD SYSTEMS AND HAZARDOUS ATMOSPHERES.

**APPROVED CITY ENGINEER:** Victor C. Ramirez, P.E., Director of Engineering and Building

**DRAWING NAME:** TYPICAL TRENCH CROSS SECTION

**DRAWING NUMBER:** UG-03

**DATE:** 4/15/2007

**CRYSTAL LAKE ILLINOIS ENGINEERING DIVISION**

**APPROVED CITY ENGINEER:** Victor C. Ramirez, P.E., Director of Engineering and Building

**DRAWING NAME:** STANDARD SANITARY AND MONITORING MANHOLE

**DRAWING NUMBER:** US-04

**DATE:** 4/15/2007

**CRYSTAL LAKE ILLINOIS ENGINEERING DIVISION**

**ORDINANCE AMENDING THE CODE OF THE CITY OF CRYSTAL LAKE, ILLINOIS**

**ARTICLE 22. COMMUNITY DEVELOPMENT. CHAPTER 22. PUBLIC UTILITIES. SECTION 22.05. WATER AND SEWER STANDARDS.**

**22.05-01. The building sewer shall be subject to the following:**

**PVC Plastic Sewer Pipe:** PVC plastic sewer pipe and fittings of least 4 inch diameter shall conform to the latest published specifications requirements of ASTM D2688 for Type 200 polyethylene (PE) sewer pipe and fittings of least 4 inch diameter or Type 200 polyethylene (PE) sewer pipe and fittings of least 4 inch diameter with 1500 psi and 40 joints shall be tested to the same test method as ASTM D2688, or the most restrictive requirements of ASTM D2688 and ASTM D2685, or the most restrictive requirements of the latest revised specifications requirements of ASTM D2688 and ASTM D2685. A double ended joint shall be tested to the same test method as ASTM D2688 and ASTM D2685. PVC plastic sewer pipe and fittings of least 4 inch diameter shall conform to the latest published specifications requirements of...

**ASTM F798 (or equivalent) (double PVC) large diameter plastic gravity sewer pipe and fittings of minimum wall thickness 1/4" or ASTM F798 for 48" to 96" polyethylene (PE) large diameter (minimum 48" to 96" diameter) pipe and fittings, which (except) had qualified joints and manufacturer's name on the pipe, shall not be used in the sewer system.**

**Installation of PVC Pipe:** PVC pipe shall be installed in accordance with the latest revised specifications requirements of ASTM D2321, including but not limited to: use of Class II pipe and submittal of test results for the building, launching and lower launch of 12 feet over the top of pipe to provide the necessary support for the pipe so that the maximum deflection does not exceed the percent (PM) of the pipe's original internal diameter.

**The contractor shall provide the necessary tools and equipment and perform the work necessary to test the tubular in the field at 1200 feet of installed sewer...**

**APPROVED CITY ENGINEER:** Victor C. Ramirez, P.E., Director of Engineering and Building

**DRAWING NAME:** PVC PIPE ORDINANCE (SHEET 1 OF 2)

**DRAWING NUMBER:** US-06

**DATE:** 4/15/2007

**CRYSTAL LAKE ILLINOIS ENGINEERING DIVISION**

**SECTION 22.05-02. That all Ordinances and parts of Ordinances in conflict herewith are hereby repealed.**

**DATE:** of Crystal Lake, Illinois, this 15th day of December 1996.

**APPROVED:** [Signature]

**ATTEST:** [Signature]

**PASSED:** December 3, 1996

**APPROVED:** December 3, 1996

**Published in pamphlet form by the authority of the Mayor and City Council of the City of Crystal Lake.**

**APPROVED CITY ENGINEER:** Victor C. Ramirez, P.E., Director of Engineering and Building

**DRAWING NAME:** PVC PIPE ORDINANCE (SHEET 2 OF 2)

**DRAWING NUMBER:** US-06

**DATE:** 4/15/2007

**CRYSTAL LAKE ILLINOIS ENGINEERING DIVISION**

**SECTION 22.05-03. That all Ordinances and parts of Ordinances in conflict herewith are hereby repealed.**

**DATE:** of Crystal Lake, Illinois, this 15th day of December 1996.

**APPROVED:** [Signature]

**ATTEST:** [Signature]

**PASSED:** December 3, 1996

**APPROVED:** December 3, 1996

**Published in pamphlet form by the authority of the Mayor and City Council of the City of Crystal Lake.**

**APPROVED CITY ENGINEER:** Victor C. Ramirez, P.E., Director of Engineering and Building

**DRAWING NAME:** PVC PIPE ORDINANCE (SHEET 2 OF 2)

**DRAWING NUMBER:** US-06

**DATE:** 4/15/2007

**CRYSTAL LAKE ILLINOIS ENGINEERING DIVISION**

**REVISIONS**

DATE	DESCRIPTION

**ig CONSULTING, INC.**  
**INFRACON & GECON**  
 CONSULTING CIVIL ENGINEERS & LAND SURVEYORS  
 300 MARQUARDT DRIVE WHEELING, ILLINOIS 60090 PH. (847) 215-1133 FAX (847) 215-1177  
 E-MAIL: ig@igconsulting.net

**CRYSTAL LAKE SENIOR APARTMENTS**  
**CONGRESS PARKWAY & EXCHANGE DRIVE**  
**CRYSTAL LAKE, ILLINOIS**

**PROJECT No. 11105**

**9 of 9**

**CONSTRUCTION STANDARDS**  
 SCALE: N/A

**DRAFTING: S.R.M.**  
**DATE: 01/26/11**